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Dascola et al.

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(54) **DEVICES, METHODS, AND GRAPHICAL USER INTERFACES FOR MANIPULATING USER INTERFACE OBJECTS WITH VISUAL AND/OR HAPTIC FEEDBACK**

(71) Applicant: **Apple Inc.**, Cupertino, CA (US)

(72) Inventors: **Jonathan R. Dascola**, San Francisco, CA (US); **Chanaka G. Karunamuni**, San Jose, CA (US); **Christopher P. Foss**, San Francisco, CA (US); **Sebastian J. Bauer**, Santa Monica, CA (US); **Arian Behzadi**, San Francisco, CA (US); **David C. Graham**, Columbus, OH (US)

(73) Assignee: **Apple Inc.**, Cupertino, CA (US)

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Primary Examiner — Kc Chen
(74) *Attorney, Agent, or Firm* — Morgan, Lewis & Bockius LLP

(57) **ABSTRACT**

An electronic device displays a control user interface that includes a plurality of control affordances. The device detects a first input directed to a location that corresponds to a first control affordance, of the plurality of control affordances. In response to detecting the first input, if the first input meets control toggle criteria, the device toggles a function of a control that corresponds to the first control affordance. And if the first input meets enhanced control criteria, the device displays modification options for the control that correspond to the first control affordance. While displaying the modification options, the device detects a second input that activates a modification option of the

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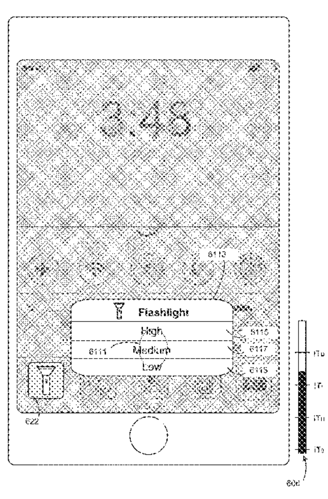

modification options and, accordingly, modifies the control that corresponds to the first control affordance.

36 Claims, 364 Drawing Sheets

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See application file for complete search history.

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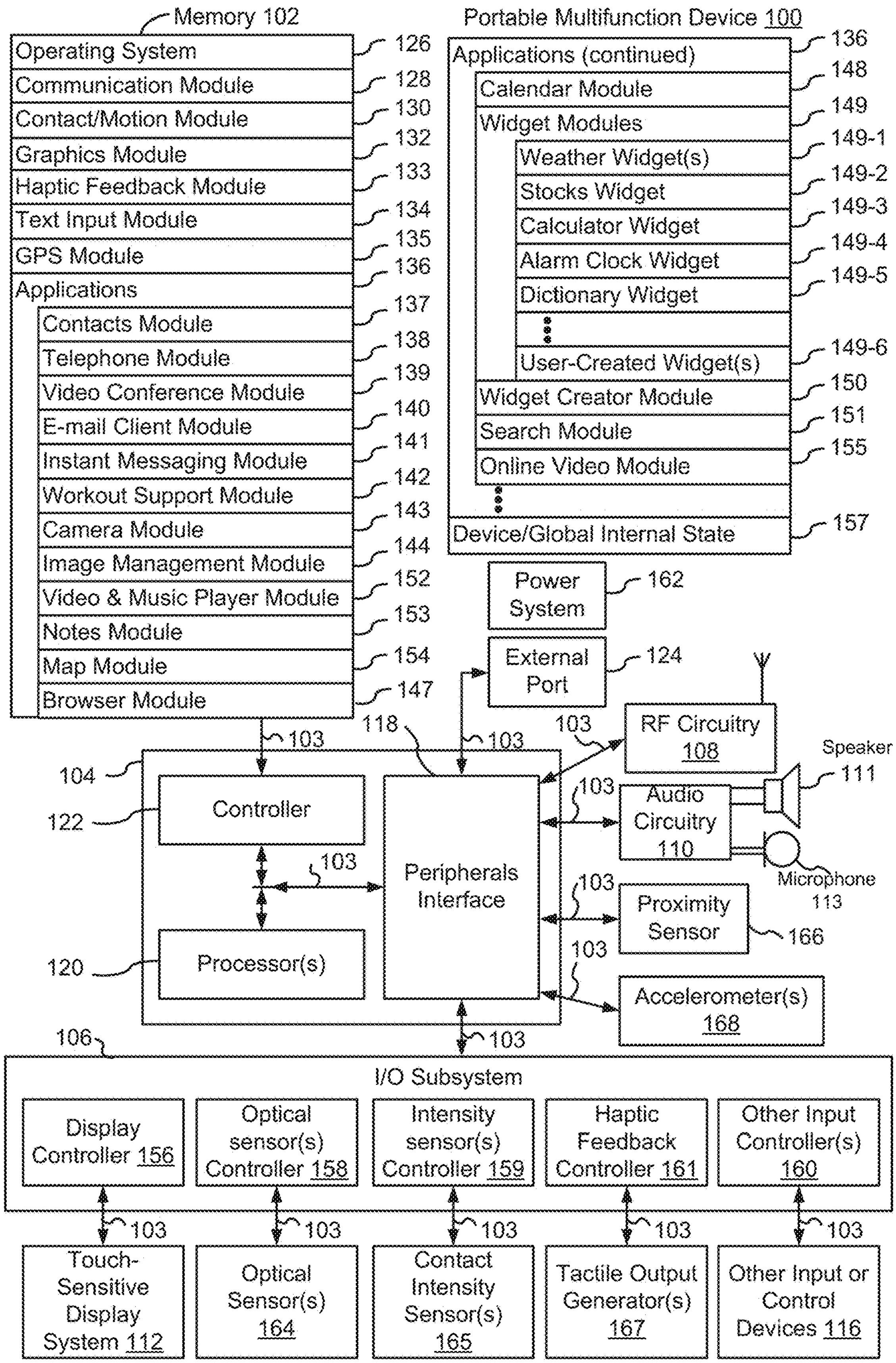
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Contact/Motion Module 130
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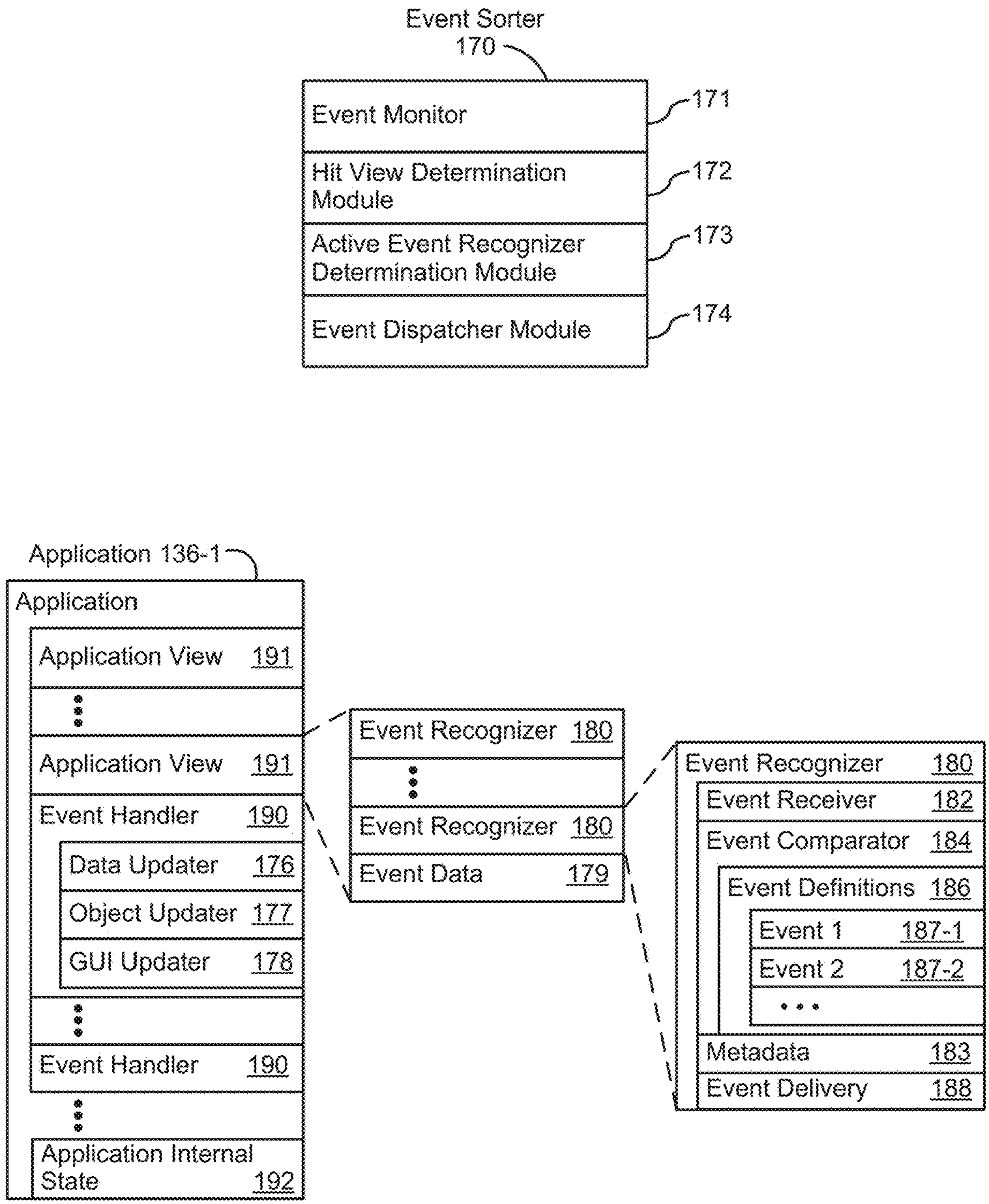
Haptic Feedback Module 133
Text Input Module 134
GPS Module 135
Applications 136
Contacts Module 137
Telephone Module 138
Video Conference Module 139
E-mail Client Module 140
Instant Messaging Module 141
Workout Support Module 142
Camera Module 143
Image Management Module 144
Video & Music Player Module 152
Notes Module 153
Map Module 154
Browser Module 147
Applications (continued) 136
Calendar Module 148
Widget Modules 149
Weather Widget(s) 149-1
Stocks Widget 149-2
Calculator Widget 149-3
Alarm Clock Widget 149-4
Dictionary Widget 149-5
User-Created Widget(s) 149-6
Widget Creator Module 150
Search Module 151
Online Video Module 155
Device/Global Internal State 157
Power System 162
External Port 124
RF Circuitry 108
Speaker 111
Audio Circuitry 110
Microphone 113
Proximity Sensor 166
Accelerometer(s) 168
104
122
Controller
120
Processor(s)
118
Peripherals Interface
103
106
I/O Subsystem
Display Controller 156
Optical sensor(s) Controller 158
Intensity sensor(s) Controller 159
Haptic Feedback Controller 161
Other Input Controller(s) 160
Touch-Sensitive Display System 112
Optical Sensor(s) 164
Contact Intensity Sensor(s) 165
Tactile Output Generator(s) 167
Other Input or Control Devices 116

Figure 1A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170
Event Monitor
171
Hit View Determination Module
172
Active Event Recognizer Determination Module
173
Event Dispatcher Module
174
Application 136-1
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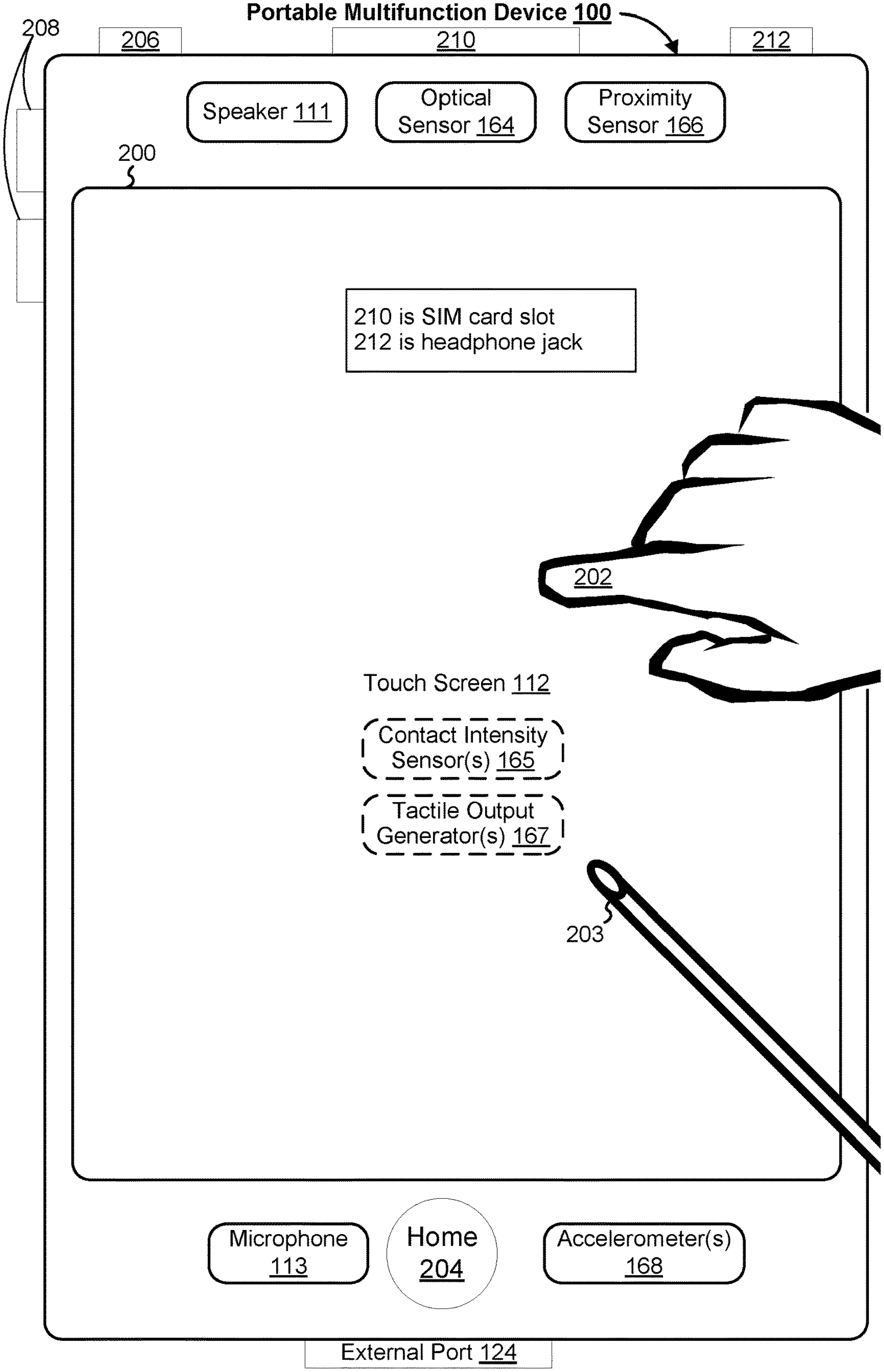
Application View 191
Event Handler 190
Data Updater 176
Object Updater 177
GUI Updater 178
Event Handler 190
Application Internal State 192
Event Recognizer 180
Event Recognizer 180
Event Data 179
Event Recognizer 180
Event Receiver 182
Event Comparator 184
Event Definitions 186
Event 1 187-1
Event 2 187-2
Metadata 183
Event Delivery 188

Figure 1B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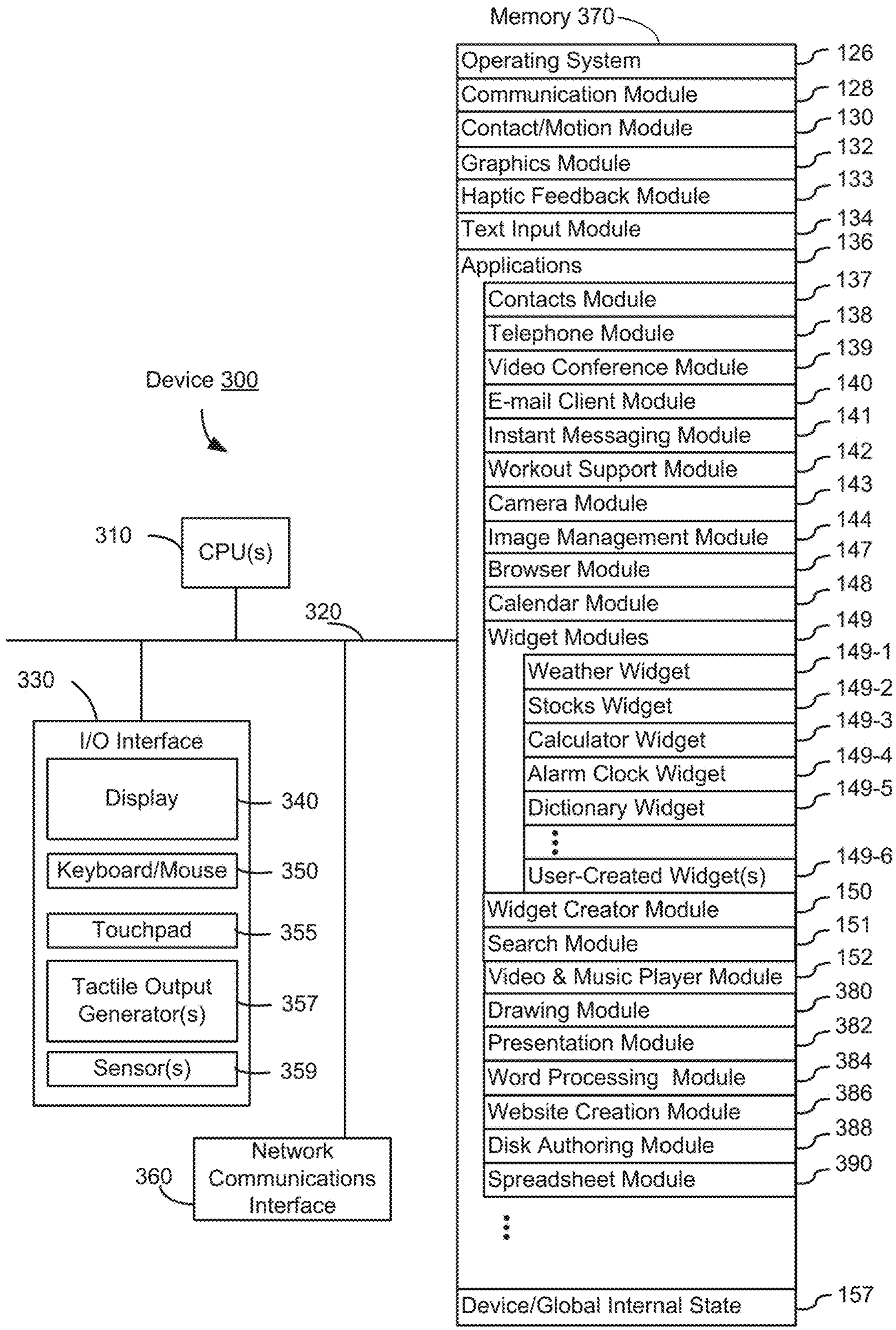
208
206
210
212
Speaker 111
Optical Sensor 164
Proximity Sensor 166
200
210 is SIM card slot
212 is headphone jack
202
Touch Screen 112
Contact Intensity Sensor(s) 165
Tactile Output Generator(s) 167
203
Microphone 113
Home 204
Accelerometer(s) 168
External Port 124

Figure 2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Communication Module
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Contact/Motion Module
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Graphics Module
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Haptic Feedback Module
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Text Input Module
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Applications
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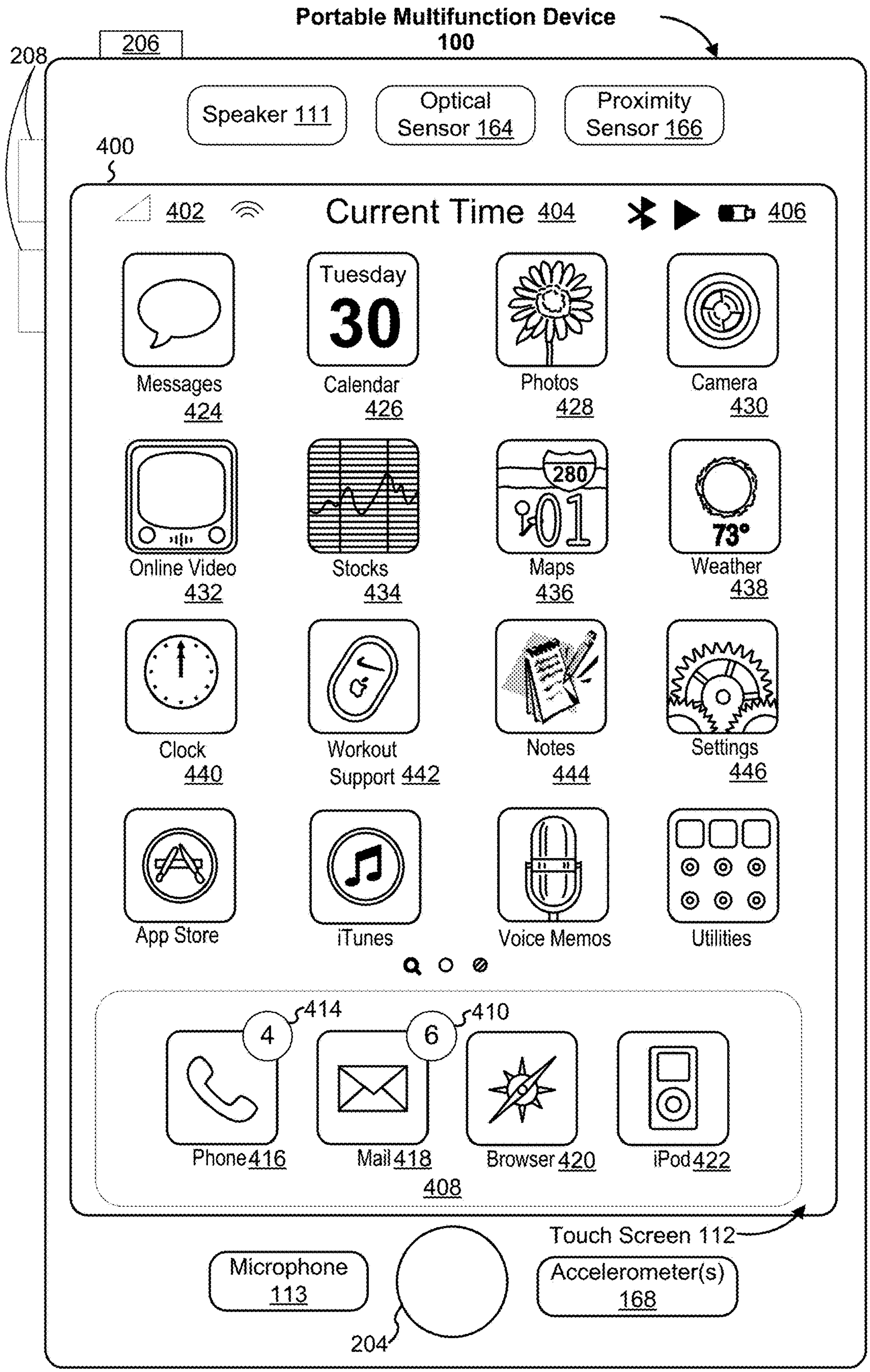
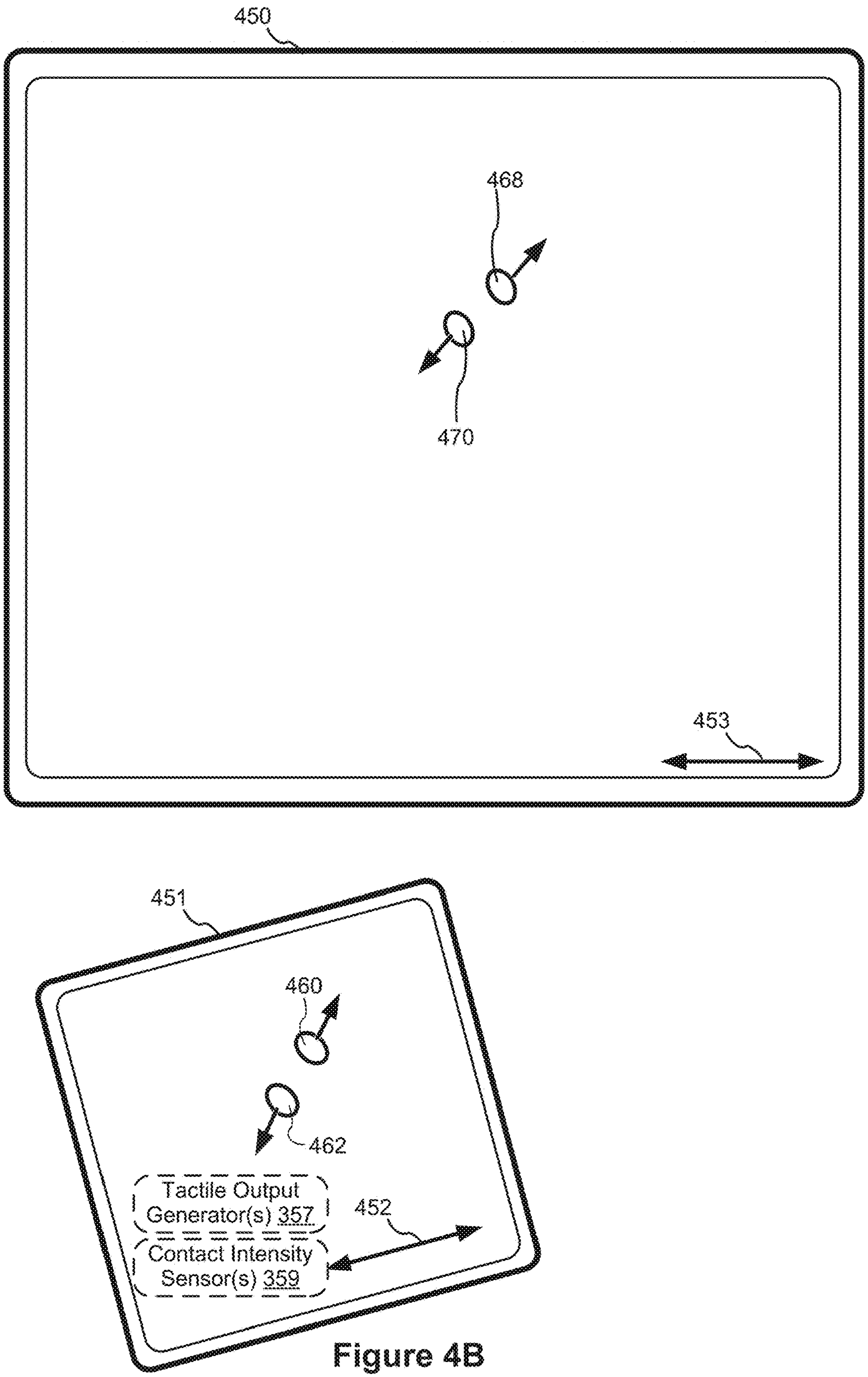
Telephone Module
138
Video Conference Module
139
E-mail Client Module
140
Instant Messaging Module
141
Workout Support Module
142
Camera Module
143
Image Management Module
144
Browser Module
147
Calendar Module
148
Widget Modules
149
Weather Widget
149-1
Stocks Widget
149-2
Calculator Widget
149-3
Alarm Clock Widget
149-4
Dictionary Widget
149-5
User-Created Widget(s)
149-6
Widget Creator Module
150
Search Module
151
Video & Music Player Module
152
Drawing Module
380
Presentation Module
382
Word Processing Module
384
Website Creation Module
386
Disk Authoring Module
388
Spreadsheet Module
390
Device/Global Internal State
157
Device 300
310
CPU(s)
320
330
I/O Interface
Display
340
Keyboard/Mouse
350
Touchpad
355
Tactile Output Generator(s)
357
Sensor(s)
359
360
Network Communications Interface

Figure 3



Portable Multifunction Device
100
206
208
Speaker 111
Optical Sensor 164
Proximity Sensor 166
400
402
Current Time 404
406
Tuesday
30
Messages
424
Calendar
426
Photos
428
Camera
430
Online Video
432
Stocks
434
280
Maps
436
73°
Weather
438
Clock
440
Workout Support 442
Notes
444
Settings
446
App Store
iTunes
Voice Memos
Utilities
414
410
4
6
Phone 416
Mail 418
Browser 420
iPod 422
408
Touch Screen 112
Microphone
113
Accelerometer(s)
168
204

Figure 4A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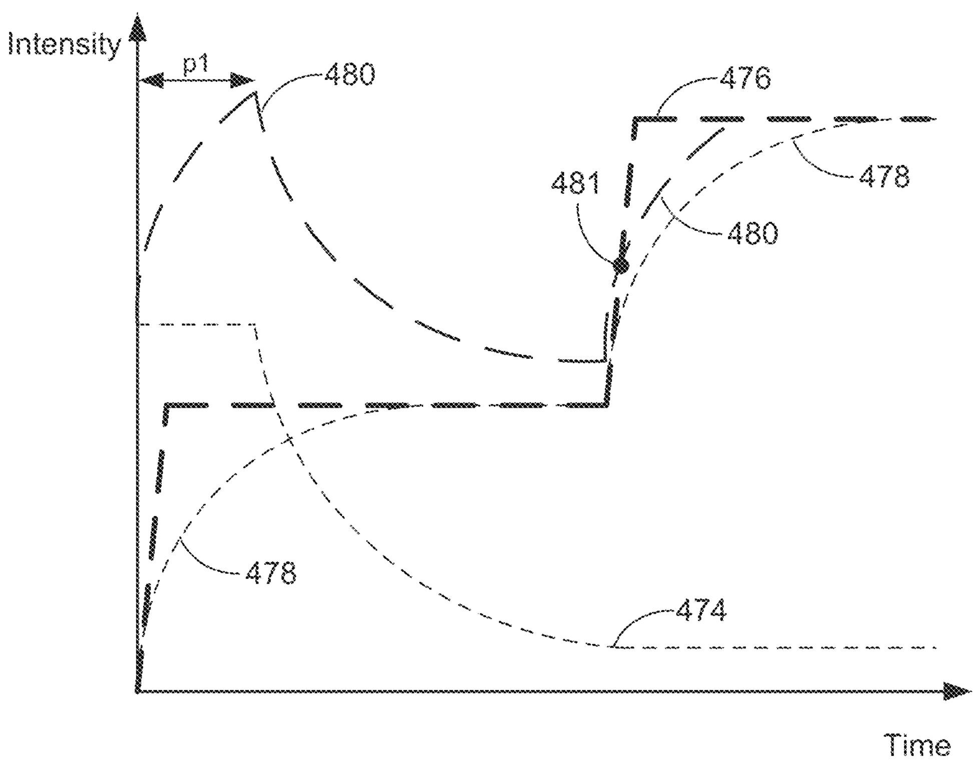
452
Contact Intensity Sensor(s) 359

Figure 4B



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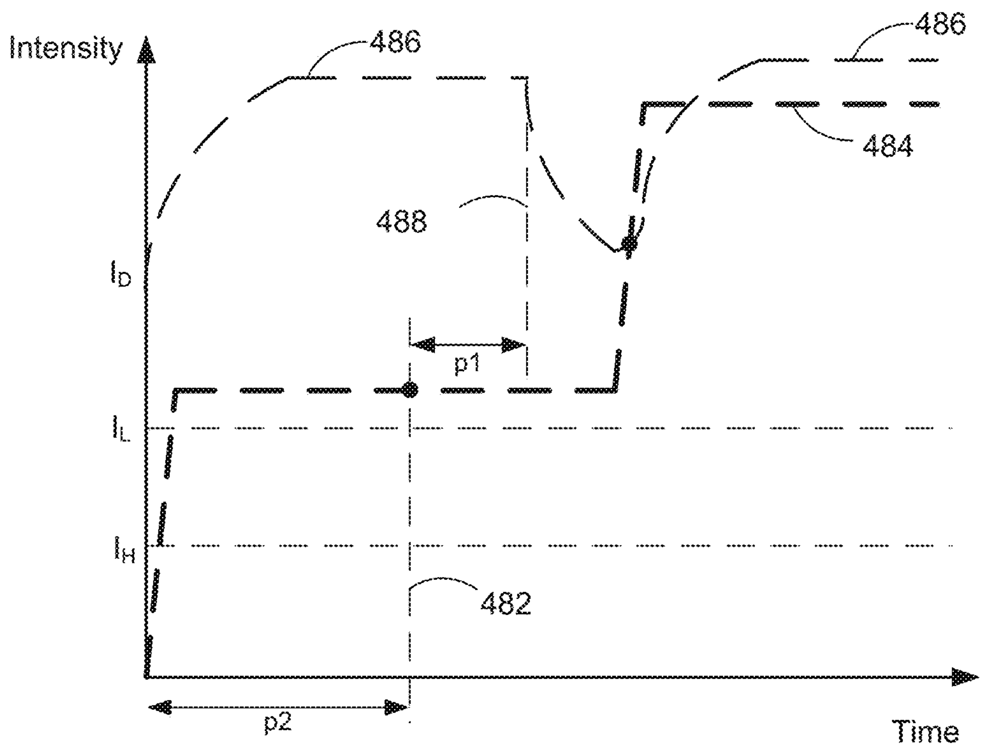


Figure 4D

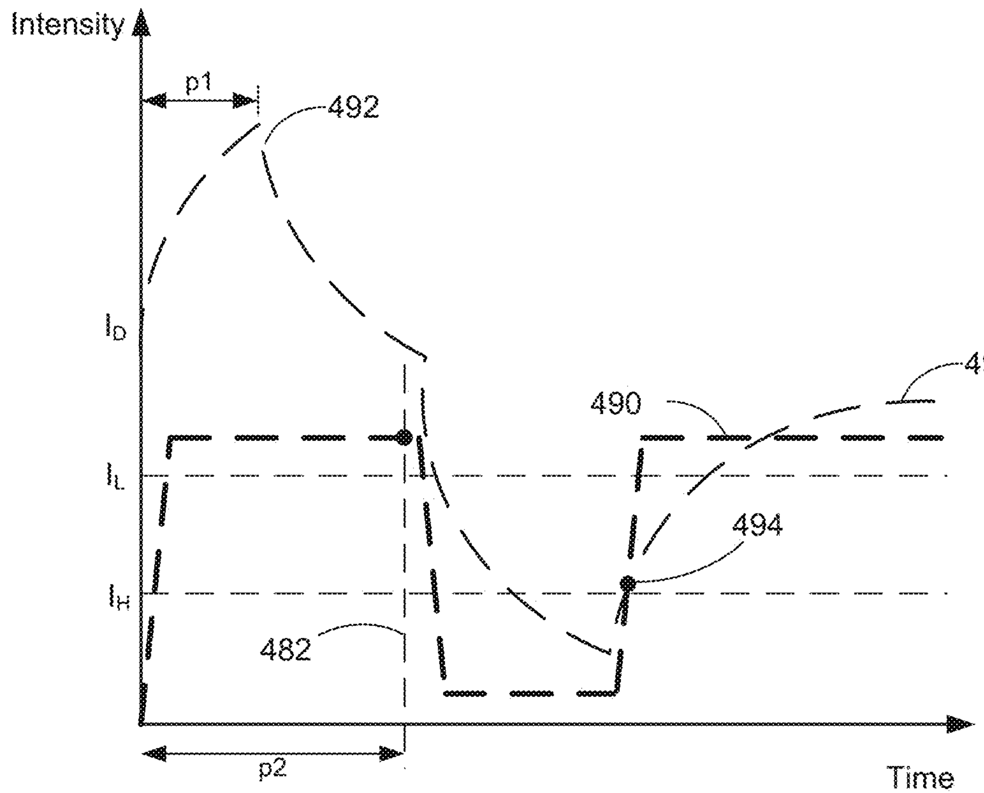
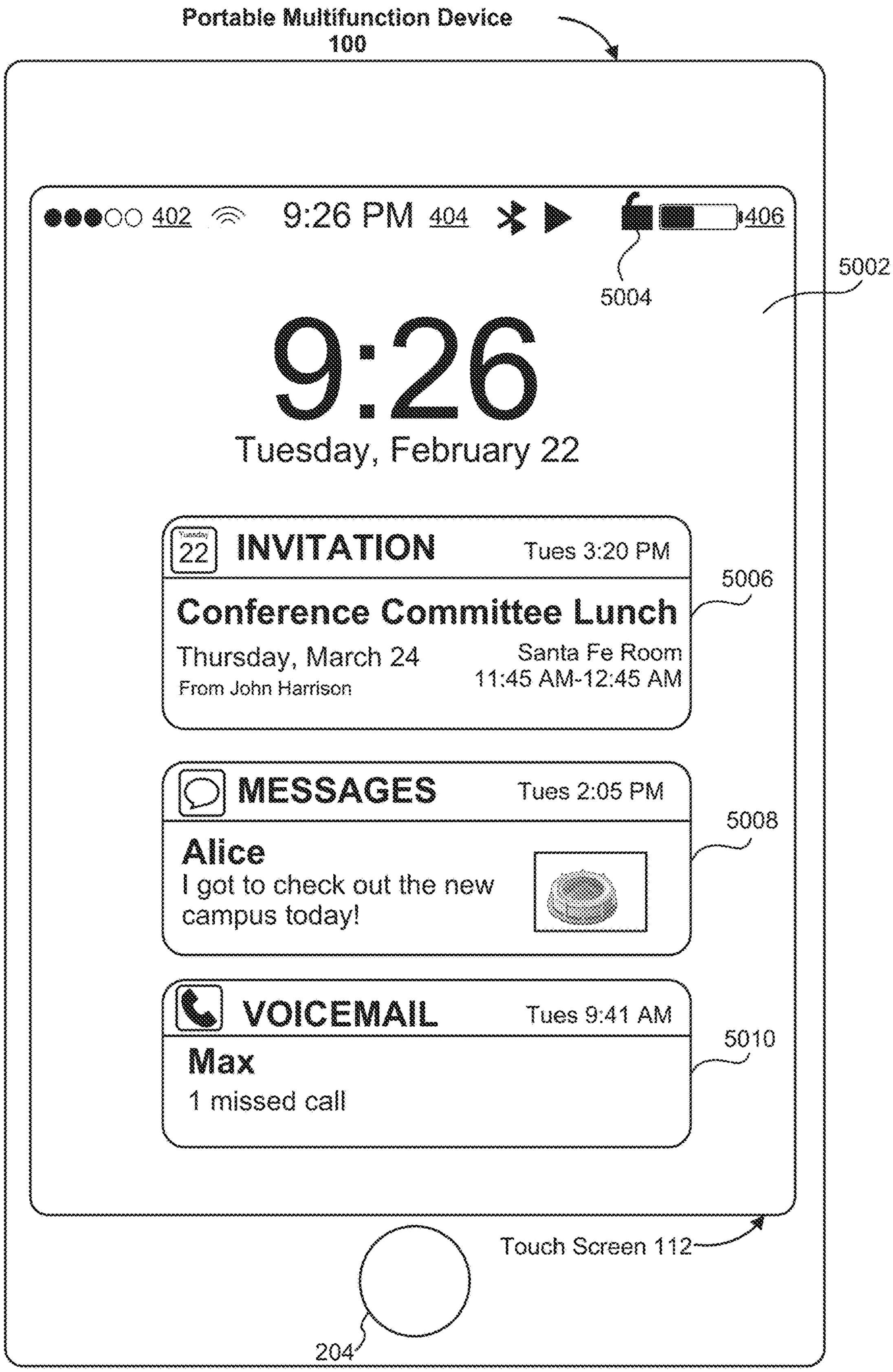


Figure 4E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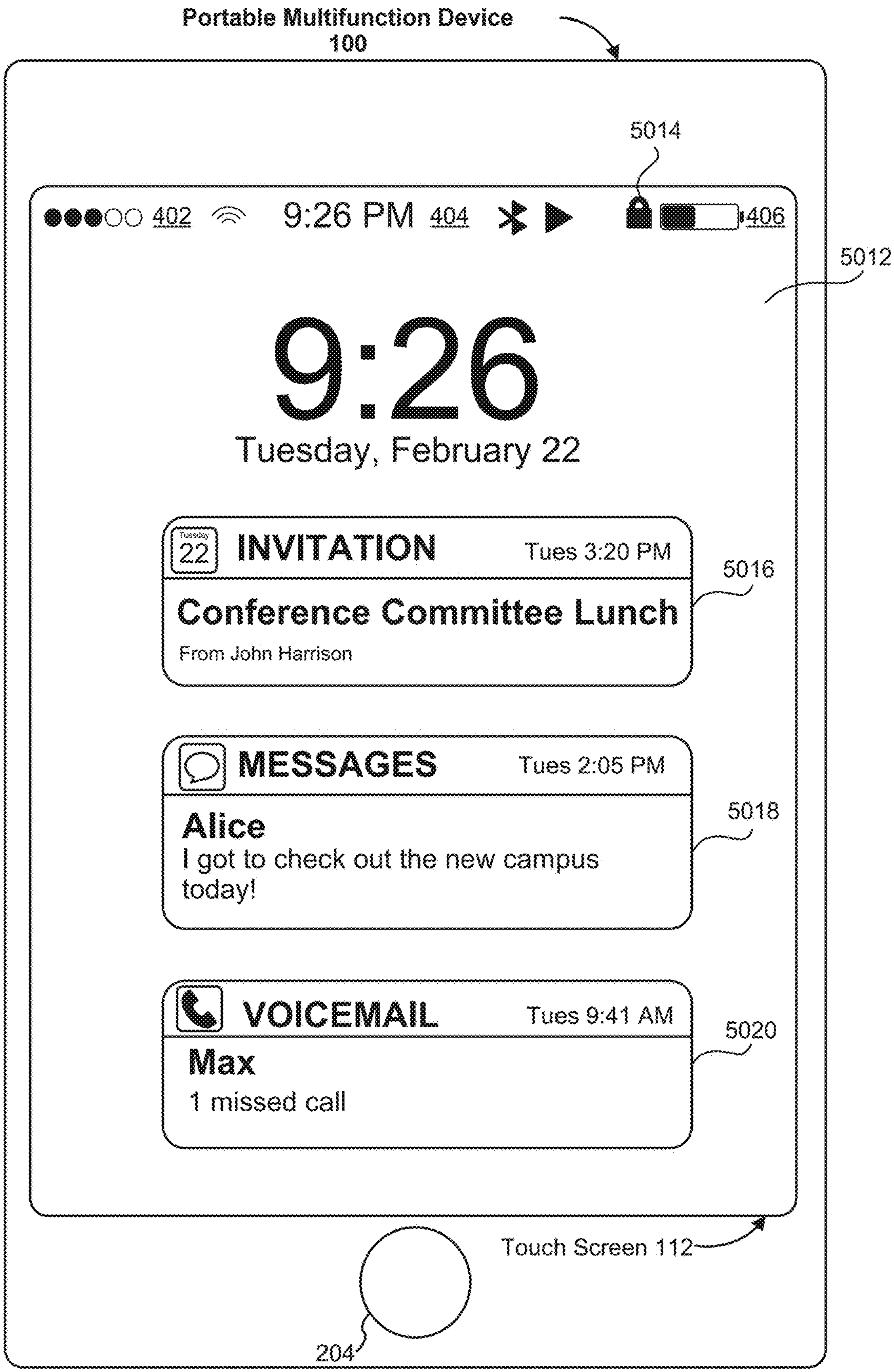
404
406
5004
5002
9:26
Tuesday, February 22
Tuesday
22
INVITATION
Tues 3:20 PM
5006
Conference Committee Lunch
Thursday, March 24
Santa Fe Room
11:45 AM-12:45 AM
From John Harrison
MESSAGES
Tues 2:05 PM
5008
Alice
I got to check out the new
campus today!
VOICEMAIL
Tues 9:41 AM
5010
Max
1 missed call
Touch Screen 112
204

Figure 5A1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Conference Committee Lunch
From John Harrison
5016
MESSAGES
Tues 2:05 PM
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I got to check out the new campus today!
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Tues 9:41 AM
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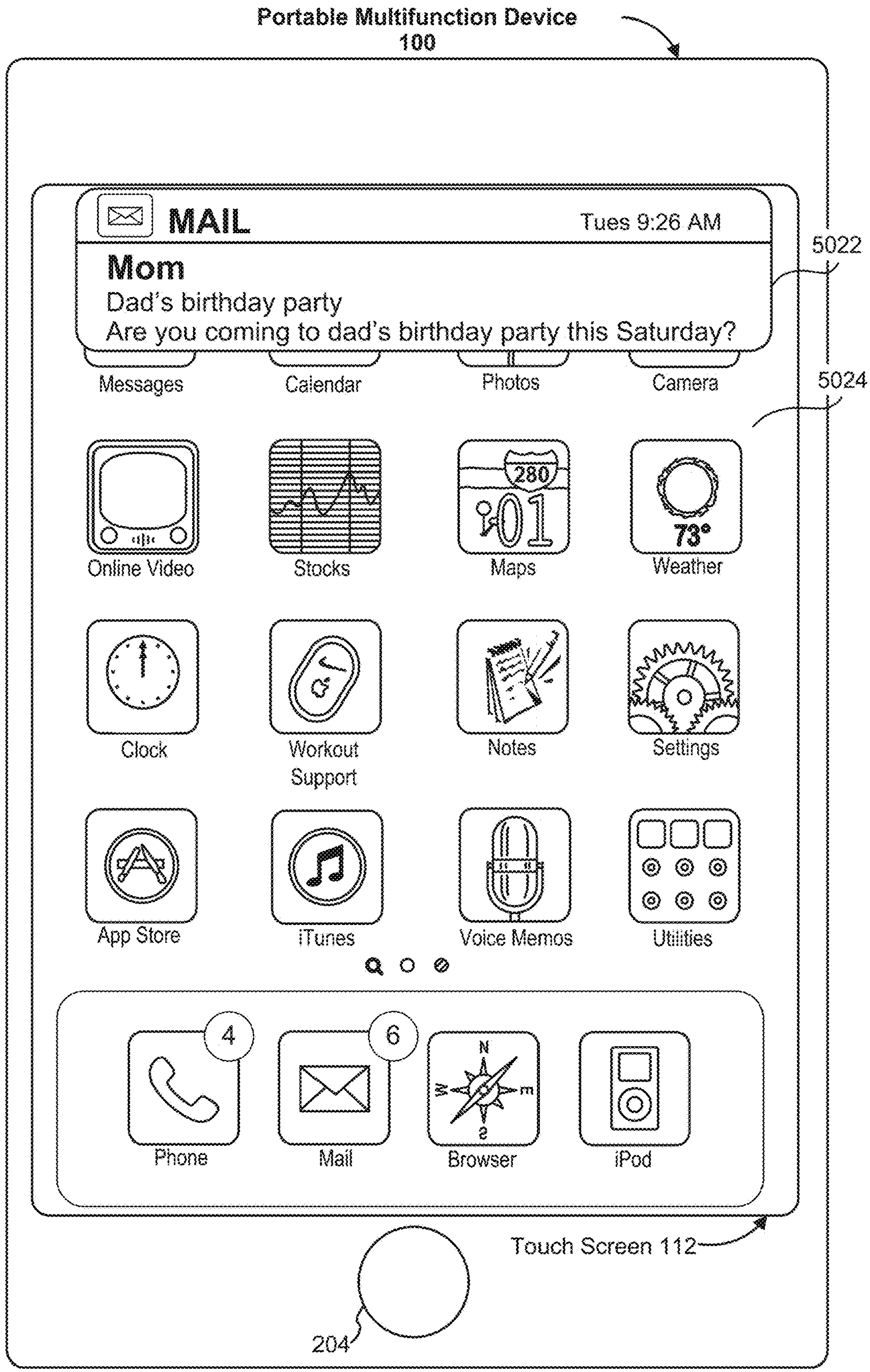
5020
Touch Screen 112
204

Figure 5A2



Portable Multifunction Device
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MAIL
Tues 9:26 AM
Mom
Dad's birthday party
Are you coming to dad's birthday party this Saturday?
5022
5024
Messages
Calendar
Photos
Camera
Online Video
Stocks
280
Maps
73°
Weather
Clock
Workout Support
Notes
Settings
App Store
iTunes
Voice Memos
Utilities
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Phone
Mail
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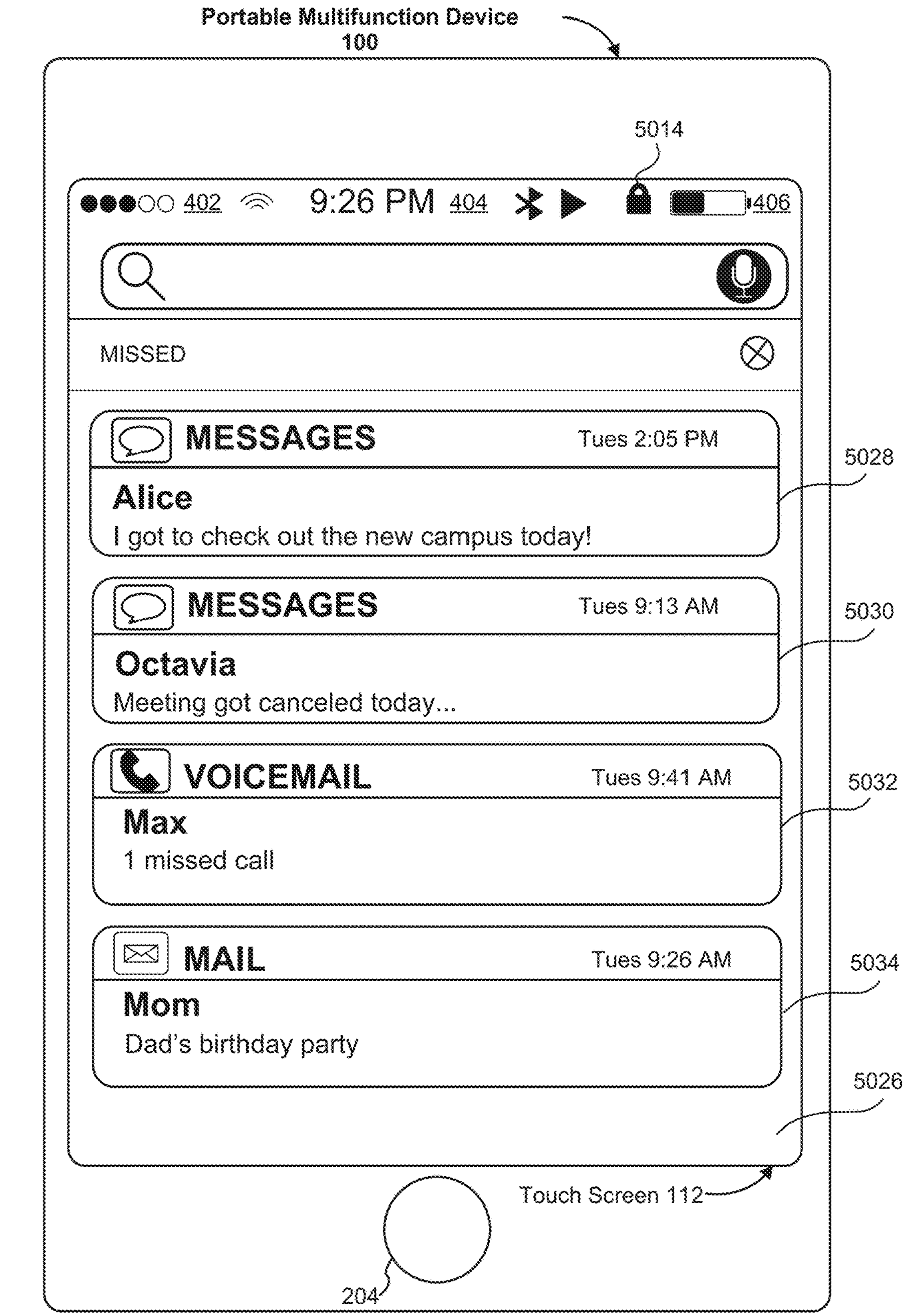
Figure 5A3



Portable Multifunction Device
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MESSAGES
Tues 2:05 PM
Alice
I got to check out the new campus today!
5028
MESSAGES
Tues 9:13 AM
Octavia
Meeting got canceled today...
5030
VOICEMAIL
Tues 9:41 AM
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Tues 9:26 AM
Mom
Dad's birthday party
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Touch Screen 112
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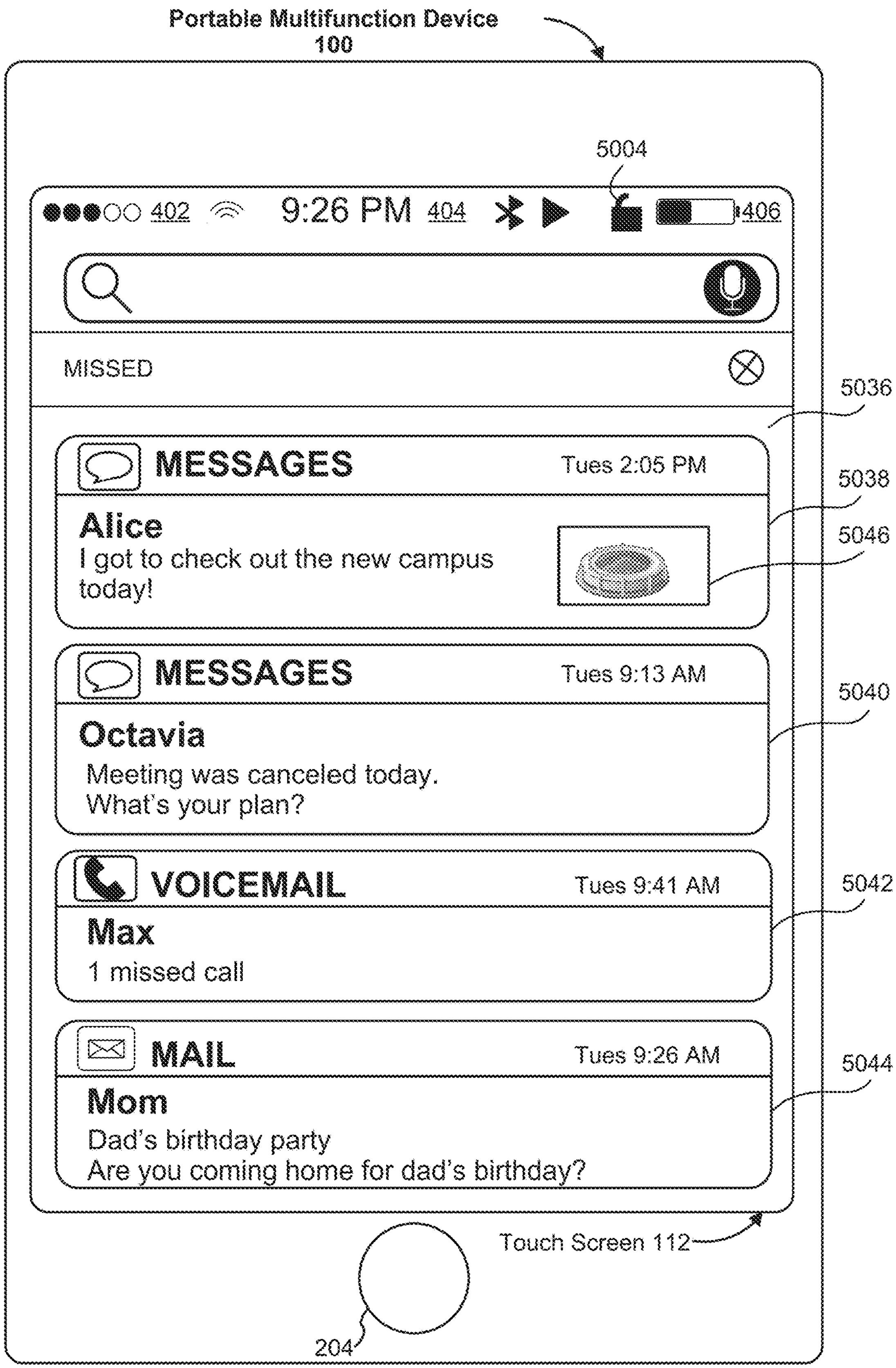
Figure 5A4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Alice
I got to check out the new campus today!
5046
MESSAGES
Tues 9:13 AM
Octavia
Meeting was canceled today.
What's your plan?
5040
VOICEMAIL
Tues 9:41 AM
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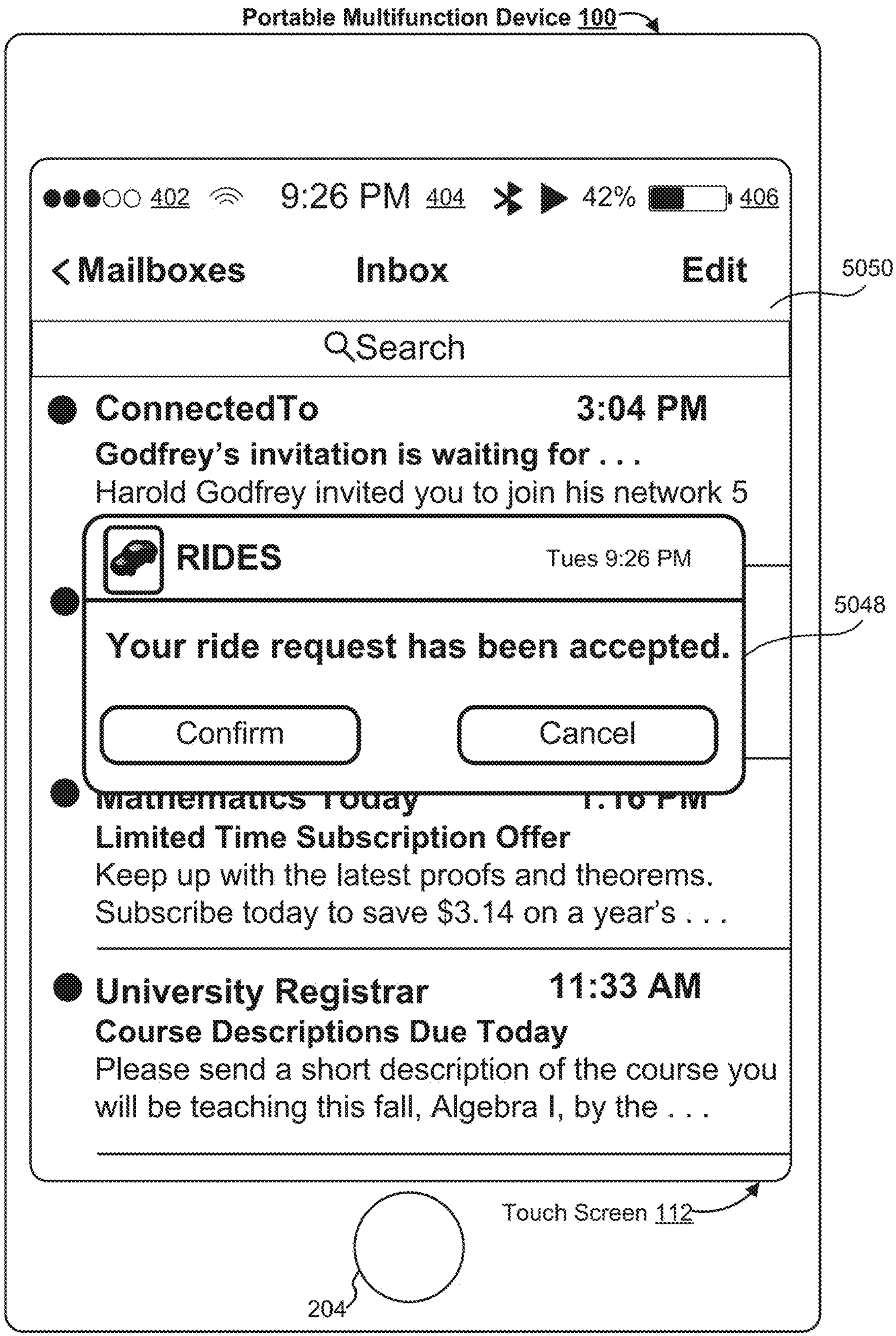
Max
1 missed call
MAIL
Tues 9:26 AM
5044
Mom
Dad's birthday party
Are you coming home for dad's birthday?
Touch Screen 112
204

Figure 5A5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Harold Godfrey invited you to join his network 5
RIDES
Tues 9:26 PM
5048
Your ride request has been accepted.
Confirm
Cancel
Limited Time Subscription Offer
Keep up with the latest proofs and theorems.
Subscribe today to save $3.14 on a year's . . .
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Course Descriptions Due Today
Please send a short description of the course you
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Touch Screen 112
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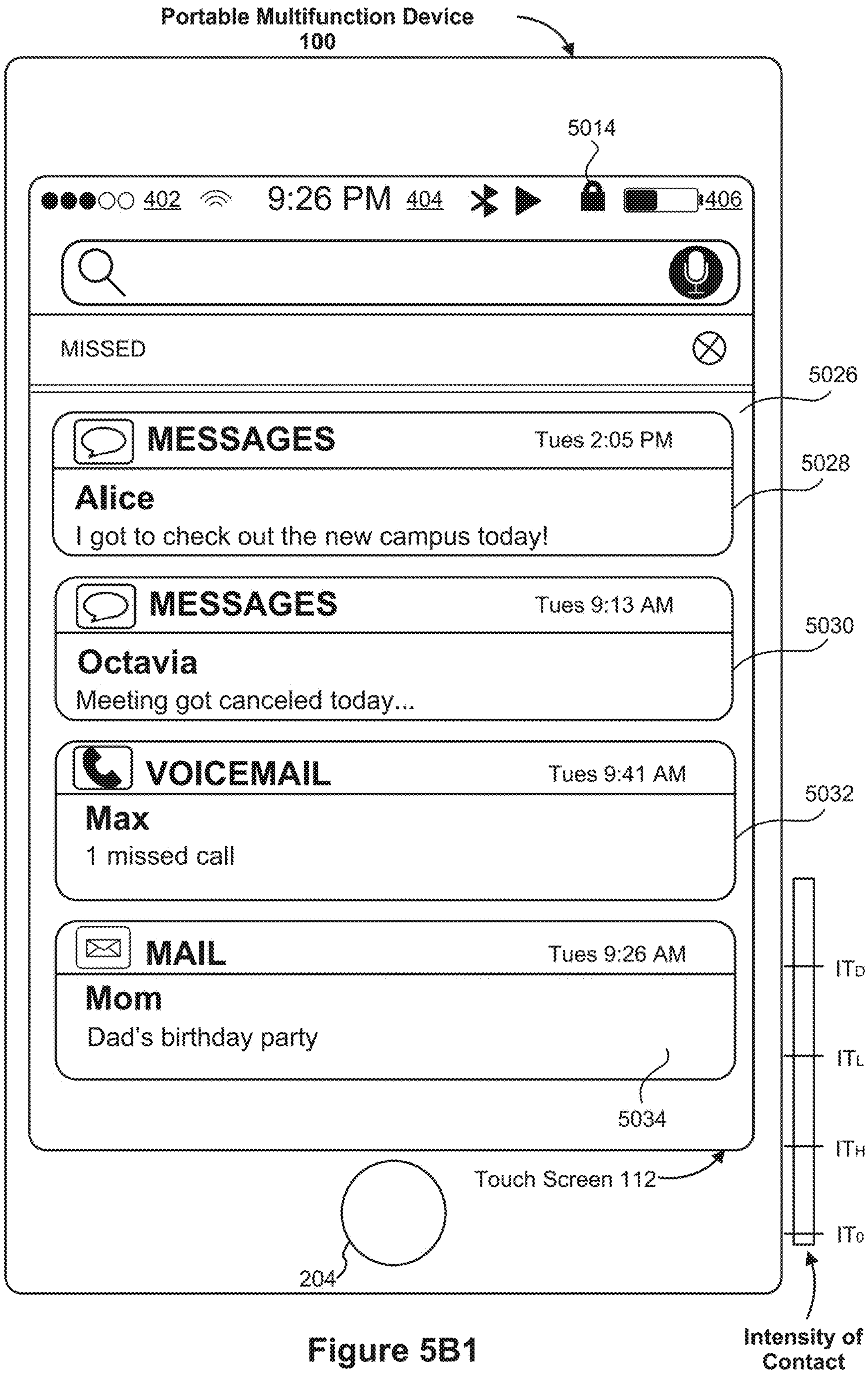
Figure 5A6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5028
MESSAGES
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Octavia
Meeting got canceled today...
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VOICEMAIL
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1 missed call
5032
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Dad's birthday party
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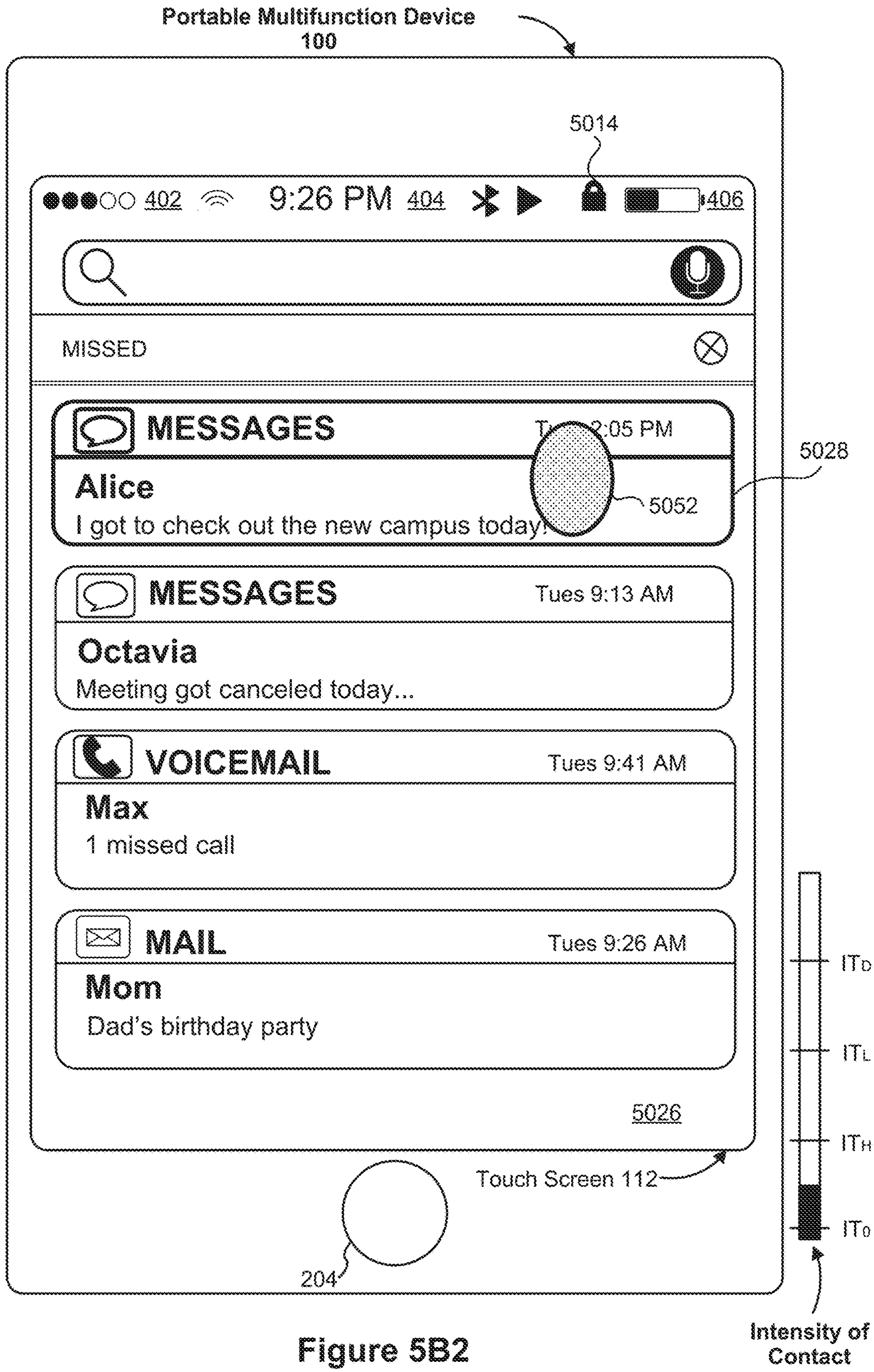
204
ITD
ITL
ITH
IT0
Intensity of Contact

Figure 5B1



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I got to check out the new campus today!
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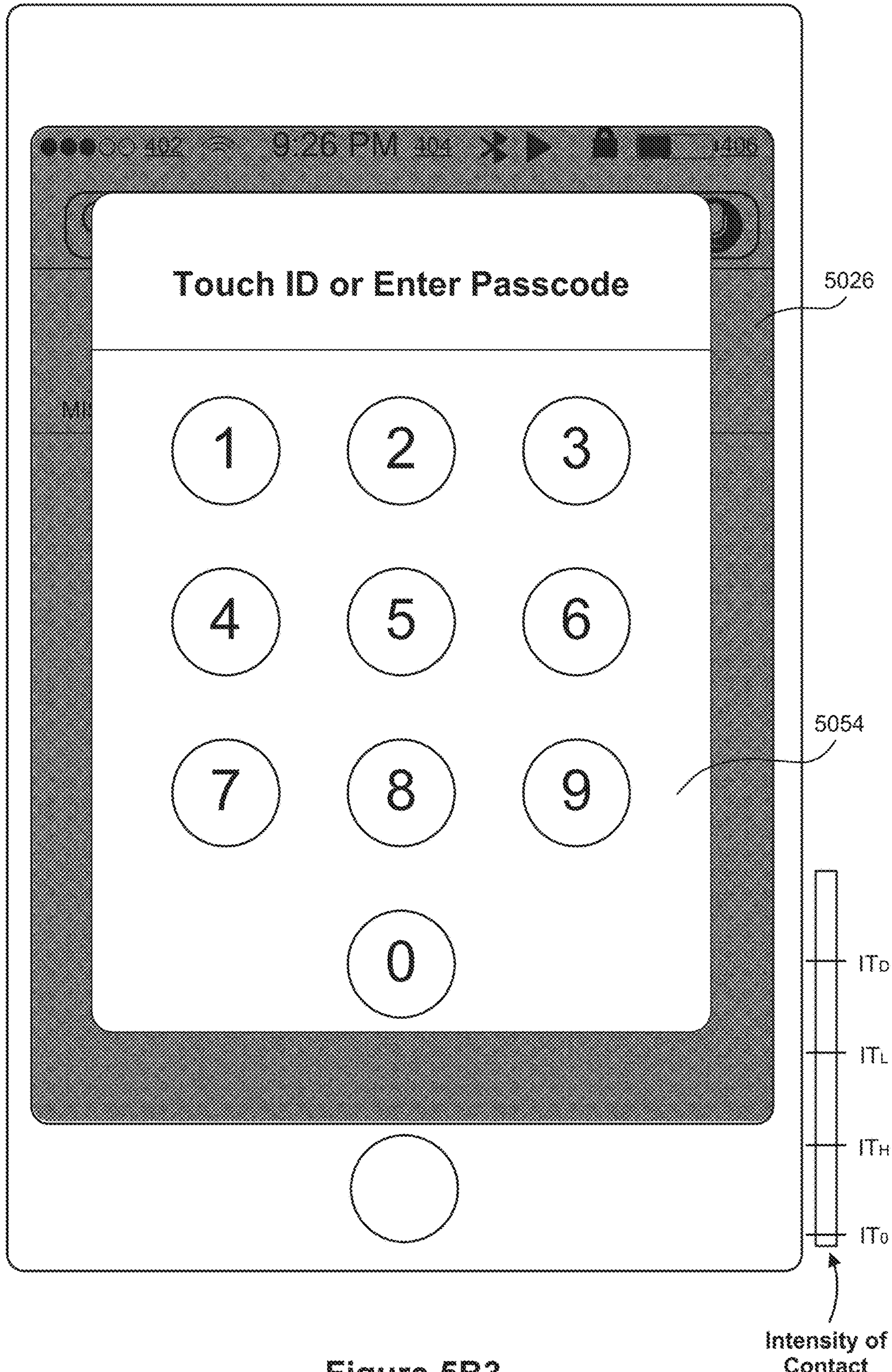
5028
MESSAGES
Tues 9:13 AM
Octavia
Meeting got canceled today...
VOICEMAIL
Tues 9:41 AM
Max
1 missed call
MAIL
Tues 9:26 AM
Mom
Dad's birthday party
5026
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5B2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2
3
4
5
6
7
8
9
0
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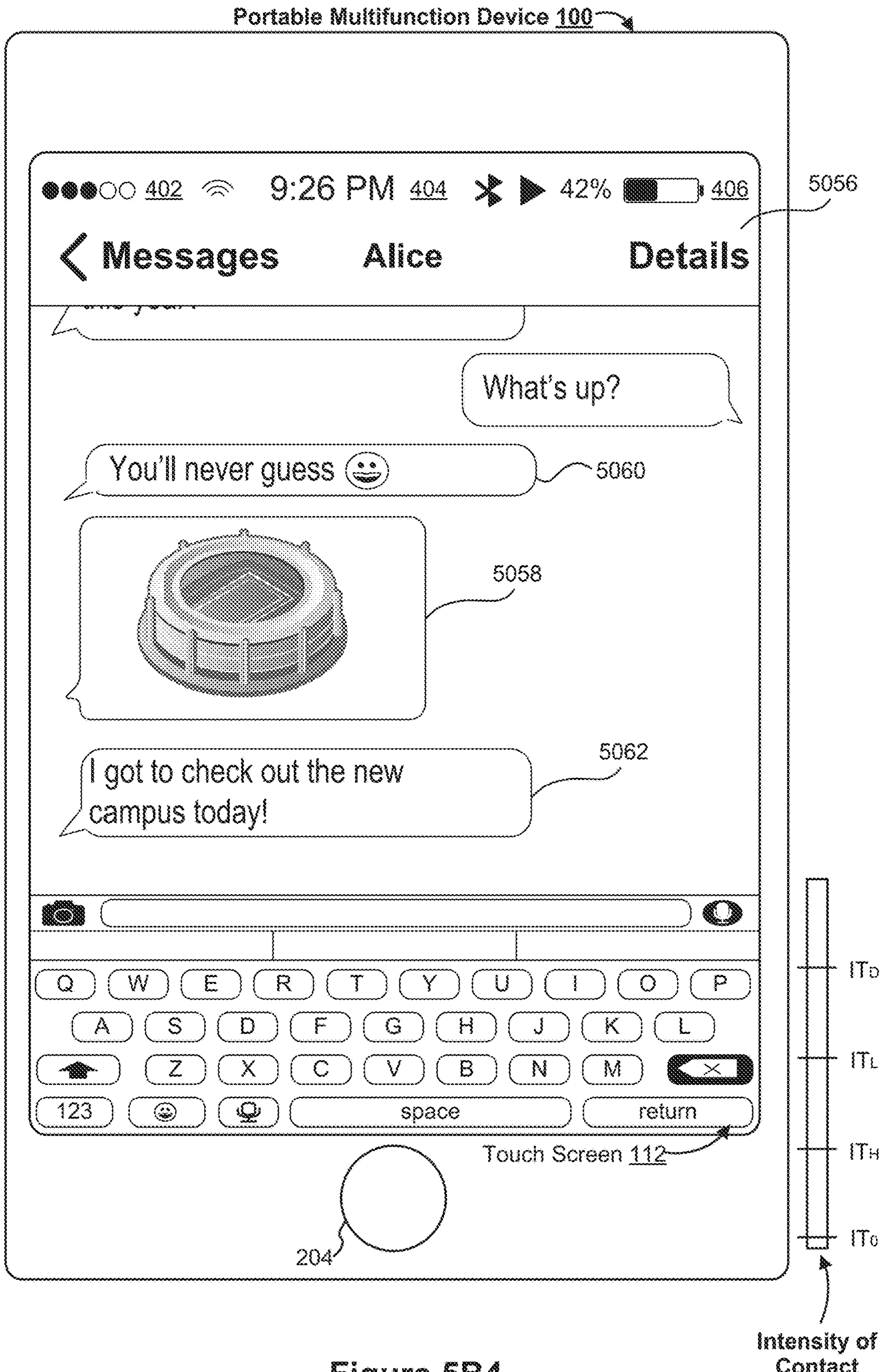
5054
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5B3



Portable Multifunction Device 100
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9:26 PM
404
42%
406
5056
Messages
Alice
Details
What's up?
You'll never guess
5060
5058
I got to check out the new campus today!
5062
Q W E R T Y U I O P
A S D F G H J K L
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return
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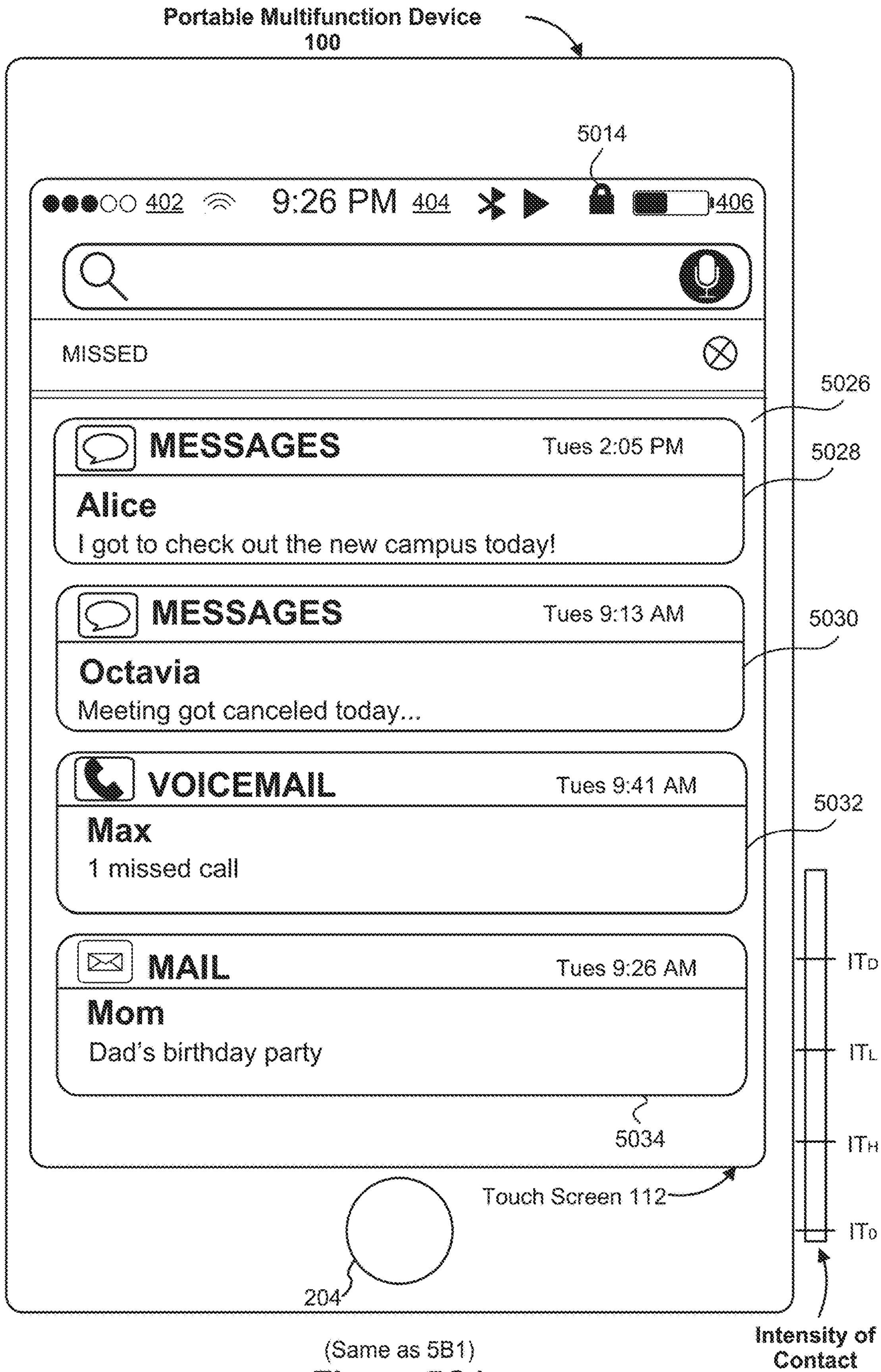
Intensity of Contact

Figure 5B4



(Same as 5B1)

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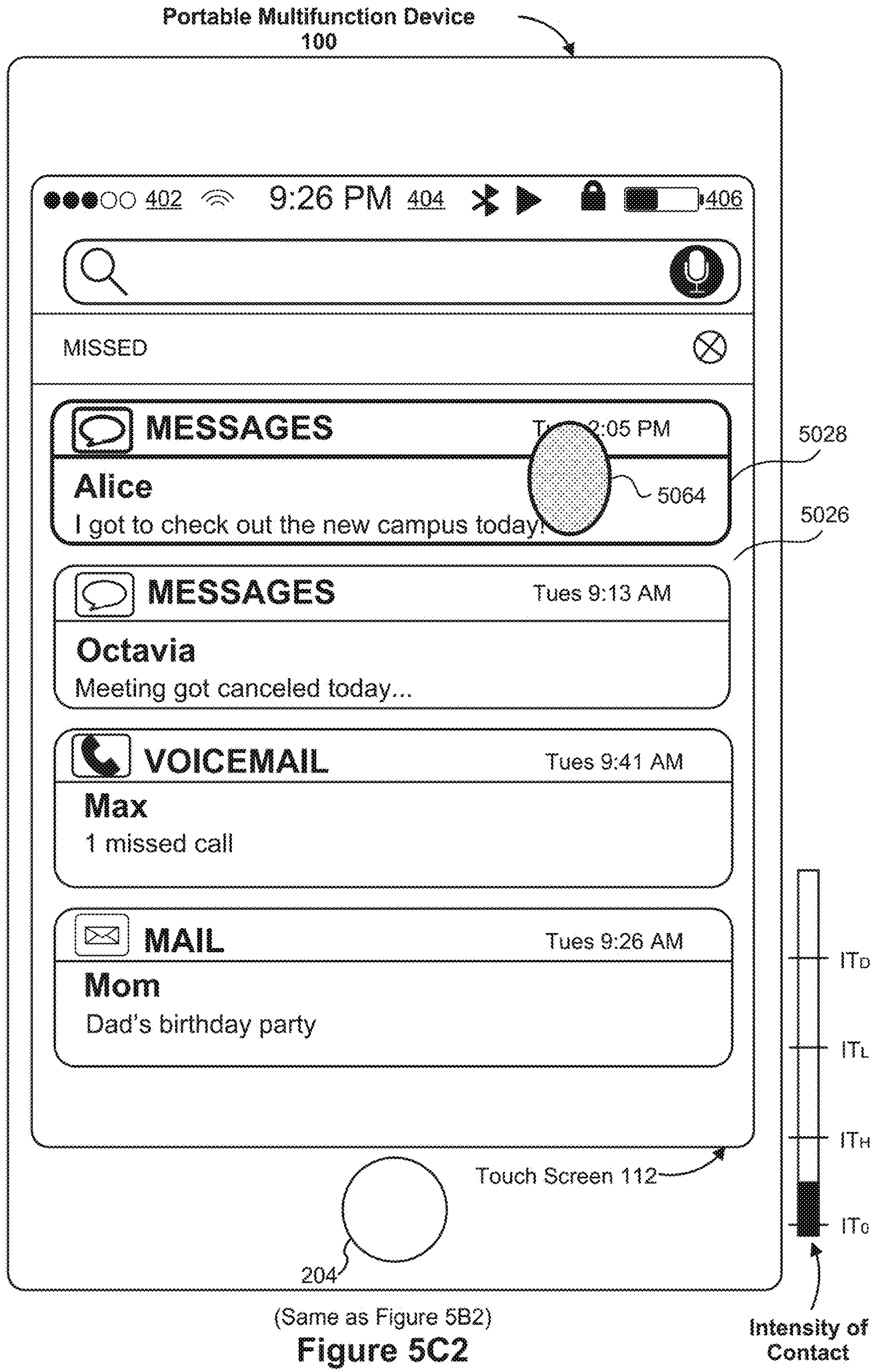

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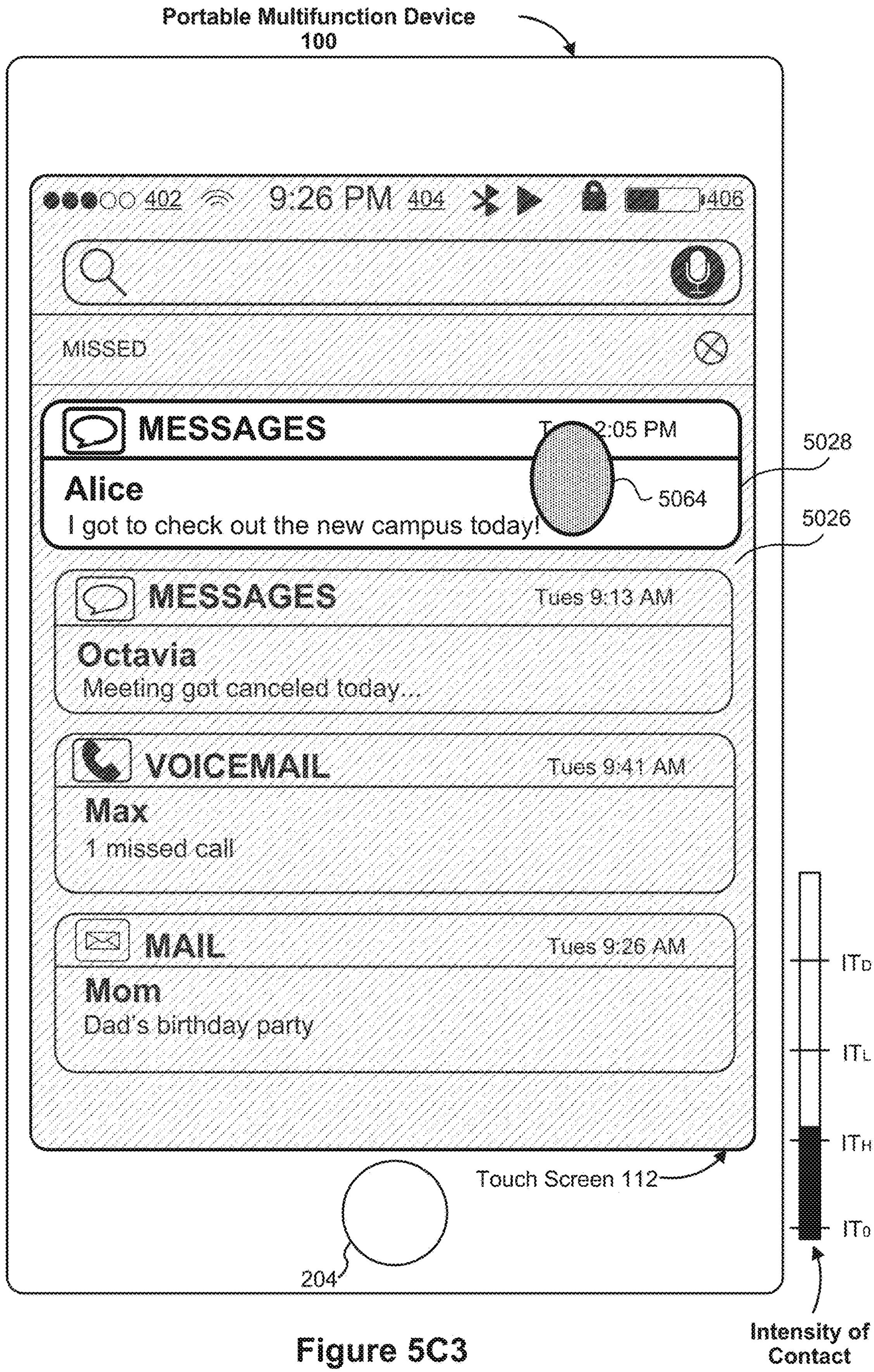
Figure 5C2



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I got to check out the new campus today!
5064
5028
5026
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Tues 9:13 AM
Octavia
Meeting got canceled today...
VOICEMAIL
Tues 9:41 AM
Max
1 missed call
MAIL
Tues 9:26 AM
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Dad's birthday party
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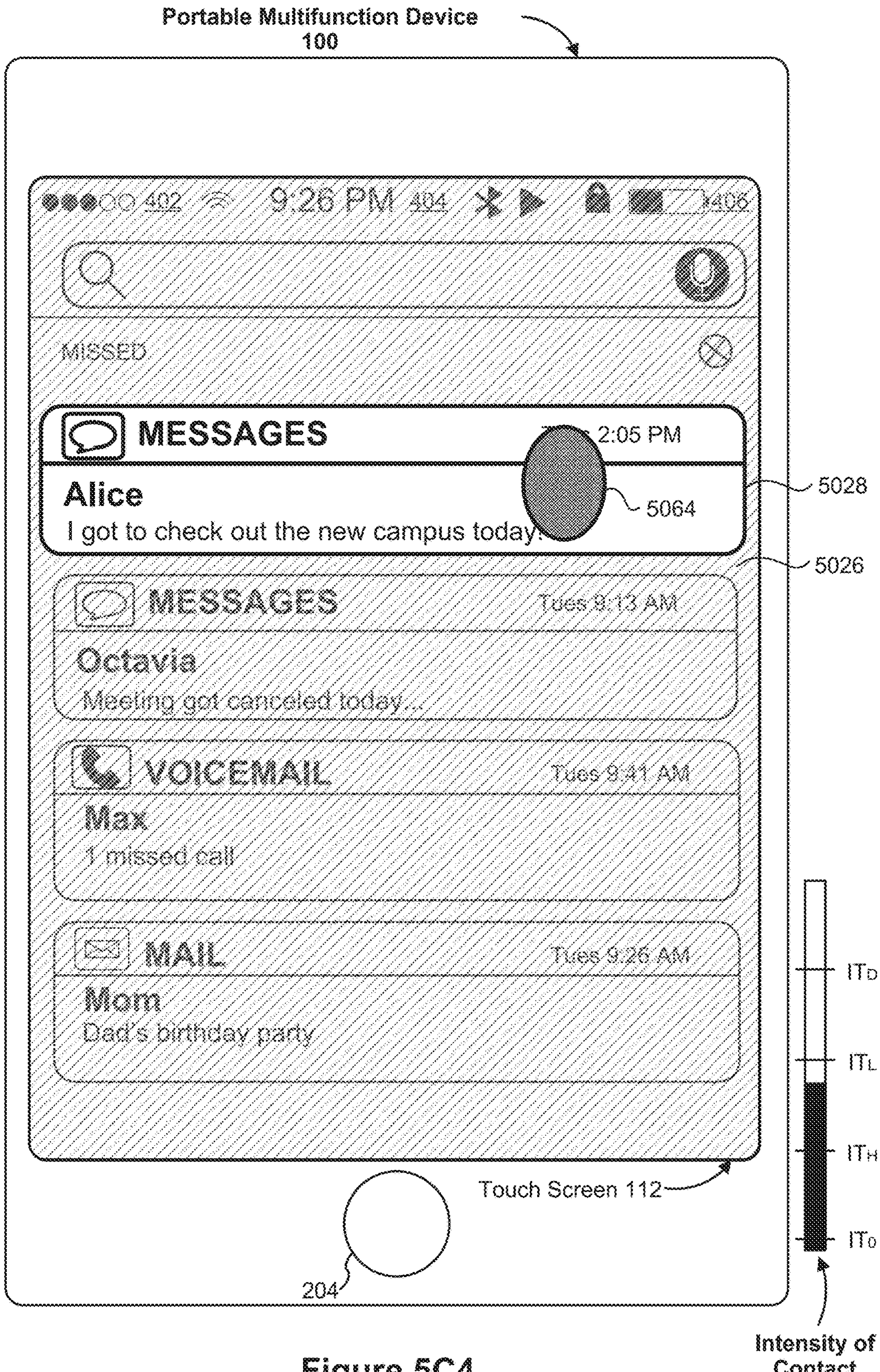
Intensity of Contact

Figure 5C3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Octavia
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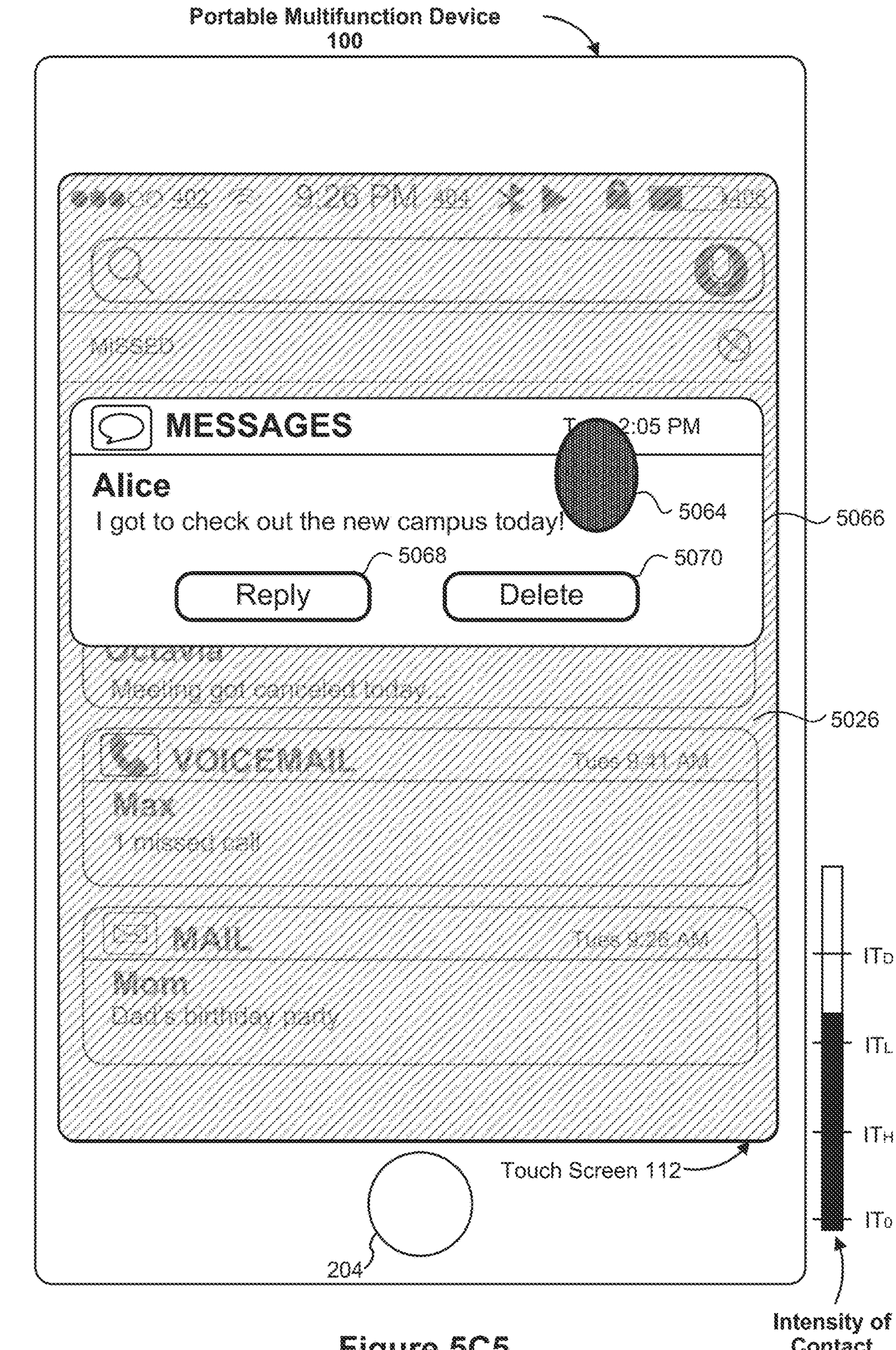
IT_H
IT_0
Intensity of Contact

Figure 5C4



Portable Multifunction Device 100
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I got to check out the new campus today!
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Delete
5026
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MAIL
Mom
Dad's birthday party
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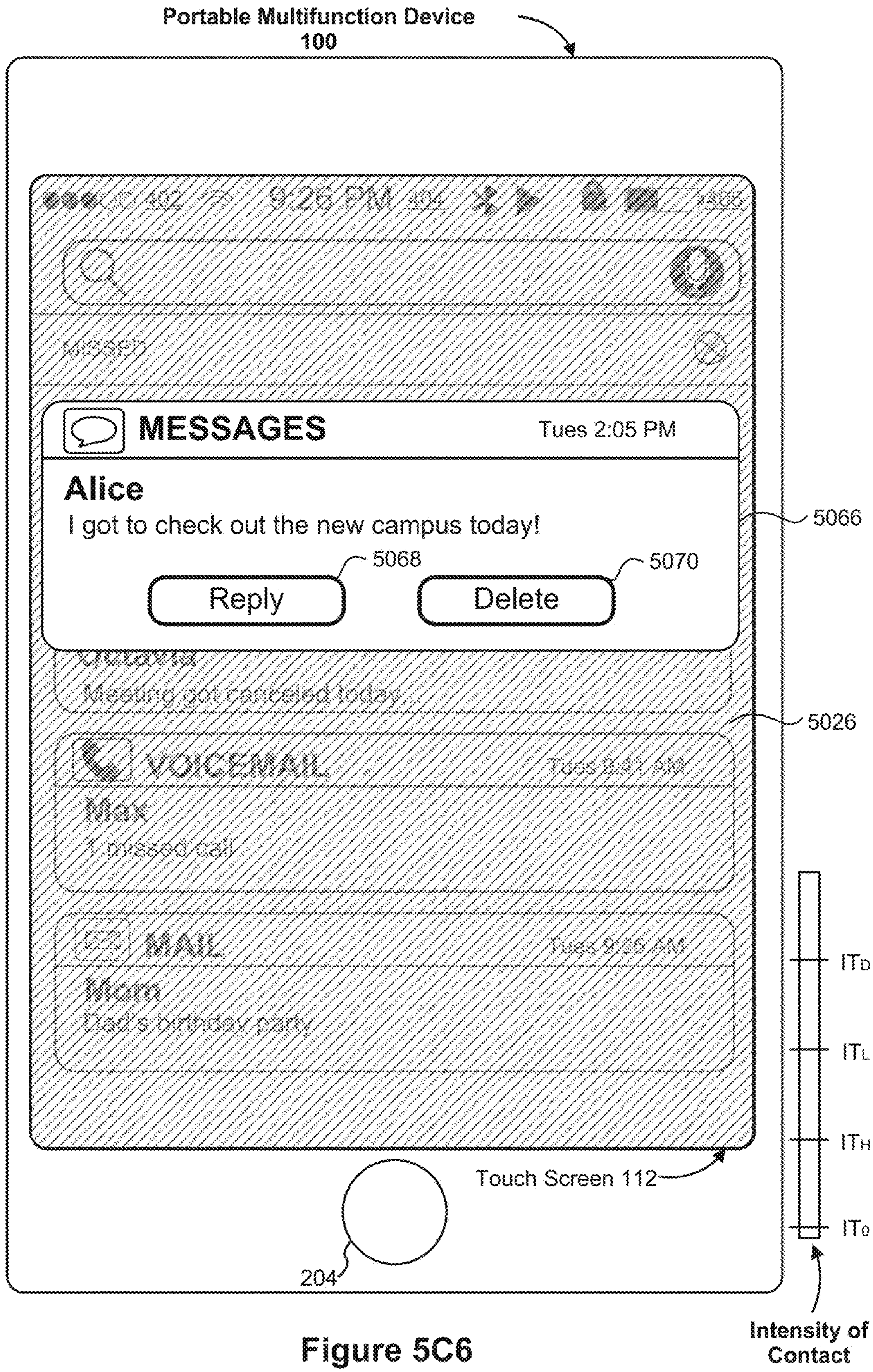
204
ITD
ITL
ITH
IT0
Intensity of Contact

Figure 5C5



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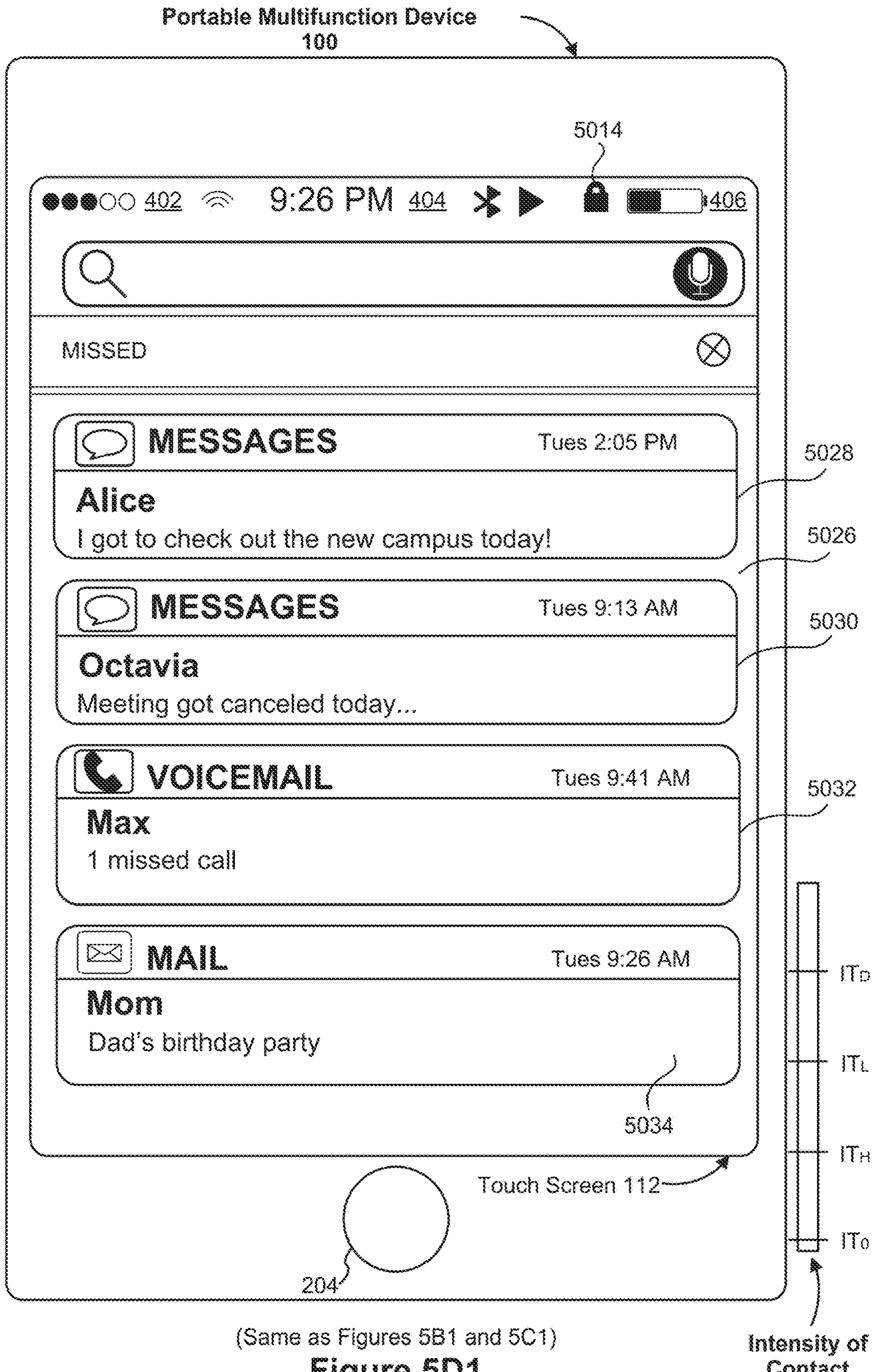
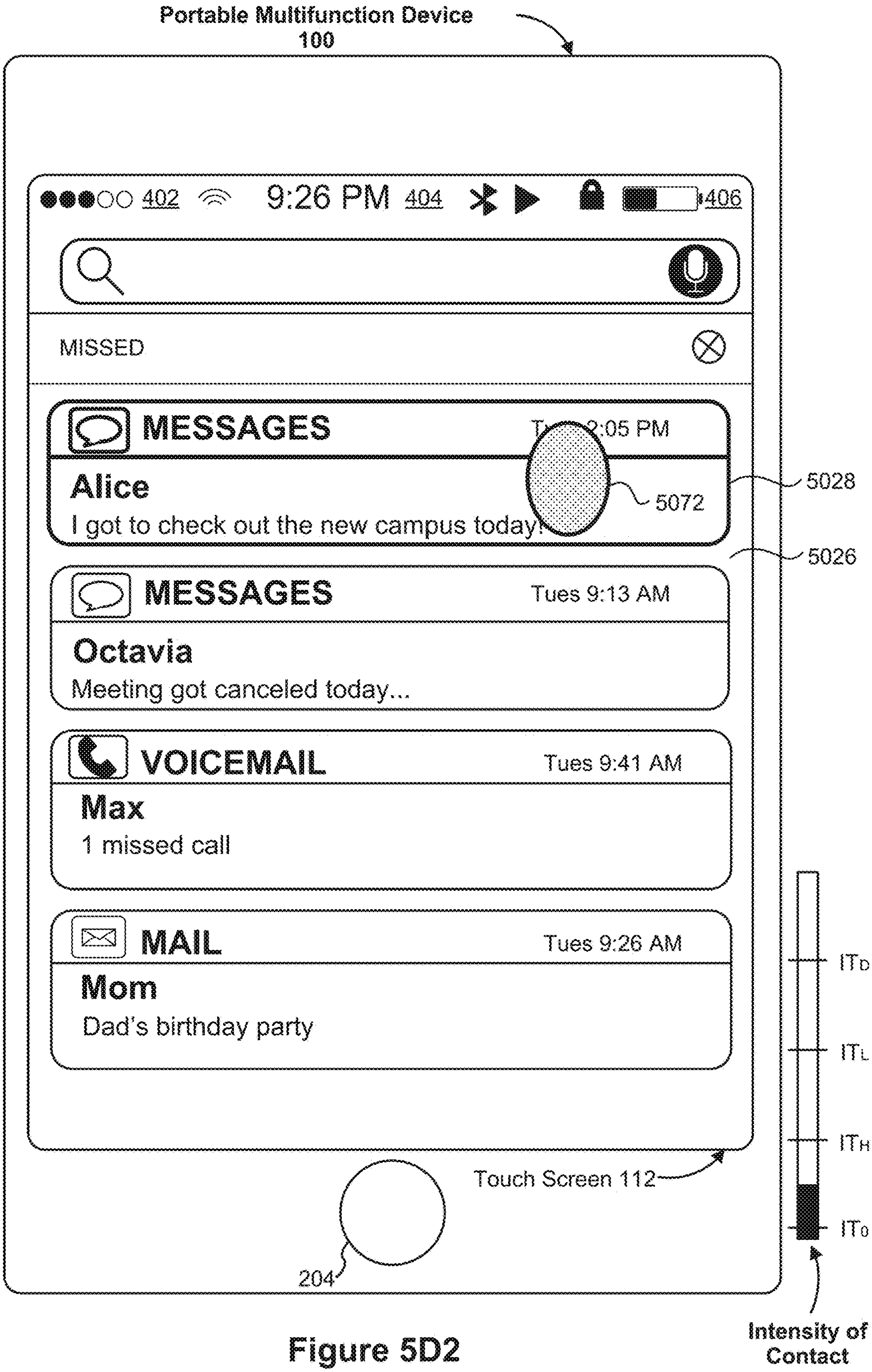
I got to check out the new campus today!
Reply
Delete
5066
5068
5070
Octavia
Meeting got canceled today...
5026
VOICEMAIL
Tues 9:41 AM
Max
1 missed call
MAIL
Tues 9:26 AM
Mom
Dad's birthday party
IT_D
IT_L
IT_H
IT_0
Touch Screen 112
204
Intensity of Contact

Figure 5C6



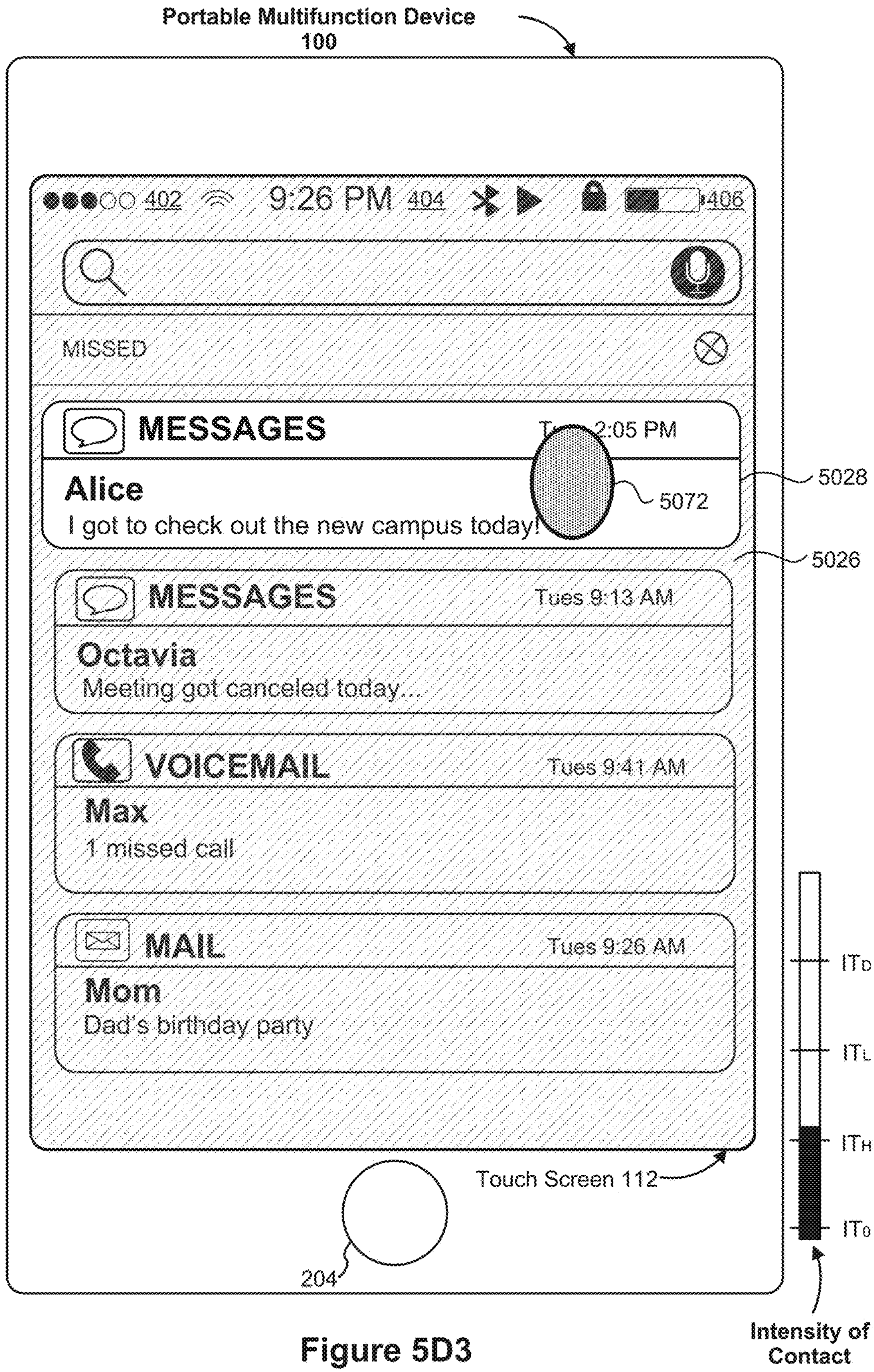
(Same as Figures 5B1 and 5C1)

Figure 5D1



Portable Multifunction Device 100
402
9:26 PM
404
406
MISSED
MESSAGES
Tues 2:05 PM
Alice
I got to check out the new campus today!
5072
5028
5026
MESSAGES
Tues 9:13 AM
Octavia
Meeting got canceled today...
VOICEMAIL
Tues 9:41 AM
Max
1 missed call
MAIL
Tues 9:26 AM
Mom
Dad's birthday party
Touch Screen 112
204
ITD
ITL
ITH
IT0
Intensity of Contact

Figure 5D2



Portable Multifunction Device
100
402
9:26 PM
404
406
MISSED
MESSAGES
2:05 PM
Alice
I got to check out the new campus today!
5072
5028
5026
MESSAGES
Tues 9:13 AM
Octavia
Meeting got canceled today...
VOICEMAIL
Tues 9:41 AM
Max
1 missed call
MAIL
Tues 9:26 AM
Mom
Dad's birthday party
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5D3

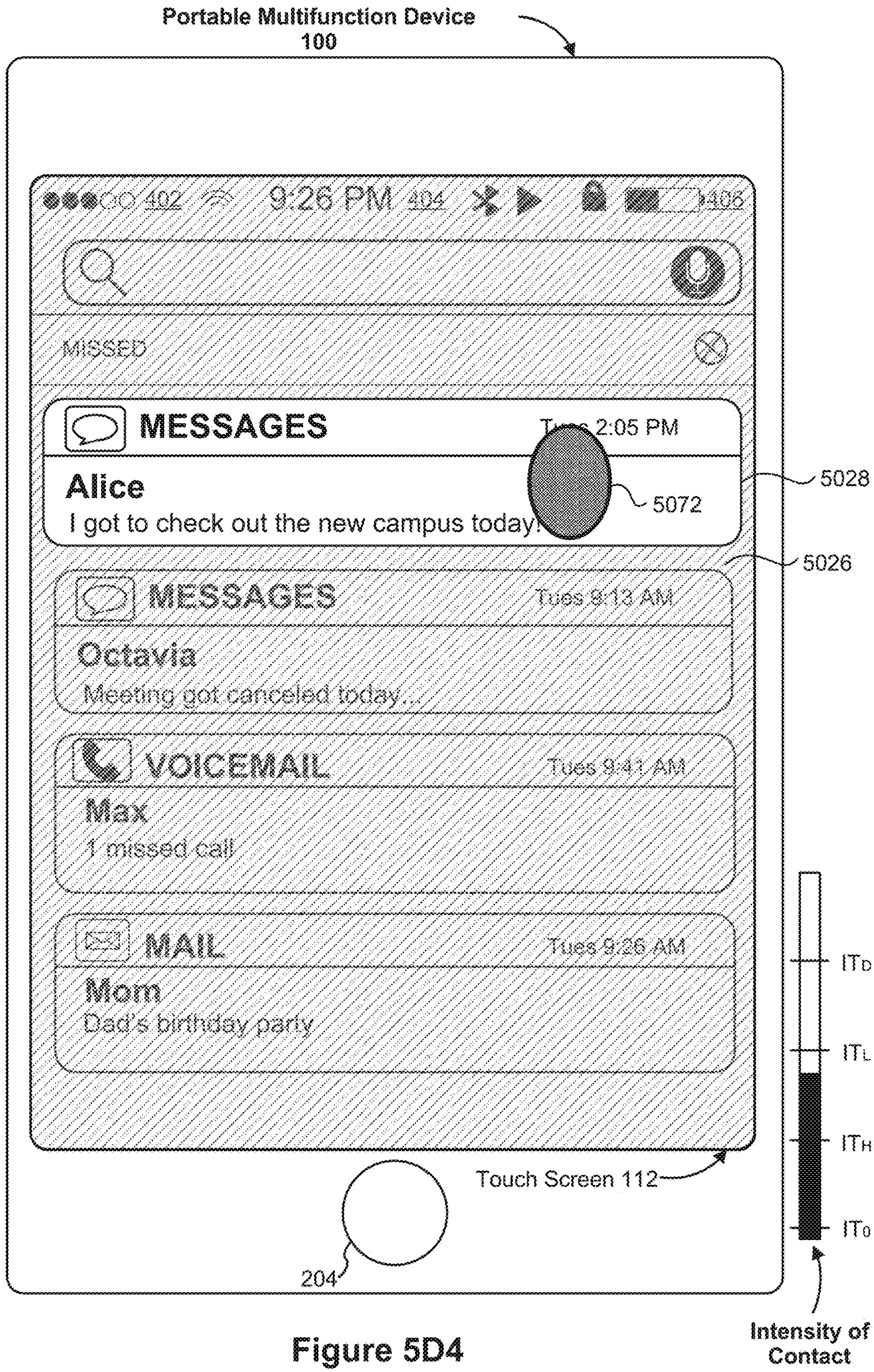
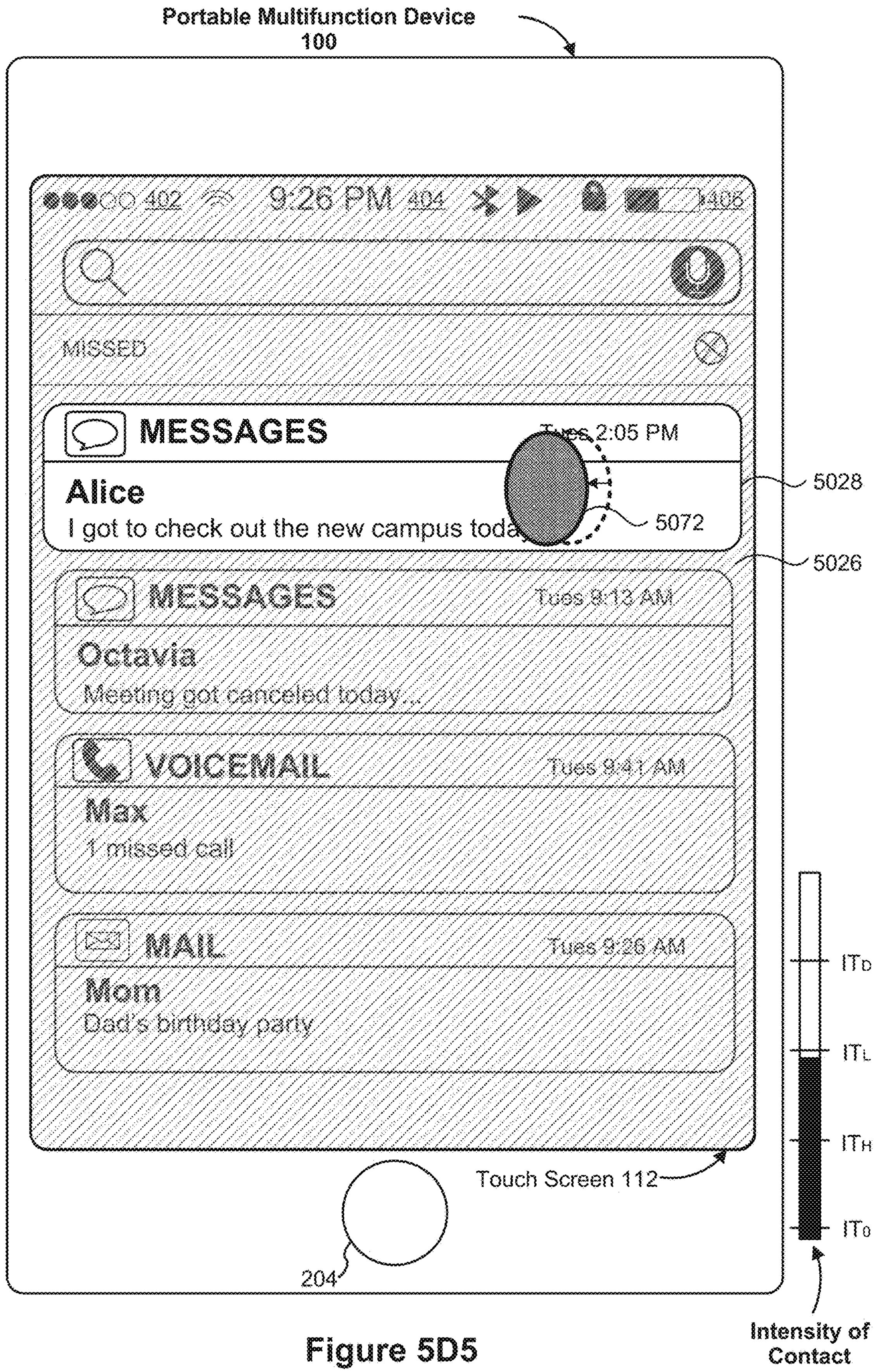

Portable Multifunction Device 100
402
9:26 PM
404
406
MISSED
MESSAGES
Tues 2:05 PM
Alice
I got to check out the new campus today!
5072
5028
5026
MESSAGES
Tues 9:13 AM
Octavia
Meeting got canceled today...
VOICEMAIL
Tues 9:41 AM
Max
1 missed call
MAIL
Tues 9:26 AM
Mom
Dad's birthday party
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5D4



Portable Multifunction Device
100
402
9:26 PM
404
406
MISSED
MESSAGES
Tues 2:05 PM
Alice
I got to check out the new campus toda
5028
5072
5026
MESSAGES
Tues 9:13 AM
Octavia
Meeting got canceled today...
VOICEMAIL
Tues 9:41 AM
Max
1 missed call
MAIL
Tues 9:26 AM
Mom
Dad's birthday party
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5D5

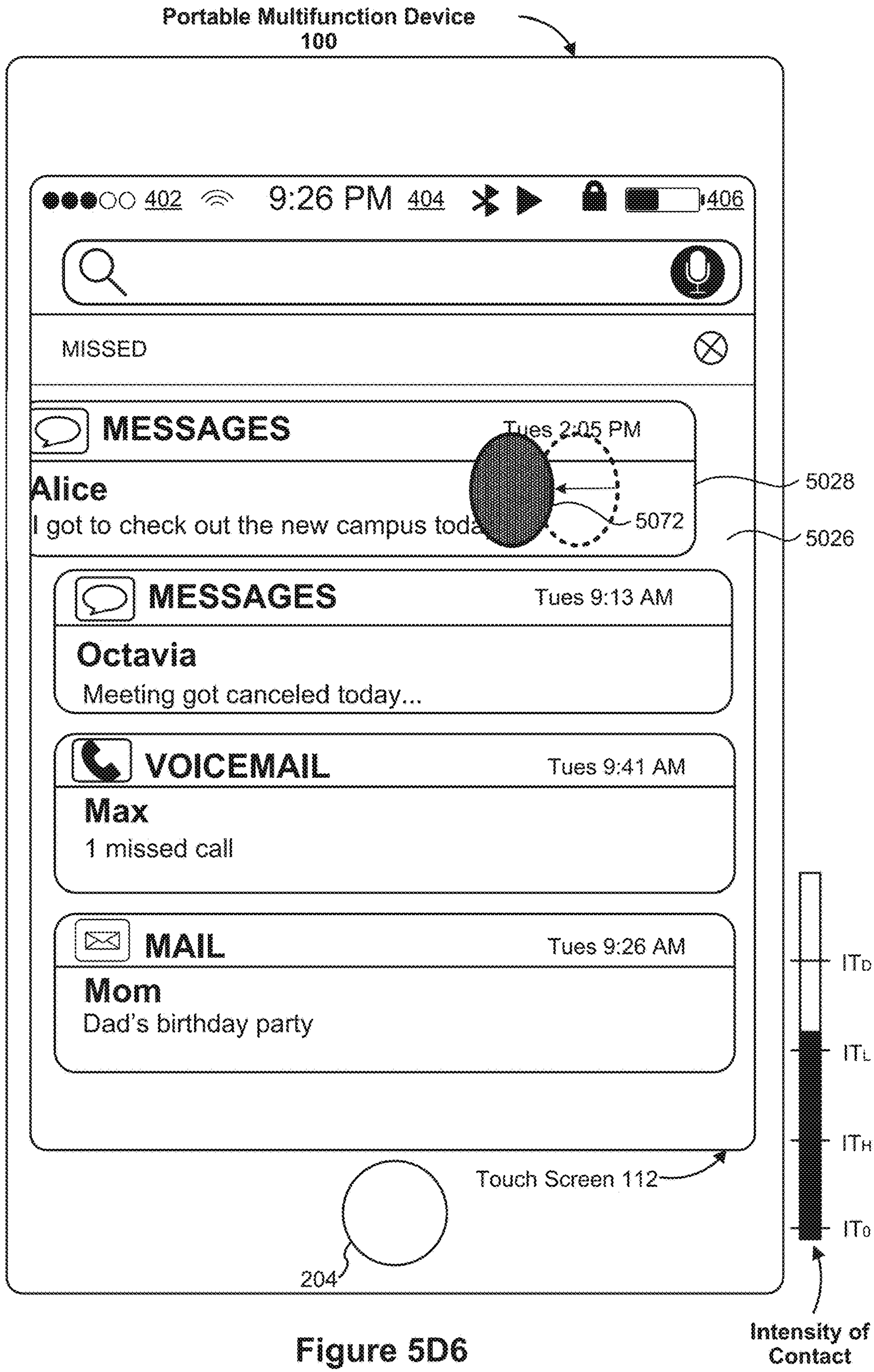
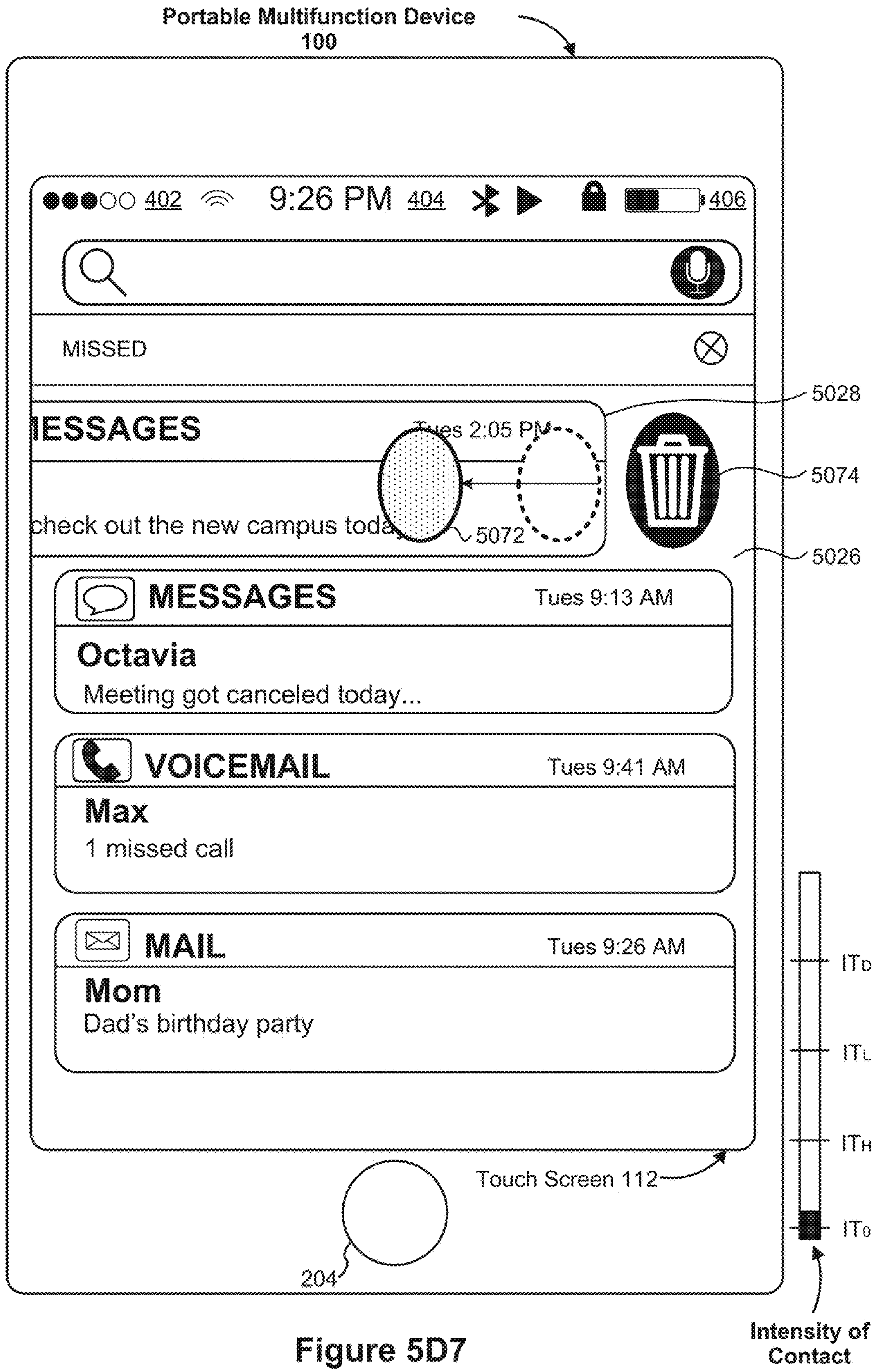
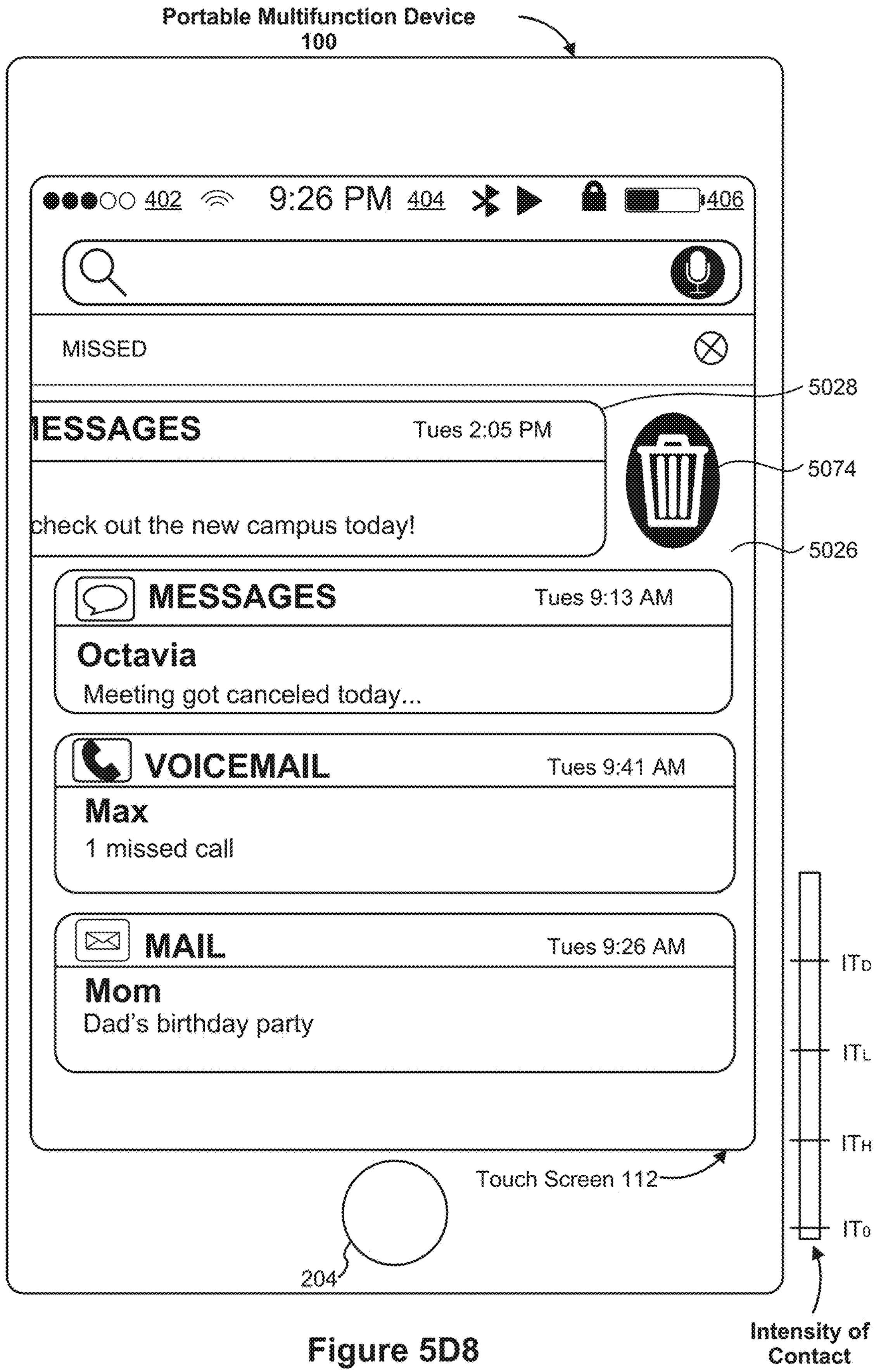

Portable Multifunction Device
100
402
9:26 PM
404
406
MISSED
MESSAGES
Tues 2:05 PM
Alice
I got to check out the new campus toda
5028
5072
5026
MESSAGES
Tues 9:13 AM
Octavia
Meeting got canceled today...
VOICEMAIL
Tues 9:41 AM
Max
1 missed call
MAIL
Tues 9:26 AM
Mom
Dad's birthday party
Touch Screen 112
204
ITD
ITL
ITH
IT0
Intensity of Contact

Figure 5D6



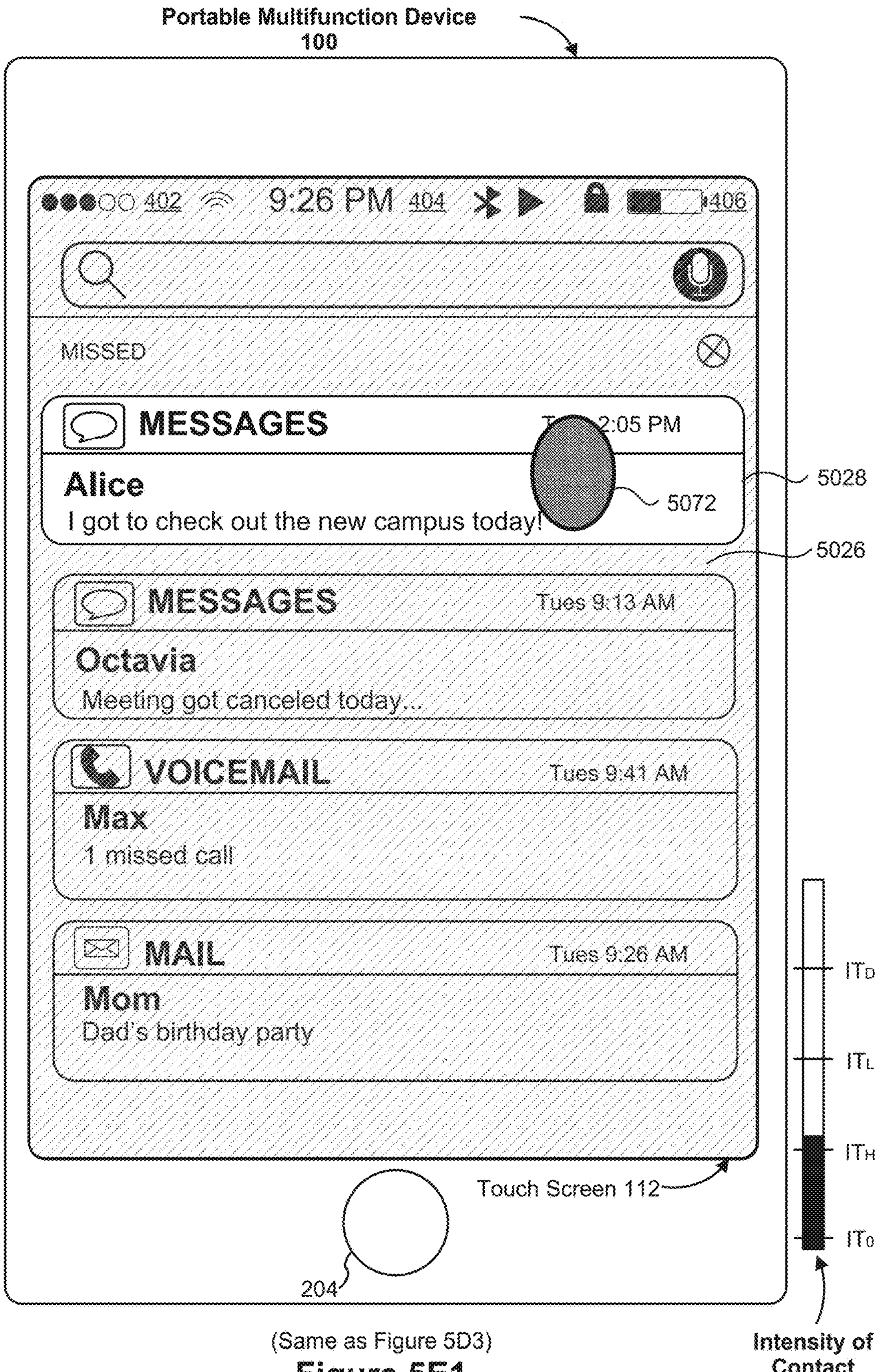
Portable Multifunction Device
100
402
9:26 PM
404
406
MISSED
IESSAGES
Tues 2:05 PM
check out the new campus toda
5072
5028
5074
5026
MESSAGES
Tues 9:13 AM
Octavia
Meeting got canceled today...
VOICEMAIL
Tues 9:41 AM
Max
1 missed call
MAIL
Tues 9:26 AM
Mom
Dad's birthday party
Touch Screen 112
204
ITD
ITL
ITH
IT0
Intensity of Contact

Figure 5D7



Portable Multifunction Device
100
402
9:26 PM
404
406
MISSED
5028
IESSAGES
Tues 2:05 PM
5074
check out the new campus today!
5026
MESSAGES
Tues 9:13 AM
Octavia
Meeting got canceled today...
VOICEMAIL
Tues 9:41 AM
Max
1 missed call
MAIL
Tues 9:26 AM
Mom
Dad's birthday party
IT_D
IT_L
IT_H
IT_0
Touch Screen 112
204
Intensity of Contact

Figure 5D8



(Same as Figure 5D3)

Figure 5E1

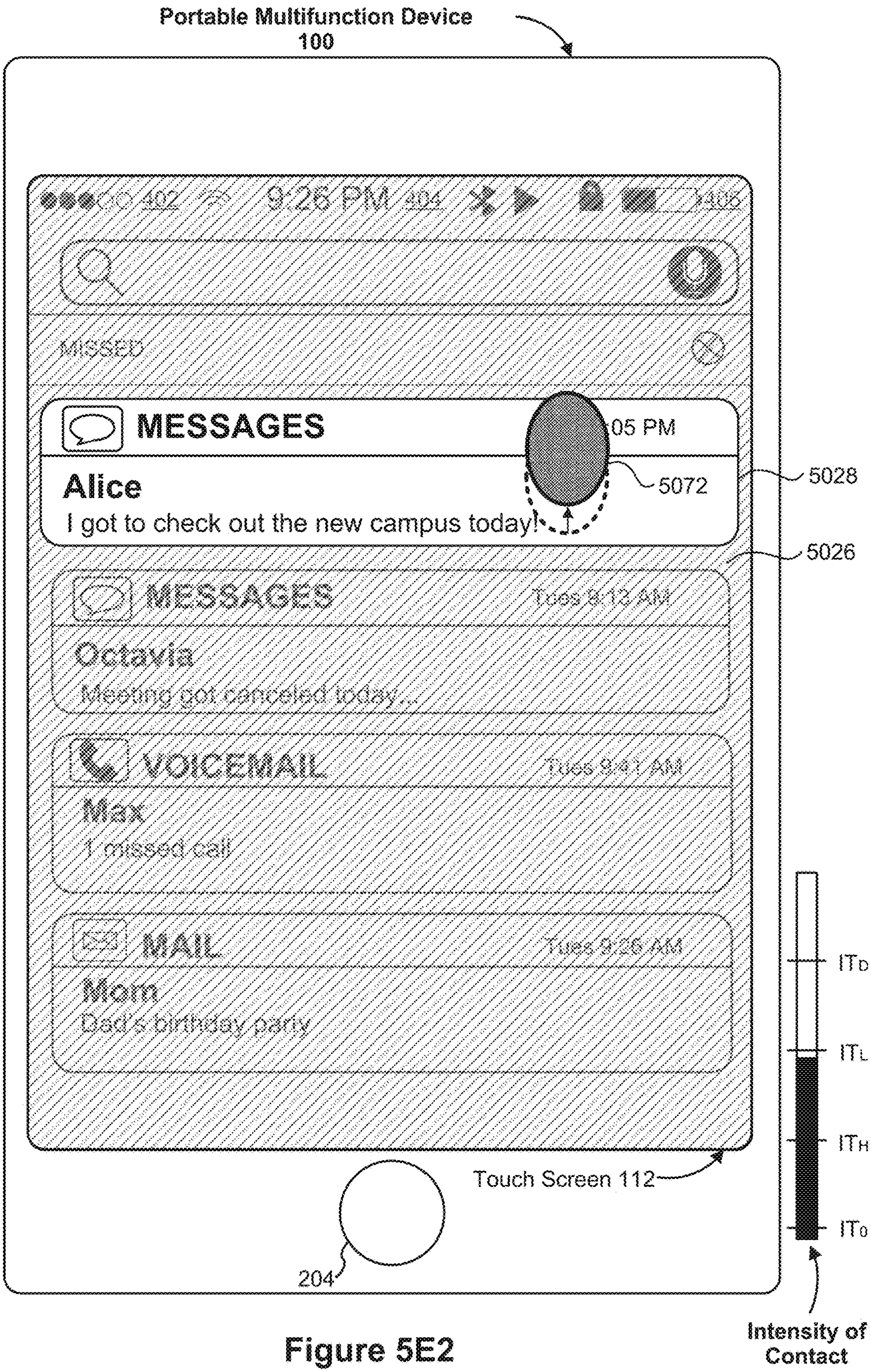

Portable Multifunction Device 100
9:26 PM
402
404
406
MISSED
MESSAGES
05 PM
Alice
I got to check out the new campus today!
5072
5028
5026
MESSAGES
Tues 9:12 AM
Octavia
Meeting got canceled today...
VOICEMAIL
Tues 9:41 AM
Max
1 missed call
MAIL
Tues 9:26 AM
Mom
Dad's birthday party
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5E2

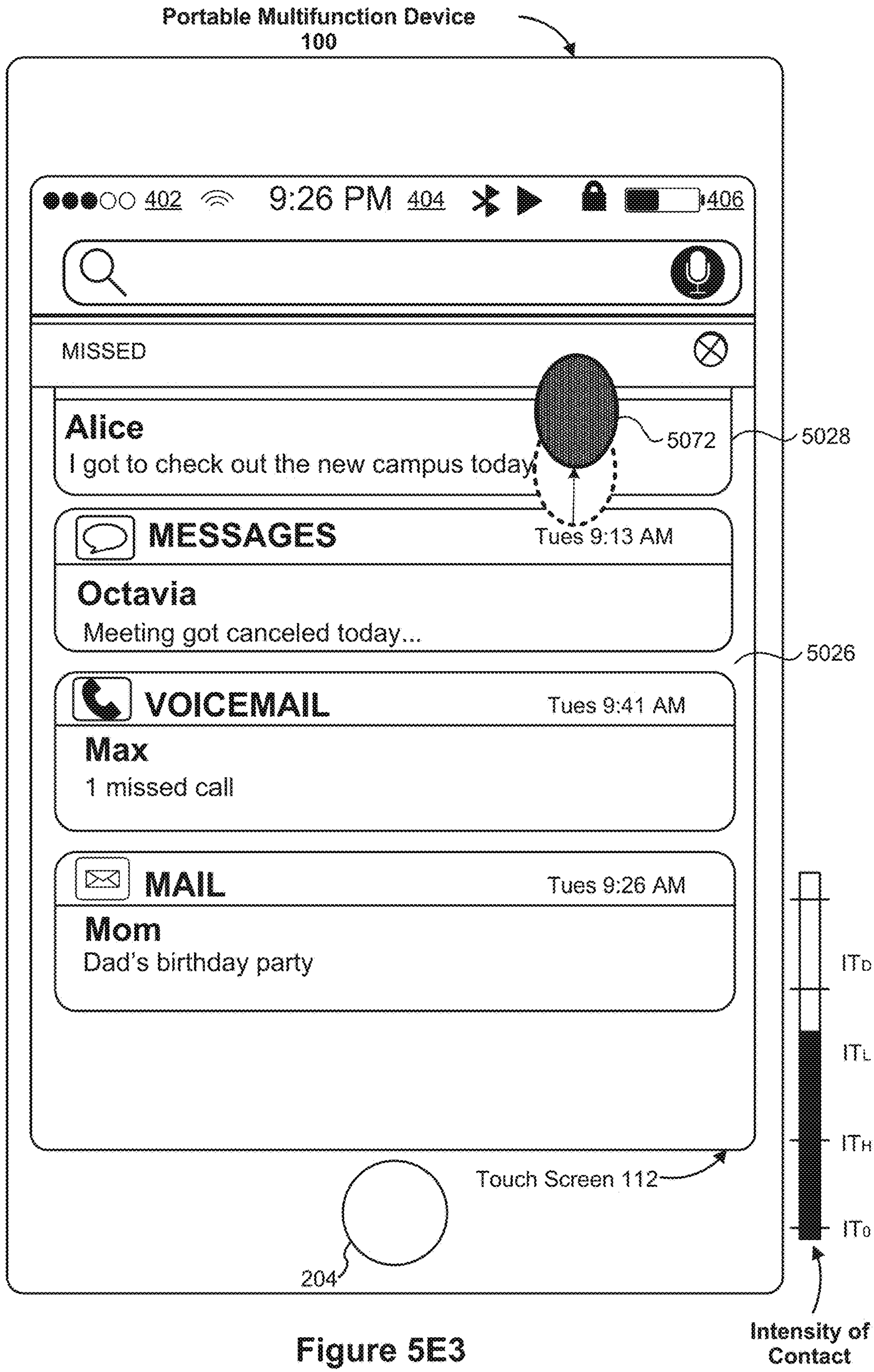
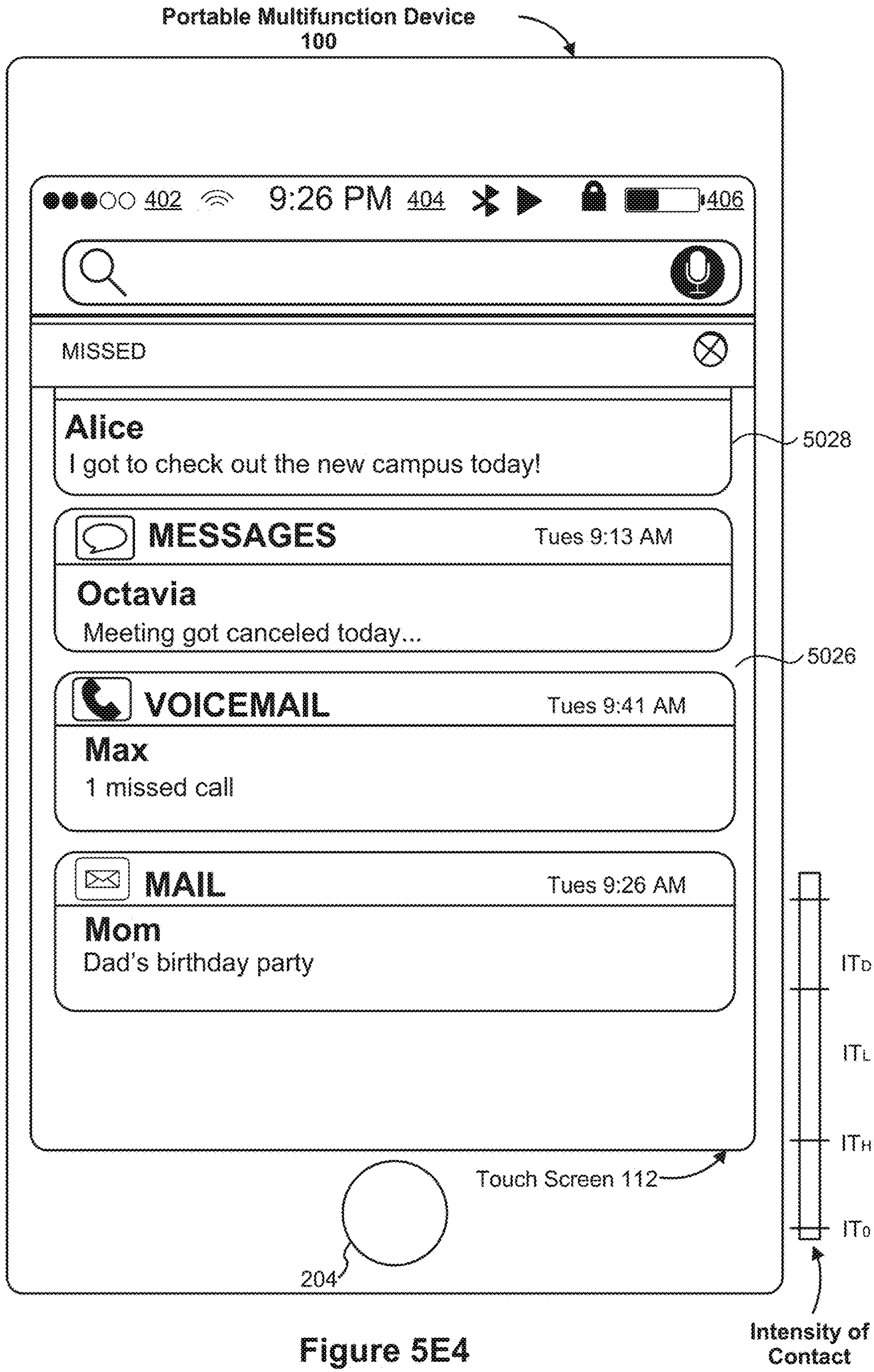
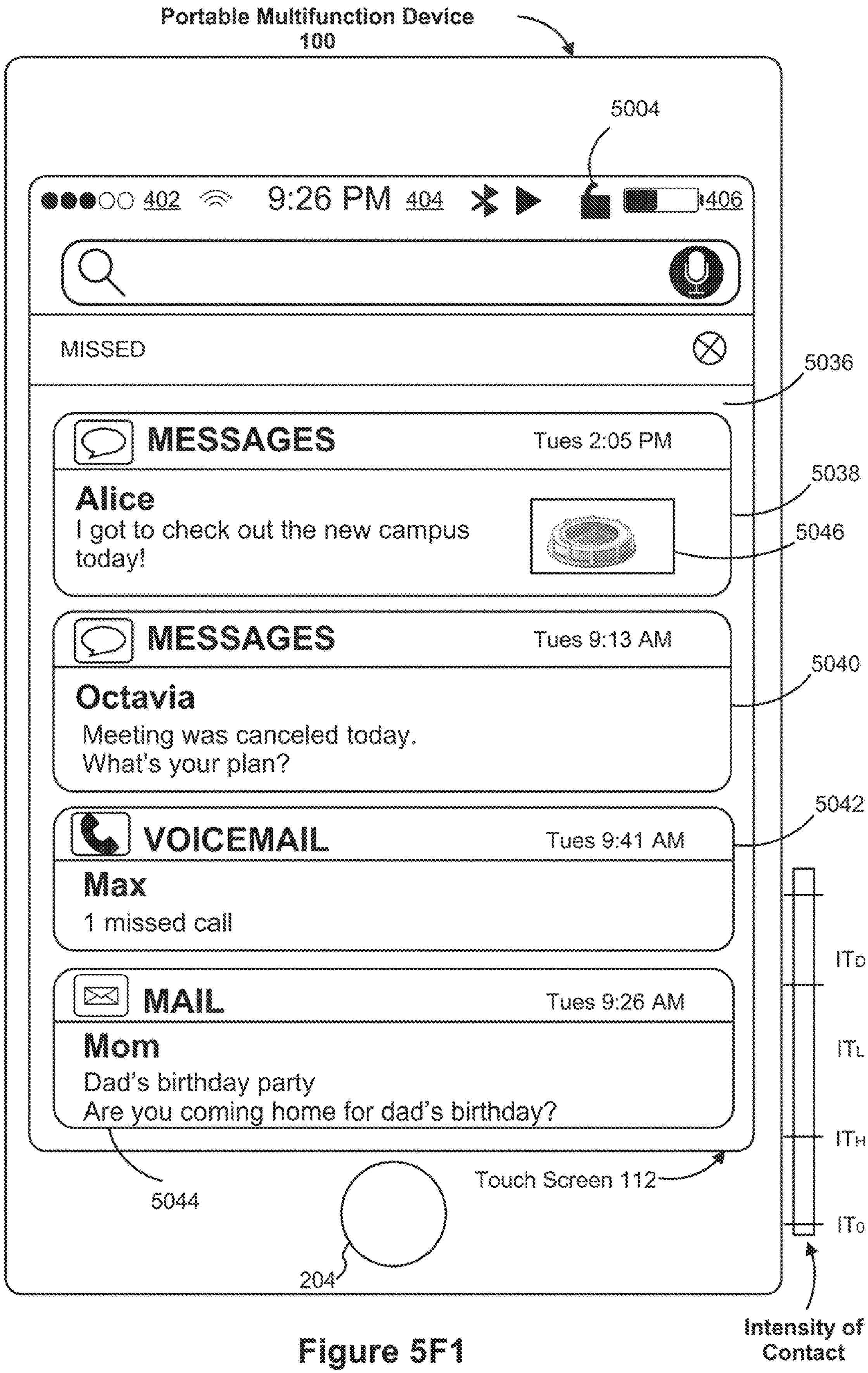

Portable Multifunction Device
100
402
9:26 PM
404
406
MISSED
Alice
I got to check out the new campus today
5072
5028
MESSAGES
Tues 9:13 AM
Octavia
Meeting got canceled today...
5026
VOICEMAIL
Tues 9:41 AM
Max
1 missed call
MAIL
Tues 9:26 AM
Mom
Dad's birthday party
ITD
ITL
ITH
IT0
Touch Screen 112
204
Intensity of
Contact

Figure 5E3



Portable Multifunction Device 100
402
9:26 PM
404
406
MISSED
Alice
I got to check out the new campus today!
5028
MESSAGES
Tues 9:13 AM
Octavia
Meeting got canceled today...
5026
VOICEMAIL
Tues 9:41 AM
Max
1 missed call
MAIL
Tues 9:26 AM
Mom
Dad's birthday party
IT_D
IT_L
IT_H
IT_0
Touch Screen 112
204
Intensity of Contact

Figure 5E4



Portable Multifunction Device 100
5004
402
9:26 PM
404
406
MISSED
5036
MESSAGES
Tues 2:05 PM
Alice
I got to check out the new campus today!
5038
5046
MESSAGES
Tues 9:13 AM
Octavia
Meeting was canceled today.
What's your plan?
5040
VOICEMAIL
Tues 9:41 AM
Max
1 missed call
5042
MAIL
Tues 9:26 AM
Mom
Dad's birthday party
Are you coming home for dad's birthday?
5044
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5F1

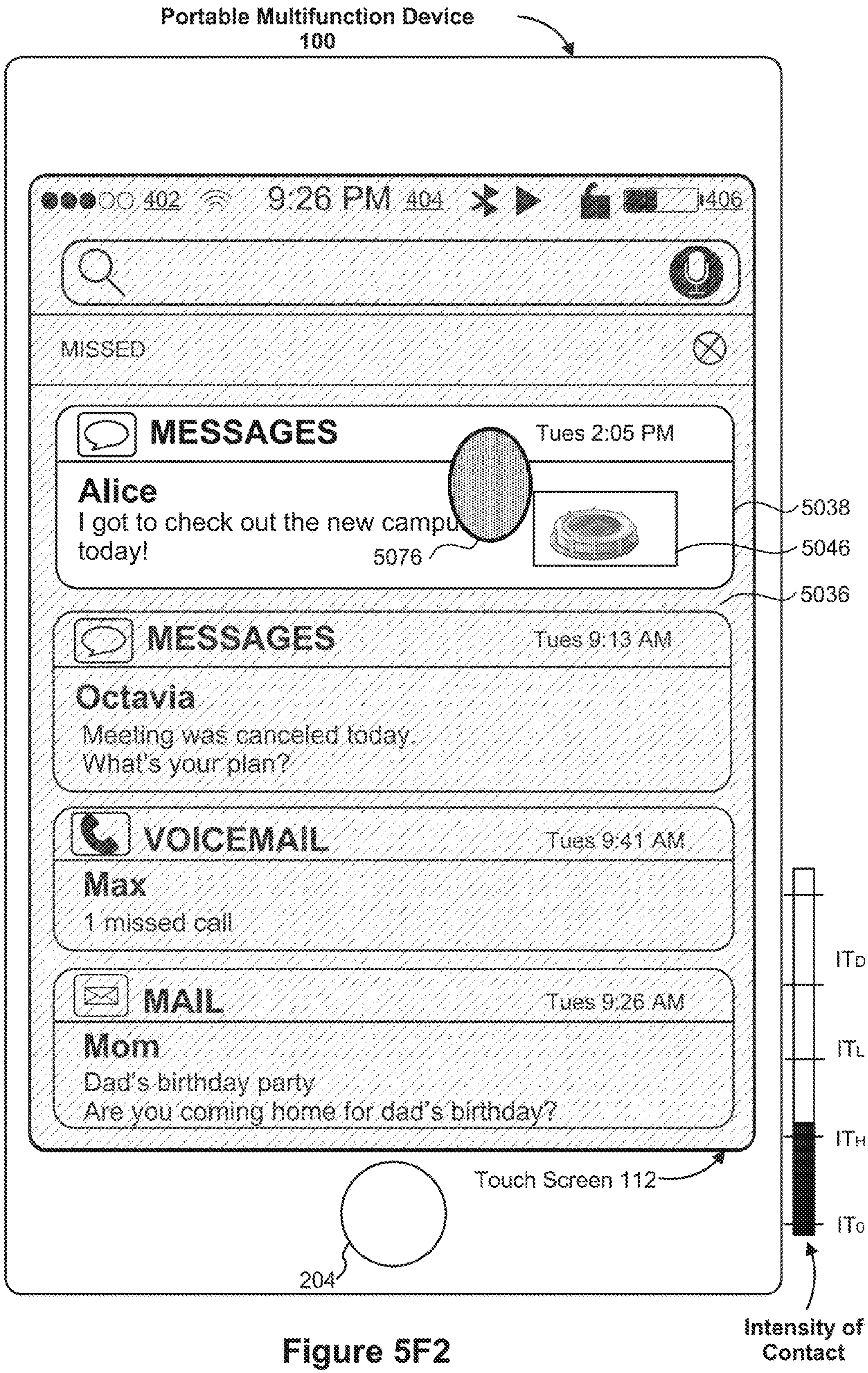
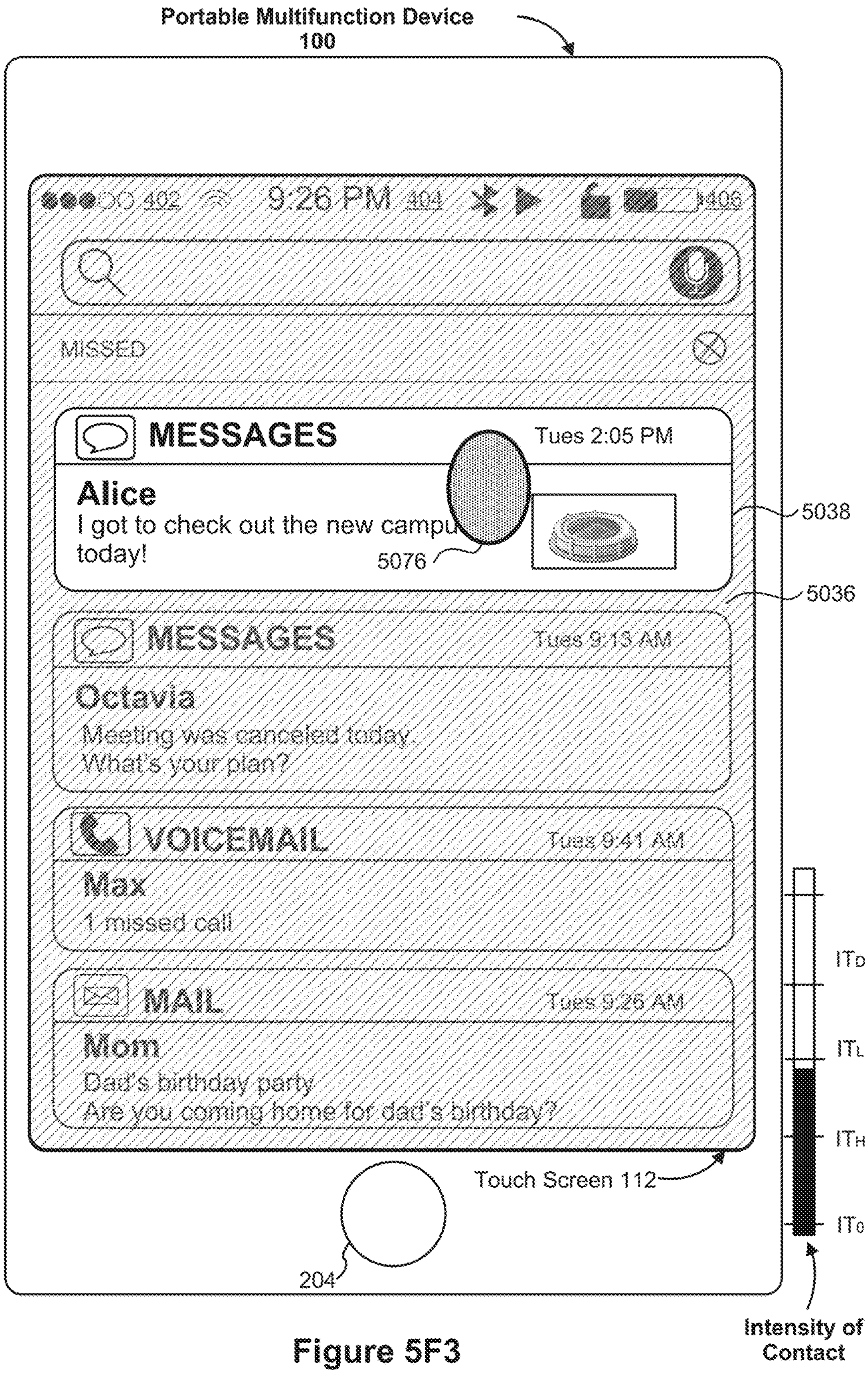
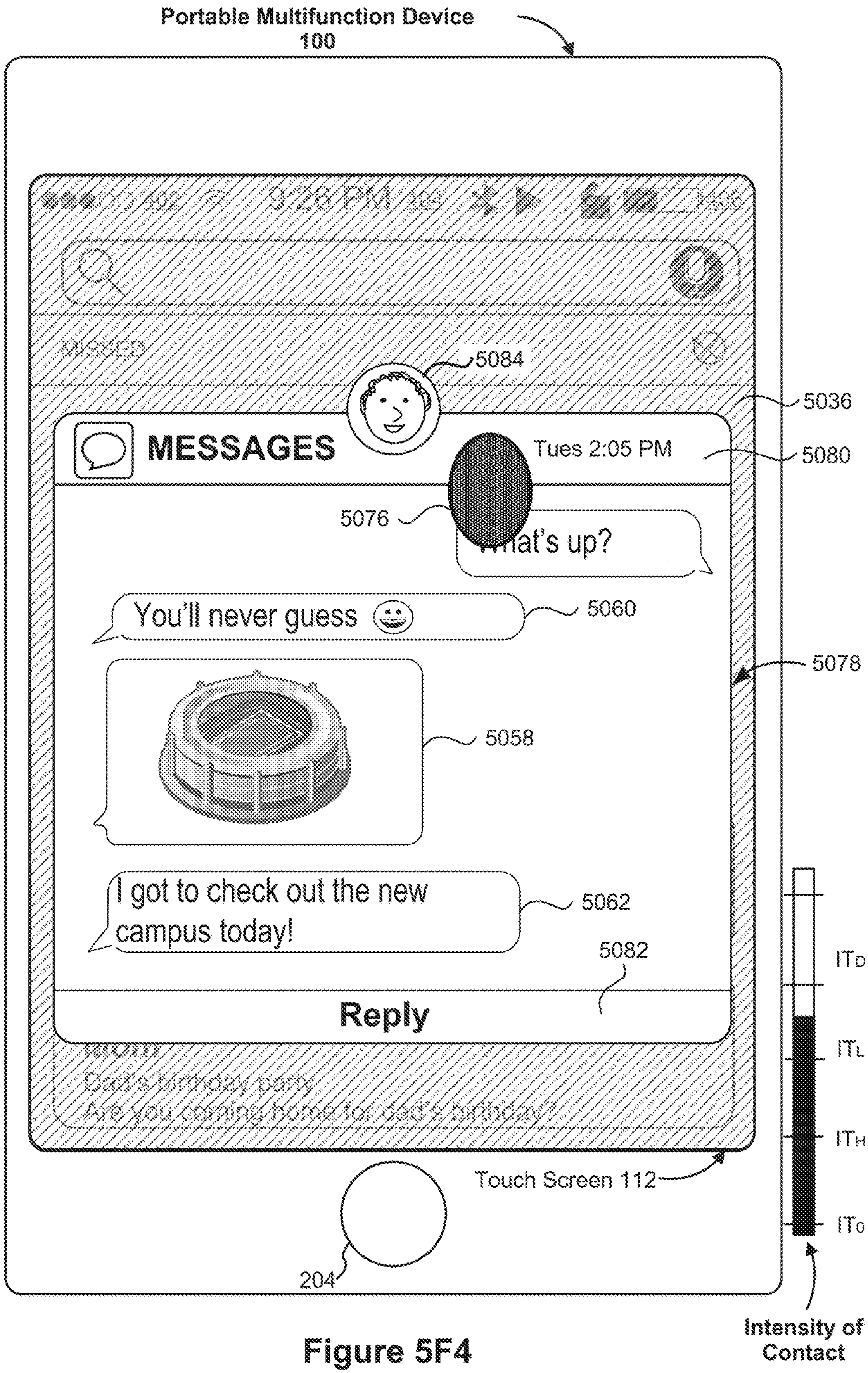

Portable Multifunction Device
100
402
9:26 PM
404
406
MISSED
MESSAGES
Tues 2:05 PM
Alice
I got to check out the new campu
today!
5076
5038
5046
5036
MESSAGES
Tues 9:13 AM
Octavia
Meeting was canceled today.
What's your plan?
VOICEMAIL
Tues 9:41 AM
Max
1 missed call
MAIL
Tues 9:26 AM
Mom
Dad's birthday party
Are you coming home for dad's birthday?
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of
Contact

Figure 5F2



Portable Multifunction Device
100
402
9:26 PM
404
406
MISSED
MESSAGES
Tues 2:05 PM
Alice
I got to check out the new campu
today!
5076
5038
5036
MESSAGES
Tues 9:13 AM
Octavia
Meeting was canceled today.
What's your plan?
VOICEMAIL
Tues 9:41 AM
Max
1 missed call
MAIL
Tues 9:26 AM
Mom
Dad's birthday party
Are you coming home for dad's birthday?
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5F3



Portable Multifunction Device
100
9:26 PM
MISSED
5084
5036
MESSAGES
Tues 2:05 PM
5080
5076
What's up?
You'll never guess
5060
5078
5058
I got to check out the new
campus today!
5062
5082
Reply
Mom
Dad's birthday party
Are you coming home for dad's birthday?
Touch Screen 112
204
ITD
ITL
ITH
IT0
Intensity of
Contact

Figure 5F4

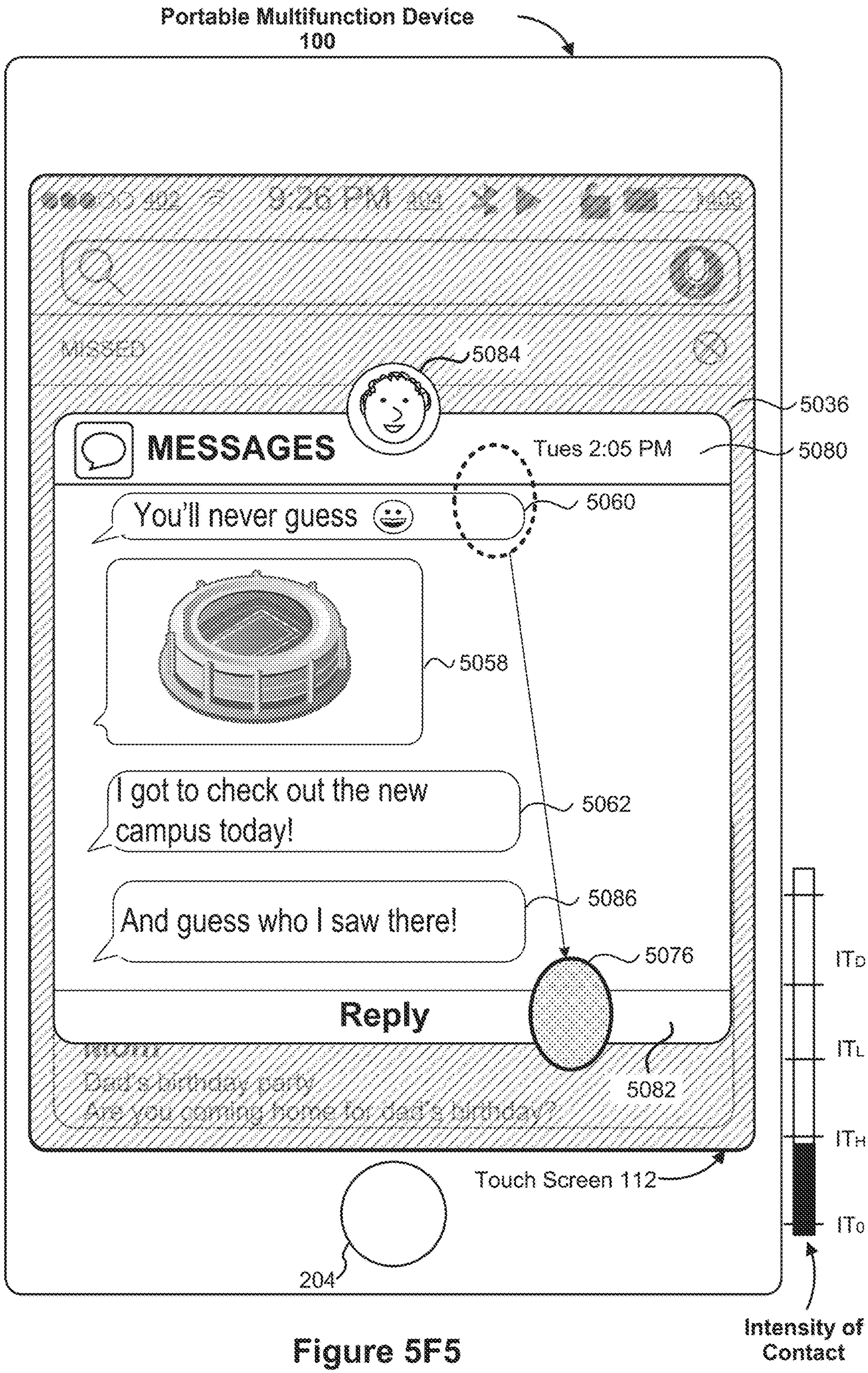
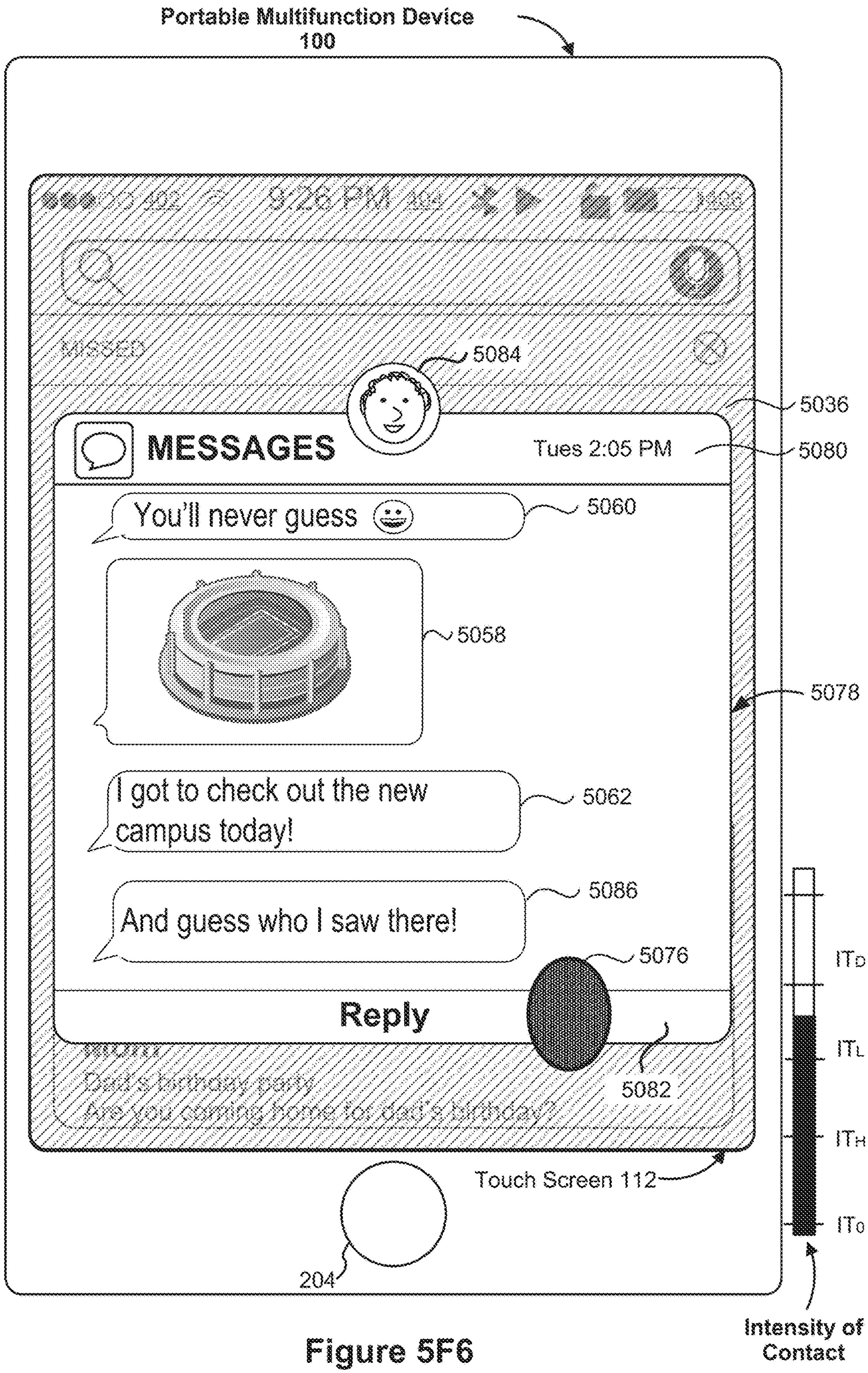

Portable Multifunction Device
100
MISSED
5084
5036
MESSAGES
Tues 2:05 PM
5080
You'll never guess
5060
5058
I got to check out the new
campus today!
5062
And guess who I saw there!
5086
5076
Reply
5082
Dad's birthday party
Are you coming home for dad's birthday?
Touch Screen 112
204
ITD
ITL
ITH
IT0
Intensity of
Contact

Figure 5F5



Portable Multifunction Device
100
9:26 PM
MISSED
5084
5036
MESSAGES
Tues 2:05 PM
5080
You'll never guess
5060
5058
5078
I got to check out the new
campus today!
5062
And guess who I saw there!
5086
5076
Reply
5082
Dad's birthday party
Are you coming home for dad's birthday?
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of
Contact

Figure 5F6

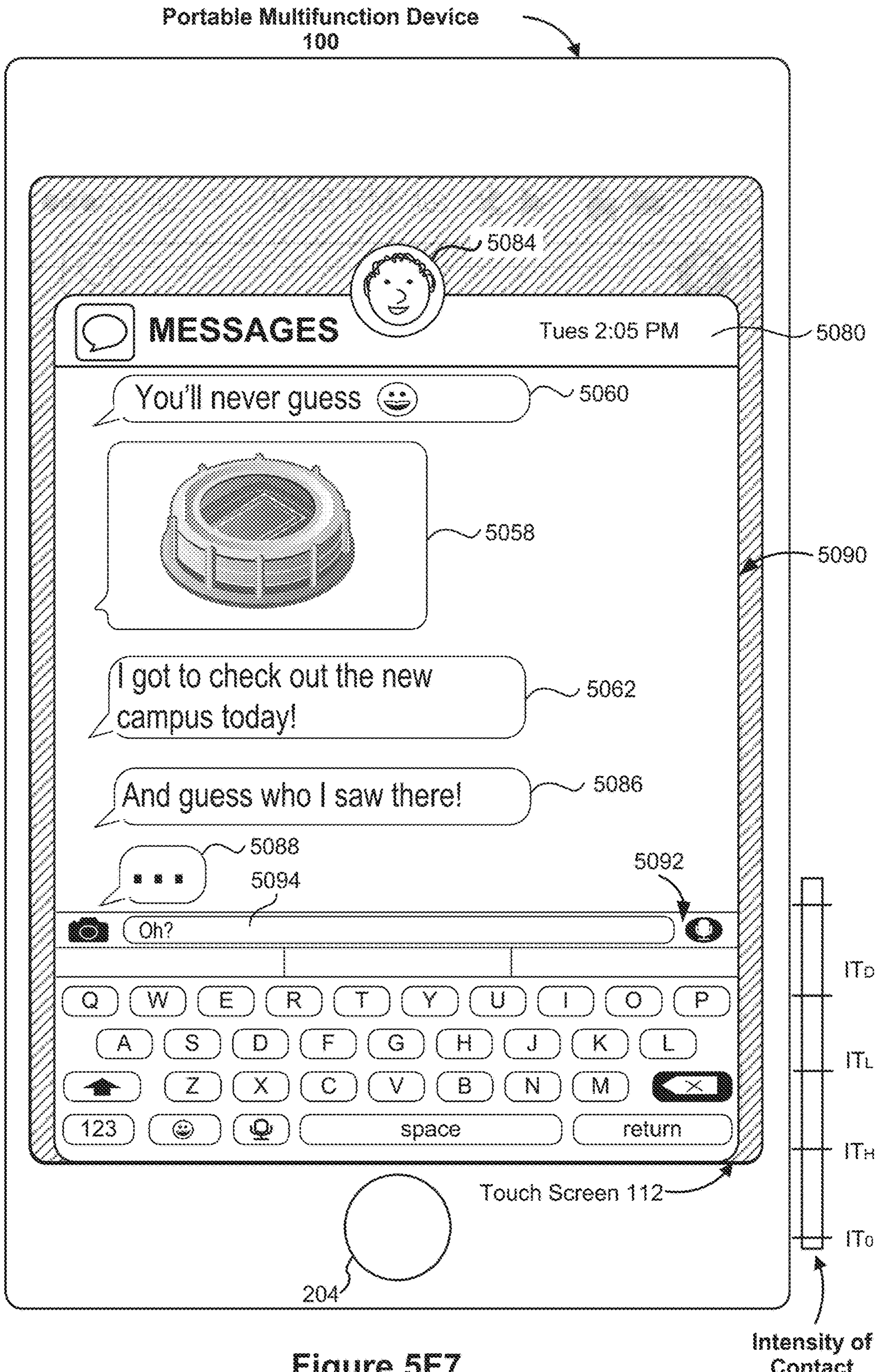

Portable Multifunction Device
100
5084
MESSAGES
Tues 2:05 PM
5080
You'll never guess
5060
5058
5090
I got to check out the new
campus today!
5062
And guess who I saw there!
5086
5088
5094
5092
Oh?
Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M
123
space
return
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of
Contact

Figure 5F7

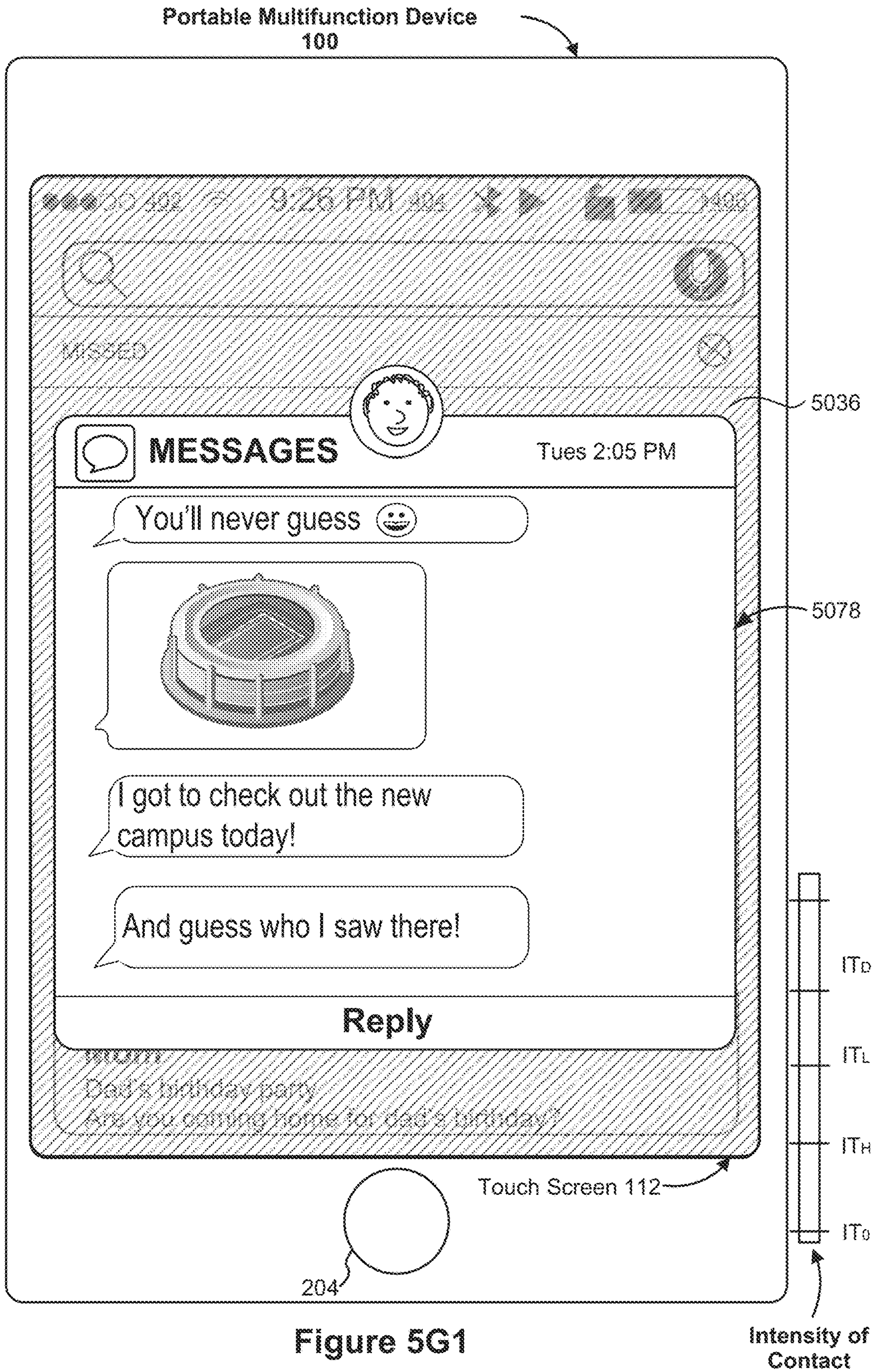

Portable Multifunction Device
100
9:26 PM
MISSED
5036
MESSAGES
Tues 2:05 PM
You'll never guess
I got to check out the new
campus today!
And guess who I saw there!
Reply
5078
Dad's birthday party
Are you coming home for dad's birthday?
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of
Contact

Figure 5G1

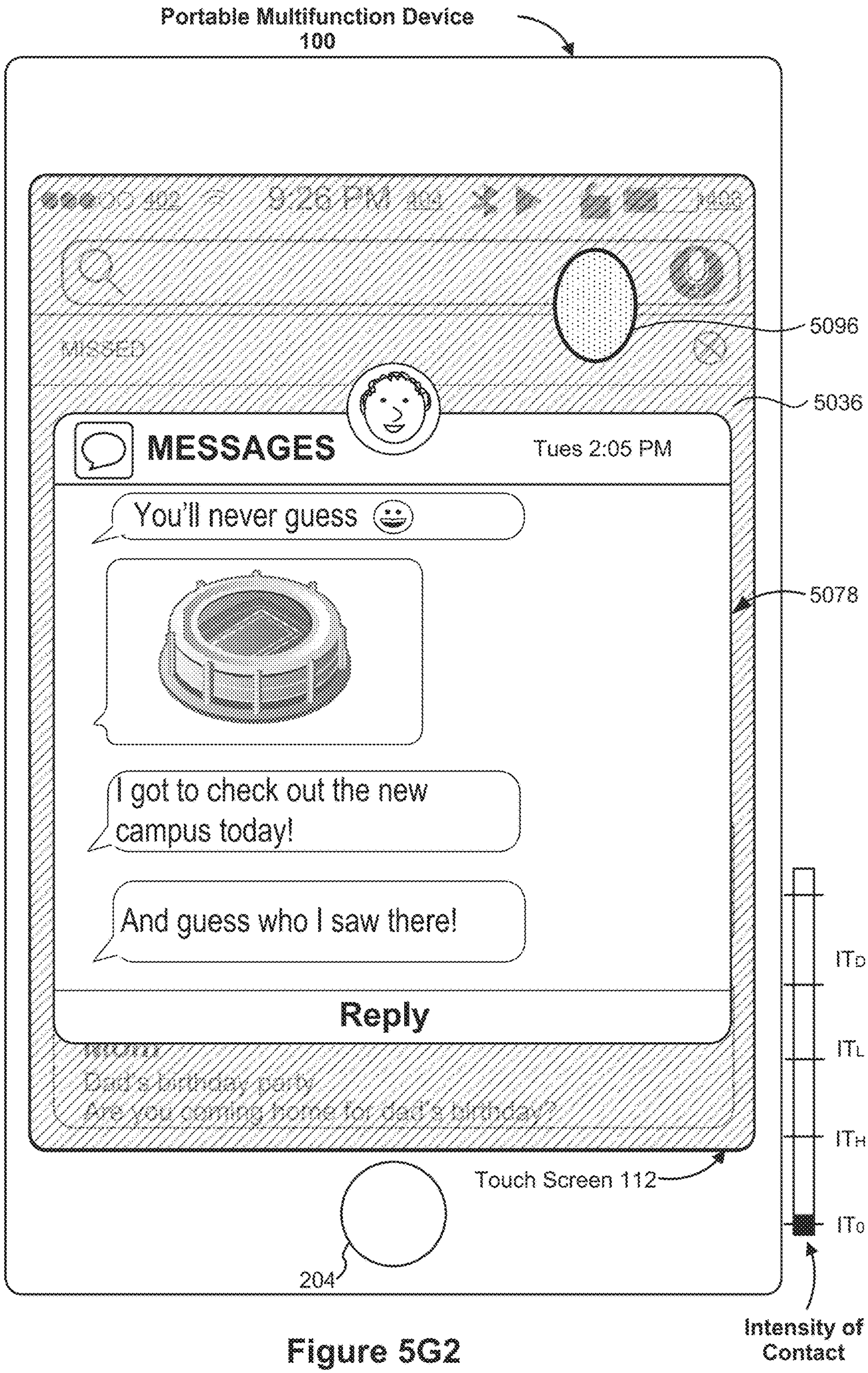

Portable Multifunction Device
100
9:26 PM
MISSED
5096
5036
MESSAGES
Tues 2:05 PM
You'll never guess
5078
I got to check out the new
campus today!
And guess who I saw there!
Reply
ITD
ITL
ITH
IT0
Touch Screen 112
204
Intensity of
Contact

Figure 5G2

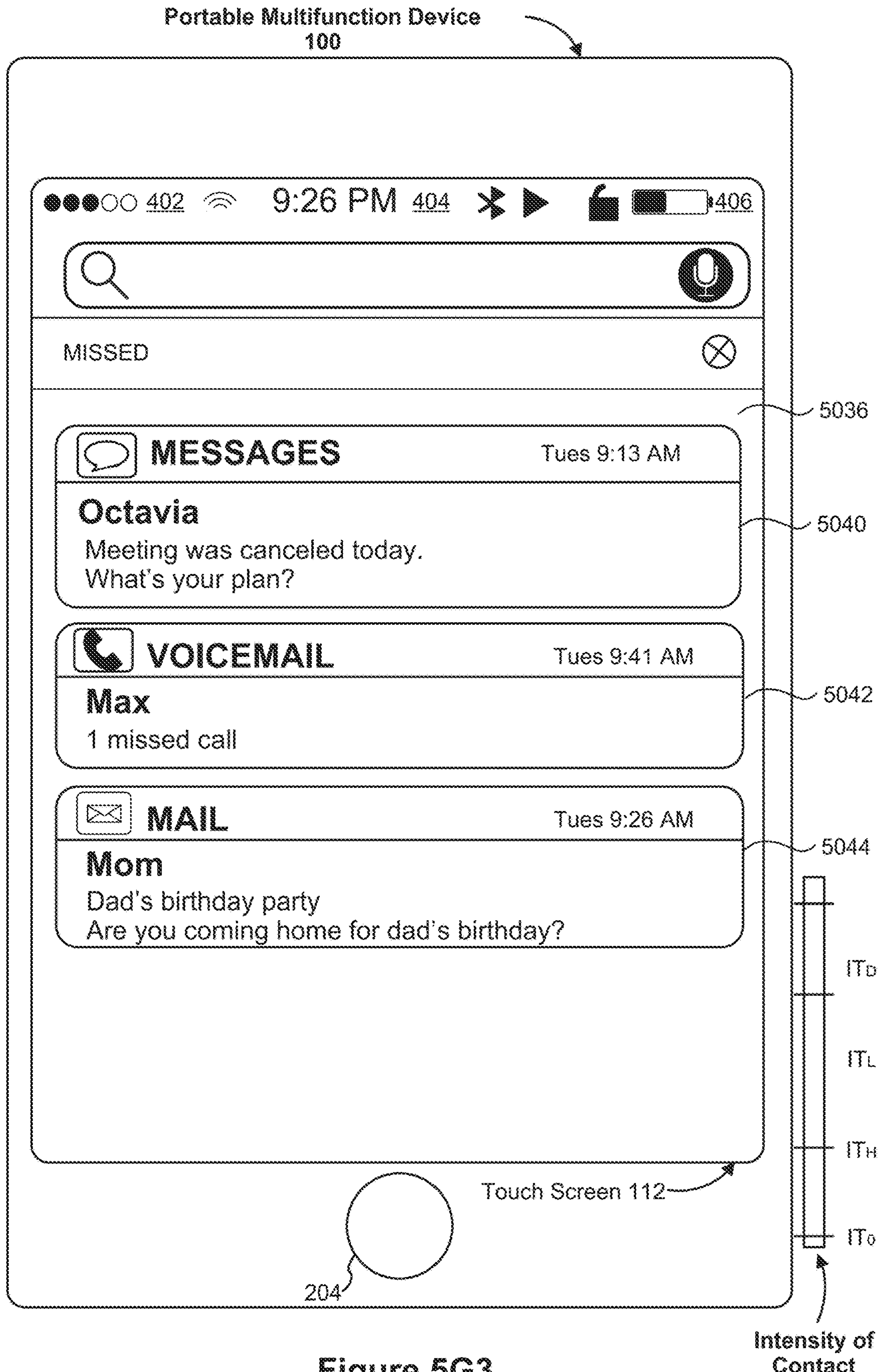
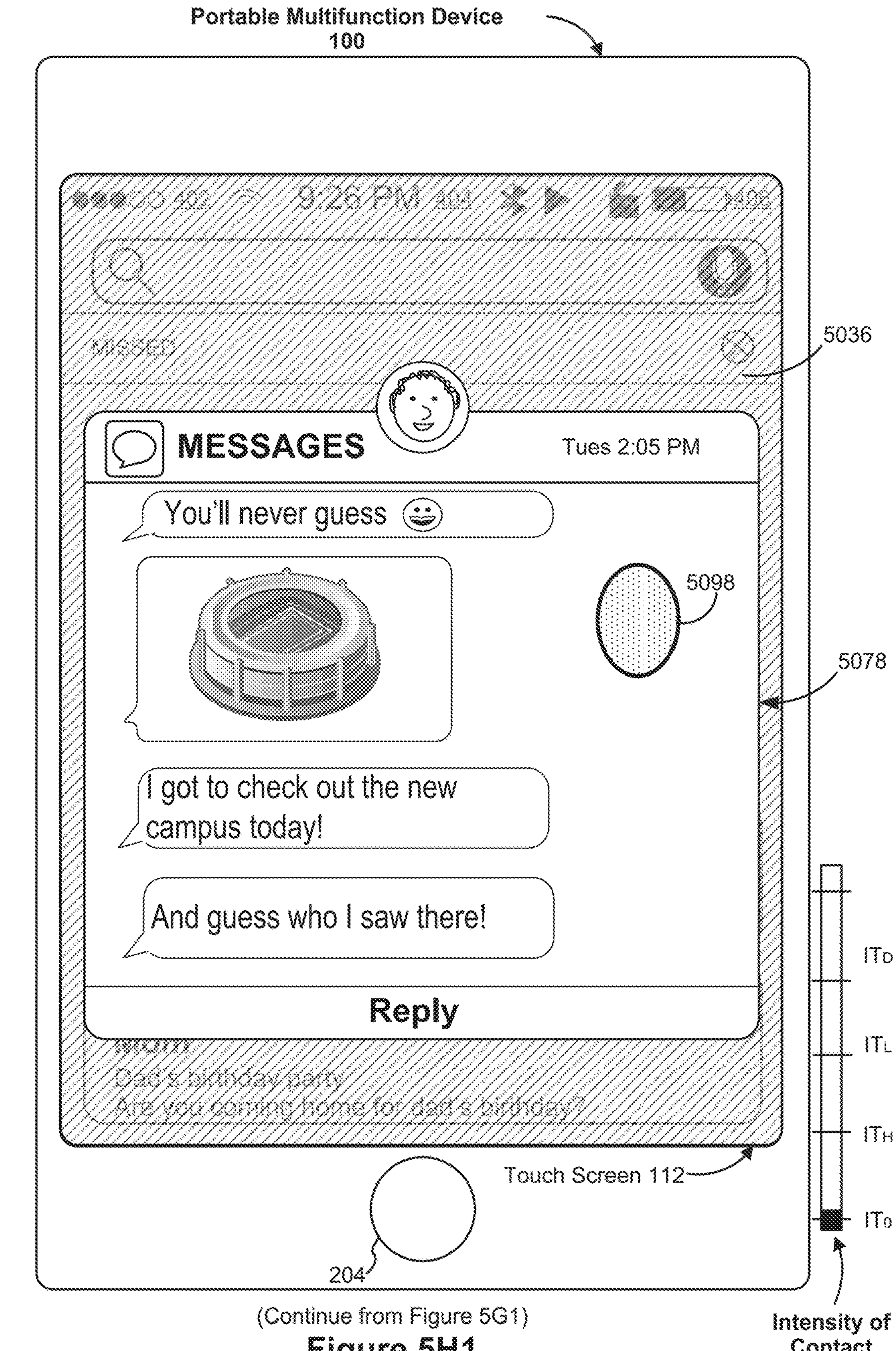

Portable Multifunction Device
100
402
9:26 PM
404
406
MISSED
5036
MESSAGES
Tues 9:13 AM
Octavia
Meeting was canceled today.
What's your plan?
5040
VOICEMAIL
Tues 9:41 AM
Max
1 missed call
5042
MAIL
Tues 9:26 AM
Mom
Dad's birthday party
Are you coming home for dad's birthday?
5044
IT_D
IT_L
IT_H
IT_0
Touch Screen 112
204
Intensity of
Contact

Figure 5G3



(Continue from Figure 5G1)

Figure 5H1

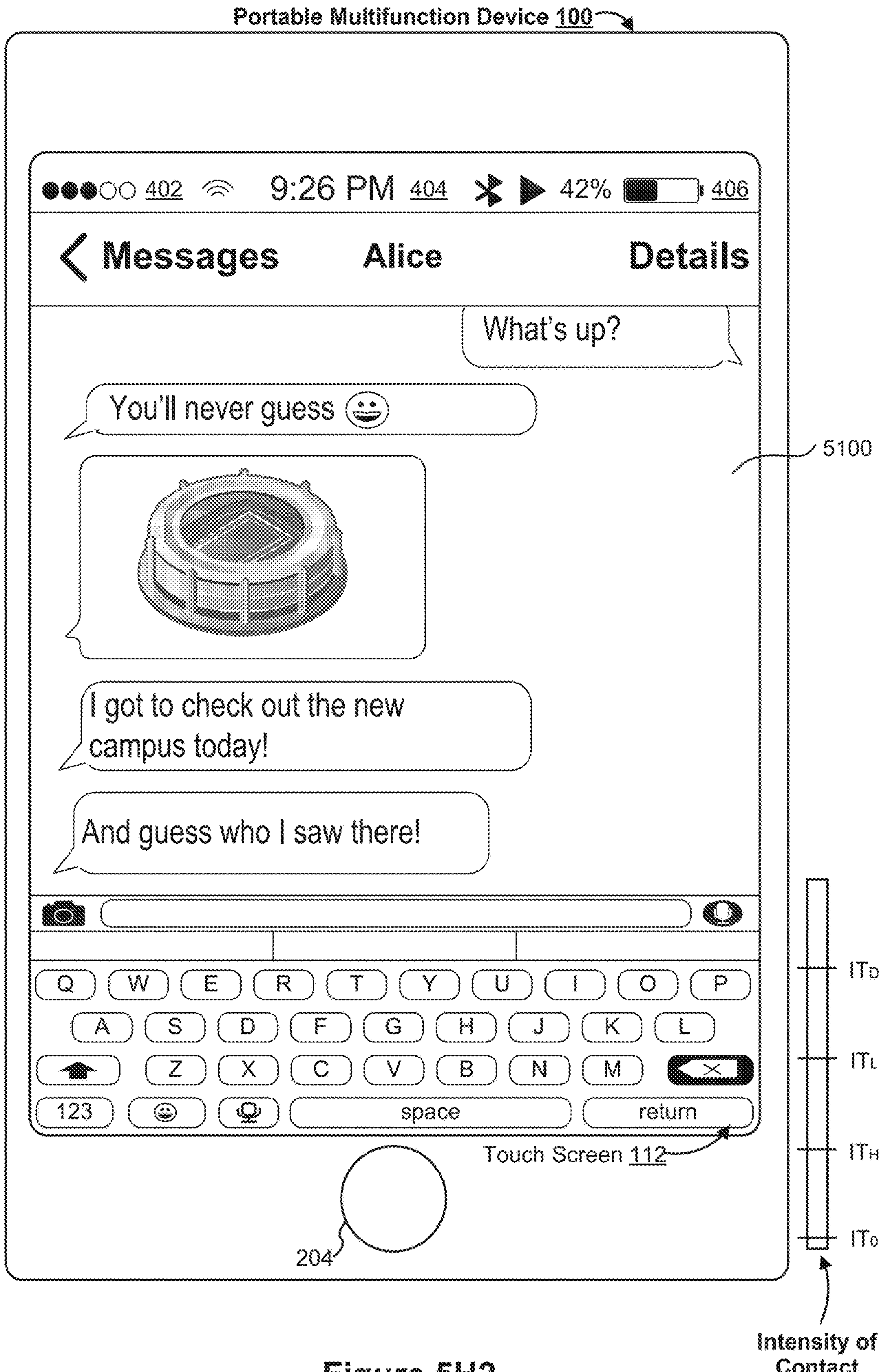
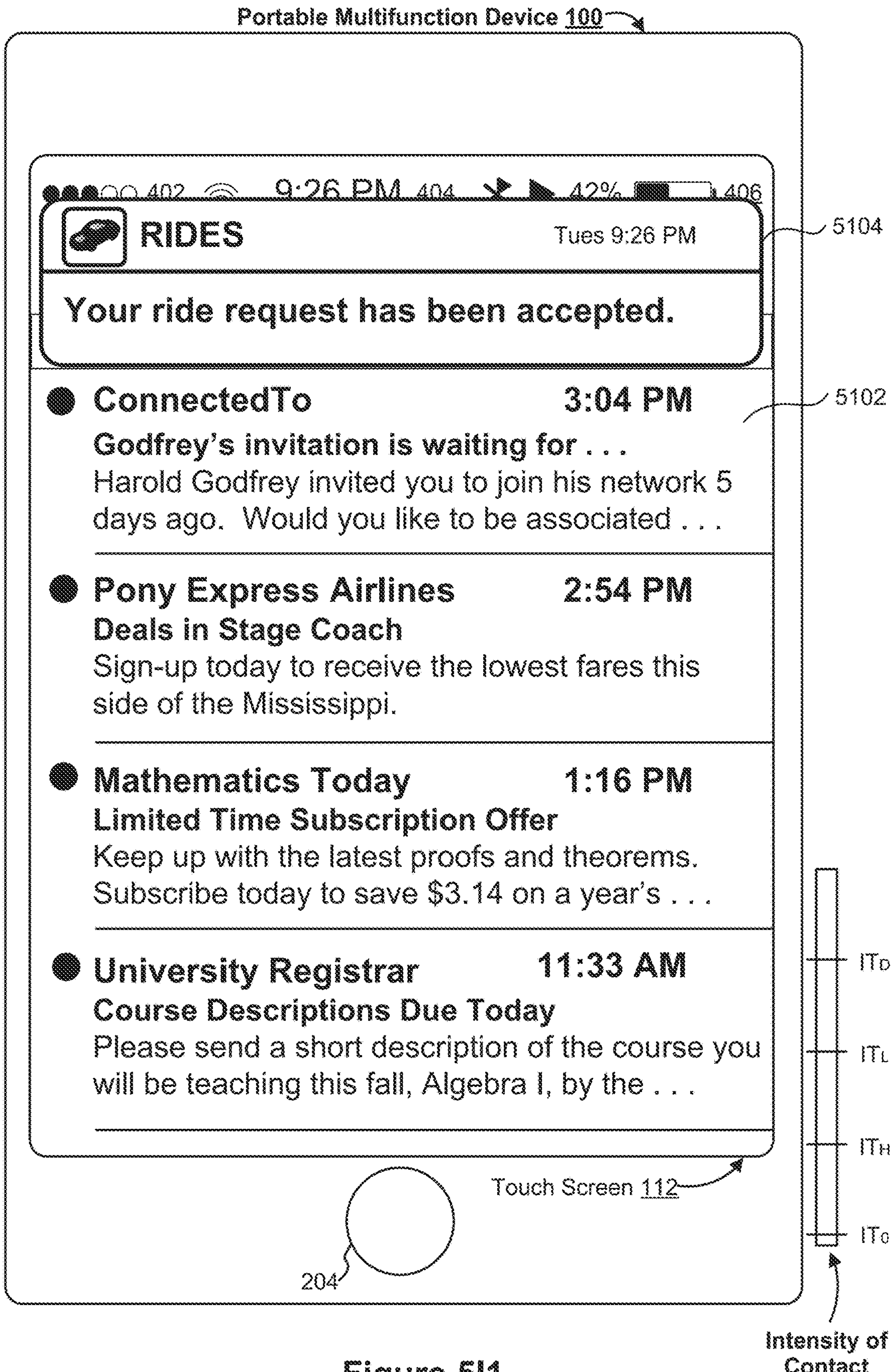
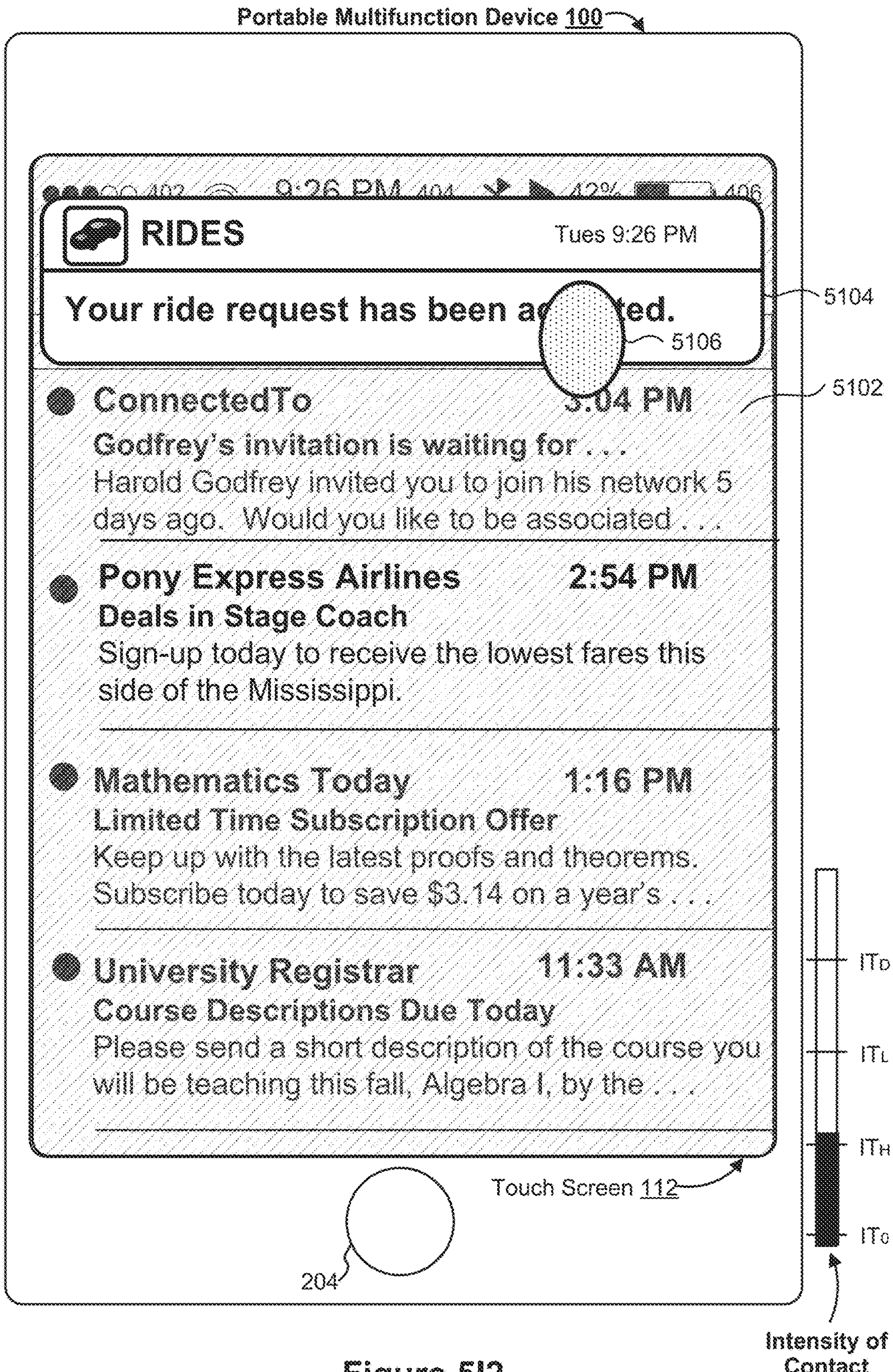

Portable Multifunction Device 100
402
9:26 PM
404
42%
406
Messages
Alice
Details
What's up?
You'll never guess
I got to check out the new campus today!
And guess who I saw there!
5100
Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M
123
space
return
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5H2



Portable Multifunction Device 100
402
9:26 PM
404
42%
406
RIDES
Tues 9:26 PM
Your ride request has been accepted.
5104
ConnectedTo
3:04 PM
Godfrey's invitation is waiting for . . .
Harold Godfrey invited you to join his network 5 days ago. Would you like to be associated . . .
5102
Pony Express Airlines
2:54 PM
Deals in Stage Coach
Sign-up today to receive the lowest fares this side of the Mississippi.
Mathematics Today
1:16 PM
Limited Time Subscription Offer
Keep up with the latest proofs and theorems. Subscribe today to save $3.14 on a year's . . .
University Registrar
11:33 AM
Course Descriptions Due Today
Please send a short description of the course you will be teaching this fall, Algebra I, by the . . .
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5I1



Portable Multifunction Device 100
402
9:26 PM
404
42%
406
RIDES
Tues 9:26 PM
Your ride request has been ac ted.
5104
5106
5102
ConnectedTo
3:04 PM
Godfrey's invitation is waiting for . . .
Harold Godfrey invited you to join his network 5 days ago. Would you like to be associated . . .
Pony Express Airlines
2:54 PM
Deals in Stage Coach
Sign-up today to receive the lowest fares this side of the Mississippi.
Mathematics Today
1:16 PM
Limited Time Subscription Offer
Keep up with the latest proofs and theorems. Subscribe today to save $3.14 on a year's . . .
University Registrar
11:33 AM
Course Descriptions Due Today
Please send a short description of the course you will be teaching this fall, Algebra I, by the . . .
Touch Screen 112
204
IT_D
IT_L
IT_H
IT₀
Intensity of Contact

Figure 5I2

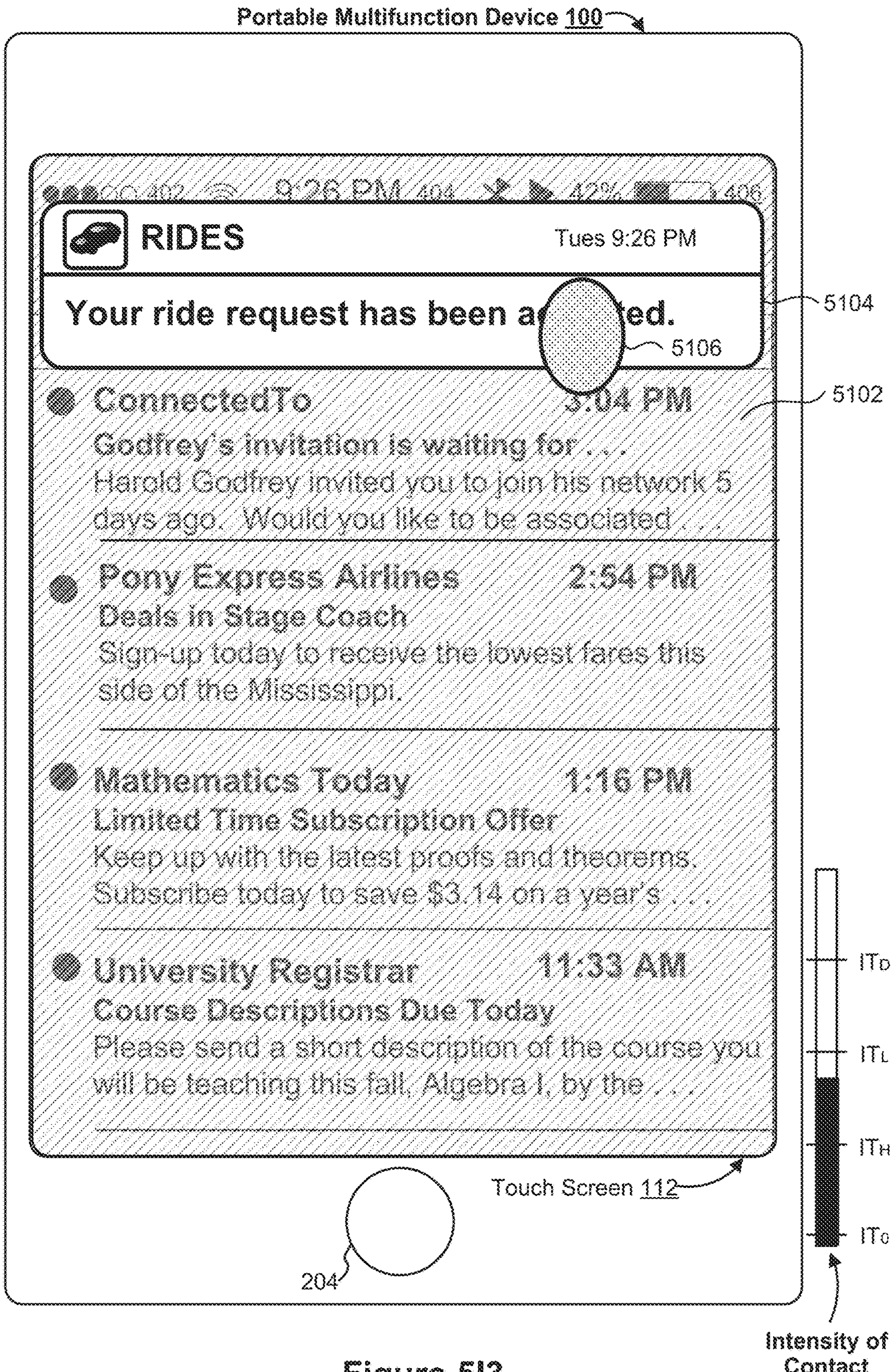

Portable Multifunction Device 100
402
9:26 PM
404
42%
406
RIDES
Tues 9:26 PM
Your ride request has been ac ted.
5104
5106
ConnectedTo
3:04 PM
5102
Godfrey's invitation is waiting for . . .
Harold Godfrey invited you to join his network 5 days ago. Would you like to be associated . . .
Pony Express Airlines
2:54 PM
Deals in Stage Coach
Sign-up today to receive the lowest fares this side of the Mississippi.
Mathematics Today
1:16 PM
Limited Time Subscription Offer
Keep up with the latest proofs and theorems. Subscribe today to save $3.14 on a year's . . .
University Registrar
11:33 AM
Course Descriptions Due Today
Please send a short description of the course you will be teaching this fall, Algebra I, by the . . .
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5I3

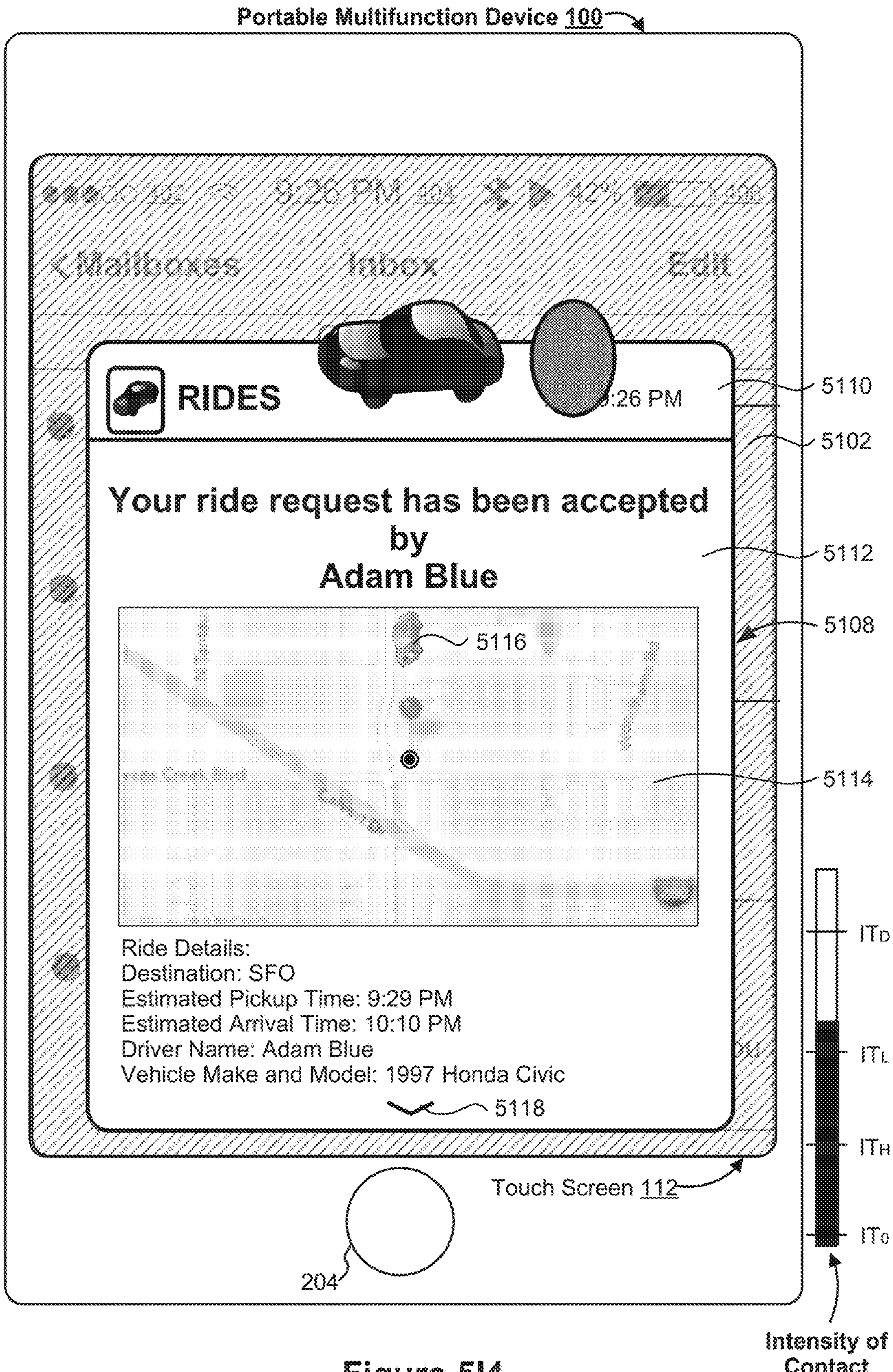

Portable Multifunction Device 100
402
9:26 PM
404
42%
406
Mailboxes
Inbox
Edit
RIDES
9:26 PM
5110
5102
Your ride request has been accepted by Adam Blue
5112
5108
5116
5114
Ride Details:
Destination: SFO
Estimated Pickup Time: 9:29 PM
Estimated Arrival Time: 10:10 PM
Driver Name: Adam Blue
Vehicle Make and Model: 1997 Honda Civic
5118
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5I4

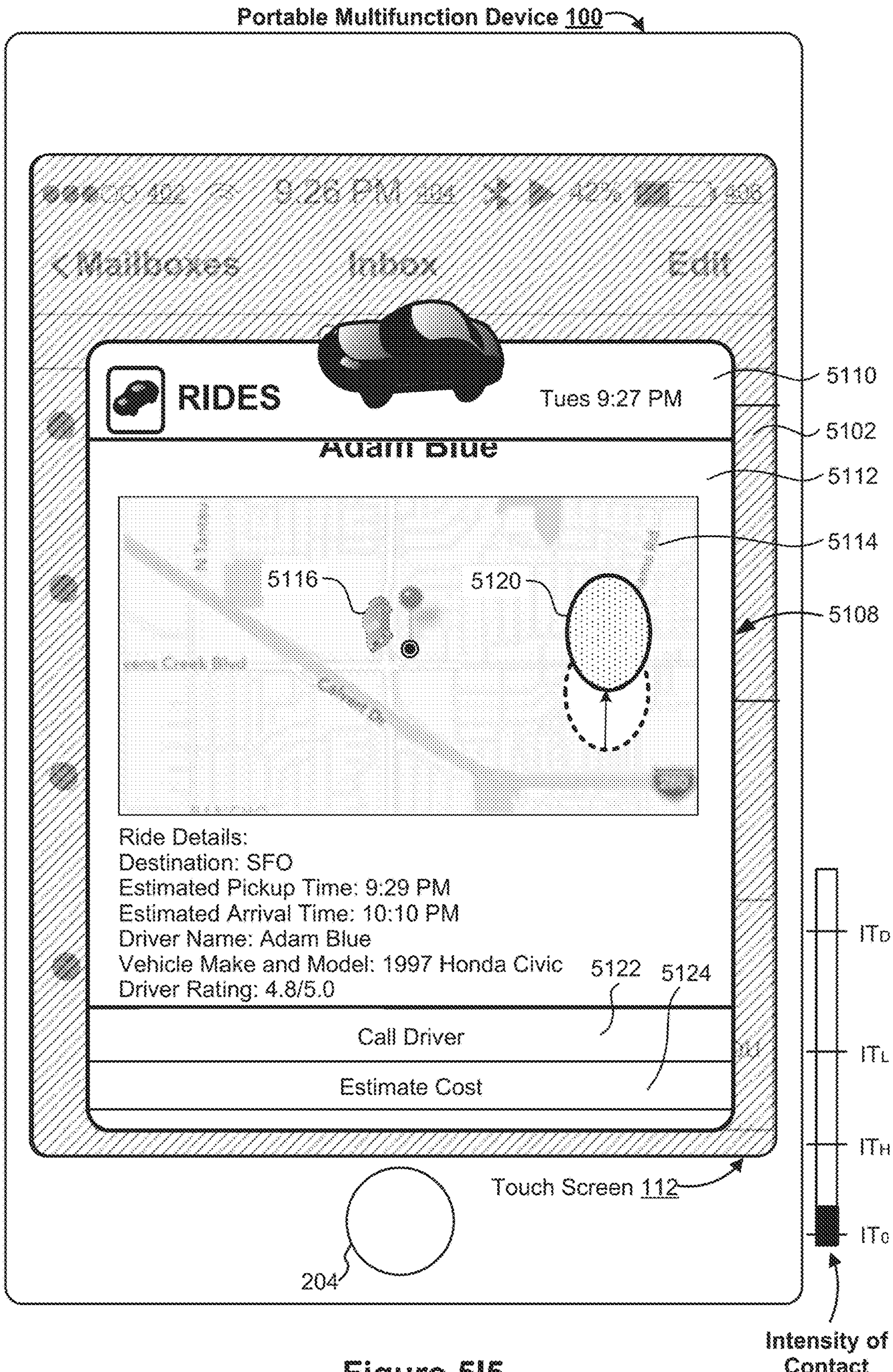

Portable Multifunction Device 100
Mailboxes
Inbox
Edit
RIDES
Tues 9:27 PM
Adam Blue
5110
5102
5112
5114
5116
5120
5108
Ride Details:
Destination: SFO
Estimated Pickup Time: 9:29 PM
Estimated Arrival Time: 10:10 PM
Driver Name: Adam Blue
Vehicle Make and Model: 1997 Honda Civic
Driver Rating: 4.8/5.0
5122
5124
Call Driver
Estimate Cost
Touch Screen 112
204
ITD
ITL
ITH
IT0
Intensity of Contact

Figure 5I5

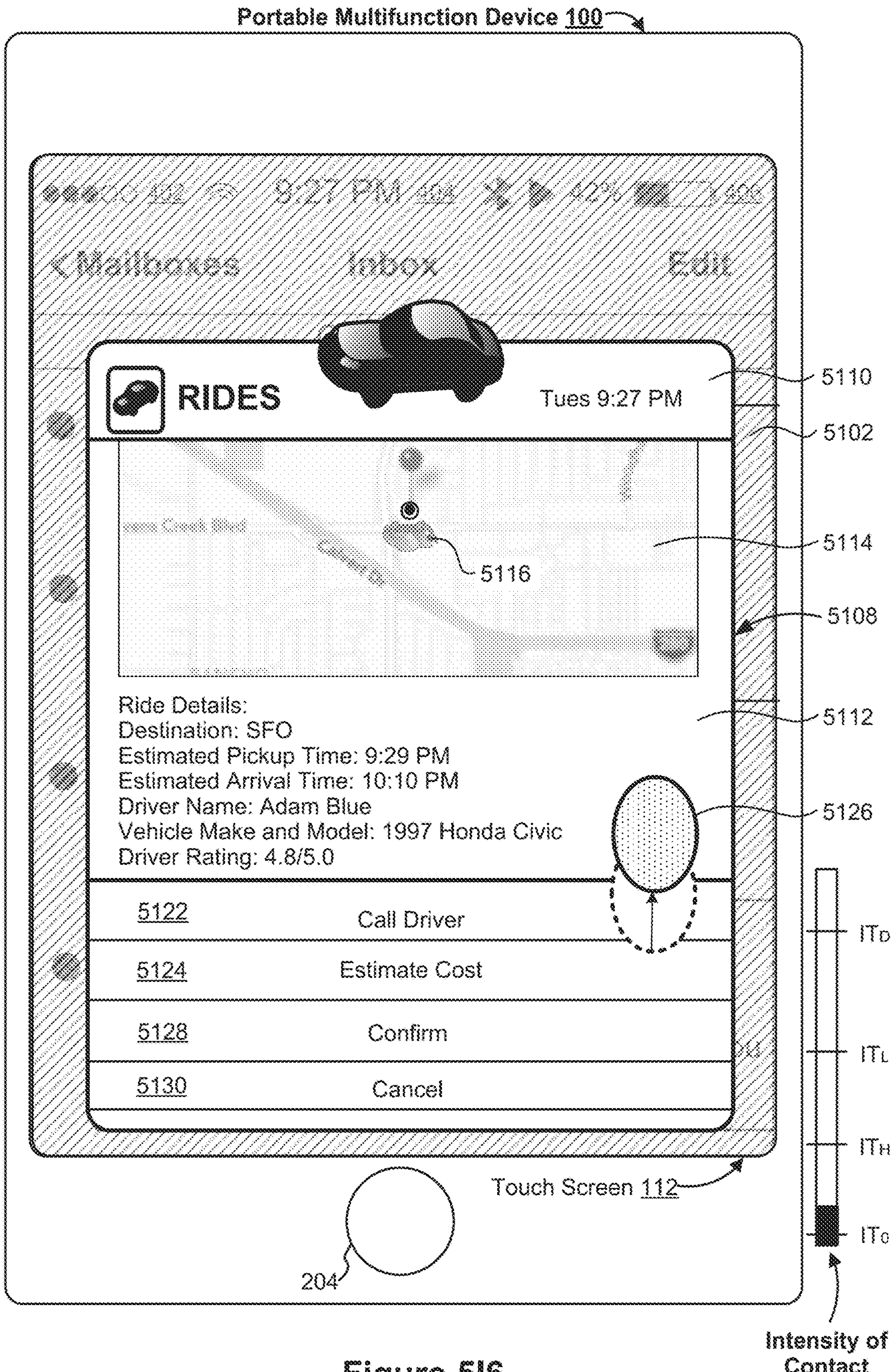

Portable Multifunction Device 100
9:27 PM
402
404
406
42%
Mailboxes
Inbox
Edit
RIDES
Tues 9:27 PM
5110
5102
5114
5116
5108
Ride Details:
Destination: SFO
Estimated Pickup Time: 9:29 PM
Estimated Arrival Time: 10:10 PM
Driver Name: Adam Blue
Vehicle Make and Model: 1997 Honda Civic
Driver Rating: 4.8/5.0
5112
5126
5122 Call Driver
5124 Estimate Cost
5128 Confirm
5130 Cancel
IT_D
IT_L
IT_H
IT_0
Touch Screen 112
204
Intensity of Contact

Figure 5I6

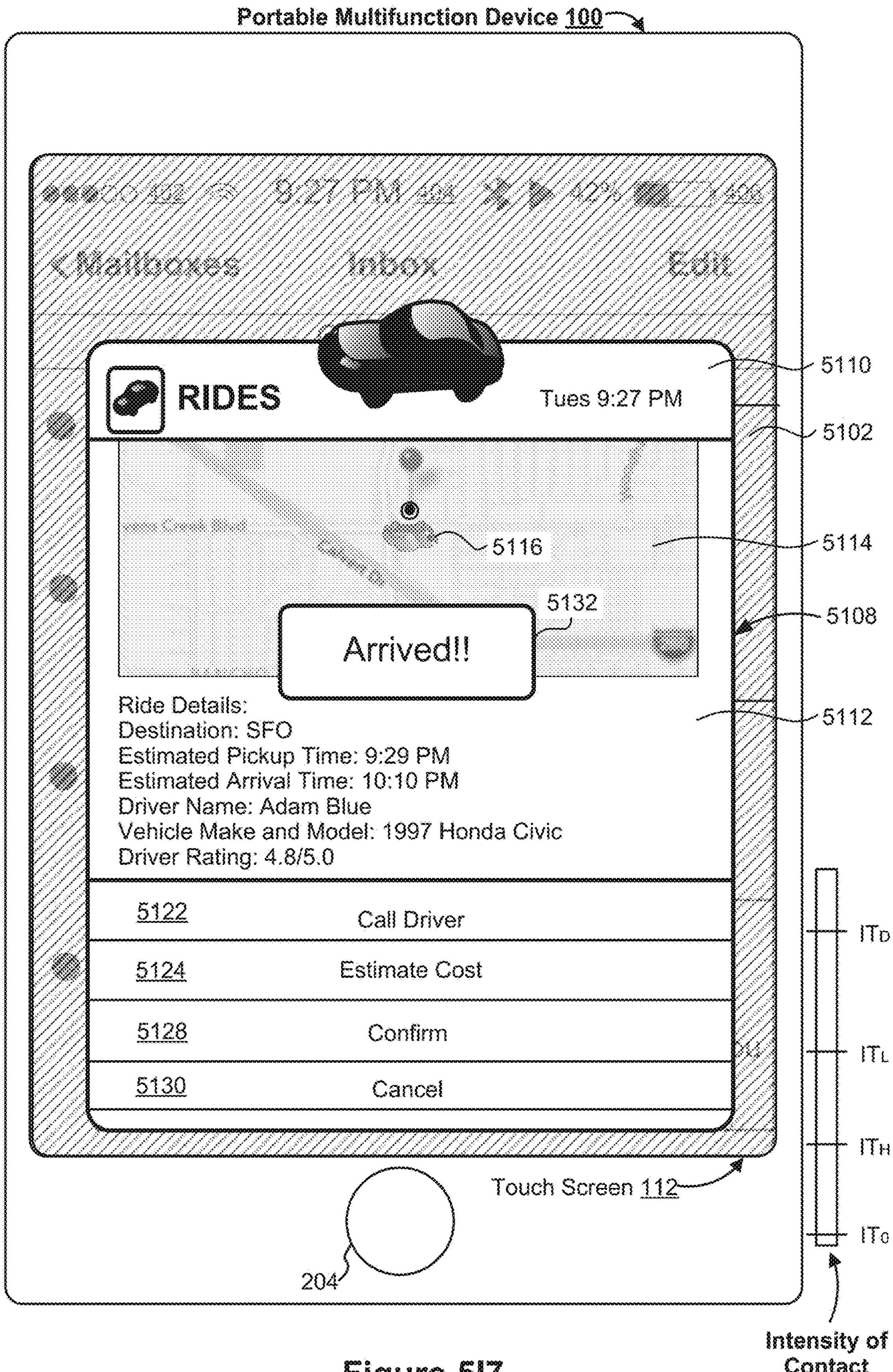

Portable Multifunction Device 100
9:27 PM
Mailboxes
Inbox
Edit
RIDES
Tues 9:27 PM
5110
5102
5116
5114
5132
5108
Arrived!!
Ride Details:
Destination: SFO
Estimated Pickup Time: 9:29 PM
Estimated Arrival Time: 10:10 PM
Driver Name: Adam Blue
Vehicle Make and Model: 1997 Honda Civic
Driver Rating: 4.8/5.0
5112
5122
Call Driver
5124
Estimate Cost
5128
Confirm
5130
Cancel
IT_D
IT_L
IT_H
IT_0
Touch Screen 112
204
Intensity of Contact

Figure 5I7

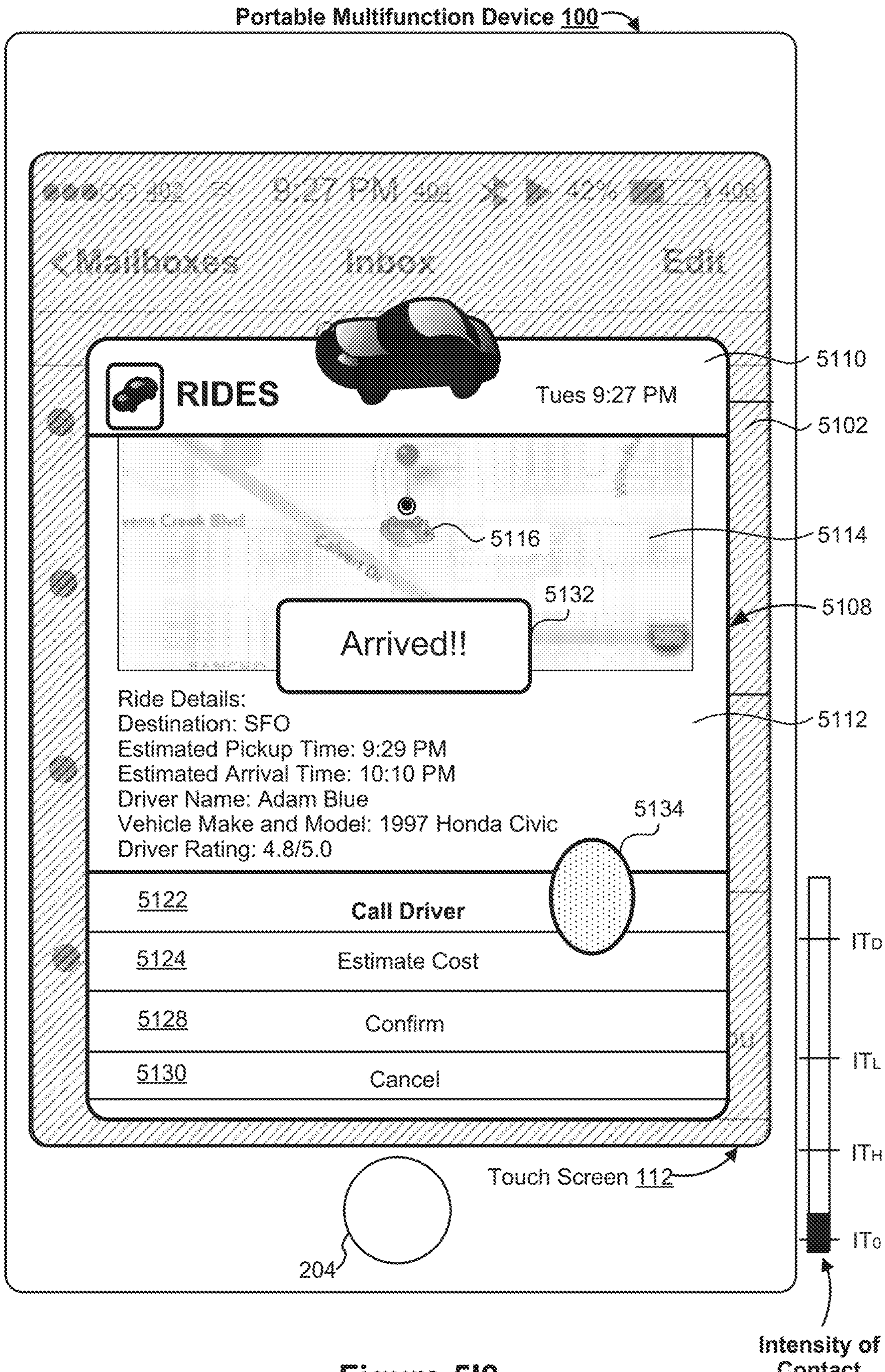
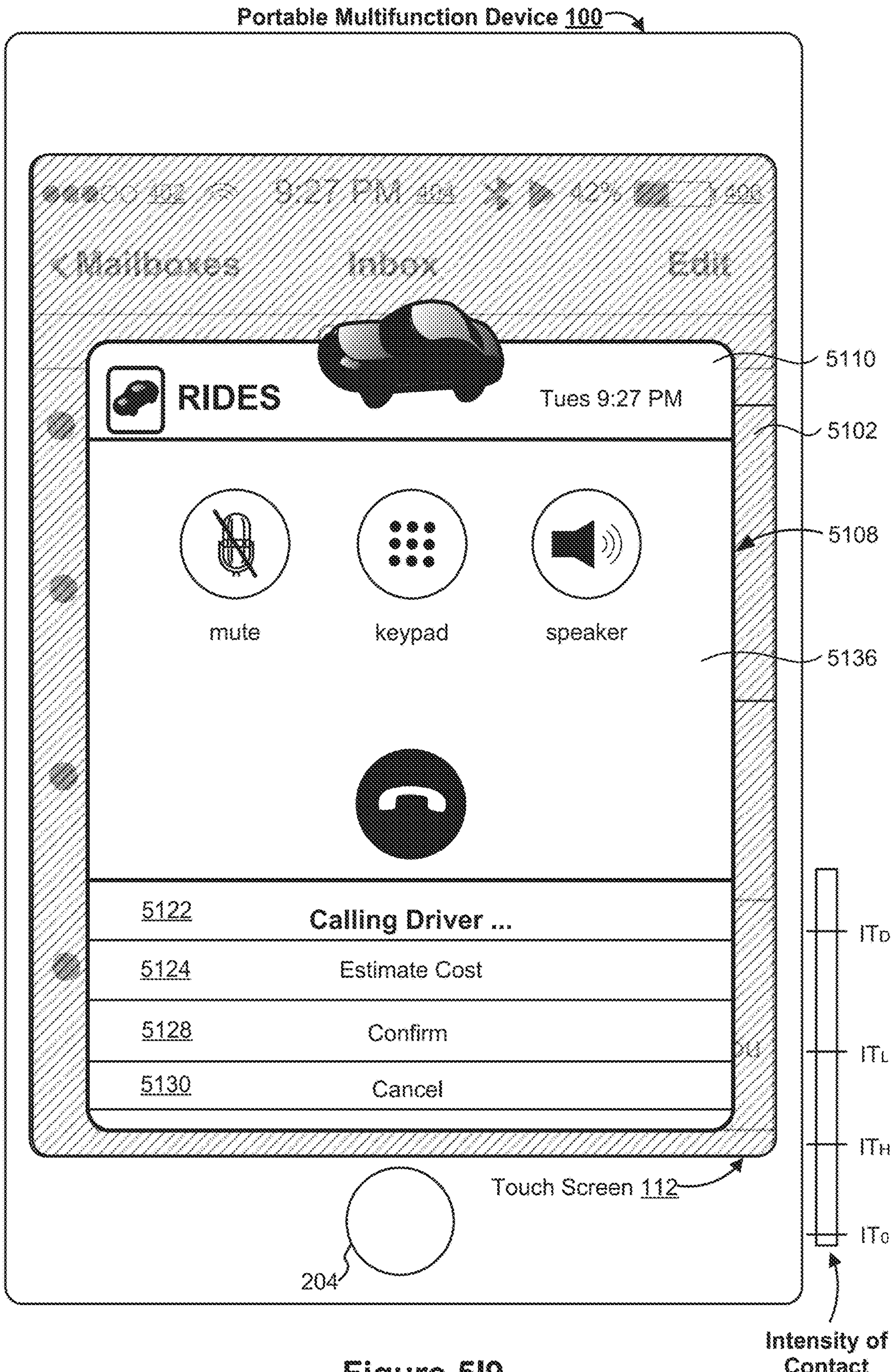
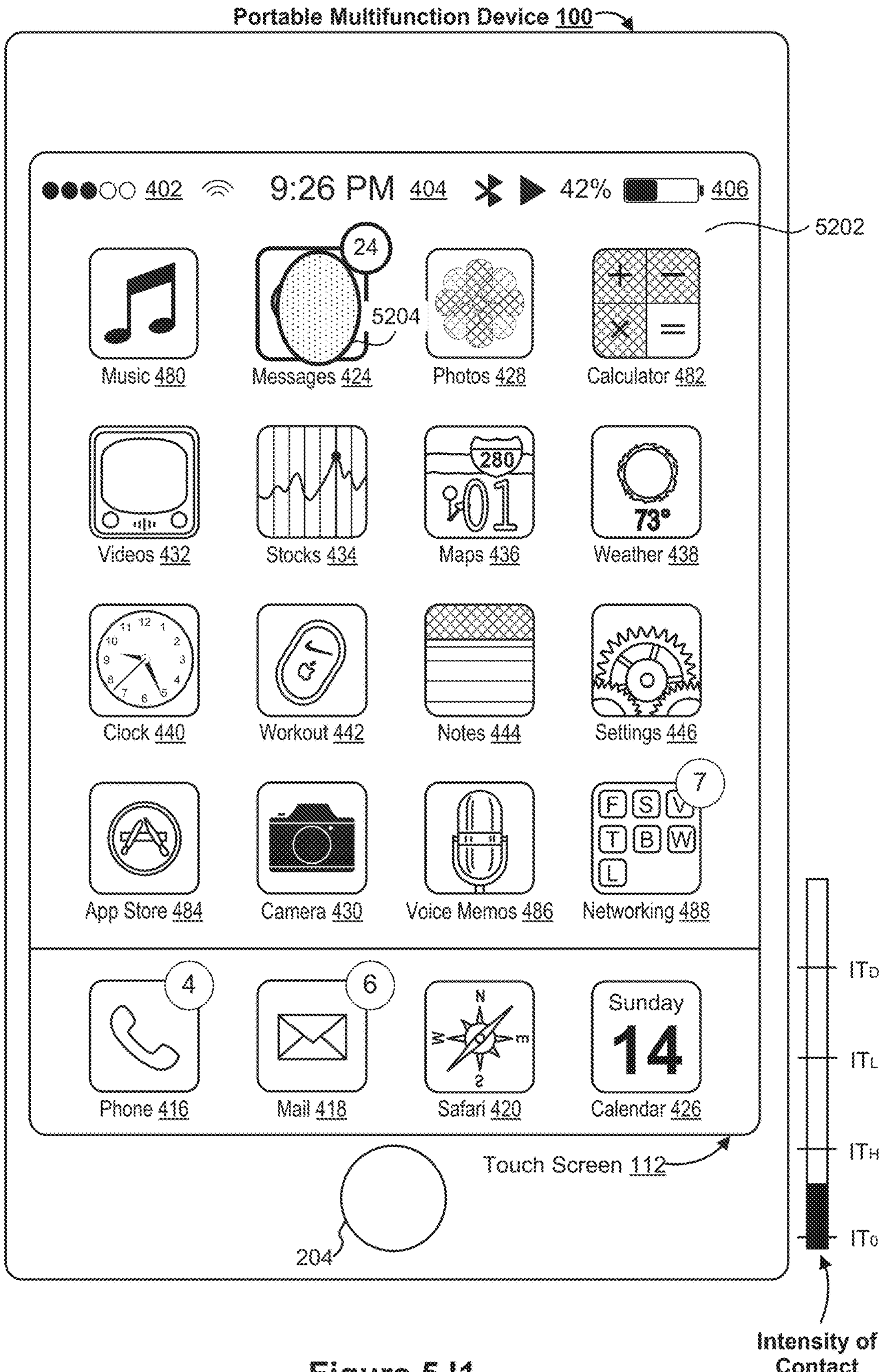

Portable Multifunction Device 100
9:27 PM
42%
402
404
406
< Mailboxes
Inbox
Edit
RIDES
Tues 9:27 PM
5110
5102
5116
5114
5132
5108
Arrived!!
Ride Details:
Destination: SFO
Estimated Pickup Time: 9:29 PM
Estimated Arrival Time: 10:10 PM
Driver Name: Adam Blue
Vehicle Make and Model: 1997 Honda Civic
Driver Rating: 4.8/5.0
5112
5134
5122
Call Driver
5124
Estimate Cost
5128
Confirm
5130
Cancel
IT_D
IT_L
IT_H
IT_0
Touch Screen 112
204
Intensity of Contact

Figure 5I8



Portable Multifunction Device 100
9:27 PM
42%
Mailboxes
Inbox
Edit
RIDES
Tues 9:27 PM
5110
5102
5108
mute
keypad
speaker
5136
5122
Calling Driver ...
5124
Estimate Cost
5128
Confirm
5130
Cancel
Touch Screen 112
204
ITD
ITL
ITH
IT0
Intensity of Contact

Figure 5I9



Portable Multifunction Device 100
402
9:26 PM
404
42%
406
5202
24
5204
Music 480
Messages 424
Photos 428
Calculator 482
280
73°
Videos 432
Stocks 434
Maps 436
Weather 438
Clock 440
Workout 442
Notes 444
Settings 446
7
App Store 484
Camera 430
Voice Memos 486
Networking 488
4
6
Sunday
14
Phone 416
Mail 418
Safari 420
Calendar 426
Touch Screen 112
204
ITD
ITL
ITH
IT0
Intensity of Contact

Figure 5J1

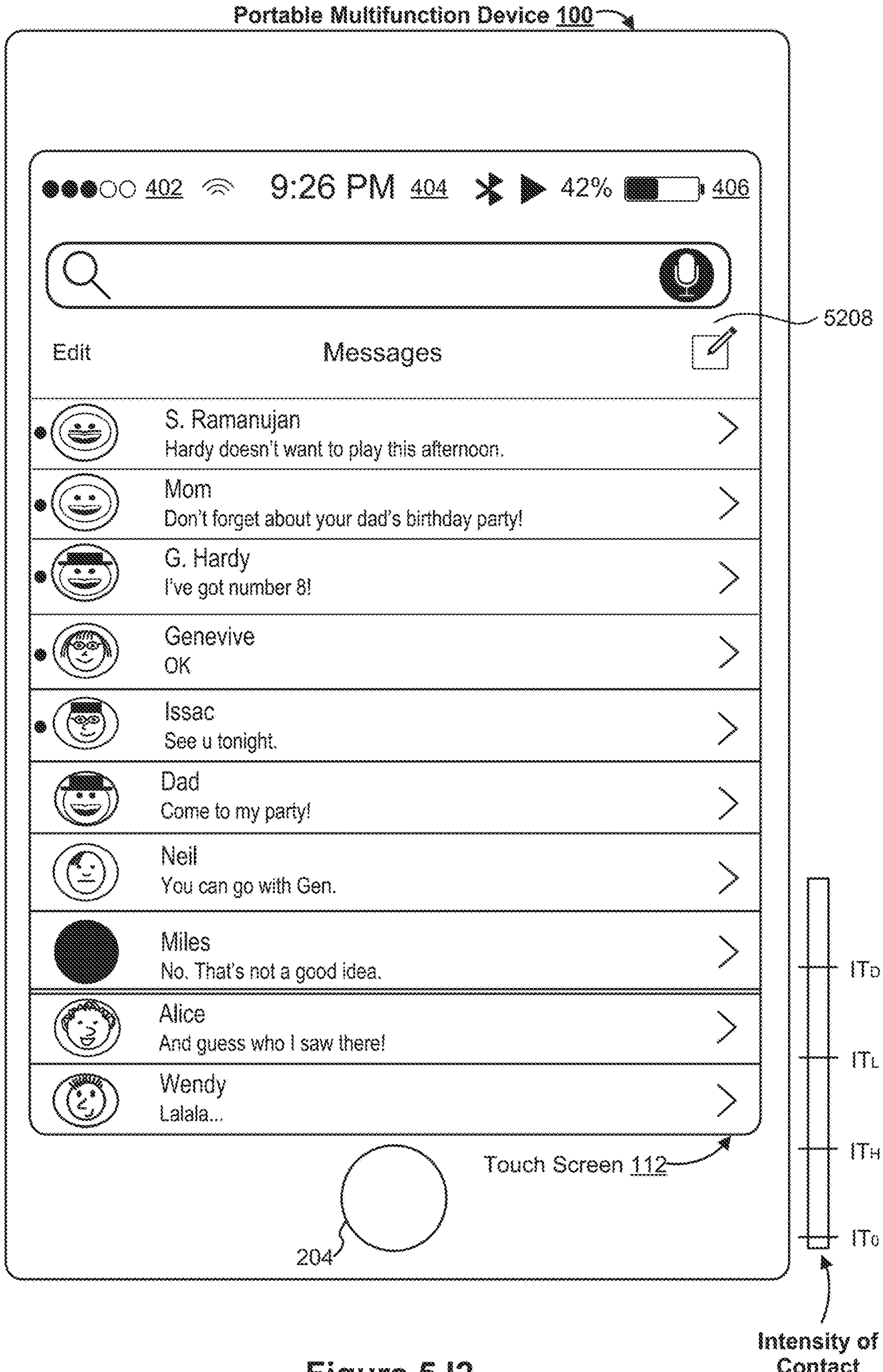
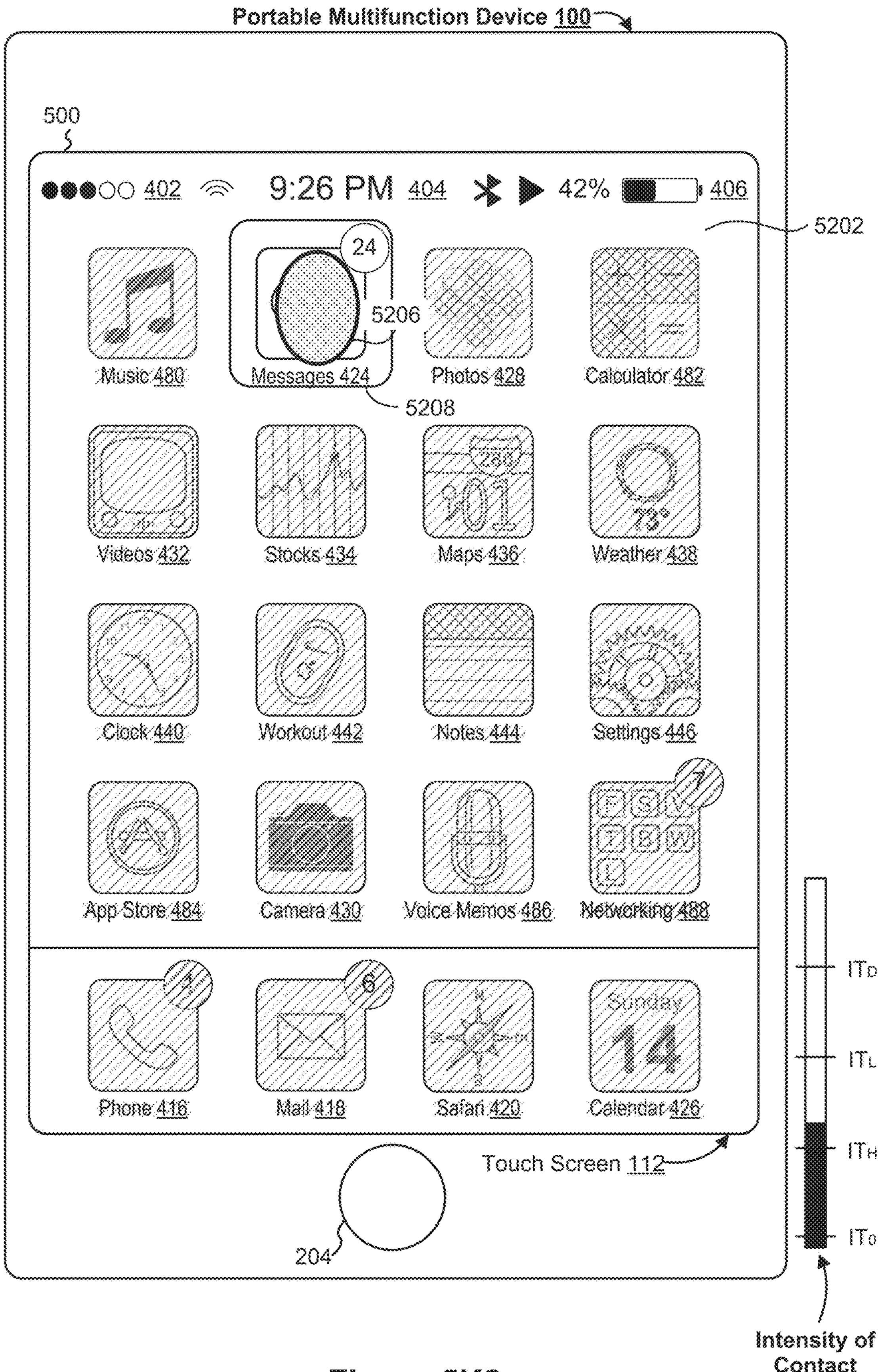

Portable Multifunction Device 100
402
9:26 PM
404
42%
406
5208
Edit
Messages
S. Ramanujan
Hardy doesn't want to play this afternoon.
Mom
Don't forget about your dad's birthday party!
G. Hardy
I've got number 8!
Genevive
OK
Issac
See u tonight.
Dad
Come to my party!
Neil
You can go with Gen.
Miles
No. That's not a good idea.
Alice
And guess who I saw there!
Wendy
Lalala...
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5J2

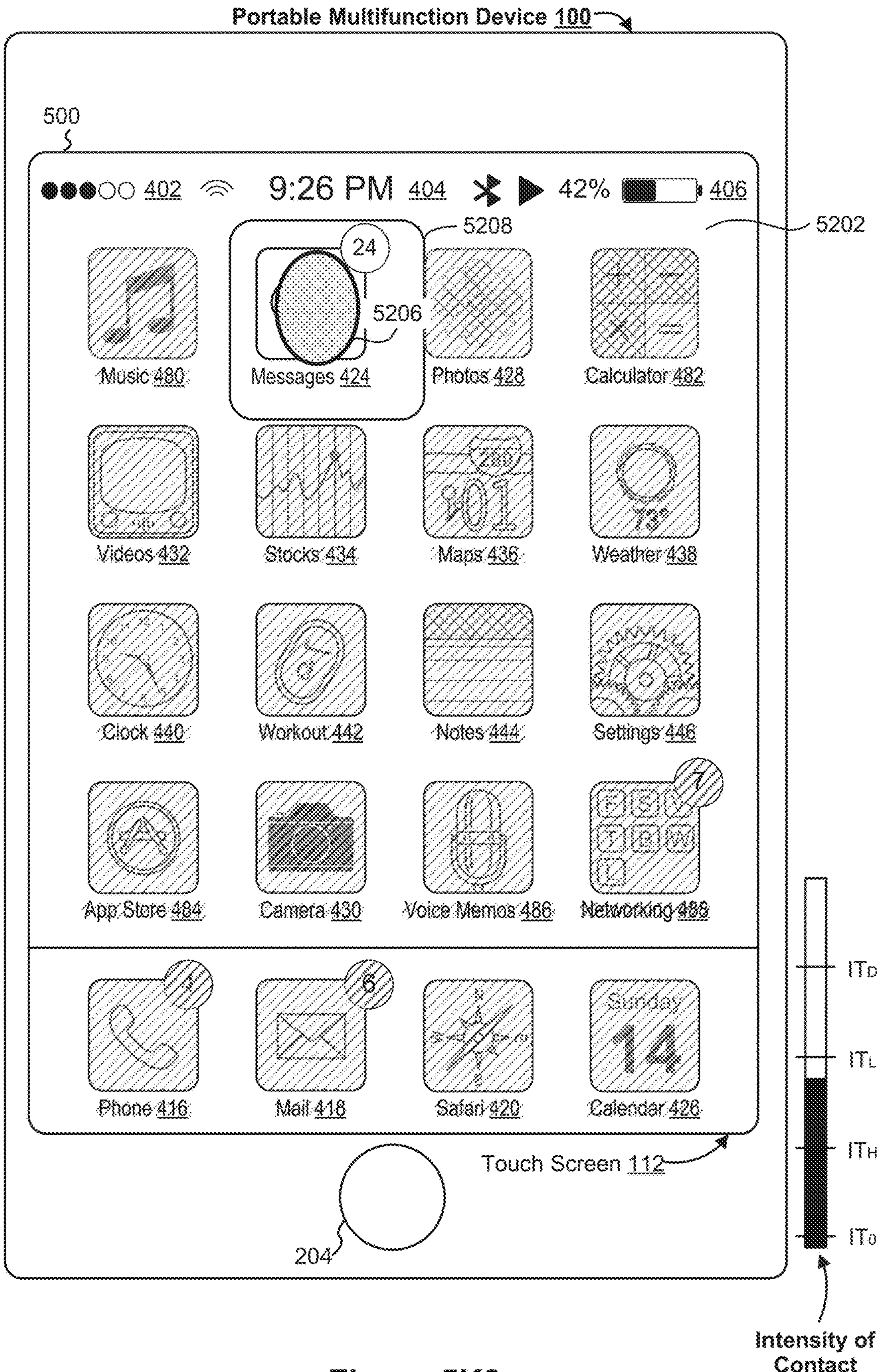
(Same as Figure 5J1)

Figure 5K1



Portable Multifunction Device 100
500
402
9:26 PM
404
42%
406
5202
24
5206
Music 480
Messages 424
Photos 428
Calculator 482
5208
Videos 432
Stocks 434
Maps 436
Weather 438
Clock 440
Workout 442
Notes 444
Settings 446
App Store 484
Camera 430
Voice Memos 486
Networking 488
7
4
6
Phone 416
Mail 418
Safari 420
Sunday
14
Calendar 426
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5K2



Portable Multifunction Device 100
500
402
9:26 PM
404
42%
406
5208
5202
24
5206
Music 480
Messages 424
Photos 428
Calculator 482
Videos 432
Stocks 434
Maps 436
Weather 438
Clock 440
Workout 442
Notes 444
Settings 446
App Store 484
Camera 430
Voice Memos 486
Networking 488
Phone 416
Mail 418
Safari 420
Calendar 426
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5K3

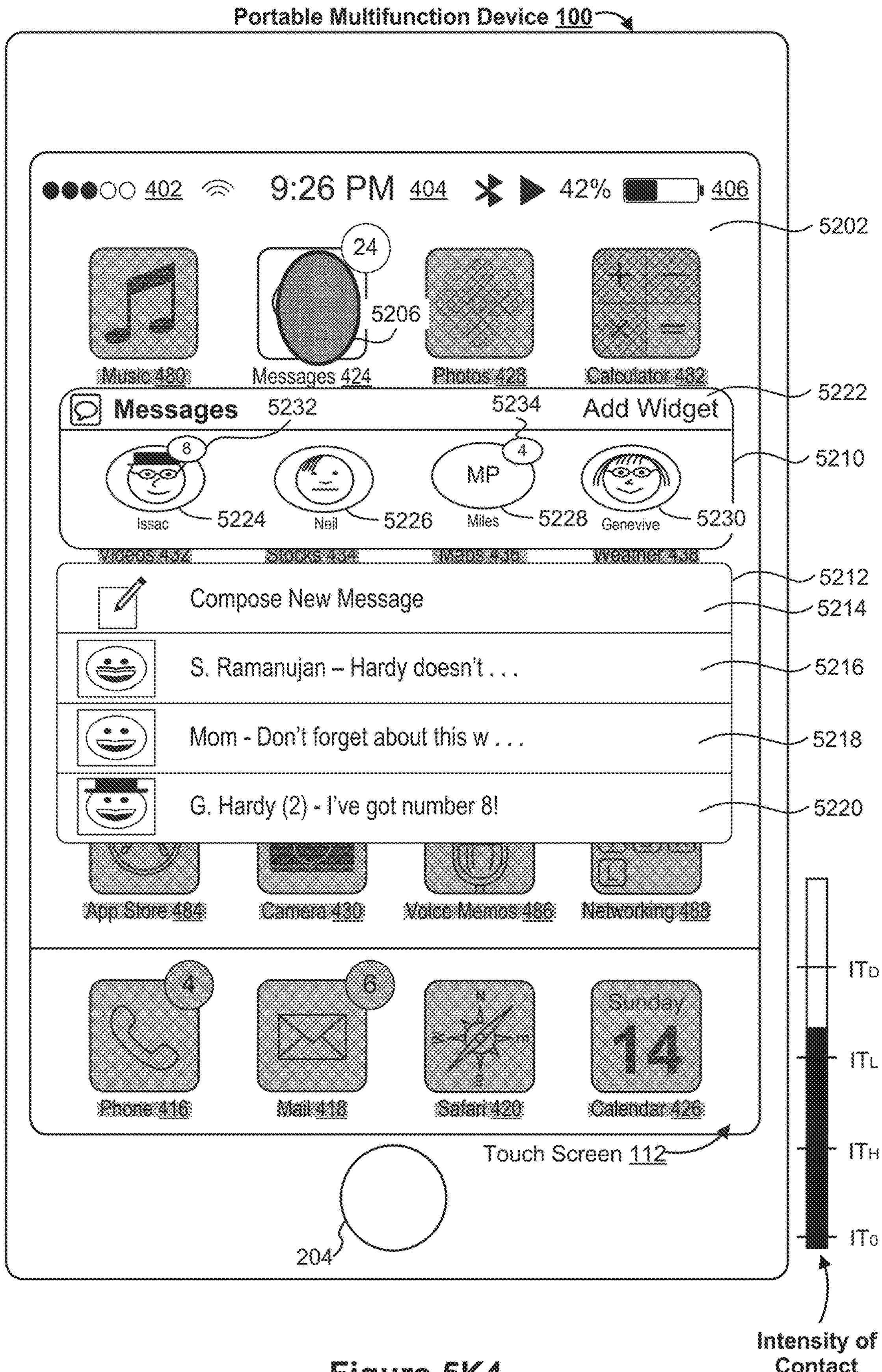
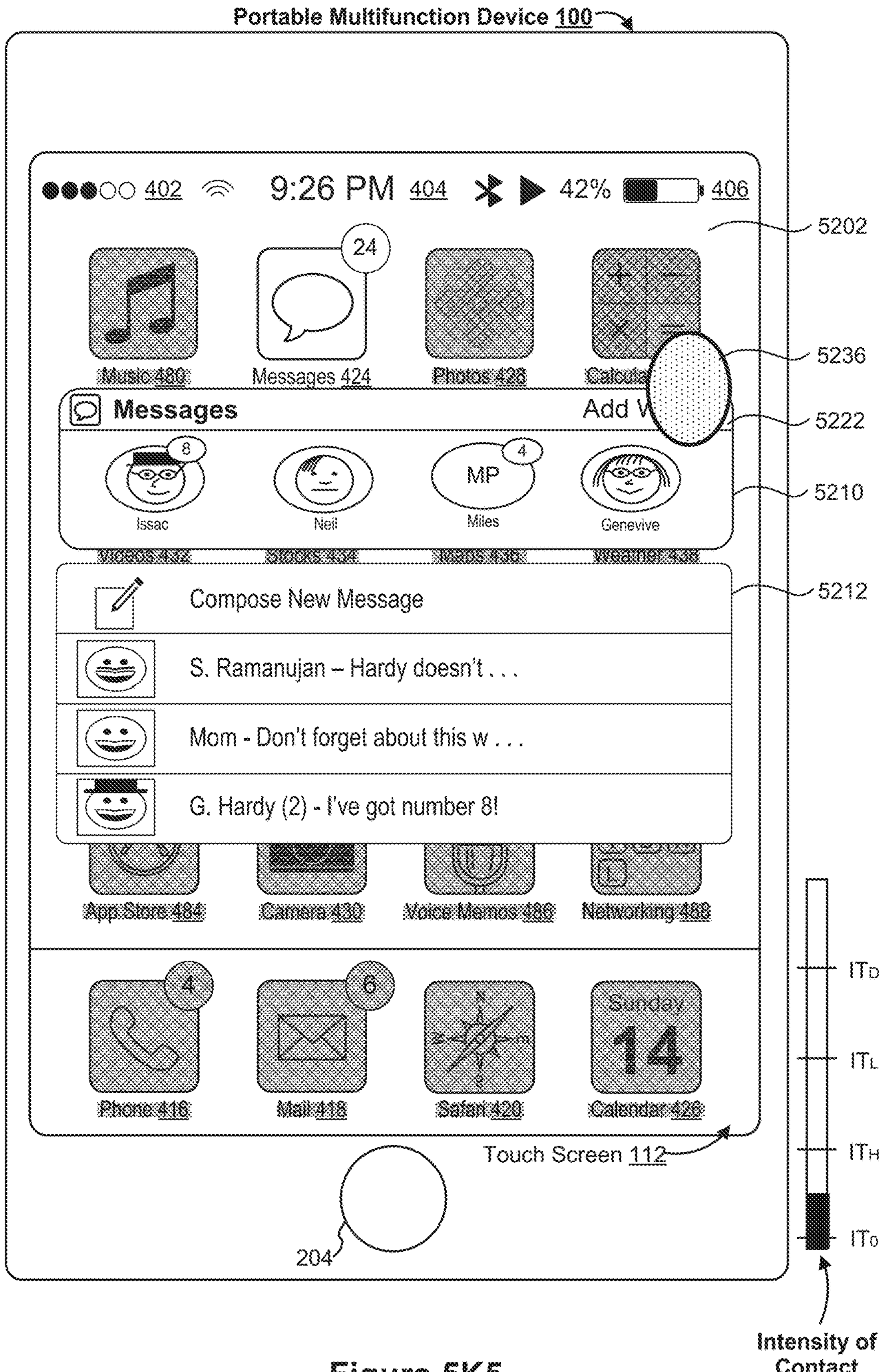
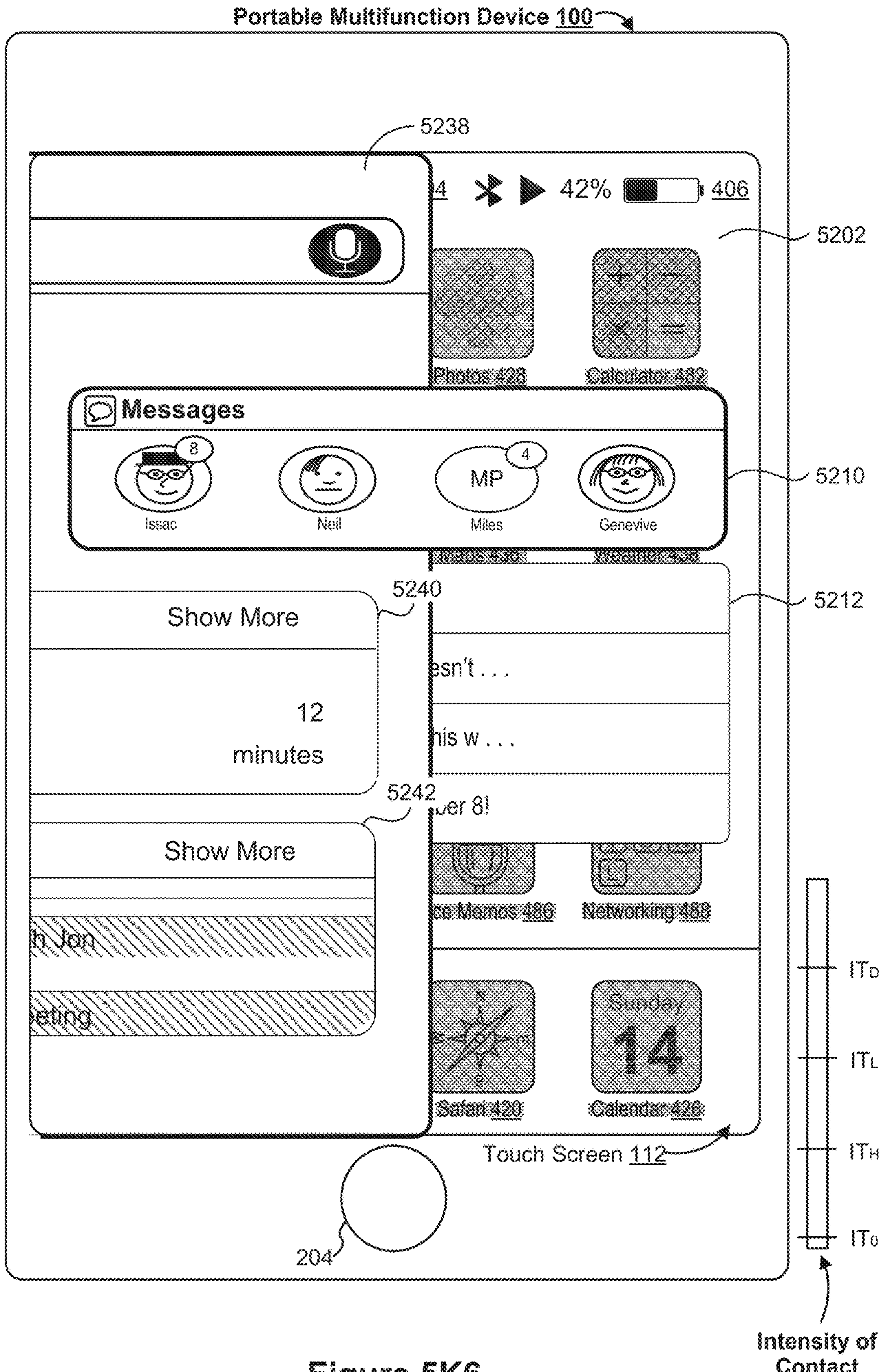

Portable Multifunction Device 100
402
9:26 PM
404
42%
406
5202
24
5206
Music 480
Messages 424
Photos 428
Calculator 482
Messages
5232
5234
Add Widget
5222
8
4
MP
5210
Issac
5224
Neil
5226
Miles
5228
Genevive
5230
Videos 432
Stocks 434
Maps 436
Weather 438
5212
Compose New Message
5214
S. Ramanujan – Hardy doesn't . . .
5216
Mom - Don't forget about this w . . .
5218
G. Hardy (2) - I've got number 8!
5220
App Store 484
Camera 430
Voice Memos 486
Networking 488
4
6
Sunday
14
Phone 416
Mail 418
Safari 420
Calendar 426
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5K4



Portable Multifunction Device 100
402
9:26 PM
404
42%
406
5202
24
Music 480
Messages 424
Photos 428
5236
Messages
Add W
5222
8
4
MP
Issac
Neil
Miles
Genevive
5210
Videos 432
Stocks 434
Maps 436
Weather 438
Compose New Message
5212
S. Ramanujan – Hardy doesn't . . .
Mom - Don't forget about this w . . .
G. Hardy (2) - I've got number 8!
App Store 484
Camera 430
Voice Memos 486
Networking 488
4
6
Sunday
14
Phone 416
Mail 418
Safari 420
Calendar 426
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5K5



Portable Multifunction Device 100
5238
42%
406
5202
Photos 428
Calculator 482
Messages
8
4
MP
Issac
Neil
Miles
Genevive
5210
5240
5212
Show More
esn't . . .
12
minutes
his w . . .
5242
ber 8!
Show More
ce Memos 486
Networking 488
h Jon
eting
Safari 420
Calendar 426
Sunday
14
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5K6

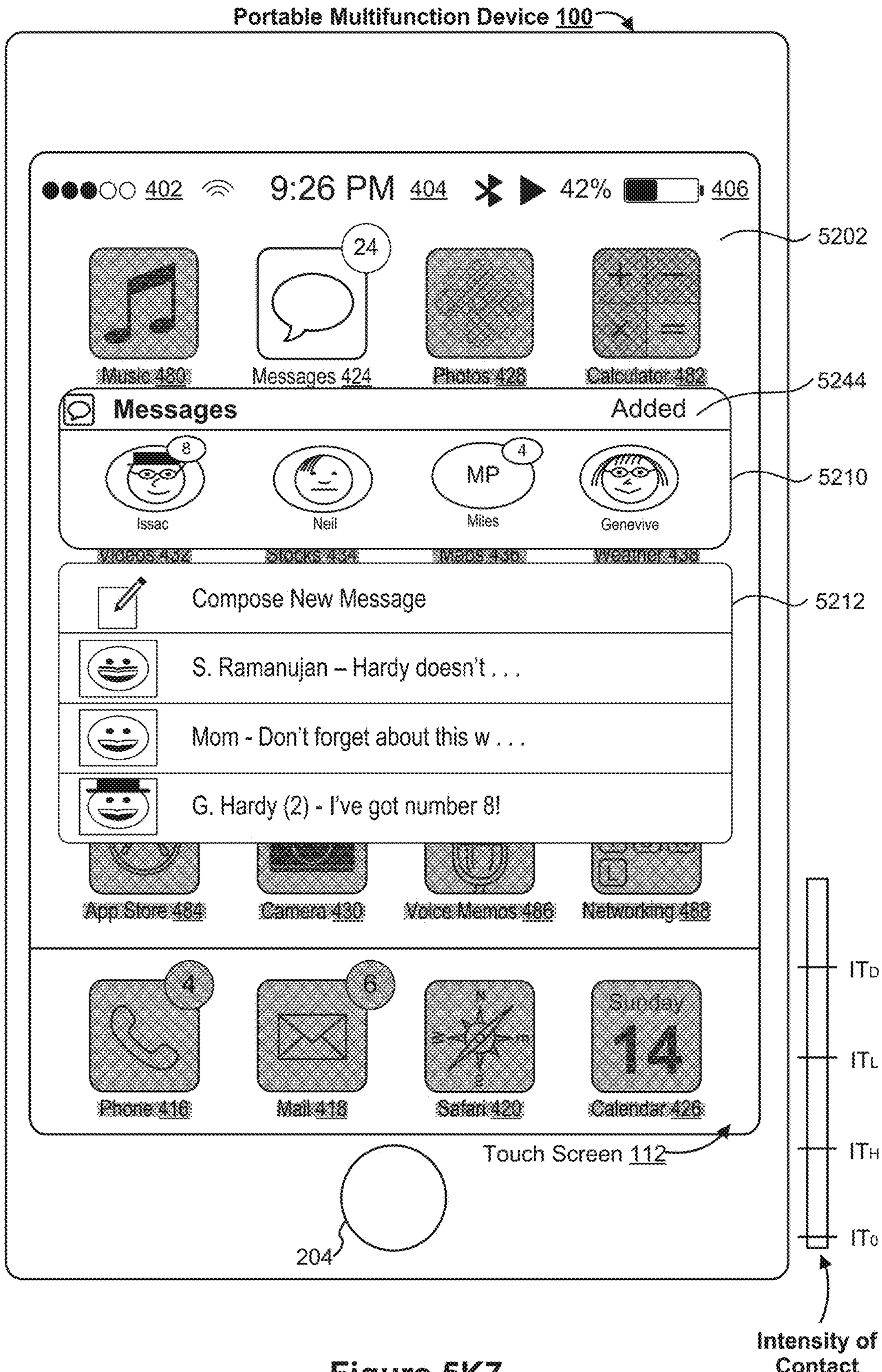
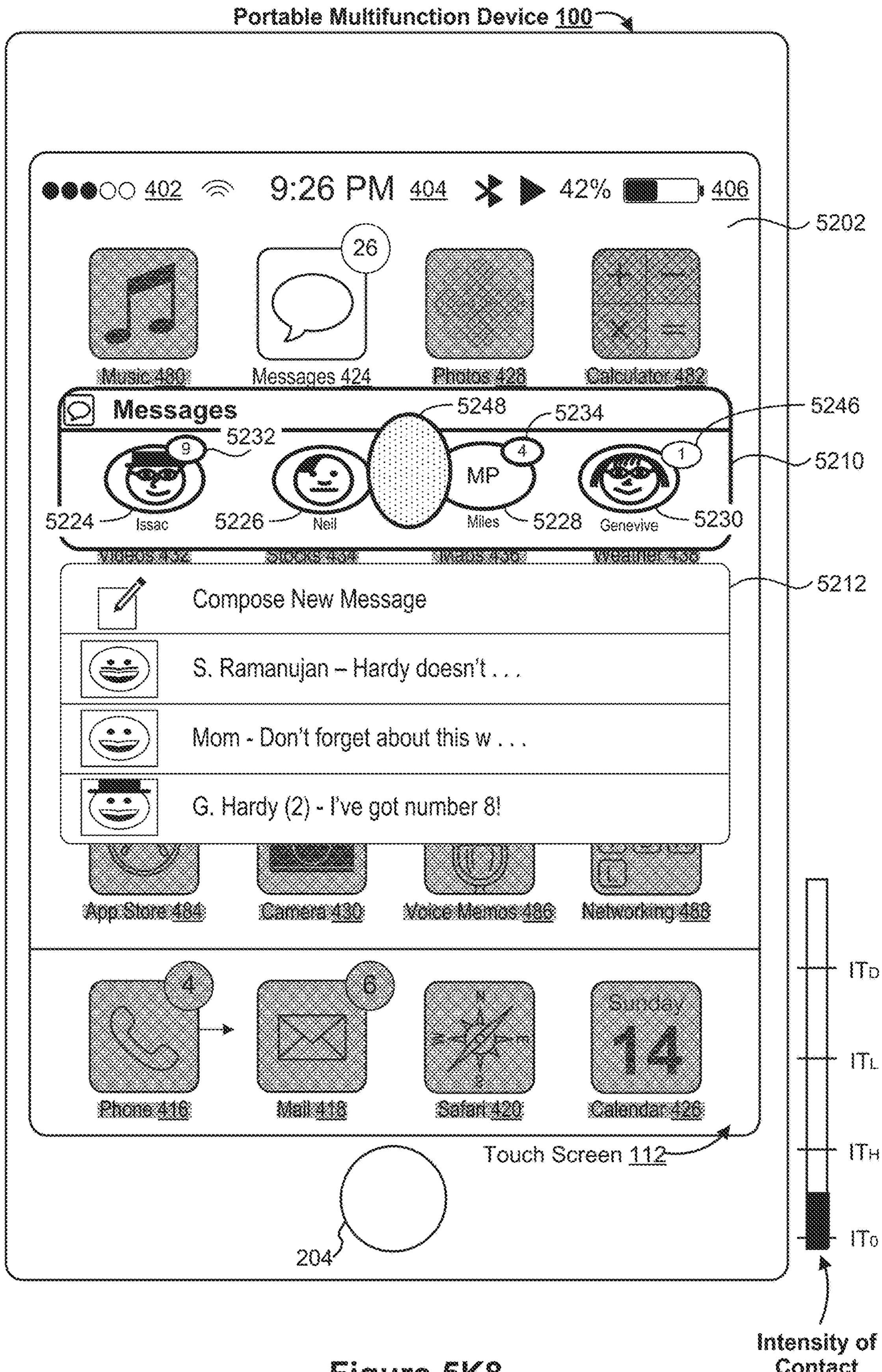
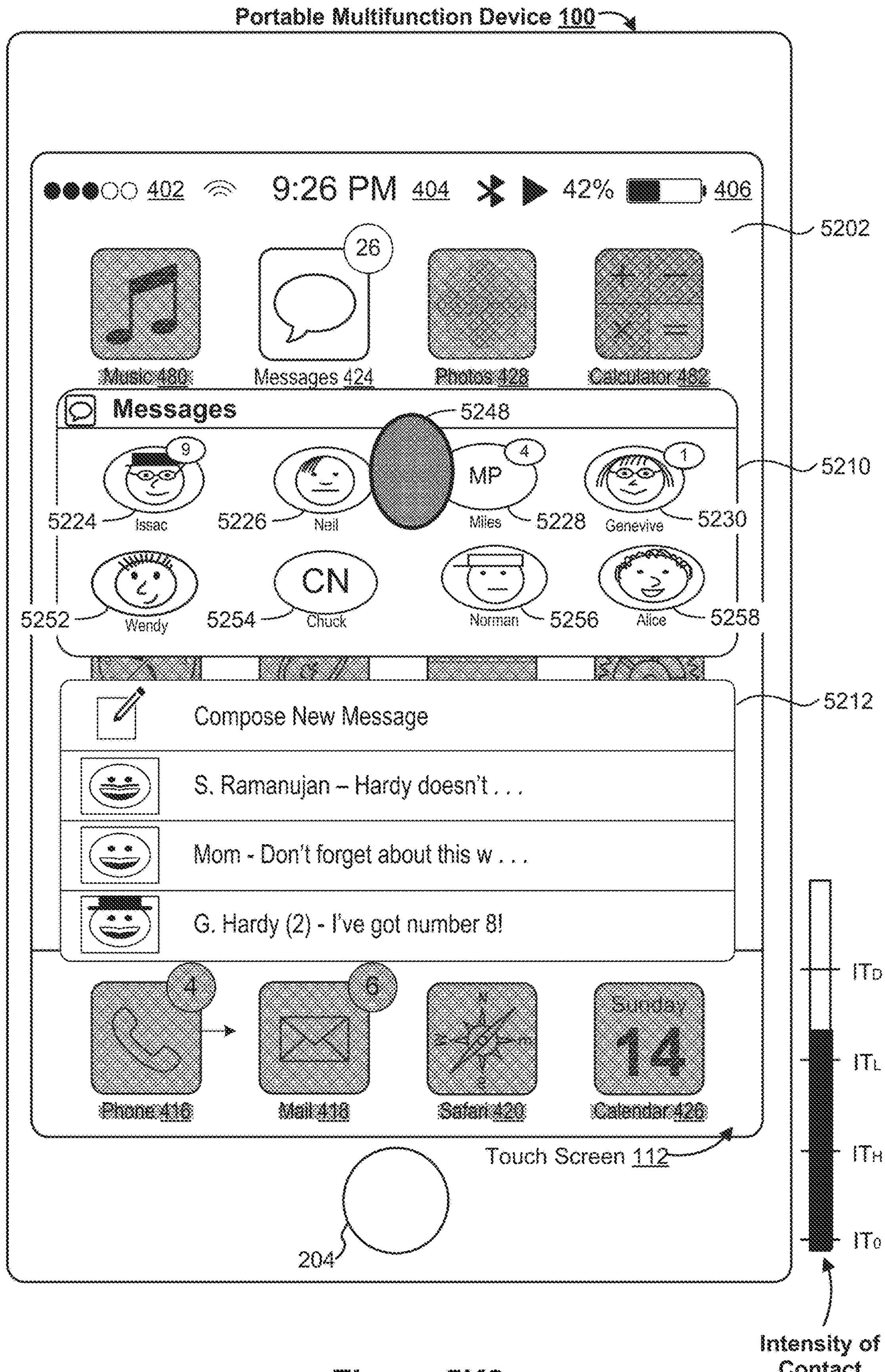

Portable Multifunction Device 100
402
9:26 PM 404
42%
406
5202
24
Music 480
Messages 424
Photos 428
Calculator 482
5244
Messages
Added
8
4
MP
Issac
Neil
Miles
Genevive
5210
Videos 432
Stocks 434
Maps 436
Weather 438
Compose New Message
5212
S. Ramanujan -- Hardy doesn't . . .
Mom - Don't forget about this w . . .
G. Hardy (2) - I've got number 8!
App Store 484
Camera 430
Voice Memos 486
Networking 488
4
6
Sunday
14
Phone 416
Mail 418
Safari 420
Calendar 426
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5K7



Portable Multifunction Device 100
402
9:26 PM
404
42%
406
5202
26
Music 480
Messages 424
Photos 428
Calculator 482
Messages
5248
5234
5246
5232
9
4
1
5210
MP
5224
Issac
5226
Neil
Miles
5228
Genevive
5230
Videos 432
Stocks 434
Maps 436
Weather 438
5212
Compose New Message
S. Ramanujan – Hardy doesn't . . .
Mom - Don't forget about this w . . .
G. Hardy (2) - I've got number 8!
App Store 484
Camera 430
Voice Memos 486
Networking 488
4
6
Sunday
14
Phone 416
Mail 418
Safari 420
Calendar 426
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5K8



Portable Multifunction Device 100
402
9:26 PM
404
42%
406
5202
26
Music 480
Messages 424
Photos 428
Calculator 482
Messages
5248
9
4
MP
1
5210
5224
Issac
5226
Neil
Miles
5228
Genevive
5230
CN
5252
Wendy
5254
Chuck
Norman
5256
Alice
5258
Compose New Message
5212
S. Ramanujan – Hardy doesn't . . .
Mom - Don't forget about this w . . .
G. Hardy (2) - I've got number 8!
4
6
Phone 416
Mail 418
Safari 420
Sunday
14
Calendar 426
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5K9

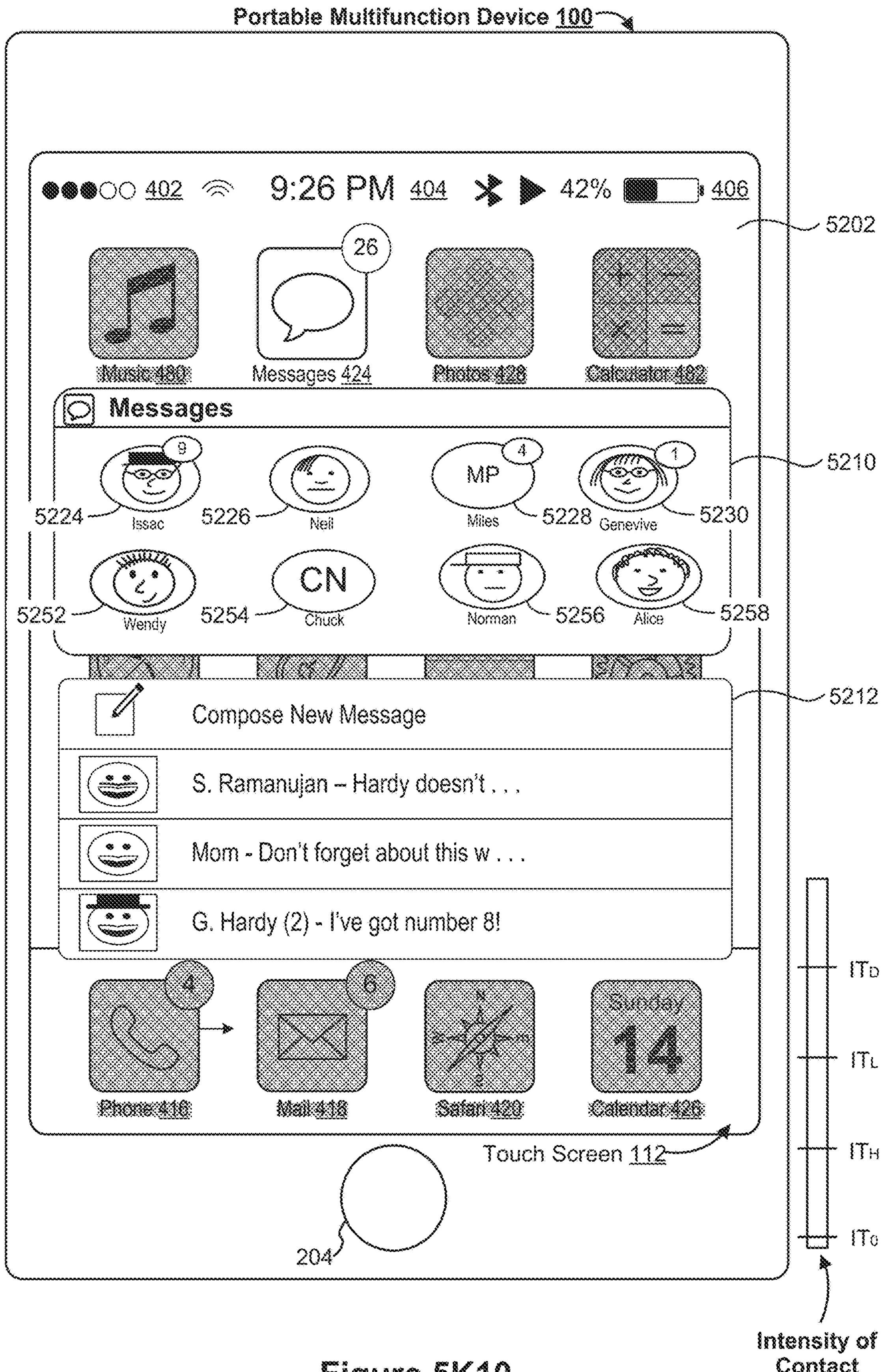
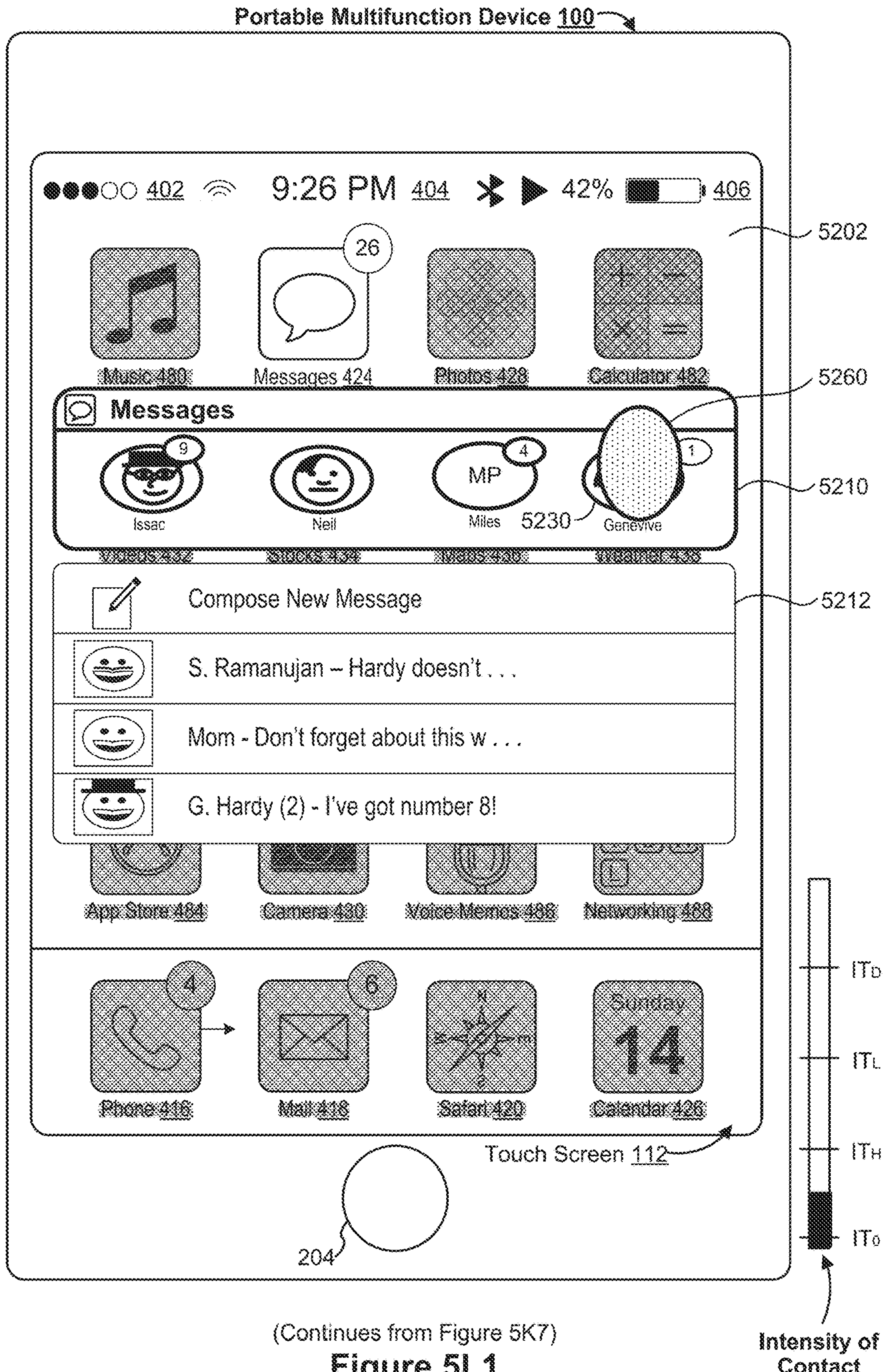
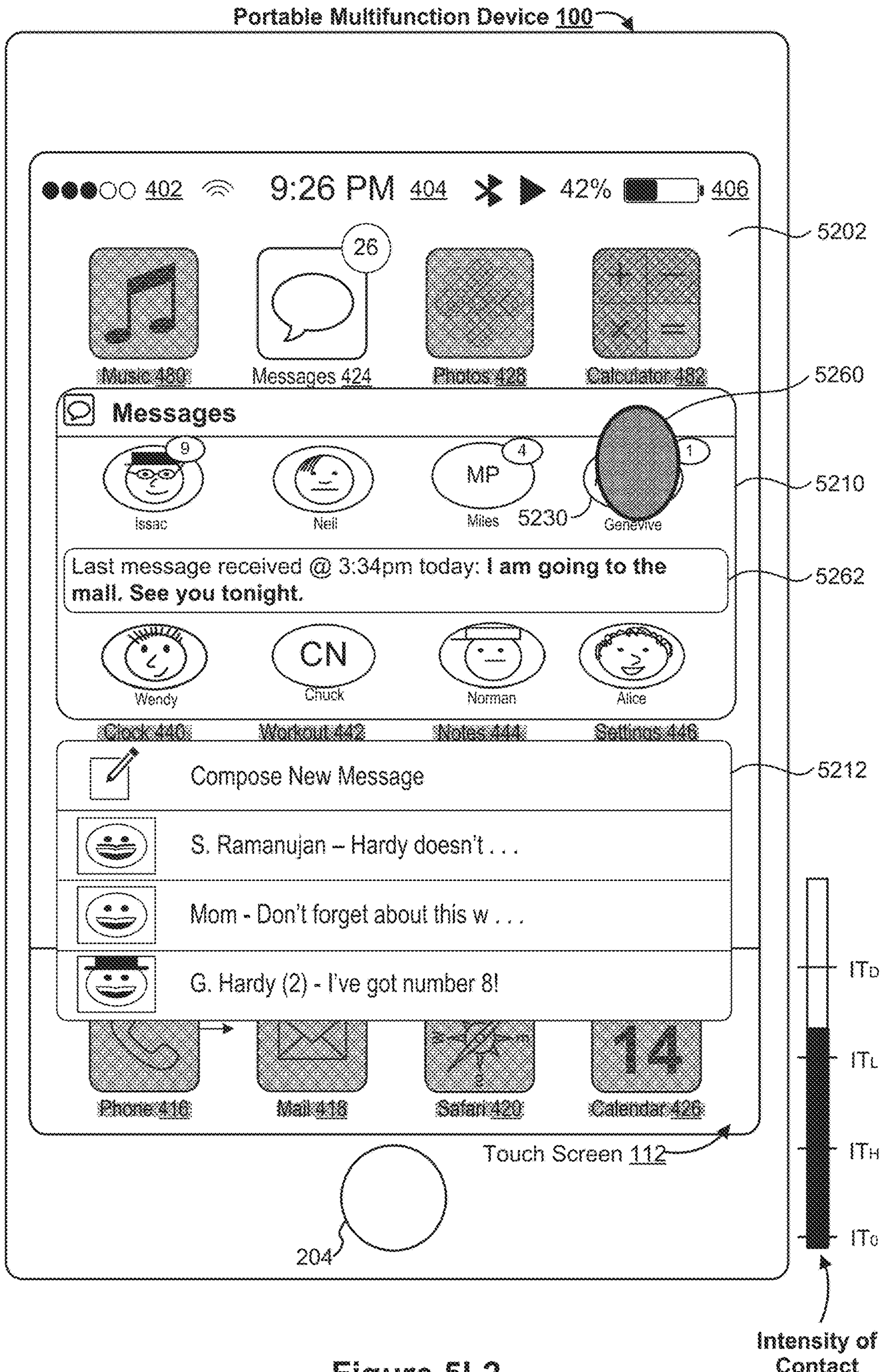

Portable Multifunction Device 100
402
9:26 PM 404
42%
406
5202
26
Music 480
Messages 424
Photos 428
Calculator 482
Messages
9
4
1
MP
5210
5224
Issac
5226
Neil
Miles
5228
Genevive
5230
CN
5252
Wendy
5254
Chuck
Norman
5256
Alice
5258
5212
Compose New Message
S. Ramanujan – Hardy doesn't . . .
Mom - Don't forget about this w . . .
G. Hardy (2) - I've got number 8!
4
6
Phone 416
Mail 418
Safari 420
Sunday
14
Calendar 426
Touch Screen 112
204
ITD
ITL
ITH
IT0
Intensity of Contact

Figure 5K10



(Continues from Figure 5K7)

Figure 5L1



Portable Multifunction Device 100
402
9:26 PM
404
42%
406
5202
26
Music 480
Messages 424
Photos 428
Calculator 482
5260
Messages
9
4
1
MP
5210
Issac
Neil
Miles
5230
Genevive
Last message received @ 3:34pm today: I am going to the mall. See you tonight.
5262
CN
Wendy
Chuck
Norman
Alice
Clock 440
Workout 442
Notes 444
Settings 446
Compose New Message
5212
S. Ramanujan – Hardy doesn't . . .
Mom - Don't forget about this w . . .
G. Hardy (2) - I've got number 8!
14
Phone 416
Mail 418
Safari 420
Calendar 426
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5L2

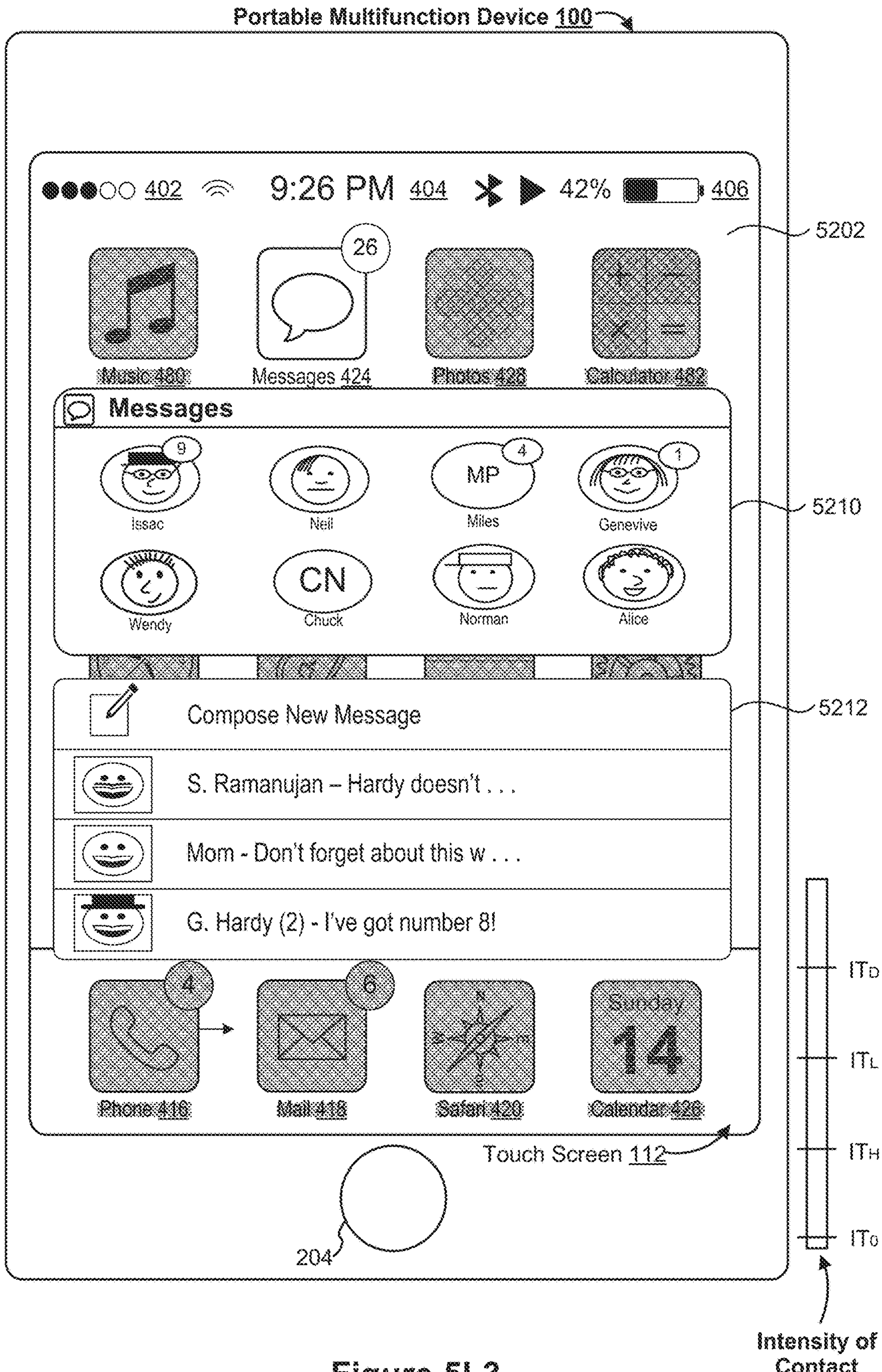

Portable Multifunction Device 100
402
9:26 PM
404
42%
406
5202
26
Music 480
Messages 424
Photos 428
Calculator 482
Messages
9
4
1
MP
Issac
Neil
Miles
Genevive
CN
Wendy
Chuck
Norman
Alice
5210
Compose New Message
S. Ramanujan – Hardy doesn't . . .
Mom - Don't forget about this w . . .
G. Hardy (2) - I've got number 8!
5212
4
6
Sunday
14
Phone 416
Mail 418
Safari 420
Calendar 426
Touch Screen 112
204
ITD
ITL
ITH
IT0
Intensity of Contact

Figure 5L3

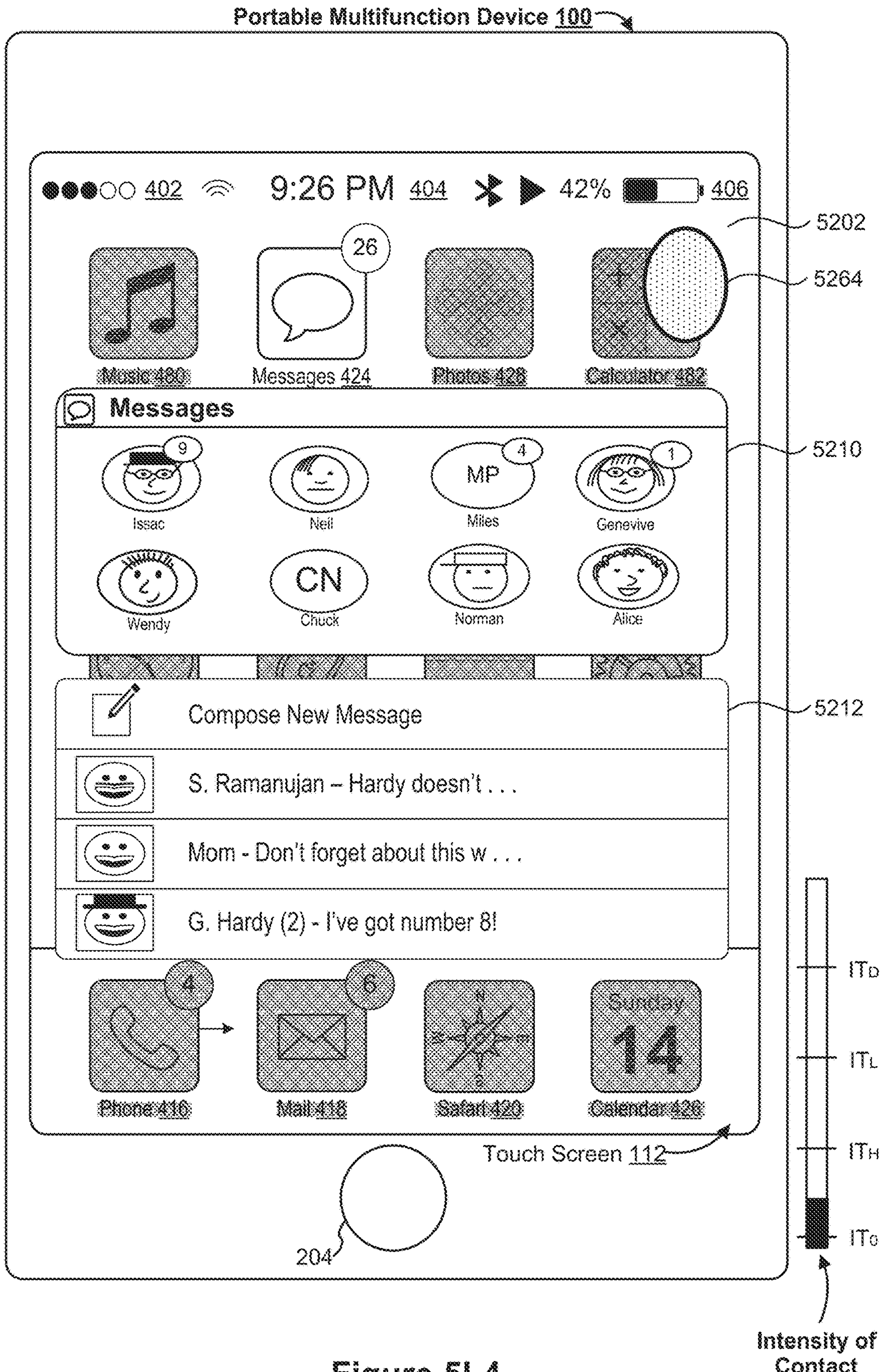

Portable Multifunction Device 100
402
9:26 PM
404
42%
406
5202
5264
26
Music 480
Messages 424
Photos 428
Calculator 482
Messages
5210
9
4
MP
1
Issac
Neil
Miles
Genevive
CN
Wendy
Chuck
Norman
Alice
5212
Compose New Message
S. Ramanujan – Hardy doesn't . . .
Mom - Don't forget about this w . . .
G. Hardy (2) - I've got number 8!
4
6
Sunday
14
Phone 416
Mail 418
Safari 420
Calendar 426
Touch Screen 112
204
ITD
ITL
ITH
IT0
Intensity of Contact

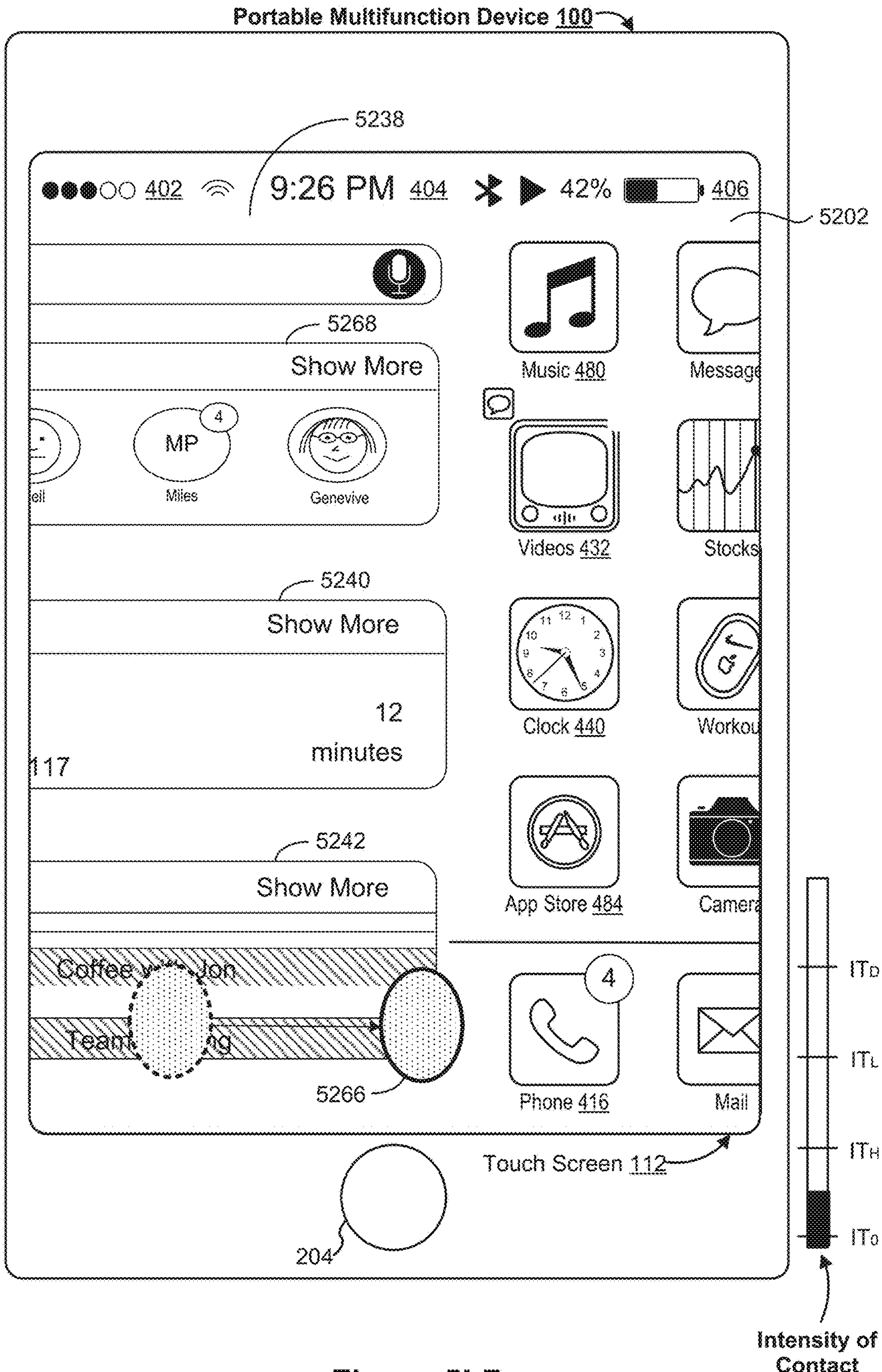
Figure 5L4

Portable Multifunction Device 100
402
9:26 PM
404
42%
406
5202
26
Music 480
Messages 424
Photos 428
Calculator 482
280
73°
Videos 432
Stocks 434
Maps 436
Weather 438
Clock 440
Workout 442
Notes 444
Settings 446
7
F S V
T B W
L
App Store 484
Camera 430
Voice Memos 486
Networking 488
4
6
Sunday
14
Phone 416
Mail 418
Safari 420
Calendar 426
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5L5

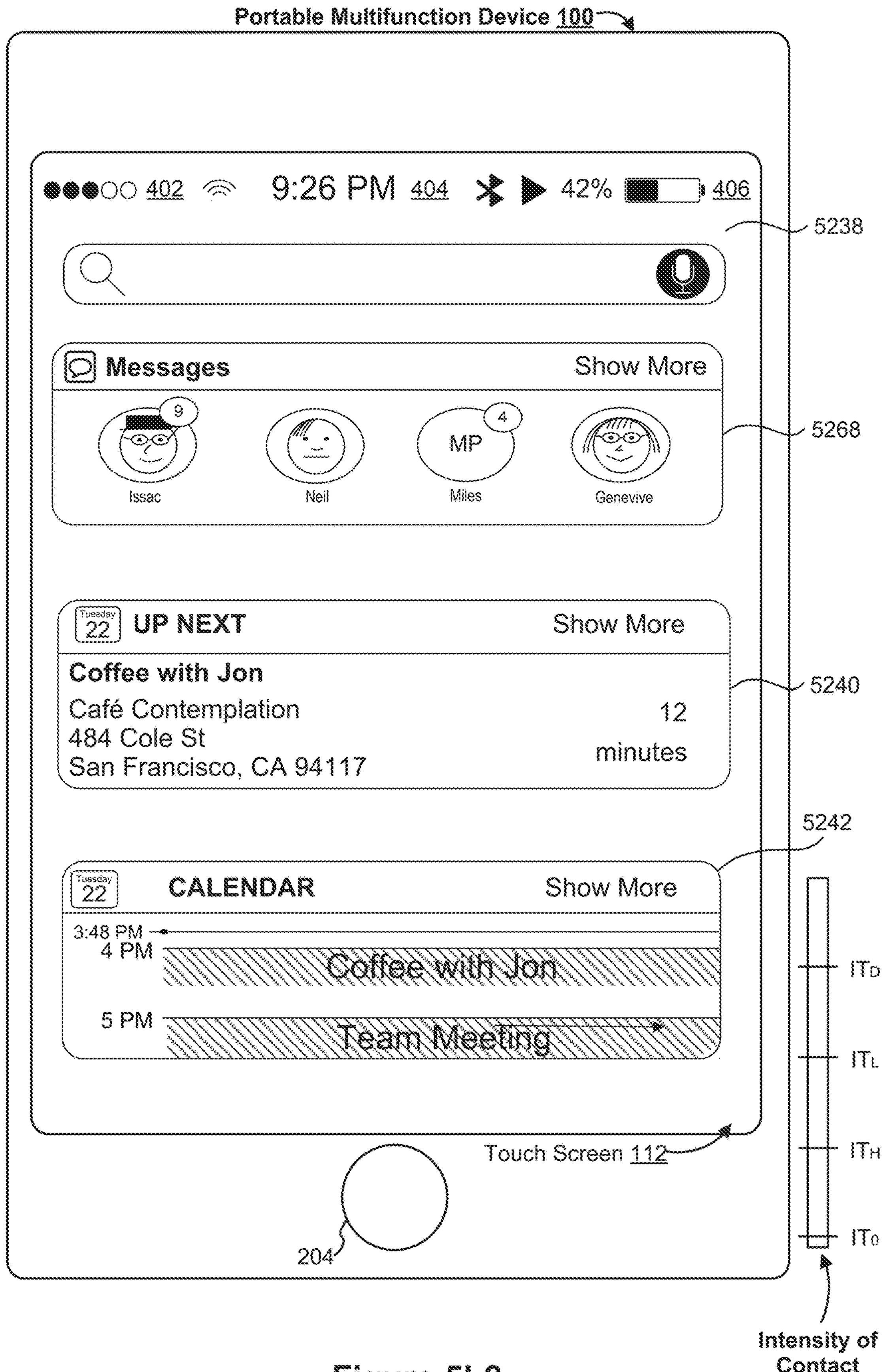

Portable Multifunction Device 100
402
9:26 PM
404
42%
406
5202
26
Music 480
Messages 424
Photos 428
Calculator 482
280
73°
Videos 432
Stocks 434
Maps 436
Weather 438
Clock 440
Workout 442
Notes 444
Settings 446
7
F S V
T B W
L
App Store 484
Camera 430
Voice Memos 486
Networking 488
6
N
Sunday
14
Phone 416
Mail 418
Safari 420
Calendar 426
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5L6



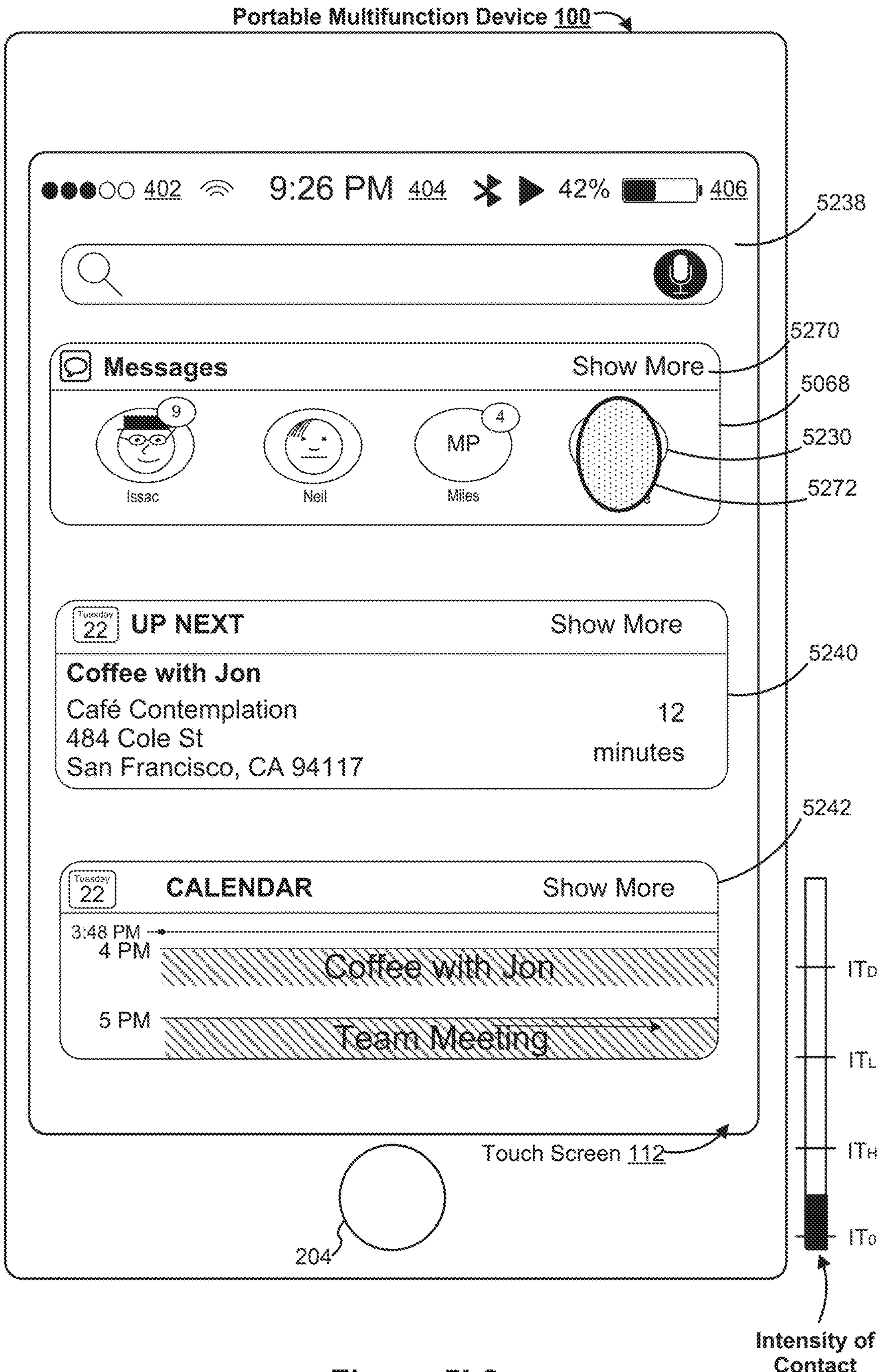
Portable Multifunction Device 100
5238
402
9:26 PM
404
42%
406
5202
5268
Show More
MP
4
Miles
Genevive
Music 480
Videos 432
Stocks
5240
Show More
12
minutes
117
Clock 440
5242
Show More
Coffee with Jon
App Store 484
4
Phone 416
Mail
5266
Touch Screen 112
204
ITD
ITL
ITH
IT0
Intensity of Contact

Figure 5L7



Portable Multifunction Device 100
402
9:26 PM
404
42%
406
5238
Messages
Show More
9
4
MP
Issac
Neil
Miles
Genevive
5268
22
UP NEXT
Show More
Coffee with Jon
Café Contemplation
484 Cole St
San Francisco, CA 94117
12
minutes
5240
5242
22
CALENDAR
Show More
3:48 PM
4 PM
Coffee with Jon
5 PM
Team Meeting
IT_D
IT_L
IT_H
IT_0
Touch Screen 112
204
Intensity of Contact

Figure 5L8



Portable Multifunction Device 100
402
9:26 PM
404
42%
406
5238
Messages
Show More
5270
5068
9
4
MP
5230
5272
Issac
Neil
Miles
Tuesday
22
UP NEXT
Show More
Coffee with Jon
Café Contemplation
484 Cole St
San Francisco, CA 94117
12
minutes
5240
5242
Tuesday
22
CALENDAR
Show More
3:48 PM
4 PM
Coffee with Jon
5 PM
Team Meeting
IT_D
IT_L
IT_H
IT_0
Touch Screen 112
204
Intensity of Contact

Figure 5L9

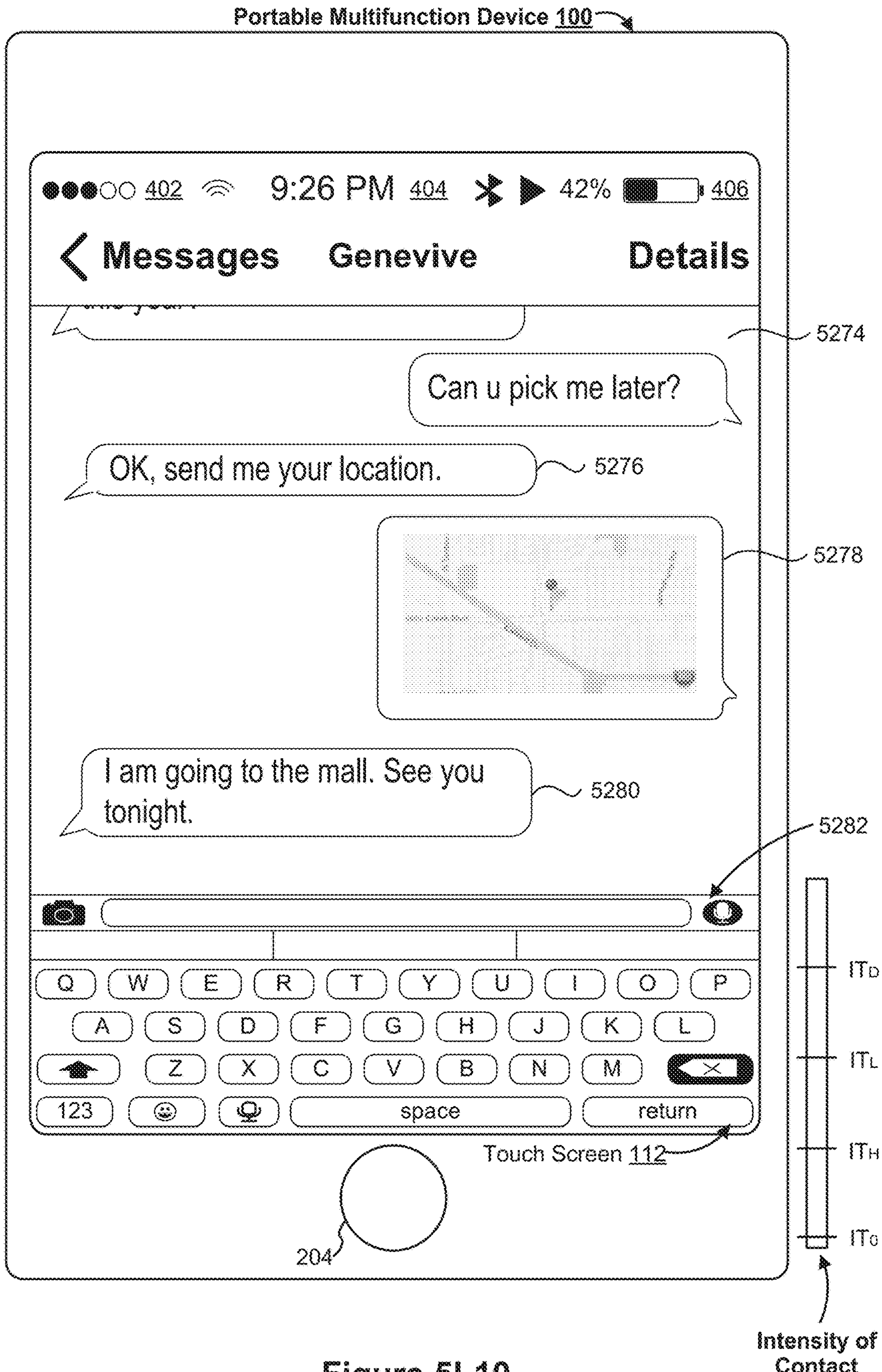
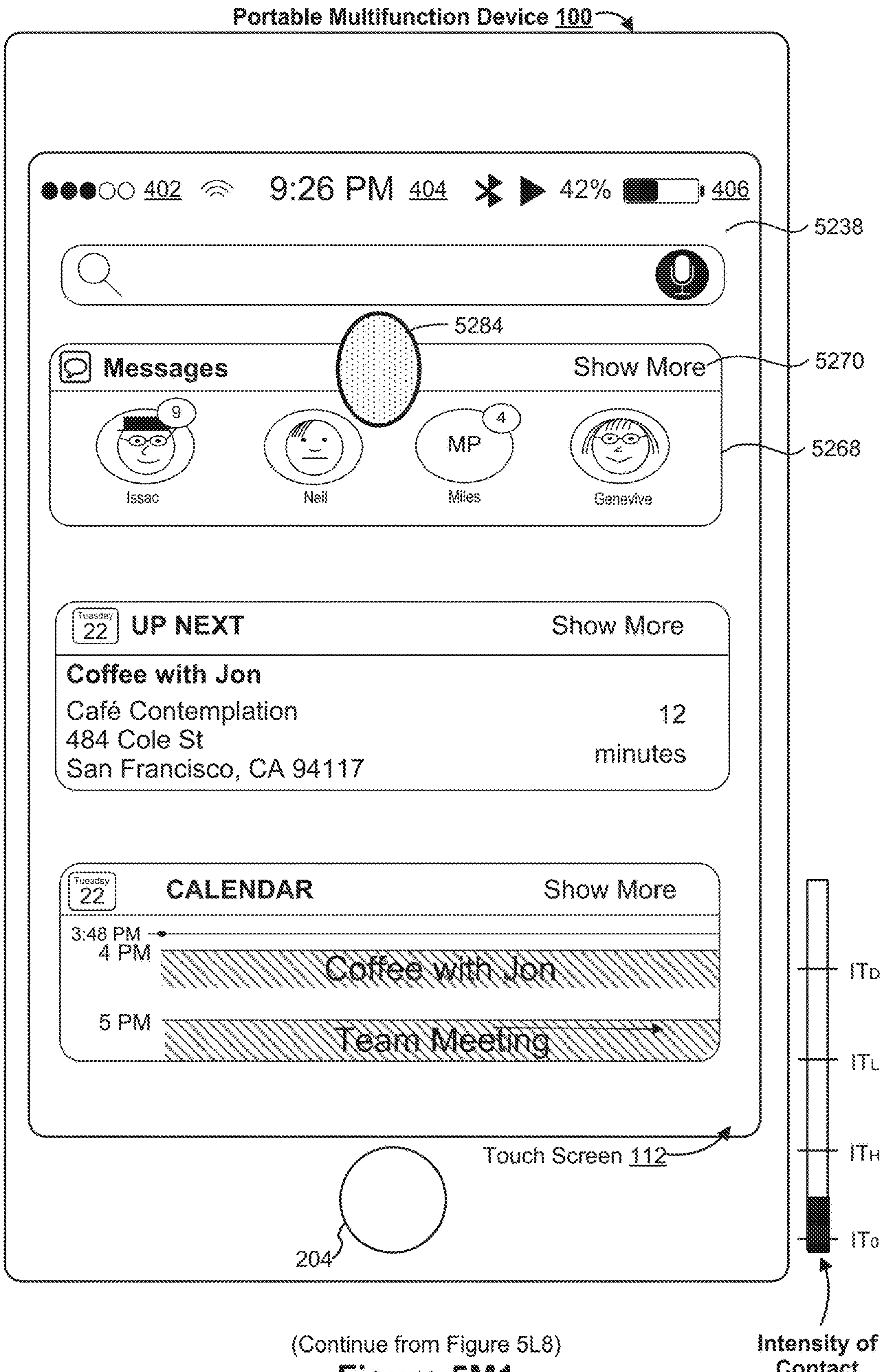
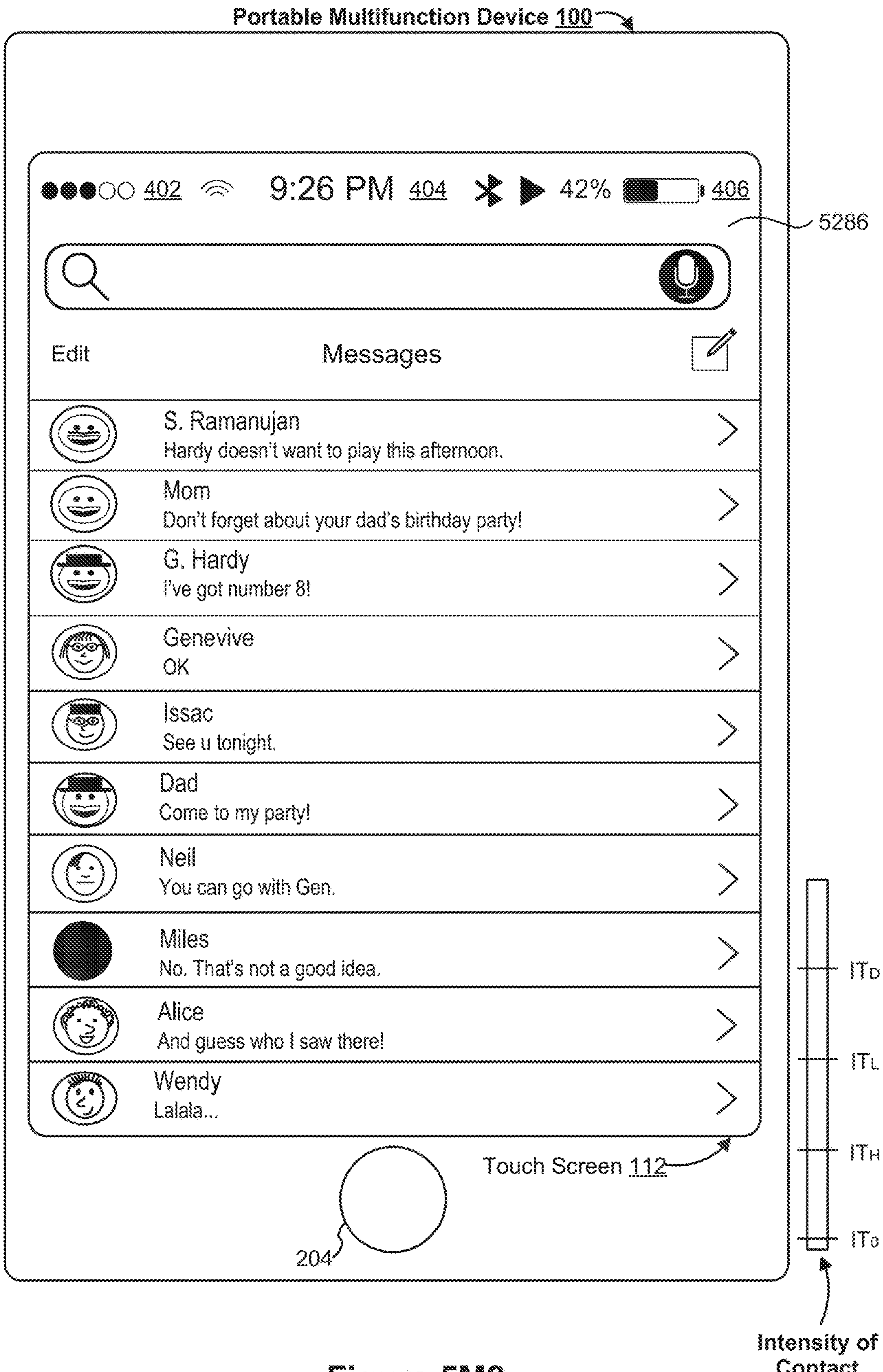

Portable Multifunction Device 100
402
9:26 PM
404
42%
406
Messages
Genevive
Details
5274
Can u pick me later?
OK, send me your location.
5276
5278
I am going to the mall. See you tonight.
5280
5282
Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M
123
space
return
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5L10



(Continue from Figure 5L8)
Figure 5M1

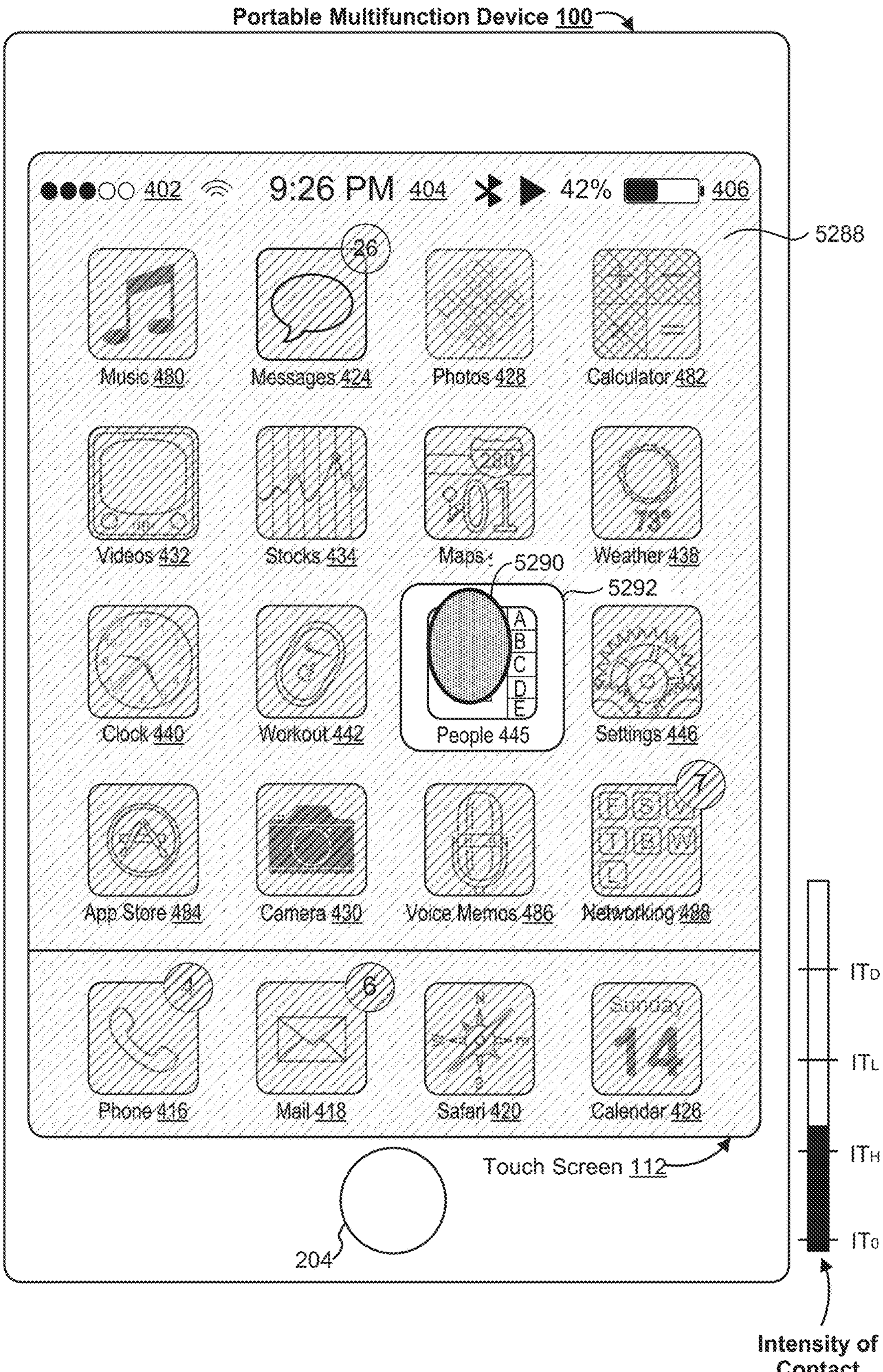


Portable Multifunction Device 100
402
9:26 PM
404
42%
406
5286
Edit
Messages
S. Ramanujan
Hardy doesn't want to play this afternoon.
Mom
Don't forget about your dad's birthday party!
G. Hardy
I've got number 8!
Genevive
OK
Issac
See u tonight.
Dad
Come to my party!
Neil
You can go with Gen.
Miles
No. That's not a good idea.
Alice
And guess who I saw there!
Wendy
Lalala...
Touch Screen 112
204
ITD
ITL
ITH
IT0
Intensity of Contact

Figure 5M2


Portable Multifunction Device 100
402
9:26 PM
404
42%
406
5288
26
Music 480
Messages 424
Photos 428
Calculator 482
280
73°
Videos 432
Stocks 434
Maps 436
Weather 438
5290
Clock 440
Workout 442
People 445
Settings 446
7
App Store 484
Camera 430
Voice Memos 486
Networking 488
6
Sunday
14
Phone 416
Mail 418
Safari 420
Calendar 426
Touch Screen 112
204
ITD
ITL
ITH
IT0
Intensity of Contact

Figure 5N1



Portable Multifunction Device 100
402
9:26 PM
404
42%
406
5288
Music 480
Messages 424
26
Photos 428
Calculator 482
Videos 432
Stocks 434
Maps
Weather 438
5290
5292
Clock 440
Workout 442
People 445
A
B
C
D
E
Settings 446
App Store 484
Camera 430
Voice Memos 486
Networking 488
7
Phone 416
4
Mail 418
6
Safari 420
Calendar 426
Sunday
14
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5N2

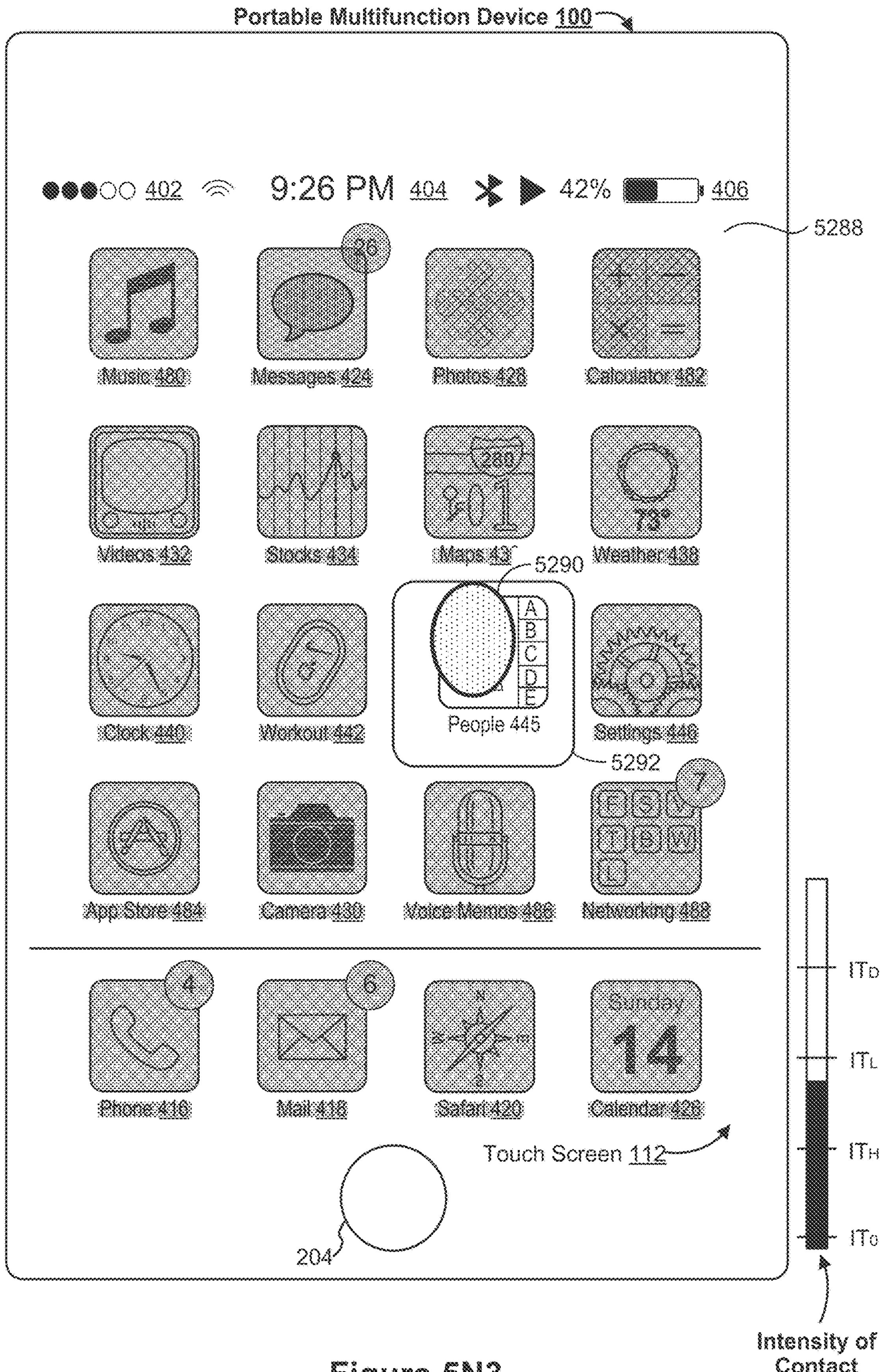
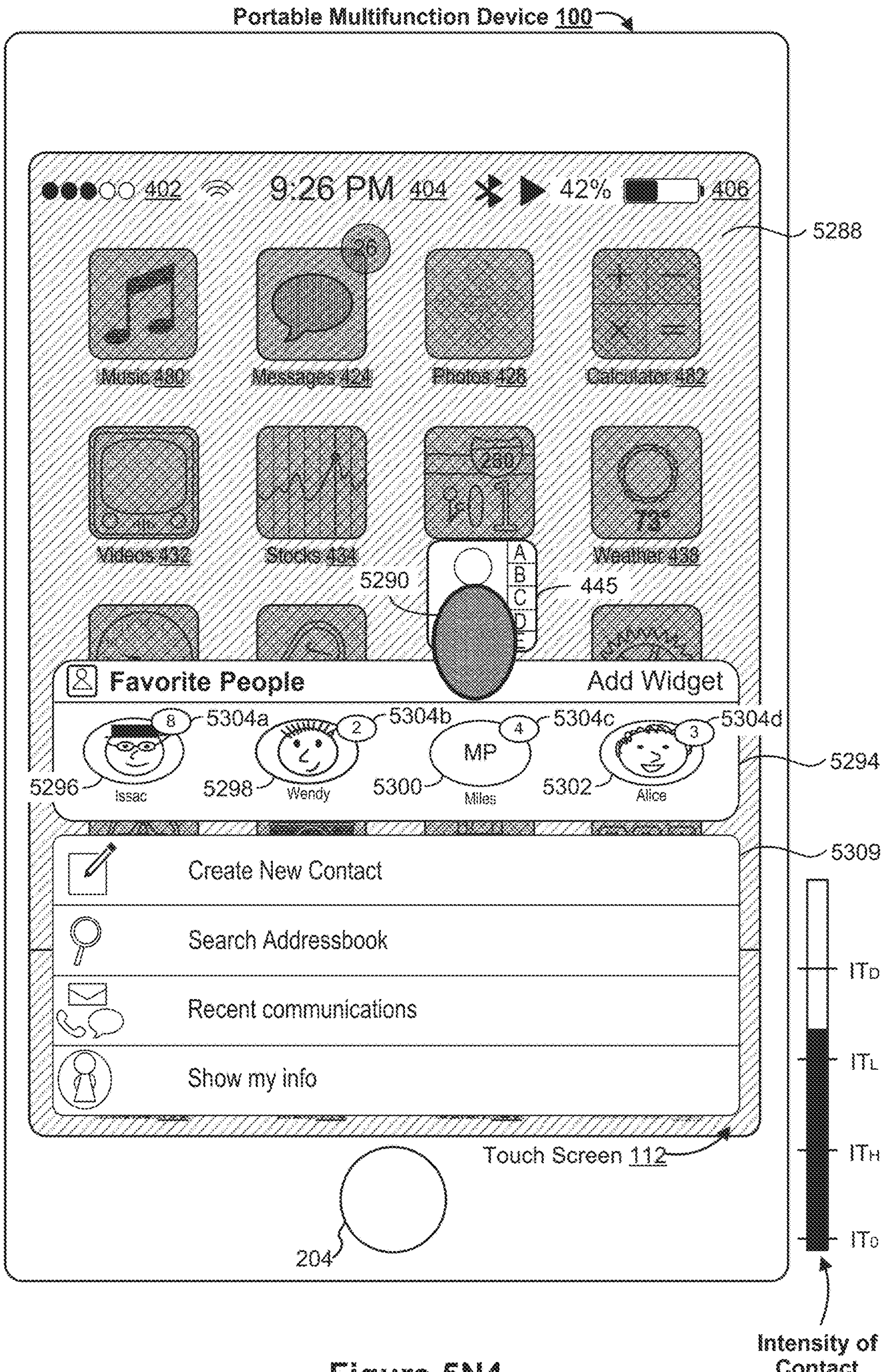
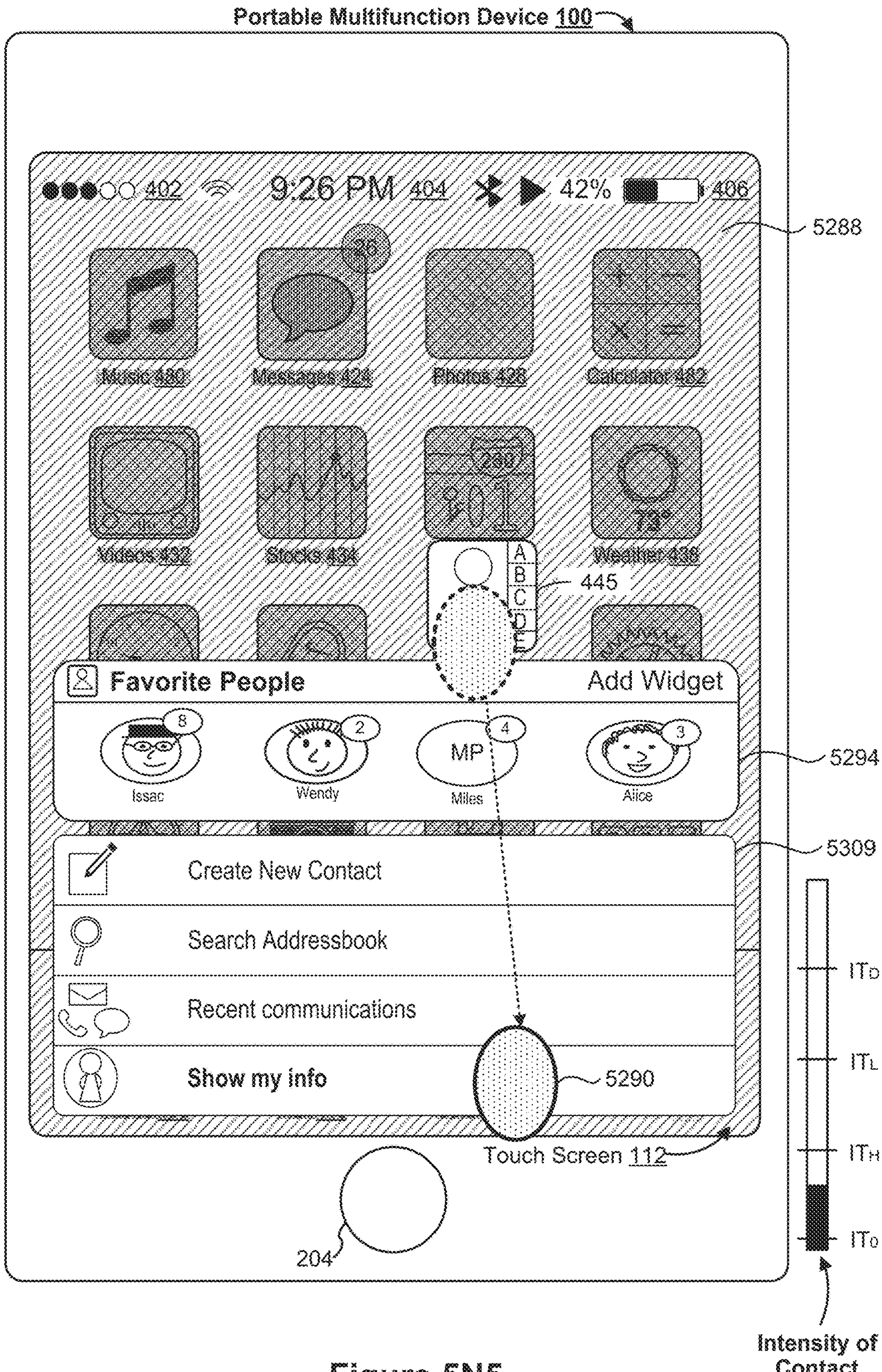

Portable Multifunction Device 100
402
9:26 PM 404
42%
406
5288
Music 480
Messages 424
Photos 428
Calculator 482
Videos 432
Stocks 434
Maps 436
Weather 438
5290
A
B
C
D
E
People 445
Clock 440
Workout 442
Settings 446
5292
App Store 484
Camera 430
Voice Memos 486
Networking 488
Phone 416
Mail 418
Safari 420
Calendar 426
Sunday
14
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5N3



Portable Multifunction Device 100
402
9:26 PM
404
42%
406
5288
26
Music 480
Messages 424
Photos 428
Calculator 482
250
73°
Videos 432
Stocks 434
Weather 438
A
B
C
D
5290
445
Favorite People
Add Widget
8
5304a
2
5304b
4
5304c
3
5304d
MP
5296
Issac
5298
Wendy
5300
Miles
5302
Alice
5294
5309
Create New Contact
Search Addressbook
Recent communications
Show my info
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5N4



Portable Multifunction Device 100
402
9:26 PM
404
42%
406
5288
Music 480
Messages 424
Photos 428
Calculator 482
Videos 432
Stocks 434
Weather 438
73°
445
A
B
C
D
E
Favorite People
Add Widget
8
2
4
3
MP
Issac
Wendy
Miles
Alice
5294
5309
Create New Contact
Search Addressbook
Recent communications
Show my info
5290
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5N5

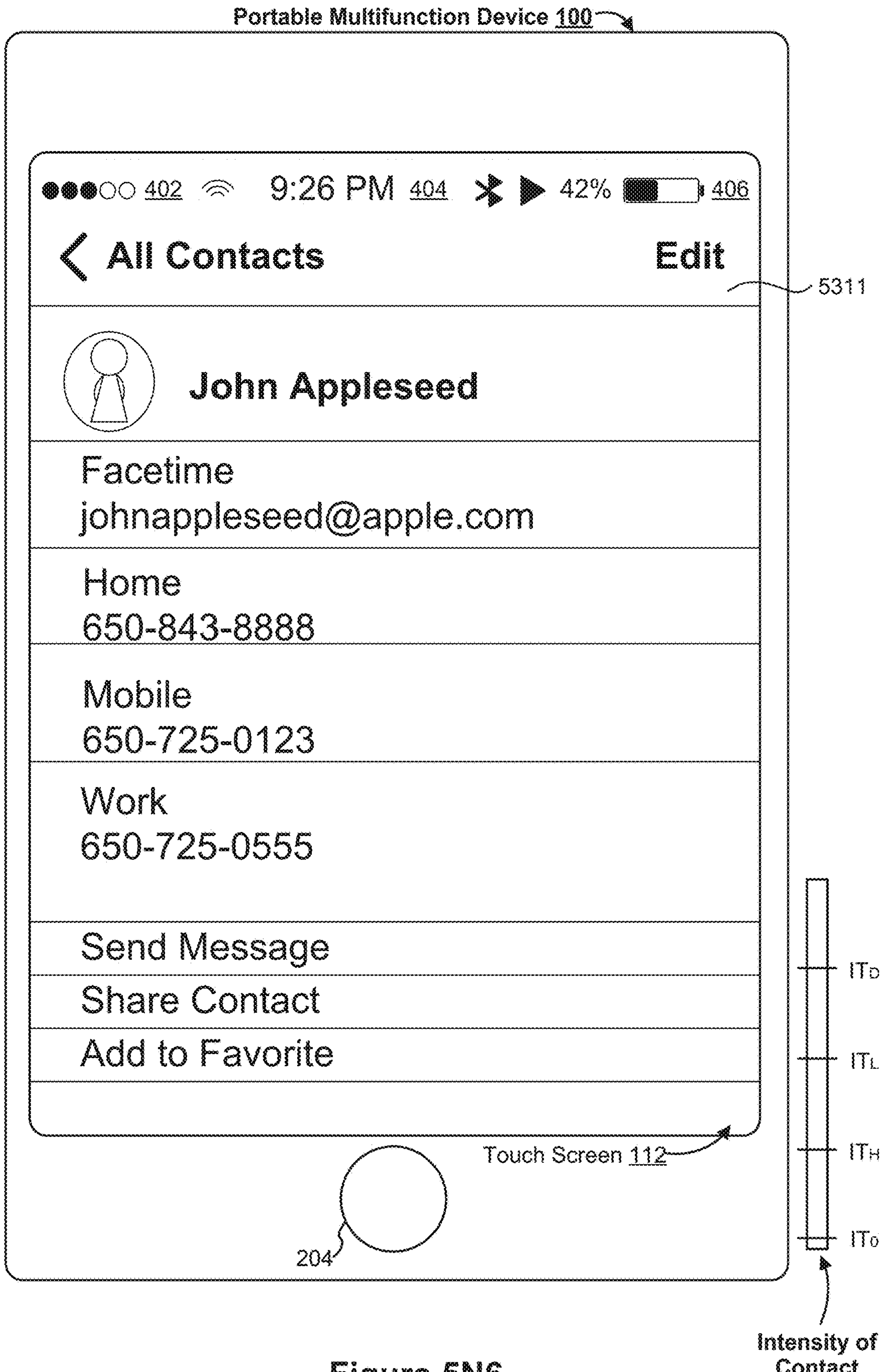
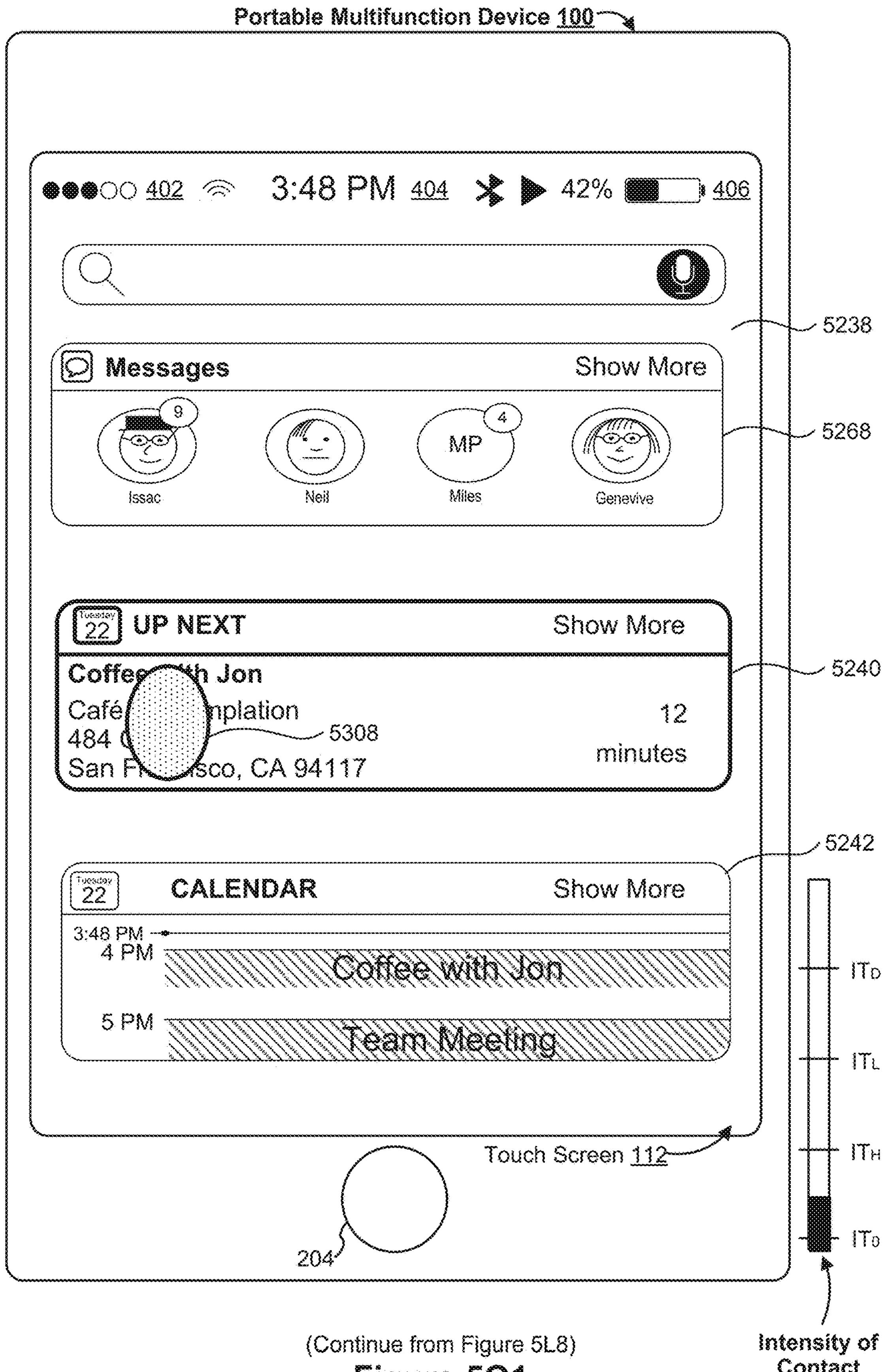
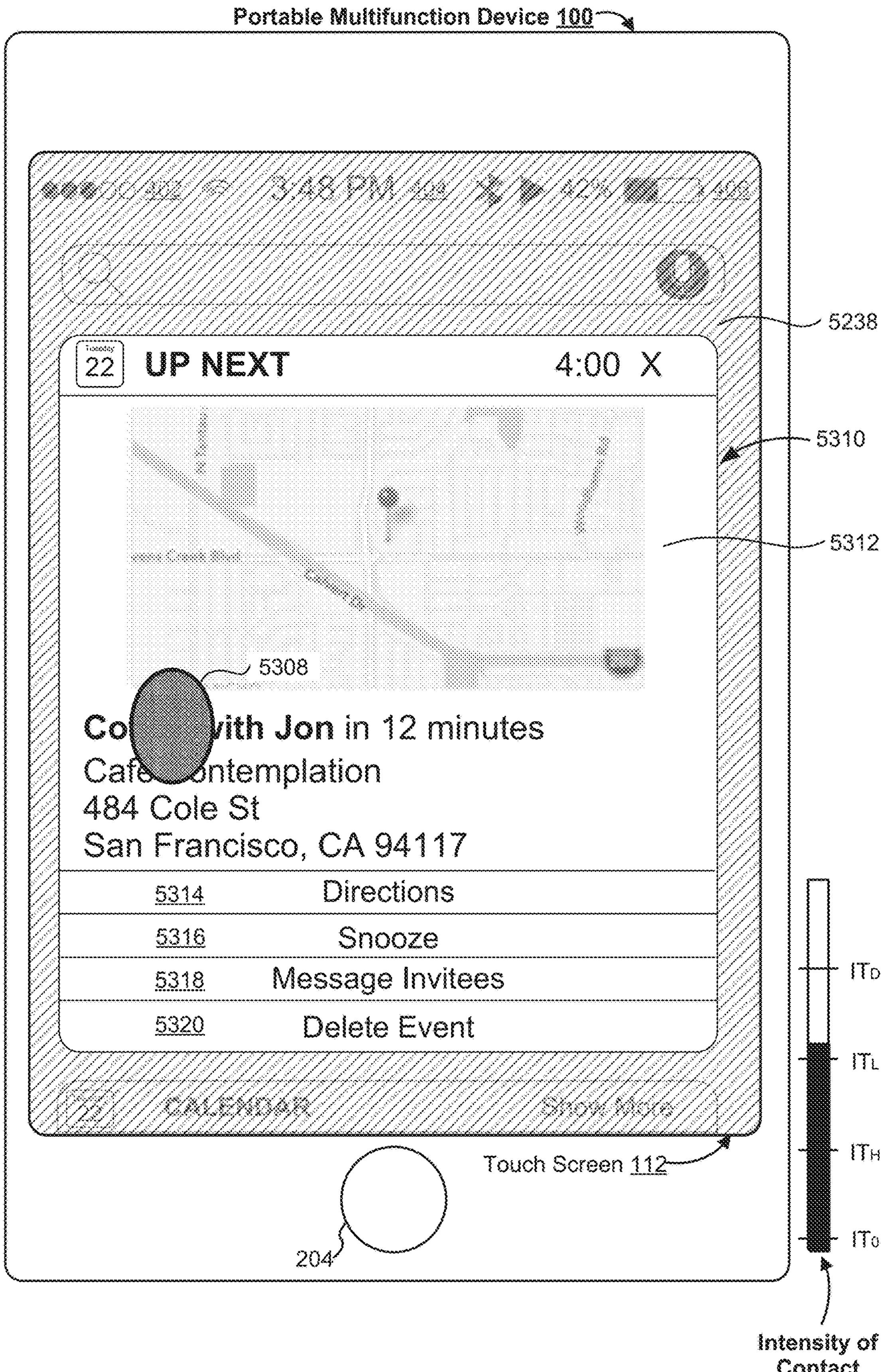

Portable Multifunction Device 100
402
9:26 PM
404
42%
406
All Contacts
Edit
5311
John Appleseed
Facetime
johnappleseed@apple.com
Home
650-843-8888
Mobile
650-725-0123
Work
650-725-0555
Send Message
Share Contact
Add to Favorite
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5N6



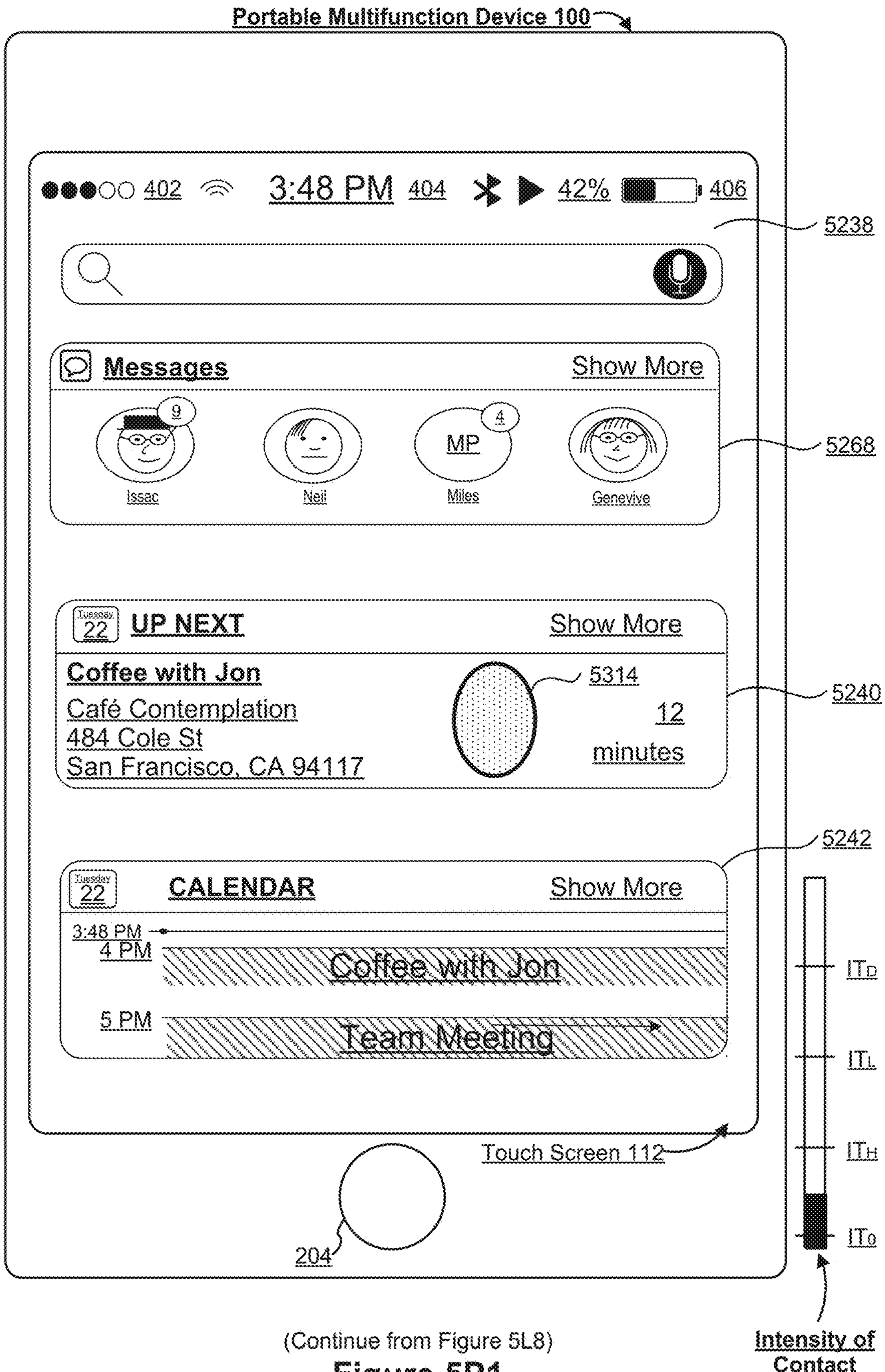
(Continue from Figure 5L8)

Figure 5O1



Portable Multifunction Device 100
3:48 PM
5238
22
UP NEXT
4:00 X
5310
5312
5308
Co with Jon in 12 minutes
Cafe ontemplation
484 Cole St
San Francisco, CA 94117
5314 Directions
5316 Snooze
5318 Message Invitees
5320 Delete Event
CALENDAR
Show More
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5O2



(Continue from Figure 5L8)

Figure 5P1

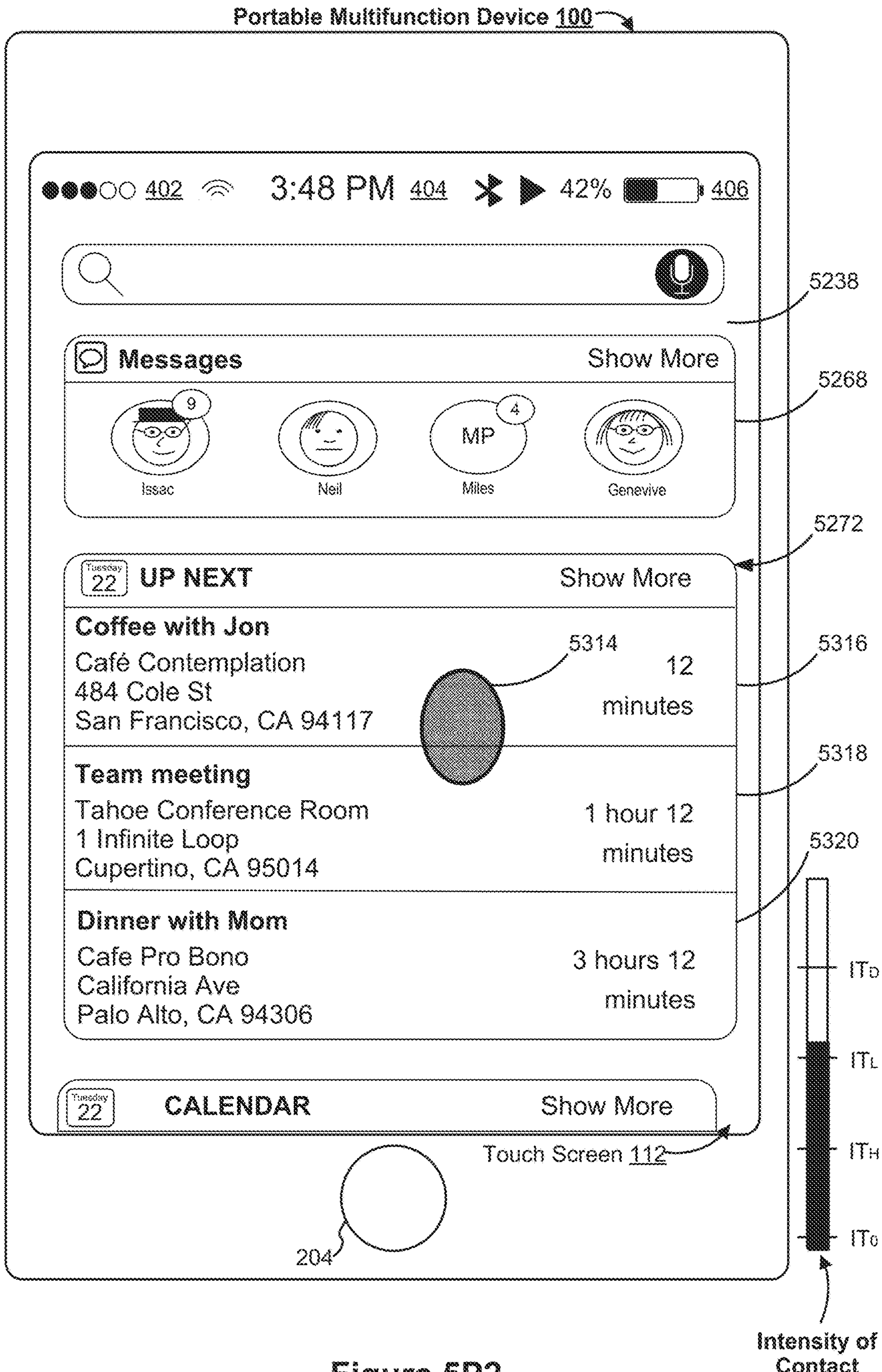
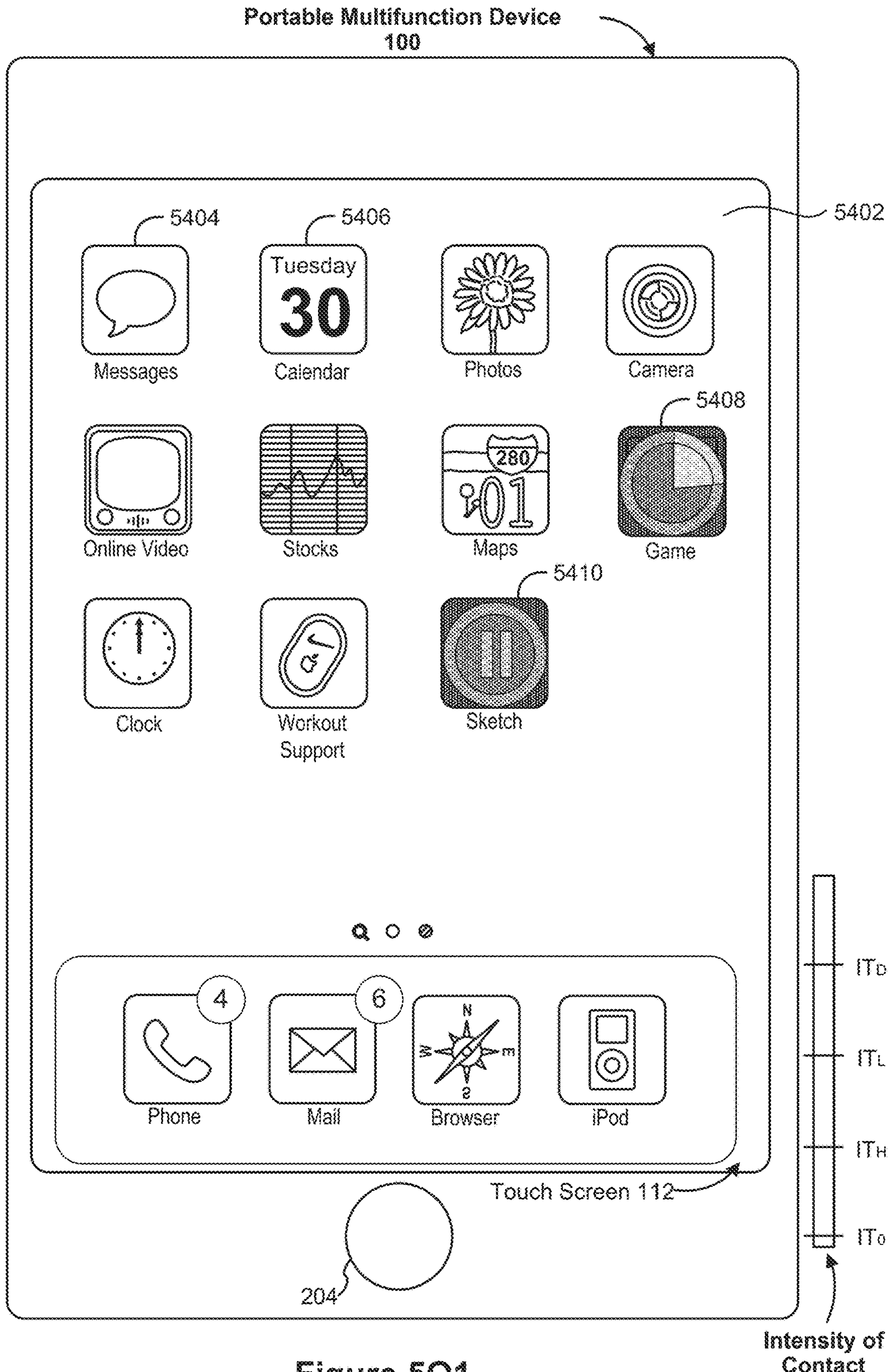

Portable Multifunction Device 100
402
3:48 PM
404
42%
406
5238
Messages
Show More
5268
9
4
MP
Issac
Neil
Miles
Genevive
5272
Tuesday
22
UP NEXT
Show More
Coffee with Jon
Café Contemplation
484 Cole St
San Francisco, CA 94117
5314
12
minutes
5316
Team meeting
Tahoe Conference Room
1 Infinite Loop
Cupertino, CA 95014
1 hour 12
minutes
5318
5320
Dinner with Mom
Cafe Pro Bono
California Ave
Palo Alto, CA 94306
3 hours 12
minutes
IT_D
IT_L
IT_H
IT_0
Tuesday
22
CALENDAR
Show More
Touch Screen 112
204
Intensity of Contact

Figure 5P2



Portable Multifunction Device
100
5402
5404
5406
Tuesday
30
Messages
Calendar
Photos
Camera
5408
280
Online Video
Stocks
Maps
Game
5410
Clock
Workout
Support
Sketch
4
6
Phone
Mail
Browser
iPod
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of
Contact

Figure 5Q1

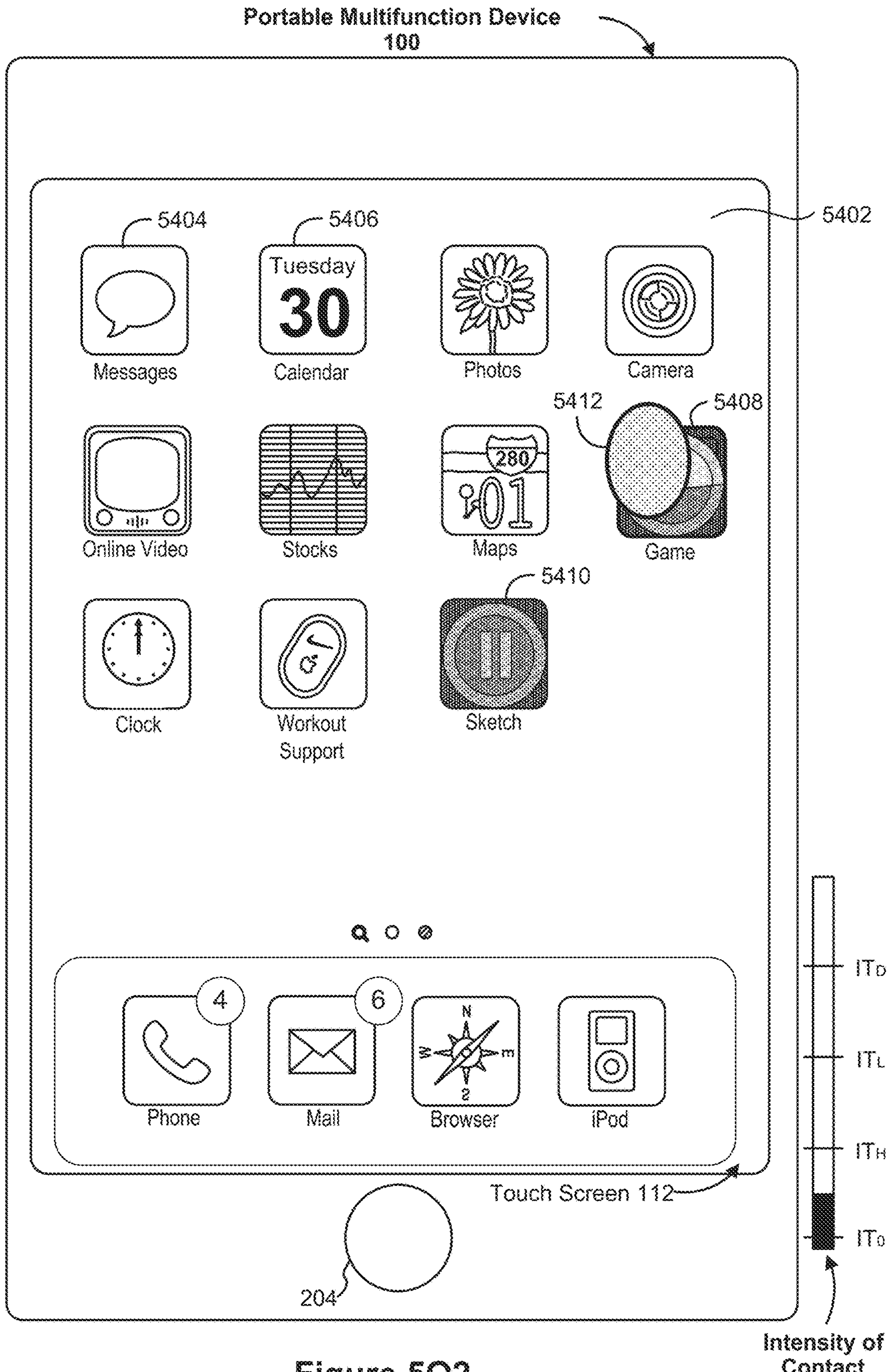
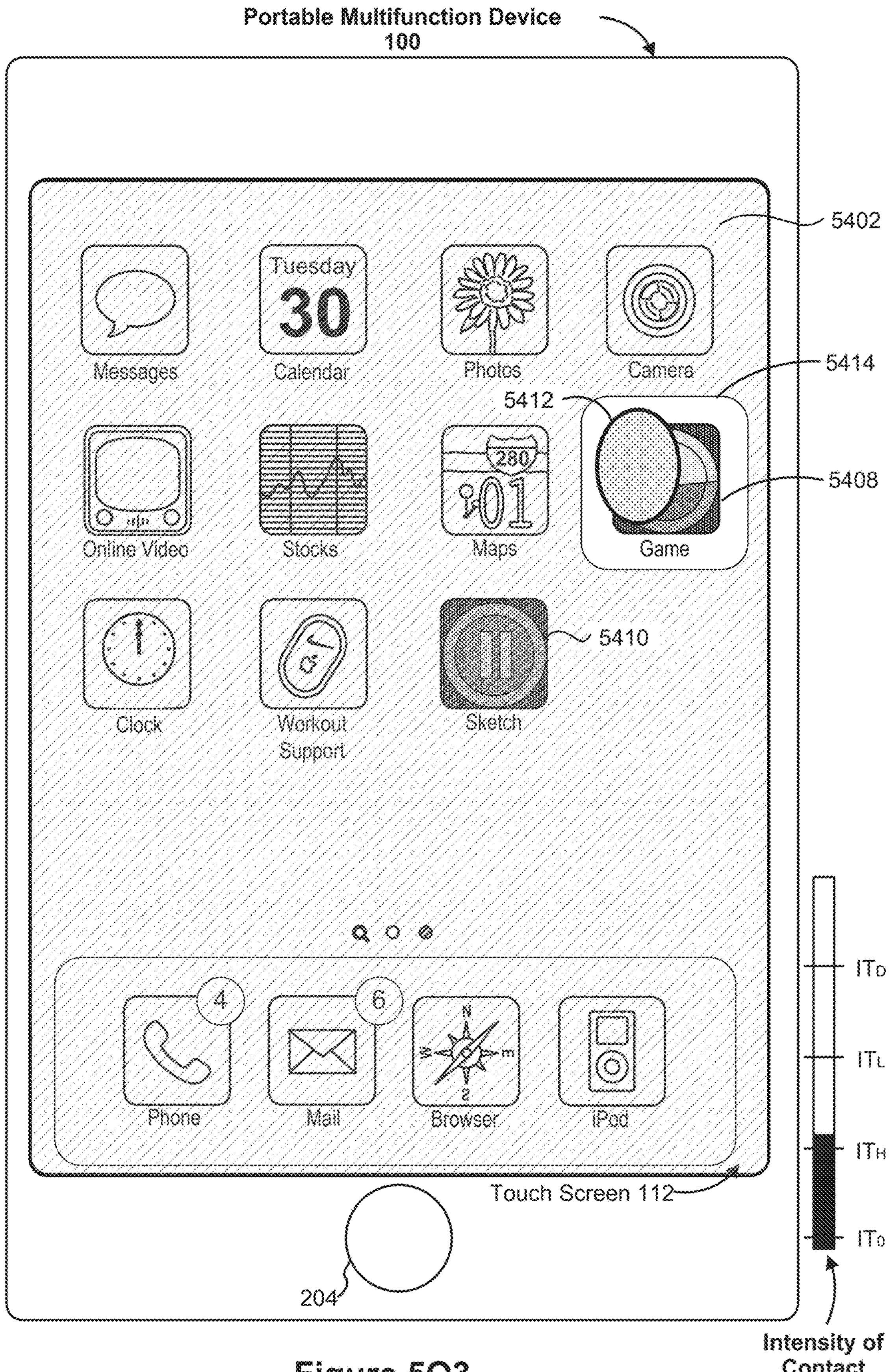

Portable Multifunction Device
100
5404
5406
5402
Tuesday
30
Messages
Calendar
Photos
Camera
5412
5408
280
Online Video
Stocks
Maps
Game
5410
Clock
Workout
Support
Sketch
4
6
N
Phone
Mail
Browser
iPod
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of
Contact

Figure 5Q2



Portable Multifunction Device
100
5402
Tuesday
30
Messages
Calendar
Photos
Camera
5414
5412
5408
280
Online Video
Stocks
Maps
Game
5410
Clock
Workout
Support
Sketch
4
6
Phone
Mail
Browser
iPod
IT_D
IT_L
IT_H
IT_0
Touch Screen 112
204
Intensity of
Contact

Figure 5Q3

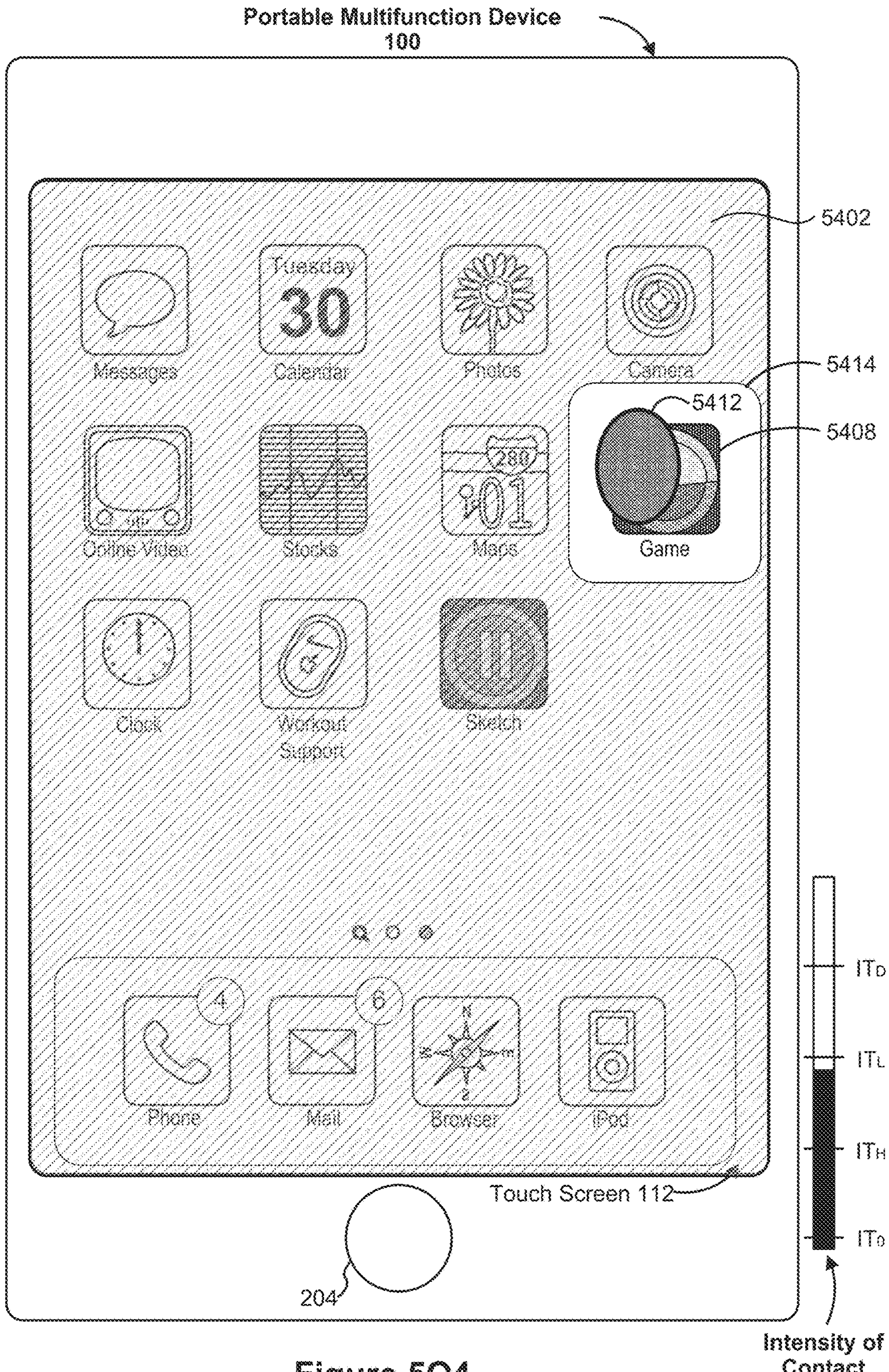
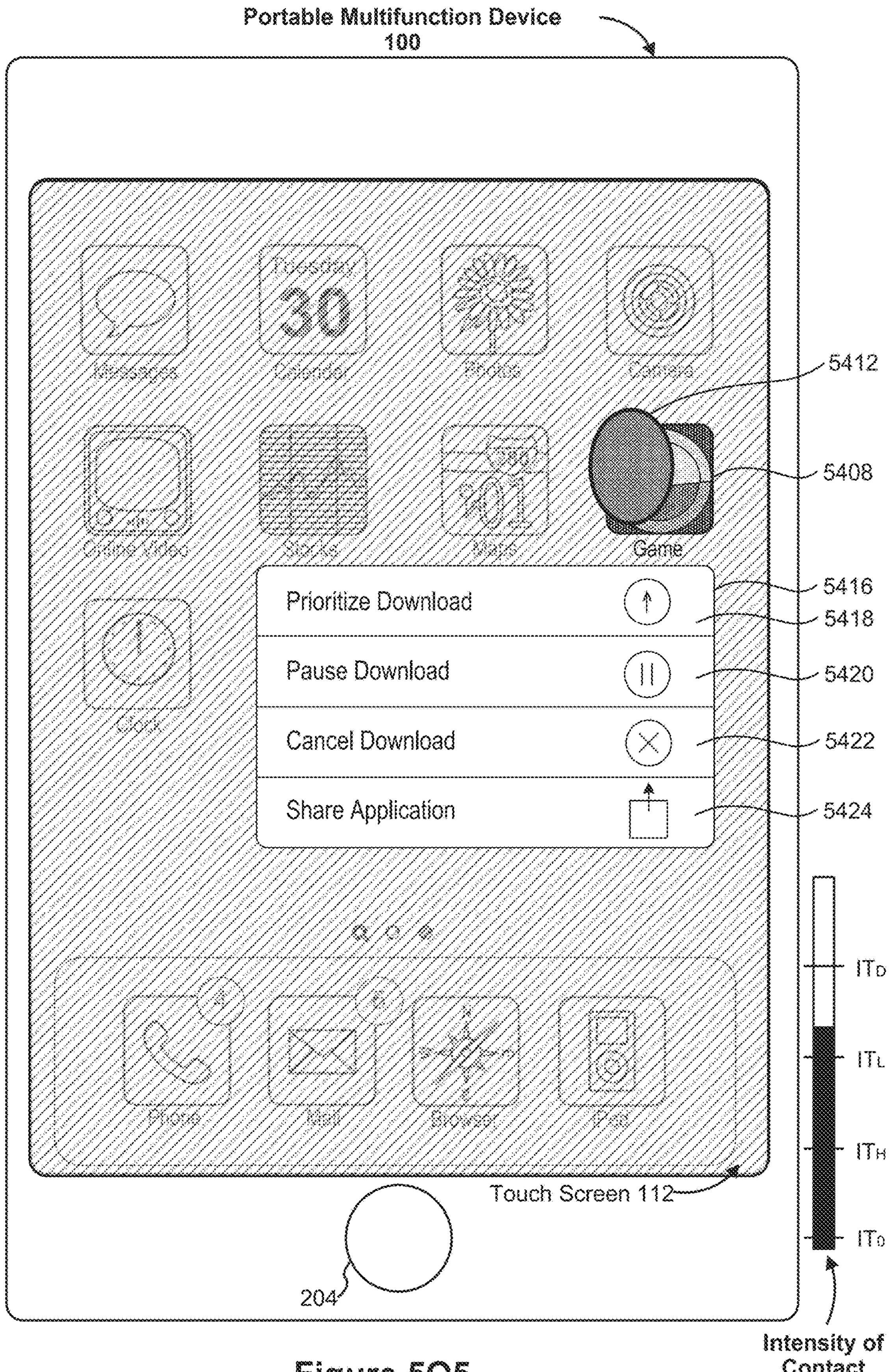

Portable Multifunction Device
100
5402
5414
5412
5408
Tuesday
30
Messages
Calendar
Photos
Camera
Online Video
Stocks
Maps
Game
Clock
Workout Support
Sketch
4
6
Phone
Mail
Browser
iPod
Touch Screen 112
204
ITD
ITL
ITH
IT0
Intensity of Contact

Figure 5Q4



Portable Multifunction Device
100
Messages
Tuesday
30
Calendar
Photos
Camera
5412
Online Video
Stocks
Maps
Game
5408
Prioritize Download
Pause Download
Cancel Download
Share Application
5416
5418
5420
5422
5424
Clock
Phone
Mail
Browser
iPod
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5Q5

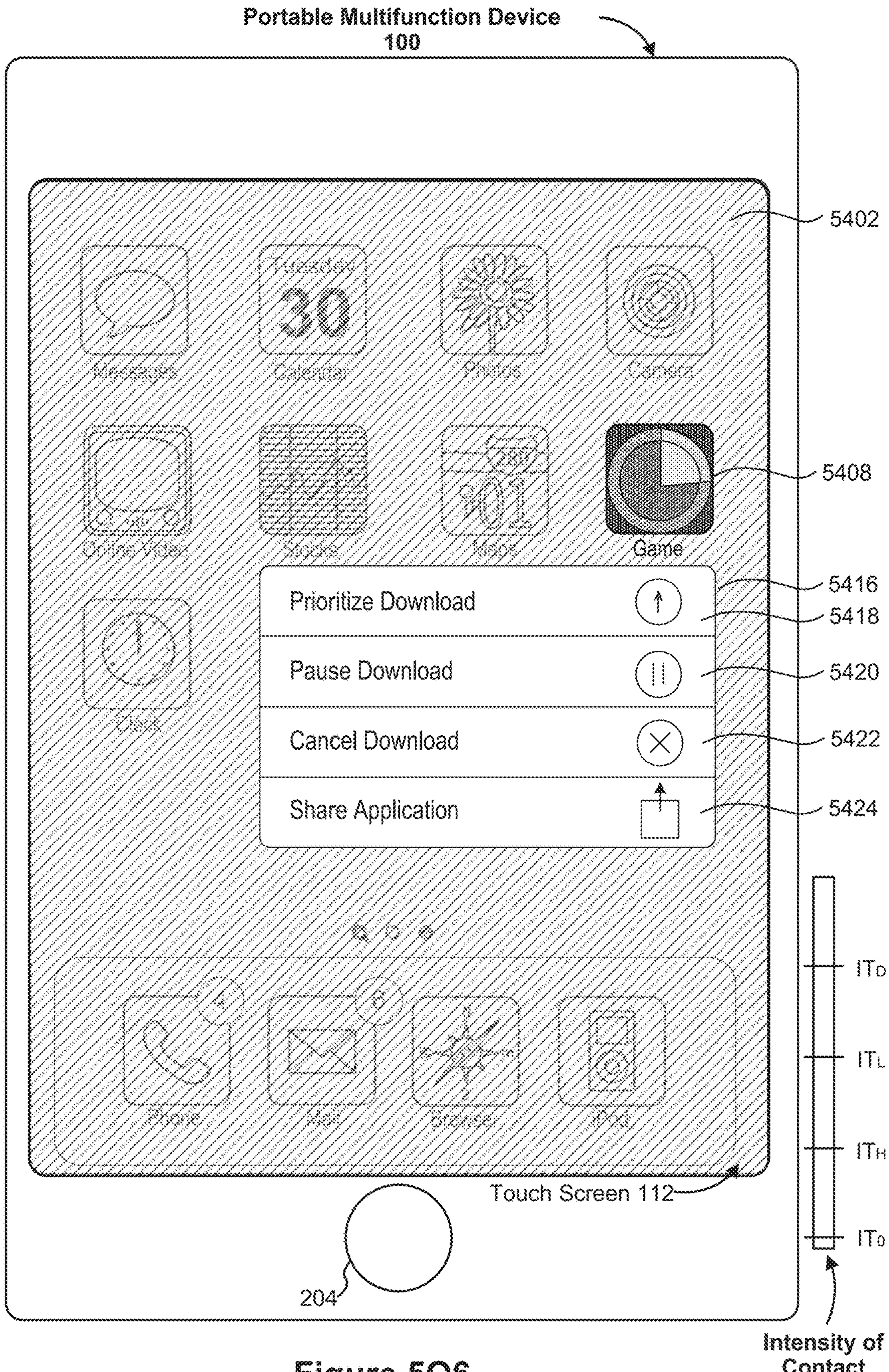
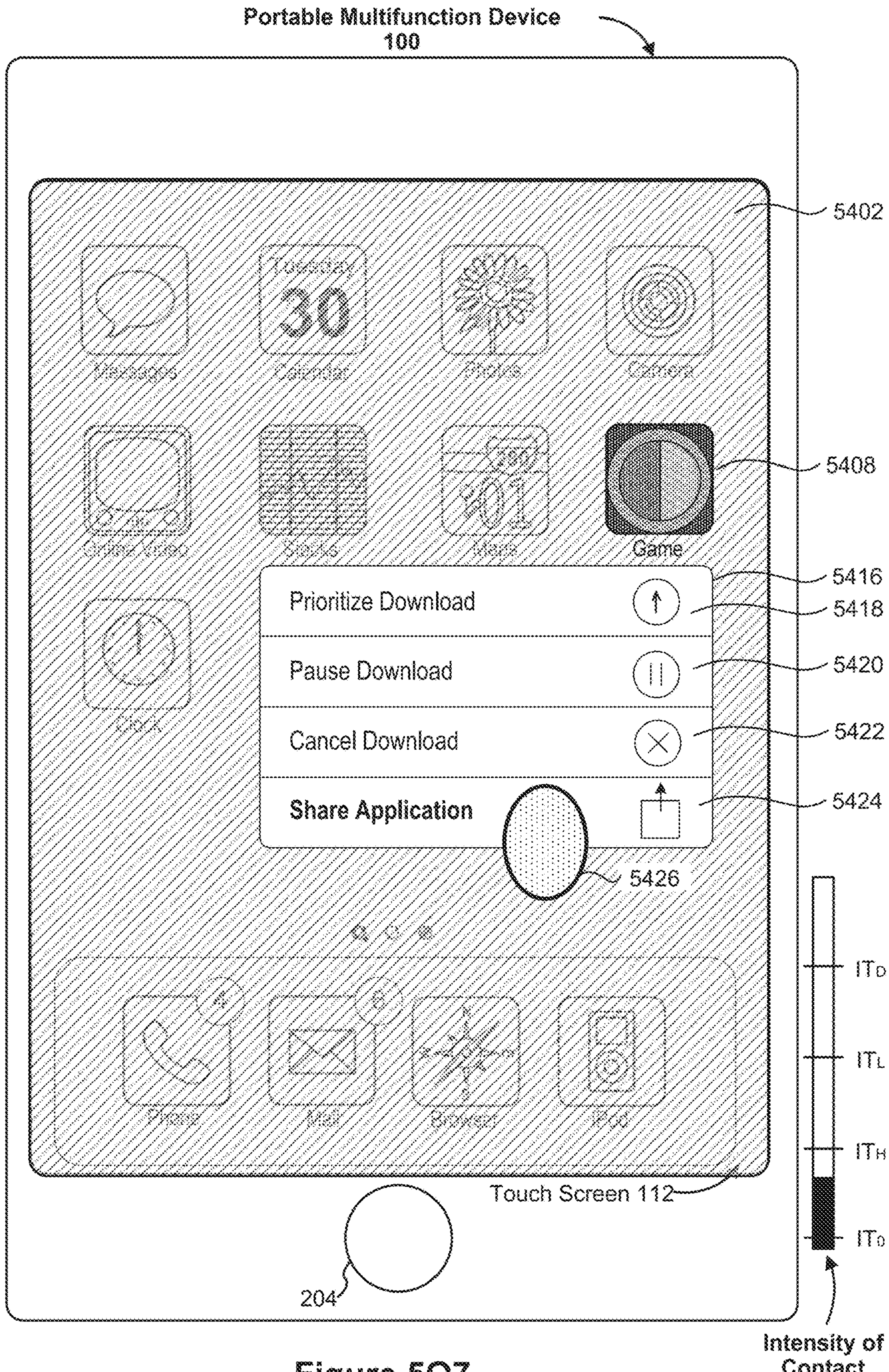

Portable Multifunction Device
100
5402
Tuesday
30
Game
5408
Prioritize Download
5416
5418
Pause Download
5420
Cancel Download
5422
Share Application
5424
IT_D
IT_L
IT_H
IT_0
Touch Screen 112
204
Intensity of Contact

Figure 5Q6



Portable Multifunction Device 100
5402
Game
5408
Prioritize Download
Pause Download
Cancel Download
Share Application
5416
5418
5420
5422
5424
5426
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5Q7

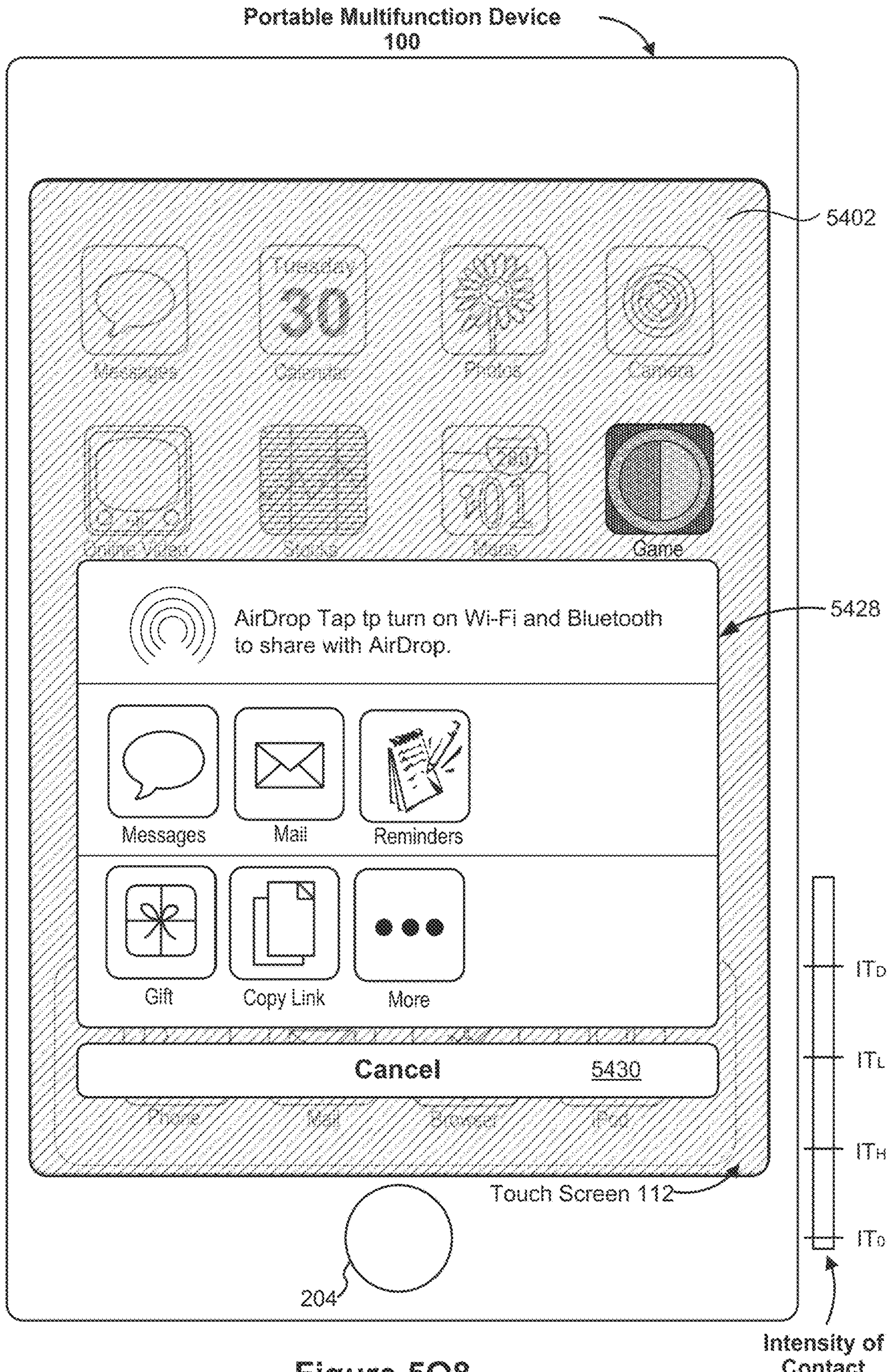
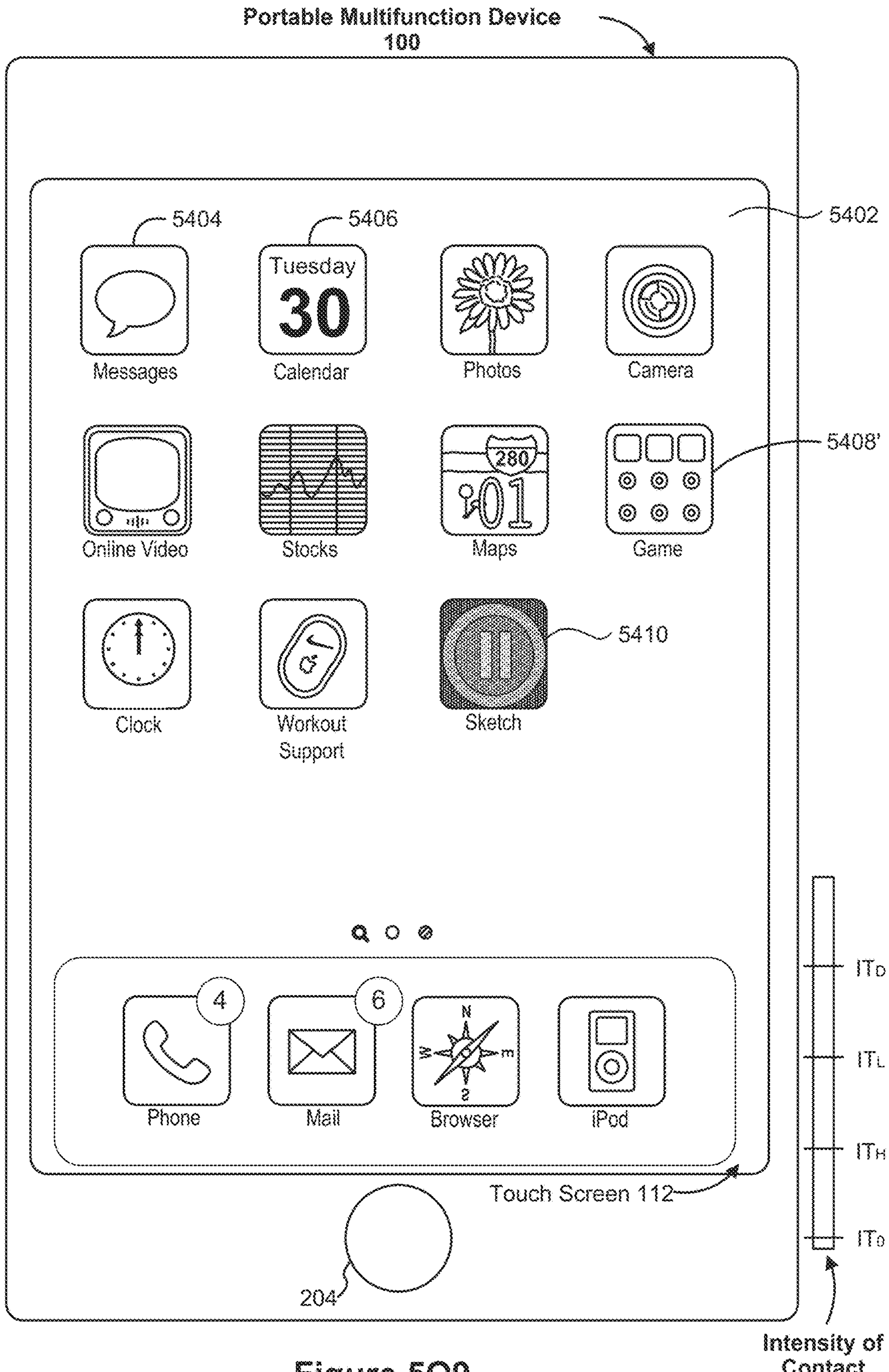
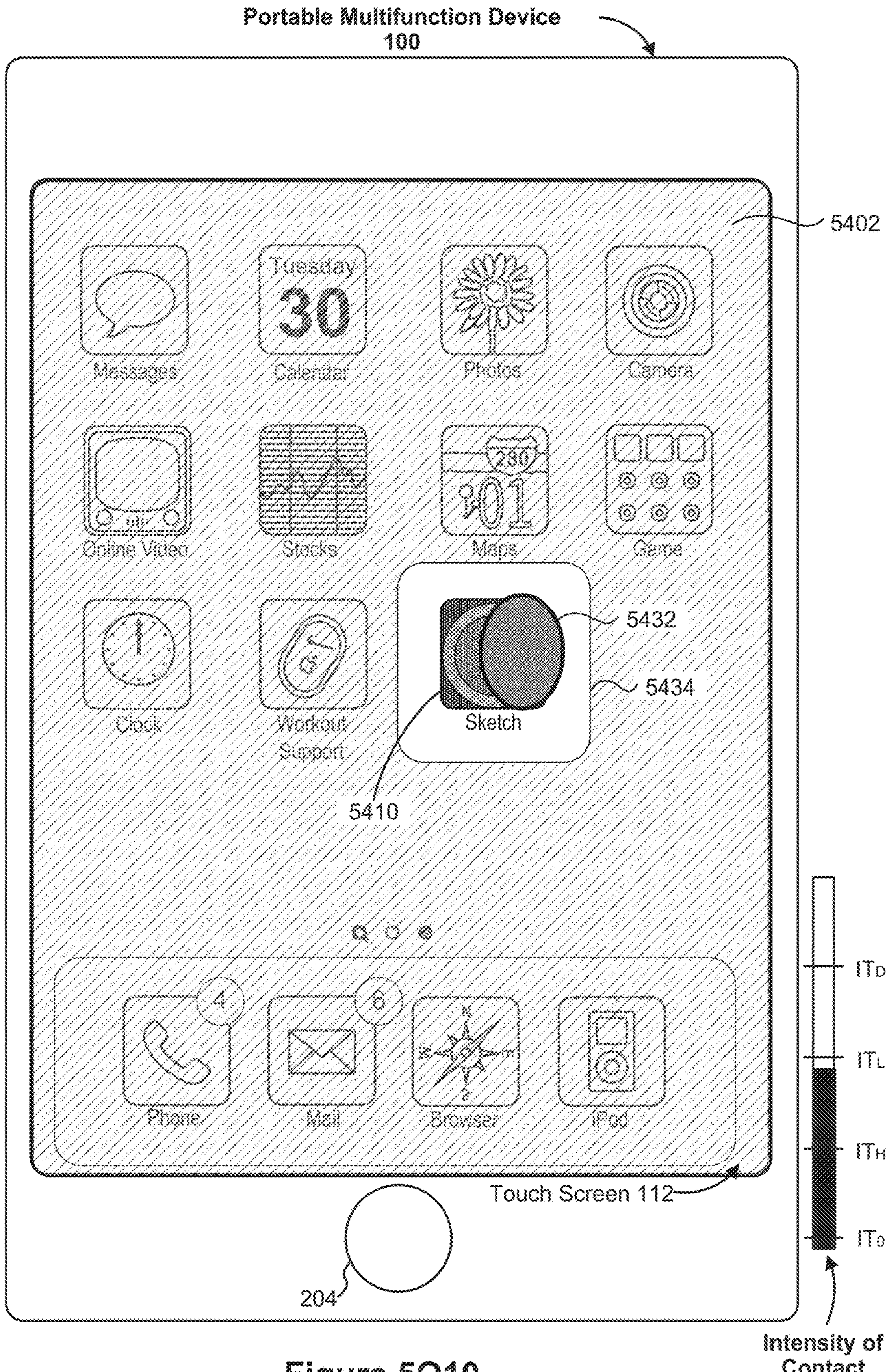

Portable Multifunction Device
100
5402
Game
AirDrop Tap tp turn on Wi-Fi and Bluetooth
to share with AirDrop.
5428
Messages
Mail
Reminders
Gift
Copy Link
More
Cancel
5430
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of
Contact

Figure 5Q8



Portable Multifunction Device
100
5404
5406
5402
Tuesday
30
Messages
Calendar
Photos
Camera
280
01
Online Video
Stocks
Maps
Game
5408'
Clock
Workout
Support
Sketch
5410
4
6
N
Phone
Mail
Browser
iPod
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of
Contact

Figure 5Q9



Portable Multifunction Device
100
5402
Tuesday
30
Messages
Calendar
Photos
Camera
280
Online Video
Stocks
Maps
Game
5432
5434
Clock
Workout Support
Sketch
5410
4
6
Phone
Mail
Browser
iPod
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5Q10

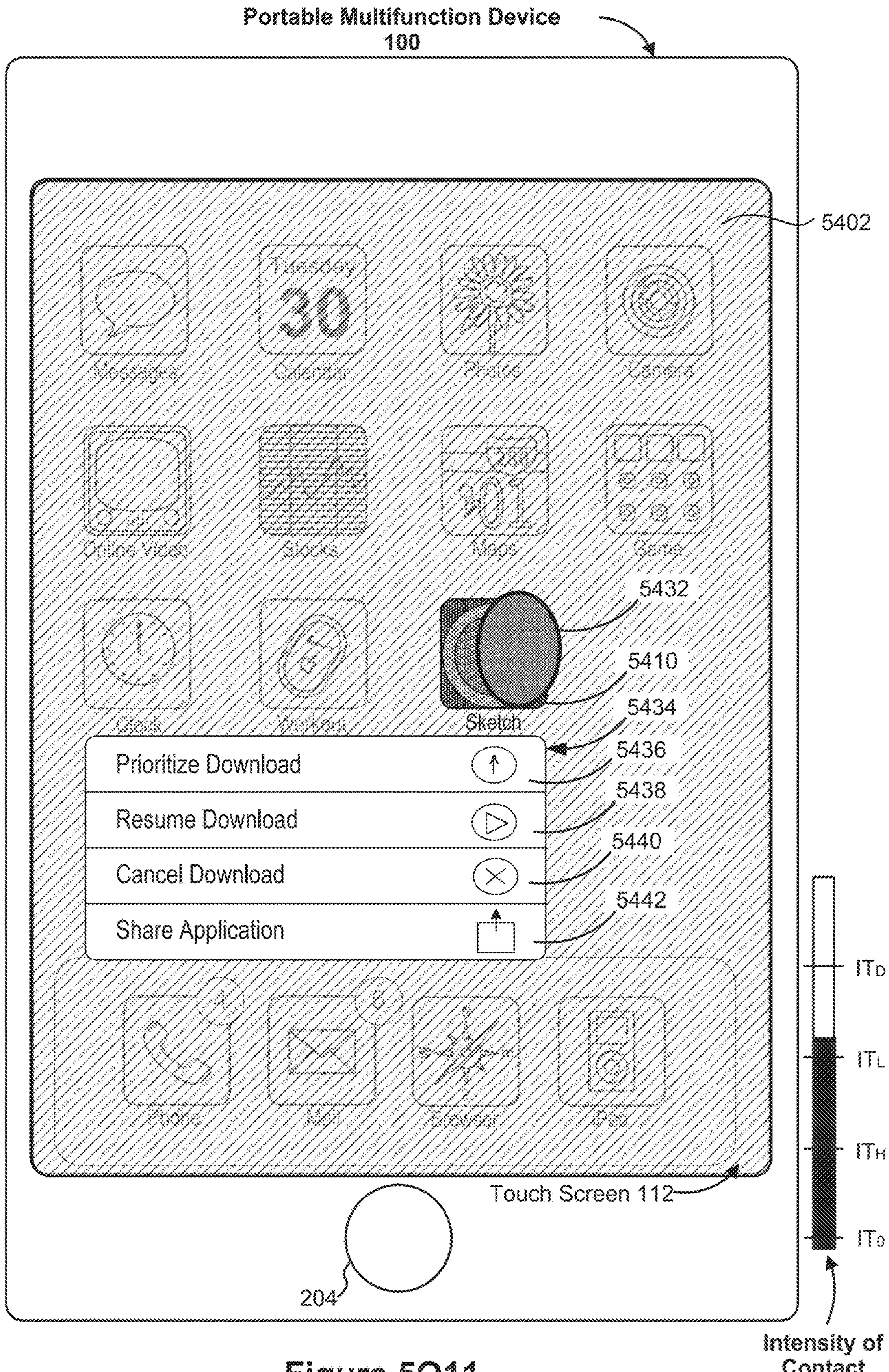
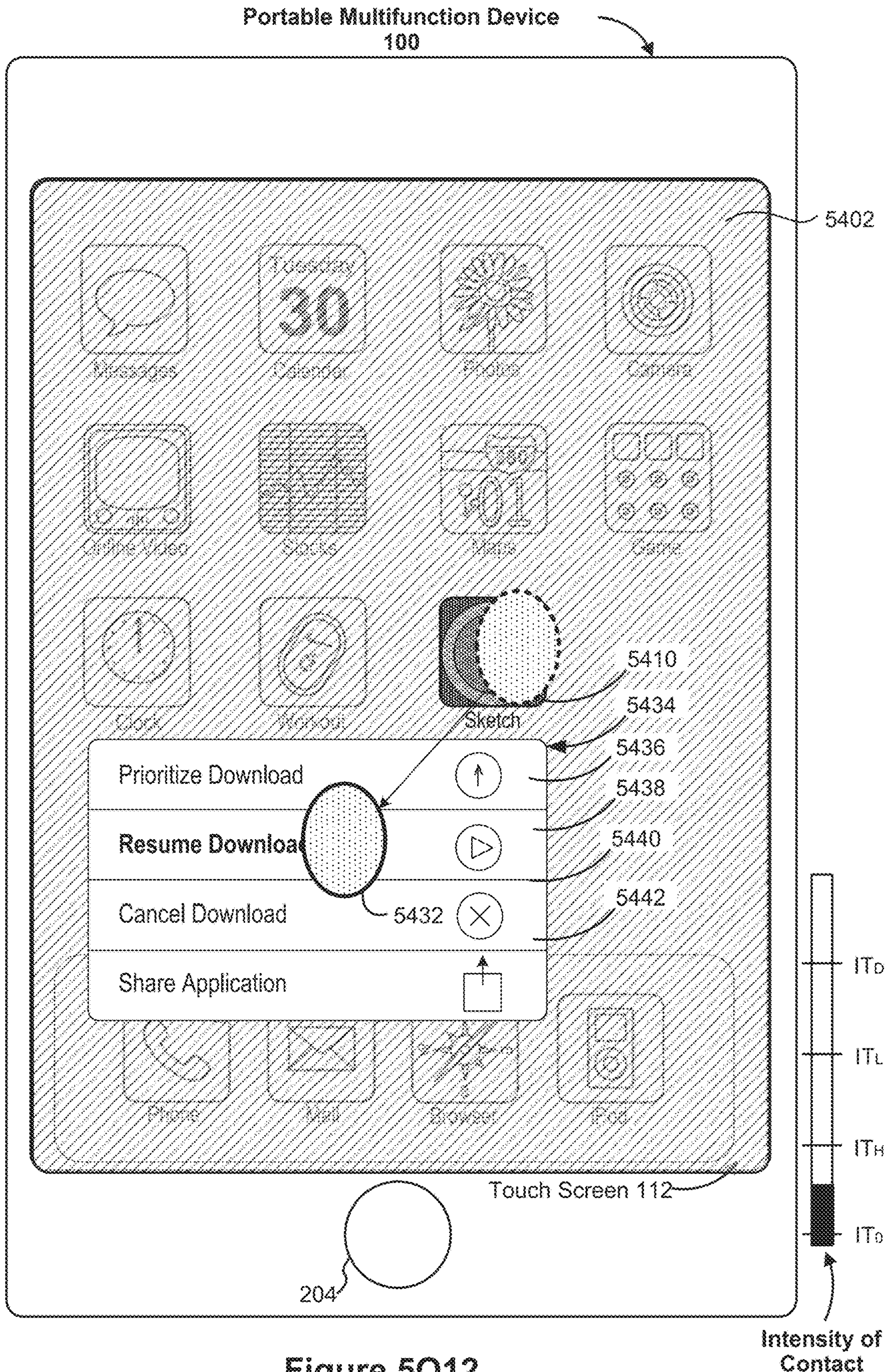

Portable Multifunction Device
100
5402
Messages
Tuesday
30
Calendar
Photos
Camera
Online Video
Stocks
Maps
Game
Clock
Workout
Sketch
5432
5410
5434
Prioritize Download
5436
Resume Download
5438
Cancel Download
5440
Share Application
5442
Phone
Mail
Browser
Pod
Touch Screen 112
204
ITD
ITL
ITH
IT0
Intensity of Contact

Figure 5Q11



Portable Multifunction Device
100
5402
Sketch
5410
5434
5436
5438
5440
5442
Prioritize Download
Resume Download
Cancel Download
Share Application
5432
Touch Screen 112
204
ITD
ITL
ITH
IT0
Intensity of Contact

Figure 5Q12

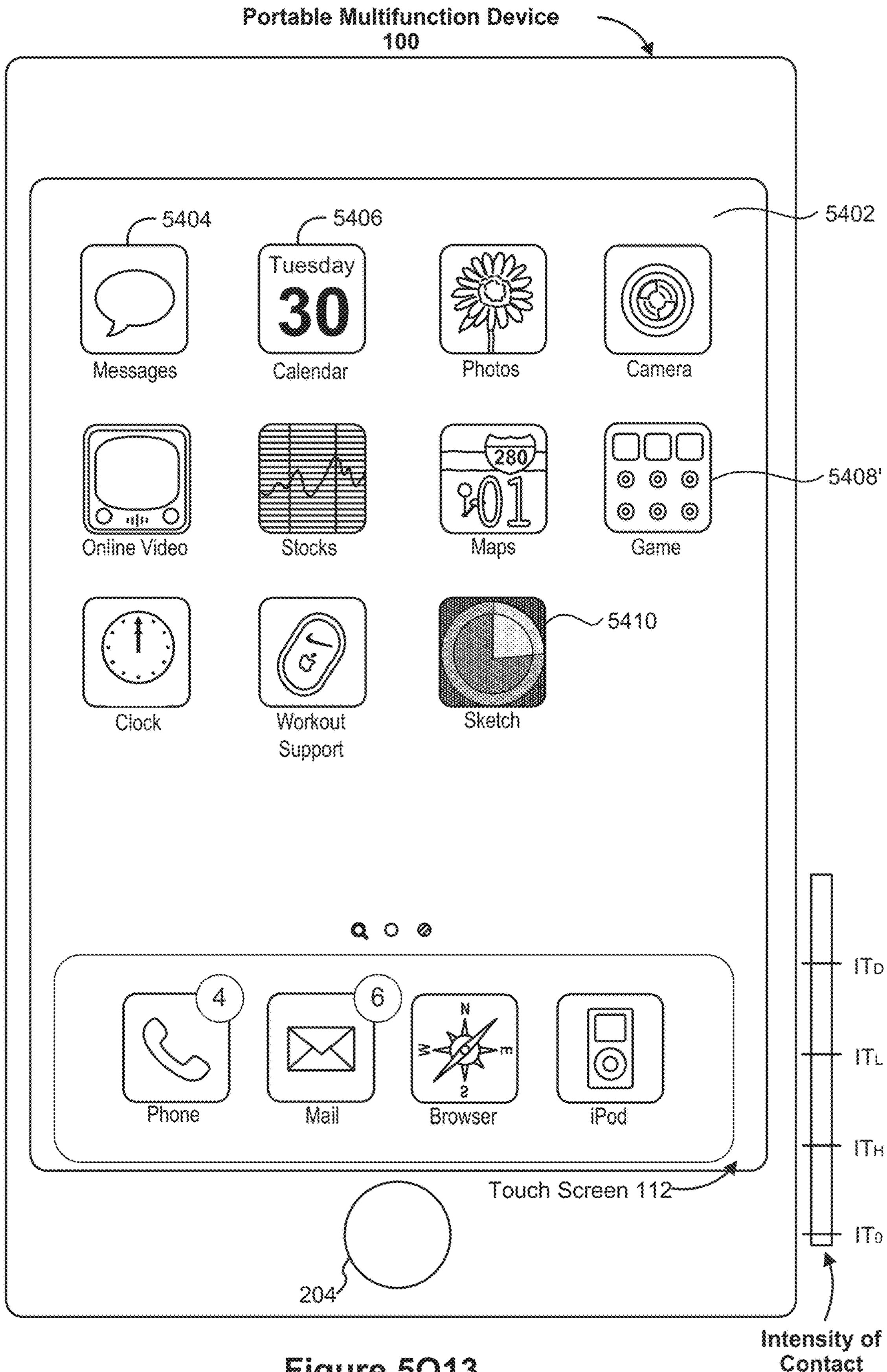

Portable Multifunction Device
100
5404
5406
5402
Tuesday
30
Messages
Calendar
Photos
Camera
280
Online Video
Stocks
Maps
Game
5408'
5410
Clock
Workout
Support
Sketch
4
6
Phone
Mail
Browser
iPod
IT_D
IT_L
IT_H
IT_0
Touch Screen 112
204
Intensity of
Contact

Figure 5Q13

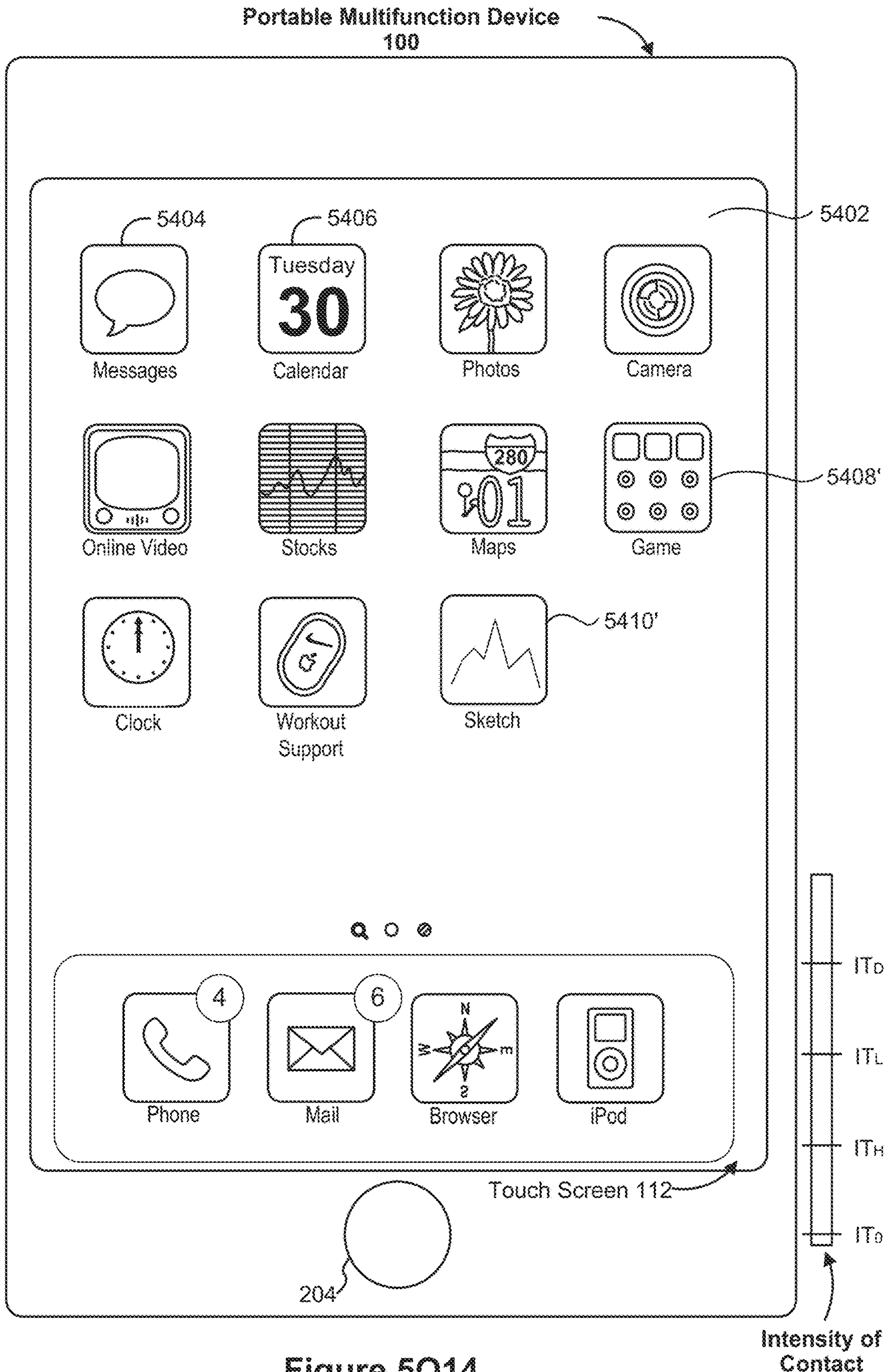
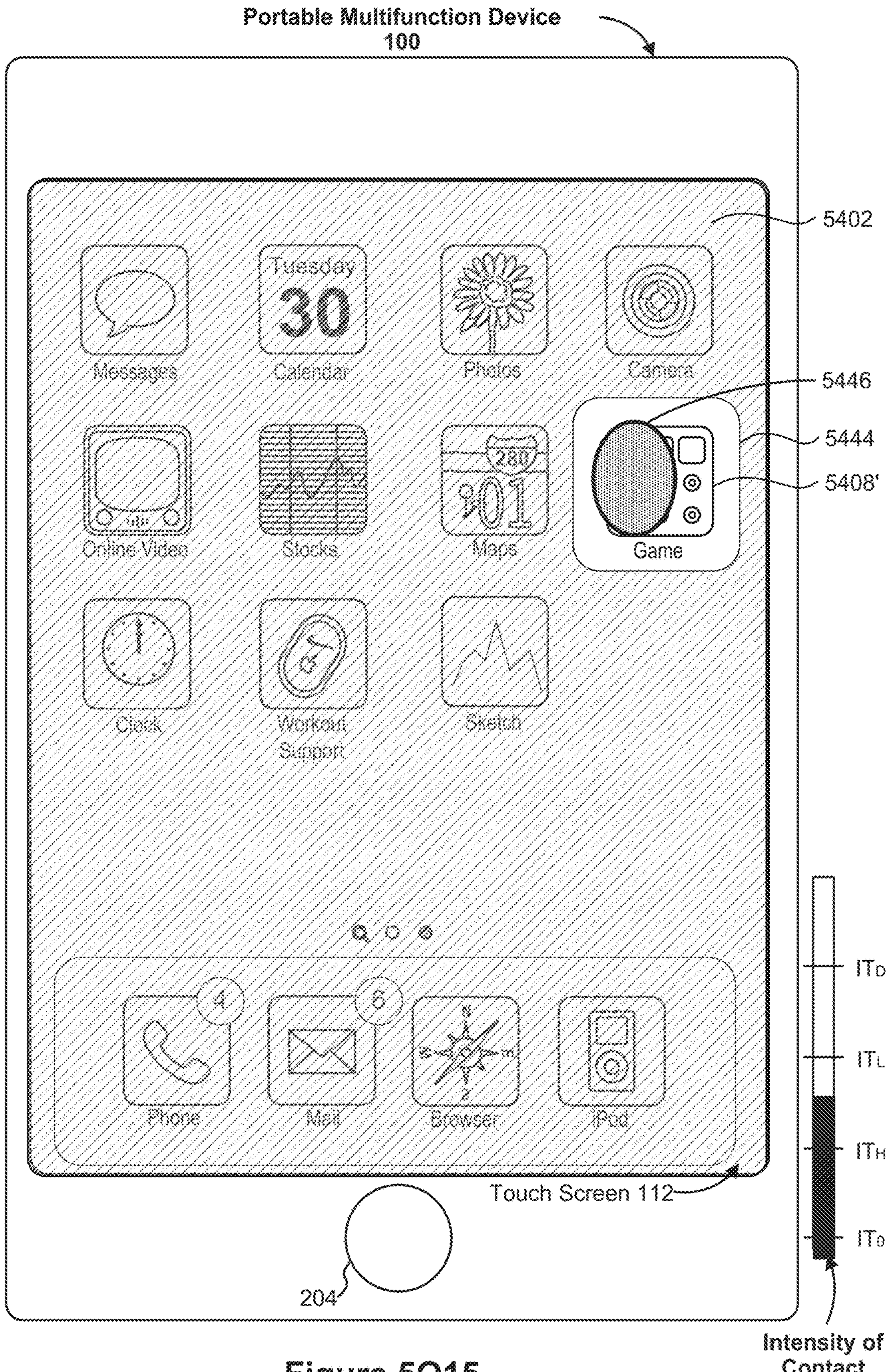

Portable Multifunction Device
100
5404
5406
5402
Tuesday
30
Messages
Calendar
Photos
Camera
280
Online Video
Stocks
Maps
Game
5408'
Clock
Workout
Support
Sketch
5410'
4
6
Phone
Mail
Browser
iPod
Touch Screen 112
204
ITD
ITL
ITH
IT0
Intensity of
Contact

Figure 5Q14



Portable Multifunction Device
100
5402
Tuesday
30
Messages
Calendar
Photos
Camera
5446
5444
5408'
Online Video
Stocks
Maps
Game
Clock
Workout
Support
Sketch
4
6
Phone
Mail
Browser
iPod
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of
Contact

Figure 5Q15

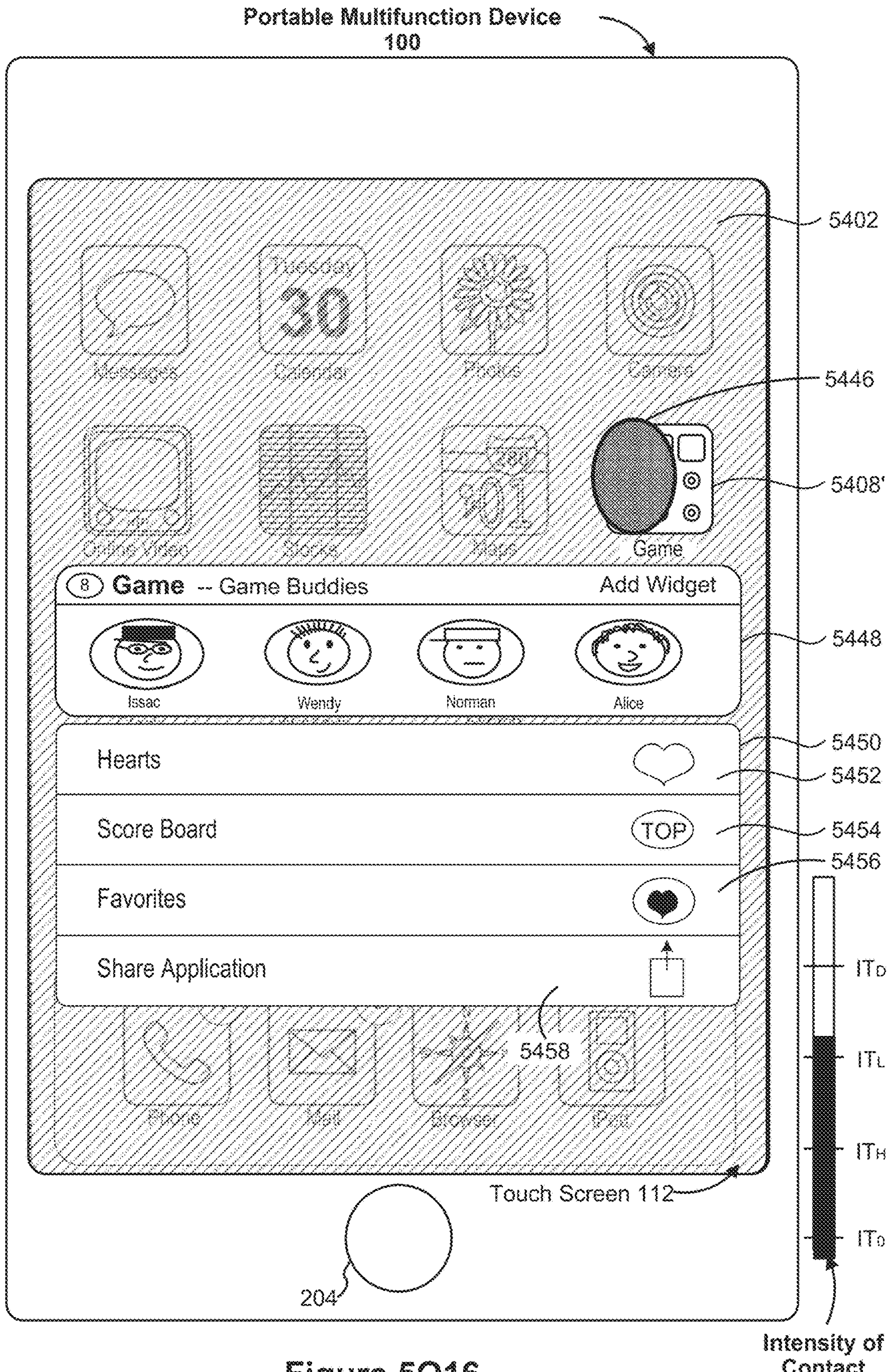
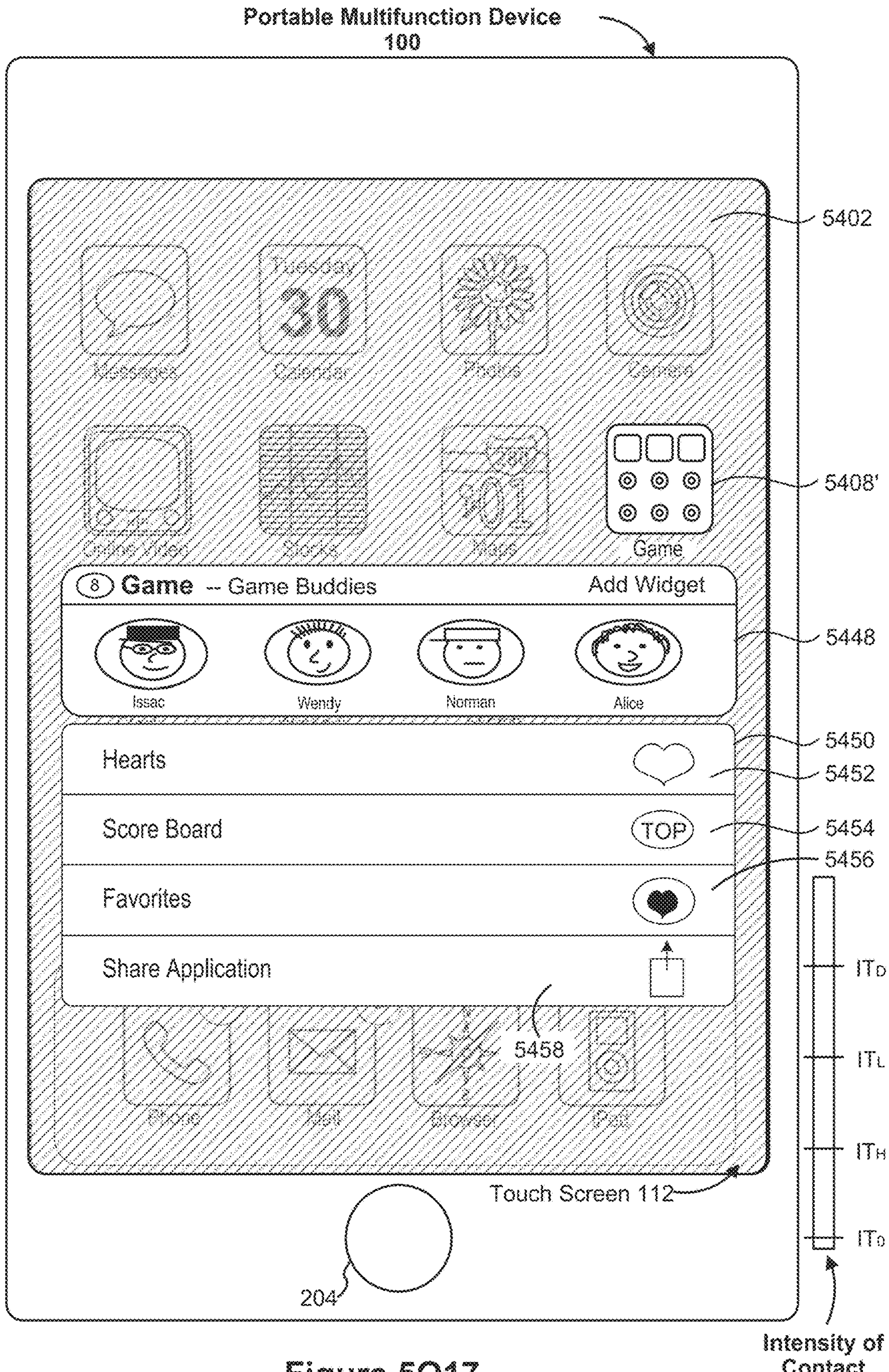
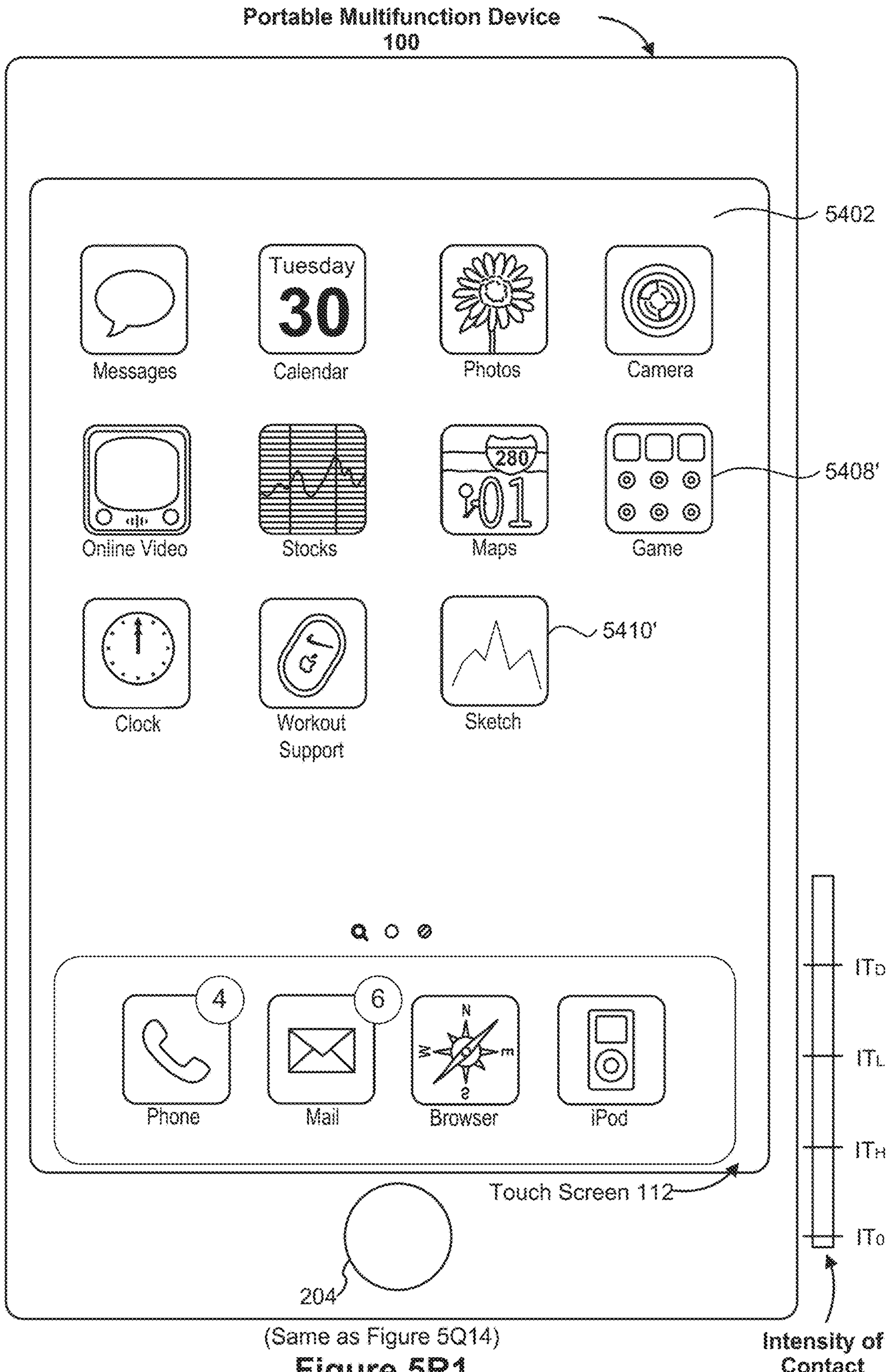

Portable Multifunction Device
100
5402
Messages
Calendar
Photos
Camera
Tuesday
30
5446
5408'
Online Video
Stocks
Maps
Game
8
Game -- Game Buddies
Add Widget
5448
Issac
Wendy
Norman
Alice
5450
Hearts
5452
Score Board
TOP
5454
Favorites
5456
Share Application
5458
Phone
Mail
Browser
iPod
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5Q16



Portable Multifunction Device
100
5402
Tuesday
30
Game
5408'
8
Game -- Game Buddies
Add Widget
Issac
Wendy
Norman
Alice
5448
Hearts
5450
5452
Score Board
TOP
5454
Favorites
5456
Share Application
5458
IT$_D$
IT$_L$
IT$_H$
IT$_0$
Touch Screen 112
204
Intensity of Contact

Figure 5Q17



(Same as Figure 5Q14)

Figure 5R1

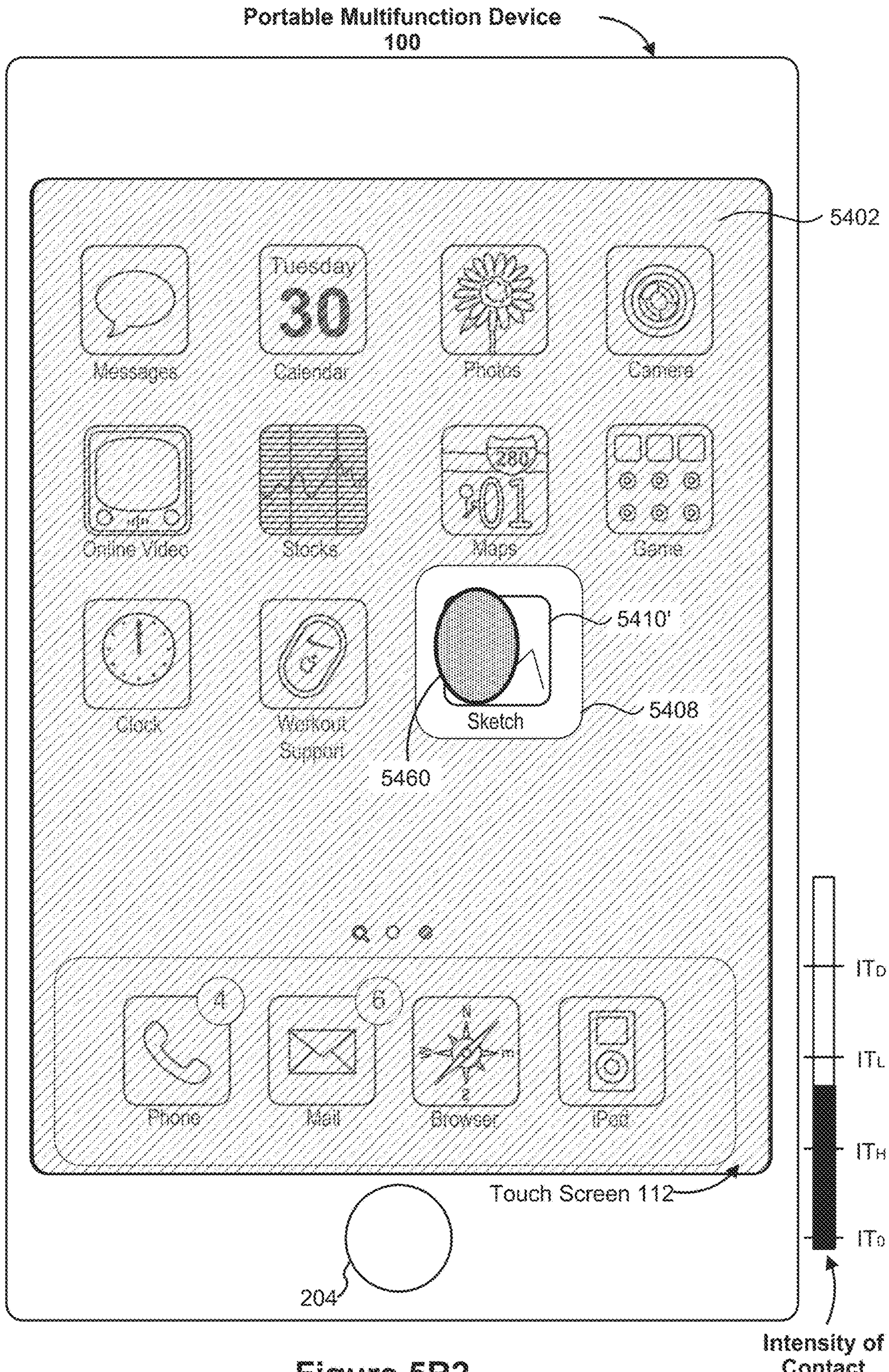
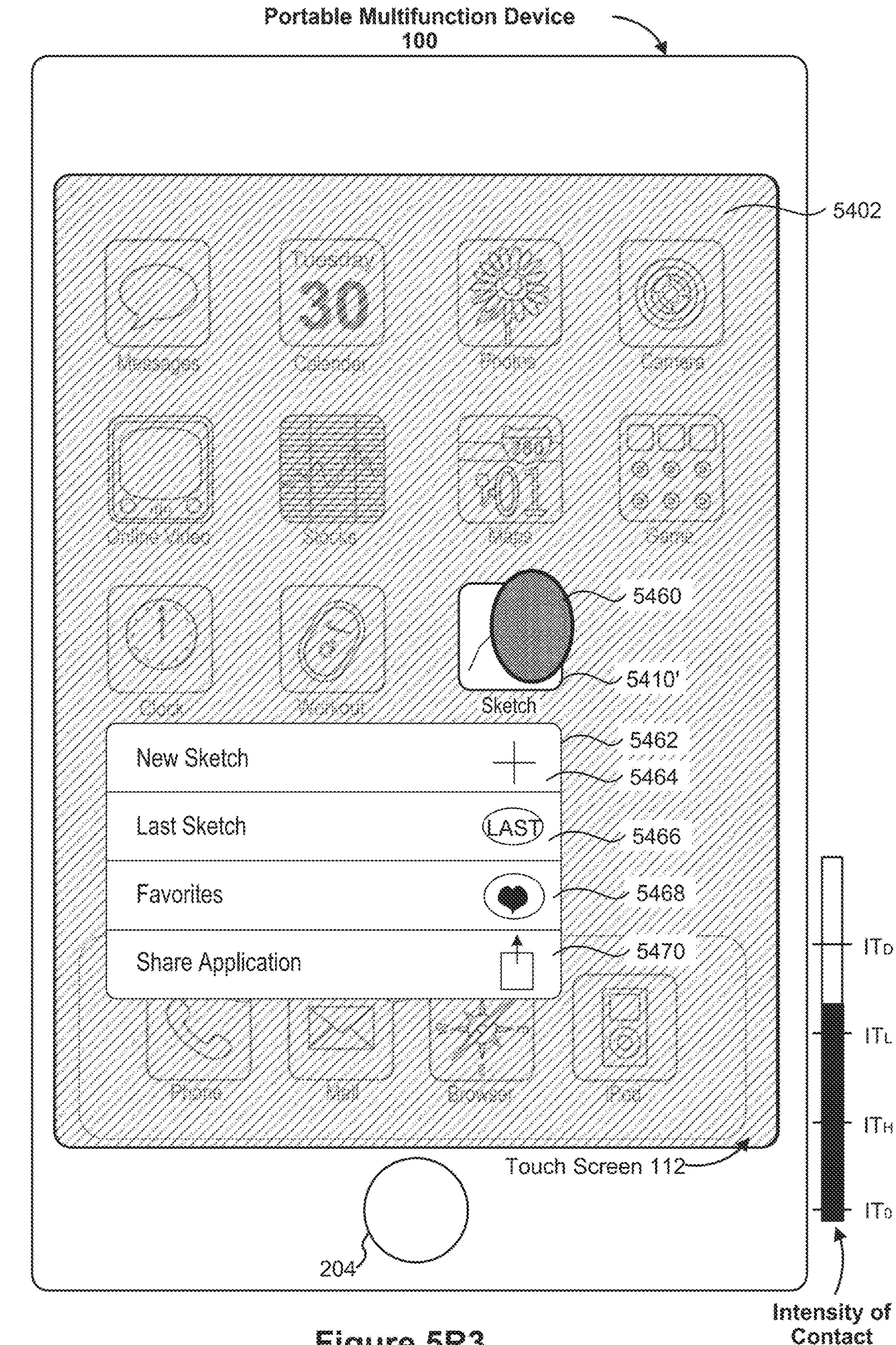
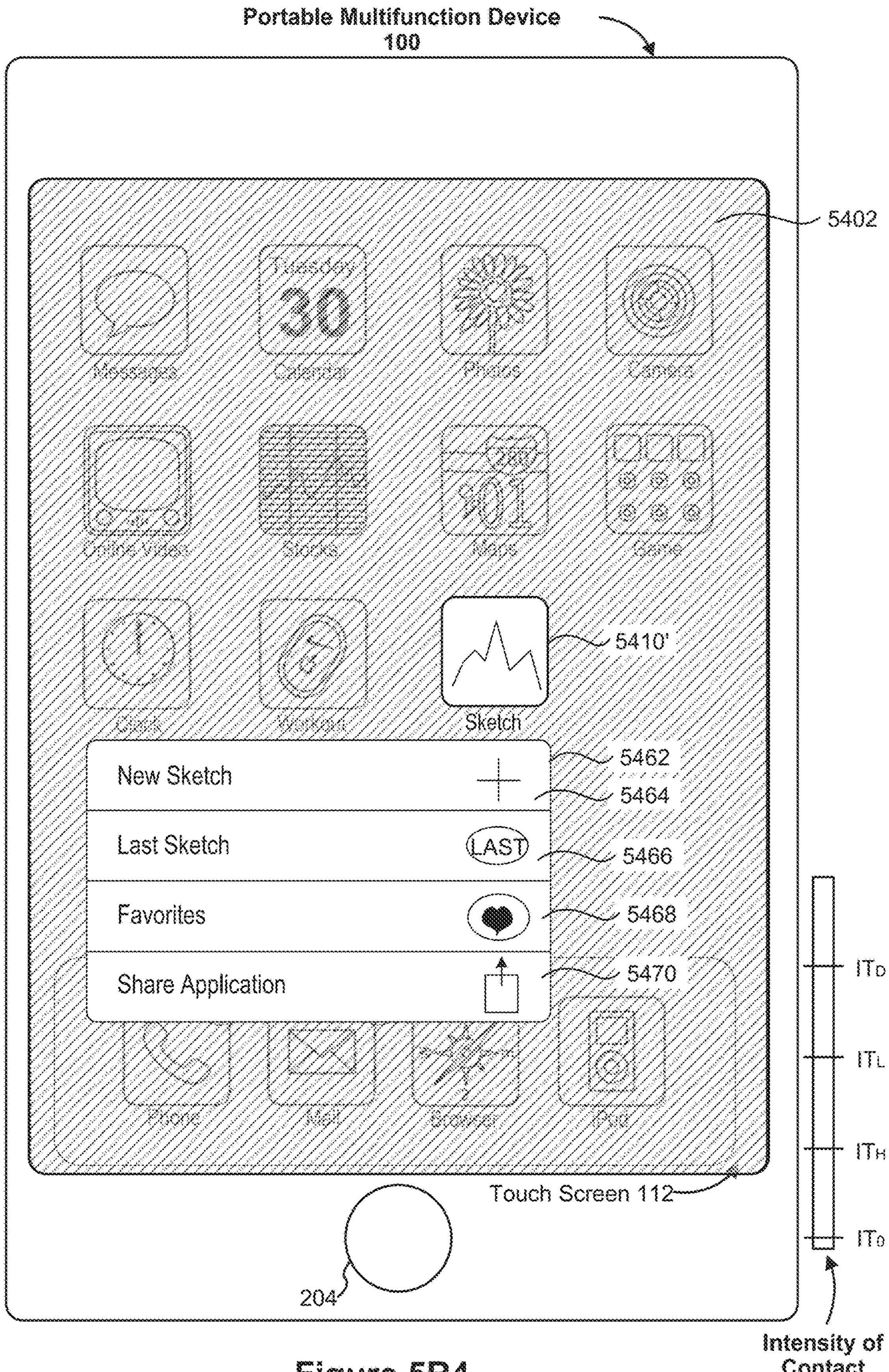

Portable Multifunction Device
100
5402
Tuesday
30
Messages
Calendar
Photos
Camera
280
Online Video
Stocks
Maps
Game
5410'
Clock
Workout
Support
Sketch
5408
5460
4
6
Phone
Mail
Browser
iPod
ITD
ITL
ITH
IT0
Touch Screen 112
204
Intensity of
Contact

Figure 5R2



Portable Multifunction Device
100
5402
Sketch
5460
5410'
New Sketch
Last Sketch
LAST
Favorites
Share Application
5462
5464
5466
5468
5470
ITD
ITL
ITH
IT0
Touch Screen 112
204
Intensity of Contact

Figure 5R3



Portable Multifunction Device
100
5402
Messages
Tuesday
30
Calendar
Photos
Camera
Online Video
Stocks
Maps
Game
Clock
Workout
Sketch
5410'
New Sketch
5462
5464
Last Sketch
LAST
5466
Favorites
5468
Share Application
5470
Phone
Mail
Browser
iPod
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5R4

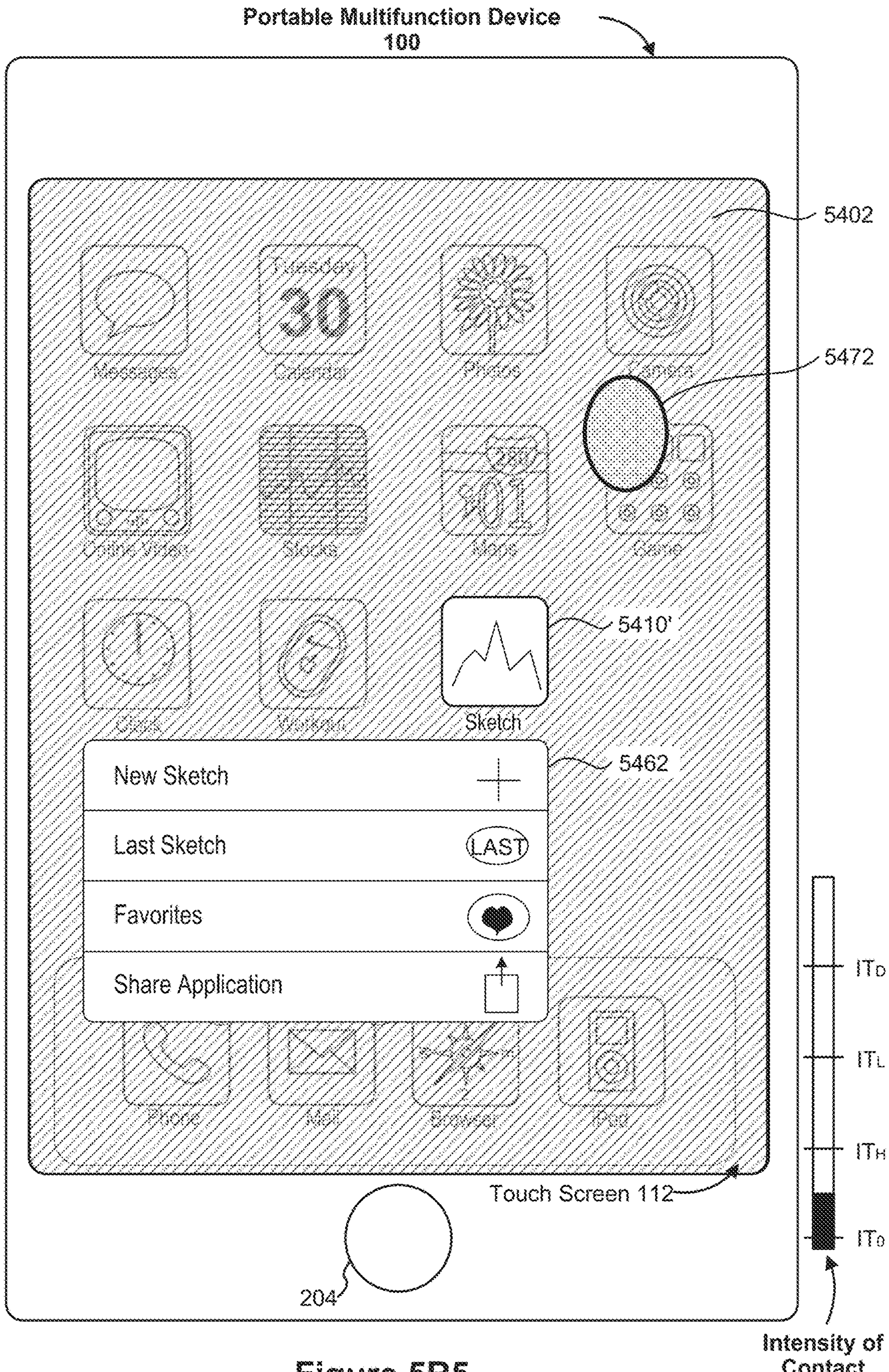
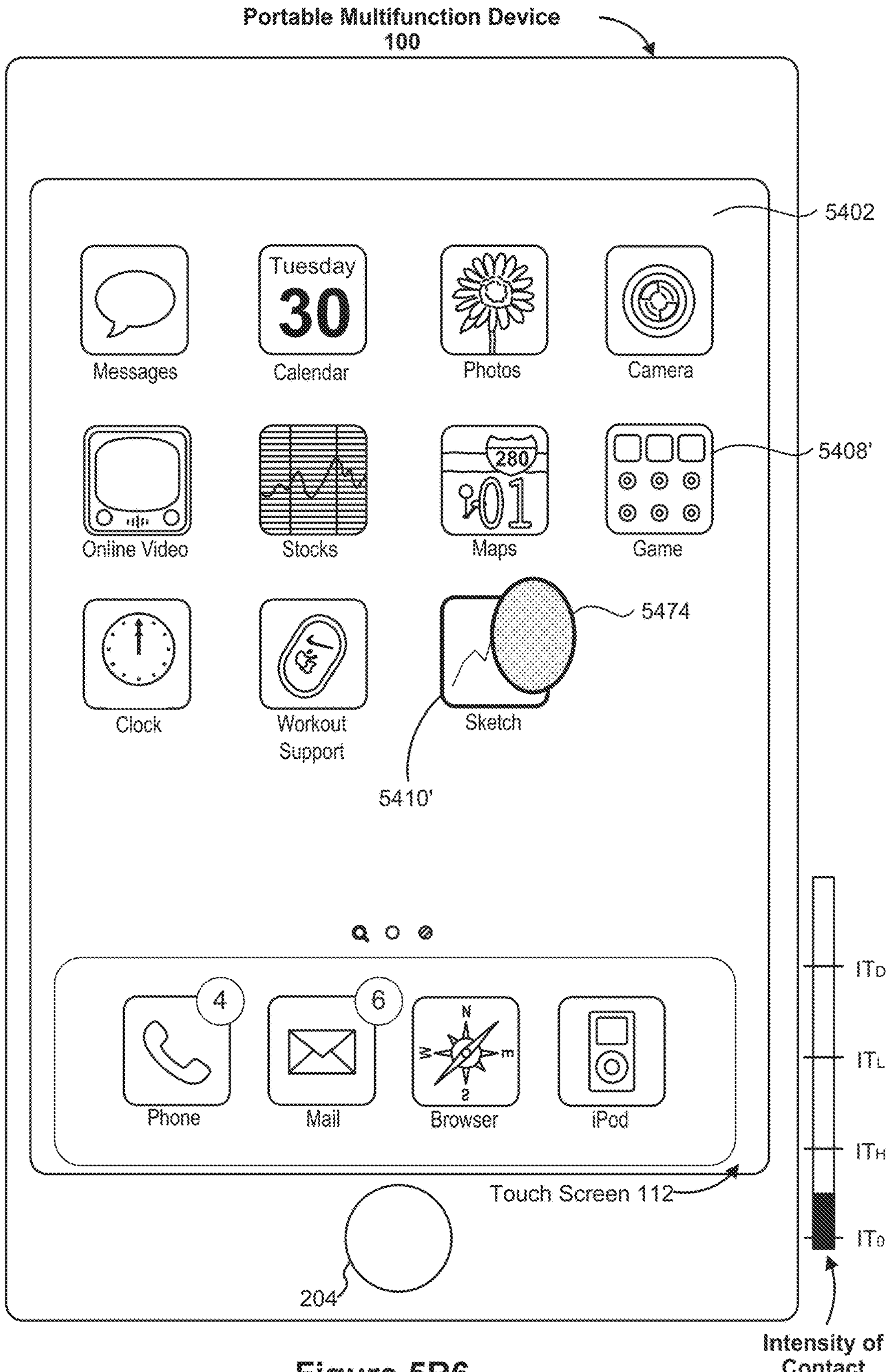
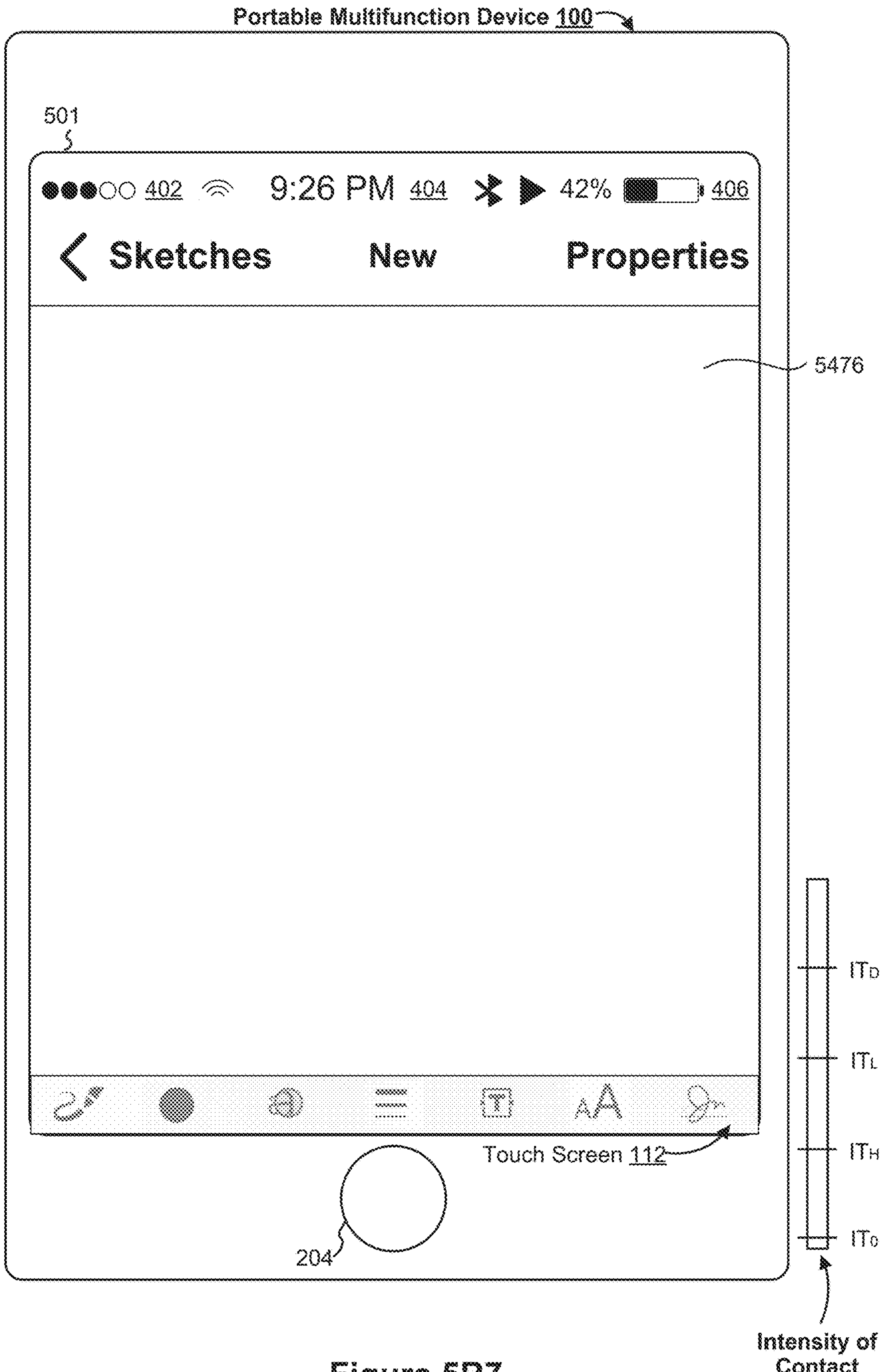

Portable Multifunction Device
100
5402
5472
5410'
5462
Sketch
New Sketch
Last Sketch
LAST
Favorites
Share Application
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of
Contact

Figure 5R5



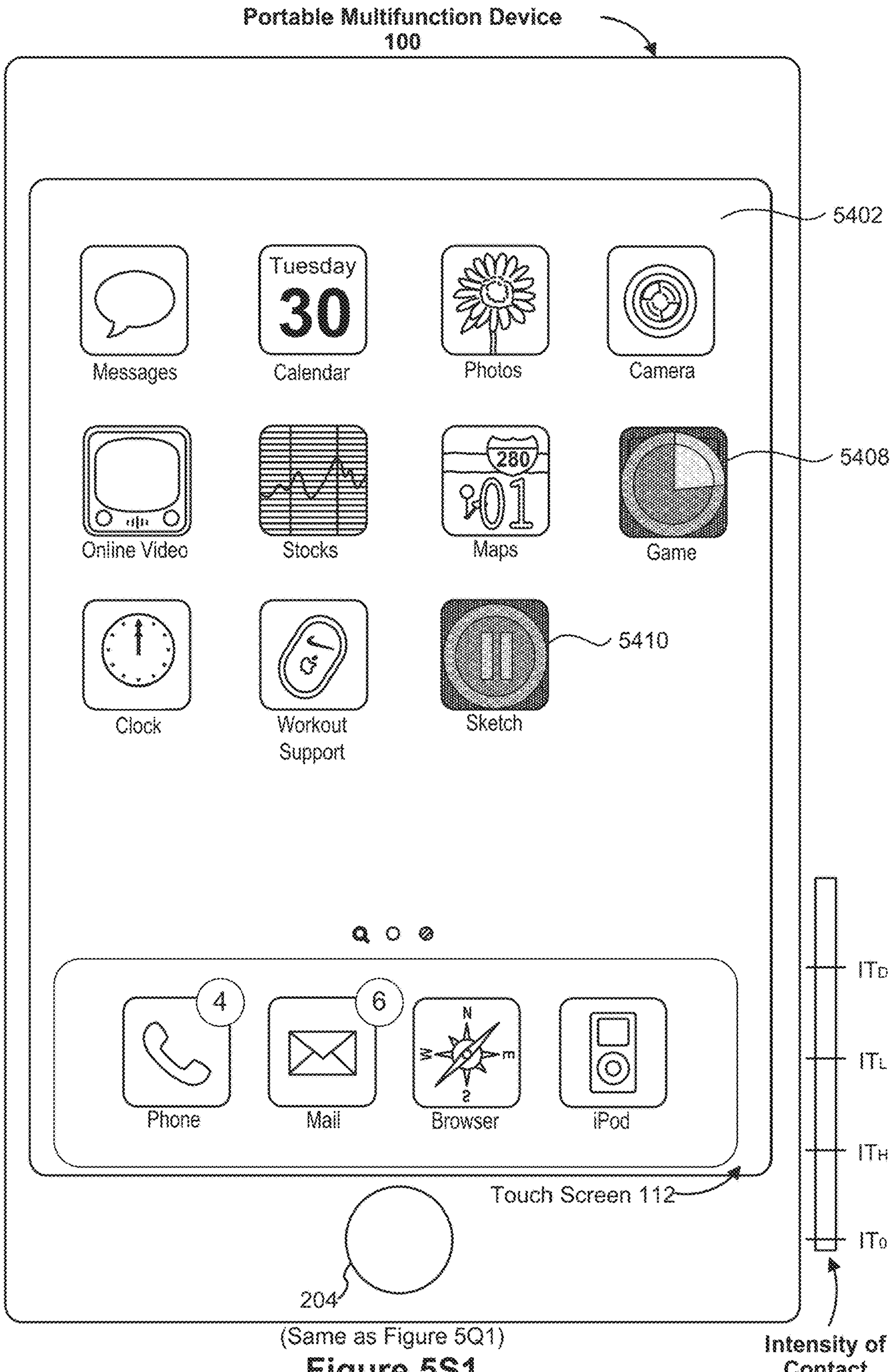
Portable Multifunction Device
100
5402
Tuesday
30
Messages
Calendar
Photos
Camera
280
Online Video
Stocks
Maps
Game
5408'
5474
Clock
Workout
Support
Sketch
5410'
4
6
N
Phone
Mail
Browser
iPod
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of
Contact

Figure 5R6



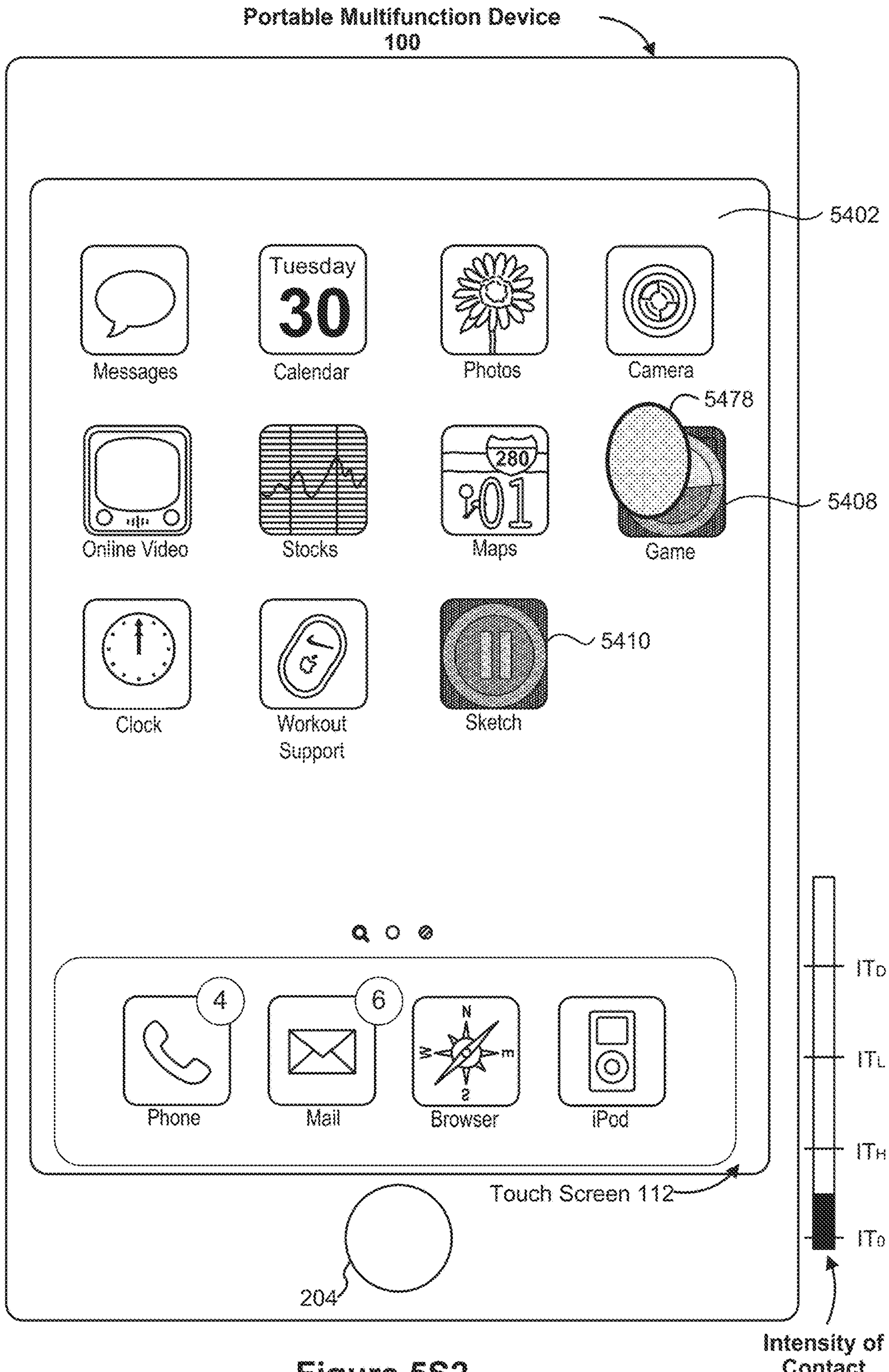
Portable Multifunction Device 100
501
402
9:26 PM
404
42%
406
Sketches
New
Properties
5476
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5R7



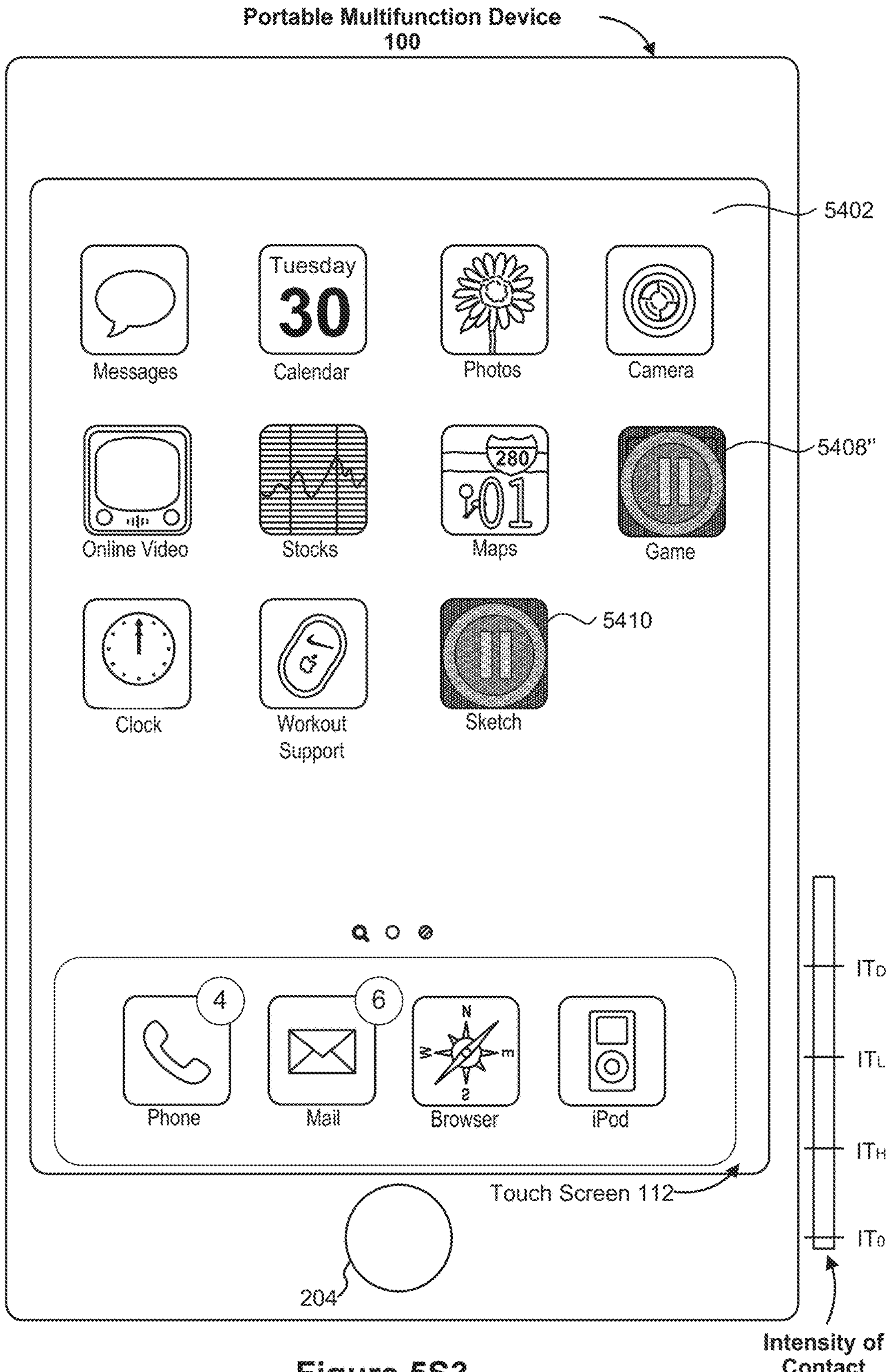
(Same as Figure 5Q1)

Figure 5S1



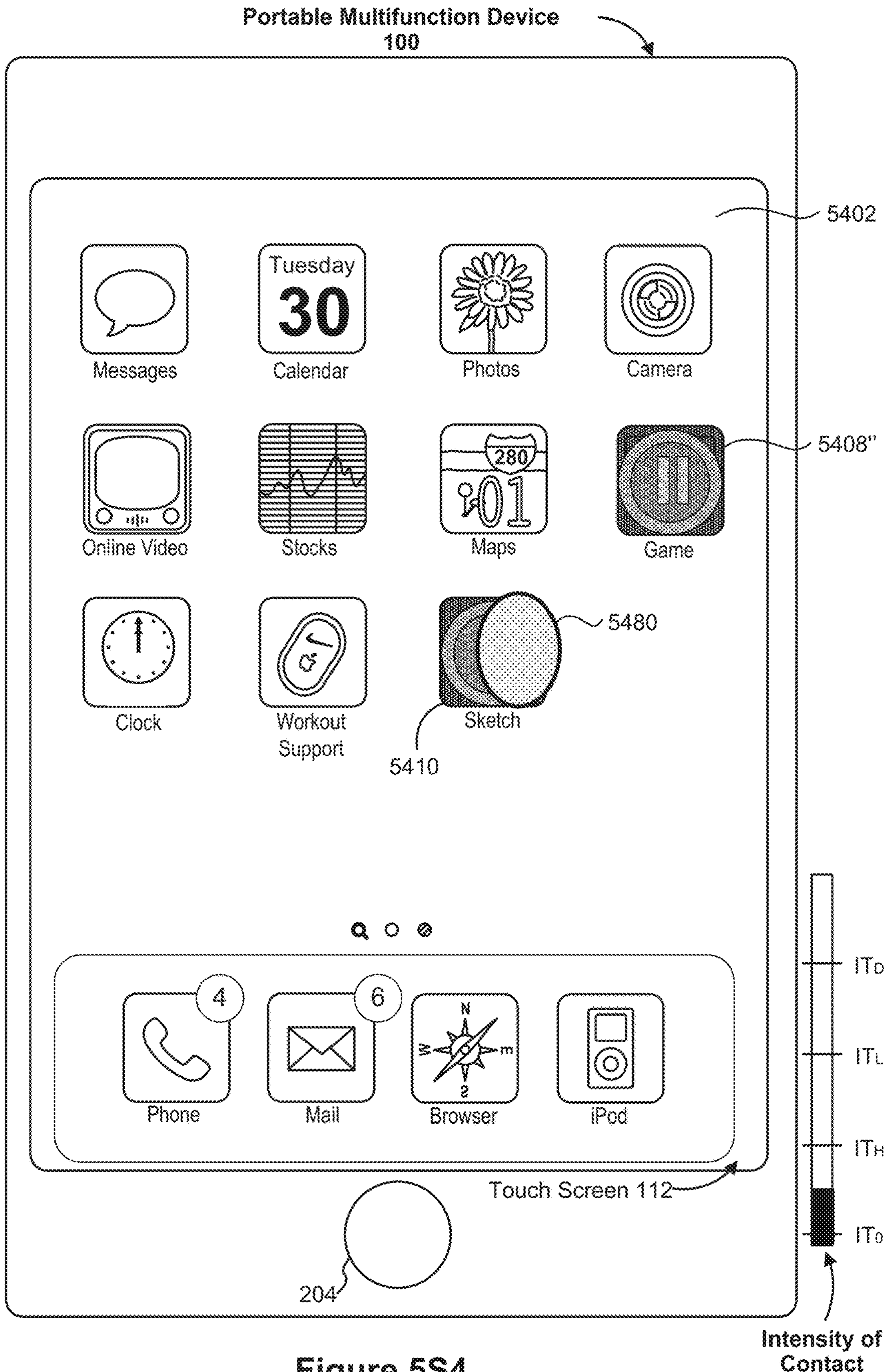
Portable Multifunction Device
100
5402
Messages
Tuesday
30
Calendar
Photos
Camera
5478
Online Video
Stocks
280
Maps
Game
5408
Clock
Workout
Support
Sketch
5410
4
Phone
6
Mail
Browser
iPod
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5S2



Portable Multifunction Device
100
5402
Tuesday
30
Messages
Calendar
Photos
Camera
280
01
5408"
Online Video
Stocks
Maps
Game
5410
Clock
Workout
Support
Sketch
4
6
N
Phone
Mail
Browser
iPod
Touch Screen 112
204
ITD
ITL
ITH
IT0
Intensity of
Contact

Figure 5S3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5402
Tuesday
30
Messages
Calendar
Photos
Camera
280
01
Online Video
Stocks
Maps
Game
5408"
5480
Clock
Workout
Support
Sketch
5410
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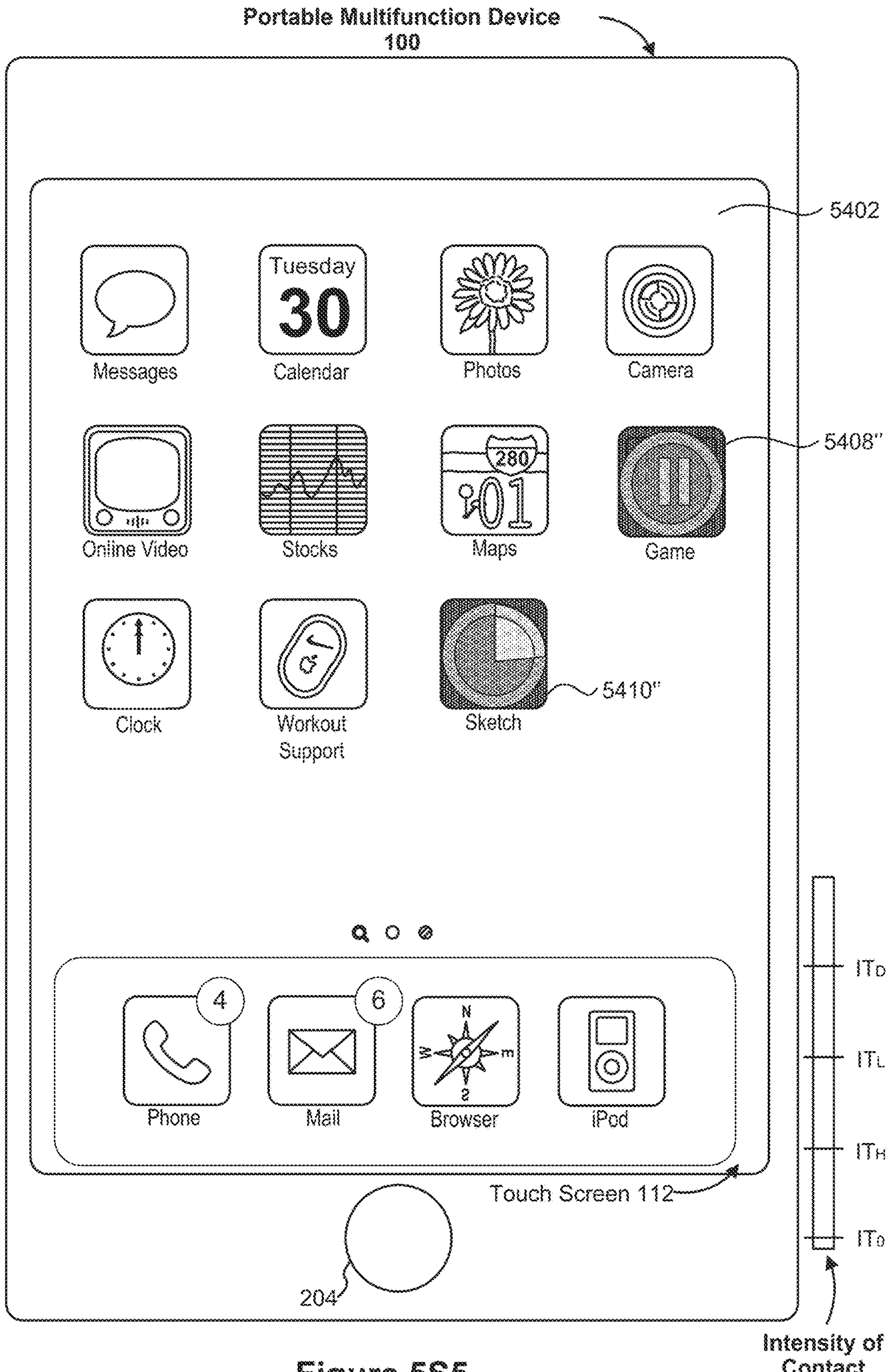
Phone
Mail
Browser
iPod
Touch Screen 112
204
ITD
ITL
ITH
IT0
Intensity of
Contact

Figure 5S4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Tuesday
30
Messages
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Photos
Camera
5408''
280
01
Online Video
Stocks
Maps
Game
Clock
Workout
Support
Sketch
5410''
4
6
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Phone
Mail
Browser
iPod
ITD
ITL
ITH
IT0
Touch Screen 112
204
Intensity of
Contact

Figure 5S5

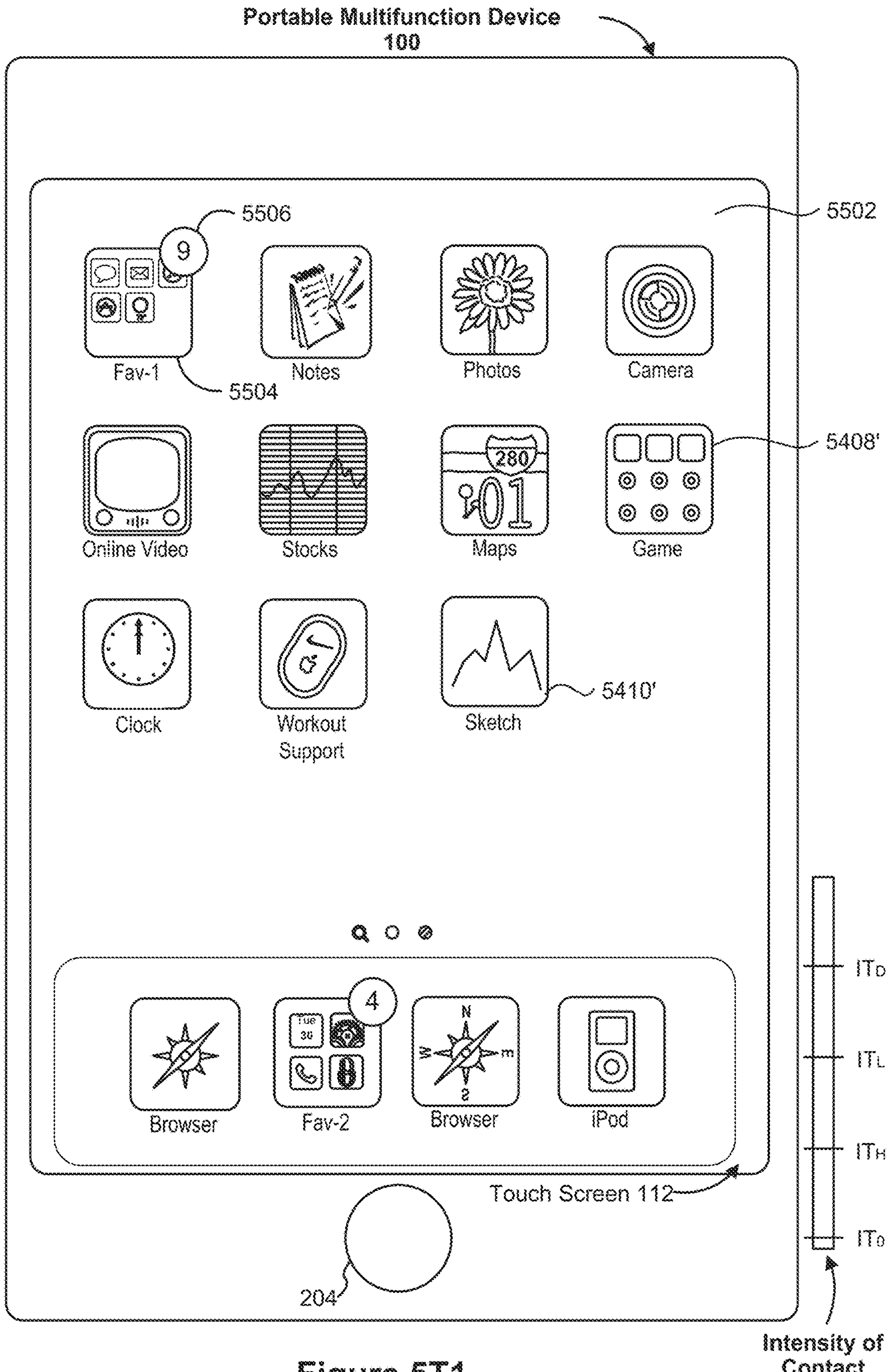

Portable Multifunction Device
100
5506
9
5502
Fav-1
5504
Notes
Photos
Camera
280
Online Video
Stocks
Maps
Game
5408'
Clock
Workout
Support
Sketch
5410'
4
Browser
Fav-2
Browser
iPod
Touch Screen 112
204
ITD
ITL
ITH
IT0
Intensity of
Contact

Figure 5T1

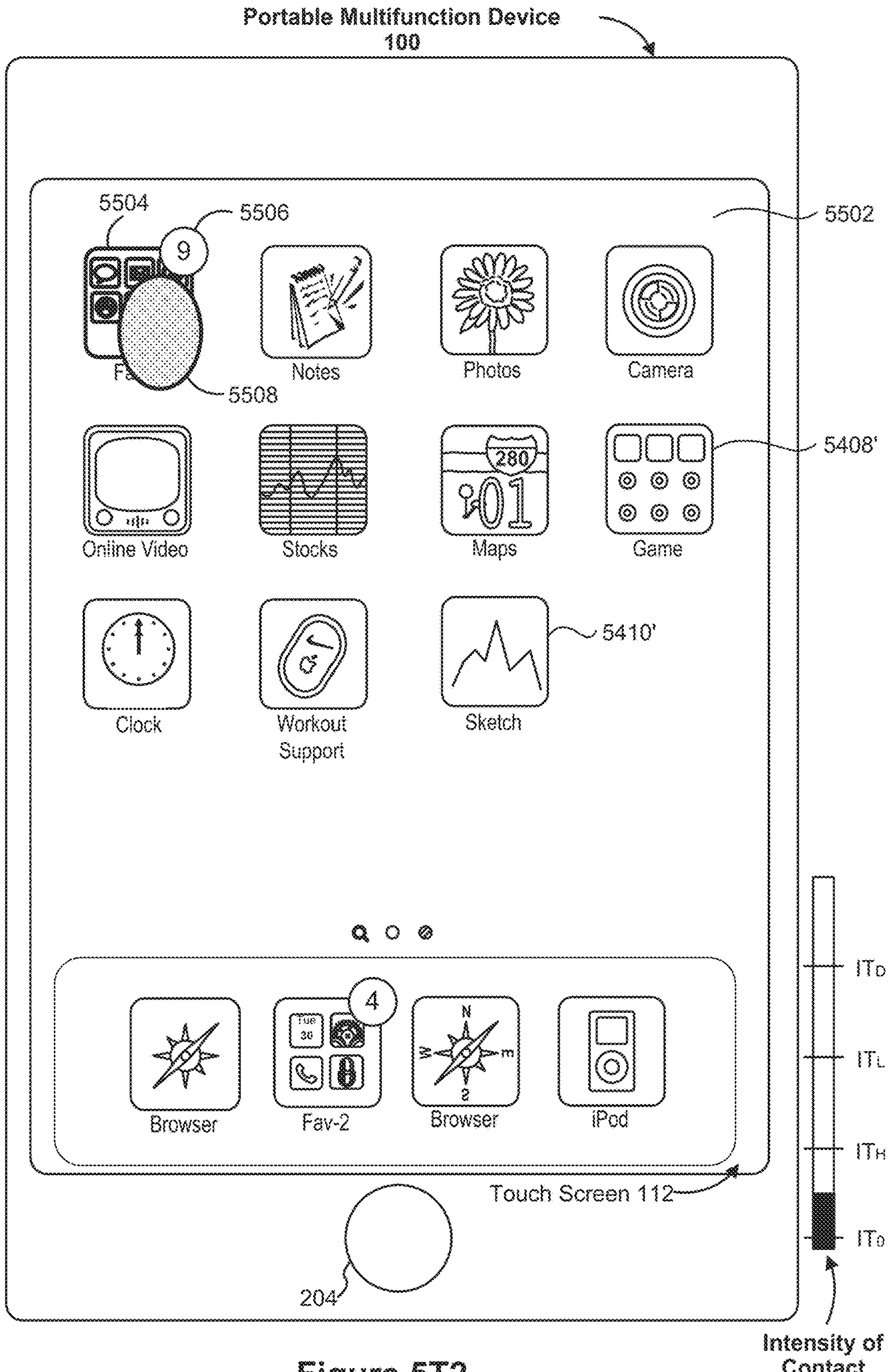
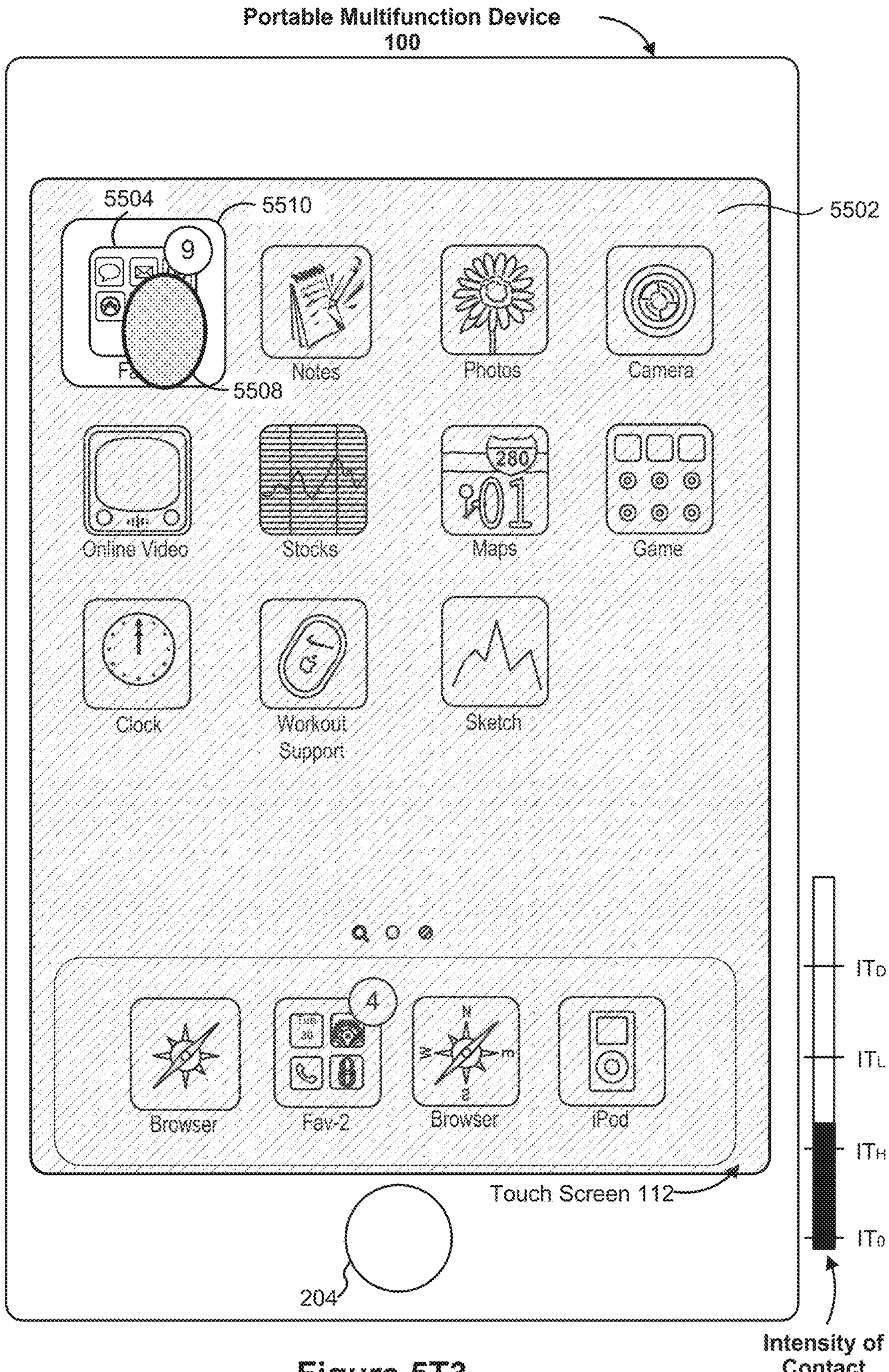

Portable Multifunction Device
100
5504
5506
9
5502
Notes
Photos
Camera
5508
Online Video
Stocks
280
Maps
Game
5408'
Clock
Workout
Support
Sketch
5410'
4
Browser
Fav-2
Browser
iPod
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of
Contact

Figure 5T2


Portable Multifunction Device
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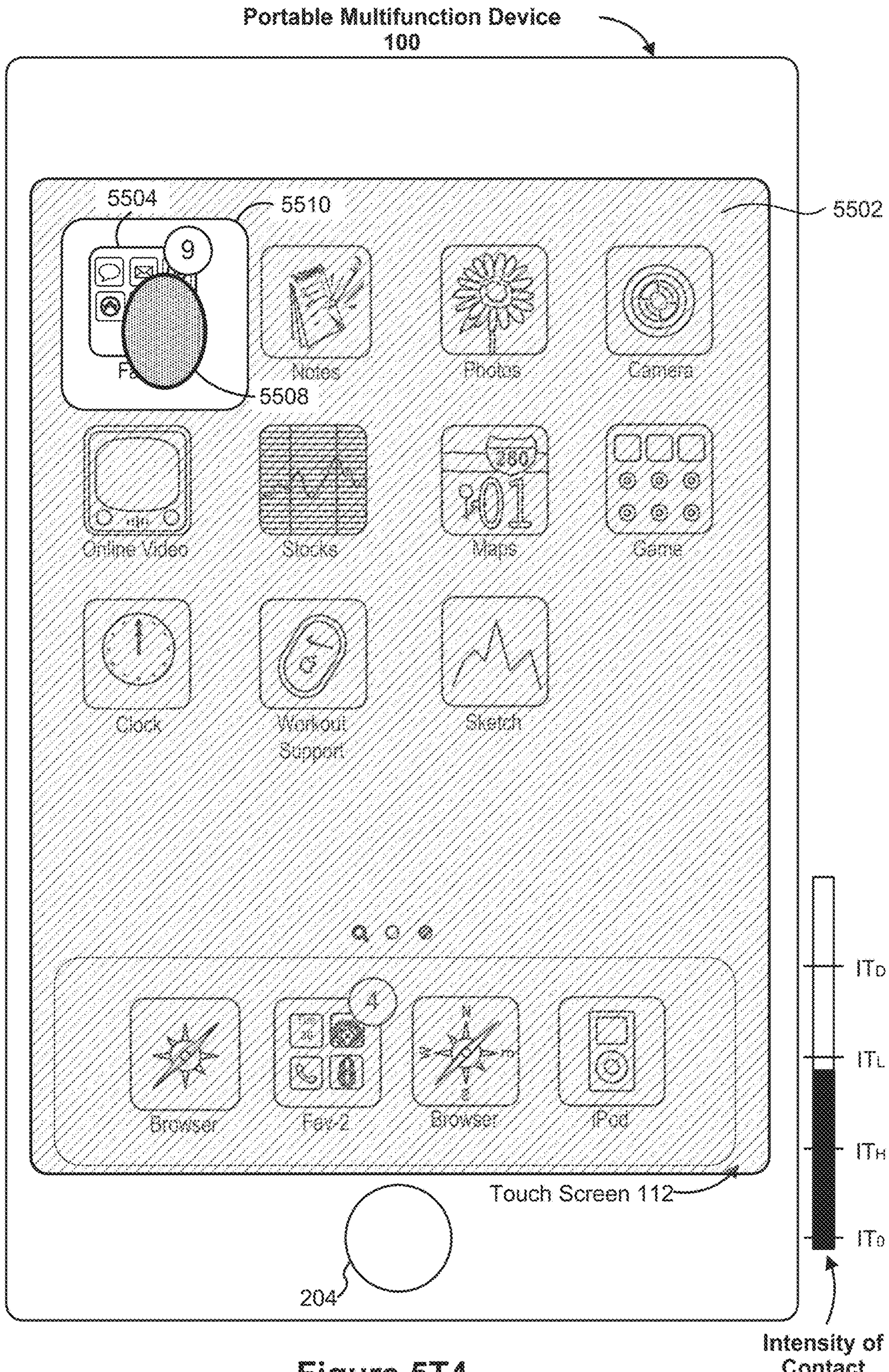
5502
9
Notes
Photos
Camera
5508
Online Video
Stocks
Maps
Game
Clock
Workout
Support
Sketch
4
Browser
Fav-2
Browser
iPod
ITD
ITL
ITH
IT0
Touch Screen 112
204
Intensity of
Contact

Figure 5T3


Portable Multifunction Device
100
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5502
9
Notes
Photos
Camera
5508
Online Video
Stocks
Maps
Game
Clock
Workout
Support
Sketch
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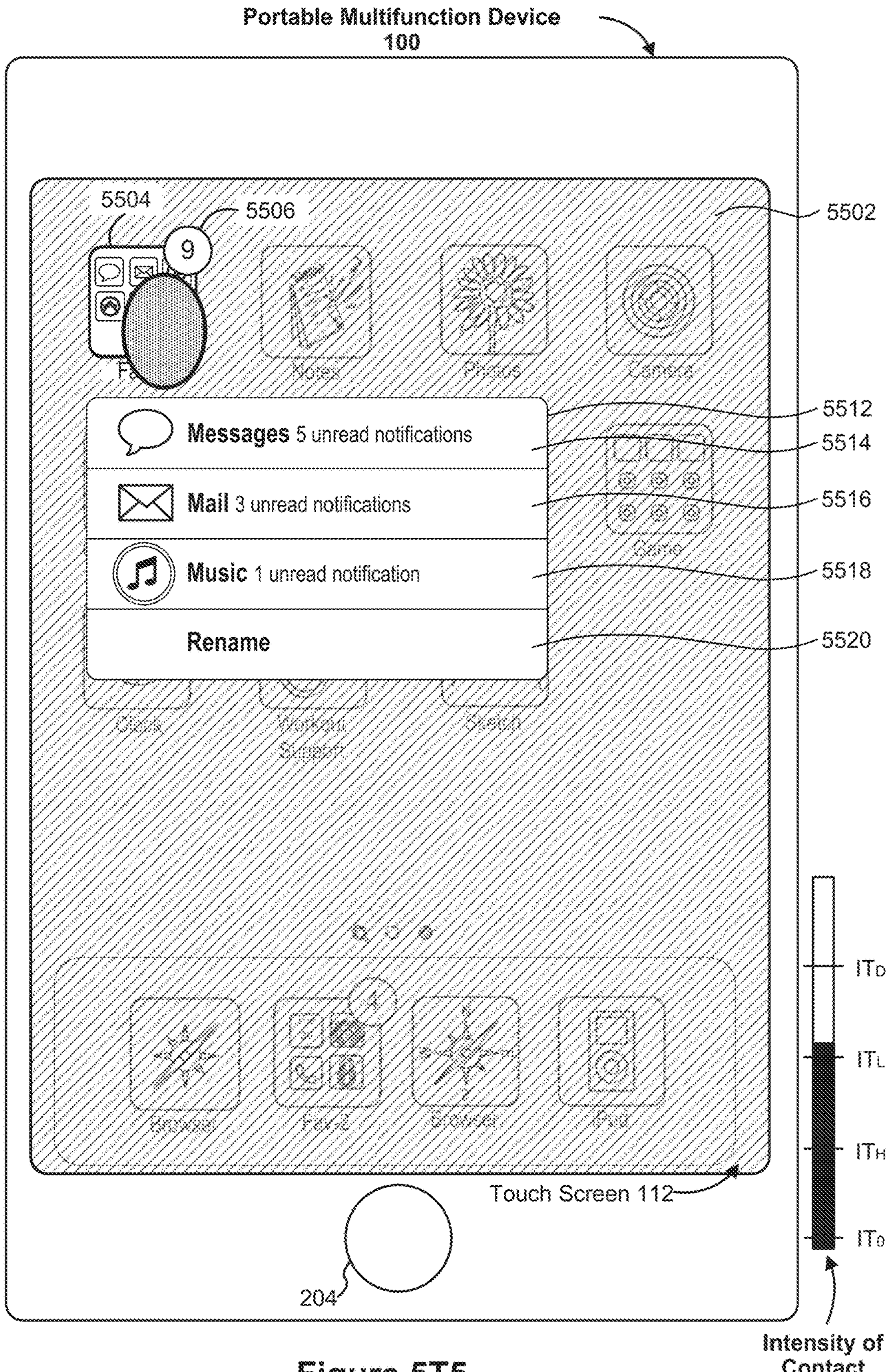
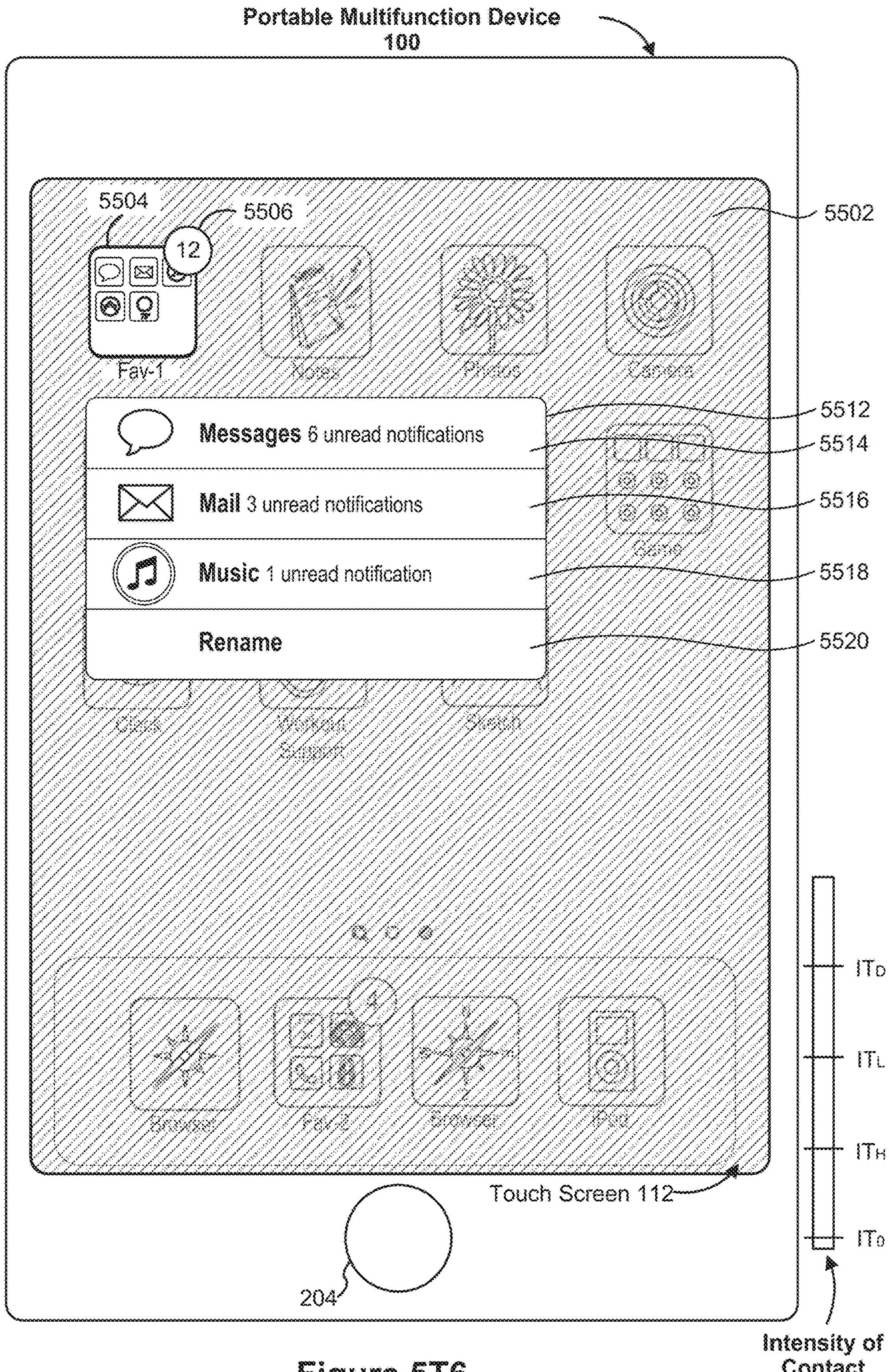
Browser
Fav-2
Browser
iPod
Touch Screen 112
204
ITD
ITL
ITH
IT0
Intensity of
Contact

Figure 5T4



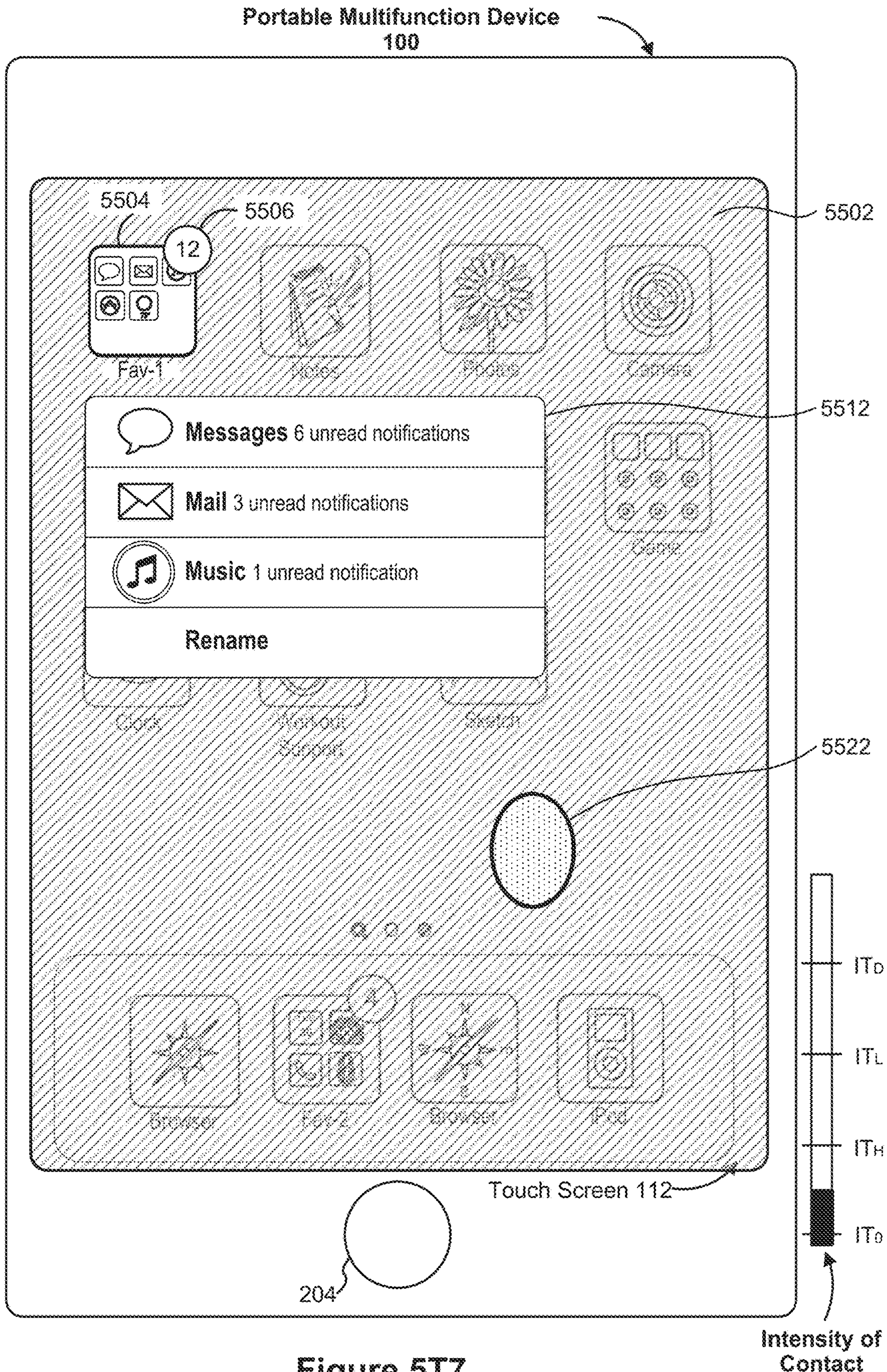
Portable Multifunction Device
100
5504
5506
9
5502
Notes
Photos
Camera
Messages 5 unread notifications
Mail 3 unread notifications
Music 1 unread notification
Rename
5512
5514
5516
5518
5520
Clock
Workout Support
Stocks
Game
Browser
Fav-2
iPod
4
Touch Screen 112
204
ITD
ITL
ITH
IT0
Intensity of Contact

Figure 5T5



Portable Multifunction Device
100
5504
5506
12
5502
Fav-1
Notes
Photos
Camera
Messages 6 unread notifications
Mail 3 unread notifications
Music 1 unread notification
Rename
5512
5514
5516
5518
5520
IT_D
IT_L
IT_H
IT_0
Touch Screen 112
204
Intensity of Contact

Figure 5T6



Portable Multifunction Device 100
5504
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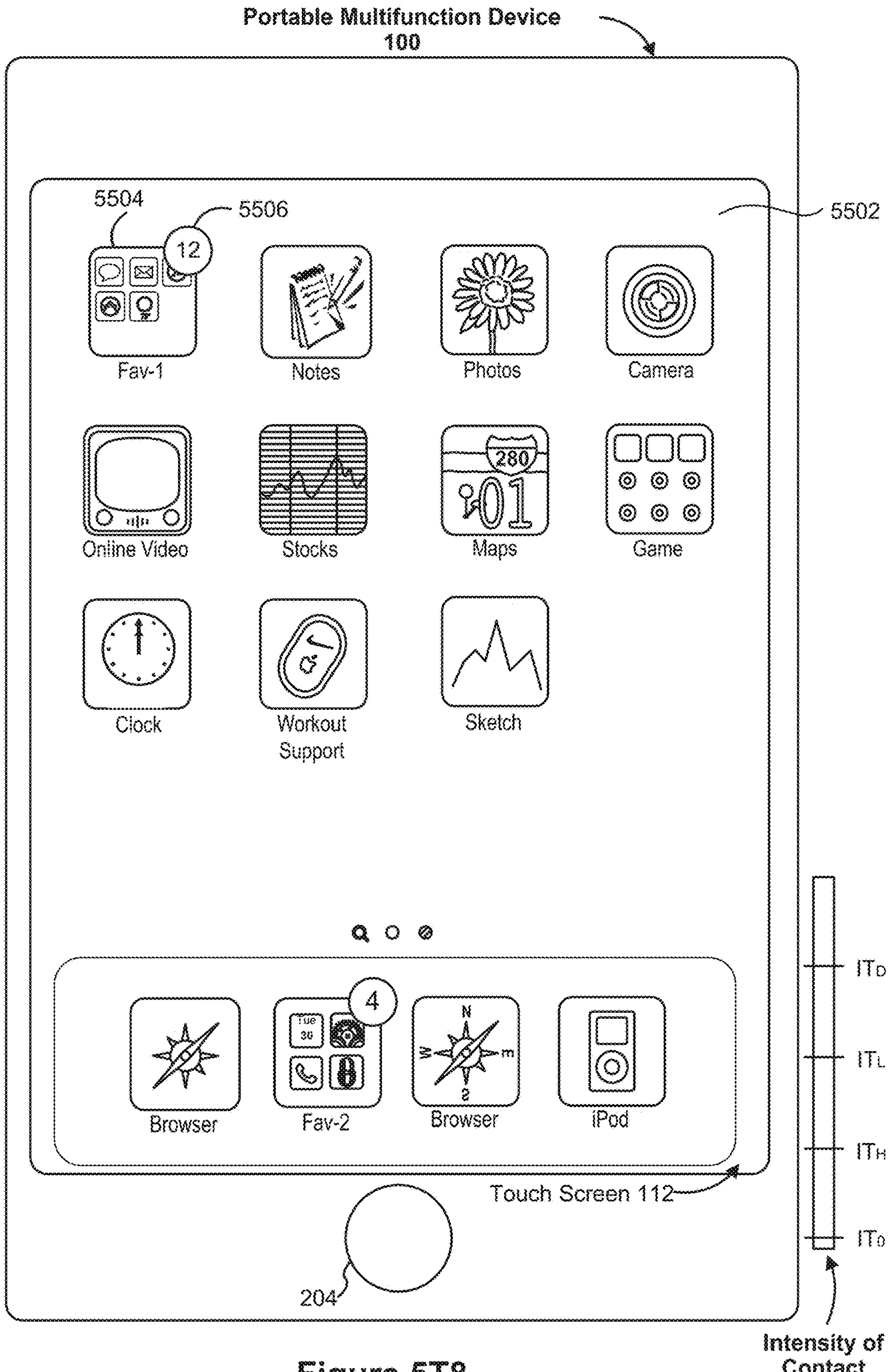
12
5502
Fav-1
5512
Messages 6 unread notifications
Mail 3 unread notifications
Music 1 unread notification
Rename
5522
IT_D
IT_L
IT_H
IT_0
Touch Screen 112
204
Intensity of Contact

Figure 5T7


Portable Multifunction Device
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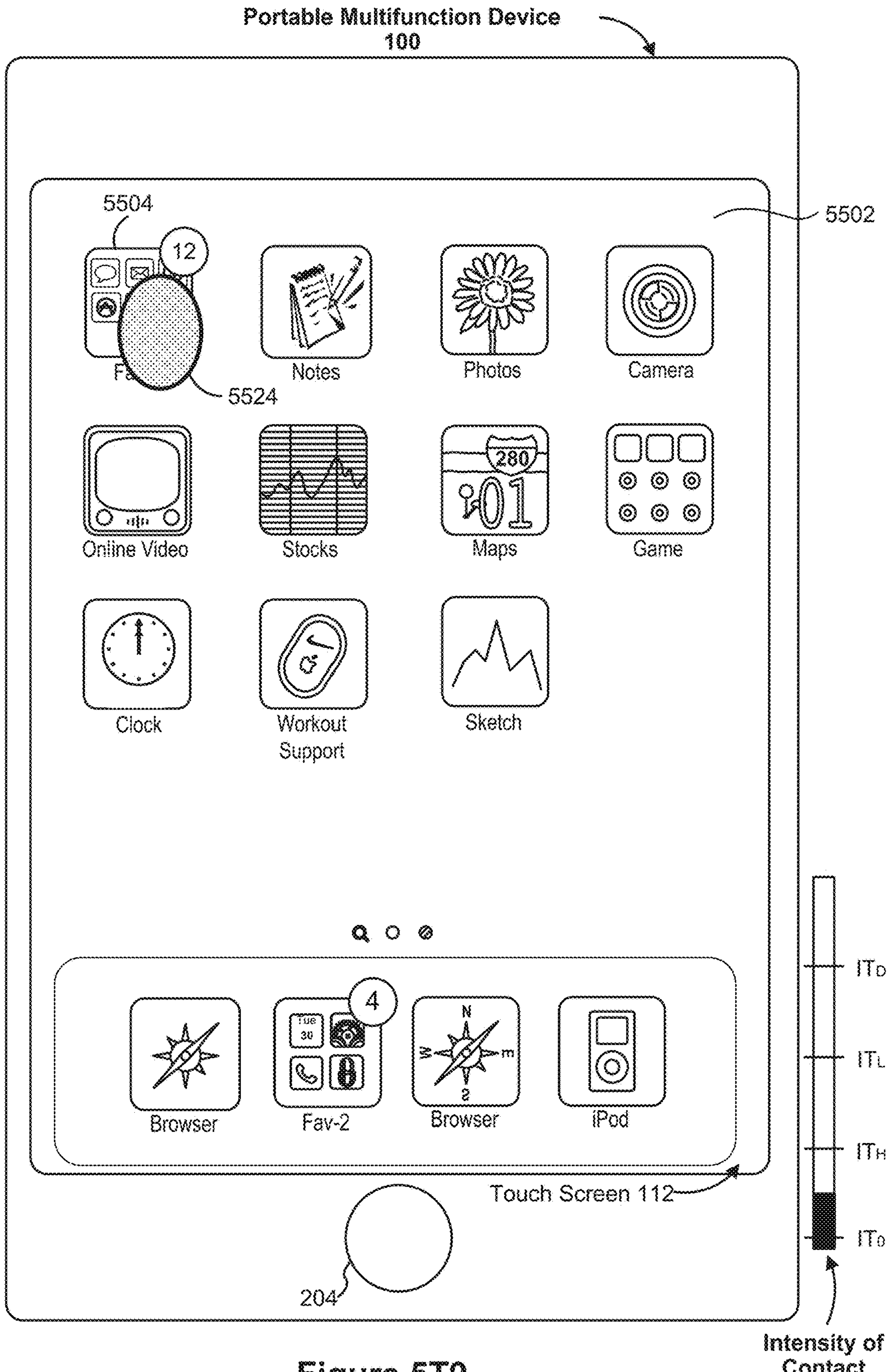
Fav-1
Notes
Photos
Camera
280
Online Video
Stocks
Maps
Game
Clock
Workout
Support
Sketch
4
Browser
Fav-2
Browser
iPod
Touch Screen 112
204
ITD
ITL
ITH
IT0
Intensity of
Contact

Figure 5T8



Portable Multifunction Device
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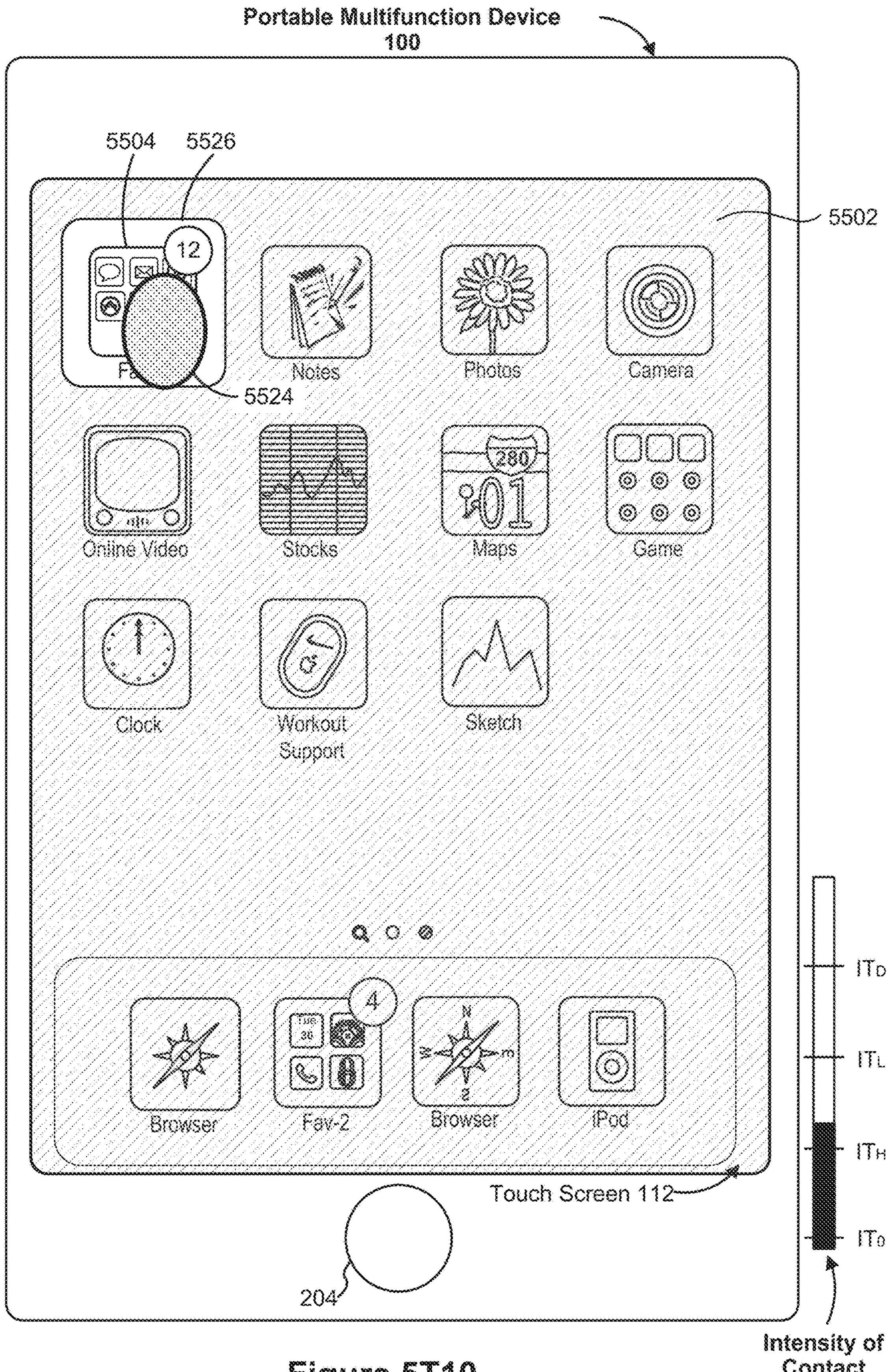
Notes
Photos
Camera
5524
Online Video
Stocks
280
Maps
Game
Clock
Workout
Support
Sketch
4
Browser
Fav-2
Browser
iPod
Touch Screen 112
204
ITD
ITL
ITH
IT0
Intensity of
Contact

Figure 5T9



Portable Multifunction Device
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5504
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5502
12
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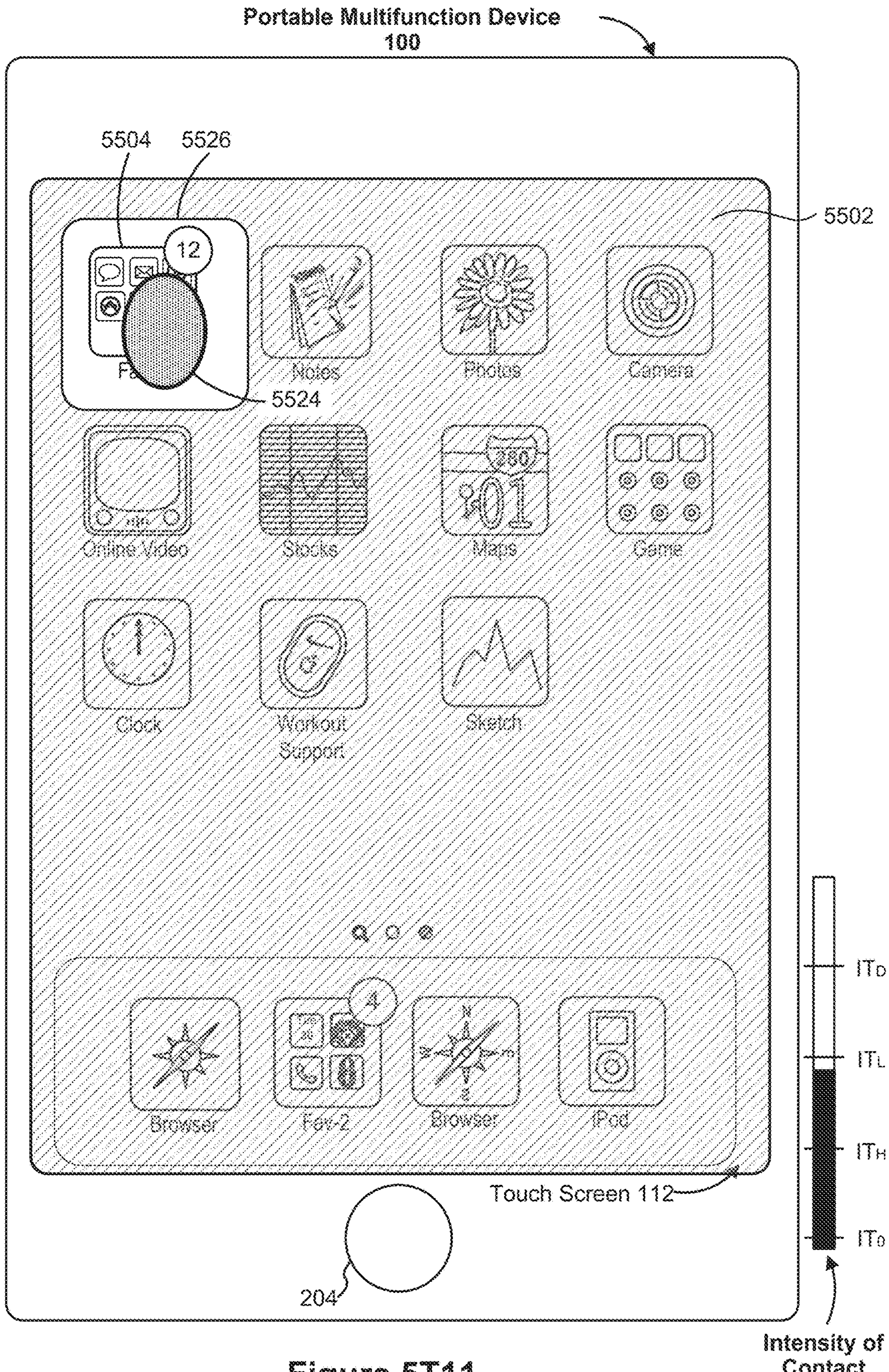
Notes
Photos
Camera
280
Online Video
Stocks
Maps
Game
Clock
Workout Support
Sketch
4
Browser
Fav-2
Browser
iPod
Touch Screen 112
204
ITD
ITL
ITH
IT0
Intensity of Contact

Figure 5T10



Portable Multifunction Device
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5504
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Notes
Photos
Camera
Online Video
Stocks
Maps
Game
Clock
Workout
Support
Sketch
4
Browser
Fav-2
Browser
iPod
Touch Screen 112
204
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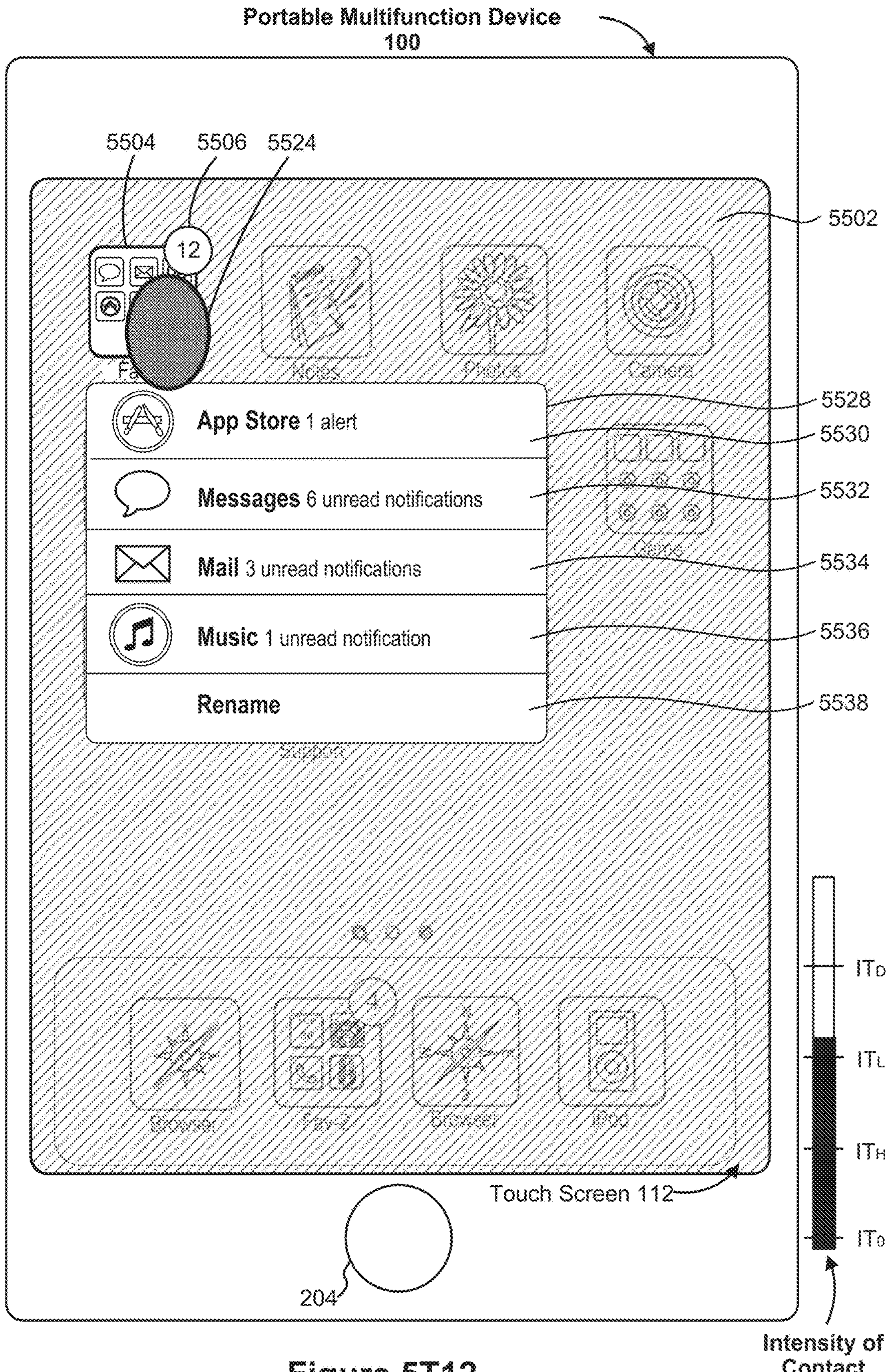
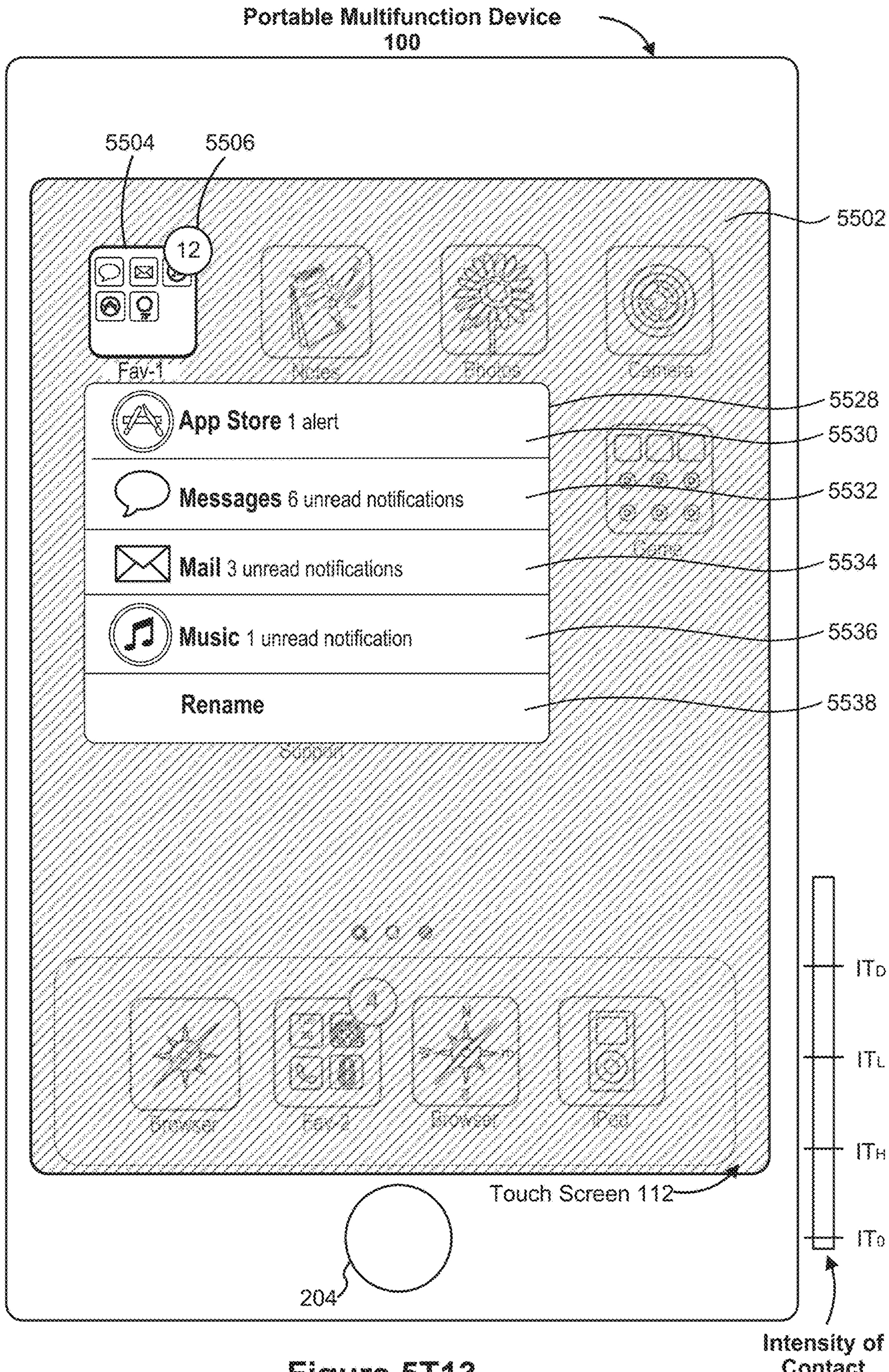
IT_L
IT_H
IT₀
Intensity of
Contact

Figure 5T11



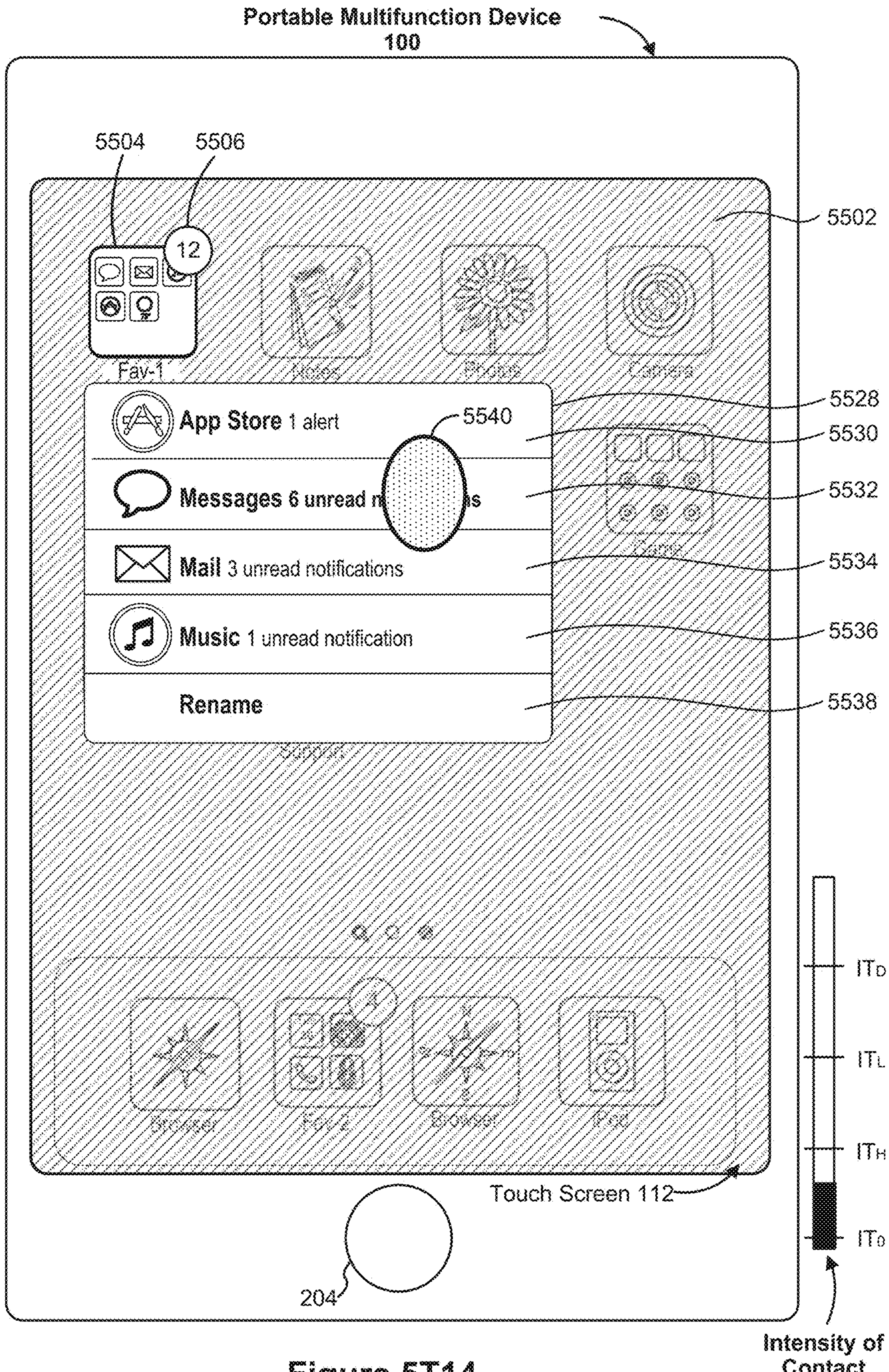
Portable Multifunction Device
100
5504
5506
5524
12
5502
App Store 1 alert
Messages 6 unread notifications
Mail 3 unread notifications
Music 1 unread notification
Rename
5528
5530
5532
5534
5536
5538
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5T12



Portable Multifunction Device 100
5504
5506
12
5502
Fav-1
5528
App Store 1 alert
5530
Messages 6 unread notifications
5532
Mail 3 unread notifications
5534
Music 1 unread notification
5536
Rename
5538
ITD
ITL
ITH
IT0
Touch Screen 112
204
Intensity of Contact

Figure 5T13



Portable Multifunction Device
100
5504
5506
12
5502
Fav-1
App Store 1 alert
5540
Messages 6 unread n s
Mail 3 unread notifications
Music 1 unread notification
Rename
5528
5530
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5534
5536
5538
Touch Screen 112
204
ITD
ITL
ITH
IT0
Intensity of Contact

Figure 5T14

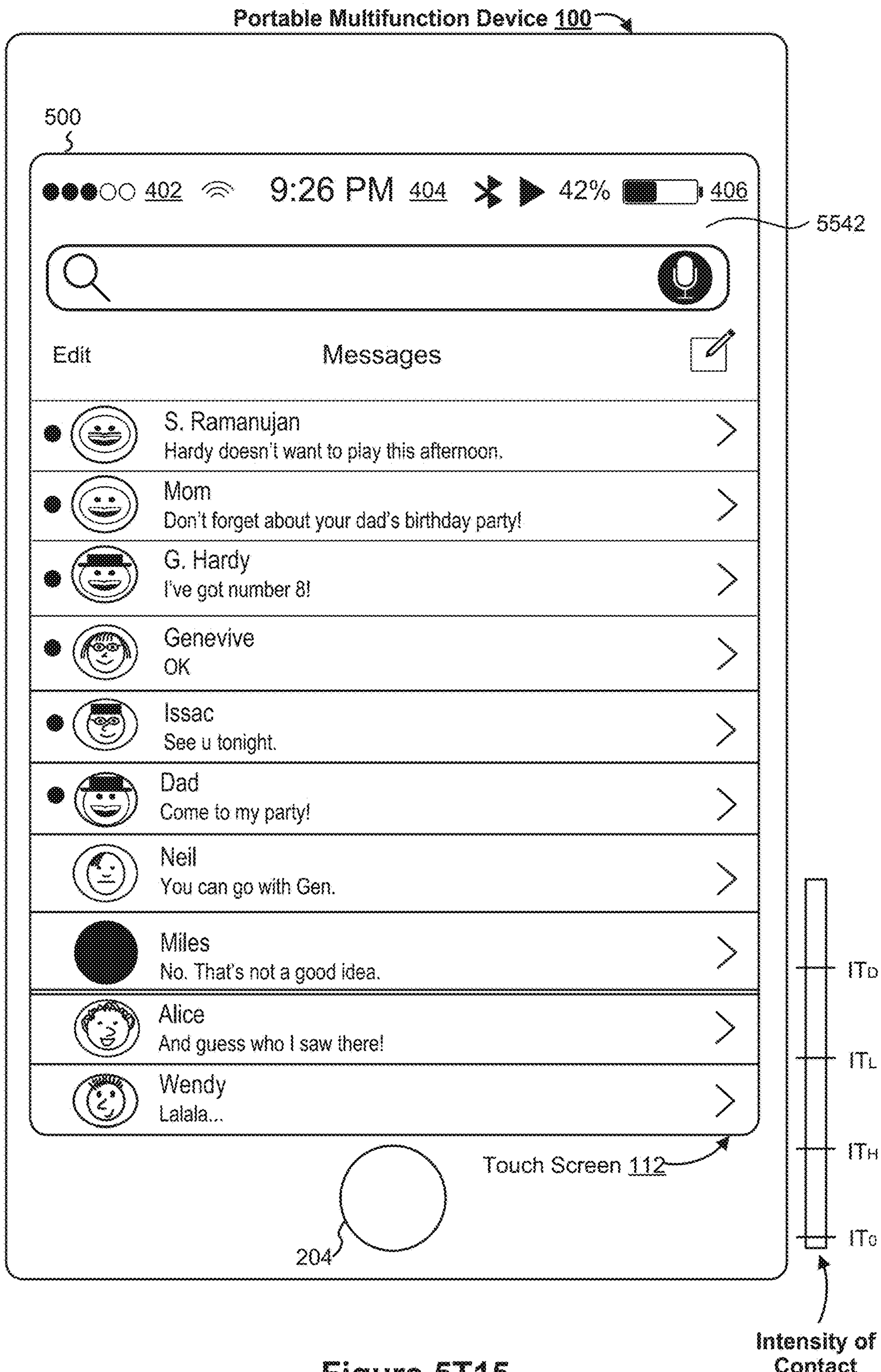
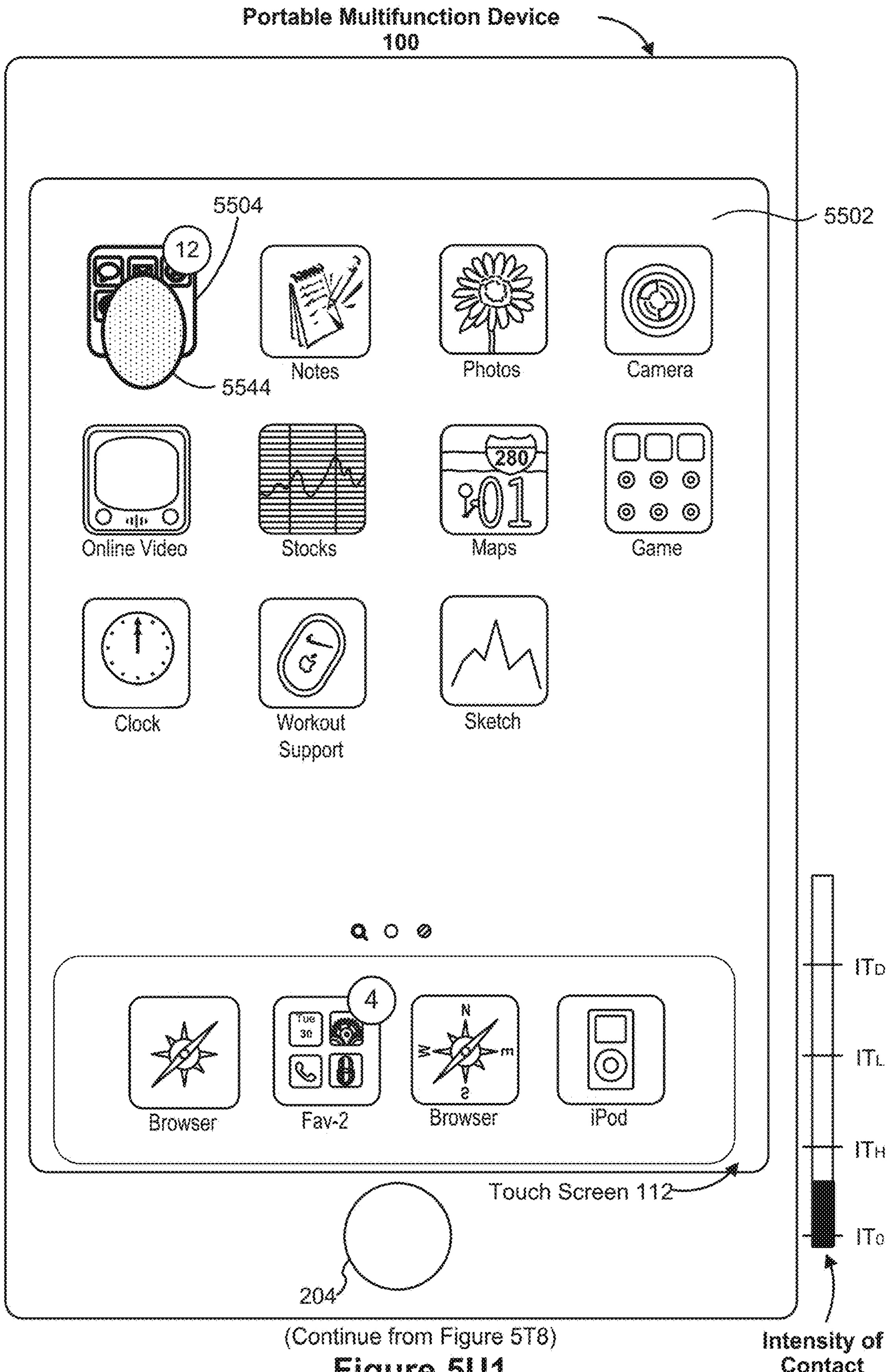
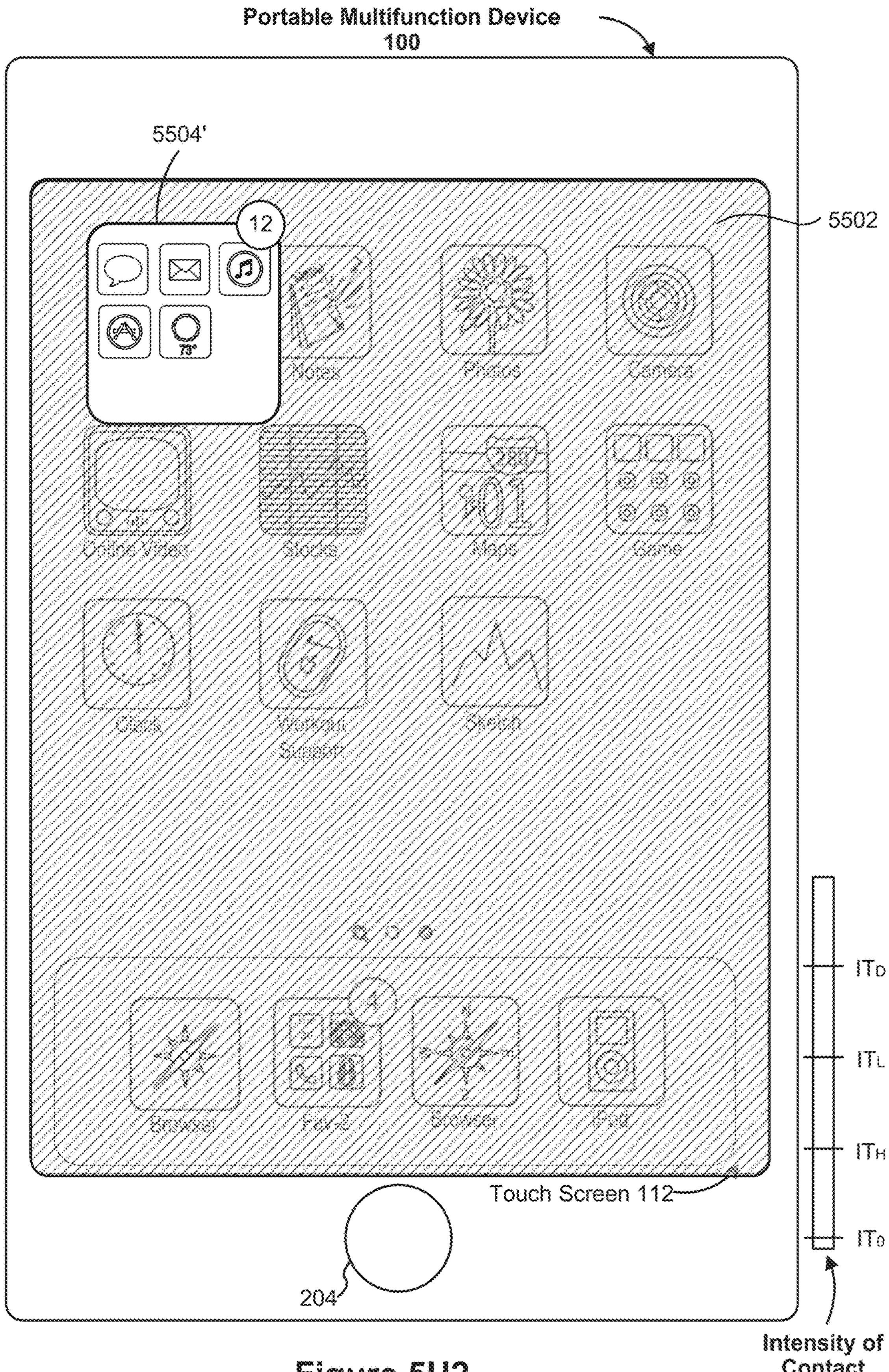

Portable Multifunction Device 100
500
402
9:26 PM
404
42%
406
5542
Edit
Messages
S. Ramanujan
Hardy doesn't want to play this afternoon.
Mom
Don't forget about your dad's birthday party!
G. Hardy
I've got number 8!
Genevive
OK
Issac
See u tonight.
Dad
Come to my party!
Neil
You can go with Gen.
Miles
No. That's not a good idea.
Alice
And guess who I saw there!
Wendy
Lalala...
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5T15



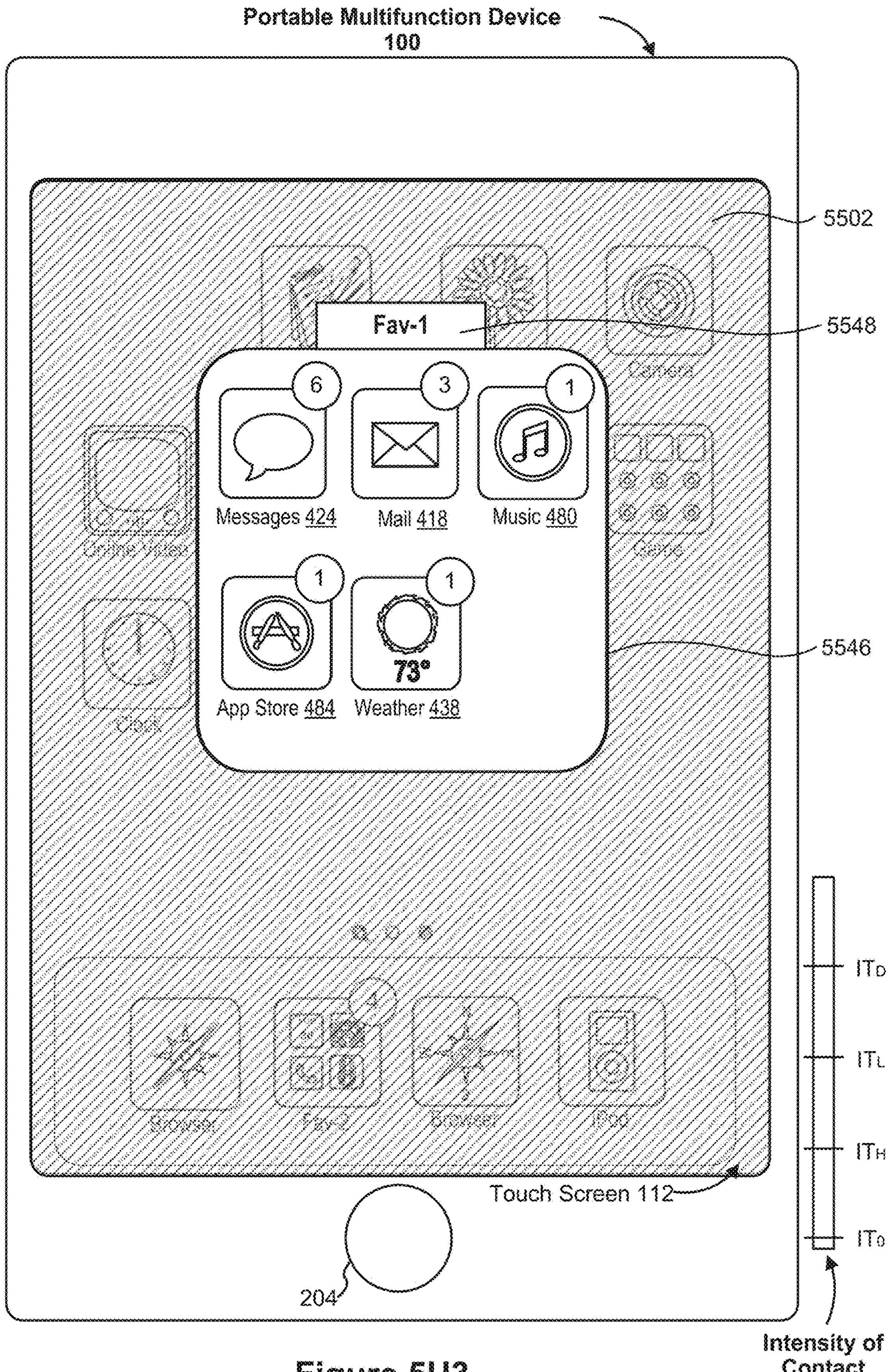
(Continue from Figure 5T8)

Figure 5U1



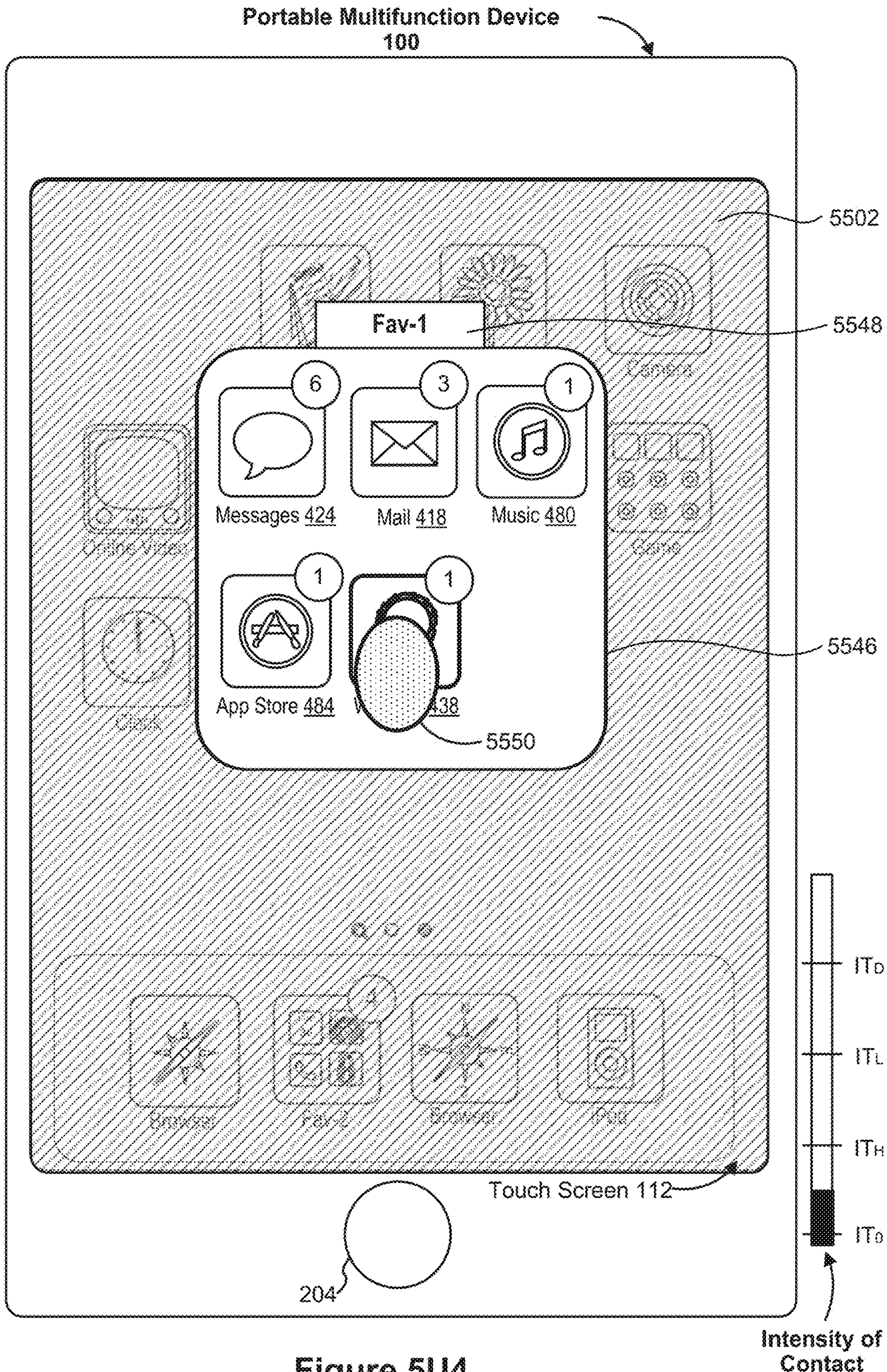
Portable Multifunction Device
100
5504'
12
73°
5502
Notes
Photos
Camera
Online Video
Stocks
Maps
Game
Clock
Workout Support
Sketch
4
Browser
Fav-2
Browser
iPod
Touch Screen 112
204
ITD
ITL
ITH
IT0
Intensity of Contact

Figure 5U2



Portable Multifunction Device
100
5502
Fav-1
5548
6
3
1
Messages 424
Mail 418
Music 480
1
1
73°
App Store 484
Weather 438
5546
IT_D
IT_L
IT_H
IT_0
Touch Screen 112
204
Intensity of Contact

Figure 5U3



Portable Multifunction Device
100
5502
Fav-1
5548
6
3
1
Messages 424
Mail 418
Music 480
1
1
App Store 484
438
5546
5550
Touch Screen 112
204
ITD
ITL
ITH
IT0
Intensity of Contact

Figure 5U4

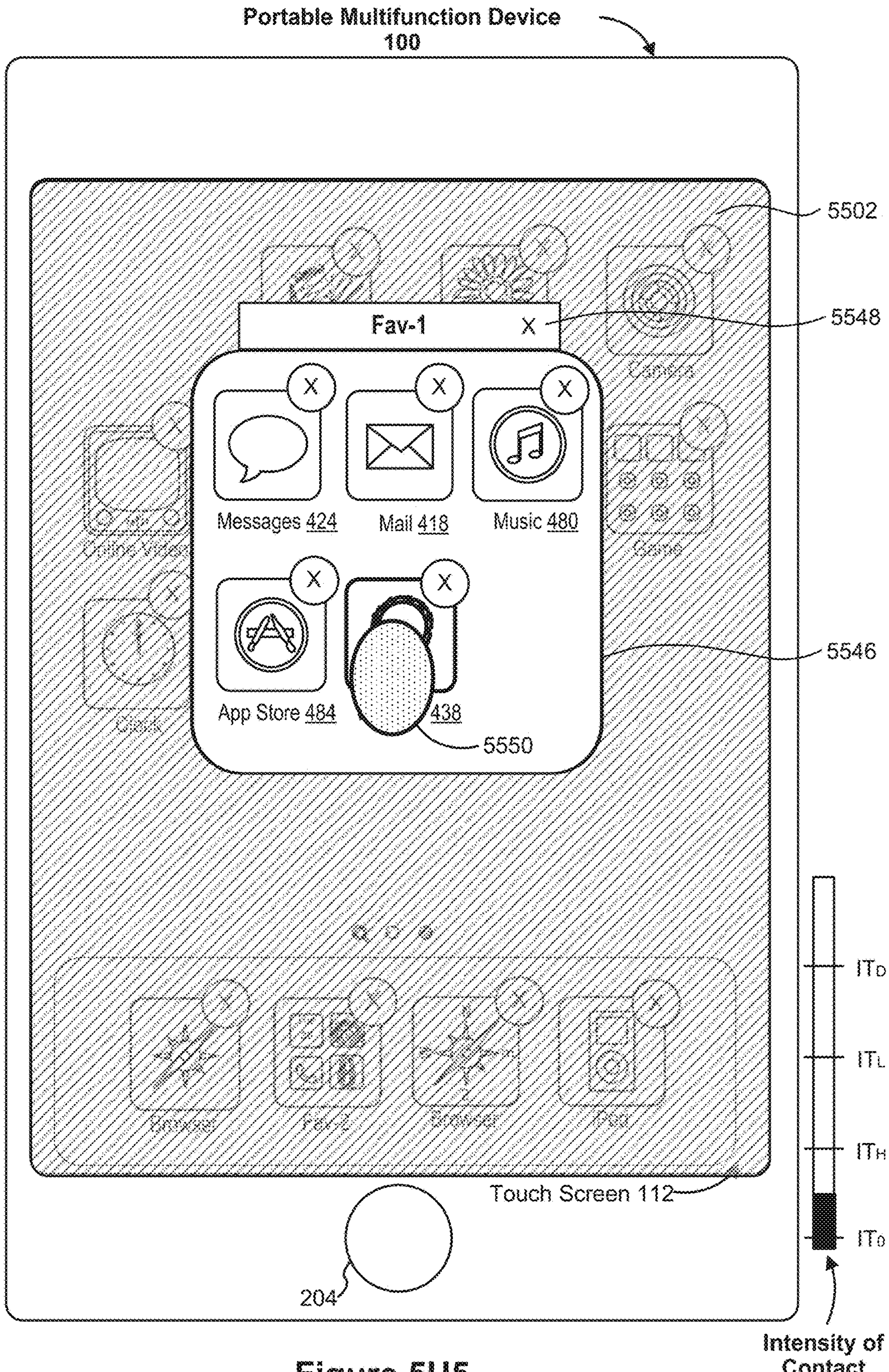
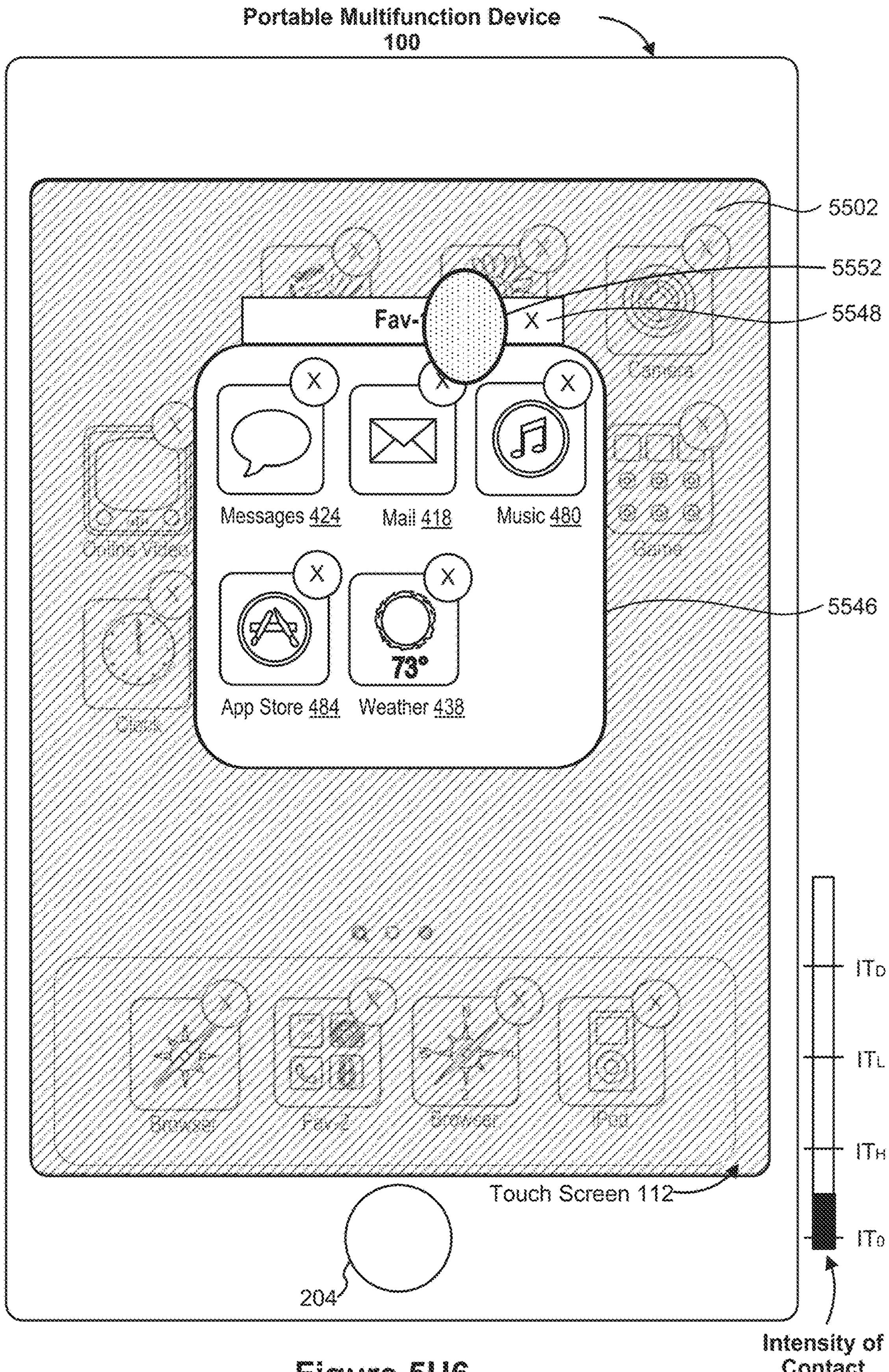

Portable Multifunction Device
100
5502
Fav-1
X
5548
Messages 424
Mail 418
Music 480
App Store 484
438
5550
5546
ITD
ITL
ITH
IT0
Touch Screen 112
204
Intensity of
Contact

Figure 5U5


Portable Multifunction Device
100
5502
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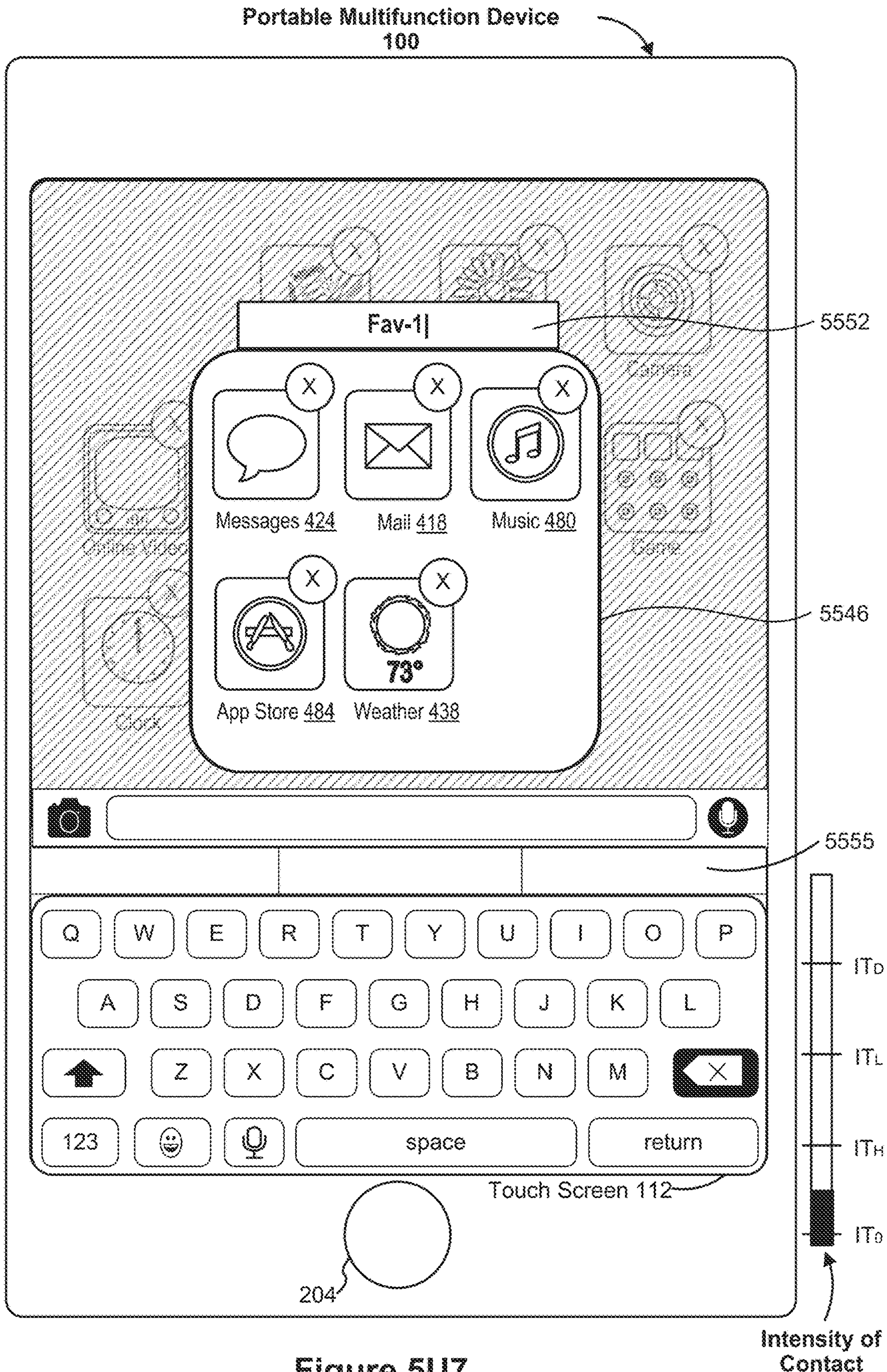
Messages 424
Mail 418
Music 480
73°
App Store 484
Weather 438
5546
ITD
ITL
ITH
IT0
Touch Screen 112
204
Intensity of
Contact

Figure 5U6


Portable Multifunction Device
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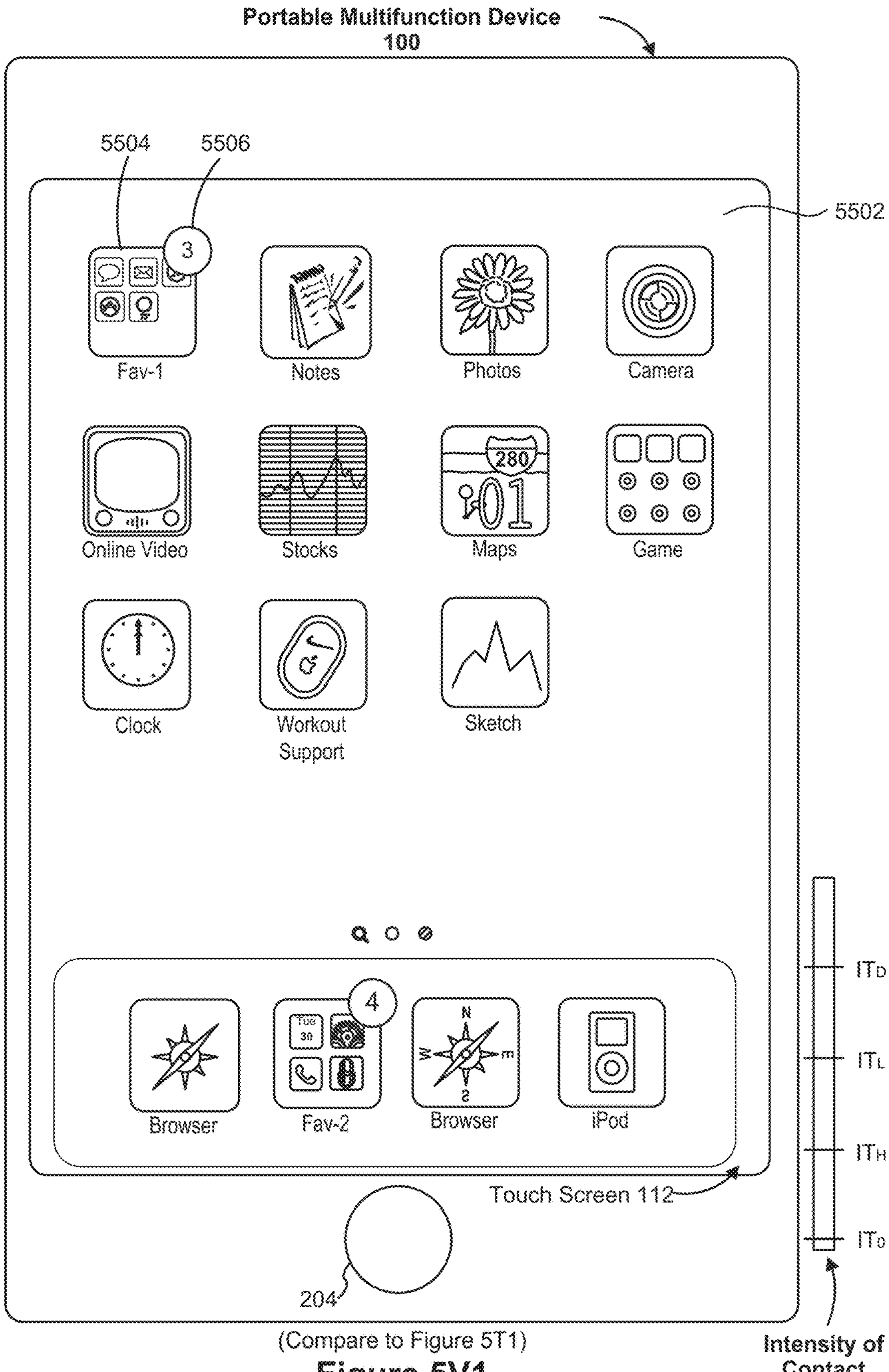
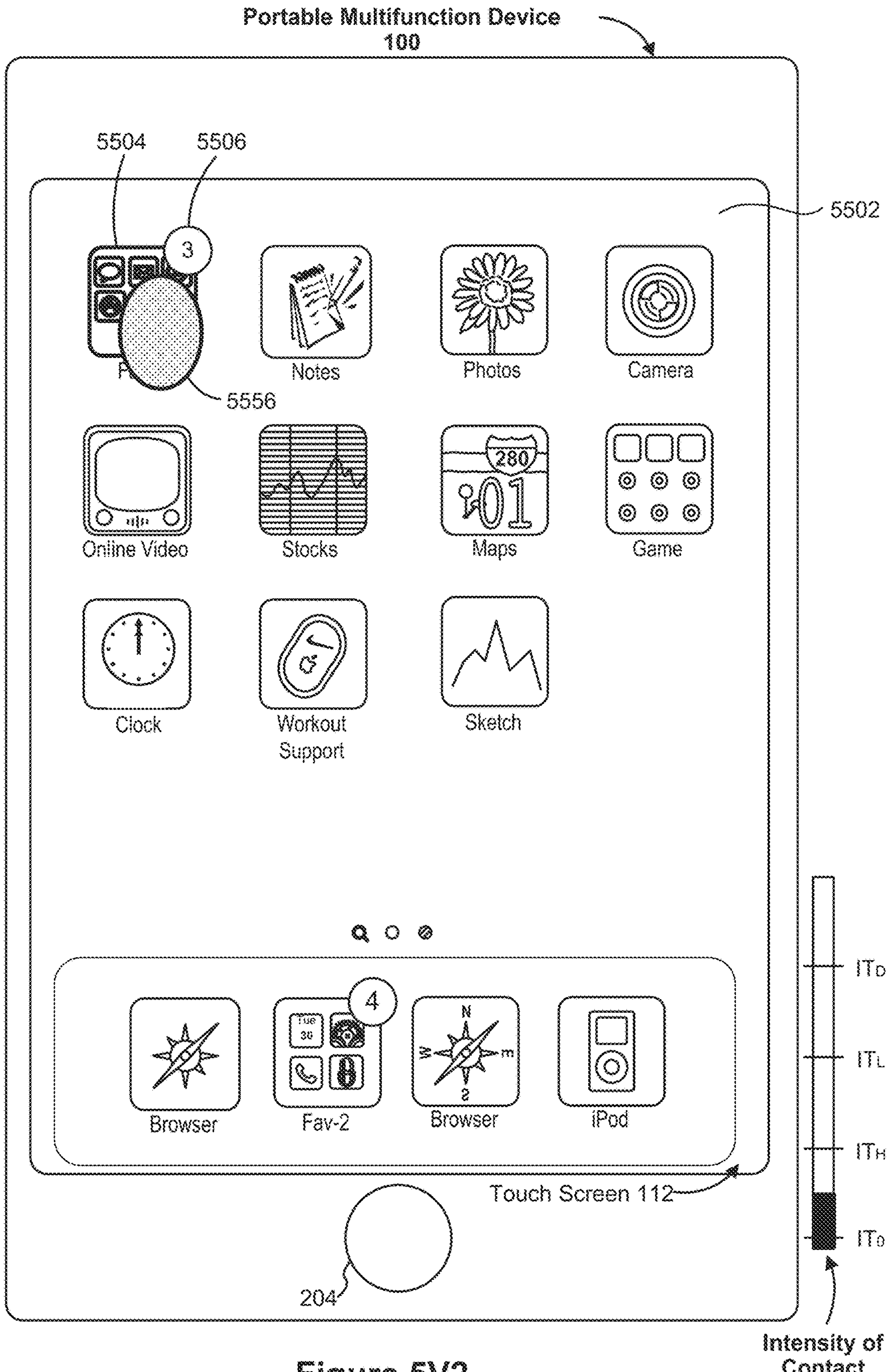
Fav-1|
5552
X
Messages 424
Mail 418
Music 480
App Store 484
73°
Weather 438
5546
5555
Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M
123
space
return
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5U7



(Compare to Figure 5T1)

Figure 5V1


Portable Multifunction Device
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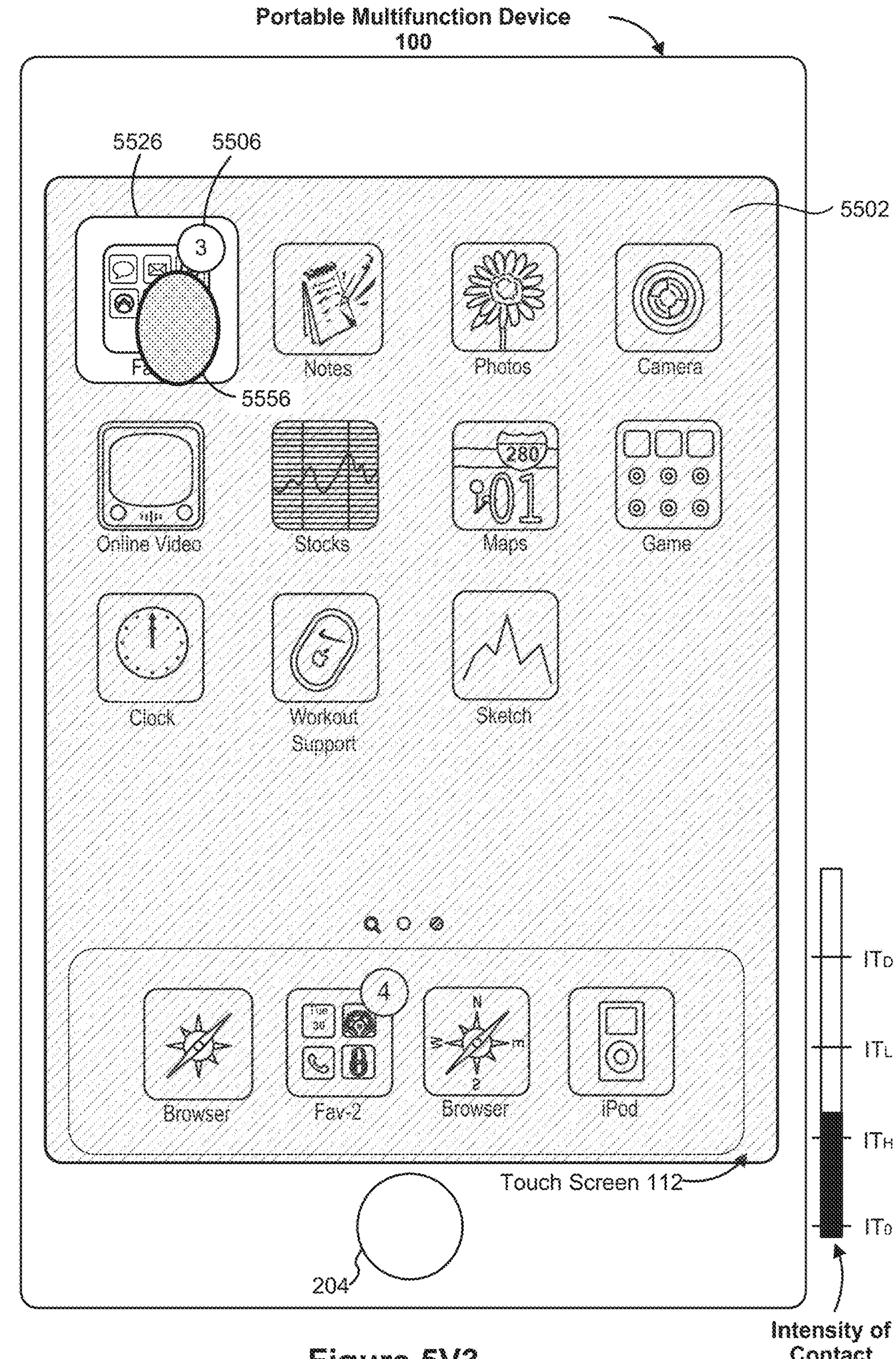
Notes
Photos
Camera
5556
280
01
Online Video
Stocks
Maps
Game
Clock
Workout
Support
Sketch
Tue
30
4
N
Browser
Fav-2
Browser
iPod
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of
Contact

Figure 5V2


Portable Multifunction Device
100
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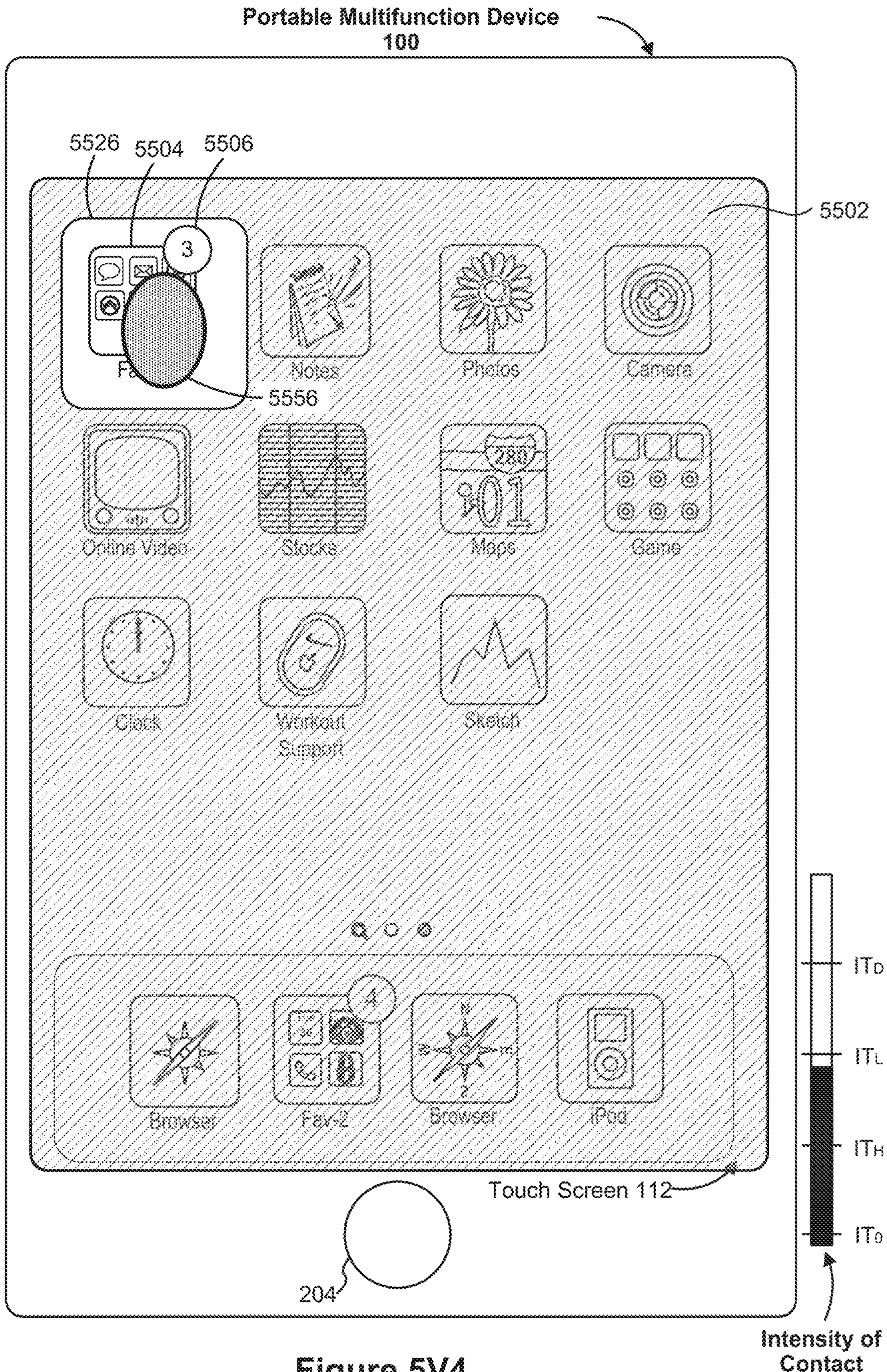
Notes
Photos
Camera
5556
Online Video
Stocks
Maps
Game
Clock
Workout Support
Sketch
4
Browser
Fav-2
Browser
iPod
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5V3



Portable Multifunction Device
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5526
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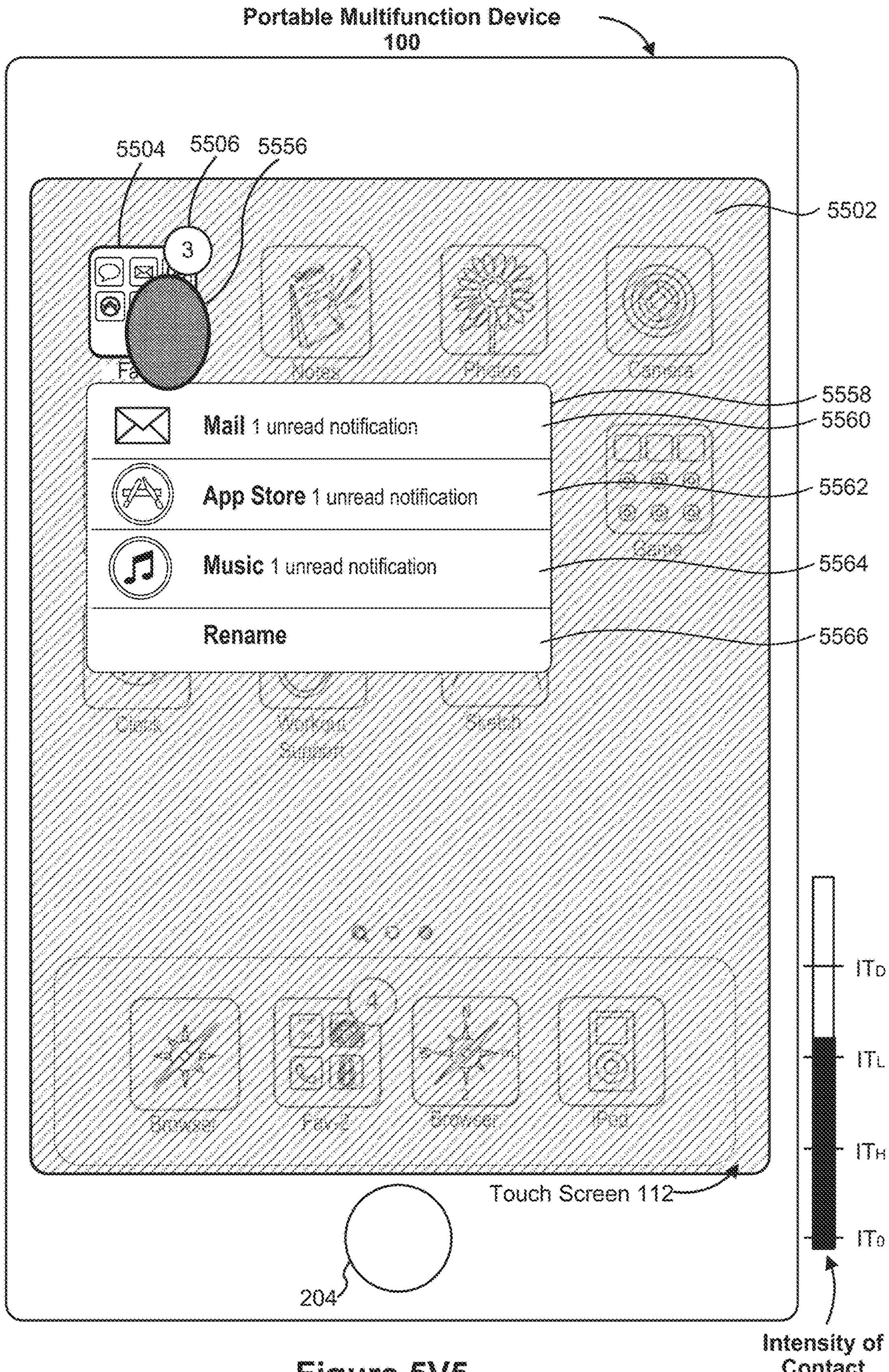
Notes
Photos
Camera
5556
Online Video
Stocks
280
Maps
Game
Clock
Workout Support
Sketch
4
Browser
Fav-2
Browser
iPod
Touch Screen 112
204
ITD
ITL
ITH
IT0
Intensity of Contact

Figure 5V4



Portable Multifunction Device
100
5504
5506
5556
3
5502
Mail 1 unread notification
App Store 1 unread notification
Music 1 unread notification
Rename
5558
5560
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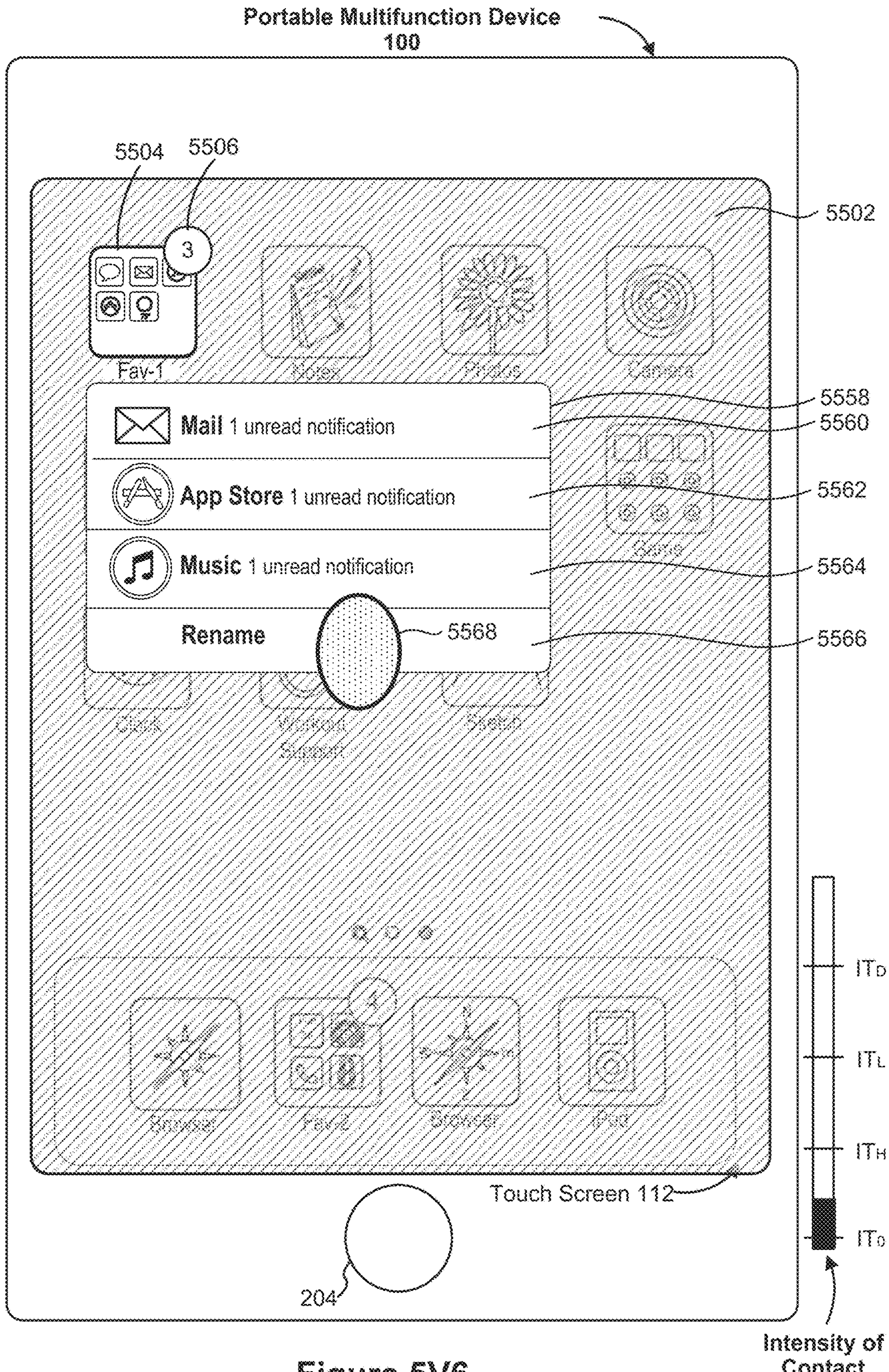
5564
5566
IT_D
IT_L
IT_H
IT_0
Touch Screen 112
204
Intensity of Contact

Figure 5V5



Portable Multifunction Device 100
5504
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3
5502
Fav-1
Mail 1 unread notification
App Store 1 unread notification
Music 1 unread notification
Rename
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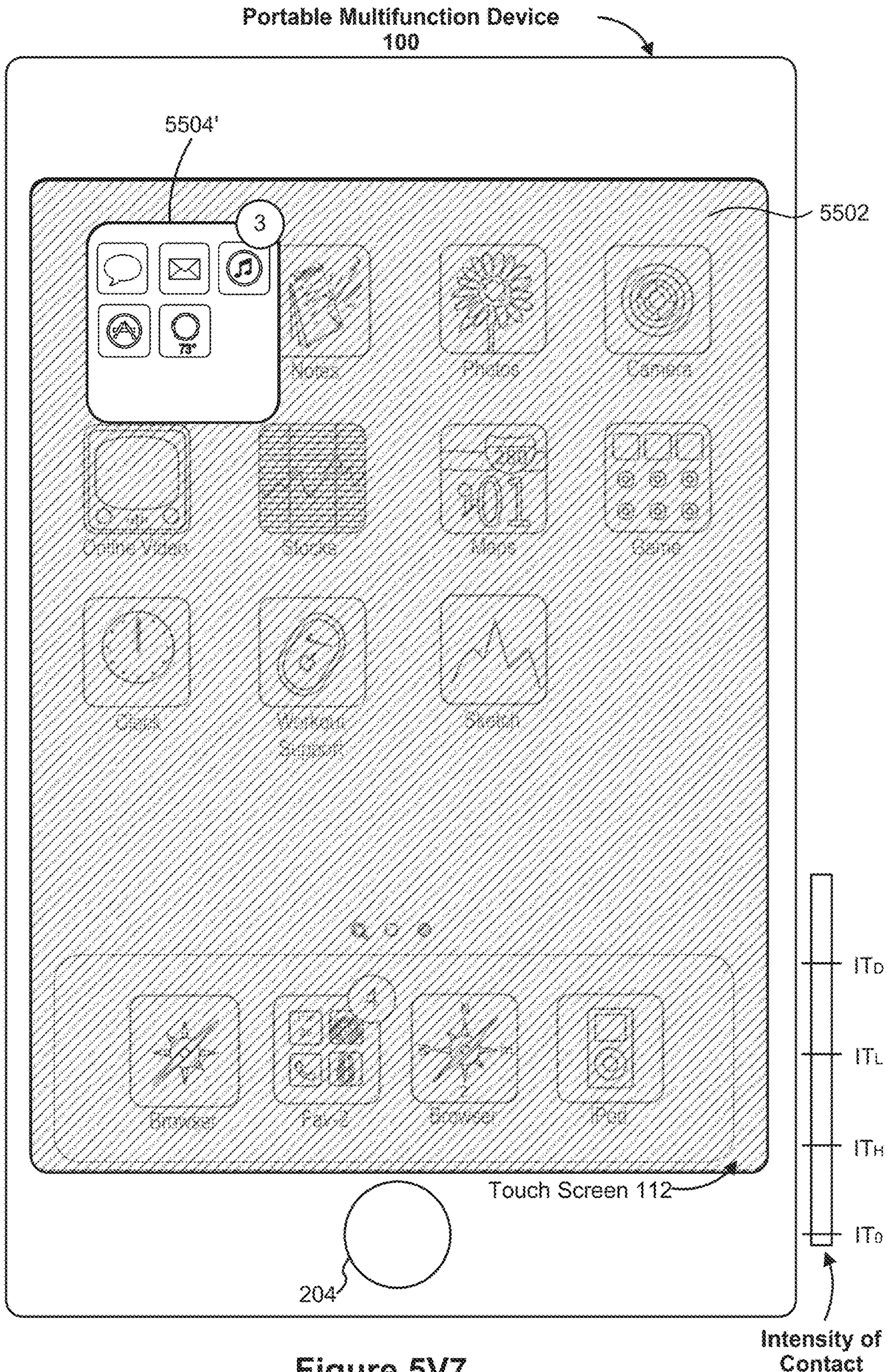
Touch Screen 112
204
Intensity of Contact

Figure 5V6



Portable Multifunction Device
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Notes
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Camera
Online Video
Stocks
Maps
Game
Clock
Workout
Support
Sketch
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Browser
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Browser
iPod
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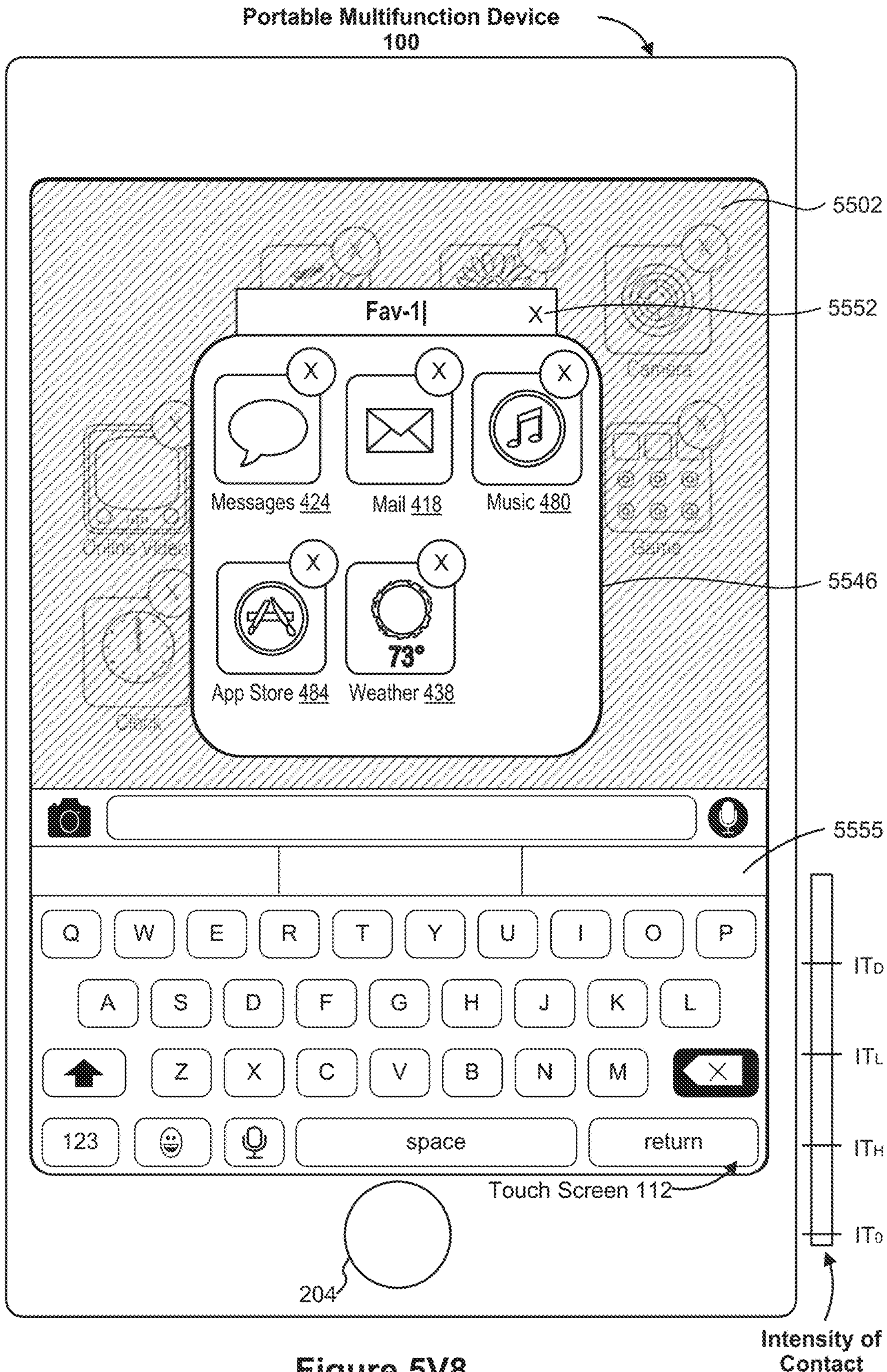
ITD
ITL
ITH
IT0
Touch Screen 112
204
Intensity of
Contact

Figure 5V7


Portable Multifunction Device
100
5502
Fav-1|
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Messages 424
Mail 418
Music 480
5546
App Store 484
73°
Weather 438
5555
Q W E R T Y U I O P
A S D F G H J K L
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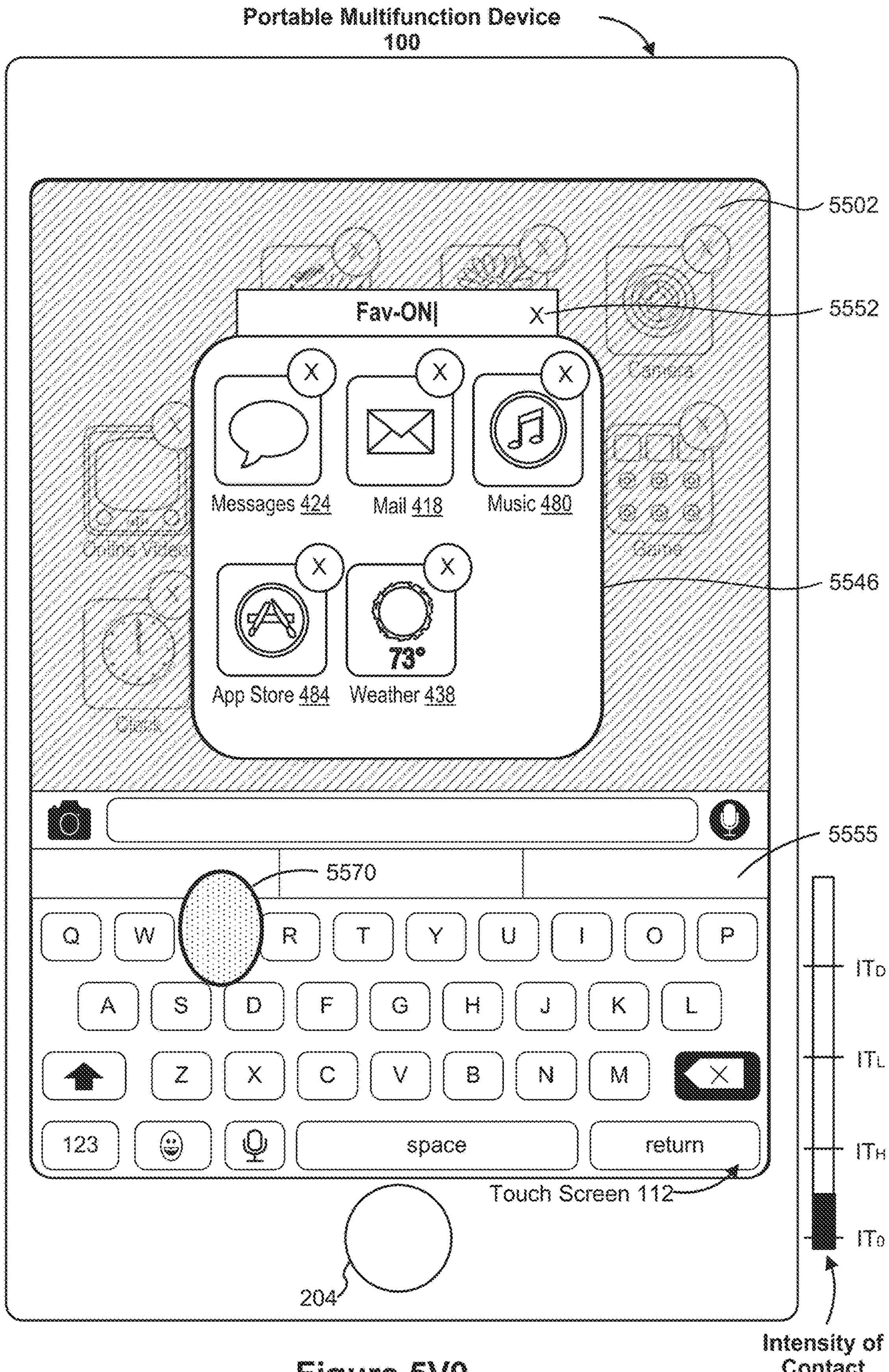
123
space
return
Touch Screen 112
204
ITD
ITL
ITH
IT0
Intensity of Contact

Figure 5V8



Portable Multifunction Device
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Music 480
App Store 484
Weather 438
73°
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space
return
Touch Screen 112
204
IT_D
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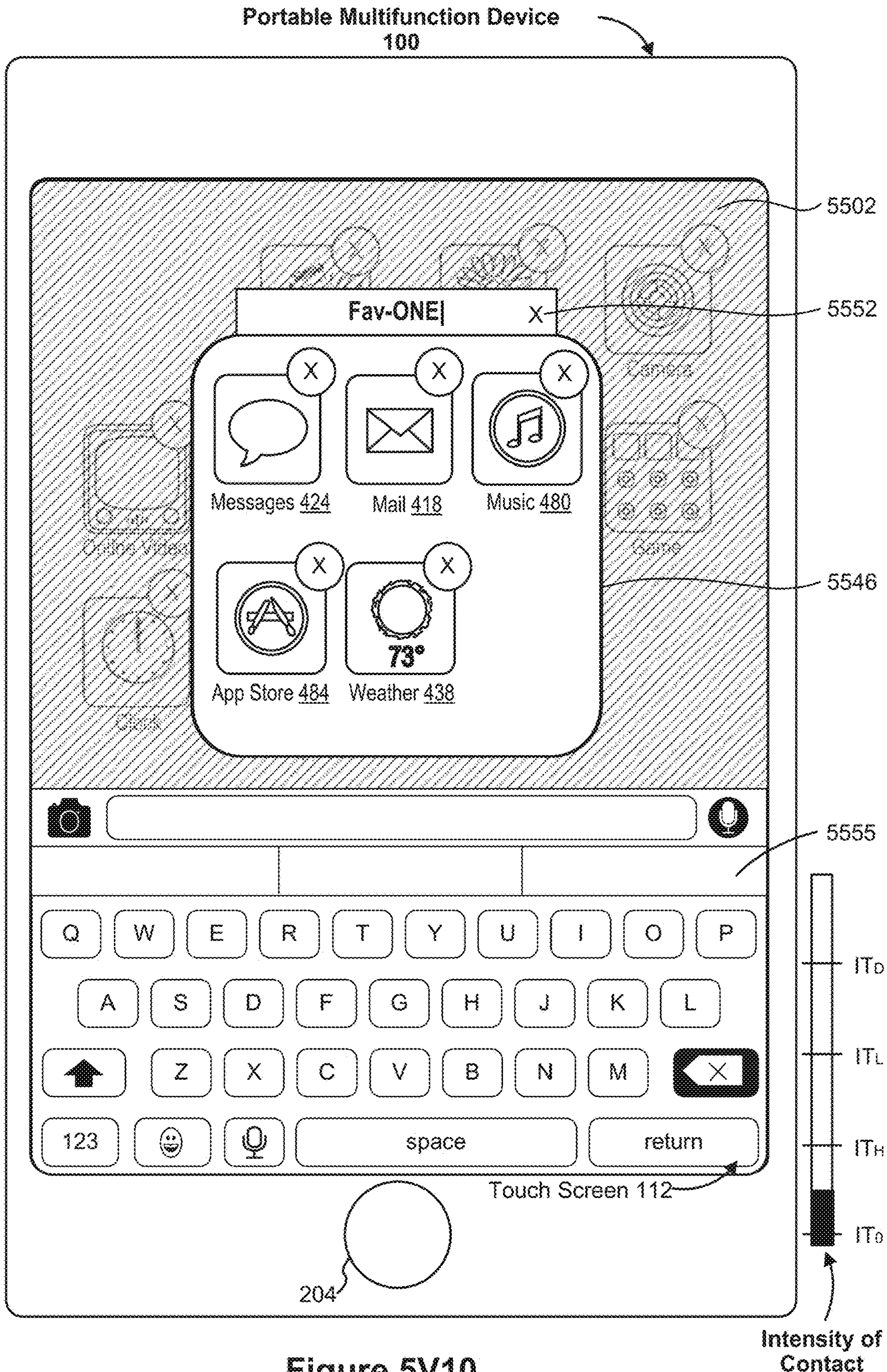
IT_0
Intensity of Contact

Figure 5V9


Portable Multifunction Device
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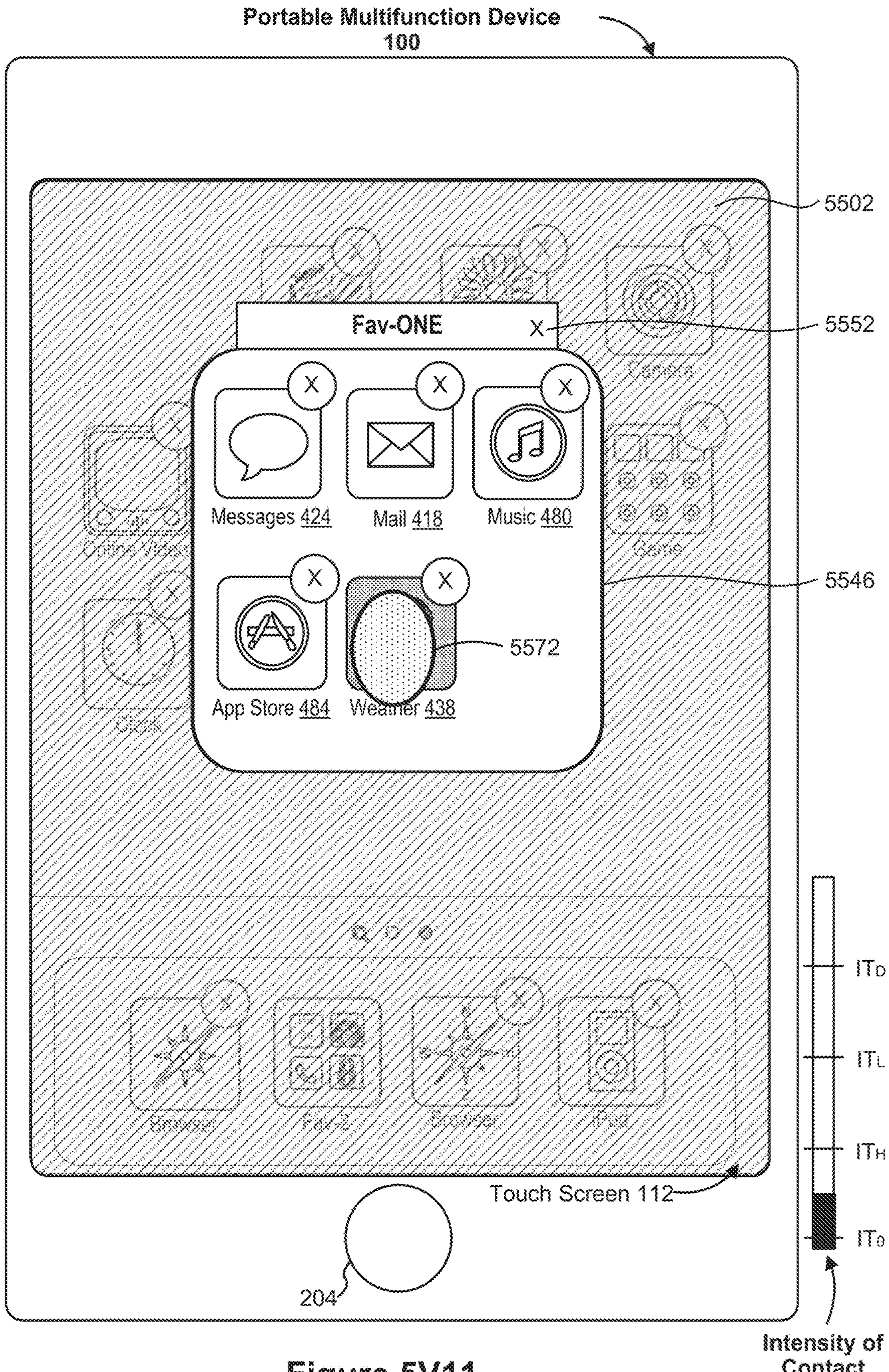
5502
Fav-ONE|
5552
Messages 424
Mail 418
Music 480
5546
App Store 484
Weather 438
73°
5555
Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M
123
space
return
Touch Screen 112
IT_D
IT_L
IT_H
IT_0
204
Intensity of Contact

Figure 5V10


Portable Multifunction Device
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5502
Fav-ONE
X
5552
Messages 424
Mail 418
Music 480
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App Store 484
Weather 438
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ITD
ITL
ITH
IT0
Touch Screen 112
204
Intensity of Contact

Figure 5V11

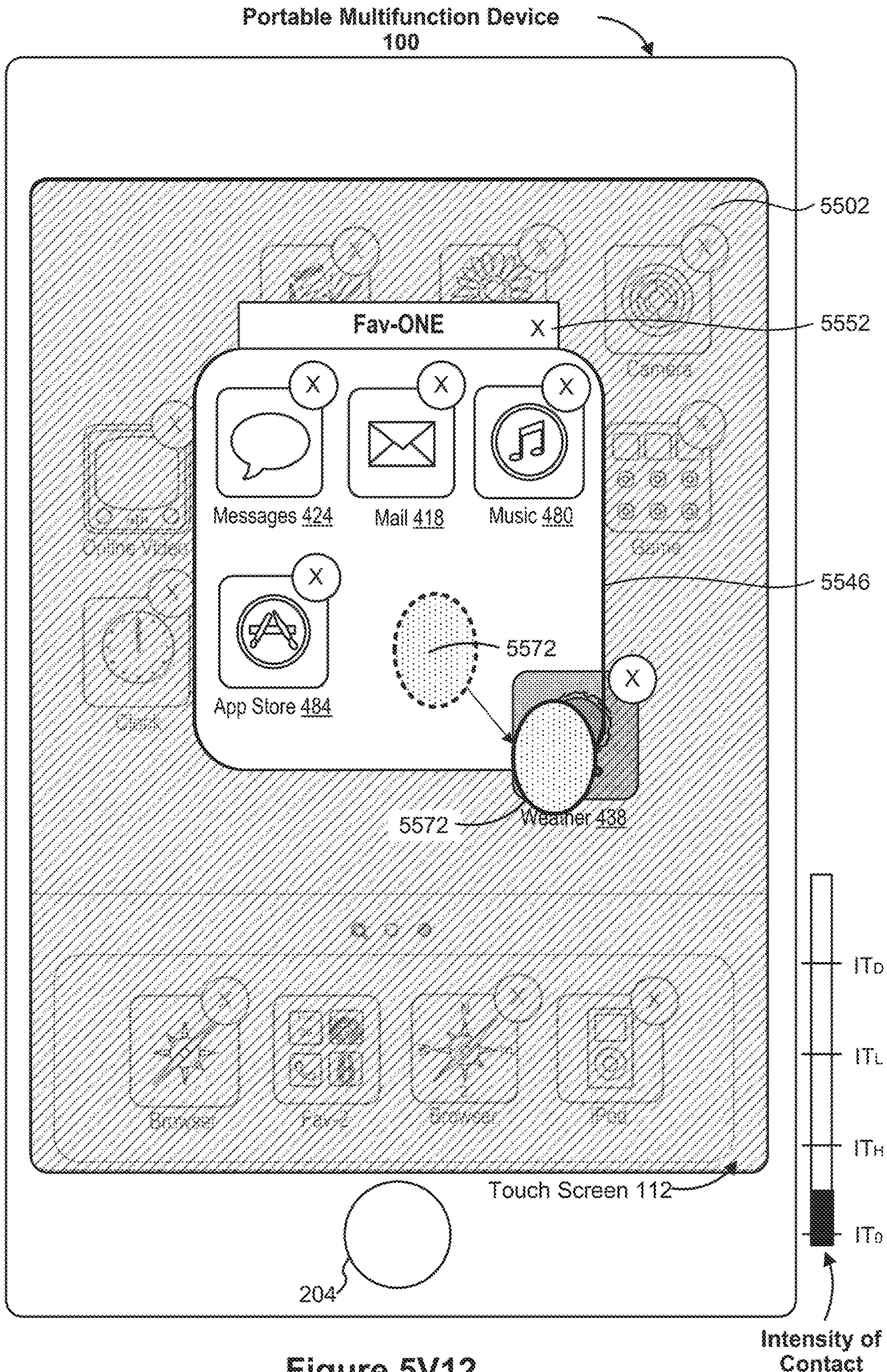
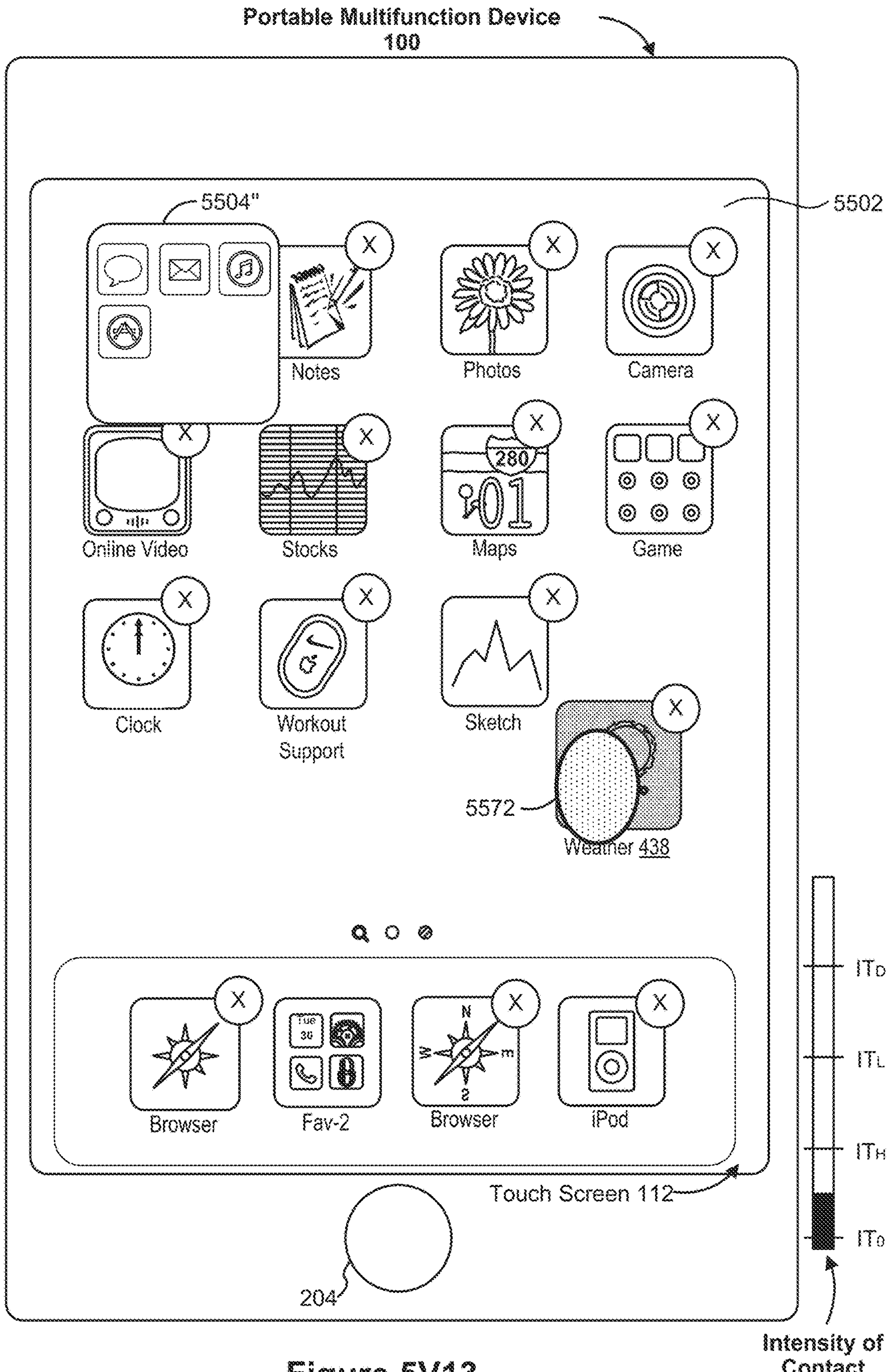

Portable Multifunction Device
100
5502
Fav-ONE
5552
Messages 424
Mail 418
Music 480
5546
App Store 484
5572
5572
Weather 438
ITD
ITL
ITH
IT0
Touch Screen 112
204
Intensity of Contact

Figure 5V12



Portable Multifunction Device
100
5504"
5502
Notes
Photos
Camera
Online Video
Stocks
Maps
Game
Clock
Workout
Support
Sketch
5572
Weather 438
Browser
Fav-2
Browser
iPod
Touch Screen 112
204
ITD
ITL
ITH
IT0
Intensity of
Contact

Figure 5V13

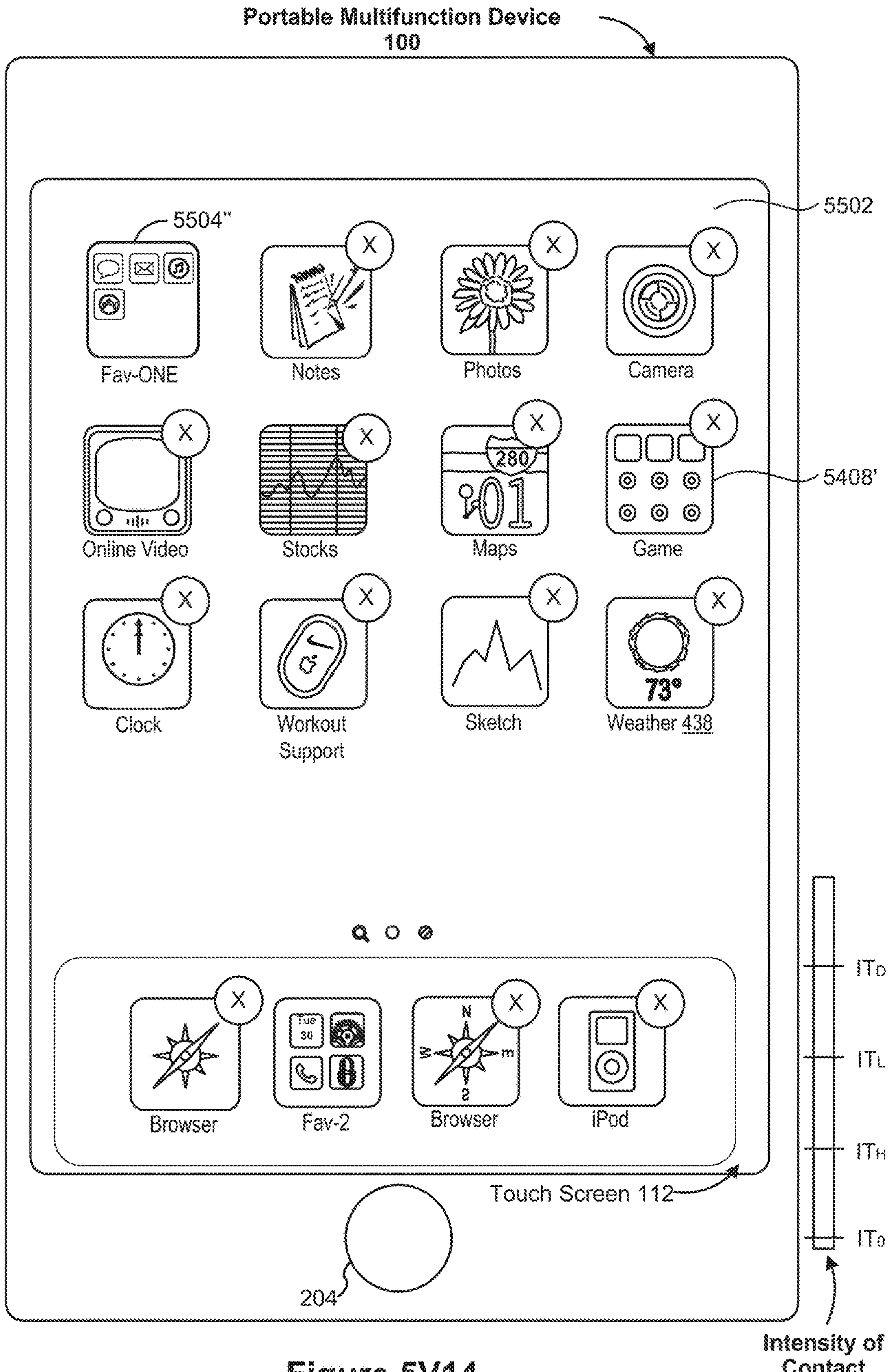
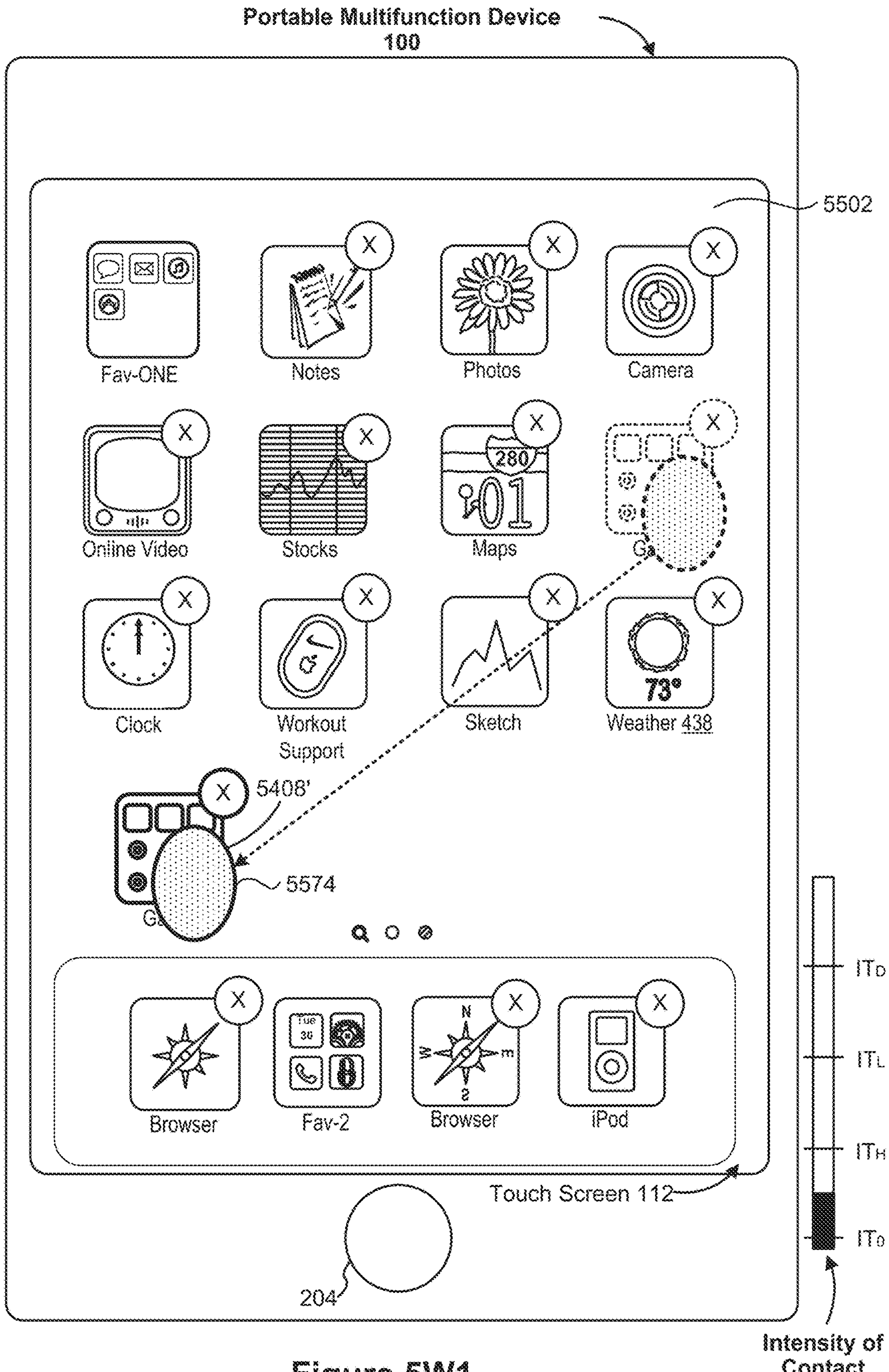
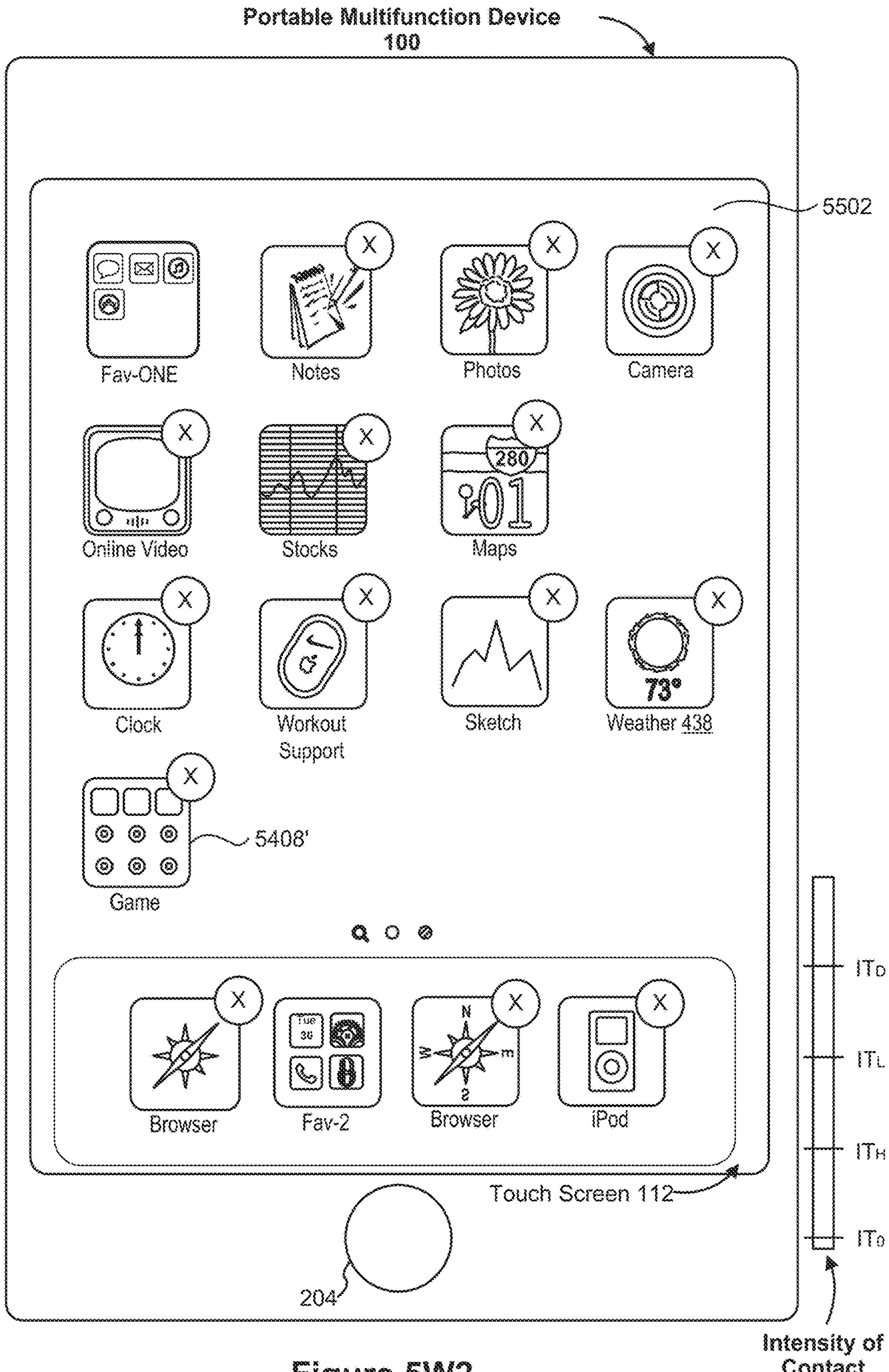

Portable Multifunction Device
100
5504"
5502
Fav-ONE
Notes
Photos
Camera
280
01
Online Video
Stocks
Maps
Game
5408'
73°
Clock
Workout
Support
Sketch
Weather 438
Tue
30
Browser
Fav-2
Browser
iPod
Touch Screen 112
204
ITD
ITL
ITH
IT0
Intensity of
Contact

Figure 5V14



Portable Multifunction Device
100
5502
Fav-ONE
Notes
Photos
Camera
Online Video
Stocks
Maps
Clock
Workout
Support
Sketch
73°
Weather 438
5408'
5574
Browser
Fav-2
Browser
iPod
Touch Screen 112
204
ITD
ITL
ITH
IT0
Intensity of
Contact

Figure 5W1



Portable Multifunction Device
100
5502
Fav-ONE
Notes
Photos
Camera
Online Video
Stocks
280
Maps
Clock
Workout
Support
Sketch
73°
Weather 438
Game
5408'
Browser
Fav-2
Browser
iPod
Touch Screen 112
204
ITD
ITL
ITH
IT0
Intensity of
Contact

Figure 5W2

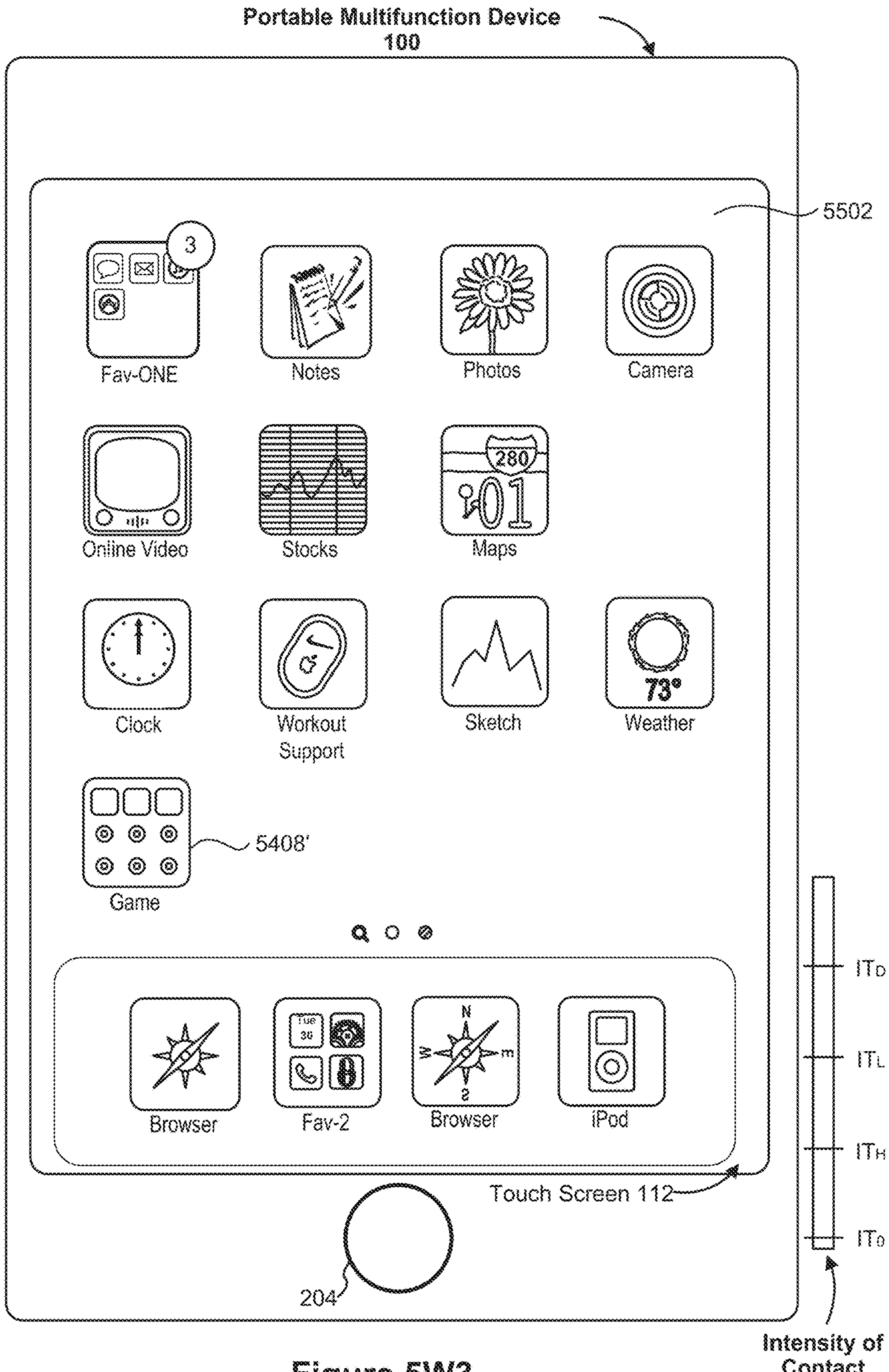
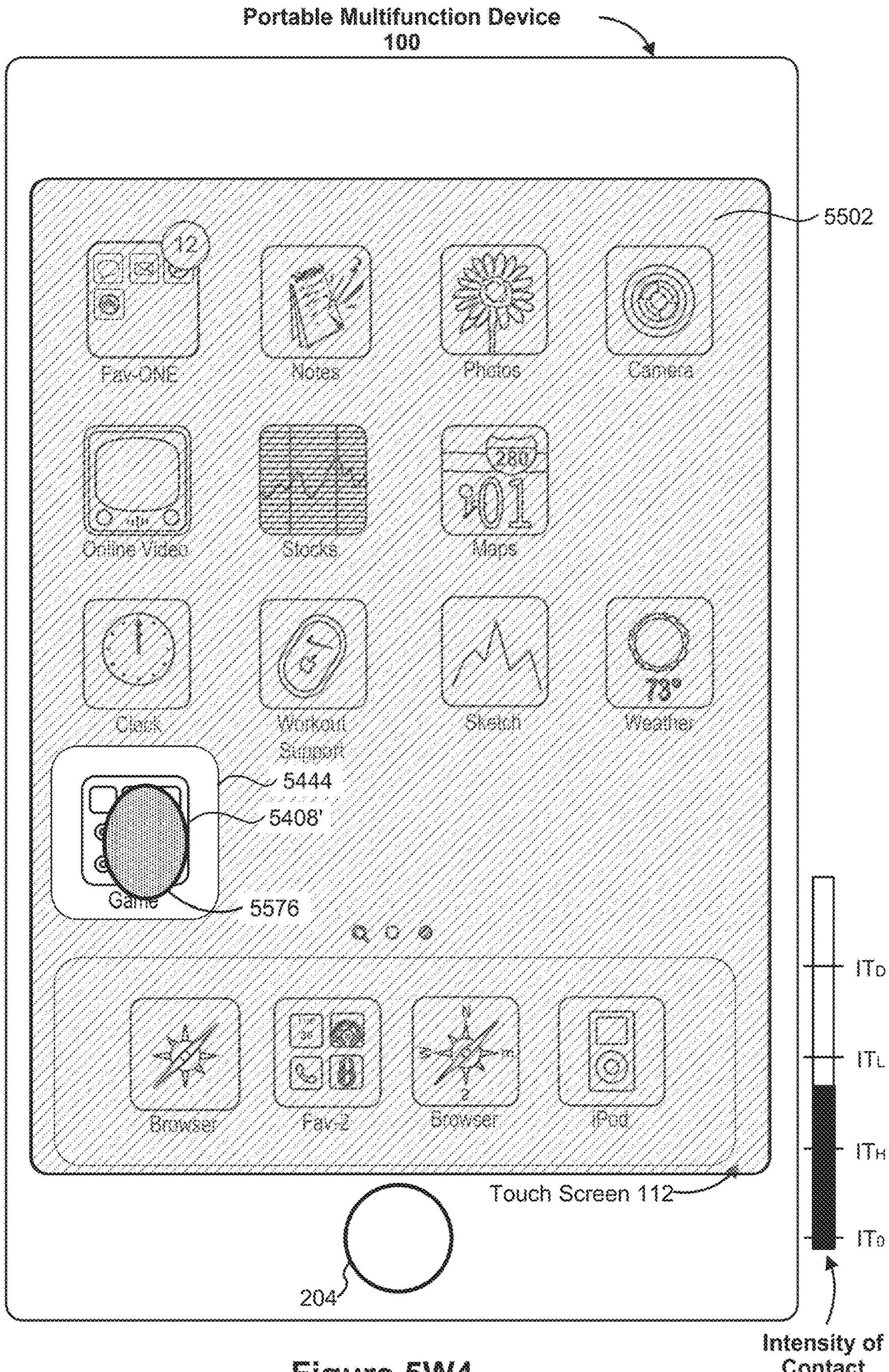
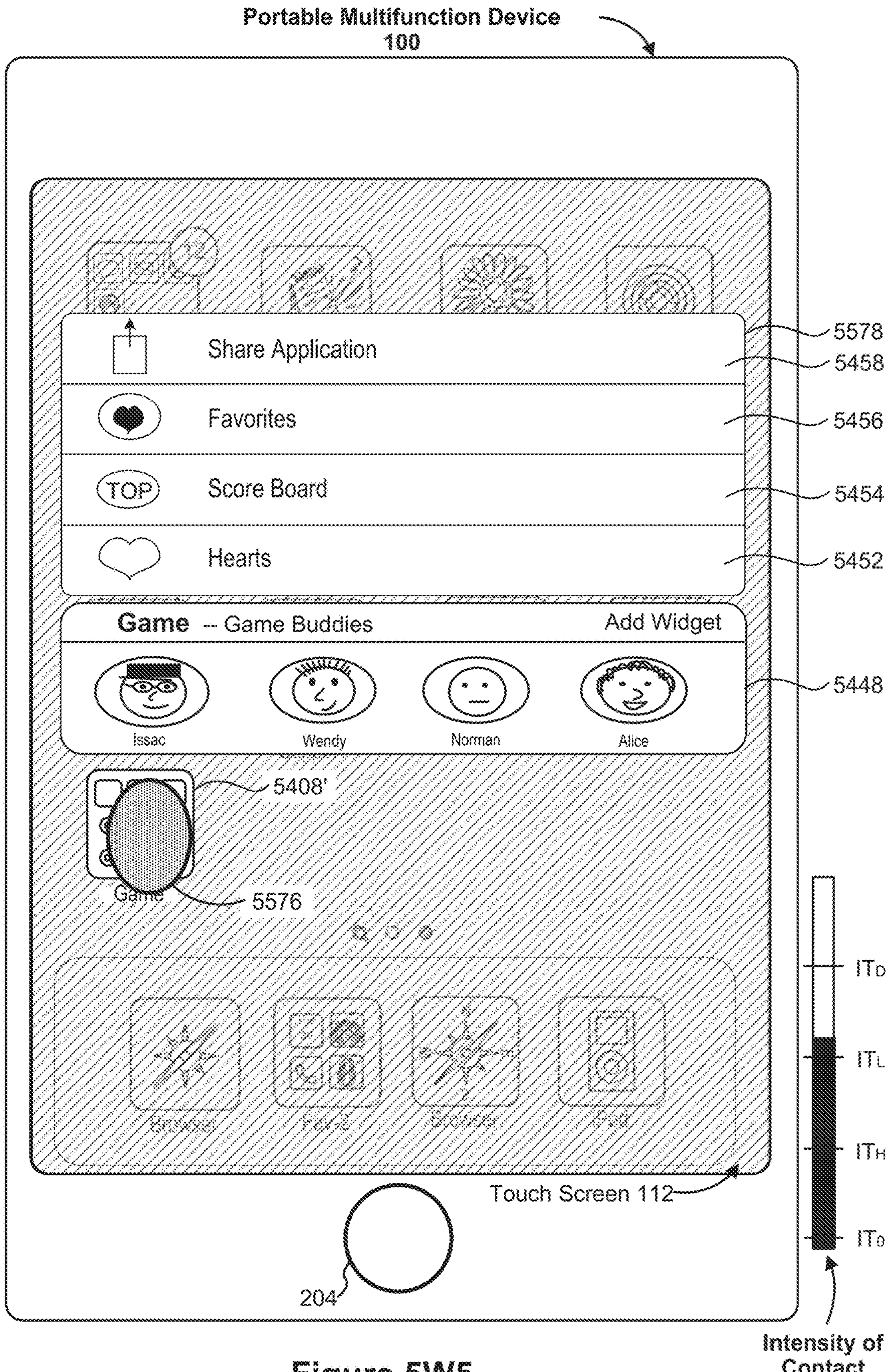

Portable Multifunction Device
100
5502
3
Fav-ONE
Notes
Photos
Camera
Online Video
Stocks
280
Maps
Clock
Workout
Support
Sketch
73°
Weather
Game
5408'
Browser
Fav-2
Browser
iPod
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of
Contact

Figure 5W3



Portable Multifunction Device
100
5502
12
Fav-ONE
Notes
Photos
Camera
Online Video
Stocks
280
Maps
Clock
Workout Support
Sketch
73°
Weather
5444
5408'
Game
5576
Browser
Fav-2
Browser
iPod
Touch Screen 112
204
IT_D
IT_L
IT_H
IT_0
Intensity of Contact

Figure 5W4



Portable Multifunction Device
100
Share Application
Favorites
TOP
Score Board
Hearts
5578
5458
5456
5454
5452
Game -- Game Buddies
Add Widget
Issac
Wendy
Norman
Alice
5448
5408'
Game
5576
ITD
ITL
ITH
IT0
Touch Screen 112
204
Intensity of Contact

Figure 5W5

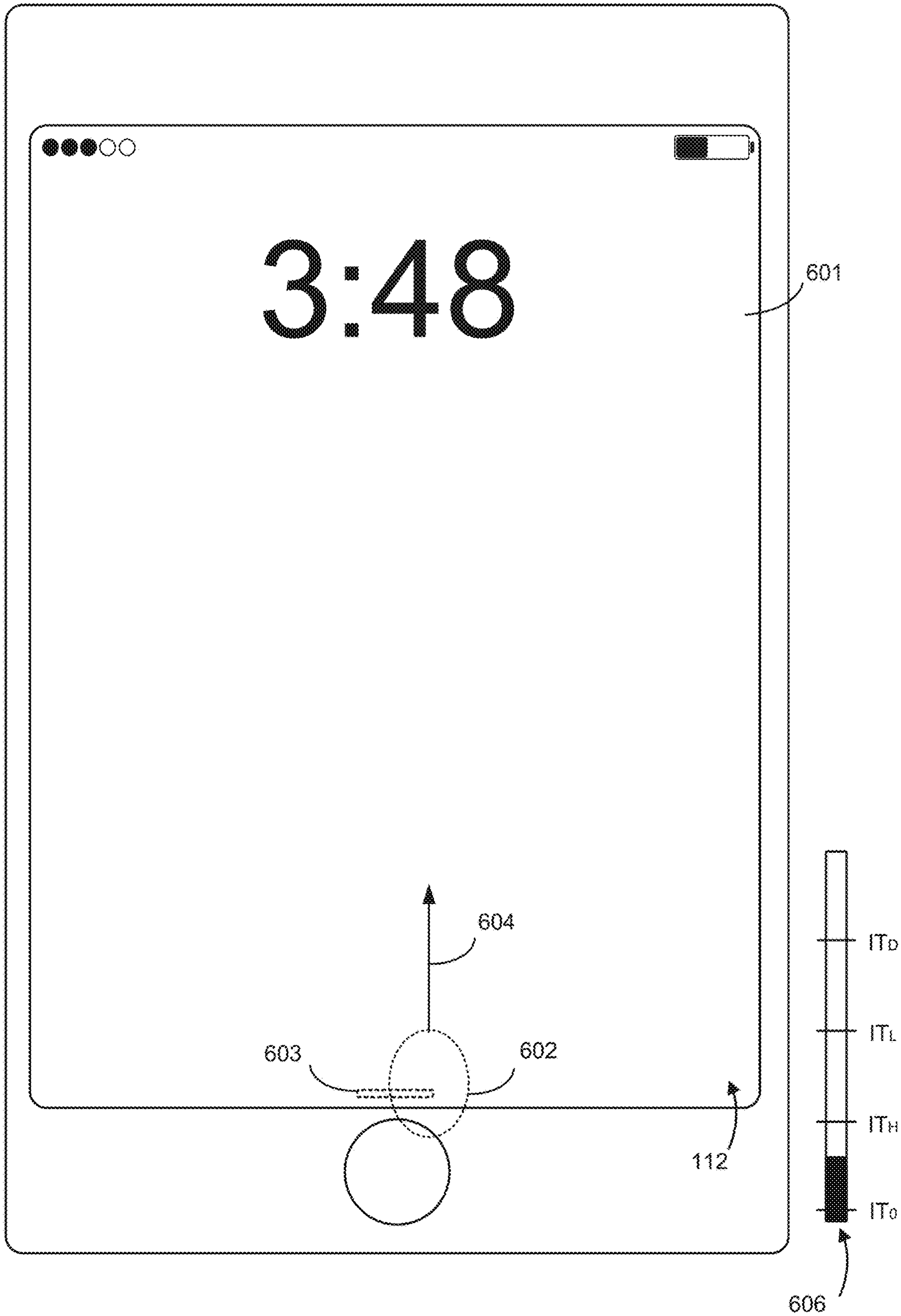


Figure 6A

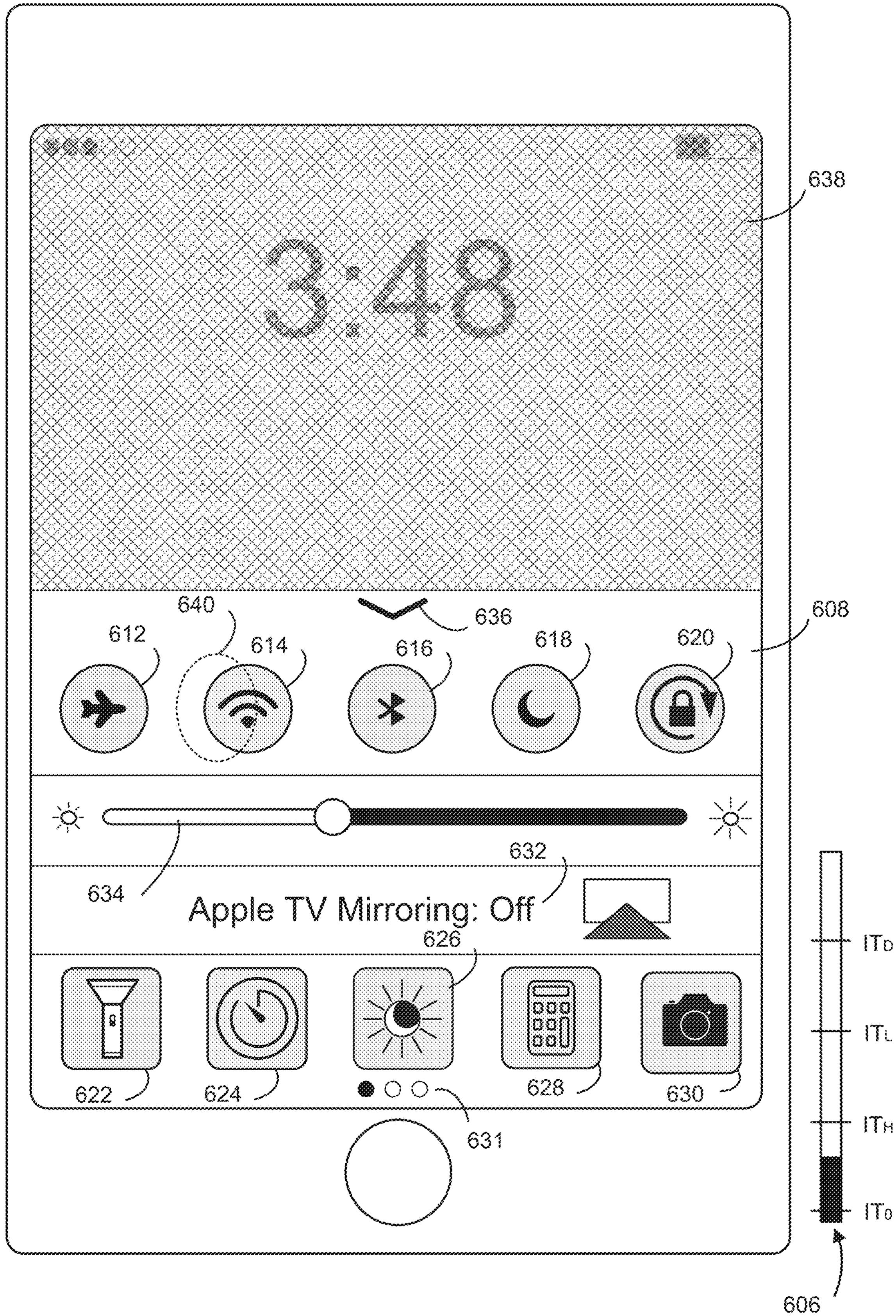

3:48
638
608
640
636
612
614
616
618
620
632
634
Apple TV Mirroring: Off
626
622
624
628
630
631
IT_D
IT_L
IT_H
IT_0
606

Figure 6B

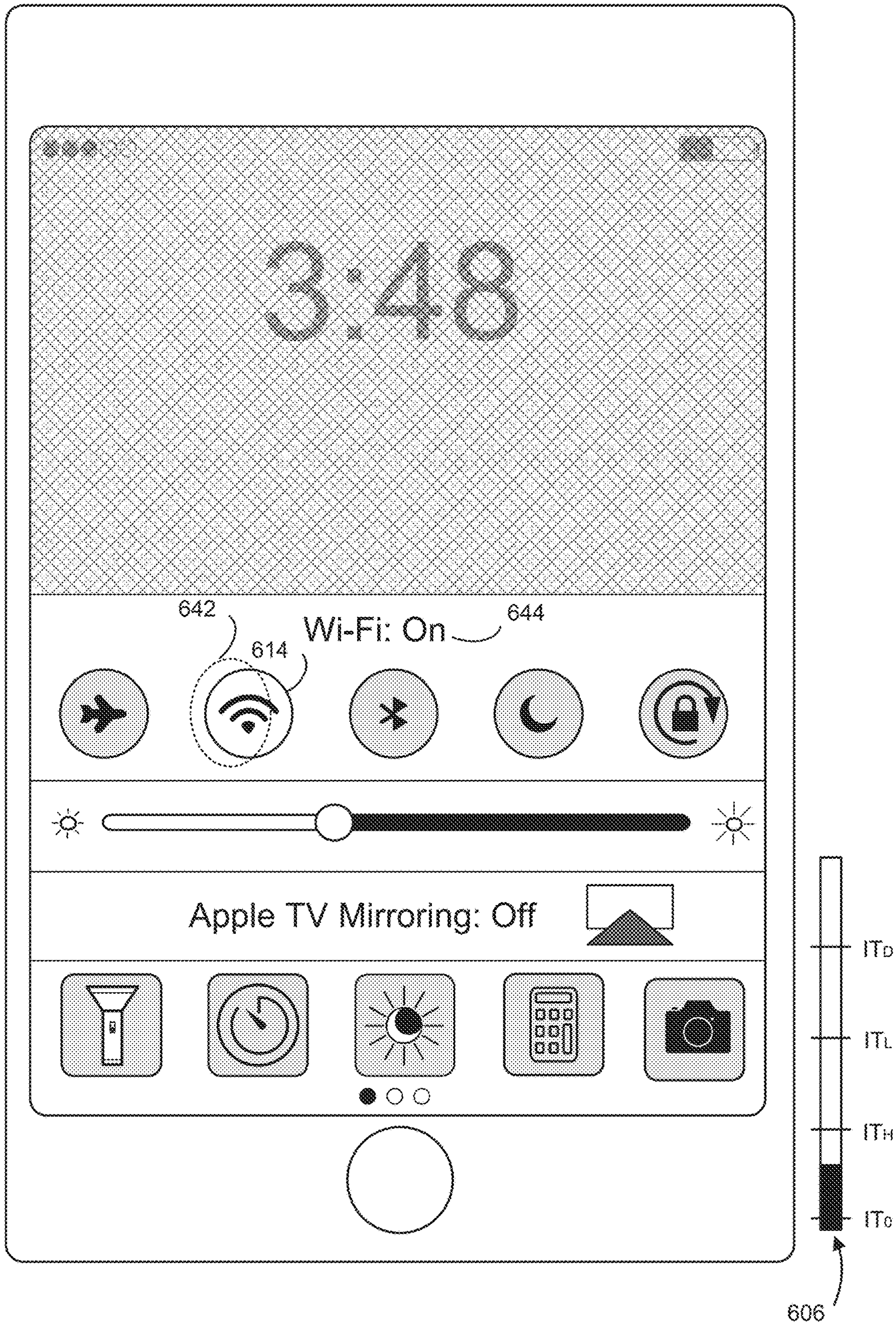

3:48
642
614
Wi-Fi: On
644
Apple TV Mirroring: Off
ITD
ITL
ITH
IT0
606

Figure 6C

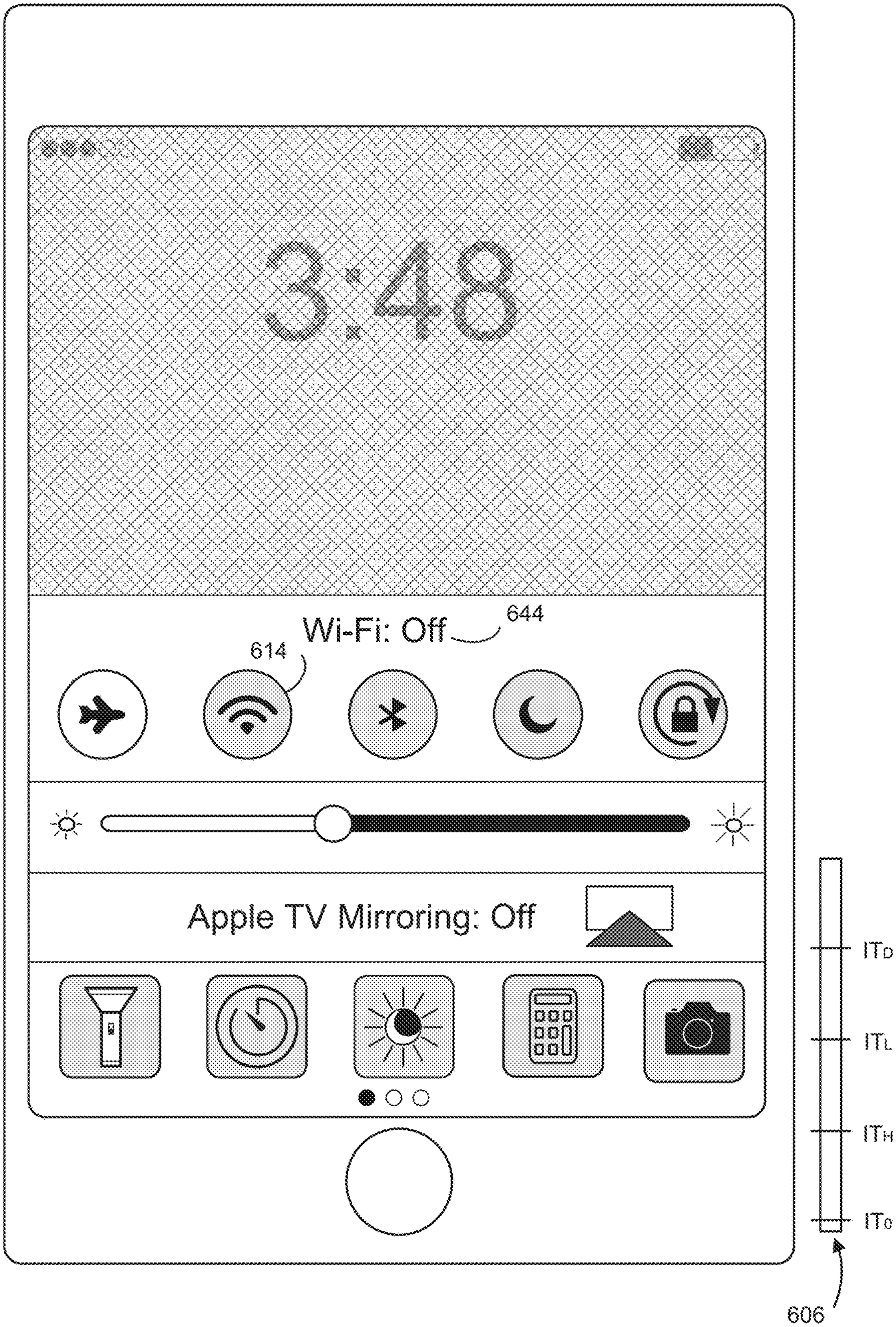

3:48
Wi-Fi: Off
644
614
Apple TV Mirroring: Off
ITD
ITL
ITH
IT0
606

Figure 6D

Figure 6E

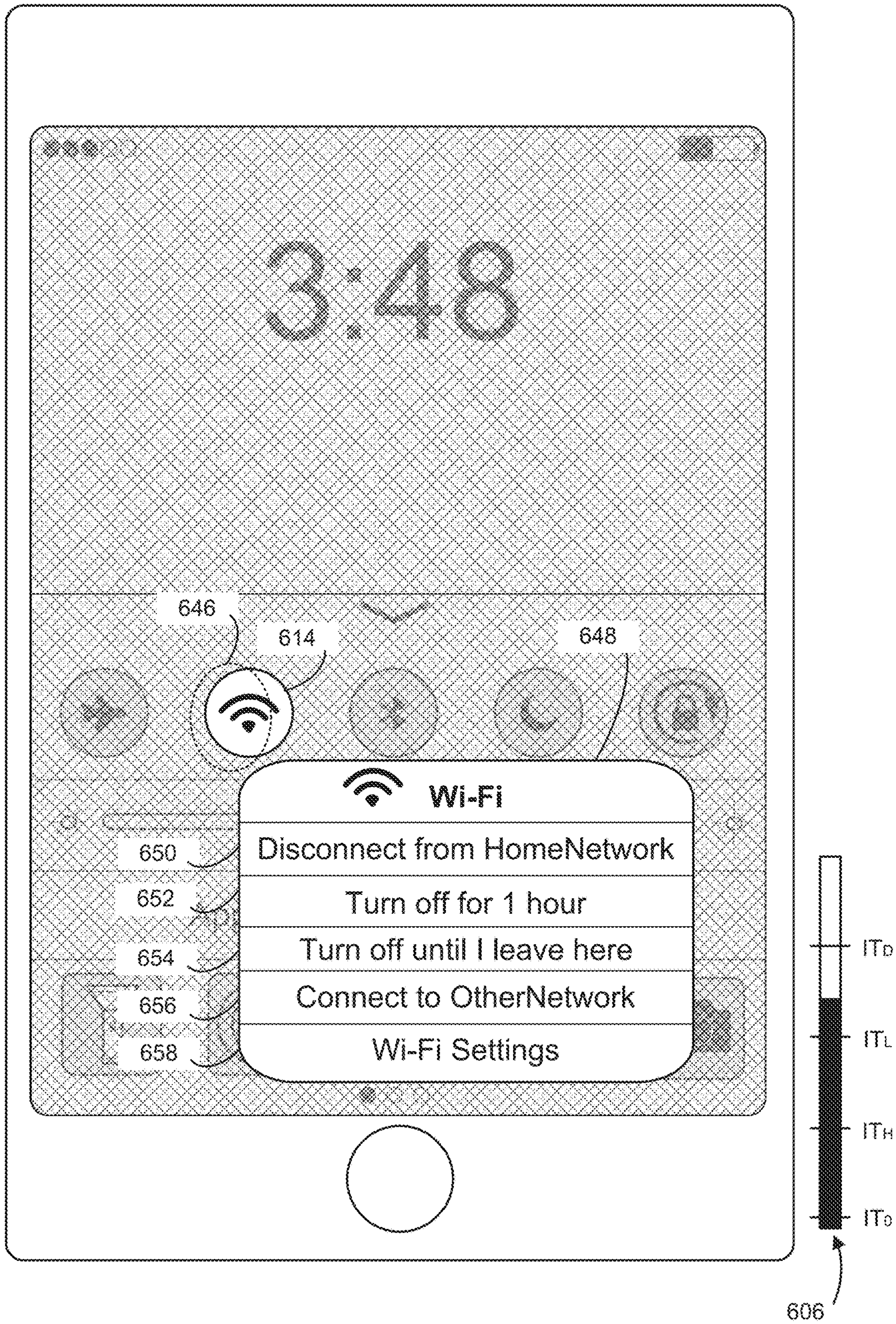

3:48
646
614
648
Wi-Fi
Disconnect from HomeNetwork
Turn off for 1 hour
Turn off until I leave here
Connect to OtherNetwork
Wi-Fi Settings
650
652
654
656
658
IT_D
IT_L
IT_H
IT_0
606

Figure 6F

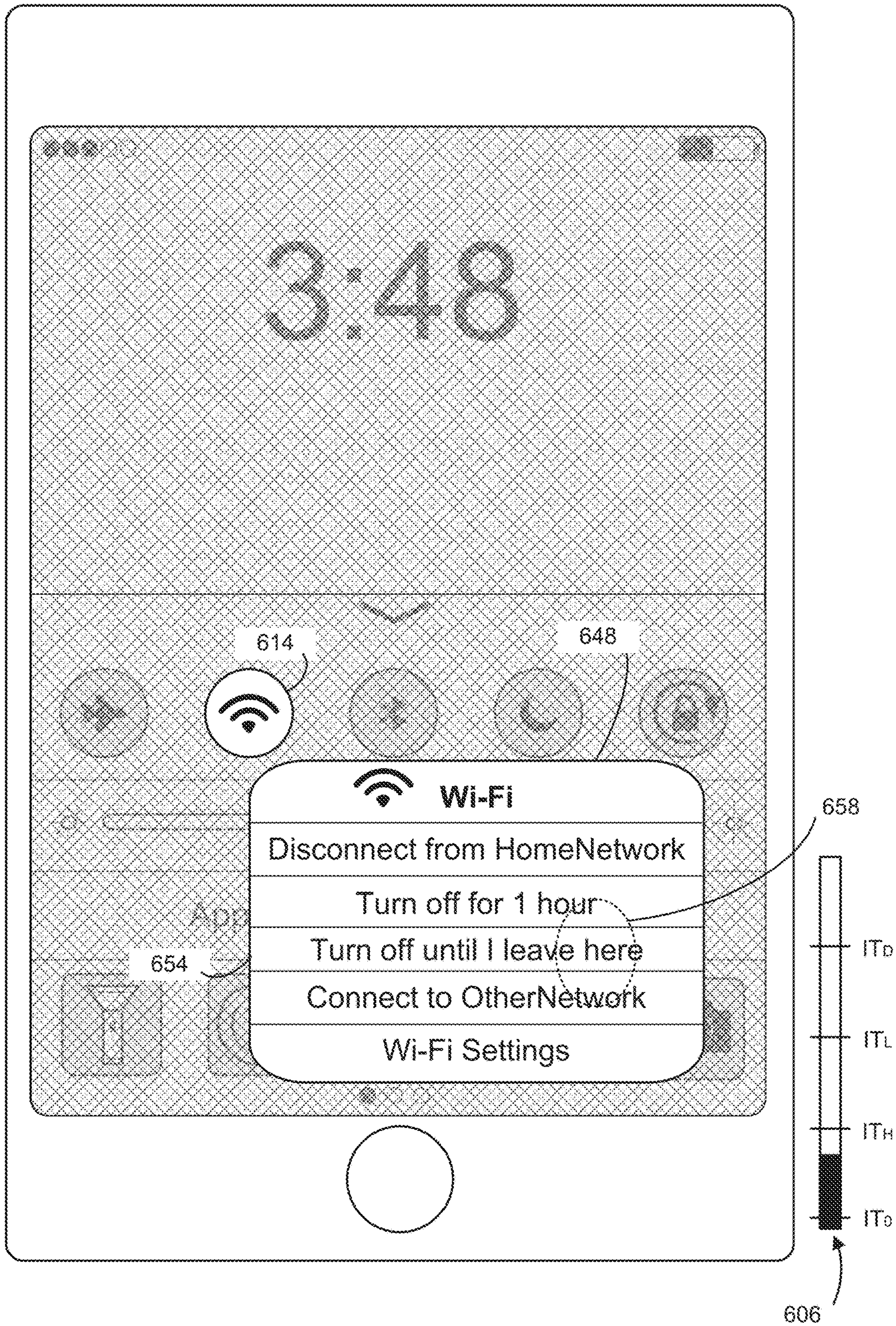

3:48
614
648
Wi-Fi
Disconnect from HomeNetwork
Turn off for 1 hour
Turn off until I leave here
Connect to OtherNetwork
Wi-Fi Settings
658
654
IT_D
IT_L
IT_H
IT_0
606

Figure 6G

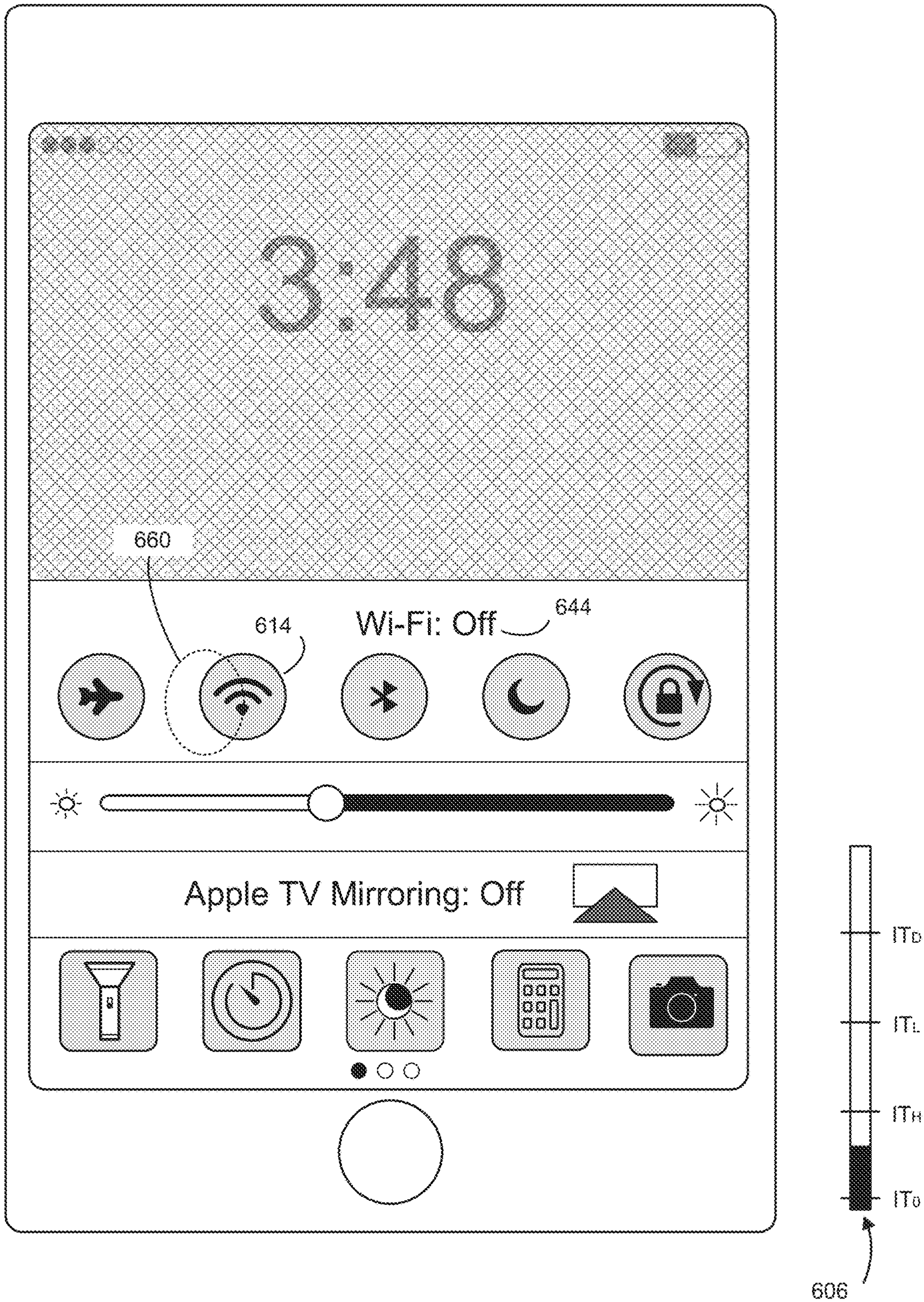

3:48
660
614
Wi-Fi: Off
644
Apple TV Mirroring: Off
ITD
ITL
ITH
IT0
606

Figure 6H

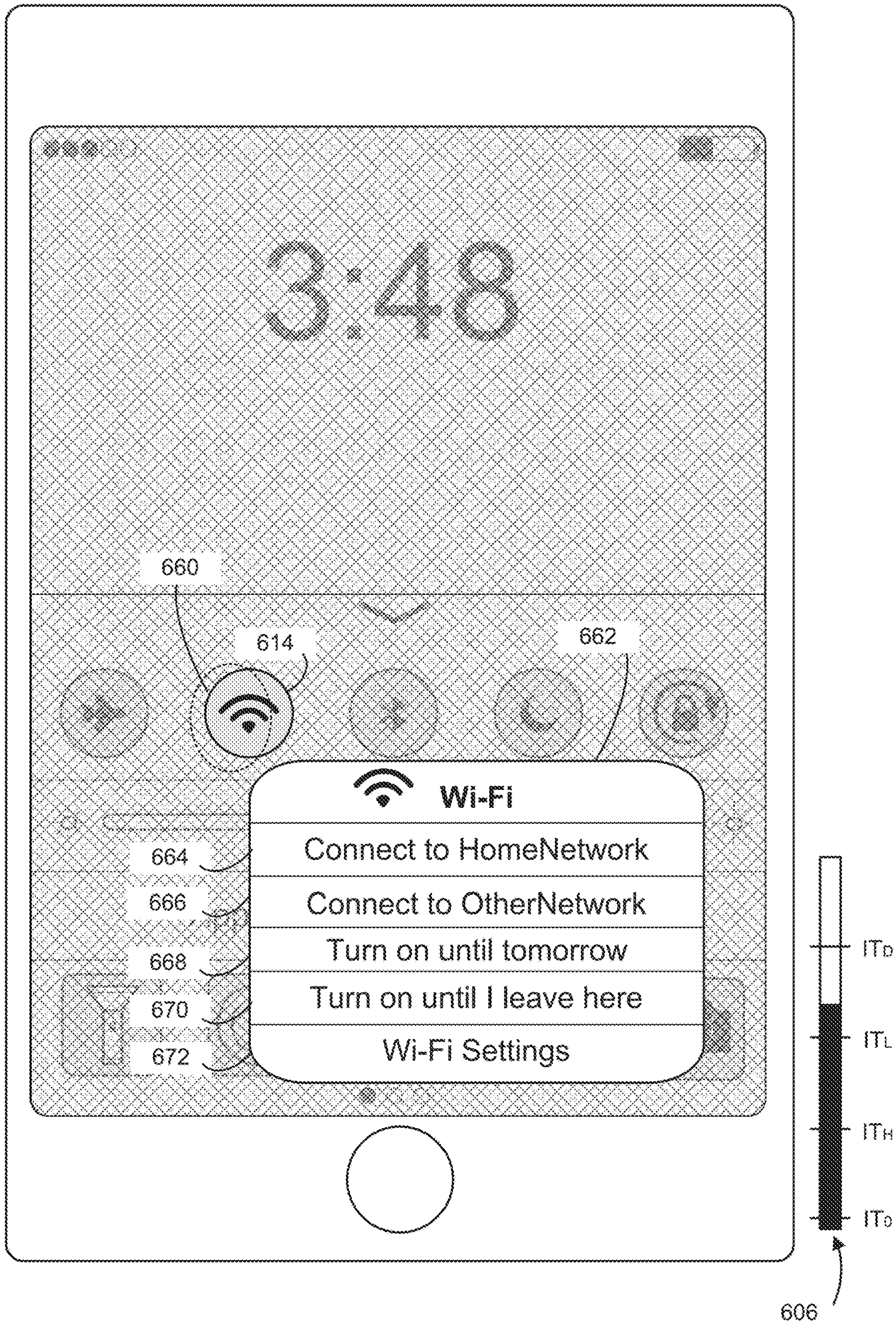

3:48
660
614
662
Wi-Fi
Connect to HomeNetwork
Connect to OtherNetwork
Turn on until tomorrow
Turn on until I leave here
Wi-Fi Settings
664
666
668
670
672
ITD
ITL
ITH
IT0
606

Figure 6I

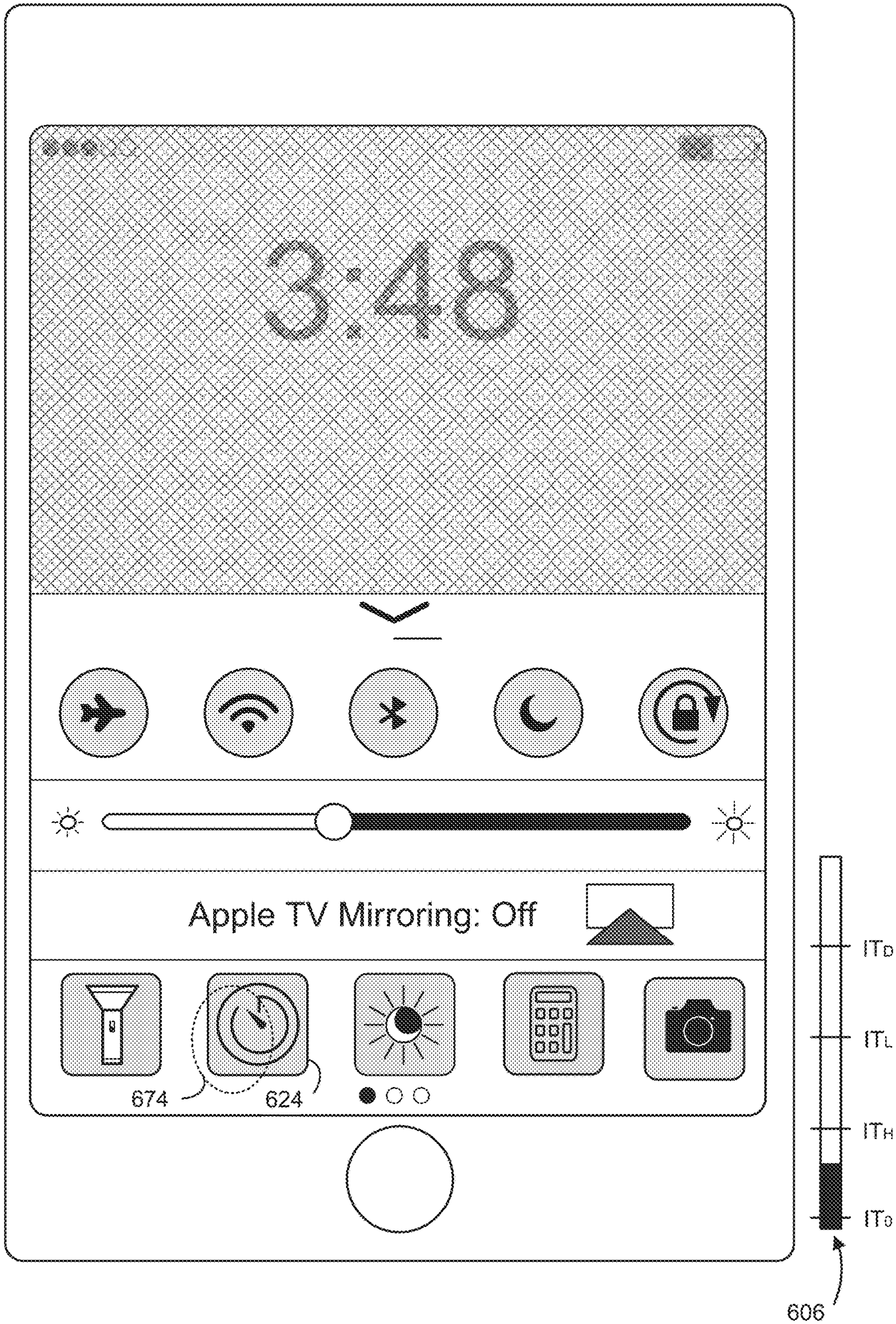
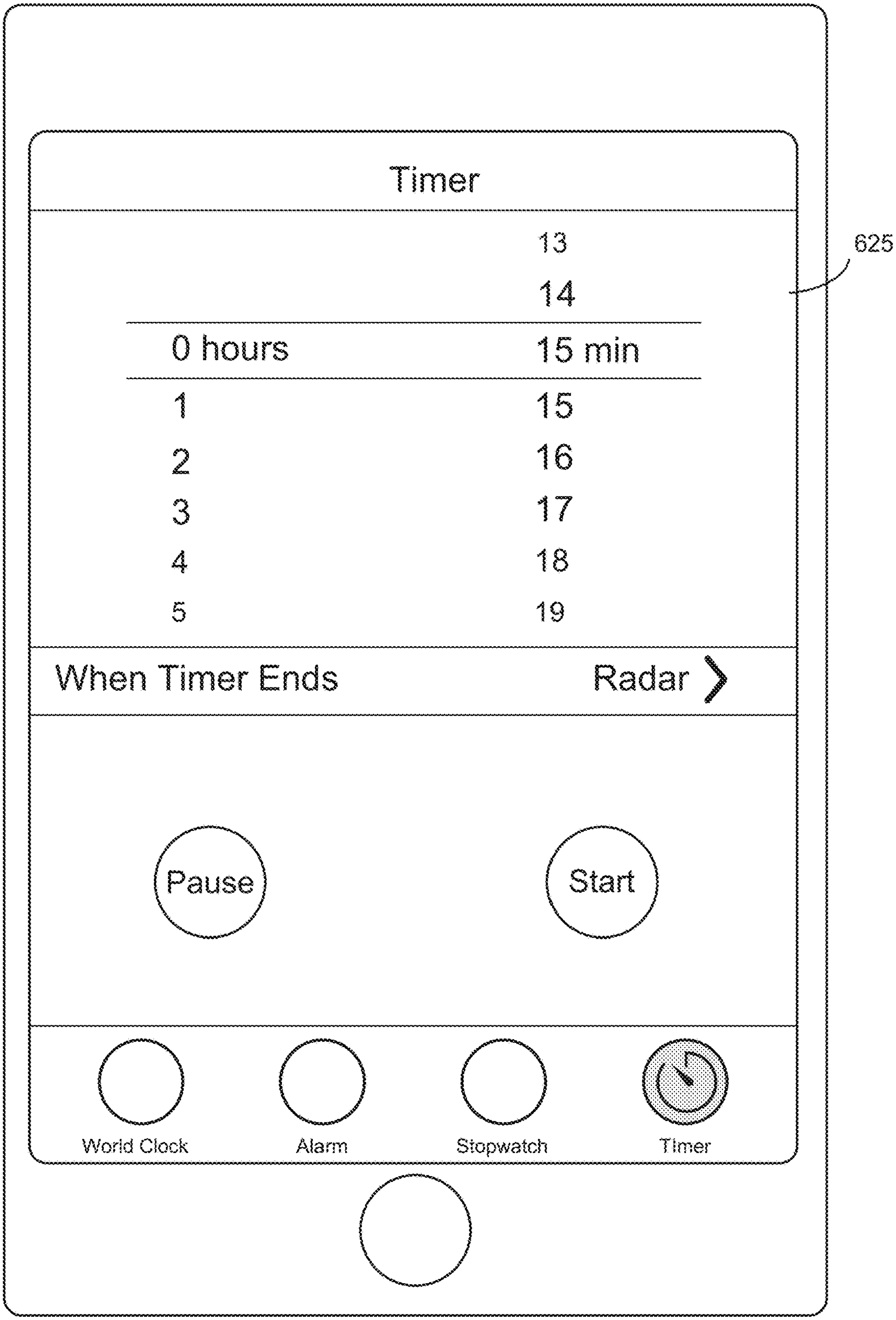


Figure 6J



625
Timer
13
14
0 hours
15 min
1
15
2
16
3
17
4
18
5
19
When Timer Ends
Radar
Pause
Start
World Clock
Alarm
Stopwatch
Timer

Figure 6K

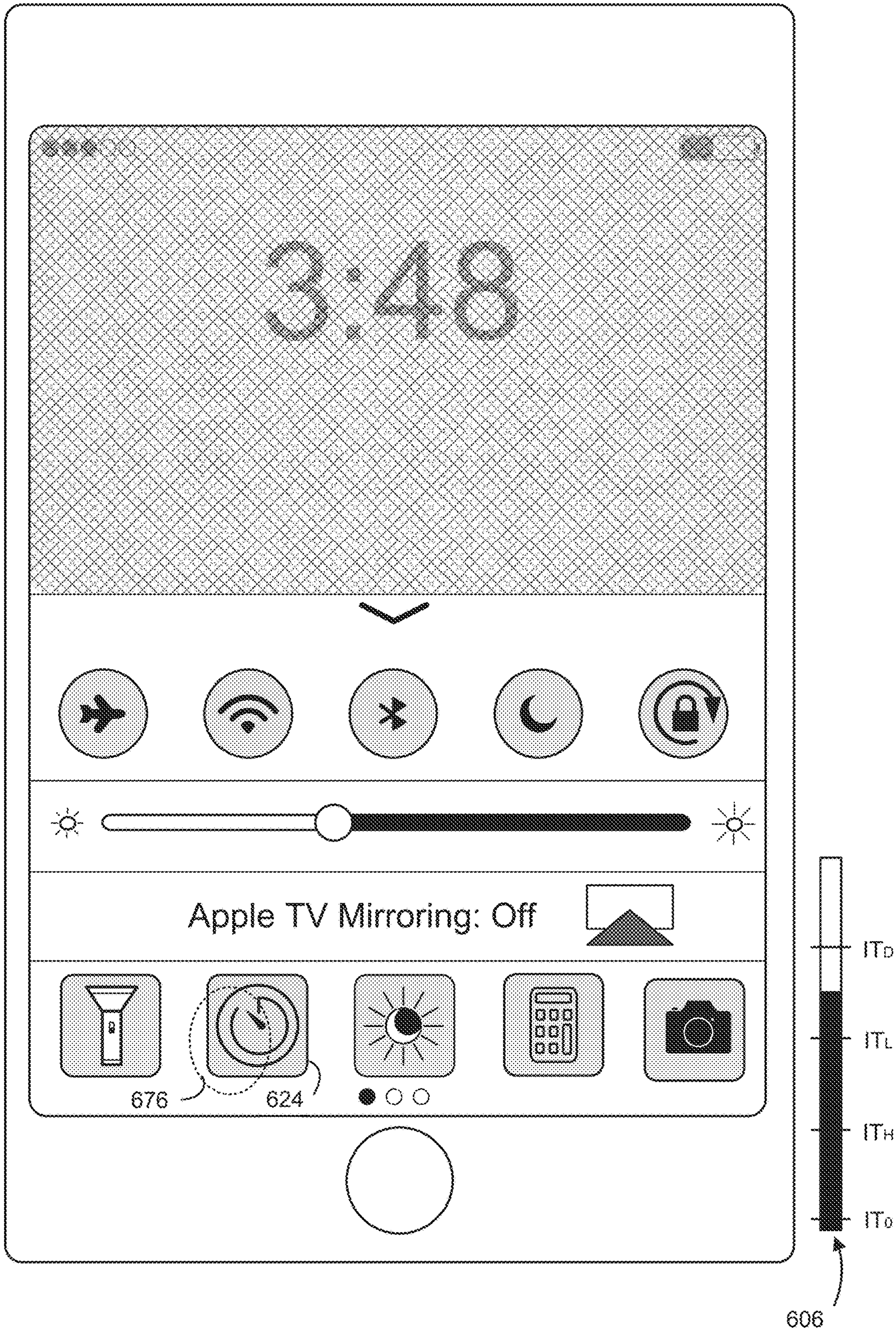


Figure 6L

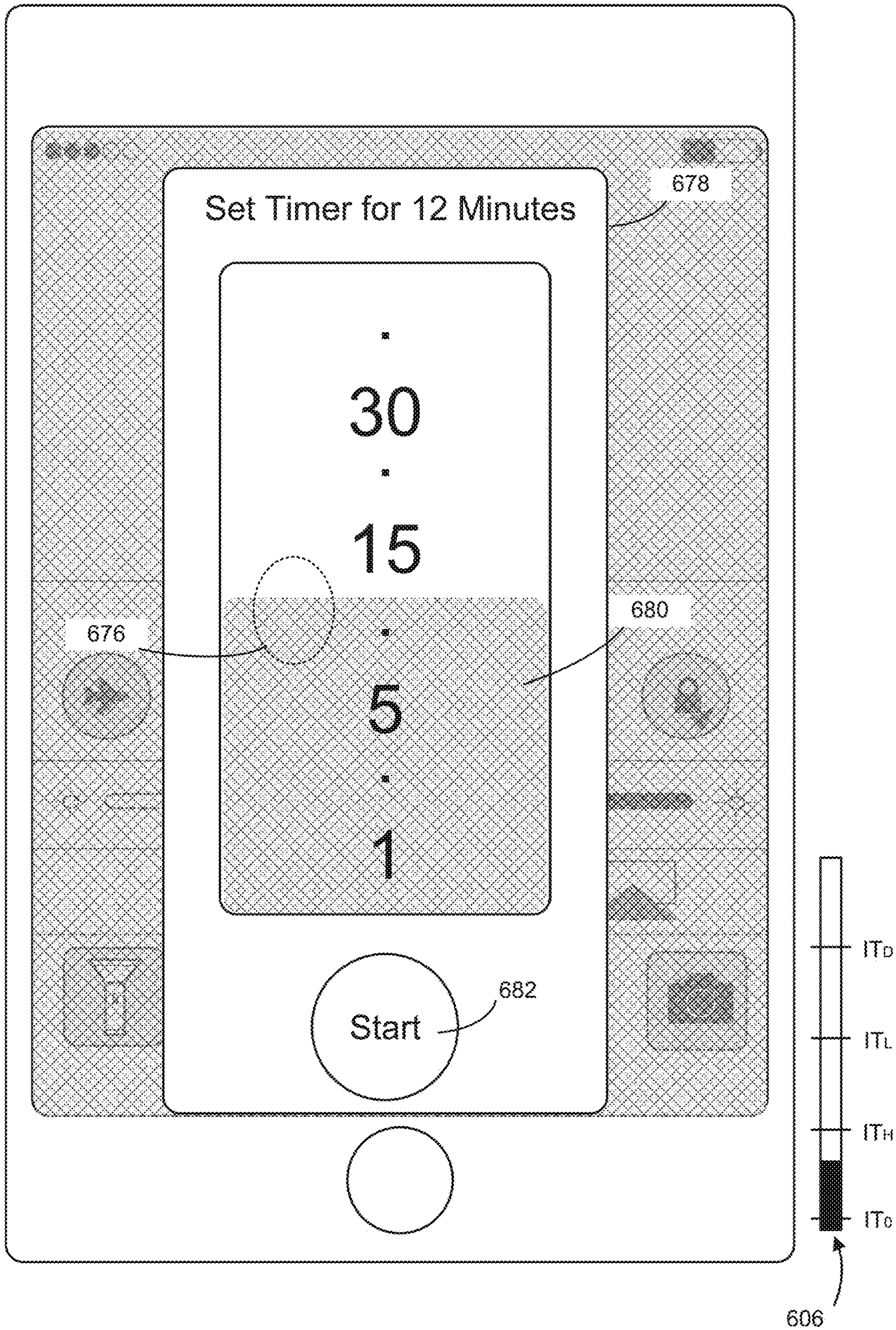

Set Timer for 12 Minutes
678
30
15
5
1
676
680
Start
682
IT_D
IT_L
IT_H
IT_0
606

Figure 6M

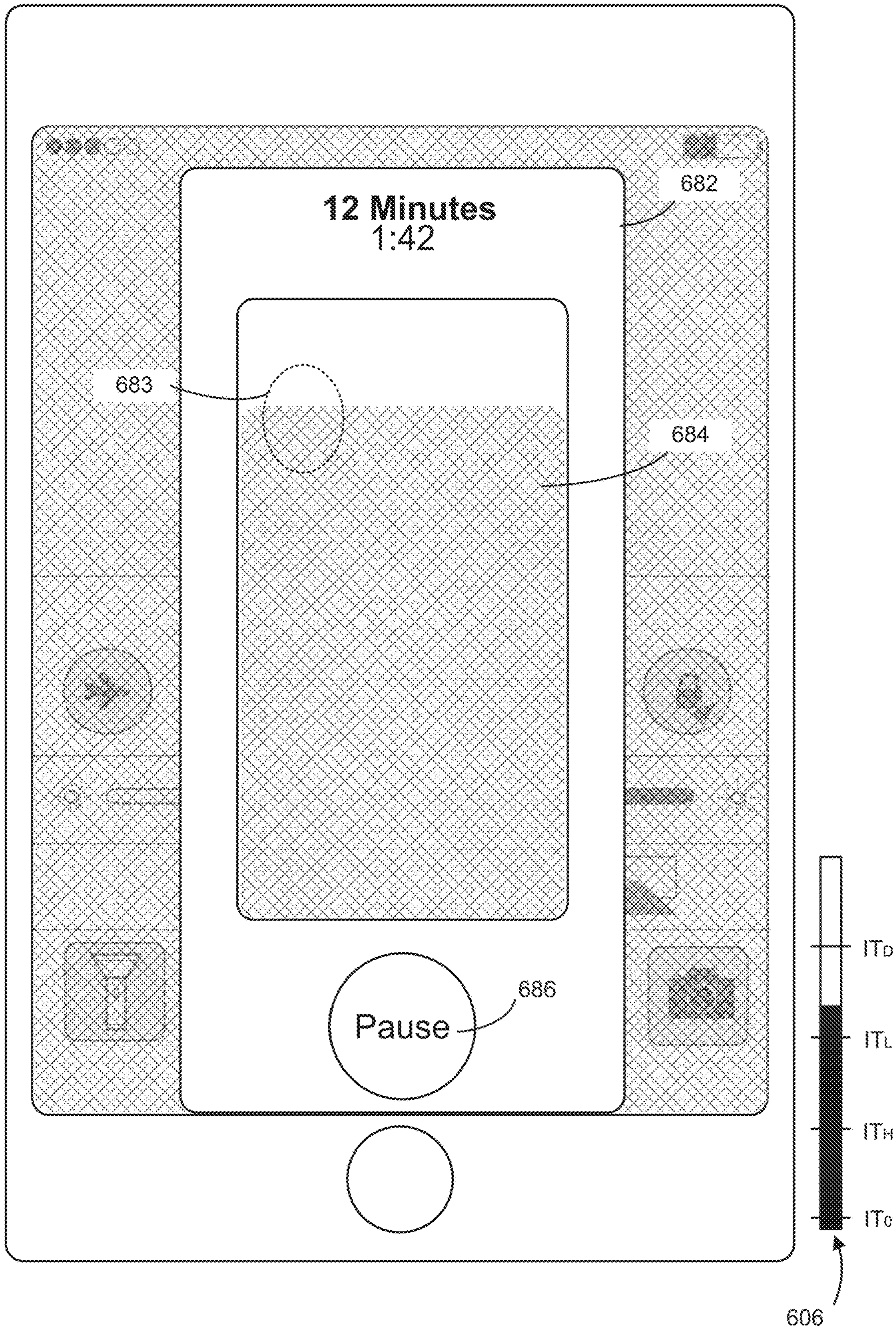


Figure 6N

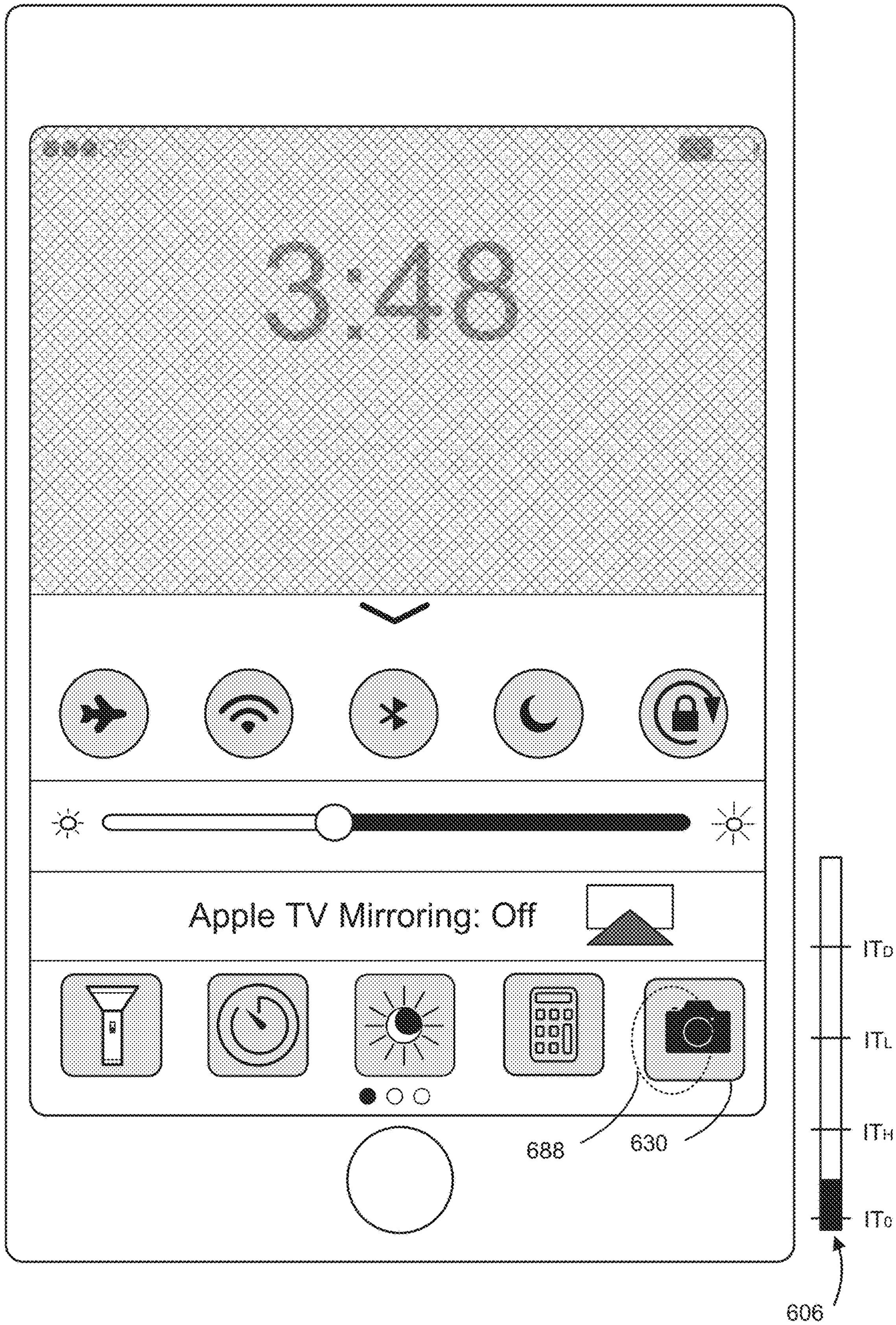


Figure 6O

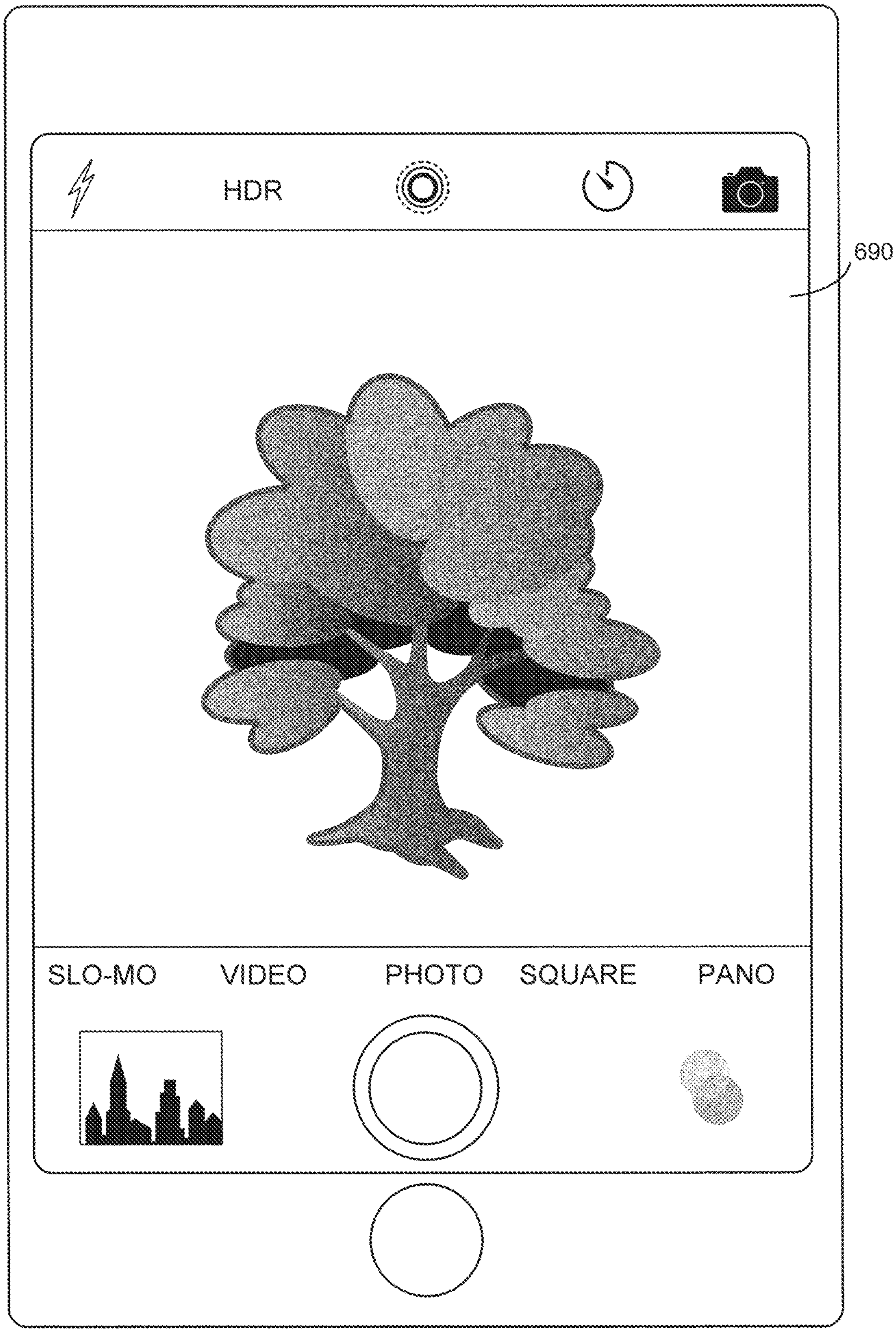


Figure 6P

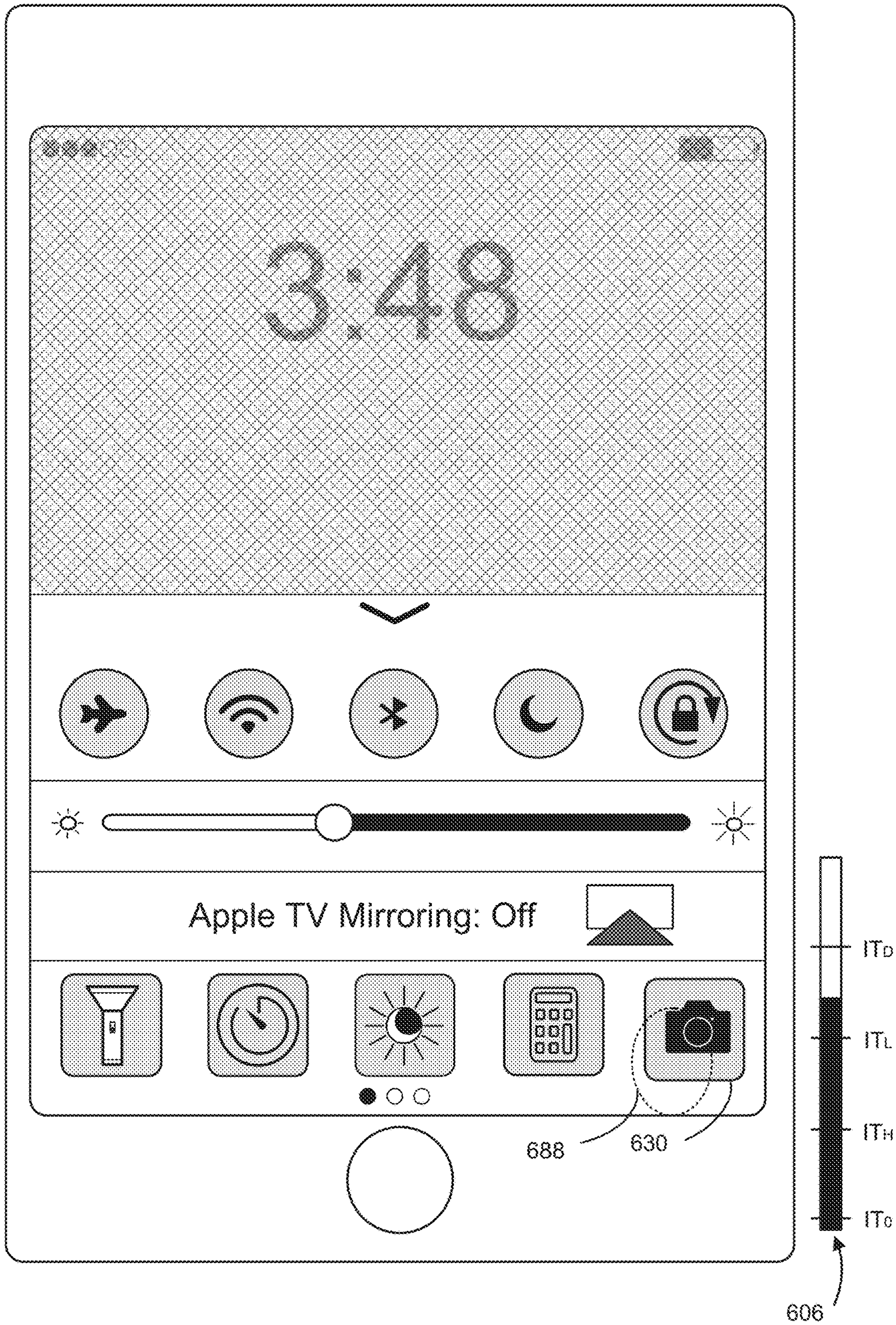


Figure 6Q

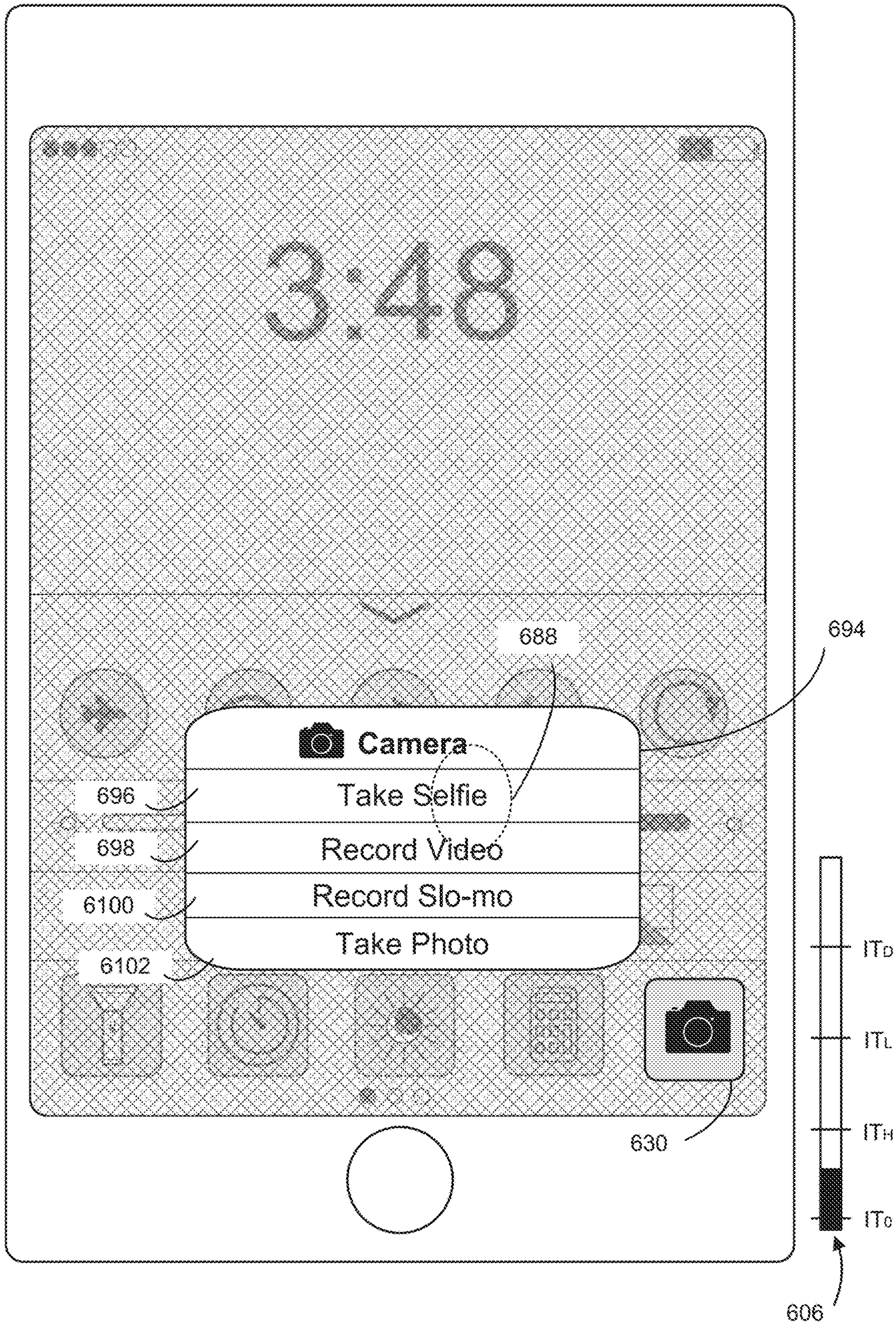

3:48
688
694
Camera
Take Selfie
Record Video
Record Slo-mo
Take Photo
696
698
6100
6102
630
IT_D
IT_L
IT_H
IT_0
606

Figure 6R

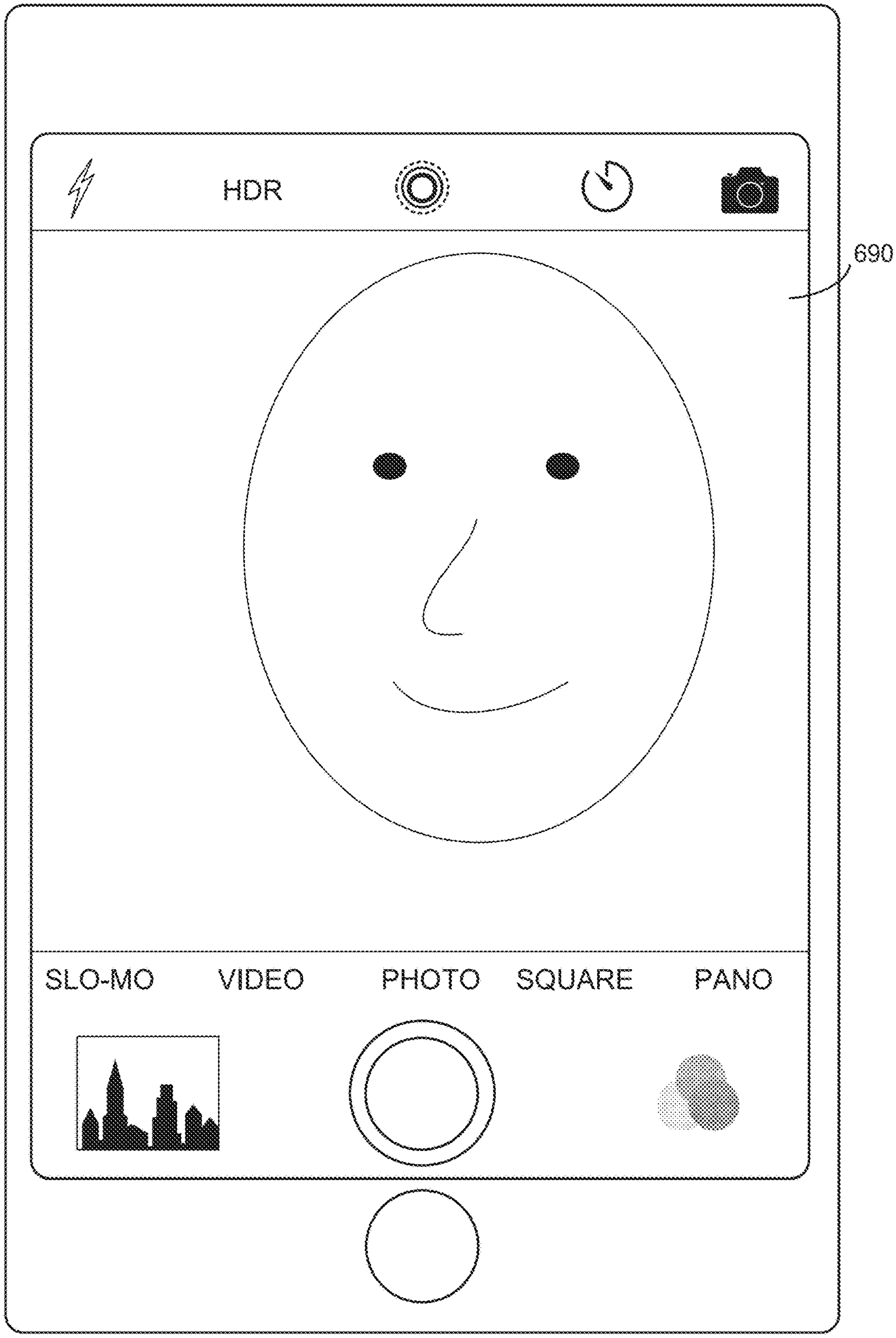
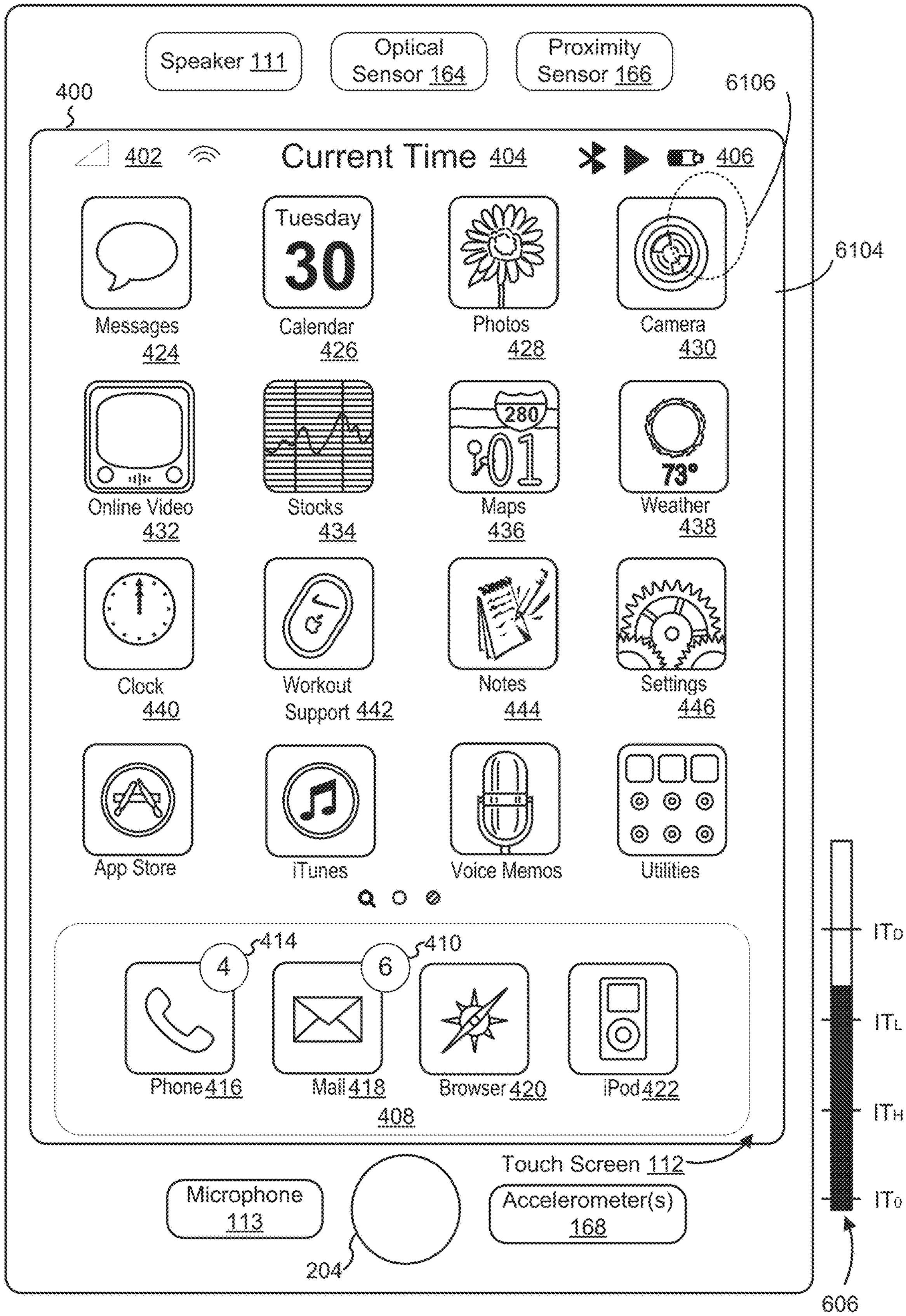
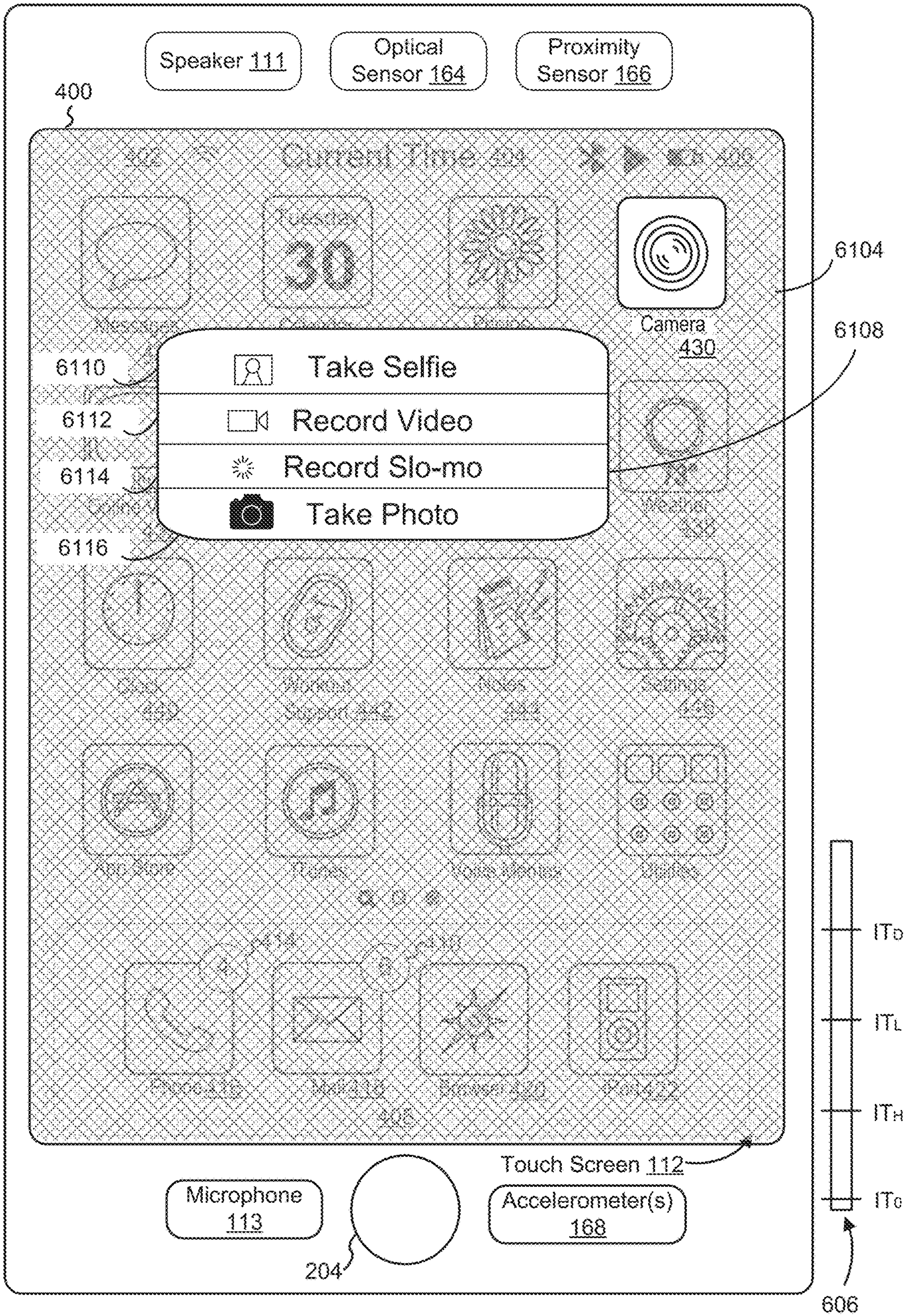


Figure 6S



Speaker 111
Optical Sensor 164
Proximity Sensor 166
400
6106
402
Current Time 404
406
6104
Tuesday
30
Messages 424
Calendar 426
Photos 428
Camera 430
280
Online Video 432
Stocks 434
Maps 436
73°
Weather 438
Clock 440
Workout Support 442
Notes 444
Settings 446
App Store
iTunes
Voice Memos
Utilities
4
414
6
410
Phone 416
Mail 418
Browser 420
iPod 422
408
ITD
ITL
ITH
IT0
Touch Screen 112
Microphone 113
Accelerometer(s) 168
204
606

Figure 6T



Speaker 111
Optical Sensor 164
Proximity Sensor 166
400
Camera 430
6104
6108
6110
6112
6114
6116
Take Selfie
Record Video
Record Slo-mo
Take Photo
ITD
ITL
ITH
IT0
Touch Screen 112
Microphone 113
Accelerometer(s) 168
204
606

Figure 6U

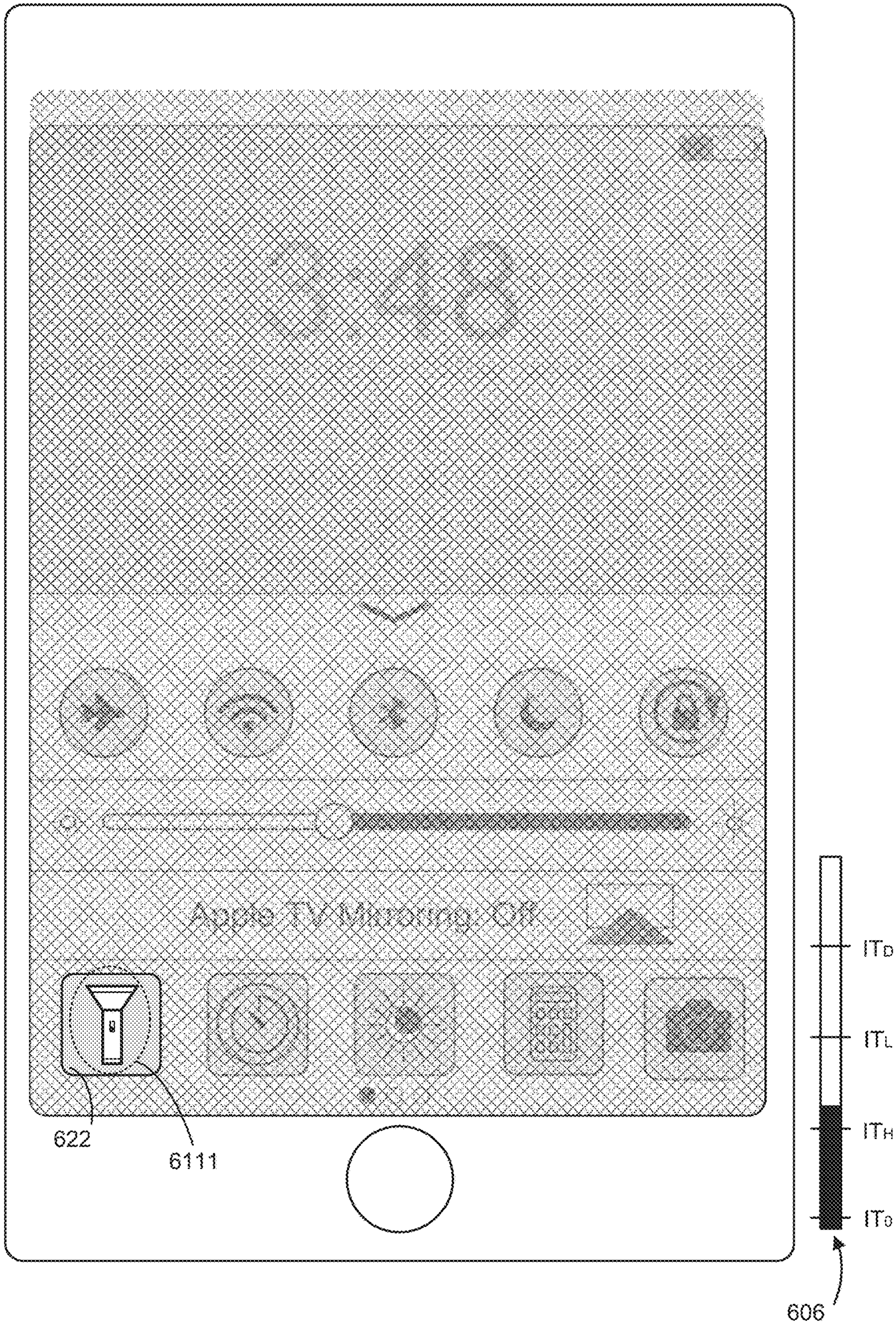


Figure 6V

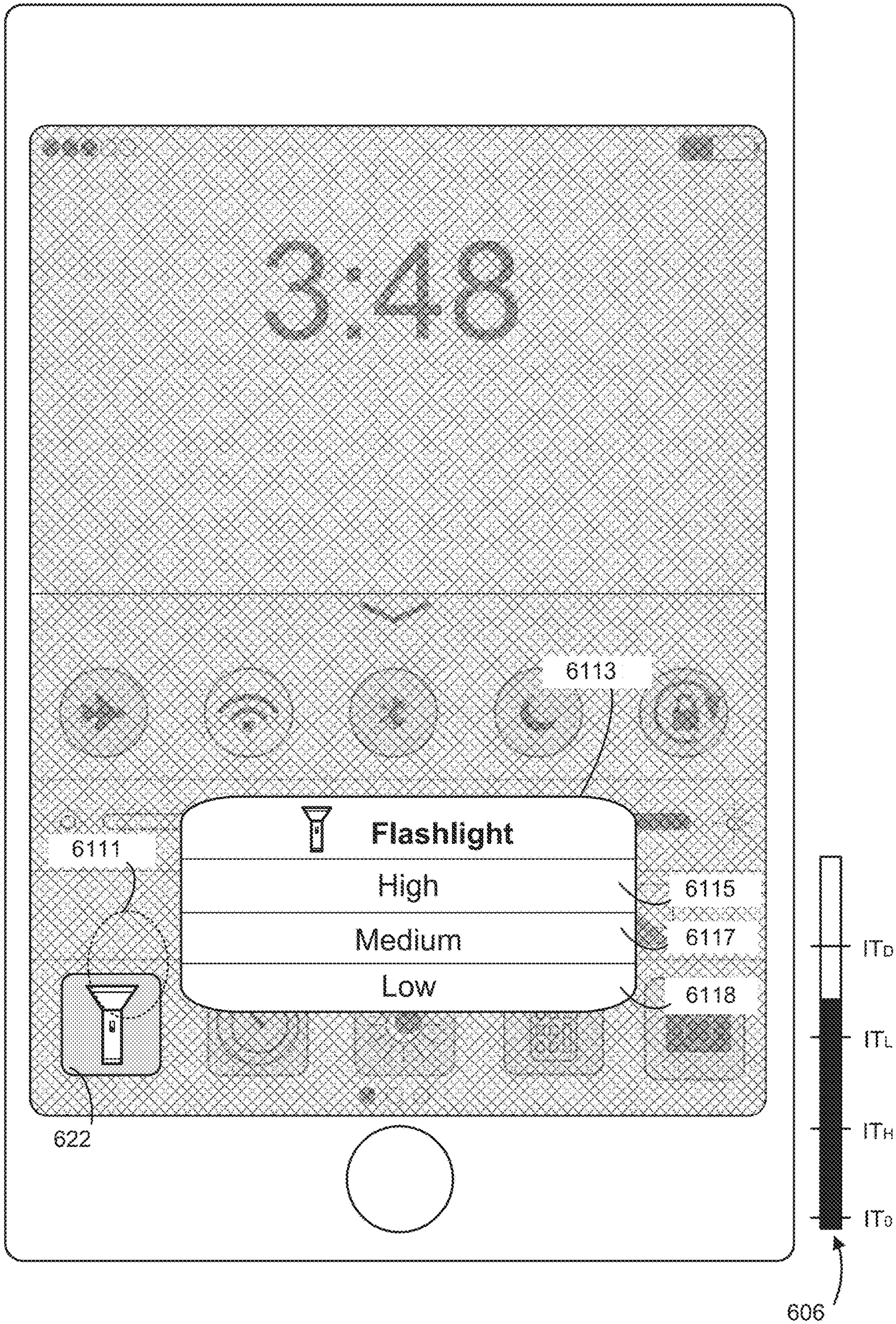

3:48
6113
Flashlight
High
Medium
Low
6111
6115
6117
6118
622
IT_D
IT_L
IT_H
IT_0
606

Figure 6W

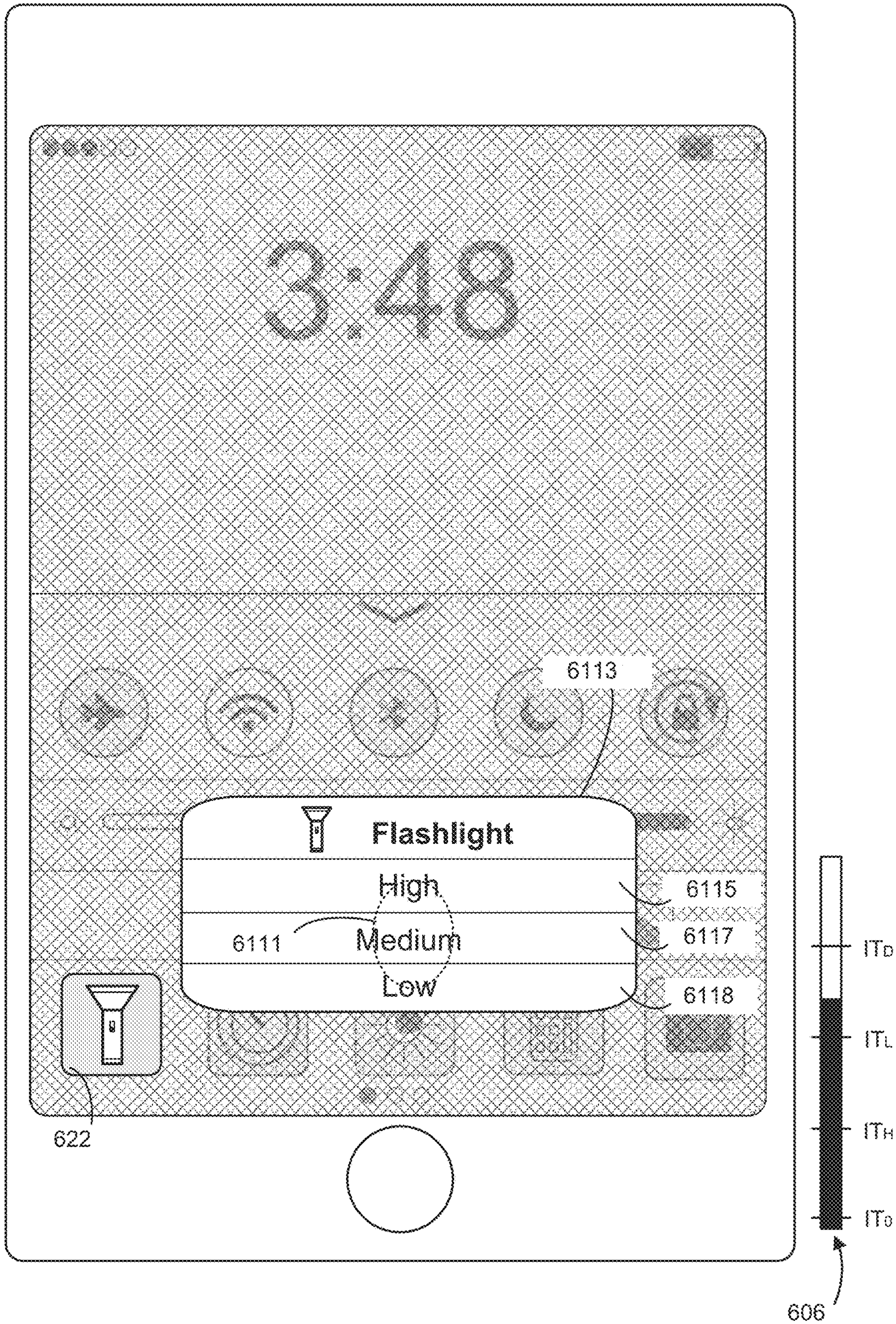

3:48
6113
Flashlight
High
6115
6111
Medium
6117
Low
6118
622
ITD
ITL
ITH
IT0
606

Figure 6X

Figure 6Y

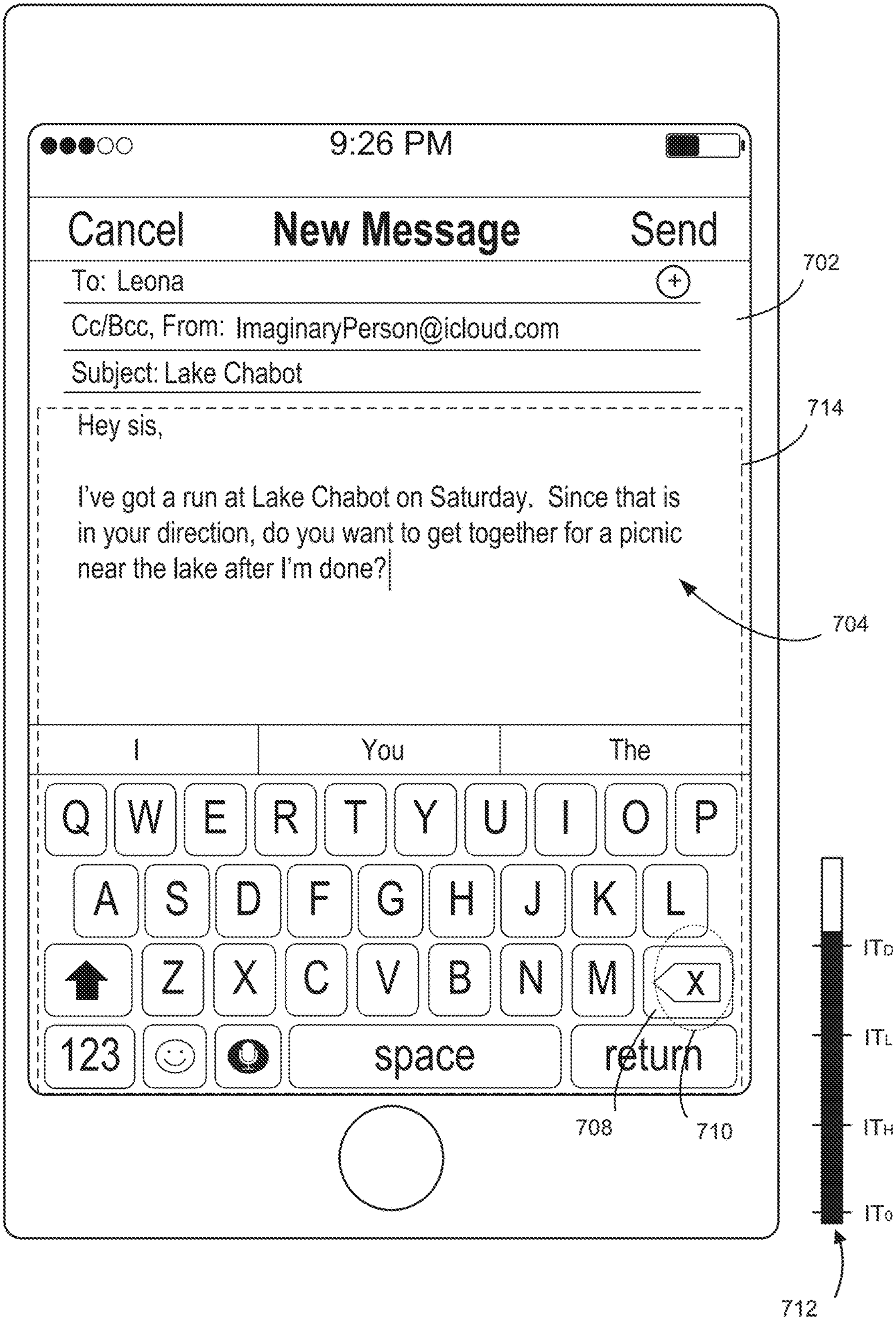
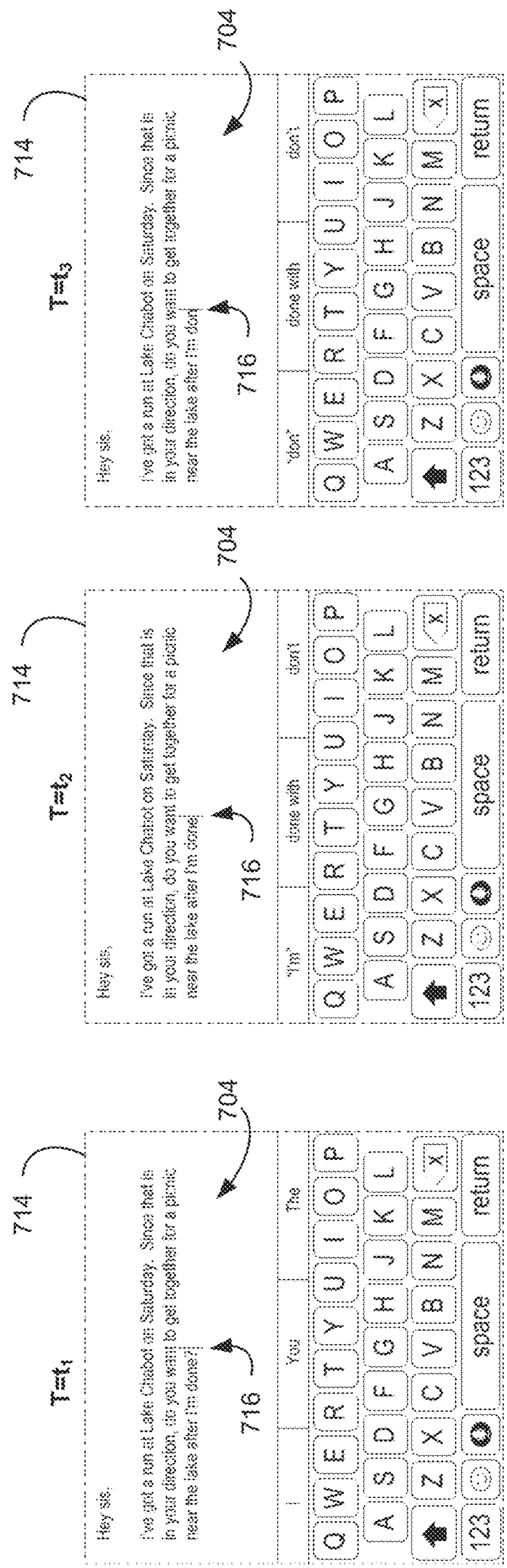

9:26 PM
Cancel
New Message
Send
To: Leona
Cc/Bcc, From: ImaginaryPerson@icloud.com
Subject: Lake Chabot
Hey sis,
I've got a run at Lake Chabot on Saturday. Since that is in your direction, do you want to get together for a picnic near the lake after I'm done?
I
You
The
Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M
123
space
return
702
714
704
708
710
712
IT_D
IT_L
IT_H
IT_0

Figure 7A



T=t$_1$
T=t$_2$
T=t$_3$
714
704
716
Hey sis,
I've got a run at Lake Chabot on Saturday. Since that is in your direction, do you want to get together for a picnic near the lake after I'm done?
You
The
"I'm"
done with
don't
"don"
Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M
123
space
return

Figure 7B

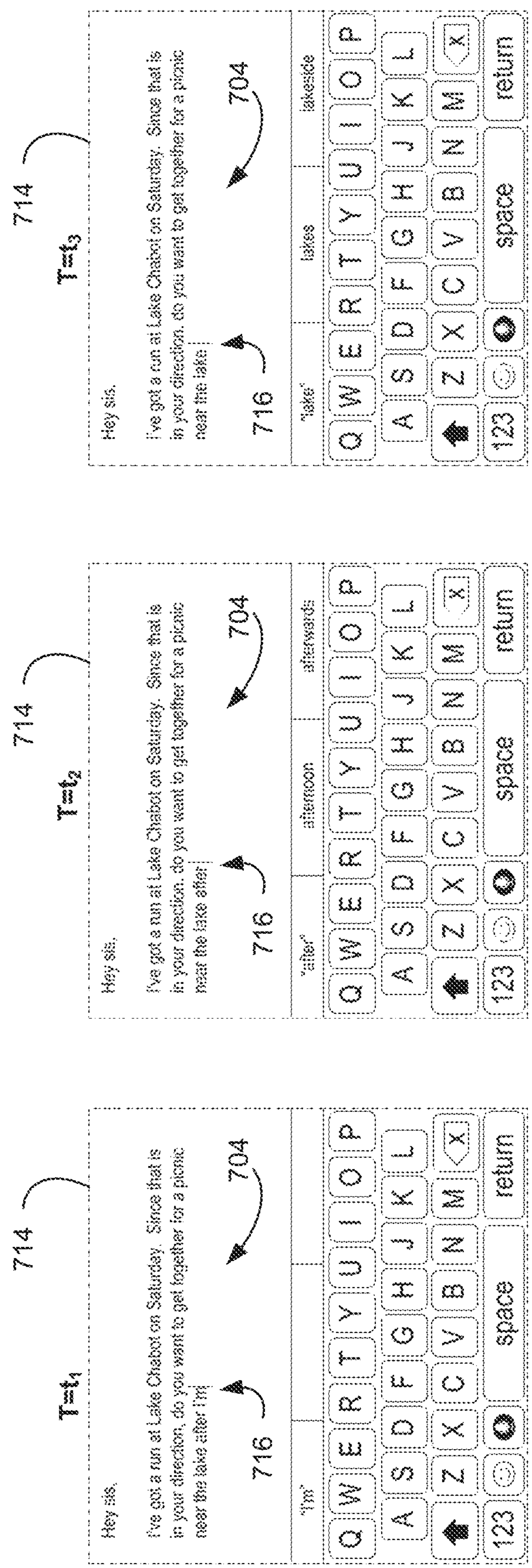

T=t1
714
716
704
Hey sis,
I've got a run at Lake Chabot on Saturday. Since that is in your direction, do you want to get together for a picnic near the lake after I'm
"I'm"
T=t2
714
716
704
Hey sis,
I've got a run at Lake Chabot on Saturday. Since that is in your direction, do you want to get together for a picnic near the lake after
"after"
afternoon
afterwards
T=t3
714
716
704
Hey sis,
I've got a run at Lake Chabot on Saturday. Since that is in your direction, do you want to get together for a picnic near the lake
"lake"
lakes
lakeside
Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M
123
space
return

Figure 7C

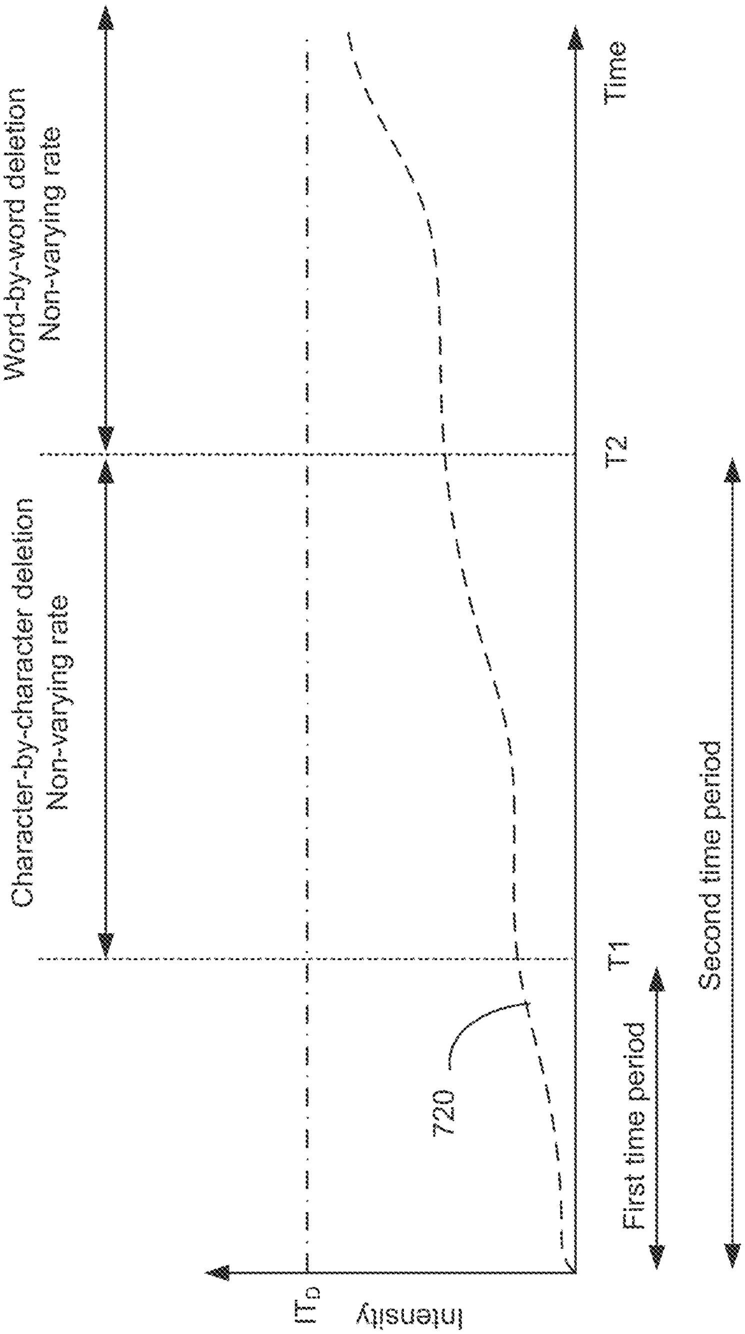
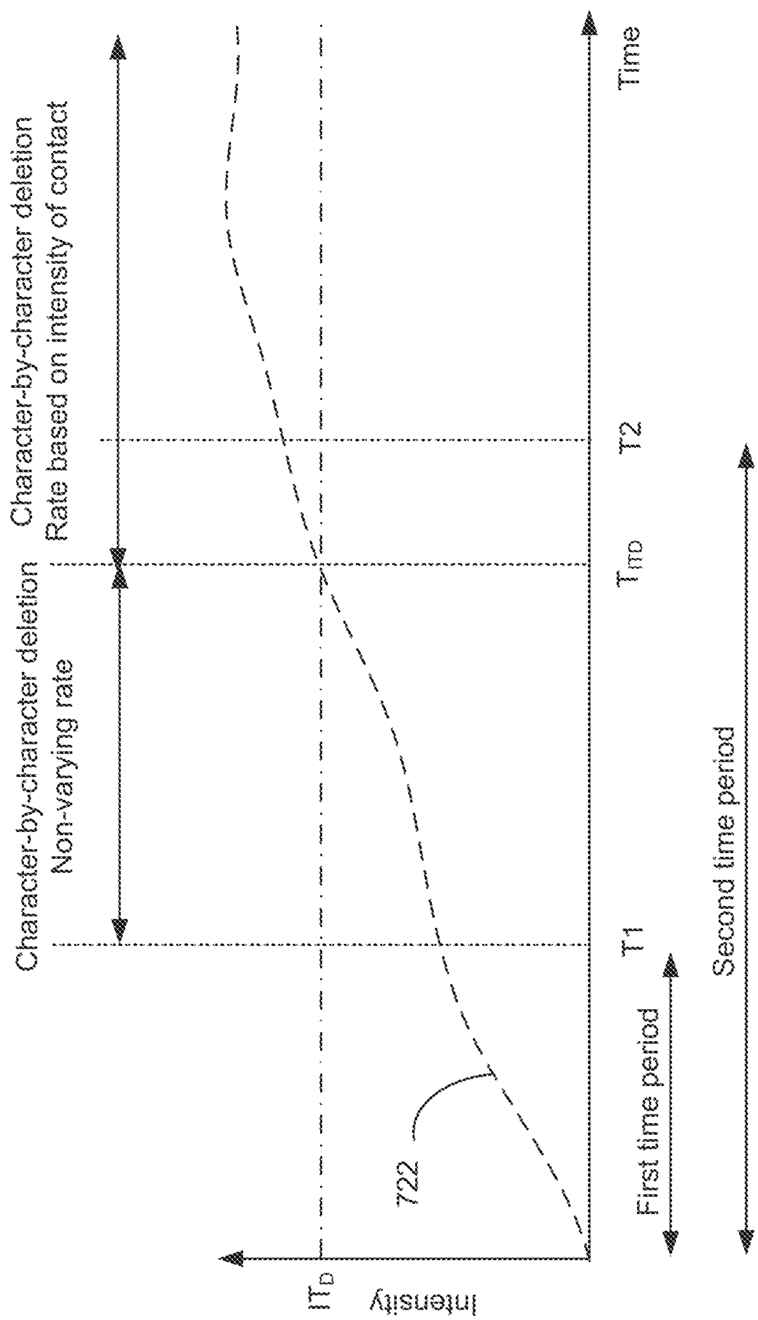

Word-by-word deletion
Non-varying rate
Character-by-character deletion
Non-varying rate
Time
T2
T1
720
IT_D
Intensity
First time period
Second time period

Figure 7D



Character-by-character deletion
Rate based on intensity of contact
Character-by-character deletion
Non-varying rate
Time
T2
T_{ITD}
T1
IT_D
Intensity
722
First time period
Second time period

Figure 7E

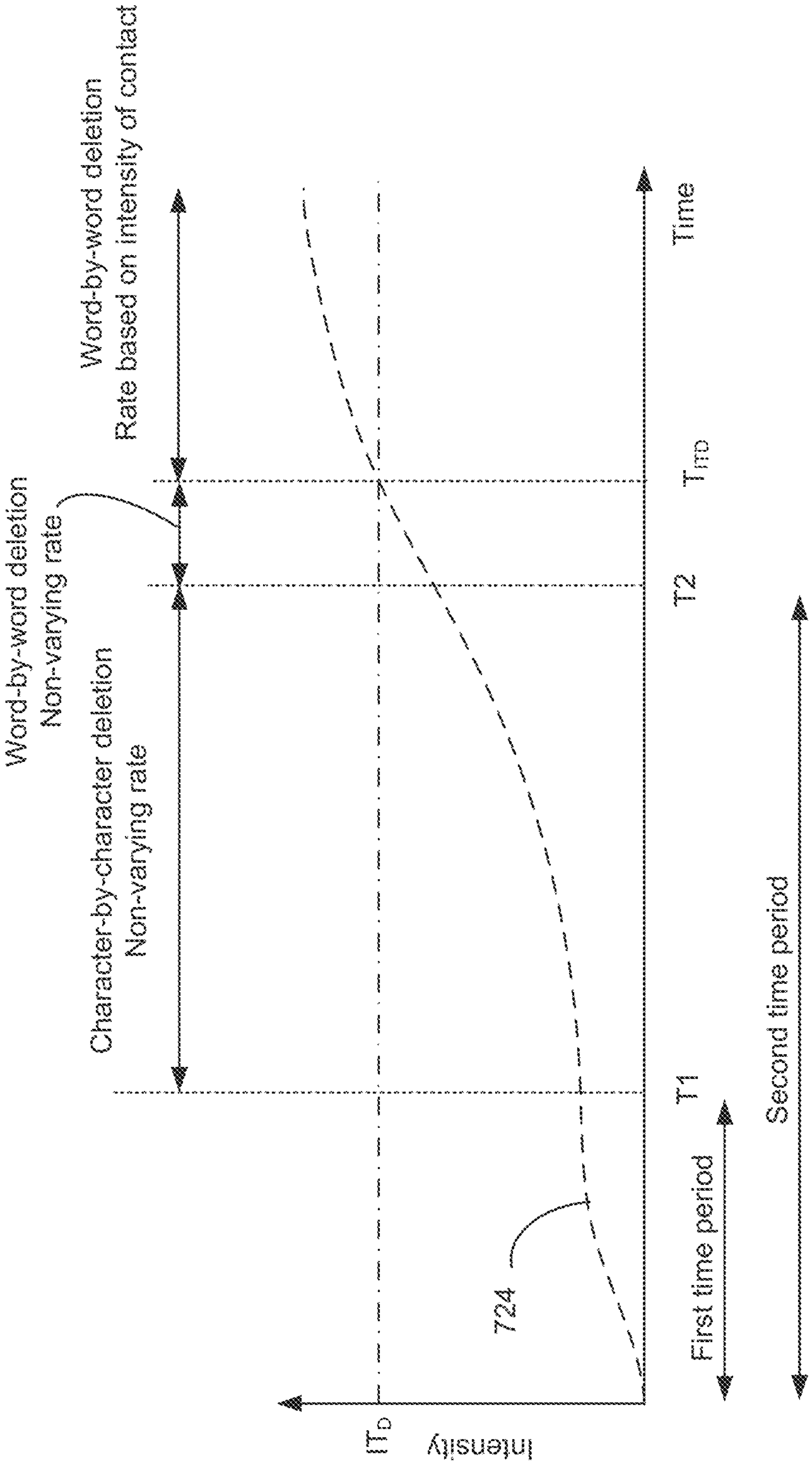

Word-by-word deletion
Rate based on intensity of contact
Word-by-word deletion
Non-varying rate
Character-by-character deletion
Non-varying rate
Time
T_{ITD}
T2
T1
724
IT_D
Intensity
First time period
Second time period

Figure 7F

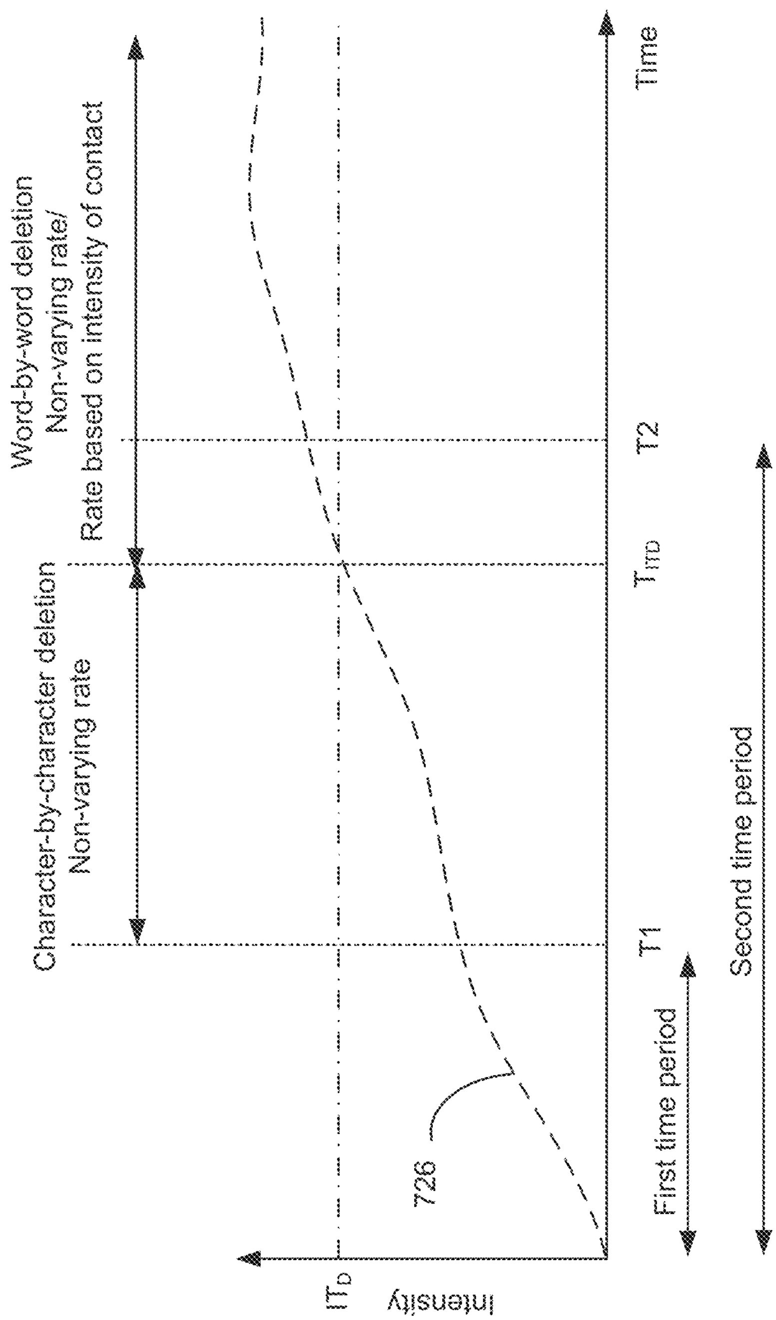

Character-by-character deletion
Non-varying rate
Word-by-word deletion
Non-varying rate/
Rate based on intensity of contact
Intensity
IT_D
726
Time
T1
T_{ITD}
T2
First time period
Second time period

Figure 7G

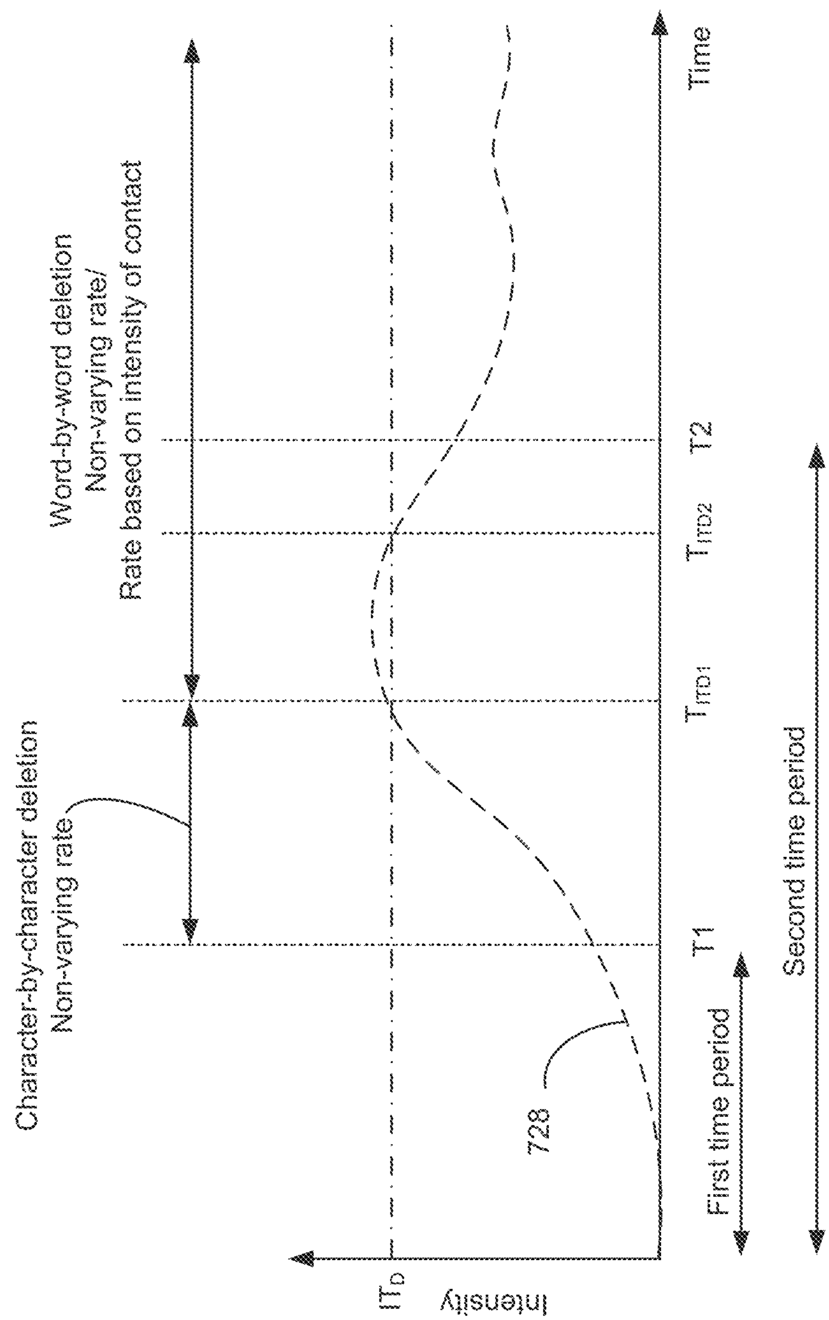

Character-by-character deletion
Non-varying rate
Word-by-word deletion
Non-varying rate/
Rate based on intensity of contact
IT_D
Intensity
728
T1
T_{ITD1}
T_{ITD2}
T2
Time
First time period
Second time period

Figure 7H

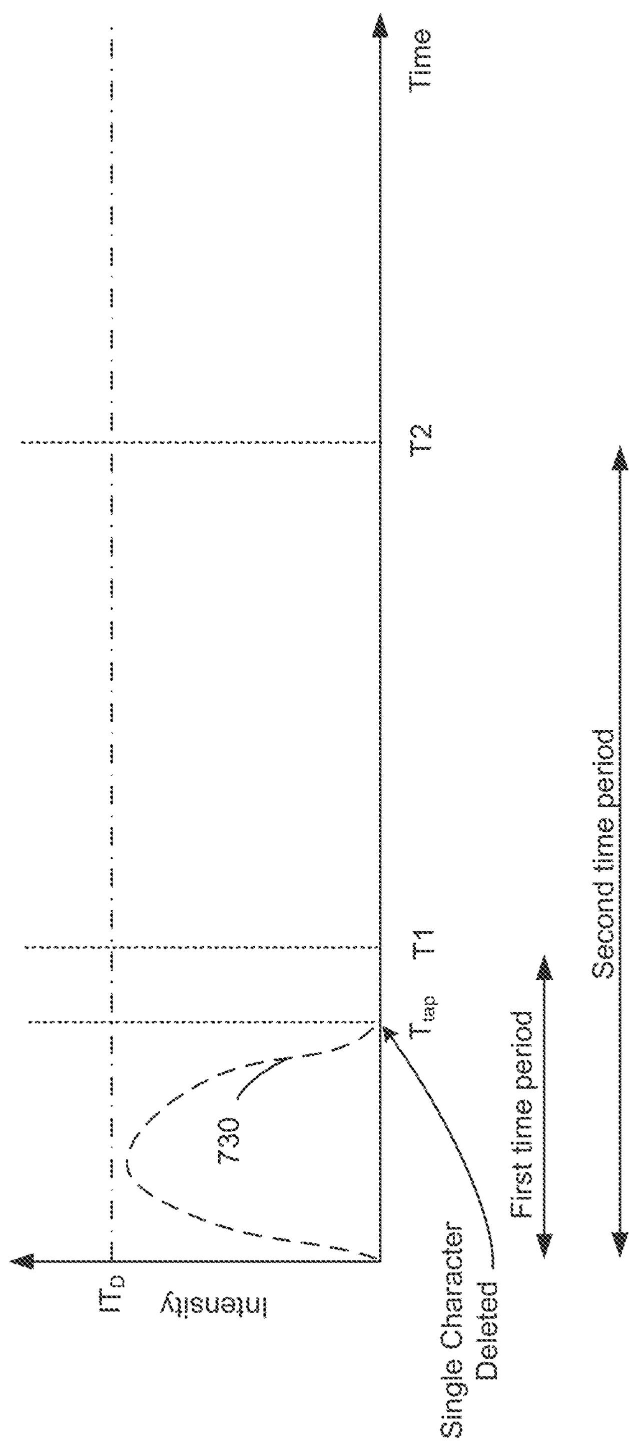

Time
T2
T1
T_{tap}
730
IT_D
Intensity
Single Character Deleted
First time period
Second time period

Figure 7I

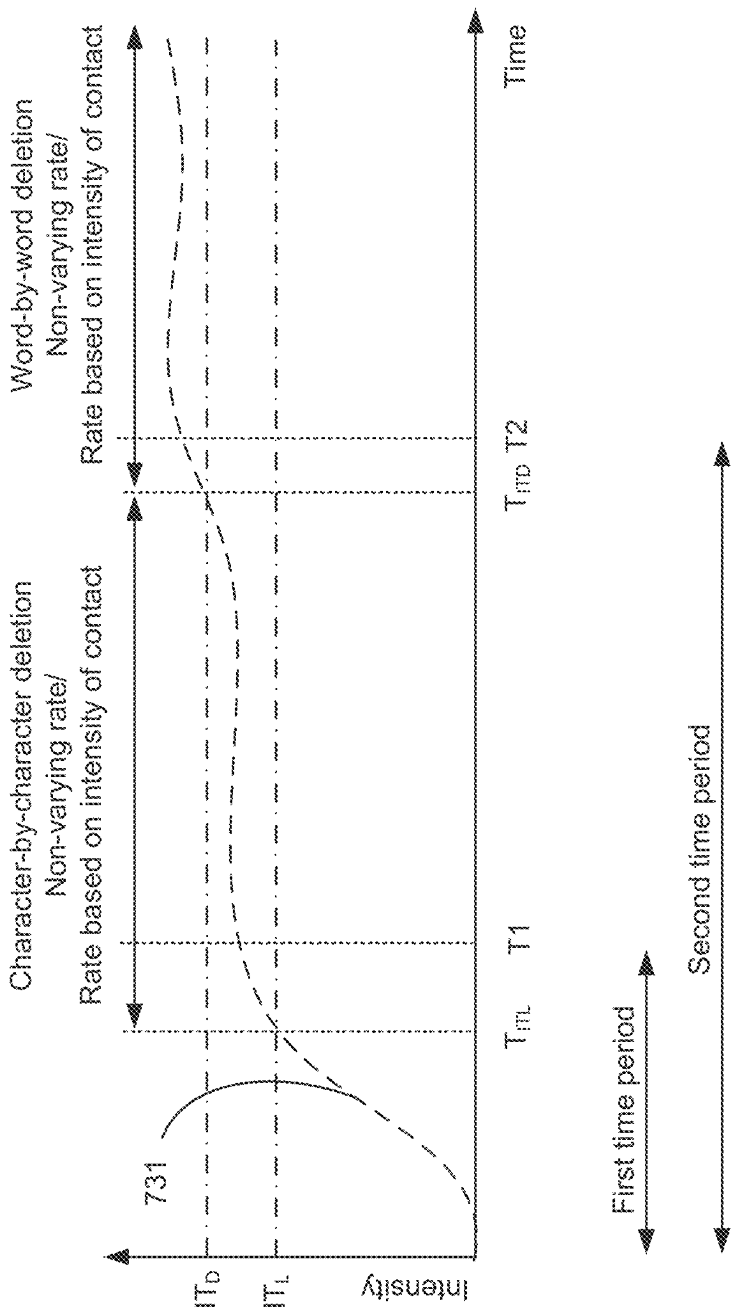

Character-by-character deletion
Non-varying rate/
Rate based on intensity of contact
Word-by-word deletion
Non-varying rate/
Rate based on intensity of contact
731
IT_D
IT_L
Intensity
T_{ITL}
T1
T_{ITD}
T2
Time
First time period
Second time period

Figure 7J


9:26 PM
Cancel
New Message
Send
To: Leona
Cc/Bcc, From: ImaginaryPerson@icloud.com
Subject: Lake Chabot
Hey sis,
I've got a run at Lake Chabot on Saturday. Since that is in your direction, do you want to get together for a picnic near the lake after I'm done?
732
I
You
The
Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M
123
space
return
708
IT_D
IT_L
IT_H
IT_0
712

Figure 7K

9:26 PM
Cancel
New Message
Send
To: Leona
Cc/Bcc, From: ImaginaryPerson@icloud.com
Subject: Lake Chabot
Hey sis,
I've got a run at Lake Chabot on Saturday. Since that is in your direction, do you want to get together for a picnic near the lake after I'm done? A
I
You
The
Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M
123
space
return
708
IT_D
IT_L
IT_H
IT_0
712

Figure 7L

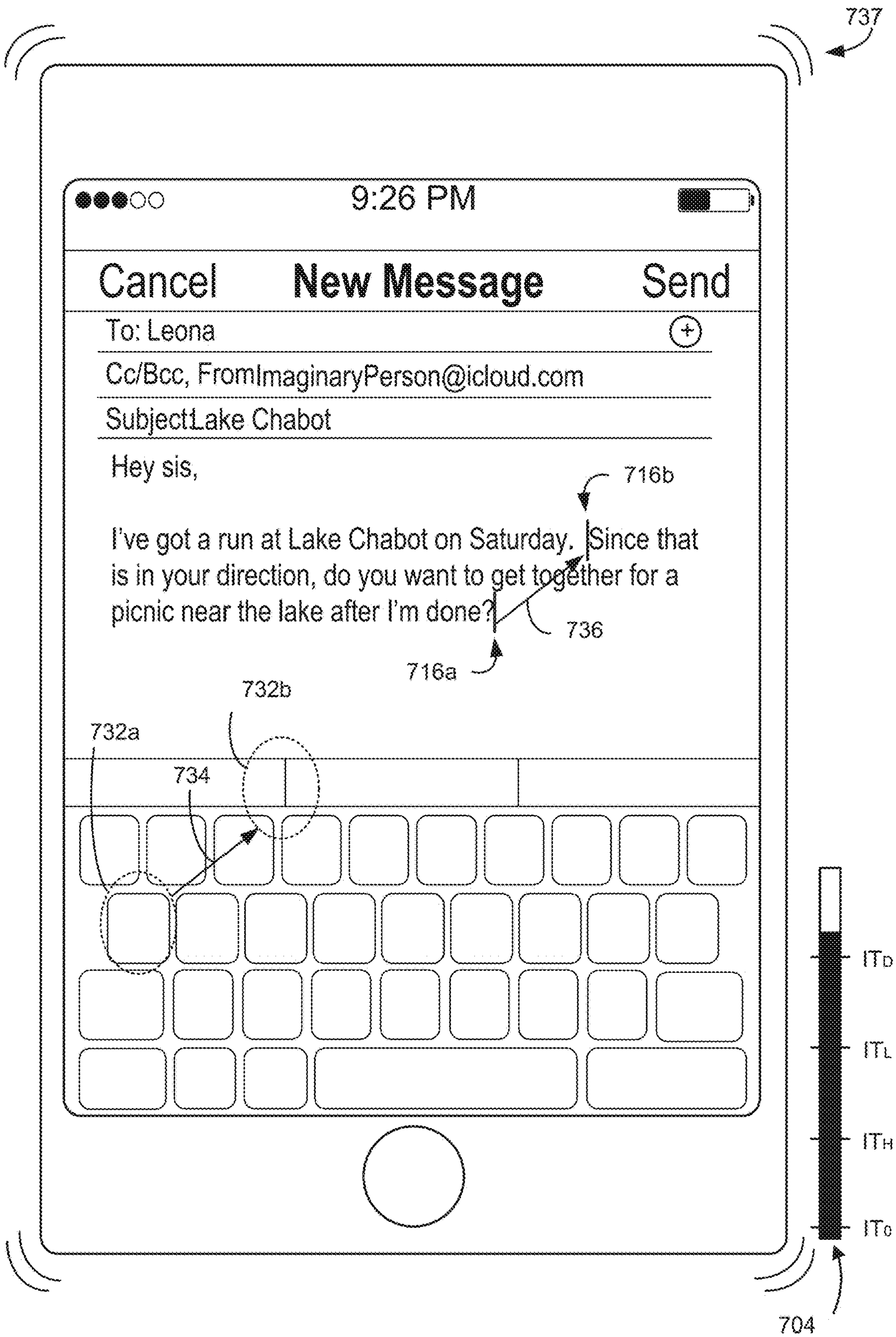

737
9:26 PM
Cancel
New Message
Send
To: Leona
Cc/Bcc, FromImaginaryPerson@icloud.com
SubjectLake Chabot
Hey sis,
I've got a run at Lake Chabot on Saturday. Since that is in your direction, do you want to get together for a picnic near the lake after I'm done?
716b
736
716a
732b
732a
734
ITD
ITL
ITH
IT0
704

Figure 7M

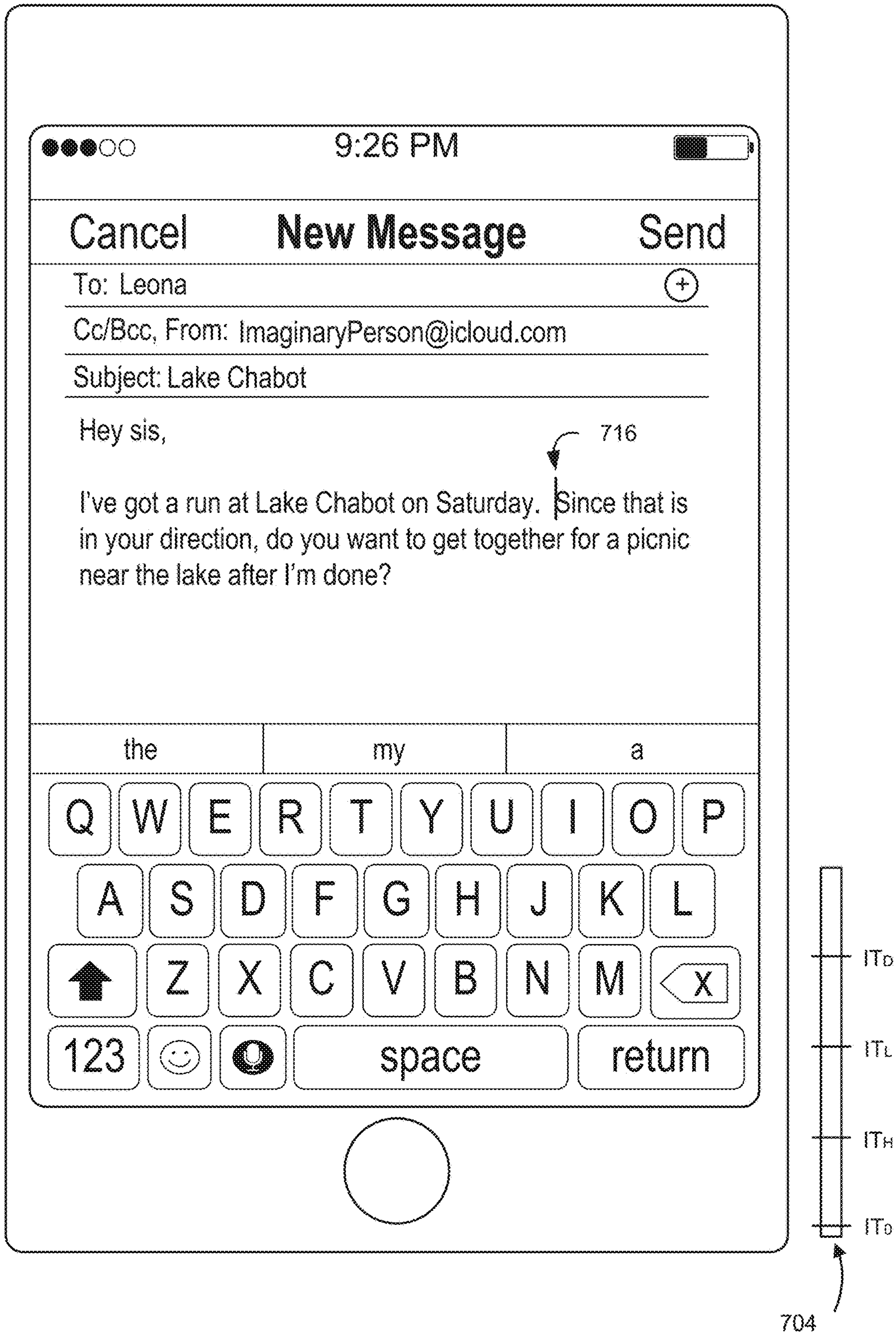
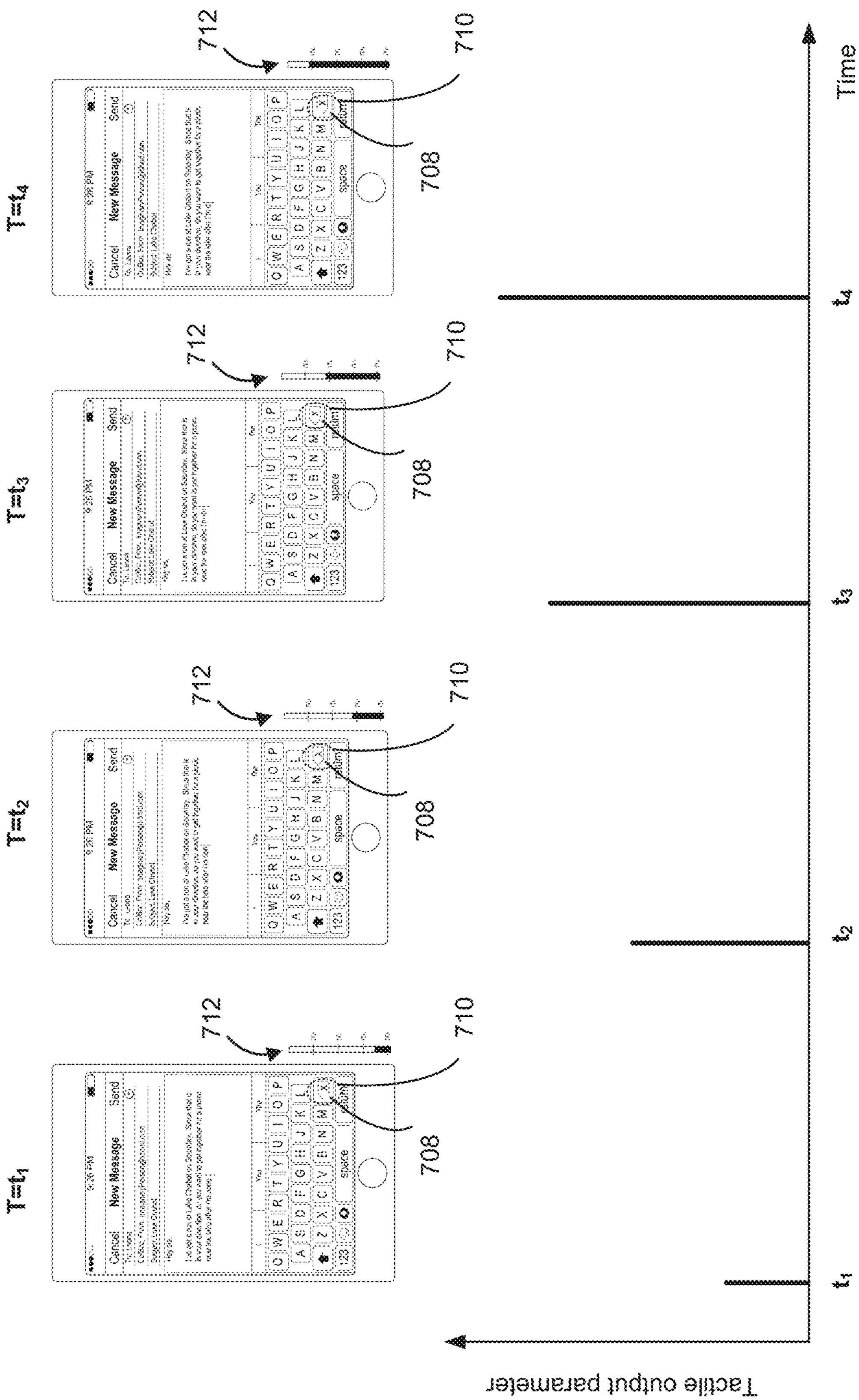
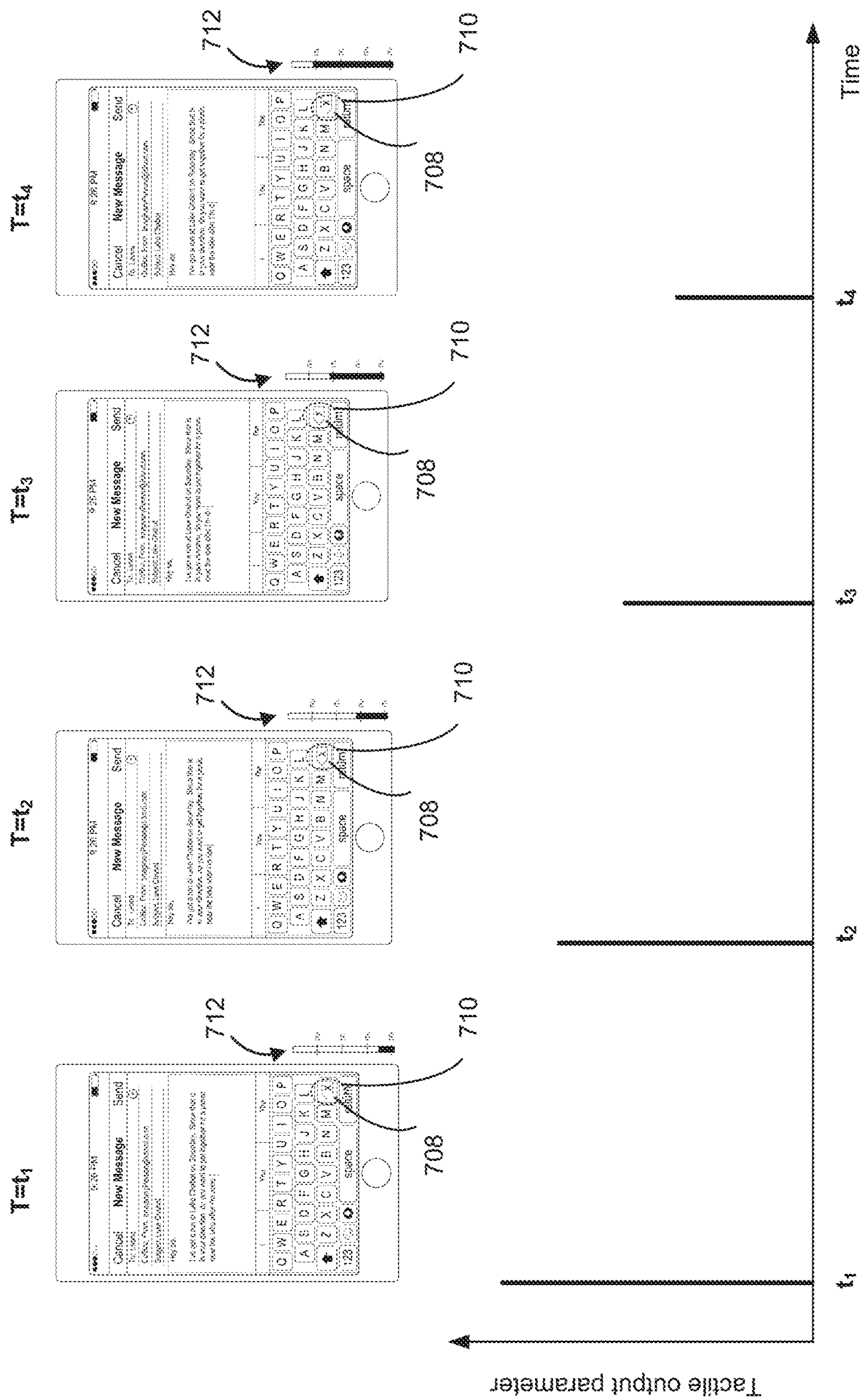

9:26 PM
Cancel
New Message
Send
To: Leona
Cc/Bcc, From: ImaginaryPerson@icloud.com
Subject: Lake Chabot
Hey sis,
716
I've got a run at Lake Chabot on Saturday. Since that is in your direction, do you want to get together for a picnic near the lake after I'm done?
the
my
a
Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M
123
space
return
IT_D
IT_L
IT_H
IT_0
704

Figure 7N



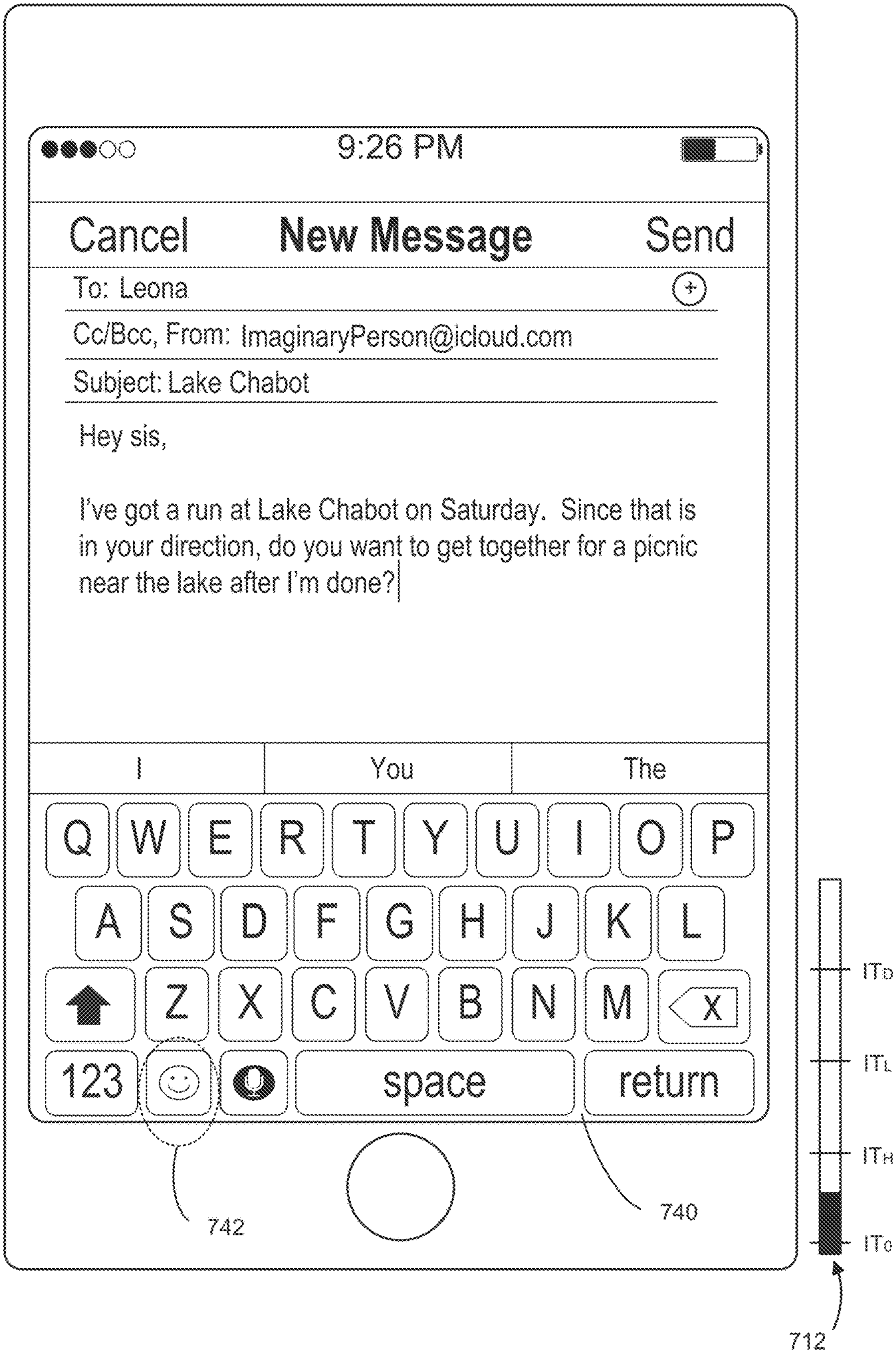
T=t1
T=t2
T=t3
T=t4
712
710
708
Time
t1
t2
t3
t4
Tactile output parameter

Figure 7O-1



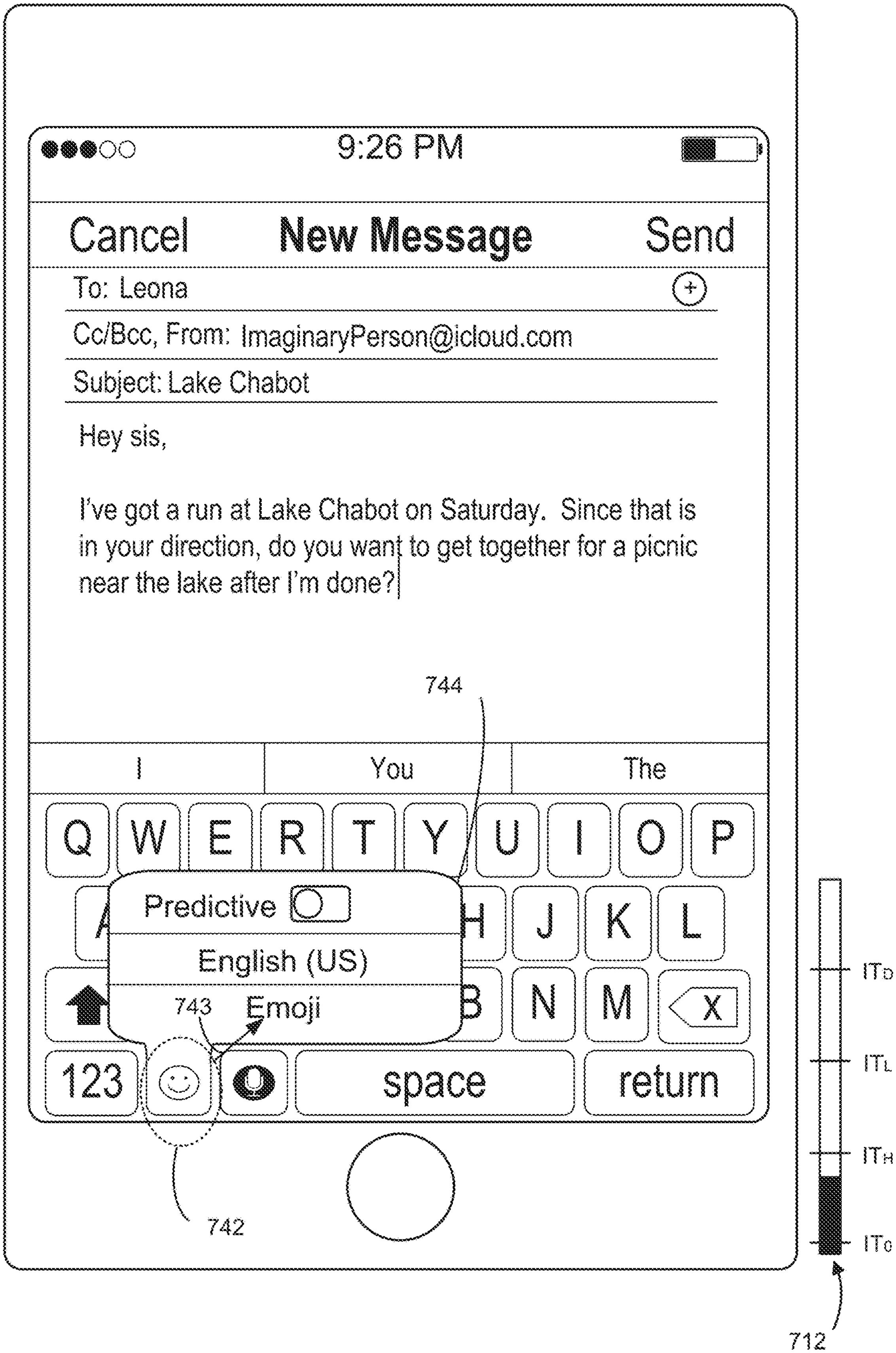
$T=t_1$
$T=t_2$
$T=t_3$
$T=t_4$
708
710
712
Time
Tactile output parameter
t_1
t_2
t_3
t_4

Figure 7O-2



9:26 PM
Cancel
New Message
Send
To: Leona
Cc/Bcc, From: ImaginaryPerson@icloud.com
Subject: Lake Chabot
Hey sis,
I've got a run at Lake Chabot on Saturday. Since that is in your direction, do you want to get together for a picnic near the lake after I'm done?
I
You
The
Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M
123
space
return
742
740
ITD
ITL
ITH
IT0
712

Figure 7P



9:26 PM
Cancel
New Message
Send
To: Leona
Cc/Bcc, From: ImaginaryPerson@icloud.com
Subject: Lake Chabot
Hey sis,
I've got a run at Lake Chabot on Saturday. Since that is in your direction, do you want to get together for a picnic near the lake after I'm done?
744
I
You
The
Q W E R T Y U I O P
A H J K L
B N M
X
Predictive
English (US)
743
Emoji
123
space
return
742
IT_D
IT_L
IT_H
IT_0
712

Figure 7Q

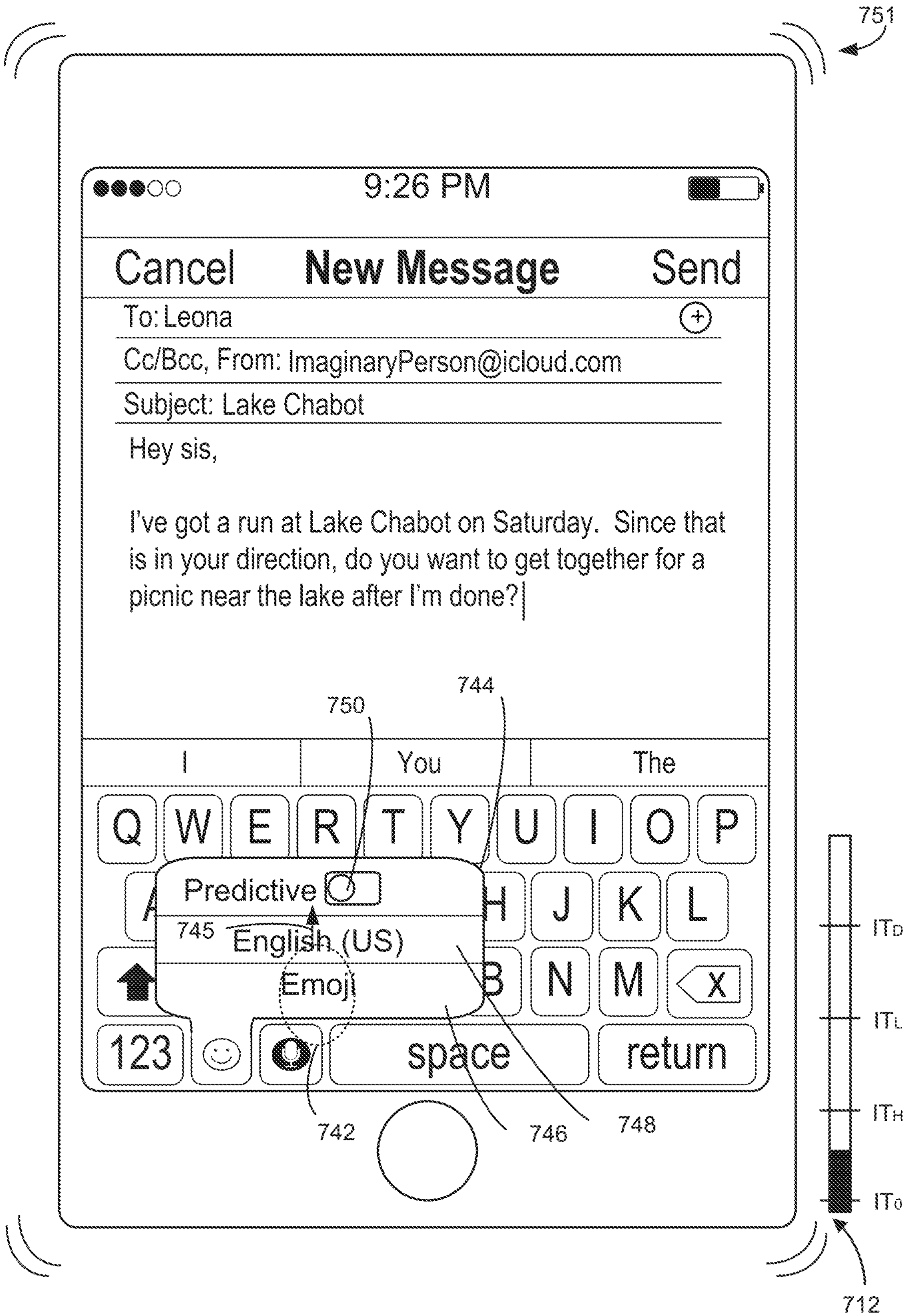

751
9:26 PM
Cancel
New Message
Send
To: Leona
Cc/Bcc, From: ImaginaryPerson@icloud.com
Subject: Lake Chabot
Hey sis,
I've got a run at Lake Chabot on Saturday. Since that is in your direction, do you want to get together for a picnic near the lake after I'm done?
750
744
I
You
The
Q W E R T Y U I O P
Predictive
745
English (US)
Emoji
H J K L
B N M
123
space
return
742
746
748
ITD
ITL
ITH
IT0
712

Figure 7R

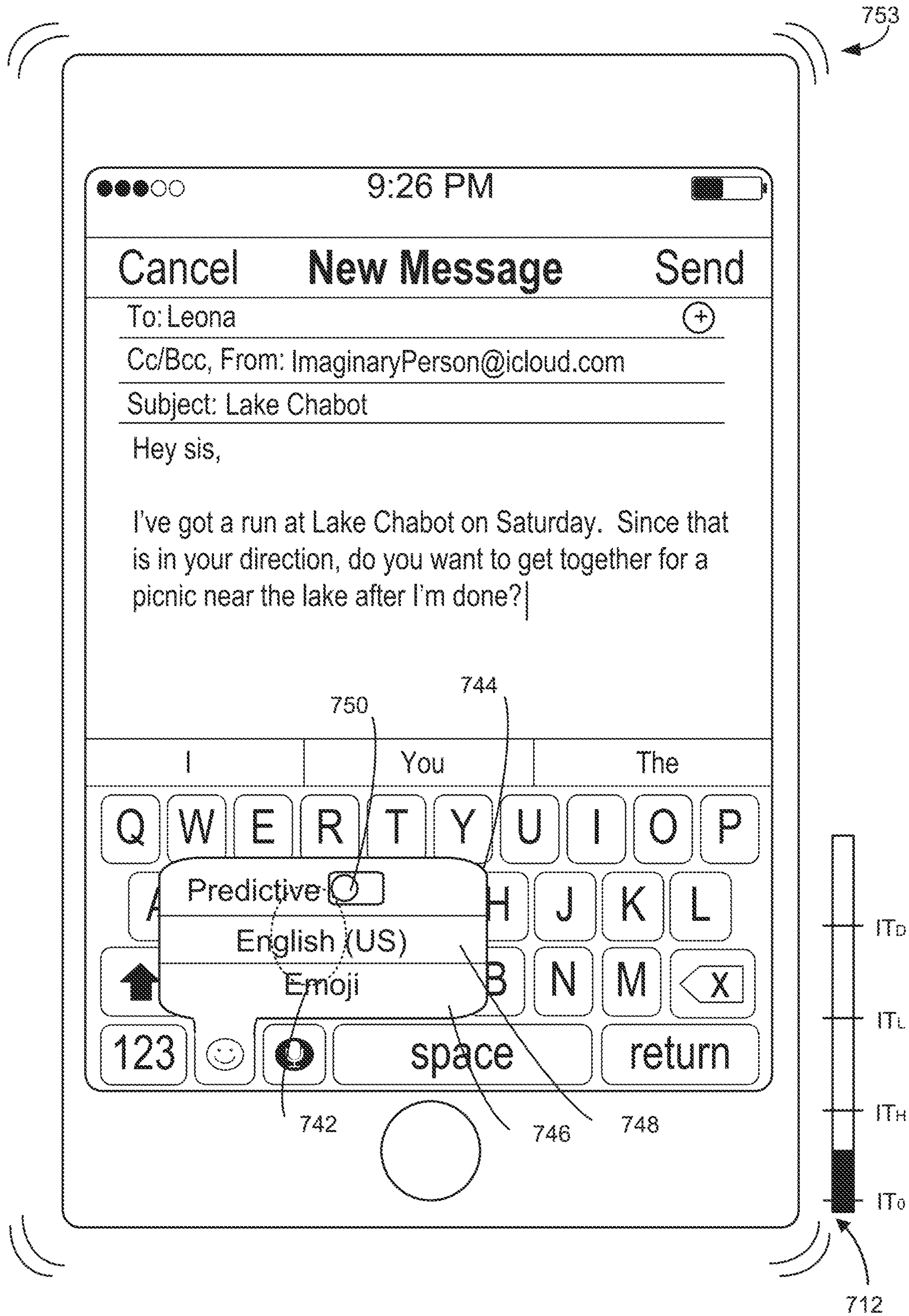

753
9:26 PM
Cancel
New Message
Send
To: Leona
Cc/Bcc, From: ImaginaryPerson@icloud.com
Subject: Lake Chabot
Hey sis,
I've got a run at Lake Chabot on Saturday. Since that is in your direction, do you want to get together for a picnic near the lake after I'm done?
750
744
I
You
The
Q W E R T Y U I O P
A H J K L
B N M
Predictive
English (US)
Emoji
123
space
return
742
746
748
IT_D
IT_L
IT_H
IT_0
712

Figure 7S

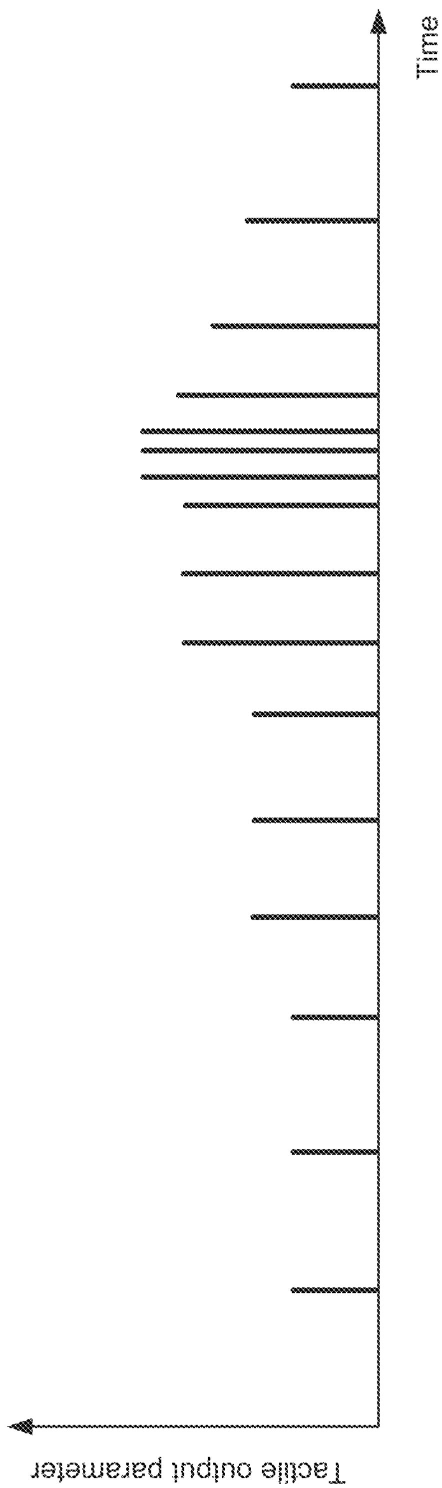


Figure 7T

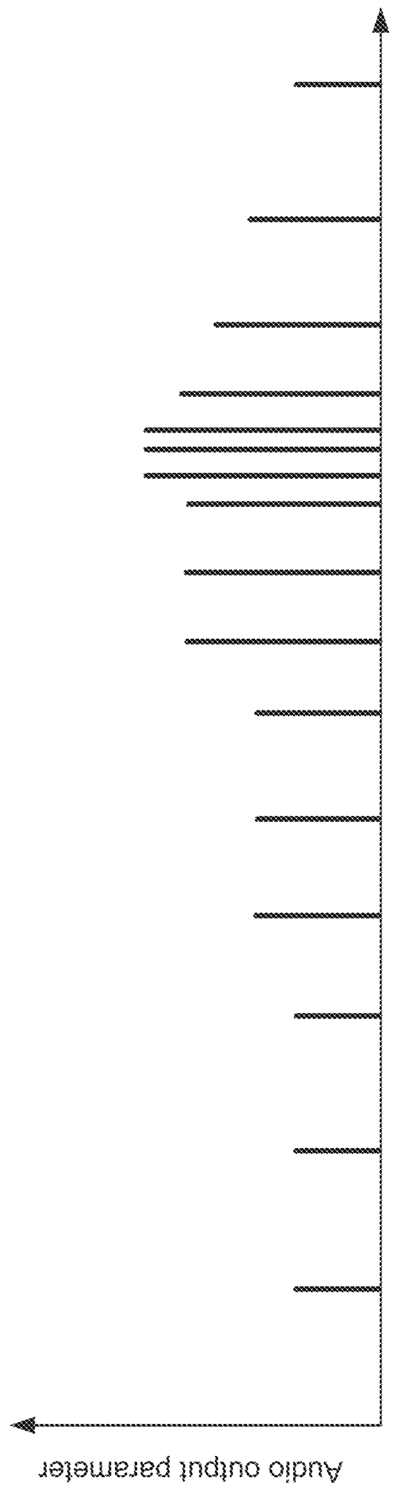


Figure 7U

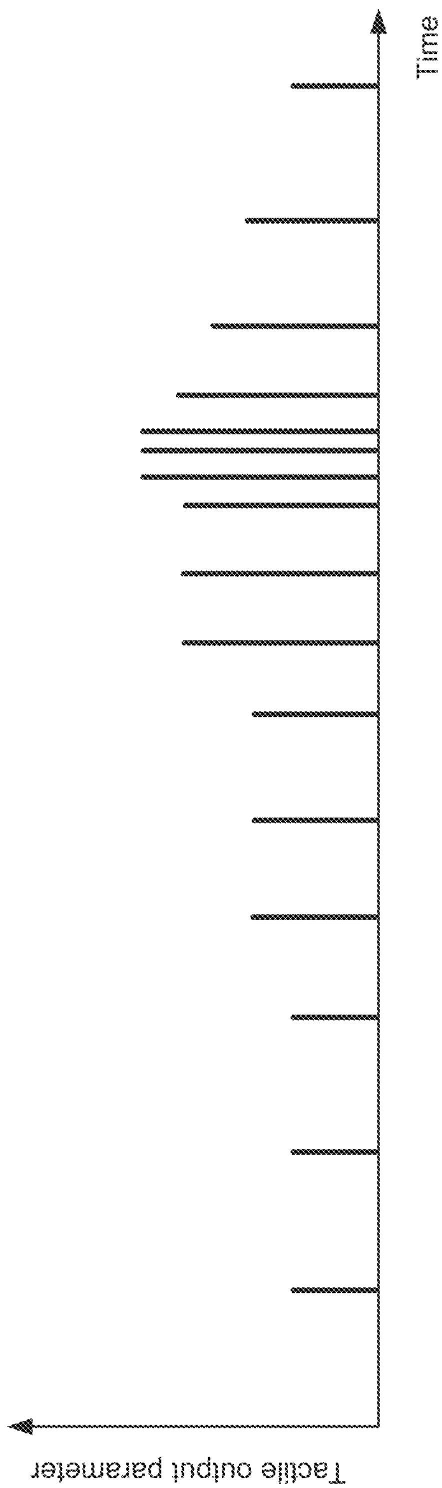


Figure 7V

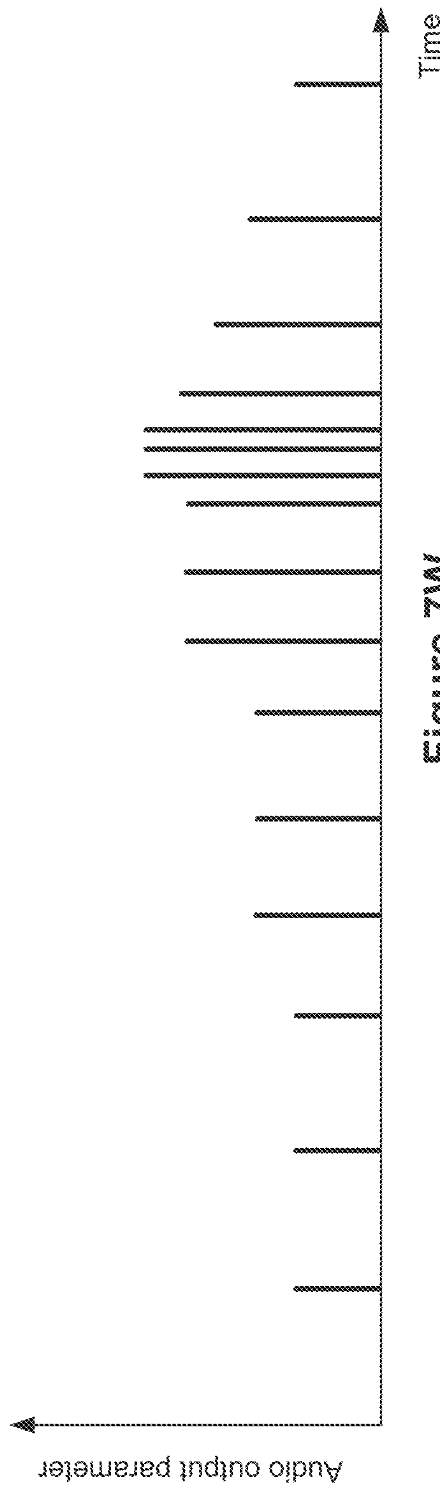
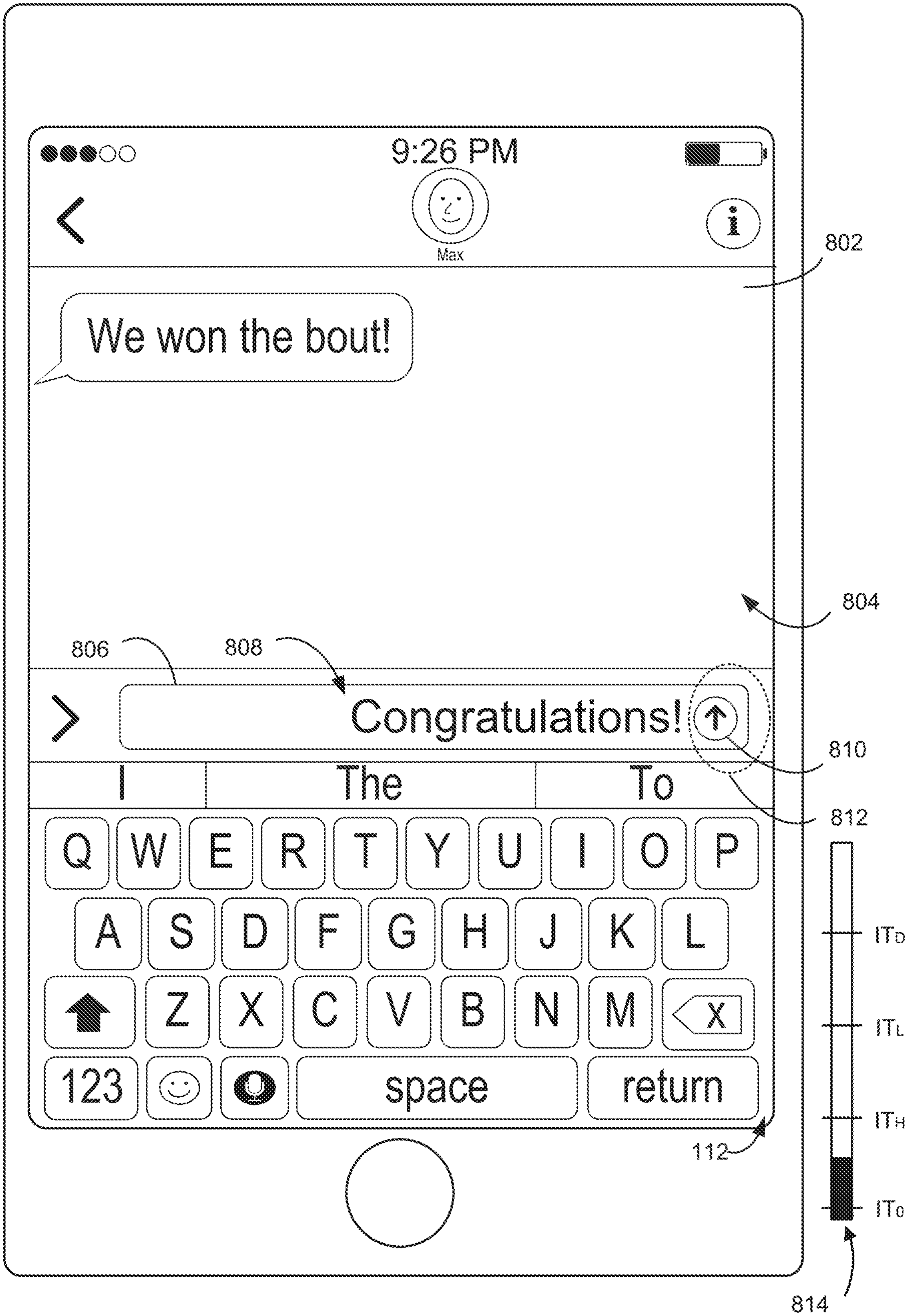


Figure 7W



9:26 PM
Max
802
We won the bout!
804
806
808
Congratulations!
810
812
I
The
To
Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M
X
123
space
return
112
IT_D
IT_L
IT_H
IT_0
814

Figure 8A

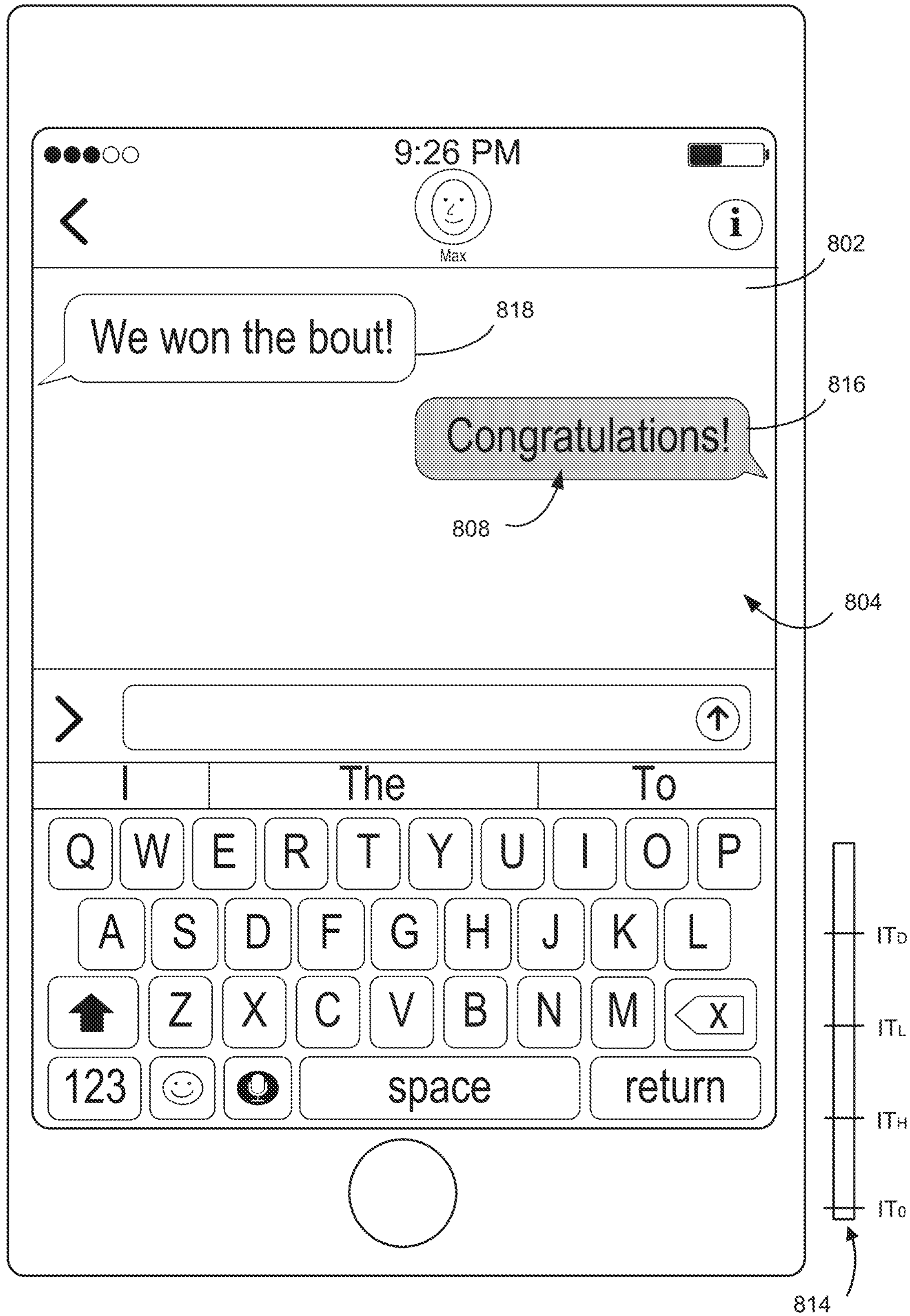
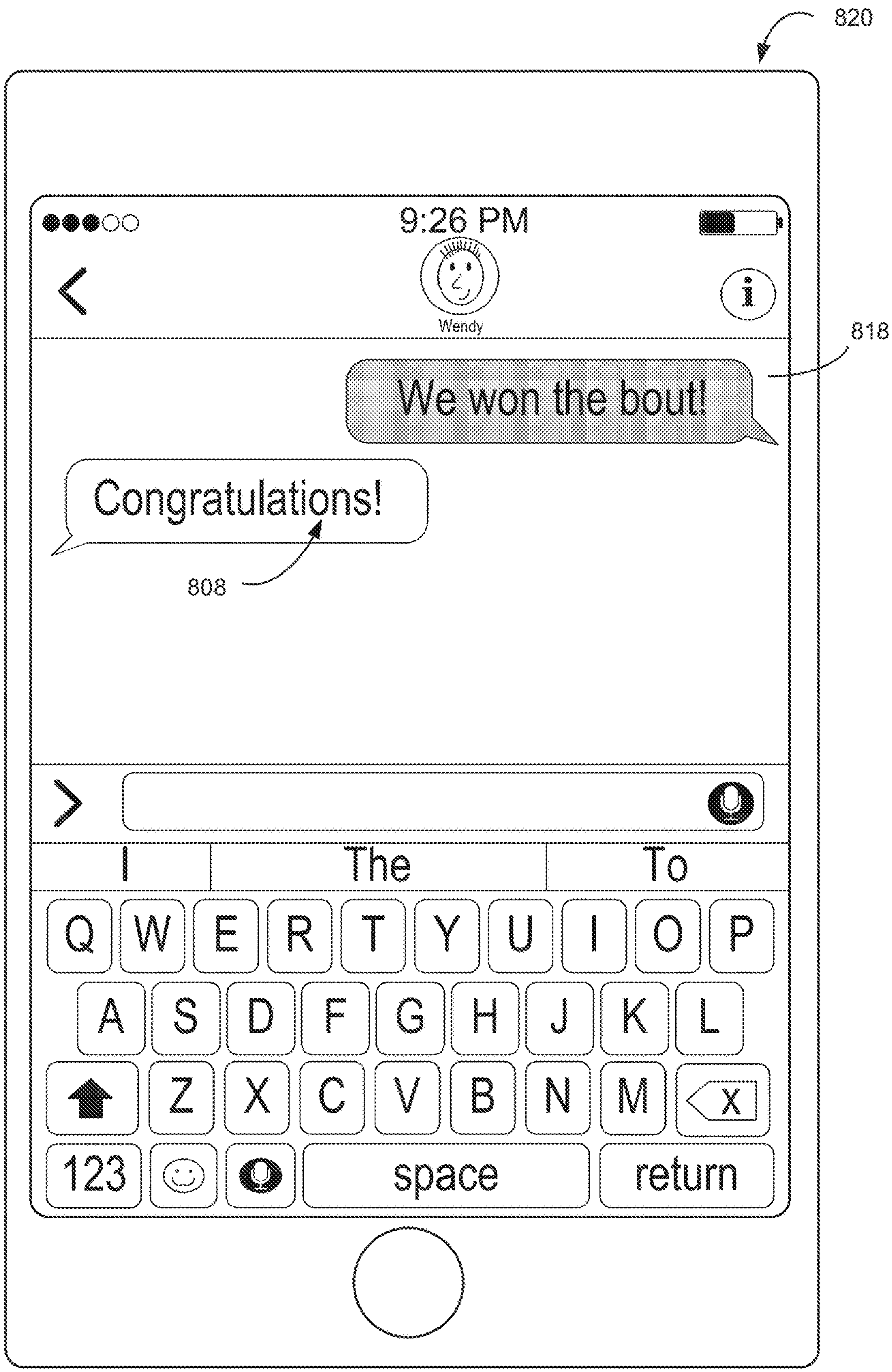
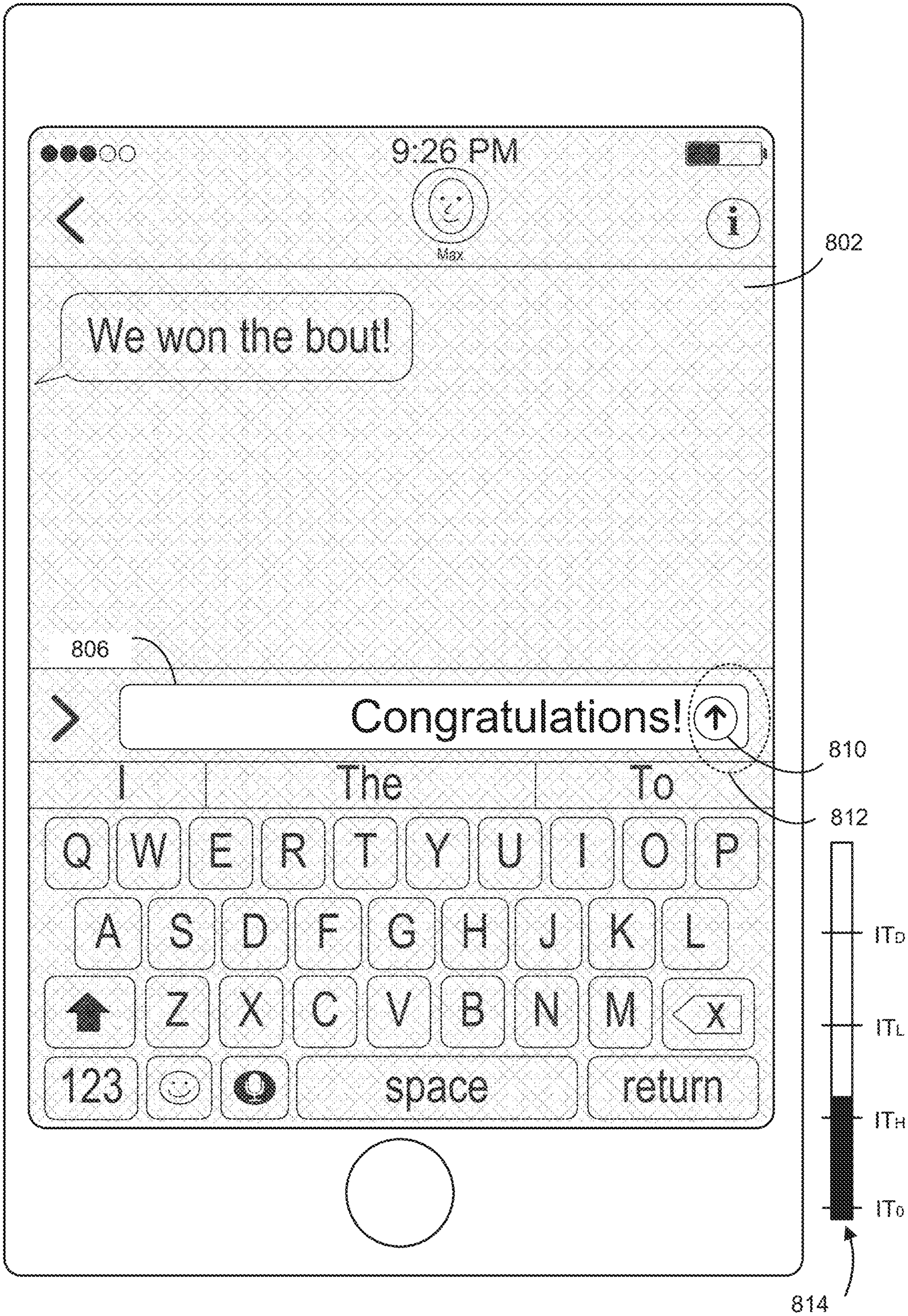

9:26 PM
Max
802
We won the bout!
818
816
Congratulations!
808
804
I
The
To
Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M
X
123
space
return
IT_D
IT_L
IT_H
IT_0
814

Figure 8B



820
9:26 PM
Wendy
818
We won the bout!
Congratulations!
808
I
The
To
Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M
X
123
space
return

Figure 8C



9:26 PM
Max
802
We won the bout!
806
Congratulations!
810
812
I
The
To
Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M
123
space
return
ITD
ITL
ITH
IT0
814

Figure 8D

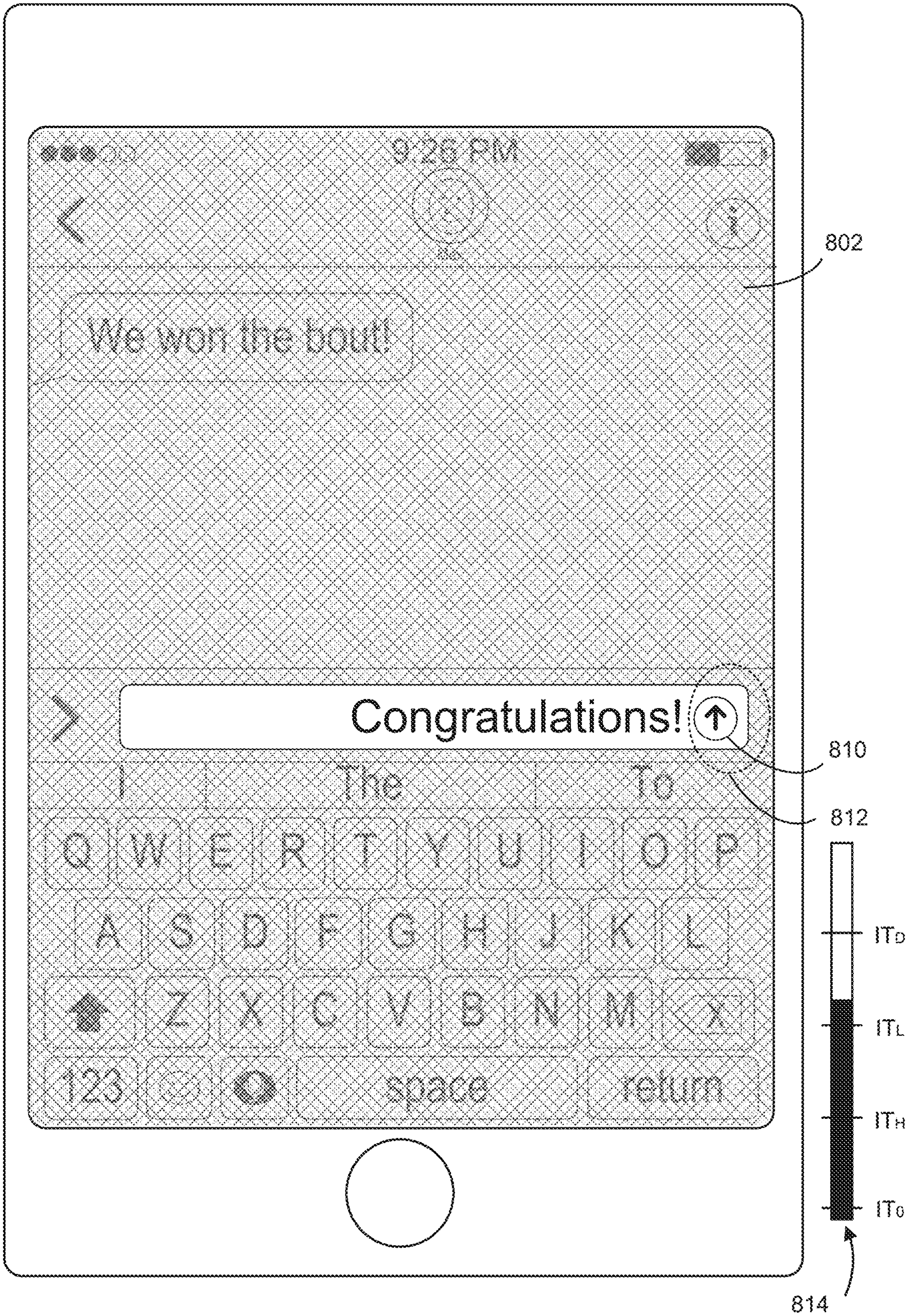
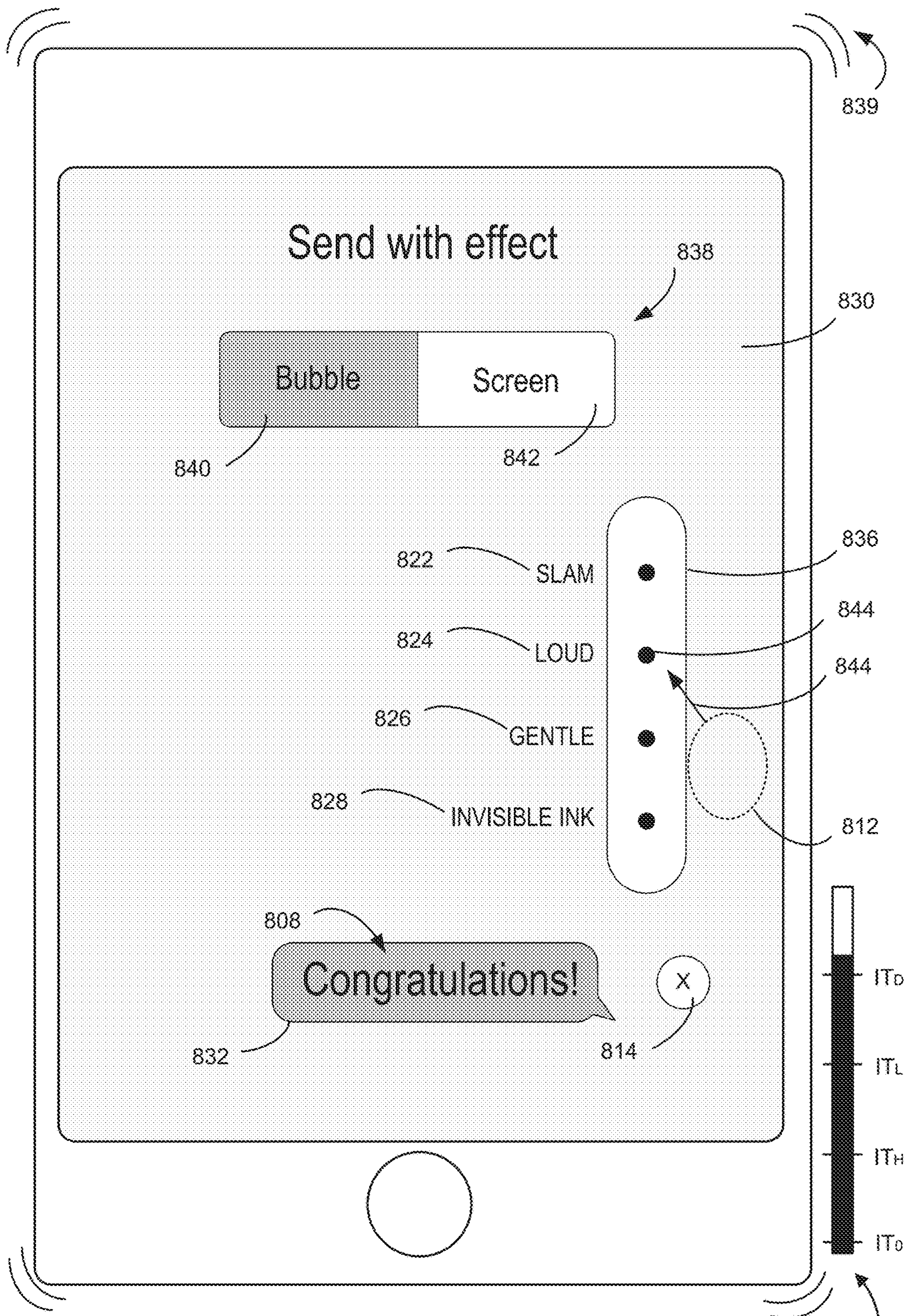

9:26 PM
802
We won the bout!
Congratulations!
810
I
The
To
812
Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M
123
space
return
IT_D
IT_L
IT_H
IT_0
814

Figure 8E



839
Send with effect
838
830
Bubble
Screen
840
842
836
822
SLAM
844
824
LOUD
844
826
GENTLE
828
INVISIBLE INK
812
808
Congratulations!
X
832
814
IT_D
IT_L
IT_H
IT_0
814

Figure 8F

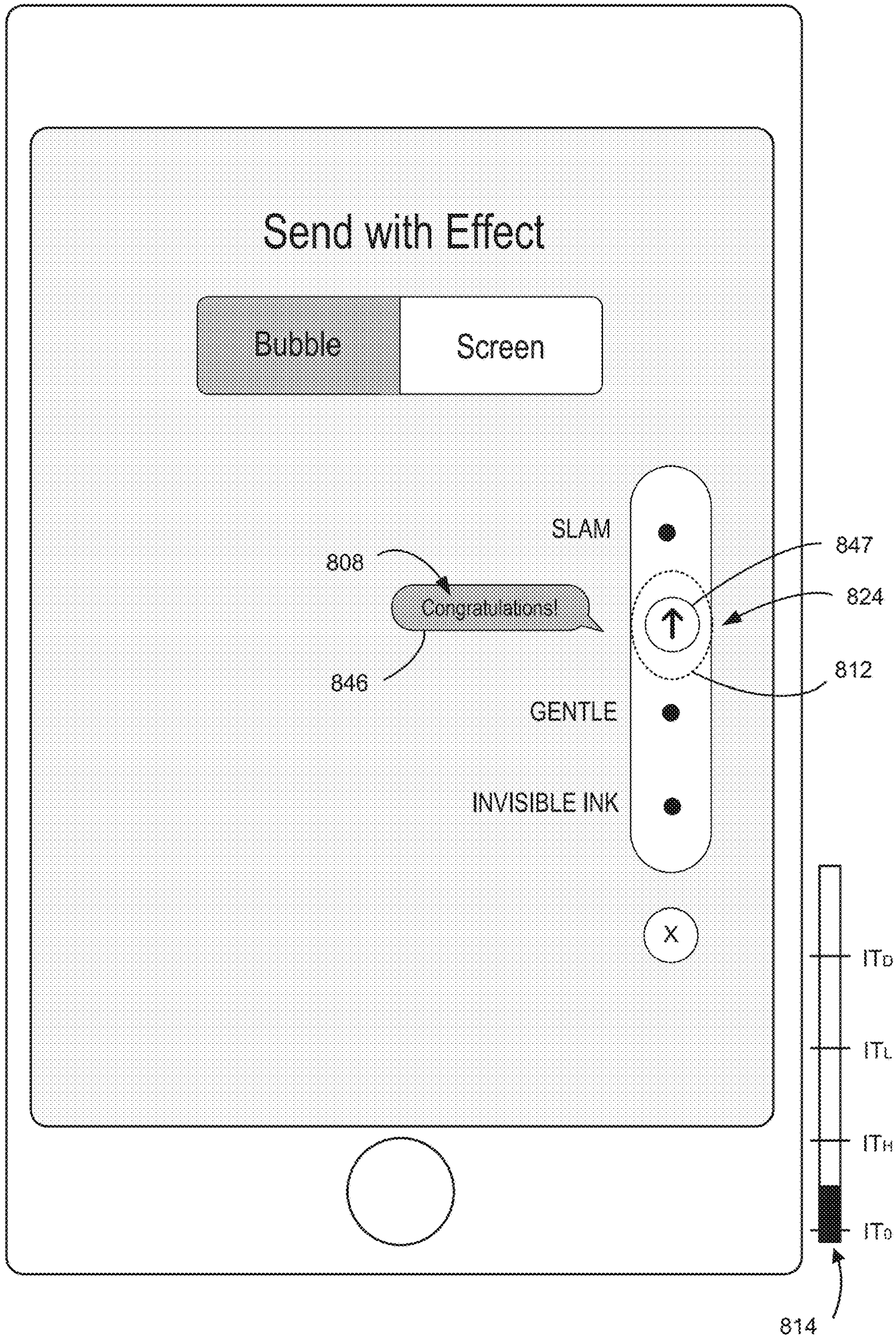
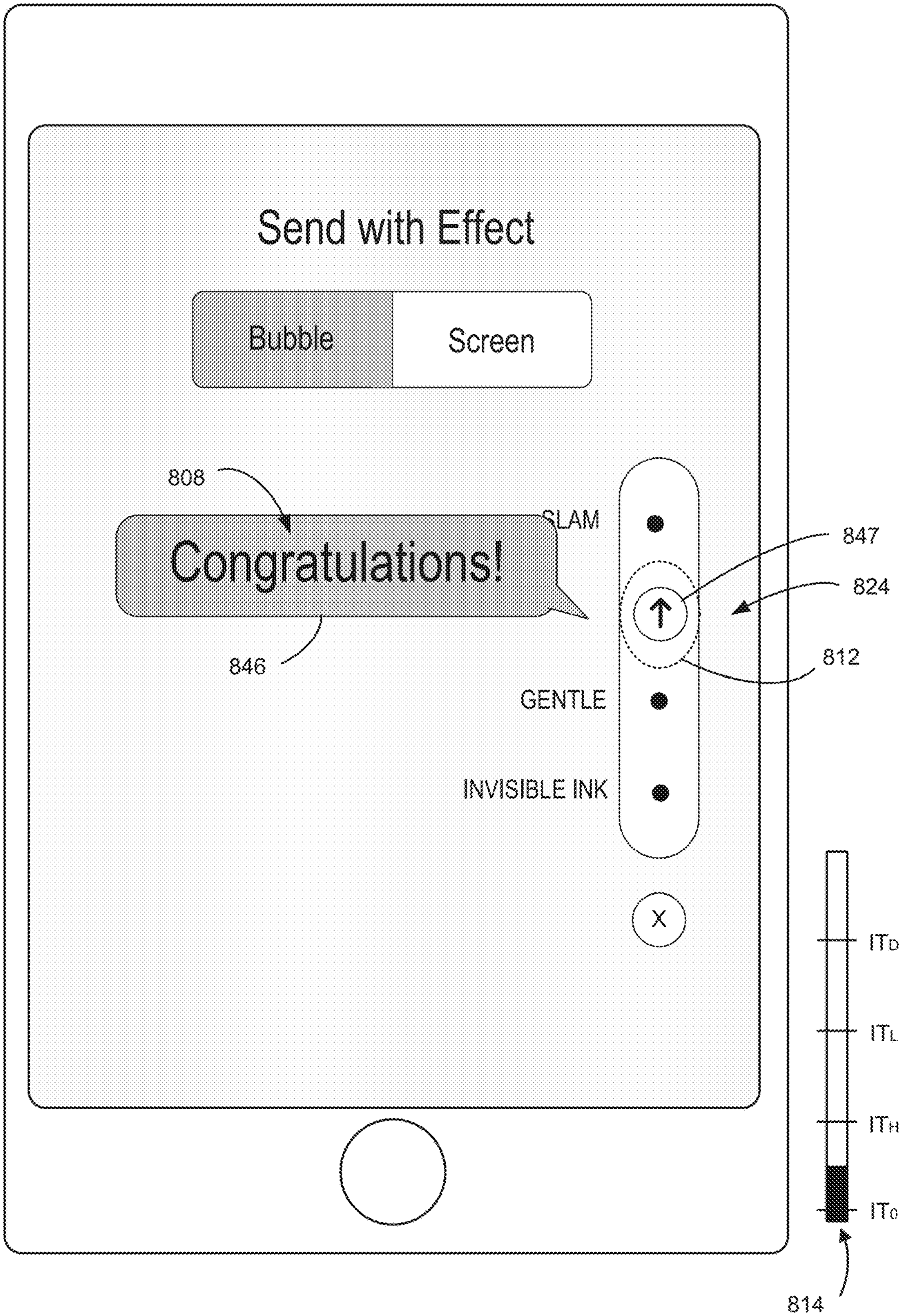
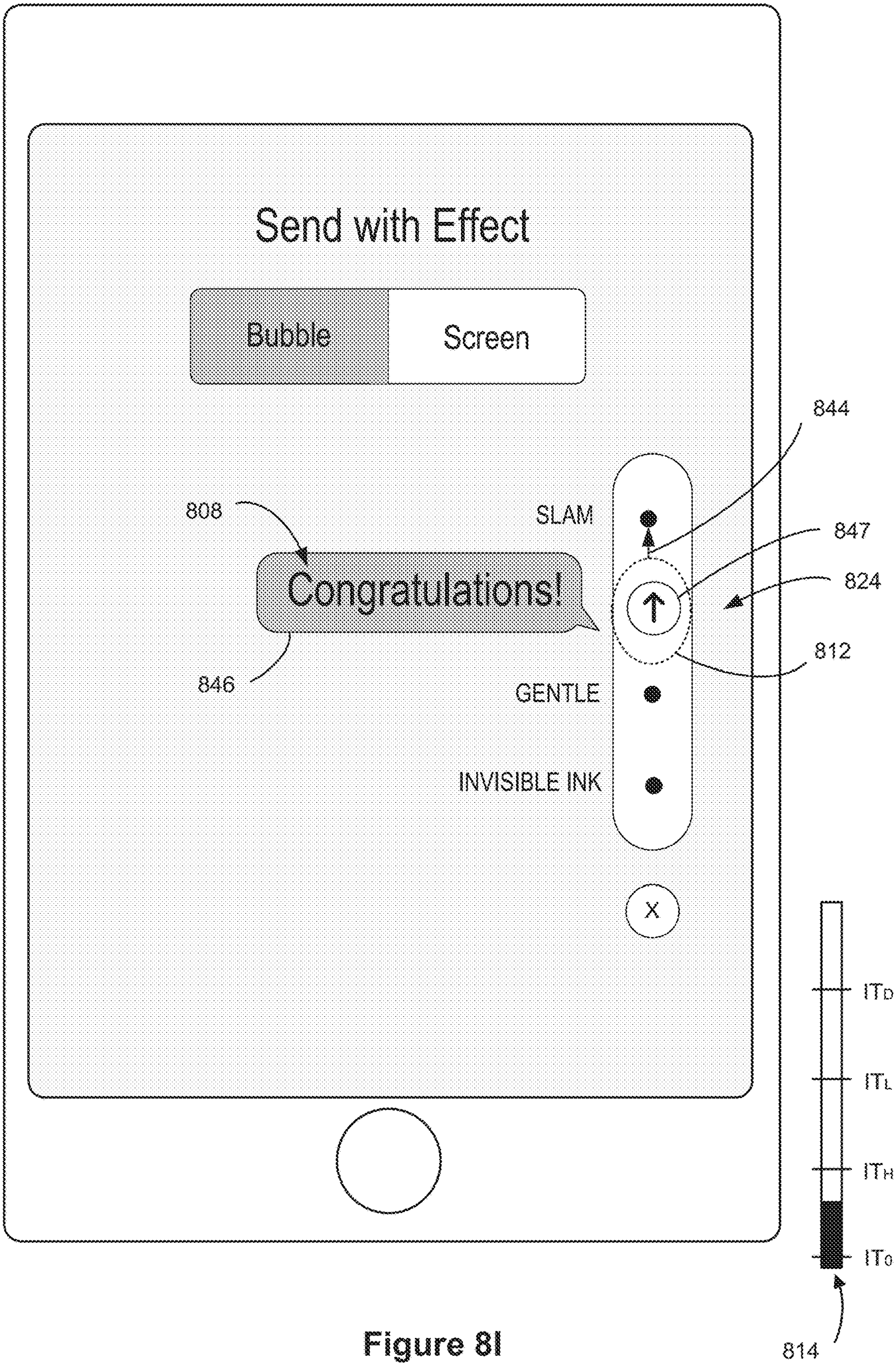

Send with Effect
Bubble
Screen
SLAM
808
847
824
Congratulations!
846
812
GENTLE
INVISIBLE INK
X
IT_D
IT_L
IT_H
IT_0
814

Figure 8G



Send with Effect
Bubble
Screen
808
Congratulations!
846
SLAM
GENTLE
INVISIBLE INK
847
824
812
X
IT_D
IT_L
IT_H
IT_0
814

Figure 8H



Send with Effect
Bubble
Screen
844
SLAM
808
847
824
Congratulations!
812
846
GENTLE
INVISIBLE INK
X
IT_D
IT_L
IT_H
IT_0
814

Figure 8I

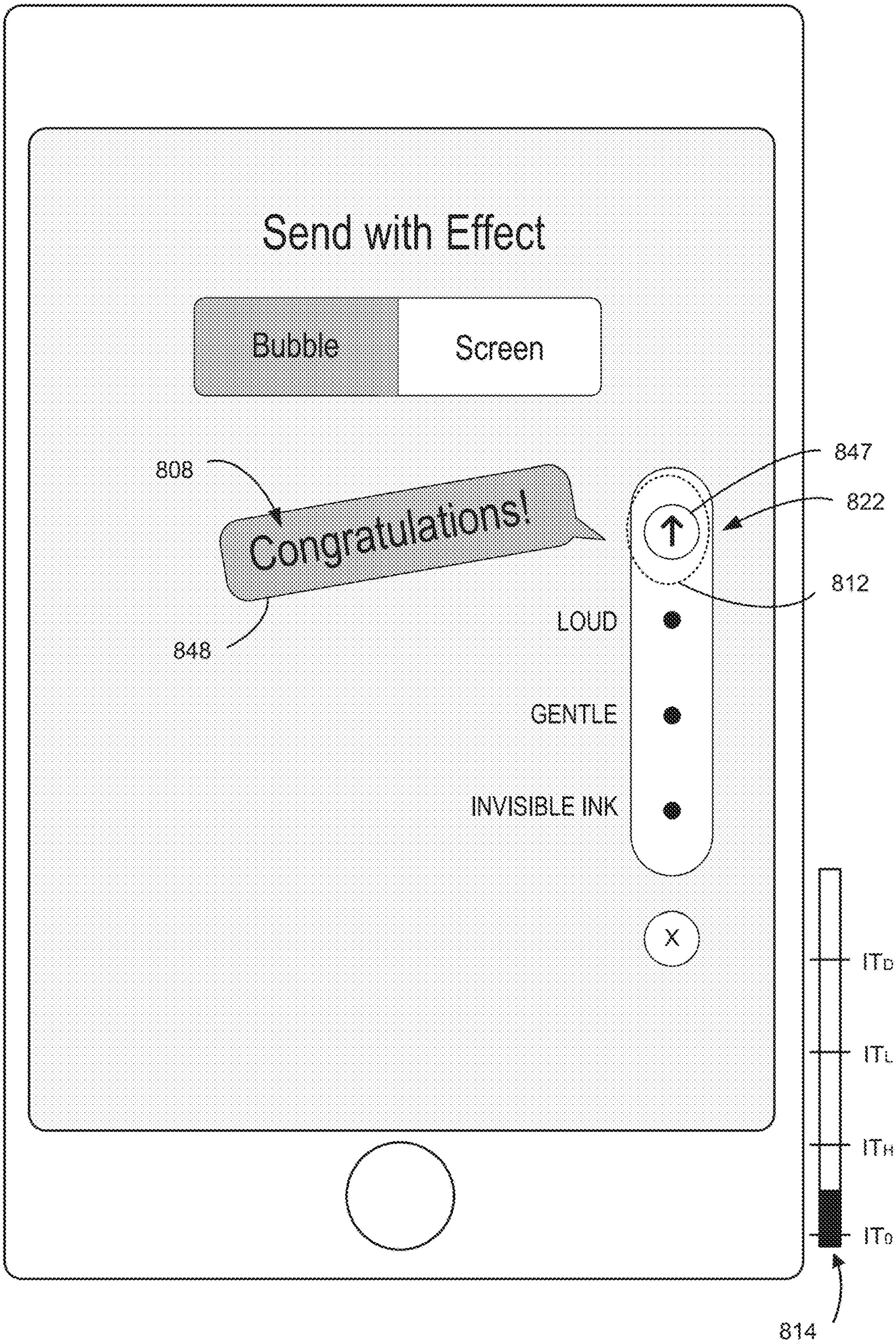

Send with Effect
Bubble
Screen
808
Congratulations!
848
847
822
812
LOUD
GENTLE
INVISIBLE INK
X
ITD
ITL
ITH
IT0
814

Figure 8J

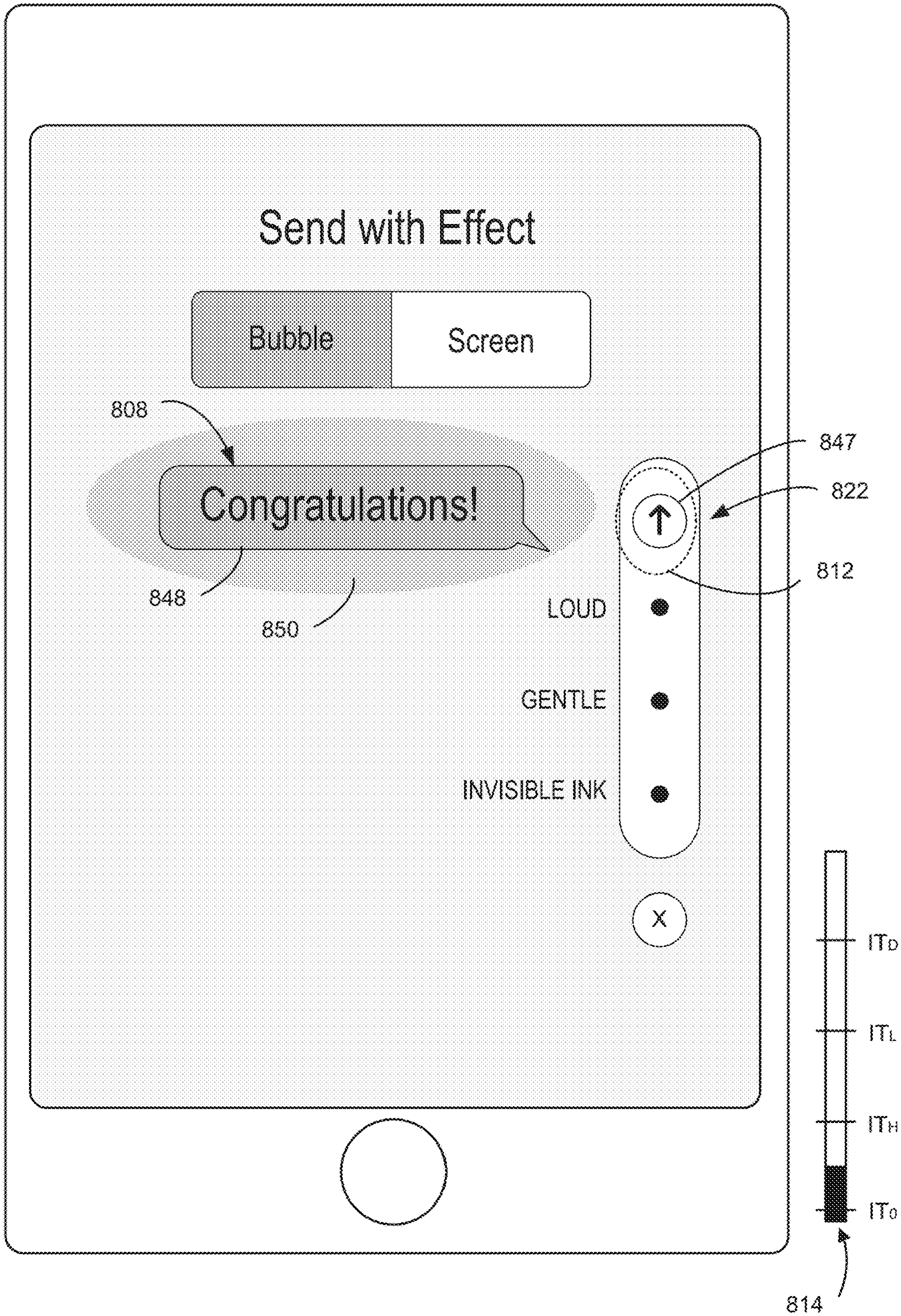
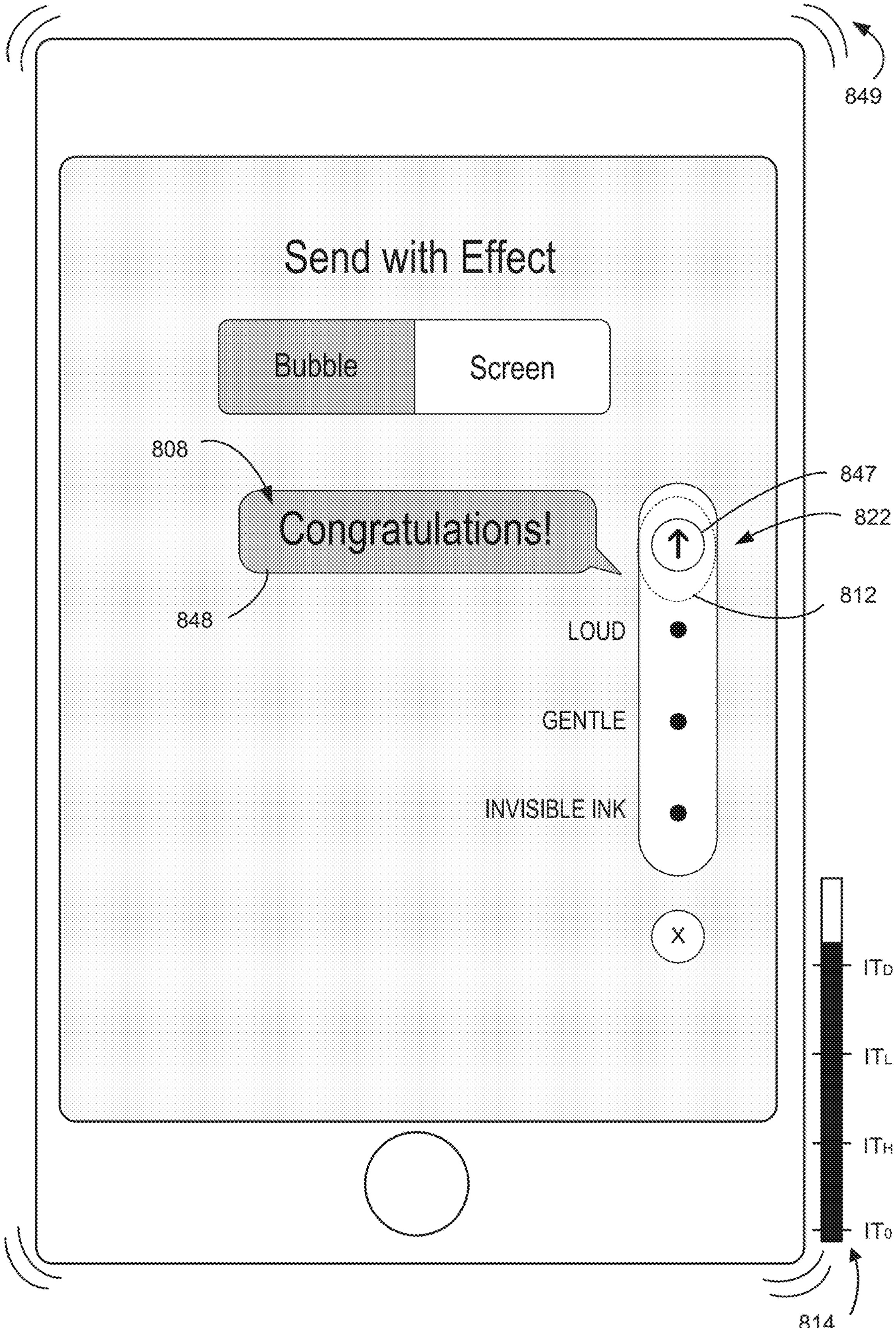
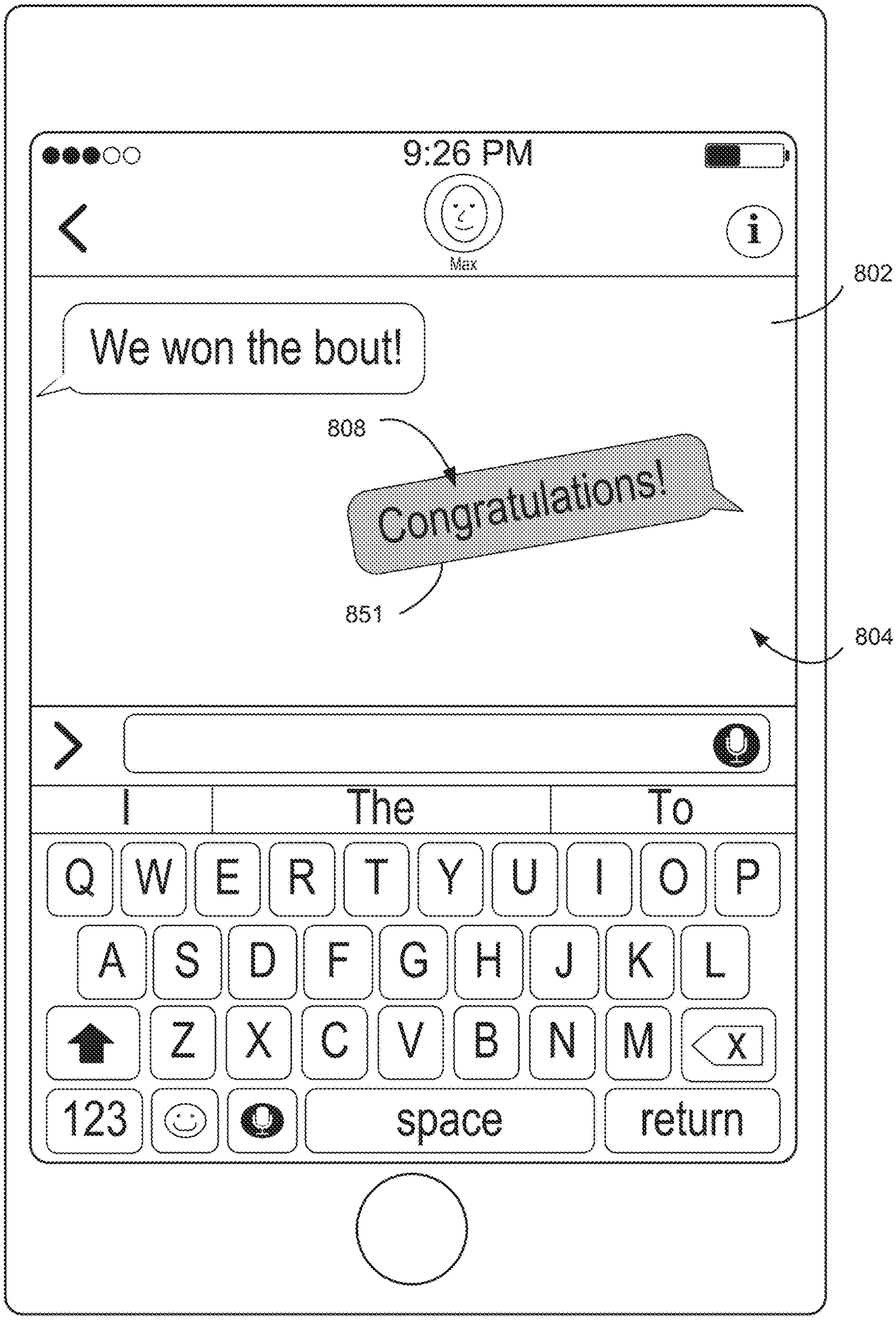

Send with Effect
Bubble
Screen
808
Congratulations!
848
850
847
822
812
LOUD
GENTLE
INVISIBLE INK
X
ITD
ITL
ITH
IT0
814

Figure 8K



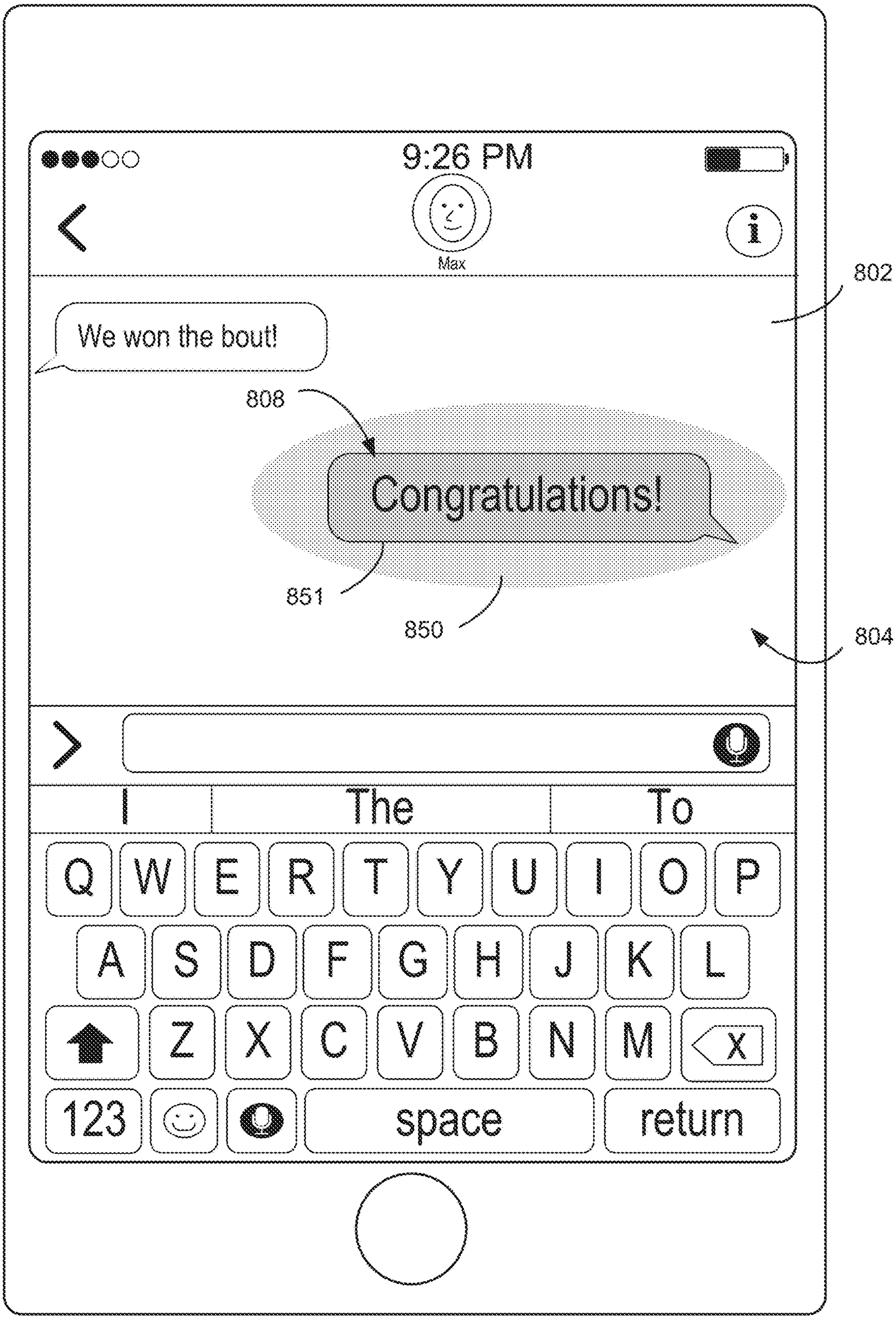
849
Send with Effect
Bubble
Screen
808
Congratulations!
848
847
822
812
LOUD
GENTLE
INVISIBLE INK
X
ITD
ITL
ITH
IT0
814

Figure 8L



9:26 PM
Max
802
We won the bout!
808
Congratulations!
851
804
I
The
To
Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M
X
123
space
return

Figure 8M



9:26 PM
Max
802
We won the bout!
808
Congratulations!
851
850
804
I
The
To
Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M
X
123
space
return

Figure 8N


9:26 PM
Max
We won the bout!
808
Congratulations!
816
I
The
To
Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M
123
space
return

Figure 8O


820
9:26 PM
Wendy
818
We won the bout!
808
Congratulations!
851
I
The
To
Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M
X
123
space
return

Figure 8P


820
9:26 PM
Wendy
We won the bout!
818
808
Congratulations!
851
850
I
The
To
Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M
X
123
space
return

Figure 8Q

820
9:26 PM
Wendy
818
We won the bout!
808
Congratulations!
851
I
The
To
Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M
X
123
space
return

Figure 8R

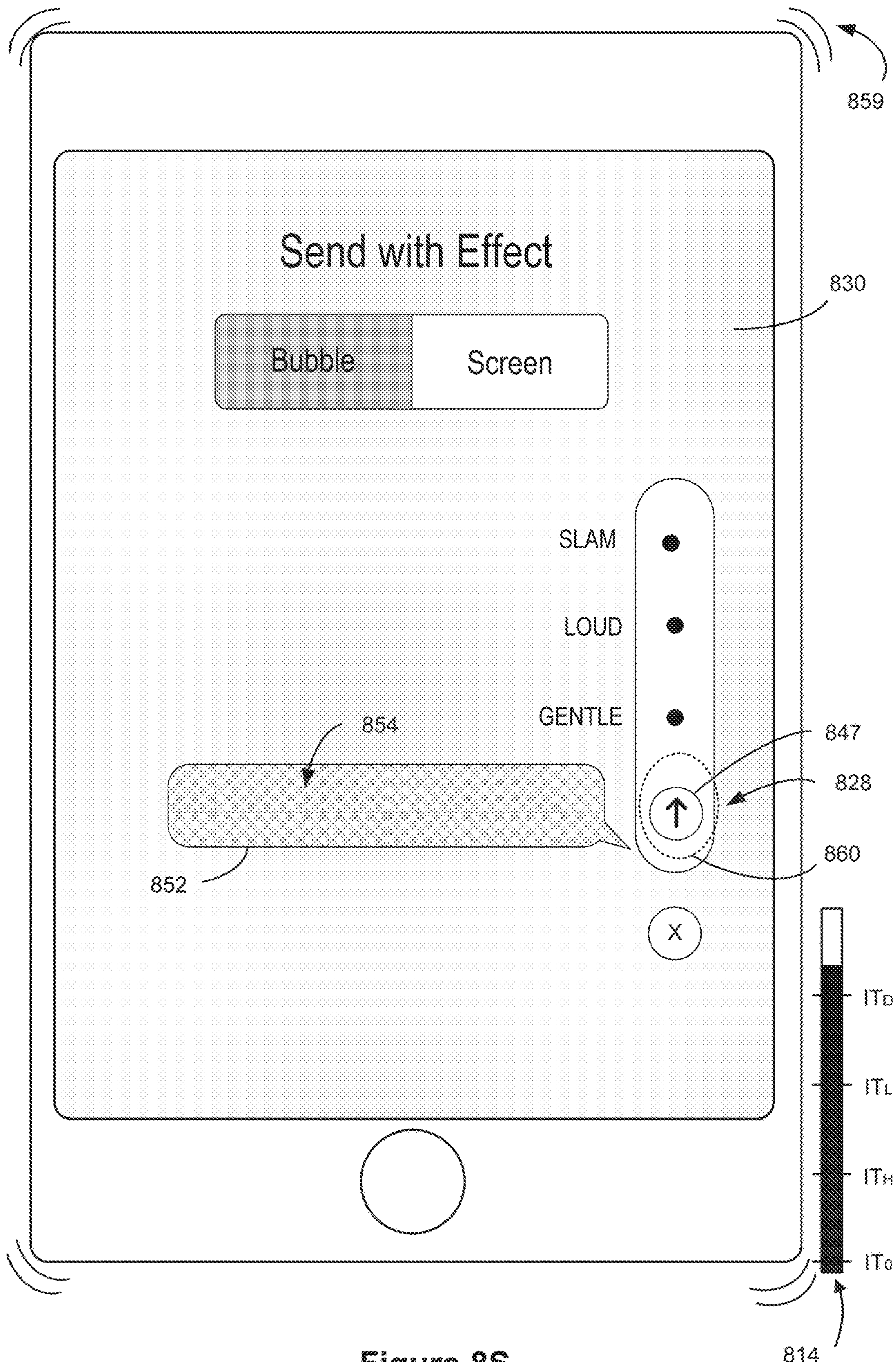
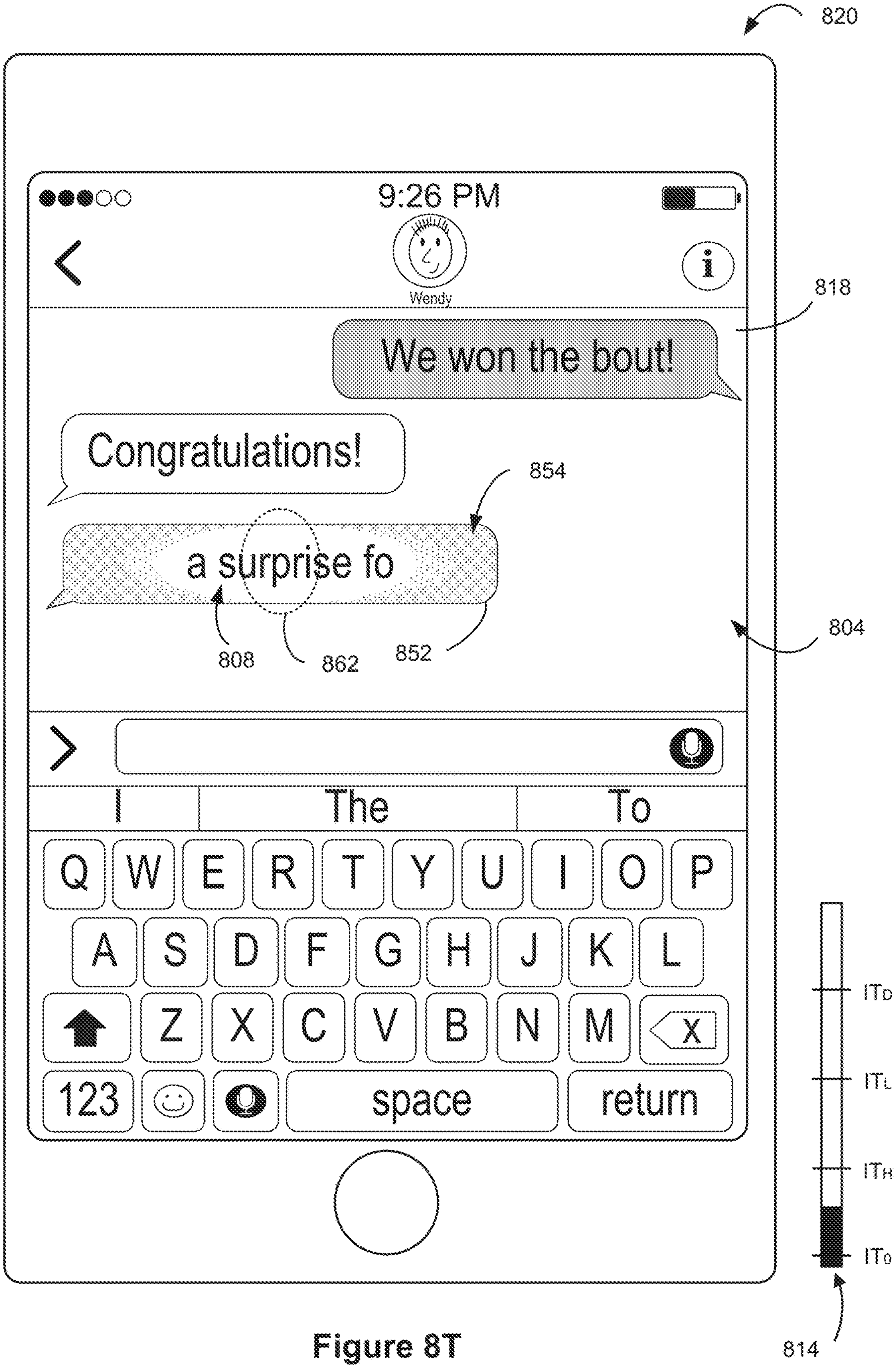

859
Send with Effect
830
Bubble
Screen
SLAM
LOUD
GENTLE
854
847
828
852
860
X
IT_D
IT_L
IT_H
IT_0
814

Figure 8S



820
9:26 PM
Wendy
818
We won the bout!
Congratulations!
854
a surprise fo
808
862
852
804
I
The
To
Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M
123
space
return
ITD
ITL
ITH
IT0
814

Figure 8T

820
9:26 PM
Wendy
818
We won the bout!
Congratulations!
854
ve a surprise for
808
860
852
I
The
To
Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M
X
123
space
return
ITD
ITL
ITH
IT0
814

Figure 8U


820
9:26 PM
Wendy
818
We won the bout!
Congratulations!
854
have a surprise for y
808
860
852
I
The
To
Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M
123
space
return
ITD
ITL
ITH
IT0
814

Figure 8V

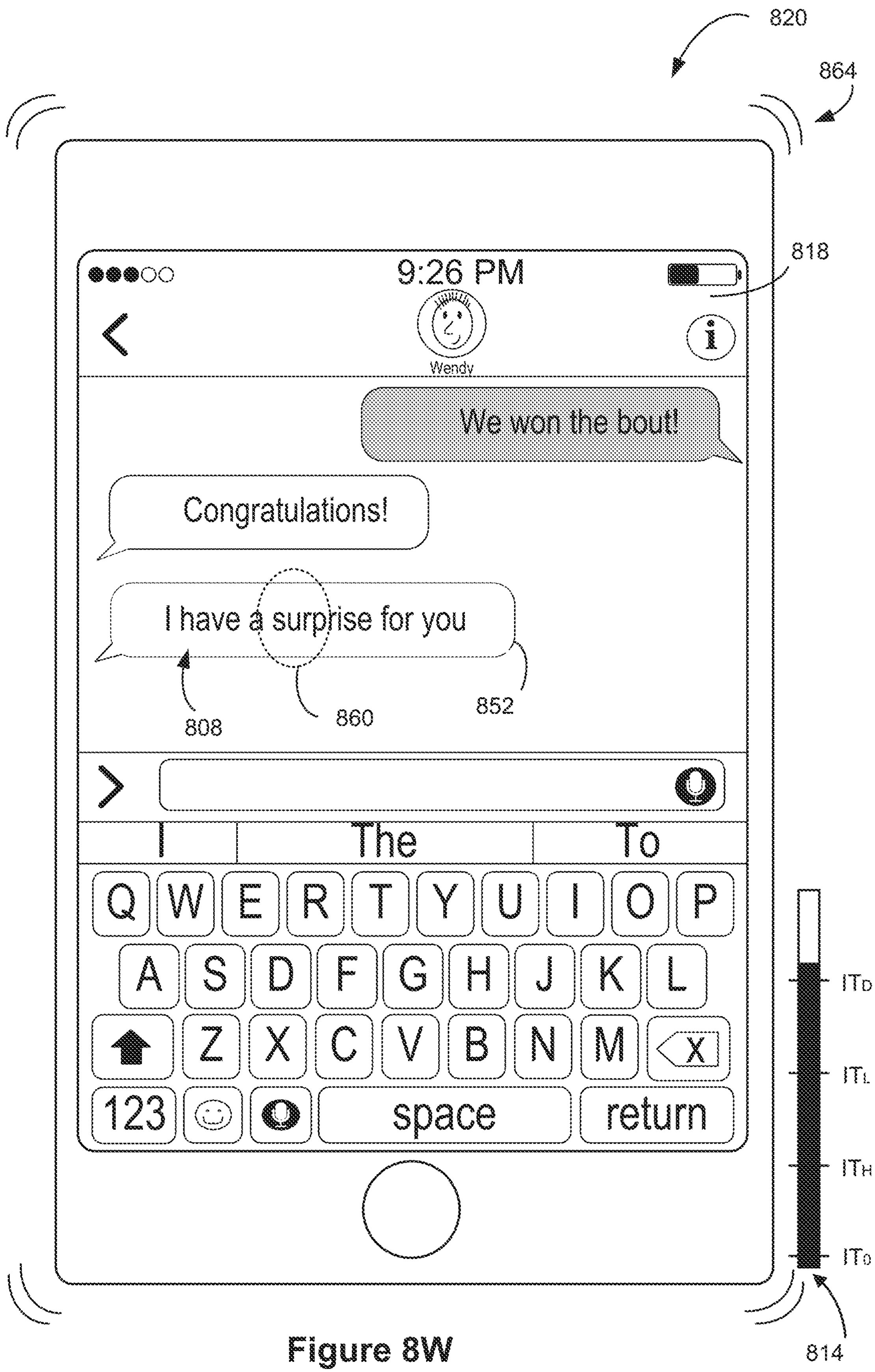
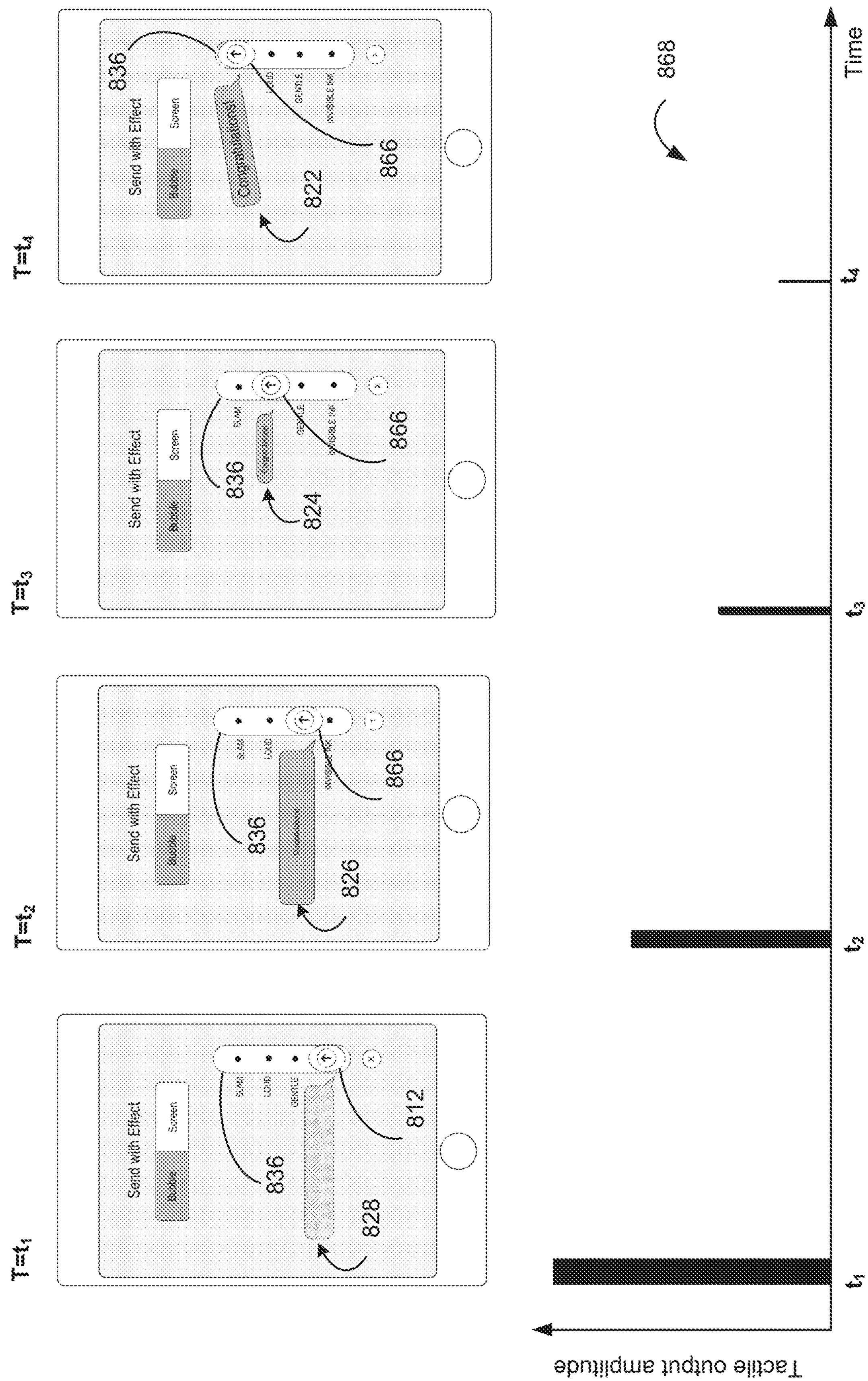

820
864
818
9:26 PM
Wendy
We won the bout!
Congratulations!
I have a surprise for you
808
860
852
I
The
To
Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M
X
123
space
return
ITD
ITL
ITH
IT0
814

Figure 8W


820
9:26 PM
Wendy
818
We won the bout!
Congratulations!
852
I
The
To
Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M
123
space
return
ITD
ITL
ITH
IT0
814

Figure 8X



T=t_1
T=t_2
T=t_3
T=t_4
Send with Effect
Screen
836
812
828
826
866
824
822
868
Time
t_1
t_2
t_3
t_4
Tactile output amplitude

Figure 8Y

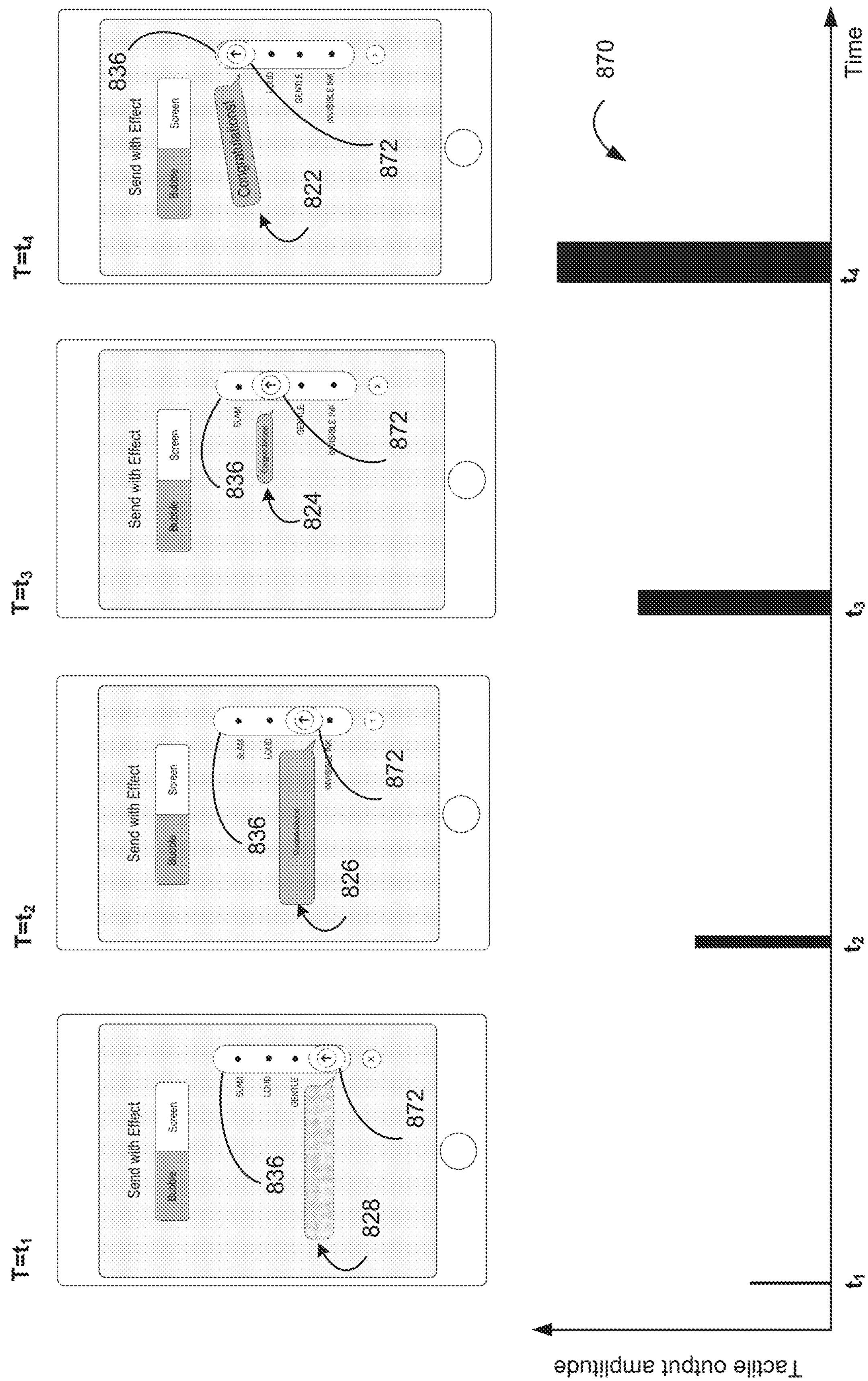

T=t1
T=t2
T=t3
T=t4
Send with Effect
Screen
SLAM
LOUD
GENTLE
INVISIBLE INK
Congratulations!
836
872
828
826
824
822
870
t1
t2
t3
t4
Time
Tactile output amplitude

Figure 8Z

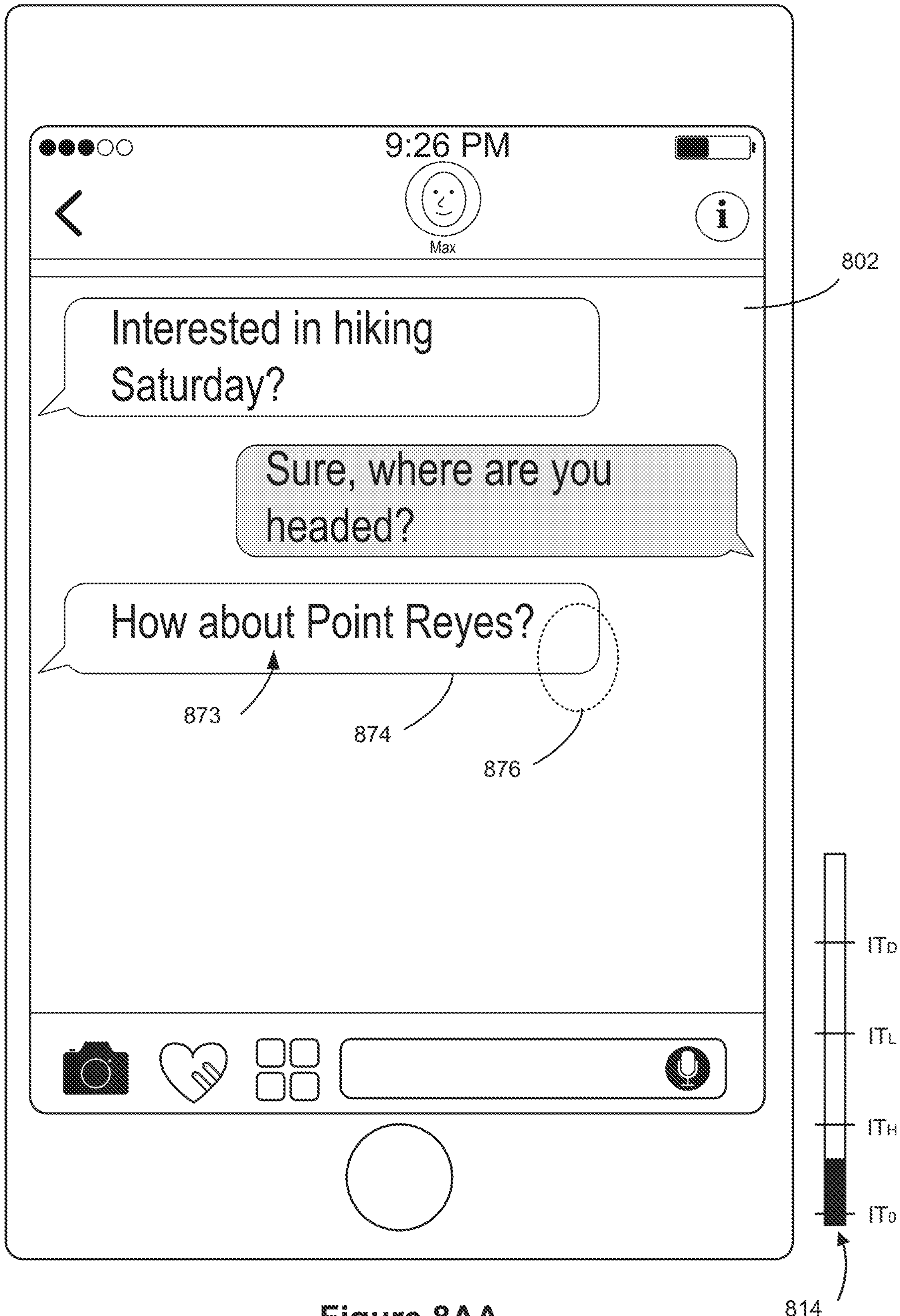

9:26 PM
Max
802
Interested in hiking Saturday?
Sure, where are you headed?
How about Point Reyes?
873
874
876
IT_D
IT_L
IT_H
IT_0
814

Figure 8AA

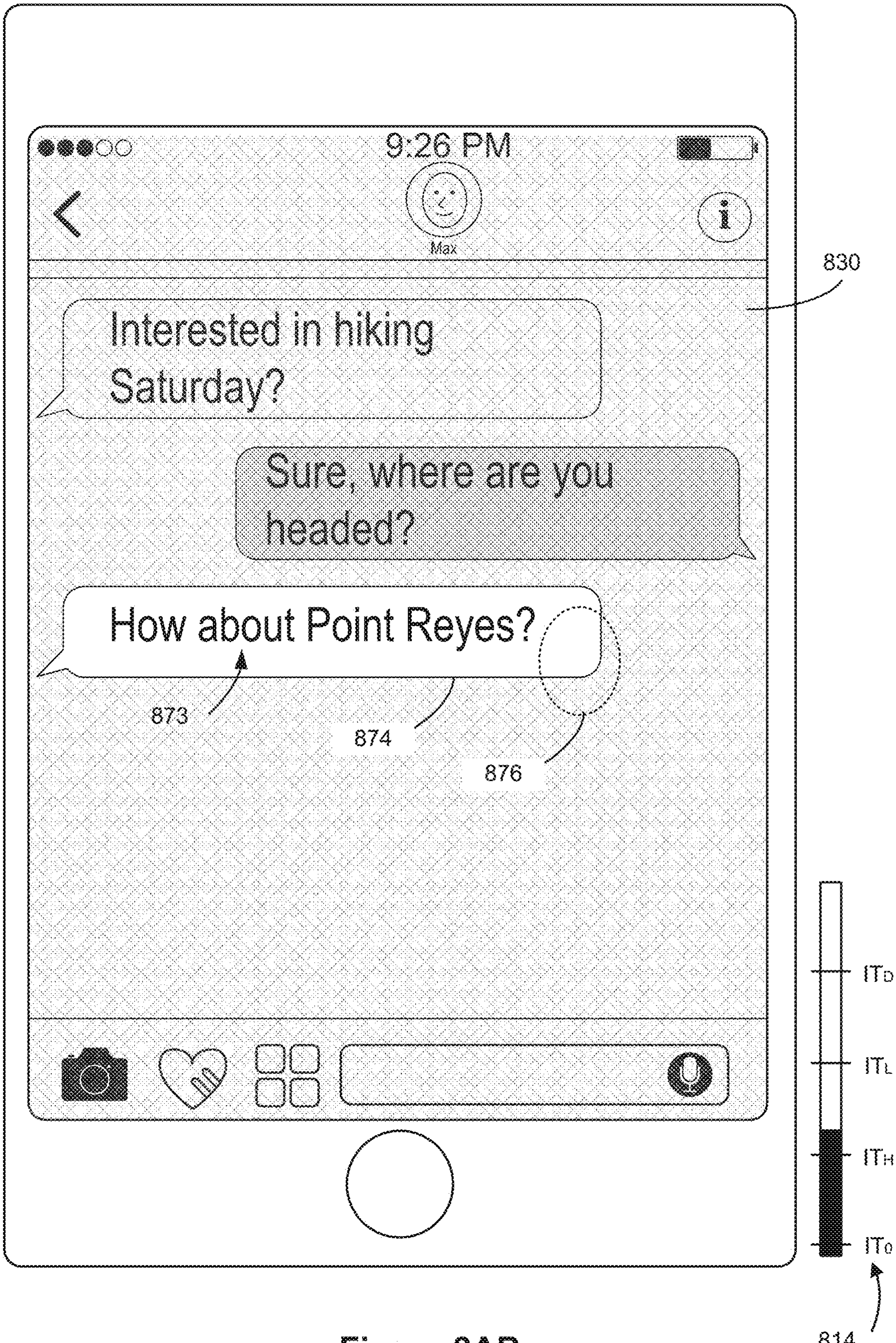
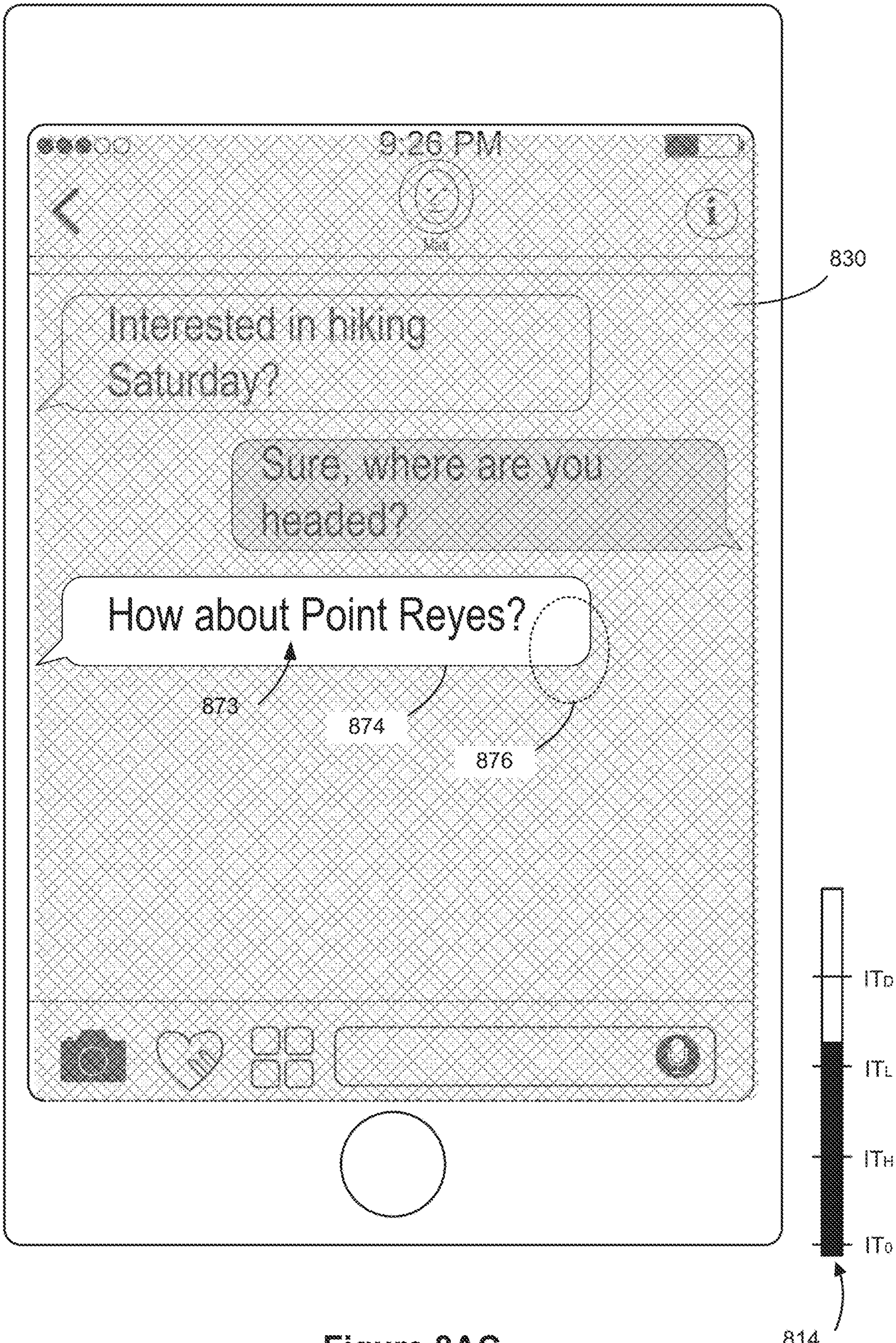

9:26 PM
Max
830
Interested in hiking Saturday?
Sure, where are you headed?
How about Point Reyes?
873
874
876
ITD
ITL
ITH
IT0
814

Figure 8AB



9:26 PM
Interested in hiking Saturday?
Sure, where are you headed?
How about Point Reyes?
830
873
874
876
ITD
ITL
ITH
IT0
814

Figure 8AC

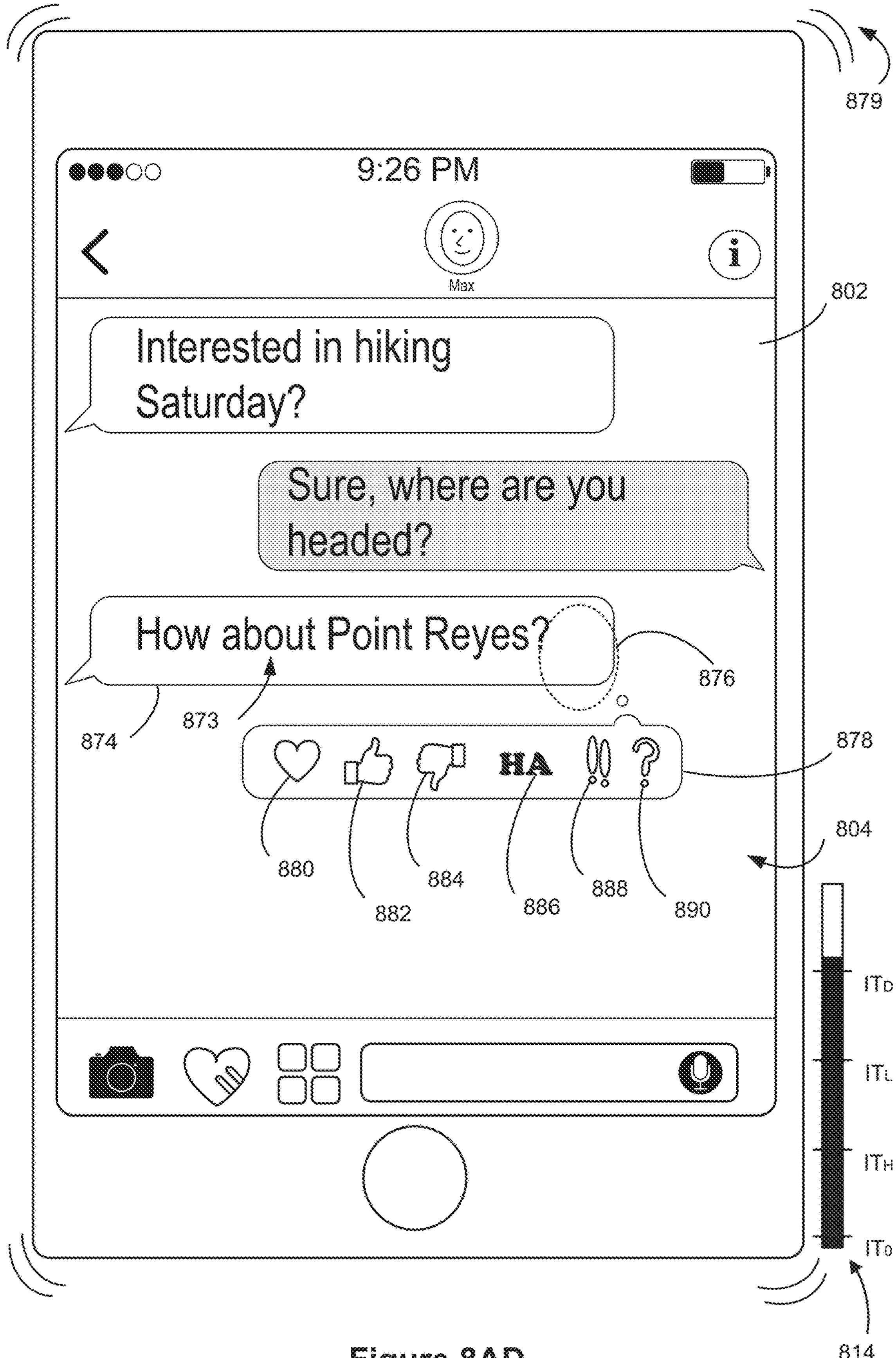

879
9:26 PM
Max
802
Interested in hiking Saturday?
Sure, where are you headed?
How about Point Reyes?
876
874
873
878
HA
804
880
882
884
886
888
890
ITD
ITL
ITH
IT0
814

Figure 8AD

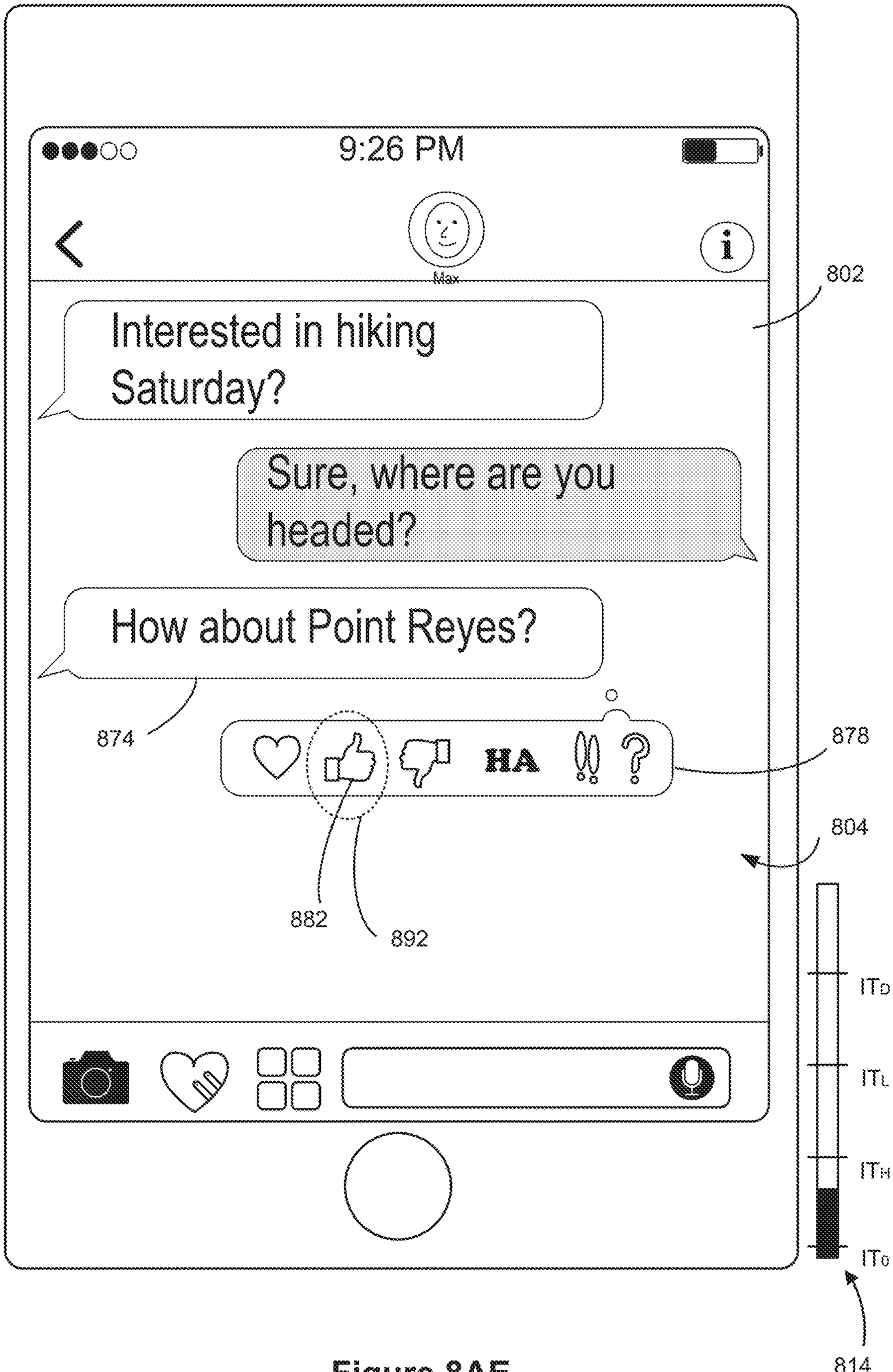

9:26 PM
Max
Interested in hiking Saturday?
Sure, where are you headed?
How about Point Reyes?
HA
802
874
878
804
882
892
IT_D
IT_L
IT_H
IT_0
814

Figure 8AE

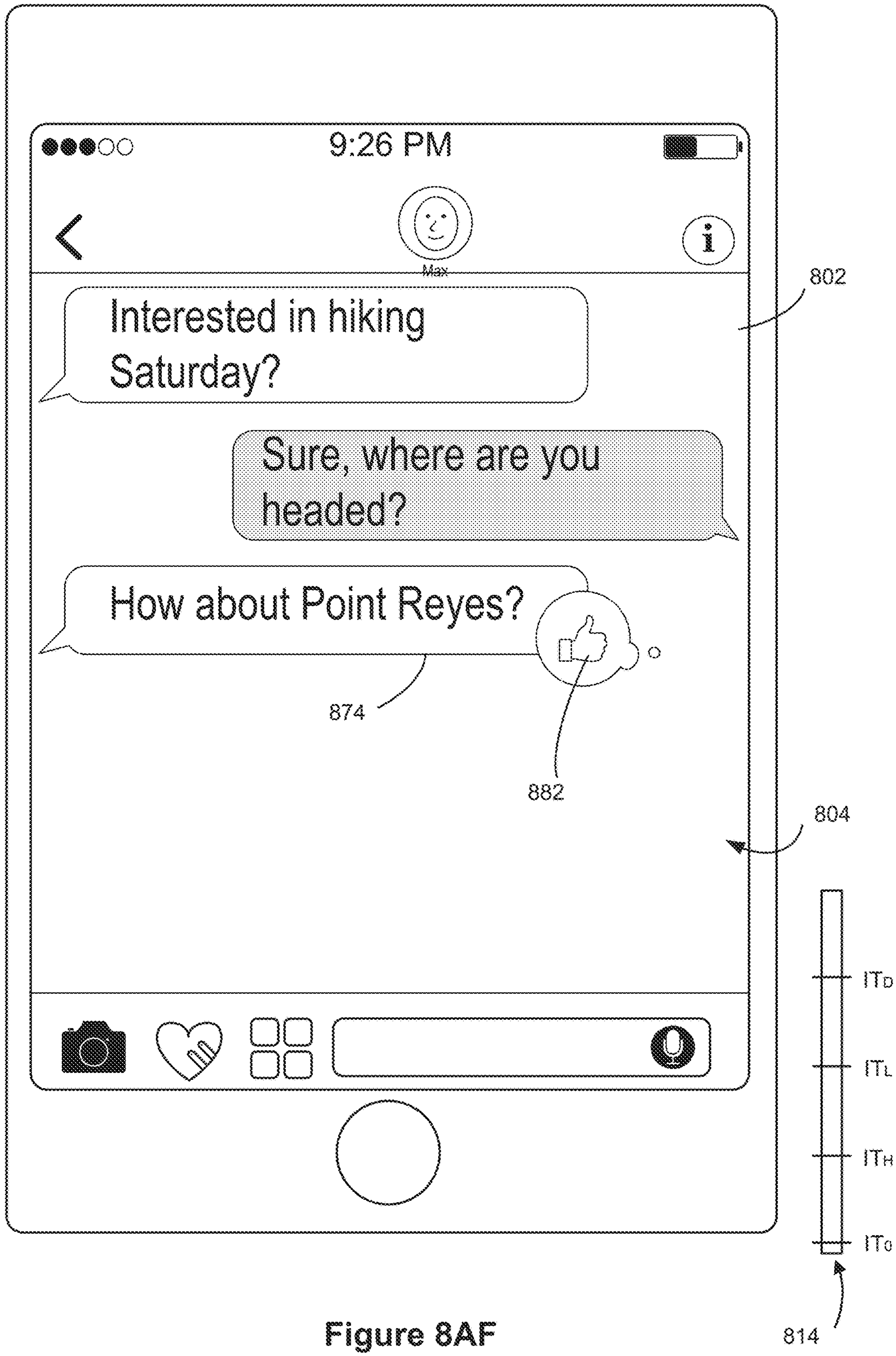

9:26 PM
Max
Interested in hiking Saturday?
Sure, where are you headed?
How about Point Reyes?
802
874
882
804
IT_D
IT_L
IT_H
IT_0
814

Figure 8AF

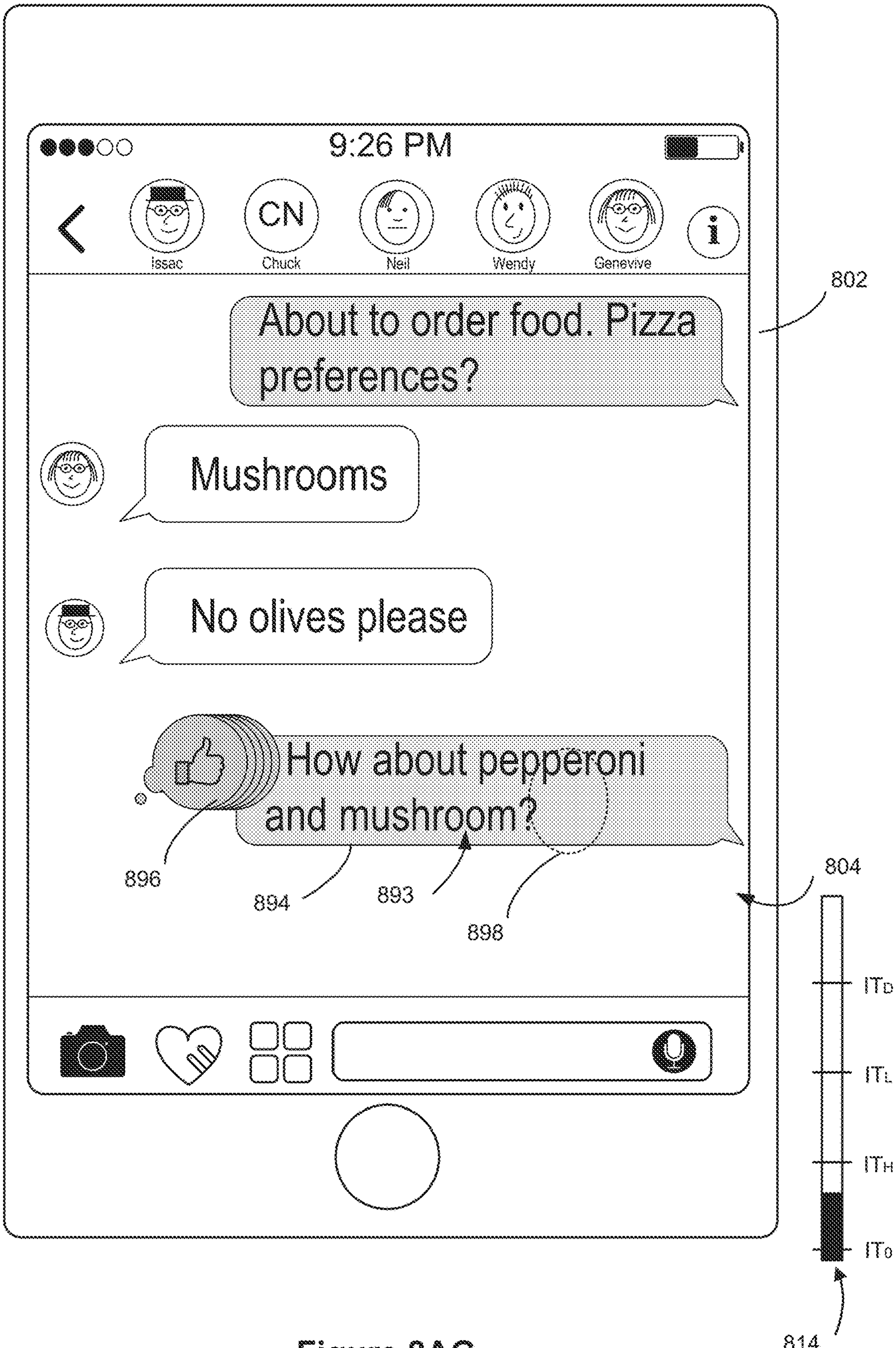

9:26 PM
Issac
CN
Chuck
Neil
Wendy
Genevive
About to order food. Pizza preferences?
Mushrooms
No olives please
How about pepperoni and mushroom?
802
804
896
894
893
898
IT_D
IT_L
IT_H
IT_0
814

Figure 8AG

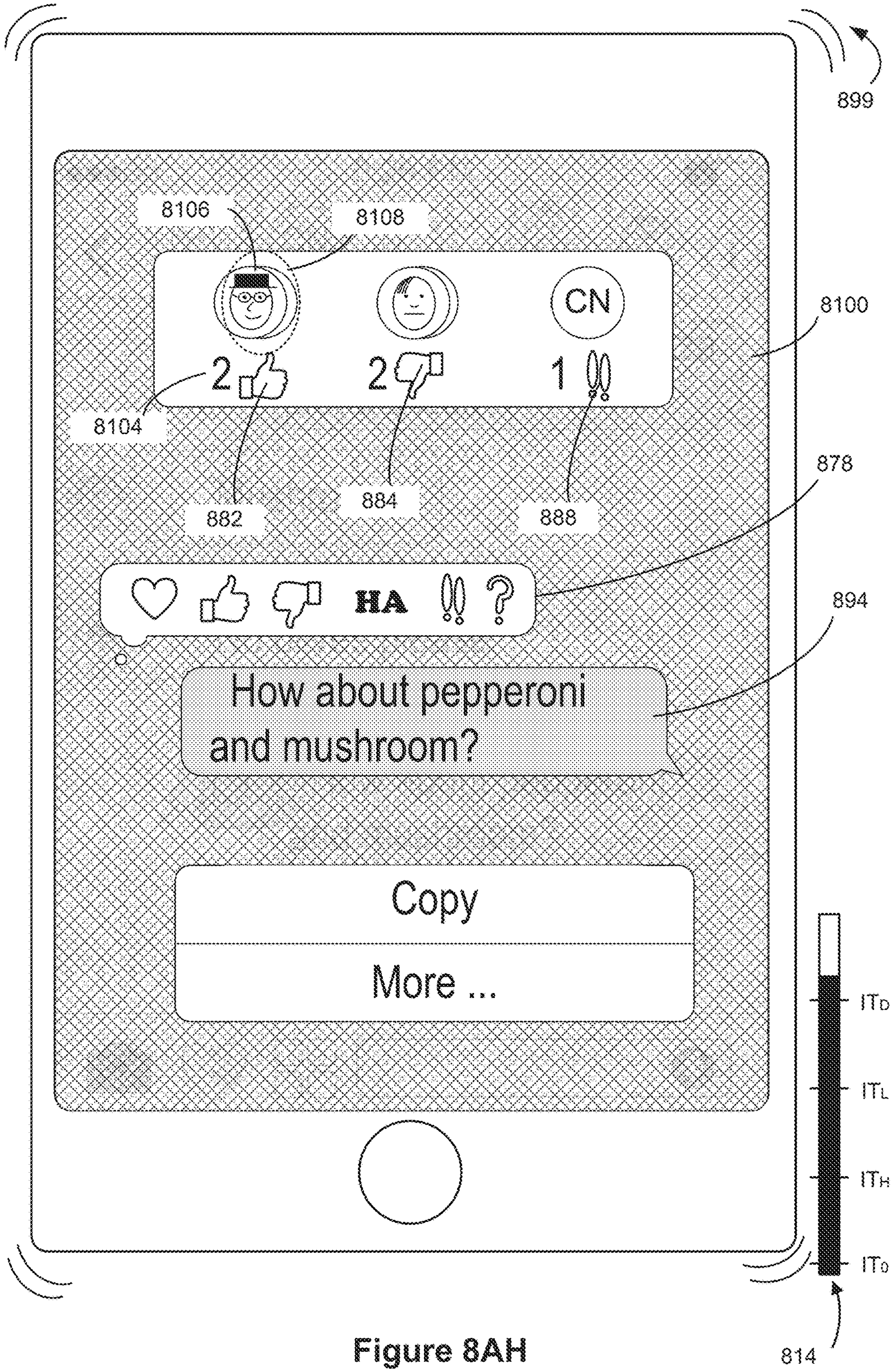
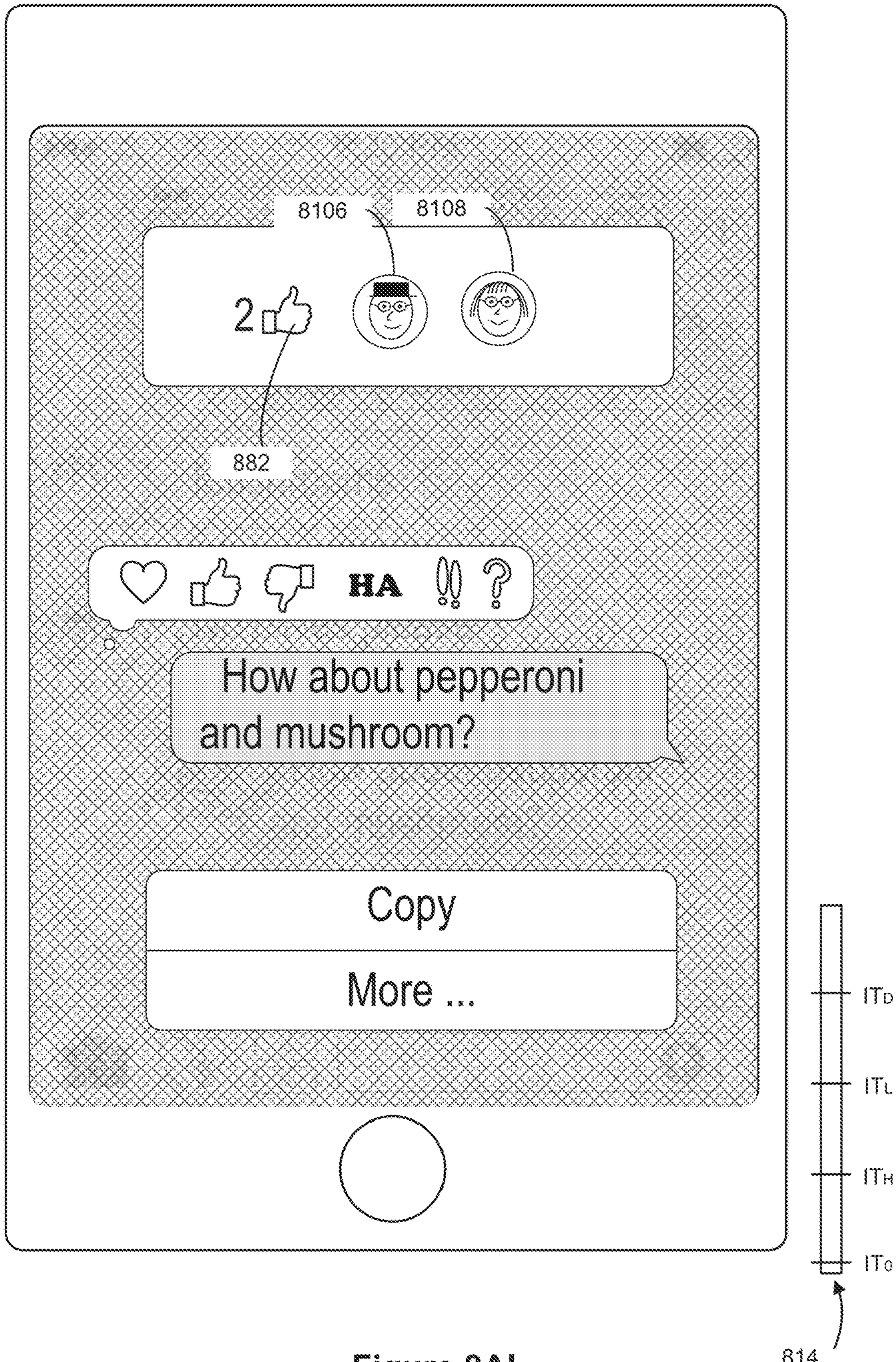

899
8106
8108
8100
CN
2
2
1
8104
882
884
888
878
HA
894
How about pepperoni and mushroom?
Copy
More ...
IT_D
IT_L
IT_H
IT_0
814

Figure 8AH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8108
2
882
HA
How about pepperoni and mushroom?
Copy
More ...
IT_D
IT_L
IT_H
IT_0
814

Figure 8AI

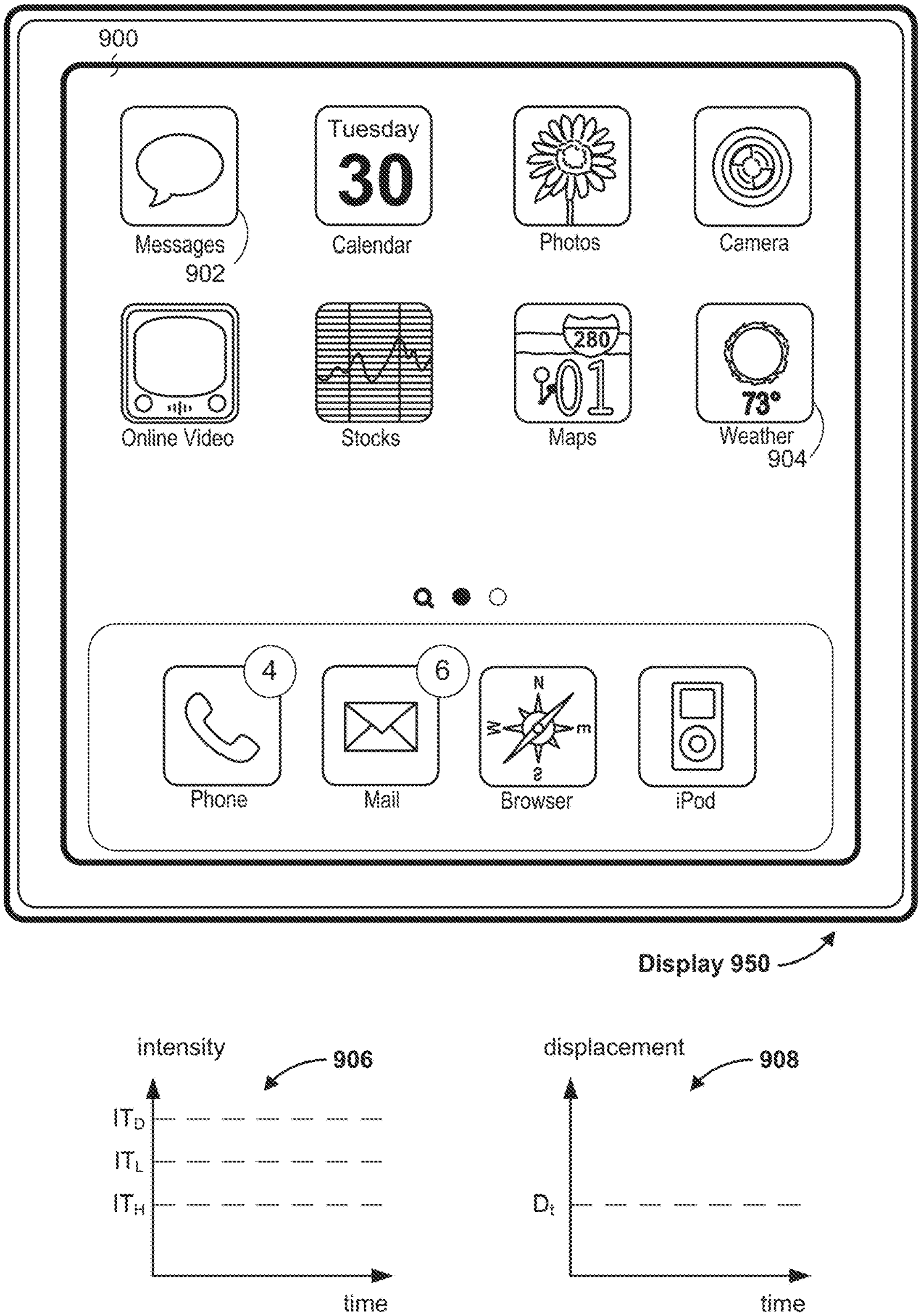
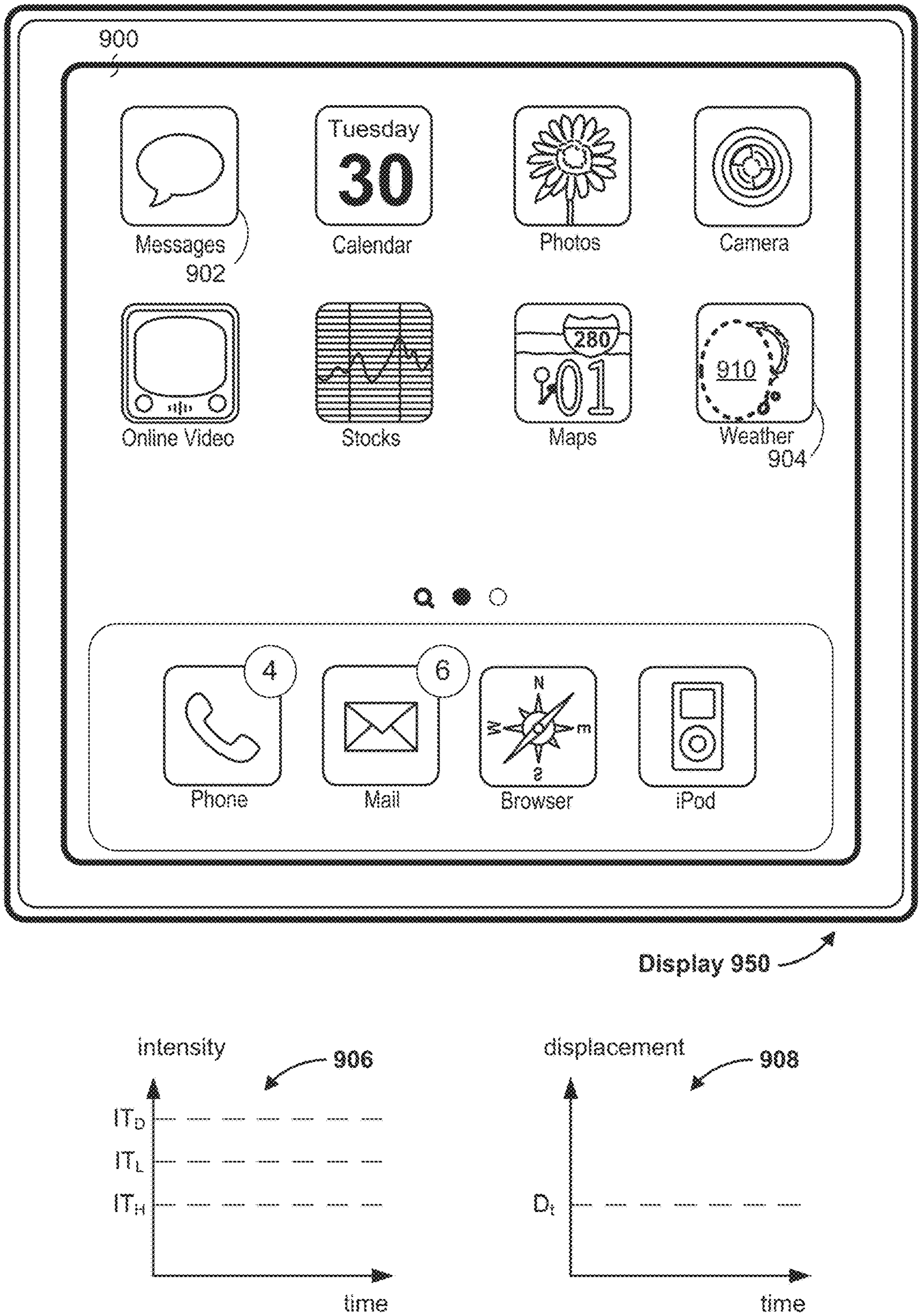

900
Tuesday
30
Messages
902
Calendar
Photos
Camera
280
Online Video
Stocks
Maps
73°
Weather
904
4
6
Phone
Mail
Browser
iPod
Display 950
intensity
906
IT_D
IT_L
IT_H
time
displacement
908
D_t
time

Figure 9A1



900
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Weather
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N
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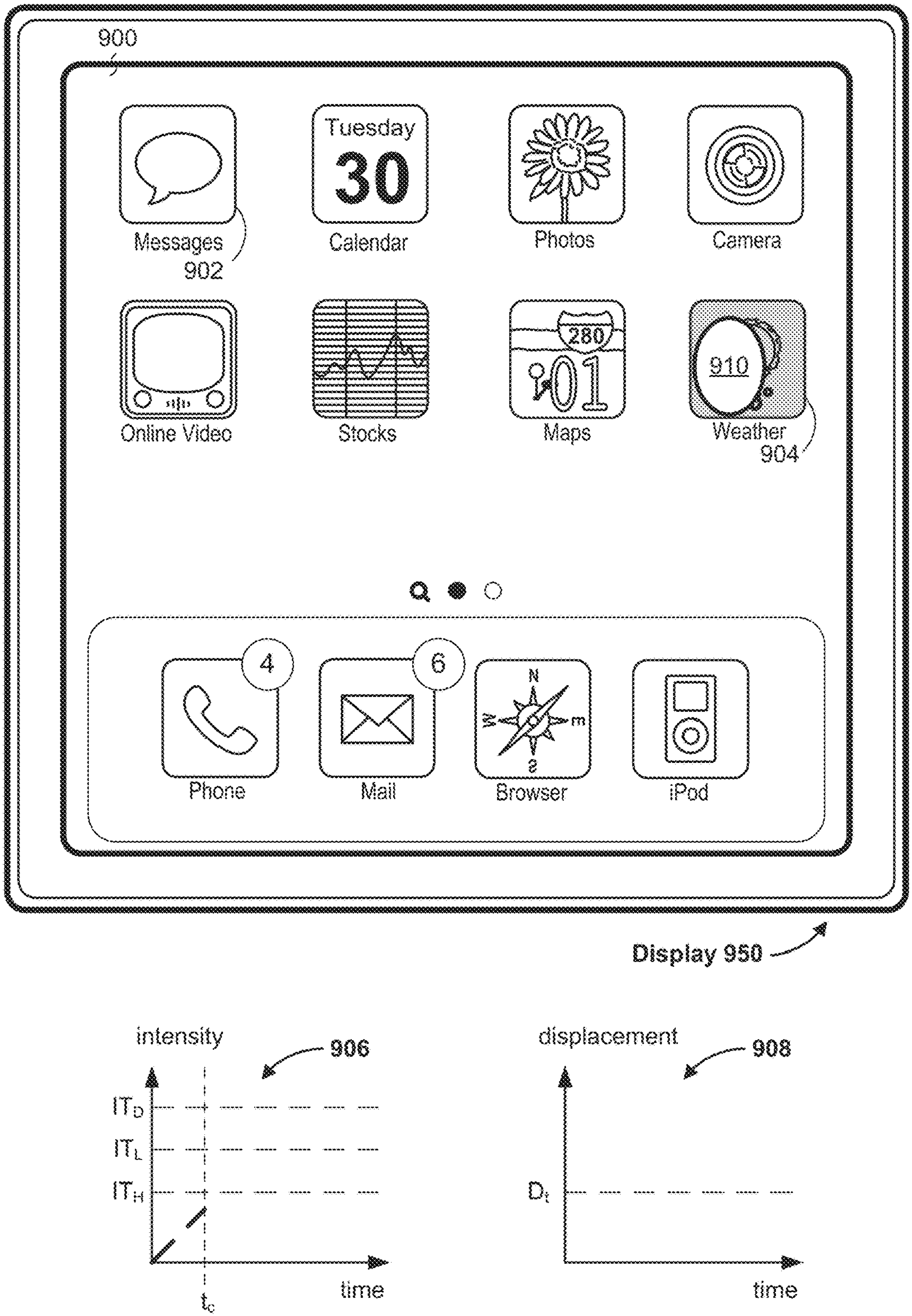
Mail
Browser
iPod
Display 950
intensity
906
IT_D
IT_L
IT_H
time
displacement
908
D_t
time

Figure 9A2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Online Video
Stocks
Maps
Weather
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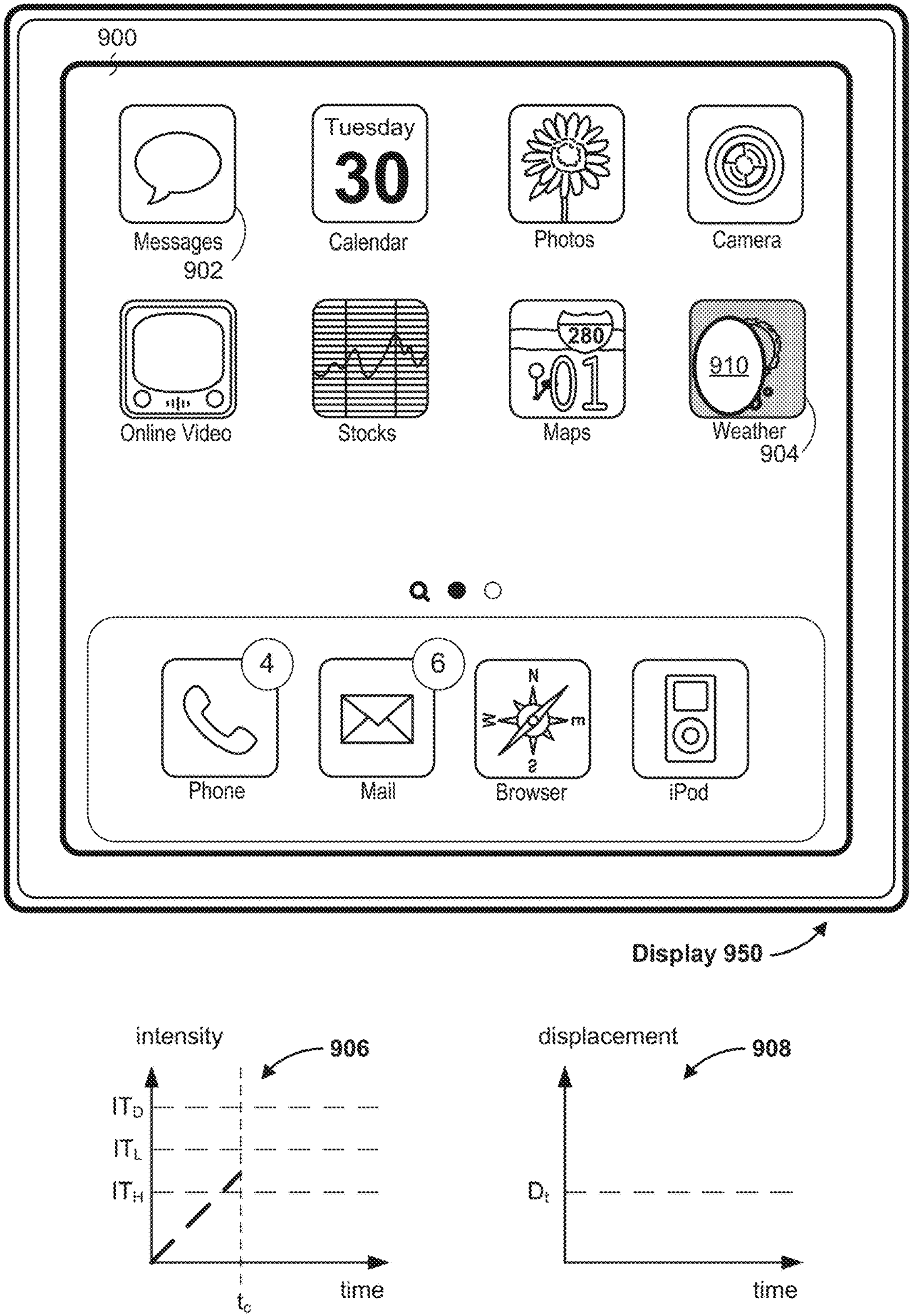
Phone
Mail
Browser
iPod
Display 950
intensity
906
IT_D
IT_L
IT_H
t_c
time
displacement
908
D_t
time

Figure 9A3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Tuesday
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Messages
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Calendar
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Online Video
Stocks
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Weather
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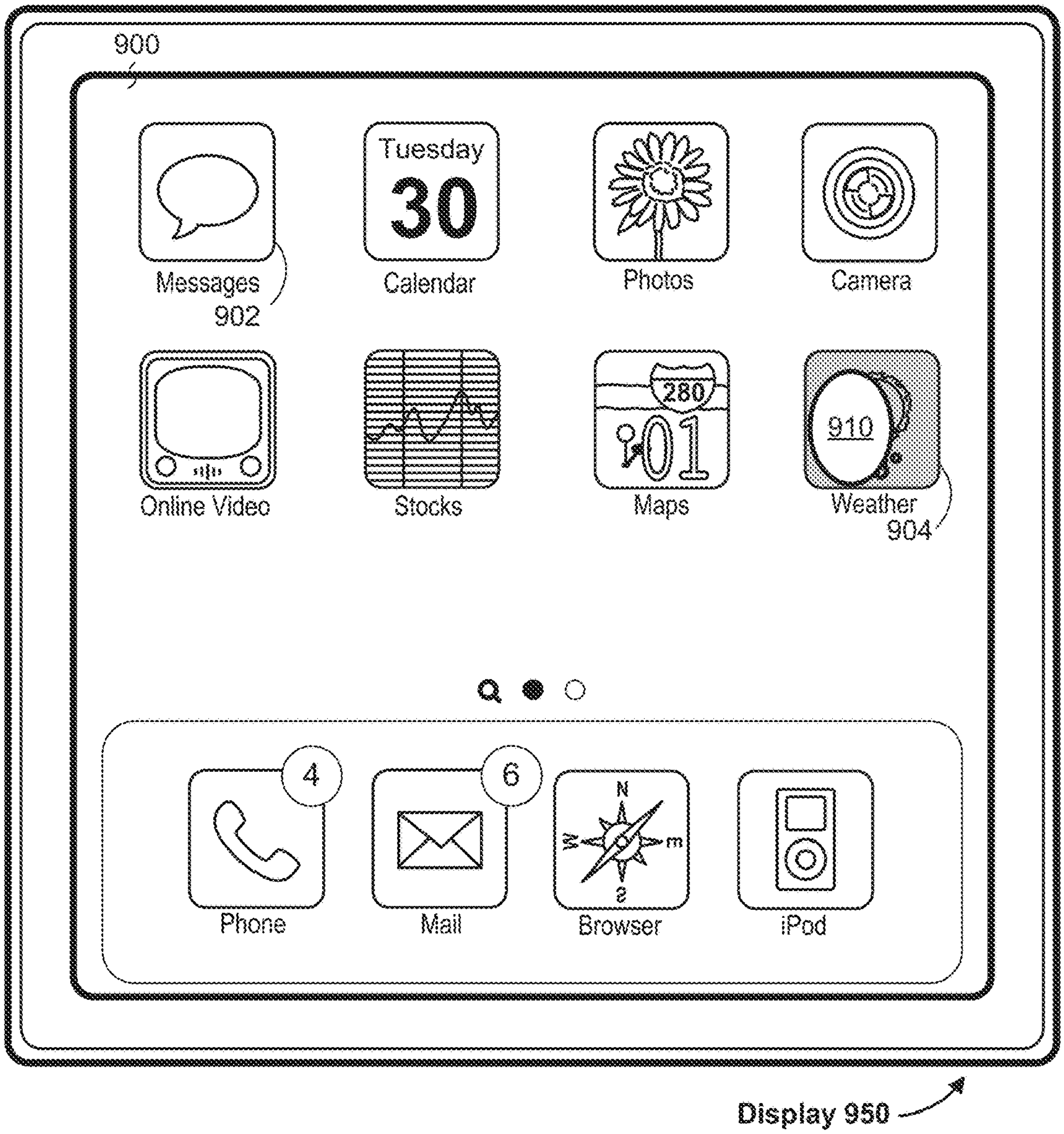
Phone
Mail
Browser
iPod
Display 950
intensity
906
IT_D
IT_L
IT_H
t_c
time
displacement
908
D_t
time

Figure 9A4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Tuesday
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Messages
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Calendar
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Camera
Online Video
Stocks
280
Maps
910
Weather
904
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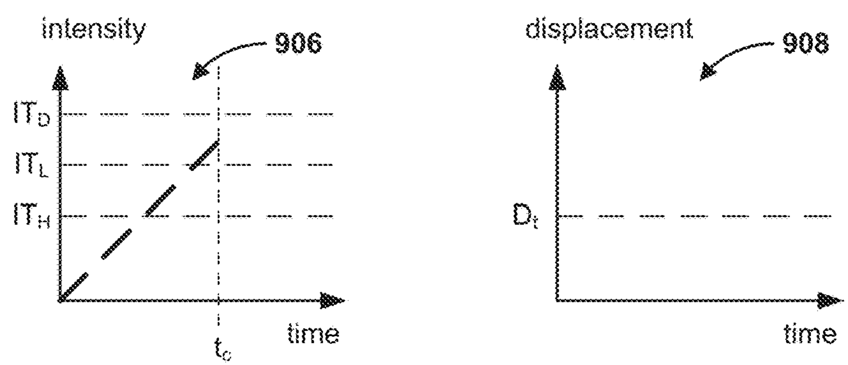
Phone
Mail
Browser
iPod
Display 950


intensity
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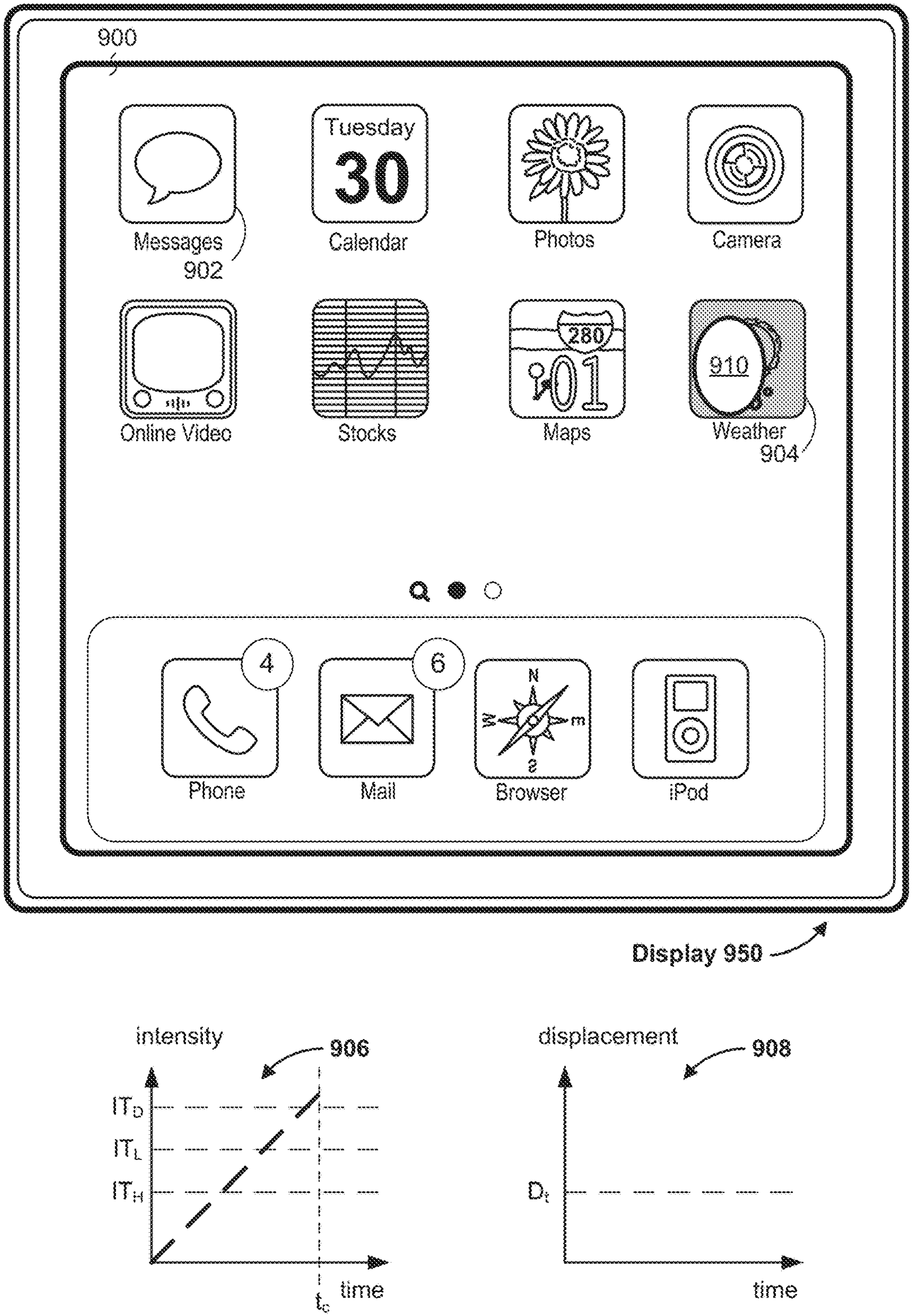
IT_D
IT_L
IT_H
t_c
time
displacement
908
D_t
time

Figure 9A5



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Tuesday
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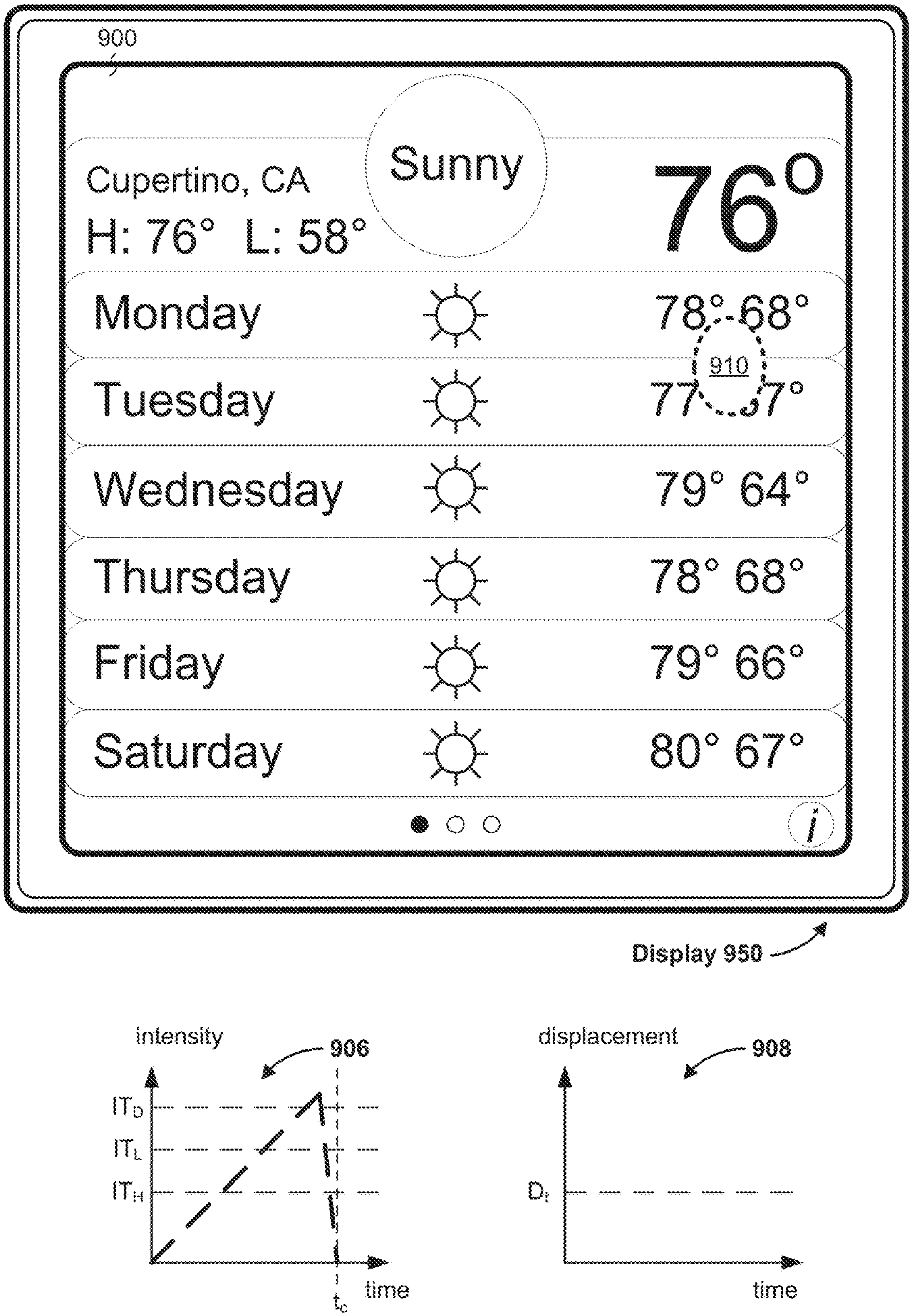
Browser
iPod
Display 950
intensity
906
IT_D
IT_L
IT_H
t_c
time
displacement
908
D_t
time

Figure 9A6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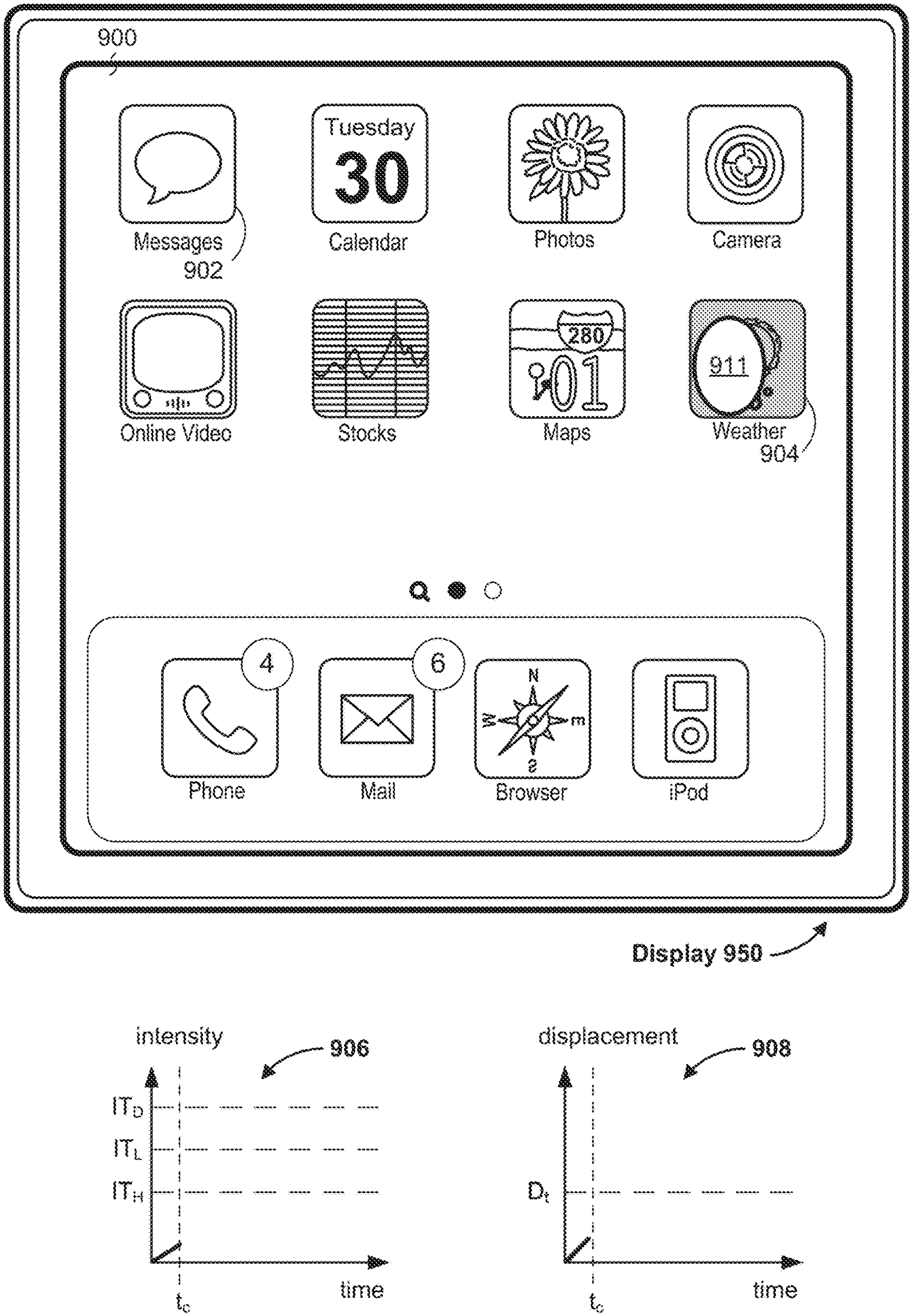
Cupertino, CA
H: 76° L: 58°
Sunny
76°
Monday 78° 68°
910
Tuesday 77° 67°
Wednesday 79° 64°
Thursday 78° 68°
Friday 79° 66°
Saturday 80° 67°
Display 950
intensity
906
IT_D
IT_L
IT_H
time
t_c
displacement
908
D_t
time

Figure 9A7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Tuesday
30
Messages
902
Calendar
Photos
Camera
Online Video
Stocks
280
Maps
911
Weather
904
4
6
Phone
Mail
Browser
iPod
Display 950
intensity
906
IT_D
IT_L
IT_H
t_c
time
displacement
908
D_t
t_c
time

Figure 9A8

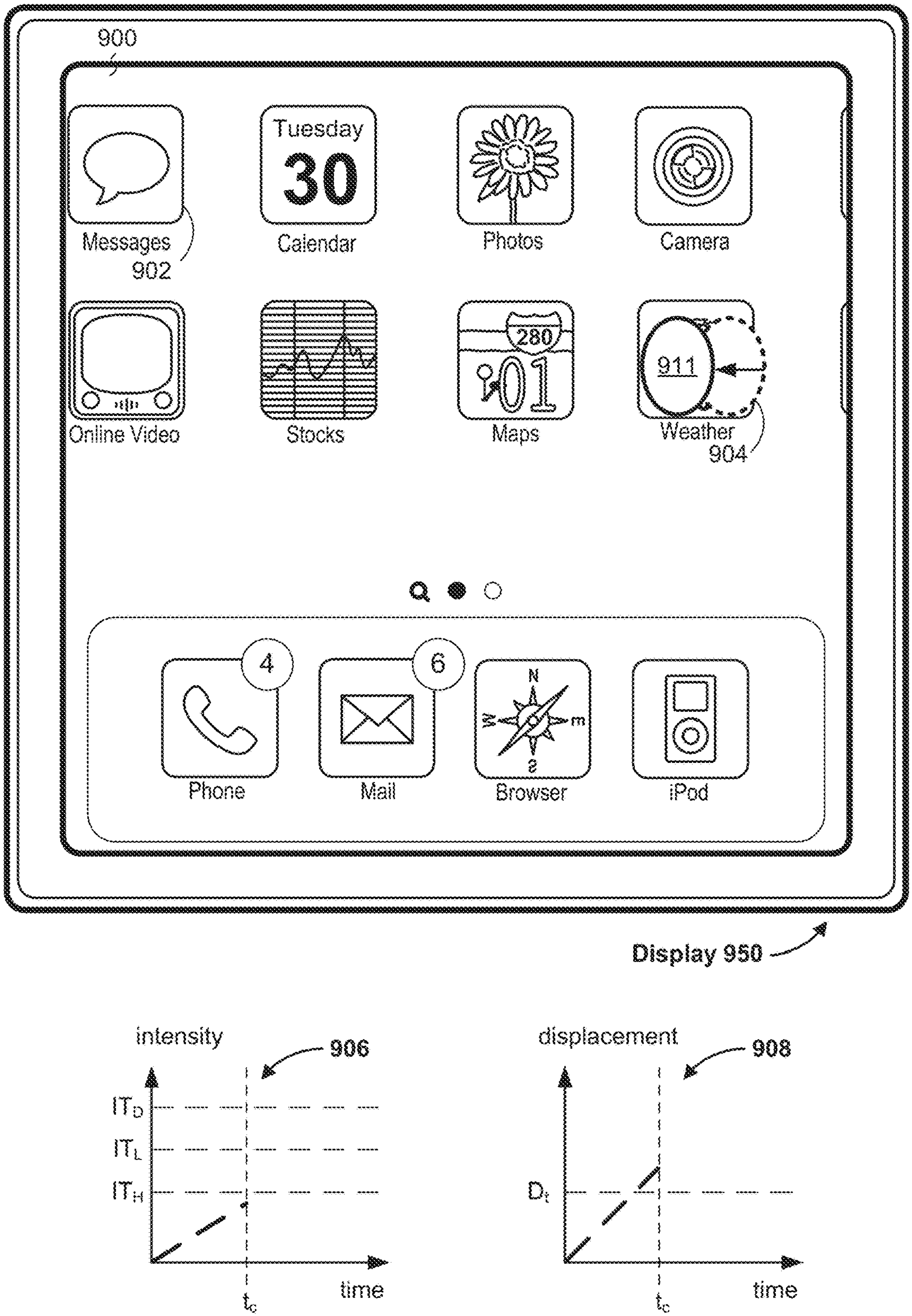
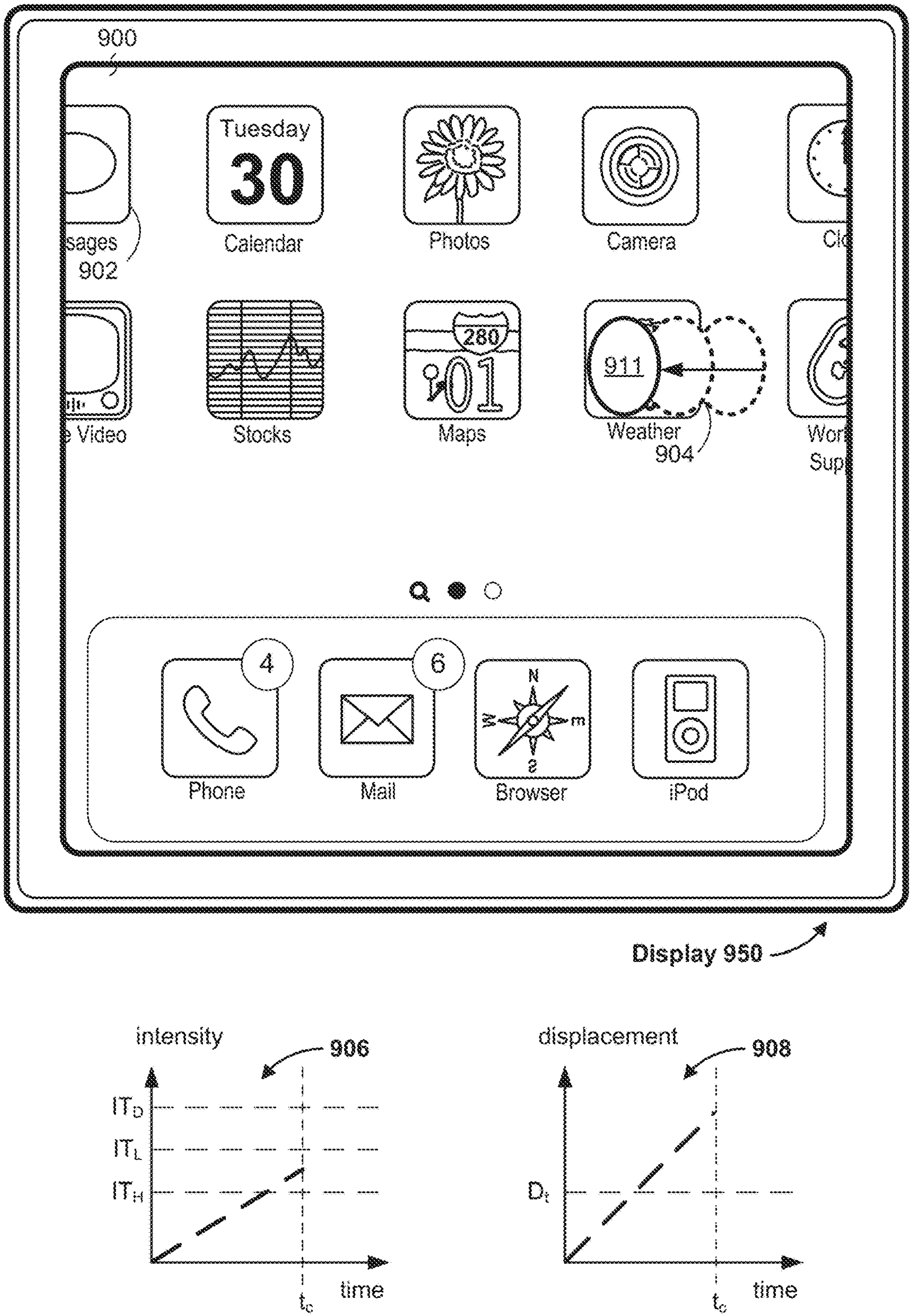

900
Tuesday
30
Messages
902
Calendar
Photos
Camera
280
911
Online Video
Stocks
Maps
Weather
904
4
6
Phone
Mail
Browser
iPod
Display 950
intensity
906
IT_D
IT_L
IT_H
t_c
time
displacement
908
D_t
t_c
time

Figure 9A9



900
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Video
Stocks
280
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911
Weather
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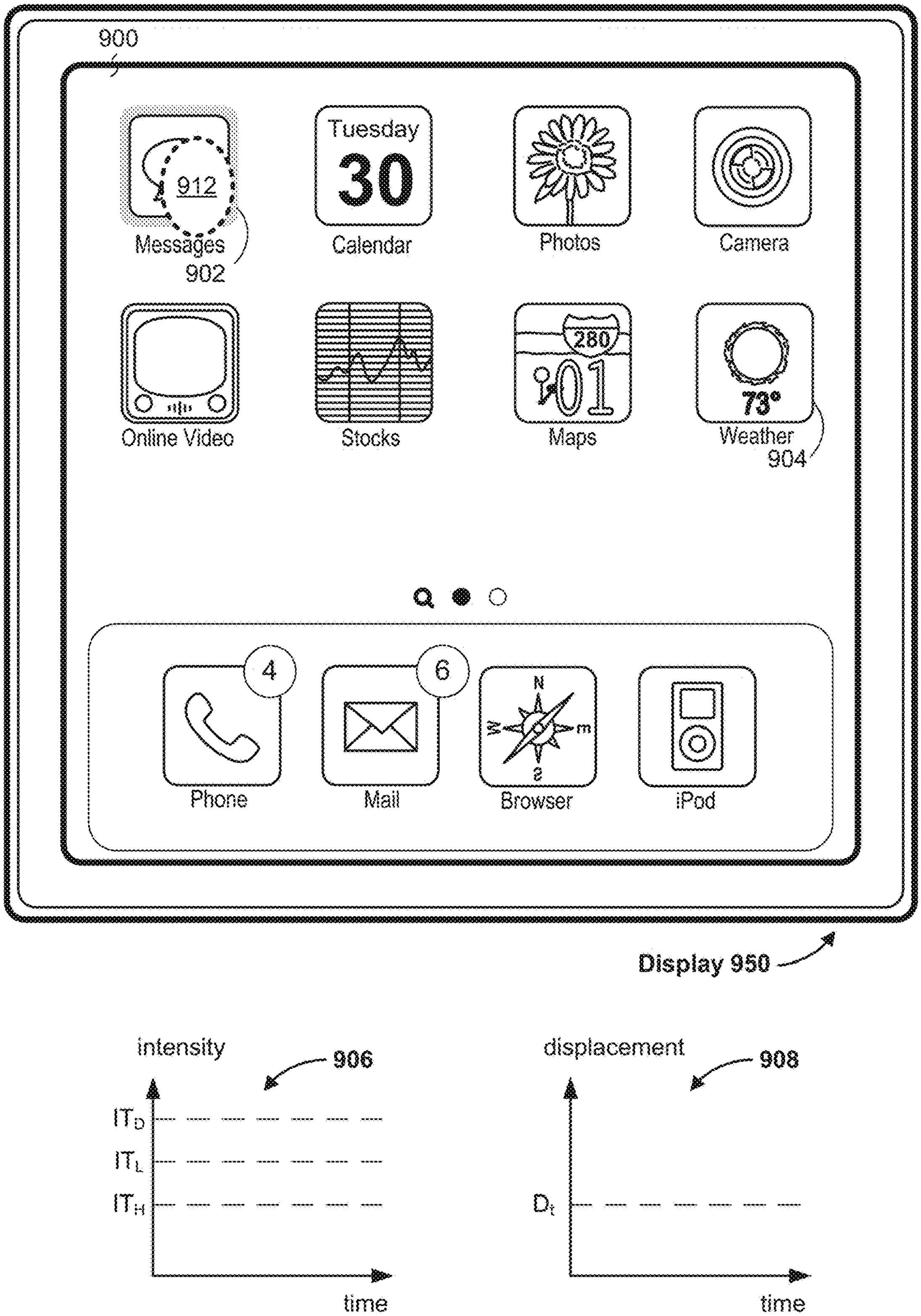
Phone
Mail
Browser
iPod
Display 950
intensity
906
IT_D
IT_L
IT_H
t_c
time
displacement
908
D_t
t_c
time

Figure 9A10


900
912
Messages
902
Tuesday
30
Calendar
Photos
Camera
Online Video
Stocks
280
Maps
73°
Weather
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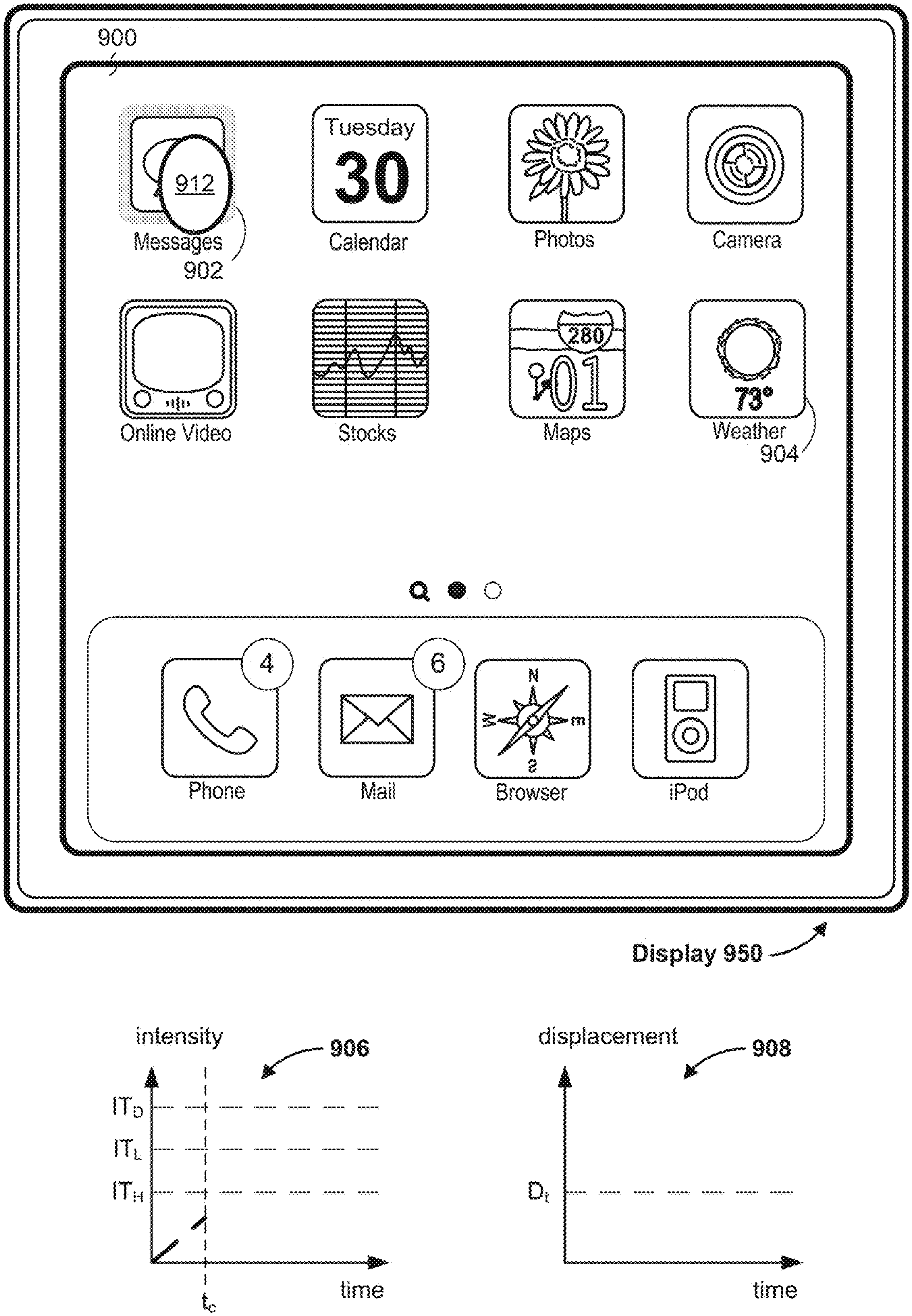
4
Phone
6
Mail
Browser
iPod
Display 950
intensity
906
IT_D
IT_L
IT_H
time
displacement
908
D_t
time

Figure 9A11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912
Tuesday
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Messages
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Calendar
Photos
Camera
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Online Video
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Maps
Weather
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Phone
Mail
Browser
iPod
Display 950
intensity
906
IT_D
IT_L
IT_H
t_c
time
displacement
908
D_t
time

Figure 9A12

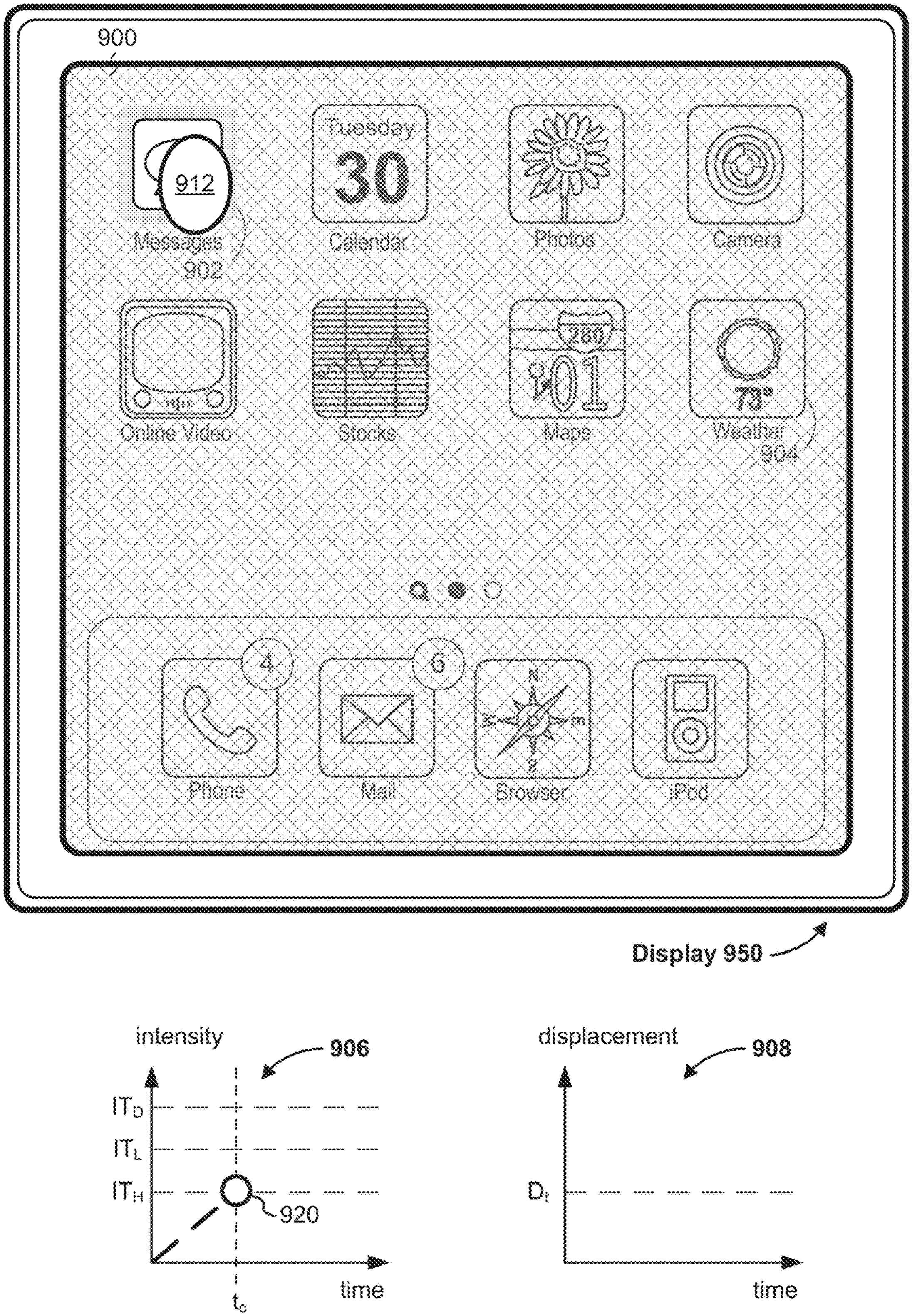
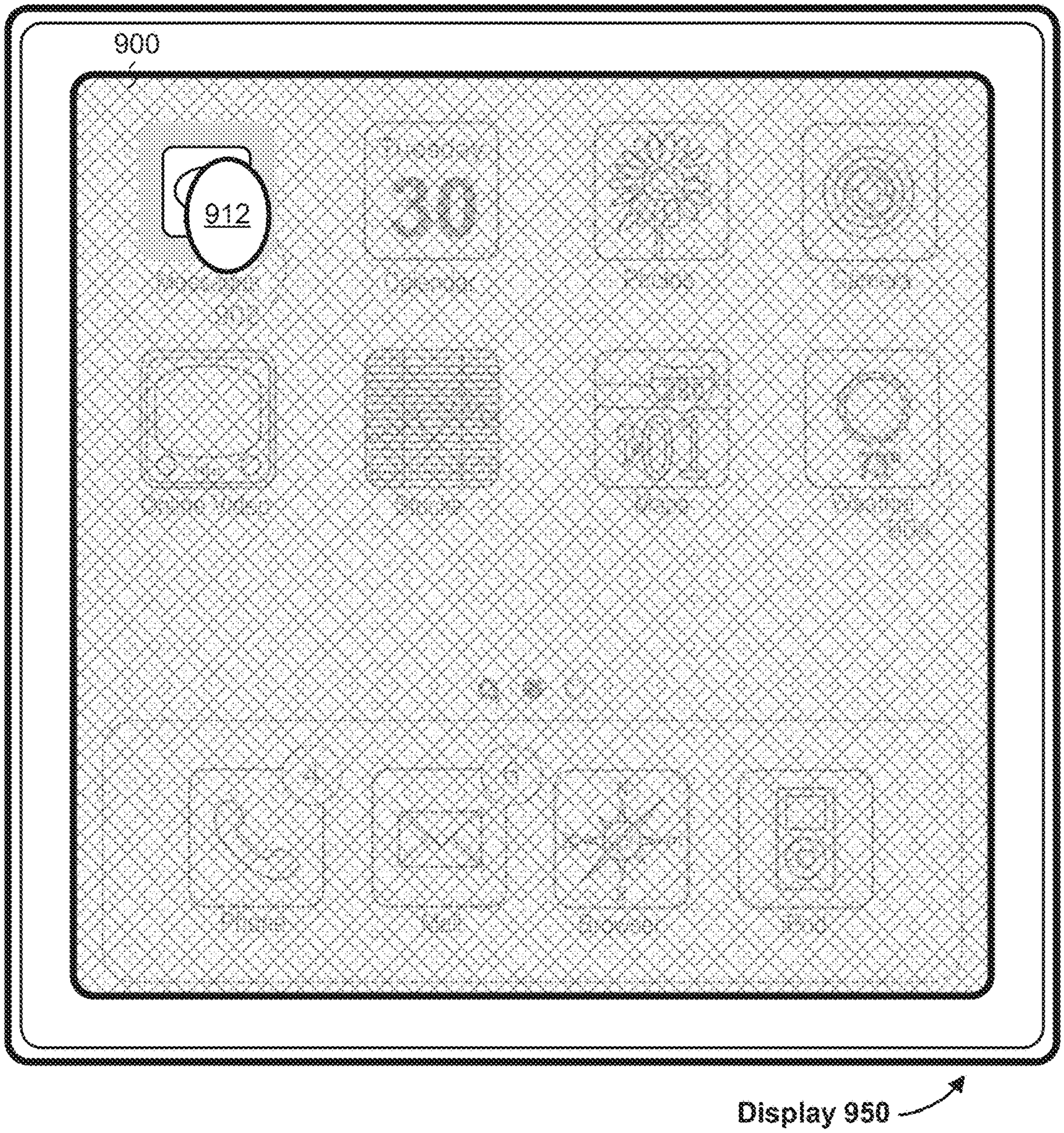

900
912
Tuesday
30
Messages
902
Calendar
Photos
Camera
280
73°
Online Video
Stocks
Maps
Weather
904
4
6
Phone
Mail
Browser
iPod
Display 950
intensity
906
IT_D
IT_L
IT_H
920
time
t_c
displacement
908
D_t
time

Figure 9A13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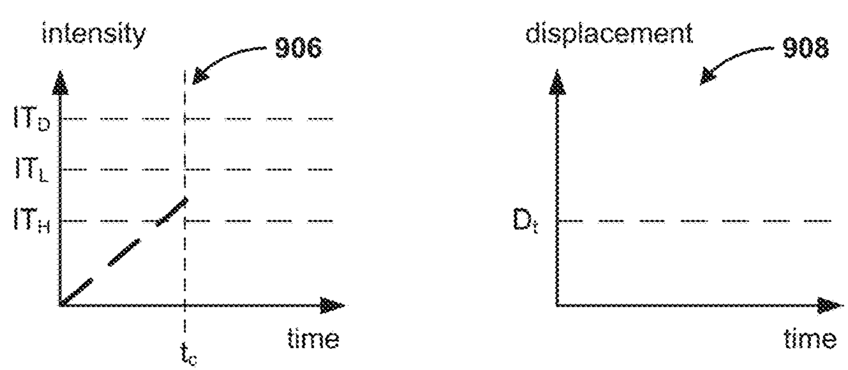
912
Display 950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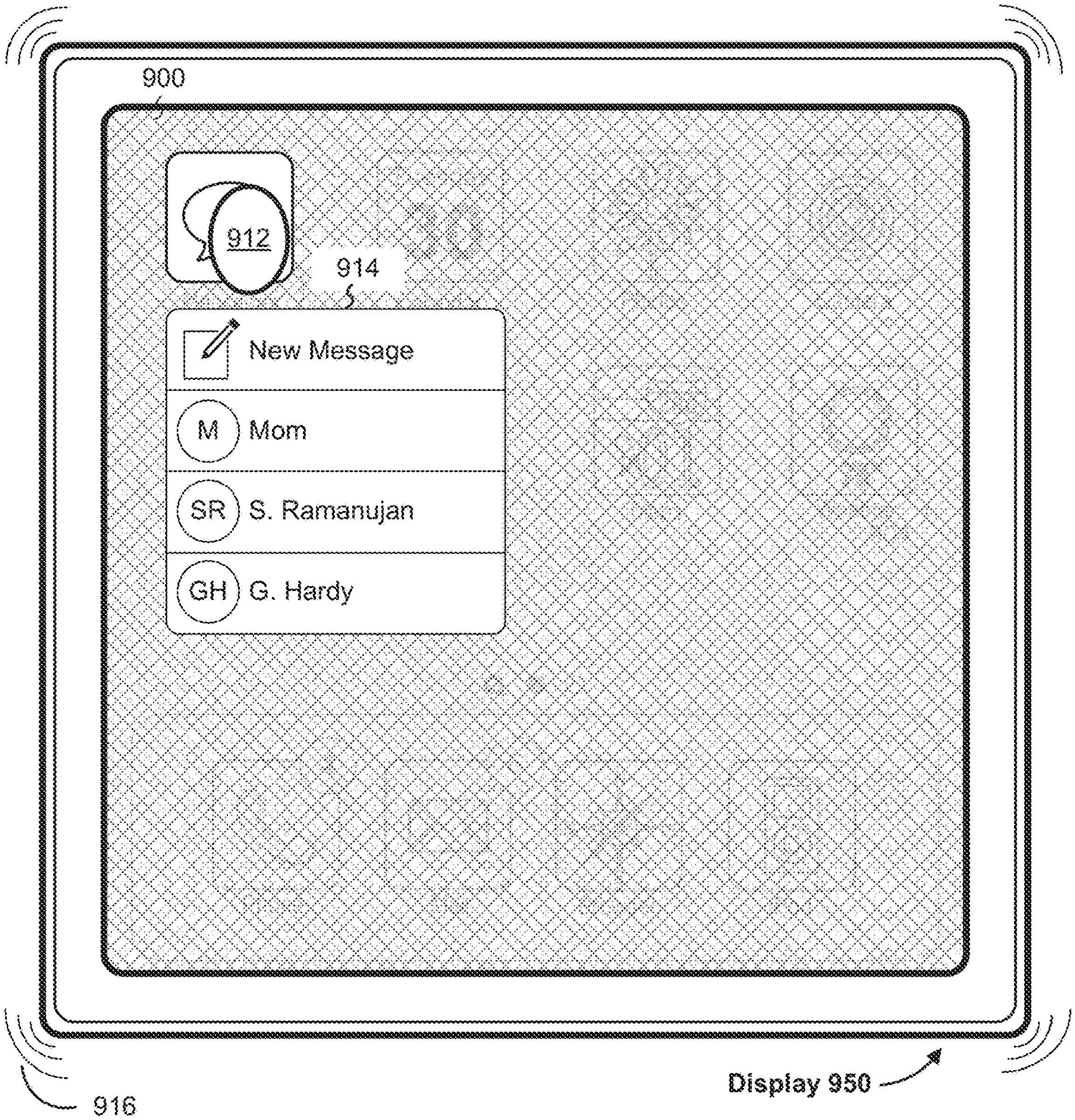
906
IT_D
IT_L
IT_H
time
t_c
displacement
908
D_t
time

Figure 9A14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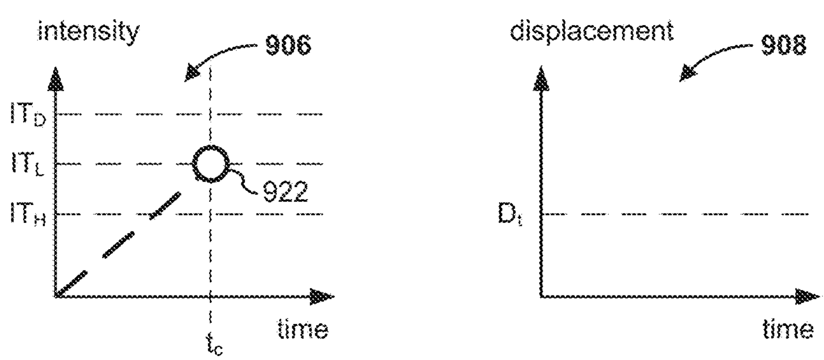
912
914
New Message
M Mom
SR S. Ramanujan
GH G. Hardy
916
Display 950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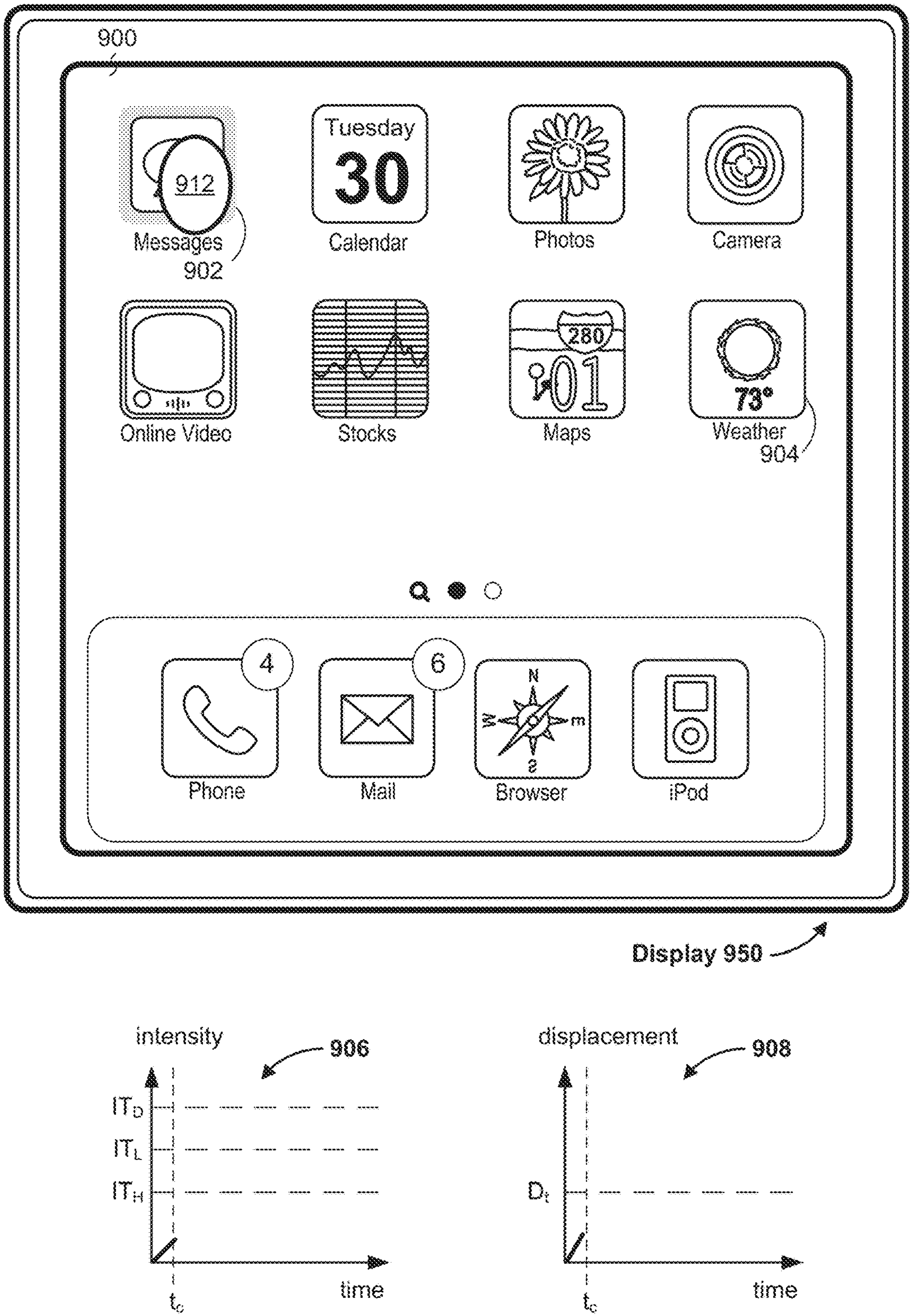
906
IT_D
IT_L
IT_H
922
t_c
time
displacement
908
D_t
time

Figure 9A15


900
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Camera
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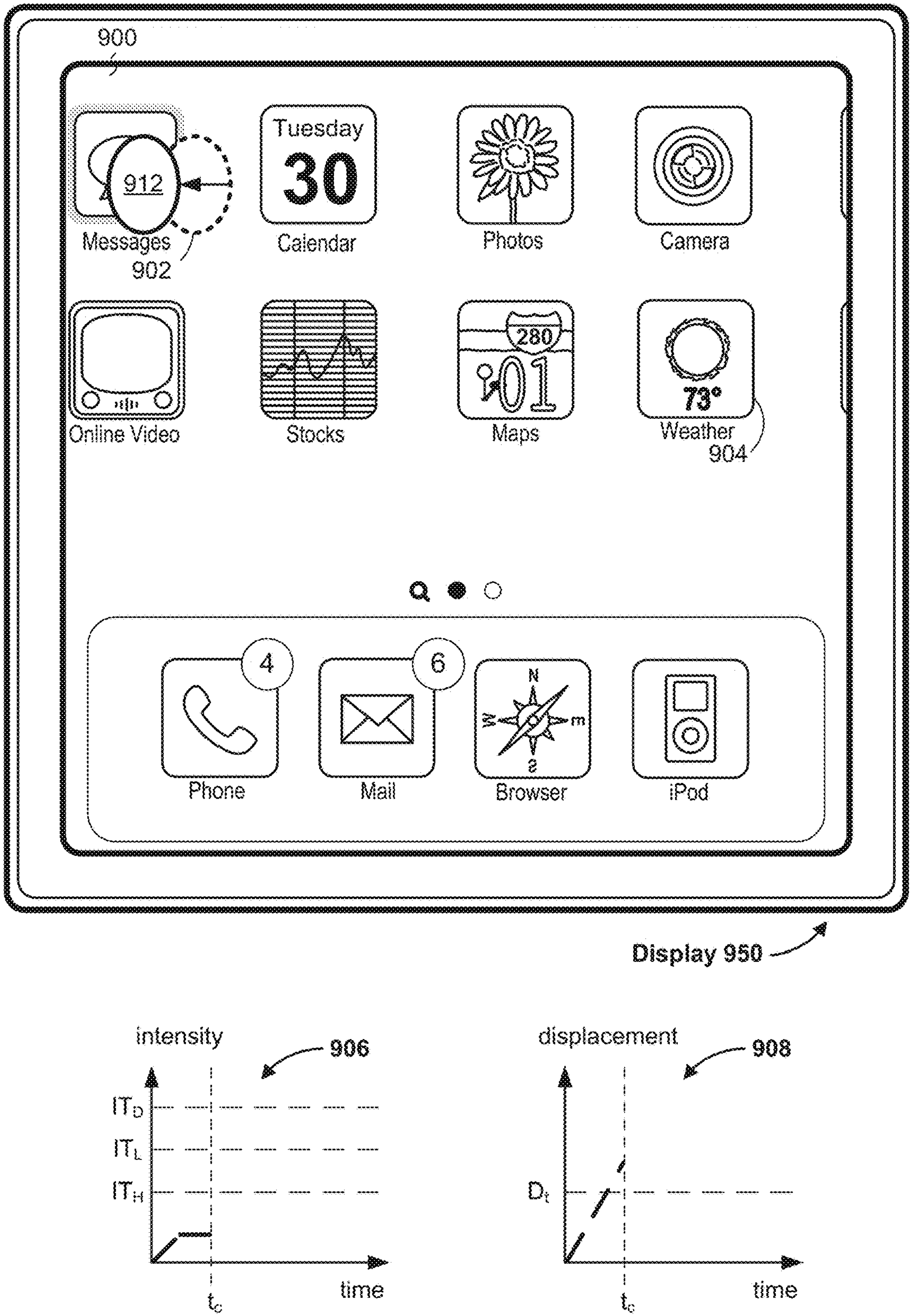
280
73°
Online Video
Stocks
Maps
Weather
904
4
6
Phone
Mail
Browser
iPod
Display 950
intensity
906
IT_D
IT_L
IT_H
t_c
time
displacement
908
D_t
t_c
time

Figure 9A16



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Messages
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902
Tuesday
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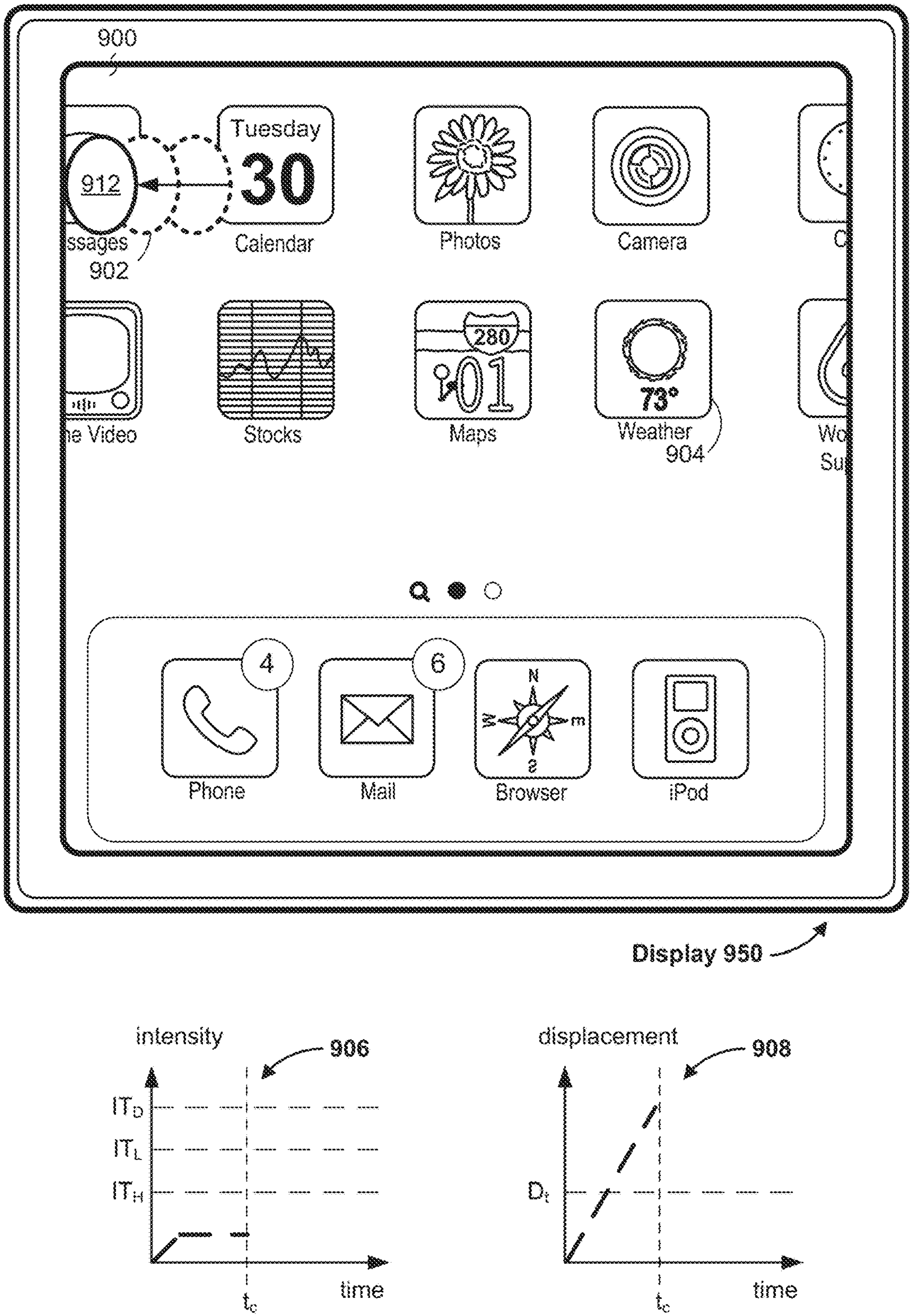
Calendar
Photos
Camera
Online Video
Stocks
280
Maps
73°
Weather
904
4
6
Phone
Mail
Browser
iPod
Display 950
intensity
906
IT_D
IT_L
IT_H
time
t_c
displacement
908
D_t
time
t_c

Figure 9A17


900
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ssages
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Camera
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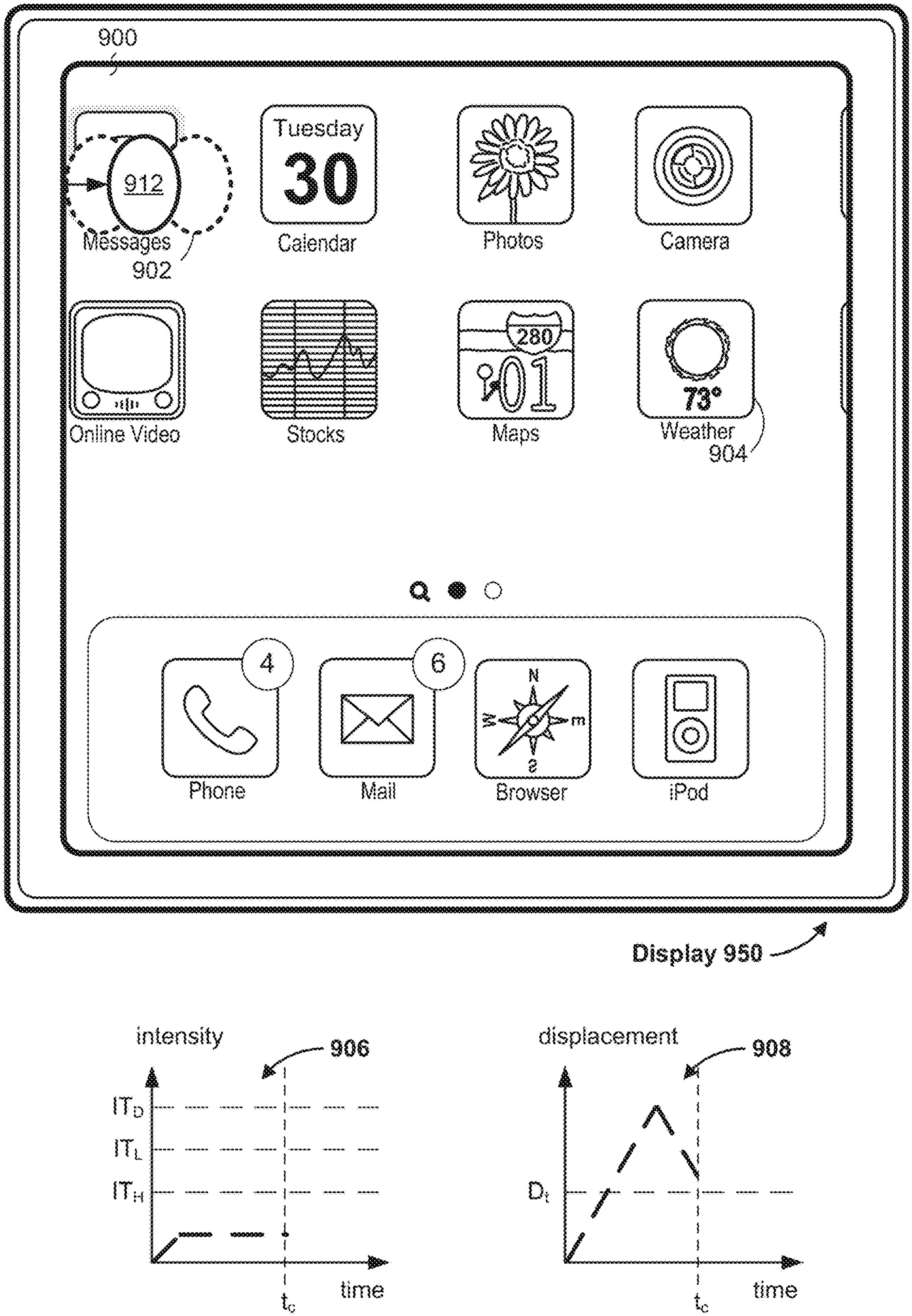
280
e Video
Stocks
Maps
73°
Weather
904
4
6
Phone
Mail
Browser
iPod
Display 950
intensity
906
IT_D
IT_L
IT_H
t_c
time
displacement
908
D_t
t_c
time

Figure 9A18


900
912
Messages
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Tuesday
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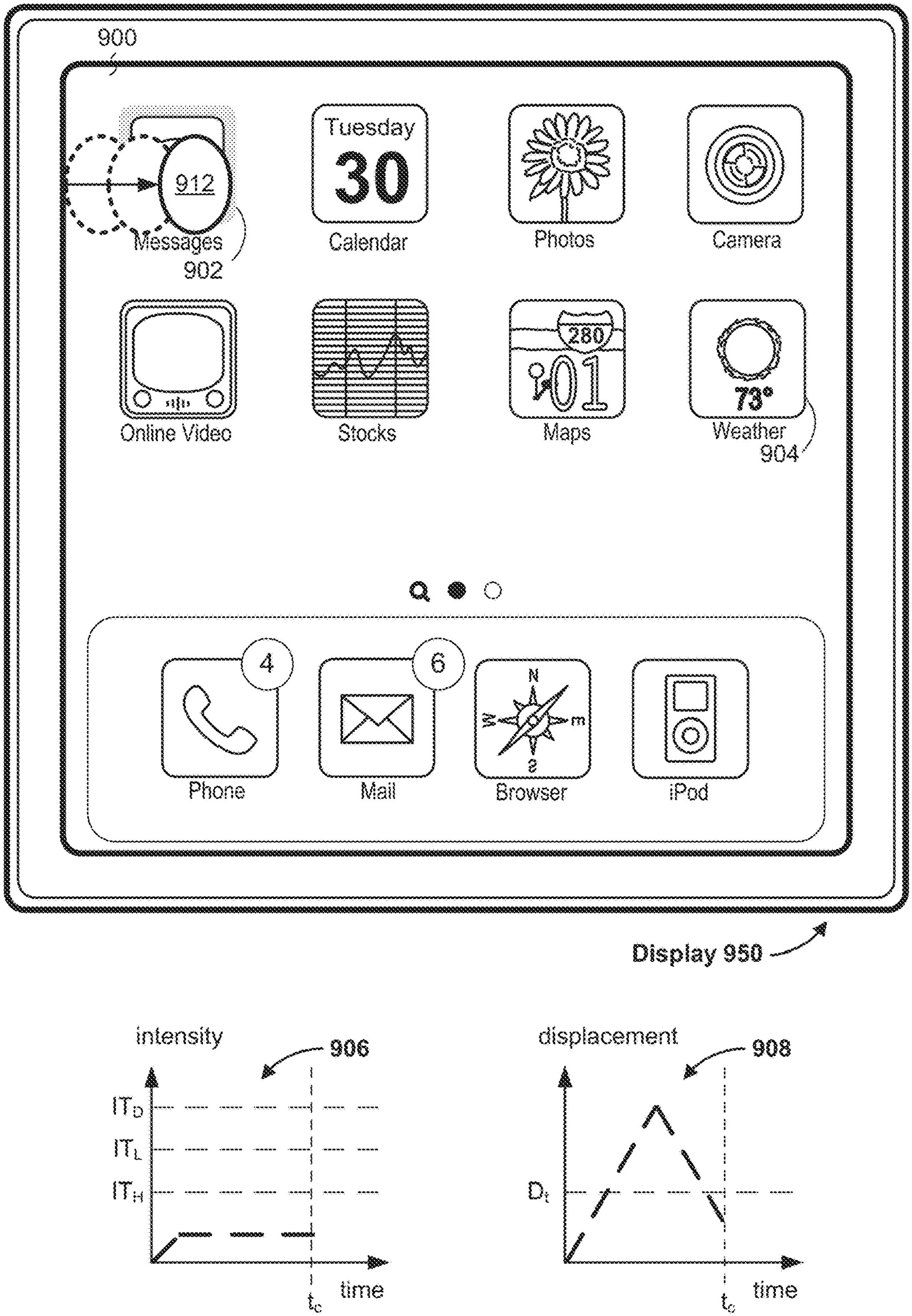
Calendar
Photos
Camera
Online Video
Stocks
280
Maps
73°
Weather
904
4
Phone
6
Mail
N
Browser
iPod
Display 950
intensity
906
IT_D
IT_L
IT_H
t_c
time
displacement
908
D_t
t_c
time

Figure 9A19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Messages
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Tuesday
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Calendar
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Camera
Online Video
Stocks
280
Maps
73°
Weather
904
4
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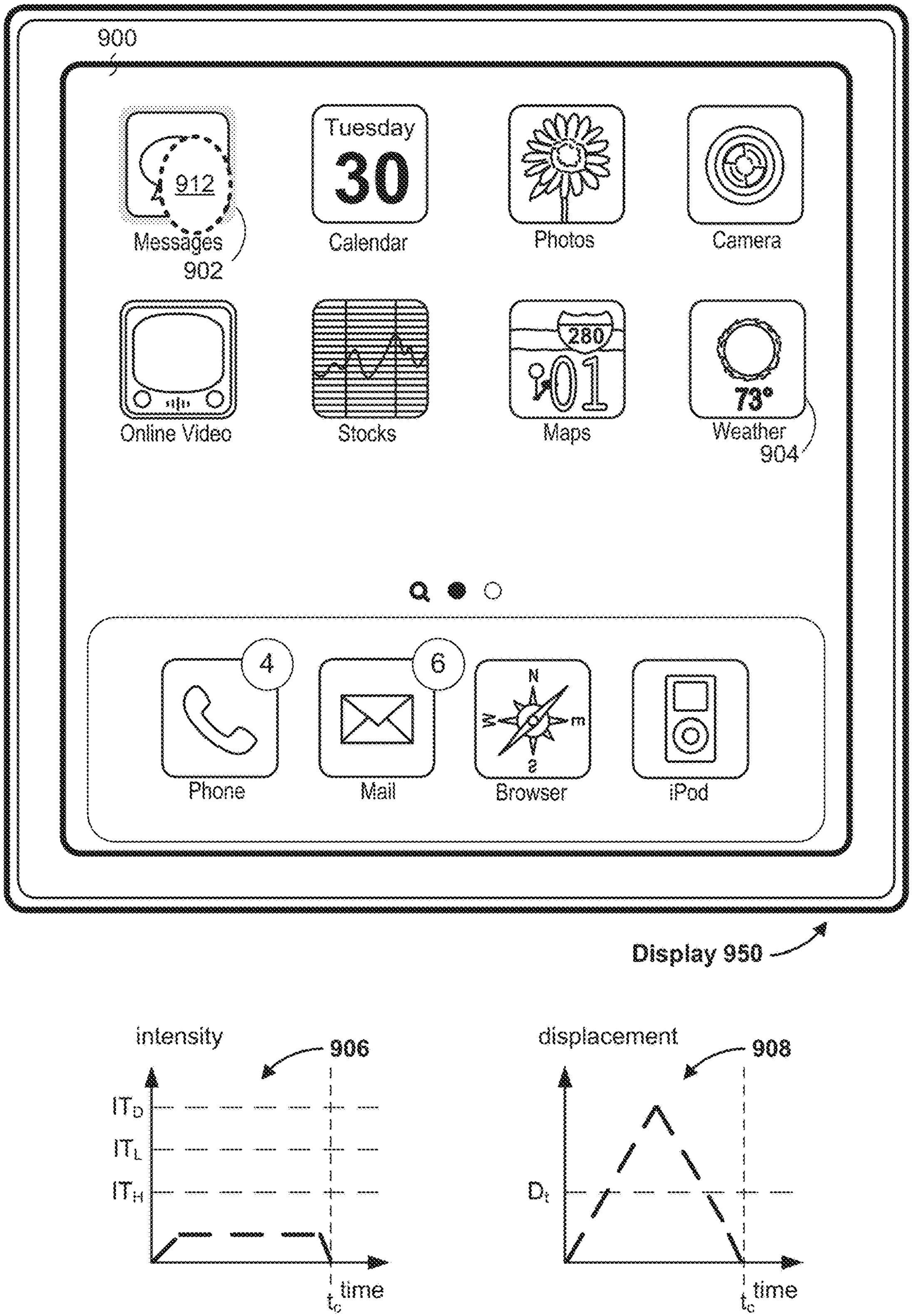
6
Mail
N
Browser
iPod
Display 950
intensity
906
IT_D
IT_L
IT_H
t_c
time
displacement
908
D_t
t_c
time

Figure 9A20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Tuesday
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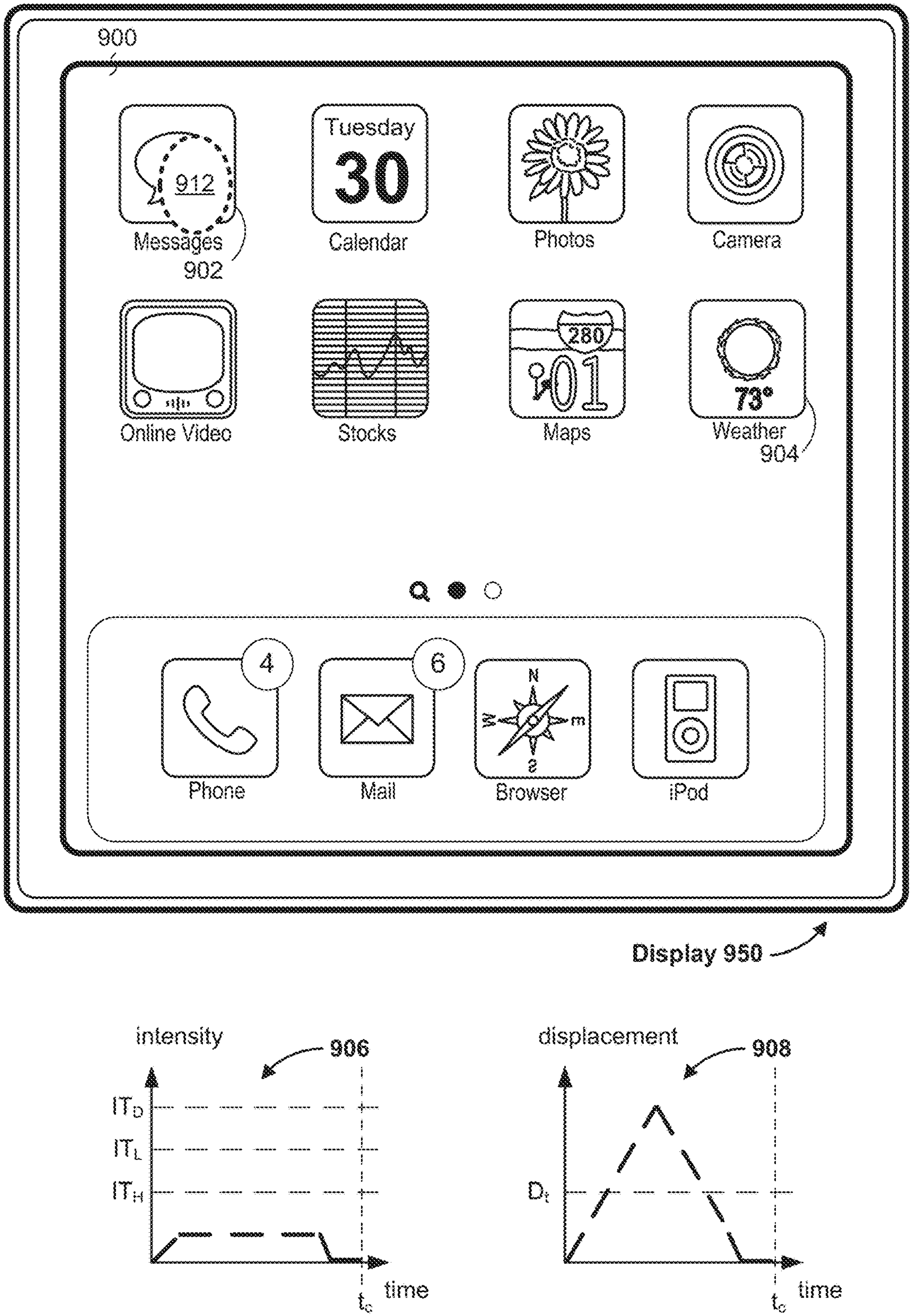
912
Messages
902
Calendar
Photos
Camera
280
73°
Online Video
Stocks
Maps
Weather
904
4
6
Phone
Mail
Browser
iPod
Display 950
intensity
906
IT_D
IT_L
IT_H
t_c
time
displacement
908
D_t
t_c
time

Figure 9A21


900
Tuesday
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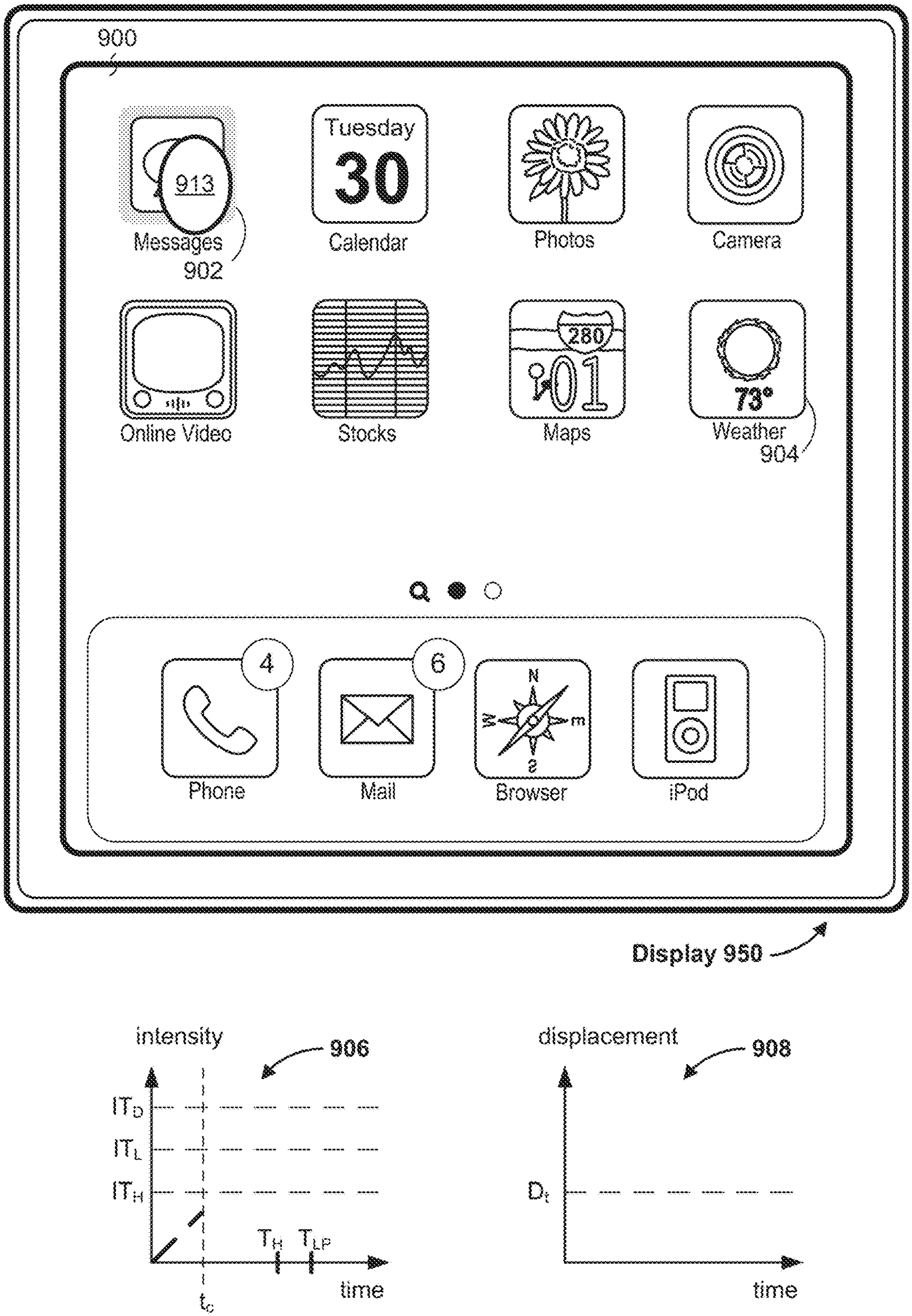
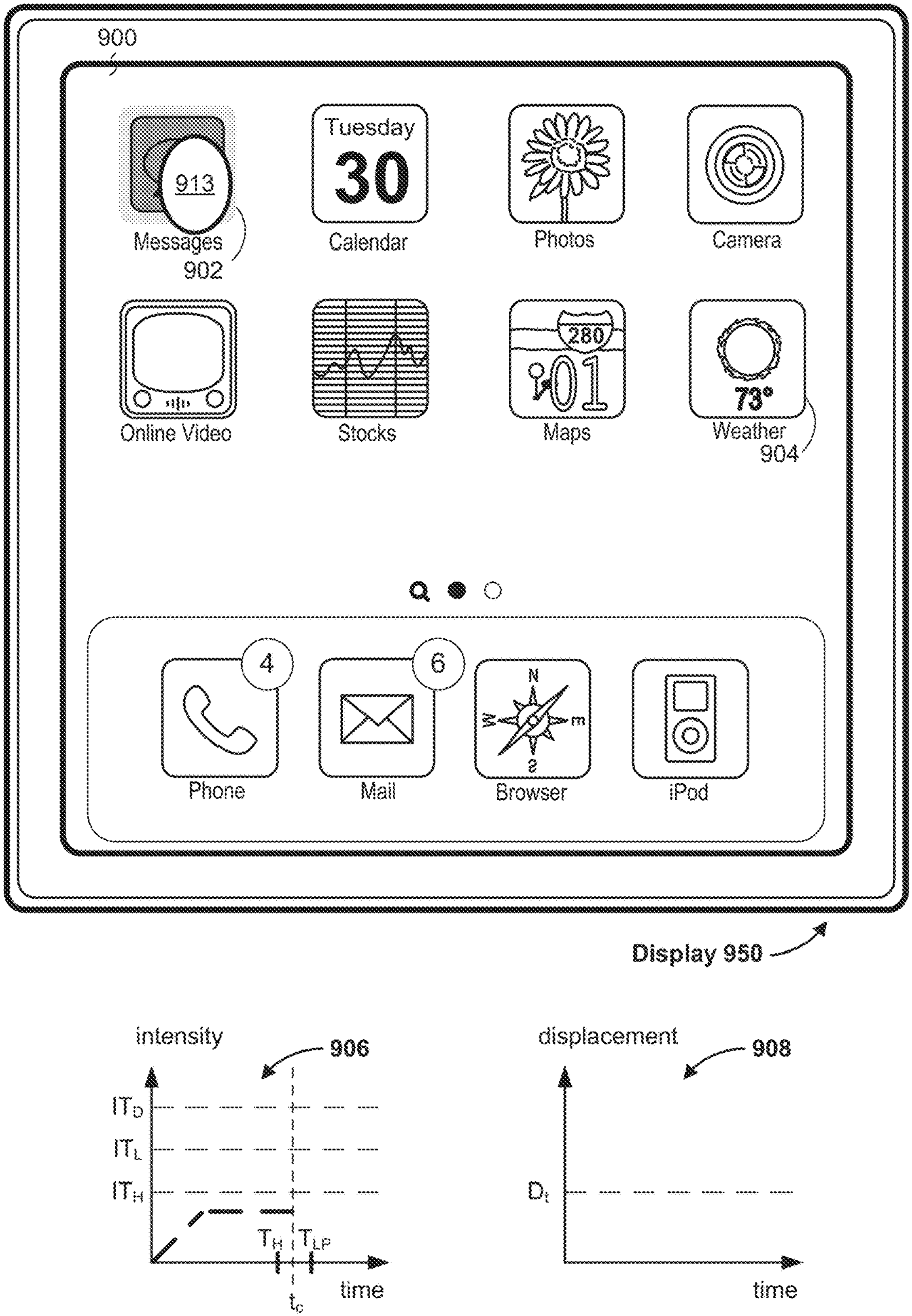
Messages
902
Calendar
Photos
Camera
280
01
73°
Online Video
Stocks
Maps
Weather
904
4
6
N
Phone
Mail
Browser
iPod
Display 950
intensity
906
IT_D
IT_L
IT_H
time
t_c
displacement
908
D_t
time
t_c

Figure 9A22



900
Messages
913
902
Tuesday
30
Calendar
Photos
Camera
Online Video
Stocks
280
Maps
73°
Weather
904
4
6
Phone
Mail
Browser
iPod
Display 950
intensity
906
IT_D
IT_L
IT_H
T_H
T_{LP}
t_c
time
displacement
908
D_t
time

Figure 9A23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913
Messages
902
Tuesday
30
Calendar
Photos
Camera
Online Video
Stocks
280
Maps
73°
Weather
904
4
Phone
6
Mail
Browser
iPod
Display 950
intensity
906
IT_D
IT_L
IT_H
T_H
T_{LP}
t_c
time
displacement
908
D_t
time

Figure 9A24

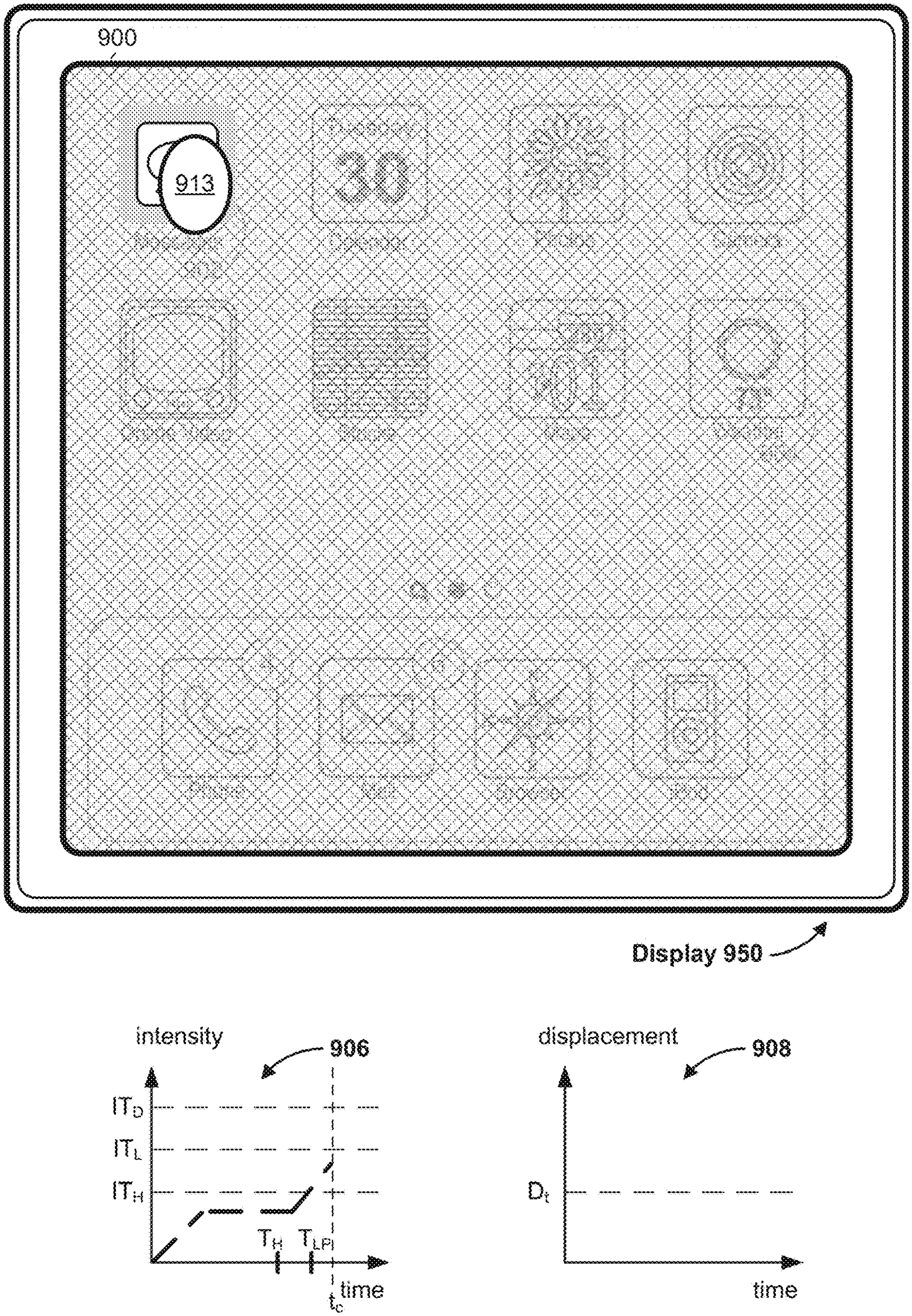

900
913
Display 950
intensity
906
IT_D
IT_L
IT_H
T_H
T_{LP}
t_c
time
displacement
908
D_t
time

Figure 9A25

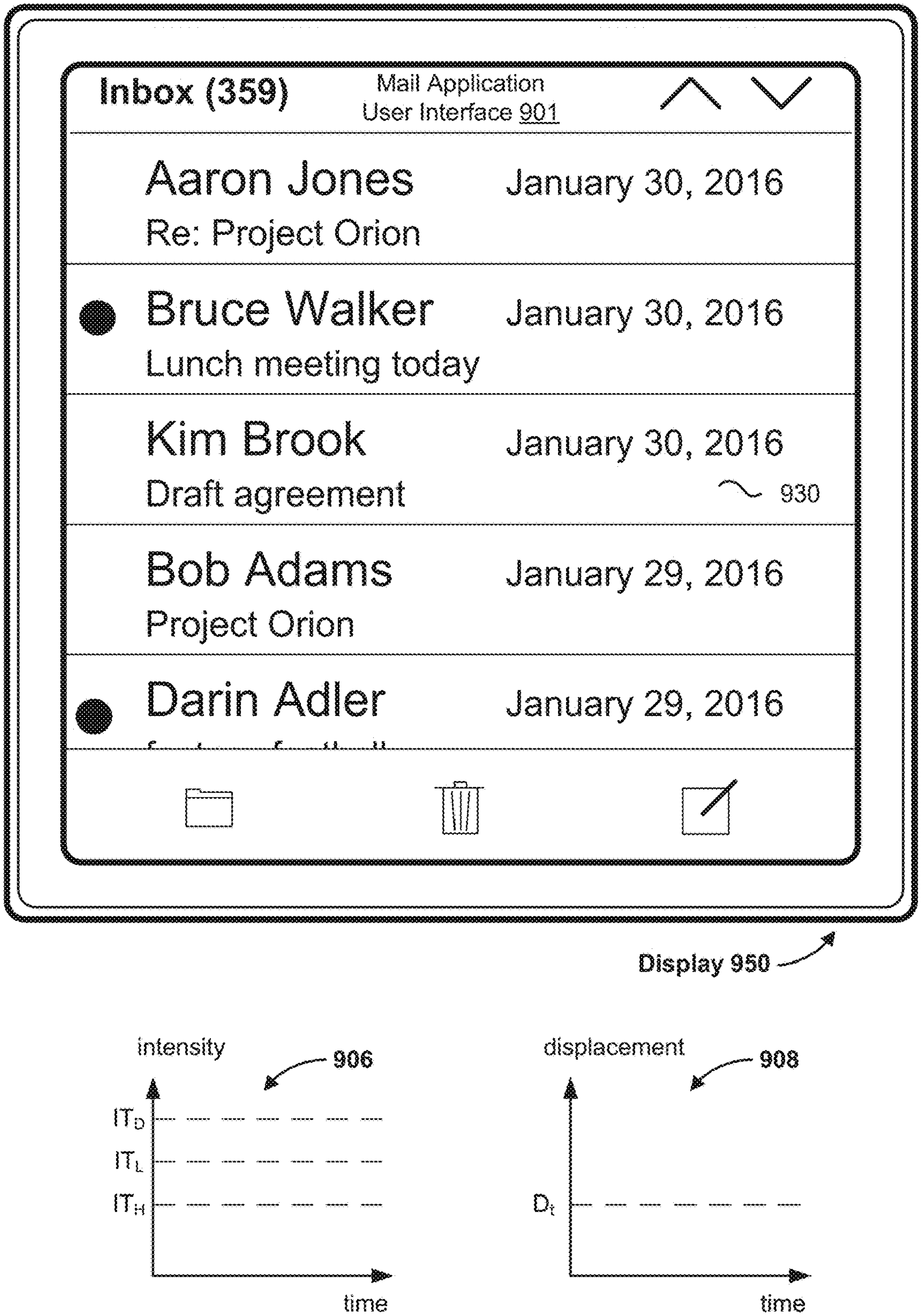

Inbox (359)
Mail Application
User Interface 901
Aaron Jones
January 30, 2016
Re: Project Orion
Bruce Walker
January 30, 2016
Lunch meeting today
Kim Brook
January 30, 2016
Draft agreement
930
Bob Adams
January 29, 2016
Project Orion
Darin Adler
January 29, 2016
Display 950
intensity
906
IT_D
IT_L
IT_H
time
displacement
908
D_t
time

Figure 9B1

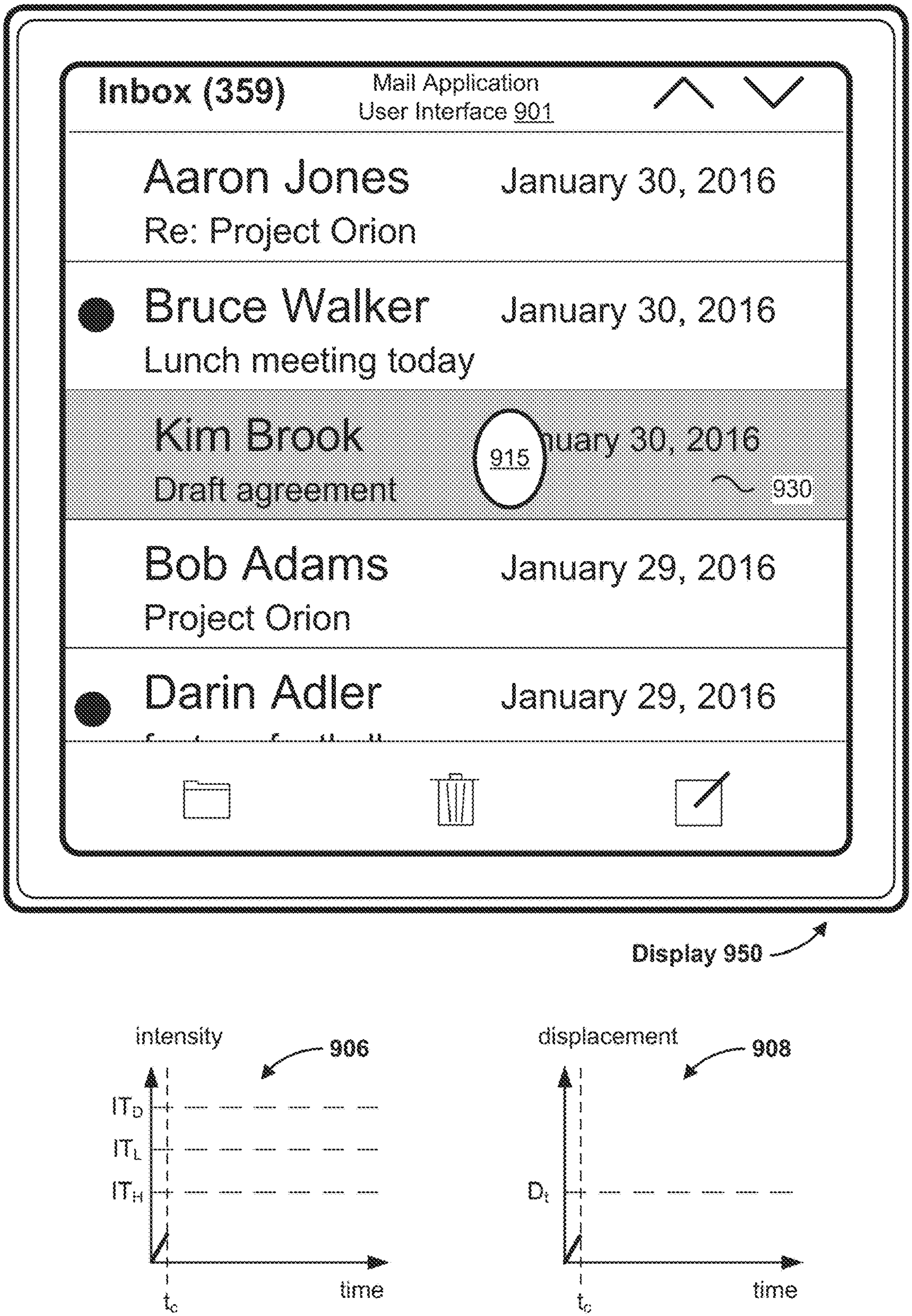
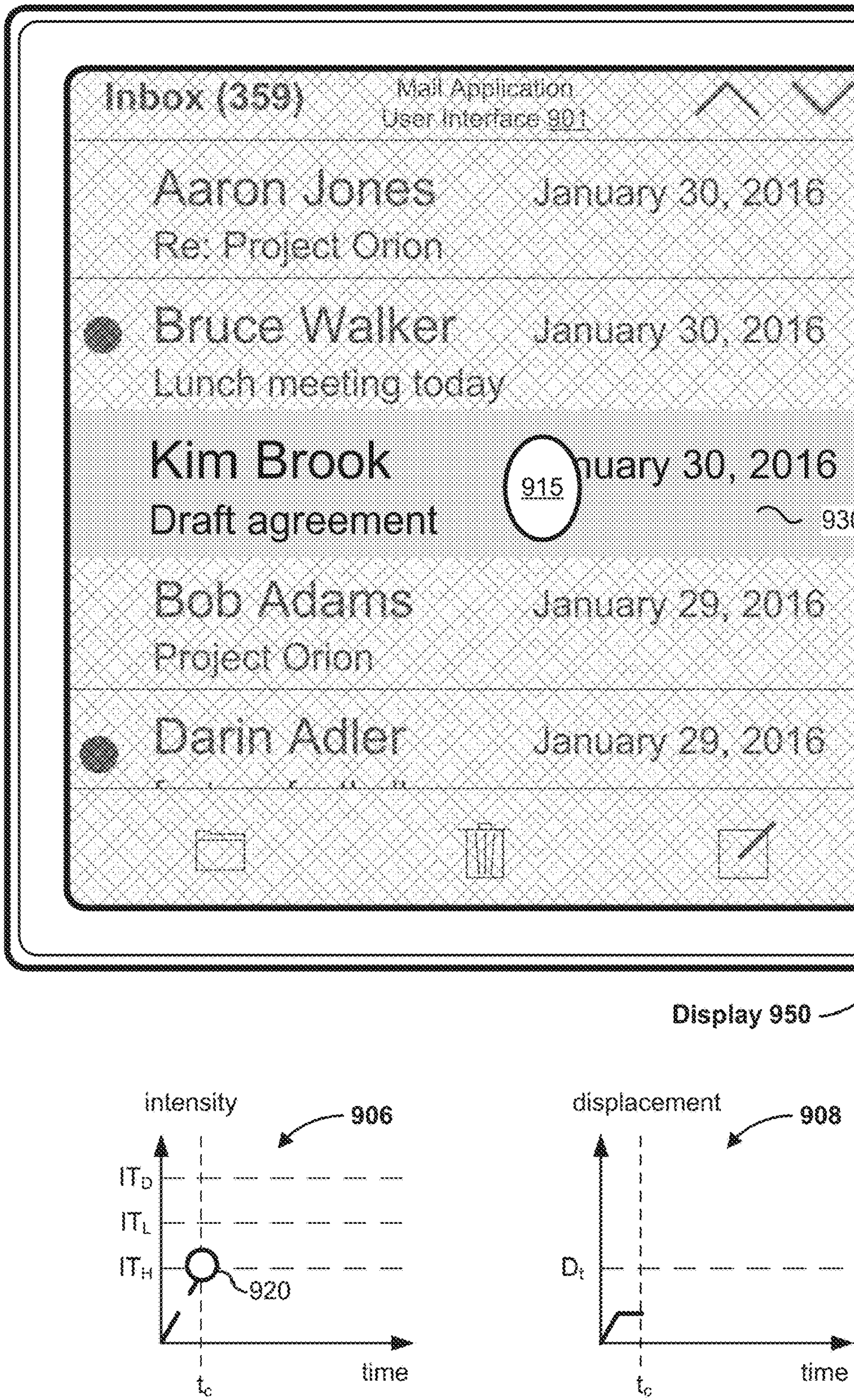

Inbox (359)
Mail Application
User Interface 901
Aaron Jones
January 30, 2016
Re: Project Orion
Bruce Walker
January 30, 2016
Lunch meeting today
Kim Brook
915
nuary 30, 2016
Draft agreement
930
Bob Adams
January 29, 2016
Project Orion
Darin Adler
January 29, 2016
Display 950
intensity
906
IT_D
IT_L
IT_H
t_c
time
displacement
908
D_t
t_c
time

Figure 9B2



Inbox (359)
Mail Application
User Interface 901
Aaron Jones January 30, 2016
Re: Project Orion
Bruce Walker January 30, 2016
Lunch meeting today
Kim Brook January 30, 2016
Draft agreement
915
930
Bob Adams January 29, 2016
Project Orion
Darin Adler January 29, 2016
Display 950
intensity
906
IT_D
IT_L
IT_H
920
t_c
time
displacement
908
D_t
t_c
time

Figure 9B3

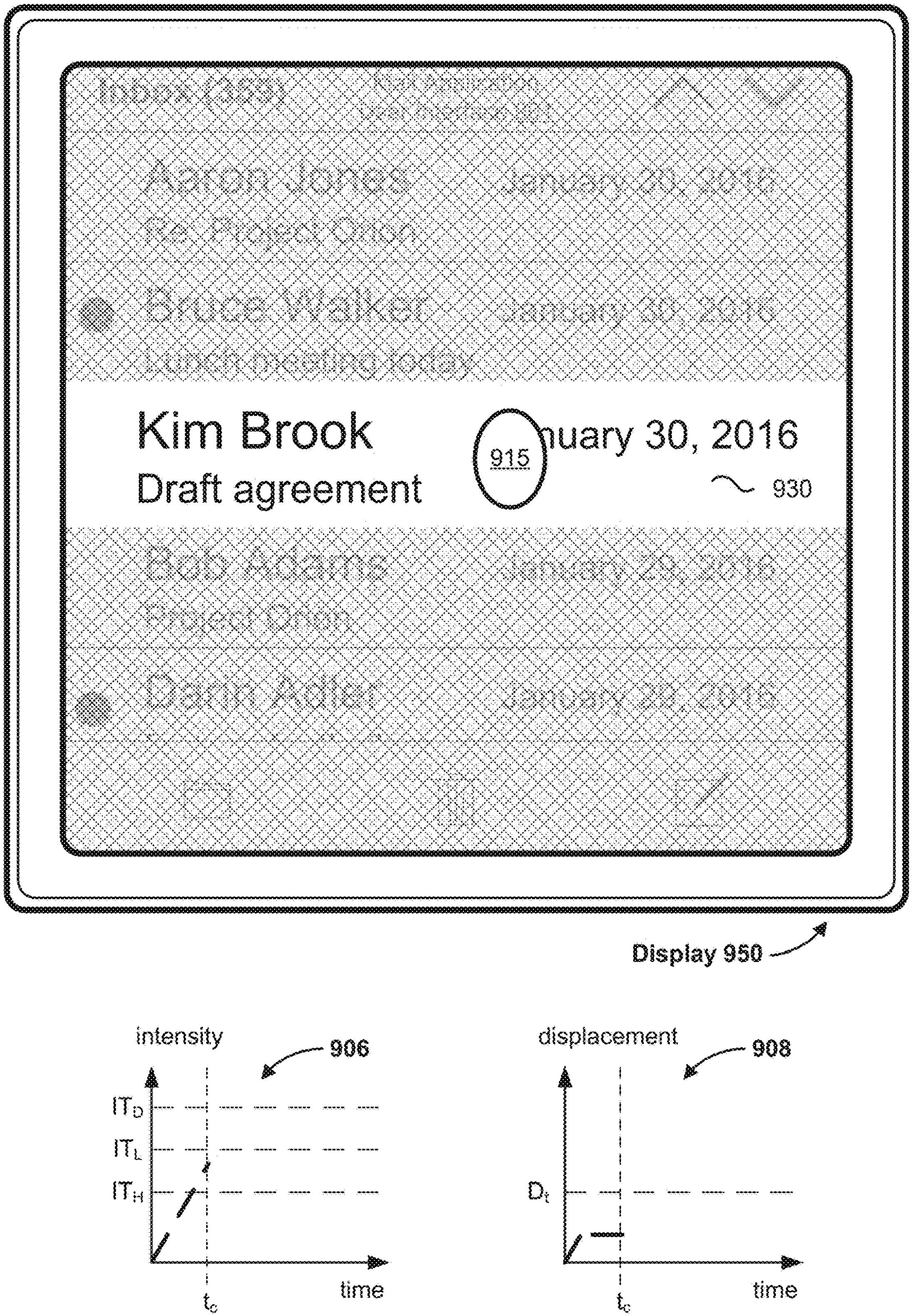

Kim Brook
915
uary 30, 2016
Draft agreement
930
Display 950
intensity
906
IT_D
IT_L
IT_H
t_c
time
displacement
908
D_t
t_c
time

Figure 9B4

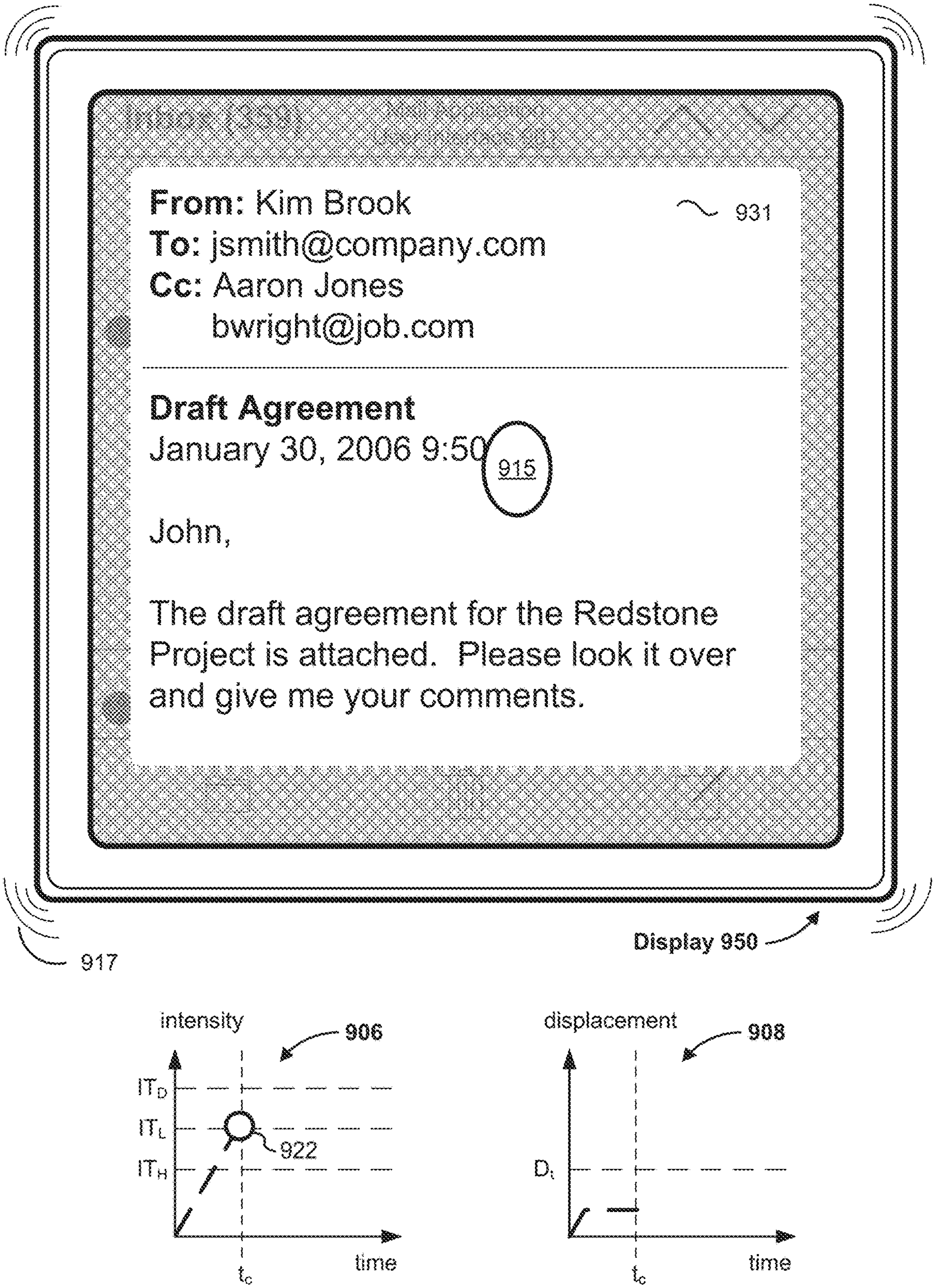
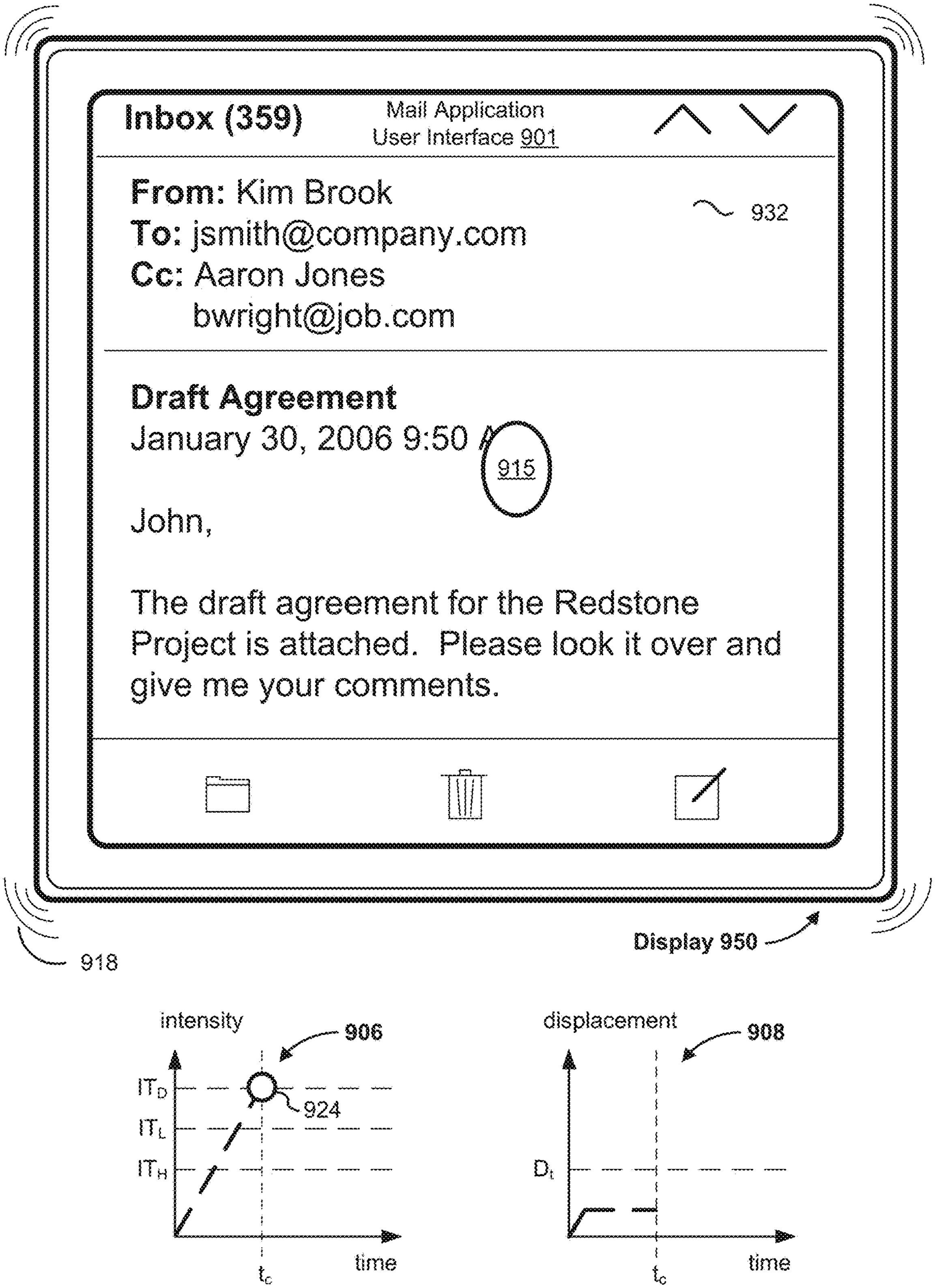
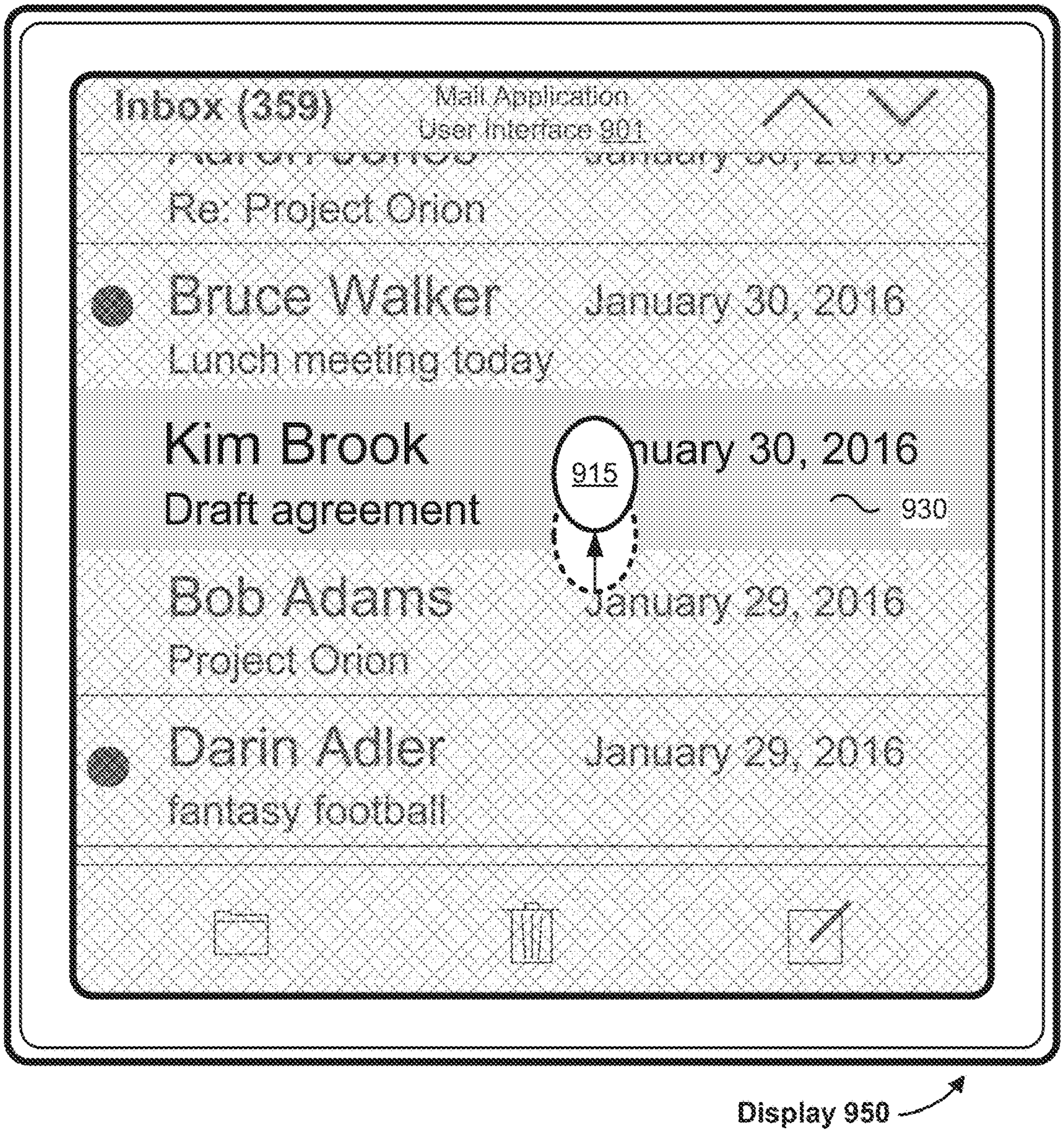

From: Kim Brook
To: jsmith@company.com
Cc: Aaron Jones
bwright@job.com
931
Draft Agreement
January 30, 2006 9:50
915
John,
The draft agreement for the Redstone Project is attached. Please look it over and give me your comments.
917
Display 950
intensity
906
IT_D
IT_L
IT_H
922
t_c
time
displacement
908
D_t
t_c
time

Figure 9B5

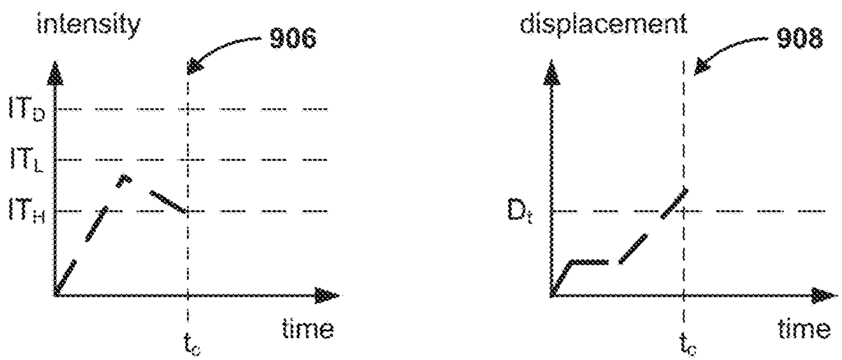


Inbox (359)
Mail Application
User Interface 901
From: Kim Brook
To: jsmith@company.com
Cc: Aaron Jones
bwright@job.com
932
Draft Agreement
January 30, 2006 9:50 A
915
John,
The draft agreement for the Redstone Project is attached. Please look it over and give me your comments.
918
Display 950
intensity
906
IT_D
IT_L
IT_H
924
t_c
time
displacement
908
D_t
t_c
time

Figure 9B6



Inbox (359)
Mail Application
User Interface 901
Re: Project Orion
Bruce Walker
January 30, 2016
Lunch meeting today
Kim Brook
nuary 30, 2016
Draft agreement
915
930
Bob Adams
January 29, 2016
Project Orion
Darin Adler
January 29, 2016
fantasy football
Display 950



intensity
906
IT_D
IT_L
IT_H
t_c
time
displacement
908
D_t
t_c
time

Figure 9B7


Kim Brook
Draft agreement
January 30, 2016
915
930
Display 950

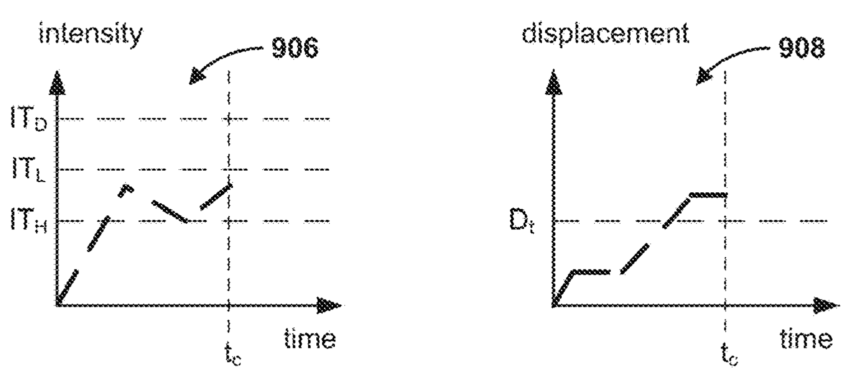

intensity
906
IT_D
IT_L
IT_H
t_c
time
displacement
908
D_t
t_c
time

Figure 9B8

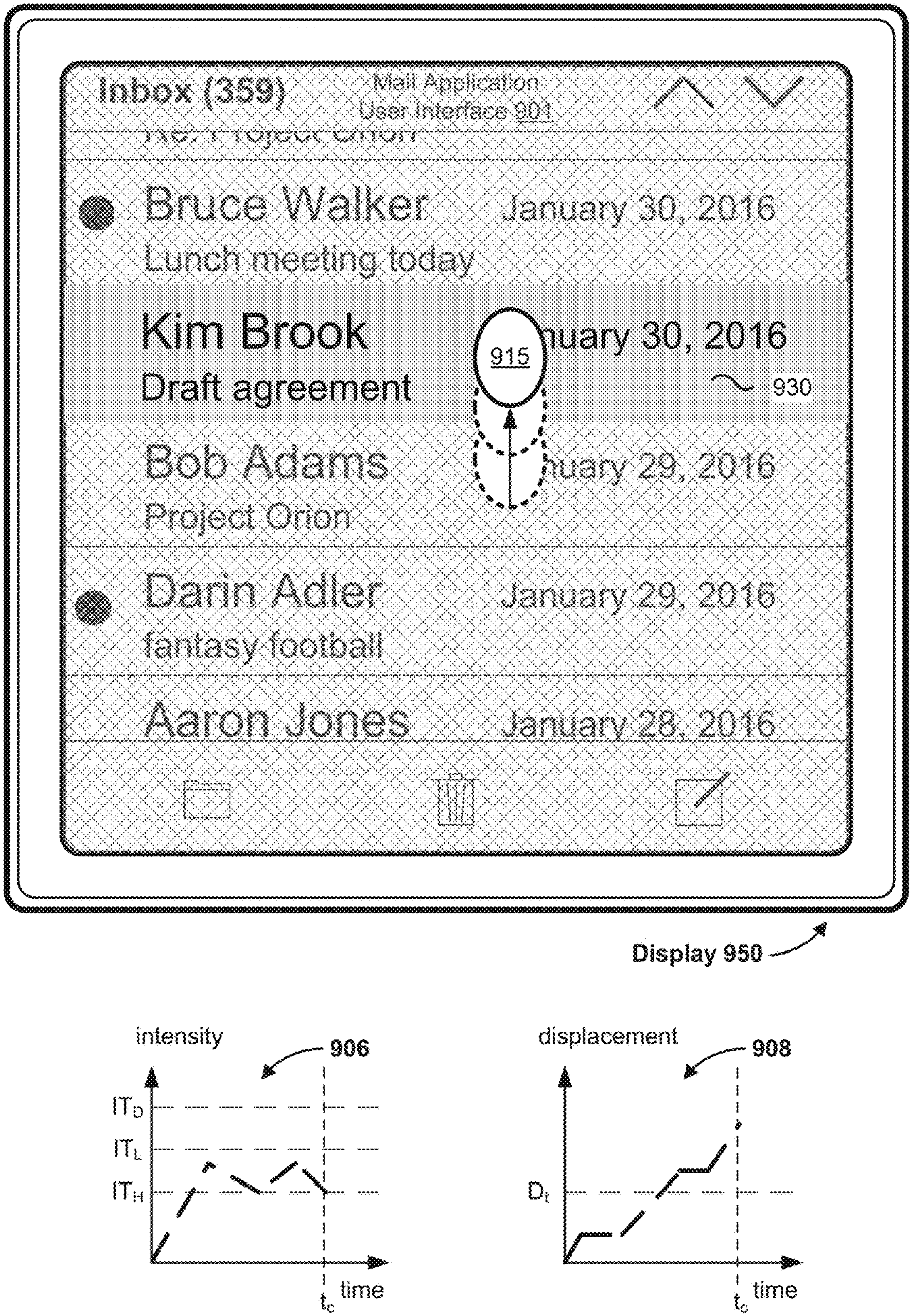

Inbox (359)
Mail Application
User Interface 901
Re: Project Orion
Bruce Walker January 30, 2016
Lunch meeting today
Kim Brook January 30, 2016
Draft agreement
915
930
Bob Adams January 29, 2016
Project Orion
Darin Adler January 29, 2016
fantasy football
Aaron Jones January 28, 2016
Display 950
intensity
906
IT_D
IT_L
IT_H
t_c
time
displacement
908
D_t
t_c
time

Figure 9B9

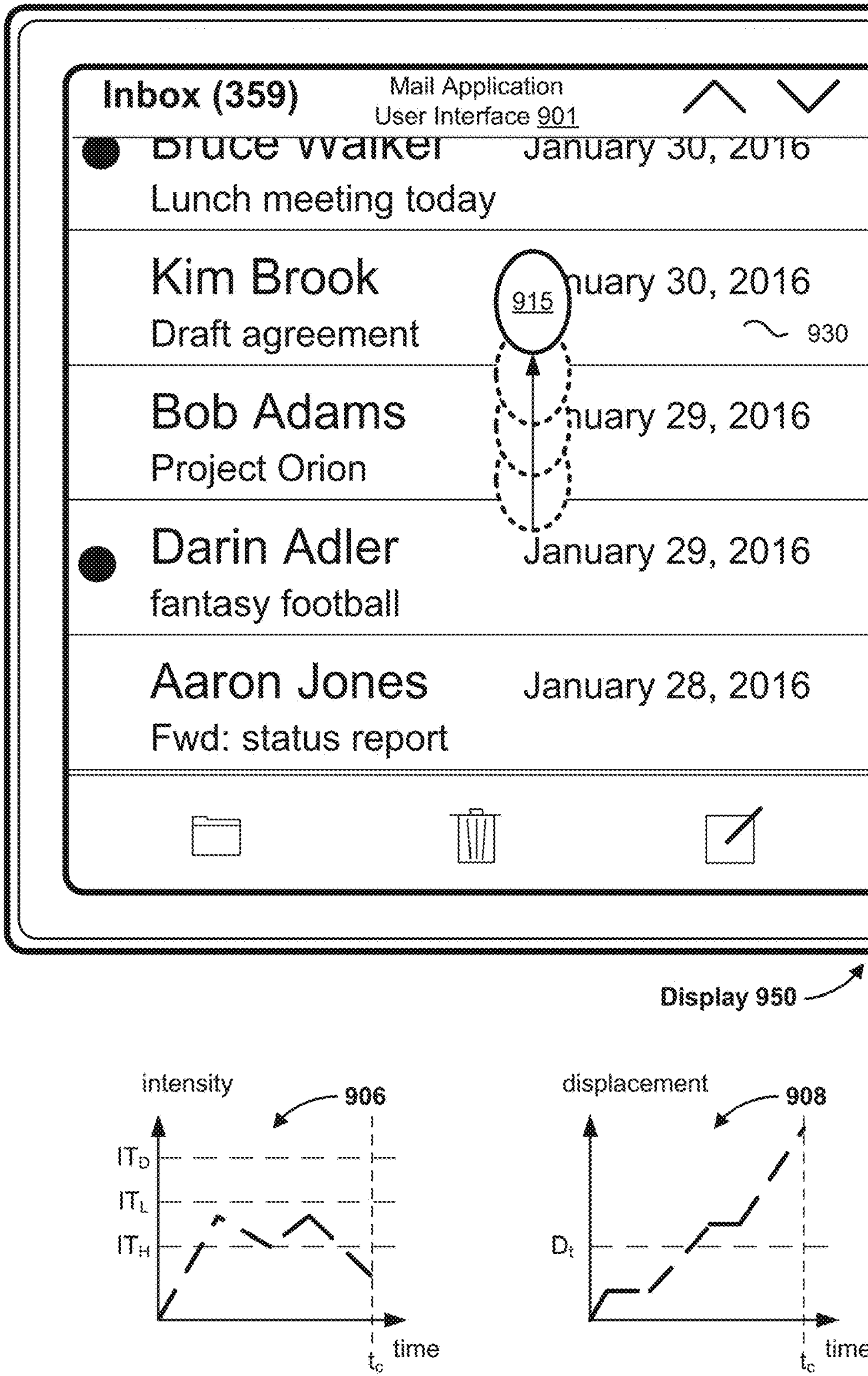
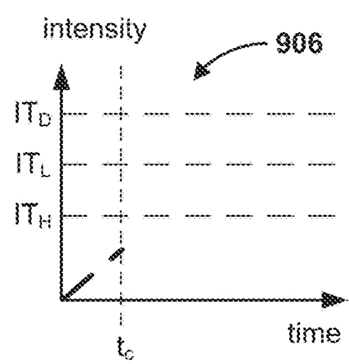

Inbox (359)
Mail Application
User Interface 901
Bruce Walker January 30, 2016
Lunch meeting today
Kim Brook January 30, 2016
Draft agreement
915
930
Bob Adams January 29, 2016
Project Orion
Darin Adler January 29, 2016
fantasy football
Aaron Jones January 28, 2016
Fwd: status report
Display 950
intensity
906
IT_D
IT_L
IT_H
time
t_c
displacement
908
D_t
time
t_c

Figure 9B10


3:48
903
Living Room
962-1
962-2
962-3
962-4
Temperature
Fan
Shades
Lights
Doors
Camera
Smoke Alarm
Sleep
962-5
962-6
962-7
962-8

Figure 9C1

903
Living Room
962-1
962-2
962-3
962-4
954
Temperature
Fan
Shades
Lights
Doors
Camera
Smoke Alarm
Sleep
962-5
962-6
962-7
962-8
Display 950



intensity
906
IT_D
IT_L
IT_H
t_c
time

Figure 9C2


903
Living Room
962-1
962-2
962-3
962-4
954
Temperature
Fan
Shades
Lights
Doors
962-5
Camera
962-6
Smoke Alarm
962-7
Sleep
962-8
Display 950

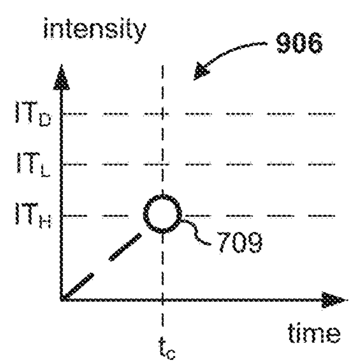
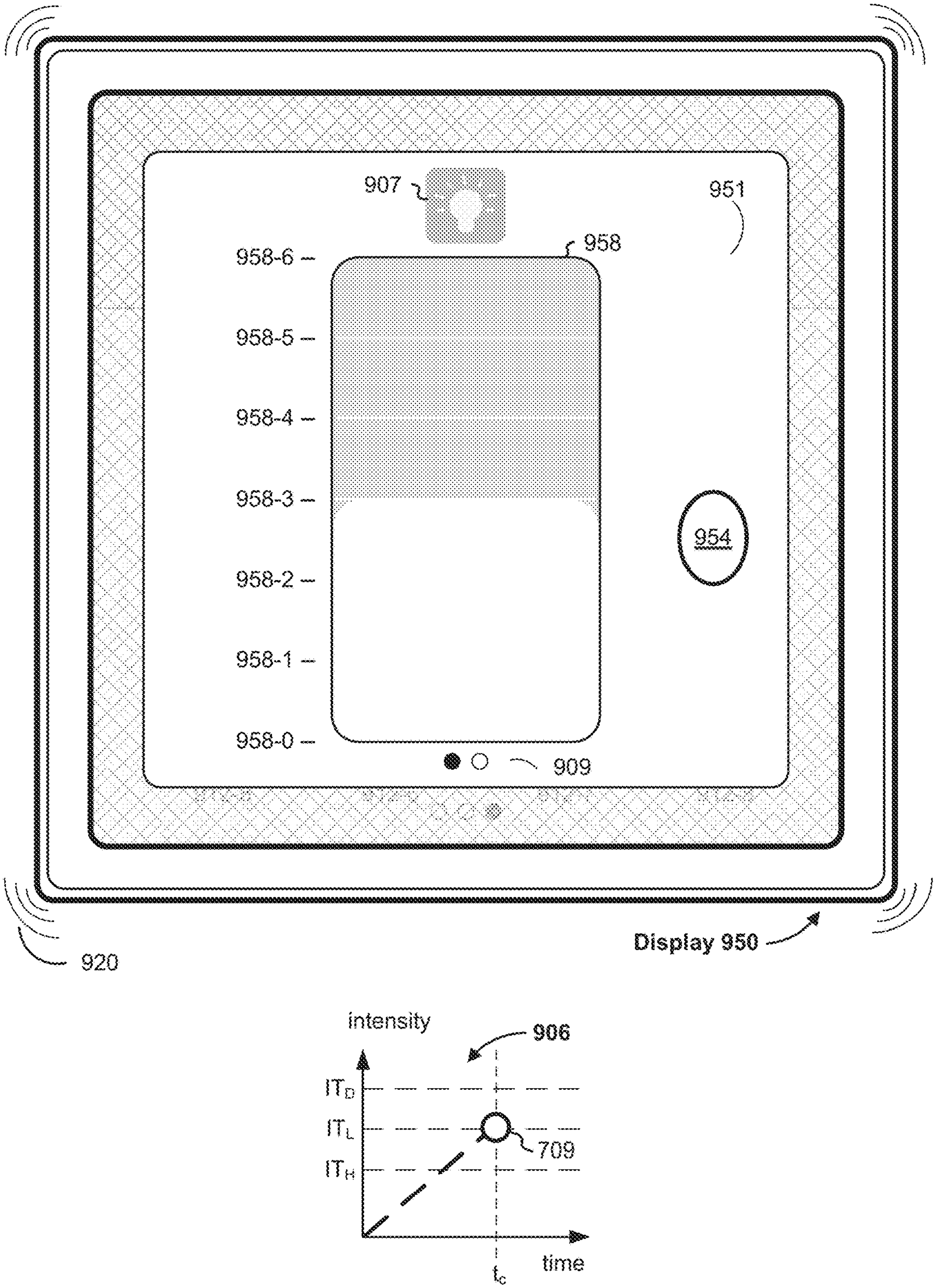
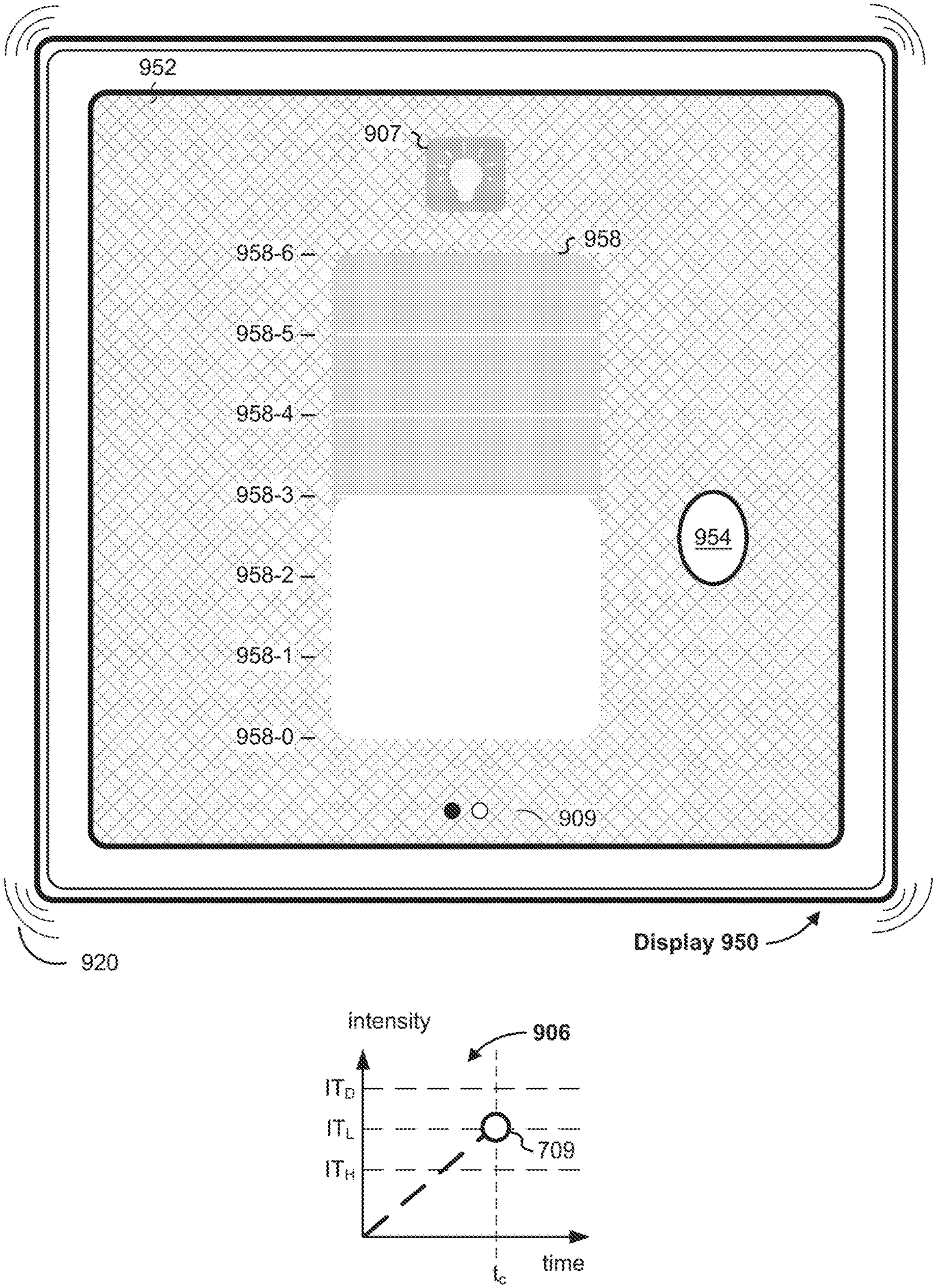

intensity
906
IT_D
IT_L
IT_H
709
time
t_c

Figure 9C3



907
951
958
958-6
958-5
958-4
958-3
958-2
958-1
958-0
954
909
920
Display 950
intensity
906
IT_D
IT_L
IT_H
709
t_c
time

Figure 9C4


952
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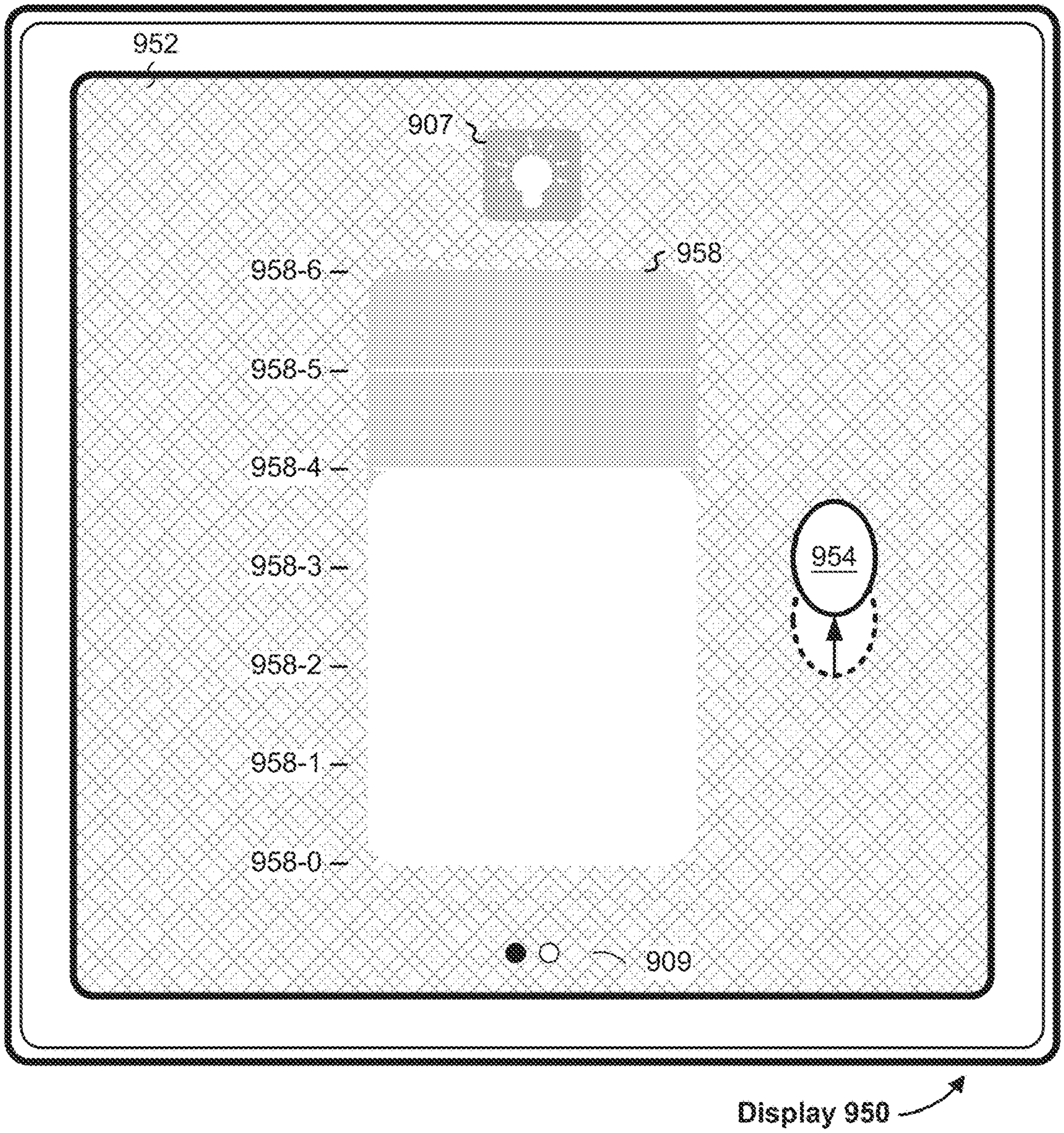
958
958-6
958-5
958-4
958-3
958-2
958-1
958-0
954
909
920
Display 950
intensity
906
IT_D
IT_L
IT_H
709
time
t_c

Figure 9C5



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907
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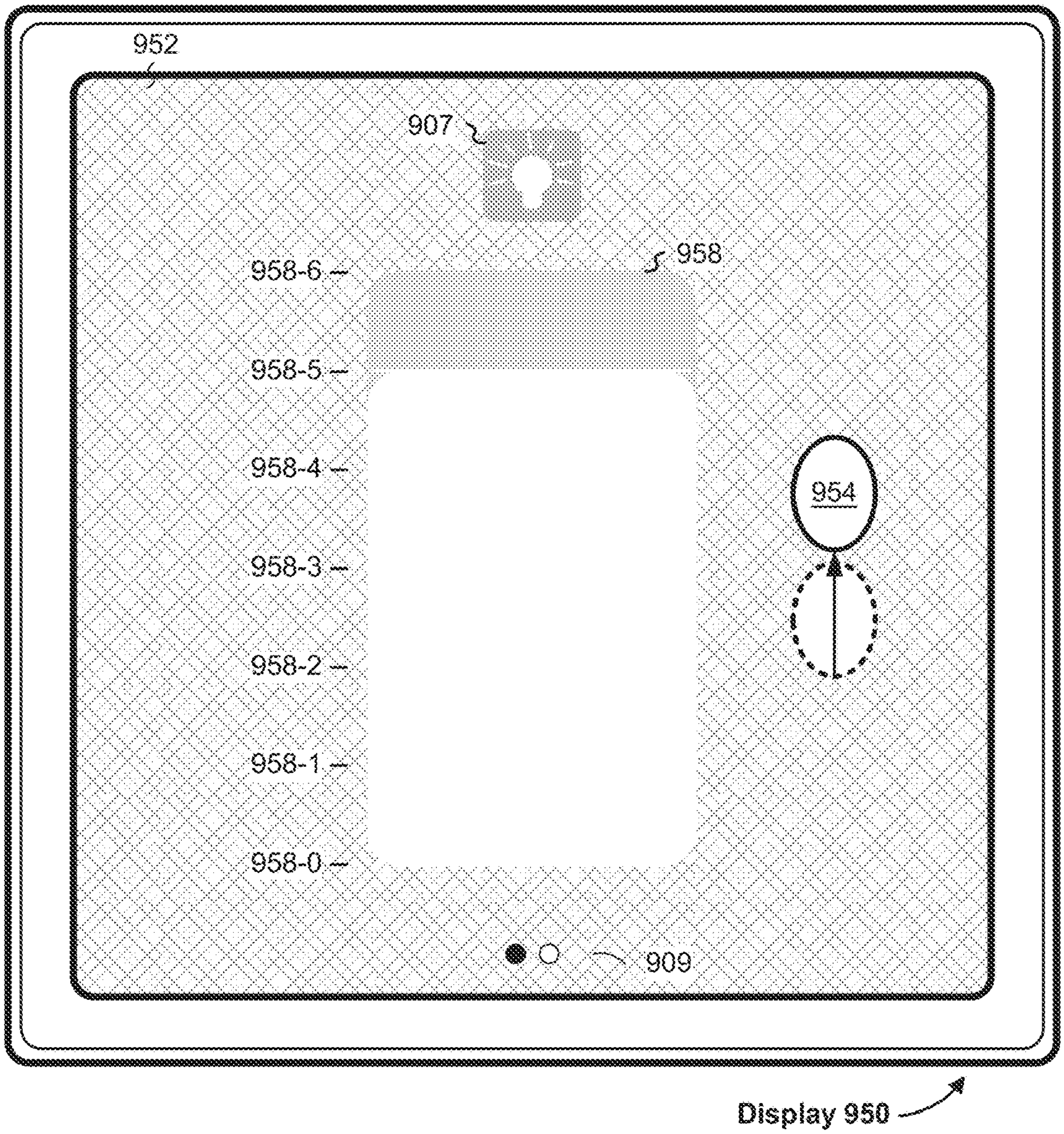
958-6
958-5
958-4
958-3
958-2
958-1
958-0
954
909
Display 950

Figure 9C6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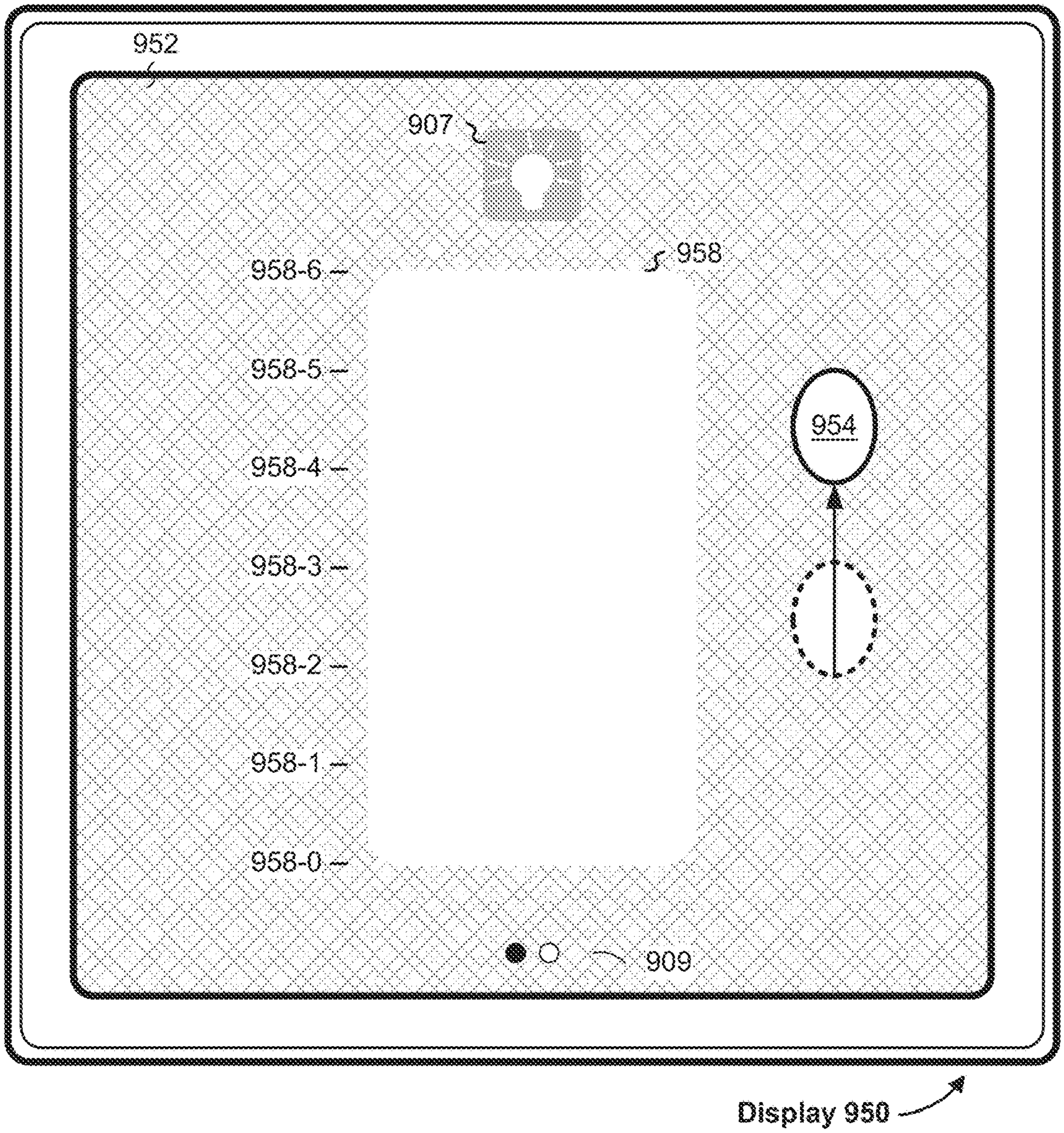
907
958
958-6
958-5
958-4
958-3
958-2
958-1
958-0
954
909
Display 950

Figure 9C7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958-6
958-5
958-4
958-3
958-2
958-1
958-0
954
909
Display 950

Figure 9C8

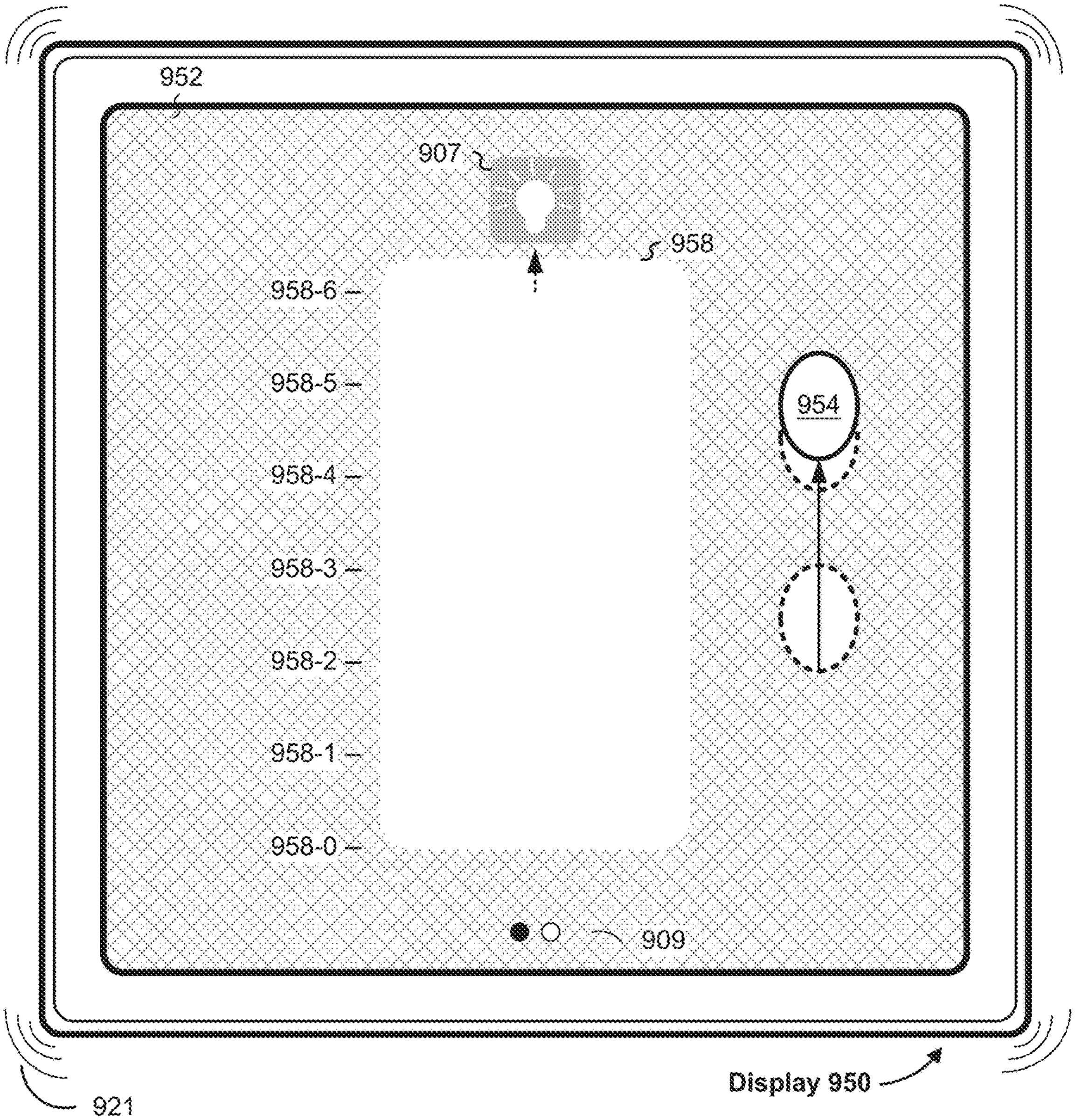

952
907
958
958-6
958-5
958-4
958-3
958-2
958-1
958-0
954
909
921
Display 950

Figure 9C9

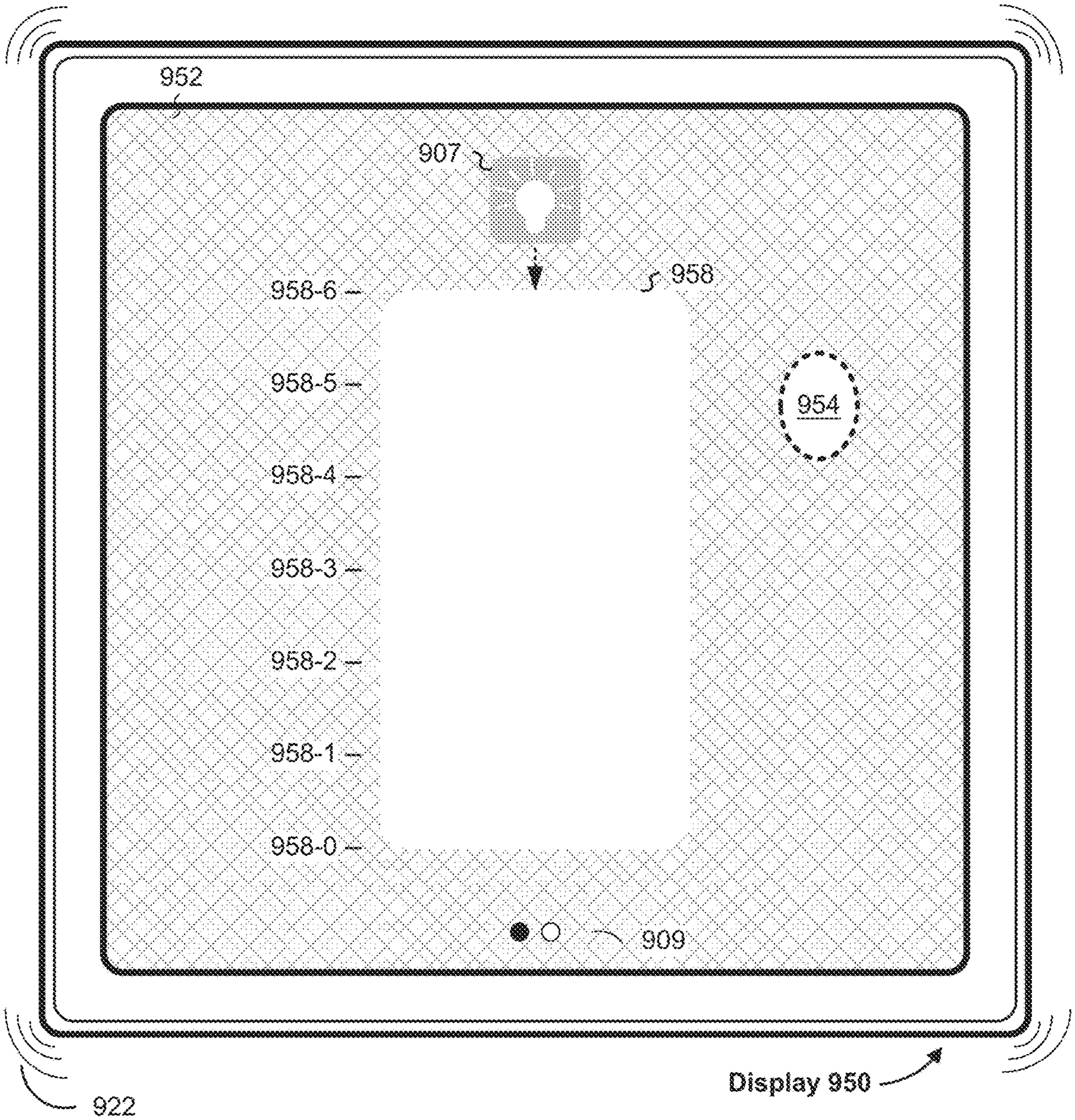

952
907
958-6
958-5
958-4
958-3
958-2
958-1
958-0
958
954
909
922
Display 950

Figure 9C10

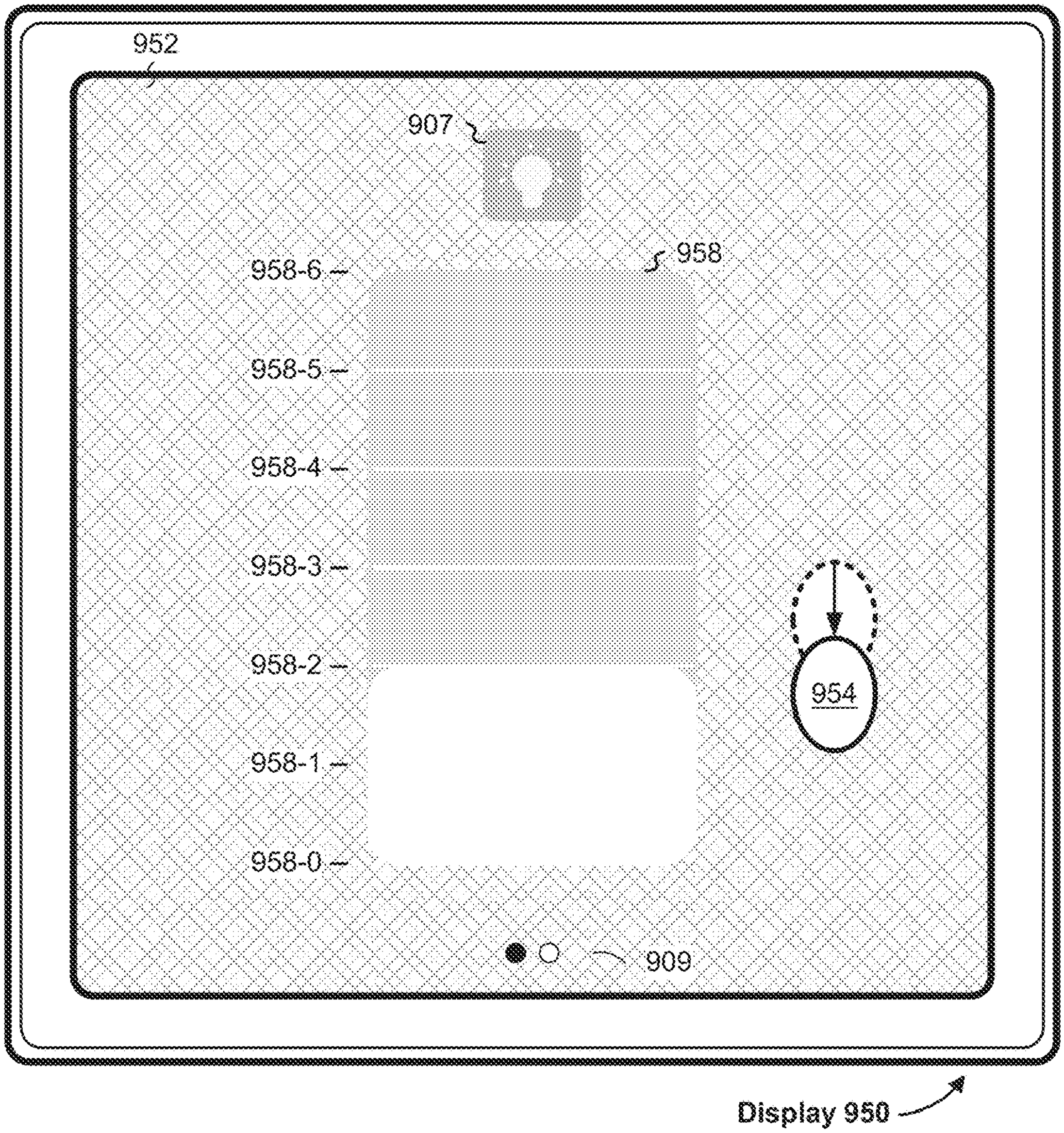

952
907
958
958-6
958-5
958-4
958-3
958-2
958-1
958-0
954
909
Display 950

Figure 9C11

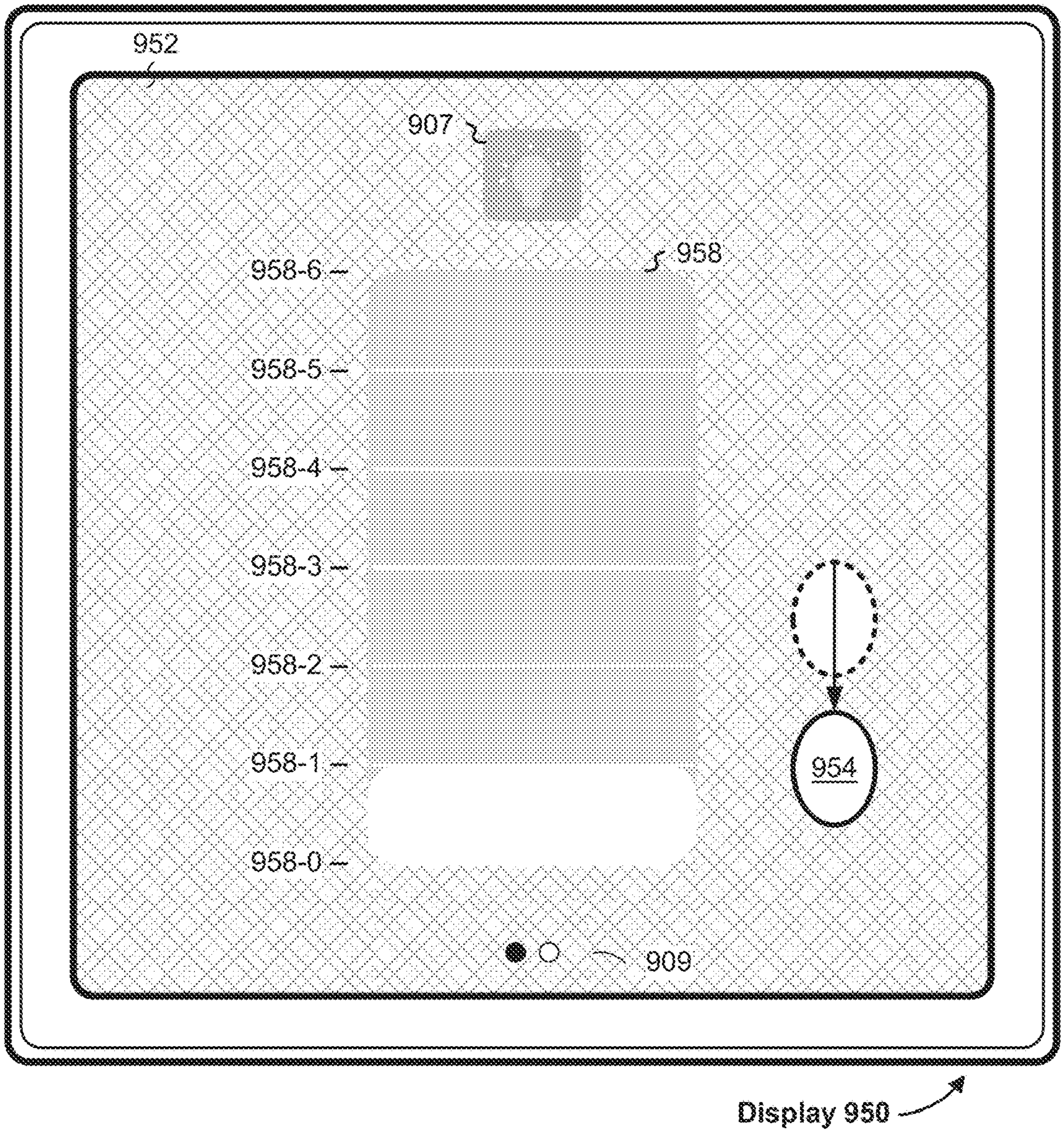
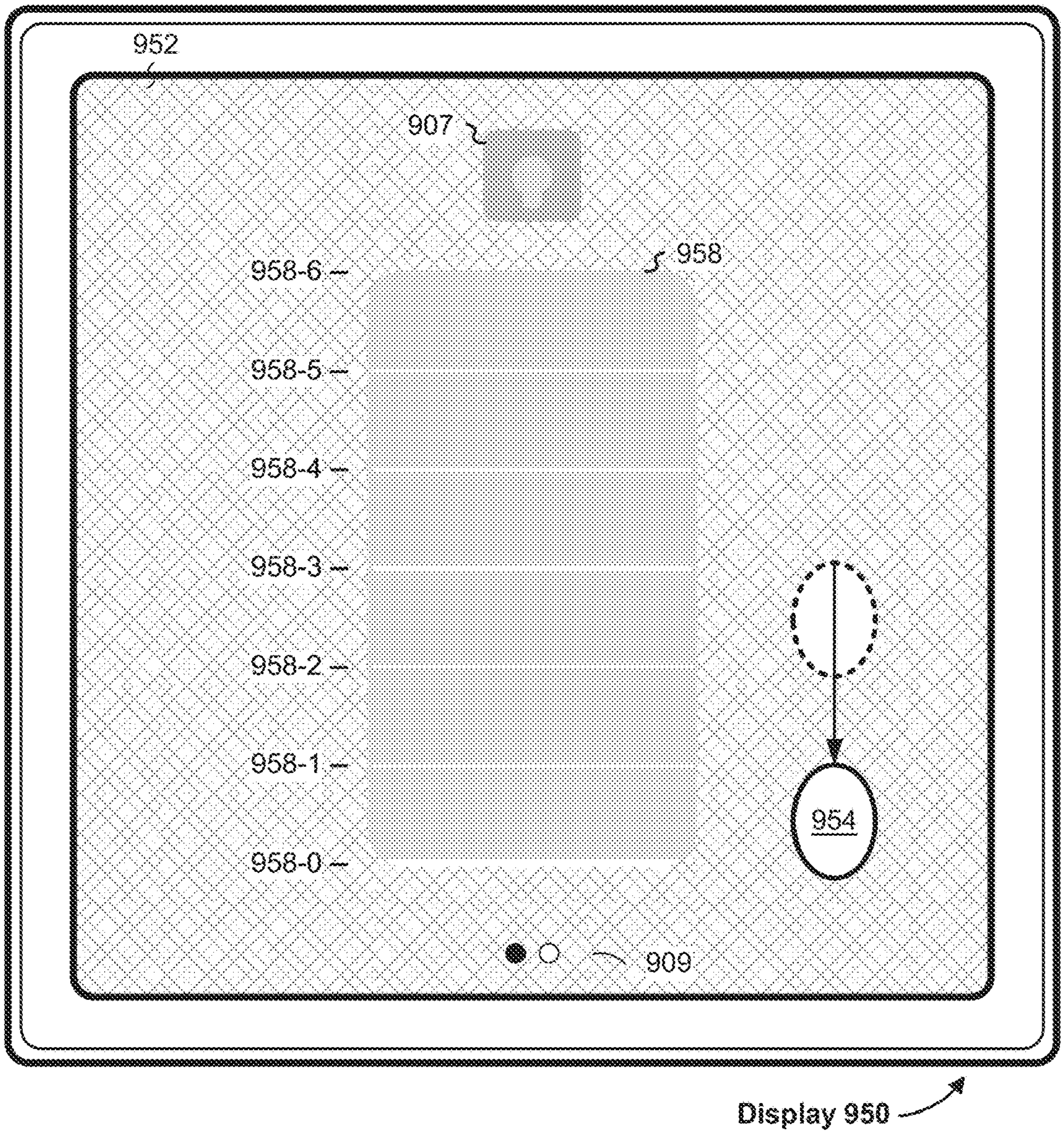

952
907
958
958-6
958-5
958-4
958-3
958-2
958-1
958-0
954
909
Display 950

Figure 9C12



952
907
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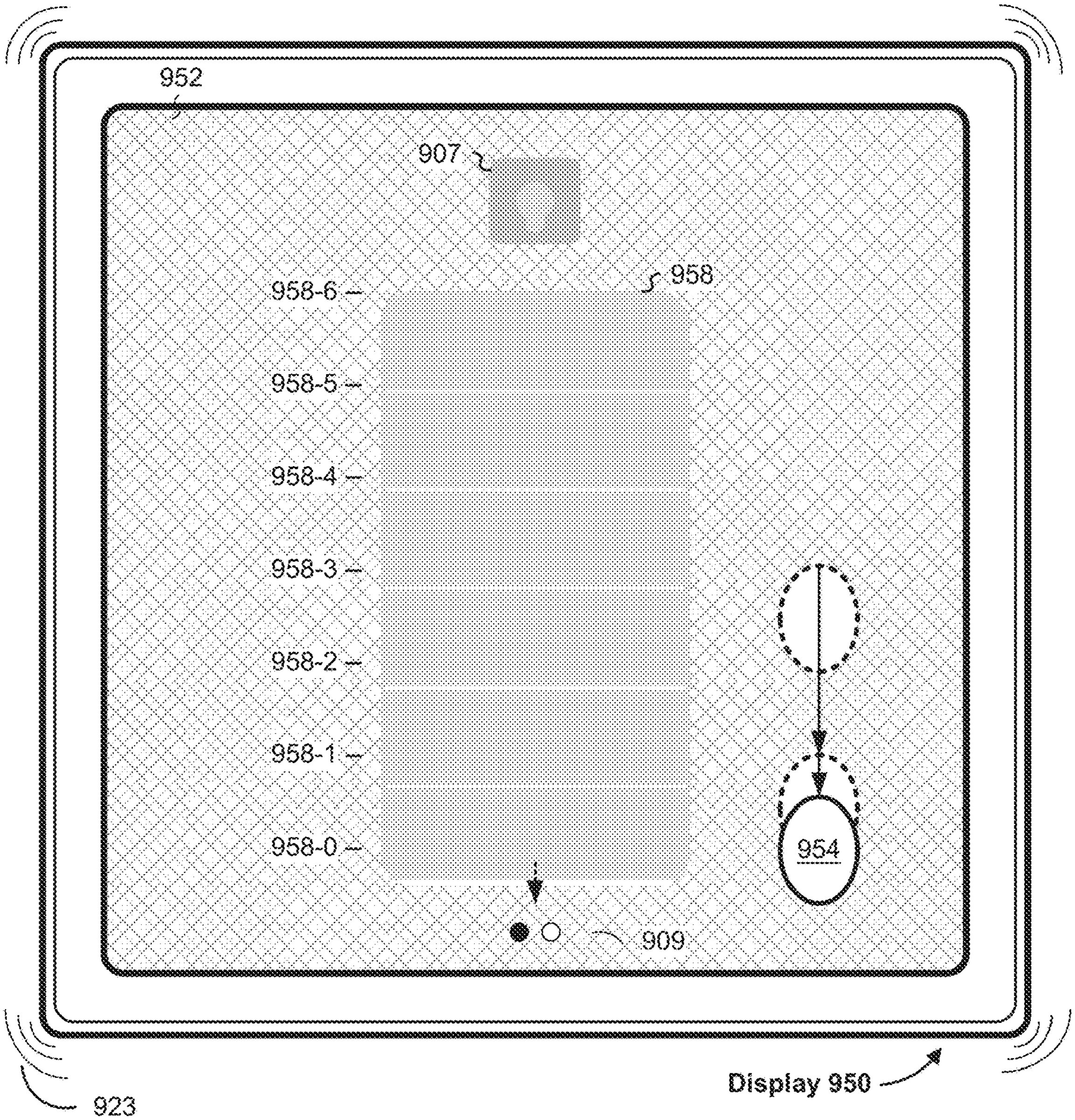
958-6
958-5
958-4
958-3
958-2
958-1
958-0
954
909
Display 950

Figure 9C13


952
907
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958-6
958-5
958-4
958-3
958-2
958-1
958-0
954
909
923
Display 950

Figure 9C14

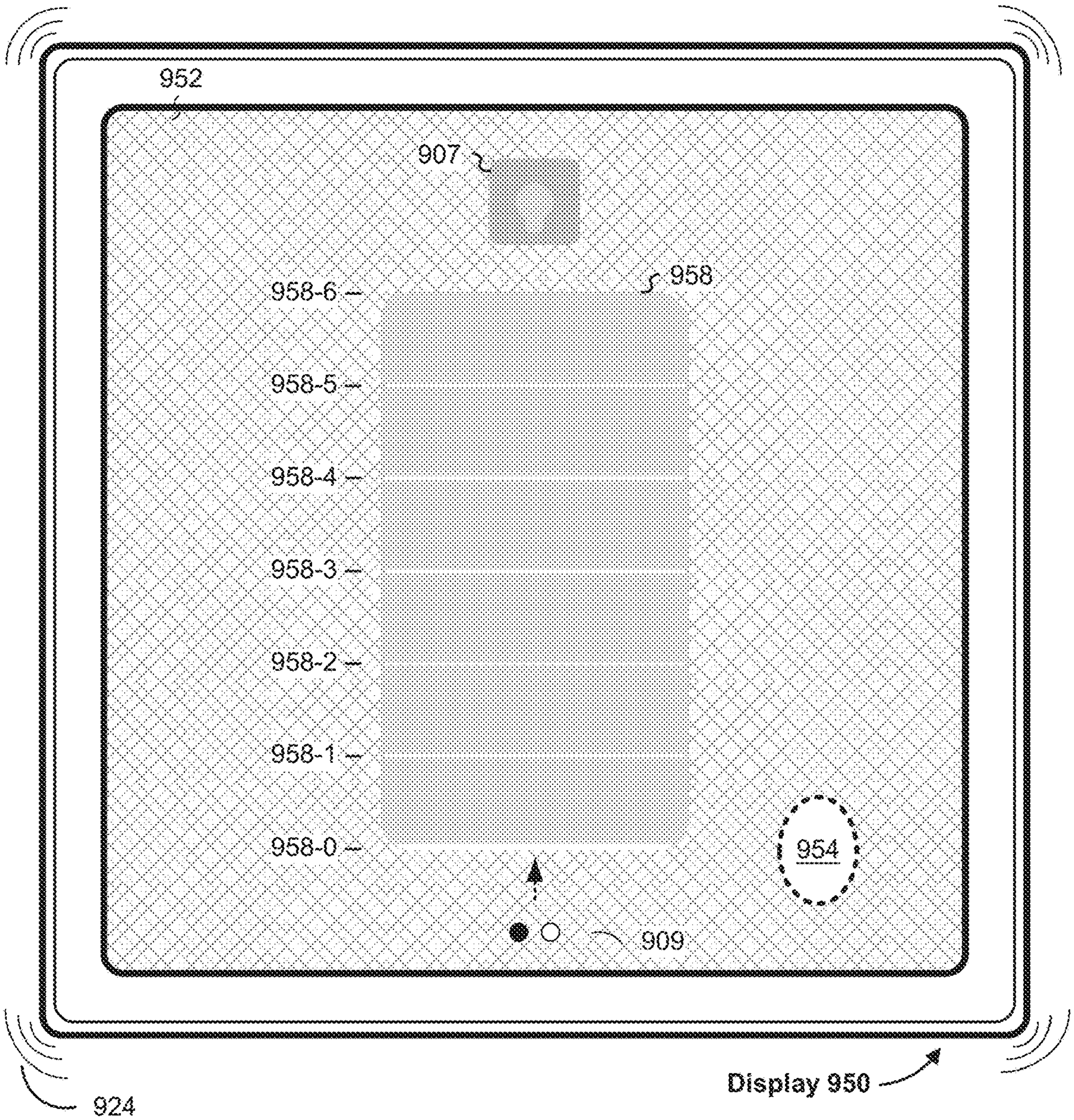
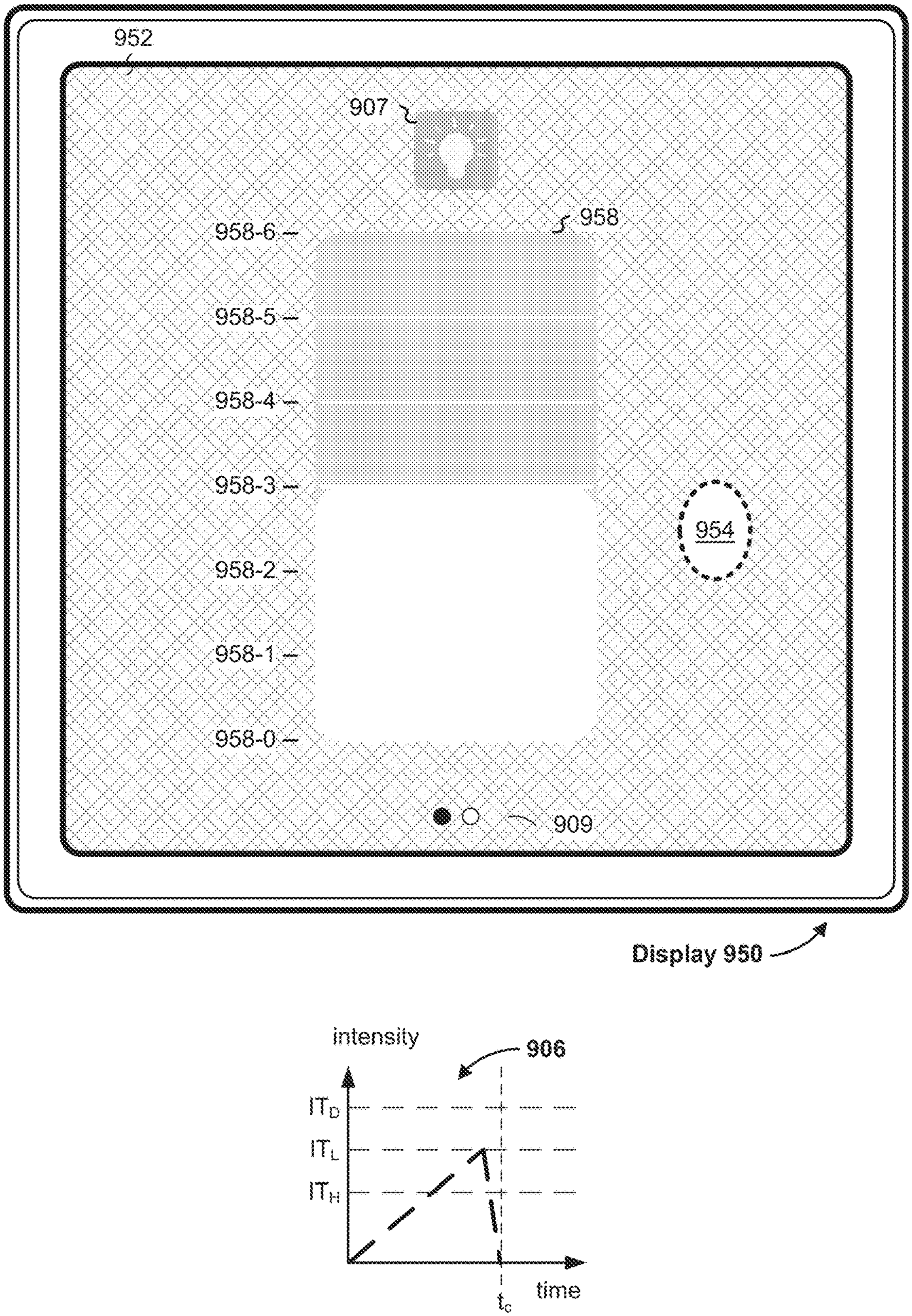

952
907
958
958-6
958-5
958-4
958-3
958-2
958-1
958-0
954
909
924
Display 950

Figure 9C15


903
Living Room
962-1
962-2
962-3
962-4
Temperature
Fan
Shades
Lights
954
Doors
Camera
Smoke Alarm
962-5
962-6
962-7
962-8
Display 950

Figure 9C16



952
907
958
958-6
958-5
958-4
958-3
958-2
958-1
958-0
954
909
Display 950
intensity
906
IT_D
IT_L
IT_H
t_c
time

Figure 9C17

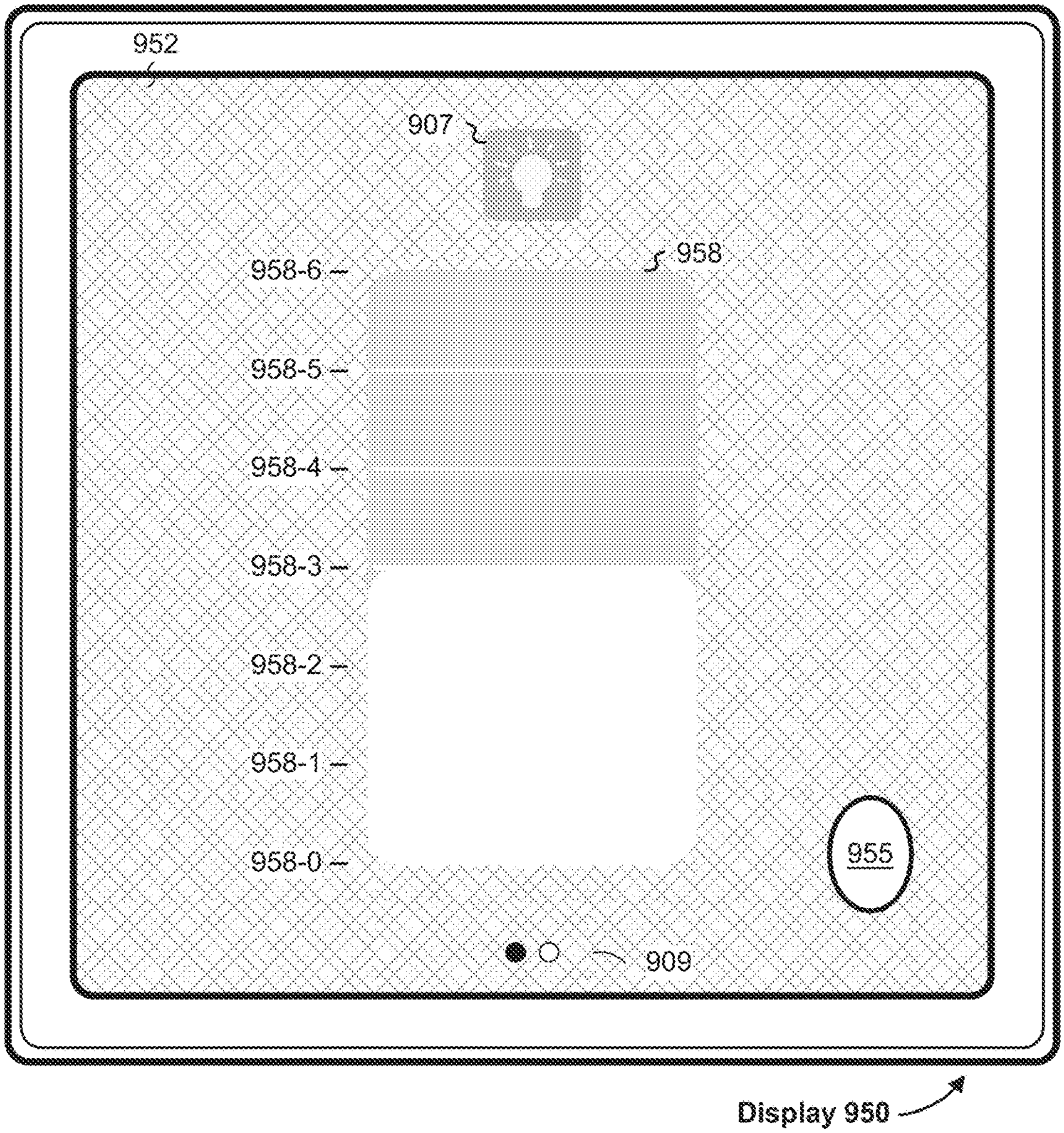

952
907
958
958-6
958-5
958-4
958-3
958-2
958-1
958-0
955
909
Display 950

Figure 9C18

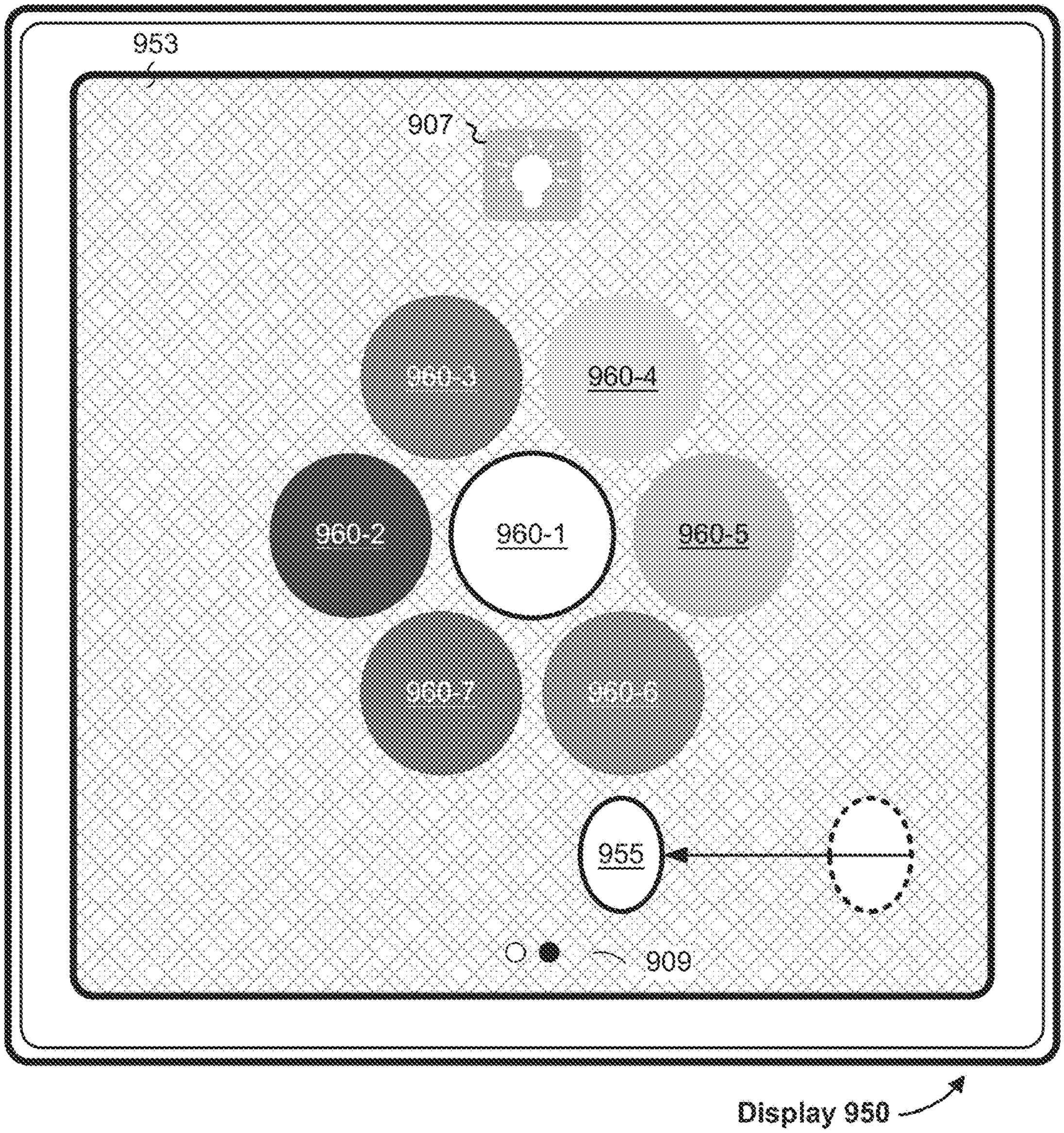

953
907
960-3
960-4
960-2
960-1
960-5
960-7
960-6
955
909
Display 950

Figure 9C19

1000

1002 Concurrently display, on the display: a background user interface; and a first version of a notification associated with a first application, wherein: the first version of the notification has a first size, the first version of the notification includes first content, and the first version of the notification is overlaid on the background user interface

↓

1004 While displaying the first version of the notification associated with the first application overlaid on the background user interface, detect a first portion of a first input that includes detecting a first contact at a location on the touch-sensitive surface that corresponds to the first version of the notification

↓

1006 In response to detecting the first portion of the first input

1008 In accordance with a determination that the first portion of the first input meets application-launching criteria, wherein the application-launching criteria do not require that a characteristic intensity of the first contact on the touch-sensitive surface meet a preview intensity threshold in order for the application-launching criteria to be met, initiate a process to launch the first application, wherein launching the first application includes ceasing to display the background user interface and displaying a user interface associated with the first application

1010 in accordance with a determination that the first portion of the first input meets notification-expansion criteria, wherein the notification-expansion criteria require that the characteristic intensity of the first contact on the touch-sensitive surface meet the preview intensity threshold in order for the notification-expansion criteria to be met, displaying a second version of the notification, wherein: the second version of the notification has a second size larger than the first size, the second version of the notification includes expanded notification content that is not displayed in the first version of the notification, and the second version of the notification is overlaid on the background user interface

1012 Wherein the second version of the notification includes the first content

1014 Wherein the expanded-notification content includes one or more of an image, an audio clip, a video clip, a custom view, and interactive content, that are not included in the first version of the notification

Figure 10A

1016 While displaying the second version of the notification, receive an information update relevant to the notification; and in response to receiving the information update relevant to the notification, update the second version of the notification to reflect the information update relevant to the notification

1018 The second version of the notification includes a content region and an action region, the content region includes the expanded content, and the action region includes one or more selectable options that, when activated, are configured to perform actions with respect to the notification

1020 While displaying the second version of the notification, detect a second portion of the first input; in response to detecting the second portion of the first input: in accordance with a determination that the second portion of the first input meets option-activation criteria, the option-activation criteria configured to be met when the characteristic intensity of the first contact increases above the preview intensity threshold after the characteristic intensity of the first contact decreases below the preview intensity threshold: cease to display the second version of the notification; and perform an action that corresponds to one of the one or more selectable options

1022 While displaying the second version of the notification, detect termination of the first input; and in response to detecting the termination of the first input, maintain display of the second version of the notification overlaid on the background user interface

1024 While displaying the second version of the notification overlaid on the background user interface, detect a second input that includes detecting a second contact on the touch-sensitive surface; and in response to detecting the second input: in accordance with a determination that the second contact is detected at a location on the touch-sensitive surface that corresponds to a portion of the background user interface surrounding the second version of the notification: cease to display the second version of the notification; and maintain display of the background user interface

1026 In response to detecting the second input: in accordance with a determination that the second contact is detected at a location on the touch-sensitive surface that corresponds to a content region in the second version of the notification: cease to display the second version of the notification; cease to display the background user interface; and initiate a process to launch the first application

Figure 10B

1028 In response to detecting the first portion of the first input: in accordance with a determination that the first input meets background-deemphasizing criteria, the background deemphasizing criteria configured to be met when the characteristic intensity of the first contact meets a hint intensity threshold that is lower than the preview intensity threshold, apply a visual effect to deemphasize the background user interface before displaying the second version of the notification

1030 In response to detecting the first portion of the first input: in accordance with a determination that the first portion of the first input includes a movement of the first contact that exceeds a movement threshold: restore the background user interface; and forgo displaying the second version of the notification when the first portion of the first input meets the notification-expansion criteria

1032 In response to detecting the first portion of the first input: in accordance with a determination that the first portion of the first input includes a movement of the first contact that exceeds a movement threshold, scroll the background user interface in accordance with the movement of the first contact

1034 In response to detecting the first portion of the first input: in accordance with a determination that the first portion of the first input includes a movement of the first contact that exceeds a movement threshold: slide the first version of the notification in accordance with the movement of the first contact; and display one or more selectable actions adjacent to the first version of the notification

1036 Prior to displaying the second version of the notification, in response to detecting an increase in the characteristic intensity of the first contact on the touch-sensitive surface, start to adjust an appearance of the user interface dynamically based on the characteristic intensity of the first contact; after starting to dynamically adjust the appearance of the user interface based on the characteristic intensity of the first contact, detect movement of the first contact on the touch-sensitive surface; and in response to detecting the movement of the first contact on the touch-sensitive surface: in accordance with a determination that the movement of the first contact meets preview-cancellation criteria, move the first version of the notification based on the movement of the first contact and cease to dynamically adjust the appearance of the user interface based on the characteristic intensity of the first contact; and in accordance with a determination that the movement does not meet the preview-cancellation criteria, continue to dynamically adjust the appearance of the user interface based on the characteristic intensity of the first contact

Figure 10C

1038 Prior to displaying the second version of the notification, in response to detecting an increase in the characteristic intensity of the first contact on the touch-sensitive surface, obscure content on the display other than a representation of the first version of the notification; after obscuring the content on the display other than a representation of the first version of the notification in response to the increase in the characteristic intensity of the first contact, detect movement of the first contact on the touch-sensitive surface; and in response to detecting movement of the first contact on the touch-sensitive surface: in accordance with a determination that the movement of the first contact meets preview-cancellation criteria, cease to obscure the content on the display other than a representation of the first version of the notification and moving the first version of the notification based on the movement of the first contact; and in accordance with a determination that the movement of the first contact does not meet the preview-cancellation criteria, continue to obscure content on the display other than a representation of the first version of the notification

Figure 10D

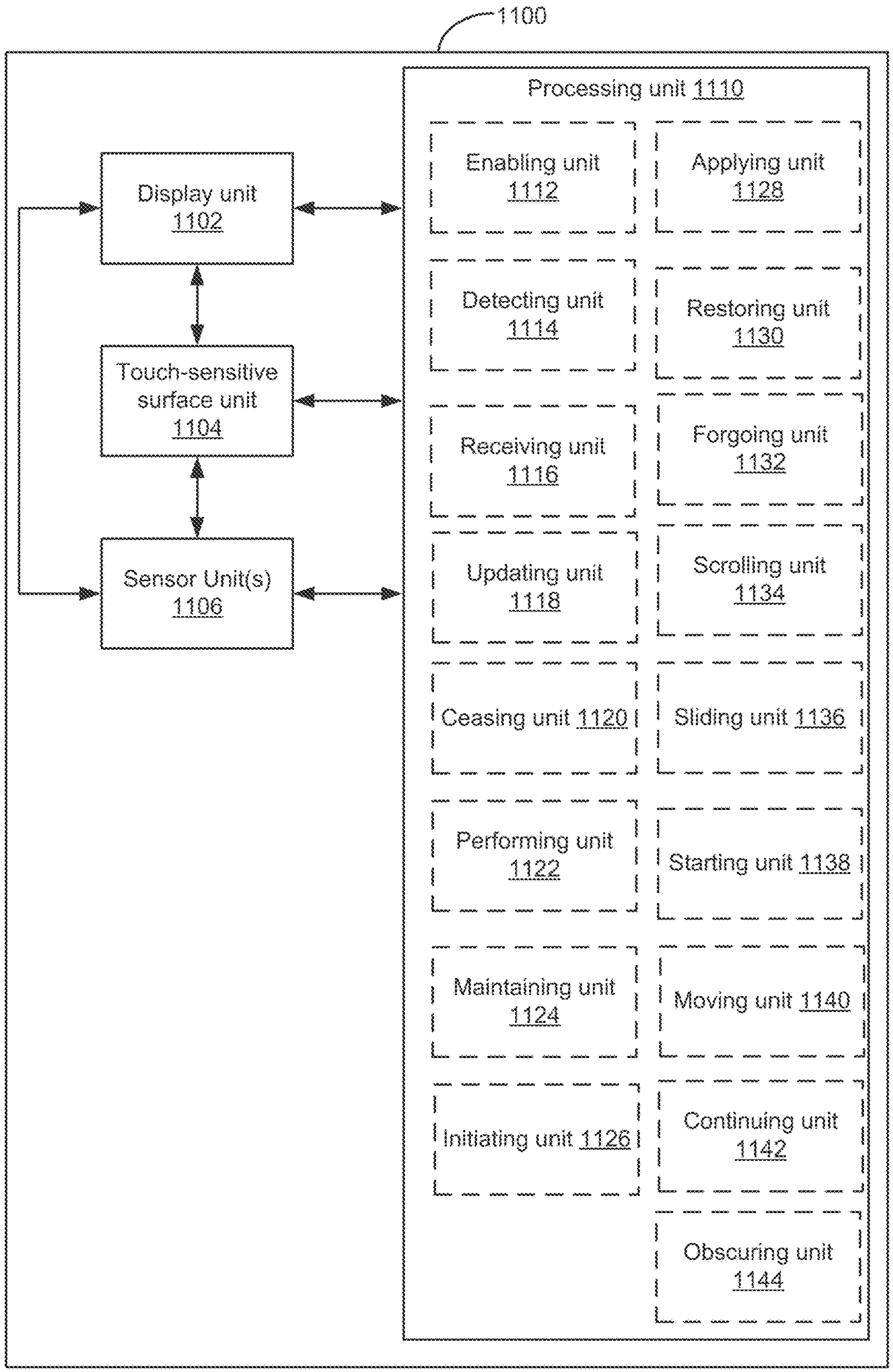

1100
Processing unit 1110
Display unit 1102
Touch-sensitive surface unit 1104
Sensor Unit(s) 1106
Enabling unit 1112
Detecting unit 1114
Receiving unit 1116
Updating unit 1118
Ceasing unit 1120
Performing unit 1122
Maintaining unit 1124
Initiating unit 1126
Applying unit 1128
Restoring unit 1130
Forgoing unit 1132
Scrolling unit 1134
Sliding unit 1136
Starting unit 1138
Moving unit 1140
Continuing unit 1142
Obscuring unit 1144

Figure 11

1200

1202 Display, on a display, a user interface that includes a plurality of application icons that correspond to different applications in a plurality of applications

↓

1204 While displaying the user interface that includes the plurality of application icons, detect a first input that includes detecting a first contact on a touch-sensitive surface at a location on the touch-sensitive surface that corresponds to a first application icon of the plurality of application icons, the first application icon being associated with a first application of the plurality of applications

↓

1206 In response to detecting the first input:

in accordance with a determination that the first input meets application-launching criteria, wherein the application-launching criteria do not require that a characteristic intensity of the first contact on the touch-sensitive surface meet a first intensity threshold in order for the application-launching criteria to be met:

launch the first application; and

replace display of the user interface that includes the plurality of application icons with a user interface of the first application; and,

in accordance with a determination that the first input meets menu-presentation criteria, wherein the menu-presentation criteria require that the characteristic intensity of the first contact on the touch-sensitive surface meet the first intensity threshold in order for the menu-presentation criteria to be met, concurrently displaying a contextual content object and a respective affordance that is associated with the contextual content object, wherein:

the contextual content object includes contextually selected content that has been automatically selected from the first application based on a current context of the electronic device; and

the respective affordance, when activated, is configured to add the contextual content object to a user interface that includes information for multiple applications

1208 The user interface that includes information for multiple applications includes a contextual content object view that is configured to concurrently display respective contextual content objects associated with different applications selected from the plurality of applications

Figure 12A

1210 While displaying the contextual content object, detect a second input that includes detecting a second contact on the touch-sensitive surface at a location on the touch-sensitive surface that corresponds to the contextual content object; and

in response to detecting the second input:

in accordance with a determination that the second input meets the application-launching criteria, wherein the application-launching criteria do not require the characteristic intensity of the second contact to meet the first intensity threshold in order for the application-launching criteria to be met:

launch the first application; and

replace display of the contextual content object with a user interface of the first application

1212 Replacing display of the contextual content object with a user interface of the first application includes:

in accordance with a determination that the second contact is detected at a first location on the touch-sensitive surface that corresponds to a first portion of the contextual content object, displaying a first user interface from the first application; and

in accordance with a determination that the second contact is detected at a second location on the touch-sensitive surface that corresponds to a second portion of the contextual content object, displaying a second user interface from the first application that is distinct from the first user interface from the first application

1214 While displaying the contextual content object, display of a representation of at least a portion of the user interface that includes the plurality of application icons

Figure 12B

1216 In response to detecting the first input: in accordance with the determination that the first input meets the menu-presentation criteria, display one or more selectable options concurrently with the contextual content object, wherein the one or more selectable options, when activated, are configured to perform respective functions associated with the first application

1218 Detect termination of the first input that includes detecting liftoff of the first contact; in response to detecting the termination of the first input, maintain concurrent display of the contextual content object and the one or more selectable options; while the concurrent display of the contextual content object and the one or more selectable options is maintained, detect a selection input that selects a first option of the one or more selectable options; and in response to detecting the selection input, start to perform a first function of the first application that corresponds to the selected first option

1220 While concurrently displaying the contextual content object and the one or more selectable options, detect movement of the first contact to a location on the touch-sensitive surface that corresponds to a second option of the one or more selectable options; and in response to detecting the movement of the first contact to the location on the touch-sensitive surface that corresponds to the second option of the one or more selectable options, in accordance with a determination that the first input meets selection criteria, start to perform a second function of the first application that corresponds to the selected second option

1222 Provide a first haptic signal when the first contact moves past each selectable option of the one or more selectable options

1224 The contextual content object is a first mini-application object that corresponds to the first application

Figure 12C

1226 While concurrently displaying the contextual content object and the respective affordance, detect an input activating the respective affordance; and
in response to detecting the input activating the respective affordance, add the contextual content object to the user interface that includes information for multiple applications

1228 In response to adding the contextual content object to the user interface that includes information for a plurality of applications, cease to concurrently display the respective affordance with the contextual content object

1230 After adding the contextual content object to the user interface that includes information for a plurality of applications, while displaying the user interface that includes the plurality of application icons, detect a navigation input for navigating to the user interface that includes information for a plurality of applications;

in response to detecting the navigation input, replace display of the user interface that includes the plurality of application icons with the user interface that includes information for a plurality of applications, wherein the user interface that includes information for a plurality of applications includes the contextual content object associated with the first application;

while displaying the user interface that includes information for a plurality of applications including the contextual content object associated with the first application, detect a third input that includes detecting a third contact on the touch-sensitive surface at a location that corresponds to the contextual content object in the user interface that includes information for a plurality of applications; and

in response to detecting the third input:

in accordance with a determination that the third input meets content expansion criteria, wherein the content expansion criteria require that a characteristic intensity of the third contact on the touch-sensitive surface meet the first intensity threshold, expand the contextual content object to display the contextually selected content and additional content

A

Figure 12D

1226

1230

A

1232 Expanding the contextual content object to display the contextually selected content and the additional content includes:

in accordance with a determination that the third contact is detected at a third location on the touch-sensitive surface that corresponds to a third portion of the contextual content object, displaying first additional content with the contextually selected content; and

in accordance with a determination that the third contact is detected at a fourth location on the touch-sensitive surface that corresponds to a fourth portion of the contextual content object, displaying second additional content that is distinct from the first additional content

1234 The contextual content object includes a first content item of a first content item type, and wherein the first additional content includes additional content items of the first content item type

1236 The contextual content object includes a first content item, and wherein the second additional content includes additional information associated with the first content item

B

1238 Detect termination of the third input that includes detecting liftoff of the third contact; in response to detecting the termination of the third input, maintain display of the contextually selected content and the additional content

B

1240 Detect termination of the third input that includes detecting liftoff of the third contact; in response to detecting the termination of the third input: maintain display of the contextually selected content; and cease to display the additional content

Figure 12E

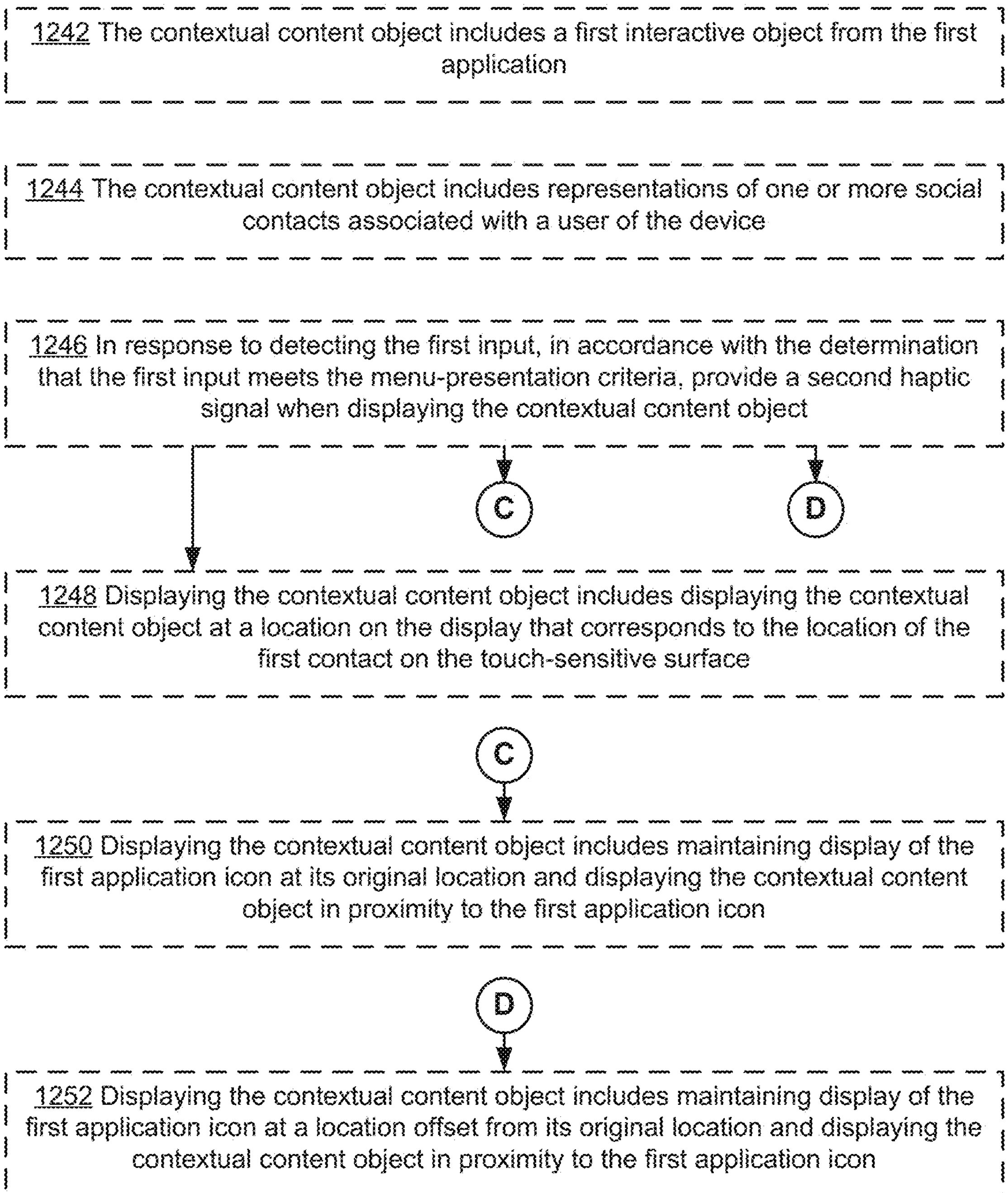

1242 The contextual content object includes a first interactive object from the first application
1244 The contextual content object includes representations of one or more social contacts associated with a user of the device
1246 In response to detecting the first input, in accordance with the determination that the first input meets the menu-presentation criteria, provide a second haptic signal when displaying the contextual content object
C
D
1248 Displaying the contextual content object includes displaying the contextual content object at a location on the display that corresponds to the location of the first contact on the touch-sensitive surface
C
1250 Displaying the contextual content object includes maintaining display of the first application icon at its original location and displaying the contextual content object in proximity to the first application icon
D
1252 Displaying the contextual content object includes maintaining display of the first application icon at a location offset from its original location and displaying the contextual content object in proximity to the first application icon

Figure 12F

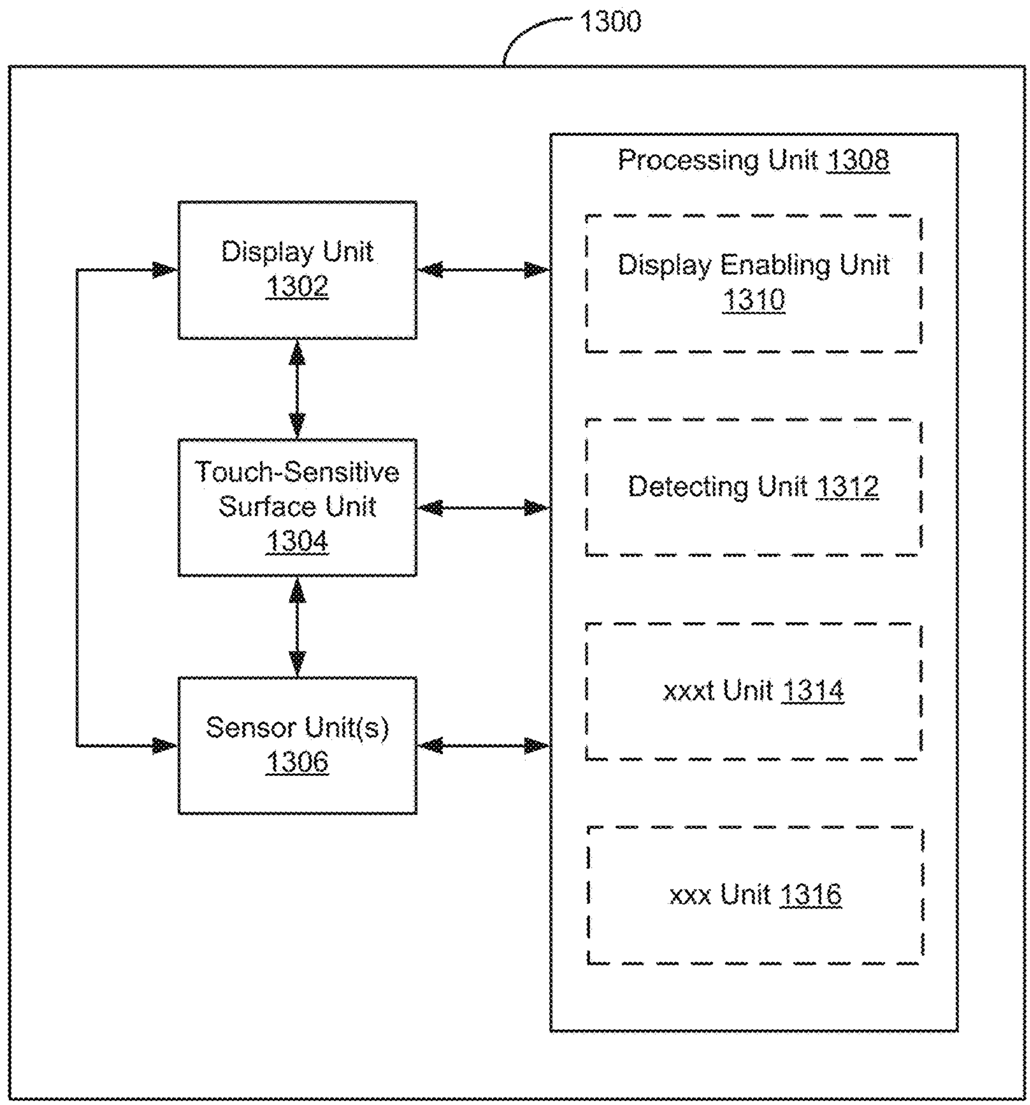

1300
Processing Unit 1308
Display Unit
1302
Display Enabling Unit
1310
Touch-Sensitive
Surface Unit
1304
Detecting Unit 1312
xxxt Unit 1314
Sensor Unit(s)
1306
xxx Unit 1316

Figure 13

1400

1402 Display, on the display, a user interface that includes a plurality of user interface objects that correspond to different applications in a plurality of applications, wherein the plurality of user interface objects include a first user interface object that corresponds a first application that is in a process of being downloaded

↓

1404 While displaying the user interface that includes the plurality of user interface objects, detect a first input that includes detecting a first contact at a location on the touch-sensitive surface that corresponds to the first user interface object

↓

1406 In response to detecting the first input:
in accordance with a determination that the first user interface object corresponds to an application that has not been fully downloaded and that the first input meets menu-presentation criteria, wherein the menu-presentation criteria require that a characteristic intensity of a contact in a detected input meet a first intensity threshold in order for the menu-presentation criteria to be met, display one or more first selectable options that, when activated, are configured to perform actions with respect to downloading of the first application

1408 In response to detecting the first input:
in accordance with a determination that the first user interface object corresponds to an application that has been installed on the device and that the first input meets the menu-presentation criteria, display one or more second selectable options that, when activated, are configured to perform application-specific actions

1410 In accordance with a determination that the first user interface object corresponds to an application that has not been fully downloaded and that the first input meets action-performing criteria, wherein the action-performing criteria do not require that a characteristic intensity of a contact in the detected input on the touch-sensitive surface meet the first intensity threshold in order for the action-performing criteria to be met, perform a first action with respect to the downloading of the first application

1412 In accordance with a determination that the first user interface object corresponds to an application that has been installed on the device and that first input meets action-performing criteria, wherein the action-performing criteria do not require that a characteristic intensity of a contact in the detected input (e.g., the first input) meet the first intensity threshold in order for the action-performing criteria to be met, launch the first application

Figure 14A

1414 The one or more first selectable options include an option that, when activated, is configured to prioritize the downloading of the first application versus one or more other applications that are in processes of being downloaded

1416 The one or more first selectable options include an option that, when activated, is configured to pause the downloading of the first application

1418 The one or more first selectable options include an option that, when activated, is configured to cancel the downloading of the first application

1420 The one or more first selectable options include an option that, when activated, is configured to resume the downloading of the first application

1422 In accordance with the determination that the first input meets the menu-presentation criteria, display a second selectable option that, when activated, is configured to display a menu of sharing options for sharing the first application

1424 Dynamically blur the user interface in accordance with a current intensity of the first contact, wherein displaying one or more first selectable options for performing actions with respect to downloading of the first application includes displaying a menu that includes the one or more first selectable options over a blurred version of the user interface

1426 The plurality of user interface objects include a second user interface object that corresponds a second application that is in a process of being downloaded; and wherein while displaying the user interface that includes the plurality of user interface objects and before the downloading of the second application is completed, detect a second input that includes detecting a second contact at a location on the touch-sensitive surface that corresponds to the second user interface object; and in response to detecting the second input:
in accordance with a determination that the second input meets the menu-presentation criteria, display the one or more first selectable options

Figure 14B

1428 While displaying the user interface that includes the plurality of user interface objects and after the downloading of the first application is completed, detect a third input that includes detecting a third contact at a location on the touch-sensitive surface that corresponds to the first user interface object; and
in response to detecting the third input:
in accordance with a determination that the third input meets the menu-presentation criteria, display one or more third selectable options that, when activated, are configured to perform application-specific actions associated with the first application

1430 In response to detecting the third input:
In accordance with a determination that the third input meets application-launching criteria, wherein the application-launching criteria do not require that a characteristic intensity of a contact in a detected input meet the first intensity threshold in order for the application-launching criteria to be met: launch the first application; and replace the user interface that includes the plurality of user interface objects with a user interface of the first application

Figure 14C

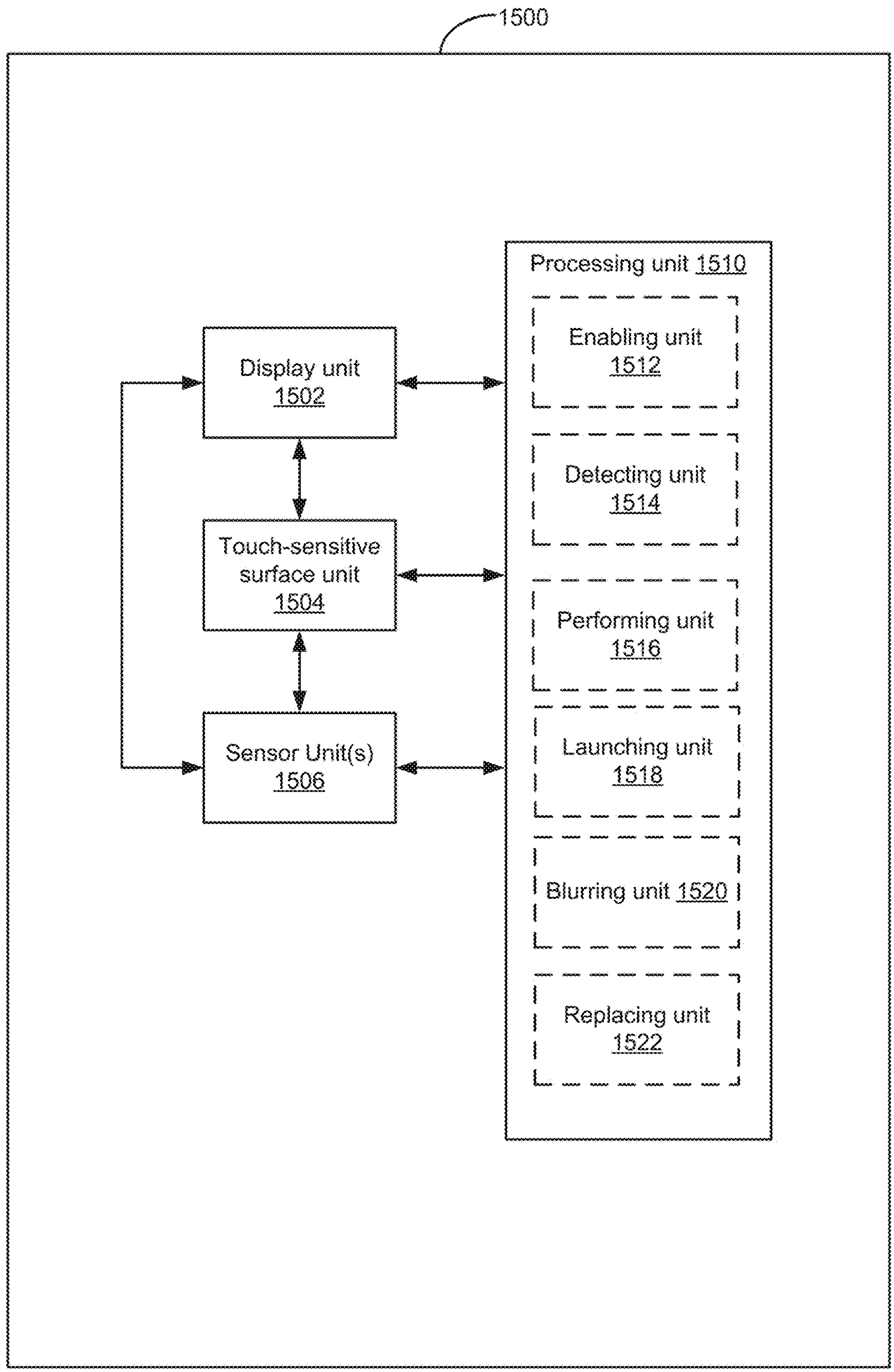

1500
Display unit 1502
Touch-sensitive surface unit 1504
Sensor Unit(s) 1506
Processing unit 1510
Enabling unit 1512
Detecting unit 1514
Performing unit 1516
Launching unit 1518
Blurring unit 1520
Replacing unit 1522

Figure 15

1600

1602 Display a user interface on the display, wherein: the user interface includes a folder icon that corresponds to an application folder containing a plurality of application icons, the plurality of application icons correspond to different applications in a plurality of applications, and the plurality of applications include one or more applications that have one or more unread notifications

1604 While displaying the user interface that includes the folder icon, detect a first input that includes detecting a first contact at a location on the touch-sensitive surface that corresponds to the folder icon

1606 In accordance with a determination that the first input meets menu-presentation criteria, wherein the menu-presentation criteria require that a characteristic intensity of a contact in a detected input meet a first intensity threshold in order for the menu-presentation criteria to be met, display one or more selectable options that, when activated, are configured to launch corresponding applications from the plurality of applications in the application folder that have unread notifications

1608 The plurality of applications in the application folder include a first application with one or more unread notifications and a second application with one or more unread notifications; and the one or more selectable options include a first selectable option for launching the first application and a second selectable option for launching the second application

1610 The one or more selectable options are displayed within a menu that is limited to containing no more than a predetermined number of selectable options for launching applications; and displaying one or more selectable options includes:

in accordance with a determination that a first number of applications that correspond to application icons in the folder, less than the predetermined number, have unread notifications, displaying the first number of selectable options corresponding to the first number of applications in the menu; and

in accordance with a determination that a second number of applications that correspond to application icons in the folder, greater than the predetermined number, have unread notifications, displaying, in the menu, the predetermined number of selectable options corresponding to less than all of the second number of applications

1612 Displaying, in the menu, the predetermined number of selectable options corresponding to less than all of the second number of applications includes selecting applications to represent with selectable options in the menu so that applications with more recently received notifications are prioritized over applications with less recently received notifications

Figure 16A

1614 Displaying the one or more selectable options includes:
when ordering the one or more selectable options for display, prioritizing the selectable options for applications with a first type of unread notifications over the selectable options for applications with a second type of unread notifications

1616 Displaying the one or more selectable options includes:
when ordering the one or more selectable options for display, prioritizing an application with a greater number of unread notifications over an application with a smaller number of unread notifications

1618 Display, concurrently with the application folder, an indicator specifying an aggregated number of unread notifications for the one or more applications in the application folder with unread notifications

1620 Displaying the one or more selectable options includes concurrently displaying: a first selectable option for a first application in the application folder along with an indication of a number of unread notifications for the first application; and a second selectable option for a second application in the application folder along with an indication of a number unread notifications for the second application

1622 While displaying the first selectable option for the first application and the second selectable option for the second application, receive a new notification for the first application; and in response to receiving the new notification, update the indication of the number unread notifications for the first application

1624 The plurality of applications include an application that does not have any unread notifications, and in response to detecting the first input:
in accordance with a determination that the first input meets the menu-presentation criteria, forgo displaying, concurrently with the one or more selectable options for launching corresponding applications that have unread notifications, a selectable option that, when activated, is configured to launch the application that does not have any unread notifications

Figure 16B

1626 in response to detecting the first input:
in accordance with a determination that the first input meets the menu-presentation criteria, display a selectable option that, when activated, is configured to enable renaming of the application folder

1628 While displaying the selectable option for renaming the application folder, detect a second input selecting the selectable option for renaming the application folder; and in response to detecting the second input:
display the application folder containing the plurality of application icons.; and display a folder name of the application folder in an editable state

1630 In response to detecting the second input, display an onscreen keyboard concurrently with the folder name of the application folder, wherein an input received through the onscreen keyboard edits the folder name that is displayed in the editable state

1632 In response to detecting the second input, display an onscreen keyboard concurrently with the folder name of the application folder, wherein an input received through the onscreen keyboard edits the folder name that is displayed in the editable state

1634 While displaying the onscreen keyboard and while displaying the plurality of application icons in the reconfiguration mode, detect a third input through the onscreen keyboard; and in response to detecting the third input: edit the folder name in accordance with the third input; and
continue to display the plurality of application icons in the reconfiguration mode

1636 While displaying the onscreen keyboard and while displaying the plurality of application icons in the reconfiguration mode, detect a fourth input selecting one of the plurality of application icons; and in response to detecting the fourth input: cease to display the folder name in the editable state; cease to display the onscreen keyboard; and continue to present the plurality of application icons in the reconfiguration mode

1638 In accordance with a determination that the first input meets folder-content-display criteria, wherein the folder-content-display criteria do not require that a characteristic intensity of a contact associated with the detected input meet the first intensity threshold in order for the folder-content-display criteria to be met, display the application folder containing the plurality of application icons

Figure 16C

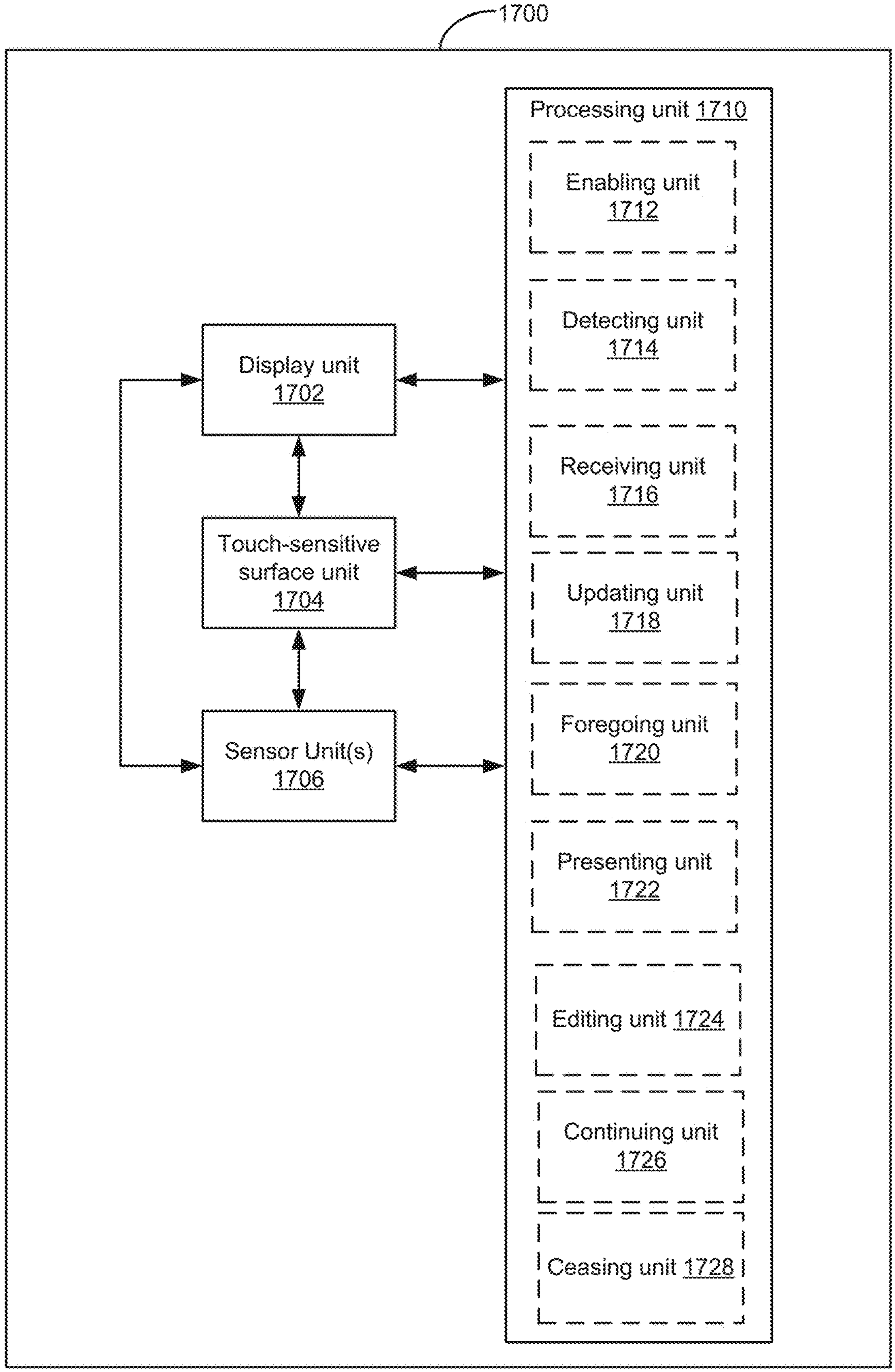

1700
Processing unit 1710
Enabling unit 1712
Detecting unit 1714
Receiving unit 1716
Updating unit 1718
Foregoing unit 1720
Presenting unit 1722
Editing unit 1724
Continuing unit 1726
Ceasing unit 1728
Display unit 1702
Touch-sensitive surface unit 1704
Sensor Unit(s) 1706

Figure 17

1800

1802
Display a control user interface that includes a plurality of control affordances.

1804
Detect a first input by a contact at a location on a touch-sensitive surface that corresponds to a first control affordance, of the plurality of control affordances, on the display

1806
In response to detecting the first input: in accordance with a determination that the first input meets control toggle criteria, wherein the control toggle criteria do not require that a characteristic intensity of the contact meet a first intensity threshold in order for the control toggle criteria to be met, toggle a function of a control that corresponds to the first control affordance; and in accordance with a determination that the first input meets enhanced control criteria, wherein the enhanced control criteria require that the characteristic intensity of the contact meet the first intensity threshold in order for the enhanced control criteria to be met, display one or more modification options for the control that correspond to the first control affordance

1808
While displaying the one or more modification options for the control that correspond to the first control affordance, detect a second input that activates a first modification option of the one or more modification options

1810
Modify the control that corresponds to the first control affordance in accordance with the activated first modification option

1812
The second input that activates the first modification option also toggles the function of the control that corresponds to the first control affordance.

Figure 18A

1800

1814
Modifying the control that corresponds to the first control affordance in accordance with the activated first modification option includes: in accordance with a determination that the function is on when the second input is detected, modifying the function in accordance with the first modification option; and in accordance with a determination that the function is off when the second input is detected, turning the function on with modification in accordance with the first modification option.

1816
The modification option modifies a mode of the control that corresponds to the first control affordance

1818
Modifying the control that corresponds to the first control affordance in accordance with the activated first modification option includes setting reversion criteria for the control; and, in accordance with a determination that the reversion criteria are met, revert the control that corresponds to the first control affordance to a prior state of the control

1820
In accordance with a determination that the characteristic intensity of the contact meets the enhanced control criteria, determine a state of the control that corresponds to the first control affordance

↓

1822
In accordance with a determination that the state of the control that corresponds to the first control affordance is a first state, display a first set of modification options for the control that corresponds to the first control affordance

↓

1824
in accordance with a determination that the state of the control that corresponds to the first control affordance is a second state, display a second set of modification options for the control that corresponds to the first control affordance that are distinct from the first set of modification options.

Figure 18B

1800

1826
In accordance with a determination that the characteristic intensity of the contact in the first input meets the enhanced control criteria, concurrently display a current value of a parameter of the control with the one or more modification options for the control that corresponds to the first control affordance.

1828
The first control affordance is a first application affordance that corresponds to a first application

1830
A second application affordance that corresponds to the first application is displayed in a second user interface that is distinct from the control user interface

1832
One or more action options for the first application are displayed in response to an input at a location on the touch-sensitive surface that corresponds to the second application affordance when display-action-options criteria are met

1834
The one or more modification options for the control that corresponds to the first control affordance include at least a subset of the action options for the first application

1836
The one or more modification options for the control that corresponds to the first control affordance include at least one network connection activation option

1838
The control user interface partially overlays a portion of a second user interface that is distinct from the control user interface

Figure 18C

1800

1840
The control user interface includes a plurality of controls, wherein a respective control of the plurality of control corresponds to a system setting

Figure 18D

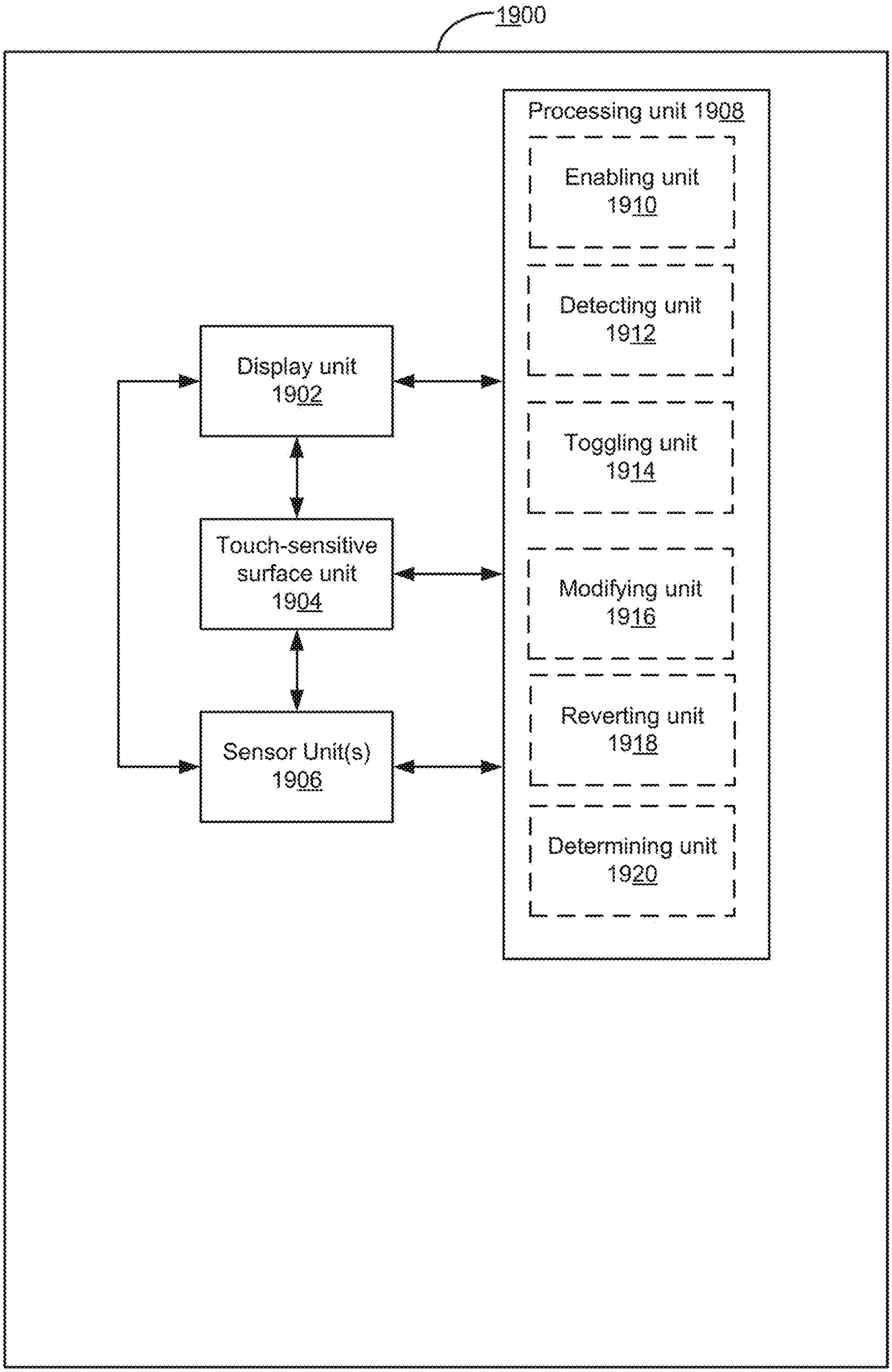

1900
Processing unit 1908
Enabling unit 1910
Detecting unit 1912
Toggling unit 1914
Modifying unit 1916
Reverting unit 1918
Determining unit 1920
Display unit 1902
Touch-sensitive surface unit 1904
Sensor Unit(s) 1906

Figure 19

2000

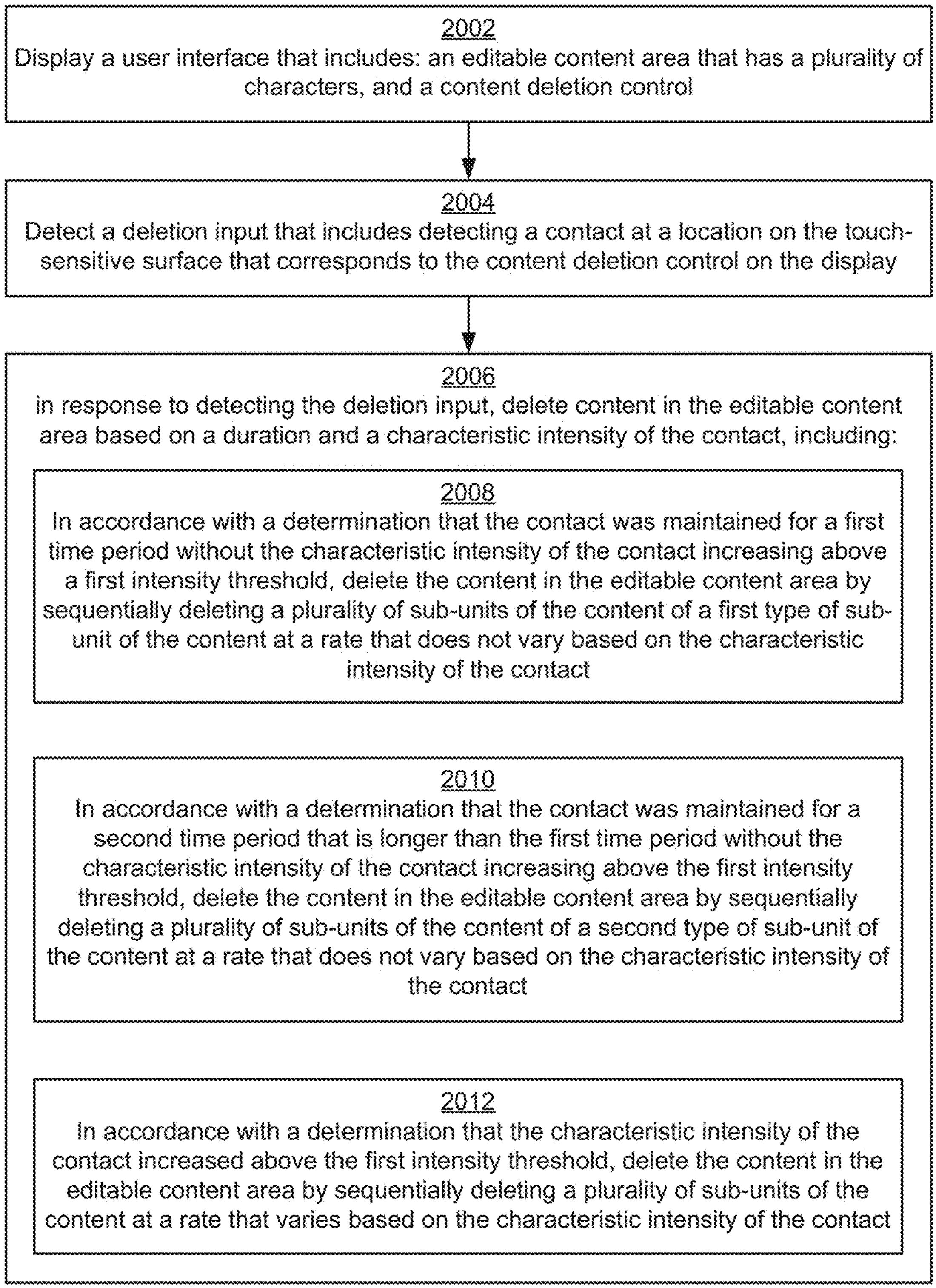


Figure 20A

2000

2014
Deleting the content in the editable content area by sequentially deleting the plurality of sub-units of the content at the rate that varies based on the characteristic intensity of the contact includes, in accordance with a determination that the characteristic intensity increases above the first intensity threshold after the contact has been maintained on the touch-sensitive surface for the first time period, increasing the rate of deletion of the first type of sub-unit of the content in the editable content area as the intensity of the contact increases

2016
Deleting the content characters in the editable content area by sequentially deleting the plurality of sub-units of the content at the rate that varies based on the characteristic intensity of the contact includes, in accordance with a determination that the characteristic intensity of the contact increases above the first intensity threshold after the contact has been maintained on the touch-sensitive surface for the first time period, continuing to delete the first type of sub-unit of the content in the editable content area after the contact has been maintained on the touch-sensitive surface for the second time period instead of switching to deleting the second type of sub-unit of the content

2018
Deleting the content in the editable content area by sequentially deleting the plurality of sub-units of the content at the rate that varies based on the characteristic intensity of the contact includes, in accordance with a determination that the characteristic intensity first increases above the first intensity threshold after the contact has been maintained on the touch-sensitive surface for the second time period, increasing the rate of deletion of the second type of sub-unit of the content in the editable content as the intensity of the contact increases

2020
Deleting the content in the editable content area by sequentially deleting the plurality of sub-units of the content at the rate that varies based on the characteristic intensity of the contact includes, in accordance with a determination that the characteristic intensity increases above the first intensity threshold after the contact has been maintained on the touch-sensitive surface for the first time period and before the contact has been maintained on the touch-sensitive surface for the second time period, starting to sequentially delete the plurality of sub-units of the content of the second type of sub-unit of the content in the editable content area before the contact has been maintained on the touch-sensitive surface for the second time period

Figure 20B

2000

2022
Starting to sequentially delete the plurality of sub-units of the content of the second type of sub-unit of the content in the editable content area before the contact has been maintained on the touch-sensitive surface for the second time period includes increasing the rate of sequential deletion of the second type of sub-unit of the content in the editable content as the intensity of the contact increases

2024
After starting to sequentially delete the plurality of sub-units of the content of the second type of sub-unit of the content in the editable content area before the contact has been maintained on the touch-sensitive surface for the second time period: detect a decrease in the intensity of the contact below the first intensity threshold; and after detecting the decrease in the intensity of the contact below the first intensity threshold and while the contact continues to be detected on the touch-sensitive surface, continue to sequentially delete the plurality of the sub-units of content of the second type of sub-unit of the content in the editable content area before the contact has been maintained on the touch-sensitive surface for the second time period

2026
In accordance with a determination that liftoff of the contact was detected before the contact was maintained on the touch-sensitive surface for more than a tap time threshold, a single character is deleted from the content

Figure 20C

2000

2028
The user interface includes a content insertion indicator that is displayed within the editable content area; and deleting the content in the editable content area includes deleting the plurality of sub-units of the content from a location in the editable content area that corresponds to the content insertion indicator

2030
Detect a repositioning input that includes detecting a second contact at a second location on the touch-sensitive surface, wherein the second location on the touch-sensitive surface is distinct from the location that corresponds to the content deletion control

2032
In accordance with a determination that a characteristic intensity of the second contact increased above the first intensity threshold, activate a content insertion indicator repositioning mode

2034
While the content insertion indicator repositioning mode is active: display indicia that correspond to the content insertion indicator repositioning mode; detecting movement of the second contact from the second location on the touch-sensitive surface to a third location on the touch-sensitive surface; and move the content insertion indicator in accordance with the movement of the second contact

2036
Detect liftoff of the second contact from the touch-sensitive surface

2038
In response to detecting the liftoff of the second contact from the touch-sensitive surface, display the content insertion indicator at a location corresponding to the location of the second contact when liftoff of the second content from the touch-sensitive surface occurred

Figure 20D1

2000

2040
The electronic device includes one or more tactile output generators

2042
Output, with the one or more tactile output generators, a plurality of tactile outputs, wherein a respective tactile output in the plurality of tactile outputs is triggered based on deletion of a respective sub-unit of the plurality of sub-units of the content

2044
A tactile output profile of a respective tactile output in the plurality of tactile outputs varies based on the characteristic intensity of the contact

2046
The user interface includes a content input area that includes a plurality of keys that are distinct from the content deletion control; and
one or more keys of the plurality of keys that are distinct from the content deletion control do not trigger a tactile output when activated.

2048
Detect a menu-display input at a location on the touch-sensitive surface that corresponds to a content input area

2050
In response to detecting the menu-display input, display a menu that includes one or more menu items in the user interface

2052
Detect a selection input at a location on the touch-sensitive surface that corresponds to the menu

2054
In accordance with a determination that the selection input moves to a location that corresponds to a respective menu item of the one or more menu items, output, with the one or more tactile output generators, a tactile output.

Figure 20D2

2000

2040
The electronic device includes one or more tactile output generators

2056
The user interface includes a content input area that includes a plurality of keys that are distinct from the content deletion control; and:

2058
Detect a first input at a first location that corresponds to a first key of the content input area, wherein the first input is detected at a first time

2060
Detect a second input at a second location that corresponds to a second key of the content input area, wherein the second input is detected at a second time that is later than the first time

2062
In response to detecting the second input, output a tactile output, with the one or more tactile output generators, wherein a tactile output profile of the tactile output triggered by the second input varies based on a length of time between the first time and the second time

Figure 20E

2000

2064
The electronic device includes one or more audio output generators

2066
The user interface includes a content input area that includes a plurality of keys that are distinct from the content deletion control; and:

2068
Detect a first input at a first location that corresponds to a first key of the content input area, wherein the first input is detected at a first time

2070
Detect a second input at a second location that corresponds to a second key of the content input area, wherein the second input is detected at a second time that is later than the first time

2072
In response to detecting the second input, output an output, with the one or more audio output generators, wherein an audio output profile of the audio output triggered by the second input varies based on a length of time between the first time and the second time

Figure 20F

2000

2064
The electronic device includes one or more audio output generators

2074
The user interface includes a content input area that includes a plurality of keys that are distinct from the content deletion control; and:

2076
In response to detecting the deletion input, output a first audio output that has a first audio output profile

2078
Detect a first input at a first location that corresponds to a first key of the plurality of keys that are distinct from the content deletion control

2080
In accordance with a determination that the first key has a first key type, output a second audio output that has a second audio output profile, distinct from the first audio output profile

2082
In accordance with a determination that the first key has a second key type, output a third audio output that has a third audio output profile that is distinct from the first audio output profile and the second audio output profile

Figure 20G

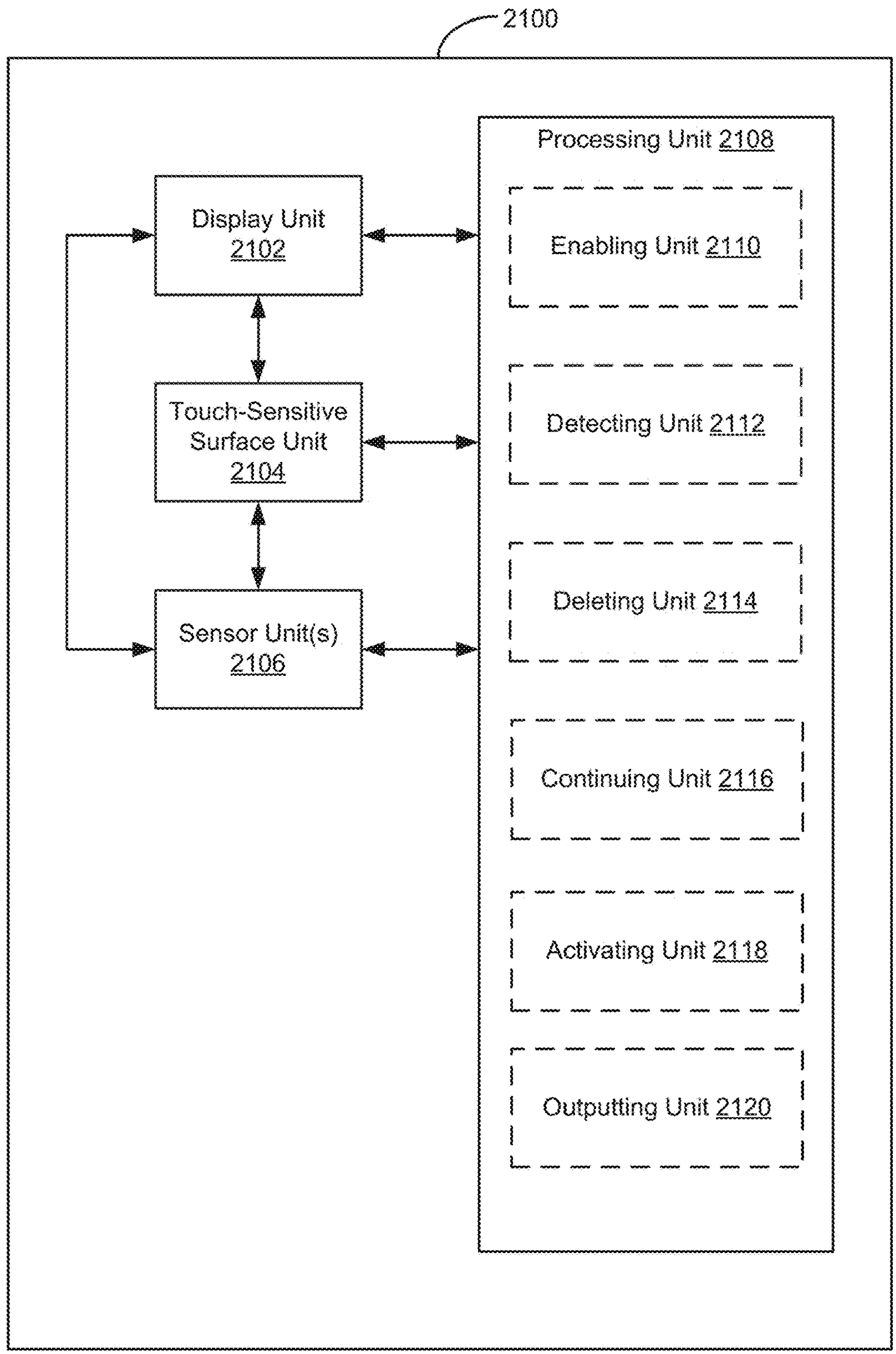

2100
Processing Unit 2108
Display Unit 2102
Enabling Unit 2110
Touch-Sensitive Surface Unit 2104
Detecting Unit 2112
Deleting Unit 2114
Sensor Unit(s) 2106
Continuing Unit 2116
Activating Unit 2118
Outputting Unit 2120

Figure 21

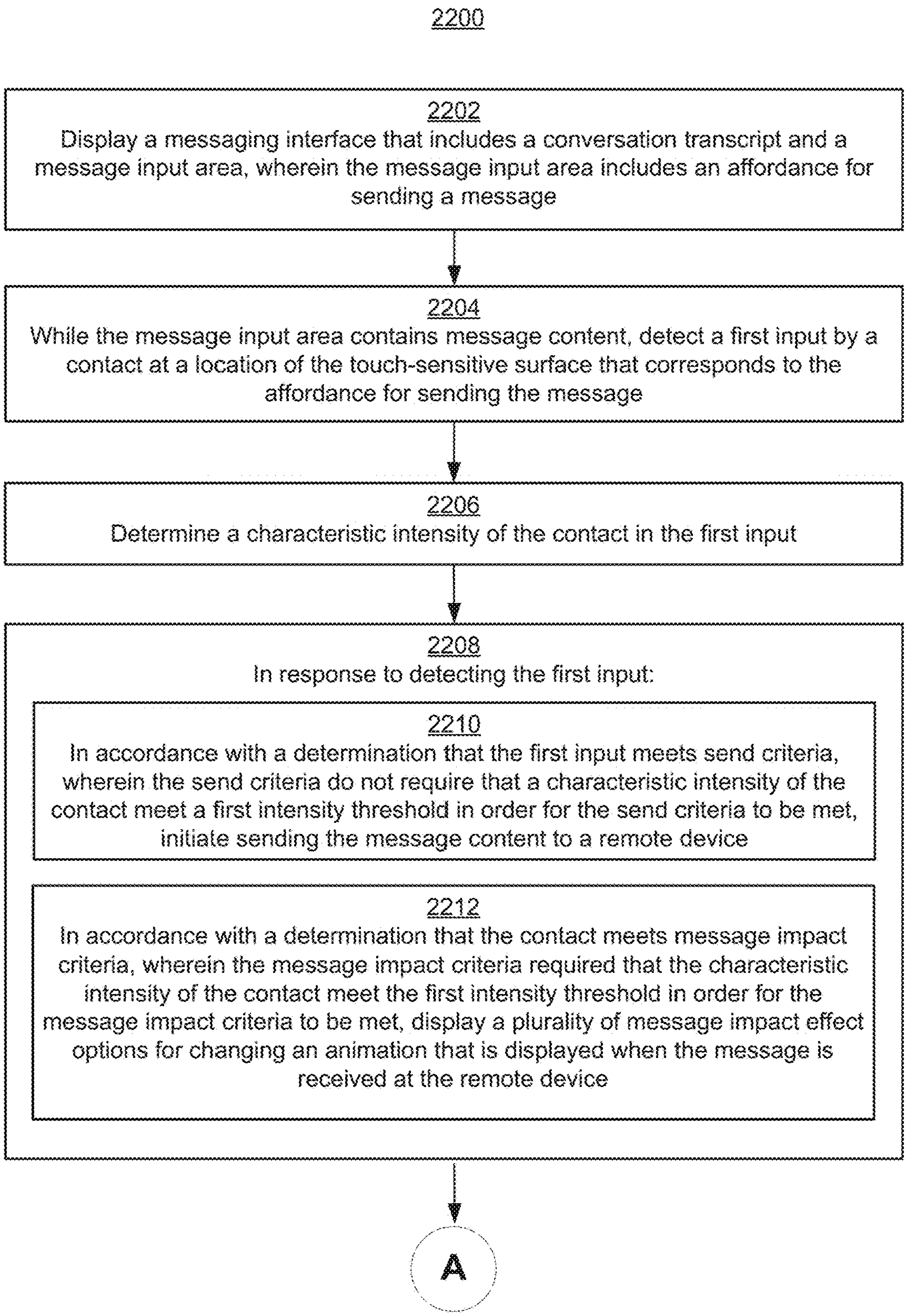

2200
2202
Display a messaging interface that includes a conversation transcript and a message input area, wherein the message input area includes an affordance for sending a message
2204
While the message input area contains message content, detect a first input by a contact at a location of the touch-sensitive surface that corresponds to the affordance for sending the message
2206
Determine a characteristic intensity of the contact in the first input
2208
In response to detecting the first input:
2210
In accordance with a determination that the first input meets send criteria, wherein the send criteria do not require that a characteristic intensity of the contact meet a first intensity threshold in order for the send criteria to be met, initiate sending the message content to a remote device
2212
In accordance with a determination that the contact meets message impact criteria, wherein the message impact criteria required that the characteristic intensity of the contact meet the first intensity threshold in order for the message impact criteria to be met, display a plurality of message impact effect options for changing an animation that is displayed when the message is received at the remote device
A

Figure 22A

2200

A

2214
While displaying the plurality of message impact effect options, detect a second input by a contact to send the message content with a selected message impact effect option of the plurality of impact effect options

2216
In response to detecting the second input, in accordance with a determination that the second input was received at a location on the touch-sensitive surface that corresponds to a first message impact effect option of the plurality of impact effect options, initiate sending, to the remote device, the message content with the first message impact effect option

2218
In accordance with a determination that the second input is detected at a location on the touch-sensitive surface that corresponds to a second message impact effect option of the plurality of message impact effect options, initiate sending, to the remote device, the message content with the second message impact effect option

2220
The contact in the first input and the contact in the second input are the same contact, and the contact is continuously detected on the touch-sensitive surface between the time that the first input is detected and the time that the second input is detected

Figure 22B

2200

2222
Detect an option preview input that moves across the touch-sensitive surface along locations that correspond to the plurality of impact effect options

↓

2224
in response to detecting the option preview input: in accordance with a determination that the option preview input has moved to a first location on the touch-sensitive surface that corresponds to the first message impact effect option of the plurality of impact effect options, display a first preview of the message content with the first message impact effect option; and in accordance with a determination that the option preview input has moved to a second location on the touch-sensitive surface that corresponds to a second message impact effect option of the plurality of impact effect options, display a second preview of the message content with the second message impact effect option

2226
in response to detecting the option preview input: in accordance with a determination that the option preview input has moved to the first location on the touch-sensitive surface that corresponds to the first message impact effect option of the plurality of impact effect options, outputting, with one or more tactile output generators of the electronic device, a first tactile output; and in accordance with a determination that the option preview input has moved to the second location on the touch-sensitive surface that corresponds to a second message impact effect option of the plurality of impact effect options, outputting, with the one or more tactile output generators of the electronic device, a second tactile output

2228
The first tactile output has a first tactile output profile, and the second tactile output has a second tactile output profile that is the same as the first tactile output profile.

2230
The first tactile output has a first tactile output profile that corresponds to the first message impact effect option, and the second tactile output has a second tactile output profile, distinct from the first tactile output profile, that corresponds to the second message impact effect option

2232
A characteristic intensity of the contact in the second input satisfies a second intensity threshold

Figure 22C

2200

2234
In response to detecting the second input, in accordance with the determination that the second input was received at a location on the touch-sensitive surface that corresponds to the first message impact effect option, output, with one or more tactile output generators of the electronic device, at least one tactile output that corresponds to sending the message content with the first message impact effect option

2236
Second message impact criteria include a criterion that is met when a duration of the contact with the touch-sensitive surface satisfies a first time threshold; the second input is a lift off of the contact; and, in response to detecting the first input, in accordance with a determination that the contact meets the second message impact criteria, display the plurality of message impact effect options

2238
Second message impact criteria include a criterion that is met when a duration of the contact with the touch-sensitive surface satisfies a first time threshold; and the second input is a tap gesture; and, in response to detecting the first input, in accordance with a determination that the contact meets the second message impact criteria, display the plurality of message impact effect options

Figure 22D

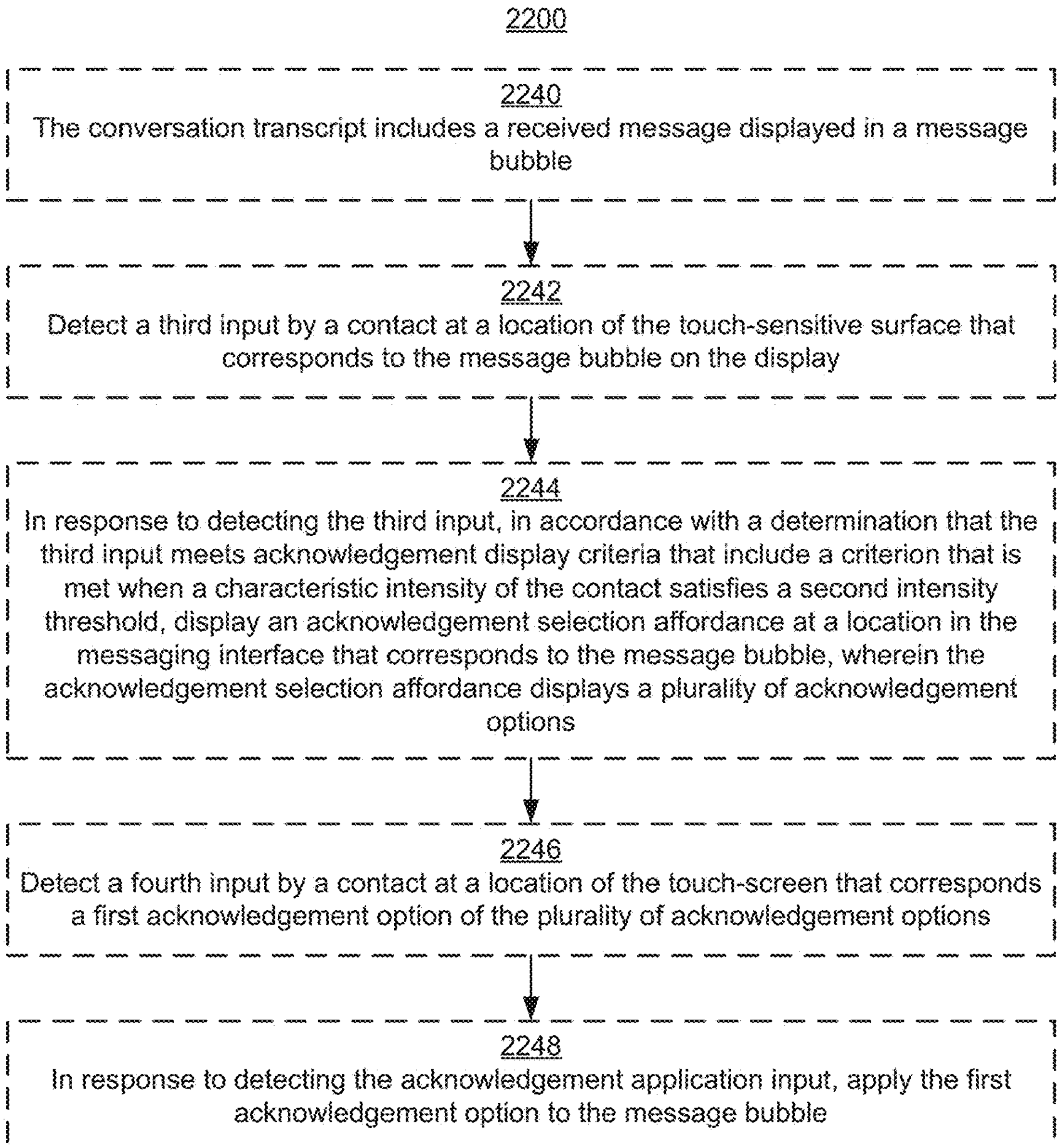

2200
2240
The conversation transcript includes a received message displayed in a message bubble
2242
Detect a third input by a contact at a location of the touch-sensitive surface that corresponds to the message bubble on the display
2244
In response to detecting the third input, in accordance with a determination that the third input meets acknowledgement display criteria that include a criterion that is met when a characteristic intensity of the contact satisfies a second intensity threshold, display an acknowledgement selection affordance at a location in the messaging interface that corresponds to the message bubble, wherein the acknowledgement selection affordance displays a plurality of acknowledgement options
2246
Detect a fourth input by a contact at a location of the touch-screen that corresponds a first acknowledgement option of the plurality of acknowledgement options
2248
In response to detecting the acknowledgement application input, apply the first acknowledgement option to the message bubble

Figure 22E

2200

2250
The conversation transcript includes a message displayed in a message bubble and a plurality of acknowledgements that correspond to the message bubble

2252
Detect a fifth input by a contact at a location of the touch-screen that corresponds to an area that includes the message bubble and/or a respective acknowledgement of the plurality of acknowledgements that correspond to the message bubble;

2254
In response to detecting the fifth input, in accordance with a determination that the fifth input meets acknowledgement tally reveal criteria that include a criterion that is met when a characteristic intensity of the contact satisfies a second intensity threshold, display at least a subset of the plurality of acknowledgements that correspond to the message bubble

Figure 22F

2200

2256
The conversation transcript includes a message bubble with content that is hidden by a screen

2258
Detect a sixth input by a contact at a location of the touch-sensitive surface that corresponds to the message bubble with hidden content

2260
In response to detecting the sixth input, in accordance with a determination that the sixth input meets message reveal criteria that include a criterion that is met when a characteristic intensity of the contact satisfies a second intensity threshold: cease to display at least a portion of the screen; and display at least a portion of the content that was hidden

2262
An area of the portion of the screen varies based on the characteristic intensity of the contact

2264
Detect a seventh input

2266
In response to detecting the seventh input, in accordance with a determination that the seventh input meets full message reveal criteria that include a criterion that is met when a characteristic intensity of the contact satisfies a third intensity threshold, output, with one or more tactile output generators of the electronic device, a tactile output

2268
Vary an extent of a blurring effect applied to at least a part of the messaging interface based on the characteristic intensity of the contact in the first input

Figure 22G

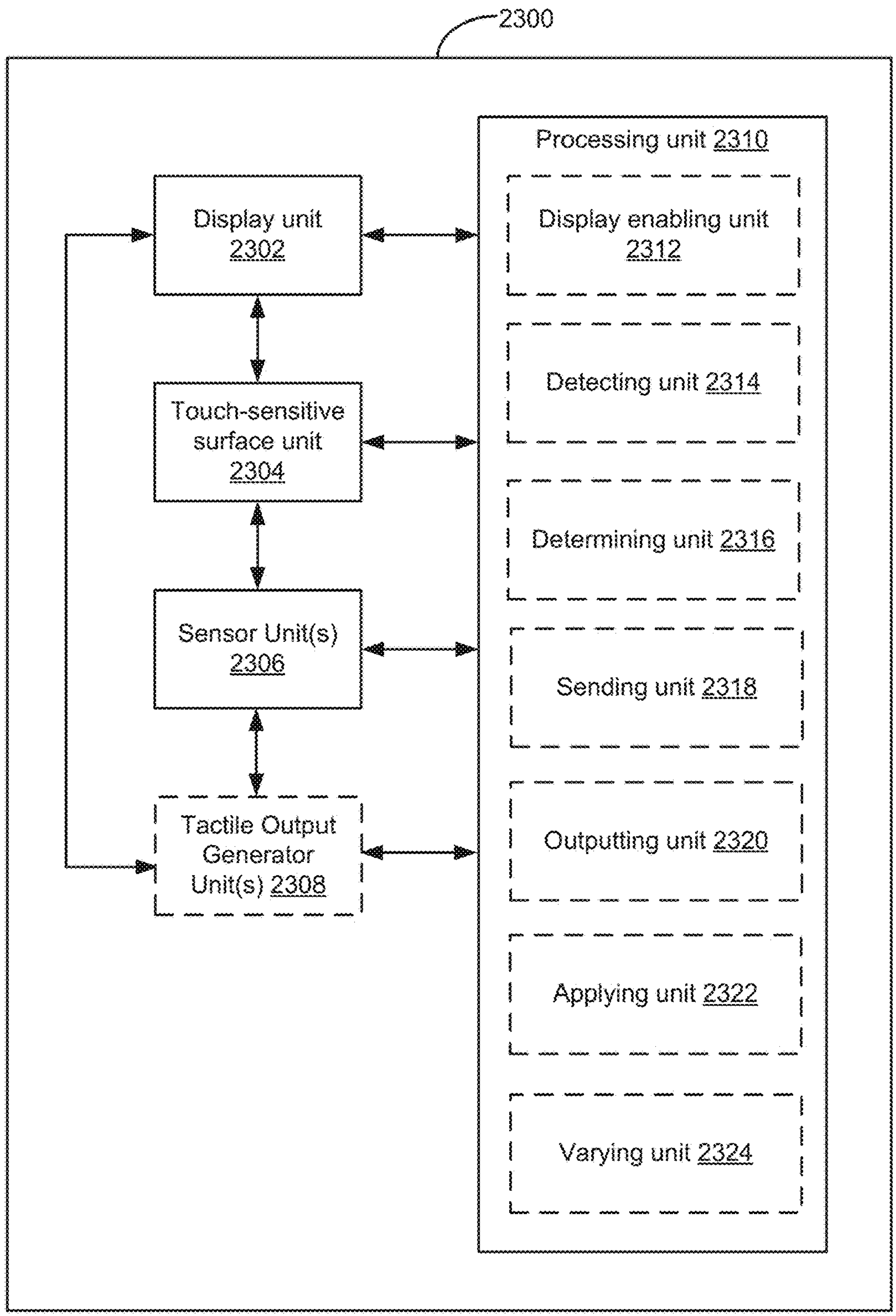

2300
Processing unit 2310
Display unit 2302
Display enabling unit 2312
Detecting unit 2314
Touch-sensitive surface unit 2304
Determining unit 2316
Sensor Unit(s) 2306
Sending unit 2318
Tactile Output Generator Unit(s) 2308
Outputting unit 2320
Applying unit 2322
Varying unit 2324

Figure 23

2400A

2402 At an electronic device with a display, a touch-sensitive surface, and one or more sensors to detect intensities of contacts with the touch-sensitive surface, display, on the display, a user interface that includes a plurality of activatable objects, including a first activatable object with a first visual appearance

2404 The device is configured to

2406 For intensity-reactive activatable objects, perform operations corresponding to the intensity-reactive activatable objects based on characteristic intensities of inputs on the touch-sensitive surface that correspond to the intensity-reactive activatable objects, such that when a characteristic intensity of a contact that is providing input that corresponds to a respective intensity-reactive activatable object on the touch-sensitive surface meets intensity-based activation criteria, an operation corresponding to the respective intensity-reactive activatable object is performed as a result of the characteristic intensity of the contact meeting the intensity-based activation criteria

A

2408 For intensity-nonreactive activatable objects, perform operations corresponding to the intensity-nonreactive activatable objects without regard to whether inputs on the touch-sensitive surface that correspond to the intensity-nonreactive activatable objects meet the intensity-based activation criteria, such that when a characteristic intensity of a contact that is providing input that corresponds to a respective intensity-nonreactive activatable object on the touch-sensitive surface meets the intensity-based activation criteria, an operation corresponding to the respective intensity-nonreactive activatable object is not performed as a result of the characteristic intensity of the contact meeting the intensity-based activation criteria

B

2410 While displaying the user interface on the display, detect an input that corresponds to a request to select the first activatable object in the plurality of activatable objects, wherein a characteristic intensity of the input fails to meet the intensity-based activation criteria during the input

C

Figure 24A1

2400A

2406 For intensity-reactive activatable objects, perform operations corresponding to the intensity-reactive activatable objects based on characteristic intensities of inputs on the touch-sensitive surface that correspond to the intensity-reactive activatable objects, such that when a characteristic intensity of a contact that is providing input that corresponds to a respective intensity-reactive activatable object on the touch-sensitive surface meets intensity-based activation criteria, an operation corresponding to the respective intensity-reactive activatable object is performed as a result of the characteristic intensity of the contact meeting the intensity-based activation criteria

A

2412 The device is configured to change an appearance of intensity-reactive activatable objects using a respective transformation of the activatable objects, wherein the respective transformation is adjusted dynamically as the characteristic intensity of the contact on the touch-sensitive surface changes through a range of intensity values up to a threshold intensity value

2408 For intensity-nonreactive activatable objects, perform operations corresponding to the intensity-nonreactive activatable objects without regard to whether inputs on the touch-sensitive surface that correspond to the intensity-nonreactive activatable objects meet the intensity-based activation criteria, such that when a characteristic intensity of a contact that is providing input that corresponds to a respective intensity-nonreactive activatable object on the touch-sensitive surface meets the intensity-based activation criteria, an operation corresponding to the respective intensity-nonreactive activatable object is not performed as a result of the characteristic intensity of the contact meeting the intensity-based activation criteria

B

2414 For intensity-reactive activatable objects, the operations include displaying a preview of related content for a respective intensity-reactive activatable object as a result of the characteristic intensity of the contact meeting the intensity-based activation criteria; and
for intensity-nonreactive activatable objects, the operations do not include displaying a preview of related content as a result of the characteristic intensity of the contact meeting the intensity-based activation criteria

Figure 24A2

2400A

C

2416 In response to detecting the input

2418 In accordance with a determination that the first activatable object is an intensity-reactive activatable object, display the first activatable object with a first transformation from its first visual appearance

2420 The first transformation is an initial portion of a change in visual appearance of a respective intensity-reactive object

2422 An extent of the first transformation for an intensity-reactive activatable object varies based on the characteristic intensity of a contact during the input

2424 In accordance with a determination that the first activatable object is an intensity-nonreactive activatable object, displaying the first activatable object without displaying the first transformation

2426 The input is a tap input, and, in response to detecting the tap input, perform an activation operation that corresponds to the first activatable object

2428 The detected input that corresponds to the request to select the first activatable object is a first part of a contact with the touch-sensitive surface; the detected input that corresponds to the request to select the first activatable object is associated with a first gesture;
detect a second part of the contact with the touch-sensitive surface; and
in accordance with a determination that the second part of the contact is not associated with the first gesture, dynamically reduce display of the first transformation of the first activatable object

Figure 24A3

2400B

2452 At an electronic device with a display, a touch-sensitive surface, and one or more sensors to detect intensities of contacts with the touch-sensitive surface, while displaying a user interface, detect an input by a contact at a first location on the touch-sensitive surface that corresponds to a first activatable user interface object on the display

2454 The displayed user interface includes a plurality of activatable user interface objects, wherein a first subset of the activatable user interface objects is intensity-reactive, and wherein a second subset of the activatable user interface objects is intensity-nonreactive

2456 The first activatable user interface object is displayed in a list

2458 The first activatable user interface object is displayed in an array of objects

2460 In response to detecting the input by the contact

2462 In response to detecting the input by the contact, determine whether the first activatable user interface object is intensity-reactive

2464 In accordance with a determination that the first activatable user interface object is intensity-reactive, change a visual appearance of the first activatable user interface object in accordance with changes in a detected intensity of the contact on the touch-sensitive surface

A

2466 In accordance with a determination that the first activatable user interface object is intensity-nonreactive, change the visual appearance of the first activatable user interface object by a predetermined amount

B

C

Figure 24B1

2400B

2464 In accordance with a determination that the first activatable user interface object is intensity-reactive, change a visual appearance of the first activatable user interface object in accordance with changes in a detected intensity of the contact on the touch-sensitive surface

A

2468 Changing the visual appearance of the first activatable user interface object in accordance with the detected intensity of the contact includes: changing a brightness of the first activatable user interface object in accordance with the detected intensity of the contact, and changing a size of the first activatable user interface object in accordance with the detected intensity of the contact

2470 Changing the size of the first activatable user interface object in accordance with the detected intensity of the contact includes increasing the size of the first activatable user interface object in accordance with the detected intensity of the contact

2472 Changing the size of the first activatable user interface object in accordance with the detected intensity of the contact includes decreasing the size of the first activatable user interface object in accordance with the detected intensity of the contact

2474 The first activatable user interface object occupies a first area prior to changing its size, and, in accordance with the determination that the first activatable user interface object is intensity-reactive, display a platter that occupies the first area and that is displayed behind the first activatable user interface object, wherein the platter is visible as the size of the first activatable user interface object is decreased

2476 Detecting the input by the contact at the first location on the touch-sensitive surface includes detecting the contact hovering over the touch-sensitive surface at the first location, wherein the first location corresponds to the first activatable user interface object, and, in response to detecting the input by the contact, in accordance with the determination that the first activatable user interface object is intensity-reactive, and while the contact is hovering over the touch-sensitive surface at the first location, perform a preview operation that includes changing the visual appearance of the first activatable user interface object

Figure 24B2

2400B

2466 In accordance with a determination that the first activatable user interface object is intensity-nonreactive, change the visual appearance of the first activatable user interface object by a predetermined amount

B

2478 Changing the visual appearance of the first activatable user interface object by a predetermined amount includes changing a brightness of the first activatable user interface object by a predetermined amount that is independent of the detected intensity of the contact, and maintaining a size of the first activatable user interface object

C

2480 In accordance with the determination that the first activatable user interface object is intensity-reactive, blur and shrink the user interface excluding the first activatable user interface object, in accordance with the detected intensity, and in accordance with the determination that the first activatable user interface object is intensity-nonreactive, display the user interface without blurring and shrinking the user interface

Figure 24B3

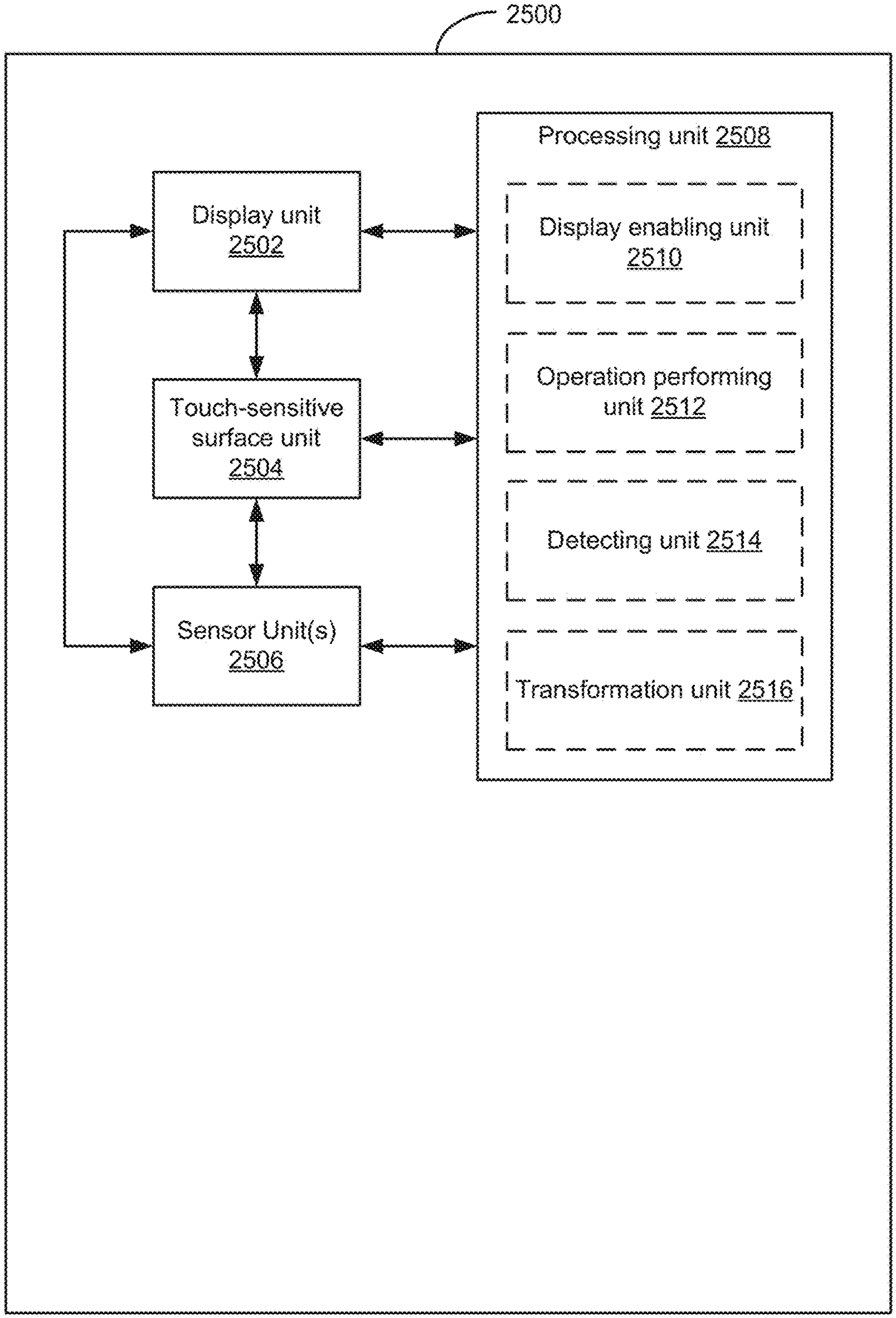

2500
Display unit
2502
Touch-sensitive
surface unit
2504
Sensor Unit(s)
2506
Processing unit 2508
Display enabling unit
2510
Operation performing
unit 2512
Detecting unit 2514
Transformation unit 2516

Figure 25

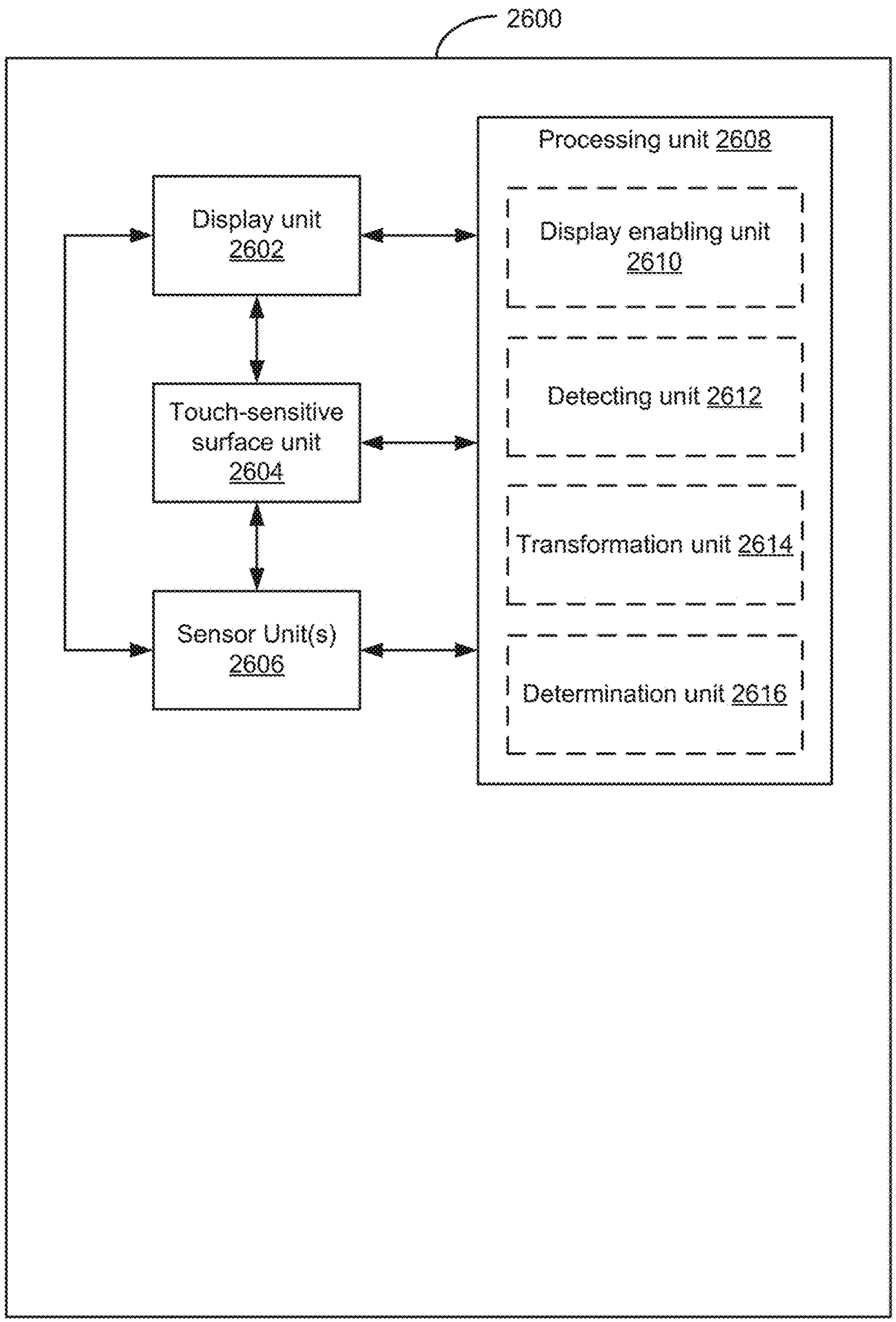

2600
Processing unit 2608
Display unit 2602
Display enabling unit 2610
Detecting unit 2612
Touch-sensitive surface unit 2604
Transformation unit 2614
Sensor Unit(s) 2606
Determination unit 2616

Figure 26

2700A

2702 At an electronic device with a display, a touch-sensitive surface, and one or more sensors to detect intensities of contacts with the touch-sensitive surface, display a user interface that includes a plurality of activatable user interface objects

2704 While displaying the user interface, detect a first portion of an input by a contact at a first location on the touch-sensitive surface that corresponds to a first user interface object on the display

2706 In response to detecting the first portion of the input, change a visual appearance of the first user interface object by applying a first visual transformation to the first user interface object

2708 The first visual transformation corresponds to a first user interface operation

2710 After changing the visual appearance of the first user interface object by applying the first visual transformation to the first user interface object, detect a second portion of the input

A

Figure 27A1

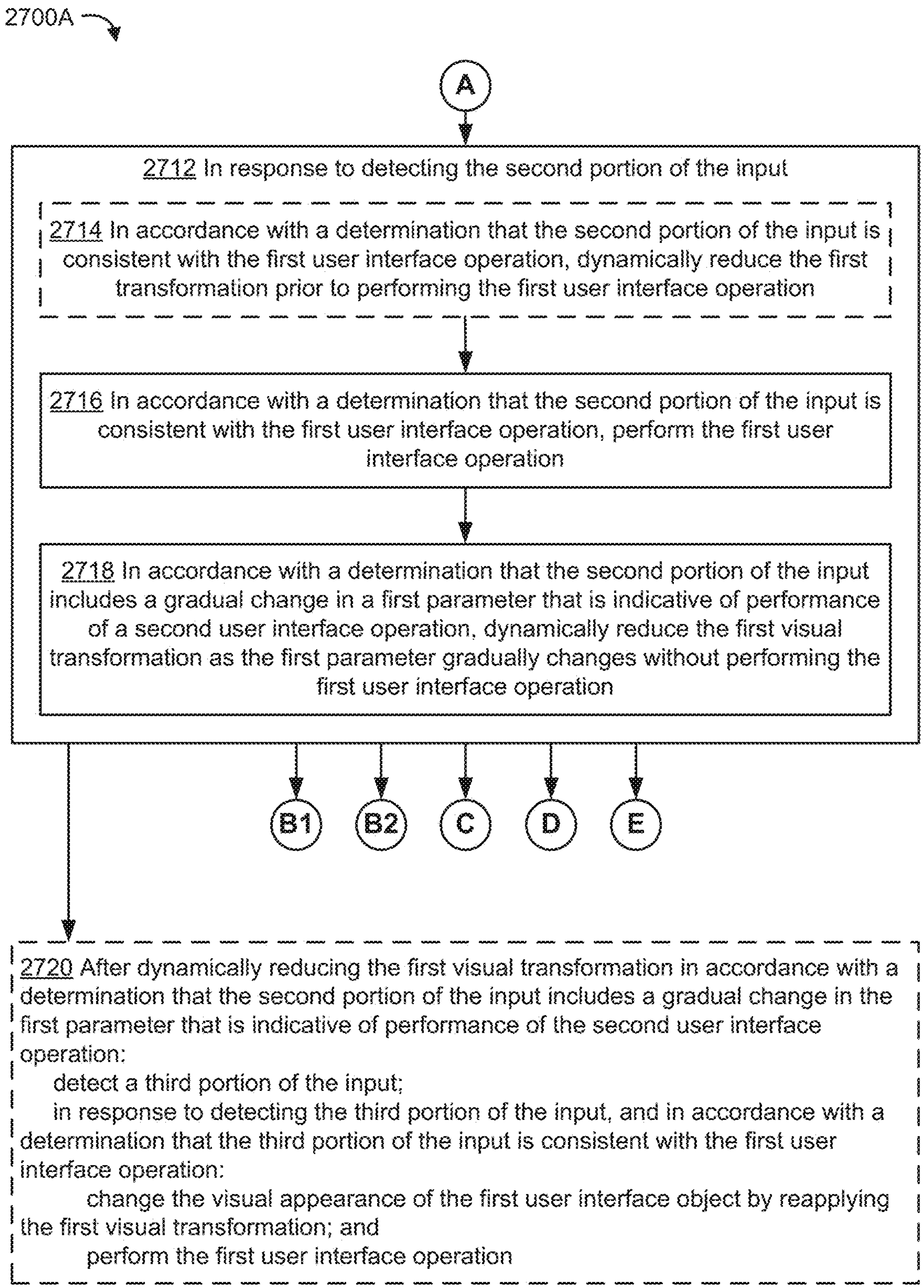

2700A
A
2712 In response to detecting the second portion of the input
2714 In accordance with a determination that the second portion of the input is consistent with the first user interface operation, dynamically reduce the first transformation prior to performing the first user interface operation
2716 In accordance with a determination that the second portion of the input is consistent with the first user interface operation, perform the first user interface operation
2718 In accordance with a determination that the second portion of the input includes a gradual change in a first parameter that is indicative of performance of a second user interface operation, dynamically reduce the first visual transformation as the first parameter gradually changes without performing the first user interface operation
B1
B2
C
D
E
2720 After dynamically reducing the first visual transformation in accordance with a determination that the second portion of the input includes a gradual change in the first parameter that is indicative of performance of the second user interface operation:
detect a third portion of the input;
in response to detecting the third portion of the input, and in accordance with a determination that the third portion of the input is consistent with the first user interface operation:
change the visual appearance of the first user interface object by reapplying the first visual transformation; and
perform the first user interface operation

Figure 27A2

2700A

B1

2722 Change the visual appearance of the first user interface object by applying a second visual transformation to the first user interface object, in conjunction with dynamically reducing the first visual transformation as the first parameter gradually changes

2724 The gradual change in the first parameter includes an increase in intensity of the contact, and the second visual transformation includes changing a size of the first user interface object in accordance with the increase in intensity of the contact

2726 The gradual change in the first parameter includes an increase in intensity of the contact, and the second visual transformation includes blurring and shrinking a portion of the user interface, other than the first user interface object, in accordance with the increase in intensity of the contact

2728 The gradual change in the first parameter includes lateral movement of the contact, and the second visual transformation includes changing a position of the first user interface object on the display

B2

2730 Change the visual appearance of the first user interface object by applying a second visual transformation to the first user interface object after the first visual transformation has been dynamically reduced by a predefined amount

Figure 27A3

2700A

C

2732 In accordance with a determination that the second portion of the input includes a gradual change in a second parameter that is indicative of performance of a third user interface operation, change the visual appearance of the first user interface object by applying a third visual transformation as the second parameter gradually changes

2734 The gradual change in the second parameter includes lateral movement of the contact, and the third visual transformation includes changing a position of the first user interface object on the display in accordance with the lateral movement of the contact

D

2736 In accordance with a determination that the second portion of the input includes a gradual change in a third parameter that is indicative of performance of a fourth user interface operation, change the visual appearance of the first user interface object by applying a fourth visual transformation as the third parameter gradually changes

2738 The gradual change in the third parameter includes an increase in a duration of maintaining the contact on the touch-sensitive surface with no more than a threshold amount of lateral movement and with no more than a threshold amount of change in intensity; and

the fourth visual transformation includes changing at least one of a shading and a color of the first user interface object in accordance with the increasing duration of the contact being maintained on the touch-sensitive surface

2740 After changing the visual appearance of the first user interface object by applying the fourth visual transformation:

detect a change in a respective parameter other than the third parameter; and

in accordance with a determination that the change in the respective parameter satisfies a respective threshold, dynamically reduce the fourth visual transformation as the respective parameter changes

Figure 27A4

2700A

E

2742 The input is a first input, the first user interface object is an intensity-reactive object, and:

while displaying the user interface, detect a first portion of a second input by a contact at a second location on the touch-sensitive surface that corresponds to a second user interface object on the display, wherein the second user interface object is an intensity-nonreactive object;

in response to detecting the first portion of the second input:

change a visual appearance of the second user interface object by applying a fifth visual transformation to the second user interface object, wherein the fifth visual transformation corresponds to a fifth user interface operation;

after changing the visual appearance of the second user interface object by applying the fifth visual transformation to the second user interface object, detect a second portion of the second input;

in response to detecting the second portion of the second input:

in accordance with a determination that the second portion of the second input includes a change in a fourth parameter that is indicative of performance of a sixth user interface operation, instantaneously change the visual appearance of the second user interface object by removing the fifth visual transformation without regard to a gradual change in the fourth parameter

Figure 27A5

2700B

2752 At an electronic device with a display, a touch-sensitive surface, and one or more sensors to detect intensities of contacts with the touch-sensitive surface, display a user interface that includes a plurality of activatable user interface objects

2754 While displaying the user interface, detect a first portion of an input by a contact at a first location on the touch-sensitive surface that corresponds to a first user interface object on the display

2756 In response to detecting the first portion of the input by the contact, change a visual appearance of the first user interface object to indicate that an operation corresponding to the first user interface object will be performed in response to detecting liftoff of the contact from the touch-sensitive surface

2758 The change in the visual appearance includes applying a first transformation to the first user interface object

2760 Detect a second portion of the input by the contact

2762 The second portion of the input immediately follows the first portion of the input

2764 The second portion of the input includes lateral movement of the contact and corresponds to a drag gesture

2766 The second portion of the input includes a change in detected intensity of the contact and corresponds to a stationary press gesture that meets a first intensity criterion

2768 The second portion of the input includes continuing to maintain the contact on the touch-sensitive surface for at least a first amount of time such that a total amount of time that the contact is maintained without meeting a threshold amount of lateral movement and a first intensity criterion is greater than a first time threshold

A

Figure 27B1

2700B

A

2770 In response to detecting the second portion of the input by the contact

2772 In accordance with a determination that the second portion of the input includes a gradual change in a first input parameter and corresponds to a first gesture, changing the visual appearance of the first user interface object by dynamically reducing the first transformation and applying a second transformation corresponding to the first gesture as the first input parameter gradually changes

2774 In accordance with a determination that the second portion of the input includes a gradual change in a second input parameter and corresponds to a second gesture, changing the visual appearance of the first user interface object by dynamically reducing the first transformation and applying a third transformation corresponding to the second gesture as the second input parameter gradually changes

2776 The first transformation includes changing a brightness of the first user interface object from a first brightness to a second brightness;
the second transformation includes changing the brightness of the first user interface object from the second brightness to a third brightness as the first parameter gradually changes; and
the third transformation includes changing the brightness of the first user interface object from the second brightness to a fourth brightness as the second parameter gradually changes

2778 The second transformation includes increasing a size of the first user interface object, and the third transformation includes changing the size of the first user interface object by decreasing the size of the first user interface object during a first portion of the third transformation and increasing the size of the first user interface object during a second portion of the third transformation

B C D

Figure 27B2

2700B

B

2780 In accordance with a determination that the second portion of the input includes a gradual change in a third input parameter and corresponds to a third gesture, change the visual appearance of the first user interface object by dynamically reducing the first transformation and applying a fourth transformation corresponding to the third gesture as the third input parameter gradually changes

C

2782 In accordance with a determination that the second portion of the input includes a gradual change in both the first input parameter and the second input parameter, change the visual appearance of the first user interface object by dynamically reducing the first transformation and applying at least a portion of the second transformation and at least a portion of the third transformation

D

2784 Prior to detecting the first portion of the input by the contact at the first location on the touch-sensitive surface that corresponds to the first user interface object, and while displaying the user interface, detect the contact hovering over the touch-sensitive surface at the first location corresponding to the first user interface object; and
in response to detecting the contact hovering over the touch-sensitive surface, change the visual appearance of the first user interface object including applying at least a portion of the first transformation to the first user interface object

Figure 27B3

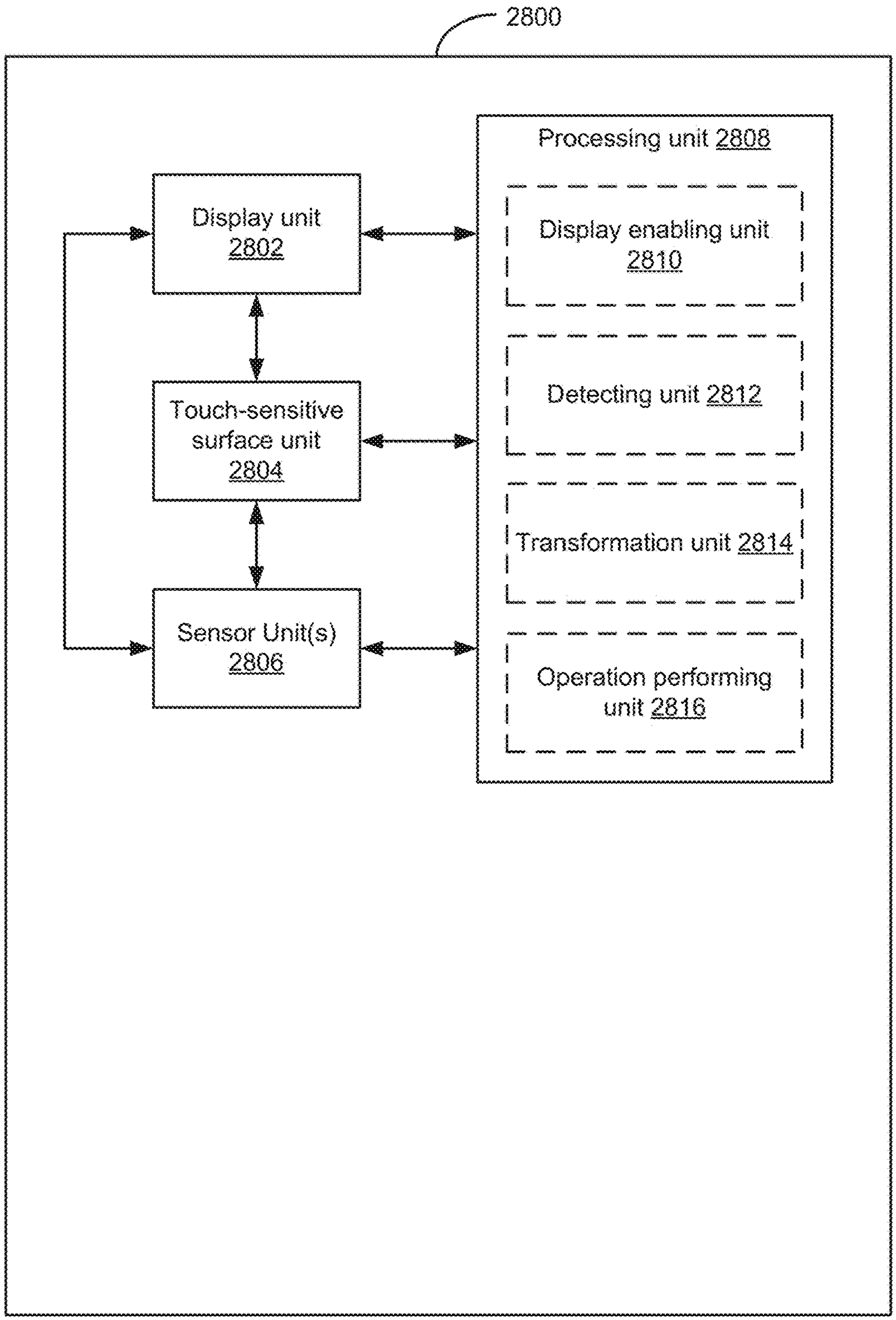

2800
Display unit
2802
Touch-sensitive
surface unit
2804
Sensor Unit(s)
2806
Processing unit 2808
Display enabling unit
2810
Detecting unit 2812
Transformation unit 2814
Operation performing
unit 2816

Figure 28

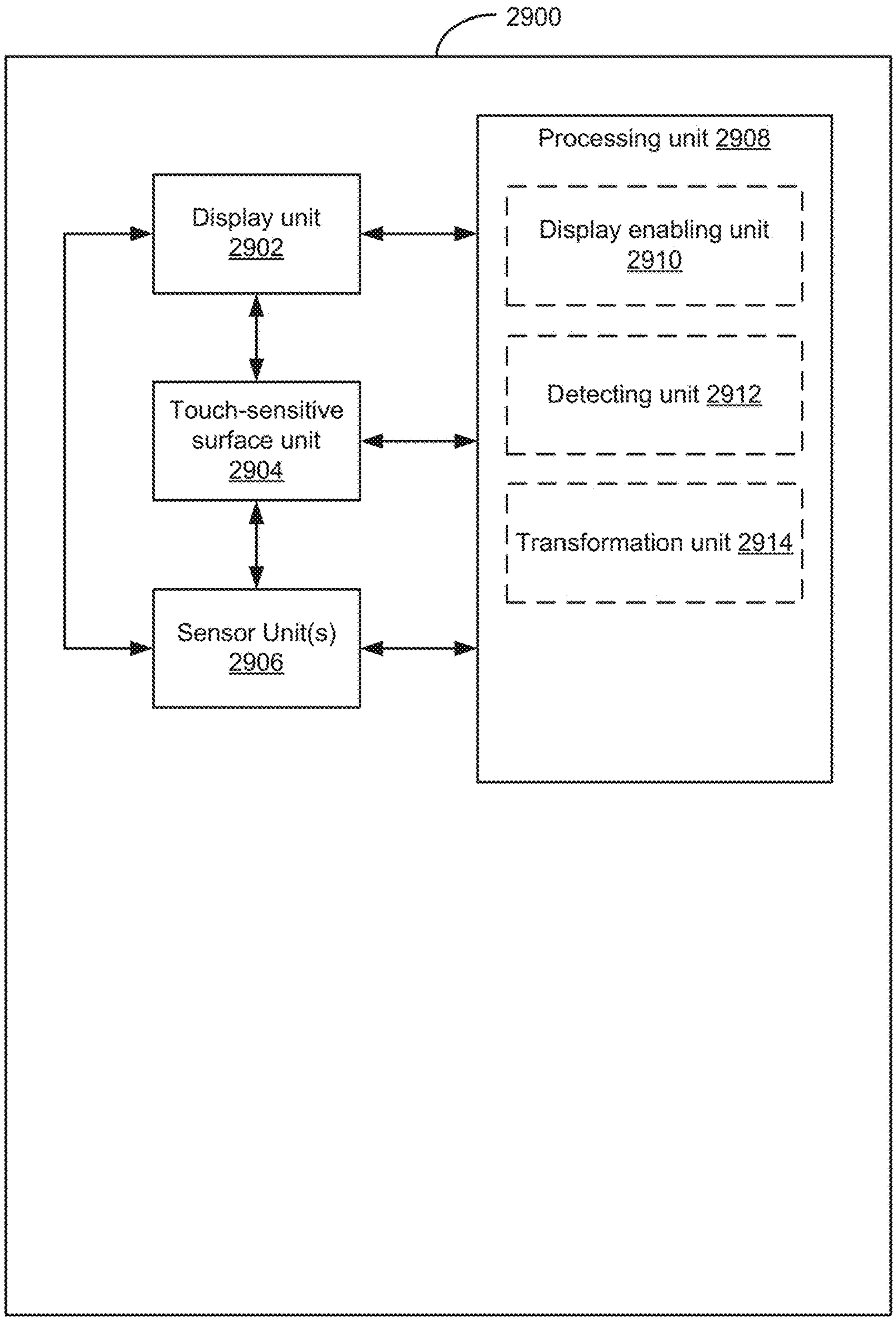

2900
Processing unit 2908
Display unit 2902
Display enabling unit 2910
Detecting unit 2912
Touch-sensitive surface unit 2904
Transformation unit 2914
Sensor Unit(s) 2906

Figure 29

3000

3002 At an electronic device with a display, a touch-sensitive surface, and one or more sensors to detect intensities of contacts with the touch-sensitive surface, display a first user interface that includes a plurality of activatable user interface objects

3004 While displaying the first user interface, detect an input by a contact at a first location on the touch-sensitive surface that corresponds to a first activatable user interface object on the display

3006 The first activatable user interface object is associated with a control function with three or more available values

3008 A first value of the control function is selected as a current value for the control function

3010 In response to detecting the input by the contact

3012 In accordance with a determination that the input meets toggle criteria, wherein the toggle criteria do not require that a characteristic intensity of the contact on the touch-sensitive surface meets a first intensity threshold in order for the toggle criteria to be met, toggle the control function that corresponds to the first activatable user interface object between a first state that is based on the current value for the control function and a second state

3014 The toggle criteria include a criterion that is met when the characteristic intensity of the contact remains below the first intensity threshold

3016 The toggle criteria include a criterion that is met when the input is a tap input

A

Figure 30A

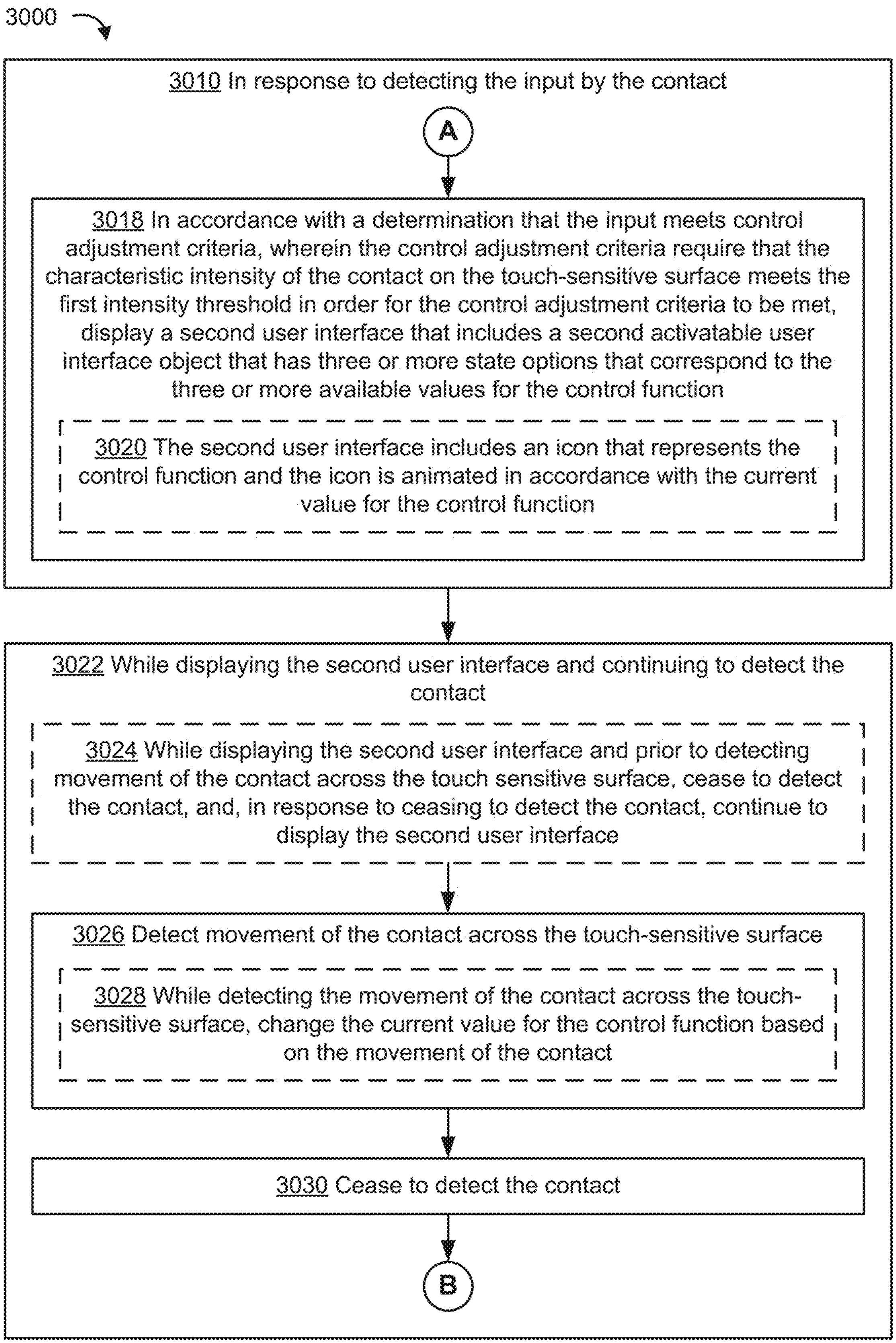

3000
3010 In response to detecting the input by the contact
A
3018 In accordance with a determination that the input meets control adjustment criteria, wherein the control adjustment criteria require that the characteristic intensity of the contact on the touch-sensitive surface meets the first intensity threshold in order for the control adjustment criteria to be met, display a second user interface that includes a second activatable user interface object that has three or more state options that correspond to the three or more available values for the control function
3020 The second user interface includes an icon that represents the control function and the icon is animated in accordance with the current value for the control function
3022 While displaying the second user interface and continuing to detect the contact
3024 While displaying the second user interface and prior to detecting movement of the contact across the touch sensitive surface, cease to detect the contact, and, in response to ceasing to detect the contact, continue to display the second user interface
3026 Detect movement of the contact across the touch-sensitive surface
3028 While detecting the movement of the contact across the touch-sensitive surface, change the current value for the control function based on the movement of the contact
3030 Cease to detect the contact
B

Figure 30B

3000

3022 While displaying the second user interface and continuing to detect the contact

B

3032 In response to detecting the movement of the contact across the touch-sensitive surface, change the current value for the control function based on the movement of the contact

C

3034 The current value of the control function after ceasing to detect the contact is a last value for the control function prior to ceasing to detect the contact

D

E

F

3036 In response to detecting the movement of the contact across the touch-sensitive surface and ceasing to detect the contact, set the control function to an on state

3038 In response to ceasing to detect the contact, cease to display the second user interface and redisplay the first user interface

3040 Ceasing to display the second user interface includes displaying an animation of the second activatable user interface object transforming into the first activatable user interface object

3042 While displaying the second user interface, detect movement of the contact that corresponds to a swipe gesture; and,
in response to detecting movement of the contact that corresponds to the swipe gesture, display a third user interface that includes a third activatable user interface object that corresponds to one or more additional controls for the function

3044 The second user interface includes a plurality of pagination indicia that indicate that one or more additional pages of controls for the function are available

Figure 30C

3000

3032 In response to detecting the movement of the contact across the touch-sensitive surface, change the current value for the control function based on the movement of the contact

C

3046 Changing the current value for the control function based on the movement of the contact includes changing the current value for the control function to a lowest available value of the control function in accordance with a determination that the movement of the contact includes at least a first amount of movement in a first direction

3048 Changing the current value of the control function to the lowest available value includes:
in accordance with a determination that the movement of the contact includes an amount of movement in the first direction that is greater than the first amount:
displaying an animation of the second activatable user interface object transforming into a third user interface object that corresponds to the movement in the first direction without changing the current value for the control function from the lowest available value; and
in response to ceasing to detect the contact, displaying an animation of the third user interface object transforming into the second activatable user interface object

3050 Changing the current value for the control based on the movement of the contact includes changing the current value for the control to a highest available value of the function in accordance with a determination that the movement of the contact includes a second amount of movement in a second direction

3052 Changing the current value for the control to the highest available value includes:
in accordance with a determination that the movement of the contact includes an amount of movement in the second direction that is greater than the second amount:
displaying an animation of the second activatable user interface object transforming into a fourth user interface object that corresponds to the movement in the second direction without changing the current value for the control function from the highest available value; and
in response to ceasing to detect the contact, displaying an animation of the fourth user interface object transforming into the second activatable user interface object

Figure 30D

3000

D

3054 The electronic device includes a tactile output generator, and, in response to changing the current value of the control function to a lowest available value of the control function, output a tactile output

E

3056 The electronic device includes a tactile output generator, and, in response to changing the current value of the control function to a highest available value of the function, output a tactile output

F

3058 The electronic device includes a tactile output generator, and, in response to detecting the movement of the contact across the touch sensitive surface while displaying the second user interface, output one or more tactile outputs in conjunction with changing the current value for the control based on the movement of the contact

Figure 30E

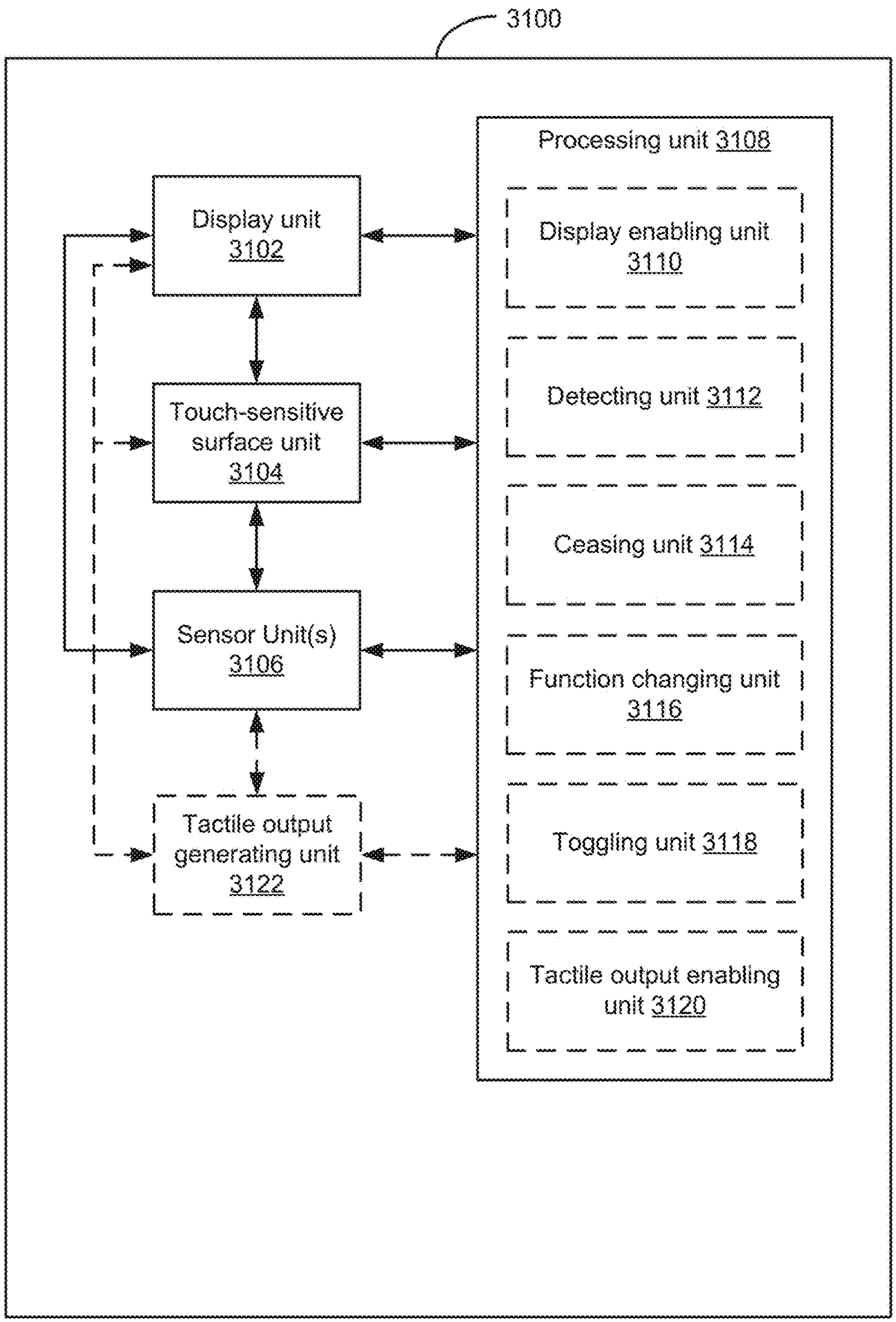

3100
Processing unit 3108
Display unit 3102
Display enabling unit 3110
Detecting unit 3112
Touch-sensitive surface unit 3104
Ceasing unit 3114
Sensor Unit(s) 3106
Function changing unit 3116
Tactile output generating unit 3122
Toggling unit 3118
Tactile output enabling unit 3120

Figure 31

DEVICES, METHODS, AND GRAPHICAL USER INTERFACES FOR MANIPULATING USER INTERFACE OBJECTS WITH VISUAL AND/OR HAPTIC FEEDBACK

PRIORITY CLAIMS AND RELATED APPLICATIONS

This application is a continuation of U.S. application Ser. No. 17/666,495, filed Feb. 7, 2022, now U.S. Pat. No. 11,740,785, which is a continuation of U.S. application Ser. No. 16/262,800, filed Jan. 30, 2019, now U.S. Pat. No. 11,327,648, which is a continuation of U.S. application Ser. No. 15/272,327, filed Sep. 21, 2016, now U.S. Pat. No. 10,209,884, which is a continuation of U.S. application Ser. No. 15/231,745, filed Aug. 8, 2016, now U.S. Pat. No. 9,880,735, which claims priority to the following: (1) U.S. Provisional Application Ser. No. 62/349,096, filed Jun. 12, 2016; (2) U.S. Provisional Application Ser. No. 62/215,722, filed Sep. 8, 2015; (3) U.S. Provisional Application Ser. No. 62/213,609, filed Sep. 2, 2015; and (4) U.S. Provisional Application Ser. No. 62/203,387, filed Aug. 10, 2015, all of which are incorporated by reference herein in their entireties.

TECHNICAL FIELD

This relates generally to electronic devices with touch-sensitive surfaces, including but not limited to electronic devices with touch-sensitive surfaces that detect inputs for manipulating user interfaces.

BACKGROUND

The use of touch-sensitive surfaces as input devices for computers and other electronic computing devices has increased significantly in recent years. Exemplary touch-sensitive surfaces include touchpads and touch-screen displays. Such surfaces are widely used to manipulate user interfaces on a display.

Exemplary manipulations include adjusting the position and/or size of one or more user interface objects or activating buttons or opening files/applications represented by user interface objects, as well as associating metadata with one or more user interface objects or otherwise manipulating user interfaces. Exemplary user interface objects include digital images, video, text, icons, and control elements such as buttons and other graphics.

A user will, in some circumstances, need to perform such manipulations on user interface objects in a file management program (e.g., Finder from Apple Inc. of Cupertino, California), a messaging application (e.g., Messages from Apple Inc. of Cupertino, California), an image management application (e.g., Photos from Apple Inc. of Cupertino, California), a camera application (e.g., Camera from Apple Inc. of Cupertino, California), a map application (e.g., Maps from Apple Inc. of Cupertino, California), a note taking application (e.g., Notes from Apple Inc. of Cupertino, California), digital content (e.g., videos and music) management applications (e.g., Music and iTunes from Apple Inc. of Cupertino, California), a news application (e.g., News from Apple Inc. of Cupertino, California), a phone application (e.g., Phone from Apple Inc. of Cupertino, California), an email application (e.g., Mail from Apple Inc. of Cupertino, California), a browser application (e.g., Safari from Apple Inc. of Cupertino, California), a drawing application, a presentation application (e.g., Keynote from Apple Inc. of Cupertino, California), a word processing application (e.g., Pages from Apple Inc. of Cupertino, California), a spreadsheet application (e.g., Numbers from Apple Inc. of Cupertino, California), a reader application (e.g., iBooks from Apple Inc. of Cupertino, California), a video making application (e.g., iMovie from Apple Inc. of Cupertino, California), and/or geo location applications (e.g., Find Friends and Find iPhone from Apple Inc. of Cupertino, California).

But existing methods for performing these manipulations are cumbersome and inefficient. In addition, existing methods take longer than necessary, thereby wasting energy. This latter consideration is particularly important in battery-operated devices.

SUMMARY

Accordingly, there is a need for electronic devices with faster, more efficient methods and interfaces for manipulating user interfaces. Such methods and interfaces optionally complement or replace conventional methods for manipulating user interfaces. Such methods and interfaces reduce the number, extent, and/or nature of the inputs from a user and produce a more efficient human-machine interface. For battery-operated devices, such methods and interfaces conserve power and increase the time between battery charges.

The above deficiencies and other problems associated with user interfaces for electronic devices with touch-sensitive surfaces are reduced or eliminated by the disclosed devices. In some embodiments, the device is a desktop computer. In some embodiments, the device is portable (e.g., a notebook computer, tablet computer, or handheld device). In some embodiments, the device is a personal electronic device (e.g., a wearable electronic device, such as a watch). In some embodiments, the device has a touchpad. In some embodiments, the device has a touch-sensitive display (also known as a "touch screen" or "touch-screen display"). In some embodiments, the device has a graphical user interface (GUI), one or more processors, memory and one or more modules, programs or sets of instructions stored in the memory for performing multiple functions. In some embodiments, the user interacts with the GUI primarily through stylus and/or finger contacts and gestures on the touch-sensitive surface. In some embodiments, the functions optionally include image editing, drawing, presenting, word processing, spreadsheet making, game playing, telephoning, video conferencing, e-mailing, instant messaging, workout support, digital photographing, digital videoing, web browsing, digital music playing, note taking, and/or digital video playing. Executable instructions for performing these functions are, optionally, included in a non-transitory computer readable storage medium or other computer program product configured for execution by one or more processors.

In accordance with some embodiments, a method is performed at an electronic device with a display, a touch-sensitive surface, and one or more sensors for detecting intensities of contacts on the touch-sensitive surface. The device concurrently displays, on the display: a background user interface; and a first version of a notification associated with a first application, wherein: the first version of the notification has a first size, the first version of the notification includes first content, and the first version of the notification is overlaid on the background user interface. While displaying the first version of the notification associated with the first application overlaid on the background user interface, the device detects a first portion of a first input that includes detecting a first contact at a location on the touch-sensitive surface that corresponds to the first version of the notification. In response to detecting the first portion of the first input: in accordance with a determination that the first portion of the first input meets application-launching criteria, wherein the application-launching criteria do not require that a characteristic intensity of the first contact on the touch-sensitive surface meet a preview intensity threshold in order for the application-launching criteria to be met, the device initiates a process to launch the first application, wherein launching the first application includes ceasing to display the background user interface and displaying a user interface associated with the first application; and, in accordance with a determination that the first portion of the first input meets notification-expansion criteria, wherein the notification-expansion criteria require that the characteristic intensity of the first contact on the touch-sensitive surface meet the preview intensity threshold in order for the notification-expansion criteria to be met, the device displays a second version of the notification, wherein: the second version of the notification has a second size larger than the first size, the second version of the notification includes expanded notification content that is not displayed in the first version of the notification, and the second version of the notification is overlaid on the background user interface.

In accordance with some embodiments, a method is performed at an electronic device with a display, a touch-sensitive surface, and one or more sensors for detecting intensities of contacts on the touch-sensitive surface. The method includes: displaying, on the display, a user interface that includes a plurality of application icons that correspond to different applications in a plurality of applications; while displaying the user interface that includes the plurality of application icons, detecting a first input that includes detecting a first contact on the touch-sensitive surface at a location on the touch-sensitive surface that corresponds to a first application icon of the plurality of application icons, the first application icon being associated with a first application of the plurality of applications; in response to detecting the first input: in accordance with a determination that the first input meets application-launching criteria, wherein the application-launching criteria do not require that a characteristic intensity of the first contact on the touch-sensitive surface meet a first intensity threshold in order for the application-launching criteria to be met: launching the first application; and replacing display of the user interface that includes the plurality of application icons with a user interface of the first application; and, in accordance with a determination that the first input meets menu-presentation criteria, wherein the menu-presentation criteria require that the characteristic intensity of the first contact on the touch-sensitive surface meet the first intensity threshold in order for the menu-presentation criteria to be met, concurrently displaying a contextual content object and a respective affordance that is associated with the contextual content object, wherein: the contextual content object includes contextually selected content that has been automatically selected from the first application based on a current context of the electronic device; and the respective affordance, when activated, is configured to add the contextual content object to a user interface that includes information for multiple applications.

In accordance with some embodiments, a method is performed at an electronic device with a display, a touch-sensitive surface, and one or more sensors for detecting intensities of contacts on the touch-sensitive surface. The method includes: displaying, on the display, a user interface that includes a plurality of user interface objects that correspond to different applications in a plurality of applications, wherein the plurality of user interface objects include a first user interface object that corresponds a first application that is in a process of being downloaded; while displaying the user interface that includes the plurality of user interface objects, detecting a first input that includes detecting a first contact at a location on the touch-sensitive surface that corresponds to the first user interface object; and in response to detecting the first input: in accordance with a determination that the first user interface object corresponds to an application that has not been fully downloaded and that the first input meets menu-presentation criteria, wherein the menu-presentation criteria require that a characteristic intensity of a contact in a detected input meet a first intensity threshold in order for the menu-presentation criteria to be met, displaying one or more first selectable options that, when activated, are configured to perform actions with respect to downloading of the first application.

In accordance with some embodiments, a method is performed at an electronic device with a display, a touch-sensitive surface, and one or more sensors for detecting intensities of contacts on the touch-sensitive surface. The method includes: displaying a user interface on the display, wherein: the user interface includes a folder icon that corresponds to an application folder containing a plurality of application icons, the plurality of application icons correspond to different applications in a plurality of applications, and the plurality of applications include one or more applications that have one or more unread notifications; while displaying the user interface that includes the folder icon, detecting a first input that includes detecting a first contact at a location on the touch-sensitive surface that corresponds to the folder icon; and in response to detecting the first input: in accordance with a determination that the first input meets menu-presentation criteria, wherein the menu-presentation criteria require that a characteristic intensity of a contact in a detected input meet a first intensity threshold in order for the menu-presentation criteria to be met, displaying one or more selectable options that, when activated, are configured to launch corresponding applications from the plurality of applications in the application folder that have unread notifications.

In accordance with some embodiments, a method is performed at an electronic device with a display, a touch-sensitive surface, and one or more sensors to detect intensities of contacts with the touch-sensitive surface. The method includes: displaying a control user interface that includes a plurality of control affordances; detecting a first input by a contact at a location on the touch-sensitive surface that corresponds to a first control affordance, of the plurality of control affordances, on the display; in response to detecting the first input: in accordance with a determination that the first input meets control toggle criteria, wherein the control toggle criteria do not require that a characteristic intensity of the contact meet a first intensity threshold in order for the control toggle criteria to be met, toggling a function of a control that corresponds to the first control affordance; and, in accordance with a determination that the first input meets enhanced control criteria, wherein the enhanced control criteria require that the characteristic intensity of the contact meet the first intensity threshold in order for the enhanced control criteria to be met, displaying one or more modification options for the control that correspond to the first control affordance; while displaying the one or more modification options for the control that correspond to the first control affordance, detecting a second input that activates a first modification option of the one or more modification options; and modifying the control that corresponds to the first control affordance in accordance with the activated first modification option.

In accordance with some embodiments, a method is performed at an electronic device with a display, a touch-sensitive surface, and one or more sensors to detect intensities of contacts with the touch-sensitive surface. The method includes: displaying a user interface that includes: an editable content area that has a plurality of characters, and a content deletion control; detecting a deletion input that includes detecting a contact at a location on the touch-sensitive surface that corresponds to the content deletion control on the display; and in response to detecting the deletion input, deleting content in the editable content area based on a duration and a characteristic intensity of the contact, including: in accordance with a determination that the contact was maintained for a first time period without the characteristic intensity of the contact increasing above a first intensity threshold, deleting the content in the editable content area by sequentially deleting a plurality of sub-units of the content of a first type of sub-unit of the content at a rate that does not vary based on the characteristic intensity of the contact; in accordance with a determination that the contact was maintained for a second time period that is longer than the first time period without the characteristic intensity of the contact increasing above the first intensity threshold, deleting the content in the editable content area by sequentially deleting a plurality of sub-units of the content of a second type of sub-unit of the content at a rate that does not vary based on the characteristic intensity of the contact; and in accordance with a determination that the characteristic intensity of the contact increased above the first intensity threshold, deleting the content in the editable content area by sequentially deleting a plurality of sub-units of the content at a rate that varies based on the characteristic intensity of the contact.

In accordance with some embodiments, a method is performed at an electronic device with a display, a touch-sensitive surface, and one or more sensors to detect intensities of contacts with the touch-sensitive surface. The method includes: displaying, on the display, a messaging interface that includes a conversation transcript and a message input area, wherein the message input area includes an affordance for sending a message; while the message input area contains message content, detecting a first input by a contact at a location of the touch-sensitive surface that corresponds to the affordance for sending the message; determining a characteristic intensity of the contact in the first input; in response to detecting the first input: in accordance with a determination that the first input meets send criteria, wherein the send criteria do not require that a characteristic intensity of the contact meet a first intensity threshold in order for the send criteria to be met, initiating sending the message content to a remote device; and, in accordance with a determination that the contact meets message impact criteria, wherein the message impact criteria required that the characteristic intensity of the contact meet the first intensity threshold in order for the message impact criteria to be met, displaying a plurality of message impact effect options for changing an animation that is displayed when the message is received at the remote device; while displaying the plurality of message impact effect options, detecting a second input by a contact to send the message content with a selected message impact effect option of the plurality of impact effect options; and in response to detecting the second input, in accordance with a determination that the second input was received at a location on the touch-sensitive surface that corresponds to a first message impact effect option of the plurality of impact effect options, initiating sending, to the remote device, the message content with the first message impact effect option.

In accordance with some embodiments, a method is performed at an electronic device with a display, a touch-sensitive surface, and one or more sensors to detect intensities of contacts with the touch-sensitive surface. The method includes: displaying, on the display, a user interface that includes a plurality of activatable objects, including a first activatable object with a first visual appearance, wherein the device is configured to: for intensity-reactive activatable objects, perform operations corresponding to the intensity-reactive activatable objects based on characteristic intensities of inputs on the touch-sensitive surface that correspond to the intensity-reactive activatable objects, such that when a characteristic intensity of a contact that is providing input that corresponds to a respective intensity-reactive activatable object on the touch-sensitive surface meets intensity-based activation criteria, an operation corresponding to the respective intensity-reactive activatable object is performed as a result of the characteristic intensity of the contact meeting the intensity-based activation criteria; and for intensity-nonreactive activatable objects, perform operations corresponding to the intensity-nonreactive activatable objects without regard to whether inputs on the touch-sensitive surface that correspond to the intensity-nonreactive activatable objects meet the intensity-based activation criteria, such that when a characteristic intensity of a contact that is providing input that corresponds to a respective intensity-nonreactive activatable object on the touch-sensitive surface meets the intensity-based activation criteria, an operation corresponding to the respective intensity-nonreactive activatable object is not performed as a result of the characteristic intensity of the contact meeting the intensity-based activation criteria; while displaying the user interface on the display, detecting an input that corresponds to a request to select the first activatable object in the plurality of activatable objects, wherein a characteristic intensity of the input fails to meet the intensity-based activation criteria during the input; and in response to detecting the input: in accordance with a determination that the first activatable object is an intensity-reactive activatable object, displaying the first activatable object with a first transformation from its first visual appearance; and, in accordance with a determination that the first activatable object is an intensity-nonreactive activatable object, displaying the first activatable object without displaying the first transformation.

In accordance with some embodiments, a method is performed at an electronic device with a display, a touch-sensitive surface, and one or more sensors to detect intensities of contacts with the touch-sensitive surface: while displaying a user interface, detecting an input by a contact at a first location on the touch-sensitive surface that corresponds to a first activatable user interface object on the display; and, in response to detecting the input by the contact: in accordance with a determination that the first activatable user interface object is intensity-reactive, changing a visual appearance of the first activatable user interface object in accordance with changes in a detected intensity of the contact on the touch-sensitive surface; and, in accordance with a determination that the first activatable user interface object is intensity-nonreactive, changing the visual appearance of the first activatable user interface object by a predetermined amount.

In accordance with some embodiments, a method is performed at an electronic device with a display, a touch-sensitive surface, and one or more sensors to detect intensities of contacts with the touch-sensitive surface. The method includes: displaying a user interface that includes a plurality of activatable user interface objects; while displaying the user interface, detecting a first portion of an input by a contact at a first location on the touch-sensitive surface that corresponds to a first user interface object on the display; in response to detecting the first portion of the input: changing a visual appearance of the first user interface object by applying a first visual transformation to the first user interface object, wherein the first visual transformation corresponds to a first user interface operation; after changing the visual appearance of the first user interface object by applying the first visual transformation to the first user interface object, detecting a second portion of the input; and in response to detecting the second portion of the input: in accordance with a determination that the second portion of the input is consistent with the first user interface operation, performing the first user interface operation; and in accordance with a determination that the second portion of the input includes a gradual change in a first parameter that is indicative of performance of a second user interface operation, dynamically reducing the first visual transformation as the first parameter gradually changes without performing the first user interface operation.

In accordance with some embodiments, a method is performed at an electronic device with a display, a touch-sensitive surface, and one or more sensors to detect intensities of contacts with the touch-sensitive surface. The method includes: displaying a user interface that includes a plurality of activatable user interface objects; while displaying the user interface, detecting a first portion of an input by a contact at a first location on the touch-sensitive surface that corresponds to a first user interface object on the display; in response to detecting the first portion of the input by the contact: changing a visual appearance of the first user interface object to indicate that an operation corresponding to the first user interface object will be performed in response to detecting liftoff of the contact from the touch-sensitive surface, wherein the change in the visual appearance includes applying a first transformation to the first user interface object; detecting a second portion of the input by the contact, wherein the second portion of the input immediately follows the first portion of the input; and, in response to detecting the second portion of the input by the contact: in accordance with a determination that the second portion of the input includes a gradual change in a first input parameter and corresponds to a first gesture, changing the visual appearance of the first user interface object by dynamically reducing the first transformation and applying a second transformation corresponding to the first gesture as the first input parameter gradually changes; and, in accordance with a determination that the second portion of the input includes a gradual change in a second input parameter and corresponds to a second gesture, changing the visual appearance of the first user interface object by dynamically reducing the first transformation and applying a third transformation corresponding to the second gesture as the second input parameter gradually changes.

In accordance with some embodiments, a method is performed at an electronic device with a display, a touch-sensitive surface, and one or more sensors to detect intensities of contacts with the touch-sensitive surface. The method includes: displaying a first user interface that includes a plurality of activatable user interface objects; while displaying the first user interface, detecting an input by a contact at a first location on the touch-sensitive surface that corresponds to a first activatable user interface object on the display, wherein: the first activatable user interface object is associated with a control function with three or more available values; and a first value of the control function is selected as a current value for the control function; in response to detecting the input by the contact: in accordance with a determination that the input meets toggle criteria, wherein the toggle criteria do not require that a characteristic intensity of the contact on the touch-sensitive surface meets a first intensity threshold in order for the toggle criteria to be met, toggling the control function that corresponds to the first activatable user interface object between a first state that is based on the current value for the control function and a second state; and, in accordance with a determination that the input meets control adjustment criteria, wherein the control adjustment criteria require that the characteristic intensity of the contact on the touch-sensitive surface meets the first intensity threshold in order for the control adjustment criteria to be met, displaying a second user interface that includes a second activatable user interface object that has three or more state options that correspond to the three or more available values for the control function; and while displaying the second user interface and continuing to detect the contact: detecting movement of the contact across the touch-sensitive surface; ceasing to detect the contact; and, in response to detecting the movement of the contact across the touch-sensitive surface, changing the current value for the control function based on the movement of the contact.

In accordance with some embodiments, an electronic device includes a display, a touch-sensitive surface, optionally one or more sensors to detect intensity of contacts with the touch-sensitive surface, one or more processors, memory, and one or more programs; the one or more programs are stored in the memory and configured to be executed by the one or more processors and the one or more programs include instructions for performing or causing performance of the operations of any of the methods described herein. In accordance with some embodiments, a computer readable storage medium has stored therein instructions which when executed by an electronic device with a display, a touch-sensitive surface, and optionally one or more sensors to detect intensity of contacts with the touch-sensitive surface, cause the device to perform or cause performance of the operations of any of the methods described herein. In accordance with some embodiments, a graphical user interface on an electronic device with a display, a touch-sensitive surface, optionally one or more sensors to detect intensity of contacts with the touch-sensitive surface, a memory, and one or more processors to execute one or more programs stored in the memory includes one or more of the elements displayed in any of the methods described herein, which are updated in response to inputs, as described in any of the methods described herein. In accordance with some embodiments, an electronic device includes: a display, a touch-sensitive surface, and optionally one or more sensors to detect intensity of contacts with the touch-sensitive surface; and means for performing or causing performance of the operations of any of the methods described herein. In accordance with some embodiments, an information processing apparatus, for use in an electronic device with a display and a touch-sensitive surface, and optionally one or more sensors to detect intensity of contacts with the touch-sensitive surface, includes means for performing or causing performance of the operations of any of the methods described herein.

Thus, electronic devices with displays, touch-sensitive surfaces and optionally one or more sensors to detect intensity of contacts with the touch-sensitive surface are provided with faster, more efficient methods and interfaces for providing access to content and functions of applications without first launching the application, thereby increasing the effectiveness, efficiency, and user satisfaction with such devices. Such methods and interfaces may complement or replace conventional methods for accessing content and functions of an application.

BRIEF DESCRIPTION OF THE DRAWINGS

For a better understanding of the various described embodiments, reference should be made to the Description of Embodiments below, in conjunction with the following drawings in which like reference numerals refer to corresponding parts throughout the figures.

FIG. **1**A is a block diagram illustrating a portable multifunction device with a touch-sensitive display in accordance with some embodiments.

FIG. **1**B is a block diagram illustrating example components for event handling in accordance with some embodiments.

FIG. **2** illustrates a portable multifunction device having a touch screen in accordance with some embodiments.

FIG. **3** is a block diagram of an example multifunction device with a display and a touch-sensitive surface in accordance with some embodiments.

FIG. **4**A illustrates an example user interface for a menu of applications on a portable multifunction device in accordance with some embodiments.

FIG. **4**B illustrates an example user interface for a multifunction device with a touch-sensitive surface that is separate from the display in accordance with some embodiments.

FIGS. **4**C-**4**E illustrate examples of dynamic intensity thresholds in accordance with some embodiments.

FIGS. **5**A**1**-**5**I**9** illustrate example user interfaces for interacting with a notification associated with a respective application (e.g., to access a subset of functions and/or content of the respective application from the notification without having to first activate the respective application), in accordance with some embodiments.

FIGS. **5**J**1**-**5**P**2** illustrate example user interfaces for displaying a contextual content object (e.g., a mini application object) associated with a respective application (e.g., to provide access to a subset of functions and content of the respective application without having to first activate the respective application), in accordance with some embodiments.

FIGS. **5**Q**1**-**5**S**5** illustrate user interfaces for interacting with a menu of applications that includes an application that is in the process of being downloaded (e.g., providing a menu of options to quickly invoke one of several download-related quick actions with respect to the application that is in the process of being downloaded), in accordance with some embodiments.

FIGS. **5**T**1**-**5**T**15** illustrate user interfaces for interacting with a menu of applications that include a folder of applications (e.g., selectively providing a menu for quickly launching a respective application with unread notifications from the folder containing multiple applications without having to first open the folder), in accordance with some embodiments.

FIGS. **5**U**1**-**5**W**5** illustrate user interfaces for quickly entering a rename and icon reconfiguration mode for an application folder (e.g., without having to first open the folder), in accordance with some embodiments.

FIGS. **6**A-**6**Y illustrate exemplary user interfaces for modifying the functionality of a control affordance in accordance with some embodiments.

FIGS. **7**A-**7**W illustrate exemplary user interfaces for deleting content in accordance with some embodiments.

FIGS. **8**A-**8**AI illustrate exemplary user interfaces for detecting input at a messaging interface in accordance with some embodiments.

FIGS. **9**A**1**-**9**A**25** illustrate exemplary user interfaces for displaying intensity-reactive and intensity-nonreactive user interface objects, in accordance with some embodiments.

FIGS. **9**B**1**-**9**B**10** illustrate exemplary user interfaces for displaying intensity-reactive and intensity-nonreactive user interface objects, in accordance with some embodiments.

FIGS. **9**C**1**-**9**C**19** illustrate exemplary user interfaces for displaying control settings interfaces for control functions for remote devices, in accordance with some embodiments.

FIGS. **10**A-**10**D are flow diagrams illustrating a method for interacting with a notification associated with a respective application (e.g., launching an application from a notification associated with the notification or displaying an expanded version of the notification based on detected user input) in accordance with some embodiments.

FIG. **11** is a functional block diagram of an electronic device for interacting with a notification associated with a respective application (e.g., launching an application from a notification associated with the notification or displaying an expanded version of the notification based on the user input), in accordance with some embodiments.

FIGS. **12**A-**12**F are flow diagrams illustrating a method for interacting with an application launching icon (e.g., launching an application or displaying a contextual content object associated with the application based on detected user input) in accordance with some embodiments.

FIG. **13** is a functional block diagram of an electronic device for interacting with an application launching icon (e.g., launching an application or displaying a contextual content object associated with the application based on detected user input), in accordance with some embodiments.

FIGS. **14**A-**14**C are flow diagrams illustrating a method for interacting with a menu of applications including an application that is in the process of being downloaded (e.g., presenting menu options with respect to downloading the application based on detected user input) in accordance with some embodiments.

FIG. **15** is a functional block diagram of an electronic device for interacting with a menu of applications including an application that is in the process of being downloaded (e.g., presenting menu options with respect to downloading the application based on detected user input), in accordance with some embodiments.

FIGS. **16**A-**16**C are flow diagrams illustrating a method for interacting with a menu of applications that include a folder of applications (e.g., selectively presenting application launching options for respective applications within a folder (e.g., applications with unread notifications) based on detected user input), in accordance with some embodiments.

FIG. **17** is a functional block diagram of an electronic device for interacting with a menu of applications that include a folder of applications (e.g., selectively presenting application launching options for respective applications within a folder (e.g., applications with unread notifications) based on the user input), in accordance with some embodiments.

FIGS. 18A-18D are flow diagrams illustrating a method of modifying the functionality of a control affordance in accordance with some embodiments.

FIG. 19 is a functional block diagram of an electronic device for modifying the functionality of a control affordance in accordance with some embodiments.

FIGS. 20A-20G are flow diagrams illustrating a method of deleting content in accordance with some embodiments.

FIG. 21 is a functional block diagram of an electronic device in accordance with some embodiments.

FIGS. 22A-22G are flow diagrams illustrating a method of detecting input at a messaging interface in accordance with some embodiments.

FIG. 23 is a functional block diagram of an electronic device in accordance with some embodiments.

FIGS. 24A1-24A3 are flow diagrams illustrating a method of displaying intensity-reactive and intensity-nonreactive user interface objects in accordance with some embodiments.

FIGS. 24B1-24B3 are flow diagrams illustrating a method of displaying intensity-reactive and intensity-nonreactive user interface objects in accordance with some embodiments.

FIG. 25 is a functional block diagram of an electronic device in accordance with some embodiments.

FIG. 26 is a functional block diagram of an electronic device in accordance with some embodiments.

FIGS. 27A1-27A5 are flow diagrams illustrating a method of displaying intensity-reactive and intensity-nonreactive user interface objects in accordance with some embodiments.

FIGS. 27B1-27B3 are flow diagrams illustrating a method of displaying intensity-reactive and intensity-nonreactive user interface objects in accordance with some embodiments.

FIG. 28 is a functional block diagram of an electronic device in accordance with some embodiments.

FIG. 29 is a functional block diagram of an electronic device in accordance with some embodiments.

FIGS. 30A-30E are flow diagrams illustrating a method of displaying control settings interfaces for control functions for remote devices in accordance with some embodiments.

FIG. 31 is a functional block diagram of an electronic device in accordance with some embodiments.

DESCRIPTION OF EMBODIMENTS

The methods, devices and GUIs described herein provide visual and/or haptic feedback that makes manipulation of user interface objects more efficient and intuitive for a user.

In some embodiments, in a system where a trackpad or touch-screen display is sensitive to a range of contact intensity that includes more than one or two specific intensity values (e.g., more than a simple on/off, binary intensity determination), the user interface provides responses (e.g., visual and/or tactile cues) that are indicative of the intensity of the contact within the range. This provides a user with a continuous response to the force or pressure of a user's contact, which provides a user with visual and/or haptic feedback that is richer and more intuitive. For example, such continuous force responses give the user the experience of being able to press lightly to preview an operation and/or press deeply to push to a predefined user interface state corresponding to the operation.

In some embodiments, for a device with a touch-sensitive surface that is sensitive to a range of contact intensity, multiple contact intensity thresholds are monitored by the device and different responses are mapped to different contact intensity thresholds.

In some embodiments, for a device with a touch-sensitive surface that is sensitive to a range of contact intensity, the device provides additional functionality by allowing users to perform complex operations with a single continuous contact.

In some embodiments, for a device with a touch-sensitive surface that is sensitive to a range of contact intensity, the device provides additional functionality that complements conventional functionality. For example, additional functions provided by intensity-based inputs (e.g., user interface previews and/or navigation shortcuts provided by light-press and/or deep-press gestures) are seamlessly integrated with conventional functions provided by conventional tap and swipe gestures. A user can continue to use conventional gestures to perform conventional functions (e.g., tapping on an application icon on a home screen to launch the corresponding application), without accidentally activating the additional functions. Yet it is also simple for a user to discover, understand, and use the intensity-based inputs and their added functionality (e.g., pressing on a notification, a contextual content object, a mini application object, a folder icon, a downloading icon, and/or an application icon on a background user interface (e.g., the notification center user interface, the home screen, the widget view, etc.), allows a user to access a subset of content, functionalities, menu options from a corresponding application without having to first launch the corresponding application, and without having to leave the current context (e.g., another application, and/or the background user interface).

A number of different approaches for manipulating user interfaces are described herein. Using one or more of these approaches (optionally in conjunction with each other) helps to provide a user interface that intuitively provides users with additional information and functionality. Using one or more of these approaches (optionally in conjunction with each other) reduces the number, extent, and/or nature of the inputs from a user and provides a more efficient human-machine interface. This enables users to use devices that have touch-sensitive surfaces faster and more efficiently. For battery-operated devices, these improvements conserve power and increase the time between battery charges.

Below, FIGS. 1A-1B, 2, and 3 provide a description of example devices. FIGS. 4A-4B provide a description of example user interfaces on portable multifunction device 100 in accordance with some embodiments. FIGS. 4C-4E illustrate examples of dynamic intensity thresholds in accordance with some embodiments.

FIGS. 5A1-5I9 illustrate example user interfaces for interacting with a notification associated with a respective application (e.g., to access a subset of functions and content of the respective application from the notifications without having to first activate the respective application), in accordance with some embodiments.

FIGS. 5J1-5P2 illustrate example user interfaces for displaying a contextual content object (e.g., a mini application object) associated with a respective application (e.g., to access a subset of functions and content of the respective application from the contextual content object without having to first activate the respective application), in accordance with some embodiments.

FIGS. 5Q1-5S5 illustrate user interfaces for interacting with a menu of applications that include an application that is in the process of being downloaded (e.g., providing a menu of options to quickly invoke one of several download-related quick actions with respect to the application that is in the process of being downloaded), in accordance with some embodiments.

FIGS. **5**T**1**-**5**T**15** illustrate user interfaces for interacting with a menu of applications that includes a folder of applications (e.g., selectively providing a menu for quickly launching a respective application with unread notifications from the folder containing multiple applications without having to first open the folder, in accordance with some embodiments.

FIGS. **5**U**1**-**5**W**5** illustrate user interfaces for quickly entering a rename and reconfiguration mode for an application folder (e.g., without having to first open the folder), in accordance with some embodiments.

FIGS. **10**A-**10**D are flow diagrams illustrating a method of interacting with a notification associated with a respective application (e.g., to launch the respective application or to access expanded notification content), in accordance with some embodiments. FIGS. **12**A-**12**F are flow diagrams illustrating a method of interacting with an application launching icon associated with a respective application (e.g., to launch the respective application or present contextual content (e.g., in a contextual content object) associated with the respective application without first launching the respective application), in accordance with some embodiments. FIGS. **14**A-**14**C are flow diagrams illustrating a method of interacting with a menu of applications (e.g., presenting selectable options for actions for a respective application (e.g., when the respective application is in the process of being downloaded and/or after the download is complete)), in accordance with some embodiments. FIGS. **16**A-**16**C are flow diagrams illustrating a method of interacting with a menu of applications that include a folder of applications (e.g., presenting selectable options for selectively launching applications (e.g., applications with unread notifications) from the folder containing one or more applications), in accordance with some embodiments. The user interfaces in FIGS. **5**A**1**-**5**W**5** are used to illustrate the processes in FIGS. **10**A-**10**D, **12**A-**12**F, **14**A-**14**C, and **16**A-**16**C.

Below, FIGS. **6**A-**6**Y illustrate exemplary user interfaces for modifying the functionality of a control affordance. FIGS. **18**A-**18**D are flow diagrams illustrating a method of modifying the functionality of a control affordance. The user interfaces in FIGS. **6**A-**6**Y are used to illustrate the processes in FIGS. **18**A-**18**D.

Below, FIGS. **7**A-**7**W illustrate exemplary user interfaces for deleting content. FIGS. **20**A-**20**G are flow diagrams illustrating a method of deleting content. The user interfaces in FIGS. **7**A-**7**W are used to illustrate the processes in FIGS. **20**A-**20**G.

Below, FIGS. **8**A-**8**AI illustrate exemplary user interfaces for detecting input at a messaging interface. FIGS. **22**A-**22**G are flow diagrams illustrating a method of detecting input at a messaging interface. The user interfaces in FIGS. **8**A-**8**AI are used to illustrate the processes in FIGS. **22**A-**22**G.

Below FIGS. **9**A**1**-**9**A**25** illustrate exemplary user interfaces for displaying intensity-reactive and intensity-nonreactive user interface objects, in accordance with some embodiments. FIGS. **24**A**1**-**24**A**3** are flow diagrams illustrating a method of displaying intensity-reactive and intensity-nonreactive user interface objects in accordance with some embodiments. FIGS. **24**B**1**-**24**B**3** are flow diagrams illustrating a method of displaying intensity-reactive and intensity-nonreactive user interface objects in accordance with some embodiments. The user interfaces in FIGS. **9**A**1**-**9**A**25** are used to illustrate the processes in FIGS. **24**A**1**-**24**A**3** and **24**B**1**-**24**B**3**.

Below FIGS. **9**B**1**-**9**B**10** illustrate exemplary user interfaces for displaying intensity-reactive and intensity-nonreactive user interface objects, in accordance with some embodiments. FIGS. **27**A**1**-**27**A**5** are flow diagrams illustrating a method of displaying intensity-reactive and intensity-nonreactive user interface objects in accordance with some embodiments. FIGS. **27**B**1**-**27**B**3** are flow diagrams illustrating a method of displaying intensity-reactive and intensity-nonreactive user interface objects in accordance with some embodiments. The user interfaces in FIGS. **9**B**1**-**9**B**10** are used to illustrate the processes in FIGS. **27**A**1**-**27**A**5** and **27**B**1**-**27**B**3**.

FIGS. **9**C**1**-**9**C**19** illustrate exemplary user interfaces for displaying control settings interfaces for control functions for remote devices, in accordance with some embodiments. FIGS. **30**A-**30**E are flow diagrams illustrating a method of displaying control settings interfaces for control functions for remote devices in accordance with some embodiments. The user interfaces in FIGS. **9**C**1**-**9**C**19** are used to illustrate the processes in FIGS. **30**A-**30**E.

EXAMPLE DEVICES

Reference will now be made in detail to embodiments, examples of which are illustrated in the accompanying drawings. In the following detailed description, numerous specific details are set forth in order to provide a thorough understanding of the various described embodiments. However, it will be apparent to one of ordinary skill in the art that the various described embodiments may be practiced without these specific details. In other instances, well-known methods, procedures, components, circuits, and networks have not been described in detail so as not to unnecessarily obscure aspects of the embodiments.

It will also be understood that, although the terms first, second, etc. are, in some instances, used herein to describe various elements, these elements should not be limited by these terms. These terms are only used to distinguish one element from another. For example, a first contact could be termed a second contact, and, similarly, a second contact could be termed a first contact, without departing from the scope of the various described embodiments. The first contact and the second contact are both contacts, but they are not the same contact, unless the context clearly indicates otherwise.

The terminology used in the description of the various described embodiments herein is for the purpose of describing particular embodiments only and is not intended to be limiting. As used in the description of the various described embodiments and the appended claims, the singular forms "a," "an," and "the" are intended to include the plural forms as well, unless the context clearly indicates otherwise. It will also be understood that the term "and/or" as used herein refers to and encompasses any and all possible combinations of one or more of the associated listed items. It will be further understood that the terms "includes," "including," "comprises," and/or "comprising," when used in this specification, specify the presence of stated features, integers, steps, operations, elements, and/or components, but do not preclude the presence or addition of one or more other features, integers, steps, operations, elements, components, and/or groups thereof.

As used herein, the term "if" is, optionally, construed to mean "when" or "upon" or "in response to determining" or "in response to detecting," depending on the context. Similarly, the phrase "if it is determined" or "if [a stated condition or event] is detected" is, optionally, construed to mean "upon determining" or "in response to determining" or "upon detecting [the stated condition or event]" or "in response to detecting [the stated condition or event]," depending on the context.

Embodiments of electronic devices, user interfaces for such devices, and associated processes for using such devices are described. In some embodiments, the device is a portable communications device, such as a mobile telephone, that also contains other functions, such as PDA and/or music player functions. Example embodiments of portable multifunction devices include, without limitation, the iPhone®, iPod Touch®, and iPad® devices from Apple Inc. of Cupertino, California. Other portable electronic devices, such as laptops or tablet computers with touch-sensitive surfaces (e.g., touch-screen displays and/or touchpads), are, optionally, used. It should also be understood that, in some embodiments, the device is not a portable communications device, but is a desktop computer with a touch-sensitive surface (e.g., a touch-screen display and/or a touchpad).

In the discussion that follows, an electronic device that includes a display and a touch-sensitive surface is described. It should be understood, however, that the electronic device optionally includes one or more other physical user-interface devices, such as a physical keyboard, a mouse and/or a joystick.

The device typically supports a variety of applications, such as one or more of the following: a note taking application, a drawing application, a presentation application, a word processing application, a website creation application, a disk authoring application, a spreadsheet application, a gaming application, a telephone application, a video conferencing application, an e-mail application, an instant messaging application, a workout support application, a photo management application, a digital camera application, a digital video camera application, a web browsing application, a digital music player application, and/or a digital video player application.

The various applications that are executed on the device optionally use at least one common physical user-interface device, such as the touch-sensitive surface. One or more functions of the touch-sensitive surface as well as corresponding information displayed on the device are, optionally, adjusted and/or varied from one application to the next and/or within a respective application. In this way, a common physical architecture (such as the touch-sensitive surface) of the device optionally supports the variety of applications with user interfaces that are intuitive and transparent to the user.

Attention is now directed toward embodiments of portable devices with touch-sensitive displays. FIG. **1A** is a block diagram illustrating portable multifunction device **100** with touch-sensitive display system **112** in accordance with some embodiments. Touch-sensitive display system **112** is sometimes called a "touch screen" for convenience, and is sometimes simply called a touch-sensitive display. Device **100** includes memory **102** (which optionally includes one or more computer readable storage mediums), memory controller **122**, one or more processing units (CPUs) **120**, peripherals interface **118**, RF circuitry **108**, audio circuitry **110**, speaker **111**, microphone **113**, input/output (I/O) subsystem **106**, other input or control devices **116**, and external port **124**. Device **100** optionally includes one or more optical sensors **164**. Device **100** optionally includes one or more intensity sensors **165** for detecting intensity of contacts on device **100** (e.g., a touch-sensitive surface such as touch-sensitive display system **112** of device **100**). Device **100** optionally includes one or more tactile output generators **167** for generating tactile outputs on device **100** (e.g., generating tactile outputs on a touch-sensitive surface such as touch-sensitive display system **112** of device **100** or touchpad **355** of device **300**). These components optionally communicate over one or more communication buses or signal lines **103**.

As used in the specification and claims, the term "tactile output" refers to physical displacement of a device relative to a previous position of the device, physical displacement of a component (e.g., a touch-sensitive surface) of a device relative to another component (e.g., housing) of the device, or displacement of the component relative to a center of mass of the device that will be detected by a user with the user's sense of touch. For example, in situations where the device or the component of the device is in contact with a surface of a user that is sensitive to touch (e.g., a finger, palm, or other part of a user's hand), the tactile output generated by the physical displacement will be interpreted by the user as a tactile sensation corresponding to a perceived change in physical characteristics of the device or the component of the device. For example, movement of a touch-sensitive surface (e.g., a touch-sensitive display or trackpad) is, optionally, interpreted by the user as a "down click" or "up click" of a physical actuator button. In some cases, a user will feel a tactile sensation such as an "down click" or "up click" even when there is no movement of a physical actuator button associated with the touch-sensitive surface that is physically pressed (e.g., displaced) by the user's movements. As another example, movement of the touch-sensitive surface is, optionally, interpreted or sensed by the user as "roughness" of the touch-sensitive surface, even when there is no change in smoothness of the touch-sensitive surface. While such interpretations of touch by a user will be subject to the individualized sensory perceptions of the user, there are many sensory perceptions of touch that are common to a large majority of users. Thus, when a tactile output is described as corresponding to a particular sensory perception of a user (e.g., an "up click," a "down click," "roughness"), unless otherwise stated, the generated tactile output corresponds to physical displacement of the device or a component thereof that will generate the described sensory perception for a typical (or average) user.

It should be appreciated that device **100** is only one example of a portable multifunction device, and that device **100** optionally has more or fewer components than shown, optionally combines two or more components, or optionally has a different configuration or arrangement of the components. The various components shown in FIG. **1A** are implemented in hardware, software, firmware, or a combination thereof, including one or more signal processing and/or application specific integrated circuits.

Memory **102** optionally includes high-speed random access memory and optionally also includes non-volatile memory, such as one or more magnetic disk storage devices, flash memory devices, or other non-volatile solid-state memory devices. Access to memory **102** by other components of device **100**, such as CPU(s) **120** and the peripherals interface **118**, is, optionally, controlled by memory controller **122**.

Peripherals interface **118** can be used to couple input and output peripherals of the device to CPU(s) **120** and memory **102**. The one or more processors **120** run or execute various software programs and/or sets of instructions stored in memory **102** to perform various functions for device **100** and to process data.

In some embodiments, peripherals interface **118**, CPU(s) **120**, and memory controller **122** are, optionally, implemented on a single chip, such as chip **104**. In some other embodiments, they are, optionally, implemented on separate chips.

RF (radio frequency) circuitry **108** receives and sends RF signals, also called electromagnetic signals. RF circuitry **108** converts electrical signals to/from electromagnetic signals and communicates with communications networks and other communications devices via the electromagnetic signals. RF circuitry **108** optionally includes well-known circuitry for performing these functions, including but not limited to an antenna system, an RF transceiver, one or more amplifiers, a tuner, one or more oscillators, a digital signal processor, a CODEC chipset, a subscriber identity module (SIM) card, memory, and so forth. RF circuitry **108** optionally communicates with networks, such as the Internet, also referred to as the World Wide Web (WWW), an intranet and/or a wireless network, such as a cellular telephone network, a wireless local area network (LAN) and/or a metropolitan area network (MAN), and other devices by wireless communication. The wireless communication optionally uses any of a plurality of communications standards, protocols and technologies, including but not limited to Global System for Mobile Communications (GSM), Enhanced Data GSM Environment (EDGE), high-speed downlink packet access (HSDPA), high-speed uplink packet access (HSUPA), Evolution, Data-Only (EV-DO), HSPA, HSPA+, Dual-Cell HSPA (DC-HSPDA), long term evolution (LTE), near field communication (NFC), wideband code division multiple access (W-CDMA), code division multiple access (CDMA), time division multiple access (TDMA), Bluetooth, Wireless Fidelity (Wi-Fi) (e.g., IEEE 802.11a, IEEE 802.11ac, IEEE 802.11ax, IEEE 802.11b, IEEE 802.11g and/or IEEE 802.11n), voice over Internet Protocol (VoIP), Wi-MAX, a protocol for e-mail (e.g., Internet message access protocol (IMAP) and/or post office protocol (POP)), instant messaging (e.g., extensible messaging and presence protocol (XMPP), Session Initiation Protocol for Instant Messaging and Presence Leveraging Extensions (SIMPLE), Instant Messaging and Presence Service (IMPS)), and/or Short Message Service (SMS), or any other suitable communication protocol, including communication protocols not yet developed as of the filing date of this document.

Audio circuitry **110**, speaker **111**, and microphone **113** provide an audio interface between a user and device **100**. Audio circuitry **110** receives audio data from peripherals interface **118**, converts the audio data to an electrical signal, and transmits the electrical signal to speaker **111**. Speaker **111** converts the electrical signal to human-audible sound waves. Audio circuitry **110** also receives electrical signals converted by microphone **113** from sound waves. Audio circuitry **110** converts the electrical signal to audio data and transmits the audio data to peripherals interface **118** for processing. Audio data is, optionally, retrieved from and/or transmitted to memory **102** and/or RF circuitry **108** by peripherals interface **118**. In some embodiments, audio circuitry **110** also includes a headset jack (e.g., **212**, FIG. **2**). The headset jack provides an interface between audio circuitry **110** and removable audio input/output peripherals, such as output-only headphones or a headset with both output (e.g., a headphone for one or both ears) and input (e.g., a microphone).

I/O subsystem **106** couples input/output peripherals on device **100**, such as touch-sensitive display system **112** and other input or control devices **116**, with peripherals interface **118**. I/O subsystem **106** optionally includes display controller **156**, optical sensor controller **158**, intensity sensor controller **159**, haptic feedback controller **161**, and one or more input controllers **160** for other input or control devices. The one or more input controllers **160** receive/send electrical signals from/to other input or control devices **116**. The other input or control devices **116** optionally include physical buttons (e.g., push buttons, rocker buttons, etc.), dials, slider switches, joysticks, click wheels, and so forth. In some alternate embodiments, input controller(s) **160** are, optionally, coupled with any (or none) of the following: a keyboard, infrared port, USB port, stylus, and/or a pointer device such as a mouse. The one or more buttons (e.g., **208**, FIG. **2**) optionally include an up/down button for volume control of speaker **111** and/or microphone **113**. The one or more buttons optionally include a push button (e.g., **206**, FIG. **2**).

Touch-sensitive display system **112** provides an input interface and an output interface between the device and a user. Display controller **156** receives and/or sends electrical signals from/to touch-sensitive display system **112**. Touch-sensitive display system **112** displays visual output to the user. The visual output optionally includes graphics, text, icons, video, and any combination thereof (collectively termed "graphics"). In some embodiments, some or all of the visual output corresponds to user interface objects. As used herein, the term "affordance" refers to a user-interactive graphical user interface object (e.g., a graphical user interface object that is configured to respond to inputs directed toward the graphical user interface object). Examples of user-interactive graphical user interface objects include, without limitation, a button, slider, icon, selectable menu item, switch, hyperlink, or other user interface control.

Touch-sensitive display system **112** has a touch-sensitive surface, sensor or set of sensors that accepts input from the user based on haptic and/or tactile contact. Touch-sensitive display system **112** and display controller **156** (along with any associated modules and/or sets of instructions in memory **102**) detect contact (and any movement or breaking of the contact) on touch-sensitive display system **112** and converts the detected contact into interaction with user-interface objects (e.g., one or more soft keys, icons, web pages or images) that are displayed on touch-sensitive display system **112**. In an example embodiment, a point of contact between touch-sensitive display system **112** and the user corresponds to a finger of the user or a stylus.

Touch-sensitive display system **112** optionally uses LCD (liquid crystal display) technology, LPD (light emitting polymer display) technology, or LED (light emitting diode) technology, although other display technologies are used in other embodiments. Touch-sensitive display system **112** and display controller **156** optionally detect contact and any movement or breaking thereof using any of a plurality of touch sensing technologies now known or later developed, including but not limited to capacitive, resistive, infrared, and surface acoustic wave technologies, as well as other proximity sensor arrays or other elements for determining one or more points of contact with touch-sensitive display system **112**. In an example embodiment, projected mutual capacitance sensing technology is used, such as that found in the iPhone®, iPod Touch®, and iPad® from Apple Inc. of Cupertino, California.

Touch-sensitive display system **112** optionally has a video resolution in excess of 100 dpi. In some embodiments, the touch screen video resolution is in excess of 400 dpi (e.g., 500 dpi, 800 dpi, or greater). The user optionally makes contact with touch-sensitive display system **112** using any suitable object or appendage, such as a stylus, a finger, and so forth. In some embodiments, the user interface is designed to work with finger-based contacts and gestures, which can be less precise than stylus-based input due to the larger area of contact of a finger on the touch screen. In some embodiments, the device translates the rough finger-based input into a precise pointer/cursor position or command for performing the actions desired by the user.

In some embodiments, in addition to the touch screen, device **100** optionally includes a touchpad (not shown) for activating or deactivating particular functions. In some embodiments, the touchpad is a touch-sensitive area of the device that, unlike the touch screen, does not display visual output. The touchpad is, optionally, a touch-sensitive surface that is separate from touch-sensitive display system **112** or an extension of the touch-sensitive surface formed by the touch screen.

Device **100** also includes power system **162** for powering the various components. Power system **162** optionally includes a power management system, one or more power sources (e.g., battery, alternating current (AC)), a recharging system, a power failure detection circuit, a power converter or inverter, a power status indicator (e.g., a light-emitting diode (LED)) and any other components associated with the generation, management and distribution of power in portable devices.

Device **100** optionally also includes one or more optical sensors **164**. FIG. **1**A shows an optical sensor coupled with optical sensor controller **158** in I/O subsystem **106**. Optical sensor(s) **164** optionally include charge-coupled device (CCD) or complementary metal-oxide semiconductor (CMOS) phototransistors. Optical sensor(s) **164** receive light from the environment, projected through one or more lens, and converts the light to data representing an image. In conjunction with imaging module **143** (also called a camera module), optical sensor(s) **164** optionally capture still images and/or video. In some embodiments, an optical sensor is located on the back of device **100**, opposite touch-sensitive display system **112** on the front of the device, so that the touch screen is enabled for use as a viewfinder for still and/or video image acquisition. In some embodiments, another optical sensor is located on the front of the device so that the user's image is obtained (e.g., for selfies, for videoconferencing while the user views the other video conference participants on the touch screen, etc.).

Device **100** optionally also includes one or more contact intensity sensors **165**. FIG. **1**A shows a contact intensity sensor coupled with intensity sensor controller **159** in I/O subsystem **106**. Contact intensity sensor(s) **165** optionally include one or more piezoresistive strain gauges, capacitive force sensors, electric force sensors, piezoelectric force sensors, optical force sensors, capacitive touch-sensitive surfaces, or other intensity sensors (e.g., sensors used to measure the force (or pressure) of a contact on a touch-sensitive surface). Contact intensity sensor(s) **165** receive contact intensity information (e.g., pressure information or a proxy for pressure information) from the environment. In some embodiments, at least one contact intensity sensor is collocated with, or proximate to, a touch-sensitive surface (e.g., touch-sensitive display system **112**). In some embodiments, at least one contact intensity sensor is located on the back of device **100**, opposite touch-screen display system **112** which is located on the front of device **100**.

Device **100** optionally also includes one or more proximity sensors **166**. FIG. **1**A shows proximity sensor **166** coupled with peripherals interface **118**. Alternately, proximity sensor **166** is coupled with input controller **160** in I/O subsystem **106**. In some embodiments, the proximity sensor turns off and disables touch-sensitive display system **112** when the multifunction device is placed near the user's ear (e.g., when the user is making a phone call).

Device **100** optionally also includes one or more tactile output generators **167**. FIG. **1**A shows a tactile output generator coupled with haptic feedback controller **161** in I/O subsystem **106**. Tactile output generator(s) **167** optionally include one or more electroacoustic devices such as speakers or other audio components and/or electromechanical devices that convert energy into linear motion such as a motor, solenoid, electroactive polymer, piezoelectric actuator, electrostatic actuator, or other tactile output generating component (e.g., a component that converts electrical signals into tactile outputs on the device). Tactile output generator(s) **167** receive tactile feedback generation instructions from haptic feedback module **133** and generates tactile outputs on device **100** that are capable of being sensed by a user of device **100**. In some embodiments, at least one tactile output generator is collocated with, or proximate to, a touch-sensitive surface (e.g., touch-sensitive display system **112**) and, optionally, generates a tactile output by moving the touch-sensitive surface vertically (e.g., in/out of a surface of device **100**) or laterally (e.g., back and forth in the same plane as a surface of device **100**). In some embodiments, at least one tactile output generator sensor is located on the back of device **100**, opposite touch-sensitive display system **112**, which is located on the front of device **100**.

Device **100** optionally also includes one or more accelerometers **168**. FIG. **1**A shows accelerometer **168** coupled with peripherals interface **118**. Alternately, accelerometer **168** is, optionally, coupled with an input controller **160** in I/O subsystem **106**. In some embodiments, information is displayed on the touch-screen display in a portrait view or a landscape view based on an analysis of data received from the one or more accelerometers. Device **100** optionally includes, in addition to accelerometer(s) **168**, a magnetometer (not shown) and a GPS (or GLONASS or other global navigation system) receiver (not shown) for obtaining information concerning the location and orientation (e.g., portrait or landscape) of device **100**.

In some embodiments, the software components stored in memory **102** include operating system **126**, communication module (or set of instructions) **128**, contact/motion module (or set of instructions) **130**, graphics module (or set of instructions) **132**, haptic feedback module (or set of instructions) **133**, text input module (or set of instructions) **134**, Global Positioning System (GPS) module (or set of instructions) **135**, and applications (or sets of instructions) **136**. Furthermore, in some embodiments, memory **102** stores device/global internal state **157**, as shown in FIGS. **1**A and **3**. Device/global internal state **157** includes one or more of: active application state, indicating which applications, if any, are currently active; display state, indicating what applications, views or other information occupy various regions of touch-sensitive display system **112**; sensor state, including information obtained from the device's various sensors and other input or control devices **116**; and location and/or positional information concerning the device's location and/or attitude.

Operating system **126** (e.g., iOS, Darwin, RTXC, LINUX, UNIX, OS X, WINDOWS, or an embedded operating system such as VxWorks) includes various software components and/or drivers for controlling and managing general system tasks (e.g., memory management, storage device control, power management, etc.) and facilitates communication between various hardware and software components.

Communication module **128** facilitates communication with other devices over one or more external ports **124** and also includes various software components for handling data received by RF circuitry **108** and/or external port **124**. External port **124** (e.g., Universal Serial Bus (USB), FIREWIRE, etc.) is adapted for coupling directly to other devices or indirectly over a network (e.g., the Internet, wireless LAN, etc.). In some embodiments, the external port is a multi-pin (e.g., 30-pin) connector that is the same as, or similar to and/or compatible with the 30-pin connector used in some iPhone®, iPod Touch®, and iPad® devices from Apple Inc. of Cupertino, California. In some embodiments, the external port is a Lightning connector that is the same as, or similar to and/or compatible with the Lightning connector used in some iPhone®, iPod Touch®, and iPad® devices from Apple Inc. of Cupertino, California.

Contact/motion module **130** optionally detects contact with touch-sensitive display system **112** (in conjunction with display controller **156**) and other touch-sensitive devices (e.g., a touchpad or physical click wheel). Contact/motion module **130** includes various software components for performing various operations related to detection of contact (e.g., by a finger or by a stylus), such as determining if contact has occurred (e.g., detecting a finger-down event), determining an intensity of the contact (e.g., the force or pressure of the contact or a substitute for the force or pressure of the contact), determining if there is movement of the contact and tracking the movement across the touch-sensitive surface (e.g., detecting one or more finger-dragging events), and determining if the contact has ceased (e.g., detecting a finger-up event or a break in contact). Contact/motion module **130** receives contact data from the touch-sensitive surface. Determining movement of the point of contact, which is represented by a series of contact data, optionally includes determining speed (magnitude), velocity (magnitude and direction), and/or an acceleration (a change in magnitude and/or direction) of the point of contact. These operations are, optionally, applied to single contacts (e.g., one finger contacts or stylus contacts) or to multiple simultaneous contacts (e.g., "multitouch"/multiple finger contacts). In some embodiments, contact/motion module **130** and display controller **156** detect contact on a touchpad.

Contact/motion module **130** optionally detects a gesture input by a user. Different gestures on the touch-sensitive surface have different contact patterns (e.g., different motions, timings, and/or intensities of detected contacts). Thus, a gesture is, optionally, detected by detecting a particular contact pattern. For example, detecting a finger tap gesture includes detecting a finger-down event followed by detecting a finger-up (lift off) event at the same position (or substantially the same position) as the finger-down event (e.g., at the position of an icon). As another example, detecting a finger swipe gesture on the touch-sensitive surface includes detecting a finger-down event followed by detecting one or more finger-dragging events, and subsequently followed by detecting a finger-up (lift off) event. Similarly, tap, swipe, drag, and other gestures are optionally detected for a stylus by detecting a particular contact pattern for the stylus.

In some embodiments, detecting a finger tap gesture depends on the length of time between detecting the finger-down event and the finger-up event, but is independent of the intensity of the finger contact between detecting the finger-down event and the finger-up event. In some embodiments, a tap gesture is detected in accordance with a determination that the length of time between the finger-down event and the finger-up event is less than a predetermined value (e.g., less than 0.1, 0.2, 0.3, 0.4 or 0.5 seconds), independent of whether the intensity of the finger contact during the tap meets a given intensity threshold (greater than a nominal contact-detection intensity threshold), such as a light press or deep press intensity threshold. Thus, a finger tap gesture can satisfy input criteria that are configured to be met even when the characteristic intensity of a contact does not satisfy a given intensity threshold. For clarity, the finger contact in a tap gesture typically needs to satisfy a nominal contact-detection intensity threshold, below which the contact is not detected, in order for the finger-down event to be detected. A similar analysis applies to detecting a tap gesture by a stylus or other contact. In cases where the device is configured to detect a finger or stylus contact hovering over a touch sensitive surface, the nominal contact-detection intensity threshold optionally does not correspond to physical contact between the finger or stylus and the touch sensitive surface.

The same concepts apply in an analogous manner to other types of gestures. For example, a swipe gesture, a pinch gesture, a depinch gesture, and/or a long press gesture are optionally detected based on the satisfaction of criteria that are independent of intensities of contacts included in the gesture. For example, a swipe gesture is detected based on an amount of movement of one or more contacts; a pinch gesture is detected based on movement of two or more contacts towards each other; a depinch gesture is detected based on movement of two or more contacts away from each other; and a long press gesture is detected based on a duration of the contact on the touch-sensitive surface with less than a threshold amount of movement. As such, the statement that gesture recognition criteria are configured to be met when a contact in a gesture has an intensity below a respective intensity threshold means that the gesture recognition criteria are capable of being satisfied even if the contact(s) in the gesture do not reach the respective intensity threshold. It should be understood, however, that this statement does not preclude the gesture recognition criteria from being satisfied in circumstances where one or more of the contacts in the gesture do reach or exceed the respective intensity threshold. For example, a tap gesture is configured to be detected if the finger-down and finger-up event are detected within a predefined time period, without regard to whether the contact is above or below the respective intensity threshold during the predefined time period, and a swipe gesture is configured to be detected if the contact movement is greater than a predefined magnitude, even if the contact is above the respective intensity threshold at the end of the contact movement.

Contact intensity thresholds, duration thresholds, and movement thresholds are, in some circumstances, combined in a variety of different combinations in order to create heuristics for distinguishing two or more different gestures directed to the same input element or region so that multiple different interactions with the same input element are enabled to provide a richer set of user interactions and responses. The statement that a particular set of gesture recognition criteria are configured to be met when a contact in a gesture has an intensity below a respective intensity threshold does not preclude the concurrent evaluation of other intensity-dependent gesture recognition criteria to identify other gestures that do have a criteria that is met when a gesture includes a contact with an intensity above the respective intensity threshold. For example, in some circumstances, first gesture recognition criteria for a first gesture—which are configured to be met when a gesture has an intensity below a respective intensity threshold—are in competition with second gesture recognition criteria for a second gesture—which are dependent on the gesture reaching the respective intensity threshold. In such competitions, the gesture is, optionally, not recognized as meeting the first gesture recognition criteria for the first gesture if the second gesture recognition criteria for the second gesture are met first. For example, if a contact reaches the respective intensity threshold before the contact moves by a predefined amount of movement, a deep press gesture is detected rather than a swipe gesture. Conversely, if the contact moves by the predefined amount of movement before the contact reaches the respective intensity threshold, a swipe gesture is detected rather than a deep press gesture. Even in such circumstances, the first gesture recognition criteria for the first gesture are still configured to be met when a contact in the gesture has an intensity below the respective intensity because if the contact stayed below the respective intensity threshold until an end of the gesture (e.g., a swipe gesture with a contact that does not increase to an intensity above the respective intensity threshold), the gesture would have been recognized by the first gesture recognition criteria as a swipe gesture. As such, particular gesture recognition criteria that are configured to be met when an intensity of a contact remains below a respective intensity threshold will (A) in some circumstances ignore the intensity of the contact with respect to the intensity threshold (e.g. for a tap gesture) and/or (B) in some circumstances still be dependent on the intensity of the contact with respect to the intensity threshold in the sense that the particular gesture recognition criteria (e.g., for a long press gesture) will fail if a competing set of intensity-dependent gesture recognition criteria (e.g., for a deep press gesture) recognize an input as corresponding to an intensity-dependent gesture before the particular gesture recognition criteria recognize a gesture corresponding to the input (e.g., for a long press gesture that is competing with a deep press gesture for recognition).

Graphics module **132** includes various known software components for rendering and displaying graphics on touch-sensitive display system **112** or other display, including components for changing the visual impact (e.g., brightness, transparency, saturation, contrast or other visual property) of graphics that are displayed. As used herein, the term "graphics" includes any object that can be displayed to a user, including without limitation text, web pages, icons (such as user-interface objects including soft keys), digital images, videos, animations and the like.

In some embodiments, graphics module **132** stores data representing graphics to be used. Each graphic is, optionally, assigned a corresponding code. Graphics module **132** receives, from applications etc., one or more codes specifying graphics to be displayed along with, if necessary, coordinate data and other graphic property data, and then generates screen image data to output to display controller **156**.

Haptic feedback module **133** includes various software components for generating instructions used by tactile output generator(s) **167** to produce tactile outputs at one or more locations on device **100** in response to user interactions with device **100**.

Text input module **134**, which is, optionally, a component of graphics module **132**, provides soft keyboards for entering text in various applications (e.g., contacts module **137**, e-mail client module **140**, IM module **141**, browser module **147**, and any other application that needs text input).

GPS module **135** determines the location of the device and provides this information for use in various applications (e.g., to telephone module **138** for use in location-based dialing, to camera module **143** as picture/video metadata, and to applications that provide location-based services such as weather widgets, local yellow page widgets, and map/navigation widgets).

Applications **136** optionally include the following modules (or sets of instructions), or a subset or superset thereof:

- contacts module **137** (sometimes called an address book or contact list);
- telephone module **138**;
- video conferencing module **139**;
- e-mail client module **140**;
- instant messaging (IM) module **141**;
- workout support module **142**;
- camera module **143** for still and/or video images;
- image management module **144**;
- browser module **147**;
- calendar module **148**;
- widget modules **149**, which optionally include one or more of: weather widget **149-1**, stocks widget **149-2**, calculator widget **149-3**, alarm clock widget **149-4**, dictionary widget **149-5**, and other widgets obtained by the user, as well as user-created widgets **149-6**;
- widget creator module **150** for making user-created widgets **149-6**;
- search module **151**;
- video and music player module **152**, which is, optionally, made up of a video player module and a music player module;
- notes module **153**;
- map module **154**; and/or
- online video module **155**.

Examples of other applications **136** that are, optionally, stored in memory **102** include other word processing applications, other image editing applications, drawing applications, presentation applications, JAVA-enabled applications, encryption, digital rights management, voice recognition, and voice replication.

In conjunction with touch-sensitive display system **112**, display controller **156**, contact module **130**, graphics module **132**, and text input module **134**, contacts module **137** includes executable instructions to manage an address book or contact list (e.g., stored in application internal state **192** of contacts module **137** in memory **102** or memory **370**), including: adding name(s) to the address book; deleting name(s) from the address book; associating telephone number(s), e-mail address(es), physical address(es) or other information with a name; associating an image with a name; categorizing and sorting names; providing telephone numbers and/or e-mail addresses to initiate and/or facilitate communications by telephone module **138**, video conference module **139**, e-mail client module **140**, or IM module **141**; and so forth.

In conjunction with RF circuitry **108**, audio circuitry **110**, speaker **111**, microphone **113**, touch-sensitive display system **112**, display controller **156**, contact module **130**, graphics module **132**, and text input module **134**, telephone module **138** includes executable instructions to enter a sequence of characters corresponding to a telephone number, access one or more telephone numbers in address book **137**, modify a telephone number that has been entered, dial a respective telephone number, conduct a conversation and disconnect or hang up when the conversation is completed. As noted above, the wireless communication optionally uses any of a plurality of communications standards, protocols and technologies.

In conjunction with RF circuitry **108**, audio circuitry **110**, speaker **111**, microphone **113**, touch-sensitive display system **112**, display controller **156**, optical sensor(s) **164**, optical sensor controller **158**, contact module **130**, graphics module **132**, text input module **134**, contact list **137**, and telephone module **138**, videoconferencing module **139** includes executable instructions to initiate, conduct, and terminate a video conference between a user and one or more other participants in accordance with user instructions.

In conjunction with RF circuitry **108**, touch-sensitive display system **112**, display controller **156**, contact module **130**, graphics module **132**, and text input module **134**, e-mail client module **140** includes executable instructions to create, send, receive, and manage e-mail in response to user instructions. In conjunction with image management module **144**, e-mail client module **140** makes it very easy to create and send e-mails with still or video images taken with camera module **143**.

In conjunction with RF circuitry **108**, touch-sensitive display system **112**, display controller **156**, contact module **130**, graphics module **132**, and text input module **134**, the instant messaging module **141** includes executable instructions to enter a sequence of characters corresponding to an instant message, to modify previously entered characters, to transmit a respective instant message (for example, using a Short Message Service (SMS) or Multimedia Message Service (MMS) protocol for telephony-based instant messages or using XMPP, SIMPLE, Apple Push Notification Service (APNs) or IMPS for Internet-based instant messages), to receive instant messages and to view received instant messages. In some embodiments, transmitted and/or received instant messages optionally include graphics, photos, audio files, video files and/or other attachments as are supported in a MMS and/or an Enhanced Messaging Service (EMS). As used herein, "instant messaging" refers to both telephony-based messages (e.g., messages sent using SMS or MMS) and Internet-based messages (e.g., messages sent using XMPP, SIMPLE, APNs, or IMPS).

In conjunction with RF circuitry **108**, touch-sensitive display system **112**, display controller **156**, contact module **130**, graphics module **132**, text input module **134**, GPS module **135**, map module **154**, and music player module **146**, workout support module **142** includes executable instructions to create workouts (e.g., with time, distance, and/or calorie burning goals); communicate with workout sensors (in sports devices and smart watches); receive workout sensor data; calibrate sensors used to monitor a workout; select and play music for a workout; and display, store and transmit workout data.

In conjunction with touch-sensitive display system **112**, display controller **156**, optical sensor(s) **164**, optical sensor controller **158**, contact module **130**, graphics module **132**, and image management module **144**, camera module **143** includes executable instructions to capture still images or video (including a video stream) and store them into memory **102**, modify characteristics of a still image or video, and/or delete a still image or video from memory **102**.

In conjunction with touch-sensitive display system **112**, display controller **156**, contact module **130**, graphics module **132**, text input module **134**, and camera module **143**, image management module **144** includes executable instructions to arrange, modify (e.g., edit), or otherwise manipulate, label, delete, present (e.g., in a digital slide show or album), and store still and/or video images.

In conjunction with RF circuitry **108**, touch-sensitive display system **112**, display system controller **156**, contact module **130**, graphics module **132**, and text input module **134**, browser module **147** includes executable instructions to browse the Internet in accordance with user instructions, including searching, linking to, receiving, and displaying web pages or portions thereof, as well as attachments and other files linked to web pages.

In conjunction with RF circuitry **108**, touch-sensitive display system **112**, display system controller **156**, contact module **130**, graphics module **132**, text input module **134**, e-mail client module **140**, and browser module **147**, calendar module **148** includes executable instructions to create, display, modify, and store calendars and data associated with calendars (e.g., calendar entries, to do lists, etc.) in accordance with user instructions.

In conjunction with RF circuitry **108**, touch-sensitive display system **112**, display system controller **156**, contact module **130**, graphics module **132**, text input module **134**, and browser module **147**, widget modules **149** are mini-applications that are, optionally, downloaded and used by a user (e.g., weather widget **149-1**, stocks widget **149-2**, calculator widget **149-3**, alarm clock widget **149-4**, and dictionary widget **149-5**) or created by the user (e.g., user-created widget **149-6**). In some embodiments, a widget includes an HTML (Hypertext Markup Language) file, a CSS (Cascading Style Sheets) file, and a JavaScript file. In some embodiments, a widget includes an XML (Extensible Markup Language) file and a JavaScript file (e.g., Yahoo! Widgets).

In conjunction with RF circuitry **108**, touch-sensitive display system **112**, display system controller **156**, contact module **130**, graphics module **132**, text input module **134**, and browser module **147**, the widget creator module **150** includes executable instructions to create widgets (e.g., turning a user-specified portion of a web page into a widget).

In conjunction with touch-sensitive display system **112**, display system controller **156**, contact module **130**, graphics module **132**, and text input module **134**, search module **151** includes executable instructions to search for text, music, sound, image, video, and/or other files in memory **102** that match one or more search criteria (e.g., one or more user-specified search terms) in accordance with user instructions.

In conjunction with touch-sensitive display system **112**, display system controller **156**, contact module **130**, graphics module **132**, audio circuitry **110**, speaker **111**, RF circuitry **108**, and browser module **147**, video and music player module **152** includes executable instructions that allow the user to download and play back recorded music and other sound files stored in one or more file formats, such as MP3 or AAC files, and executable instructions to display, present or otherwise play back videos (e.g., on touch-sensitive display system **112**, or on an external display connected wirelessly or via external port **124**). In some embodiments, device **100** optionally includes the functionality of an MP3 player, such as an iPod (trademark of Apple Inc.).

In conjunction with touch-sensitive display system **112**, display controller **156**, contact module **130**, graphics module **132**, and text input module **134**, notes module **153** includes executable instructions to create and manage notes, to do lists, and the like in accordance with user instructions.

In conjunction with RF circuitry **108**, touch-sensitive display system **112**, display system controller **156**, contact module **130**, graphics module **132**, text input module **134**, GPS module **135**, and browser module **147**, map module **154** includes executable instructions to receive, display, modify, and store maps and data associated with maps (e.g., driving directions; data on stores and other points of interest at or near a particular location; and other location-based data) in accordance with user instructions.

In conjunction with touch-sensitive display system **112**, display system controller **156**, contact module **130**, graphics module **132**, audio circuitry **110**, speaker **111**, RF circuitry

108, text input module 134, e-mail client module 140, and browser module 147, online video module 155 includes executable instructions that allow the user to access, browse, receive (e.g., by streaming and/or download), play back (e.g., on the touch screen 112, or on an external display connected wirelessly or via external port 124), send an e-mail with a link to a particular online video, and otherwise manage online videos in one or more file formats, such as H.264. In some embodiments, instant messaging module 141, rather than e-mail client module 140, is used to send a link to a particular online video.

Each of the above identified modules and applications correspond to a set of executable instructions for performing one or more functions described above and the methods described in this application (e.g., the computer-implemented methods and other information processing methods described herein). These modules (i.e., sets of instructions) need not be implemented as separate software programs, procedures or modules, and thus various subsets of these modules are, optionally, combined or otherwise re-arranged in various embodiments. In some embodiments, memory 102 optionally stores a subset of the modules and data structures identified above. Furthermore, memory 102 optionally stores additional modules and data structures not described above.

In some embodiments, device 100 is a device where operation of a predefined set of functions on the device is performed exclusively through a touch screen and/or a touchpad. By using a touch screen and/or a touchpad as the primary input control device for operation of device 100, the number of physical input control devices (such as push buttons, dials, and the like) on device 100 is, optionally, reduced.

The predefined set of functions that are performed exclusively through a touch screen and/or a touchpad optionally include navigation between user interfaces. In some embodiments, the touchpad, when touched by the user, navigates device 100 to a main, home, or root menu from any user interface that is displayed on device 100. In such embodiments, a "menu button" is implemented using a touchpad. In some other embodiments, the menu button is a physical push button or other physical input control device instead of a touchpad.

FIG. 1B is a block diagram illustrating example components for event handling in accordance with some embodiments. In some embodiments, memory 102 (in FIG. 1A) or 370 (FIG. 3) includes event sorter 170 (e.g., in operating system 126) and a respective application 136-1 (e.g., any of the aforementioned applications 136, 137-155, 380-390).

Event sorter 170 receives event information and determines the application 136-1 and application view 191 of application 136-1 to which to deliver the event information. Event sorter 170 includes event monitor 171 and event dispatcher module 174. In some embodiments, application 136-1 includes application internal state 192, which indicates the current application view(s) displayed on touch-sensitive display system 112 when the application is active or executing. In some embodiments, device/global internal state 157 is used by event sorter 170 to determine which application(s) is (are) currently active, and application internal state 192 is used by event sorter 170 to determine application views 191 to which to deliver event information.

In some embodiments, application internal state 192 includes additional information, such as one or more of: resume information to be used when application 136-1 resumes execution, user interface state information that indicates information being displayed or that is ready for display by application 136-1, a state queue for enabling the user to go back to a prior state or view of application 136-1, and a redo/undo queue of previous actions taken by the user.

Event monitor 171 receives event information from peripherals interface 118. Event information includes information about a sub-event (e.g., a user touch on touch-sensitive display system 112, as part of a multi-touch gesture). Peripherals interface 118 transmits information it receives from I/O subsystem 106 or a sensor, such as proximity sensor 166, accelerometer(s) 168, and/or microphone 113 (through audio circuitry 110). Information that peripherals interface 118 receives from I/O subsystem 106 includes information from touch-sensitive display system 112 or a touch-sensitive surface.

In some embodiments, event monitor 171 sends requests to the peripherals interface 118 at predetermined intervals. In response, peripherals interface 118 transmits event information. In other embodiments, peripheral interface 118 transmits event information only when there is a significant event (e.g., receiving an input above a predetermined noise threshold and/or for more than a predetermined duration).

In some embodiments, event sorter 170 also includes a hit view determination module 172 and/or an active event recognizer determination module 173.

Hit view determination module 172 provides software procedures for determining where a sub-event has taken place within one or more views, when touch-sensitive display system 112 displays more than one view. Views are made up of controls and other elements that a user can see on the display.

Another aspect of the user interface associated with an application is a set of views, sometimes herein called application views or user interface windows, in which information is displayed and touch-based gestures occur. The application views (of a respective application) in which a touch is detected optionally correspond to programmatic levels within a programmatic or view hierarchy of the application. For example, the lowest level view in which a touch is detected is, optionally, called the hit view, and the set of events that are recognized as proper inputs are, optionally, determined based, at least in part, on the hit view of the initial touch that begins a touch-based gesture.

Hit view determination module 172 receives information related to sub-events of a touch-based gesture. When an application has multiple views organized in a hierarchy, hit view determination module 172 identifies a hit view as the lowest view in the hierarchy which should handle the sub-event. In most circumstances, the hit view is the lowest level view in which an initiating sub-event occurs (i.e., the first sub-event in the sequence of sub-events that form an event or potential event). Once the hit view is identified by the hit view determination module, the hit view typically receives all sub-events related to the same touch or input source for which it was identified as the hit view.

Active event recognizer determination module 173 determines which view or views within a view hierarchy should receive a particular sequence of sub-events. In some embodiments, active event recognizer determination module 173 determines that only the hit view should receive a particular sequence of sub-events. In other embodiments, active event recognizer determination module 173 determines that all views that include the physical location of a sub-event are actively involved views, and therefore determines that all actively involved views should receive a particular sequence of sub-events. In other embodiments, even if touch sub-events were entirely confined to the area associated with one particular view, views higher in the hierarchy would still remain as actively involved views.

Event dispatcher module **174** dispatches the event information to an event recognizer (e.g., event recognizer **180**). In embodiments including active event recognizer determination module **173**, event dispatcher module **174** delivers the event information to an event recognizer determined by active event recognizer determination module **173**. In some embodiments, event dispatcher module **174** stores in an event queue the event information, which is retrieved by a respective event receiver module **182**.

In some embodiments, operating system **126** includes event sorter **170**. Alternatively, application **136-1** includes event sorter **170**. In yet other embodiments, event sorter **170** is a stand-alone module, or a part of another module stored in memory **102**, such as contact/motion module **130**.

In some embodiments, application **136-1** includes a plurality of event handlers **190** and one or more application views **191**, each of which includes instructions for handling touch events that occur within a respective view of the application's user interface. Each application view **191** of the application **136-1** includes one or more event recognizers **180**. Typically, a respective application view **191** includes a plurality of event recognizers **180**. In other embodiments, one or more of event recognizers **180** are part of a separate module, such as a user interface kit (not shown) or a higher level object from which application **136-1** inherits methods and other properties. In some embodiments, a respective event handler **190** includes one or more of: data updater **176**, object updater **177**, GUI updater **178**, and/or event data **179** received from event sorter **170**. Event handler **190** optionally utilizes or calls data updater **176**, object updater **177** or GUI updater **178** to update the application internal state **192**. Alternatively, one or more of the application views **191** includes one or more respective event handlers **190**. Also, in some embodiments, one or more of data updater **176**, object updater **177**, and GUI updater **178** are included in a respective application view **191**.

A respective event recognizer **180** receives event information (e.g., event data **179**) from event sorter **170**, and identifies an event from the event information. Event recognizer **180** includes event receiver **182** and event comparator **184**. In some embodiments, event recognizer **180** also includes at least a subset of: metadata **183**, and event delivery instructions **188** (which optionally include sub-event delivery instructions).

Event receiver **182** receives event information from event sorter **170**. The event information includes information about a sub-event, for example, a touch or a touch movement. Depending on the sub-event, the event information also includes additional information, such as location of the sub-event. When the sub-event concerns motion of a touch, the event information optionally also includes speed and direction of the sub-event. In some embodiments, events include rotation of the device from one orientation to another (e.g., from a portrait orientation to a landscape orientation, or vice versa), and the event information includes corresponding information about the current orientation (also called device attitude) of the device.

Event comparator **184** compares the event information to predefined event or sub-event definitions and, based on the comparison, determines an event or sub-event, or determines or updates the state of an event or sub-event. In some embodiments, event comparator **184** includes event definitions **186**. Event definitions **186** contain definitions of events (e.g., predefined sequences of sub-events), for example, event **1** (**187-1**), event **2** (**187-2**), and others. In some embodiments, sub-events in an event **187** include, for example, touch begin, touch end, touch movement, touch cancellation, and multiple touching. In one example, the definition for event **1** (**187-1**) is a double tap on a displayed object. The double tap, for example, comprises a first touch (touch begin) on the displayed object for a predetermined phase, a first lift-off (touch end) for a predetermined phase, a second touch (touch begin) on the displayed object for a predetermined phase, and a second lift-off (touch end) for a predetermined phase. In another example, the definition for event **2** (**187-2**) is a dragging on a displayed object. The dragging, for example, comprises a touch (or contact) on the displayed object for a predetermined phase, a movement of the touch across touch-sensitive display system **112**, and lift-off of the touch (touch end). In some embodiments, the event also includes information for one or more associated event handlers **190**.

In some embodiments, event definition **186** includes a definition of an event for a respective user-interface object. In some embodiments, event comparator **184** performs a hit test to determine which user-interface object is associated with a sub-event. For example, in an application view in which three user-interface objects are displayed on touch-sensitive display system **112**, when a touch is detected on touch-sensitive display system **112**, event comparator **184** performs a hit test to determine which of the three user-interface objects is associated with the touch (sub-event). If each displayed object is associated with a respective event handler **190**, the event comparator uses the result of the hit test to determine which event handler **190** should be activated. For example, event comparator **184** selects an event handler associated with the sub-event and the object triggering the hit test.

In some embodiments, the definition for a respective event **187** also includes delayed actions that delay delivery of the event information until after it has been determined whether the sequence of sub-events does or does not correspond to the event recognizer's event type.

When a respective event recognizer **180** determines that the series of sub-events do not match any of the events in event definitions **186**, the respective event recognizer **180** enters an event impossible, event failed, or event ended state, after which it disregards subsequent sub-events of the touch-based gesture. In this situation, other event recognizers, if any, that remain active for the hit view continue to track and process sub-events of an ongoing touch-based gesture.

In some embodiments, a respective event recognizer **180** includes metadata **183** with configurable properties, flags, and/or lists that indicate how the event delivery system should perform sub-event delivery to actively involved event recognizers. In some embodiments, metadata **183** includes configurable properties, flags, and/or lists that indicate how event recognizers interact, or are enabled to interact, with one another. In some embodiments, metadata **183** includes configurable properties, flags, and/or lists that indicate whether sub-events are delivered to varying levels in the view or programmatic hierarchy.

In some embodiments, a respective event recognizer **180** activates event handler **190** associated with an event when one or more particular sub-events of an event are recognized. In some embodiments, a respective event recognizer **180** delivers event information associated with the event to event handler **190**. Activating an event handler **190** is distinct from sending (and deferred sending) sub-events to a respective hit view. In some embodiments, event recognizer

180 throws a flag associated with the recognized event, and event handler **190** associated with the flag catches the flag and performs a predefined process.

In some embodiments, event delivery instructions **188** include sub-event delivery instructions that deliver event information about a sub-event without activating an event handler. Instead, the sub-event delivery instructions deliver event information to event handlers associated with the series of sub-events or to actively involved views. Event handlers associated with the series of sub-events or with actively involved views receive the event information and perform a predetermined process.

In some embodiments, data updater **176** creates and updates data used in application **136-1**. For example, data updater **176** updates the telephone number used in contacts module **137**, or stores a video file used in video player module **145**. In some embodiments, object updater **177** creates and updates objects used in application **136-1**. For example, object updater **177** creates a new user-interface object or updates the position of a user-interface object. GUI updater **178** updates the GUI. For example, GUI updater **178** prepares display information and sends it to graphics module **132** for display on a touch-sensitive display.

In some embodiments, event handler(s) **190** includes or has access to data updater **176**, object updater **177**, and GUI updater **178**. In some embodiments, data updater **176**, object updater **177**, and GUI updater **178** are included in a single module of a respective application **136-1** or application view **191**. In other embodiments, they are included in two or more software modules.

It shall be understood that the foregoing discussion regarding event handling of user touches on touch-sensitive displays also applies to other forms of user inputs to operate multifunction devices **100** with input-devices, not all of which are initiated on touch screens. For example, mouse movement and mouse button presses, optionally coordinated with single or multiple keyboard presses or holds; contact movements such as taps, drags, scrolls, etc., on touch-pads; pen stylus inputs; movement of the device; oral instructions; detected eye movements; biometric inputs; and/or any combination thereof are optionally utilized as inputs corresponding to sub-events which define an event to be recognized.

FIG. **2** illustrates a portable multifunction device **100** having a touch screen (e.g., touch-sensitive display system **112**, FIG. **1**A) in accordance with some embodiments. The touch screen optionally displays one or more graphics within user interface (UI) **200**. In this embodiment, as well as others described below, a user is enabled to select one or more of the graphics by making a gesture on the graphics, for example, with one or more fingers **202** (not drawn to scale in the figure) or one or more styluses **203** (not drawn to scale in the figure). In some embodiments, selection of one or more graphics occurs when the user breaks contact with the one or more graphics. In some embodiments, the gesture optionally includes one or more taps, one or more swipes (from left to right, right to left, upward and/or downward) and/or a rolling of a finger (from right to left, left to right, upward and/or downward) that has made contact with device **100**. In some implementations or circumstances, inadvertent contact with a graphic does not select the graphic. For example, a swipe gesture that sweeps over an application icon optionally does not select the corresponding application when the gesture corresponding to selection is a tap.

Device **100** optionally also includes one or more physical buttons, such as "home" or menu button **204**. As described previously, menu button **204** is, optionally, used to navigate to any application **136** in a set of applications that are, optionally executed on device **100**. Alternatively, in some embodiments, the menu button is implemented as a soft key in a GUI displayed on the touch-screen display.

In some embodiments, device **100** includes the touch-screen display, menu button **204**, push button **206** for powering the device on/off and locking the device, volume adjustment button(s) **208**, Subscriber Identity Module (SIM) card slot **210**, head set jack **212**, and docking/charging external port **124**. Push button **206** is, optionally, used to turn the power on/off on the device by depressing the button and holding the button in the depressed state for a predefined time interval; to lock the device by depressing the button and releasing the button before the predefined time interval has elapsed; and/or to unlock the device or initiate an unlock process. In some embodiments, device **100** also accepts verbal input for activation or deactivation of some functions through microphone **113**. Device **100** also, optionally, includes one or more contact intensity sensors **165** for detecting intensity of contacts on touch-sensitive display system **112** and/or one or more tactile output generators **167** for generating tactile outputs for a user of device **100**.

FIG. **3** is a block diagram of an example multifunction device with a display and a touch-sensitive surface in accordance with some embodiments. Device **300** need not be portable. In some embodiments, device **300** is a laptop computer, a desktop computer, a tablet computer, a multimedia player device, a navigation device, an educational device (such as a child's learning toy), a gaming system, or a control device (e.g., a home or industrial controller). Device **300** typically includes one or more processing units (CPU's) **310**, one or more network or other communications interfaces **360**, memory **370**, and one or more communication buses **320** for interconnecting these components. Communication buses **320** optionally include circuitry (sometimes called a chipset) that interconnects and controls communications between system components. Device **300** includes input/output (I/O) interface **330** comprising display **340**, which is typically a touch-screen display. I/O interface **330** also optionally includes a keyboard and/or mouse (or other pointing device) **350** and touchpad **355**, tactile output generator **357** for generating tactile outputs on device **300** (e.g., similar to tactile output generator(s) **167** described above with reference to FIG. **1**A), sensors **359** (e.g., optical, acceleration, proximity, touch-sensitive, and/or contact intensity sensors similar to contact intensity sensor(s) **165** described above with reference to FIG. **1**A). Memory **370** includes high-speed random access memory, such as DRAM, SRAM, DDR RAM or other random access solid state memory devices; and optionally includes non-volatile memory, such as one or more magnetic disk storage devices, optical disk storage devices, flash memory devices, or other non-volatile solid state storage devices. Memory **370** optionally includes one or more storage devices remotely located from CPU(s) **310**. In some embodiments, memory **370** stores programs, modules, and data structures analogous to the programs, modules, and data structures stored in memory **102** of portable multifunction device **100** (FIG. **1**A), or a subset thereof. Furthermore, memory **370** optionally stores additional programs, modules, and data structures not present in memory **102** of portable multifunction device **100**. For example, memory **370** of device **300** optionally stores drawing module **380**, presentation module **382**, word processing module **384**, website creation module **386**, disk authoring module **388**, and/or spreadsheet module **390**, while memory **102** of portable multifunction device **100** (FIG. **1**A) optionally does not store these modules.

Each of the above identified elements in FIG. **3** are, optionally, stored in one or more of the previously mentioned memory devices. Each of the above identified modules corresponds to a set of instructions for performing a function described above. The above identified modules or programs (i.e., sets of instructions) need not be implemented as separate software programs, procedures or modules, and thus various subsets of these modules are, optionally, combined or otherwise re-arranged in various embodiments. In some embodiments, memory **370** optionally stores a subset of the modules and data structures identified above. Furthermore, memory **370** optionally stores additional modules and data structures not described above.

Attention is now directed towards embodiments of user interfaces ("UI") that are, optionally, implemented on portable multifunction device **100**.

FIG. **4**A illustrates an example user interface for a menu of applications on portable multifunction device **100** in accordance with some embodiments. Similar user interfaces are, optionally, implemented on device **300**. In some embodiments, user interface **400** includes the following elements, or a subset or superset thereof:

- Signal strength indicator(s) **402** for wireless communication(s), such as cellular and Wi-Fi signals;
- Time **404**;
- Bluetooth indicator **405**;
- Battery status indicator **406**;
- Tray **408** with icons for frequently used applications, such as:
  - Icon **416** for telephone module **138**, labeled "Phone," which optionally includes an indicator **414** of the number of missed calls or voicemail messages;
  - Icon **418** for e-mail client module **140**, labeled "Mail," which optionally includes an indicator **410** of the number of unread e-mails;
  - Icon **420** for browser module **147**, labeled "Browser;" and
  - Icon **422** for video and music player module **152**, also referred to as iPod (trademark of Apple Inc.) module **152**, labeled "iPod;" and
- Icons for other applications, such as:
  - Icon **424** for IM module **141**, labeled "Messages;"
  - Icon **426** for calendar module **148**, labeled "Calendar;"
  - Icon **428** for image management module **144**, labeled "Photos;"
  - Icon **430** for camera module **143**, labeled "Camera;"
  - Icon **432** for online video module **155**, labeled "Online Video;"
  - Icon **434** for stocks widget **149-2**, labeled "Stocks;"
  - Icon **436** for map module **154**, labeled "Map;"
  - Icon **438** for weather widget **149-1**, labeled "Weather;"
  - Icon **440** for alarm clock widget **149-4**, labeled "Clock;"
  - Icon **442** for workout support module **142**, labeled "Workout Support;"
  - Icon **444** for notes module **153**, labeled "Notes;" and
  - Icon **446** for a settings application or module, which provides access to settings for device **100** and its various applications **136**.

It should be noted that the icon labels illustrated in FIG. **4**A are merely examples. For example, in some embodiments, icon **422** for video and music player module **152** is labeled "Music" or "Music Player." Other labels are, optionally, used for various application icons. In some embodiments, a label for a respective application icon includes a name of an application corresponding to the respective application icon. In some embodiments, a label for a particular application icon is distinct from a name of an application corresponding to the particular application icon.

FIG. **4**B illustrates an example user interface on a device (e.g., device **300**, FIG. **3**) with a touch-sensitive surface **451** (e.g., a tablet or touchpad **355**, FIG. **3**) that is separate from the display **450**. Device **300** also, optionally, includes one or more contact intensity sensors (e.g., one or more of sensors **357**) for detecting intensity of contacts on touch-sensitive surface **451** and/or one or more tactile output generators **359** for generating tactile outputs for a user of device **300**.

FIG. **4**B illustrates an example user interface on a device (e.g., device **300**, FIG. **3**) with a touch-sensitive surface **451** (e.g., a tablet or touchpad **355**, FIG. **3**) that is separate from the display **450**. Although many of the examples that follow will be given with reference to inputs on touch screen display **112** (where the touch sensitive surface and the display are combined), in some embodiments, the device detects inputs on a touch-sensitive surface that is separate from the display, as shown in FIG. **4**B. In some embodiments, the touch-sensitive surface (e.g., **451** in FIG. **4**B) has a primary axis (e.g., **452** in FIG. **4**B) that corresponds to a primary axis (e.g., **453** in FIG. **4**B) on the display (e.g., **450**). In accordance with these embodiments, the device detects contacts (e.g., **460** and **462** in FIG. **4**B) with the touch-sensitive surface **451** at locations that correspond to respective locations on the display (e.g., in FIG. **4**B, contact **460** corresponds to **468** and contact **462** corresponds to **470**). In this way, user inputs (e.g., contacts **460** and **462**, and movements thereof) detected by the device on the touch-sensitive surface (e.g., **451** in FIG. **4**B) are used by the device to manipulate the user interface on the display (e.g., **450** in FIG. **4**B) of the multifunction device when the touch-sensitive surface is separate from the display. It should be understood that similar methods are, optionally, used for other user interfaces described herein.

Additionally, while the following examples are given primarily with reference to finger inputs (e.g., finger contacts, finger tap gestures, finger swipe gestures, etc.), it should be understood that, in some embodiments, one or more of the finger inputs are replaced with input from another input device (e.g., a mouse based input or a stylus input). For example, a swipe gesture is, optionally, replaced with a mouse click (e.g., instead of a contact) followed by movement of the cursor along the path of the swipe (e.g., instead of movement of the contact). As another example, a tap gesture is, optionally, replaced with a mouse click while the cursor is located over the location of the tap gesture (e.g., instead of detection of the contact followed by ceasing to detect the contact). Similarly, when multiple user inputs are simultaneously detected, it should be understood that multiple computer mice are, optionally, used simultaneously, or a mouse and finger contacts are, optionally, used simultaneously.

As used herein, the term "focus selector" is an input element that indicates a current part of a user interface with which a user is interacting. In some implementations that include a cursor or other location marker, the cursor acts as a "focus selector," so that when an input (e.g., a press input) is detected on a touch-sensitive surface (e.g., touchpad **355** in FIG. **3** or touch-sensitive surface **451** in FIG. **4**B) while the cursor is over a particular user interface element (e.g., a button, window, slider or other user interface element), the particular user interface element is adjusted in accordance with the detected input. In some implementations that include a touch-screen display (e.g., touch-sensitive display system **112** in FIG. **1**A or the touch screen in FIG. **4**A) that enables direct interaction with user interface elements on the touch-screen display, a detected contact on the touch-screen acts as a "focus selector," so that when an input (e.g., a press input by the contact) is detected on the touch-screen display at a location of a particular user interface element (e.g., a button, window, slider or other user interface element), the particular user interface element is adjusted in accordance with the detected input. In some implementations, focus is moved from one region of a user interface to another region of the user interface without corresponding movement of a cursor or movement of a contact on a touch-screen display (e.g., by using a tab key or arrow keys to move focus from one button to another button); in these implementations, the focus selector moves in accordance with movement of focus between different regions of the user interface. Without regard to the specific form taken by the focus selector, the focus selector is generally the user interface element (or contact on a touch-screen display) that is controlled by the user so as to communicate the user's intended interaction with the user interface (e.g., by indicating, to the device, the element of the user interface with which the user is intending to interact). For example, the location of a focus selector (e.g., a cursor, a contact, or a selection box) over a respective button while a press input is detected on the touch-sensitive surface (e.g., a touchpad or touch screen) will indicate that the user is intending to activate the respective button (as opposed to other user interface elements shown on a display of the device).

As used in the specification and claims, the term "intensity" of a contact on a touch-sensitive surface refers to the force or pressure (force per unit area) of a contact (e.g., a finger contact or a stylus contact) on the touch-sensitive surface, or to a substitute (proxy) for the force or pressure of a contact on the touch-sensitive surface. The intensity of a contact has a range of values that includes at least four distinct values and more typically includes hundreds of distinct values (e.g., at least 256). Intensity of a contact is, optionally, determined (or measured) using various approaches and various sensors or combinations of sensors. For example, one or more force sensors underneath or adjacent to the touch-sensitive surface are, optionally, used to measure force at various points on the touch-sensitive surface. In some implementations, force measurements from multiple force sensors are combined (e.g., a weighted average or a sum) to determine an estimated force of a contact. Similarly, a pressure-sensitive tip of a stylus is, optionally, used to determine a pressure of the stylus on the touch-sensitive surface. Alternatively, the size of the contact area detected on the touch-sensitive surface and/or changes thereto, the capacitance of the touch-sensitive surface proximate to the contact and/or changes thereto, and/or the resistance of the touch-sensitive surface proximate to the contact and/or changes thereto are, optionally, used as a substitute for the force or pressure of the contact on the touch-sensitive surface. In some implementations, the substitute measurements for contact force or pressure are used directly to determine whether an intensity threshold has been exceeded (e.g., the intensity threshold is described in units corresponding to the substitute measurements). In some implementations, the substitute measurements for contact force or pressure are converted to an estimated force or pressure and the estimated force or pressure is used to determine whether an intensity threshold has been exceeded (e.g., the intensity threshold is a pressure threshold measured in units of pressure). Using the intensity of a contact as an attribute of a user input allows for user access to additional device functionality that may otherwise not be readily accessible by the user on a reduced-size device with limited real estate for displaying affordances (e.g., on a touch-sensitive display) and/or receiving user input (e.g., via a touch-sensitive display, a touch-sensitive surface, or a physical/mechanical control such as a knob or a button).

In some embodiments, contact/motion module **130** uses a set of one or more intensity thresholds to determine whether an operation has been performed by a user (e.g., to determine whether a user has "clicked" on an icon). In some embodiments, at least a subset of the intensity thresholds are determined in accordance with software parameters (e.g., the intensity thresholds are not determined by the activation thresholds of particular physical actuators and can be adjusted without changing the physical hardware of device **100**). For example, a mouse "click" threshold of a trackpad or touch-screen display can be set to any of a large range of predefined thresholds values without changing the trackpad or touch-screen display hardware. Additionally, in some implementations a user of the device is provided with software settings for adjusting one or more of the set of intensity thresholds (e.g., by adjusting individual intensity thresholds and/or by adjusting a plurality of intensity thresholds at once with a system-level click "intensity" parameter).

As used in the specification and claims, the term "characteristic intensity" of a contact refers to a characteristic of the contact based on one or more intensities of the contact. In some embodiments, the characteristic intensity is based on multiple intensity samples. The characteristic intensity is, optionally, based on a predefined number of intensity samples, or a set of intensity samples collected during a predetermined time period (e.g., 0.05, 0.1, 0.2, 0.5, 1, 2, 5, 10 seconds) relative to a predefined event (e.g., after detecting the contact, prior to detecting liftoff of the contact, before or after detecting a start of movement of the contact, prior to detecting an end of the contact, before or after detecting an increase in intensity of the contact, and/or before or after detecting a decrease in intensity of the contact). A characteristic intensity of a contact is, optionally based on one or more of: a maximum value of the intensities of the contact, a mean value of the intensities of the contact, an average value of the intensities of the contact, a top 10 percentile value of the intensities of the contact, a value at the half maximum of the intensities of the contact, a value at the 90 percent maximum of the intensities of the contact, or the like. In some embodiments, the duration of the contact is used in determining the characteristic intensity (e.g., when the characteristic intensity is an average of the intensity of the contact over time). In some embodiments, the characteristic intensity is compared to a set of one or more intensity thresholds to determine whether an operation has been performed by a user. For example, the set of one or more intensity thresholds may include a first intensity threshold and a second intensity threshold. In this example, a contact with a characteristic intensity that does not exceed the first threshold results in a first operation, a contact with a characteristic intensity that exceeds the first intensity threshold and does not exceed the second intensity threshold results in a second operation, and a contact with a characteristic intensity that exceeds the second intensity threshold results in a third operation. In some embodiments, a comparison between the characteristic intensity and one or more intensity thresholds is used to determine whether or not to perform one or more operations (e.g., whether to perform a respective option or forgo performing the respective operation) rather than being used to determine whether to perform a first operation or a second operation.

In some embodiments, a portion of a gesture is identified for purposes of determining a characteristic intensity. For example, a touch-sensitive surface may receive a continuous swipe contact transitioning from a start location and reaching an end location (e.g., a drag gesture), at which point the intensity of the contact increases. In this example, the characteristic intensity of the contact at the end location may be based on only a portion of the continuous swipe contact, and not the entire swipe contact (e.g., only the portion of the swipe contact at the end location). In some embodiments, a smoothing algorithm may be applied to the intensities of the swipe contact prior to determining the characteristic intensity of the contact. For example, the smoothing algorithm optionally includes one or more of: an unweighted sliding-average smoothing algorithm, a triangular smoothing algorithm, a median filter smoothing algorithm, and/or an exponential smoothing algorithm. In some circumstances, these smoothing algorithms eliminate narrow spikes or dips in the intensities of the swipe contact for purposes of determining a characteristic intensity.

The user interface figures described herein optionally include various intensity diagrams that show the current intensity of the contact on the touch-sensitive surface relative to one or more intensity thresholds (e.g., a contact detection intensity threshold IT_0, a light press intensity threshold IT_L, a deep press intensity threshold IT_D (e.g., that is at least initially higher than IT_L), and/or one or more other intensity thresholds (e.g., an intensity threshold IT_H that is lower than IT_L)). This intensity diagram is typically not part of the displayed user interface, but is provided to aid in the interpretation of the figures. In some embodiments, the light press intensity threshold corresponds to an intensity at which the device will perform operations typically associated with clicking a button of a physical mouse or a trackpad. In some embodiments, the deep press intensity threshold corresponds to an intensity at which the device will perform operations that are different from operations typically associated with clicking a button of a physical mouse or a trackpad. In some embodiments, when a contact is detected with a characteristic intensity below the light press intensity threshold (e.g., and above a nominal contact-detection intensity threshold IT_0 below which the contact is no longer detected), the device will move a focus selector in accordance with movement of the contact on the touch-sensitive surface without performing an operation associated with the light press intensity threshold or the deep press intensity threshold. Generally, unless otherwise stated, these intensity thresholds are consistent between different sets of user interface figures.

In some embodiments, the response of the device to inputs detected by the device depends on criteria based on the contact intensity during the input. For example, for some "light press" inputs, the intensity of a contact exceeding a first intensity threshold during the input triggers a first response. In some embodiments, the response of the device to inputs detected by the device depends on criteria that include both the contact intensity during the input and time-based criteria. For example, for some "deep press" inputs, the intensity of a contact exceeding a second intensity threshold during the input, greater than the first intensity threshold for a light press, triggers a second response only if a delay time has elapsed between meeting the first intensity threshold and meeting the second intensity threshold. This delay time is typically less than 200 ms in duration (e.g., 40, 100, or 120 ms, depending on the magnitude of the second intensity threshold, with the delay time increasing as the second intensity threshold increases). This delay time helps to avoid accidental deep press inputs. As another example, for some "deep press" inputs, there is a reduced-sensitivity time period that occurs after the time at which the first intensity threshold is met. During the reduced-sensitivity time period, the second intensity threshold is increased. This temporary increase in the second intensity threshold also helps to avoid accidental deep press inputs. For other deep press inputs, the response to detection of a deep press input does not depend on time-based criteria.

In some embodiments, one or more of the input intensity thresholds and/or the corresponding outputs vary based on one or more factors, such as user settings, contact motion, input timing, application running, rate at which the intensity is applied, number of concurrent inputs, user history, environmental factors (e.g., ambient noise), focus selector position, and the like. Example factors are described in U.S. patent application Ser. Nos. 14/399,606 and 14/624,296, which are incorporated by reference herein in their entireties.

For example, FIG. **4**C illustrates a dynamic intensity threshold **480** that changes over time based in part on the intensity of touch input **476** over time. Dynamic intensity threshold **480** is a sum of two components, first component **474** that decays over time after a predefined delay time p**1** from when touch input **476** is initially detected, and second component **478** that trails the intensity of touch input **476** over time. The initial high intensity threshold of first component **474** reduces accidental triggering of a "deep press" response, while still allowing an immediate "deep press" response if touch input **476** provides sufficient intensity. Second component **478** reduces unintentional triggering of a "deep press" response by gradual intensity fluctuations of in a touch input. In some embodiments, when touch input **476** satisfies dynamic intensity threshold **480** (e.g., at point **481** in FIG. **4**C), the "deep press" response is triggered.

FIG. **4**D illustrates another dynamic intensity threshold **486** (e.g., intensity threshold I_D). FIG. **4**D also illustrates two other intensity thresholds: a first intensity threshold I_H and a second intensity threshold I_L. In FIG. **4**D, although touch input **484** satisfies the first intensity threshold I_H and the second intensity threshold I_L prior to time p**2**, no response is provided until delay time p**2** has elapsed at time **482**. Also in FIG. **4**D, dynamic intensity threshold **486** decays over time, with the decay starting at time **488** after a predefined delay time p**1** has elapsed from time **482** (when the response associated with the second intensity threshold I_L was triggered). This type of dynamic intensity threshold reduces accidental triggering of a response associated with the dynamic intensity threshold I_D immediately after, or concurrently with, triggering a response associated with a lower intensity threshold, such as the first intensity threshold I_H or the second intensity threshold I_L.

FIG. **4**E illustrate yet another dynamic intensity threshold **492** (e.g., intensity threshold I_D). In FIG. **4**E, a response associated with the intensity threshold I_L is triggered after the delay time p**2** has elapsed from when touch input **490** is initially detected. Concurrently, dynamic intensity threshold **492** decays after the predefined delay time p**1** has elapsed from when touch input **490** is initially detected. So a decrease in intensity of touch input **490** after triggering the response associated with the intensity threshold I_L, followed by an increase in the intensity of touch input **490**, without releasing touch input **490**, can trigger a response associated with the intensity threshold I_D (e.g., at time **494**) even when the intensity of touch input **490** is below another intensity threshold, for example, the intensity threshold I_L.

An increase of characteristic intensity of the contact from an intensity below the light press intensity threshold IT_L to an intensity between the light press intensity threshold IT_L and the deep press intensity threshold IT_D is sometimes referred to as a "light press" input. An increase of characteristic intensity of the contact from an intensity below the deep press intensity threshold IT_D to an intensity above the deep press intensity threshold IT_D is sometimes referred to as a "deep press" input. An increase of characteristic intensity of the contact from an intensity below the contact-detection intensity threshold IT_0 to an intensity between the contact-detection intensity threshold IT_0 and the light press intensity threshold IT_L is sometimes referred to as detecting the contact on the touch-surface. A decrease of characteristic intensity of the contact from an intensity above the contact-detection intensity threshold IT_0 to an intensity below the contact-detection intensity threshold IT_0 is sometimes referred to as detecting liftoff of the contact from the touch-surface. In some embodiments IT_0 is zero. In some embodiments, IT_0 is greater than zero. In some illustrations a shaded circle or oval is used to represent intensity of a contact on the touch-sensitive surface. In some illustrations, a circle or oval without shading is used represent a respective contact on the touch-sensitive surface without specifying the intensity of the respective contact.

In some embodiments, described herein, one or more operations are performed in response to detecting a gesture that includes a respective press input or in response to detecting the respective press input performed with a respective contact (or a plurality of contacts), where the respective press input is detected based at least in part on detecting an increase in intensity of the contact (or plurality of contacts) above a press-input intensity threshold. In some embodiments, the respective operation is performed in response to detecting the increase in intensity of the respective contact above the press-input intensity threshold (e.g., the respective operation is performed on a "down stroke" of the respective press input). In some embodiments, the press input includes an increase in intensity of the respective contact above the press-input intensity threshold and a subsequent decrease in intensity of the contact below the press-input intensity threshold, and the respective operation is performed in response to detecting the subsequent decrease in intensity of the respective contact below the press-input threshold (e.g., the respective operation is performed on an "up stroke" of the respective press input).

In some embodiments, the device employs intensity hysteresis to avoid accidental inputs sometimes termed "jitter," where the device defines or selects a hysteresis intensity threshold with a predefined relationship to the press-input intensity threshold (e.g., the hysteresis intensity threshold is X intensity units lower than the press-input intensity threshold or the hysteresis intensity threshold is 75%, 90%, or some reasonable proportion of the press-input intensity threshold). Thus, in some embodiments, the press input includes an increase in intensity of the respective contact above the press-input intensity threshold and a subsequent decrease in intensity of the contact below the hysteresis intensity threshold that corresponds to the press-input intensity threshold, and the respective operation is performed in response to detecting the subsequent decrease in intensity of the respective contact below the hysteresis intensity threshold (e.g., the respective operation is performed on an "up stroke" of the respective press input). Similarly, in some embodiments, the press input is detected only when the device detects an increase in intensity of the contact from an intensity at or below the hysteresis intensity threshold to an intensity at or above the press-input intensity threshold and, optionally, a subsequent decrease in intensity of the contact to an intensity at or below the hysteresis intensity, and the respective operation is performed in response to detecting the press input (e.g., the increase in intensity of the contact or the decrease in intensity of the contact, depending on the circumstances).

For ease of explanation, the description of operations performed in response to a press input associated with a press-input intensity threshold or in response to a gesture including the press input are, optionally, triggered in response to detecting: an increase in intensity of a contact above the press-input intensity threshold, an increase in intensity of a contact from an intensity below the hysteresis intensity threshold to an intensity above the press-input intensity threshold, a decrease in intensity of the contact below the press-input intensity threshold, or a decrease in intensity of the contact below the hysteresis intensity threshold corresponding to the press-input intensity threshold. Additionally, in examples where an operation is described as being performed in response to detecting a decrease in intensity of a contact below the press-input intensity threshold, the operation is, optionally, performed in response to detecting a decrease in intensity of the contact below a hysteresis intensity threshold corresponding to, and lower than, the press-input intensity threshold. As described above, in some embodiments, the triggering of these responses also depends on time-based criteria being met (e.g., a delay time has elapsed between a first intensity threshold being met and a second intensity threshold being met).

User Interfaces and Associated Processes

Attention is now directed towards embodiments of user interfaces ("UI") and associated processes that may be implemented on an electronic device, such as portable multifunction device **100** or device **300**, with a display, a touch-sensitive surface, and one or more sensors to detect intensities of contacts with the touch-sensitive surface.

For convenience of explanation, some of the embodiments will be discussed with reference to operations performed on a device with a touch-sensitive display system **112**. In such embodiments, the focus selector is, optionally: a respective finger or stylus contact, a representative point corresponding to a finger or stylus contact (e.g., a centroid of a respective contact or a point associated with a respective contact), or a centroid of two or more contacts detected on the touch-sensitive display system **112**. However, analogous operations are, optionally, performed on a device with a display **450** and a separate touch-sensitive surface **451** in response to detecting the contacts on the touch-sensitive surface **451** while displaying the user interfaces shown in the figures on the display **450**, along with a focus selector.

FIGS. **5A1-5I9** illustrate example user interfaces for interacting with a notification associated with a respective application (e.g., to access a subset of functions and content of the respective application from the notifications without having to first activate the respective application), in accordance with some embodiments. An input on a notification either launches the respective application associated with the notification or causes an expanded version of the notification to be displayed to provide a subset of content and/or functionality from the respective application to the user without first launching the application, in accordance with some embodiments.

FIGS. **5A1-5A6** illustrate various example user interfaces on which notifications are presented in accordance with some embodiments.

FIG. **5A1** illustrates wake screen user interface **5002** that is displayed when device **100** is activated from a screen-off state (e.g., a sleep state) to a screen-on state (e.g., a wake state) in an unlocked mode (e.g., as indicated by the "unlocked" indicator **5004**). A number of notifications (e.g., notification **5006** for a calendar invitation, notification **5008** for a new instant message, and notification **5010** for a voicemail message) are displayed on the wake screen user interface **5002**. Each notification includes notification content (e.g., an excerpt from a communication, a summary of an event or communication, etc.) and identifying information that identifies a respective application that corresponds to the notification.

FIG. **5A2** illustrates wake screen user interface **5012** that is displayed when device **100** is activated from a screen-off state (e.g., a sleep state) to a screen-on state (e.g., a wake state) in an locked mode (e.g., as indicated by the "locked" indicator **5014**). A number of notifications (e.g., notification **5016** for a calendar invitation, notification **5018** for a new instant message, and notification **5020** for a voicemail message) are displayed on the wake screen user interface **5012**. Each notification includes notification content (e.g., an excerpt from a communication, a summary of an event or communication, etc.) and identifying information that identifies a respective application that corresponds to the notification. In some embodiments, device **100** displays a first version of a notification (e.g., notification **5006**, or notification **5008**) with more notification content when the device is in the unlocked mode (as shown in FIG. **5A1**), and displays a second version of the notification (e.g., notification **5016**, or notification **5018**) with less notification content when the device is in the locked mode (e.g., as shown in FIG. **5A2**).

FIG. **5A3** illustrates a notification (e.g., banner **5022** for a new e-mail message) that is displayed over home screen user interface **5024** (e.g., analogous to home screen user interface **400** shown in FIG. **4A**).

FIG. **5A4** illustrates notification screen **5026** (e.g., a notification center user interface) displayed while device **100** is in a locked mode (e.g., as indicated by "locked" indicator **5014**). A number of notifications (e.g., notifications **5028** and **5030** for two new instant messages, notification **5032** for a new voicemail, and notification **5034** for a new email message) are displayed in a vertical stack on notification screen **5026**.

FIG. **5A5** illustrates notification screen **5036** (e.g., a notification center user interface) displayed while device **100** is in an unlocked mode (e.g., as indicated by "unlocked" indicator **5004**). A number of notifications (e.g., notifications **5038** and **5040** for two new instant messages, notification **5042** for a new voicemail, and notification **5044** for a new email message) are displayed in a vertical stack on notification screen **5036**. Each notification includes notification content (e.g., an excerpt from a communication, a summary of an event or communication, etc.) and identifying information that identifies a respective application that corresponds to the notification. In some embodiments, device **100** displays a first version of a notification (e.g., notification **5028**, notification **5030**, or notification **5034**) with less notification content when the device is in the locked mode (e.g., as shown in FIG. **5A4**) and displays a second version of a notification (e.g., notification **5038**, notification **5040**, or notification **5044**) with more notification content when the device is in the unlocked mode (as shown in FIG. **5A5**). In FIG. **5A5**, notification **5038** for an instant message (displayed while the device is in the unlocked mode) includes a thumbnail image **5046** for an image attachment included in the instant message, in addition to textual content of the instant message.

FIG. **5A6** illustrates a notification (e.g., alert **5048**) that is displayed over a user interface of an application (e.g., application user interface **5050**). An alert is a type of notification that requests a user to perform an action (e.g., to confirm a ride request, or cancel the ride request). An alert is also used sometimes when user's immediate attention is requested (e.g., when a failure has been detected (e.g., failure to connect to a peripheral device or a server), or when a task requested by a user has not been successfully completed (e.g., failure to send a message)).

FIGS. **5B1-5B4** illustrate a process for launching an application from a notification associated with the application (e.g., in response to a tap input on the notification), in accordance with some embodiments.

FIG. **5B1** illustrates notification screen **5026** displaying a number of notifications (e.g., notifications **5028**, **5030**, **5032**, and **5034**) while device **100** is in the locked state.

FIG. **5B2** illustrates that a contact (e.g., contact **5052**) is detected on notification **5028**; and in response to the detection of the contact, notification **5028** is selected.

FIGS. **5B3-5B4** illustrate that, when a characteristic intensity of contact **5052** (as indicated by the "intensity of contact" in the intensity meter illustrated next to device **100** in the Figures) does not increase above a predetermined threshold intensity (e.g., the hint intensity threshold IT_H) before lift-off of the contact is detected, device **100** initiates a process to launch an instant messaging application (e.g., the Messages app) corresponding to notification **5028**.

FIG. **5B3** illustrates that, upon detecting lift-off of contact **5052**, device **100** darkens notification screen **5026** and displays an authentication user interface (e.g., password user interface **5054**) over the darkened notification screen **5026**.

FIG. **5B4** illustrates that, upon receiving the correct authentication information from password user interface **5054**, device **100** is unlocked. In the unlocked mode, device **100** launches the Messages application and displays a user interface of the Messages application (e.g., conversation screen **5056**). The user interface (e.g., conversation screen **5056**) includes the content of the notification (e.g., message text (e.g., text of message **5062**), sender name "Alice") and additional content (e.g., one or more previous messages between Alice and the user (e.g., message **5060**), and an image (e.g., image **5058**) that corresponds to an image attachment included in message **5062**)).

FIGS. **5C1-5C6** illustrate a process for displaying a second version of a notification with expanded notification content in response to an input (e.g., a press input) on a first version of the notification with standard notification content, in accordance with some embodiments.

FIG. **5C1** shows the same notification screen as FIG. **5B1**. In FIG. **5C1**, notification screen **5026** displaying a number of notifications (e.g., notifications **5028**, **5030**, **5032**, and **5034**) while device **100** is in the locked state.

FIG. **5C2** illustrates that a contact (e.g., contact **5064**) is detected on notification **5028**, and in response to the detection of the contact, notification **5028** is selected.

FIGS. **5C3** and **5C4** illustrate that, once the characteristic intensity of contact **5064** increases above a predetermined threshold intensity (e.g., a hint intensity threshold IT_H), device **100** applies dynamic changes to the user interface in accordance with a current value of the characteristic intensity. For example, device **100** dynamically increases (or decreases) the amount of blurring and darkening applied to notification screen **5026** in accordance with the increase (or decrease) in the characteristic intensity of contact **5064**, while notification **5028** is overlaid on top of the blurred and darkened notification screen **5026**. As shown in FIGS. **5C3** and **5C4**, as contact intensity is increased within the range IT_H and a first higher intensity threshold (e.g., a light press intensity threshold IT_L), the amount of blurring and darkening applied to notification screen **5026** is increased accordingly. Before the characteristic intensity of contact **5064** crosses the first higher intensity threshold (e.g., IT_L), lift-off of the contact returns the user interface to its original state (e.g., the state shown in FIG. **5C1**).

FIG. **5C5** illustrates that, once the characteristic intensity of contact **5064** exceeds the first intensity threshold (e.g., light press intensity threshold IT_L), an expanded version of the notification (e.g., notification **5066**) is displayed over the blurred and darkened notification screen **5026**. In addition, in some embodiments, the appearance of notification screen **5026** is maintained (e.g., does not change in accordance with the current characteristic intensity of contact **5064**) once the characteristic intensity has exceeded the first intensity threshold for the first time. As shown in FIG. **5C5**, the expanded version of the notification (e.g., notification **5066**) includes content from the initially displayed version of the notification (e.g., notification **5028**) and additional functions (e.g., selectable options for performing actions with respect to the notification or the application) and/or content that is not included in the initially displayed version of the notification. For example, notification **5066** includes "Reply" button **5068** for launching a "Reply" user interface for composing a reply to the message represented in the notification, and "Delete" button **5070** for deleting the message represented in the notification. Notification **5066** optionally includes a preview of an image attachment from the message represented in the notification.

FIG. **5C6** illustrates that the expanded notification (e.g., notification **5066**) remains displayed on the blurred and darkened notification screen after lift-off of contact **5064** is detected. Another input (e.g., a tap input) subsequently detected on the expanded notification (e.g., notification **5066**) outside areas occupied by buttons **5068** and **5070** starts a process for launching the Messages application (e.g., as illustrated in FIGS. **5B3** and **5B4**).

FIGS. **5D1-5E4** illustrate a process in which movement of the contact beyond a threshold distance cancels the display of expanded notification, in accordance with some embodiments.

FIG. **5D1** shows the same notification screen as FIGS. **5B1** and **5C1**. In FIG. **5D1**, notification screen **5026** displaying a number of notifications (e.g., notifications **5028**, **5030**, **5032**, and **5034**) while device **100** is in the locked state.

FIG. **5D2** illustrates that a contact (e.g., contact **5072**) is detected on notification **5028**, and in response to the detection of the contact, notification **5028** is selected.

FIGS. **5D3** and **5D4** illustrate that, once the characteristic intensity of contact **5072** increases above a predetermined threshold intensity (e.g., a hint intensity threshold IT_H), device **100** applies dynamic changes to the user interface in accordance with a current value of the characteristic intensity. For example, device **100** dynamically increases (or decreases) the amount of blurring and darkening applied to notification screen **5026** in accordance with the increase (or decrease) in the characteristic intensity of contact **5072**, while notification **5028** is overlaid on top of the blurred and darkened notification screen **5026**. As shown in FIGS. **5D3** and **5D4**, as contact intensity is increased within the range IT_H and a first higher intensity threshold (e.g., a light press intensity threshold IT_L), the amount of blurring and darkening applied to notification screen **5026** is increased accordingly. Before the characteristic intensity of contact **5072** crosses the first intensity threshold, lift-off of the contact returns the user interface to its original state (e.g., the state shown in FIG. **5D1**).

FIG. **5D5** illustrates that, before the characteristic intensity of contact **5072** crosses the first intensity threshold, movement of contact **5072** is detected. When the amount of movement is less than a first movement threshold (e.g., 10 pixels), device **100** continues to dynamically vary the amount of blurring and darkening applied to notification screen **5026** in accordance with a current value of the characteristic intensity of contact **5072**. For example, the amount of blurring and darkening is greater in the notification screen **5026** in FIG. **5D5** as compared to the notification screen **5026** in FIG. **5D4**.

FIG. **5D6** illustrates that, as soon as the amount of movement made by contact **5072** is more than the first movement threshold, device cancels the hint effects (e.g., the blurring and darkening of notification screen **5026**) provided in accordance the current contact intensity, and notification screen **5026** is restored to its original clarity and brightness. In addition, device **100** recognizes the gesture provided by contact **5072** as a drag gesture. Accordingly, device **100** moves notification **5028** in accordance with movement of contact **5072** (e.g., notification **5072** is dragged to the left by contact **5072**). As shown in FIG. **5D6**, although intensity of contact **5072** is greater than the first intensity threshold (e.g., IT_L), an expanded version of the notification is not presented (e.g., in contrast to the case illustrated in FIG. **5C5**).

FIG. **5D6** illustrates that, as contact **5072** continues to move, notification **5028** is dragged further to the left and a quick response action affordance (e.g., "Delete" affordance **5074**) is revealed from behind notification **5028**.

As illustrated in FIGS. **5D6-5D7**, once a threshold amount of movement by contact **5072** has been detected, the user interface does not respond to further changes in the characteristic intensity of contact **5072** and/or the characteristic intensity meeting the first intensity threshold.

FIG. **5D8** shows that, after the quick response action affordance ("Delete" affordance **5074**) has been revealed, the quick response action affordance, and optionally, notification **5028** along with the rest of notification screen **5026** remains displayed after lift-off of contact **5072** is detected. Selection of "Delete" affordance **5074** by another input (e.g., a tap input) causes deletion of notification **5028** and/or the message represented in notification **5028**.

Although not illustrated in FIGS. **5D5-5D8**, movement of contact **5072** in the reverse direction (e.g., from left to right) after dragging notification **5028** and revealing "Delete" affordance **5074** returns notification **5028** to its original location and hides "Delete" affordance **5074** again. In addition, although not illustrated in FIGS. **5D5-5D8**, movement of contact **5072** in the reverse direction (e.g., from left to right) that is started while notification **5028** is at its original location drags notification **5072** to the right and reveals a different quick response action affordance (e.g., a "Flag" affordance, or a "Reply" affordance).

FIGS. **5E1-5E4** illustrates movement of contact **5072** in a vertical direction. FIG. **5E1** continues from FIG. **5D3** and is the same as FIG. **5D4**.

In FIGS. **5E1-5E2**, before the characteristic intensity of contact **5072** crosses the first intensity threshold, movement of contact **5072** in the vertical direction is detected (e.g., as shown in FIG. **5E2**). When the amount of movement is less than a second movement threshold (e.g., 10 pixels or another threshold number of pixels), device **100** continues to dynamically vary the amount of blurring and darkening of notification screen **5026** in accordance with a current value of the characteristic intensity of contact **5072**.

FIG. **5**E**3** illustrates that, as soon as the amount of movement made by contact **5072** is more than the second movement threshold, device cancels the hint effects (e.g., the blurring and darkening of notification screen **5026**) provided in accordance the current contact intensity, and notification screen **5026** is restored to its original clarity and brightness. In addition, device **100** recognizes the gesture provided by contact **5072** as a scroll gesture. Accordingly, device **100** scrolls notification screen **5026** in accordance with movement of contact **5072** (e.g., notification **5028** along with other notifications in notification screen **5026** are scrolled upward by contact **5072**). As shown in FIG. **5**E**3**, although intensity of contact **5072** is greater than the first intensity threshold (e.g., IT_L), an expanded version of the notification is not presented (e.g., in contrast to the case illustrated in FIG. **5**C**5**).

As illustrated in FIGS. **5**E**1**-**5**E**3**, once a threshold amount of movement has been detected, the user interface does not respond to further changes in the characteristic intensity of contact **5072** and/or the characteristic intensity meeting the first intensity threshold.

FIG. **5**E**4** shows that, after notification screen **5026** has been scrolled, notification screen **5026** remains in the scrolled state after lift-off of contact **5072** is detected.

Although not illustrated in FIGS. **5**E**1**-**5**E**4**, movement of contact **5072** in the reverse direction (e.g., in the downward direction) after scrolling the notification screen upward scrolls the notification screen downward again.

In addition, in some embodiments (not shown in FIGS. **5**E**1**-**5**E**4**), instead of scrolling the entire notification screen, movement of contact **5072** scrolls the notification content within notification **5028**. In some embodiments (not shown in FIGS. **5**E**1**-**5**E**4**), scrolling of notification content is prioritized before scrolling of the notification screen. In other words, movement of the contact scrolls the notification content first, and if movement of the contact continues when no more notification content can be scrolled in accordance with the movement of the contact, then scrolling of the notification screen is started.

In some embodiments (not shown in FIGS. **5**E**1**-**5**E**4**), when the touch-down location of a contact is within a notification, movement of the contact only scrolls the notification content. In such embodiments, the scrolling of the notification screen occurs when the initial touch-down location of a contact is outside of the content region of a notification (e.g., outside of a notification, on the header portion of a notification, or outside or straddling the boundary of the notification screen) and the contact moves vertically within the notification screen.

Although the examples shown in FIGS. **5**D**1**-**5**E**4** are illustrated with a notification shown when device **100** is in a locked mode, cancelation of the hint states (e.g., the blurring and darkening of the background user interface) and dragging of the notification and/or scrolling of the background user interface in accordance with movement of the contact applies to a notification (e.g., a notification that includes restricted notification content) that is shown when device **100** is in an unlocked mode as well.

FIGS. **5**F**1**-**5**F**7** illustrate a process for displaying a second version of a notification with expanded notification content in response to an input (e.g., a press input) on a first version of the notification with standard notification content, in accordance with some embodiments. In contrast to the process shown in Figures FC**1**-FC**6**, here, the device is in an unlocked mode, and restricted functions and restricted notification content are provided in the second version of the notification.

In FIG. **5**F**1**, notification screen **5036** displays a number of notifications (e.g., notifications **5038**, **5040**, **5042**, and **5044**) while device **100** is in the unlocked state.

FIG. **5**F**2** illustrates that a contact (e.g., contact **5076**) is detected on notification **5038**; and in response to the detection of the contact, notification **5038** is selected.

FIG. **5**F**3** illustrates that, once the characteristic intensity of contact **5076** increases above a predetermined threshold intensity (e.g., a hint intensity threshold IT_H), device **100** applies dynamic changes to the user interface in accordance with a current value of the characteristic intensity. For example, device **100** dynamically increases (or decreases) the amount of blurring and darkening applied to notification screen **5036** in accordance with the increase (or decrease) in the characteristic intensity of contact **5076**, while notification **5038** is overlaid on top of the blurred and darkened notification screen **5036**. As contact intensity is increased within the range IT_H and a first higher intensity threshold (e.g., a light press intensity threshold IT_L), the amount of blurring and darkening applied to notification screen **5036** is increased accordingly. Before the characteristic intensity of contact **5076** crosses the first intensity threshold, lift-off of the contact returns the user interface to its original state (e.g., the state shown in **5**F**1**).

FIG. **5**F**4** illustrates that, once the characteristic intensity of contact **5076** exceeds the first intensity threshold (e.g., light press intensity threshold IT_L), an expanded version of the notification (e.g., notification **5078**) is displayed over the blurred and darkened notification screen **5036**. In addition, in some embodiments, the appearance of notification screen **5036** is maintained (e.g., does not change in accordance with the current characteristic intensity of contact **5076**) once the characteristic intensity has exceeded the first intensity threshold for the first time.

As shown in FIG. **5**F**4**, the expanded version of the notification (e.g., notification **5078**) includes content (e.g., message text (e.g., text of message **5062**), sender name "Alice") from the initially displayed version of the notification (e.g., notification **5038**) and additional functions (e.g., selectable options for performing actions with respect to the notification or the application) and/or content that is not included in the initially displayed version of the notification. For example, notification **5078** includes "Reply" button **5082** for launching a "Reply" user interface for composing a reply to the message represented in the notification. Notification **5078** further includes one or more previous messages between Alice and the user (e.g., message **5060**), and an image (e.g., image **5058**) that corresponds to thumbnail **5046** included in notification **5028** (image **5058** is an attachment included in message **5062**))). Notification **5078** further includes header region **5080** that is distinct from the content region (e.g., the region displaying the conversation log) and the control region (e.g., the region displaying the control affordances (e.g., "Reply" affordance **5082**)). Header region **5080** includes information identifying the Messages application (e.g., the application icon and application name) and information identifying the sender of the message (e.g., avatar **5084** of the sender "Alice").

Although not shown in FIGS. **5**F**1**-**5**F**5**, the expanded notification (e.g., notification **5078**) remains displayed on the blurred and darkened notification screen after lift-off of contact **5076** is detected. Another input (e.g., a tap input) subsequently detected on the expanded notification (e.g., notification **5078**) outside areas occupied by affordance

5082 (e.g., a tap input on the notification content region or the header region) launches the Messages application (e.g., as shown in FIG. 5B4).

FIGS. 5F5-5F7 illustrate that, a second press input by the same contact (e.g., contact 5076) before liftoff, on Reply affordance 5082, activates Reply affordance 5082 and causes a reply user interface to be displayed. FIG. 5F5 illustrates that, before lift-off, contact 5078 moves from its original location to a location on Reply affordance 5082. FIG. 5F6 illustrates that, while contact 5078 is at a location on Reply affordance 5082, an increase in the characteristic intensity of contact 5078 is detected, and the characteristic intensity exceeds a respective intensity threshold (e.g., the light press intensity threshold IT_L). FIG. 5F5 also illustrates that, before the characteristic intensity of contact 5076 exceeds the respective intensity threshold, the characteristic intensity of contact 5076 was below the respective intensity threshold (e.g., the characteristic intensity of contact 5076 is below IT_L during movement of contact 5076 from its original location to the location on Reply affordance 5082). Contact 5082 does not move by more than a threshold amount (e.g., is substantially stationary) when an increase in intensity above the respective intensity threshold is detected (in other words, the second press input is detected while contact 5076 is substantially stationary).

FIG. 5F7 illustrates that, upon lift-off of contact 5076, Reply affordance 5082 is activated, and a reply user interface (e.g., reply user interface 5090) is displayed. In some embodiments, the reply user interface (e.g., reply user interface 5090) is displayed over the blurred and darkened notification screen 5036. In some embodiments, the reply user interface is updated in real-time (e.g., message bubble 5088 indicates that Alice is composing a message). The reply user interface includes soft keyboard 5092 and message input field for displaying a draft message entered by the user (e.g., "Oh?").

FIGS. 5G1-5G3 illustrate that a tap input detected outside of expanded notification 5078 dismisses notification 5078 (and its shorter version-notification 5038). FIG. 5G1 shows expanded notification 5078 overlaid on blurred and darkened notification screen 5036, e.g., following liftoff of contact 5076 from the state shown in FIG. 5F4.

FIG. 5G2 illustrates that new contact 5096 is detected outside of expanded notification 5078. FIG. 5G3 illustrates that, upon lift-off of contact 5096, notification screen 5036 is restored to its original clarity and brightness. In addition, notification 5038 and expanded notification 5078 are dismissed from the user interface and are no longer displayed. Other notifications (e.g., notifications 5040, 5042, and 5044) that have not been dismissed are displayed in restored notification screen 5036.

FIGS. 5H1-5H2 illustrate that, after the state shown in FIG. 5G1, a tap input detected within expanded notification 5078 (e.g., a tap input detected within the content region of expanded notification 5078) launches the Messages application.

As shown in FIG. 5H1, new contact 5098 is detected within the content region of expanded notification 5078. FIG. 5H2 shows that, upon lift-off of contact 5098, device 100 launches the Messages application, and a user interface of the Messages application (e.g., application user interface 5100) replaces expanded notification 5078 and notification screen 5036 on the touch screen display 112. The tap input on the expanded notification launches the Messages application to a user interface in the Messages application that corresponds to the notification content (e.g., a user interface that includes the conversation log for message communications between the user and the sender "Alice"), rather than a default user interface that is displayed when the Messages application is launched by a tap input on the Messages application icon on the home screen (e.g., to the last user interface that was shown when the user previously exited the Messages application or the user interface that includes an index of conversations the user has with other users).

FIGS. 5I1-5I9 illustrate another example in which an expanded notification is presented in response to a press input detected on a notification for a ride sharing application, and provides a subset of content and functions from the ride sharing application without first launching the ride sharing application.

In FIG. 5I1, a first version of a notification (e.g., banner 5104) is displayed over a background user interface (e.g., email inbox user interface 5102 of an e-mail application).

FIG. 5I2 illustrate that, contact 5106 is detected on the first version of the notification (e.g., banner 5104), and when a characteristic intensity of contact 5106 exceeds a hint threshold IT_H, a deemphasizing visual effect (e.g., blurring and darkening of the background user interface (e.g., user interface 5102)) is applied to the background user interface, while notification 5104 is visually lifted off of the background user interface without the deemphasizing visual effect. FIG. 5I3 illustrates that, as the characteristic intensity of contact 5106 increases (or decreases) within the range IT_H and IT_L, the amount of deemphasizing visual effect is varied dynamically (e.g., increased (or decreased)) in accordance with the change in the characteristic intensity of contact 5106. By applying the deemphasizing visual effect, the user is provided a hint for the alternative manner by which a subset of content and functions of the application can be accessed without leaving the current context.

FIG. 5I3 illustrates that, when the characteristic intensity of contact 5106 exceeds the first intensity threshold IT_L, an expanded version of the notification (e.g., expanded notification 5108) is displayed over the deemphasized background user interface (e.g., application user interface 5102). As shown in FIG. 5I3, expanded notification 5108 includes a header portion 5110 that includes information identifying a corresponding application associated with the notification (e.g., application icon and application name of a ride sharing application "Rides"). Expanded notification 5108 also includes a content region (e.g., content region 5112) that displays notification content (e.g., text and graphics related to the subject matter of the notification). The notification content shown in the expanded version of the notification includes content that is not displayed in the initially displayed version of the notification (e.g., map 5114 and the additional details regarding the ride provider were not included in notification 5104).

In some embodiments, the content included in expanded notification 5108 is dynamically updated. For example, the location of the car icon 5116 in map 5114 indicates the real-time location of the car that has accepted the ride request, and is updated constantly while expanded notification 5108 is displayed on device 100.

In some embodiments, content region 5112 in expanded notification 5108 is scrollable. FIGS. 5I5-5I6 illustrate that one or more scroll inputs (e.g., provided by contacts 5120 and 5126 that are within the content region and moving upward) cause the content region to scroll upward to reveal additional content and a control region including one or more control affordances (e.g., control affordances 5122, 5124, 5128 and 5130).

FIG. 5I7 illustrates that update information regarding arrival of the ride is received, and a pop-up banner alert 5132 is displayed within expanded notification **5108**. In addition, car icon **5116** indicates the current location of the driver in map **5114**.

FIGS. **5I8** and **5I9** illustrate that a tap input (e.g., by contact **5134**) is detected on control affordance **5122** for initiating a call to the driver of the ride (e.g., as shown in FIG. **5I8**), and in response to the tap input, device **100** initiates a call to the driver of the ride, and expanded notification **5108** displays a call user interface **5136** during the call. Control affordance **5122** changes its appearance to indicate that a call is in progress once the call is connected.

Although not shown in FIGS. **5I1-5I9**, a tap input detected within the content region of expanded notification **5108** (e.g., outside of any of the control affordances) launches the ride sharing application and a user interface of the ride sharing application replaces the display of expanded notification **5108** and the background user interface **5102**. In addition, a tap input detected outside of expanded notification **5108** dismisses the notification (e.g., both notification **5104** and expanded notification **5108** are no longer displayed) and the background user interface (e.g., application user interface **5102**) is restored to its original brightness and clarity.

FIGS. **5J1-5P2** illustrate example user interfaces for displaying a contextual content object (e.g., a mini application object) associated with a respective application (e.g., to provide access to a subset of functions and content of the respective application from the contextual content object without having to first activate the respective application), in accordance with some embodiments. The contextual content object is provided concurrently with a menu of selectable options for activating one or more functions of the respective application. The contextual content object responds to user inputs for displaying more information or functions from the respective application without launching the application, in accordance with some embodiments.

FIGS. **5J1-5J2** illustrates a process for launching an application by a tap input on an application icon in a menu of applications, in accordance with some embodiments.

In FIG. **5J1**, a user interface (e.g., home screen **5202**) includes an array of application icons that represent different applications that are installed on device **100**. A contact (e.g., contact **5204**) is detected on one of the application icons (e.g., application icon **424** associated with the Messages application), and the application icon is selected when the characteristic intensity of contact **5204** is above the detection threshold intensity IT_0 and below the hint intensity threshold IT_H.

FIG. **5J2** illustrates that, upon lift-off of contact **5204**, device **100** launches the Messages application and replaces display of the home screen **5202** with a user interface of the Messages application (e.g., user interface **5208** that displays a listing of the user's contacts with whom the user has had previous conversations in the Messages application (e.g., a listing of conversations the user has had with others in the Messages application)).

FIGS. **5K1-5K4** illustrate a process in which instead of a tap input, a press input is detected on the Messages application icon, and the press input causes a contextual content object and a menu of options to be displayed, instead of launching the Messages application.

In FIG. **5K1**, home screen **5202** is displayed. A contact (e.g., contact **5206**) is detected on one of the application icons (e.g., application icon **424** associated with the Messages application), and the application icon is selected when the characteristic intensity of contact **5206** is above the detection threshold intensity IT_0 and below the hint intensity threshold IT_H.

FIG. **5K2-5K3** illustrate that, once the characteristic intensity of contact **5206** increases above a predetermined threshold intensity (e.g., the hint intensity threshold IT_H), device **100** applies dynamic changes to the user interface in accordance with a current value of the characteristic intensity. For example, device **100** dynamically increases (or decreases) the amount of blurring and darkening applied to home screen **5202** in accordance with the increase (or decrease) in the characteristic intensity of contact **5206**, while application icon **424** is overlaid on top of the blurred and darkened home screen **5202**. In addition, a menu platter (e.g., platter **5208**) emerges from between application icon **424** and home screen **5202**, and the size of the platter changes (e.g., grows or shrinks) in accordance with the changes in the characteristic intensity of contact **5206**. As shown in FIGS. **5K2** and **5K3**, as contact intensity is increased within the range IT_H and a first higher intensity threshold (e.g., the light press intensity threshold IT_L), the amount of blurring and darkening applied to home screen **5202** is increased accordingly, and the size of platter **5208** is also increased accordingly. Before the characteristic intensity of contact **5206** crosses the first intensity threshold, lift-off of the contact returns the user interface to its original state (e.g., the home screen shown in **5K1** without the selection of application icon **424**).

FIG. **5K4** illustrates that, once the characteristic intensity of contact **5206** exceeds the first intensity threshold (e.g., the light press intensity threshold IT_L), a contextual content object (e.g., mini application object or widget **5210**) associated with the Messages application is displayed over the blurred and darkened home screen **5202**. The contextual content object includes contextually selected content that has been automatically selected based on a current context of device **100**. For example, mini application object **5210** is a widget that includes a grid of several people that are selected based on the number of messages that have been sent between the user and the user's contacts (e.g., mini application object **5210** includes avatars or aliases (e.g., avatars **5224**, **5226**, **5228**, and **5230**) of four people with whom the user has had the highest numbers of instant messaging communications during the past week). In some embodiments, a respective avatar or alias also includes a badge (e.g., badge **5232** and **5234**) that indicates the number of unread instant messaging communications from the person represented by the respective avatar or alias. For example, badge **5232** indicates that there are eight unread messages from Issac, and badge **5234** indicates that there are four unread messages from Miles. The badges are updated while mini application object **5210** is displayed, when new messages from the people represented in the mini application object **5210** are received at device **100**.

In addition to contextually selected content, mini application object **5210** also includes an "add widget" affordance (e.g., affordance **5222**) for adding the mini application object **5210** to another user interface (e.g., a mini application object screen or widget screen) that is configured to host a number of mini application objects that are associated with different applications installed on device **100**. In some embodiments, affordance **5222** is only displayed if mini application object **5210** does not already exist in the user interface (e.g., a mini application object screen or widget screen) that is configured to host a number of mini application objects that are associated with different applications installed on device **100**.

In addition, a menu of selectable options (e.g., menu **5212**) is displayed concurrently with the contextual content object (e.g., mini application object **5210**). The menu of selectable options includes options (e.g., options **5214**, **5216**, **5218**, **5220**) that when activated, are configured to launch the Messages application to a respective user interface of the Messages application for performing a respective function associated with the Messages application. For example, selection of option **5214** causes a new messages user interface to be displayed for the user to compose a new message; and selection of options **5214**, **5218** and **5220** respectively causes display of a conversation interface for a messages conversation between the user and the person represented in the option (e.g., S. Ramanujan, Mom, and G. Hardy, respectively).

In addition, in some embodiments, the appearance of home screen **5202** is maintained (e.g., does not change in accordance with the current characteristic intensity of contact **5206**) once the characteristic intensity has exceeded the first intensity threshold for the first time.

As shown in FIG. **5K4**, the contextual content object (e.g., mini application object **5210**) includes content contextually selected from the Messages application (e.g., the avatars of users, a miniature messages application icon, an application name) and optionally additional functions (e.g., the avatars **5224**, **5226**, **5228**, and **5230** are responsive to tap inputs or deep press inputs for performing various actions with respect to the mini application object **5210** and/or the Messages application). For example, tapping on the avatar **5224** launches the Messages application and displays a conversation user interface for reviewing previous messages and composing a reply to the messages represented in the conversation user interface.

FIGS. **5K5**-**5K7** illustrate a process for adding the contextual content object to the user interface that is configured to display respective contextual content objects associated with different applications of a plurality of applications installed on device **100**.

FIG. **5K5** illustrates that, the contextual content object (e.g., mini application object **5210**) remains displayed on the blurred and darkened home screen **5202** after lift-off of contact **5206** is detected. Another input (e.g., a tap input by contact **5236**) is subsequently detected on the "add widget" affordance (e.g., affordance **5222**) displayed within (or otherwise concurrently with) the contextual content object (e.g., mini application object **5210**).

FIG. **5K6** illustrates that, upon lift-off of contact **5236**, an animation is presented illustrating that the contextual content object (e.g., mini application object **5210**) is being added to the user interface that is configured to display respective contextual content objects associated with different applications of a plurality of applications installed on device **100**. For example, a mini application object screen (e.g., mini application object screen or widget screen **5238**) is shown to slide in from the left of the display and partially cover home screen **5202**, and mini application object **5210** is shown to jump from its original location into a slot in the mini application object screen **5238**. As shown in FIG. **5K6**, mini application object screen **5238** already includes two mini application objects (e.g., the Up Next mini application object **5240** associated with the Calendar application, and the Calendar mini application object **5242** associated with the Calendar application).

FIG. **5K7** illustrates that once mini application object **5210** has been added to mini application object screen **5238**, the mini application object screen **5238** slides back to the left, and disappears. The user interface is restored to the state before the "add widget" affordance is activated (e.g., the state as shown in FIG. **5K4**). As shown in FIG. **5K7**, once mini application object **5210** has been added to mini application object screen **5238**, the "add widget" affordance is no longer displayed with mini application object **5210**. Instead, an indicator (e.g., the text "Added" or a checkmark) is displayed to indicate that mini application object **5210** has already been added into the mini application object screen. In some embodiments, the indicator (e.g., the text "Added" or a checkmark) is only displayed briefly right after the addition of mini application object **5210** to mini application object screen **5238**. In some embodiments (not shown), when mini application object **5210** is being added to mini application object screen **5238** in response to activation of the "add widget" affordance, device **100** displays mini application object screen **5238** including the newly added mini application object **5238** in lieu of home screen **5202**.

FIGS. **5K8**-**5L3** illustrate that different portions of a contextual content object (e.g., mini application object **5210**) have different responses to a press input (e.g., a light press input or a deep press input).

FIGS. **5K8**-**5K10** illustrate that a light press input (e.g., input by contact **5248** with a characteristic intensity above the light press intensity threshold IT_L) on a first portion of mini application object **5210** is detected, causing a first type of additional information to be displayed.

FIG. **5K8** shows that contact **5248** is detected on a portion of mini application object **5210** outside of any of the avatars included in mini application object **5210**. FIG. **5K9** illustrates that, when a characteristic intensity of contact **5248** exceeds a respective intensity threshold (e.g., the light press intensity threshold), an additional row of avatars/aliases (e.g., avatars **5252**, **5254**, **5256**, and **5258**) is displayed. These additional avatars/aliases are for people that are selected based on the number of messages that have been sent between the user and the user's contacts (e.g., mini application object **5210** now includes additional avatars or aliases (e.g., avatars **5252**, **5254**, **5256**, and **5258**) of four people with whom the user has had the next highest numbers of instant messaging communications during the past week). FIG. **5K10** illustrates that, upon lift-off of contact **5248**, the additional avatars and aliases (e.g., avatars **5252**, **5254**, **5256**, and **5258**) remain displayed in mini application object **5210**.

FIGS. **5L1**-**5L3** illustrate that a light press input (e.g., input by contact **5260** with a characteristic intensity above the light press intensity threshold IT_L) on a second portion of mini application object **5210** is detected, causing a second type of additional information to be displayed.

FIG. **5L1** shows that contact **5260** is detected on a portion of mini application object **5210** that displays one of the avatars included in mini application object **5210** (e.g., contact **5260** is detected on avatar **5230**). FIG. **5L2** illustrates that, when a characteristic intensity of contact **5260** exceeds a respective intensity threshold (e.g., the light press intensity threshold), the last communication (e.g., message **5262**) from the person represented by the selected avatar (e.g., avatar **5230**) is displayed in mini application object **5210**. FIG. **5L3** illustrates that, upon lift-off of contact **5260**, the last communication (e.g., message **5262**) is removed from mini application object **5210**. The user can press on another avatar to see the last communication from the person represented by that avatar. Although FIG. **5L1** shows that additional avatars are also displayed in response to the press input by contact **5260**, this is optional or is not implemented in some embodiments.

FIGS. **5L4**-**5L5** illustrate that a tap input (e.g., by contact **5264**) that is detected outside of mini application object **5210** and menu **5212**, dismisses mini application object **5210** and menu **5212** from home screen **5202**. Home screen **5202** is restored to its original brightness and clarity.

FIGS. **5L6**-**5L8** illustrate that a swipe input (e.g., by contact **5266** moving from left to right) on home screen **5202** scrolls home screen **5202** to the right, and brings in mini application object screen **5238** from the left. FIG. **5L8** shows that mini application object screen **5238** now replaces home screen **5202** and occupies the entire display **112**.

As shown in FIG. **5L8**, mini application object screen **5238** includes a number of mini application objects each associated with a respective application (e.g., mini application object **5268** associated with the Messages application, mini application object **5240** associated with the Calendar application, and mini application object **5242** associated with the Calendar application). In some embodiments, each mini application object includes an affordance for displaying additional information in the mini application object (e.g., a "show more" affordance).

FIGS. **5L9**-**5M2** illustrate that different portions of a contextual content object (e.g., mini application object **5268**) have different responses to an input (e.g., a tap input).

FIGS. **5L9**-**5L10** illustrate that a tap input (e.g., by contact **5272**) detected on a first portion of mini application object **5268** (e.g., a tap input detected on avatar **5230**) causes device **100** to launch the Messages application and display a first user interface of the Messages application (e.g., a conversation user interface for a message conversation between the user and a person represented by the selected avatar **5230**). In FIG. **5L9**, mini application object **5268** is displayed in mini application object screen **5238**. Contact **5272** is detected on avatar **5230** in mini application object **5268**. A characteristic intensity of contact **5272** does not increase above a light press intensity threshold IT_L. FIG. **5L10**, upon lift-off of contact **5272**, device **100** launches the Messages application, and replaces mini application object screen **5238** with a conversation user interface of the Messages application (e.g., conversation user interface **5274**). The conversation user interface (e.g., conversation user interface **5274**) displays a message conversation between the user and the person represented by the selected avatar (e.g., avatar **5230**). The conversation interface displays one or more previous messages (e.g., messages **5276**, **5278**, and **5280**) sent between the user and the person represented by the selected avatar. The conversation interface also includes a soft keyboard **5282** and a text input field for composing a message to the person represented by the selected avatar.

FIGS. **5M1**-**5M2** illustrate that a tap input (e.g., by contact **5284**) detected on a second portion of mini application object **5268** (e.g., a tap input detected on the header portion) causes device **100** to launch the Messages application and display a second user interface of the Messages application (e.g., a conversation listing user interface for listing message conversations the user had with other users). In FIG. **5M1**, mini application object **5268** is displayed in mini application object screen **5238**. Contact **5284** is detected on the header portion of mini application object **5268**. A characteristic intensity of contact **5284** does not increase above the light press intensity threshold IT_L. FIG. **5M2**, upon lift-off of contact **5284**, device **100** launches the Messages application, and replaces mini application object screen **5238** with a conversation listing user interface of the Messages application (e.g., conversation listing user interface **5286**). The conversation listing user interface (e.g., conversation listing user interface **5286**) displays a listing of message conversations between the user and other contacts of the user. The user can navigate to the conversation user interface for a respective person by selecting the corresponding listing item in the conversation listing user interface **5286** (e.g., a tap input on the conversation listing item for Genevive will cause the device to display the conversation user interface shown in FIG. **5L10**).

FIGS. **5N1**-**5N4** illustrate a process in which a deep press input is detected on the Contacts application icon, and the deep press input causes a contextual content object and a menu of options for the Contacts application to be displayed over the home screen.

In FIG. **5N1**, home screen **5288** is displayed. A contact (e.g., contact **5290**) is detected on one of the application icons (e.g., application icon **445** associated with the Contacts application (e.g., also referred to as the Address Book application)), and the application icon is selected when the characteristic intensity of contact **5290** is above the detection threshold intensity IT_0 and below the hint intensity threshold IT_H.

FIG. **5N2**-**5N3** illustrate that, once the characteristic intensity of contact **5290** increases above a predetermined threshold intensity (e.g., the hint intensity threshold IT_H), device **100** applies dynamic changes to the user interface in accordance with a current value of the characteristic intensity. For example, device **100** dynamically increases (or decreases) the amount of blurring and darkening applied to home screen **5288** in accordance with the increase (or decrease) in the characteristic intensity of contact **5290**, while application icon **445** is overlaid on top of the blurred and darkened home screen **5288**. In addition, a menu platter (e.g., platter **5292**) emerges from between application icon **445** and home screen **5288**, and the size of the platter changes (e.g., grows or shrinks) in accordance with the changes in the characteristic intensity of contact **5290**. As shown in FIGS. **5N1** and **5N2**, as contact intensity is increased within the range IT_H and a first higher intensity threshold (e.g., the light press intensity threshold IT_L), the amount of blurring and darkening applied to home screen **5288** is increased accordingly, and the size of platter **5292** is also increased accordingly. Before the characteristic intensity of contact **5290** crosses the first intensity threshold, lift-off of the contact returns the user interface to its original state (e.g., the home screen shown in **5N1** without the selection of application icon **445**).

FIG. **5N4** illustrates that, once the characteristic intensity of contact **5290** exceeds the first intensity threshold (e.g., the light press intensity threshold IT_L), a contextual content object (e.g., mini application object or widget **5294**) associated with the Contacts application is displayed over the blurred and darkened home screen **5288**. The contextual content object includes contextually selected content that has been automatically selected based on a current context of device **100**. For example, mini application object **5294** is a widget that includes a grid of several people that are selected based on the number of communications (e.g., instant messages, e-mail messages, telephone calls, VoIP calls, etc.) that have occurred between the user and the user's contacts (e.g., mini application object **5294** includes avatars or aliases (e.g., avatars **5296**, **5298**, **5300**, **5302**) of four people with whom the user has had the highest numbers of communications (e.g., communications of various types) during the past week). In some embodiments, a respective avatar or alias also includes a badge (e.g., badges **5304***a*-*d*) that indicates the number of communications that have occurred between the user and the person represented by the respective avatar or alias. For example, badge **5304***a* indicates that there are eight communications between Issac and the user, and badge **5304***c* indicates that there are four communications between Miles and the user in the past week. The badges are updated while mini application object **5294** is displayed, when new communications from the people represented in the mini application object **5294** are received at device **100**.

In addition, a menu of selectable options (e.g., menu **5309**) is displayed concurrently with the contextual content object (e.g., mini application object **5294**). The menu of selectable options include options that when activated, are configured to launch the Contacts application to a respective user interface of the Contacts application for performing a respective function associated with the Contacts application. For example, selection of option "Create New Contact" causes a new contact user interface to be displayed for the user to create a new contact card; and selection of option "Search Addressbook" causes a search interface to be displayed; selection of option Recent communications causes a user interface that displays recent communications of various types to be displayed; and selection of option "Show my info" causes the user's own contact card to be displayed.

As shown in FIG. **5N4**, the contextual content object (e.g., mini application object **5294**) includes content contextually selected from Contacts application (e.g., the avatars of users, a miniature Contacts application icon, an application name) and optionally additional functions (e.g., the avatars **5296**, **5298**, **5300**, and **5302** are responsive to tap inputs or press inputs for performing various actions with respect to the mini application object **5294** and/or the Contacts application). For example, tapping on the avatar **5296** launches the Contacts application and displays a contact card for reviewing contact information of and initiating various types of communications to the person represented by the selected avatar (e.g., Issac).

In some embodiments, the placement of the mini application object and the menu of options are based on the location of the corresponding application icon on the home screen. For example, if there is more space below the application icon, the mini application object is placed below the application icon, and the menu of options is placed below the mini application object, e.g., as shown in the example in FIG. **5K4**. If there is more space above the application icon, the mini application object is placed above the application icon, and the menu of options is placed above the mini application object, e.g., as shown in the example in FIG. **5W5**. In some embodiments, as shown in FIG. **5N4**, when the combined size of the mini application object and the menu of options to be displayed with the application icon is too large for both the space above the application icon and the space below the application icon, the application icon is shifted slightly upward or downward to accommodate the mini application object and the menu of options when the deep press input is detected on the application icon. For example, as shown in FIG. **5N4**, application icon **445** is shifted upward by about half of icon height, and mini application object is displayed below application icon **445**. The menu of options **5309** is displayed below mini application object **5294**.

FIGS. **5N5** and **5N6** illustrates that while contact **5290** is maintained on the touch screen **112**, a movement of contact **5290** is detected. As contact **5290** moves from application icon **445** to an option "Show my info" in the menu of options **5306**, haptic feedback is provided when contact **5290** passes each option in the menu of options **5306**. FIG. **5N6** illustrates that, when lift-off of contact **5290** is detected when contact is over the option "Show my info", the user's own contact card is displayed (e.g., in contact card user interface **5311**). In some embodiments (not shown), contact card user interface **5311** is overlaid on a portion of the blurred and darkened version of home screen **5288**. In some embodiments, contact card user interface **5311** replaces home screen **5288** and mini application object **5294** and menu **5309** on the display.

FIGS. **5O1-5P2** illustrate that different portions of a contextual content object (e.g., mini application object **5240**) have different responses to a press input (e.g., a light press input or a deep press input).

FIGS. **5O1-5O2** illustrate that a light press input (e.g., input by contact **5308** with a characteristic intensity above the light press intensity threshold IT_L) on a first portion of mini application object **5240** is detected, causing a first type of additional information to be displayed.

FIG. **5O1** shows that contact **5308** is detected on a portion of mini application object **5240** that displays details of a calendar event that is coming up next. Mini application object **5240** is displayed in mini application object screen **5238** with one or more other mini application objects associated with other applications.

FIG. **5O2** illustrates that, when a characteristic intensity of contact **5308** exceeds a respective intensity threshold (e.g., the light press intensity threshold), mini application object **5240** is expanded (e.g., shown as expanded mini application object **5310**) and displays additional details regarding the calendar event that is coming up next. For example, as shown in FIG. **5O2**, a map (e.g., map **5312**) is displayed in addition to the textual details of the event. In addition, selectable options (e.g., selectable options **5314**, **5216**, **5318**, and **5320**) for activating additional functions of the Calendar application (e.g., option **5314** is for getting directions to the location of the event, option **5316** is for snoozing an alert for the event, option **5318** is for displaying a messaging interface for sending a message to the invitees of the event, and option **5320** is for deleting the event) are also displayed in the expanded mini application object **5310**. In some embodiments, these functions are activated from the mini application object without launching the Calendar application. In some embodiments, activating an option in the menu of options causes the Calendar application to be launched and a user interface in the Calendar application that corresponds to the selected option to be displayed as the initial user interface after launching the Calendar application. As shown in FIG. **5O2**, expanded mini application object **5312** is overlaid on a blurred and darkened version of mini object screen **5238**. In some embodiments, expanded mini application object **5312** is displayed within mini application object screen **5238** and replaces mini application object **5240**. In some embodiments, expanded mini application object **5310** is dismissed and mini application object screen is restored (e.g., to the state shown in FIG. **5O1**) when lift-off of contact **5308** is detected. In some embodiments, expanded mini application object **5310** remains overlaid on the blurred and darkened version of mini application object screen **5238** when lift-off of contact **5308** is detected. Another input (e.g., a tap outside of expanded mini application object **5310** or a tap on the "close" affordance displayed within expanded mini application object **5310** is detected) can dismiss expanded mini application object **5310** and restore mini application object screen **5238** to its original brightness and clarity. Dismissal of expanded mini application object **5310** does not remove mini application object **5240** from mini application object screen **5238**.

FIGS. **5P1-5P2** illustrate that a light press input (e.g., input by contact **5312** with a characteristic intensity above the light press intensity threshold IT_L) on a second portion of mini application object **5240** is detected, causing a second type of additional information to be displayed.

FIG. **5P1** shows that contact **5314** is detected on a portion of mini application object **5240** that is not displaying details of the event that is coming up next (e.g., a blank portion or the header portion). FIG. **5P2** illustrates that, when a characteristic intensity of contact **5314** exceeds a respective intensity threshold (e.g., the light press intensity threshold), mini application object **5240** is expanded (e.g., shown as expanded mini application object **5272** in FIG. **5P2**) and displays both the originally displayed event and additional events that are coming up next (e.g., event items **5316**, **5318**, and **5320**). For example, as shown in FIG. **5P2**, two more events (e.g., "Team meeting" and "Dinner with Mom") are displayed in addition to the event (e.g., "Coffee with Jon") that was displayed in expanded mini application object **5272**. As shown in FIG. **5P2**, expanded mini application object **5272** is displayed within mini application object screen **5238** and replaces mini application object **5240**. In some embodiments, expanded mini application object **5272** is overlaid on a blurred and darkened version of mini object screen **5238**. In some embodiments, expanded mini application object **5272** is dismissed and mini application object screen is restored (e.g., to the state shown in FIG. **5P1**) when lift-off of contact **5314** is detected. In some embodiments (not shown), expanded mini application object **5272** remains overlaid on the blurred and darkened version of mini application object screen **5238** when lift-off of the contact is detected. Another input (e.g., a tap outside of expanded mini application object **5272** or a tap on a "close" affordance displayed within expanded mini application object **5272** is detected) can dismiss expanded mini application object **5272** and restore mini application object screen **5238** to its original brightness and clarity.

In some embodiments, the mini application object shown in the mini application object screen (e.g., mini application object **5268** in FIG. **5P2**) is identical to the mini application object (e.g., mini application object **5210** in FIG. **5K4**) displayed concurrently with the application icon (e.g., the Messages application icon **424**) and the menu of options (e.g., menu **5212**) over the home screen, except for the portion displaying the "add widget" affordance **5222**. The mini application object for a given application has the same functions and behaviors in response to user inputs (e.g., a tap input or light press input on various portions of the mini application object) detected on the mini application object, regardless of whether the mini application object is displayed in the mini application object screen or over the home screen, in accordance with some embodiments.

In some embodiments, the mini application object shown over the home screen is a representation of a corresponding mini application object that has been added to the mini application object screen. For example, the mini application object shown over the home screen may provide a subset of functions or content that is shown in the corresponding mini application object that has been added to the mini application object screen. For example, in response to the same input on the mini application object, the amount of additional information that is displayed in the mini application object shown over the home screen may be less than the amount of additional information that is displayed in the corresponding mini application object that has been added to the mini application object screen (e.g., due to space constraint on the home screen). In some embodiments, the mini application object is scrollable to reveal additional content and selectable options for additional functions from the corresponding application when it is displayed in the mini application object screen, but not when it is displayed over a darkened version of the home screen.

Although the examples shown in FIGS. **5J1**-**5P2** are shown only in one environment at a time (e.g., either in the mini application object screen or overlaid on a deemphasized version of a background user interface (e.g., the home screen or another screen showing application icons)), some or all of the responses and behaviors illustrated in that environment are optionally implemented in other environments that display the mini application object as well. In the interest of brevity, all combinations of environments and behaviors are not exhaustively enumerated herein.

FIGS. **5Q1**-**5S5** illustrate user interfaces for quickly invoking one of several download-related quick actions with respect to an application that are in the process of being downloaded, in accordance with some embodiments.

FIGS. **5Q1**-**5Q6** illustrate a process for displaying a menu of options related to downloading of an application, in accordance with some embodiments.

FIG. **5Q1** displays a user interface (e.g., home screen **5402**) that includes a plurality of application icons (e.g., application icon **5404** for launching the Messages application and application icon **5406** for launching the Calendar application, etc.) and one or more downloading icons that represent applications that are in the process of being downloaded (e.g., downloading icon **5408** that represents a Game application that is in the process of being downloaded, and downloading icon **5410** that represents a Sketch application that is in the process of being downloaded). As shown in FIG. **5Q1**, downloading icon **5408** indicates that the downloading of the Game application is in progress. Also shown in FIG. **5Q1**, downloading icon **5410** indicates that downloading of the Sketch application has been paused. Other possible states of the downloading icon include a suspended state (e.g., due to lack of authorization or approval from a server), or a waiting state (e.g., due to lack of downloading bandwidth or unavailability of server, etc.), etc.

FIG. **5Q2** illustrates that a contact (e.g., contact **5412**) is detected on downloading icon **5408**. FIGS. **5Q2**-**5Q4** indicate that as the characteristic intensity of contact **5412** changes between the range IT_H and IT_L (e.g., increases within the range IT_H) and IT_L, device **100** dynamically applies a deemphasizing visual effect (e.g., dynamically applies a blurring and darkening effect) on home screen **5402**, including all application icons on home screen **5402**, except downloading icon **5408**, in accordance with a current value of the characteristic intensity of contact **5412**. In addition, when the characteristic intensity of contact **5412** is above the hint intensity threshold, platter **5414** is displayed between downloading icon **5408** and the deemphasized home screen **5402**. The size of platter **5414** changes dynamically (e.g., increases dynamically) in accordance with the changes in the characteristic intensity of contact **5412** (e.g., in accordance with the increase in the characteristic intensity of contact **5412**).

FIG. **5Q5** illustrates that, when the characteristic intensity of contact **5412** increases above a respective intensity threshold (e.g., the light press intensity threshold IT_L), device **100** displays a menu of selectable options (e.g., menu **5416**) concurrently with downloading icon **5408** over the deemphasized home screen **5402**. In some embodiments, the menu of selectable options includes respective options related to downloading of the application represented by downloading icon **5408**. As shown in FIG. **5Q5**, menu **5416** includes option **5418** for prioritizing the downloading of the

Game application over one or more other applications that are also in the process of being downloaded (e.g., the Sketch application). Menu **5416** also includes option **5420** for pausing the download of the Game application. Menu **5416** also includes option **5422** for canceling the download of the Game application. Menu **5416** also includes option **5424** for sharing the Game application with other users.

FIG. **5Q6** illustrates that, upon lift-off of contact **5412**, menu **5416** remains displayed over the deemphasized home screen **5402**.

FIGS. **5Q7**-**5Q8** illustrate that selection and activation of option **5424** (e.g., by a tap input (e.g., by contact **5426**) on option **5424**) causes device **100** to display a share user interface (e.g., share card **5428**). In FIG. **5Q8**, share card **5428** is displayed over the deemphasized home screen **5402**. In some embodiments, menu **5416** ceases to be displayed when share card **5428** is displayed. The share card includes options to share the Game application via a number of communication methods (e.g., via a wireless connection, an instant message, an email, a reminder, etc.), or in various other manners (e.g., copy link, send as a gift, etc.). In some embodiments, selection of option **5424** causes an application store application (e.g., the App Store application) to be launched, and the page showing the Game application to be displayed in the initial user interface of the application store application.

FIG. **5Q9** illustrates that, after downloading of the Game application is completed, downloading icon **5408** is replaced by application icon **5408'** that represents the Game application in home screen **5402**. A tap input on application icon **5408'** launches the Game application.

FIGS. **5Q9**-**5Q11** illustrate a press input (e.g., by contact **5432**) on downloading icon **5410** causes device **100** to display menu **5434** that include respective options related to downloading of the application represented by downloading icon **5410**.

As shown in FIG. **5Q10**, when the characteristic intensity of contact **5432** increases above the hint intensity threshold, device **100** applies a deemphasizing visual effect on home screen **5402**, except for on downloading icon **5410**. The amount of deemphasizing visual effect is dynamically varied in accordance with a current value of the characteristic intensity of contact **5432**. Platter **5434** is displayed between downloading icon **5410** and deemphasized home screen **5402**. The size of platter **5434** changes dynamically with the characteristic intensity of contact **5432**, when the characteristic intensity varies within the range between IT_H and IT_L.

FIG. **5Q11** illustrates that when the characteristic intensity of contact **5432** increases above the light press intensity threshold, a menu of selectable options (e.g., menu **5434**) is presented with downloading icon **5410** over the deemphasized home screen **5402**. As shown in FIG. **5Q11**, menu **5434** includes option **5436** for prioritizing the downloading of the Sketch application over one or more other applications that are also in the process of being downloaded. Menu **5434** also includes option **5438** for resuming the download of the Sketch application. Menu **5434** also includes option **5440** for canceling the download of the Sketch application. Menu **5434** also includes option **5442** for sharing the Sketch application with other users. In some embodiments, if the downloading icon represents the only application that is in the process of being downloaded on device **100**, the option for prioritizing download (e.g., option **5436**) is optionally omitted from menu **5434**. In this example, the downloading of the Sketch application was paused before the press input was detected, therefore, the option for pausing the download is replaced with the option for resuming the download.

As shown in FIGS. **5Q7** and **5Q11**, the menu of options presented in response to a press input on a downloading icon is a generic menu common to all downloading icons, with the exception that the option of pausing the download and the option for resuming the download are toggled depending on the current state of the downloading for a particular application icon that received the press input.

FIG. **5Q12** illustrates that, before lift-off of contact **5432**, movement of contact **5432** to option **5438** (e.g., option to resume download) is detected. FIG. **5Q13** illustrates that, when lift-off of contact **5432** is detected, option **5438** (e.g., option to resume download) is activated, and downloading of the Sketch application is resumed. In addition, selection and activation of option **5438** (or any other option) causes dismissal of menu **5434** and restoration of home screen **5402**.

Figure Q**14** illustrates that when download of the Sketch application is completed, downloading icon **5410** is replaced with application icon **5410'**. A tap input on application icon **5410'** launches the Sketch application.

FIGS. **5Q15**-**5Q17** illustrates that a press input on an application icon for an application causes the display of a contextual content object associated with the application and an application-specific menu of selectable options.

As shown in FIG. **5Q15**, a press input (by contact **5446**) is detected on application icon **5408'** for the Game application. When a characteristic intensity of contact **5446** is between the range IT_H and IT_L, device **100** dynamically deemphasizes home screen **5402** except for application icon **5408'**. Platter **5444** is displayed between application icon **5408'** and deemphasized home screen **5402**.

FIG. **5Q16** illustrates that, when the characteristic intensity of contact **5446** exceeds the light press intensity threshold, mini application object **5448** is displayed over deemphasized home screen **5402** concurrently with application icon **5408'**. Mini application object **5448** includes avatars of several gaming friends of the user. In some embodiments, a tap input on one of the avatars starts a communication (e.g., an instant messaging communication or a communication supported by the Game application) with the person represented by the avatar. As shown in FIG. **5Q16**, a menu of selectable options (e.g., menu **5450**) for activating various functions in the Game application is also presented with mini application object **5448**. Menu **5450** includes option **5452** for launching a frequently played game in the Game application, option **5454** for displaying a score board with top scores for games played in the Game application, option **5456** for display a list of the user's favorite games or frequently played games, and option **5458** for sharing the Game application. In some embodiments, a selectable option displayed in menu **5450**, when activated, launches the Game application and displays a user interface corresponding to the function represented by the option as the initial user interface of the Game application. In some embodiments, a selectable option displayed in menu **5450**, when activated, provide access to a function available within the Game application, without launching the Game application and without leaving the current context (e.g., the home screen).

FIG. **5Q17** illustrates that, when lift-off of contact **5446** is detected, mini application object **5448** and menu **5450** remain displayed over the deemphasized home screen **5402**. A subsequent input (e.g., a tap input, a light press input, and/or a deep press input) can be used to select a menu option or activate an area in the mini application object to show more information related to the Game application, show more content from the Game application, show more functions from the Game application, or perform one or more functions of the Game application. A tap input outside of mini application object **5448**, application icon **5408'**, and menu **5450**, dismisses mini application object **5448** and menu **5450** and restores home screen **5402**.

FIGS. **5R1-5R4** illustrate that when an application does not have an associated contextual content object, a press input on an application icon for the application causes the display of an application-specific menu of selectable options, without displaying any contextual content object. In some embodiments, when only a menu of options is displayed, the width of the menu is independent of the width of the contextual content objects (e.g., a standard width that applies to contextual content objects of all applications installed on device **100**).

FIG. **5R2** illustrates that, a press input (by contact **5460**) is detected on application icon **5410'** for the Sketch application. When a characteristic intensity of contact **5460** is between the range IT_H and IT_L, device **100** dynamically deemphasizes home screen **5402** except for application icon **5410'**. Platter **5408** is displayed between application icon **5410'** and deemphasized home screen **5402**.

FIG. **5R3** illustrates that, when the characteristic intensity of contact **5460** exceeds the light press intensity threshold, a menu of selectable options (e.g., menu **5462**) for activating various functions in the Sketch application is presented with application icon **5410'** over the deemphasized home screen **5402**. Menu **5462** includes option **5464** for displaying a user interface with a new sketch, option **5466** for displaying the last sketch that was made with the Sketch application, option **5468** for displaying a list of the user's favorite sketches, and option **5470** for sharing the Sketch application. In some embodiments, a selectable option displayed in menu **5462**, when activated, launches the Sketch application and displays a user interface corresponding to the function represented by the option as the initial user interface of the Sketch application. In some embodiments, a selectable option displayed in menu **5462**, when activated, provides access to a function available within the Sketch application, without launching the Sketch application and without leaving the current context (e.g., the home screen).

FIG. **5R4** illustrates that, when lift-off of contact **5460** is detected, menu **5462** remains displayed over the deemphasized home screen **5402**. A subsequent input (e.g., a tap input, a light press input, and/or a deep press input) can be used to select a menu option to perform one or more functions of the Sketch application and launching the Sketch application to respective user interfaces associated with the one or more functions.

FIG. **5R5-5R6** illustrate that, a tap input (e.g., by contact **5472**) outside of application icon **5410'** and menu **5462** dismisses menu **5462** and restores home screen **5402**.

FIGS. **5R6-5R7** illustrate that, a tap input (e.g., by contact **5474**) on an application icon (e.g., application icon **5410'**) displayed in home screen **5402** launches the application represented by the application icon (e.g., the Sketch application). FIG. **5R7** illustrates that, the Sketch application is launched upon lift-off of contact **5474** from application icon **5410'**. The initial user interface of the Sketch application is optionally, a user interface for creating a new sketch. In some embodiments, the Sketch application is launched and displays a user interface that represents the last state of the Sketch application when the user last left the Sketch application.

FIGS. **5S1-5S3** illustrate that a tap input (e.g., by contact **5478**) on a downloading icon (e.g., downloading icon **5408**) in the downloading state (e.g., active downloading of application data is in progress) pauses the download of the application. As shown in FIG. **5S3**, downloading icon **5408"** represents the Game application in the paused state.

FIGS. **5S3-5S5** illustrate that a tap input (e.g., by contact **5480**) on a downloading icon (e.g., downloading icon **5410**) in the paused state (e.g., active downloading of application data is paused) resumes the active download of the application data. As shown in FIG. **5S5**, downloading icon **5410"** represents the Sketch application in the active downloading state.

FIGS. **5T1-5T15** illustrate user interfaces for quickly launching a respective application with unread notifications from a folder containing multiple applications without having to first open the folder, in accordance with some embodiments.

FIGS. **5T1-5T5** illustrate a process for displaying a menu of selectable options in response to a press input detected on an application folder icon.

As shown in FIG. **5T1**, home screen **5502** includes a plurality of application icons and one or more application folder icons (e.g., application folder icon **5504**). Application folder icon **5504** represents an application folder that includes one or more application icons for launching respective applications installed on device **100**. In some embodiments, a badge (e.g., badge **5506**) is displayed on the application folder icon (e.g., application folder icon **5504**) to indicate a total number of all unread notifications (e.g., nine) associated with applications represented within the application folder (e.g., the "Fav-1" folder).

FIGS. **5T2-5T4** illustrate that a press input (by contact **5508**) is detected on application folder icon **5504**. When a characteristic intensity of contact **5508** increases above the hint intensity threshold IT_H, device **100** dynamically deemphasizes home screen **5502**, while providing a platter **5510** between application folder icon **5504** and the deemphasized home screen **5502** (e.g., as shown in FIGS. **5T3-5T4**). For example, when the characteristic intensity of contact **5508** varies (e.g., increases) within the range IT_H and IT_L, the amount of deemphasizing (e.g., blurring and darkening) applied to home screen **5502** is dynamically varied (e.g., increased) accordingly. If lift-off of contact **5508** is detected before the characteristic intensity of contact **5508** exceeds the light press intensity threshold IT_L, device **100** restores home screen **100** to its original state (e.g., original clarity and brightness).

FIG. **5T5** illustrates that when the characteristic intensity of contact **5508** exceeds the light press intensity threshold IT_L, device **100** displays a menu of selectable options (e.g., menu **5512**) concurrently with application folder icon **5504**. As shown in FIG. **5T5**, menu **5512** includes selectable options each for launching a respective application represented in the application folder (e.g., folder "Fav-1") that has at least one unread notification. For example, as shown in FIG. **5T5**, menu **5512** includes three selectable options for respectively launching three applications that have unread notifications, and an option for renaming the application folder. In the current example, menu **5512** includes a first option (e.g., option **5514**) for launching the Messages application in the application folder and the Messages application has five unread notifications. Menu **5512** also includes a second option (e.g., option **5516**) for launching the Mail application in the application folder and the Mail application has three unread notifications. Menu **5512** also includes a third option (e.g., option **5518**) for launching the Music application in the application folder and the Music application has one unread notification. In this example, the application folder "Fav-1" represented by folder icon **5504** includes several other applications in addition to the three applications represented in menu **5512**. However, because these other applications currently do not have any unread notifications, menu **5512** does not include a corresponding option for launching each of these other applications. In some embodiments, in each option for launching a respective application, an identifier for identifying the application (e.g., a miniature application icon and application name) is included, along with a count of unread notification currently associated with the application.

In this example, the maximum number of application launching options that can be displayed in menu **5512** is four. However, since only three applications in the folder have unread notifications at the time when menu **5512** displayed, only three application launching options are displayed in menu **5512**. In some embodiments, the application launching options for applications with unread notifications are sorted in menu **5512** in accordance with the number of unready notifications that are associated with each of the applications with unread notifications.

FIG. **5**T**6** illustrates that, while menu **5512** is displayed, two more notifications are received by applications within the application folder "Fav-1". In response to receiving new notifications, device **100** updates badge **5506** to reflect the updated total number of unread notifications for applications in the application folder. In some embodiments, at shown in FIG. **5**T**6**, if any of the application represented by the application launching options in menu **5512** receives additional new notifications, the count of unread notification displayed in the application launching option is also updated. For example, as shown in FIG. **5**T**6**, the Messages application has received one additional new message, and the total number of unread notifications for the Messages application is increased to six. As a result, option **5514** for launching the Messages application is updated to reflect that the total number of unread notifications for the Messages application is now six. In some embodiments, if, while menu **5512** is displayed, an application that is not represented in menu **5512** receives one or more new notifications, an application launching option for that application is optionally added to menu **5512** in real time. In some embodiments, in order to avoid confusing the user and keeping the user interface stable, the application launching option for that application that is not currently represented in menu **5512** is not added to menu **5512** until menu **5512** is closed and displayed again in response to another press input.

FIG. **5**T**7**-**5**T**8** illustrate that menu **5512** is dismissed when a tap input (e.g., by contact **5522**) is detected outside of menu **5512** and application icon **5504** on the deemphasized home screen **5502**. Upon lift-off of contact **5522**, home screen **5502** is restored to its original state. As shown in FIG. **5**T**8**, the application folder "Fav-1" now has a total of twelve unread notifications.

FIG. **5**T**9** illustrates that another press input (by contact **5524**) is detected on application folder icon **5504**. When a characteristic intensity of contact **5524** increases above the hint intensity threshold IT_H, device **100** dynamically deemphasizes home screen **5502**, while providing platter **5526** between application folder icon **5504** and the deemphasized home screen **5502**, as shown in FIGS. **5**T**10**-**5**T**11**. For example, when the characteristic intensity of contact **5524** varies (e.g., increases) within the range IT_H and IT_L, the amount of deemphasizing (e.g., blurring and darkening) applied to home screen **5502** is dynamically varied (e.g., increased) accordingly. If lift-off of contact **5524** is detected before the characteristic intensity of contact **5524** exceeds the light press intensity threshold IT_L, device **100** restores home screen **100** to its original state (e.g., original clarity and brightness).

FIG. **5**T**12** illustrates that when the characteristic intensity of contact **5524** exceeds the light press intensity threshold IT_L, device **100** displays a menu of selectable options (e.g., menu **5528**) concurrently with application folder icon **5504**. As shown in FIG. **5**T**12**, menu **5528** includes selectable options each for launching a respective application represented in the application folder (e.g., folder "Fav-1") that has at least one unread notification. For example, as shown in FIG. **5**T**12**, menu **5528** includes four selectable options for respectively launching four applications that have unread notifications, and an option for renaming the application folder. In the current example, menu **5528** includes a first option (e.g., option **5530**) for launching the App Store application in the application folder and the App Store application has one unread notification which is an alert. Menu **5528** also includes a second option (e.g., option **5532**) for launching the Messages application in the application folder and the Messages application has six unread notifications. Menu **5528** also includes a third option (e.g., option **5534**) for launching the Mail application in the application folder and the Mail application has three unread notifications. Menu **5528** also includes a fourth option (e.g., option **5536**) for launching the Music application in the application folder and the Music application has one unread notification. Menu **5528** also includes a rename option (e.g., option **5538**) for renaming the folder.

In this example, the application folder "Fav-1" represented by folder icon **5504** includes several other applications in addition to the four applications represented in menu **5528**. In fact, one of the other applications also has one unread notification. However, because the maximum number of application launching options that can be included in menu **5528** is four, the application launching option for one of the five applications with unread notifications is not included in menu **5528**. In some embodiments, when prioritizing which application launching options to include in menu **5528**, alert is prioritized above regular notifications (e.g., because alert requests a user action); and for the same type of notifications, the application launching options are sorted based on the total count of unread notifications for each application. In some embodiments, for applications with the same number and same types of unread notifications, the application launching options for the applications are sorted according to the timestamps for the latest notifications that have been received for the respective applications.

FIG. **5**T**13** illustrates that, when lift-off of contact **5524** is detected, menu **5528** remains displayed over deemphasized home screen **5502**. FIG. **5**T**14** illustrates that another tap input (e.g., by contact **5540**) is detected on one of the application launching options (e.g., option **5532** for launching the Messages application). FIG. **5**T**15** illustrates that, upon lift-off of contact **5540**, device **100** launching the Messages application, and a user interface of the Messages application (e.g., conversation listing user interface **5542**) replaces application icon **5504**, menu **5528**, and deemphasized home screen **5502** on the touch screen **112**.

FIGS. **5**U**1**-**5**W**5** illustrate user interfaces for quickly entering a rename and reconfiguration mode for an application folder without having to first open the folder, in accordance with some embodiments.

FIGS. **5**U**1**-**5**U**7** illustrate a conventional process for editing a folder name and folder content of an application folder.

FIG. **5U1** illustrates home screen **5502** that includes a plurality of application icons and one or more application folder icons (e.g., application folder icon **5504**). A tap input (e.g., by contact **5544**) is detected on application folder icon **5504**. Upon lift-off of contact **5544**, application folder **5504** is opened to show its content. FIG. **5U2** shows an intermediate state of folder **5504** (e.g., represented as folder **5504'**) as it is popping up from its original location and is expanded. FIG. **5U1** illustrates that expanded folder **5546** is displayed over deemphasized home screen **5502**. Expanded folder **5546** includes respective application icons for several applications (e.g., application icons **424**, **418**, **480**, **484**, and **438**).

FIGS. **5U4**-**5U5** illustrate that a long press input (e.g., by contact **5550**) is detected on one of the applications icons (e.g., application icon **438** for the Weather application) in expanded folder **5546**. When the time threshold for the long press input is met by contact **5550**, icon reconfiguration mode is activated, as shown in FIG. **5U5**. In the icon reconfiguration mode, in some embodiments, a deletion affordance (e.g., an "x" sign) is displayed on each application icon, and activation of the deletion affordance on a respective application icon deletes the application that corresponds to the application icon from device **100**. FIG. **5U5** further illustrates that folder name **5548** of the application folder (e.g., "Fav-1") is displayed with expanded folder **5546**. Folder name **5548** is initially displayed in a non-editable state.

FIGS. **5U6**-**5U7** illustrate that, another tap input (e.g., by contact **5552**) is detected on folder name **5548**. In response to detecting the tap input on folder name **5548**, device **100** displays folder **5546** in an editable state and displays soft keyboard **5555** with expanded folder **5546** and folder name **5552** over deemphasized home screen **5502**.

A subsequent contact (e.g., contact **5554**) on a respective application icon in expanded folder **5546** can drag the respective application icon to another location (e.g., to a location outside of expanded folder **5546**). In some embodiments, selection of an application icon dismisses soft keyboard **5555** but does not terminate the icon reconfiguration mode.

FIGS. **5V1**-**5V5** illustrate a process for displaying the menu of options with application launching options for applications with unread notifications and an option for renaming the folder.

As shown in FIG. **5V1**, folder "Fav-1" now has a total of three unread notifications (as indicated by badge **5506** on folder icon **5504**). FIGS. **5V2**-**5V4** illustrate that a press input (e.g., by contact **5556**) is detected on folder icon **5504** and intermediate hint states are displayed in response to varying characteristic intensities of contact **5556** in the range between IT_H and IT_L. FIG. **5V5** illustrates that a menu of selectable options (e.g., menu **5558**) is displayed in response to detecting that the characteristic intensity of contact **5556** exceeded the light press intensity threshold IT_L. As shown in FIG. **5V5**, in this example, only three applications in the folder "Fav-1" currently have unread notifications. Two of the applications each have one alert (e.g., the Mail application and the App Store application each have one alert), and their corresponding application launching options (e.g., options **5560** and **5562**) are listed first in menu **5558**. The Mail application has an alert that is newer than the alert for the App Store application, therefore, the application launching option for the Mail application is listed before the application launching option for the App Store application. One of the three applications (e.g., the Music application) has a regular notification and the application launching option (e.g., option **5564**) is listed last.

As shown in FIG. **5V5**, menu **5558** includes an option for renaming the folder (e.g., option **5566**). FIGS. **5V6**-**5V8** illustrate that selection of the renaming option immediately puts the application folder in the reconfiguration mode and the folder name in the editable state.

As shown in FIG. **5V6**, a tap input (e.g., by contact **5568**) is detected on option **5566** for renaming the folder. FIG. **5V7** illustrates the application folder popping up from deemphasized home screen **5502** and is expanded to reveal its content upon lift-off of contact **5568**. FIG. **5V8** illustrates that expanded folder **5546** is displayed over the deemphasized home screen **5502**. Expanded folder includes application icons in the reconfiguration mode. In some embodiments, icons outside of expanded folder **5546** (e.g., in the deemphasized home screen **5502**) are also in the reconfiguration mode. In other words, the selection of the renaming option puts the home screen (including all the application icons on the home screen) into the reconfiguration mode. An application icon in the reconfiguration mode can be moved and repositioned on home screen **5502**. FIG. **5V8** further illustrates that, upon lift-off of contact **5568**, folder name **5552** is displayed in an editable state and soft keyboard **5555** is displayed with expanded folder **5546** over deemphasized home screen **5502**.

FIGS. **5V9**-**5V10** illustrate that inputs received through soft keyboard **5555** (e.g., by tap inputs on character keys (e.g., by contact **5570** on the letter "E" on keyboard **5555**)) edit the folder name **5552**. As shown in FIG. **5V10**, the folder name is changed from "Fav-1" to "Fav-ONE". FIG. **5V9**-**5V10** further illustrate that, when inputs are received from soft keyboard **5555** to edit the folder name, application icons in expanded folder **5546** remain in the reconfiguration mode.

FIG. **5V11** illustrates that, in response to detecting a selection input (e.g., by contact **5572**) on a respective application icon in expanded folder **5546**, device **100** ceases to display the folder name **5552** in the editable state, and ceases to display soft keyboard **5555**. Application icons in expanded folder **5546** are still displayed in the reconfiguration mode.

FIGS. **5V12**-**5V14** illustrate that an application icon (e.g., application icon **438**) is dragged from within expanded folder **5546** to outside of expanded folder **5546** and placed on home screen **5502**. Folder icon **5504** is restored on home screen **5502** (now represented by folder icon **5504'''**) and the folder no longer contains the application icon **438**. After the input for dragging application icon **438** to home screen **5502**, the application icons on home screen **5502** still remain in the icon reconfiguration mode.

FIGS. **5W1**-**5W3** illustrate repositioning of another application icon (e.g., application icon **5408'** for the Game application) in response to a drag input by contact **5574**. After application icon **5408'** is repositioned to the bottom of home screen **5502**, an input is received (e.g., a press input on home button **204**) to exit the icon reconfiguration mode. FIG. **5W3** shows that the home screen has been restored and icon reconfiguration mode has been terminated.

FIGS. **5W4**-**5W5** illustrate that a press input (e.g., by contact **5576**) on the Game application icon **5408'** causes display of mini application object **5448** and menu **5578**. As shown in FIG. **5W5**, because there is more space above application icon **5408'**, mini application object **5448** is displayed above application icon **5408'**, and menu **5578** is displayed above mini application object **5448**, in contrast to the case shown in FIG. **5Q17**.

FIGS. **6A**-**6Y** illustrate exemplary user interfaces for modifying the functionality of a control affordance in accordance with some embodiments. The user interfaces in these figures are used to illustrate the processes described below, including the processes in FIGS. **18**A-**18**D. Although some of the examples which follow will be given with reference to inputs on a touch-screen display (where the touch-sensitive surface and the display are combined), in some embodiments, the device detects inputs on a touch-sensitive surface **451** that is separate from the display **450**, as shown in FIG. **4**B.

In some embodiments, the device is an electronic device with a separate display (e.g., display **450**) and a separate touch-sensitive surface (e.g., touch-sensitive surface **451**). In some embodiments, the device is portable multifunction device **100**, the display is touch-sensitive display system **112**, and the touch-sensitive surface includes tactile output generators **167** on the display (FIG. **1**A). For convenience of explanation, the embodiments described with reference to FIGS. **6**A-**6**Y will be discussed with reference to operations performed on a device with a touch-sensitive display system **112**. In such embodiments, the focus selector is, optionally: a respective finger or stylus contact, a representative point corresponding to a finger or stylus contact (e.g., a centroid of a respective contact or a point associated with a respective contact), or a centroid of two or more contacts detected on the touch-sensitive display system **112**. However, analogous operations are, optionally, performed on a device with a display **450** and a separate touch-sensitive surface **451** in response to detecting the contacts described in FIGS. **6**A-**6**Y on the touch-sensitive surface **451** while displaying the user interfaces shown in FIGS. **6**A-**6**Y on the display **450**, along with a focus selector.

FIG. **6**A illustrates an initial user interface **601** (e.g., a lock screen and/or wake screen) at which an input to display a control user interface that includes a plurality of control affordances is detected, in accordance with some embodiments. In some embodiments, the control user interface is revealed in response to an input gesture, such as a drag gesture (e.g., a drag gesture that begins at or near an edge of display **100**, such as the lower edge of display **100**). For example, a contact with touch-sensitive surface **112** is detected at a location indicated by focus selector **602**. In some embodiments, an affordance **603** is displayed at or near the edge of the display **100** (e.g., to provide a cue indicating that input received at or near the edge of the display **100** will reveal a control user interface **608**). The contact moves along a path indicated by arrow **604**. In some embodiments, control user interface **608** is gradually revealed as the contact moves along the path indicated by arrow **604**. A characteristic intensity of the contact is indicated by intensity meter **606**. As shown by intensity meter **606**, the characteristic intensity of the contact is above contact detection intensity threshold IT_0, and below hint intensity threshold level IT_H, light press intensity threshold IT_L, and deep press intensity threshold IT_D when the input to display the control user interface is detected.

FIG. **6**B illustrates a control user interface **608**, in accordance with some embodiments. Control user interface **608** includes control affordances **612** (Airplane Mode), **614** (Wi-Fi), **616** (Bluetooth), **618** (Do Not Disturb Mode), **620** (Rotation Lock), **622** (Flashlight), **624** (Timer), **626** (Night Shift), **628** (Calculator), **630** (Camera), **632** (Apple TV Mirroring), and/or **634** (Brightness). In some embodiments, control user interface **608** includes a control user interface dismissal affordance **636**. When input is detected at a location that corresponds to control user interface dismissal affordance **636**, control user interface **608** ceases to be displayed. In some embodiments, control user interface **608** is a multipage control panel user interface and page indicator **631** is used to indicate the page of the multipage control panel that is currently displayed. In some embodiments, control user interface is displayed partially or fully overlaying another user interface (e.g., an initial screen such as a lock screen and/or wake screen, a display including a plurality of application initiation icons, and/or an application user interface) at which input to display the control user interface is detected. In some embodiments, the appearance of a user interface that is partially overlaid by the control user interface **608** is altered, as indicated at **638**. For example, the partially overlaid user interface is blurred and/or has reduced brightness compared with a prior appearance of the user interface.

An input by a contact is detected at a location corresponding to Wi-Fi control affordance **614**, as indicated by focus selector **640**. In some embodiments, the appearance of one or more of the control affordances of control user interface **608** indicates a state of the control affordance. For example, Wi-Fi control affordance **614** is shown shaded to indicate that Wi-Fi is disabled. As indicated by intensity meter **606**, the characteristic intensity of the contact is below hint press intensity threshold IT_H, light press intensity threshold IT_L, and deep press intensity threshold IT_D. In accordance with a determination that the characteristic intensity of the contact meets control toggle criteria (e.g., the characteristic intensity of the contact is below hint press intensity threshold IT_H), a Wi-Fi control that corresponds to the Wi-Fi control affordance **614** is toggled from a disabled state to an enabled state.

FIG. **6**C illustrates control user interface **608** after the Wi-Fi control has been toggled from a disabled state, as indicated in FIG. **6**B, to an enabled state. To indicate that the Wi-Fi control has been toggled to an enabled state, the appearance of Wi-Fi control affordance **614** is changed (e.g., from a shaded state to a non-shaded state) and/or a notification **644** (e.g., "Wi-Fi: On") is displayed.

An input by a contact is detected at a location corresponding to Wi-Fi control affordance **614**, as indicated by focus selector **642**. In accordance with a determination that the characteristic intensity of the contact meets control toggle criteria (e.g., the characteristic intensity of the contact is below hint press intensity threshold IT_H), the Wi-Fi control that corresponds to the Wi-Fi control affordance **614** is toggled from an enabled state to a disabled state.

FIG. **6**D illustrates control user interface **608** after the Wi-Fi control has been toggled from a disabled state, as indicated in FIG. **6**C, to an enabled state. To indicate that the Wi-Fi control has been toggled to an enabled state, the appearance of Wi-Fi control affordance **614** is changed (e.g., from a non-shaded state to a shaded state) and/or a notification **644** (e.g., "Wi-Fi: Off") is displayed.

FIGS. **6**E-**6**F illustrate an input to display modification options for the Wi-Fi control. In FIG. **6**E, an input by a contact is detected at a location corresponding to Wi-Fi control affordance **614**, as indicated by focus selector **646**. As indicated by intensity meter **606**, the characteristic intensity of the contact is above hint intensity threshold level IT_H. In some embodiments, in accordance with a determination that the characteristic intensity of input has increased above hint intensity threshold level IT_H, the display (except for Wi-Fi control affordance **614**) is shown blurred and/or shaded, as shown in FIG. **6**E. In some embodiments, a level of blurring and/or shading of the display (except for Wi-Fi control affordance **614** and user interface elements corresponding to Wi-Fi control affordance **614**) increases as a characteristic intensity of the contact increases.

In FIG. **6**F, the characteristic intensity of the contact meets enhanced control criteria (e.g., increases above light press intensity threshold level IT_L, as indicated by intensity meter **606**). In response to the input, a modification option menu **648** including modification options **650** ("Disconnect from HomeNetwork"), **652** ("Turn off for 1 hour"), **654** ("Turn off until I leave here"), **656** ("Connect to OtherNetwork") and **658** ("Wi-Fi Settings") is displayed.

In FIG. **6**G, an input by a contact is detected at a location corresponding to modification option **654** ("Turn off until I leave here"), as indicated by focus selector **658**.

In FIG. **6**H, in response to the input illustrated in FIG. **6**G, the Wi-Fi control is (temporarily) disabled, e.g., as indicated by the shaded state of Wi-Fi control affordance **614** and the notification **644** (e.g., "Wi-Fi: Off"). An input by a contact is detected at a location corresponding to Wi-Fi control affordance **614**, as indicated by focus selector **660**.

In FIG. **6**I, the characteristic intensity of the contact indicated by focus selector **660** meets enhanced control criteria (e.g., increases above light press intensity threshold level IT_L, as indicated by intensity meter **606**). In response to the input, modification option menu **662** including modification options **664** ("Connect to HomeNetwork"), **666** ("Connect to OtherNetwork"), **668** ("Turn on until tomorrow"), **670** ("Turn on until I leave here") and **672** ("Wi-Fi Settings") is displayed. A tap input (not shown) outside of modification option menu **662** dismisses modification option menu **662** from control user interface **608**.

In FIG. **6**J, an input by a contact is detected at a location corresponding to timer control affordance **624**, as indicated by focus selector **674**. The characteristic intensity of the contact meets control toggle criteria (e.g., the characteristic intensity of the contact is below hint press intensity threshold IT_H). In response to the input, a timer application **675** is displayed, as indicated in FIG. **6**K.

In FIG. **6**L, an input by a contact is detected at a location corresponding to timer control affordance **624**, as indicated by focus selector **676**. The characteristic intensity of the contact meets enhanced control criteria (e.g., increases above light press intensity threshold level IT_L, as indicated by intensity meter **606**). In accordance with a determination that the timer associated with timer control affordance **624** is not running, a user interface as shown in FIG. **6**M is displayed. In accordance with a determination that the timer associated with timer control affordance **624** is running, a user interface as shown in FIG. **6**N is displayed.

FIG. **6**M is a user interface **678** for setting a timer, in accordance with some embodiments. In some embodiments, user interface **678** for setting a timer is displayed partially overlaying user interface **601**. In some embodiments, an input (e.g., by a contact as indicated by focus selector **676**) at a location corresponding to adjustable control **680** sets a time duration to a desired timer duration (e.g., by moving focus selector **676** vertically to change the height of adjustable control **680**). In some embodiments, the input by a contact detected at a location corresponding to timer control affordance **624**, as described with regard to FIG. **6**L, and the input detected at the location corresponding to adjustable control **680** are parts of the same continuous contact. In some embodiments, in response to liftoff of the contact detected at the location corresponding to timer control affordance **624** and/or adjustable control **680**, user interface **678** ceases to be displayed and/or a timer is set to the current value indicated by adjustable control **680**. In some embodiments, lift off of the contact detected at a location corresponding to timer control affordance **624**, as described with regard to FIG. **6**L, occurs prior to detection of the input at the location corresponding to adjustable control **680**. In some embodiments, when the desired timer duration has been set using adjustable control **680**, input is provided at start control affordance **682** to start the timer.

FIG. **6**N is a user interface **682** that indicates progress of a running timer. For example, user interface **682** indicates (e.g., using a progress bar **684** and/or displayed text) an elapsed time and/or a remaining time of a timer in progress. In some embodiments, an input (e.g., by a contact as indicated by focus selector **683**) at a location corresponding to progress bar **684** adjusts a remaining time of a timer (e.g., by moving focus selector **683** vertically to change the height of progress bar **684**. In some embodiments, input received at pause control affordance **686** pauses the timer. In some embodiments, the input by a contact detected at a location corresponding to timer control affordance **624**, as described with regard to FIG. **6**L, and the input of the contact detected at the location corresponding to progress bar **684** are parts of the same continuous contact. In some embodiments, in response to liftoff of the contact detected at the location corresponding to adjustable control **680** and/or the location corresponding to progress bar **684**, user interface **678** ceases to be displayed and/or a timer is set to an adjusted value indicated by progress bar **684**.

In FIG. **6**O, an input by a contact is detected at a location corresponding to camera control affordance **630**, as indicated by focus selector **688**. The characteristic intensity of the contact meets control toggle criteria (e.g., the characteristic intensity of the contact is below hint press intensity threshold level IT_H, as indicated by intensity meter **606**). In response to the input, a camera application user interface **690** is displayed.

FIG. **6**P illustrates a camera application user interface **690**.

In FIG. **6**Q, an input by a contact is detected at a location corresponding to camera control affordance **630**, as indicated by focus selector **688**. The characteristic intensity of the contact meets enhanced control criteria (e.g., the characteristic intensity of the contact increases above light press intensity threshold level IT_L, as indicated by intensity meter **606**). In response to the input, modification option menu **694** including modification options **696** ("Take Selfie"), **698** ("Record Video"), **6100** ("Record Slo-Mo"), **6102** ("Take Photo") is displayed.

In FIG. **6**R, the contact moves to a location corresponding to modification option **696** ("Take Selfie"), indicated by focus selector **688**. In response to the input, camera application user interface **690** is displayed in selfie mode, as indicated in FIG. **6**S.

FIGS. **6**T-**6**U illustrate input to display one or more action options that correspond to an application icon in a springboard or home screen user interface that includes a plurality of application icons.

In FIG. **6**T, an input is received at a location that corresponds to camera application icon **430**, as indicated by focus selector **6106**. When display-action-options criteria are met (e.g., including criteria that are met when a characteristic intensity of the contact increases above light press threshold IT_L), action option menu **6108** that includes action options **6110** ("Take Selfie"), **6112** ("Record Video"), **6114** ("Record Slo-Mo"), **6116** ("Take Photo") is displayed, as indicated at FIG. **6**U. In some embodiments, modification options **696**-**6102** for camera control affordance **630** include at least a subset of action options **6110**-**6116** for an action menu corresponding to application icon **430**.

FIGS. **6**V-**6**X illustrate an input to display modification options for the flashlight control. In FIG. **6**V, an input by a contact is detected at a location corresponding to flashlight control affordance **622**, as indicated by focus selector **6111**. As indicated by intensity meter **606**, the characteristic intensity of the contact is above hint intensity threshold level IT_H.

In FIG. **6**W, the characteristic intensity of the contact meets enhanced control criteria (e.g., increases above light press intensity threshold level IT_L, as indicated by intensity meter **606**). In response to the input, modification option menu **6113** including modification options **6115** ("High"), **6117** ("Medium"), and **6118** ("Low") that correspond to a high light level, a medium light level, and a low light level, respectively, is displayed.

In FIG. **6**X, the contact indicated by focus selector **6111** has moved to a location corresponding to modification option **6117** ("Medium").

In FIG. **6**Y, in response to the input illustrated in FIG. **6**X, flashlight has been turned on with a medium light level, e.g., as indicated by the non-shaded state of flashlight control affordance **622** and/or light **6120** emitted by a flashlight of the device.

FIGS. **7**A-**7**W illustrate exemplary user interfaces for deleting content in accordance with some embodiments. The user interfaces in these figures are used to illustrate the processes described below, including the processes in FIGS. **20**A-**20**G. Although some of the examples which follow will be given with reference to inputs on a touch-screen display (where the touch-sensitive surface and the display are combined), in some embodiments, the device detects inputs on a touch-sensitive surface **451** that is separate from the display **450**, as shown in FIG. **4**B.

In some embodiments, the device is an electronic device with a separate display (e.g., display **450**) and a separate touch-sensitive surface (e.g., touch-sensitive surface **451**). In some embodiments, the device is portable multifunction device **100**, the display is touch-sensitive display system **112**, and the touch-sensitive surface includes tactile output generators **167** on the display (FIG. **1**A). For convenience of explanation, the embodiments described with reference to FIGS. **7**A-**7**W will be discussed with reference to operations performed on a device with a touch-sensitive display system **112**. In such embodiments, the focus selector is, optionally: a respective finger or stylus contact, a representative point corresponding to a finger or stylus contact (e.g., a centroid of a respective contact or a point associated with a respective contact), or a centroid of two or more contacts detected on the touch-sensitive display system **112**. However, analogous operations are, optionally, performed on a device with a display **450** and a separate touch-sensitive surface **451** in response to detecting the contacts described in FIGS. **7**A-**7**W on the touch-sensitive surface **451** while displaying the user interfaces shown in FIGS. **7**A-**7**W on the display **450**, along with a focus selector.

FIG. **7**A illustrates a user interface **702** that includes an editable content area **704** that includes a plurality of characters. User interface **702** also includes content deletion control **708**. Detecting a deletion input includes detecting a contact at a location on touch-sensitive surface **112**, as indicated by focus selector **710**, that corresponds to content deletion control **708**. Content deletion control **708** is, e.g., a delete key in a keyboard **709**. A characteristic intensity of the contact is indicated by intensity meter **712**. In the illustrative example of FIG. **7**A, a characteristic intensity of the contact has increased above a deep press intensity threshold IT_D, as indicated by intensity meter **712**. Region **714** of FIG. **7**A is used in FIGS. **7**B-**7**C to illustrate character-by-character deletion and word-by-word deletion.

FIG. **7**B illustrates character-by-character deletion. At a first time T=t**1**, a first character has been deleted from the plurality of characters in editable content area **704** of region **714** at a position corresponding to content insertion indicator **716**. At a second time T=t**2** that is later than first time t**1**, a second character has been deleted from the plurality of characters in editable content area **704** at a position corresponding to content insertion indicator **716**. At a third time T=t**3** that is later than second time t**2**, a third character has been deleted from the plurality of characters in editable content area **704** at a position corresponding to content insertion indicator **716**.

FIG. **7**C illustrates word-by-word deletion. At a first time T=t**1**, a first word has been deleted from the plurality of characters in editable content area **704** of region **714** at a position corresponding to content insertion indicator **716**. At a second time T=t**2** that is later than first time t**1**, a second word has been deleted from the plurality of characters in editable content area **704** at a position corresponding to content insertion indicator **716**. At a third time T=t**3** that is later than second time t**2**, a third word has been deleted from the plurality of characters in editable content area **704** at a position corresponding to content insertion indicator **716**.

FIGS. **7**D-**7**I are graphs that illustrate heuristics for determining content deletion based on characteristic intensity of a contact in relation to an intensity threshold IT_D (e.g., a deep press intensity threshold IT_D as indicated by intensity meter **712** of FIG. **7**A) and time thresholds T**1** and T**2**. Time threshold T**1** defines a first time period time threshold T**2** defines a second time period that is longer than the first time period.

In FIG. **7**D, **720** indicates a characteristic intensity of a contact at a location corresponding to content deletion control **708**. The contact is maintained for a first time period T**1** and continues to be maintained for a second time period T**2**. The characteristic intensity of the contact does not increase above the deep press intensity threshold level IT_D. In accordance with a determination that the contact has been maintained for the first time period T**1**, content is deleted from editable content area **704** character-by-character (e.g., as illustrated in FIG. **7**B) at a rate that does not vary based on the characteristic intensity of the contact. In accordance with a determination that the contact has been maintained for the second time period T**2**, content is deleted from editable content area **704** word-by-word (e.g., as illustrated in FIG. **7**C) at a rate that does not vary based on the characteristic intensity of the contact.

In FIG. **7**E, **722** indicates a characteristic intensity of a contact at a location corresponding to content deletion control **708**. The characteristic intensity of the contact increases above deep press intensity threshold level IT_D at a time T_{ITD}, which occurs between first time threshold T**1** and second time threshold T**2**. In accordance with a determination that the characteristic intensity of the contact increases above intensity threshold level IT_D after the contact has been maintained on the touch-sensitive surface **112** for the first time period T**1**, content is deleted from editable content area **704** character-by-character (e.g., as illustrated in FIG. **7**B) at a rate that varies based on the characteristic intensity of the contact. In some embodiments, in accordance with a determination that the contact has been maintained for second time period T**2**, instead of switching to deleting content word-by-word, content continues to be deleted character-by-character.

In FIG. **7**F, **724** indicates a characteristic intensity of a contact at a location corresponding to content deletion control **708**. The characteristic intensity of the contact increases above deep press intensity threshold level IT_D at a time T_{ITD}, which occurs after second time period T2. In accordance with a determination that the characteristic intensity of the contact increases above intensity threshold level IT_D after the contact has been maintained on the touch-sensitive surface **112** for the second time period T2, content is deleted from editable content area **704** word-by word (e.g., as illustrated in FIG. **7**C) at a rate that varies based on the characteristic intensity of the contact.

In FIG. **7**G, **726** indicates a characteristic intensity of a contact at a location corresponding to content deletion control **708**. The characteristic intensity of the contact increases above deep press intensity threshold level IT_D at a time T_{ITD}, which occurs between first time threshold T**1** and second time threshold T**2**. In accordance with a determination that the characteristic intensity of the contact increases above the intensity threshold level IT_D after the contact has been maintained on the touch-sensitive surface **112** for the first time period T**1** and before the contact has been maintained on the touch-sensitive surface **112** for the second time period T**2**, content is deleted from editable content area **704** word-by word (e.g., as illustrated in FIG. **7**C) before second time period T**2** has elapsed (e.g., at a rate that varies based on the characteristic intensity of the contact).

In FIG. **7**H, **728** indicates a characteristic intensity of a contact at a location corresponding to content deletion control **708**. The characteristic intensity of the contact increases above the deep press intensity threshold level IT_D at a time T_{ITD1}, and decreases below the deep press intensity threshold level IT_D at a time T_{ITD2}. After T_{ITD2}, content continues to be deleted from editable content area **704** word-by word (e.g., as illustrated in FIG. **7**C) before second time period T**2** has elapsed.

In FIG. **7**I, **730** indicates a characteristic intensity of a contact at a location corresponding to content deletion control **708**. In accordance with a determination that liftoff of the contact occurs before time period T_{tap} (e.g., a tap time threshold) has elapsed, a single character is deleted from editable content area **704**.

In FIG. **7**J, **731** indicates a characteristic intensity of a contact at a location corresponding to content deletion control **708**. The characteristic intensity of the contact increases above a light press intensity threshold level IT_L at a time T_{ITL} and increases above a deep press intensity threshold level IT_D at a time T_{ITD}. In some embodiments, in accordance with a determination that the characteristic intensity of the contact increases above the light press intensity threshold IT_L, content is deleted character-by-character from editable content area **704** (e.g., at a non-varying rate). In some embodiments, in accordance with a determination that the contact has been maintained on the touch-sensitive surface for a first time period (e.g., while the characteristic intensity of the contact is above the light press intensity threshold IT_L), content is sequentially deleted (e.g., character-by-character) at a rate that varies based on the characteristic intensity of the contact. In some embodiments, in accordance with a determination that the characteristic intensity of the contact increases above the deep press intensity threshold IT_D, content is deleted word-by-word from editable content area **704** (e.g., at a non-varying rate). In some embodiments, in accordance with a determination that the contact has been maintained on the touch-sensitive surface for a second time period (e.g., while the characteristic intensity of the contact is above the deep press intensity threshold IT_D), content is sequentially deleted (e.g., word-by-word) at a rate that varies based on the characteristic intensity of the contact.

FIGS. **7**K-**7**N illustrate a content insertion indicator repositioning mode. In FIG. **7**K, a contact detected at a location (indicated by focus selector **732**) on touch-sensitive surface **112** that is distinct from the location of content deletion control **708**. For example, a contact is detected at a location that corresponds to a key of keyboard **709**, such as a character key (e.g., "A"). In response to an input that is detected (e.g., a tap input) and that does not meet content insertion repositioning mode criteria (e.g., the duration is below a threshold duration and/or the characteristic intensity of the contact does not increase above an intensity threshold, such as deep press intensity threshold IT_D), a function that corresponds to the key of the keyboard occurs (e.g., a character corresponding to the character key is added to editable content area **704**, as shown in FIG. **7**L). In accordance with a determination that a characteristic intensity of the contact increases above deep press intensity threshold IT_D, a content insertion indicator repositioning mode is activated, as shown in FIG. **7**M. In some embodiments, in accordance with a determination that a characteristic intensity of the contact increased above the deep press intensity threshold IT_D, the device outputs a tactile output, as indicated at **737**. In FIG. **7**N, while the content insertion indication repositioning mode is activated, content insertion indicator **716** moves from a first position **716***a* to a second position **716***b* along a path indicated by arrow **736**, which corresponds (e.g., in length and/or direction) to a path **734** along which focus selector **732** moves from a first position **732***a* to a second position **732***b*. In FIG. **7**N, content insertion indicator **716** is shown at the position to which it was moved.

FIG. **7**O-**1** illustrates a tactile output parameter that increases in accordance with a characteristic intensity of the contact. At a time T=t**1**, a characteristic intensity of a contact, as indicated by focus selector **710**, at a location corresponding to content deletion control **708**, is above a contact detection intensity threshold IT_0, as indicated by intensity meter **712**. A tactile output that is output at t**1** has a first tactile output parameter (e.g., a first amplitude). At a time T=t**2**, a characteristic intensity of a contact at a location corresponding to content deletion control **708** is above a hint intensity threshold IT_H. A tactile output that is output at t**2** has a second tactile output parameter that is larger than the first tactile output parameter (e.g., a second amplitude that is greater than the first amplitude). At a time T=t**3**, a characteristic intensity of a contact at a location corresponding to content deletion control **708** is above a light press intensity threshold IT_L. A tactile output that is output at t**3** has a third tactile output parameter that is larger than the second tactile output parameter (e.g., a third amplitude that is greater than the second amplitude). At a time T=t**4**, a characteristic intensity of a contact at a location corresponding to content deletion control **708** is above a deep press intensity threshold IT_D. A tactile output that is output at t**4** has a fourth tactile output parameter that is larger than the third tactile output parameter (e.g., a fourth amplitude that is greater than the third amplitude). In some embodiments, the contacts described with regard to times t**1**, t**2**, t**3**, and/or t**4** are parts of a single continuous contact.

In some embodiments, one or more keys of content input area **740** do not trigger a tactile output when activated. For example, in response to an input detected by a contact at a location corresponding to a character (the letter "a"), no tactile output occurs in accordance with a determination that a characteristic intensity of the contact is above a deep press intensity threshold IT_D. No tactile output occurs at t**5**.

FIG. 7O-2 illustrates a tactile output parameter that decreases in accordance with a characteristic intensity of a contact. At a time T=t1, a characteristic intensity of a contact, as indicated by focus selector 710, at a location corresponding to content deletion control 708, is above a contact detection intensity threshold IT_0, as indicated by intensity meter 712. A tactile output that is output at t1 has a first tactile output parameter (e.g., a first amplitude). At a time T=t2, a characteristic intensity of a contact at a location corresponding to content deletion control 708 is above a hint intensity threshold IT_H. A tactile output that is output at t2 has a second tactile output parameter that is smaller than the first tactile output parameter (e.g., a second amplitude that is lower than the first amplitude). At a time T=t3, a characteristic intensity of a contact at a location corresponding to content deletion control 708 is above a light press intensity threshold IT_L. A tactile output that is output at t3 has a third tactile output parameter that is smaller than the second tactile output parameter (e.g., a third amplitude that is lower than the second amplitude). At a time T=t4, a characteristic intensity of a contact at a location corresponding to content deletion control 708 is above a deep press intensity threshold IT_D. A tactile output that is output at t4 has a fourth tactile output parameter that is smaller than the third tactile output parameter (e.g., a fourth amplitude that is lower than the third amplitude). In some embodiments, the contacts described with regard to times t1, t2, t3, and/or t4 are parts of a single continuous contact.

FIGS. 7P-7S illustrate tactile outputs generated when a contact moves across menu items. In FIG. 7P, a menu-display input is detected that includes a contact at a location (e.g., a location indicated by focus selector 742) on touch-sensitive surface 112 that corresponds to content input area (e.g., a keyboard) 740. In response to detecting the menu-display input (e.g., a long press input), a menu 744 is displayed, as shown in FIG. 7Q. The focus selector 742 moves along a path indicated by arrow 743 to a location that corresponds to menu item 746 of menu 744, as shown in FIG. 7R. In some embodiments, in accordance with a determination that the focus selector 742 moved to the location of menu item 746, the device outputs a tactile output, as illustrated at 751. The focus selector 742 moves along a path indicated by arrow 745 to a location that corresponds to menu item 748 of menu 744, as shown in FIG. 7S. In some embodiments, in accordance with a determination that the focus selector 742 moved to the location of menu item 748, the device outputs a tactile output, as illustrated at 753.

FIG. 7T illustrates tactile outputs with a tactile output parameter that increases as the speed of typing increases. In some embodiments, in response to input detected at keys of the device (e.g., keys of content input area 740), the device outputs tactile output that varies based on the time between subsequent inputs. In FIG. 7T, each line represents a tactile output that is output in response to an input detected at a key. A tactile output parameter (e.g., tactile output amplitude) increases as time between a line and the immediately preceding line decreases.

FIG. 7U illustrates audio outputs with an audio output parameter that increases as the speed of typing increases. In some embodiments, in response to input detected at keys of the device (e.g., keys of content input area 740), the device outputs audio output that varies based on the time between subsequent inputs. In FIG. 7U, each line represents an audio output that is output in response to an input detected at a key. An audio output parameter (e.g., audio output amplitude) increases as time between a line and the immediately preceding line decreases.

FIG. 7V illustrates tactile outputs with a tactile output parameter that decreases as the speed of typing increases. In FIG. 7V, each line represents a tactile output that is output in response to an input detected at a key. A tactile output parameter (e.g., tactile output amplitude) decreases as time between a line and the immediately preceding line decreases.

FIG. 7W illustrates audio outputs with an audio output parameter that decreases as the speed of typing increases. In FIG. 7U, each line represents an audio output that is output in response to an input detected at a key. An audio output parameter (e.g., audio output amplitude) decreases as time between a line and the immediately preceding line decreases.

In some embodiments, as the speed of typing increases, both a tactile output parameter of tactile outputs and an audio output parameter of audio outputs increases. In some embodiments, as the speed of typing increases, both a tactile output parameter of tactile outputs and an audio output parameter of audio outputs decreases. In some embodiments, as the speed of typing increases, a tactile output parameter of tactile outputs increases and an audio output parameter of audio outputs decreases. In some embodiments, as the speed of typing increases, a tactile output parameter of tactile outputs decreases and an audio output parameter of audio outputs increases.

FIGS. 8A-8AI illustrate exemplary user interfaces for detecting input at a messaging interface in accordance with some embodiments. The user interfaces in these figures are used to illustrate the processes described below, including the processes in FIGS. 22A-22G. Although some of the examples which follow will be given with reference to inputs on a touch-sensitive surface display (where the touch-sensitive surface and the display are combined), in some embodiments, the device detects inputs on a touch-sensitive surface 451 that is separate from the display 450, as shown in FIG. 4B.

In some embodiments, the device is an electronic device with a separate display (e.g., display 450) and a separate touch-sensitive surface (e.g., touch-sensitive surface 451). In some embodiments, the device is portable multifunction device 100, the display is touch-sensitive display system 112, and the touch-sensitive surface includes tactile output generators 167 on the display (FIG. 1A). For convenience of explanation, the embodiments described with reference to FIGS. 8A-8AI will be discussed with reference to operations performed on a device with a touch-sensitive display system 112. In such embodiments, the focus selector is, optionally: a respective finger or stylus contact, a representative point corresponding to a finger or stylus contact (e.g., a centroid of a respective contact or a point associated with a respective contact), or a centroid of two or more contacts detected on the touch-sensitive display system 112. However, analogous operations are, optionally, performed on a device with a display 450 and a separate touch-sensitive surface 451 in response to detecting the contacts described in FIGS. 8A-8AI on the touch-sensitive surface 451 while displaying the user interfaces shown in FIGS. 8A-8AI on the display 450, along with a focus selector.

FIG. 8A illustrates a messaging interface 802 that includes a conversation transcript 804 and a message input area 806. The message input area includes message content 808 ("Congratulations!") and affordance 810 for sending a message. A contact with touch-sensitive surface 112 occurs at a location that corresponds to affordance **810** for sending a message ("send affordance **810**"), as indicated by focus selector **812**. A characteristic intensity of the contact is indicated by intensity meter **814**.

FIG. **8**B illustrates messaging interface **802** after a message including message content **808** is sent to a remote device (e.g., in response to a tap gesture received at send affordance **810**). Message content **808** is displayed in a message region **816** in the conversation transcript **804** of messaging interface **802**. A message region is a message bubble, platter, or other container for a message in a conversation transcript of a messaging session. In some embodiments, message regions of sent messages are visually distinguished from message regions of received messages in conversation transcript **804**. For example, message region **816** of the sent message including message content **808** has a first region color and/or a first region orientation (indicated by the direction of a stem of the region) and message region **817** of a received message in conversation transcript **804** has a second region color that is different from the first region color and/or a second orientation that is different from the first orientation.

FIG. **8**C illustrates a messaging interface **818** of a remote device **820** that received a message including message content **808**.

FIG. **8**D illustrates messaging interface **802** of device **100** while an input including a contact with touch-sensitive surface **112** that has a characteristic intensity above a hint intensity threshold IT_H, as indicated by intensity meter **814**, is detected at a location corresponding to send affordance **810**. The location of the contact is indicated by focus selector **812**. In some embodiments, in accordance with a determination that the contact at the location corresponding send affordance **810** has increased above the hint intensity threshold IT_H, at least a portion of the messaging user interface **802** is blurred. In some embodiments, the extent of the blurring varies in proportion to the characteristic intensity of the contact, as indicated in FIG. **8**E.

FIG. **8**E illustrates messaging interface **802** of device **100** while an input including a contact that has a characteristic intensity above a light press intensity threshold IT_L, as indicated by intensity meter **814**, is detected at a location corresponding to send affordance **810**. The location of the contact is indicated by focus selector **812**.

In accordance with a determination that the characteristic intensity of the contact detected at a location corresponding to send affordance **810** increases above a deep press intensity threshold IT_D, a plurality of message impact effect options are displayed, as indicated in FIG. **8**F. The plurality of message impact effect options include, e.g., **822** ("Slam"), **824** ("Loud"), **826** ("Gentle"), and **828** ("Invisible Ink"). In some embodiments, the plurality of message impact effect options are displayed in a message impact effect options interface **830** that includes message content **808** displayed in a message region **832** (e.g., a default message region), a dismiss affordance **834** (e.g., for returning to messaging interface **802**), a message impact effect option selection control **836** (e.g., for selection an impact effect option from the plurality of message impact effect options), and/or an enhanced message type selection control **838**. In some embodiments, enhanced message type selection control **838** is a toggle control that includes an affordance **840** ("Bubble") for displaying a plurality of message impact effect options (e.g., options that effect a message region, such as a message bubble) and an affordance **842** ("Screen") for displaying one or more enhanced message options that are distinct from the plurality of message impact effect options (e.g., for displaying full screen animation options). In some embodiments, in accordance with the determination that the characteristic intensity of the contact detected at a location corresponding to send affordance **810** increases above the deep press intensity threshold IT_D, the device outputs a tactile output as indicated at **839**.

While the plurality of message impact effect options are displayed, the contact moves along a path indicated by arrow **844** to a position corresponding to "Loud" message impact effect option **824**. In some embodiments, message impact effect option selection control **836** includes affordances that correspond to respective message impact effect options, such as affordance **845** that corresponds to "Loud" message impact effect option **824**. In some embodiments, when a contact moves across touch-sensitive surface **112** to a position that corresponds to affordance **845**, the affordance morphs into an affordance **847** for sending message content **808** with a selected message impact effect option.

In FIG. **8**G, the contact, as indicated by focus selector **812**, is at a location on message impact effect option selection control **836** that corresponds to "Loud" message impact effect option **824**. In accordance with a determination that the contact is at the location corresponding to the "Loud" message impact effect option **824**, a preview of the "Loud" message impact effect option **824** occurs. For example, a preview of an animation for the "Loud" message impact effect option **824** is displayed, as illustrated in FIGS. **8**G-**8**I. In FIG. **8**G, message content **808** is displayed in a first altered message region **846**. In a first part of a preview of the "Loud" message impact effect option **824**, first altered message region **846** is smaller than a default message region for message content **808** (e.g., message region **816** of FIG. **8**B) and text of message content **808** is smaller than the default message text (e.g., as shown in FIG. **8**B).

In FIG. **8**H, a second part of the preview of the "Loud" message impact effect option **824** is shown. In the second part of the preview of the "Loud" message impact effect option **824**, first altered message region **846** is larger than a default message region for message content **808** (e.g., message region **816** of FIG. **8**B) and text of message content **808** is larger than the default message text (e.g., as shown in FIG. **8**B).

In FIG. **8**I, a third part of the preview of the "Loud" message impact effect option **824** is shown. In the third part of a preview of the "Loud" message impact effect option **824**, first altered message region **846** has a size that is the same as the default message region size (e.g., message region **816** of FIG. **8**B) and the size of the text of message content **808** is the default message text size (e.g., as shown in FIG. **8**B).

The contact moves along a path indicated by arrow **849** to a position corresponding to "Slam" message impact effect option **822**.

In FIG. **8**J, the contact, as indicated by focus selector **812**, is at a location on message impact effect option selection control **836** that corresponds to "Slam" message impact effect option **822** (e.g., in accordance with a determination that the contact is at the location corresponding to the "Slam" message impact effect option **822**, a preview of the "Slam" message impact effect option **822** occurs. For example, a preview of an animation for the "Slam" message impact effect option **822** is displayed, as illustrated in FIGS. **8**J-**8**L. In FIG. **8**J, message content **808** is displayed in a second altered message region **848**. In a first part of a preview of the "Slam" message impact effect option **824**, second altered message region **848** has a different orientation from the default message region for message content **808** (e.g., message region **816** of FIG. **8**B).

In FIG. **8**K, a second part of the preview of the "Slam" message impact effect option **822** is shown. In the second part of the preview of the "Slam" message impact effect option **822**, an impact cloud **850** is displayed behind second altered message region **848** (e.g., illustrating dust scattered as the message lands with a thud).

In FIG. **8**L, a third part of the preview of the "Slam" message impact effect option **822** is shown. In the third part of a preview of the "Slam" message impact effect option **822**, second altered message region **848** has an orientation that is the same as the orientation of a default message region (e.g., message region **816** of FIG. **8**B) and the impact cloud **850** has disappeared.

FIG. **8**L illustrates an input to send a message with a selected message impact effect option. A characteristic intensity of the contact indicated by focus selector **812** increases above deep press intensity threshold IT_D, as indicated by intensity meter **814**, while the contact is at a location on touch-sensitive surface **112** corresponding to affordance **847** for sending message content **808** with a selected message impact effect option. Because the "Slam" message impact effect option **822** is selected, in accordance with a determination that the characteristic intensity of the contact increases above IT_D, message content **808** is sent to a remote device with the "Slam" message impact effect option **822**. In some embodiments, in accordance with a determination that an input to send message content **808** with "Slam" message impact effect option **828** have been detected (e.g., above deep press intensity threshold IT_D, as indicated by intensity meter **814**), the device outputs a tactile output as indicated at **849**.

FIG. **8**M illustrates a messaging interface **802** after message content **808** is sent to a remote device with the "Slam" message impact effect option **822**. Message content **808** is displayed in an altered message region **851** in the conversation transcript **804** of messaging interface **802**. A first part of an animation corresponding to the "Slam" message impact effect option, in which the orientation second altered message region **851** is different from the default message region for message content **808**, is illustrated.

FIG. **8**N illustrates a second part of an animation corresponding to the "Slam" message impact effect option **822** displayed in the conversation transcript **804** of messaging interface **802**. In the second part of the animation corresponding to the "Slam" message impact effect option, impact cloud **850** is displayed behind second altered message region **851**.

FIG. **8**O illustrates the third part of the animation corresponding to the "Slam" message impact effect option **822**, in which second altered message region **851** has transformed into default message region **816**.

FIGS. **8**P, **8**Q, and **8**R illustrate the first part, second part, and third part, respectively, of the animation corresponding to the "Slam" message impact effect option as displayed in messaging interface **818** of a remote device **820**.

FIG. **8**S illustrates a message impact effect options interface **830** in which a contact with touch-sensitive surface **112**, as indicated by focus selector **860**, is at a location that corresponds affordance **856** for selecting "Invisible Ink" message impact effect option **828**. A preview of the "Invisible Ink" message impact effect option **828** is displayed. In the preview of the "Invisible Ink" message impact effect option **828**, during at least part of the preview, at least part of message content **808** is hidden by a screen **854** in a third altered message region **852**. In some embodiments, in accordance with a determination that an input to send message content **808** with "Invisible Ink" message impact effect option **828** have been detected (e.g., above a deep press intensity threshold IT_D, as indicated by intensity meter **814**), the device outputs a tactile output as indicated at **859**.

FIG. **8**T illustrates a messaging interface **818** of a remote device **820** after message content **808** is sent to remote device **820** with the "Invisible Ink" message impact effect option **828**. The contact indicated by focus selector **862**, is detected at a location that corresponds to third altered message region **852**.

Screen **854** is gradually removed from third altered message region **852** and message content **808** is gradually revealed as a characteristic intensity of the contact increases.

In FIG. **8**T, in accordance with a determination that the characteristic intensity of the contact has increased by a first amount (e.g., above contact detection intensity threshold level IT_0), a first portion of message content **808** is revealed.

In FIG. **8**U, in accordance with a determination that the characteristic intensity of the contact has increased by a second amount (e.g., above hint intensity threshold IT_H) that is greater than the first amount, a second portion of message content **808**, greater than the first portion, is revealed.

In FIG. **8**V, in accordance with a determination that the characteristic intensity of the contact has increased by a third amount (e.g., above a light press intensity threshold IT_L) that is greater than the first amount, a third portion of message content **808**, greater than the second portion, is revealed.

In FIG. **8**W, in accordance with a determination that the characteristic intensity of the contact has increased by a fourth amount that is above a threshold intensity level (e.g., above a deep press intensity threshold IT_D), screen **852** ceases to be displayed and message content **808** is fully revealed. In some embodiments, in accordance with a determination that the characteristic intensity of the contact has increased above the threshold intensity level (e.g., above the deep press intensity threshold IT_D), the device outputs a tactile output as indicated at **864**.

In FIG. **8**X, in accordance with a determination that the contact has lifted off from touch-sensitive surface **112**, screen **852** is displayed and message content **808** is hidden (e.g., fully hidden) by screen **852**.

FIG. **8**Y illustrates tactile output that occurs in accordance with a determination that a contact, as illustrated by focus selector **866**, has moved across touch-sensitive surface **112** to a location of message impact effect option selection control **836** that corresponds to a message impact effect option. At time T=t**1**, the focus selector **866** is at a location that corresponds to "Invisible Ink" message impact effect option **828**. As indicated in tactile output graph **868**, a tactile output that has a first amplitude and a first duration is output at time t**1**. At time T=t**2**, the focus selector **866** is at a location that corresponds to "Gentle" message impact effect option **826**. A tactile output that has a second amplitude that is lower than the first amplitude and a second duration that is shorter than the first duration is output at time t**2**. At time T=t**3**, the focus selector **866** is at a location that corresponds to "Loud" message impact effect option **824**. A tactile output that has a third amplitude that is lower than the second amplitude and a third duration that is shorter than the second duration is output at time t**3**. At time T=t**4**, the focus selector **866** is at a location that corresponds to "Slam" message impact effect option **822**. A tactile output that has a fourth amplitude that is lower than the third amplitude and a fourth duration that is shorter than the third duration is output at time t**4**.

FIG. 8Z illustrates tactile output that occurs in accordance with a determination that a contact with touch-sensitive surface 112, as illustrated by focus selector 872, has moved to a location of message impact effect option selection control 836 that corresponds to a message impact effect option. At time T=t1, the focus selector 872 is at a location that corresponds to "Invisible Ink" message impact effect option 828. As indicated in tactile output graph 870, a tactile output that has a first amplitude and a first duration is output at time t1. At time T=t2, the focus selector 872 is at a location that corresponds to "Gentle" message impact effect option 826. A tactile output that has a second tactile output parameter (e.g., a second amplitude that is greater than the first amplitude) is output at time t2. At time T=t3, the focus selector 872 is at a location that corresponds to "Loud" message impact effect option 824. A tactile output that has a third tactile output parameter (e.g., a third amplitude that is greater than the second amplitude) is output at time t3. At time T=t4, the focus selector 872 is at a location that corresponds to "Slam" message impact effect option 822. A tactile output that has a fourth tactile output parameter (e.g., a fourth amplitude that is greater than the third amplitude) is output at time t3.

FIGS. 8AA-8AI illustrate message acknowledgements.

In FIG. 8AA, contact with touch-sensitive surface 112, as indicated by focus selector 876, is detected at a location that corresponds to message region 874 of a received message 873. In FIG. 8AB, the characteristic intensity of the contact increases above hint intensity threshold IT_H, as indicated by intensity meter 814. In FIG. 8AC, the characteristic intensity of the contact increases above light press intensity threshold IT_L, as indicated by intensity meter 814. In some embodiments, as the characteristic intensity of the contact increases, at least a portion of the messaging user interface 802 is blurred. In some embodiments, the extent of the blurring varies in proportion to the characteristic intensity of the contact, e.g., as illustrated by the increasing level of blur from FIG. 8AA-8AC.

In some embodiments, in accordance with a determination that the characteristic intensity of the contact detected at a location corresponding to message region 874 increases above deep press intensity threshold IT_D, an acknowledgement selection affordance 878 is displayed, as indicated in FIG. 8AD. Acknowledgement selection affordance 878 displays a plurality of acknowledgement options (e.g., heart 880, thumbs up 882, thumbs down 884, "HA," 886, exclamation points 888, and/or question mark 890). In some embodiments, in accordance with the determination that the characteristic intensity of the contact detected at a location corresponding to message region 874 increases above the deep press intensity threshold IT_D, the device outputs a tactile output as indicated at 879.

In FIG. 8AE, a contact with touch-sensitive surface 112, as indicated by focus selector 892, is detected at a location that corresponds to thumbs up acknowledgement option 882. In response detecting an acknowledgement application input (e.g., a tap input at a location corresponding to acknowledgement option 882), an indicator corresponding to the thumbs up acknowledgement option 882 is applied to message region 874, as indicated in FIG. 8AF.

FIG. 8AG illustrates an input detected at a message region 894 that has received multiple acknowledgements 896. A contact with touch-sensitive surface 112, as indicated by focus selector 898, is detected at a location that corresponds to the multiple acknowledgements 896 (or a location that corresponds to the message region 894). In accordance with a determination that a characteristic intensity of the contact increases above the deep press intensity threshold IT_D, an acknowledgement tally user interface 8100 is displayed, as shown in FIG. 8AH. In some embodiments, in accordance with a determination that a characteristic intensity of the contact increases above the deep press intensity threshold IT_D, a tactile output occurs as indicated at 899. In some embodiments, the acknowledgement tally user interface 8100 includes, e.g., for each acknowledgement option (e.g., that has been applied to the message that corresponds to message region 894) an indication of a number 8104 of conversation participants that applied the acknowledgement option, identifying information for conversation participants (e.g., avatar 8106) that applied the acknowledgement option, and/or an indication of the acknowledgment option. For example, for thumbs up acknowledgement option 882, the number of conversation participants that applied the thumbs up acknowledgement option 882 to the message (e.g., "2")), two avatars 8106 that correspond to conversation participants that applied the thumbs up acknowledgement option 882 to the message, and an icon that corresponds to thumbs up acknowledgement option 882 are displayed.

In some embodiments, e.g., when a number of avatars exceeds a threshold number of avatars, multiple avatars are displayed in a stacked configuration (e.g., such that one or more avatars are at least partially hidden behind another avatar). In some embodiments, an input detected at a location that corresponds to the stack of avatars (e.g., a tap by a contact indicated by focus selector 8108 in FIG. 8AH) expands the stack of avatars. An expanded stack of avatars is shown in FIG. 8AI.

FIGS. 9A1-9A25 illustrate exemplary user interfaces for displaying intensity-reactive and intensity-nonreactive user interface objects, in accordance with some embodiments.

FIG. 9A1 illustrates a user interface 900 on display 950; user interface 900, in the example shown in FIGS. 9A1-9A25, includes a user interface of a menu of applications represented by a plurality of activatable user interface objects (e.g., multiple application icons) arranged in an array, including activatable objects 902 and 904 (e.g., the application icon for launching the Messages application, and the application icon for launching the Weather application).

As shown in FIG. 9A1, user input intensity graph 906 and user input lateral displacement graph 908 indicate that no contact by a user input that corresponds to a request to select an activatable object in user interface 900 has been detected.

FIG. 9A2 illustrates a transition of user interface 900 from the state of that user interface in FIG. 9A1. In particular, FIG. 9A2 shows the position of user input 910 positioned over intensity-nonreactive activatable object 904 in user interface 900. In the example shown in FIG. 9A2, user input 910 corresponds to an input object (e.g., a finger or stylus) detected hovering over a touch-sensitive surface (e.g., touch-sensitive surface 451 or a touch-sensitive surface of touch-screen display 450, FIG. 4B) at a location corresponding to activatable object 904 prior to contacting the touch-sensitive surface, and thus user input intensity graph 906 and user input lateral displacement graph 908 indicate that the detected user input has zero detected intensity and zero lateral displacement. In response to detecting hovering user input 910, the visual appearance of intensity-nonreactive activatable object 904 is not changed.

FIG. 9A3 illustrates a transition of user interface 900 from the state of that user interface in either of FIGS. 9A1-9A2. In particular, FIG. 9A3 shows the state of user interface 900 at a current time tc, indicating detection of a contact by user input 910 on the touch-sensitive surface that corresponds to a request to select intensity-nonreactive activatable object

904. As shown in user input intensity graph **906**, the intensity (also called contact intensity) of user input **910** is initially below a first intensity threshold IT_H. As shown in user input lateral displacement graph **908**, the lateral displacement (e.g., the displacement from an initial contact position of the user input) of the user input is zero.

In response to detecting the contact by user input **910** corresponding to intensity-nonreactive activatable object **904**, the visual appearance of activatable object **904** is changed by a predetermined amount from that shown in FIGS. **9A1**-**9A2** (e.g., activatable object **904** is dimmed or darkened, as shown in FIG. **9A3**), independent of the contact intensity of user input **910**. For example, FIGS. **9A4**-**9A6** show that although the contact intensity of user input **910** has increased from its value as shown in FIG. **9A3** to values above the first intensity threshold IT_H, above the second intensity threshold IT_L, and above the third intensity threshold IT_D, respectively, the visual appearance of activatable object **904** is maintained at the predetermined amount of change as shown in FIG. **9A3**, and is unaffected by the increase in contact intensity of user input **910**.

FIG. **9A7** illustrates a transition of user interface **900** from the state of that user interface in FIG. **9A6**. In particular, FIG. **9A7** shows the state of user interface **900** at a current time tc upon ceasing to detect the contact by user input **910** (e.g., due to liftoff of the contact) corresponding to activatable object **904**. As shown in user input intensity graph **906**, the contact intensity of user input **910** has decreased from its intensity as shown in FIG. **9A6** to zero, in accordance with ceasing to detect the contact by user input **910**.

In response to ceasing to detect the contact by user input **910** corresponding to intensity-nonreactive activatable object **904** (e.g., in accordance with a determination that user input **910** is a tap gesture), an activation operation corresponding to activatable object **904** is performed. In the example shown in FIG. **9A3**, in response to ceasing to detected the contact by user input **910** corresponding to activatable object **904**, an application associated with activatable object **904** (e.g., a weather application) is launched and displayed on user interface **900**.

FIG. **9A8** is similar to FIG. **9A3** and illustrates a transition of user interface **900** from the state of that user interface in either of FIGS. **9A1**-**9A2**. In particular, FIG. **9A8** shows, at current time tc, the position of user input **911** corresponding to intensity-nonreactive activatable object **904**, whose visual appearance is changed by a predetermined amount (e.g., dimmed or darkened) from that shown in FIGS. **9A1**-**9A2**. As shown in user input intensity graph **906**, the intensity of user input **911** is initially below intensity threshold IT_H, and as shown in user input lateral displacement graph **908**, the lateral displacement of the user input from the initial contact position is initially below a lateral displacement threshold Dt.

FIG. **9A9** illustrates a transition of user interface **900** from the state of that user interface in FIG. **9A8**. In particular, FIG. **9A9** shows continued lateral movement of user input **911** with respect to user interface **900** (e.g., corresponding to lateral movement of the contact corresponding to user input **911** as the contact is maintained on the touch-sensitive surface, such as a drag gesture). As shown in user input lateral displacement graph **908**, the lateral displacement of the user input has increased from that shown in FIG. **9A8** and satisfies (and exceeds) lateral displacement threshold Dt. In accordance with a determination that the lateral displacement of the user input satisfies displacement criteria (e.g., including satisfying lateral displacement threshold Dt), at least a portion of user interface **900** is scrolled in accordance with the lateral movement of the user input.

In the example shown in FIG. **9A9**, in response to detecting lateral displacement of user input **911** that satisfies displacement criteria, the visual appearance of intensity-nonreactive activatable object **904** is changed by the predetermined amount back to its initial or previous appearance prior to detecting the contact by user input **911**. More specifically, the visual appearance of intensity-nonreactive activatable object **904** is changed instantaneously rather than gradually (e.g., activatable object **904** is undimmed or brightened) back to its previous appearance (e.g., as shown in FIG. **9A1**) upon scrolling user interface **900**. Moreover, although the contact intensity of user input **911** has increased, as shown in user input intensity graph **906**, the change in visual appearance of intensity-nonreactive activatable object **904** is independent of the contact intensity of the user input.

FIG. **9A10** illustrates a transition of user interface **900** from the state of that user interface in FIG. **9A9**. In particular, FIG. **9A10** shows the state of user interface **900** at current time tc in accordance with continued lateral movement of user input **911** corresponding to a further increase in lateral displacement. As shown in user input lateral displacement graph **908**, the lateral displacement of user input **911** has increased from that shown in FIG. **9A9**. As shown in user input intensity graph **906**, the contact intensity of user input **911** has increased from that shown in FIG. **9A9** and satisfies (and exceeds) first intensity threshold IT_H. However, as discussed above with respect to FIG. **9A9**, in response to detecting the lateral displacement of user input **911** that satisfied displacement criteria, the visual appearance of intensity-nonreactive activatable object **904** was changed instantaneously by the predetermined amount back to its initial appearance. Thus, as shown in FIG. **9A10**, the visual appearance of intensity-nonreactive activatable object **904** is independent of and not further changed in response to the further increase in lateral displacement or the further increase in contact intensity of user input **911**.

FIG. **9A11** illustrates an alternate transition of user interface **900** from the state of that user interface in FIG. **9A1**. In particular, FIG. **9A11** shows the position of user input **912** positioned over intensity-reactive activatable object **902** in user interface **900**. In the example shown in FIG. **9A11**, user input **912** corresponds to an input object (e.g., a finger or stylus) detected hovering over a touch-sensitive surface (e.g., touch-sensitive surface **451** or a touch-sensitive surface of touch-screen display **450**, FIG. **4**B) at a location corresponding to activatable object **902** prior to contacting the touch-sensitive surface, and thus user input intensity graph **906** and user input lateral displacement graph **908** indicate that the detected user input has zero detected intensity and zero lateral displacement. In response to detecting hovering user input **912**, the visual appearance of intensity-reactive activatable object **902** is changed using a first extent of a first transformation (e.g., FIG. **9A11** shows that a size of activatable object **902** is decreased from that shown in FIG. **9A1**, and a platter is displayed behind activatable object **902** in the area previously occupied by activatable object **902** prior to its size being decreased).

FIG. **9A12** illustrates a transition of user interface **900** from the state of that user interface in FIG. **9A11**. In particular, FIG. **9A12** shows the state of user interface **900** at a current time tc, indicating detection of a contact by user input **912** on the touch-sensitive surface that corresponds to a request to select intensity-reactive activatable object **902**. As shown in user input intensity graph **906**, the contact intensity of user input **912** is initially below a first intensity threshold IT_H. As shown in user input lateral displacement graph **908**, the lateral displacement (e.g., the displacement from an initial contact position of the user input) of the user input is zero.

In response to detecting the contact by user input **912** corresponding to intensity-reactive activatable object **902** with an intensity below the first intensity threshold IT_H, the visual appearance of activatable object **902** is changed using a second extent of the first transformation (e.g., greater than the first extent). In the example shown in FIG. **9A12**, the size of activatable object **902** is decreased from that shown in FIG. **9A11**, and a greater amount of the platter displayed behind activatable object **902** is visible as compared to FIG. **9A11**.

FIG. **9A13** illustrates a transition of user interface **900** from the state of that user interface in FIG. **9A12**. In particular, FIG. **9A13** shows the state of user interface **900** at current time tc in accordance with an increase in the contact intensity of user input **912**, such that the contact intensity of user input **912** satisfies the first intensity threshold IT_H, as shown in user input intensity graph **906**.

In response to detecting the contact by user input **912** corresponding to intensity-reactive activatable object **902** with a contact intensity that satisfies the first intensity threshold IT_H, the visual appearance of activatable object **902** is changed using a second transformation in accordance with changes in the detected intensity of the contact on the touch-sensitive surface (e.g., as compared to FIG. **9A12**, the size of activatable object **902** is further decreased, and a greater amount of the platter displayed behind activatable object **902** is visible, in accordance with changes in the detected intensity of the contact). In addition, the visual appearance of user interface **900**, other than activatable object **902**, is changed to include blurring, and optionally shrinking (not shown), of user interface **900**, in accordance with changes in the detected intensity of the contact.

FIG. **9A14** illustrates a transition of user interface **900** from the state of that user interface in FIG. **9A13**. In particular, FIG. **9A14** shows a greater extent of the changes in the visual appearances of intensity-reactive activatable object **902** and user interface **900** in accordance with a further increase in the contact intensity of user input **912**. As the contact intensity of user input **912** increases above the first intensity threshold IT_H, but remains below a second intensity threshold IT_L, as shown in user input intensity graph **906**, the visual appearance of intensity-reactive activatable object **902** is further changed using a greater extent of the second transformation (e.g., as compared to FIG. **9A13**, the size of activatable object **902** is even further decreased, and an even greater amount of the platter displayed behind activatable object **902** is visible). In addition, the visual appearance of user interface **900**, excluding activatable object **902**, includes a greater degree of blurring, and optionally a greater degree of shrinking (not shown).

FIG. **9A15** illustrates a transition of user interface **900** from the state of that user interface in FIG. **9A14**. In particular, FIG. **9A14** shows the state of user interface **900** at a current time tc in accordance with an increase in the contact intensity of user input **912** corresponding to intensity-reactive activatable object **902**. As shown in user input intensity graph **906**, the contact intensity of user input **912** satisfies the second intensity threshold IT_L. In accordance with the contact intensity of user input **912** satisfying the second intensity threshold IT_L, a preview of related content (e.g., a quick actions menu) associated with intensity-reactive activatable object **902** is displayed as quick action menu **914** and, optionally, a tactile output **916** is generated.

FIG. **9A16** illustrates an alternate transition of user interface **900** from the state of that user interface in FIG. **9A1**. In particular, FIG. **9A16** shows the state of user interface **900** at a current time tc, indicating detection of a contact by user input **912** on the touch-sensitive surface that corresponds to a request to select intensity-reactive activatable object **902**. As shown in user input intensity graph **906**, the contact intensity of user input **912** is initially below a first intensity threshold IT_H. As shown in user input lateral displacement graph **908**, the lateral displacement (e.g., the displacement from an initial contact position of the user input) of the user input is below a lateral displacement threshold Dt.

In response to detecting the contact by user input **912** corresponding to intensity-reactive activatable object **902** with an intensity below the first intensity threshold IT_H, the visual appearance of activatable object **902** is changed using the first transformation. In the example shown in FIG. **9A16**, the size of activatable object **902** is decreased from that shown in FIG. **9A1**, for example, and a platter is displayed behind activatable object **902** in the area previously occupied by activatable object **902** prior to its size being decreased).

FIG. **9A17** illustrates a transition of user interface **900** from the state of that user interface in FIG. **9A16**. In particular, FIG. **9A17** shows the state of user interface **900** at current time tc in accordance with continued lateral movement of user input **912** with respect to user interface **900**. As shown in user input lateral displacement graph **908**, the lateral displacement of the user input has increased from that shown in FIG. **9A16** and satisfies (and exceeds) lateral displacement threshold Dt. In accordance with a determination that the lateral displacement of user input **912** satisfies displacement criteria (e.g., including satisfying lateral displacement threshold Dt), a third transformation is applied to at least a portion of user interface **900** including activatable object **902** such that the portion of user interface **900** is scrolled in accordance with the lateral displacement of user input **912**.

In the example shown in FIG. **9A17**, the third transformation is applied such that at least a portion of user interface **900** is scrolled in a first direction in accordance with the lateral displacement of user input **912** and a position of activatable object **902** is changed accordingly. Furthermore, the change in the visual appearance of intensity-reactive activatable object **902** using the first transformation is gradually and dynamically reduced from that shown in FIG. **9A16** in accordance with the lateral movement of user input **912**, such that the visual appearance of activatable object **902** (other than its position) is gradually changed back to its initial or previous appearance prior to detecting user input **912**. More specifically, FIG. **9A17** shows that the size of activatable object **902** is increased from that shown in FIG. **9A16**, and a lesser amount of the platter displayed behind activatable object **902** is visible, upon scrolling user interface **900** in accordance with the lateral movement of user input **912**.

FIG. **9A18** illustrates a transition of user interface **900** from the state of that user interface in FIG. **9A17**. In particular, FIG. **9A18** shows a greater extent of the changes in the visual appearances of activatable object **902** and user interface **900** at current time tc in accordance with continued lateral movement of user input **912** with respect to user interface **900** corresponding to an increase in the lateral displacement of user input **912**. As the lateral displacement of user input **912** is further increased from that shown in

FIG. **9A17**, as shown in user input lateral displacement graph **908**, a greater extent of the third transformation is applied such that the portion of user interface **900** including activatable object **902** is further scrolled in the first direction, and the change in the visual appearance of intensity-reactive activatable object **902** due to the first transformation is gradually and dynamically reduced even further. More specifically, FIG. **9A18** shows that the size of intensity-reactive activatable object **902** is increased to its original size as shown in FIG. **9A1**, for example, and the platter is no longer visible, in accordance with the further increase in lateral displacement of user input **912**. In some embodiments, the application of the first transformation to activatable object **902** is completely reduced in accordance with a determination that the lateral displacement of user input **912** includes a predefined threshold amount of lateral displacement (e.g., if the lateral displacement of the user input satisfies a second lateral displacement threshold, not shown in FIG. **9A18**).

FIG. **9A19** illustrates a transition of user interface **900** from the state of that user interface in FIG. **9A18**. In particular, FIG. **9A19** shows the changes in the visual appearances of activatable object **902** and user interface **900** in accordance with continued lateral movement of user input **912** corresponding to a decrease in the lateral displacement of user input **912** as the contact is maintained on the touch-sensitive surface. As shown in user input lateral displacement graph **908**, the lateral displacement of user input **912** has decreased from that shown in FIG. **9A18** but remains above lateral displacement threshold Dt. In accordance with the decrease in lateral displacement, the visual appearance of intensity-reactive activatable object **902** is changed by gradually reapplying the first transformation (e.g., FIG. **9A19** shows that the size of activatable object **902** is again decreased, and the platter is again displayed behind activatable object **902** in the area previously occupied by activatable object **902** prior to its size being decreased). Furthermore, in accordance with the decrease in lateral displacement of user input **912**, the third transformation is gradually reduced such that the scrolling of the portion of user interface **900** including activatable object **902** in the first direction is reversed (i.e., scrolled in a second direction opposite the first direction).

FIG. **9A20** illustrates a transition of user interface **900** from the state of that user interface in FIG. **9A19**. In particular, FIG. **9A20** shows the changes in the visual appearances of activatable object **902** and user interface **900** in accordance with continued lateral movement of user input **912** corresponding to a further decrease in lateral displacement as the contact is maintained on the touch-sensitive surface. As shown in user input lateral displacement graph **908**, the lateral displacement of user input **912** has decreased from that shown in FIG. **9A19** and is below lateral displacement threshold Dt. In accordance with the decrease in lateral displacement, the visual appearance of intensity-reactive activatable object **902** is further changed by continuing to gradually reapply the first transformation (e.g., FIG. **9A20** shows that the size of activatable object **902** is further decreased, and a greater amount of the platter displayed behind activatable object **902** is again visible). Furthermore, in accordance with the further reduction in lateral displacement of user input **912**, the third transformation is further reduced such that the scrolling of the portion of user interface **900** including activatable object **902** in the first direction is further reversed (i.e., scrolled in the second direction opposite the first direction back to the initial position as shown in FIG. **9A16**).

It is noted that FIGS. **9A19-9A20** illustrate both that the portion of user interface **900** is scrolled in the second direction back to its initial position and that the first transformation is reapplied to intensity-reactive activatable object **902** as the lateral displacement of user input **912** decreases while the contact is maintained on the touch-sensitive surface. However, in some embodiments, the portion of user interface **900** is scrolled in the second direction back to its initial position without the first transformation being reapplied to intensity-reactive activatable object **902**, such that the visual appearance of activatable object **902** (other than its position) is maintained as shown in FIG. **9A18**.

FIGS. **9A21-9A22** illustrate a series of transitions of user interface **900** from the state of that user interface in FIG. **9A20**. In particular, FIGS. **9A21-9A22** show the changes in the visual appearances of activatable object **902** in response to ceasing to detect the contact corresponding to user input **912**. As shown in user input intensity graph **906**, the contact intensity of user input **912** has decreased from its intensity as shown in FIG. **9A20** to zero, in accordance with ceasing to detect the contact (e.g., due to liftoff of the contact from the touch-sensitive surface).

In FIGS. **9A21-9A22**, in response to ceasing to detect the contact, the change in the visual appearance of intensity-reactive activatable object **902** due to the first transformation is gradually and dynamically reduced, such that the visual appearance of intensity-reactive activatable object **902** is gradually changed back to its initial or previous appearance prior to detecting the contact by user input **912**. More specifically, FIG. **9A21** shows that the size of activatable object **902** is increased from that shown in FIG. **9A20**, and a lesser amount of the platter displayed behind activatable object **902** is visible, and FIG. **9A22** shows that the size of activatable object **902** is subsequently increased to its original size as shown in FIG. **9A1**, for example, and the platter is no longer visible, in response to ceasing to detect the contact.

In some embodiments, in response to ceasing to detect the contact by user input **912**, and in accordance with a determination that user input **912** corresponds to a tap gesture, an activation operation corresponding to activatable object **902** is performed (e.g., the application, such as a messaging application, associated with activatable object **902** is launched) in conjunction with changing the visual appearance of activatable object **902** by gradually reducing the first transformation.

FIG. **9A23** illustrates an alternate transition of user interface **900** from the state of that user interface in FIG. **9A1**. In particular, FIG. **9A23** shows the state of user interface **900** at a current time tc, indicating detection of a contact by user input **913** on the touch-sensitive surface that corresponds to a request to select intensity-reactive activatable object **902**. As shown in user input intensity graph **906**, the contact intensity of user input **913** is initially below a first intensity threshold IT_H. In addition, the total amount of time that the contact by user input **913** has been maintained on the touch-sensitive surface is below a first time threshold T_H. Also, as shown in user input lateral displacement graph **908**, the lateral displacement (e.g., the displacement from an initial contact position of the user input) of the user input is zero. In response to detecting the contact by user input **913** corresponding to activatable object **902**, the visual appearance of activatable object **902** is changed using the first transformation (e.g., FIG. **9A23** shows that the size of activatable object **902** is decreased from that shown in FIG. **9A1**, for example, and a platter is displayed behind activatable object **902** in the area previously occupied by activatable object **902** prior to its size being decreased).

FIG. **9A24** illustrates a transition of user interface **900** from the state of that user interface in FIG. **9A23**. In particular, FIG. **9A24** shows that, at time tc, the contact corresponding to user input **913** is maintained on the touch-sensitive display for an additional amount of time since that shown in FIG. **9A23**. As shown in user input intensity graph **906**, the intensity of user input **913** remains below the first intensity threshold IT_H, and the total amount of time that the contact by user input **913** has been maintained on the touch-sensitive surface satisfies the first time threshold T_H (e.g., a time-dependent long press hint threshold) but does not satisfy a second time threshold T_{LP} (e.g., a time-dependent long press transformation threshold).

In accordance with the contact being maintained on the touch-sensitive surface such that the total amount of time that the contact is maintained satisfies the first time threshold T_H without the contact meeting the first intensity threshold I_{TH} or the lateral displacement threshold Dt, the visual appearance of intensity-reactive activatable object **902** is changed using a fourth transformation. In the example shown in FIG. **9A24**, the brightness of activatable object **902** is decreased such that activatable object **902** is dimmed or darkened as compared to FIG. **9A23**. The platter displayed behind activatable object **902** remains visible to the same extent.

FIG. **9A25** illustrates a transition of user interface **900** from the state of that user interface in FIG. **9A24**. In particular, FIG. **9A25** shows the state of user interface **900** at current time tc in accordance with an increase in the contact intensity of user input **913**. As shown in user input intensity graph **906**, the intensity of user input **79** has increased from that shown in FIG. **9A24** to above the first intensity threshold IT_H. In accordance with detecting the increase in contact intensity, and in accordance with a determination that the contact intensity satisfies the first intensity threshold IT_H, the fourth transformation is dynamically reduced as the contact intensity increases (e.g., as shown in FIG. **9A25**, the decrease in brightness of activatable object **902** is reversed such that activatable object **902** is undimmed in accordance with the increase in the contact intensity of user input **913** to above the first intensity threshold IT_H).

FIGS. **9B1**-**9B10** illustrate exemplary user interfaces for displaying intensity-reactive and intensity-nonreactive user interface objects, in accordance with some embodiments.

FIG. **9B1** illustrates a user interface **901** on display **950**; in the example shown in FIGS. **9B1**-**9B10**, user interface **901** includes a user interface of a mail application (e.g., e-mail client module **140**, FIG. **1A**). A plurality of activatable user interface objects (e.g., respective items representing multiple e-mail messages) are arranged in a list, including activatable object **930**.

As shown in FIG. **9B1**, user input intensity graph **906** and user input lateral displacement graph **908** indicate that no user input that corresponds to a request to select an activatable object in user interface **900** has been detected.

FIG. **9B2** illustrates a transition of user interface **901** from the state of that user interface in FIG. **9B1**. In particular, FIG. **9B2** shows the state of user interface **900** at a current time tc, indicating detection of a contact by user input **915** on the touch-sensitive surface that corresponds to a request to select intensity-reactive activatable object **930**. As shown in user input intensity graph **906**, the contact intensity of user input **915** is initially below the first intensity threshold IT_H. As shown in user input lateral displacement graph **908**, the lateral displacement of the user input is initially below lateral displacement threshold Dt.

In response to detecting the contact by user input **915** corresponding to intensity-reactive activatable object **930**, the visual appearance of activatable object **930** is changed using a first transformation. In the example shown in FIG. **9B2**, the size of activatable object **930** is decreased (e.g., displaying movement of activatable object **930** downwards in a virtual z direction) and activatable object **930** is dimmed or darkened, as compared to its visual appearance as shown in FIG. **9B1**. Alternatively, in some embodiments, the size of activatable object **930** is increased (e.g., displaying movement of activatable object **930** upwards in a virtual z direction) rather than decreased.

FIG. **9B3** illustrates a transition of user interface **901** from the state of that user interface in FIG. **9B2**. In particular, FIG. **9B3** shows the state of user interface **901** at current time tc in accordance with an increase in the contact intensity of user input **915** (e.g., consistent with a light press gesture), such that the contact intensity of user input **915** satisfies the first intensity threshold IT_H, as shown in user input intensity graph **906**, while the lateral displacement of user input **915**, as shown in user input lateral displacement graph **908**, remains below lateral displacement threshold Dt.

In accordance with a determination that the contact intensity of user input **915** satisfies the first intensity threshold IT_H, the visual appearance of activatable object **930** is changed using a second transformation in accordance with changes in the detected intensity of the contact on the touch-sensitive surface (e.g., as compared to FIG. **9B2**, the size of activatable object **930** is increased, such as to indicate movement of activatable object upwards in a virtual z direction, and the brightness of activatable object **930** is increased). In addition, the visual appearance of user interface **901**, other than activatable object **930**, is changed to include blurring, and optionally shrinking (not shown), of user interface **901** excluding activatable object **930**.

FIG. **9B4** illustrates a transition of user interface **901** from the state of that user interface in FIG. **9B3**. In particular, FIG. **9B4** shows a greater extent of the changes in the visual appearances of intensity-reactive activatable object **930** and user interface **901** in accordance with a further increase in the contact intensity of user input **915** (e.g., further consistent with a light press input). As shown in user input lateral displacement graph **908**, the lateral displacement of user input **915** remains below lateral displacement threshold Dt. As the contact intensity of user input **915** increases above the first intensity threshold IT_H, but remains below a second intensity threshold IT_L, as shown in user input intensity graph **906**, the visual appearance of intensity-reactive activatable object **930** is further changed using a greater extent of the second transformation (e.g., as compared to FIG. **9B3**, the brightness and size of activatable object **930** are further increased). In addition, the visual appearance of user interface **901**, excluding activatable object **930**, includes a greater degree of blurring, and optionally a greater degree of shrinking (not shown).

FIG. **9B5** illustrates a transition of user interface **901** from the state of that user interface in FIG. **9B4**. In particular, FIG. **9B5** shows the state of user interface **901** at a current time tc in accordance with an increase in the contact intensity of user input **915** corresponding to intensity-reactive activatable object **930**. As shown in user input intensity graph **906**, the contact intensity of user input **915** satisfies the second intensity threshold IT_L, while the lateral displacement of user input **915** remains below lateral displacement threshold Dt, as shown in user input lateral displacement graph **908**. In accordance with the contact intensity of user input **915** satisfying the second intensity threshold IT_L (e.g., corresponding to a light press gesture), a preview of related content (e.g., a portion of an electronic mail message) associated with intensity-reactive activatable object **930** is displayed as user interface object **931** and, optionally, a tactile output **917** is performed.

FIG. **9B6** illustrates a transition of user interface **901** from the state of that user interface in FIG. **9B5**. In particular, FIG. **9B6** shows the state of user interface **901** at a current time tc in accordance with a further increase in the contact intensity of user input **915** corresponding to intensity-reactive activatable object **930**, FIG. **9B4**, and user interface object **931**, FIG. **9B5**. As shown in user input intensity graph **906**, the contact intensity of user input **915** satisfies the third intensity threshold IT_D, while the lateral displacement of user input **915** remains below lateral displacement threshold Dt, as shown in user input lateral displacement graph **908**. In accordance with the contact intensity of user input **915** satisfying the third intensity threshold IT_D (e.g., corresponding to a deep press input), the related content (e.g., the electronic mail message) associated with intensity-reactive activatable object **930** is displayed as user interface object **931** and, optionally, a tactile output **918** is generated.

FIG. **9B7** illustrates an alternate transition of user interface **901** from the state of that user interface in FIG. **9B4**. In particular, FIG. **9B7** shows the state of user interface **901** at current time tc in accordance with resumed lateral movement of user input **915** with respect to user interface **901** and a decrease in the contact intensity of user input **915**. As shown in user input lateral displacement graph **908**, the lateral displacement of user input **915** has increased from that shown in FIG. **9B4** to above lateral displacement threshold Dt (e.g., consistent with a scroll input). In accordance with a determination that the lateral displacement of user input **915** satisfies displacement criteria (e.g., including satisfying lateral displacement threshold Dt), a third transformation is applied to at least a portion of user interface **901** including activatable object **930** such that the portion of user interface **901** is scrolled in accordance with the lateral displacement of user input **915**.

Moreover, in accordance with the increase in the lateral displacement of user input **915** and with the decrease in the contact intensity of user input **915**, as shown in user input intensity graph **906**, the change in visual appearance of activatable object **930** using the second transformation is dynamically reduced (e.g., the brightness and size of activatable object **930** are decreased). In addition, the visual appearance of user interface **901** is changed to include a lesser degree of blurring, and optionally a lesser degree of shrinking (not shown), than in FIG. **9B4**.

FIG. **9B8** illustrates a transition of user interface **901** from the state of that user interface in FIG. **9B7**. In particular, FIG. **9B8** shows a greater extent of the changes in the visual appearances of activatable object **930** and user interface **901** in accordance with an increase in the contact intensity of user input **915** (e.g., again consistent with a light press gesture). As shown in user input intensity graph **906**, the contact intensity of user input **915** continues to satisfy the first intensity threshold IT_H (while remaining below the second intensity threshold IT_L). As shown in user input lateral displacement graph **908**, the lateral displacement of user input **915** has not changed from that shown in FIG. **9B7**, although the lateral displacement continues to satisfy lateral displacement threshold Dt.

In accordance with the increase in contact intensity of user input **915** above the first intensity threshold IT_H (but below the second intensity threshold IT_L), the visual appearance of intensity-reactive activatable object **930** is changed using a greater extent of the second transformation (e.g., as compared to FIG. **9B7**, the brightness and size of activatable object **930** are increased). In addition, the visual appearance of user interface **901**, excluding activatable object **930**, includes a greater degree of blurring, and optionally a greater degree of shrinking (not shown).

FIG. **9B9** illustrates a transition of user interface **901** from the state of that user interface in FIG. **9B8**. In particular, FIG. **9B9** shows the state of user interface **901** at current time tc in accordance with resumed lateral movement of user input **915** with respect to user interface **901** and a decrease in the contact intensity of user input **915**. In accordance with the decrease in the contact intensity of user input **915**, as shown in user input intensity graph **906**, the change in visual appearance of activatable object **930** using the second transformation is dynamically reduced (e.g., the brightness and size of activatable object **930** are decreased). In addition, the visual appearance of user interface **900** is changed to include a lesser degree of blurring, and optionally a lesser degree of shrinking (not shown), than in FIG. **9B8**.

Also, as shown in user input lateral displacement graph **908**, the lateral displacement of user input **915** has increased from that shown in FIG. **9B8**, while continuing to satisfy lateral displacement threshold Dt (e.g., consistent with a scroll gesture). In accordance with a determination that the lateral displacement of user input **915** satisfies displacement criteria (e.g., including satisfying lateral displacement threshold Dt), the third transformation is reapplied such that the portion of user interface **901** including activatable object **930** is scrolled in accordance with the lateral displacement of user input **915**.

FIG. **9B10** illustrates a transition of user interface **901** from the state of that user interface in FIG. **9B9**. In particular, FIG. **9B10** shows the state of user interface **901** at current time tc in accordance with a further increase in lateral displacement of user input **915** and a further decrease in contact intensity of user input **915**. As shown in user input lateral displacement graph **908**, the lateral displacement of user input **915** has increased further from that shown in FIG. **9B9** (e.g., further consistent with a scroll gesture). In accordance with the further increase in the lateral displacement of user input **915**, a greater extent of the third transformation is applied such that the portion of user interface **901** including activatable object **930** is further scrolled.

Moreover, in accordance with the further increase in the lateral displacement of user input **915** and with the further decrease in the contact intensity of user input **915** to below the first intensity threshold IT_H, as shown in user input intensity graph **906**, the second transformation of activatable object **930** is completely reduced such that the brightness and size of activatable object **930** are restored to their initial appearance prior to detecting user input **915**. In addition, the blurring of user interface **901** is completely reduced. In some embodiments, the application of the second transformation to activatable object **930** and the blurring of user interface **901** are completely reduced in accordance with a determination that the lateral displacement of user input **915** includes a predefined threshold amount of lateral displacement (e.g., if the lateral displacement of the user input satisfies a second lateral displacement threshold, not shown in FIG. **9B10**).

FIGS. **9C1**-**9C19** illustrate exemplary user interfaces for displaying control settings interfaces for control functions for remote devices (e.g., another device that is in wireless communication with, and is controlled by the electronic device that is displaying the user interfaces), in accordance with some embodiments.

FIG. **9C1** illustrates a first user interface **903** including one or more activatable objects **962-1** through **962-8**. In FIG. **9C1**, activatable objects **962-1** through **962-8** are associated with control functions including, for example, a temperature or thermostat icon **962-1** for controlling temperature settings of a remote temperature control, a fan icon **962-2** for controlling fan settings for a remote fan, shades icon **962-3** for controlling window shade or blinds settings for a remote window shade or blinds, lights icon **962-4** for controlling lights settings (e.g., brightness or color) for a remote light, doors icon **962-5** for controlling door settings (e.g. locking or unlocking) of a remote door lock, camera icon **962-6** for controlling or viewing security camera feeds of a remote security camera, smoke alarm icon **962-7** for controlling or viewing smoke detector statuses of a remote smoke detector, and sleep icon **962-8** for setting one or more control functions for a set of associated remote devices to a sleep or low power state.

FIG. **9C2** is similar to FIG. **9C1** except that FIG. **9C2** shows the state of user interface **903** at a current time tc, indicating detection of a contact by user input **954** on a touch-sensitive surface (e.g., touch-sensitive surface **451** or a touch-sensitive surface of touch-screen display **450**, FIG. **4**B) corresponding to a request to select a first activatable user interface object. In particular, FIG. **9C2** shows the position of user input **954** positioned over the first activatable object, lights icon **962-4**, in first user interface **901**. As shown in user input intensity graph **906**, the contact intensity of user input **954** is initially below a first intensity threshold IT_H.

FIG. **9C3** illustrates a transition of first user interface **903** from the state of that user interface in FIG. **9C2**. In particular, FIG. **9C3** shows the state of user interface **903** at current time tc in accordance with an increase in the contact intensity of user input **954**, such that the contact intensity of user input **954** satisfies the first intensity threshold IT_H, as shown in user input intensity graph **906**.

In response to detecting the contact by user input **954** corresponding to lights icon **962-4** with a contact intensity that satisfies the first intensity threshold IT_H, the visual appearance of lights icon **962-4** is changed (e.g., as compared to FIG. **9C2**, the size of lights icon **962-4** is decreased, and a platter is displayed behind lights icon **962-4** in the area previously occupied by lights icon **962-4** prior to its size being decreased), in accordance with changes in the detected intensity of the contact. In addition, the visual appearance of user interface **901**, other than lights icon **962-4**, is changed to include blurring, and optionally shrinking (not shown), of user interface **901**, in accordance with changes in the detected intensity of the contact.

FIG. **9C4** illustrates a second user interface **951**, displayed at current time tc in accordance with a further increase in the contact intensity of user input **954** such that the contact intensity satisfies a second intensity threshold IT_L. In addition, in accordance with the contact intensity of user input **954** satisfying the second intensity threshold IT_L, a tactile output **920** is optionally output. The second user interface **951** includes a second activatable user interface object **958** that has seven state options (e.g., state options **958-0** through **958-6**) that correspond to available values for a control function that controls a setting corresponding to lights icon **962-4**, FIG. **9C2**. In the example shown in FIG. **9C4**, the lowest value **958-0** corresponds to an off state of the control function, whereas the values **958-1** through **958-6** correspond to varying degrees of an on state of the control function. Also, as shown in FIG. **9C4**, a first value **958-3** is selected as a current value for the control function.

In some embodiments, when second user interface **951** is displayed, if the contact by user input **954** lifts off without moving across the touch-sensitive surface, second user interface **951** continues to be displayed so that a user can make a second input on the second user interface to adjust the setting of the control function, as described in further detail herein.

Moreover, in some embodiments, as shown in the example illustrated in FIG. **9C4**, second user interface **951** is displayed over a portion of first user interface **903** (e.g., second user interface **951** may be displayed as a platter over first user interface **903**). The visual appearance of first user interface **903**, as shown in FIG. **9C4**, is optionally changed to include blurring.

FIG. **9C5** is similar to FIG. **9C4**, except that FIG. **9C5** does not show first user interface **903** displayed behind second user interface **951**. For ease of discussion, FIG. **9C5** and subsequent illustrations show second user interface **952** displayed on display **950** without showing any portion of first user interface **903**.

FIG. **9C6** illustrates a transition of second user interface **952** from the state of that user interface in FIG. **9C5**. In particular, FIG. **9C6** shows the state of user interface **952** in accordance with lateral movement of user input **954**. In some embodiments, including the example shown in FIG. **9C6**, the lateral movement of user input **954** as shown in FIG. **9C6** is a continuation of the contact by user input **954**, FIG. **9C2**, while maintaining a contact intensity that satisfies the second intensity threshold IT_L.

In accordance with the lateral movement of user input **954** corresponding to a first amount of lateral displacement of the contact in a first direction (e.g., upward) from an initial contact position, the current value for the control function as shown by activatable user interface object **958** is increased from the first value **958-3** to a second value **958-4**. In addition, the visual appearance of control icon **907** representing the state of the control function is changed accordingly to indicate that the current value for the control function has been increased (e.g., that the brightness of a corresponding light bulb has been increased).

FIG. **9C7** illustrates a transition of second user interface **952** from the state of that user interface in FIGS. **9C5-9C6**. In particular, FIG. **9C7** shows further lateral movement of user input **954** corresponding to a second amount (e.g., greater than the first amount) of lateral displacement of the contact in the first direction (e.g., upward). In accordance with the additional lateral displacement of user input **954** in the first direction, the current value for the control function as shown by activatable user interface object **958** is further increased to a third value **958-5**. In addition, the visual appearance of control icon **907** representing the state of the control function is changed accordingly to indicate that the current value for the control function has been further increased (e.g., that the brightness of the light bulb has been further increased).

FIG. **9C8** illustrates a transition of second user interface **952** from the state of that user interface in FIGS. **9C5-9C7**. In particular, FIG. **9C8** shows even further lateral movement of user input **954** corresponding to a third amount (e.g., greater than the first and second amounts) of lateral displacement of the contact in the first direction (e.g., upward). In accordance with the additional lateral displacement of user input **954** in the first direction, the current value for the control function as shown by activatable user interface object **958** is even further increased to a fourth and maximum value **958-6**. In addition, the visual appearance of control icon **907** representing the state of the control function is changed accordingly to indicate that the current value for the control function has been further increased (e.g., that the brightness of the light bulb has been further increased to the maximum value).

FIG. **9C9** illustrates a transition of second user interface **952** from the state of that user interface in FIGS. **9C5-9C8**. In particular, FIG. **9C9** shows further lateral movement of user input **954** corresponding to a fourth amount of lateral displacement of the contact in the first direction, where the fourth amount is greater than the third amount. As shown in FIG. **9C9**, the current value for the control function is maintained at the maximum value, and the visual appearance of control icon **907** is maintained accordingly. In addition, in accordance with the additional lateral displacement of user input **954** in the first direction, an animation of activatable user interface object **958** is displayed to show activatable user interface object **958** elongating (e.g., transforming into a third activatable user interface object that is an elongated form of activatable user interface object **958**). Optionally, a tactile output **921** is output in conjunction with displaying the animation of activatable user interface object **958** elongating.

FIG. **9C10** illustrates a transition of second user interface **952** from the state of that user interface in FIG. **9C9**. FIG. **9C10** shows a state of second user interface **952** in accordance with subsequently ceasing to detect the contact by user input **954** (e.g., by detecting liftoff of the contact by user input **954**) at the position corresponding to the fourth amount of lateral displacement of the contact in the second direction. In accordance with ceasing to detect the contact, an animation of activatable user interface object **958** is displayed to show the elongated form of activatable user interface object **958** (as shown in FIG. **9C9**) contracting and returning to its previous size (e.g., an animation of the third activatable user interface object that is an elongated form of activatable user interface object **958** transforming back into activatable user interface object **958**). Optionally, a tactile output **922** is output in conjunction with ceasing to detect the contact and/or in conjunction with displaying the animation of activatable user interface object **958**. In some embodiments, tactile output **922** is output as an alternative to outputting tactile output **921** as illustrated in FIG. **9C9**.

FIG. **9C11** is similar to FIG. **9C6**, except that FIG. **9C11** illustrates lateral movement of user input **954** corresponding to the first amount of lateral displacement of the contact in a second direction (e.g., downward) from the initial contact position. In accordance with the lateral displacement of user input **954** by the first amount in the second direction, the current value for the control function as shown by activatable user interface object **958** is decreased to from the first value **958-3** to a fifth value **958-2**. In addition, the visual appearance of control icon **907** representing the state of the control function is changed accordingly to indicate that the current value for the control function has been decreased (e.g., that the brightness of the light bulb has been decreased).

FIG. **9C12** illustrates a transition of second user interface **952** from the state of that user interface in FIGS. **9C6** and **9C 11**. In particular, FIG. **9C12** shows further lateral movement of user input **954** corresponding to the second amount of lateral displacement of the contact in the second direction (e.g., downward). In accordance with the additional lateral displacement of user input **954** in the second direction, the current value for the control function as shown by activatable user interface object **958** is further decreased to a sixth value **958-1**. In addition, the visual appearance of control icon **907** representing the state of the control function is changed accordingly to indicate that the current value for the control function has been further decreased (e.g., that the brightness of the light bulb has been further decreased).

FIG. **9C13** illustrates a transition of second user interface **952** from the state of that user interface in FIGS. **9C6** and **9C11-9C12**. In particular, FIG. **9C13** shows even further lateral movement of user input **954** corresponding to the third amount of lateral displacement of the contact in the second direction (e.g., downward). In accordance with the additional lateral displacement of user input **954** in the second direction, the current value for the control function as shown by activatable user interface object **958** is even further decreased to a seventh and minimum value **958-0**, corresponding to an off state of the control function. In addition, the visual appearance of control icon **907** representing the state of the control function is changed accordingly to indicate that the current value for the control function has been even further decreased to the minimum value (e.g., that the light bulb has been turned off).

FIG. **9C14** illustrates a transition of second user interface **952** from the state of that user interface in FIG. **9C13**. In particular, FIG. **9C14** shows further lateral movement of user input **954** corresponding to a fifth amount of lateral displacement of the contact in the second direction, where the fifth amount is greater than the third amount. As shown in FIG. **9C14**, the current value for the control function is maintained at the minimum value, and the visual appearance of control icon **907** is maintained accordingly. In addition, in accordance with the additional lateral displacement of user input **954** in the second direction, an animation of activatable user interface object **958** is displayed to show activatable user interface object **958** elongating (e.g., transforming into a third activatable user interface object that is an elongated form of activatable user interface object **958**). Optionally, a tactile output **923** is output in conjunction with displaying the animation of activatable user interface object **958** elongating.

FIG. **9C15** illustrates a transition of second user interface **952** from the state of that user interface in FIG. **9C14**. As noted above, in some embodiments, FIG. **9C6** and subsequent FIGS. **9C11-9C14** correspond to lateral movement of user input **954** being detected while the contact by user input **954** continues to be maintained on the touch-sensitive surface. FIG. **9C15** shows a state of second user interface **952** in accordance with subsequently ceasing to detect the contact by user input **954** (e.g., by detecting liftoff of the contact by user input **954**) at the position corresponding to the fifth amount of lateral displacement of the contact in the second direction. In accordance with ceasing to detect the contact, an animation of activatable user interface object **958** is displayed to show the elongated form of activatable user interface object **958** (as shown in FIG. **9C14**) contracting and returning to its previous size (e.g., an animation of the third activatable user interface object that is an elongated form of activatable user interface object **958** transforming back into activatable user interface object **958**). Optionally, a tactile output **924** is output in conjunction with ceasing to detect the contact and/or in conjunction with displaying the animation of activatable user interface object **958**. In some embodiments, tactile output **924** is output as an alternative to outputting tactile output **923** as illustrated in FIG. **9C14**.

FIG. **9C16** illustrates a further transition of second user interface **952** from the state of that user interface in FIG. **9C15**. In particular, subsequent to ceasing to detect the contact by user input **954** (e.g., by detecting liftoff of the contact by user input **954**) and displaying the animation of activatable user interface **958**, second user interface **952** ceases to be displayed, and first user interface **903** is displayed instead. In some embodiments, an animation is displayed of the activatable user interface object **958** transforming into lights icon **962-4**. In addition, in accordance with ceasing to detect the contact while the current value for the control function is set to the minimum value corresponding to an off state of the control function, first user interface **903** indicates that the control function corresponding to lights icon **962-4** has been set to the off state.

FIGS. **9C17**-**9C19** illustrate exemplary user interfaces for displaying a secondary settings interface, in accordance with some embodiments.

FIG. **9C17** illustrates an alternate transition of second user interface **952** from the state of that user interface in FIG. **9C5**. In particular, FIG. **9C17** shows a second user interface **952** displayed at current time tc in accordance with ceasing to detect the contact by user input **954** prior to detecting movement of the contact across the touch-sensitive surface. As noted above, in some embodiments, when the second user interface is displayed, ceasing to detect the contact by the user input prior to detecting movement of the contact across the touch-sensitive surface results in the second user interface continuing to be displayed so that a user can make a second input on the second user interface to adjust the setting of the control function. Accordingly, FIG. **9C17** illustrates that second user interface **952** continues to be displayed subsequent to ceasing to detect the contact by user input **954** prior to detecting lateral movement of the contact.

FIG. **9C18** illustrates a transition of second user interface **952** from the state of that user interface in FIG. **9C17**. In particular, FIG. **9C18** shows the position of a contact by a second user input **955** with respect to second user interface **952**. In addition, indicia **909** (e.g., pagination indicia or dots) indicate that second user interface **952** corresponds to a first page of settings interfaces.

FIG. **9C19** illustrates a transition from second user interface **952** as shown in FIG. **9C18** to a third user interface **953** in accordance with lateral movement of user input **955** in a third direction (e.g., toward the left). In particular, FIG. **9C19** shows third user interface **953** including additional activatable user interface objects **960-1** through **960-7** that correspond to available values for a secondary setting of the control function (e.g., for selecting a color of the light bulb). FIG. **9C19** shows, for example, that the currently selected color for the light bulb is that of activatable object **960-1**. In addition, indicia **909** indicate that third user interface **953** corresponds to a second page of settings interfaces.

FIGS. **10A**-**10D** are flow diagrams illustrating a method **1000** for interacting with a notification associated with a respective application (e.g., launching an application from a notification associated with the notification or displaying an expanded version of the notification based on detected user input) in accordance with some embodiments. The method **800** is performed at an electronic device (e.g., device **300**, FIG. **3**, or portable multifunction device **100**, FIG. **1**A) with a display, a touch-sensitive surface, and one or more sensors for detecting intensities of contacts on the touch-sensitive surface. In some embodiments, the display is a touch screen display and the touch-sensitive surface is on or integrated with the display (also called simply a touch-sensitive display). In some embodiments, the display is separate from the touch-sensitive surface.

As described below, the method provides (**1000**) an intuitive way to interact with an application launching icon, allowing the user to choose to launch the application or accessing a subset of functions or content from the application without launching the application using a single touch input (e.g., by controlling an intensity of a contact before terminating the contact). The method reduces the number, extent, and/or nature of the inputs from a user to interact with an electronic device, and avoids fully launching an application when not necessary, thereby creating a more efficient human-machine interface. For battery-operated electronic devices, enabling a user to enter inputs faster and more efficiently conserves power and increases the time between battery charges.

The device concurrently displays (**1002**), on the display: a background user interface (e.g., the user interface is the notification center interfaces (e.g., **5026**, **5036**), the lock screen (e.g., **5012**), the wake screen (e.g., **5002**), the user interface of another application (e.g., **5050**), the home screen (e.g., **5024**), etc.); and a first version of a notification (e.g., a short version of the notification or a standard version of the notification) associated with a first application (e.g., notification **5028**, notification **5038**, notification **5104**), wherein: the first version of the notification has a first size, the first version of the notification includes first content, and the first version of the notification is overlaid on the background user interface. This is illustrated in FIGS. **5A1**-**5A6** with notifications (e.g., **5028**, **5038**, **5104**) overlaid on various types of background user interfaces (e.g., **5002**, **5012**, **5024**, **5026**, **5036**, and **5050**). In some embodiments, the background user interface is deemphasized (e.g., blurred or darkened) when the first version of the notification is overlaid on top of the background user interface.

While displaying the first version of the notification associated with the first application overlaid on the background user interface, the device detects (**1004**) a first portion of a first input that includes detecting a first contact at a location on the touch-sensitive surface that corresponds to the first version of the notification (e.g., contact **5052** on notification **5028** in FIG. **5B2**, contact **5064** on notification **5028** in FIG. **5C2**, contact **5076** on notification **5038** in FIG. **5F2**, contact **5106** on notification **5104** in FIG. **5I2**).

In response (**1006**) to detecting the first portion of the first input: in accordance with a determination that the first portion of the first input meets application-launching criteria, wherein the application-launching criteria do not require that a characteristic intensity of the first contact on the touch-sensitive surface meet a preview intensity threshold in order for the application-launching criteria to be met (e.g., in some embodiments, the application-launching criteria are met when the first input is a tap input), the device initiates (**1008**) a process to launch the first application, wherein launching the first application includes ceasing to display the background user interface and displaying a user interface associated with the first application (e.g., launching the first application if the phone is unlocked, and displaying an "unlock your phone" notification or an authentication interface if the phone is locked and launching the first application once correct authentication information is received). This is illustrated in FIGS. **5B2**-**5B4**, for example. In some embodiments, the application-launching criteria are met when the device detects a tap input with a duration that is below a threshold duration without regard to whether or not the characteristic intensity of the contact exceeded the preview intensity threshold. In some embodiments, the application-launching criteria are met when the device detects liftoff of the contact without the characteristic intensity of the contact having reached the preview intensity threshold since touch-down of the contact. In some embodiments, the application-launching criteria are met when the device detects liftoff of the contact without the characteristic intensity of the contact having exceeded the first intensity for at least a predetermined amount of time before liftoff of the contact was detected. In some embodiments, a combination of two or more of the heuristics described above is used to determine whether an input meets the application-launching criteria. In some embodiments, when the first application is launched in response to an input at a location corresponding to the first version of the notification that meets the application-launching criteria, the application is launched to a view that shows additional information related to the notification (e.g., a view of the corresponding email, messaging, or voice message, or a view of an application that describes the purpose of the alert).

In accordance with a determination that the first portion of the first input meets notification-expansion criteria, wherein the notification-expansion criteria require that the characteristic intensity of the first contact on the touch-sensitive surface meet the preview intensity threshold in order for the notification-expansion criteria to be met (e.g., the preview intensity threshold is the deep press intensity threshold and the first portion of the first input is a deep press input), the device displays (**1010**) a second version of the notification (e.g., a long or expanded version of the notification) (e.g., expanded notifications **5066** in FIG. **5**C**5**, expanded notification **5078** shown in FIG. **5**F**4**, expanded notification **5108** shown in FIG. **5**I**4**), wherein: the second version of the notification has a second size larger than the first size, the second version of the notification includes expanded notification content that is not displayed in the first version of the notification (e.g., the second version of the notification includes the first content and additional content, or the second version of the notification includes part of the first content and additional content, or the second version of the notification includes a more complete version of the first content), and the second version of the notification is overlaid on the background user interface (e.g., the second version of the notification replaces the first version of the notification, or the second version of the notification is an expansion of the first version of the notification). This is illustrated in FIGS. **5**C**1**-**5**C**6** (e.g., expanded notification **5066** is displayed in response to a press input by contact **5064**), for example. This is further illustrated in FIGS. **5**F**1**-**5**F**4** (e.g., expanded notification **5078** is displayed in response to a press input by contact **5076**), for example. This is illustrated in FIGS. **5**I**1**-**5**I**4** (e.g., expanded notification **5108** is displayed in response to a press input by contact **5106**), for example. In some embodiments, authentication is required before the second version of the notification is displayed. For example, in some embodiments, when the background user interface is the lock screen or wake screen, an authentication interface (e.g., an alert asking for a fingerprint input, or a user interface for entering a password) is presented in accordance with a determination that the first portion of the first input meets the notification-expansion criteria. Once correct authentication information is received through the authentication interface, the second version of the notification is displayed overlaid on the background user interface. The second version of the notification is distinct from the user interface of the first application, and typically, provides access to fewer functionalities and content than the user interface of the first application).

In some embodiments, the second version of the notification includes (**1012**) the first content. For example, in some embodiments, the notification is for an instant message that includes both text and an image, the first version of the notification includes the text of the instant message, but not the image (e.g., the first version of the notification may optionally include only the text or include the text and a thumbnail of the image, e.g., as shown in FIG. **5**B**1** or FIG. **5**F**1**), and the second version of the notification includes both the text and the image in the instant message (e.g., the second version of the notification includes the text below the image, e.g., as shown in FIG. **5**F**4**).

In some embodiments, the expanded-notification content includes (**1014**) one or more of an image (e.g., image **5058** in FIG. **5**F**4**), an audio clip, a video clip, a custom view, and interactive content (e.g., interactive map **5114** in FIG. **5**I**4**), that are not included in the first version of the notification.

In some embodiments, while displaying the second version of the notification, the device receives (**1016**) an information update relevant to the notification. In response to receiving the information update relevant to the notification, the device updates the second version of the notification (e.g., expanded notification **5078** in FIGS. **5**F**5** and **5**F**7** showing new messages **5086**, **5088**; expanded notification **5108** in FIGS. **5**I**5**-**5**I**7** showing live map and "Arrival" alert) to reflect the information update relevant to the notification. For example, suppose that the first application is an instant messaging app, and the notification is for a first instant message from a social network contact of the user. The first version of the notification includes a textual excerpt from the first instant message (or a textual summary of the first instant message) and the name and avatar of the social network contact. The second version of the notification includes a conversation log or a portion thereof that includes the first instant message (e.g., including the full content (e.g., text and an image) of the first instant message) and optionally, one or more earlier messages in the conversation between the user and the social network contact. While the second version of the notification is displayed, suppose that a new instant message is received from the social network contact. In response to receiving the new instant message from the social network contact, the device updates the second version of the notification to include the new instant message as part of the conversation log that is displayed in the second version of the notification. This is illustrated in FIGS. **5**F**1**-**5**F**7**, for example. In some embodiments, when annotation of an earlier instant message is permitted in the instant messaging app, if the social network contact starts to annotate an image included in the first instant message while the user is viewing the image displayed within the second version of the notification, the image displayed within the second version of the notification is updated in real-time to show the annotations as they are entered by the social network contact of the user. In another example, suppose that the first application is a ridesharing or taxi service app, and the notification is generated in response to a driver's acceptance of a ride pickup request made earlier by the user. The first version of the notification includes text identifying the driver and notifying the user of the driver's acceptance of the pickup request. The second version of the notification includes a live map showing the current location of the driver. The current location of the driver is updated in real-time on the map included in the second version of the notification, while the second version of the notification is displayed on the user's device. This is illustrated in FIGS. **5**I**1**-**5**I**7**, for example.

In some embodiments, the second version of the notification includes **1018** a content region and an action region, the content region includes the expanded content (e.g., the content region includes the first content and the additional content). For example, in some embodiments, the first version of the notification includes text of an instant message, and the second version of the notification includes a content region (e.g., a conversation log) that displays the instant message and one or more earlier messages in the same conversation, e.g., as shown in expanded notification **5078** in FIG. **5F4-5F7**. In another example, the first version of the notification includes an alert for a new voicemail, and the second version of the notification includes a content region that includes an audio clip for the voicemail, and a textual transcription of the voicemail, and the action region includes one or more selectable options that, when activated, are configured to perform actions with respect to the notification. For example, in some embodiments, the action region is a menu that includes menu options to dismiss the notification, reply to a communication, save the communication, etc. This is illustrated in FIG. **5F6** (e.g., Reply affordance **5082**), for example. In some embodiments, the action region includes an input field (e.g., a text input field for entering a reply message), a soft keyboard, one or more affordances for entering a selection (e.g., check boxes, radio buttons, etc.), controlling various aspects of a selected action (e.g., audio or video playback controls), etc. In some embodiments, the action region is scrollable (e.g., the menu options in expanded notification **5108** in FIGS. **5I5-5I6** are scrollable). In some embodiments, the action region is only visible upon detection of a scroll input (e.g., upward movement of the first contact) on the content region (e.g., as illustrated in FIGS. **5I4-5I5**, menu options **5122** and **5124** become visible in response to a scroll input by contact **5120**). In some embodiments, some of the menu options are visible and some of the menu options are outside of the viewable area of the display when the second version of the notification is initially displayed. A scroll input (e.g., an upward swipe gesture) can be used to scroll the action region to reveal the menu options that are outside of the view area of the display. In some embodiments, the action region and the content region of the notification are displayed in two separate layers, and when the action region is scrolled, the content region remains unchanged (e.g., the menu options scrolls up and down in a layer underneath the content region of the notification). In some embodiments, the second version of the notification includes a header region (e.g., the header region in a notification for an instant message or email includes an icon for the application (e.g., the Messages app, or the email app) (e.g., header **5080** in FIG. **5F4**) and an avatar of the sender (e.g., avatar **5084** in FIG. **5F4**)). In some embodiments, the content region of the notification and the action region of the notification are scrollable on a layer underneath the header region, while the header region remains unchanged (e.g., as shown in FIGS. **5I4-5I5**, content **5112** is scrollable underneath header **5110** in expanded notification **5108**). In some embodiments, options for performing application-specific actions are included in the second version of the notification (e.g., options **5122**, **5124**, **5128**, **5130** in expanded notification **5108** in FIG. **5I8**). For example, for an instant messaging app, the menu options displayed in a notification for a new instant message include an option for "reply" (e.g., Reply affordance **5082** in expanded notification **5078** in FIG. **5F4**); for a telephony app, the menu options displayed in a notification for a missed call include an option for "call back"; and for a voicemail app (or the voicemail function in the telephony app), the menu option displayed in a notification for a voicemail include an option for "play voicemail" and/or an option for "delete".

In some embodiments, while displaying the second version of the notification, the device detects (**1020**) a second portion of the first input. In response to detecting the second portion of the first input: in accordance with a determination that the second portion of the first input meets option-activation criteria, the option-activation criteria configured to be met when the characteristic intensity of the first contact increases above the preview intensity threshold (e.g., the deep press intensity threshold) after the characteristic intensity of the first contact decreases below the preview intensity threshold (e.g., the first contact is maintained at the same location on the touch-sensitive surface after the first deep press input on the first version of the notification causes the display of the second version of the notification, and the first contact provides a second deep press on the second version of the notification), the device ceases to display the second version of the notification; and the device performs an action that corresponds to one of the one or more selectable options. This is illustrated in FIGS. **5F5-5F7** (e.g., by contact **5076** activating Reply affordance **5082**). In some embodiments, the option-activation criteria are satisfied by a separate input (e.g., a second input with a second contact that is distinct from the first input with the first contact). In some embodiments, the threshold intensity used in the option-activation criteria is lower than the preview intensity threshold. In some embodiments, the option-activation criteria are met when the device detects a decrease in contact intensity followed by an increase in contact intensity above a second intensity threshold (e.g., a reduced deep press intensity threshold). It is to be noted that, in some embodiments, the option-activation criteria are met without requiring the location of the first contact to correspond to the option that is activated. In other words, the first contact may remain in the content region (e.g., in a portion of the content region that does not otherwise responds to a deep press input) when an option (e.g., a default option or the only option) in the action region is activated in response to the second deep press input provided by the first contact. In some embodiments, performing the action that corresponds to one of the one or more selectable options includes performing an action that corresponds to a default option among the one or more selectable options. If there is only one option, the action that corresponds to the option is performed. In some embodiments, the notification is for a communication, and the second version of the notification includes a "reply" option for replying to the communication. When a second press input is detected on the second version of the notification (e.g., while the first contact remains at its touch-down location on the touch-sensitive surface, and the characteristic intensity of the first contact increases above the preview intensity threshold for a second time after decreasing below the preview intensity threshold), the action for replying to the communication is activated, and a reply user interface is displayed in lieu of the second version of the notification (or the second version of the notification is further expanded to become the reply user interface including text input field and a soft keyboard). In some embodiments, a soft keyboard and a reply field (or an empty or partially prepared reply message) is automatically displayed in the reply user interface. In some embodiments, the notification is for a ride sharing request, and a first press input causes the notification to expand to display a live map and an "accept" button. A second press input accepts the ride sharing request and send the acceptance to the user that is offering the ride share.

In some embodiments, while displaying the second version of the notification, the device detects (**1022**) termination of the first input (e.g., detecting lift-off of the first contact). In response to detecting the termination of the first input, the device maintains display of the second version of the notification overlaid on the background user interface (e.g., expanded notification **5078** remains displayed after lift-off of contact **5076** in FIG. **5G1** following FIG. **5F4**; expanded notification **5108** remains displayed after lift-off of contact **5106** in FIG. **5I5** following **5I4**).

In some embodiments, while displaying the second version of the notification overlaid on the background user interface (e.g., the second version of the notification remains overlaid on the background user interface after liftoff of the first contact is detected), the device detects (**1024**) a second input that includes detecting a second contact on the touch-sensitive surface. In response to detecting the second input (e.g., the second input is a tap input): in accordance with a determination that the second contact is detected at a location on the touch-sensitive surface that corresponds to a portion of the background user interface surrounding the second version of the notification: the device ceases to display the second version of the notification; and the device maintains display of the background user interface (e.g., the background user interface includes the first version of the notification and respective first versions of one or more other notifications that have not been dismissed from the background user interface). In some embodiments, if the background user interface has been deemphasized (e.g., blurred or darkened) in response to the first input, the background user interface is restored to its original clarity and brightness when the second version of the notification ceases to be displayed. In some embodiments, after displaying the second version of the notification, the notification is considered read, and is removed from the background user interface when the background user interface is restored (e.g., only displaying the short versions of notifications that have not yet been viewed, if there is any). This is illustrated in FIGS. **5G1**-**5G3** (a tap input by contact **5096** dismisses notification **5078**), for example. In some embodiments, the second version of the notification can also be dismissed by a tap input detected on a "dismiss" button or affordance (e.g., a button with a cross "x" on it) included in the second version of the notification.

In some embodiments, in response to detecting the second input (e.g., the second input is a tap input): in accordance with a determination that the second contact is detected at a location on the touch-sensitive surface that corresponds to a content region in the second version of the notification (e.g., the content region is distinct from the action region and the header region of the second version of the notification): the device ceases (**1026**) to display the second version of the notification; the device ceases to display the background user interface; and the device initiates a process to launch the first application (e.g., displaying a user interface of the first application, or displaying an authentication interface is authentication is required before the first application can be launched). This is illustrated in FIGS. **5H1**-**5H2**, for example. In some embodiments, a tap input detected at a location on the touch-sensitive surface that corresponds to the first version of the notification also initiates the process to launch the first application, and replacement of the first version of the notification and the background user interface by the authentication interface or the user interface of the first application.

In some embodiments, in response to detecting the first portion of the first input: in accordance with a determination that the first input meets background-deemphasizing criteria, wherein the background-deemphasizing criteria require that the characteristic intensity of the first contact on the touch-sensitive surface meet a hint intensity threshold (e.g., a light press intensity threshold, or an intensity threshold that is lower than the preview intensity threshold) that is lower than the preview intensity threshold in order for the background-deemphasizing criteria to be met, the device applies (**1028**) a visual effect to deemphasize the background user interface (e.g., blur or darken the background user interface) before displaying the second version of the notification (e.g., as shown in FIGS. **5C3**-**5C4**, background user interface **5026** is deemphasized before expanded notification **5066** is displayed in FIG. **5C5**; as shown in FIGS. **5F2**-**5F3**, background user interface **5036** is deemphasized before expanded notification **5078** is displayed in FIG. **5F4**; and as shown in FIGS. **5I2**-**5I3**, background user interface **5102** is deemphasized before expanded notification **5108** is displayed in FIG. **5I4**). In some embodiments, the second version of the notification is overlaid on a blurred version of the background user interface (e.g., as shown in FIGS. **5C5**, **5F4**, and **5I4**). In some embodiments, the amount of blurring is dynamically varied in accordance with a current value of the characteristic intensity of the first contact in the first input (e.g., as shown in FIGS. **5C3**-**5C5**, **5F2**-**5F3**, and **5I2**-**5I4**).

In some embodiments, in response to detecting the first portion of the first input: in accordance with a determination that the first portion of the first input includes a movement of the first contact that exceeds a movement threshold (e.g., the first contact moves away from its touchdown location by more than a threshold number of pixels (e.g., ten pixels)) (e.g., the movement is in any direction): the device restores (**1030**) the background user interface (e.g., restoring the clarity and brightness of the background user interface after the background user interface has been blurred and darkened in response to the characteristic intensity of the first contact increases above the hint intensity threshold) (e.g., in FIG. **5D6**, user interface **5026** is restored when contact **5072** moves for more than a threshold amount); and the device forgoes displaying the second version of the notification when the first portion of the first input meets the notification-expansion criteria (e.g., the display of the second version of the notification is canceled when sufficient amount of movement had been detected when the characteristic intensity of the first contact exceeded the deep press intensity threshold, e.g., as shown in FIG. **5D6**). The notification-expansion criteria are not met if the movement of the first contact exceeds the movement threshold, even though the criterion associated with the preview intensity threshold has been met. This is illustrated in FIGS. **5D4**-**5E4**, for example.

In some embodiments, in response to detecting the first portion of the first input: in accordance with a determination that the first portion of the first input includes a movement of the first contact that exceeds a movement threshold (e.g., the first contact moves away from its touchdown location by more than a threshold number of pixels (e.g., ten pixels)) (e.g., the movement is in the vertical direction), the device scrolls (**1032**) the background user interface (and any notifications overlaid on the background user interface) in accordance with the movement of the first contact (e.g., if multiple notifications are displayed on the background user interface in a list, and the movement is in a vertical direction, the first input scrolls the list of notifications on the background user interface). The notification-expansion criteria are not met if the movement of the first contact exceeds the movement threshold, even though the criterion associated with the preview intensity threshold has been met. In some embodiments, the notification-scrolling criteria are met when the movement is in the vertical direction and exceeds the movement threshold. This is illustrated in FIGS. **5E1**-**5E4**, for example.

In some embodiments, in response to detecting the first portion of the first input: in accordance with a determination that the first portion of the first input includes a movement of the first contact that exceeds a movement threshold (e.g., the first contact moves away from its touchdown location by more than a threshold number of pixels) (e.g., the movement is in the horizontal direction): the device slides (**1034**) the first version of the notification in accordance with the movement of the first contact; and (e.g., without sliding other notifications) the device displays one or more selectable actions adjacent to the first version of the notification (e.g., respective affordances for one or more quick response actions are displayed in the space that is vacated by the first version of the notification when the first version of the notification is moved horizontally in accordance with the movement of the first contact). In some embodiments, as the first version of the notification is moved horizontally, the respective affordances for the one or more quick response actions are revealed from behind the first version of the notification. The notification-expansion criteria are not met if the movement of the first contact exceeds the movement threshold, even though the criterion associated with the preview intensity threshold has been met. In some embodiments, option-revealing criteria are met when the movement is in the horizontal direction and exceeds the movement threshold. This is illustrated in FIGS. **5**D**4**-**5**D**8** (e.g., sliding notification **5028** to reveal option **5074** in accordance with movement of contact **5072**), for example.

In some embodiments, prior to displaying the second version of the notification, in response to detecting an increase in the characteristic intensity of the first contact on the touch-sensitive surface, the device starts (**1036**) to adjust an appearance of the user interface dynamically based on the characteristic intensity of the first contact (e.g., to indicate that a preview operation will be performed if the intensity of the contact continues to increase), as shown by the blurring of the user interfaces in FIGS. **5**C**2**-**5**C**4**, **5**F**2**-**5**F**4**, and **5**I**2**-**5**I**4**. In some embodiments, the content on the display other than the representation of the first version of the notification is obscured dynamically so that the magnitude of the obscuring changes based on the changes in the characteristic intensity of the contact. Examples of how the appearance of the user interface may be dynamically adjusted are described in U.S. patent application Ser. No. 14/869,899, filed on Sep. 29, 2015, titled "Devices, Methods, and Graphical User Interfaces for Manipulating User Interface Objects with Visual and/or Haptic Feedback", which is incorporated by reference herein in its entirety. After starting to dynamically adjust the appearance of the user interface based on the characteristic intensity of the first contact (and before displaying the second version of the notification), the device detects movement of the first contact on the touch-sensitive surface; and in some embodiments, the appearance of the user interface is dynamically adjusted based on the intensity of the contact to indicate that a preview operation will be performed if the characteristic intensity of the contact continues to increase. In response to detecting the movement of the first contact on the touch-sensitive surface: in accordance with a determination that the movement of the first contact meets preview-cancellation criteria (e.g., the movement exceeds a movement threshold (e.g., more than ten pixels)), the device moves the first version of the notification based on the movement of the first contact and the device ceases to dynamically adjust the appearance of the user interface based on the characteristic intensity of the first contact (e.g., moving the first version of the notification to the side and showing options for interacting with the first notification for a leftward swipe input, or scrolling a plurality of notifications including the first version of the notification for an upward or downward swipe input). In some embodiments, if the movement meets preview-cancellation criteria, the device ignores further changes in the characteristic intensity of the contact until the contact ceases to be detected on the display and forgoes displaying the second version of the notification (e.g., even if the contact would otherwise meet the notification-expansion criteria). In some embodiments, the preview cancellation criteria are based on one or more of a total distance moved by the contact, movement of the contact away from a point of at which the contact exceeded a hint intensity threshold that is lower than the preview intensity threshold, movement of the contact in an x direction (e.g., from a point of at which the contact exceeded the hint intensity threshold), movement of the contact in a y direction (e.g., from a point of at which the contact exceeded the hint intensity threshold). In accordance with a determination that the movement does not meet the preview-cancellation criteria, the device continues to dynamically adjust the appearance of the user interface based on the characteristic intensity of the first contact (e.g., without moving the first version of the notification based on the movement of the contact). In some embodiments, if the movement does not meet the preview-cancellation criteria, the device continues to respond to changes in the characteristic intensity of the contact (e.g., displaying the second version of the notification if the contact meets the notification-expansion criteria).

In some embodiments, prior to displaying the second version of the notification, in response to detecting an increase in the characteristic intensity of the first contact on the touch-sensitive surface, the device obscures (**1038**) (e.g., blurs and/or darkens) content on the display other than a representation of the first version of the notification (e.g., as shown by the blurring of the user interfaces in FIGS. **5**C**2**-**5**C**4**, **5**F**2**-**5**F**4**, and **5**I**2**-**5**I**4**)). In some embodiments, the content on the display other than the representation of the first version of the notification is obscured dynamically so that the magnitude of the obscuring changes based on the changes in the characteristic intensity of the first contact. In some embodiments, the content on the display dynamic changes to the appearance of the first version of the notification is also applied. After obscuring the content on the display other than a representation of the first version of the notification in response to the increase in the characteristic intensity of the first contact (and before displaying the second version of the notification), the device detects movement of the first contact on the touch-sensitive surface. In response to detecting movement of the first contact on the touch-sensitive surface: in accordance with a determination that the movement of the first contact meets preview-cancellation criteria, the device ceases to obscure the content on the display other than a representation of the first version of the notification and moving the first version of the notification based on the movement of the first contact (e.g., moving the first version of the notification to the side and showing options for interacting with the first notification for a leftward swipe input, or scrolling a plurality of notifications including the first version of the notification for an upward or downward swipe input). In some embodiments, if the movement meets preview-cancellation criteria, the device ignores further changes in the characteristic intensity of the contact until the contact ceases to be detected on the display and forgoes displaying the second version of the notification (e.g., even if the contact would otherwise meet the notification-expansion criteria). In some embodiments, the preview cancellation criteria are based on one or more of a total distance moved by the contact, movement of the contact away from a point of at which the contact exceeded a hint intensity threshold that is lower than the preview intensity threshold, movement of the contact in an x direction (e.g., from a point of at which the contact exceeded the hint intensity threshold), movement of the contact in a y direction (e.g., from a point of at which the contact exceeded the hint intensity threshold). In accordance with a determination that the movement of the first contact does not meet the preview-cancellation criteria, the device continues to obscure content on the display other than a representation of the first version of the notification (e.g., dynamically obscuring the content in accordance with the characteristic intensity of the first contact) (e.g., without moving the first version of the notification based on the movement of the contact). In some embodiments, if the movement does not meet the preview-cancellation criteria, the device continues to respond to changes in the characteristic intensity of the contact (e.g., displaying the second version of the notification if the contact meets the notification-expansion criteria).

In accordance with some embodiments, FIG. **11** shows a functional block diagram of an electronic device **1100** configured in accordance with the principles of the various described embodiments. The functional blocks of the device are, optionally, implemented by hardware, software, or a combination of hardware and software to carry out the principles of the various described embodiments. It is understood by persons of skill in the art that the functional blocks described in FIG. **11** are, optionally, combined or separated into sub-blocks to implement the principles of the various described embodiments. Therefore, the description herein optionally supports any possible combination or separation or further definition of the functional blocks described herein.

As shown in FIG. **11**, an electronic device **1100** includes a display unit **1102** configured to display a user interface; a touch-sensitive surface unit **1104** configured to receive user contacts; one or more sensor units **1106** configured to detect intensity of contacts with the touch-sensitive surface unit **1104**; and a processing unit **1110** coupled to the display unit **1102** the touch-sensitive surface unit **1104**, and the one or more sensor units **1106**. The processing unit **1110** including an enabling unit **1112**, a detecting unit **1114**, a receiving unit **1116**, an updating unit **1118**, a ceasing unit **1120**, a performing unit **1122**, a maintaining unit **1124**, an initiating unit **1126**, an applying unit **1128**, a restoring unit **1130**, a forgoing unit **1132**, a scrolling unit **1134**, a sliding unit **1136**, a starting unit **1138**, a moving unit **1140**, a continuing unit **1142** and an obscuring unit **1144**. The processing unit **1110** is configured to: concurrently enable display of (e.g., with enabling unit **1112**), on the display unit **1102**: a background user interface; and a first version of a notification associated with a first application, wherein: the first version of the notification has a first size, the first version of the notification includes first content, and the first version of the notification is overlaid on the background user interface. While displaying the first version of the notification associated with the first application overlaid on the background user interface, the processing unit **1110** is configured to detect (e.g., with detecting unit **1114**) a first portion of a first input that includes detecting a first contact at a location on the touch-sensitive surface unit **1104** that corresponds to the first version of the notification. In response to detecting the first portion of the first input: in accordance with a determination that the first portion of the first input meets application-launching criteria, wherein the application-launching criteria do not require that a characteristic intensity of the first contact on the touch-sensitive surface meet a preview intensity threshold in order for the application-launching criteria to be met, the processing unit **1110** is configured to initiate a process to launch the first application, wherein launching the first application includes ceasing to display the background user interface and displaying a user interface associated with the first application. In accordance with a determination that the first portion of the first input meets notification-expansion criteria, wherein the notification-expansion criteria require that the characteristic intensity of the first contact on the touch-sensitive surface meet the preview intensity threshold in order for the notification-expansion criteria to be met, the processing unit **1110** is configured to enable display of (e.g., with enabling unit **1112**) a second version of the notification, wherein: the second version of the notification has a second size larger than the first size, the second version of the notification includes expanded notification content that is not displayed in the first version of the notification, and the second version of the notification is overlaid on the background user interface.

FIGS. **12**A-**12**F are flow diagrams illustrating a method **1200** of interacting with an application launching icon (e.g., launching an application or displaying a contextual content object associated with the application based on detected user input) in accordance with some embodiments. The method **1200** is performed at an electronic device (e.g., device **300**, FIG. **3**, or portable multifunction device **100**, FIG. **1**A) with a display, a touch-sensitive surface, and one or more sensors for detecting intensities of contacts on the touch-sensitive surface. In some embodiments, the display is a touch-screen display and the touch-sensitive surface is on or integrated with the display. In some embodiments, the display is separate from the touch-sensitive surface. Some operations in method **1200** are, optionally, combined and/or the order of some operations is, optionally, changed.

As described below, the method **1200** provides an intuitive way to access contextual content associated with an application without first launching the application. The method reduces the number, extent, and/or nature of the inputs from a user when accessing a subset of content and/or functions of the application, thereby creating a more efficient human-machine interface. For battery-operated electronic devices, enabling a user to access desired content and function faster and more efficiently conserves power and increases the time between battery charges. Furthermore, in some embodiments, the contextual content object is presented with menu of options that, when activated, trigger different sub-functions of the application. Thus, a single input with a single contact on the same application icon can be used to arrive at different levels of functionality and content of the corresponding application, further improving the efficiency of the user interface.

The device displays (**1202**), on the display, a user interface that includes a plurality of application icons that correspond to different applications in a plurality of applications (e.g., a desktop or home screen user interface generated by an operating system of the device that includes an array of application launch icons). In some embodiments, the application icons are displayed in an arrangement on the user interface (e.g., in a grid pattern, or in a row or column) (e.g., home screen **5202** in FIG. **5K1**, home screen **5288** in **5N1**).

The device, while displaying the user interface that includes the plurality of application icons, detects (**1204**) a first input that includes detecting a first contact on the touch-sensitive surface at a location on the touch-sensitive surface that corresponds to a first application icon of the plurality of application icons, the first application icon being associated with a first application of the plurality of applications (e.g., contact **5206** on icon **524** in FIG. **5K1**, contact **5290** on icon **445** in FIG. **5N1**).

The device, in response to detecting the first input (**1206**), performs a number of operations. In response to detecting the first input, in accordance with a determination that the first input meets application-launching criteria, wherein the application-launching criteria do not require that a characteristic intensity of the first contact on the touch-sensitive surface meet a first intensity threshold in order for the application-launching criteria to be met (e.g., a deep press intensity threshold) (e.g., in some embodiments, the application-launching criteria are met when the first input is a tap input): the device launches the first application, and the device replaces display of the user interface that includes the plurality of application icons with a user interface of the first application. This is illustrated in FIGS. **5J1-5J2** (e.g., a tap input by contact **5204** on icon **424** launches the Messages application), for example. In some embodiments, the application-launching criteria are met when the device detects a tap input with a duration that is below a threshold duration without regard to whether or not the characteristic intensity of the contact exceeded the first intensity threshold. In some embodiments, the application-launching criteria are met when the device detects liftoff of the contact without the characteristic intensity of the contact having reached the first intensity threshold since touchdown of the contact. In some embodiments, the application-launching criteria are met when the device detects liftoff of the contact without the characteristic intensity of the contact having exceeded the first intensity for at least a predetermined amount of time before liftoff of the contact was detected. In some embodiments, a combination of two or more of the heuristics described above is used to determine whether an input meets the application launching criteria.

In response to detecting the first input, in accordance with a determination that the first input meets menu-presentation criteria, wherein the menu-presentation criteria require that the characteristic intensity of the first contact on the touch-sensitive surface meet the first intensity threshold in order for the menu-presentation criteria to be met (e.g., in some embodiments, the menu-presentation criteria are met when the first input is a deep press), the device concurrently displays a contextual content object (e.g., a widget or interactive mini-application object that is associated with the first application, or a preview of the widget or mini-application object, or interactive and/or graphical representation of the widget or mini-application object) and a respective affordance that is associated with the contextual content object (e.g., an "add to widget view" button or link overlaid on the widget, mini-application object, or preview of the widget or mini-application object). This is illustrated in FIGS. **5K1-5K6** (e.g., contextual content object **5210** is displayed in response to a press input by contact **5206** on application icon **424** for the Messages application, and the contextual content object **5210** includes an "add widget" affordance **5222**), for example. In some embodiments, the contextual content object (e.g., a widget or mini-application object) is displayed while maintaining display of a representation of at least a portion of the user interface that includes the plurality of application icons (e.g., the widget or mini-application object is overlaid on at least a portion of the user interface that includes the plurality of application icons (e.g., a blurred or darkened version of a home screen or desktop user interface)). In some embodiments, the contextual content object is displayed on top of and obscuring the application icon of the first application to which the contextual content object corresponds. In some embodiments, the display location of the contextual content object is adjusted so as to avoid obscuring the application icon of the first application. In some embodiments, the contextual content object includes contextually selected content that has been automatically selected from the first application (e.g., by the first application or by the electronic device) based on a current context of the electronic device (e.g., the contextual content object is a widget or mini-application object, or a preview of the widget or mini-application object with information and/or action affordances that are selected based on the current context (e.g., time, location, recently contacted users, recent activities within the app, etc.)). In some embodiments, the respective affordance, when activated, is configured to add the contextual content object (or a widget or mini-application object represented by the contextual content object) to a user interface that includes information for multiple applications (e.g., a contextual content object view that includes an array of contextual content objects associated with different applications of two or more of the plurality of applications).

In some embodiments, the user interface that includes information for multiple applications includes (**1208**) a contextual content object view (e.g., in the widget screen, a widget portion of a home screen or another screen, etc.) that is configured to concurrently display respective contextual content objects (e.g., widgets or mini-application objects) associated with different applications selected from the plurality of applications (e.g., the widget view hosts respective widgets with contextually selected content from any number of different applications, e.g., as shown in user interface **5238** in FIGS. **5L8**, **501**, **5P1**).

In some embodiments, while displaying the contextual content object (e.g., overlaid on at least a portion of the user interface that includes the plurality of application icons (e.g., a blurred or darkened version of a home screen or desktop user interface)), the device detects (**1210**) a second input that includes detecting a second contact on the touch-sensitive surface at a location on the touch-sensitive surface that corresponds to the contextual content object (e.g., the second input can be detected after termination of the first input, and while the display of the contextual content object is maintained). In response to detecting the second input: in accordance with a determination that the second input meets the application-launching criteria, wherein the application-launching criteria do not require the characteristic intensity of the second contact to meet the first intensity threshold (e.g., before detecting lift-off of the second contact) in order for the application-launching criteria to be met (e.g., the application-launching criteria are satisfied when the second input is a tap input): the device launches the first application, and the device replaces display of the contextual content object (and the blurred user interface that includes the plurality of application icons) with a user interface of the first application. This is illustrated in FIGS. **5L9-5L10** (e.g., a tap input by contact **5272** on contextual content object **5268** launches the Messages application) and FIGS. **5M1-5M2** (e.g., a tap input by contact **5284** on contextual content object **5268** launches the Messages application), for example.

In some embodiments, replacing display of the contextual content object with a user interface of the first application includes (**1212**): in accordance with a determination that the second contact is detected at a first location on the touch-sensitive surface that corresponds to a first portion of the contextual content object, displaying a first user interface from the first application; and in accordance with a determination that the second contact is detected at a second location on the touch-sensitive surface that corresponds to a second portion of the contextual content object, displaying a second user interface from the first application that is distinct from the first user interface from the first application. This is illustrated in FIGS. **5**L**9**-**5**M**2**, for example. For example, the people widget (e.g., a mini-application object associated with the Contacts application) includes a grid of frequently contacted people (e.g., a list of favorite social contacts of the user) that are represented by respective avatars/photos/monograms and respective names of those people. A tap input detected on one portion of the people widget (e.g., a tap input on an avatar/photo/monogram of a person in the grid) initiates a communication with a user (e.g., launching a messages user interface for composing a message to the selected user, e.g., as shown in FIGS. **5**L**9**-**5**L**10**) and a tap input detected on another portion of the people widget (e.g., a tap input detected on a person's name) causes display of the contact card for the selected user, and a tap input detected on yet another portion of the people widget (e.g., a tap input detected on the header portion of the people widget) launches a user interface that lists the conversations in the Messages application (e.g., as shown in FIGS. **5**M**1**-**5**M**2**).

In some embodiments, while displaying the contextual content object, the device displays (**1214**) representation (e.g., a blurred or darkened representation) of at least a portion of the user interface that includes the plurality of application icons (e.g., the contextual content object is overlaid on at least a portion of the user interface that includes the plurality of application icons (e.g., a blurred or darkened version of a home screen or desktop user interface, as shown in FIGS. **5**K**1** and **5**N**4**).

In some embodiments, in response to detecting the first input: in accordance with the determination that the first input meets the menu-presentation criteria, the device displays (**1216**) one or more selectable options concurrently with the contextual content object, wherein the one or more selectable options, when activated, are configured to perform respective functions associated with the first application (e.g., the contextual content object is presented with a quick action menu associated with the first application). This is illustrated in FIGS. **5**K**4** (e.g., menu **5212** is presented with mini application object **5210**), and FIGS. **5**N**4** (e.g., menu **5309** is presented with mini application object **5294**) for example. In some embodiments, the quick action menu includes one or more menu options that, when activated, are configured to perform respective functions provided by the first application. In some embodiments, the contextual content object is presented in the same background container (e.g., a menu platter) as the menu options. In some embodiments, the contextual content object is presented in a separate display region from the quick action menu (e.g., the widget is presented above the quick action menu, and both are presented next to the first application icon and over the blurred home screen). In some embodiments, a haptic signal is provided when the menu-presentation criteria are met, and the menu of options are presented. In some embodiments, if an application does not have a corresponding contextual content object and selectable options, nothing is displayed when the menu-presentation criteria are met by a press input on an application icon corresponding to the application. In such a situation, the device provides a haptic signal to indicate the failure to present a contextual content object and menu options for the application.

In some embodiments, the device detects (**1218**) termination of the first input that includes detecting liftoff of the first contact. In response to detecting the termination of the first input, the device maintains concurrent display of the contextual content object and the one or more selectable options (e.g., overlaid on a blurred or darkened version of the home screen). While the concurrent display of the contextual content object and the one or more selectable options is maintained, the device detects a selection input that selects a first option of the one or more selectable options (e.g., a tap input on a first option of the selectable options in the quick action menu, or a press input by the same continuous contact on a first option of the selectable options in the quick action menu). In response to detecting the selection input, the device starts to perform a first function of the first application that corresponds to the selected first option (e.g., the first option is for sending a message to a first social contact of the user, and a tap input on the first option causes the first application to launch and the first application displays an initial user interface for composing a message to the first social contact of the user; or the first option is for showing a contact card of the user, a press input by the same continuous contact (e.g., contact **5209** in FIG. **5**N**5**) displays the contact card of the user). In some embodiments, a selection input on the contextual content object launches the app to a first location (e.g., a selection input on the favorite people widget leads to the user interface that lists the users' favorite contacts), while a selection input on one of the menu items launches the app to a different location (e.g., a selection input on the "show my info" option leads to the user interface that displays the user's contact card).

In some embodiments, while concurrently displaying the contextual content object and the one or more selectable options, the device detects (**1220**) movement of the first contact to a location on the touch-sensitive surface that corresponds to a second option of the one or more selectable options. In response to detecting the movement of the first contact to the location on the touch-sensitive surface that corresponds to the second option of the one or more selectable options, in accordance with a determination that the first input meets selection criteria (e.g., the selection criteria requires that the first contact remains at the location that corresponds to the second option for more than a threshold amount of time, and/or requires that the characteristic intensity of the first contact meet a respective threshold intensity (e.g., a light press intensity threshold or a deep press intensity threshold) while the first contact remains at the location that corresponds to the second option, in order for the selection criteria to be met), the device starts to perform a second function of the first application that corresponds to the selected second option (e.g., suppose that the second option is for composing a new message to an unspecified recipient; and by sliding the first contact to the second option and maintaining the first contact on the second option until selection criteria are met by the first input, the user causes the first application to launch and the first application displays an initial user interface for composing a new message to a recipient that is yet to be specified by the user).

In some embodiments, the device provides (**1222**) a first haptic signal when the first contact moves past each selectable option of the one or more selectable options.

In some embodiments, the contextual content object is (**1224**) a first mini-application object that corresponds to the first application (e.g., a mini-application object is an interactive object that is associated with an application, and provides a subset of the content and/or functions of the application. In some embodiments, the mini-application object is referred to as a widget. In some embodiments, the mini-application object exists and functions without requiring the corresponding application to be running or active. In some embodiments, the mini-application object is operated by the operating system and is configured to retrieve content of the corresponding application without requiring the corresponding application to be running or active. In some embodiments, the contextual content object is a representation of a first mini-application object associated with the first application (e.g., the contextual information is a preview of a widget or mini-application object that is associated with the first application). For example, the preview includes substantially the same information and/or functions as the widget or mini-application itself, but not all the information and/or functions. In some embodiments, the preview also visually looks similar to the widget or mini-application object to which it corresponds, but is simplified to conform to the size and unified look and feel requirements of all contextual content objects on the home screen.

In some embodiments, while concurrently displaying the contextual content object and the respective affordance, the device detects (**1226**) an input activating the respective affordance (e.g., a tap input on the add-widget affordance). In response to detecting the input activating the respective affordance, the device adds the contextual content object (or a widget or mini-application object represented by the contextual content object, if the contextual content object is a preview or representation of the actual widget or mini-application object) to the user interface that includes information for multiple applications (e.g., the contextual content object view or widget view). This is illustrated in **5K5-5K6**, for example. In some embodiments, the contextual content object view or widget view is a user interface that is configured to concurrently display respective contextual content objects (e.g., widgets or mini-application objects) associated with different applications selected from the plurality of applications. In some embodiments, the device displays an animation showing the contextual content object jumping from its original location to the widget screen (e.g., the screen showing a list of existing widgets that have already been added to the widget view previously by the user, and optionally, in addition to one or more default widgets already included in the widget view by the operating system). In some embodiments, the widget screen is presented briefly on the display (e.g., sliding in from the left to cover part of the home screen) to show that the widget has been added to the widget view in response to the user's input activating the add-widget affordance, and then the display is restored (e.g., the widget screen slides back to the left) to display the home screen again. In some embodiments, once the widget has been added to the widget view, the add-widget affordance is no longer displayed with the widget.

In some embodiments, in response to adding the contextual content object to the user interface that includes information for a plurality of applications (e.g., the contextual content object view or widget view), the device ceases (**1228**) to concurrently display the respective affordance with the contextual content object, e.g., as shown in FIG. **5K7** ("add widget" affordance is no longer displayed after it has been invoked). In some embodiments, once the contextual content object is added to the widget view, the add-widget affordance is replaced by an indicator that indicates the current inclusion of the contextual content object in the widget view (e.g., the "added" indicator **5244** in FIG. **5K7**). In some embodiments, the indicator is displayed with the widget each time the widget is shown in response to subsequent inputs that meet the menu-presentation criteria. In some embodiments, the indicator is only displayed briefly immediately after the activation of the add-widget affordance and the addition of the contextual content object into the widget view. After the brief display of the indicator, the indicator is no longer displayed during subsequent times when the contextual content object is called up again in response to inputs that meet the menu-presentation criteria.

In some embodiments, after adding the contextual content object to the user interface that includes information for a plurality of applications (e.g., the contextual content object view or widget view), while displaying the user interface that includes the plurality of application icons, the device detects (**1230**) a navigation input (e.g., a swipe gesture in the horizontal direction (e.g., from left to right)) for navigating to the user interface that includes information for a plurality of applications (e.g., the contextual content object view or widget view). In response to detecting the navigation input, the device replaces display of the user interface that includes the plurality of application icons with the user interface that includes information for a plurality of applications (e.g., the contextual content object view or widget view), wherein the user interface that includes information for a plurality of applications (e.g., the contextual content object view or widget view) includes the contextual content object associated with the first application (and one or more additional contextual content objects that are associated with one or more other applications in the plurality of applications). This is illustrated in FIGS. **5L5-5L8**, for example.

While displaying the user interface that includes information for a plurality of applications (e.g., the contextual content object view or widget view) including the contextual content object associated with the first application, the device detects a third input that includes detecting a third contact on the touch-sensitive surface at a location that corresponds to the contextual content object in the user interface that includes information for a plurality of applications (e.g., the contextual content object view or widget view). In response to detecting the third input: in accordance with a determination that the third input meets content expansion criteria, wherein the content expansion criteria require that a characteristic intensity of the third contact on the touch-sensitive surface meet the first intensity threshold (e.g., in some embodiments, the content expansion criteria are met when the third input is a deep press input), the device expands the contextual content object to display the contextually selected content (e.g., the stock widget includes stocks that the user has previously viewed, the weather widget includes the weather forecast for the city that the user is currently in, etc.) and additional content (e.g., additional rows of stocks in the stock widget, or additional weather forecasts in the weather widget, etc.). This is illustrated in FIGS. **5O1-5O2** (e.g., a deep press input by contact **5308** causes expansion of contextual content object **5240** into expanded contextual content object **5310**), and FIGS. **5P1-5P2** (e.g., a deep press input by contact **5314** causes expansion of contextual content object **5240** into expanded contextual content object **5272**), for example.

In some embodiments, expanding the contextual content object to display the contextually selected content and the additional content includes (**1232**): in accordance with a determination that the third contact is detected at a third location on the touch-sensitive surface that corresponds to a third portion of the contextual content object (e.g., the third portion of the contextual content object includes areas outside of a content item (e.g., a stock, an avatar, etc., a weather forecast)), displaying first additional content with the contextually selected content; and in accordance with a determination that the third contact is detected at a fourth location on the touch-sensitive surface that corresponds to a fourth portion of the contextual content object (e.g., the fourth portion of the contextual content object includes areas of a specific content item (e.g., a stock, an avatar, etc., a weather forecast)), displaying second additional content that is distinct from the first additional content. This is illustrated in FIGS. **501-5P2** (e.g., a deep press input by contact **5308** on a textual portion of contextual content object **5240** causes more details of the information represented in contextual content object **5240** to be displayed in expanded contextual content object **5310**, while a deep press input by contact **5314** on a blank portion of contextual content object **5240** causes more information of the same type as the information represented in contextual content object **5240** to be displayed in expanded contextual content object **5272**), for example. This is also illustrated in FIGS. **5K8-5L2** (e.g., a deep press input by contact **5248** on one portion of contextual content object **5210** causes display of one type of additional information, while a deep press input by contact **5260** causes display of another type of additional information).

In some embodiments, the contextual content object includes (**1234**) a first content item of a first content item type, and wherein the first additional content includes additional content items of the first content item type. This is illustrated in FIGS. **5K8-5K9** (e.g., more favorite people's avatars are displayed in response to press input by contact **5248**), and FIGS. **5P1-5P2** (e.g., more events are displayed in response to press input by contact **5214**), for example. For example, the stock widget includes two default stock items, and the expanded stock widget includes one or more additional stock items. In another example, the weather widget includes the current weather forecast for a first city, and the expanded weather widget includes the current weather forecasts for one or more additional cities (e.g., cities near the first city).

In some embodiments, the contextual content object includes (**1236**) a first content item, and wherein the second additional content includes additional information associated with the first content item. This is illustrated, for example, in FIGS. **5L1-5L2** (e.g., last message **5262** from Genevive is displayed in response to a press input by contact **5260** on Genevive's avatar), and FIGS. **5O1-5O2** (e.g., more event details are displayed in response to a press input by contact **5308** on the textual portion of Up Next object **5240**). For example, the stock widget includes a first stock item and basic information (e.g., current price and change) associated with the first stock item, and the expanded stock widget includes additional information (e.g., highest price, lowest price, open price, market cap, yield, etc.) associated with the first stock items. In another example, the weather widget includes the current weather forecast for a first city, and the expanded weather widget includes the five day forecast for the first city, or the hour by hour forecast for the first city.

In some embodiments, the device detects (**1238**) termination of the third input that includes detecting liftoff of the third contact. In response to detecting the termination of the third input, the device maintains display of the contextually selected content and the additional content (e.g., as shown in FIGS. **5K8-5K10**).

In some embodiments, the device detects (**1240**) termination of the third input that includes detecting liftoff of the third contact. In response to detecting the termination of the third input: the device maintains display of the contextually selected content, and the device ceases to display the additional content (e.g., as shown in FIG. **5L1-5L3**, additional content **5262** is no longer displayed after termination of the press input by contact **5260**).

In some embodiments, the contextual content object includes (**1242**) a first interactive object (e.g., an interactive control for a light bulb or a thermostat) from the first application (e.g., a home control application). In some embodiments, activating the first interactive object causes a change in functionality controlled by the application (e.g., turning on/off an appliance). In some embodiments, the contextual content object includes a plurality of interactive objects.

In some embodiments, the contextual content object includes (**1244**) representations of one or more social contacts associated with a user of the device (e.g., avatars/photos/monograms and names/aliases of the users' favorite contacts arranged in a grid (e.g., a two by four grid)), e.g., avatars **5224**, **5226**, **5228**, **5230**, **5252**, **5254**, **5256**, **5258** in FIG. **5K9**. In some embodiments, the representations of users include graphical indications of recent communications received from the users (e.g., a badge associated with a contact that represents the number of new/unread/unviewed communications received from the contact, e.g., badges **5232**, **5234**, **5246** in FIG. **5K8**).

In some embodiments, in response to detecting the first input, in accordance with the determination that the first input meets the menu-presentation criteria, the device provides (**1246**) a second haptic signal when displaying the contextual content object.

In some embodiments, displaying the contextual content object includes (**1248**) displaying the contextual content object at a location on the display that corresponds to the location of the first contact on the touch-sensitive surface (e.g., the contextual content object is overlaid on a portion of the user interface that previously displayed the first application icon). In some embodiments, the first application icon is not obscured by the contextual content object. In such embodiments, the contextual content object and the quick action menu are positioned on the display to keep the first application icon unobscured (while other portions of the user interface are blurred or darkened).

In some embodiments, displaying the contextual content object includes (**1250**) maintaining display of the first application icon at its original location and displaying the contextual content object in proximity to the first application icon (e.g., the contextual content object is displayed between the first application icon and the quick action menu (e.g., the one or more selectable options)). In such embodiments, the contextual content object and the quick action menu are positioned on the display to keep the first application icon unobscured (while other portions of the user interface are blurred or darkened), e.g., as shown in FIGS. **5K4** and **5N4**.

In some embodiments, displaying the contextual content object includes (**1252**) maintaining display of the first application icon at a location offset from its original location and displaying the contextual content object in proximity to the first application icon (e.g., the contextual content object is displayed between the first application icon and the quick action menu (e.g., the one or more selectable options)). In such embodiments, the contextual content object and the quick action menu are positioned on the display to keep the first application icon unobscured (while other portions of the user interface are blurred or darkened). The first application icon is slightly offset from its original location (e.g., moved up or down) by a small amount to accommodate the contextual content object and the one or more selectable options on the display, e.g., as shown in FIG. **5N4**.

In accordance with some embodiments, FIG. **13** shows a functional block diagram of an electronic device **1300** configured in accordance with the principles of the various described embodiments. The functional blocks of the device are, optionally, implemented by hardware, software, or a combination of hardware and software to carry out the principles of the various described embodiments. It is understood by persons of skill in the art that the functional blocks described in FIG. **13** are, optionally, combined or separated into sub-blocks to implement the principles of the various described embodiments. Therefore, the description herein optionally supports any possible combination or separation or further definition of the functional blocks described herein.

As shown in FIG. **13**, an electronic device **1300** includes a display unit **1302** configured to display a user interface, a touch-sensitive surface unit **1304** configured to receive contacts, one or more sensor units **1306** configured to detect intensity of contacts with the touch-sensitive surface unit **1304**, and a processing unit **1310** coupled with the display unit **1302**, the touch-sensitive surface unit **1304** and the one or more sensor units **1306**. In some embodiments, the processing unit **1308** includes: an enabling unit **1310**, a detecting unit **1312**, a launching unit **1314**, a replacing unit **1316**, a starting unit **1318**, a providing unit **1320**, an adding unit **1322**, a ceasing unit **1324**, an expanding unit **1326**, and a maintaining unit **1328**.

The processing unit **1308** is configured to enable display of (e.g., with enabling unit **1310**), on the display unit, a user interface that includes a plurality of application icons that correspond to different applications in a plurality of applications. While displaying the user interface that includes the plurality of application icons, the processing unit **1308** is configured to detect (e.g., with detecting unit **1312**) a first input that includes detecting a first contact on the touch-sensitive surface unit at a location on the touch-sensitive surface unit that corresponds to a first application icon of the plurality of application icons, the first application icon being associated with a first application of the plurality of applications. In response to detecting the first input: in accordance with a determination that the first input meets application-launching criteria, wherein the application-launching criteria do not require that a characteristic intensity of the first contact on the touch-sensitive surface meet a first intensity threshold in order for the application-launching criteria to be met: the processing unit **1308** is configured to launch (e.g., with launching unit **1314**) the first application; and replace (e.g., with replacing unit **1316**) display of the user interface that includes the plurality of application icons with a user interface of the first application.

In accordance with a determination that the first input meets menu-presentation criteria, wherein the menu-presentation criteria require that the characteristic intensity of the first contact on the touch-sensitive surface meet the first intensity threshold in order for the menu-presentation criteria to be met, the processing unit **1308** is configured to concurrently enable display of (e.g., with enabling unit **1310**) a contextual content object and a respective affordance that is associated with the contextual content object, wherein: the contextual content object includes contextually selected content that has been automatically selected from the first application based on a current context of the electronic device; and the respective affordance, when activated, is configured to add the contextual content object to a user interface that includes information for multiple applications.

FIGS. **14A-14C** are flow diagrams illustrating a method **1400** for interacting with a menu of applications including an application that is in the process of being downloaded (e.g., presenting menu options with respect to downloading the application based on the user input) in accordance with some embodiments. The method **1400** is performed at an electronic device (e.g., device **300**, FIG. **3**, or portable multifunction device **100**, FIG. **1**A) with a display, a touch-sensitive surface, and one or more sensors for detecting intensities of contacts on the touch-sensitive surface. In some embodiments, the display is a touch-screen display and the touch-sensitive surface is on or integrated with the display. In some embodiments, the display is separate from the touch-sensitive surface. Some operations in method **1400** are, optionally, combined and/or the order of some operations is, optionally, changed.

As described below, in some embodiments, an input by a single contact can be used to toggle between pausing download and resume download, or to present a menu with multiple download related options and select one of the multiple options, depending on the intensity, duration, and/or movement of the contact. This allows the user to activate the desired function related to downloading applications with fewer steps, and thus improving the efficiency of the user interface while avoiding over-cluttering the user interface.

At an electronic device with a display, a touch-sensitive surface, and one or more sensors for detecting intensities of contacts on the touch-sensitive surface, the device displays (**1402**), on the display, a user interface that includes a plurality of user interface objects (e.g., application icons and, optionally, placeholder icons that represent downloading apps) that correspond to different applications in a plurality of applications (e.g., the user interface is a home screen or an application springboard that includes application icons and optionally placeholder icons that represent applications that have not been completely downloaded), wherein the plurality of user interface objects include a first user interface object (e.g., a first application icon, or a first placeholder icon that temporarily represent an application while it is being downloaded) that corresponds a first application that is in a process of being downloaded (e.g., downloading icons **5408**, **5410** in user interface **5402**, FIG. **5S1**). In some embodiments, the first application is in the process of being downloaded when the first application is waiting in a queue to start download. In some embodiments, the first application is in the process of being downloaded when the first application has already started to download, but the downloading has been paused before completion. In some embodiments, the first application is in the process of being downloaded when the first application is currently being downloaded (e.g., data transfer is in progress). In some embodiments, the first application is in the process of being downloaded when the first application is in any of the above mentioned states. In some embodiments, when the first application is in the process of being downloaded, the first application icon or first placeholder icon takes on an appearance that indicates the current state of the first application. For example, when the first application is waiting in a queue to start download, the caption text in the application name portion of the first application icon or the first placeholder icon is changed to "waiting . . . ", and the first application icon or placeholder icon is darkened or grayed out. In some embodiments, when the downloading of the first application is in progress, an overlay (e.g., a circular progress indicator) on the first application icon or placeholder icon is continuously updated to show the current progress of the download. When the downloading of the first application is paused, an overlay (e.g., a circular progress indicator) on the first application icon or placeholder icon displays the amount of download that has been completed, and the caption text of the first application icon or placeholder indicates that the downloading of the first application has been paused. In some embodiments, if a placeholder icon is used to represent an application that is in the process of being downloaded, when downloading of the application is completed, the placeholder icon is replaced by the application icon that corresponds to the application.

While displaying the user interface that includes the plurality of user interface objects, the device detects (**1404**) a first input that includes detecting a first contact at a location on the touch-sensitive surface that corresponds to the first user interface object (e.g., the first application icon or the first placeholder icon) (e.g., contact **5412** on downloading icon **5408**, contact **5432** on downloading icon **5410**, contact **5478** on downloading icon **5408**, contact **5480** on downloading icon **5410**).

In response to detecting the first input: in accordance with a determination that the first user interface object corresponds to an application that has not been fully downloaded and that the first input meets menu-presentation criteria, wherein the menu-presentation criteria require that a characteristic intensity of a contact in a detected input meet a first intensity threshold in order for the menu-presentation criteria to be met, the device displays (**1406**) one or more (in some embodiments, a plurality of) first selectable options that, when activated, are configured to perform actions with respect to downloading of the first application. For clarity, the menu-presentation criteria include a criterion that is met when a characteristic intensity of a respective contact in a respective input exceeds a first intensity threshold. For clarity, the menu-presentation criteria require that a characteristic intensity of a respective contact in a respective input meet a first intensity threshold in order for the menu-presentation criteria to be met. For example, the one or more menu-presentation criteria require that a characteristic intensity of a first contact in a first input meet the first intensity threshold in order for the menu-presentation criteria to be met; the menu-presentation criteria require that a characteristic intensity of a second contact in a second input, distinct from the first input, meet the first intensity threshold in order for the menu-presentation criteria to be met; and so on. In some embodiments, the selectable options for a downloading application are the same for different applications while they are being downloaded, even if those applications have different selectable options once they have completed downloading. This is illustrated in FIGS. **5Q1**-**5Q5**, and **5Q9**-**5Q13**, for example.

In some embodiments, in response to detecting the first input: in accordance with a determination that the first user interface object corresponds to an application that has been installed on the device and that the first input meets the menu-presentation criteria, the device displays (**1408**) one or more (in some embodiments, a plurality of) second selectable options that, when activated, are configured to perform application-specific actions (e.g., launch the application to a non-default portion of the application, create a new document or communication, initiate a function of the application, or initiate a function of the device that is controlled by the application). This is illustrated in FIGS. **5Q14**-**5Q16**, and **5R1**-**5R4**, for example. In some embodiments, the menu for both the downloading app and the installed app display with a same animation (e.g., with a surface of the menu sliding out from behind the user interface object and displaying above or below the user interface object).

In some embodiments, in response to detecting the first input: in accordance with a determination that the first user interface object corresponds to an application that has not been fully downloaded and that the first input meets action-performing criteria, wherein the action-performing criteria do not require that a characteristic intensity of a contact (e.g., the first contact) in the detected input (e.g., the first input) on the touch-sensitive surface meet the first intensity threshold in order for the action-performing criteria to be met (e.g., in some embodiments, the action-performing criteria are met when the detected first input is a tap input), the device performs (**1410**) a first action with respect to the downloading of the first application (e.g., pausing the downloading of the first application if the downloading of the first application is already in progress, resuming the downloading of the first application if the downloading of the first application is in a suspended or paused state, and/or starting the downloading of the first application (e.g., prioritizing the downloading of the first application ahead of one or more other applications that are in processes of being downloaded) if the first application is in a waiting state in a queue). This is illustrated in FIGS. **5S1**-**5S5**, for example.

In some embodiments, in response to detecting the first input: in accordance with a determination that the first user interface object corresponds to an application that has been installed on the device and that first input meets action-performing criteria, wherein the action-performing criteria do not require that a characteristic intensity of a contact (e.g., the first contact) in the detected input (e.g., the first input) meet the first intensity threshold in order for the action-performing criteria to be met (e.g., in some embodiments, the action-performing criteria are met when the detected first input is a tap input), the device launches (**1412**) the first application (e.g., replaces display of the home screen with a default user interface of the first application). This is illustrated in FIGS. **5R6**-**5R7**, for example.

In some embodiments, the one or more first selectable options include (**1414**) an option that, when activated, is configured to prioritize the downloading of the first application versus one or more other applications that are in processes of being downloaded (e.g., so that the first application is downloaded before the one or more other applications) (e.g., option **5418** in FIG. **5Q5**).

In some embodiments, the one or more first selectable options include (**1416**) an option that, when activated, is configured to pause the downloading of the first application (e.g., so that the device stops downloading the first application) (e.g., option **5420** in FIG. **5Q5**).

In some embodiments, the one or more first selectable options include (**1418**) an option that, when activated, is configured to cancel the downloading of the first application (e.g., so that the device stops downloading the first application, removes the first user interface object from the display and, optionally, deletes any downloaded data for the first application) (e.g., option **5422** in FIG. **5Q5**).

In some embodiments, the one or more first selectable options include (**1420**) an option that, when activated, is configured to resume the downloading of the first application (e.g., option **5438** in FIG. **5Q11**). In some embodiments, the option for resuming downloading is displayed only when the downloading of the first application is currently in a paused or suspended state. When the downloading is not in a paused or suspended state, the option for resuming downloading is replaced with an option for pausing the downloading of the first application.

In some embodiments, in accordance with the determination that the first input meets the menu-presentation criteria, the device displays (**1422**) a second selectable option that, when activated, is configured to display a menu of sharing options for sharing the first application (e.g., option **5424** in FIG. **5Q5**). In some embodiments, when an input selecting the option for sharing the first application is detected, a menu of sharing options is presented on or overlaid on the user interface. The menu includes options for, e.g., sharing the first application (e.g., a link to the first application in an app store) via an instant message, an email, one or more social networking applications, and/or one or more wireless connections (e.g., WiFi, Bluetooth connections), and/or copying information (e.g., a link or address of the first application in an app store) associated with the first application. In some embodiments, the share option is also displayed in the menu that is displayed in response to an input that meets the menu-presentation criteria, after the application has been downloaded and installed (e.g., share card **5428** in FIG. **5Q8**).

In some embodiments, the device dynamically blurs (**1424**) the user interface in accordance with a current intensity of the first contact, wherein displaying one or more first selectable options for performing actions with respect to downloading of the first application includes displaying a menu that includes the one or more first selectable options over a blurred version of the user interface. In some embodiments, the menu is displayed over a blurred version of the user interface that is of the same dimensions and scales as the user interface before the blurring. In other words, the menu "pops up" from the first application icon, and is overlaid on top of the blurred user interface. This is illustrated in FIG. **5Q6**. In some embodiments, the first application icon is not blurred with the rest of the user interface, the menu occupies less than the full width of the user interface, and the menu is positioned so as not to obscure the first application icon, e.g., as shown in FIG. **5Q6**. In some embodiments, the first application icon is blurred with the rest of the user interface, the menu occupies substantially the full width of the user interface, and the menu is positioned without regard to whether it obscure the blurred first application icon, e.g., as shown in FIG. **5Q17**.

In some embodiments, the plurality of user interface objects include a second user interface object that corresponds a second application that is in a process of being downloaded; and wherein while displaying the user interface that includes the plurality of user interface objects and before the downloading of the second application is completed, the device detects (**1426**) a second input that includes detecting a second contact at a location on the touch-sensitive surface that corresponds to the second user interface object. In response to detecting the second input: in accordance with a determination that the second input meets the menu-presentation criteria, the device displays the one or more first selectable options. In some embodiments, the plurality of user interface objects includes multiple application icons (or placeholder icons) that each correspond to a respective application that is in a process of being downloaded; and when a respective input meeting the menu-presentation criteria is detected on each of the multiple application icons (or placeholder icons) (at different time, rather than simultaneously), the device displays an identical menu that includes the one or more first selectable options. This is illustrated in FIGS. **5Q6** and **5Q12** (menu **5416** and menu **5434** have the same set of options (pause and resume download is a toggled option that have two different states that are displayed depending on the current state of the downloading) across the downloading icons for different applications).

In some embodiments, while displaying the user interface that includes the plurality of user interface objects and after the downloading of the first application is completed, the device detects (**1428**) a third input that includes detecting a third contact at a location on the touch-sensitive surface that corresponds to the first user interface object (e.g., the location of the first application icon). In response to detecting the third input: in accordance with a determination that the third input meets the menu-presentation criteria, the device displays one or more third selectable options that, when activated, are configured to perform application-specific actions associated with the first application. This is illustrated in FIGS. **5Q14-5Q17** (e.g., menu **5450**) and **5R1-5R4** (menu **5462**), for example.

In some embodiments, in response to detecting the third input: in accordance with a determination that the third input meets application-launching criteria, wherein the application-launching criteria do not require that a characteristic intensity of a contact (e.g., the third contact) in a detected input (e.g., the third input) meet the first intensity threshold in order for the application-launching criteria to be met (e.g., in some embodiments, the application launching criteria are met when the detected third input is a tap input), the device launches (**1430**) the first application; and, the device replaces the user interface that includes the plurality of user interface objects with a user interface of the first application (e.g., as shown in FIGS. **5R6-5R7**). In some embodiments, the application-launching criteria and the action-performing criteria are the same criteria, and the application-launching criteria are used when the application download has been completed, and the action-performing criteria are used when the application download is not yet completed. In some embodiments, in response to detecting a long press can (e.g., a touch input that moves by less than a threshold amount for more than a threshold amount of time), the user interface objects enter a reconfiguration mode in which movements on the touch-sensitive surface at locations that correspond to the user interface objects cause the user interface objects (e.g., application icons for installed applications and representations of downloading applications (e.g., placeholder icons)) can be moved around the user interface (e.g., the application launch user interface, the home screen, etc.).

FIG. **15** is a functional block diagram of an electronic device for presenting menu options with respect to downloading an application based on the user input, in accordance with some embodiments.

In accordance with some embodiments, FIG. **15** shows a functional block diagram of an electronic device **1500** configured in accordance with the principles of the various described embodiments. The functional blocks of the device are, optionally, implemented by hardware, software, or a combination of hardware and software to carry out the principles of the various described embodiments. It is understood by persons of skill in the art that the functional blocks described in FIG. **15** are, optionally, combined or separated into sub-blocks to implement the principles of the various described embodiments. Therefore, the description herein optionally supports any possible combination or separation or further definition of the functional blocks described herein.

As shown in FIG. **15**, an electronic device **1500** includes a display unit **1502** configured to display a user interface; a touch-sensitive surface unit **1504** configured to receive user contacts; one or more sensor units **1506** configured to detect intensity of contacts with the touch-sensitive surface unit **1504**; and a processing unit **1510** coupled to the display unit **1502** the touch-sensitive surface unit **1504**, and the one or more sensor units **1506**. The processing unit **1510** including an enabling unit **1512**, detecting unit **1514**, performing unit **1516**, launching unit **1518**, blurring unit **1520** and replacing unit **1522**.

The processing unit **1510** is configured to enable display of (e.g., with enabling unit **1512**), on the display, a user interface that includes a plurality of user interface objects that correspond to different applications in a plurality of applications, wherein the plurality of user interface objects include a first user interface object that corresponds a first application that is in a process of being downloaded.

While displaying the user interface that includes the plurality of user interface objects, the processing unit **1510** is configured to detect (e.g., with detecting unit **1514**) a first input that includes detecting a first contact at a location on the touch-sensitive surface that corresponds to the first user interface object.

In response to detecting the first input: in accordance with a determination that the first user interface object corresponds to an application that has not been fully downloaded and that the first input meets menu-presentation criteria, wherein the menu-presentation criteria require that a characteristic intensity of a contact in a detected input meet a first intensity threshold in order for the menu-presentation criteria to be met, the processing unit **1510** is configured to enable display of (e.g., with enabling unit **1512**) one or more first selectable options that, when activated, are configured to perform actions with respect to downloading of the first application.

FIGS. **16**A-**16**C are flow diagrams illustrating a method **1600** for interacting with a menu of applications that include a folder of applications (e.g., presenting options corresponding to launching an application based on the user input) in accordance with some embodiments. The method **1600** is performed at an electronic device (e.g., device **300**, FIG. **3**, or portable multifunction device **100**, FIG. **1**A) with a display, a touch-sensitive surface, and one or more sensors for detecting intensities of contacts on the touch-sensitive surface. In some embodiments, the display is a touch-screen display and the touch-sensitive surface is on or integrated with the display. In some embodiments, the display is separate from the touch-sensitive surface. Some operations in method **1600** are, optionally, combined and/or the order of some operations is, optionally, changed.

As described below, in some embodiments, when a press input is detected on a folder icon, a menu of selected application launching icons are displayed, where the selected application launching icons correspond to applications that have unread notifications, thus the user can quickly select a desired application to access its functions. Each time the menu is displayed, it may display different application icons selected from the folder, depending on which applications have the most recent or more urgent notifications. The method **1600** reduces the number, extent, and/or nature of the inputs from a user when accessing applications within a folder, thereby conserving power and increasing the time between battery charges.

As described below, in some embodiments, when a press input is detected on a folder icon, a menu is displayed to shown an option to rename a folder. The option provides access to multiple folder reconfiguration functions (e.g., icon reconfiguration and folder renaming) with fewer inputs, thereby creating a more efficient human-machine interface. For battery-operated electronic devices, enabling a user to access desired functions faster and more efficiently conserves power and increases the time between battery charges.

As described below, the method **1600** reduces the number, extent, and/or nature of the inputs from a user when accessing folder reconfiguration functions (e.g., icon reconfiguration and folder renaming), thereby creating a more efficient human-machine interface. For battery-operated electronic devices, enabling a user to access desired content and function faster and more efficiently conserves power and increases the time between battery charges.

At an electronic device with a display, a touch-sensitive surface, and one or more sensors for detecting intensities of contacts on the touch-sensitive surface, the device displays (**1602**) a user interface (e.g., a home screen, or an application springboard, etc.) on the display, wherein: the user interface includes a folder icon (e.g., as one of a grid of multiple icons, including application icons and/or other folder icons, on a home screen, an application springboard, or a quick access bar) that corresponds to an application folder containing a plurality of application icons (e.g., an "EXTRAS" folder icon that corresponds to an application folder that contains respective application icons for several accessory apps), the plurality of application icons correspond to different applications in a plurality of applications, and the plurality of applications include one or more applications that have one or more unread notifications For example, suppose that, at the time the folder icon is displayed, the application folder includes three application icons that correspond to three different applications, respectively; and two of the three applications each have at least one unread notifications (e.g., one app has twenty unread notifications, and the other app has five unread notifications) and the third application does not have any unread notifications at the present time. In some embodiments, unread notifications correspond to incoming communications that have not been reviewed by the user. In some embodiments, unread notifications correspond to events that have occurred within applications (e.g., applications ready for update, new media ready for download, etc.) but the user has not yet responded to. In some embodiments, unread notifications correspond to alerts that have been generated by applications (e.g., a reminder for a calendar event, an alert for a failure to complete a task (e.g., failure to send a communication, failure to connect to a server, etc.), a request for user input to complete a task (e.g., a request for consent for downloading an application update, making a wireless connection, activating location services, etc.), etc.). FIG. **5**T**1** illustrates a folder icon **5504** that include multiple applications, some of which have unread notifications (e.g., as indicated by badge **5506** that shows the total number of unread notifications for applications in the folder).

While displaying the user interface that includes the folder icon, the device detects (**1604**) a first input that includes detecting a first contact at a location on the touch-sensitive surface that corresponds to the folder icon (e.g., contact **5508** on folder icon **5504** in FIG. **5**T**2**).

In response to detecting the first input: in accordance with a determination that the first input meets menu-presentation criteria, wherein the menu-presentation criteria require that a characteristic intensity of a contact (e.g., the first contact) in a detected input (e.g., the first input) meet a first intensity threshold (e.g., a deep press intensity threshold) in order for the menu-presentation criteria to be met, the device displays (**1606**) one or more selectable options (e.g., a respective menu option in a quick action menu for each of the one or more applications with unread notifications) that, when activated, are configured to launch corresponding applications from the plurality of applications in the application folder that have unread notifications. This is illustrated in FIGS. **5**T**1**-**5**T**5** (e.g., menu **5512** includes three options for launching three applications that have unread notifications, in FIG. **5**T**5**; and menu **5528** include four options for launching four applications that have unread notifications), for example. For example, when two of the three applications each have at least one unread notifications and the remaining one application does not have any unread notifications at the present time, respective menu options for launching the two applications are displayed in the quick action menu, and no menu option is displayed for launching the remaining application that does not currently have any unread notifications. If at a later time, a notification arrives and the remaining application now also has at least one unread notification, when the quick action menu is presented again (e.g., in response to another deep press input on the folder icon), a menu option for launching that remaining application is also presented (e.g., option **5530** is displayed in menu **5528** in FIG. **5**T**12**, but not in menu **5512** in FIG. **5**T**5**). If at a later time, all of the notifications associated with one of the applications are flagged as read or are dismissed, when the quick action menu is presented again (e.g., in response to another deep press input on the folder icon), the menu option for launching that application which no longer has any unread notification is no longer displayed, while the menu options for launching the other two applications that still have unread notifications are displayed in the quick action menu.). In some embodiments, applications are considered to be "in a folder" if icons corresponding to those applications are displayed within the folder.

In some embodiments, the plurality of applications in the application folder include (**1608**) a first application with one or more unread notifications and a second application with one or more unread notifications; and the one or more selectable options include a first selectable option for launching the first application and a second selectable option for launching the second application. In some embodiments, the respective options for launching the one or more applications with unread notifications each include a respective application icon for a corresponding application, a name of the corresponding application, and an indicator of the type and count of the unread notifications for the corresponding application (e.g., as shown in FIGS. **5**T**5** and **5**T**12**, respectively).

In some embodiments, the one or more selectable options are (**1610**) displayed within a menu that is limited to containing no more than a predetermined number of selectable options for launching applications (e.g., limited to four menu options, as shown in FIG. **5**T**12**, four application launching options are displayed when five applications in the folder have unread notifications). Displaying one or more selectable options includes: in accordance with a determination that a first number of applications that correspond to application icons in the folder, less than (or equal to) the predetermined number, have unread notifications (e.g., three (i.e., less than four) applications have unread notifications), the device displays the first number of selectable options corresponding to the first number of applications in the menu (e.g., displaying three selectable options, each option for launching a corresponding one of the three applications that have unread notifications, as shown in FIG. **5**T**5**). In accordance with a determination that a second number of applications that correspond to application icons in the folder, greater than the predetermined number, have unread notifications (e.g., five (i.e., greater than four) applications have unread notifications), the device displays, in the menu, the predetermined number of selectable options corresponding to less than all of the second number of applications (e.g., displaying four selectable options, each option for launching a corresponding one of four out of the five applications that have unread notifications, e.g., as shown in FIG. **5**T**12**).

In some embodiments, displaying, in the menu, the predetermined number of selectable options corresponding to less than all of the second number of applications includes (**1612**) selecting applications to represent with selectable options in the menu so that applications with more recently received notifications are prioritized over applications with less recently received notifications (e.g., excluding the display of a selectable option for an application for which the most recently received notification was received later than the notifications of the other applications that are represented by application icons in the folder).

In some embodiments, displaying the one or more selectable options includes (**1614**): when ordering the one or more selectable options for display, prioritizing the selectable options for applications with a first type of unread notifications (e.g., applications with alerts) over the selectable options for applications with a second type of unread notifications (e.g., applications with regular notifications). For example, in some embodiments, when ordering the selectable options in the menu, the options for launching applications with unread alerts are listed before the options for launching applications with unread notifications that are not alerts, e.g., as shown in FIG. **5**T**12**, option **5530** is listed before other options in menu **5528**. If the number of applications with alerts is greater than the predetermined number of options set for the menu, then none of the options for launching those applications without any alerts is displayed in the menu.

In some embodiments, displaying the one or more selectable options includes (**1616**): when ordering the one or more selectable options for display, prioritizing an application with a greater number of unread notifications over an application with a smaller number of unread notifications (e.g., as shown in FIG. **5**T**5**). For example, in some embodiments, when ordering the selectable options in the menu, within a group of applications with the same type of unread notifications (e.g., alerts or non-alert notifications), the options are sorted based on the count of unread notifications for each of the applications in the group. For example, the option for launching an application with three alerts is listed before the option for launching an application with one alert, and after the options for applications with alerts are all listed, the option for launching an application with five notifications is listed before the option for launching an application with three notifications. In some embodiments, after the options are sorted based on notification type and notification count, the options are optionally sorted alphabetically or based on the receipt time of the last notification for each application.

In some embodiments, the device displays (**1618**), concurrently with the application folder, an indicator (e.g., a badge) specifying an aggregated number of unread notifications for the one or more applications in the application folder with unread notifications. This is illustrated in FIG. **5**T**5** (e.g., badge **5506** shows that the total number of unread notifications for the applications in folder **5504** is nine), for example. For example, if, at the time the folder icon is displayed, the application folder includes three application icons that correspond to three different applications, respectively; and two of the three applications each have at least one unread notifications (e.g., one app has twenty unread notifications, and the other has five unread notifications) and the remaining one application does not have any unread notifications at the present time), the badge on the folder icon shows "twenty five" which is the sum of twenty and five. In some embodiments, if, while the application folder is displayed, a new notification arrives for one of the three applications (e.g., one of the two applications now has six unread notifications, or the remaining one application now has one unread notification), the badge is automatically updated in real time to show the number "twenty six".

In some embodiments, displaying the one or more selectable options includes (**1620**) concurrently displaying: a first selectable option for a first application in the application folder along with an indication of a number of unread notifications for the first application; and a second selectable option for a second application in the application folder along with an indication of a number of unread notifications for the second application. In other words, the device displays, concurrently with the respective selectable options for launching corresponding applications with unread notifications, respective counts of the unread notifications for the corresponding applications. For example, the respective selectable option for launching one of the two applications, e.g., the "Mail" app, includes the Mail app icon, the name of the Mail app, and text specifying that there are twenty unread notifications for the Mail app; and similarly, the respective selectable option for launching the other one of the two applications, e.g., the "Messages" app, includes the Messages app icon, the name of the Messages app, and text specifying that there are five unread notifications for the Messages app. For example, FIG. **5**T**5** shows that each option (e.g., options **5514**, **5516**, **5518**) displays the number of unread notifications (e.g., 5, 3, and 1) for the application represented in the option.

In some embodiments, while displaying the first selectable option for the first application and the second selectable option for the second application, the device receives (**1622**) a new notification for the first application; and in response to receiving the new notification, the device updates the indication of the number of unread notifications for the first application (e.g., as shown in FIGS. **5**T**5** and **5**T**6**, option **5514** is updated (e.g., from showing five unread notifications to showing six unread notifications) when a new notification is received for the Messages application, while menu **5512** is displayed). For example, while the menu displays an option for launching the Mail app with a count indicator "five" for five unread mail messages, and an option for launching the Messages app with a count indicator "three" for three unread instant messages, suppose that a new message is received for the Messages app and a new notification is generated for the new message. The device updates the menu by changing the count indicator for the Messages app to show that the Messages app now has four unread notifications.

In some embodiments, the plurality of applications include (**1624**) an application that does not have any unread notifications. In response to detecting the first input: in accordance with a determination that the first input meets the menu-presentation criteria, the device foregoes displaying, concurrently with the one or more selectable options for launching corresponding applications that have unread notifications, a selectable option that, when activated, is configured to launch the application that does not have any unread notifications. For example, in some embodiments, if, at the time the quick action menu is displayed (e.g., in response to a deep press input on the folder icon), only the Messages app has five unread notifications, and the Mail app and the Call app do not have any unread notifications, then, only a menu option for launching the Messages app is displayed in the quick action menu, and menu options for launching the Mail app and the Call app are not displayed in the quick action menu. Additionally, if the unread messages from the Messages app become read at a later point in time, then a subsequent menu-display input on the folder icon will cause the device to display a menu that does not have a menu option for launching the Messages app. Similarly, if an app receives a notification, then a subsequent menu-display input on the folder will cause the device to display a menu that has a menu option for launching the app.

In some embodiments, in response to detecting the first input: in accordance with a determination that the first input meets the menu-presentation criteria, the device displays (**1626**) a selectable option that, when activated, is configured to enable renaming of the application folder (e.g., the menu option for renaming the folder is displayed concurrently with the menu options for launching the application(s) that have unread notifications in the quick action menu) (e.g., option **5520** in FIG. **5**T**5**). In some embodiments, the selectable option for renaming the folder is displayed without regard to whether or not there are any applications with unread notifications in the folder (e.g., a menu-presentation input on a folder that does not contain any applications with unread notifications will cause the device to display a menu that includes a selectable option that, when activated, is configured to enable renaming of the application folder. In some embodiments, enabling renaming of a folder includes transitioning from a mode in which the folder cannot be renamed into a mode in which the folder can be renamed. In some embodiments, the option for renaming the folder is displayed in response to a menu presentation input, without regard to the status of notifications for the applications in the folder.

In some embodiments, while displaying the selectable option for renaming the application folder, the device detects (**1628**) a second input selecting the selectable option for renaming the application folder (e.g., as shown in FIG. **5**V**6**). In response to detecting the second input: the device displays the application folder containing the plurality of application icons (e.g., displaying a zoomed view of the application icon (e.g., over a blurred version of the user interface (e.g., the home screen))) to show application icons within the application folder in their regular sizes) (e.g., as shown in FIG. **5**V**8**). In some embodiments, the application folder is displayed over a blurred version of the user interface that is of the same dimensions and scales as the user interface before the blurring. In other words, the application folder "pops up" from the folder icon, and is overlaid on top of the blurred user interface. In some embodiments, the folder icon is not blurred with the rest of the user interface, and the view port on the screen zooms into toward the folder icon, with the rest of the user interface expanding away from the folder icon, until the folder icon is expanded into the application icon containing the application icons. In response to detecting the second input, the device displays a folder name of the application folder in an editable state (e.g., by placing a text cursor within the text of the folder name). In some embodiments, when an option in the quick action menu is selected, the menu ceases to be displayed over the blurred user interface. This is illustrated in FIGS. **5**V**6**-**5**V**8**, for example.

In some embodiments, in response to detecting the second input, the device displays (**1630**) an onscreen keyboard concurrently with the folder name of the application folder (e.g., the onscreen keyboard is automatically displayed as soon as the "Rename" option is selected from the quick action menu), wherein an input received through the onscreen keyboard edits the folder name that is displayed in the editable state, e.g., as illustrated in FIG. **5V6**.

In some embodiments, in response to detecting the second input, the device presents (**1632**) the plurality of application icons in a reconfiguration mode within the application folder (e.g., the plurality of application icons are presented in an "jiggling" state, and a user can drag each application icon to a different location within or outside of the application folder, or select an affordance presented on the application icon to delete the application corresponding to the application icon) (e.g., as shown in FIG. **5V6**). In some embodiments, other application icons outside of the application folder are also placed in the reconfiguration mode. In some embodiments, when the icons are not presented in a reconfiguration mode, a touch input at a location that corresponds to an application icon and includes movement across the touch-sensitive surface will cause a different page of icons to be displayed.

In some embodiments, while displaying the onscreen keyboard and while displaying the plurality of application icons in the reconfiguration mode, the device detects (**1634**) a third input through the onscreen keyboard. In response to detecting the third input: the device edits the folder name in accordance with the third input; and continues to display the plurality of application icons in the reconfiguration mode. This is illustrated in FIGS. **5V8**-**5V10**, for example.

In some embodiments, while displaying the onscreen keyboard and while displaying the plurality of application icons in the reconfiguration mode, the device detects (**1636**) a fourth input selecting one of the plurality of application icons. In response to detecting the fourth input: the device ceases to display the folder name in the editable state; the device ceases to display the onscreen keyboard; and the device continues to present the plurality of application icons in the reconfiguration mode. This is illustrated in FIGS. **5V10**-**5V11**, for example.

In some embodiments, in response to detecting the first input: in accordance with a determination that the first input meets folder-content-display criteria, wherein the folder-content-display criteria do not require that a characteristic intensity of a contact (e.g., the first contact) associated with the detected input (e.g., the first input) meet the first intensity threshold in order for the folder-content-display criteria to be met (e.g., in some embodiments, the folder-content-display criteria are met when the first input is a tap input), the device displays (**1638**) the application folder containing the plurality of application icons (e.g., without placing the folder name in the editable state and without placing the plurality of application icons in the reconfiguration mode) (e.g., as shown in FIGS. **5U1**-**5U3**). In some embodiments, displaying the application folder includes displaying a zoomed view of the application icon (e.g., over a blurred version of the user interface (e.g., the home screen))) to show application icons within the application folder in their regular sizes. In some embodiments, an animation showing a process of zooming in onto the folder icon is displayed, which results in the zoomed view of the folder icon (and the regular view of the application folder) on the screen. In some embodiments, an animation showing the folder icon popping up from its original location, and morphs into the application folder overlaid on the blurred user interface.

FIG. **17** is a functional block diagram of an electronic device for presenting options corresponding to launching an application based on the user input, in accordance with some embodiments.

In accordance with some embodiments, FIG. **17** shows a functional block diagram of an electronic device **1700** configured in accordance with the principles of the various described embodiments. The functional blocks of the device are, optionally, implemented by hardware, software, or a combination of hardware and software to carry out the principles of the various described embodiments. It is understood by persons of skill in the art that the functional blocks described in FIG. **17** are, optionally, combined or separated into sub-blocks to implement the principles of the various described embodiments. Therefore, the description herein optionally supports any possible combination or separation or further definition of the functional blocks described herein.

As shown in FIG. **17**, an electronic device **1700** includes a display unit **1702** configured to display a user interface; a touch-sensitive surface unit **1704** configured to receive user contacts; one or more sensor units **1706** configured to detect intensity of contacts with the touch-sensitive surface unit **1704**; and a processing unit **1710** coupled to the display unit **1702** the touch-sensitive surface unit **1704**, and the one or more sensor units **1706**. The processing unit **1710** including an enabling unit **1712**, detecting unit **1714**, receiving unit **1716**, updating unit **1718**, foregoing unit **1720**, presenting unit **1722**, editing unit **1724**, continuing unit **1726**, and ceasing unit **1728**.

The processing unit **1710** is configured to enable display of (e.g., with enabling unit **1712**) a user interface on the display unit **1702**, wherein: the user interface includes a folder icon that corresponds to an application folder containing a plurality of application icons, the plurality of application icons correspond to different applications in a plurality of applications, and the plurality of applications include one or more applications that have one or more unread notifications.

While displaying the user interface that includes the folder icon, the processing unit **1710** is configured to detect (e.g., with detecting unit **1714**) a first input that includes detecting a first contact at a location on the touch-sensitive surface unit **1704** that corresponds to the folder icon.

In response to detecting the first input: in accordance with a determination that the first input meets menu-presentation criteria, wherein the menu-presentation criteria require that a characteristic intensity of a contact in a detected input meet a first intensity threshold in order for the menu-presentation criteria to be met, the processing unit **1710** is configured to enable display of (e.g., with enabling unit **1712**) one or more selectable options that, when activated, are configured to launch corresponding applications from the plurality of applications in the application folder that have unread notifications.

FIGS. **18**A-**18**D are flow diagrams illustrating a method **1800** of modifying the functionality of a control affordance in accordance with some embodiments. The method **1800** is performed at an electronic device (e.g., device **300**, FIG. **3**, or portable multifunction device **100**, FIG. **1**A) with a display and a touch-sensitive surface. In some embodiments, the display is a touch screen display and the touch-sensitive surface is on or integrated with the display. In some embodiments, the display is separate from the touch-sensitive surface. Some operations in method **1800** are, optionally, combined and/or the order of some operations is, optionally, changed.

As described below, the method **1800** provides an intuitive way to modify the functionality of a control affordance. The method allows the user to choose between a simplified toggle switch versus a more fine-grained control based on characteristic of a single input (e.g., an intensity of a single contact) on the control affordance. Thus, the method reduces the cognitive burden on a user when modifying the functionality of a control affordance, thereby creating a more efficient human-machine interface. For battery-operated electronic devices, enabling a user to modify the functionality of a control affordance faster and more efficiently conserves power and increases the time between battery charges.

The device displays (**1802**) a control user interface **608** that includes a plurality of control affordances (e.g., control affordances **612**-**634** as shown in FIG. **6**B).

The device detects (**1804**) a first input by a contact at a location on a touch-sensitive surface **112** that corresponds to a first control affordance, of the plurality of control affordances. For example, the first input is a contact at a location of Wi-Fi control affordance **614**, as indicated by focus selector **640** in FIG. **6**B.

In response to detecting the first input (**1806**): in accordance with a determination that the first input meets control toggle criteria, wherein the control toggle criteria do not require that a characteristic intensity of the contact meet a first intensity threshold in order for the control toggle criteria to be met (e.g., in some embodiments, the control toggle criteria are met when the characteristic intensity of the contact is below a hint press intensity threshold IT_H, a light press intensity threshold IT_L or a deep press intensity threshold IT_D) (e.g., in some embodiments, the control toggle criteria are met when the first input is a tap input), the device toggles a function of a control that corresponds to the first control affordance; and in accordance with a determination that the first input meets enhanced control criteria, the enhanced control criteria require that the characteristic intensity of the contact meet the first intensity threshold in order for the enhanced control criteria to be met, the device displays one or more modification options for the control that correspond to the first control affordance. For example, as discussed with regard to FIGS. **6**B-**6**D, an input received at Wi-Fi control affordance **614** that meets control toggle criteria (e.g., an input at a location indicated by focus selector **640** of FIG. **6**B and/or **642** of FIG. **6**C that does not increase above hint press intensity threshold IT_H) toggles a Wi-Fi function that corresponds to Wi-Fi control affordance **614** from an disabled state (FIG. **6**B) to a enabled state (FIG. **6**C) and from an enabled state (FIG. **6**C) to a disabled state (FIG. **6**D). As discussed with regard to FIGS. **6**E-**6**I, an input received at Wi-Fi control affordance **614** that meets enhanced control criteria causes modification options to be displayed for the Wi-Fi function. For example, in response to an input at a location indicated by focus selector **646** of FIG. **6**F that increases above light press intensity threshold IT_L, the device displays modification options **650**-**658**. In response to an input at a location indicated by focus selector **660** of FIG. **6**I that increases above light press intensity threshold IT_L, the device displays modification options **664**-**672**. In some embodiments, the modification options are displayed in a menu. For example, modification option menu **648**, as shown in FIG. **6**F, includes modification options **650**-**658**; and modification option menu **662**, as shown in FIG. **6**I, includes modification options **664**-**672**.

While displaying the one or more modification options for the control that correspond to the first control affordance, the device detects (**1808**) a second input that activates a first modification option of the one or more modification options. For example, an input at a location of modification option **654**, as indicated by focus selector **658** of FIG. **6**G, activates modification option **654** ("Turn off until I leave here"). In some embodiments, the second input is a continuation of the first input by the contact. In some embodiments, the second input is a separate tap input on a modification option.

The device modifies (**1810**) the control that corresponds to the first control affordance in accordance with the activated first modification option. For example, in response to the input by a contact at a location indicated by focus selector **658** in FIG. **6**G at modification option **654** ("Turn off until I leave here"), the device disables Wi-Fi communications until the device is determined to be, e.g., beyond a threshold distance from a current device location, and/or in a different defined area from a current device location.

By providing different responses to inputs that meet different criteria, a single input affordance is usable to adjust a wider variety of functionality. The navigation required to access device features (such as changing a Wi-Fi network to which the device is connected, temporarily disabling a Wi-Fi network, or other features describe below in Table 1) is reduced, conserving device battery life.

Table 1 is a listing of toggle/control functions and modification options that correspond to device controls, in accordance with some embodiments.

TABLE 1

Toggle/Control Functions and Modification Options for Controls

Control	Toggle/Control Function(s)	Modification Options
Airplane Mode	Activate Airplane Mode/ Deactivate Airplane Mode	Activate until end of this flight (e.g., based ticketing data stored by device application (e.g., ticket and/or payment management application, calendar application, and/or e-mail) or as determined using data available from carrier, e.g., via in-flight Wi-Fi.) Activate for 2 hours from the time at which the option is selected Activate for 5 hours from the time at which the option is selected Activate for 12 hours from the time at which the option is selected
Wi-Fi	Activate Wi-Fi/ Deactivate Wi-Fi	Wi-Fi state: on Disconnect from [name of current network connection] Connect to [name of other detected network] Turn off Wi-Fi for 1 hour from the time at which the option is selected Turn off Wi-Fi until tomorrow (e.g., until midnight, until another predefined time, and/or 24 hours from the time at which the option is selected) Turn off Wi-Fi until I leave here(e.g., determined based whether the device moves more than a threshold distance from a current device location at the time that the option is selected, whether the device moves beyond a boundary of a defined area (such as a geofence, address, neighborhood, and/or city) and/or whether more than a threshold amount of movement of the device is detected based on one or more sensors (such as GPS, accelerometer, light sensor and/or sound sensor) of the device or other location detection process) Wi-Fi Settings Wi-Fi state: off

TABLE 1-continued

Toggle/Control Functions and Modification Options for Controls

Control	Toggle/Control Function(s)	Modification Options
		Connect to [name of most recent (and currently detected) network connection] Connect to [name of other detected network] Turn on Wi-Fi for 1 hour (e.g., 1 hour from the time at which the option is selected) Turn on Wi-Fi until tomorrow (e.g., until midnight, until another predefined time, and/or 24 hours from the time at which the option is selected) Turn on Wi-Fi until I leave here (e.g., determined based whether the device moves more than a threshold distance from a current device location at the time that the option is selected, whether the device moves beyond a boundary of a defined area (such as a geofence, address, neighborhood, and/or city) and/or whether more than a threshold amount of movement of the device is detected based on one or more sensors (such as GPS, accelerometer, light sensor and/or sound sensor) of the device or other location detection process) Turn on Wi-Fi until network [name of most recent (and currently detected) network connection] signal no longer detected Wi-Fi Settings
Bluetooth	Enable Bluetooth/ Disable Bluetooth	Bluetooth state: enabled Disconnect from [name of currently connected device 1] Disconnect from [name of currently connected device X Connect to [name of other detected device] Turn off Bluetooth for 1 hour from the time at which the option is selected Turn off Bluetooth until tomorrow (see "until tomorrow" determination description above under Wi-Fi) Turn off Bluetooth until I leave here (see "until I leave here" determination description above under Wi-Fi) Bluetooth Settings Bluetooth state: disabled Connect to [name of most recent (and currently detected) connected device] Connect to [name of other detected device] Turn on Bluetooth for 1 hour from the time at which the option is selected Turn on Bluetooth until tomorrow (see "until tomorrow" determination description above under Wi-Fi) Turn on Bluetooth until I leave here (see "until I leave here" determination description above under Wi-Fi) Turn on Bluetooth until device [name] signal no longer detected Bluetooth Settings
Do Not Disturb	Activate Do Not Disturb Mode/ Deactivate Do Not Disturb Mode	Do Not Disturb State: Activated End Do Not Disturb End at sunset (e.g., as determined from data stored by the device, via internet connection and/or using light sensor) End after 1 hour from the time at which the option is selected End tomorrow (e.g., default time, user-specified time, time for which alarm is set, 8 hours from time at which the option is selected) Do Not Disturb State: Deactivated:

TABLE 1-continued

Toggle/Control Functions and Modification Options for Controls

Control	Toggle/Control Function(s)	Modification Options
		Set Do Not Disturb Turn on until sunrise (e.g., as determined from data stored by the device, via internet connection and/or using light sensor) Turn on for 1 hour from the time at which the option is selected Turn on for 8 hours from the time at which the option is selected Turn on until tomorrow
Rotation Lock	Activate Rotation Lock/ Deactivate Rotation Lock	Rotation Lock Activated: Unlock Rotation Lock Deactivated: Lock Lock except for full screen video
Flashlight	Flashlight On/ Flashlight Off	High Medium ("Warm light") Low Flashing
Timer	Display Timer Application User Interface	Timer Running: Pause timer Alter remaining time Timer Not Set: 1 minute 5 minute 15 minutes 30 minutes or Time duration slider Start button
Night Shift	Night Shift Mode Activated/ Night Shift Mode Deactivated	Night Shift State: Activated End Night Shift End at sunrise (e.g., as determined from data stored by the device, via internet connection and/or using light sensor) End after 8 hours from the time at which the option is selected End tomorrow (e.g., default time, user-specified time, time for which alarm is set) Night Shift State: Deactivated: Set Night Shift Turn on until sunrise (e.g., as determined from data stored by the device, via internet connection and/or using light sensor) Turn on for 1 hour Turn on for 8 hours Turn on until tomorrow (e.g., default time, user-specified time, time for which alarm is set)
Calculator	Display Calculator Application User Interface	Copy last result
Camera	Display Camera Application User Interface	Take Selfie Record Video Record Slo-mo Take Photo

In some embodiments, the second input that activates the first modification option also toggles (**1812**) the function of the control that corresponds to the first control affordance. For example, the second input activates a modification option (e.g., selects a Wi-Fi network) and also toggles the control (e.g., turns Wi-Fi on with the selected network). In another example, the second input turns on a flashlight with a selected flashlight mode. For example, in response to the input by a contact at a location indicated by focus selector **658** in FIG. **6**G at modification option **654** ("Turn off until I leave here"), the device Wi-Fi toggles from an enabled state, as indicated in FIG. **6**F, to a disabled state, as indicated in FIG. **6**I.

In some embodiments, modifying the control that corresponds to the first control affordance in accordance with the activated first modification option includes (**1814**): in accordance with a determination that the function is on when the second input is detected, modifying the function in accordance with the first modification option; (e.g., turning a brightness of a flashlight from a low setting to a high setting if the high setting is selected) and, in accordance with a determination that the function is off when the second input is detected, turning the function on with modification in accordance with the first modification option (e.g., turning the flashlight from off to on at a high setting if the high setting is selected). For example, a second input is an input that adjusts an adjustable control **680** as shown in FIG. **6**M, an input provided at start control affordance **682** as shown in FIG. **6**M, an input that adjusts a timer progress bar **684** as shown in FIG. **6**N, and/or an input received at pause control affordance **686** as shown in FIG. **6**N. In accordance with a determination that the function is on (e.g., the timer is running) when the second input is detected, the timer is modified in accordance with the modification made by the input (e.g., the timer progress is adjusted in accordance with an adjustment to timer progress bar **684** and/or the timer is paused by pause control affordance **686**, as described with regard to FIG. **6**N). In accordance with a determination that the function is off (e.g., the timer is not running) when the second input is detected, the timer is started in accordance with the modification made by the input (e.g., the timer duration is adjusted in accordance with an adjustment to adjustable control **680** and/or the timer is started by timer start control affordance **682**).

In some embodiments, the modification option modifies (**1816**) a mode (e.g., a flashlight level, such as high, warm light and/or low) of the control that corresponds to the first control affordance. For example, modification options **696**, **698**, **6100**, and **6102** listed in modification option menu **694** of FIG. **6**R modify a mode of the camera control that corresponds to camera control affordance **630**.

In some embodiments, modifying the control that corresponds to the first control affordance in accordance with the activated first modification option includes (**1818**) setting reversion criteria for the control. Reversion criteria include, e.g., criteria that are met when a time duration has passed, criteria that are met when a device arrives at a location (e.g., a geofence, city, and/or address), criteria that are met when a device departs from a location; and/or criteria that are met at a future point in time. In accordance with a determination that the reversion criteria are met, the device reverts the control that corresponds to the first control affordance to a prior state of the control (e.g., the previous state and/or default state). For example, the selected modification option enables/disables Wi-Fi in accordance with the reversion criteria (e.g., when the device leaves a designated area, as indicated by modification option **654** in FIG. **6**F), enables/disables a do not disturb mode in accordance with the reversion criteria (e.g., for a designated number of hours), and/or enables/disables airplane mode in accordance with the reversion criteria (e.g., until a determined end of a flight).

In some embodiments, in accordance with a determination that the characteristic intensity of the contact meets the enhanced control criteria, the device determines (**1820**) a (current) state of the control that corresponds to the first control affordance. For example, the device determines a state of a timer (e.g., running, not running) that corresponds to timer control affordance **624** in FIG. **6**B. In accordance with a determination that the (current) state of the control that corresponds to the first control affordance is a first state (e.g., timer is running), the device displays (**1822**) a first set of modification options for the control that corresponds to the first control affordance (e.g. duration options for the timer, e.g., as indicated at adjustable control **680** of FIG. **6**M). In accordance with a determination that the (current) state of the control that corresponds to the first control affordance is a second state (e.g., timer is not running), the device displays (**1824**) a second set of modification options for the control that corresponds to the first control affordance that are distinct from the first set of modification options. For example, the device displays timer progress bar **684** for controlling progress through a timer (e.g., using a timer duration slider control) and/or an option to pause (e.g. pause control affordance **686**).

In accordance with a determination that the characteristic intensity of the contact in the first input meets the enhanced control criteria (**1826**), the device concurrently displays a current value of a parameter of the control (e.g., a current time status of a timer) with the one or more modification options for the control that corresponds to the first control affordance. For example, user interface **678** for setting a timer includes a timer duration (e.g., a default timer duration and/or a previously set timer duration, such as the text that indicates "12 minutes" and the position of the adjustable control **680**), and user interface **682** that indicates progress of a running timer includes a timer progress indication (e.g., the text that indicates "1:42" and the position of the progress indicator in progress bar **684**). In some embodiments, the current value of the parameter of the control is displayed instead of the one or more modification options for the control (e.g., when the control was previously set and activated).

In some embodiments, the first control affordance is (**1828**) a first application affordance (e.g., an application icon, such as camera control affordance **630**) that corresponds to a first application (e.g., a camera application). A second application affordance (e.g., camera application icon **430** in FIG. **6**T) that corresponds to the first application is displayed (**1830**) in a second user interface that is distinct from the control user interface (e.g., a springboard user interface **6104** (FIG. **6**T) that includes a plurality of application icons, including camera application icon **430**, as shown in FIG. **6**T). One or more action options (e.g., options **6110**-**6116** in FIG. **6**U) for the first application are displayed (**1832**) in response to an input at a location on the touch-sensitive surface that corresponds to the second application affordance when display-action-options criteria are met (e.g., including criteria that are met when a characteristic intensity of the contact increases above light press threshold IT_L or deep press threshold IT_D). In some embodiments, the enhanced control criteria and the display-action-options criteria have the same intensity-based criteria. In some embodiments, the one or more modification options (e.g., **696**-**6102**, as illustrated in FIG. **6**R) for the control that corresponds to the first control affordance include (**1834**) at least a subset of the action options (e.g., **6110**-**6116** in FIG. **6**U) for the first application, such as quick action menu items for the first application that are displayed when an input that has a characteristic intensity above the first intensity threshold is received at a location that corresponds to the second application affordance. In some embodiments, the menu (e.g., modification option menu **694** in FIG. **6**R) of (modification) options (e.g., modification options **696**-**6102** in FIG. **6**R) that is displayed for an application icon in the control user interface is the same as the menu (e.g., action option menu **6108** in FIG. **6**U) of options (e.g., **6110**-**6116** in

FIG. 6U) that is displayed for the corresponding application icon in an application springboard.

In some embodiments, the one or more modification options for the control that corresponds to the first control affordance include (**1836**) at least one network connection activation option (e.g., Wi-Fi network pairing options such as **656**, **664**, and/or **666** in FIGS. **6**F and **6**I) and/or Bluetooth pairing options).

In some embodiments, the control user interface partially overlays (**1838**) a portion of a second user interface that is distinct from the control user interface (e.g., a springboard, lock screen, or application user interface). For example, as shown in FIG. **6**B, control user interface **608** partially overlays a portion of an initial user interface **601** (e.g., a lock screen interface and/or a wake screen interface) shown in FIG. **6**A. In some embodiments, the control user interface **608** is displayed in response to an input gesture detected while the second user interface **601** is displayed (e.g., a swipe gesture from an edge of the display, such as an upward swipe gesture).

In some embodiments, the control user interface **608** includes (**1840**) a plurality of controls (e.g., control affordances **612-634**, as shown in FIG. **6**B), wherein a respective control of the plurality of controls corresponds to a system setting. For example, the first control user interface **608** and the initial user interface **601** are simultaneously displayed, and a portion of the initial user interface **601** is visually obscured by the first control user interface **608**. In some embodiments, the first control user interface is semitransparent, and the portion of the initial user interface **601** that exists behind the first control user interface **608** is partially visible through the first control user interface.

It should be understood that the particular order in which the operations in FIGS. **18**A-**18**D have been described is merely exemplary and is not intended to indicate that the described order is the only order in which the operations could be performed. One of ordinary skill in the art would recognize various ways to reorder the operations described herein. Additionally, it should be noted that details of other processes described herein with respect to other methods described herein are also applicable in an analogous manner to method **1800** described above with respect to FIGS. **18**A-**18**D. For example, the contacts, gestures, user interface objects, intensity thresholds, and focus selectors described above with reference to method xxx optionally have one or more of the characteristics of the contacts, gestures, user interface objects, intensity thresholds, and focus selectors described herein with reference to other methods described herein. For brevity, these details are not repeated here.

In accordance with some embodiments, FIG. **19** shows a functional block diagram of an electronic device **1900** configured in accordance with the principles of the various described embodiments. The functional blocks of the device are, optionally, implemented by hardware, software, firmware, or a combination thereof to carry out the principles of the various described embodiments. It is understood by persons of skill in the art that the functional blocks described in FIG. **19** are, optionally, combined or separated into sub-blocks to implement the principles of the various described embodiments. Therefore, the description herein optionally supports any possible combination or separation or further definition of the functional blocks described herein.

As shown in FIG. **19**, an electronic device **1900** includes a display unit **1902** configured to display a user interface, a touch-sensitive surface unit **1904** configured to receive contacts, one or more sensor units **1906** configured to detect intensity of contacts with the touch-sensitive surface unit **1904**; and a processing unit **1908** coupled with the display unit **1902**, the touch-sensitive surface unit **1904** and the one or more sensor units **1906**. In some embodiments, the processing unit **1908** includes an enabling unit **1910**, a detecting unit **1912**, a toggling unit **1914**, a modifying unit **1916**, a reverting unit **1918**, and a determining unit **1920**.

The processing unit **1908** is configured to enable display (e.g., with enabling unit **1910**) of a control user interface that includes a plurality of control affordances. The processing unit **1908** is configured to detect (e.g., with detecting unit **1912**) a first input by a contact at a location on the touch-sensitive surface unit that corresponds to a first control affordance, of the plurality of control affordances, on the display unit. In response to detecting the first input: in accordance with a determination that the first input meets control toggle criteria, wherein the control toggle criteria do not require that the characteristic intensity of the contact meet a first intensity threshold in order for the control toggle criteria to be met, the processing unit **1908** is configured to toggle (e.g., with toggling unit **1914**) a function of a control that corresponds to the first control affordance. In accordance with a determination that the first input meets enhanced control criteria, wherein the enhanced control criteria require that the characteristic intensity of the contact meet the first intensity threshold in order for the enhanced control criteria to be met, the processing unit **1908** is configured to enable display (e.g., with enabling unit **1910**) of one or more modification options for the control that correspond to the first control affordance. While displaying the one or more modification options for the control that correspond to the first control affordance, the processing unit **1908** is configured to detect (e.g., with detecting unit **1912**) a second input that activates a first modification option of the one or more modification options. The processing unit **1908** is configured to modify (e.g., with modifying unit **1916**) the control that corresponds to the first control affordance in accordance with the activated first modification option.

The operations in the information processing methods described above are, optionally implemented by running one or more functional modules in information processing apparatus such as general purpose processors (e.g., as described above with respect to FIGS. **1**A and **3**) or application specific chips.

FIGS. **20**A-**20**G are flow diagrams illustrating a method **2000** of deleting content in accordance with some embodiments. The method **2000** is performed at an electronic device (e.g., device **300**, FIG. **3**, or portable multifunction device **100**, FIG. **1**A) with a display and a touch-sensitive surface. In some embodiments, the display is a touch screen display and the touch-sensitive surface is on or integrated with the display. In some embodiments, the display is separate from the touch-sensitive surface. Some operations in method **2000** are, optionally, combined and/or the order of some operations is, optionally, changed.

As described below, the method **2000** provides an intuitive and effective way to delete content. The method reduces the tedious repetitions of a deletion input required of a user when deleting content, thereby creating a more efficient human-machine interface. For battery-operated electronic devices, enabling a user to delete content faster and more efficiently conserves power and increases the time between battery charges.

The device displays (**2002**) a user interface (e.g., **702**) that includes: an editable content area (e.g., **704**) that has a plurality of characters, and a content deletion control (e.g., 708 (e.g., a delete key in a content input area such as a keyboard 709), e.g., as shown in FIG. 7A).

The device detects (2004) a deletion input that includes detecting a contact (e.g., as indicated by focus selector 710) at a location on the touch-sensitive surface that corresponds to the content deletion control (e.g., 708) on the display.

In response to detecting the deletion input, the device deletes (2006) content (e.g., one or more characters) in the editable content area (e.g., 704) based on a duration and a characteristic intensity of the contact.

In accordance with a determination that the contact was maintained for a first time period without the characteristic intensity of the contact increasing above a first intensity threshold (e.g., the characteristic intensity of the contact remains below a light press intensity threshold IT_L or a deep press intensity threshold IT_D), the device deletes (2008) the content in the editable content area (e.g., 704) by sequentially deleting a plurality of sub-units of the content of a first type of sub-unit of the content (e.g., deleting text character-by-character, as illustrated at FIG. 7B) at a rate that does not vary based on the characteristic intensity of the contact. For example, in FIG. 7D, dashed line 720 represents a characteristic intensity of a contact (e.g., the contact at the location corresponding to deletion control 708 as indicated by focus selector 710 in FIG. 7A) over time. The characteristic intensity of the contact is maintained for a first time period (e.g., a time period from 0 until time T1, as indicated on the time axis of FIG. 7D) without the characteristic intensity of the contact increasing above deep press intensity threshold IT_D, as indicated on the intensity axis of FIG. 7D. As indicated in FIG. 7D, at time T1, the device begins character-by-character deletion at a non-varying rate.

In accordance with a determination that the contact was maintained for a second time period that is longer than the first time period, without the characteristic intensity of the contact increasing above the first intensity threshold, the device deletes (2010) the content in the editable content area (e.g., 704) by sequentially deleting a plurality of sub-units of the content of a second type of sub-unit of the content (e.g., deleting text word-by-word, as illustrated at FIG. 7C) at a rate that does not vary based on the characteristic intensity of the contact. For example, in FIG. 7D, the characteristic intensity of a contact over time, as indicated by dashed line 720, is maintained for a first time period (e.g., a time period from 0 until time T2, as indicated on the time axis of FIG. 7D) without the characteristic intensity of the contact increasing above deep press intensity threshold IT_D, as indicated on the intensity axis of FIG. 7D. As indicated in FIG. 7D, at time T2, the device begins word-by-word deletion at a non-varying rate.

In some embodiments, in accordance with a determination that the characteristic intensity of the contact increased above the first intensity threshold, the device deletes (2012) the content in the editable content area (e.g., 704) by sequentially deleting a plurality of sub-units of the content at a rate that varies based on the characteristic intensity of the contact. For example, in FIGS. 7E and 7F, when the characteristic intensity of a contact (as indicated by dashed lines 722 and 724, respectively) increases above deep press intensity threshold IT_D, deletion at a rate that varies based on the intensity of the contact begins. In this way, a user is able to bypass waiting for a period of time to elapse in order to start deleting character-by-character at a rate that varies based on intensity of a contact. By increasing the intensity of the contact, the user immediately begins deleting content at a variable rate. In some embodiments, the variance of the rate is also based on whether the device was sequentially deleting the first type of sub-unit of content (e.g., character-by-character) or deleting the second type of sub-unit of the content (e.g., word-by-word) when the characteristic intensity of the contact increased above the first intensity threshold. In some embodiments, a long press (e.g., a touch input that is maintained for more than the first time period) on a character key that has alternative characters causes display of alternative characters for that character key.

In some embodiments, deleting the content in the editable content area (e.g., 704) by sequentially deleting the plurality of sub-units of the content at the rate that varies based on the characteristic intensity of the contact includes (2014), in accordance with a determination that the characteristic intensity increases above the first intensity threshold after the contact has been maintained on the touch-sensitive surface for the first time period, increasing the rate of deletion of the first type of sub-unit of the content (e.g., deleting text character-by-character) in the editable content area as the intensity of the contact increases. For example, in FIG. 7E, the characteristic intensity of a contact over time, as indicated by dashed line 722, increases above deep press intensity threshold IT_D at time Tim that is after time T1. At time T_{ITD}, character-by-character deletion at a rate that varies based on the intensity of the contact begins.

In some embodiments, deleting the content characters in the editable content area by sequentially deleting the plurality of sub-units of the content at the rate that varies based on the characteristic intensity of the contact includes (2016), in accordance with a determination that the characteristic intensity of the contact increases above the first intensity threshold after the contact has been maintained on the touch-sensitive surface for the first time period, continuing to delete the first type of sub-unit of the content (e.g., deleting text character-by-character) in the editable content area after the contact has been maintained on the touch-sensitive surface for the second time period instead of switching to deleting the second type of sub-unit of the content (e.g., deleting text word-by-word). For example, in FIG. 7E, character-by-character deletion at a rate that varies based on the intensity of the contact continues after time T2 (word-by-word deletion does not occur at time T2). In contrast, in some embodiments, if the increase in the characteristic intensity of the contact is detected after the contact has been maintained on the touch-sensitive surface for the second time period, the device switches to deleting the second type of sub-unit of content, which can then be accelerated if the characteristic intensity of the contact increases after the contact has been maintained for the second time period.

In some embodiments, deleting the content in the editable content area (e.g., 704) by sequentially deleting the plurality of sub-units of the content at the rate that varies based on the characteristic intensity of the contact includes (2018), in accordance with a determination that the characteristic intensity first increases above the first intensity threshold after the contact has been maintained on the touch-sensitive surface for the second time period, increasing the rate of deletion of the second type of sub-unit of the content (e.g., deleting text word-by-word, as illustrated at FIG. 7C) in the editable content as the intensity of the contact increases. For example, in FIG. 7F, the characteristic intensity of a contact over time, as indicated by dashed line 724, increases above deep press intensity threshold IT_D at time Tim that is after time T2. At time T_{ITD}, word-by-word deletion at a rate that varies based on the intensity of the contact begins.

In some embodiments, deleting the content in the editable content area (e.g., 704) by sequentially deleting the plurality of sub-units of the content at the rate that varies based on the characteristic intensity of the contact includes (**2020**), in accordance with a determination that the characteristic intensity increases above the first intensity threshold after the contact has been maintained on the touch-sensitive surface for the first time period and before the contact has been maintained on the touch-sensitive surface for the second time period, starting to sequentially delete the plurality of sub-units of the content of the second type of sub-unit of the content (e.g., deleting text word-by-word, as illustrated at FIG. **7**C) in the editable content area **704** before the contact has been maintained on the touch-sensitive surface for the second time period. For example, in FIG. **7**G, the characteristic intensity of a contact over time, as indicated by dashed line **726**, increases above deep press intensity threshold IT_D at time T_{ITD} that is after time T**1** and before time T**2**. At time T_{ITD}, word-by-word deletion begins.

In some embodiments, starting to sequentially delete the plurality of sub-units of the content of the second type of sub-unit of the content (e.g., deleting text word-by-word, as illustrated at FIG. **7**C) in the editable content area (e.g., **704**) before the contact has been maintained on the touch-sensitive surface for the second time period includes (**2022**) increasing the rate of sequential deletion of the second type of sub-unit of the content (e.g., deleting text word-by-word) in the editable content as the intensity of the contact increases.

In some embodiments, after starting to sequentially delete the plurality of sub-units of the content of the second type of sub-unit of the content (e.g., deleting text word-by-word, as illustrated at FIG. **7**C) in the editable content area (e.g., **704**) before the contact has been maintained on the touch-sensitive surface for the second time period, the device detects (**2024**) a decrease in the intensity of the contact below the first intensity threshold; and after detecting the decrease in the intensity of the contact below the first intensity threshold and while the contact continues to be detected on the touch-sensitive surface, the device continues to sequentially delete the plurality of the sub-units of content of the second type of sub-unit of the content (e.g., deleting text word-by-word) in the editable content area before the contact has been maintained on the touch-sensitive surface for the second time period. For example, in FIG. **7**H, the characteristic intensity of a contact over time, as indicated by dashed line **728**, increases above deep press intensity threshold IT_D at time T_{ITD1} and decreases below deep press intensity threshold IT_D at time T_{ITD1} that occurs after time T_{ITD1}. At time T_{ITD1}, word-by-word deletion begins. At time T_{ITD2}, which occurs before time T**2**, word-by-word deletion continues.

In some embodiments, in accordance with a determination that liftoff of the contact was detected before the contact was maintained on the touch-sensitive surface for more than a tap time threshold, a single character is deleted (**2026**) from the content. For example, in FIG. **7**I, a contact having a characteristic intensity that varies over time, as indicated by dashed line **730**, is lifted off before tap time threshold Ttap occurs, and a single character is deleted. In some embodiments, tap time threshold T_{tap} occurs before T**1**, as shown in FIG. **7**I. In some embodiments, tap time threshold T_{tap} is the same as T**1**.

In some embodiments, the user interface (e.g., **702**) includes (**2028**) a content insertion indicator (e.g., **716**) (e.g., text cursor) that is displayed within the editable content area (e.g., **704**); and deleting the content in the editable content area includes deleting the plurality of sub-units of the content from a location in the editable content area that corresponds to the content insertion indicator. For example, as illustrated at FIGS. **7**B and **7**C, text is deleted from a position indicated by content insertion indicator **716**.

In some embodiments, the device detects (**2030**) a repositioning input that includes detecting a second contact at a second location (e.g., as indicated by focus selector **732***a*) on the touch-sensitive surface, wherein the second location on the touch-sensitive surface is distinct from the location that corresponds to the content deletion control (e.g., **708**). In accordance with a determination that a characteristic intensity of the second contact increased above the first intensity threshold (e.g., a light press intensity threshold IT_L or a deep press intensity threshold IT_D, as indicated by intensity meter **712**) the device activates (**2032**) a content insertion indicator repositioning mode. While the content insertion indicator repositioning mode is active, the device (**2034**): displays indicia (e.g., replacing autocorrect text and/or text on the keys of the keyboard with blank space, as illustrated at FIG. **7**M) that correspond to the content insertion indicator repositioning mode; detects movement of the second contact from the second location (e.g., as indicated by focus selector **732***a*) on the touch-sensitive surface to a third location (e.g., as indicated by focus selector **732***b*) on the touch-sensitive surface (e.g., along a path indicated by arrow **734**); and moves the content insertion indicator (e.g., **716**) (e.g., in accordance with the movement of the second contact). For example, as the second contact moves from the second location **732***a* to the third location **732***b* along the path indicated by arrow **734**, content insertion indicator **716** moves from a first location **716***a* to a second location **716***b* along a path indicated by arrow **736**. The device detects (**2036**) liftoff of the second contact from the touch-sensitive surface. In response to detecting the liftoff of the second contact from the touch-sensitive surface, the device displays (**2038**) the content insertion indicator **716** at a location (e.g., **716***b*) corresponding to the location of the content insertion indicator **716** when liftoff of the second content from the touch-sensitive surface occurred (e.g., as shown in FIG. **7**N).

In some embodiments, the device includes (**2040**) one or more tactile output generators.

In some embodiments, the device outputs (**2042**), with the one or more tactile output generators, a plurality of tactile outputs, wherein a respective tactile output in the plurality of tactile outputs is triggered based on deletion of a respective sub-unit of the plurality of sub-units of the content. For example, as shown in FIGS. **7**O-**1** and **7**O-**2**, a deletion of a sub-unit (e.g., a character) occurs at times t**1**, t**2**, t**3**, and t**4**, and a tactile output that corresponds to deletion of a sub-unit occurs at times t**1**, t**2**, t**3**, and t**4**.

In some embodiments, a tactile output profile (e.g., including one or more parameters such as amplitude, duration, damping, and/or frequency) of a respective tactile output in the plurality of tactile outputs varies (**2044**) based on the characteristic intensity of the contact. For example, as shown in FIG. **7**O-**1**, harder tactile outputs occur as the characteristic intensity of the contact increases. As another example, as shown in FIG. **7**O-**2**, softer tactile outputs occur as the characteristic intensity of the contact increases (and the speed of deletion of the sub-units increases).

In some embodiments, the user interface includes (**2046**) a content input area (e.g., **740**) (e.g., of which the content deletion control **708** is a part) that includes a plurality of keys that are distinct from the content deletion control; and one or more keys of the plurality of keys that are distinct from the content deletion control (e.g., **708**) (e.g., one or more character keys) do not trigger a tactile output when activated. In some embodiments, other keys (e.g., a keyboard switching key (for switching between different language keyboards), a keyboard mode-switching key (for switching between a letter keyboard and a number keyboard), and/or a shift key) that are non-character keys do trigger tactile outputs.

In some embodiments, the device detects (**2048**) a menu-display input at a location on the touch-sensitive surface that corresponds to a content input area (e.g., **740**). In response to detecting the menu-display input, the device displays (**2050**) a menu that includes one or more menu items (e.g., an alternate letter selection menu and/or an alternate keyboard menu) in the user interface. For example, as shown in FIG. **7**Q, menu **744** is displayed in response to a menu-display input at a location indicated by focus selector **742**. The device detects (**2052**) a selection input (e.g., a continuation of the menu-display input or a separate input) at a location on the touch-sensitive surface that corresponds to the menu. In accordance with a determination that the selection input moves to a location that corresponds to a respective menu item of the one or more menu items, the device outputs (**2054**), with the one or more tactile output generators, a tactile output. For example, in FIG. **7**R, a contact moves to a location indicated by focus selector **742** that corresponds to menu item **746** ("Emoji"), and a tactile output occurs, as indicated at **751**. In FIG. **7**S, a contact moves to a location indicated by focus selector **742** that corresponds to menu item **748** ("English (US)"), and a tactile output occurs, as indicated at **753**.

In some embodiments, the user interface includes (**2056**) a content input area (e.g., **740**) (e.g., of which the content deletion control is a part) that includes a plurality of keys that are distinct from the content deletion control (e.g., **708**). The device detects (**2058**) a first input at a first location that corresponds to a first key of the content input area (e.g., an input at a location that corresponds to the "A" key as indicated by focus selector **732** of FIG. **7**K), wherein the first input is detected at a first time. The device detects (**2060**) a second input at a second location (e.g., the same location as the first location or a different location from the first location) that corresponds to a second key (e.g., the same key as the first key or a different key from the first key) of the content input area (e.g., **740**), wherein the second input is detected at a second time that is later than the first time. In response to detecting the second input, the device outputs (**2062**) a tactile output, with the one or more tactile output generators, wherein a tactile output profile (e.g., including one or more parameters such as amplitude, duration, damping, and/or frequency) of the tactile output triggered by the second input varies based on a length of time between the first time and the second time. For example, the tactile outputs illustrated in FIGS. **7**T and **7**V vary based on a length of time between an input and a previous input.

In some embodiments, the electronic device includes (**2064**) one or more audio output generators.

In some embodiments, the user interface includes (**2066**) a content input area (e.g., **740**) (e.g., of which the content deletion control **708** is a part) that includes a plurality of keys that are distinct from the content deletion control (e.g., **708**). The device detects (**2068**) a first input at a first location that corresponds to a first key of the content input area (e.g., an input at a location that corresponds to the "A" key as indicated by focus selector **732** of FIG. **7**K), wherein the first input is detected at a first time. The device detects (**2070**) a second input at a second location (e.g., the same location as the first location or a different location from the first location) that corresponds to a second key (e.g., the same key as the first key or a different key from the first key) of the content input area (e.g., **740**), wherein the second input is detected at a second time that is later than the first time. In response to detecting the second input, the device outputs (**2072**) an audio output, with the one or more audio output generators, wherein an audio output profile (e.g., including one or more parameters such as amplitude, duration, damping, and/or frequency) of the audio output triggered by the second input varies based on a length of time between the first time and the second time. For example, the audio outputs illustrated in FIGS. **7**U and **7**W vary based on a length of time between an input and a previous input.

In some embodiments, the user interface includes (**2074**) a content input area (e.g., **740**) (e.g., of which the content deletion control **708** is a part) that includes a plurality of keys that are distinct from the content deletion control (e.g., **708**). In response to detecting the deletion input, the device outputs (**2076**) a first audio output that has a first audio output profile. The device detects (**2078**) a first input at a first location that corresponds to a first key of the plurality of keys that are distinct from the content deletion control (e.g., **708**). In accordance with a determination that the first key has a first key type (e.g., a letter key), the device outputs (**2080**) a second audio output that has a second audio output profile, distinct from the first audio output profile. In some embodiments, when audio output for keys is varied based on typing speed that variation is variation in a parameter that is different from the parameter(s) that differentiate the audio output for the delete key from the audio output for keys of the first type (e.g., character keys), so that even when the audio output of the keys is varied based on typing speed the sound output for the first type of keys is different from the sound output for the delete key.

In some embodiments, in accordance with a determination that the first key has a second key type (e.g., a space key, a shift key, and/or a keyboard switching key), the device outputs (**2082**) a third audio output that has a third audio output profile that is distinct from the first audio output profile and the second audio output profile. In some embodiments, when audio output for keys is varied based on typing speed that variation is variation in a parameter that is different from the parameter(s) that differentiate the audio output for the delete key from the audio output for keys of the first type (e.g., character keys) and the second type (e.g., a space key, a shift key, and/or a keyboard switching key), so that even when the audio output of the keys is varied based on typing speed the sound output for the first type of keys is different from the sound output for the delete key and the sound output from the second type of keys.

It should be understood that the particular order in which the operations in FIGS. **20**A-**20**G have been described is merely exemplary and is not intended to indicate that the described order is the only order in which the operations could be performed. One of ordinary skill in the art would recognize various ways to reorder the operations described herein. Additionally, it should be noted that details of other processes described herein with respect to other methods described herein are also applicable in an analogous manner to method **2000** described above with respect to FIGS. **20**A-**20**G. For example, the contacts, gestures, user interface objects, tactile outputs, audio outputs, intensity thresholds, and focus selectors described above with reference to method **700** optionally have one or more of the characteristics of the contacts, gestures, user interface objects, tactile outputs, audio outputs, intensity thresholds, and focus selectors described herein with reference to other methods described herein. For brevity, these details are not repeated here.

In accordance with some embodiments, FIG. **21** shows a functional block diagram of an electronic device **2100** configured in accordance with the principles of the various described embodiments. The functional blocks of the device are, optionally, implemented by hardware, software, firmware, or a combination thereof to carry out the principles of the various described embodiments. It is understood by persons of skill in the art that the functional blocks described in FIG. **21** are, optionally, combined or separated into sub-blocks to implement the principles of the various described embodiments. Therefore, the description herein optionally supports any possible combination or separation or further definition of the functional blocks described herein.

As shown in FIG. **21**, an electronic device **2100** includes a display unit **2102** configured to display a user interface, a touch-sensitive surface unit **2104** configured to receive contacts, one or more sensor units **2106** configured to detect intensity of contacts with the touch-sensitive surface unit **2104**; and a processing unit **2108** coupled with the display unit **2102**, the touch-sensitive surface unit **2104** and the one or more sensor units **2106**. In some embodiments, the processing unit **2108** includes an enabling unit **2110**, detecting unit **2112**, deleting unit **2114**, a continuing unit **2116**, activating unit **2118**, and an outputting unit **2120**.

The processing unit **2108** is configured to: enable display of (e.g., with enabling unit **2110**) a user interface that includes: an editable content area that has a plurality of characters, and a content deletion control. The processing unit **2108** is configured to detect (e.g., with detecting unit **2112**) a deletion input that includes detecting a contact at a location on the touch-sensitive surface unit **2104** that corresponds to the content deletion control on the display unit **2102**. In response to detecting the deletion input, the processing unit **2108** is configured to delete (e.g., with deleting unit **2114**) content in the editable content area based on a duration and a characteristic intensity of the contact. In accordance with a determination that the contact was maintained for a first time period without the characteristic intensity of the contact increasing above a first intensity threshold, the processing unit **2108** is configured to delete (e.g., with deleting unit **2114**) the content in the editable content area by sequentially deleting a plurality of sub-units of the content of a first type of sub-unit of the content at a rate that does not vary based on the characteristic intensity of the contact. In accordance with a determination that the contact was maintained for a second time period that is longer than the first time period without the characteristic intensity of the contact increasing above the first intensity threshold, the processing unit **2108** is configured to delete (e.g., with deleting unit **2114**) the content in the editable content area by sequentially deleting a plurality of sub-units of the content of a second type of sub-unit of the content at a rate that does not vary based on the characteristic intensity of the contact. In accordance with a determination that the characteristic intensity of the contact increased above the first intensity threshold, the processing unit **2108** is configured to delete (e.g., with deleting unit **2114**) the content in the editable content area by sequentially deleting a plurality of sub-units of the content at a rate that varies based on the characteristic intensity of the contact.

FIGS. **22A-22G** are flow diagrams illustrating a method **2200** of detecting input at a messaging interface and presenting special effect options for a message in accordance with the detected input, in accordance with some embodiments. The method **2200** is performed at an electronic device (e.g., device **300**, FIG. **3**, or portable multifunction device **100**, FIG. **1A**) with a display and a touch-sensitive surface. In some embodiments, the display is a touch screen display and the touch-sensitive surface is on or integrated with the display. In some embodiments, the display is separate from the touch-sensitive surface. Some operations in method **2200** are, optionally, combined and/or the order of some operations is, optionally, changed.

As described below, the method **2200** provides an intuitive way to present special effect options for a message in a messaging interface. The method reduces the cognitive burden on a user when preparing a message to be sent with special effects, thereby creating a more efficient human-machine interface. For battery-operated electronic devices, enabling a user to detecting input at a messaging interface faster and more efficiently conserves power and increases the time between battery charges.

The device displays (**2202**) a messaging interface (e.g., **802**) that includes a conversation transcript (e.g., **804**) and a message input area (e.g., **806**). Message input area (e.g., **806**) includes an affordance (e.g., **810**) for sending a message. While message input area (e.g., **806**) contains message content (e.g., **808**), the device detects (**2204**) a first input by a contact (e.g., as indicated by focus selector **812**, as shown in FIG. **8A**) at a location of the touch-sensitive surface (e.g., **112**) that corresponds to the affordance (e.g., **810**) for sending the message.

The device determines (**2206**) a characteristic intensity of the contact in the first input. For example, the characteristic intensity of the contact indicated by focus selector **812** is indicated by intensity meter **814**.

In response to detecting the first input (**2208**), in accordance with a determination that the first input meets send criteria (e.g., a tap gesture), wherein the send criteria do not require that a characteristic intensity of the contact meet a first intensity threshold in order for the send criteria to be met, the device initiates (**2210**) sending the message content to a remote device (e.g., with a default animation to be displayed when the message is received at the remote device). For example, when the first input meets send criteria, the message is sent to remote device **820** and the message content **808** is displayed by remote device **820** as shown in FIG. **8C**. In some embodiments, the tap gesture is detected if detection of the contact is followed by liftoff of the contact from touch-sensitive surface **112** either within a predefined time period without regard to the intensity of the contact, or without detecting an increase in intensity of the contact above the first intensity threshold.

In response to detecting the first input (**2208**), in accordance with a determination that the contact meets (first) message impact criteria, wherein the (first) message impact criteria require that the characteristic intensity of the contact meet the first intensity threshold in order for the (first) message impact criteria to be met (e.g., in some embodiments, the message impact criteria are met when the characteristic intensity of the contact meets a light press intensity threshold IT_L or a deep press intensity threshold IT_D), the device displays (**2212**) a plurality of message impact effect options (e.g., **822** ("Slam"), **824** ("Loud"), **826** ("Gentle"), and/or **828** ("Invisible Ink") as shown in FIG. **8F**) for changing an animation that is displayed when the message is received at the remote device **820**. For example, when the first input increases above deep press intensity threshold IT_D, as indicated by intensity meter **814**, message impact effect options interface **830** is displayed, as shown in FIGS. **8D-8F**.

While displaying the plurality of message impact effect options (e.g., in message impact effect options interface **830** as shown in FIG. **8**F), the device detects (**2214**) a second input by a contact (e.g., a deep press, a tap gesture, or a lift off of the contact from touch-sensitive surface **112**) to send the message content (e.g., **808**) with a selected message impact effect option of the plurality of impact effect options. For example, as illustrated in FIG. **8**L, a characteristic intensity of the contact indicated by focus selector **812** increases above deep press intensity threshold IT_D as indicated by intensity meter **814** to send message content **808** with selected message impact effect option **822**.

In response to detecting the second input, in accordance with a determination that the second input was received at a location on the touch-sensitive surface that corresponds to a first message impact effect option of the plurality of impact effect options (e.g., at affordance **847** for sending message content **808** with a "Loud" message impact effect option), the device initiates sending (**2216**), to the remote device (e.g., **820**), the message content (e.g., **808**) with the first message impact effect option (e.g., "Loud" message impact effect option **824**). In some embodiments, the first message impact effect option includes an animation to be displayed when the message is received at the remote device (e.g., **820**) that is different from the default animation with which the message is displayed when it is sent via a tap input on the send affordance.

In accordance with a determination that the second input is detected at a location on the touch-sensitive surface that corresponds to a second message impact effect option of the plurality of message impact effect options (e.g., at affordance **847** for sending message content **808** with a "Slam" message impact effect option **822**), the device initiates sending (**2218**) to the remote device (e.g., **820**), the message content with the second message impact effect option (e.g., with an impact animation that is different from an impact animation that corresponds to the first message impact effect option, such an animation illustrated at FIGS. **8**P-**8**R).

In some embodiments, the contact in the first input and the contact in the second input are the same contact (e.g., as indicated by focus selector **812**), and the contact is continuously detected (**2220**) on the touch-sensitive surface (e.g., **112**) between the time that the first input is detected and the time that the second input is detected. For example, a single contact makes a first press input on the send icon **810** (e.g., a contact at a location that corresponds to send icon **810** with a characteristic intensity that increases above a deep press intensity threshold IT_D or a light press intensity threshold IT_L) to bring up a menu of message impact effect options (e.g., message impact effect options **822**-**828**); then, the same contact slides to a respective message impact effect in the menu to select the respective message impact effect option; and finally the same contact presses on the respective message impact effect option (or, in some embodiments, lifts off from the respective message impact effect option) to initiate sending the message with the respective message impact effect option.

Alternatively, in some embodiments, the contact in the first input and the contact in the second input are different contacts that are not continuously detected on the touch-sensitive surface (e.g., **112**) between the time that the first input is detected and the time that the second input is detected. For example, a first contact makes a first input on the send affordance **810** (e.g., a contact at a location that corresponds to send icon **810** with a characteristic intensity that increases above a deep press intensity threshold IT_D or a light press intensity threshold IT_L) to bring up a menu of message impact effect options (e.g., message impact effect options **822**-**828**). Then, the first contact lifts off the touch-sensitive surface, ending the contact with the touch-sensitive surface. After lift-off of the first contact, and while the menu of message impact effect options is still displayed, a second contact is detected touching down on the touch-sensitive surface (e.g., **112**) as part of an input at a location that corresponds to the respective message impact effect option (e.g., as part of a tap gesture or deep press on the respective message impact effect option). Then, in response to the input by the second contact, the electronic device initiates sending the message with the respective message impact effect option. In this example, the same finger may be used to make the contact in the first input and the contact in the second input.

In some embodiments, the device detects (**2222**) an option preview input (e.g., that is detected while the contact is continuously detected on the touch-sensitive surface **112**) that moves across the touch-sensitive surface (e.g., **112**) along locations (e.g., locations on message impact effect option selection control **836**) that correspond to the plurality of impact effect options. In response to detecting the option preview input (**2224**): in accordance with a determination that the option preview input has moved to a first location on the touch-sensitive surface that corresponds to the first message impact effect option of the plurality of impact effect options (e.g., at affordance **847** for sending message content **808** with a "Loud" message impact effect option **824**), the device displays a first preview of the message content (e.g., **808**) with the first message impact effect option (e.g., as illustrated at FIGS. **8**G-**8**I). In accordance with a determination that the option preview input has moved to a second location on the touch-sensitive surface that corresponds to a second message impact effect option of the plurality of impact effect options (e.g., at affordance **847** for sending message content **808** with a "Slam" message impact effect option **822**), the device displays a second preview of the message content **808** with the second message impact effect option (e.g., as illustrated at FIGS. **8**J-**8**L).

In some embodiments, in response to detecting the option preview input (**2226**): in accordance with a determination that the option preview input has moved to the first location on the touch-sensitive surface that corresponds to the first message impact effect option of the plurality of impact effect options (e.g., at affordance **847** for sending message content **808** with a "Loud" message impact effect option **824**), the device outputs, with one or more tactile output generators, a first tactile output; and in accordance with a determination that the option preview input has moved to the second location on the touch-sensitive surface that corresponds to a second message impact effect option of the plurality of impact effect options (e.g., at affordance **847** for sending message content **808** with a "Slam" message impact effect option **822**), the device outputs, with the one or more tactile output generators, a second tactile output. For example, FIGS. **8**Y-**8**Z illustrate tactile outputs that occur as the option preview input moves to locations that correspond to message impact effect options **822**-**828**.

In some embodiments (**2228**), the first tactile output has a first tactile output profile, and the second tactile output has a second tactile output profile that is the same as the first tactile output profile. A tactile output profile includes, e.g., one or more parameters such as amplitude, duration, damping, and/or frequency. For example, in FIG. **8**Y a tactile output that occurs at a time t**3** when option preview input has moved to a location that corresponds to "Loud" message impact effect option **824** has a higher amplitude than a tactile output that occurs at a time t**4** when option preview input has moved to a location that corresponds to "Slam" message impact effect option **822**.

In some embodiments (**2230**), the first tactile output has a first tactile output profile that corresponds to the first message impact effect option, and the second tactile output has a second tactile output profile, distinct from the first tactile output profile, that corresponds to the second message impact effect option. For example, for a more emphatic message impact effect option, the tactile output has a higher peak amplitude and/or longer duration, while for a less emphatic message impact effect option the tactile output has a lower peak amplitude and/or shorter duration.

In some embodiments, a characteristic intensity of the contact in the second input satisfies (**2232**) a second intensity threshold. In some embodiments, the second intensity threshold is the same as the first intensity threshold. In some embodiments, the second intensity threshold is different from the first intensity threshold. In some embodiments, a press input by a contact on a respective message impact effect option that satisfies an intensity threshold (e.g., a characteristic intensity of the contact that increases above a light press intensity threshold IT_L or a deep press intensity threshold IT_D) is needed to initiate sending the message content with the respective message impact effect.

In some embodiments (**2234**), in response to detecting the second input, in accordance with the determination that the second input was received at a location on the touch-sensitive surface that corresponds to the first message impact effect option (e.g., at affordance **847** for sending message content **808** with a "Loud" message impact effect option **824**), outputting, with one or more tactile output generators of the electronic device, at least one tactile output that corresponds to sending the message content with the first message impact effect option. In some embodiments, tactile output is provided when the second input is a deep press gesture (e.g., when the input includes a contact with a characteristic intensity that increases above deep press intensity threshold IT_D, as indicated by intensity meter **814**). In some embodiments, tactile output is not provided when the second input is a tap gesture. In some embodiments, tactile output is not provided when the second input is a lift off of the contact.

In some embodiments (**2236**), second message impact criteria include a criterion that is met when a duration of the contact with the touch-sensitive surface satisfies a first time threshold (e.g., a long press time threshold), the second input is a lift off of the contact, and: in response to detecting the first input, in accordance with a determination that the contact meets the second message impact criteria, the device displays the plurality of message impact effect options (e.g., message impact effect options **822**-**828**). In some embodiments, in accordance with a determination that the contact does not meet the second message impact criteria, the device forgoes displaying the plurality of message impact effect options.

In some embodiments (**2238**), second message impact criteria include a criterion that is met when a duration of the contact with the touch-sensitive surface satisfies a first time threshold (e.g., a long press time threshold); and the second input is a tap gesture; and in response to detecting the first input, in accordance with a determination that the contact meets the second message impact criteria, the device displays the plurality of message impact effect options (e.g., message impact effect options **822**-**828**). In some embodiments, in accordance with a determination that the contact does not meet the second message impact criteria, the device forgoes displaying the plurality of message impact effect options.

In some embodiments, the conversation transcript (e.g., **804**) includes (**2240**) a received message (e.g., **873**) displayed in a message region (e.g., **874**) (e.g., as shown in FIG. **8**AA). The device detects (**2242**) a third input by a contact (e.g., as indicated by focus selector **876**) at a location of the touch-sensitive surface (e.g., **112**) that corresponds to the message region (e.g., **874**) on the display. In response to detecting the third input, in accordance with a determination that the third input meets acknowledgement display criteria that include a criterion that is met when a characteristic intensity of the contact satisfies a second intensity threshold (e.g., the characteristic intensity of the contact meets a light press intensity threshold IT_L or a deep press intensity threshold IT_D), the device displays (**2244**) an acknowledgement selection affordance (e.g., **878**) at a location in the messaging interface (e.g., **802**) that corresponds to the message region (e.g., **874**), wherein the acknowledgement selection affordance displays a plurality of acknowledgement options (e.g., acknowledgement options **880**-**890**, as shown in FIG. **8**AD). In some embodiments, the second intensity threshold is the same as the first intensity threshold. In some embodiments, the second intensity threshold is different from the first intensity threshold. In some embodiments, in accordance with a determination that the third input does not meet the acknowledgement display criteria, the device maintains display of the received message displayed in the message region without displaying the acknowledgement selection affordance **878** with the plurality of acknowledgement options. The device detects (**2246**) a fourth input by a contact (e.g., as indicated by focus selector **892**) at a location of the touch-sensitive surface (e.g., **112**) that corresponds a first acknowledgement option (e.g., thumbs up acknowledgement option **882**) of the plurality of acknowledgement options. In response to detecting the acknowledgement application input, the device applies (**2248**) the first acknowledgement option to the message region (e.g., as shown in FIG. **8**AF). In some embodiments, a tap input (e.g., an input that is configured to be detected without a contact reaching the second intensity threshold) on the message region has another effect (e.g., playing video or audio media in the message region, or expanding content in the region such as displaying a full screen version of a photo).

In some embodiments, the conversation transcript includes (**2250**) a message (e.g., **893**) displayed in a message region (e.g., **894**) (e.g., a received message or a sent message) and a plurality of acknowledgements (e.g., **896**) that correspond to the message region (e.g., **894**) (e.g., as shown in FIG. **8**AG). The device detects (**2252**) a fifth input by a contact (e.g., as indicated by focus selector **898**) at a location of the touch-sensitive surface (e.g., **112**) that corresponds to an area that includes the message region (e.g., **894**) and/or a respective acknowledgement of the plurality of acknowledgements (e.g., **896**) that correspond to the message region (e.g., **894**). In response to detecting the fifth input, in accordance with a determination that the fifth input meets acknowledgement tally reveal criteria that include a criterion that is met when a characteristic intensity of the contact satisfies a second intensity threshold (e.g., the characteristic intensity of the contact meets a light press intensity threshold IT_L or a deep press intensity threshold IT_D), the device displays (**2254**) at least a subset of the plurality of acknowledgements (e.g., acknowledgement options **882**, **884**, and **888**, as shown in FIG. **9**AH) that correspond to the message region (e.g., **894**). In some embodiments, the second intensity threshold is the same as the first intensity threshold. In some embodiments, the second intensity threshold is different from the first intensity threshold. In some embodiments, all of the acknowledgements of the plurality of acknowledgements (e.g., **894**) (e.g., acknowledgement options **882**, **884**, and **888**, as shown in FIG. **9**AH) and/or all of the acknowledgement options (e.g., **880**-**890**) are shown. In some embodiments, a respective acknowledgement option that has been applied as an acknowledgement to the message region is displayed with information pertaining to the acknowledgement option, such as identifying information (e.g., avatar **8106**) for a conversation participant who selected the respective acknowledgement option and/or a number (e.g., **8104**) that indicates the number of conversation participants who applied the respective acknowledgement option (e.g., **882**). In some embodiments, multiple such respective acknowledgement options are displayed simultaneously (e.g., acknowledgement options **882**, **884**, and **888** are displayed simultaneously, as shown in FIG. **9**AH). In some embodiments, in response to input received at a respective acknowledgement option (e.g., an input gesture, such as a tap input, by a contact as indicated by focus selector **8108**, at a location that corresponds to the respective acknowledgement option **882**), identifying information associated with at least a subset of the conversation participants (e.g., avatars **8016** and **8108**) who selected the respective acknowledgement option (e.g., **882**) are displayed (e.g., as shown in FIG. **8**AI). In some embodiments, in accordance with a determination that the fifth input does not meet the acknowledgement tally reveal criteria, maintaining display of the message region and the plurality of acknowledgements without displaying the subset of the plurality of acknowledgements that correspond to the message region.

In some embodiments, the conversation transcript (e.g., **804**) includes (**2256**) a message region (e.g., **852**) with content (e.g., **808**) that is hidden by a screen (e.g., **852**), e.g., as illustrated in FIGS. **8**S-**8**X. In some embodiments, the screen (e.g., **852**) indicates that the message region (e.g., **852**) contains a hidden message (e.g., **808**). The device detects (**2258**) a sixth input by a contact (e.g., as indicated by focus selector **860**) at a location of the touch-sensitive surface that corresponds to the message region (e.g., **852**) with hidden content. In response to detecting the sixth input, in accordance with a determination that the sixth input meets message reveal criteria that include a criterion that is met when a characteristic intensity of the contact satisfies a second intensity threshold (e.g., contact detection intensity threshold IT_0 or light press intensity threshold IT_L), the device (**2260**): ceases to display at least a portion of the screen (e.g., as indicated in FIG. **8**T) and displays (in the message region **852**) at least a portion of the content **808** that was hidden. In some embodiments, in accordance with a determination that the sixth input does not meet the message reveal criteria, the device forgoes display of the portion of the content that was hidden.

In some embodiments, an area of the portion of the screen varies (**2262**) based on the characteristic intensity of the contact (e.g., the area of the screen **854** diminishes as the characteristic intensity of the contact increases, as illustrated at FIG. **8**T-**8**W). In some embodiments, the screen (e.g., **854**) diminishes in a location that corresponds to a location of the contact (e.g., as indicated by focus selector **860**) with the touch-sensitive surface (e.g., **112**). In some embodiments, the sixth input includes movement of the contact along a path from a first location in the message region to a second location in the message region, and the screen includes virtual particles which disperse from the path.

In some embodiments, the device detects (**2264**) a seventh input (e.g., a continuation of the sixth input); and in response to detecting the seventh input, in accordance with a determination that the seventh input meets full message reveal criteria that include a criterion that is met when a characteristic intensity of the contact (e.g., as indicated by focus selector **860**) satisfies a third intensity threshold (e.g., a threshold that is distinct from the second intensity threshold, such as a deep press intensity threshold IT_D, as indicated by intensity meter **814** of FIG. **8**W), the device (**2266**): outputs, with one or more tactile output generators of the electronic device, a tactile output, e.g., as indicated at **864**. In some embodiments, the full message is displayed and/or the screen is fully removed (e.g., as shown in FIG. **8**W). In some embodiments, in accordance with a determination that the seventh input does not meet the full message reveal criteria, the device forgoes outputting the tactile output that corresponds to the seventh input.

In some embodiments, the device varies (**2268**) an extent of a blurring effect applied to at least a part of the messaging interface (e.g., **802**) (e.g., blurring the display except for the affordance for sending the message **810**, the message input area **806**, and/or the plurality of message impact effect options, e.g., as indicated at FIGS. **8**D-**8**E) based on the characteristic intensity of the contact in the first input (e.g., elements of the user interface other than the draft message and the send affordance are blurred or otherwise obscured dynamically such that the amount of blurring or obscuring increases gradually as the characteristic intensity of the contact increases and the amount of blurring or obscuring decreases gradually as the characteristic intensity of the contact decreases).

It should be understood that the particular order in which the operations in FIGS. **22**A-**22**G have been described is merely exemplary and is not intended to indicate that the described order is the only order in which the operations could be performed. One of ordinary skill in the art would recognize various ways to reorder the operations described herein. Additionally, it should be noted that details of other processes described herein with respect to other methods described herein are also applicable in an analogous manner to method **2200** described above with respect to FIGS. **22**A-**22**G. For example, the contacts, gestures, user interface objects, tactile outputs, intensity thresholds, focus selectors, and animations described above with reference to method xxx optionally have one or more of the characteristics of the contacts, gestures, user interface objects, tactile outputs, intensity thresholds, focus selectors, and animations described herein with reference to other methods described herein. For brevity, these details are not repeated here.

In accordance with some embodiments, FIG. **23** shows a functional block diagram of an electronic device **2300** configured in accordance with the principles of the various described embodiments. The functional blocks of the device are, optionally, implemented by hardware, software, or a combination of hardware and software to carry out the principles of the various described embodiments. It is understood by persons of skill in the art that the functional blocks described in FIG. **23** are, optionally, combined or separated into sub-blocks to implement the principles of the various described embodiments. Therefore, the description herein optionally supports any possible combination or separation or further definition of the functional blocks described herein.

As shown in FIG. **23**, an electronic device **2300** includes a display unit **2302**, a touch-sensitive surface unit **2304**, one or more sensor units **2306**; and a processing unit **2310** coupled with the display unit **2302**, the touch-sensitive surface unit **2304** and the one or more sensor units **2306**. In some embodiments, the electronic device includes one or more tactile output generator units **2308** and the processing unit **2310** is coupled with the display unit **2302**, the touch-sensitive surface unit **2304**, the one or more sensor units **2306** and the one or more tactile output generator units **2308**. In some embodiments, the processing unit **2310** includes: a display enabling unit **2312**, a detecting unit **2314**, a determining unit **2316**, a sending unit **2318**, an outputting unit **2320**, an applying unit **2322**, and a varying unit **2324**.

The processing unit **2310** is configured to enable display (e.g., with the display enabling unit **2312**) of, on the display unit **2302**, a messaging interface that includes a conversation transcript and a message input area, where the message input area includes an affordance for sending a message. While the message input area contains message content, the processing unit **2310** is configured to detect (e.g., with the detecting unit **2314**) a first input by a contact at a location of the touch-sensitive surface unit **2304** that corresponds to the affordance for sending the message. The processing unit **2310** is configured to determine (e.g., with the determining unit **2316**) a characteristic intensity of the contact in the first input. In response to detecting the first input, the processing unit **2310** is configured to: in accordance with a determination that the first input meets send criteria, wherein the send criteria do not require that a characteristic intensity of the contact meet a first intensity threshold in order for the send criteria to be met, initiate sending the message content to a remote device (e.g., with sending unit **2318**); and, in accordance with a determination that the contact meets message impact criteria, wherein the message impact criteria required that the characteristic intensity of the contact meet the first intensity threshold in order for the message impact criteria to be met, enable display (e.g., with the display enabling unit **2312**) of a plurality of message impact effect options for changing an animation that is displayed when the message is received at the remote device. While displaying the plurality of message impact effect options, the processing unit **2310** is configured to detect (e.g., with the detecting unit **2314**) a second input by a contact to send the message content with a selected message impact effect option of the plurality of impact effect options. In response to detecting the second input, in accordance with a determination that the second input was received at a location on the touch-sensitive surface unit **2304** that corresponds to a first message impact effect option of the plurality of impact effect options, the processing unit is configured to initiate sending (e.g., with the sending unit **2318**), to the remote device, the message content with the first message impact effect option.

FIGS. **24A1-24A3** are flow diagrams illustrating a method **2400A** of displaying intensity-reactive and intensity-nonreactive user interface objects in accordance with some embodiments. The method **2400A** is performed (**2402**) at an electronic device (e.g., device **300**, FIG. **3**, or portable multifunction device **100**, FIG. **1A**) with a display, a touch-sensitive surface, and one or more sensors to detect intensity of contacts with the touch-sensitive surface. In some embodiments, the display is a touch-screen display and the touch-sensitive surface is on or integrated with the display. In some embodiments, the display is separate from the touch-sensitive surface. Some operations in method **2400A** are, optionally, combined and/or the order of some operations is, optionally, changed.

The device displays (**2402**), on the display, a user interface (e.g., user interface **900**, FIG. **9A1**, or user interface **901**, FIG. **9B1**) that includes a plurality of activatable objects, including a first activatable object with a first visual appearance (e.g., messages icon **902**, FIG. **9A1**, or e-mail message **930**, FIG. **9B1**).

The device is configured to (**2404**), for intensity-reactive activatable objects (e.g., messages icon **902**, FIG. **9A1**, or electronic mail object **930**, FIG. **9B1**), perform (**2406**) operations corresponding to the intensity-reactive activatable objects based on characteristic intensities of inputs on the touch-sensitive surface that correspond to the intensity-reactive activatable objects, such that when a characteristic intensity of a contact that is providing input that corresponds to a respective intensity-reactive activatable object on the touch-sensitive surface meets intensity-based activation criteria (e.g., an intensity threshold such as IT_L, FIGS. **9A15** and **9B5**), an operation corresponding to the respective intensity-reactive activatable object is performed as a result of the characteristic intensity of the contact meeting the intensity-based activation criteria (e.g., a quick actions menu **914**, FIG. **9A15**, or a preview of e-mail message **930**, FIG. **9B5**, is displayed).

In some embodiments, the intensity-reactive activatable objects cause operations driven based on the intensity of the contact, such as the display of a hint animation, a quick action menu, or a peek platter (e.g., quick actions menu **914**, FIG. **9A15**, or peek platter of e-mail message **930**, FIG. **9B5**). In some embodiments, when a characteristic intensity of a contact that is providing input that corresponds to a respective intensity-reactive activatable object on the touch-sensitive surface meets intensity-based activation criteria, an appearance of the respective intensity-reactive activatable object is transformed based on the change in characteristic intensity of the contact.

The device is configured to (**2404**), for intensity-nonreactive activatable objects (**2408**), perform operations corresponding to the intensity-nonreactive activatable objects without regard to whether inputs on the touch-sensitive surface that correspond to the intensity-nonreactive activatable objects meet the intensity-based activation criteria, such that when a characteristic intensity of a contact that is providing input that corresponds to a respective intensity-nonreactive activatable object on the touch-sensitive surface meets the intensity-based activation criteria, an operation corresponding to the respective intensity-nonreactive activatable object is not performed as a result of the characteristic intensity of the contact meeting the intensity-based activation criteria. For example, as shown in FIG. **9A2-9A7**, for intensity-nonreactive weather icon **904**, displaying the weather application, FIG. **9A7**, is performed upon liftoff of user input **910** without regard to whether user input **910** meets one or more intensity thresholds IT_H, IT_L, or IT_D.

For example, in some embodiments, the satisfaction of the intensity-based activation criteria is ignored when determining whether or not to perform an operation corresponding to the intensity-nonreactive activatable object, and other activation criteria are used instead, such as whether liftoff of the contact was detected without more than a threshold amount of movement, and/or whether liftoff of the contact was detected within a threshold amount of time from detecting touchdown of the contact. In some embodiments, intensity-nonreactive activatable objects do not cause operations driven based on the intensity of the contact, such as the display of a hint animation, a quick action menu, or a peek platter. In some embodiments, when a characteristic intensity of a contact that is providing input that corresponds to a respective intensity-nonreactive activatable object on the touch-sensitive surface meets the intensity-based activation criteria, an appearance of the respective intensity-nonreactive activatable object is not transformed based on the change in the characteristic intensity of the contact.

While displaying the user interface on the display, the device detects (**2410**) an input (e.g., user input **912**, FIG. **9**A**12**, or user input **915**, FIG. **9**B**2**) that corresponds to a request to select the first activatable object (e.g., messages icon **902**, FIG. **9**A**12**, or e-mail message **930**, FIG. **9**B**2**) in the plurality of activatable objects, wherein a characteristic intensity of the input (e.g., as shown in user input intensity graph **906**, FIG. **9**A**12**, or user input intensity graph **906**, FIG. **9**B**2**) fails to meet the intensity-based activation criteria during the input (e.g., the contact that performed the input maintains an intensity that is below the respective intensity threshold, e.g., IT_H, during the input).

In some embodiments, the device is configured (**2412**) to change an appearance of intensity-reactive activatable objects using a respective transformation (e.g., a first portion of a hint state) of the activatable objects, wherein the respective transformation is adjusted dynamically as the characteristic intensity of the contact on the touch-sensitive surface changes through a range of intensity values up to a threshold intensity value (e.g., a "hint" threshold (e.g., IT_H)).

In some embodiments, for intensity-reactive activatable objects (e.g., messages icon **902**, FIG. **9**A**12**, or e-mail message **930**, FIG. **9**B**2**), the operations include (**2414**) displaying a preview of related content (e.g., quick actions menu **914**, FIG. **9**A**15**, or peek platter of e-mail message **930**, FIG. **9**B**5**) for a respective intensity-reactive activatable object as a result of the characteristic intensity of the contact meeting the intensity-based activation criteria (e.g., a "hint" threshold such as IT_H); and for intensity-nonreactive activatable objects, the operations do not include displaying a preview of related content as a result of the characteristic intensity of the contact meeting the intensity-based activation criteria.

In response to detecting the input (e.g., user input **912**, FIG. **9**A**12**, or user input **915**, FIG. **9**B**2**) (**2416**), in accordance with a determination that the first activatable object is an intensity-reactive activatable object, the device displays (**2418**) the first activatable object with a first transformation from its first visual appearance (e.g., increasing a size of the first activatable object from its initial size, or decreasing a size of the first activatable object from its initial size, as shown in FIG. **9**A**12** or FIG. **9**B**2**). Changing the appearance of intensity-reactive activatable objects by applying a first transformation provides the user with feedback about the level of intensity that is being detected by the device and provides visual feedback to the user indicating that the activatable object is intensity-reactive, and that pressing harder will cause the device to perform one or more operations associated with intensity-reactive objects. Providing improved visual feedback to the user enhances the operability of the device and makes the user-device interface more efficient (e.g., by helping the user to provide proper inputs and reducing user mistakes when operating/interacting with the device).

In some embodiments, the first transformation is (**2420**) an initial portion of a change in visual appearance of a respective intensity-reactive object (e.g., a hint state).

In some embodiments, an extent of the first transformation for an intensity-reactive activatable object varies (**2422**) based on the characteristic intensity of a contact during the input (e.g., a larger size increase or decrease for a hard tap than for a light tap and/or a larger movement in a virtual z direction for a hard tap than for a light tap).

In accordance with a determination that the first activatable object is an intensity-nonreactive activatable object, the device displays (**2424**) the first activatable object without displaying the first transformation (e.g., darkening the first activatable object without increasing the size of the first activatable object from its initial size, such as for weather icon **904**, FIGS. **9**A**3**-**9**A**6**).

In some embodiments, the input is (**2426**) a tap input (e.g., an input that meets activation criteria for the first activatable object that are capable of being met without the contact having an intensity above an intensity threshold that is part of the intensity-based activation criteria), and, in response to detecting the tap input, the device performs an activation operation that corresponds to the first activatable object (e.g., without regard to whether the object is an intensity-reactive object or an intensity-nonreactive object, such as launching weather application corresponding to weather icon **904**, FIG. **9**A**7**).

In some embodiments, the detected input that corresponds to the request to select the first activatable object is (**2428**) a first part of a contact with the touch-sensitive surface; the detected input that corresponds to the request to select the first activatable object is associated with a first gesture; the device detects a second part of the contact with the touch-sensitive surface (e.g., subsequent to the first part); and, in accordance with a determination that the second part of the contact is not associated with the first gesture, the device dynamically reduces display of the first transformation of the first activatable object (e.g., a first part of the contact by user input **912** is associated with a tap gesture, FIG. **9**A**16**, a second part of the contact by user input **912** is associated with a scroll gesture, FIG. **9**A**17**, and the first transformation of messages icon **902** is dynamically reduced from FIG. **9**A**16** to FIG. **9**A**17**).

FIGS. **24**B**1**-**24**B**3** are flow diagrams illustrating a method **2400**B of displaying intensity-reactive and intensity-nonreactive user interface objects in accordance with some embodiments. The method **2400**B is performed (**2452**) at an electronic device (e.g., device **300**, FIG. **3**, or portable multifunction device **100**, FIG. **1**A) with a display, a touch-sensitive surface, and one or more sensors to detect intensity of contacts with the touch-sensitive surface. In some embodiments, the display is a touch-screen display and the touch-sensitive surface is on or integrated with the display. In some embodiments, the display is separate from the touch-sensitive surface. Some operations in method **2400**B are, optionally, combined and/or the order of some operations is, optionally, changed.

While displaying a user interface, the device detects (**2452**) an input by a contact (e.g., a finger or stylus contact, such as user input **912**, FIG. **9**A**12**, or user input **915**, FIG. **9**B**2**) at a first location on the touch-sensitive surface that corresponds to a first activatable user interface object (e.g., messages icon **902**, FIG. **9**A**12**, or e-mail message **930**, FIG. **9**B**2**) on the display (e.g., display **950**, Figures FIGS. **9**A**12** and **9**B**2**).

In some embodiments, the displayed user interface includes (**2454**) a plurality of activatable user interface objects, wherein a first subset of the activatable user interface objects is intensity-reactive, and wherein a second subset of the activatable user interface objects is intensity-nonreactive.

In some embodiments, the first activatable user interface object is (**2456**) displayed in a list (e.g., as shown in FIG. **9**B**1**). In some embodiments, the first activatable user interface object is (**2458**) displayed in an array of objects (e.g., a multi column, multi row array such as an application launch screen of a phone or tablet, as shown in FIG. **9**A**1**).

In some embodiments, in response to detecting the input by the contact (**2460**), the device determines (**2462**) whether the first activatable user interface object is intensity-reactive.

In response to detecting the input by the contact (**2460**), in accordance with a determination that the first activatable user interface object is intensity-reactive (**2464**), the device changes a visual appearance of the first activatable user interface object (e.g., message icon **902**, FIG. **9**A**12**, or e-mail message **930**, FIG. **9**B**2**) in accordance with changes in a detected intensity of the contact on the touch-sensitive surface. In accordance with a determination that the first activatable user interface object is intensity-nonreactive, the device changes (**2466**) the visual appearance of the first activatable user interface object (e.g., weather icon **904**, FIG. **9**A**3**) by a predetermined amount. Changing the visual appearance of intensity-reactive activatable user interface objects in accordance with changes in a detected intensity of the contact on the touch-sensitive surface provides the user with feedback about the level of intensity that is being detected by the device and provides visual feedback to the user indicating that the activatable object is intensity-reactive, and that pressing harder will cause the device to perform one or more operations associated with intensity-reactive objects. Changing the visual appearance of intensity non-reactive activatable user interface objects by a predetermined amount provides visual feedback to the user indicating that the activable object is intensity-nonreactive, and that pressing harder will not cause the device to perform operations associated with intensity-reactive objects. Providing improved visual feedback to the user enhances the operability of the device and makes the user-device interface more efficient (e.g., by helping the user to provide proper inputs and reducing user mistakes when operating/interacting with the device).

In some embodiments, changing the visual appearance of the first activatable user interface object in accordance with the detected intensity of the contact includes (**2468**) changing a brightness of the first activatable user interface object in accordance with the detected intensity of the contact; and changing a size of the first activatable user interface object in accordance with the detected intensity of the contact (e.g., e-mail message **930**, FIG. **9**B**2**).

In some embodiments, changing the size of the first activatable user interface object in accordance with the detected intensity of the contact includes (**2470**) increasing the size of the first activatable user interface object (e.g., displaying movement of the first activatable user interface object upwards in a virtual z direction) in accordance with the detected intensity of the contact.

In some embodiments, changing the size of the first activatable user interface object in accordance with the detected intensity of the contact includes (**2472**) decreasing the size of the first activatable user interface object (e.g., displaying movement of the first activatable user interface object downwards in a virtual z direction) in accordance with the detected intensity of the contact (e.g., messages icon **902**, FIG. **9A12**, or e-mail message **930**, FIG. **9**B**2**).

In some embodiments, the first activatable user interface object occupies (**2474**) a first area prior to changing its size, and, in accordance with the determination that the first activatable user interface object is intensity-reactive, the device displays a platter that occupies the first area and that is displayed behind the first activatable user interface object, wherein the platter is visible as the size of the first activatable user interface object is decreased (e.g., as shown with respect to messages icon **902**, FIG. **9**A**12**).

In some embodiments, detecting the input by the contact at the first location on the touch-sensitive surface includes (**2476**) detecting the contact hovering over the touch-sensitive surface at the first location (e.g., user input **912**, FIG. **9**A**11**), wherein the first location corresponds to the first activatable user interface object, and, in response to detecting the input by the contact, in accordance with the determination that the first activatable user interface object is intensity-reactive, and while the contact is hovering over the touch-sensitive surface at the first location, the device performs a preview operation that includes changing the visual appearance of the first activatable user interface object (e.g., displays a beginning of a tap animation before touchdown, as shown in FIG. **9A11** with respect to messages icon **902**).

In some embodiments, changing the visual appearance of the first activatable user interface object by a predetermined amount includes (**2478**) changing a brightness of the first activatable user interface object by a predetermined amount that is independent of the detected intensity of the contact; and maintaining a size of the first activatable user interface object (e.g., weather icon **904**, FIGS. **9**A**3**-**9**A**6**).

In some embodiments, in accordance with the determination that the first activatable user interface object is intensity-reactive (**2480**), the device blurs and shrinks the user interface excluding the first activatable user interface object, in accordance with the detected intensity (e.g., FIGS. **9A13**-**9**A**15** illustrate increasing degrees of blurring of user interface **900** excluding intensity-reactive messages icon **902**), and in accordance with the determination that the first activatable user interface object is intensity-nonreactive, the device displays the user interface without blurring and shrinking the user interface (e.g., FIGS. **9**A**3**-**9**A**6** illustrate that user interface **900** is not blurred with respect to intensity-nonreactive weather icon **904**).

In accordance with some embodiments, FIG. **25** shows a functional block diagram of an electronic device **2500** configured in accordance with the principles of the invention as described above. The functional blocks of the device may be implemented by hardware, software, or a combination of hardware and software to carry out the principles of the invention. It is understood by persons of skill in the art that the functional blocks described in FIG. **2500** may be combined or separated into sub-blocks to implement the principles of the invention as described above. Therefore, the description herein may support any possible combination or separation or further definition of the functional blocks described herein.

As shown in FIG. **25**, an electronic device **2500** includes a display unit **2502** configured to display a user interface; a touch-sensitive surface unit **2504** configured to receive user inputs; one or more sensor units **2506** configured to detect intensities of contacts with the touch-sensitive surface unit; and a processing unit **2508** coupled to the display unit, the touch-sensitive surface unit and the one or more sensor units. In some embodiments, the processing unit **2508** includes a display enabling unit **2510**, an operation performing unit **2512**, a detecting unit **2514**, and a transformation unit **2516**.

The processing unit is configured to: enable display, on the display unit **2502**, of a user interface that includes a plurality of activatable objects (e.g., with the display enabling unit **2510**), including a first activatable object with a first visual appearance, wherein the processing unit is configured to: for intensity-reactive activatable objects, perform operations corresponding to the intensity-reactive activatable objects based on characteristic intensities of inputs on the touch-sensitive surface unit that correspond to the intensity-reactive activatable objects (e.g., with the operation performing unit **2512**), such that when a characteristic intensity of a contact that is providing input that corresponds to a respective intensity-reactive activatable object on the touch-sensitive surface unit meets intensity-based activation criteria, an operation corresponding to the respective intensity-reactive activatable object is performed as a result of the characteristic intensity of the contact meeting the intensity-based activation criteria; and for intensity-nonreactive activatable objects, perform operations corresponding to the intensity-nonreactive activatable objects without regard to whether inputs on the touch-sensitive surface unit that correspond to the intensity-nonreactive activatable objects meet the intensity-based activation criteria (e.g., with the operation performing unit **2512**), such that when a characteristic intensity of a contact that is providing input that corresponds to a respective intensity-nonreactive activatable object on the touch-sensitive surface unit meets the intensity-based activation criteria, an operation corresponding to the respective intensity-nonreactive activatable object is not performed as a result of the characteristic intensity of the contact meeting the intensity-based activation criteria; while the user interface is displayed on the display unit, detect an input that corresponds to a request to select the first activatable object in the plurality of activatable objects (e.g., with the detecting unit **2514**), wherein a characteristic intensity of the input fails to meet the intensity-based activation criteria during the input; and, in response to detecting the input: in accordance with a determination that the first activatable object is an intensity-reactive activatable object, enable display of the first activatable object (e.g., with the display enabling unit **2510**) with a first transformation from its first visual appearance (e.g., with the transformation unit **2516**); and, in accordance with a determination that the first activatable object is an intensity-nonreactive activatable object, enable display of the first activatable object without displaying the first transformation (e.g., with the display enabling unit **2510**).

In accordance with some embodiments, FIG. **26** shows a functional block diagram of an electronic device **2600** configured in accordance with the principles of the invention as described above. The functional blocks of the device may be implemented by hardware, software, or a combination of hardware and software to carry out the principles of the invention. It is understood by persons of skill in the art that the functional blocks described in FIG. **2600** may be combined or separated into sub-blocks to implement the principles of the invention as described above. Therefore, the description herein may support any possible combination or separation or further definition of the functional blocks described herein.

As shown in FIG. **26**, an electronic device **2600** includes a display unit **2602** configured to display a user interface; a touch-sensitive surface unit **2604** configured to receive user inputs; one or more sensor units **2606** configured to detect intensities of contacts with the touch-sensitive surface unit; and a processing unit **2608** coupled to the display unit, the touch-sensitive surface unit and the one or more sensor units. In some embodiments, the processing unit **2608** includes a display enabling unit **2610**, a detecting unit **2612**, a transformation unit **2614**, and a determination unit **2616**.

The processing unit is configured to: while a user interface is displayed, detect an input by a contact at a first location on the touch-sensitive surface unit that corresponds to a first activatable user interface object on the display unit (e.g., with the detecting unit **2612**); and, in response to detecting the input by the contact: in accordance with a determination that the first activatable user interface object is intensity-reactive, change a visual appearance of the first activatable user interface object in accordance with changes in a detected intensity of the contact on the touch-sensitive surface unit (e.g., with the transformation unit **2614**); and, in accordance with a determination that the first activatable user interface object is intensity-nonreactive, change the visual appearance of the first activatable user interface object by a predetermined amount (e.g., with the transformation unit **2614**).

FIGS. **27A1-27A5** are flow diagrams illustrating a method **2700A** of displaying intensity-reactive and intensity-nonreactive user interface objects in accordance with some embodiments. The method **2700A** is performed (**2702**) at an electronic device (e.g., device **300**, FIG. **3**, or portable multifunction device **100**, FIG. **1A**) with a display, a touch-sensitive surface, and one or more sensors to detect intensity of contacts with the touch-sensitive surface. In some embodiments, the display is a touch-screen display and the touch-sensitive surface is on or integrated with the display. In some embodiments, the display is separate from the touch-sensitive surface. Some operations in method **2700A** are, optionally, combined and/or the order of some operations is, optionally, changed.

The device displays (**2702**) a user interface that includes a plurality of activatable user interface objects.

While displaying the user interface, the device detects (**2704**) a first portion of an input by a contact (e.g., user input **912**, FIG. **9A12**, or user input **915**, FIG. **9B2**) at a first location on the touch-sensitive surface that corresponds to a first user interface object on the display (e.g., messages icon **902**, FIG. **9A12**, or e-mail message **930**, FIG. **9B2**).

In response to detecting the first portion of the input, the device changes (**2706**) a visual appearance of the first user interface object by applying a first visual transformation to the first user interface object (e.g., darkening the first user interface object to provide an indication that a selection and/or activation operation corresponding to the first user interface object will be performed in response to detecting liftoff of the contact from the touch-sensitive surface if no other gesture performed with the contact is detected prior to detecting liftoff of the contact from the touch sensitive surface, as shown with respect to e-mail message **930**, FIG. **9B2**, or shrinking the first user interface object as shown with respect to messages icon **902**, FIG. **9A12**). The first visual transformation corresponds (2708) to a first user interface operation (e.g., a tap to select and/or activate the first user interface object). Changing the visual appearance of user interface objects using the first visual transformation corresponding to a first user interface operation provides the user with feedback regarding which user interface operation will be performed if the remainder of the input is consistent with the first user interface operation. Providing improved visual feedback to the user enhances the operability of the device and makes the user-device interface more efficient (e.g., by helping the user to provide proper inputs and reducing user mistakes when operating/interacting with the device).

After changing the visual appearance of the first user interface object by applying the first visual transformation to the first user interface object, the device detects (**2710**) a second portion of the input (e.g., a continuation of the input that includes a change in one or more parameters of a contact that performed the first input while the contact is continuously detected on the touch-sensitive surface).

In response to detecting the second portion of the input (**2712**), in some embodiments, in accordance with a determination that the second portion of the input is consistent with the first user interface operation (**2714**), the device dynamically reduces the first transformation prior to performing the first user interface operation (e.g., FIGS. **9**A**21**-**9**A**22** illustrate that the first transformation of messages icon **902** is dynamically reduced upon liftoff of the contact by user input **912**).

In accordance with a determination that the second portion of the input is consistent with the first user interface operation, the device performs (**2716**) the first user interface operation (e.g., in response to liftoff of the contact). For example, in some embodiments, for a tap input, the device selects and/or activates the object, typically without dynamically reducing the first visual transformation as a first parameter gradually changes.

In accordance with a determination that the second portion of the input includes a gradual change in a first parameter (e.g., a dynamic change in the intensity of a contact in the input through a plurality of intensity values or a dynamic change in the location of a contact in the input through a plurality of positions across the touch-sensitive surface, as shown for example in FIGS. **9**B**3**-**9**B**4**) that is indicative of performance of a second user interface operation (e.g., a press harder to peek, FIGS. **9**B**3**-**9**B**4**, or a drag gesture to scroll), the device dynamically reduces (**2718**) the first visual transformation (e.g., as shown for e-mail message **930**, FIG. **9**B**2**) as the first parameter gradually changes (e.g., by gradually increasing or decreasing the shading of the user interface object as the intensity of the contact on the touch-sensitive surface increases or as the location of the contact on the touch-sensitive surface changes) without performing the first user interface operation. For example, FIGS. **9**B**3**-**9**B**4** illustrate that the shading of e-mail message **930** is gradually decreased as the intensity of the contact by user input **915** increases as shown in user input intensity graph **906**. Dynamically reducing the first transformation without performing the first user interface operation if the second portion of the input includes a gradual change in the first parameter that is indicative of performance of a second user interface operation allows a user input to transition between possible operations to be performed in accordance with changes in the input and provides the user with feedback that a different user interface operation may performed in accordance with further changes in the input. Providing the ability to transition between possible operations to be performed and providing improved visual feedback to the user enhances the operability of the device and makes the user-device interface more efficient (e.g., by helping the user to provide proper inputs and reducing user mistakes when operating/interacting with the device).

In some embodiments, after dynamically reducing the first visual transformation in accordance with a determination that the second portion of the input includes a gradual change in the first parameter that is indicative of performance of the second user interface operation, the device detects (**2720**) a third portion of the input; in response to detecting the third portion of the input, and in accordance with a determination that the third portion of the input is consistent with the first user interface operation, the device changes the visual appearance of the first user interface object by reapplying the first visual transformation (and, in some embodiments, dynamically reduces the second visual transformation) and performs the first user interface operation (e.g., in response to liftoff of the contact). For example, FIGS. **9**A**16**-**9**A**18** illustrate dynamically reducing the first visual transformation in accordance with a determination that the second portion of user input **912** includes a gradual change in lateral displacement that is indicative of scrolling, and FIGS. **9**A**18**-**9**A**20** illustrate that, in response to detecting a third portion of user input **912**, and in accordance with a determination that the third portion of user input **912** is consistent with an activation operation, the first visual transformation is reapplied and the second visual transformation is dynamically reduced. Dynamically reapplying the first transformation and optionally dynamically reducing the second transformation in accordance with the third portion of the input being consistent with the activation operation allows a user input to transition between possible operations to be performed in accordance with changes in the input and provides the user with feedback regarding which operation may performed in accordance with changes in the input. Providing the ability to transition between possible operations to be performed and providing improved visual feedback to the user enhances the operability of the device and makes the user-device interface more efficient (e.g., by helping the user to provide proper inputs and reducing user mistakes when operating/interacting with the device).

In some embodiments, the device changes (**2722**) the visual appearance of the first user interface object by applying a second visual transformation to the first user interface object, in conjunction with dynamically reducing the first visual transformation as the first parameter gradually changes.

In some embodiments, the gradual change in the first parameter includes (**2724**) an increase in intensity of the contact, and the second visual transformation includes changing a size of the first user interface object in accordance with the increase in intensity of the contact (e.g., messages icon **902**, FIGS. **9**A**13**-**9**A**14**, or e-mail message **930**, FIG. **9**B**3**-**9**B**4**).

In some embodiments, the gradual change in the first parameter includes (**2726**) an increase in intensity of the contact, and the second visual transformation includes blurring and shrinking a portion of the user interface, other than the first user interface object, in accordance with the increase in intensity of the contact (e.g., user interface **900**, FIGS. **9**A**13**-**9**A**14**, or user interface **900**, FIG. **9**B**3**-**9**B**4**).

In some embodiments, the gradual change in the first parameter includes (**2728**) lateral movement of the contact, and the second visual transformation includes changing a position of the first user interface object on the display (e.g., scrolling the first user interface object and other user interface objects on the display when the second portion of the input is a drag or swipe gesture, as shown in FIGS. **9**A**17**-**9**A**18** with respect to messages icon **902**).

In some embodiments, the device changes (**2730**) the visual appearance of the first user interface object by applying a second visual transformation to the first user interface object after the first visual transformation has been dynamically reduced by a predefined amount.

In some embodiments, in accordance with a determination that the second portion of the input includes a gradual change in a second parameter (e.g., through a plurality of values) that is indicative of performance of a third user interface operation (e.g., pan to scroll content), the device changes (**2732**) the visual appearance of the first user interface object by applying a third visual transformation as the second parameter gradually changes (e.g., by gradually increasing or decreasing a size of the user interface object as the amount of movement of the contact on the touch-sensitive surface changes).

In some embodiments, the gradual change in the second parameter includes (**2734**) lateral movement of the contact, and the third visual transformation includes changing a position of the first user interface object on the display in accordance with the lateral movement of the contact (e.g., as shown in FIGS. **9A17-9A18** with respect to messages icon **902**.

In some embodiments, in accordance with a determination that the second portion of the input includes a gradual change in a third parameter (e.g., through a plurality of values) that is indicative of performance of a fourth user interface operation (e.g., press longer to enter an icon reconfiguration mode), the device changes (**2736**) the visual appearance of the first user interface object by applying a fourth visual transformation as the third parameter gradually changes (e.g., by gradually darkening the user interface object the longer the contact is maintained without changing the pressure or scrolling, as shown in FIG. **9A24** with respect to messages icon **902**).

In some embodiments, the gradual change in the third parameter includes (**2738**) an increase in a duration of maintaining the contact on the touch-sensitive surface (e.g., satisfying time threshold T_H but not time threshold T_{LP} as shown in user input intensity graph **906**, FIG. **9A24**) with no more than a threshold amount of lateral movement (e.g., Dt as shown in user input lateral displacement graph **908**, FIG. **9A24**) and with no more than a threshold amount of change in intensity (e.g., IT_H as shown in user input intensity graph **906**, FIG. **9A24**), and the fourth visual transformation includes changing at least one of a shading and a color of the first user interface object in accordance with the increasing duration of the contact being maintained on the touch-sensitive surface (e.g., as shown in FIG. **9A24** with respect to messages icon **902**).

In some embodiments, after changing the visual appearance of the first user interface object by applying the fourth visual transformation (**2740**), the device detects a change in a respective parameter other than the third parameter (e.g., either the first parameter or the second parameter), and, in accordance with a determination that the change in the respective parameter satisfies a respective threshold, dynamically reduces the fourth visual transformation as the respective parameter changes. For example, FIG. **9A25** illustrates detecting a change in contact intensity of user input **913**, as shown in user input intensity graph **906**, and, in accordance with a determination that the change in the contact intensity of user input **913** satisfies the first intensity threshold IT_H, the fourth visual transformation (e.g., darkening of messages icon **902**) is dynamically reduced as the contact intensity changes.

In some embodiments, the input is a first input (**2742**), the first user interface object is an intensity-reactive object, and, while displaying the user interface, the device detects a first portion of a second input by a contact at a second location (e.g., user input **911**, FIG. **9A8**) on the touch-sensitive surface that corresponds to a second user interface object (e.g., weather icon **904**, FIG. **9A8**) on the display (e.g., display **950**, FIG. **9A8**), wherein the second user interface object is an intensity-nonreactive object. In some embodiments, in response to detecting the first portion of the second input, the device changes a visual appearance of the second user interface object by applying a fifth visual transformation to the second user interface object (e.g., darkening weather icon **904**, FIG. **9A8**), wherein the fifth visual transformation corresponds to a fifth user interface operation (e.g., the fifth user interface operation is the same as the first operation and is a tap to select). In some embodiments, after changing the visual appearance of the second user interface object by applying the fifth visual transformation to the second user interface object, the device detects a second portion of the second input (e.g., user input **911** as shown in FIG. **9A9**). In some embodiments, in response to detecting the second portion of the second input, in accordance with a determination that the second portion of the second input includes a change in a fourth parameter (e.g., lateral displacement of user input **911**, FIG. **9A9**) that is indicative of performance of a sixth user interface operation, the device instantaneously changes the visual appearance of the second user interface object by removing the fifth visual transformation without regard to a gradual change in the fourth parameter (e.g., the darkening of weather icon **904** is removed, FIG. **9A9**).

FIGS. **27B1-27B3** are flow diagrams illustrating a method **2700B** of displaying intensity-reactive and intensity-nonreactive user interface objects in accordance with some embodiments. The method **2700B** is performed (**2752**) at an electronic device (e.g., device **300**, FIG. **3**, or portable multifunction device **100**, FIG. **1A**) with a display, a touch-sensitive surface, and one or more sensors to detect intensity of contacts with the touch-sensitive surface. In some embodiments, the display is a touch-screen display and the touch-sensitive surface is on or integrated with the display. In some embodiments, the display is separate from the touch-sensitive surface. Some operations in method **2700B** are, optionally, combined and/or the order of some operations is, optionally, changed.

The device displays (**2752**) a user interface (e.g., user interface **900**, Figure A1, or user interface **901**, FIG. **9B1**) that includes a plurality of activatable user interface objects (e.g., messages icon **902** or weather icon **904**, FIG. **9A1**, or e-mail message **930**, FIG. **9B1**).

While displaying the user interface, the device detects (**2754**) a first portion of an input by a contact (e.g., a finger or stylus contact, such as user input **912**, FIG. **9A12**, or user input **915**, FIG. **9B2**) at a first location on the touch-sensitive surface that corresponds to a first user interface object (e.g., messages icon **902**, FIG. **9A12**, or e-mail message **930**, FIG. **9B2**) on the display.

In response to detecting the first portion of the input by the contact (**2756**), the device changes a visual appearance of the first user interface object to indicate that an operation corresponding to the first user interface object will be performed in response to detecting liftoff of the contact from the touch-sensitive surface. The change in the visual appearance includes (**2758**) applying a first transformation to the first user interface object (e.g., the first transformation includes changing a brightness of the first user interface object from a first brightness to a second brightness, as shown in FIG. **9B2** with respect to e-mail message **930**). Changing the visual appearance of user interface objects using the first transformation provides the user with feedback indicating that an operation will be performed in response to liftoff of the contact. Providing improved visual feedback to the user enhances the operability of the device and makes the user-device interface more efficient (e.g., by helping the user to provide proper inputs and reducing user mistakes when operating/interacting with the device).

The device detects (**2760**) a second portion of the input by the contact. The second portion of the input immediately follows (**2762**) the first portion of the input.

In some embodiments, the second portion of the input includes (**2764**) lateral movement of the contact and corresponds to a drag (e.g., scroll) gesture.

In some embodiments, the second portion of the input includes (**2766**) a change in detected intensity of the contact and corresponds to a stationary press gesture that meets a first intensity criterion.

In some embodiments, the second portion of the input includes (**2768**) continuing to maintain the contact on the touch-sensitive surface for at least a first amount of time such that a total amount of time that the contact is maintained without meeting a threshold amount of lateral movement and a first intensity criterion is greater than a first time threshold (e.g., time threshold T_H as shown in user input intensity graph **906**, FIG. **9**A**24**).

In response to detecting the second portion of the input by the contact (**2770**), in accordance with a determination that the second portion of the input includes a gradual change in a first input parameter and corresponds to a first gesture (e.g., a drag or scroll), the device changes (**2772**) the visual appearance of the first user interface object by dynamically reducing the first transformation and applying a second transformation corresponding to the first gesture as the first input parameter gradually changes. For example, in some embodiments, the first input parameter includes lateral movement of the contact and corresponds to a scroll gesture, and the second transformation includes gradually changing the brightness of the first user interface object from the second brightness back to the first brightness in accordance with the lateral movement of the contact, and scrolling at least a subset of the activatable user interface objects on the display in accordance with the lateral movement of the contact with respect to the first location on the touch-sensitive surface (e.g., as shown in FIGS. **9A16**-**9A18** with respect to messages icon **902** and user interface **900**). Dynamically reducing the first transformation and applying the second transformation corresponding to the first gesture as the first input parameter gradually changes provides the user with feedback indicating that a different operation will be performed in accordance with a different gesture being detected, and allows the user input to transition between possible operations to be performed in accordance with changes in the input. Providing improved visual feedback to the user enhances the operability of the device and makes the user-device interface more efficient (e.g., by helping the user to provide proper inputs and reducing user mistakes when operating/interacting with the device).

In accordance with a determination that the second portion of the input includes a gradual change in a second input parameter and corresponds to a second gesture (e.g., a deep press), the device changes (**2774**) the visual appearance of the first user interface object by dynamically reducing the first transformation and applying a third transformation corresponding to the second gesture as the second input parameter gradually changes. For example, in some embodiments, the second input parameter includes a change (e.g., increase) in intensity of the contact and corresponds to a stationary press that meets a first intensity criterion, and the third transformation includes gradually changing the brightness of the first user interface object from the second brightness to a third brightness in accordance with the detected intensity of the contact during the second portion of the input, and changing a size of the first user interface object in accordance with the detected intensity of the contact during the second portion of the input (e.g., the brightness and size of e-mail message **930** is gradually increased in accordance with the increase in contact intensity of user input **915**, FIGS. **9**B**2**-**9**B**4**). Dynamically reducing the first transformation and applying the third transformation corresponding to the second gesture as the second input parameter gradually changes provides the user with feedback indicating that a different operation will be performed in accordance with a different gesture being detected, and allows the user input to transition between possible operations to be performed in accordance with changes in the input. Providing improved visual feedback to the user enhances the operability of the device and makes the user-device interface more efficient (e.g., by helping the user to provide proper inputs and reducing user mistakes when operating/interacting with the device).

In some embodiments, the first transformation includes (**2776**) changing a brightness (and/or color) of the first user interface object from a first brightness to a second brightness (e.g., the second brightness (for a tap selection state) is darker or dimmer than the first brightness); the second transformation includes changing the brightness of the first user interface object from the second brightness to a third brightness (e.g., the third brightness is brighter or lighter than the second brightness, and could be the same as the first brightness) as the first parameter gradually changes (e.g., lighter for swipe or deep press); and the third transformation includes changing the brightness of the first user interface object from the second brightness to a fourth brightness (e.g., distinct from the first, second, and third brightnesses, and darker or dimmer than all the others) as the second parameter gradually changes (e.g., darker for long press).

In some embodiments, the second transformation includes (**2778**) increasing a size of the first user interface object (e.g., larger for swipe or long press), and the third transformation includes changing the size of the first user interface object by decreasing the size of the first user interface object during a first portion of the third transformation and increasing the size of the first user interface object during a second portion of the third transformation (e.g., smaller, then larger for a deep press). For example, in some embodiments, the second portion of the third transformation is a continuation of the third transformation subsequent to and immediately following the first portion.

In some embodiments, in accordance with a determination that the second portion of the input includes a gradual change in a third input parameter and corresponds to a third gesture (e.g., a long press), the device changes (**2780**) the visual appearance of the first user interface object by dynamically reducing the first transformation and applying a fourth transformation corresponding to the third gesture as the third input parameter gradually changes. For example, in some embodiments, the third input parameter includes an increase in a time duration of maintaining the contact on the touch-sensitive surface with no more than a threshold amount of lateral movement and with no more than a threshold amount of change in detected intensity, and corresponds to a stationary press gesture that does not meet the first intensity criterion, and the fourth transformation includes decreased brightness of the first user interface object (e.g., decreasing the brightness of messages icon **902**, FIG. **9A24**).

In some embodiments, in accordance with a determination that the second portion of the input includes a gradual change in both the first input parameter and the second input parameter, the device changes (**2782**) the visual appearance of the first user interface object by dynamically reducing the first transformation and applying at least a portion of the second transformation and at least a portion of the third transformation. For example, in some embodiments, a change in size for a deep press and a change in color for a long press (e.g., for a home screen) are applied (e.g., messages icon **902**, FIG. **9A24**). As another example, in some embodiments, a change in location for a drag gesture and a change in size for a deep press (e.g., for a table view such as in a mail application) are applied (e.g., e-mail message **930**, FIG. **9**B**7**).

In accordance with some embodiments, FIG. **28** shows a functional block diagram of an electronic device **2800** configured in accordance with the principles of the invention as described above. The functional blocks of the device may be implemented by hardware, software, or a combination of hardware and software to carry out the principles of the invention. It is understood by persons of skill in the art that the functional blocks described in FIG. **2800** may be combined or separated into sub-blocks to implement the principles of the invention as described above. Therefore, the description herein may support any possible combination or separation or further definition of the functional blocks described herein.

As shown in FIG. **28**, an electronic device **2800** includes a display unit **2802** configured to display a user interface that includes a plurality of activatable user interface objects; a touch-sensitive surface unit **2804** configured to receive user inputs; one or more sensor units **2806** configured to detect intensities of contacts with the touch-sensitive surface unit; and a processing unit **2808** coupled to the display unit, the touch-sensitive surface unit and the one or more sensor units. In some embodiments, the processing unit **2808** includes a display enabling unit **2810**, a detecting unit **2812**, a transformation unit **2814**, and an operation performing unit **2816**.

The processing unit is configured to: enable display of a user interface that includes a plurality of activatable user interface objects (e.g., with the display enabling unit **2810**); while the user interface is displayed, detect a first portion of an input by a contact at a first location on the touch-sensitive surface unit that corresponds to a first user interface object on the display unit (e.g., with the detecting unit **2812**); in response to detecting the first portion of the input: change a visual appearance of the first user interface object by applying a first visual transformation to the first user interface object (e.g., with the transformation unit **2814**), wherein the first visual transformation corresponds to a first user interface operation; after changing the visual appearance of the first user interface object by applying the first visual transformation to the first user interface object, detect a second portion of the input (e.g., with the detecting unit **2812**); in response to detecting the second portion of the input: in accordance with a determination that the second portion of the input is consistent with the first user interface operation, perform the first user interface operation (e.g., with the operation performing unit **2816**); and in accordance with a determination that the second portion of the input includes a gradual change in a first parameter that is indicative of performance of a second user interface operation, dynamically reduce the first visual transformation as the first parameter gradually changes without performing the first user interface operation (e.g., with the transformation unit **2814**).

As shown in FIG. **29**, an electronic device **2900** includes a display unit **2902** configured to display a user interface that includes a plurality of activatable user interface objects; a touch-sensitive surface unit **2904** configured to receive user inputs; one or more sensor units **2906** configured to detect intensities of contacts with the touch-sensitive surface unit; and a processing unit **2908** coupled to the display unit, the touch-sensitive surface unit and the one or more sensor units. In some embodiments, the processing unit **2908** includes a display enabling unit **2910**, a detecting unit **2912**, and a transformation unit **2914**.

The processing unit is configured to: enable display of a user interface that includes a plurality of activatable user interface objects (e.g., with the display enabling unit **2910**); while the user interface is displayed, detect a first portion of an input by a contact at a first location on the touch-sensitive surface unit that corresponds to a first user interface object on the display unit (e.g., with the detecting unit **2912**); in response to detecting the first portion of the input by the contact: change a visual appearance of the first user interface object to indicate that an operation corresponding to the first user interface object will be performed in response to detecting liftoff of the contact from the touch-sensitive surface unit, wherein the change in the visual appearance includes applying a first transformation to the first user interface object (e.g., with the transformation unit **2914**); detect a second portion of the input by the contact, wherein the second portion of the input immediately follows the first portion of the input (e.g., with the detecting unit **2912**); and, in response to detecting the second portion of the input by the contact: in accordance with a determination that the second portion of the input includes a gradual change in a first input parameter and corresponds to a first gesture, change the visual appearance of the first user interface object by dynamically reducing the first transformation and applying a second transformation corresponding to the first gesture as the first input parameter gradually changes (e.g., with the transformation unit **2914**); and, in accordance with a determination that the second portion of the input includes a gradual change in a second input parameter and corresponds to a second gesture, change the visual appearance of the first user interface object by dynamically reducing the first transformation and applying a third transformation corresponding to the second gesture as the second input parameter gradually changes (e.g., with the transformation unit **2914**).

FIGS. **30**A-**30**E are flow diagrams illustrating a method **3000** of displaying control settings interfaces for control functions for remote devices in accordance with some embodiments. The method **3000** is performed (**3002**) at an electronic device (e.g., device **300**, FIG. **3**, or portable multifunction device **100**, FIG. **1**A) with a display, a touch-sensitive surface, and one or more sensors to detect intensity of contacts with the touch-sensitive surface. In some embodiments, the display is a touch-screen display and the touch-sensitive surface is on or integrated with the display. In some embodiments, the display is separate from the touch-sensitive surface. Some operations in method **3000** are, optionally, combined and/or the order of some operations is, optionally, changed.

The device displays (**3002**) a first user interface (e.g., user interface **903**, FIG. **9**C**1**) that includes a plurality of activatable user interface objects (e.g., including a plurality of virtual controls, such as remote device control affordances, for example icons **962-1** through **962-8**).

While displaying the first user interface, the device detects (**3004**) an input by a contact at a first location (e.g., user input **954**) on the touch-sensitive surface that corresponds to a first activatable user interface object on the display (e.g., a first remote device control affordance, such as lights icon **962-4**, FIG. **9**C**2**). The first activatable user interface object is (**3006**) associated with a control function with three or more available values. Also, a first value of the control function is (**3008**) selected as a current value for the control function (e.g., a temperature setting, a volume setting, a brightness setting, etc.).

In response to detecting the input by the contact (**3010**), in accordance with a determination that the input meets toggle criteria (**3012**), wherein the toggle criteria do not require that a characteristic intensity of the contact on the touch-sensitive surface meets a first intensity threshold in order for the toggle criteria to be met (e.g., the characteristic intensity of the contact remains below a light press intensity threshold IT_L, such as for a contact in a tap gesture), the device toggles the control function that corresponds to the first activatable user interface object between a first state that is based on the current value for the control function and a second state (e.g., by turning the control function on with the current value for a setting or turning the control function off).

In some embodiments, the toggle criteria include (**3014**) a criterion that is met when the characteristic intensity of the contact remains below the first intensity threshold (e.g., IT=as shown in user input intensity graph **956**, FIG. **9C2**). In some embodiments, the toggle criteria include (**3016**) a criterion that is met when the input is a tap input.

In response to detecting the input by the contact (**3010**), in accordance with a determination that the input meets control adjustment criteria (**3018**), wherein the control adjustment criteria require that the characteristic intensity of the contact on the touch-sensitive surface meets the first intensity threshold in order for the control adjustment criteria to be met (e.g., the characteristic intensity of the contact is above a light press intensity threshold IT_L as shown in user input intensity graph **906**, FIGS. **9C4-9C5**), the device displays a second user interface (e.g., user interface **951**, FIG. **9C4** or user interface **952**, FIG. **9C5**) that includes a second activatable user interface object (e.g., activatable object **958**, FIGS. **9C4-9C5**) that has three or more state options that correspond to the three or more available values for the control function (e.g., state options **958-1** through **958-6**, FIGS. **9C4-9C5**). Displaying a second user interface that includes an activatable user interface object for controlling the control function in accordance with the input meeting control adjustment criteria provides the user with an efficient means of controlling remote devices, thereby enhancing the operability of the device and makes the user-device interface more efficient (e.g., by helping the user to provide proper inputs and reducing user mistakes when operating/interacting with the device).

In some embodiments, the second user interface includes (**3020**) an icon that represents the control function (e.g., icon **907**, FIGS. **9C4-9C15**) and the icon is animated in accordance with the current value for the control function. For example, for a temperature setting, the icon may include a thermometer icon and change color in accordance with the current temperature setting; for a brightness setting, the icon may include a light bulb icon and be animated to show the light bulb becoming brighter or dimmer; for a fan setting, the icon may include a fan icon and be animated to show the fan speed increasing or decreasing, etc.

While displaying the second user interface and continuing to detect the contact (**3022**), in some embodiments, while displaying the second user interface and prior to detecting movement of the contact across the touch sensitive surface (**3024**), the device ceases to detect the contact, and, in response to ceasing to detect the contact, continues to display the second user interface (e.g., ceasing to detect user input **954** and continuing to display second user interface **952**, as shown in FIG. **9C17**). In some embodiments, when the second user interface is displayed (to enable adjusting the setting of a control), if the contact lifts off without moving across the touch sensitive surface, display of the second user interface is maintained so that a user can make a second input (e.g., user input **955**, FIG. **9C18**) on the second user interface to adjust the setting of a control. Conversely, in some embodiments, if the contact by the first input moves across the touch-sensitive surface while the second user interface is displayed (e.g., user input **954** moves as shown in FIG. **9C14**) and then lifts off (e.g., user input **954** lifts off, FIG. **9C15**), then the setting of the control is adjusted based on the movement of the contact and the second user interface ceases to be displayed when the contact lifts off (e.g., the setting of the control is adjusted to the minimum value **958-0** and user input **954** ceases to be detected, FIG. **9C15**, and second user interface **952** ceases to be displayed such that first user interface **903** is redisplayed, FIG. **9C16**). Thus, adjusting the setting of the control can be performed with either (a) an input by a single continuous contact or (b) two inputs by two separate contacts with the touch sensitive surface (where the same finger may make the two separate contacts).

While displaying the second user interface and continuing to detect the contact (**3022**), the device detects (**3026**) movement of the contact across the touch-sensitive surface (e.g., movement of user input **954** is detected, FIGS. **9C6-9C9**, or alternatively FIGS. **9C11-9C14**). In some embodiments, while detecting the movement of the contact across the touch-sensitive surface, the device changes (**3028**) the current value for the control function based on the movement of the contact.

Next, while displaying the second user interface and continuing to detect the contact (**3022**), the device ceases (**3030**) to detect the contact (e.g., the device detects liftoff of the contact, such as user input **954**, FIG. **9C10**, or user input **954**, FIG. **9C15**) from the touch-sensitive surface).

In response to detecting the movement of the contact across the touch-sensitive surface, the device changes (**3032**) the current value for the control function based on the movement of the contact (e.g., by changing the current value to a second value if the movement is a first amount of movement in a first direction or changing the current value to a third value if the movement is the first amount of movement in a second direction, or changing the current value to a fourth value if the movement is a second amount of movement in the second direction). For example, the current value is changed to a second value **958-4** when the movement is a first amount of movement upwards, FIG. **9C6**, and to a third value **958-2** when the movement is the first amount of movement downwards, FIG. **9C11**. Or, the current value is changed to a fourth value **958-1** if the movement is a second amount of movement downwards, FIG. **9C12**. Changing the current value for the control function based on the movement of the contact while displaying the second user interface provides the user with an efficient means of changing settings for controlling remote devices, thereby enhancing the operability of the device and makes the user-device interface more efficient (e.g., by helping the user to provide proper inputs and reducing user mistakes when operating/interacting with the device).

In some embodiments, the current value of the control function after ceasing to detect the contact is (**3034**) a last value for the control function prior to ceasing to detect the contact (e.g., the last value for the control function prior to ceasing to detect user input **954** was the minimum value **958-0** corresponding to an off state of the function, as shown in FIGS. **9C14-9C15**, and the current value of the control function as shown in FIG. **9C16** is the minimum value such that the function is in an off state).

In some embodiments, in response to detecting the movement of the contact across the touch-sensitive surface and ceasing to detect the contact, the device sets (**3036**) the control function to an on state.

In some embodiments, in response to ceasing to detect the contact, the device ceases (**3038**) to display the second user interface and redisplays the first user interface (e.g., in response to ceasing to detect user input **954**, second user interface **952** as shown in FIG. **9C15** ceases to be displayed, and first user interface **903** is redisplayed as shown in FIG. **9C16**). In some embodiments, ceasing to display the second user interface includes (**3040**) displaying an animation of the second activatable user interface object (e.g., second activatable user interface object **958**, FIG. **9C15**) transforming into the first activatable user interface object (e.g., lights icon **962-4**, FIG. **9C16**).

In some embodiments, while displaying the second user interface, the device detects (**3042**) movement of the contact that corresponds to a swipe gesture (e.g., a left swipe, as indicated by user input **955**, FIG. **9C19**, or a right swipe), and, in response to detecting movement of the contact that corresponds to the swipe gesture, the device displays a third user interface (e.g., third user interface **953**, FIG. **9C19**) that includes a third activatable user interface object (e.g., as illustrated in FIG. **9C19**, the third activatable user interface object is made up of activatable user interface objects **960-1** through **960-7**) that corresponds to one or more additional controls for the function. In some embodiments, the second user interface includes (**3044**) a plurality of pagination indicia (e.g., dots, such as pagination dots **909**, FIGS. **9C18-9C19**) that indicate that one or more additional pages of controls for the function are available.

In some embodiments, changing the current value for the control function based on the movement of the contact includes (**3046**) changing the current value for the control function to a lowest available value of the control function (e.g., minimum value **958-0**, FIG. **9C13**, corresponding to an off state of the function) in accordance with a determination that the movement of the contact includes at least a first amount of movement in a first direction (e.g., a long, downward swipe turns off the function).

In some embodiments, changing the current value of the control function to the lowest available value includes (**3048**), in accordance with a determination that the movement of the contact includes an amount of movement in the first direction that is greater than the first amount (e.g., as indicated by user input **954**, FIG. **9C14**), displaying an animation of the second activatable user interface object transforming into a third user interface object (e.g., a stretched form of the second activatable user interface object, as shown in FIG. **9C14**) that corresponds to the movement in the first direction without changing the current value for the control function from the lowest available value (e.g., the current value for the control function is still the minimum value **958-0**, FIG. **9C14**), and in response to ceasing to detect the contact, displaying an animation of the third user interface object transforming into the second activatable user interface object (e.g., displaying an animation of activatable user interface object **958** contracting, as indicated in FIG. **9C15**).

For example, in some embodiments, the third user interface object is an elongated or stretched form of the second activatable user interface object, optionally showing selection of a value lower than the lowest available value, the animation of the second activatable user interface object transforming into the third user interface object includes the second activatable user interface object stretching in accordance with continued movement of the contact in the first direction, and the animation of the third user interface object transforming (back) into the second activatable user interface object includes the third user interface object snapping or springing back into the second activatable user interface object, typically showing selection of the lowest available value.

In some embodiments, changing the current value for the control based on the movement of the contact includes (**3050**) changing the current value for the control to a highest available value of the function (e.g., maximum value **958-6**, FIG. **9C8**) in accordance with a determination that the movement of the contact includes a second amount of movement in a second direction (e.g., a long, upward swipe increases the function to its maximum value).

In some embodiments, changing the current value for the control to the highest available value includes (**3052**), in accordance with a determination that the movement of the contact includes an amount of movement in the second direction that is greater than the second amount (e.g., as indicated by user input **954**, FIG. **9C9**), displaying an animation of the second activatable user interface object transforming into a fourth user interface object (e.g., a stretched form of the second activatable user interface object, as shown in FIG. **9C9**) that corresponds to the movement in the second direction without changing the current value for the control function from the highest available value (e.g., the current value for the control function is still the maximum value **958-6**, FIG. **9C9**), and, in response to ceasing to detect the contact, displaying an animation of the fourth user interface object transforming into the second activatable user interface object (e.g., displaying an animation of activatable user interface object **958** contracting, as indicated in FIG. **9C10**).

For example, in some embodiments the fourth user interface object is an elongated or stretched form of the second activatable user interface object, optionally showing selection of a value higher than the highest available value, the animation of the second activatable user interface object transforming into the fourth user interface object includes the second activatable user interface object stretching in accordance with continued movement of the contact in the second direction, and the animation of the fourth user interface object transforming (back) into the second activatable user interface object includes the fourth user interface object snapping or springing back into the second activatable user interface object, typically showing selection of the highest available value.

In some embodiments, the electronic device includes (**3054**) a tactile output generator, and, in response to changing the current value of the control function to a lowest available value of the control function (e.g., an off state of the function such as 0%), the device outputs a tactile output. In some embodiments, the tactile output is generated in response to a request to decrease the current value of the control function beyond the lowest available value (e.g., as indicated by tactile output **923**, FIG. **9C14**) and/or in response to snapping back to the lowest available value after receiving a request to increase the current value of the control function beyond the lowest available value (e.g., as indicated by tactile output **924**, FIG. **9C15**).

In some embodiments, the electronic device includes (**3056**) a tactile output generator, and, in response to changing the current value of the control function to a highest available value of the function (e.g., a maximum value such as 100%), the device outputs a tactile output. In some embodiments, the tactile output is generated in response to a request to increase the current value of the control function beyond the highest available value (e.g., as indicated by tactile output **921**, FIG. **9C9**) and/or in response to snapping back to the highest available value after receiving a request to increase the current value of the control function beyond the highest available value (e.g., as indicated by tactile output **922**, FIG. **9C10**).

In some embodiments, the electronic device includes (**3058**) a tactile output generator, and, in response to detecting the movement of the contact across the touch sensitive surface while displaying the second user interface, the device outputs one or more tactile outputs in conjunction with changing the current value for the control based on the movement of the contact.

In accordance with some embodiments, FIG. **31** shows a functional block diagram of an electronic device **3100** configured in accordance with the principles of the invention as described above. The functional blocks of the device may be implemented by hardware, software, or a combination of hardware and software to carry out the principles of the invention. It is understood by persons of skill in the art that the functional blocks described in FIG. **3100** may be combined or separated into sub-blocks to implement the principles of the invention as described above. Therefore, the description herein may support any possible combination or separation or further definition of the functional blocks described herein.

As shown in FIG. **31**, an electronic device **3100** includes a display unit **3102** configured to display a first user interface that includes a plurality of activatable user interface objects; a touch-sensitive surface unit **3104** configured to receive user inputs; one or more sensor units **3106** configured to detect intensities of contacts with the touch-sensitive surface unit; and a processing unit **3108** coupled to the display unit, the touch-sensitive surface unit and the one or more sensor units. In some embodiments, the processing unit **3108** includes a display enabling unit **3110**, a detecting unit **3112**, a ceasing unit **3114**, a function changing unit **3116**, a toggling unit **3118**, and a tactile output enabling unit **3120**.

The processing unit is configured to: enable display of a first user interface that includes a plurality of activatable user interface objects (e.g., with the display enabling unit **3110**); while the first user interface is displayed, detect an input by a contact at a first location on the touch-sensitive surface unit that corresponds to a first activatable user interface object on the display unit (e.g., with the detecting unit **3112**), wherein: the first activatable user interface object is associated with a control function with three or more available values; and a first value of the control function is selected as a current value for the control function; in response to detecting the input by the contact: in accordance with a determination that the input meets toggle criteria, wherein the toggle criteria do not require that a characteristic intensity of the contact on the touch-sensitive surface unit meets a first intensity threshold in order for the toggle criteria to be met, toggle the control function that corresponds to the first activatable user interface object between a first state that is based on the current value for the control function and a second state (e.g., with the toggling unit **3118**); and, in accordance with a determination that the input meets control adjustment criteria, wherein the control adjustment criteria require that the characteristic intensity of the contact on the touch-sensitive surface unit meets the first intensity threshold in order for the control adjustment criteria to be met, enable display of a second user interface that includes a second activatable user interface object that has three or more state options that correspond to the three or more available values for the control function (e.g., with the display enabling unit **3110**); and while the second user interface is displayed and while continuing to detect the contact: detect movement of the contact across the touch-sensitive surface unit (e.g., with the detecting unit **3112**); cease to detect the contact (e.g., with the ceasing unit **3114**); and, in response to detecting the movement of the contact across the touch-sensitive surface unit, change the current value for the control function based on the movement of the contact (e.g., with the function changing unit **3116**).

The foregoing description, for purpose of explanation, has been described with reference to specific embodiments. However, the illustrative discussions above are not intended to be exhaustive or to limit the invention to the precise forms disclosed. Many modifications and variations are possible in view of the above teachings. The embodiments were chosen and described in order to best explain the principles of the invention and its practical applications, to thereby enable others skilled in the art to best use the invention and various described embodiments with various modifications as are suited to the particular use contemplated.

What is claimed is:

1. A method, comprising:

at an electronic device with a display device and a one or more input devices:

displaying, via the display device, a control user interface that includes a plurality of control affordances;

detecting a first portion of a first input that is directed to a first control affordance of the plurality of control affordances;

in response to detecting the first portion of the first input:

in accordance with a determination that the first portion of the first input includes a termination of the first input and that the first portion of the first input meets control toggle criteria, wherein the control toggle criteria do not require that a characteristic value of the first portion of the first input meets a first input threshold in order for the control toggle criteria to be met, toggling a function of a control that corresponds to the first control affordance; and

in accordance with a determination that the first portion of the first input meets enhanced control criteria, wherein the enhanced control criteria require that the characteristic value of the first portion of the first input meets the first input threshold in order for the enhanced control criteria to be met, displaying one or more modification options for the control that correspond to the first control affordance prior to detecting the termination of the first input;

while the one or more modification options for the control that correspond to the first control affordance are displayed in accordance with the determination that the first portion of the first input met the enhanced control criteria, detecting a second portion of the first input followed by detecting the termination of the first input, wherein the second portion of the first input includes movement of the first input that corresponds to movement from a first location that corresponds to the first control affordance to a second location that corresponds to a first modification option of the one or more modification options; and

modifying the function of the control that corresponds to the first control affordance in accordance with the first modification option, after detecting the second portion of the first input.

2. The method of claim 1, wherein the first modification option toggles the function of the control that corresponds to the first control affordance.

3. The method of claim 1, wherein modifying the function of the control that corresponds to the first control affordance in accordance with the first modification option includes:

in accordance with a determination that the function is on when the second portion of the first input is detected, modifying the function in accordance with the first modification option; and

in accordance with a determination that the function is off when the second portion of the first input is detected, turning the function on with modification in accordance with the first modification option.

4. The method of claim 1, wherein the first modification option modifies a mode of the control that corresponds to the first control affordance.

5. The method of claim 1, wherein modifying the function of the control that corresponds to the first control affordance in accordance with the first modification option includes setting reversion criteria for the control, wherein the reversion criteria include a condition for reverting a change made to the control; and

the method includes, in accordance with a determination that the reversion criteria are met, reverting the control that corresponds to the first control affordance to a prior state of the control.

6. The method of claim 1, including:

in accordance with a determination that the characteristic value of the first portion of the first input meets the enhanced control criteria, determining a state of the control that corresponds to the first control affordance;

in accordance with a determination that the state of the control that corresponds to the first control affordance is a first state, displaying a first set of modification options for the control that corresponds to the first control affordance; and

in accordance with a determination that the state of the control that corresponds to the first control affordance is a second state, displaying a second set of modification options for the control that corresponds to the first control affordance that are distinct from the first set of modification options.

7. The method of claim 1, including:

in accordance with a determination that the first portion of the first input meets the enhanced control criteria, concurrently displaying a current value of a parameter of the control with the one or more modification options for the control that corresponds to the first control affordance.

8. The method of claim 1, wherein:

the first control affordance is a first application affordance that corresponds to a first application;

a second application affordance that corresponds to the first application is displayed in a second user interface that is distinct from the control user interface;

one or more action options for the first application are displayed in response to an input that is directed to the second application affordance when display-action-options criteria are met; and

the one or more modification options for the control that corresponds to the first control affordance include at least a subset of the action options for the first application.

9. The method of claim 1, wherein the one or more modification options for the control that corresponds to the first control affordance include at least one network connection activation option.

10. The method of claim 1, wherein the control user interface partially overlays a portion of a second user interface that is distinct from the control user interface.

11. The method of claim 1, wherein a respective control affordance of the plurality of control affordances corresponds to a system setting.

12. The method of claim 1, wherein the first control affordance includes at least a subset of action options for a flashlight application.

13. An electronic device, comprising:

a display device;

one or more input devices;

one or more processors;

memory; and

one or more programs, wherein the one or more programs are stored in the memory and configured to be executed by the one or more processors, the one or more programs including instructions for:

displaying, via the display device, a control user interface that includes a plurality of control affordances;

detecting a first portion of a first input that is directed to a first control affordance of the plurality of control affordances;

in response to detecting the first portion of the first input:

in accordance with a determination that the first portion of the first input includes a termination of the first input and that the first portion of the first input meets control toggle criteria, wherein the control toggle criteria do not require that a characteristic value of the first portion of the first input meets a first input threshold in order for the control toggle criteria to be met, toggling a function of a control that corresponds to the first control affordance; and

in accordance with a determination that the first portion of the first input meets enhanced control criteria, wherein the enhanced control criteria require that the characteristic value of the first portion of the first input meets the first input threshold in order for the enhanced control criteria to be met, displaying one or more modification options for the control that correspond to the first control affordance prior to detecting the termination of the first input;

while the one or more modification options for the control that correspond to the first control affordance are displayed in accordance with the determination that the first portion of the first input met the enhanced control criteria, detecting a second portion of the first input followed by detecting the termination of the first input, wherein the second portion of the first input includes movement of the first input that corresponds to movement from a first location that corresponds to the first control affordance to a second location that corresponds to a first modification option of the one or more modification options; and

modifying the function of the control that corresponds to the first control affordance in accordance with the first modification option, after detecting the second portion of the first input.

14. The electronic device of claim 13, wherein the first modification option toggles the function of the control that corresponds to the first control affordance.

15. The electronic device of claim 13, wherein the instructions for modifying the function of the control that corresponds to the first control affordance in accordance with the first modification option include instructions for:

in accordance with a determination that the function is on when the second portion of the first input is detected, modifying the function in accordance with the first modification option; and

in accordance with a determination that the function is off when the second portion of the first input is detected, turning the function on with modification in accordance with the first modification option.

16. The electronic device of claim 13, wherein the first modification option modifies a mode of the control that corresponds to the first control affordance.

17. The electronic device of claim 13, wherein the instructions for modifying the function of the control that corresponds to the first control affordance in accordance with the first modification option include instructions for setting reversion criteria for the control, wherein the reversion criteria include a condition for reverting a change made to the control; and

the one or more programs include instructions for, in accordance with a determination that the reversion criteria are met, reverting the control that corresponds to the first control affordance to a prior state of the control.

18. The electronic device of claim 13, wherein the one or more programs include instructions for:

in accordance with a determination that the characteristic value of the first portion of the first input meets the enhanced control criteria, determining a state of the control that corresponds to the first control affordance;

in accordance with a determination that the state of the control that corresponds to the first control affordance is a first state, displaying a first set of modification options for the control that corresponds to the first control affordance; and

in accordance with a determination that the state of the control that corresponds to the first control affordance is a second state, displaying a second set of modification options for the control that corresponds to the first control affordance that are distinct from the first set of modification options.

19. The electronic device of claim 13, wherein the one or more programs include instructions for:

in accordance with a determination that the first portion of the first input meets the enhanced control criteria, concurrently displaying a current value of a parameter of the control with the one or more modification options for the control that corresponds to the first control affordance.

20. A non-transitory computer readable storage medium storing one or more programs, the one or more programs comprising instructions that, when executed by an electronic device that includes a display device and one or more input devices, cause the electronic device to:

display, via the display device, a control user interface that includes a plurality of control affordances;

detect a first portion of a first input that is directed to a first control affordance of the plurality of control affordances;

in response to detecting the first portion of the first input:

in accordance with a determination that the first portion of the first input includes a termination of the first input and that the first portion of the first input meets control toggle criteria, wherein the control toggle criteria do not require that a characteristic value of the first portion of the first input meets a first input threshold in order for the control toggle criteria to be met, toggle a function of a control that corresponds to the first control affordance; and

in accordance with a determination that the first portion of the first input meets enhanced control criteria, wherein the enhanced control criteria require that the characteristic value of the first portion of the first input meets the first input threshold in order for the enhanced control criteria to be met, display one or more modification options for the control that correspond to the first control affordance prior to detecting the termination of the first input;

while the one or more modification options for the control that correspond to the first control affordance are displayed in accordance with the determination that the first portion of the first input met the enhanced control criteria, detect a second portion of the first input followed by detecting the termination of the first input, wherein the second portion of the first input includes movement of the first input that corresponds to movement from a first location that corresponds to the first control affordance to a second location that corresponds to a first modification option of the one or more modification options; and

modify the function of the control that corresponds to the first control affordance in accordance with the first modification option, after detecting the second portion of the first input.

21. The electronic device of claim 13, wherein:

the first control affordance is a first application affordance that corresponds to a first application;

a second application affordance that corresponds to the first application is displayed in a second user interface that is distinct from the control user interface;

one or more action options for the first application are displayed in response to an input that is directed to the second application affordance when display-action-options criteria are met; and

the one or more modification options for the control that corresponds to the first control affordance include at least a subset of the action options for the first application.

22. The electronic device of claim 13, wherein the one or more modification options for the control that corresponds to the first control affordance include at least one network connection activation option.

23. The electronic device of claim 13, wherein the control user interface partially overlays a portion of a second user interface that is distinct from the control user interface.

24. The electronic device of claim 13, wherein a respective control affordance of the plurality of control affordances corresponds to a system setting.

25. The electronic device of claim 13, wherein the first control affordance includes at least a subset of action options for a flashlight application.

26. The non-transitory computer readable storage medium of claim 20, wherein the first modification option toggles the function of the control that corresponds to the first control affordance.

27. The non-transitory computer readable storage medium of claim 20, wherein modifying the function of the control

that corresponds to the first control affordance in accordance with the first modification option includes:

in accordance with a determination that the function is on when the second portion of the first input is detected, modifying the function in accordance with the first modification option; and

in accordance with a determination that the function is off when the second portion of the first input is detected, turning the function on with modification in accordance with the first modification option.

28. The non-transitory computer readable storage medium of claim **20**, wherein the first modification option modifies a mode of the control that corresponds to the first control affordance.

29. The non-transitory computer readable storage medium of claim **20**, wherein modifying the function of the control that corresponds to the first control affordance in accordance with the first modification option includes setting reversion criteria for the control, wherein the reversion criteria include a condition for reverting a change made to the control; and

the one or more programs comprise instructions that, when executed by the electronic device, cause the electronic device to:

in accordance with a determination that the reversion criteria are met, revert the control that corresponds to the first control affordance to a prior state of the control.

30. The non-transitory computer readable storage medium of claim **20**, wherein the one or more programs comprise instructions that, when executed by the electronic device, cause the electronic device to:

in accordance with a determination that the characteristic value of the first portion of the first input meets the enhanced control criteria, determine a state of the control that corresponds to the first control affordance;

in accordance with a determination that the state of the control that corresponds to the first control affordance is a first state, display a first set of modification options for the control that corresponds to the first control affordance; and

in accordance with a determination that the state of the control that corresponds to the first control affordance is a second state, display a second set of modification options for the control that corresponds to the first control affordance that are distinct from the first set of modification options.

31. The non-transitory computer readable storage medium of claim **20**, wherein the one or more programs comprise instructions that, when executed by the electronic device, cause the electronic device to:

in accordance with a determination that the first portion of the first input meets the enhanced control criteria, concurrently display a current value of a parameter of the control with the one or more modification options for the control that corresponds to the first control affordance.

32. The non-transitory computer readable storage medium of claim **20**, wherein:

the first control affordance is a first application affordance that corresponds to a first application;

a second application affordance that corresponds to the first application is displayed in a second user interface that is distinct from the control user interface;

one or more action options for the first application are displayed in response to an input that is directed to the second application affordance when display-action-options criteria are met; and

the one or more modification options for the control that corresponds to the first control affordance include at least a subset of the action options for the first application.

33. The non-transitory computer readable storage medium of claim **20**, wherein the one or more modification options for the control that corresponds to the first control affordance include at least one network connection activation option.

34. The non-transitory computer readable storage medium of claim **20**, wherein the control user interface partially overlays a portion of a second user interface that is distinct from the control user interface.

35. The non-transitory computer readable storage medium of claim **20**, wherein a respective control affordance of the plurality of control affordances corresponds to a system setting.

36. The non-transitory computer readable storage medium of claim **20**, wherein the first control affordance includes at least a subset of action options for a flashlight application.

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