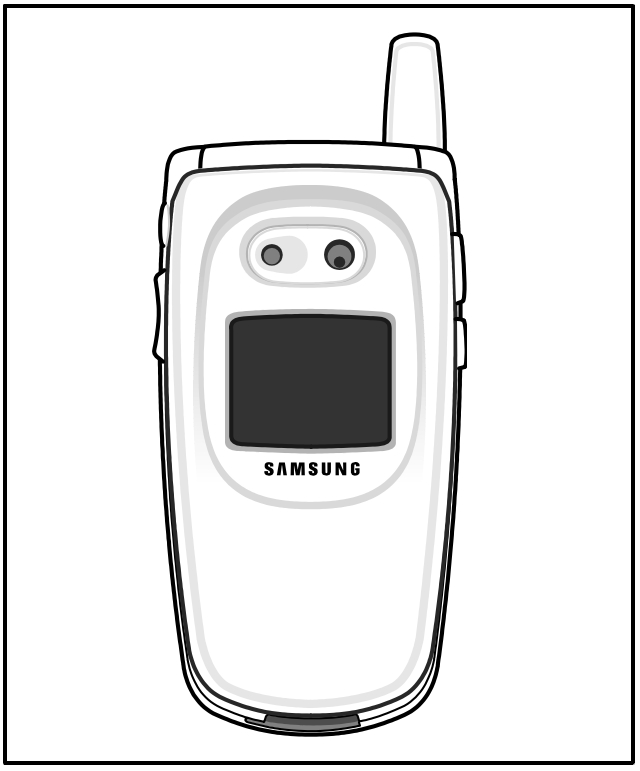
SAMSUNG

GSM TELEPHONE
SGH-P510

SERVICE Manual

GSM TELEPHONE



CONTENTS

1. Specification
2. Flow Chart of Troubleshooting
3. Exploded Views and Parts List
4. Electrical Parts List
5. Block Diagrams
6. PCB Diagrams

1. SGH-P510 Specification

1. GSM General Specification

	GSM900 Phase 1	EGSM 900 Phase 2	DCS 1800 Phase 1
Freq. Band [MHz] Uplink/Downlink	890~915 935~960	880~915 925~960	1710~1785 1805~1880
ARFCN range	1~124	0~124 & 975~1023	512~885
Tx/Rx spacing	45MHz	45MHz	95MHz
Mod. Bit rate / Bit Period	270.833kbps 3.692us	270.833kbps 3.692us	270.833kbps 3.692us
Time Slot Period / Frame Period	576.9us 4.615ms	576.9us 4.615ms	576.9us 4.615ms
Modulation	0.3GMSK	0.3GMSK	0.3GMSK
MS Power	33dBm~13dBm	33dBm~5dBm	30dBm~0dBm
Power Class	5pcl ~ 15pcl	5pcl ~ 19pcl	0pcl ~ 15pcl
Sensitivity	-102dBm	-102dBm	-100dBm
TDMA Mux	8	8	8
Cell Radius	35Km	35Km	2Km

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2. GSM Tx Power Class

Tx Power control level	GSM900
5	33±3 dBm
6	31±3 dBm
7	29±3 dBm
8	27±3 dBm
9	25±3 dBm
10	23±3 dBm
11	21±3 dBm
12	19±3 dBm
13	17±3 dBm
14	15±3 dBm
15	13±3 dBm
16	11±3 dBm
17	9±3 dBm
18	7±3 dBm
19	5±3 dBm

Tx Power control level	DCS1800
0	30±3 dBm
1	28±3 dBm
2	26±3 dBm
3	24±3 dBm
4	22±3 dBm
5	20±3 dBm
6	18±3 dBm
7	16±3 dBm
8	14±3 dBm
9	12±4 dBm
10	10±4 dBm
11	8±4 dBm
12	6±4 dBm
13	4±4 dBm
14	2±5 dBm
15	0±5 dBm

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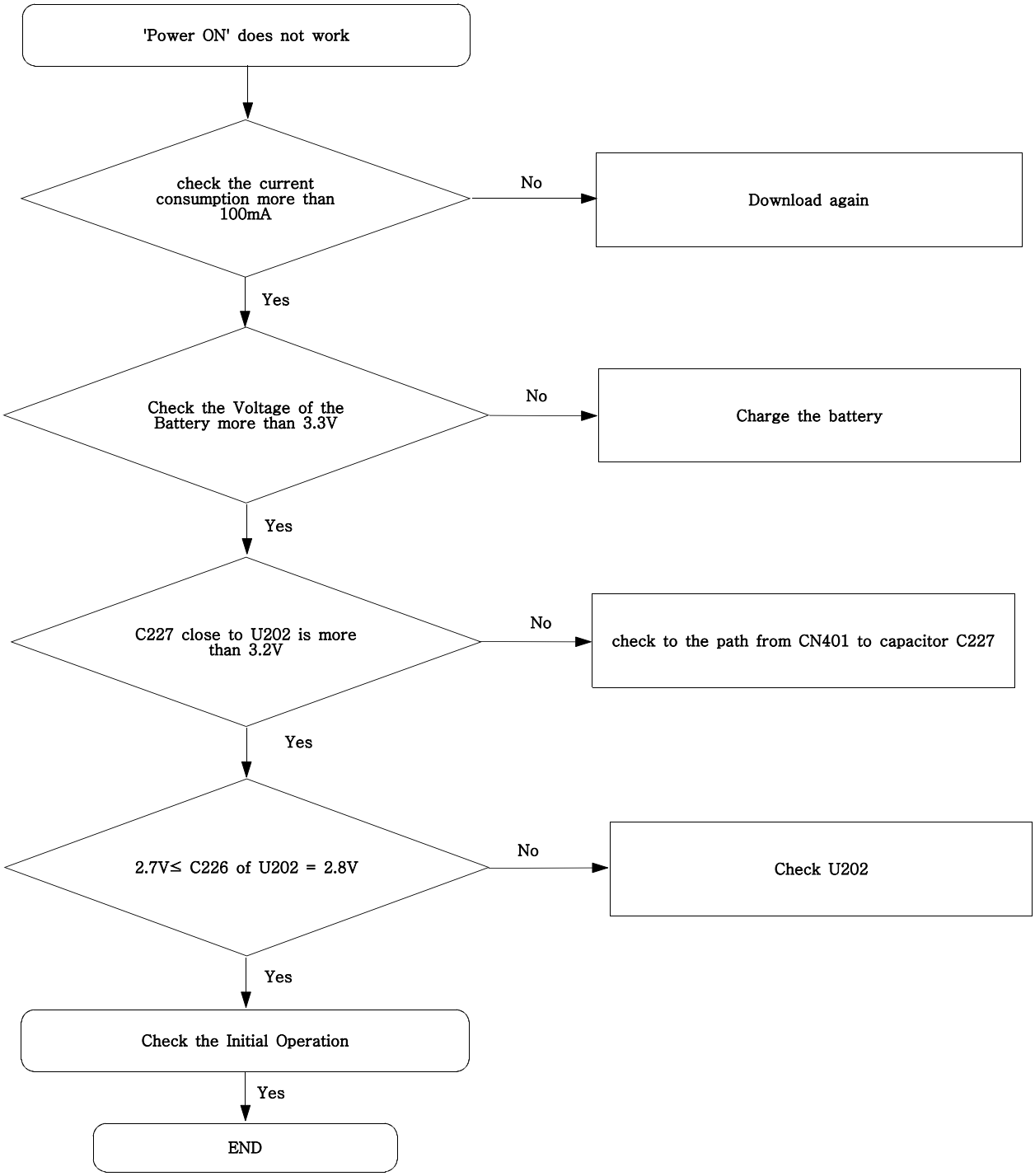
2. SGH-P510 Flow Chart of Troubleshooting

1. Power On



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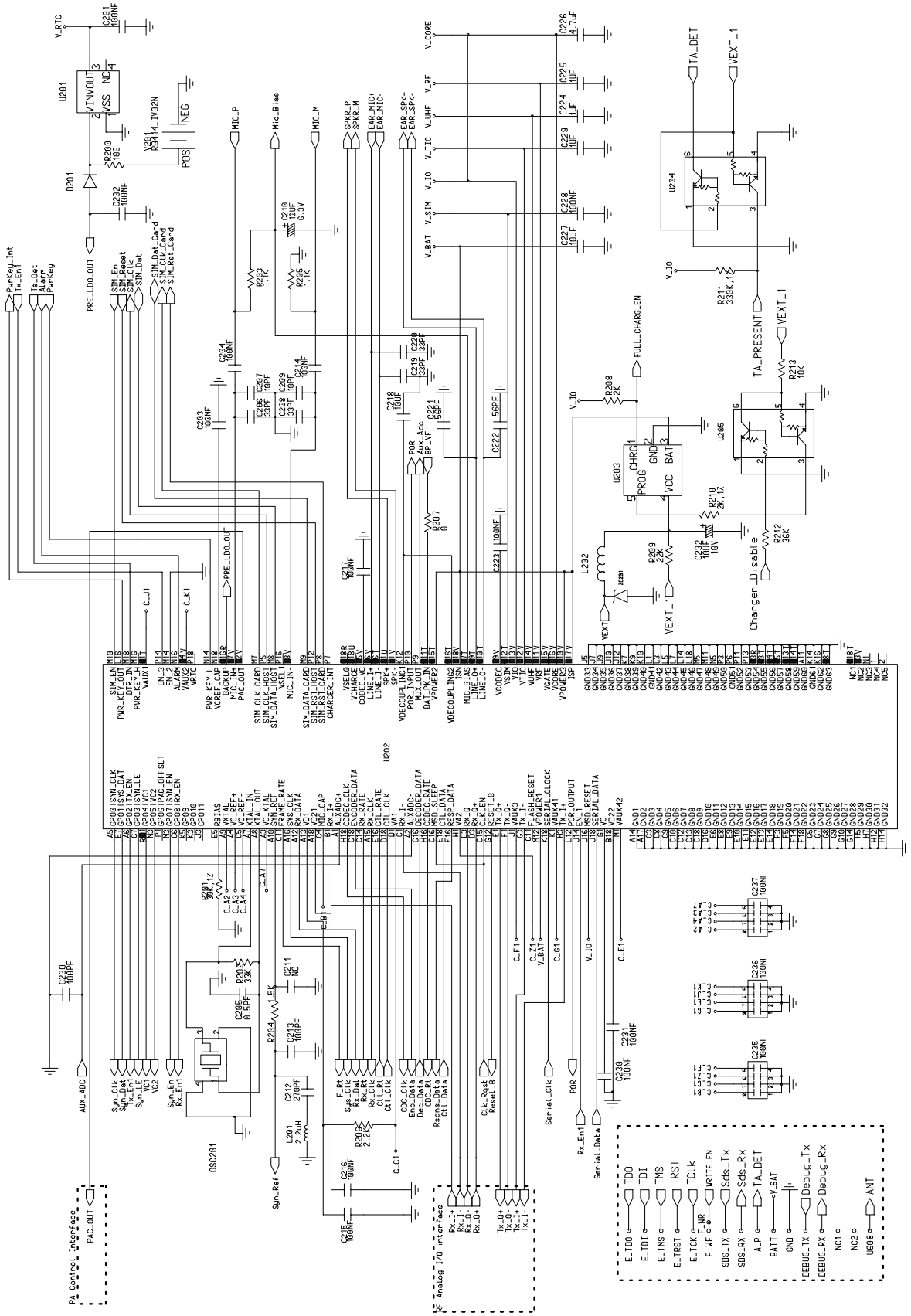

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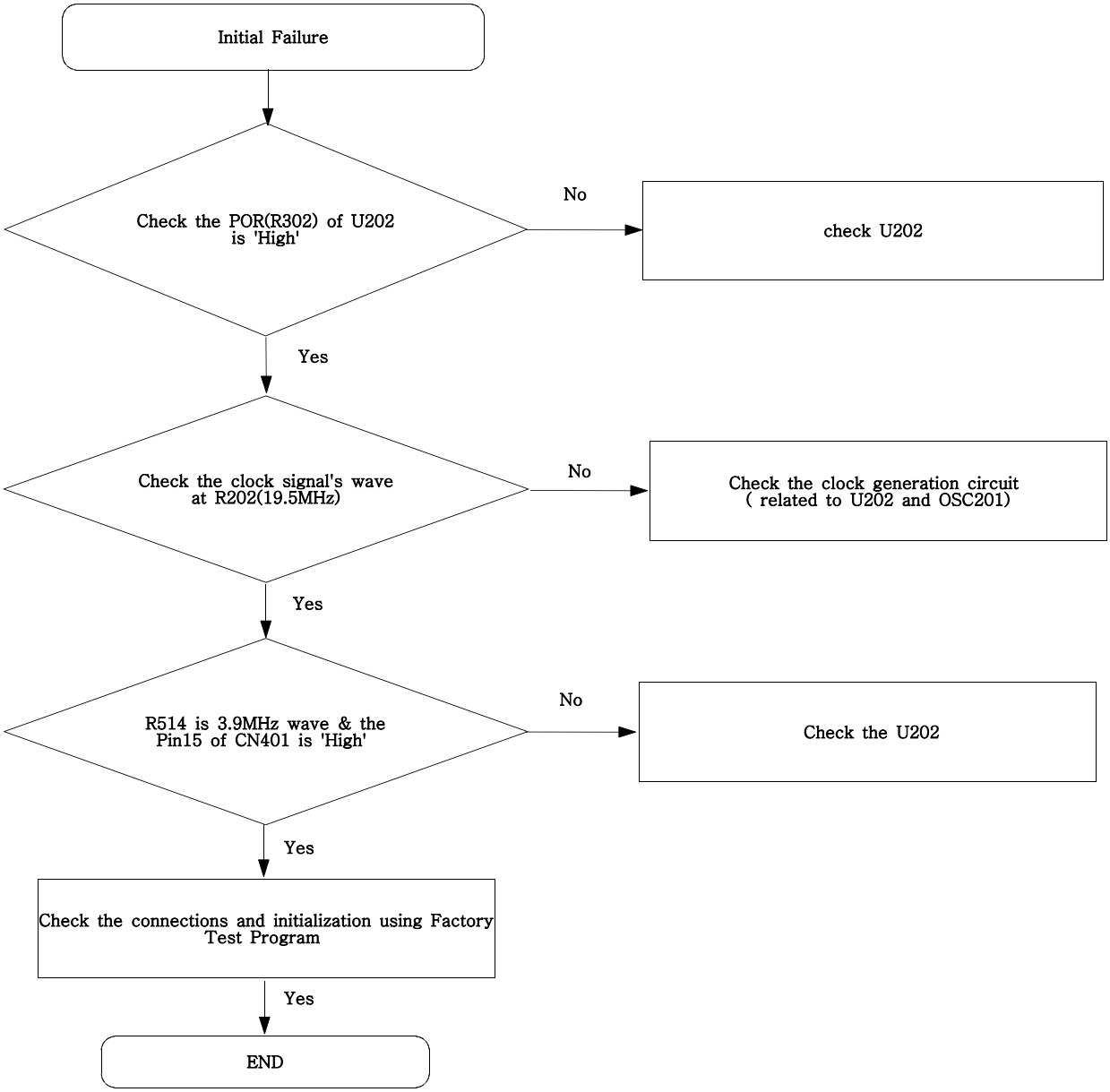
2. Initial



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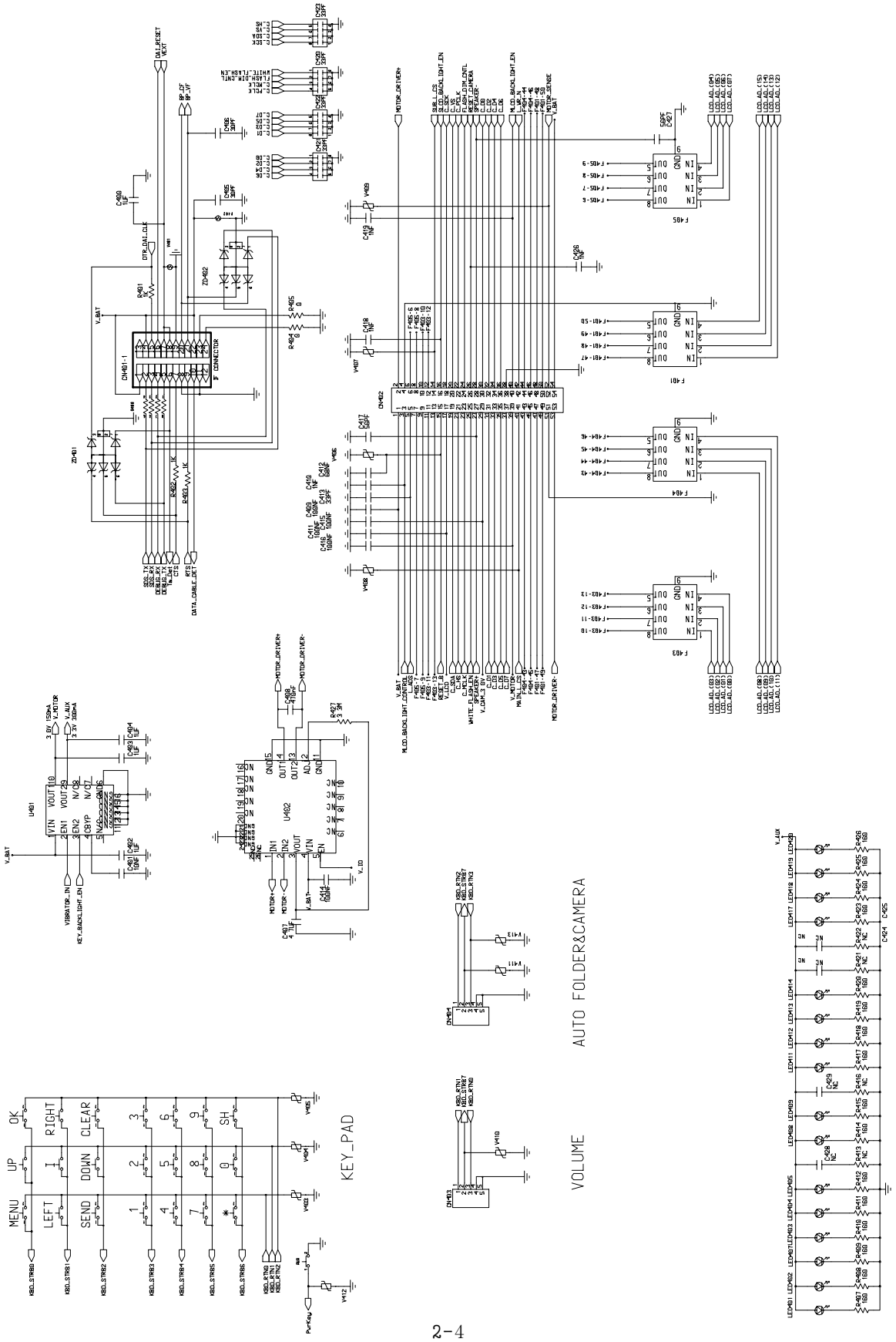

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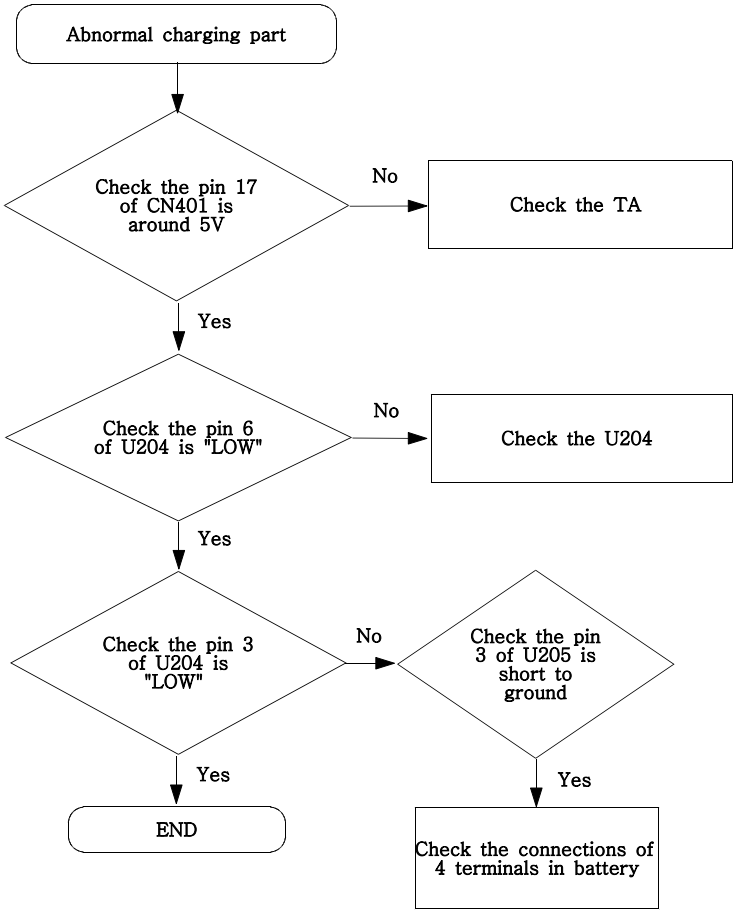
3. Charging

* Test after connecting with Battery

: All 4 terminals in battery should be connected to the phone by using jump-wires.



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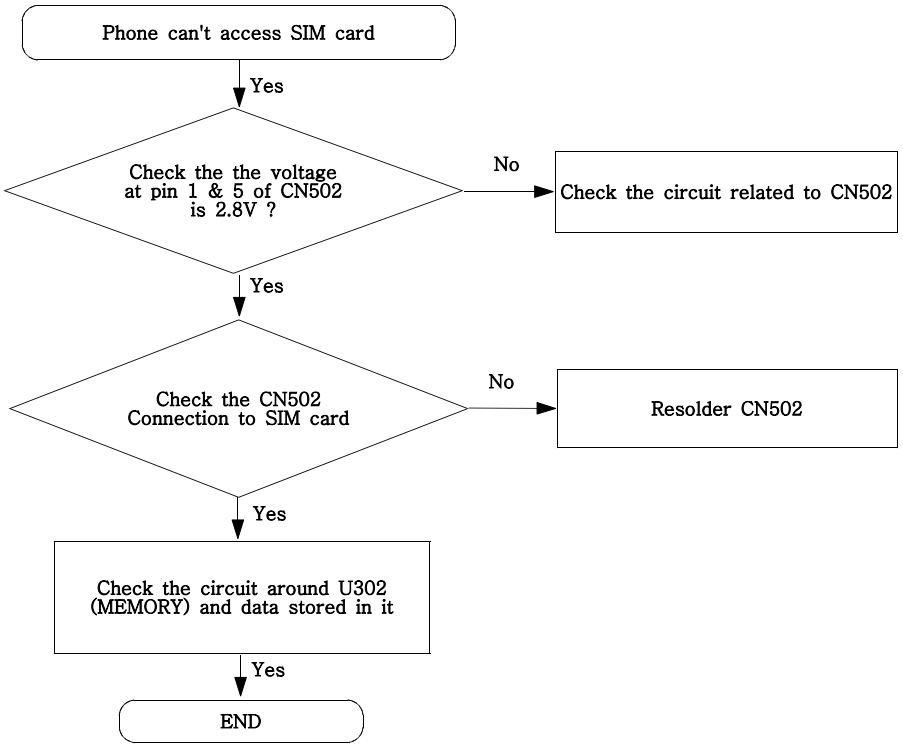
4. Sim

* Test with Sim



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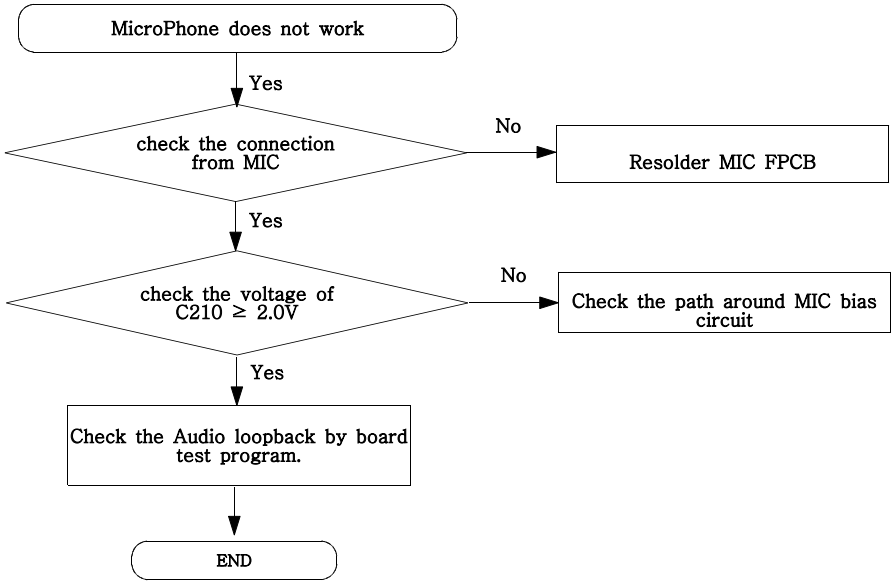
5. Microphone Part

* Call with Sim before testing.



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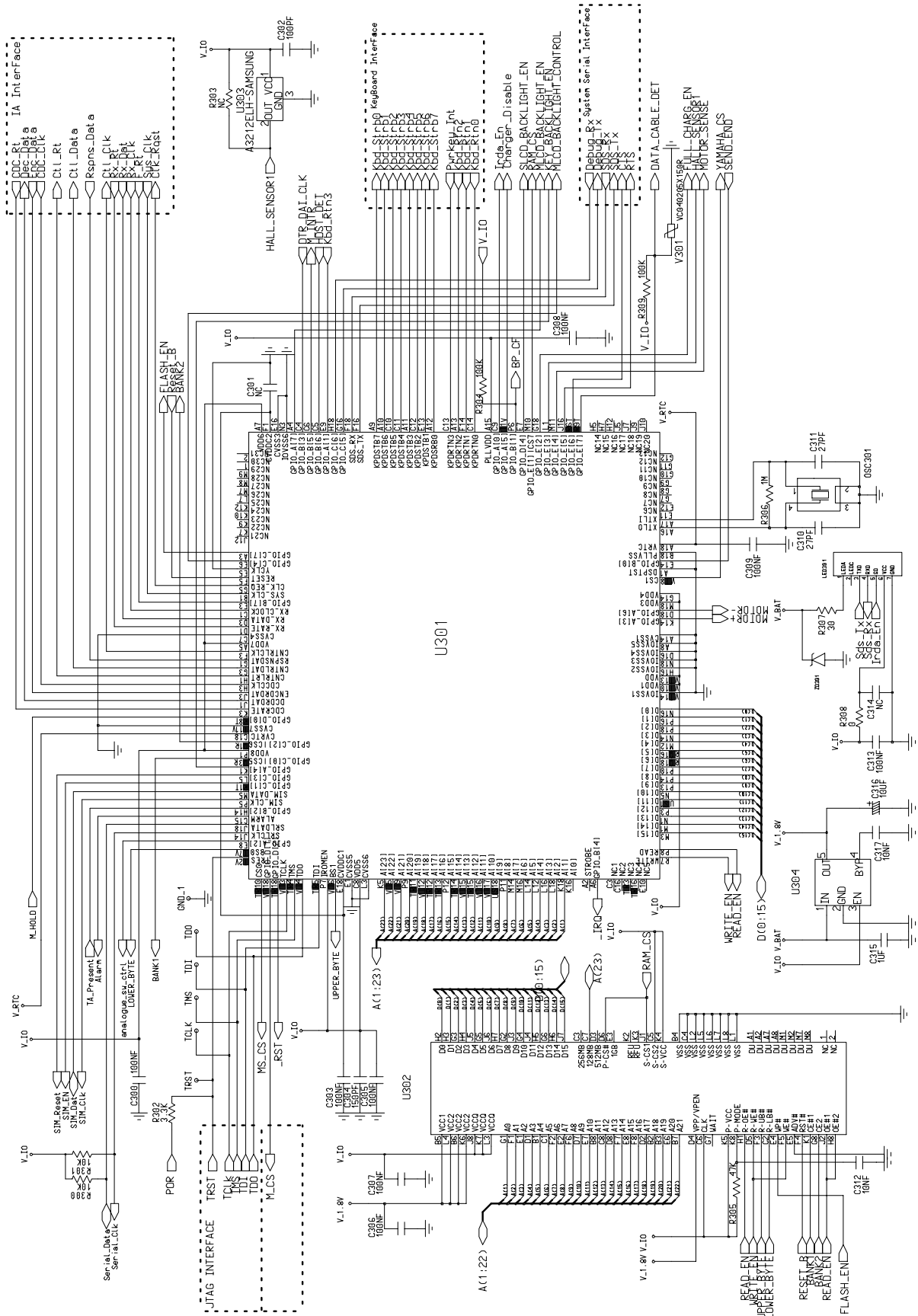

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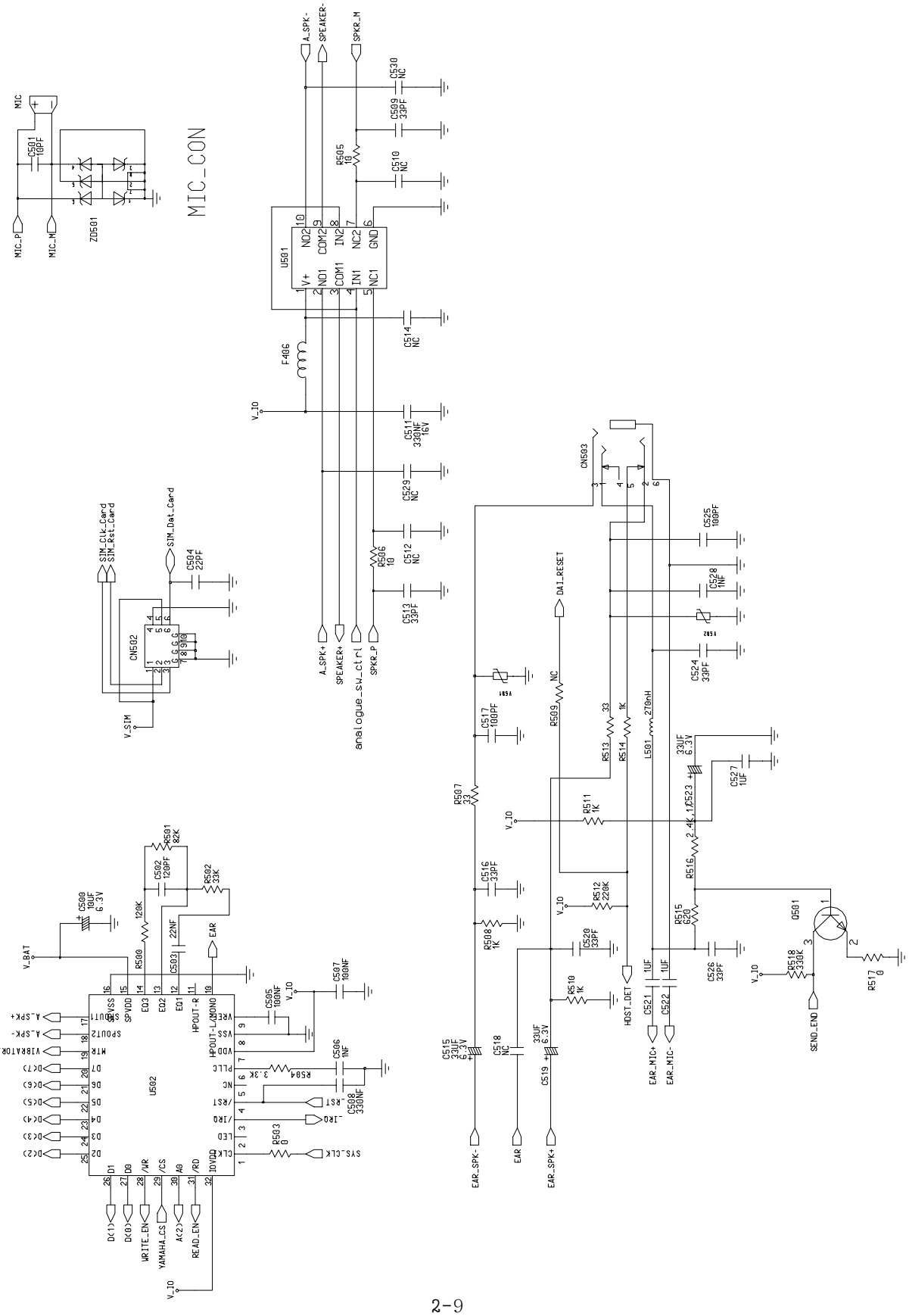

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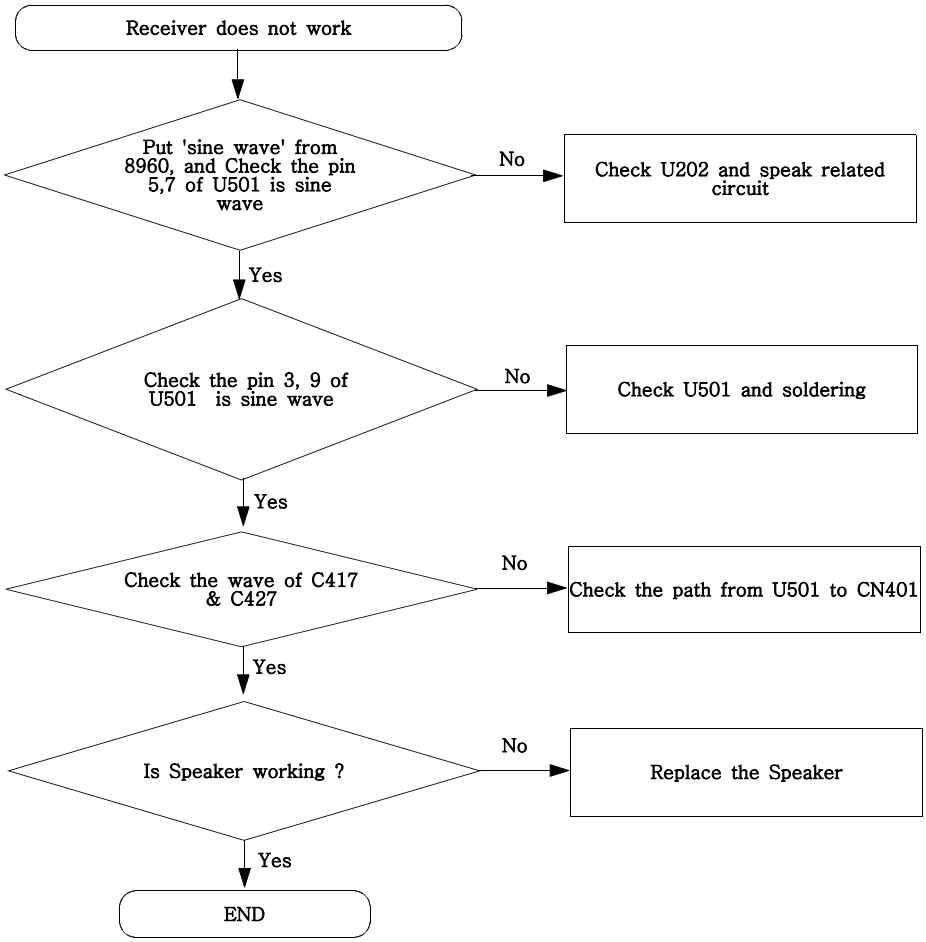
6. Receiver

* Call before testing.



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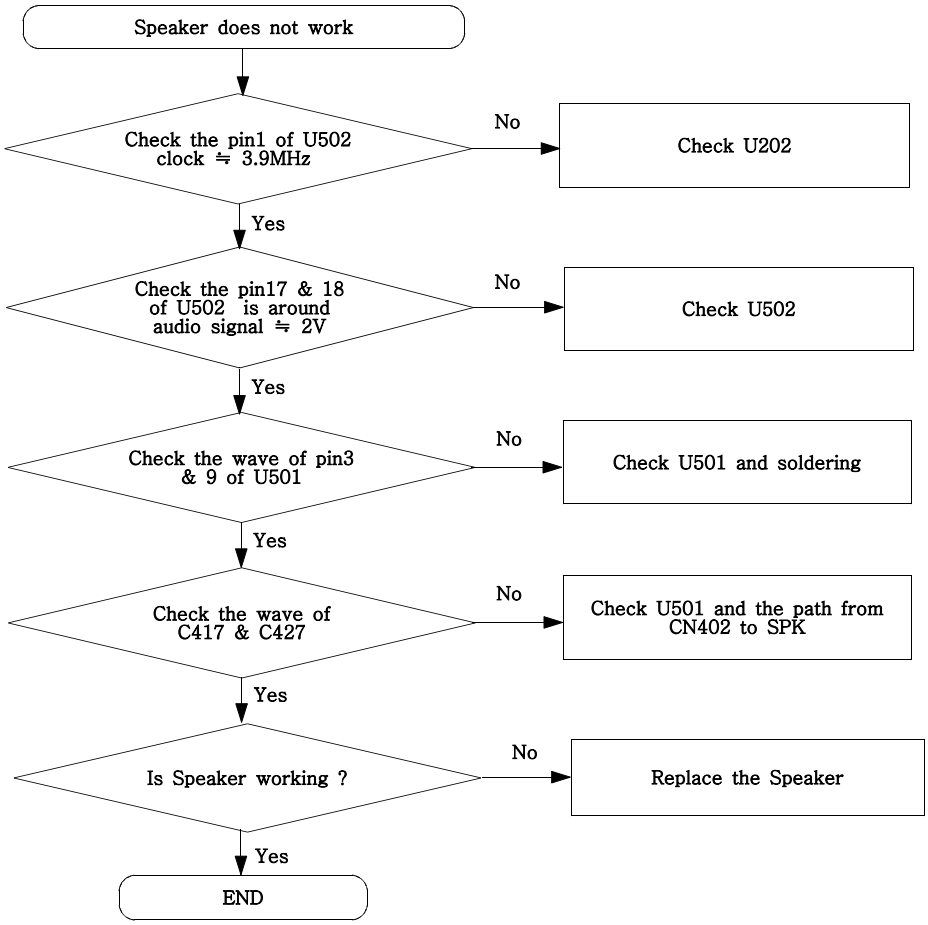
7. Speaker

* Play on 64-poly melody before testing.



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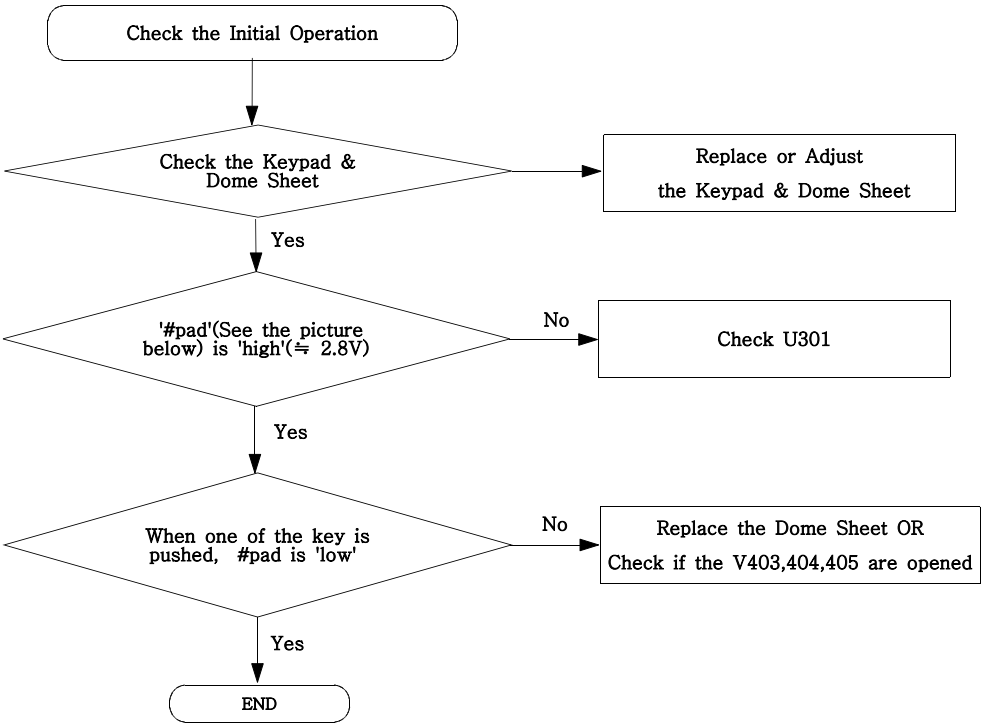
8. Key Data Input



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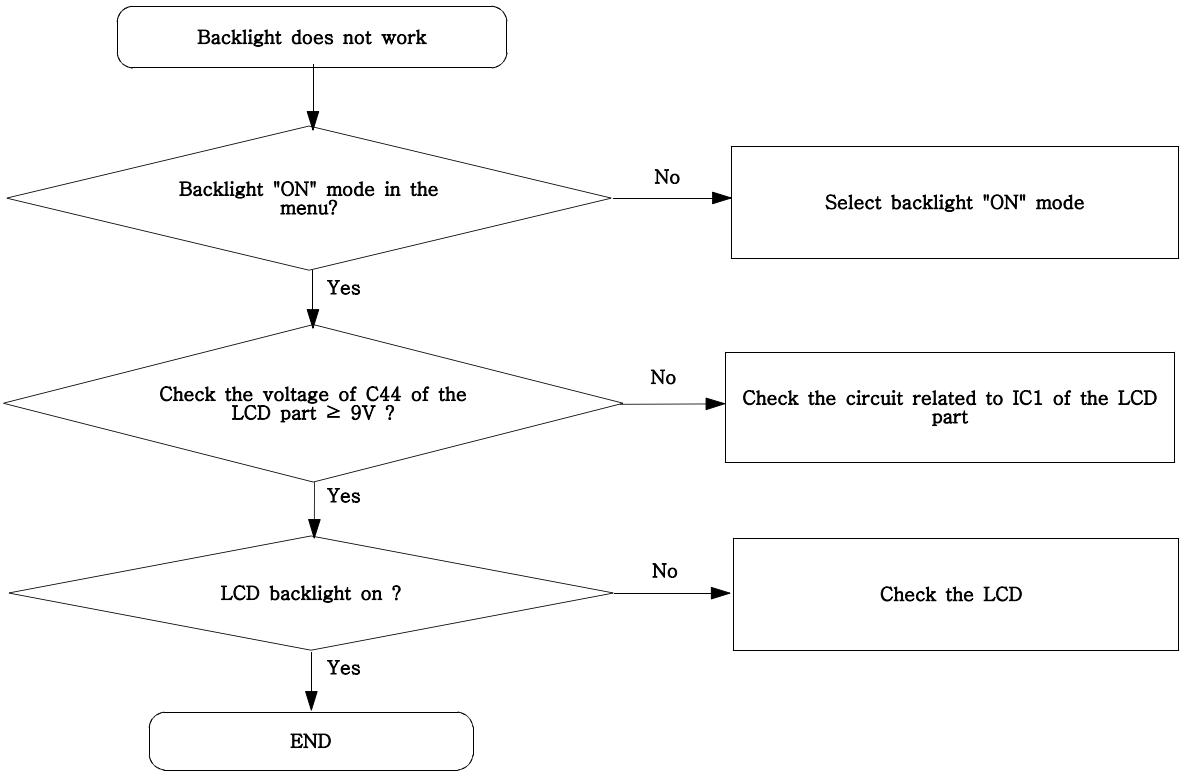
9. LCD backlight



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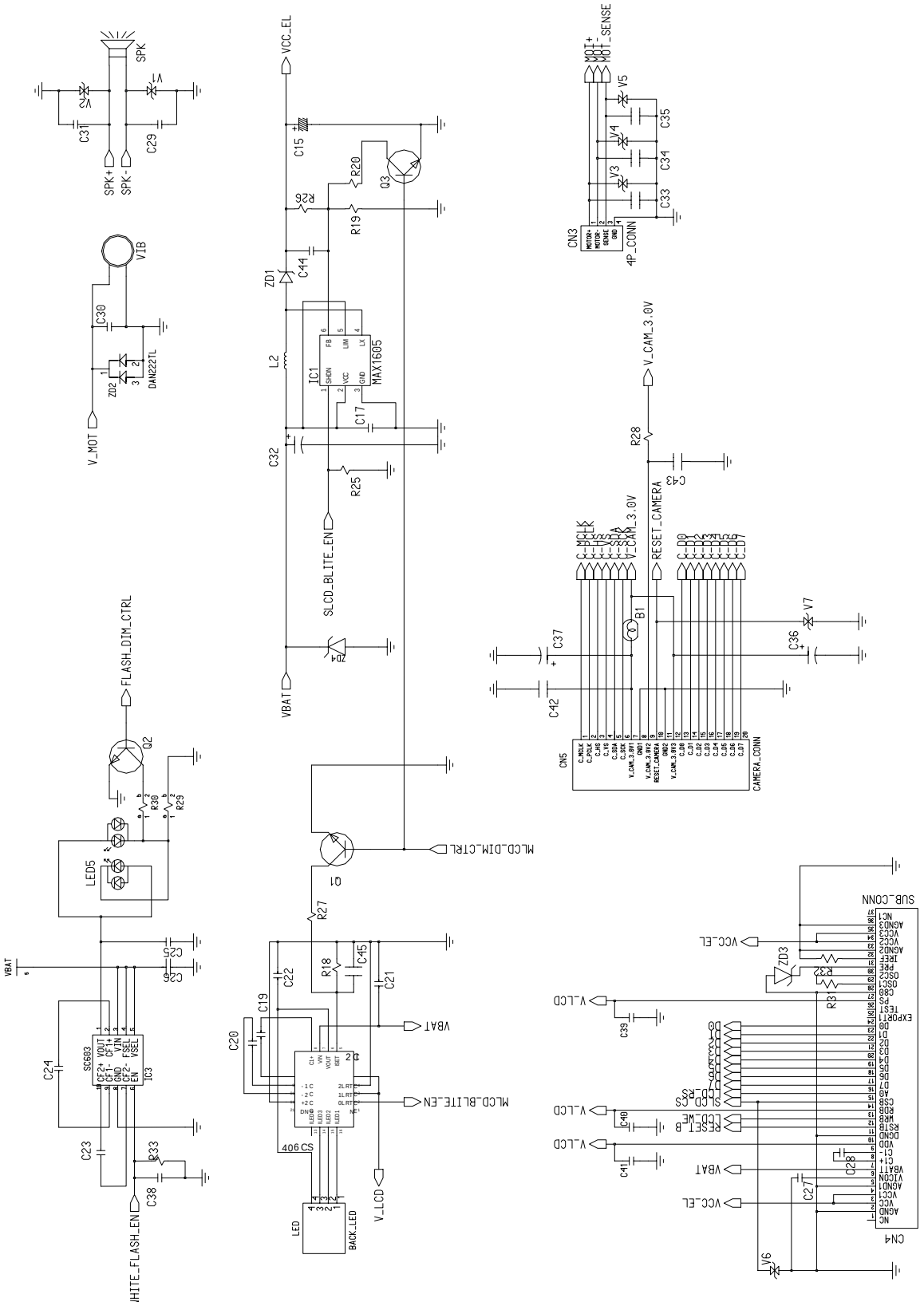

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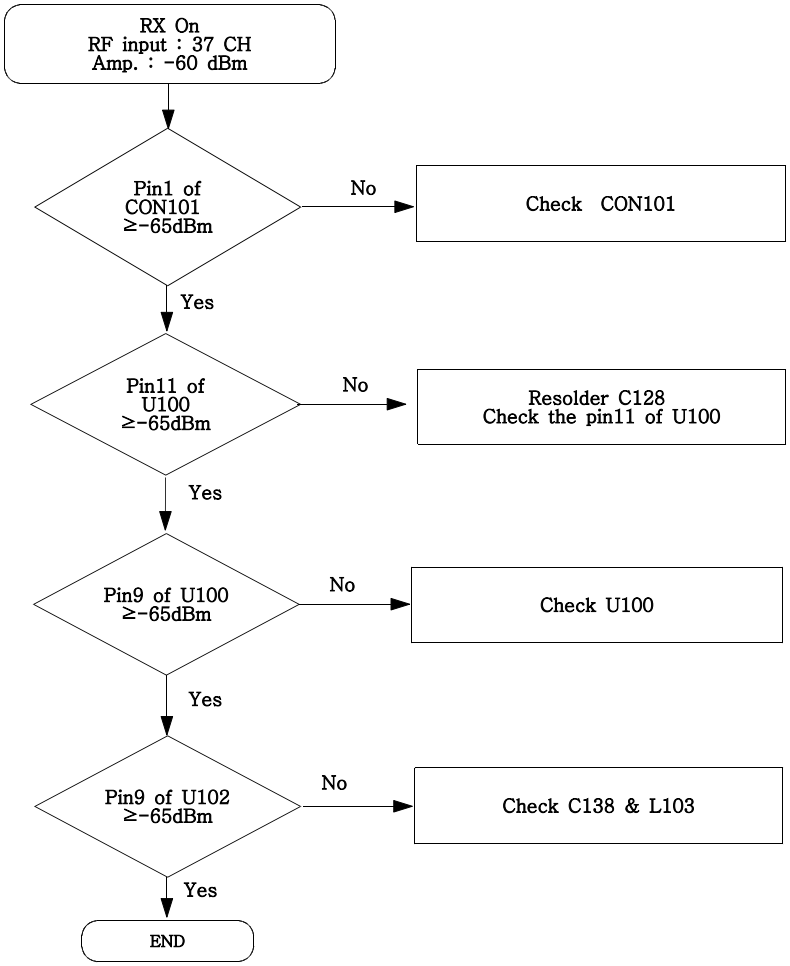
10. GSM Receiver



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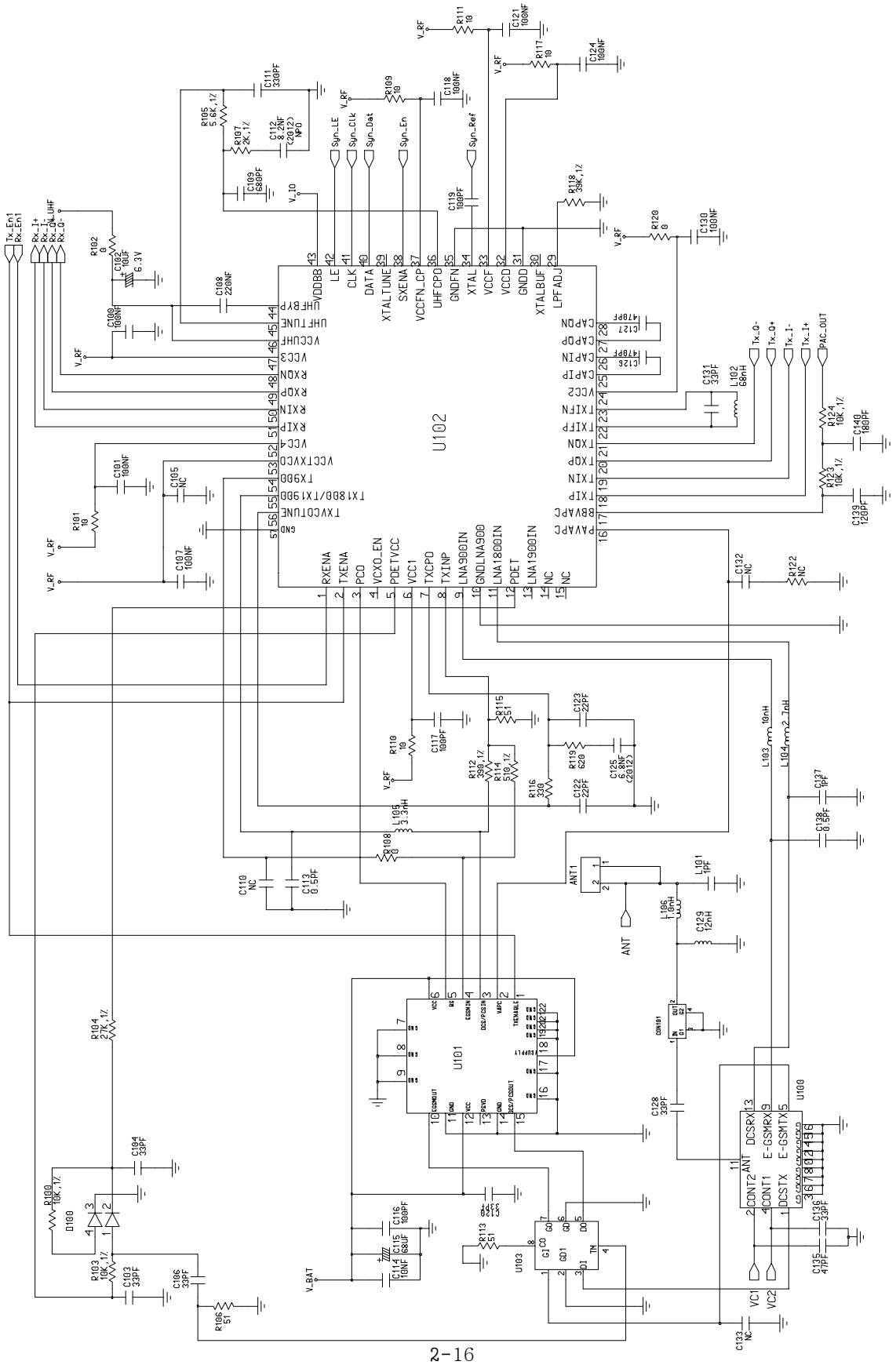

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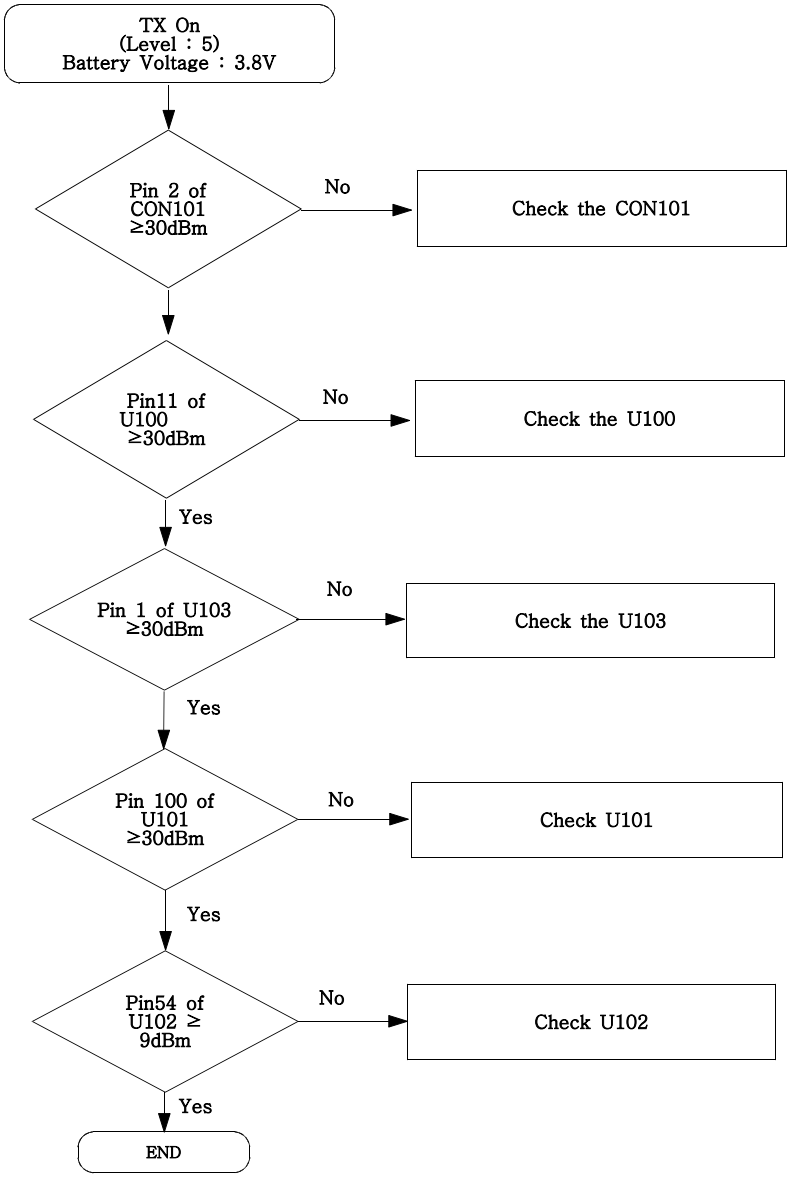
11. GSM Transmitter



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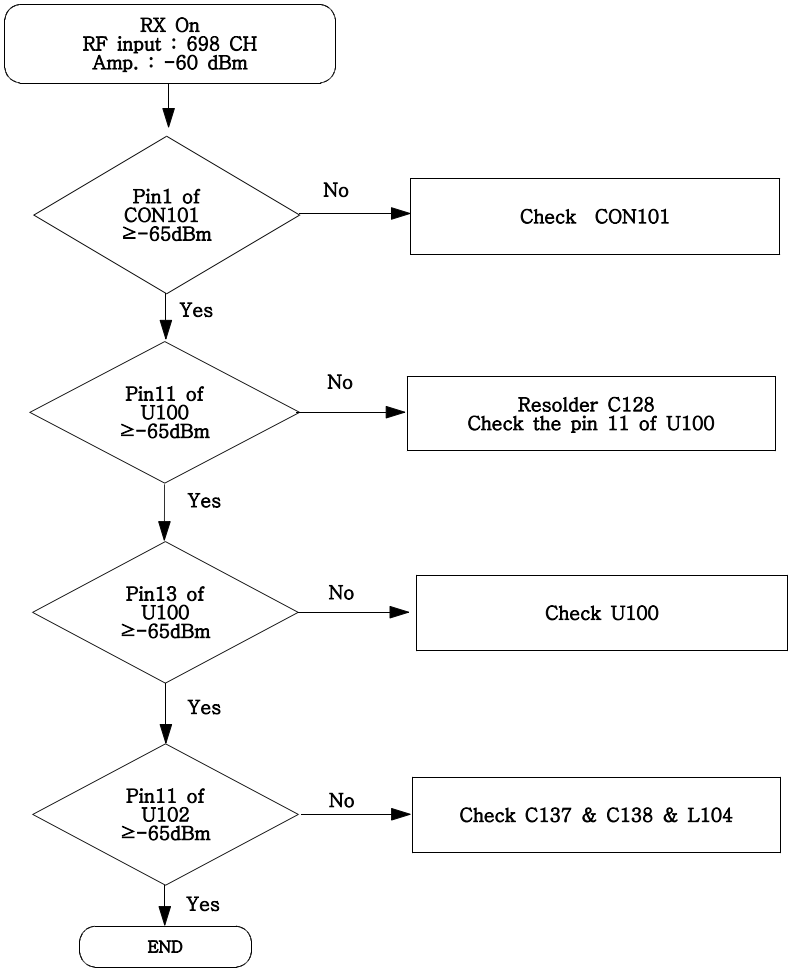
12. DCS Receiver



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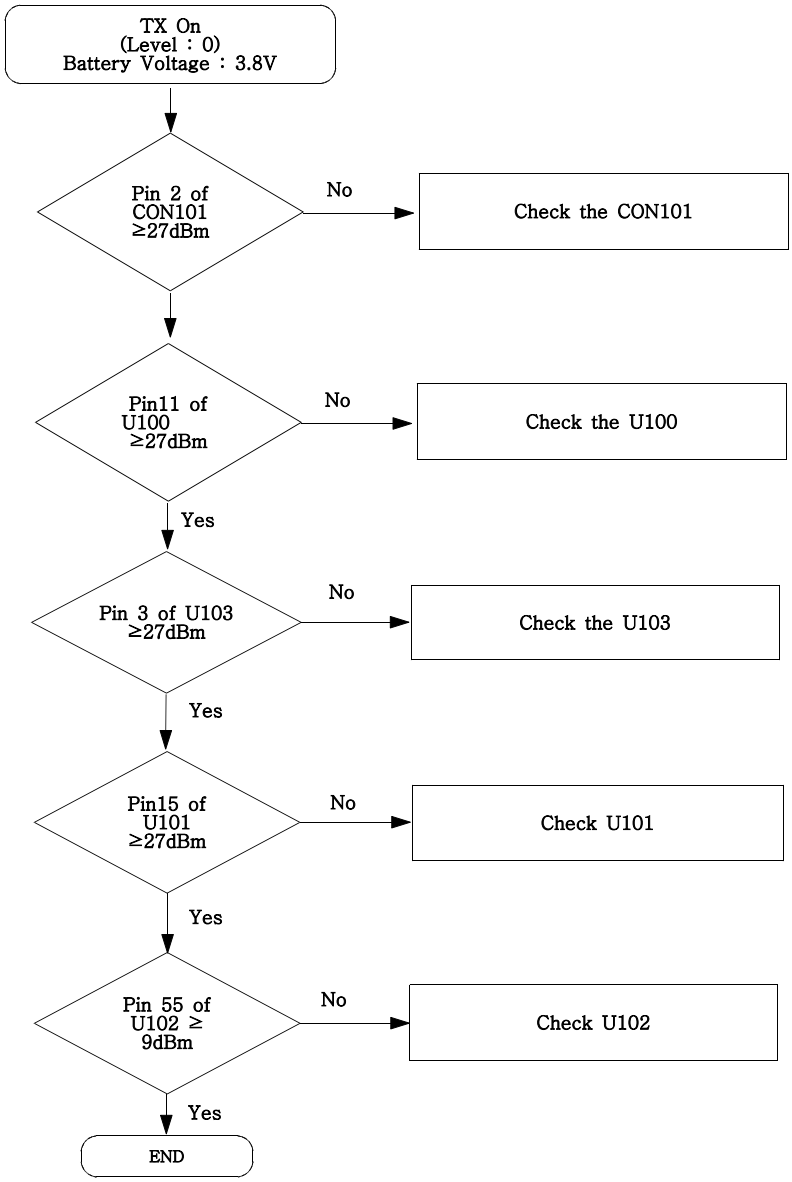
13. DCS Transmitter



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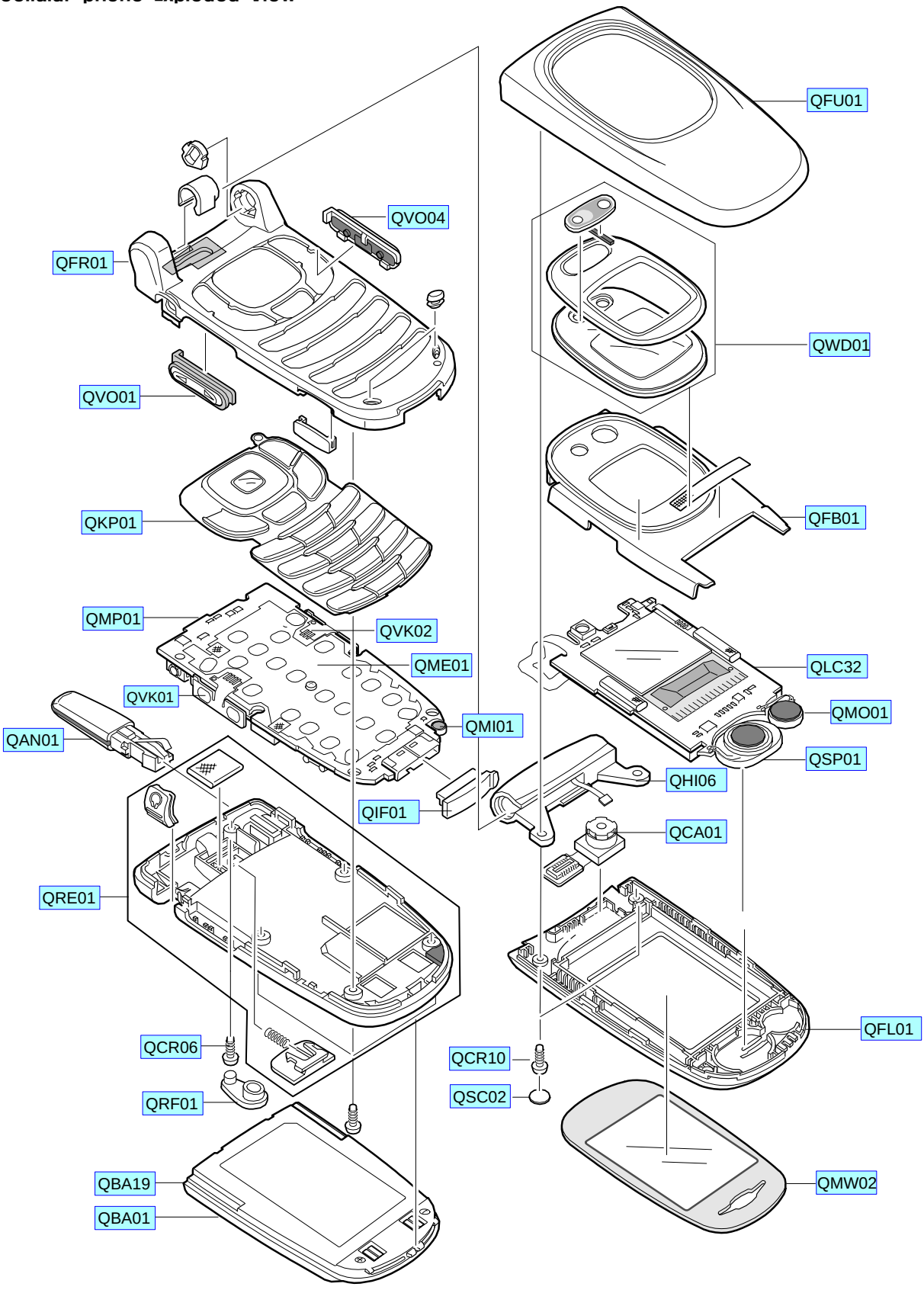
3. SGH-P510 Exploded View and its Parts list

1. Cellular phone Exploded View



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2. Cellular phone Parts list

Location NO.		Description	SEC CODE	Remark
QFU01		FOLDER UPPER	GH75-03310A	
QWD01		DUAL LCD WINDOW	GH75-03313A	
QFB01		FOLDER UPPER DUMMY	GH75-03312A	
QLC32		LCD	GH07-00412A	
QMO01		MOTOR	GH31-00084A	
QSP01		MICRO SPEAKER	3001-001461	
QCA01		CAMERA	GH59-01049A	
QHI06		UNIT AUTO FOLDER	GH59-00833A	
QFL01		FOLDER LOWER	GH75-03309A	
QMW02		MIAN LCD WINDOW	GH72-11471A	
QSC02		SCREW DUMMY	GH74-07794A	
QCR10		SCREW	6001-001633	
QFR01		FRONT COVER	GH75-03308A	
QVO01		VOL KEY ASSY	GH75-04347A	
QVO04		MEC-AUTO KEY ASSY	GH75-04332A	
QKP01		KEYASSY	GH75-03325A	
QMP01		MAIN PBA	GH92-01525A	
QME01		METAL DOME	GH59-00912A	
QVK01		UNIT VOLKEY	GH59-00911A	
QVK02		MINT METAL DOME	GH59-00914A	
QMI01		MICROPHONE-ASS'Y	GH30-00042A	
QAN01		ANTENNA	GH42-00326A	
QIF01		IF COVER	GH72-13056A	
QRE01		REAR COVER	GH75-03314A	
QRF01		PMO-SCREW RF DUMMY	GH72-09897A	
QCR06		SCREW	6001-001155	
QBA19		BATTERY 800MAH	GH43-00985A	
QBA01		BATTERY 1000MAH	GH43-00986A	

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3. Test Jig (GH80-01809A)

3-1. RF Test Cable (GH39-00182A)

3-2. Test Cable (GH39-00206A)

3-3. Serial Cable

3-4. Power Supply Cable

3-5. DATA CABLE (GH39-00203A)

3-6. TA (GH44-00482A)

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4. SGH-P510 MAIN Electrical Parts List

SEC Code	Design LOC
GH92-01525A	
GH96-01416A	
6001-001478	
GH30-00042A	
GH59-00911A	
GH59-00912A	
GH59-00914A	
GH68-02026A	
GH71-02049A	
GH74-07819A	
GH71-02208A	ANT1
2203-005482	C100
2203-005482	C101
2404-001225	C102
2203-000812	C103
2203-000812	C104
2203-000812	C106
2203-005482	C107
2203-005496	C108
2203-001124	C109
2203-002443	C111
2203-006195	C112
2203-001383	C113
2203-000254	C114
2404-001306	C115
2203-000233	C116
2203-000233	C117
2203-005482	C118
2203-000233	C119
2203-000812	C120
2203-005482	C121
2203-000628	C122
2203-000628	C123
2203-005482	C124
2203-006351	C125
2203-000940	C126
2203-000940	C127
2203-000812	C128
2703-002199	C129
2203-005482	C130
2203-000812	C131
2203-000995	C135
2203-000812	C136
2203-005288	C137
2203-002668	C138
2203-000311	C139
2203-005503	C140
2203-000233	C200
2203-005061	C201
2203-005482	C202
2203-005482	C203
2203-005061	C204
2203-001383	C205
2203-000812	C206
2203-000278	C207
2203-000812	C208
2203-000278	C209
2404-001105	C210
2203-000654	C212
2203-000233	C213
2203-005061	C214
2203-005061	C215
2203-005061	C216
2203-005061	C217
2404-001225	C218
2203-000812	C219
2203-000812	C220
2203-001072	C221
2203-001072	C222
2203-005061	C223
2203-006053	C224
2203-006053	C225
2203-005664	C226
2404-001225	C227
2203-005061	C228
2203-006053	C229
2203-005482	C230
2203-005482	C231
2404-001268	C232
2503-001042	C235
2503-001042	C236
2503-001042	C237
2203-005061	C300
2203-000233	C302
2203-005061	C303
2203-000359	C304
2203-005061	C305
2203-005482	C306
2203-005482	C307
2203-005061	C308
2203-005061	C309
2203-000679	C310
2203-000679	C311
2203-000254	C312
2203-005061	C313
2203-006093	C315
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2203-000254	C317
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2203-006053	C402
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2203-006053	C404
2203-001412	C405
2203-001412	C406
2203-006105	C407
2203-006257	C408
2203-005061	C409
2203-000438	C410
2203-005061	C411
2203-005483	C412
2203-000812	C413
2203-005482	C414
2203-005061	C415
2203-005061	C416
2203-001072	C417
2203-000438	C418

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SEC Code	Design LOC
2203-000438	C419
2203-006113	C420
2203-006113	C421
2203-006113	C422
2203-006113	C423
2203-000438	C426
2203-001072	C427
2404-001225	C500
2203-000278	C501
2203-000311	C502
2203-001405	C503
2203-000628	C504
2203-005061	C505
2203-000438	C506
2203-005061	C507
2203-005509	C508
2203-000812	C509
2203-001630	C511
2203-000812	C513
2404-001151	C515
2203-000812	C516
2203-000233	C517
2404-001151	C519
2203-000812	C520
2203-006053	C521
2203-006053	C522
2404-001151	C523
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2404-001105	C603
2203-005482	C604
2404-001225	C636
2203-005482	C637
2203-000278	C639
2203-000278	C641
2203-005065	C644

SEC Code	Design LOC
2203-005065	C645
3710-001673	CN401
3711-005397	CN402
3709-001187	CN502
3722-002067	CN503
3705-001287	CON101
0404-001189	D100
0401-001033	D201
2901-001260	F401
2901-001260	F403
2901-001260	F404
2901-001260	F405
3301-001659	F406
2203-005288	L101
2703-001876	L102
2703-002324	L103
2703-002372	L104
2703-002207	L105
2703-002663	L106
2703-001229	L201
3301-001208	L202
2703-000175	L501
0604-001261	LED301
0601-001602	LED401
0601-001602	LED402
0601-001602	LED403
0601-001602	LED404
0601-001602	LED405
0601-001602	LED407
0601-001602	LED408
0601-001602	LED409
0601-001602	LED411
0601-001602	LED412
0601-001602	LED413
0601-001602	LED414
0601-001602	LED417
0601-001602	LED418
0601-001602	LED419
0601-001602	LED420

SEC Code	Design LOC
2801-004191	OSC201
2801-003856	OSC301
2801-004285	OSC601
GH41-00510A	PCB
0504-001171	Q501
0504-000172	Q601
2007-007142	R100
2007-000172	R101
2007-000171	R102
2007-007142	R103
2007-007138	R104
2007-007314	R105
2007-001298	R106
2007-007766	R107
2007-000171	R108
2007-000172	R109
2007-000172	R110
2007-000172	R111
2007-007319	R112
2007-001298	R113
2007-007564	R114
2007-001298	R115
2007-001313	R116
2007-000172	R117
2007-007134	R118
2007-007155	R119
2007-000171	R120
2007-007142	R123
2007-007142	R124
2007-000138	R200
2007-008275	R201
2007-000775	R202
2007-007092	R203
2007-000242	R204
2007-007092	R205
2007-000141	R206
2007-000171	R207
2007-000137	R208
2007-000153	R209

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SEC Code	Design LOC
2007-007766	R210
2007-007573	R211
2007-001335	R212
2007-000148	R213
2007-000148	R300
2007-000148	R301
2007-001325	R302
2007-000162	R304
2007-000157	R305
2007-000170	R306
2007-001291	R307
2007-000171	R308
2007-000162	R309
2011-001344	R400
2007-000138	R401
2007-000138	R402
2007-000138	R403
2007-000171	R404
2007-000171	R405
2007-007096	R407
2007-007096	R408
2007-007096	R409
2007-007096	R410
2007-007096	R411
2007-007096	R412
2007-007096	R414
2007-007096	R415
2007-007096	R417
2007-007096	R418
2007-007096	R419
2007-007096	R420
2007-007096	R423
2007-007096	R424
2007-007096	R425
2007-007096	R426
2007-007179	R427
2007-000163	R500
2007-000161	R501
2007-000775	R502

SEC Code	Design LOC
2007-000171	R503
2007-001325	R504
2007-000172	R505
2007-000172	R506
2007-001292	R507
2007-000140	R508
2007-000140	R510
2007-000140	R511
2007-000566	R512
2007-001292	R513
2007-000140	R514
2007-007155	R515
2007-007697	R516
2007-000171	R517
2007-000758	R518
2007-000143	R603
2007-000143	R605
2007-000171	R606
2007-000171	R607
2007-000171	R608
2007-000140	R610
2007-000170	R611
2909-001226	U100
1201-002066	U101
1205-002418	U102
4709-001144	U103
1203-002689	U201
1204-002185	U202
1209-001497	U203
0504-001162	U204
0504-001162	U205
1205-002391	U301
1109-001281	U302
1009-001010	U303
1203-002690	U304
1203-002860	U401
1003-001547	U402
1001-001183	U501
1204-002138	U502

SEC Code	Design LOC
1205-002463	U602
1203-002236	U603
1203-003106	U607
4302-001130	V201
1405-001082	V301
1405-001093	V401
1405-001093	V402
1405-001082	V403
1405-001082	V404
1405-001082	V405
1405-001082	V406
1405-001082	V407
1405-001082	V408
1405-001082	V409
1405-001082	V410
1405-001082	V411
1405-001082	V412
1405-001082	V413
1405-001082	V501
1405-001082	V502
0403-001427	ZD201
0403-001387	ZD301
0406-001190	ZD401
0406-001190	ZD402
0406-001190	ZD501

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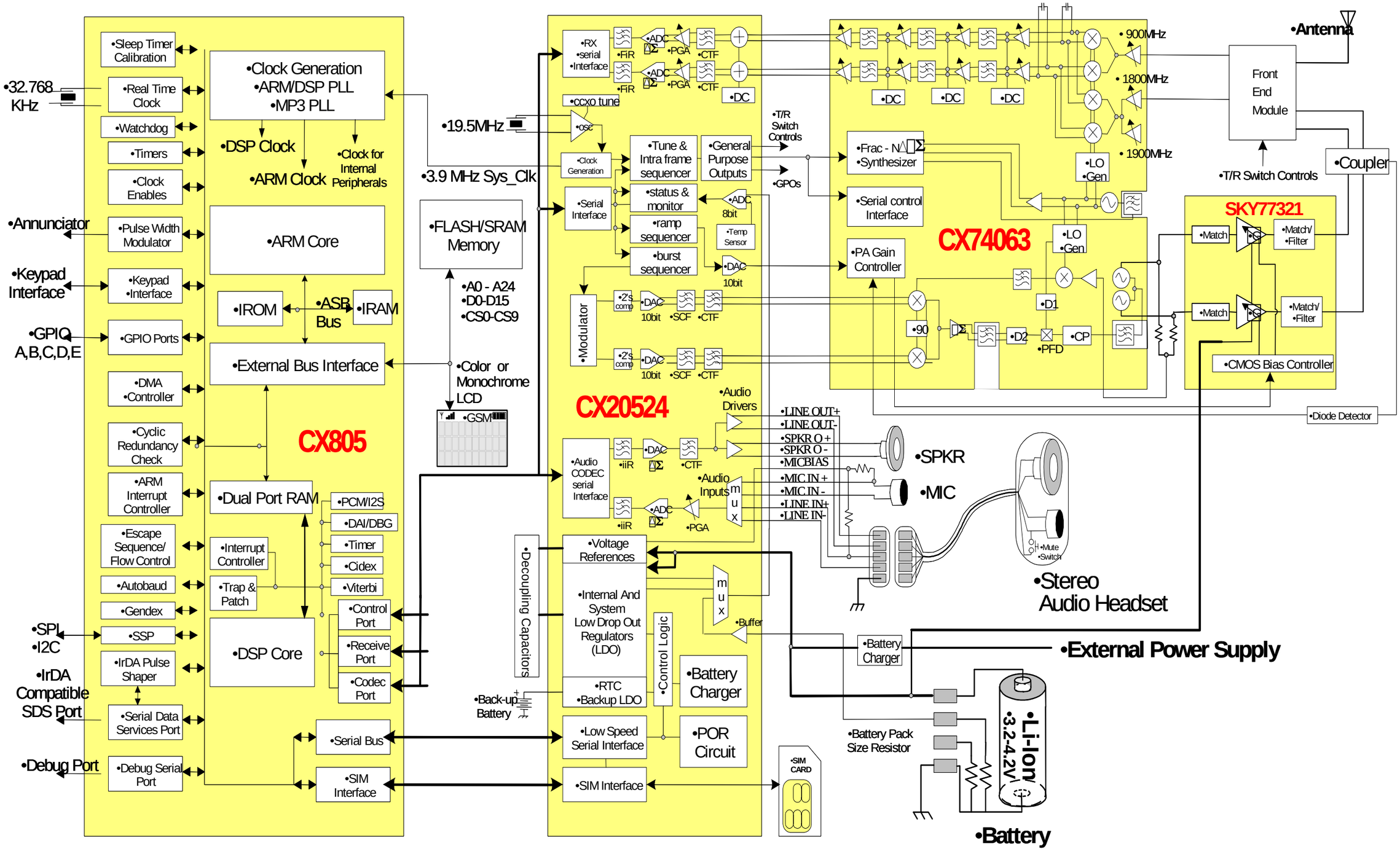
5. SGH-P510 Block Diagrams



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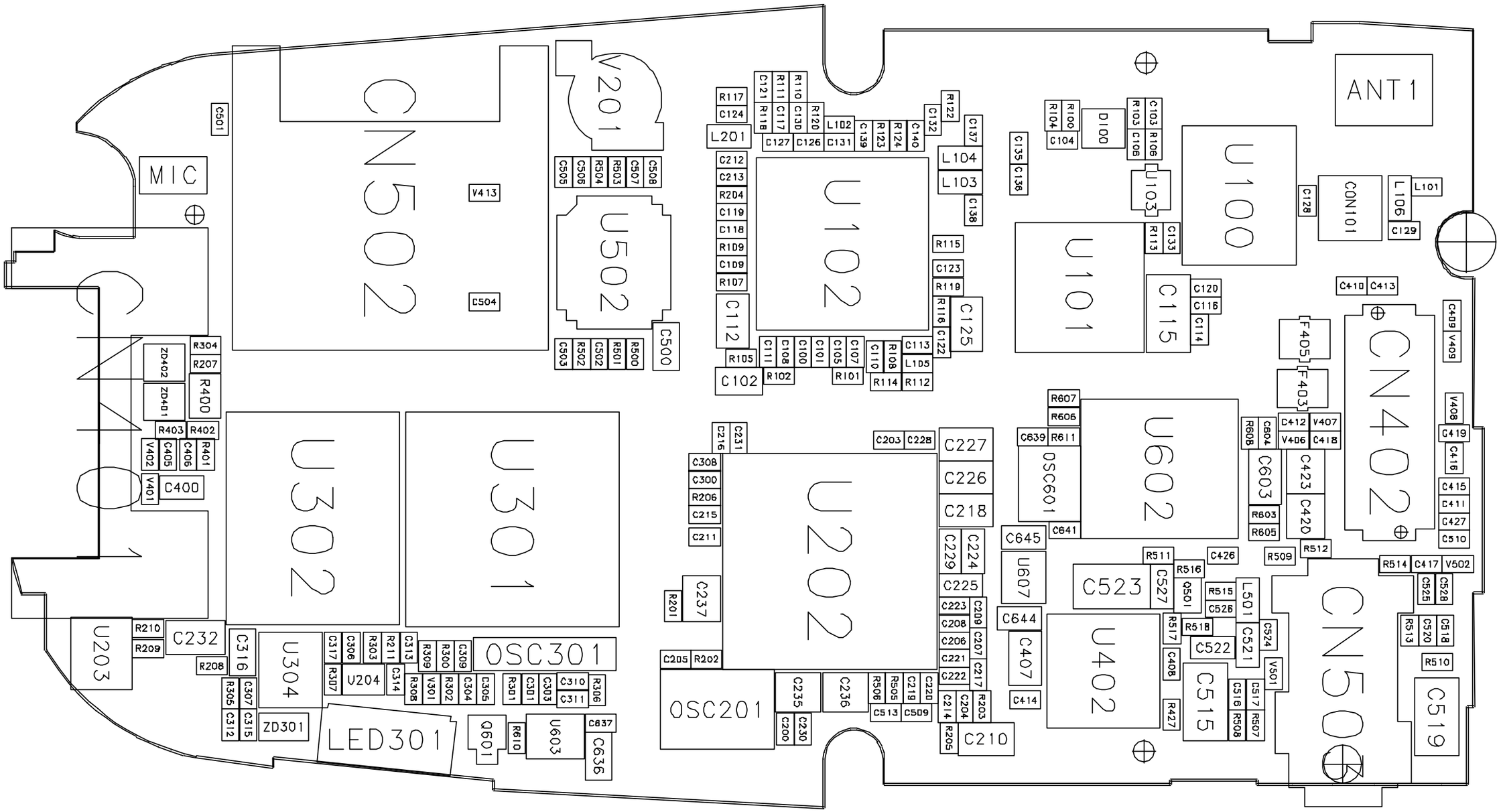
6. SGH-P510 PCB Diagrams

1. Main PCB Top Diagram



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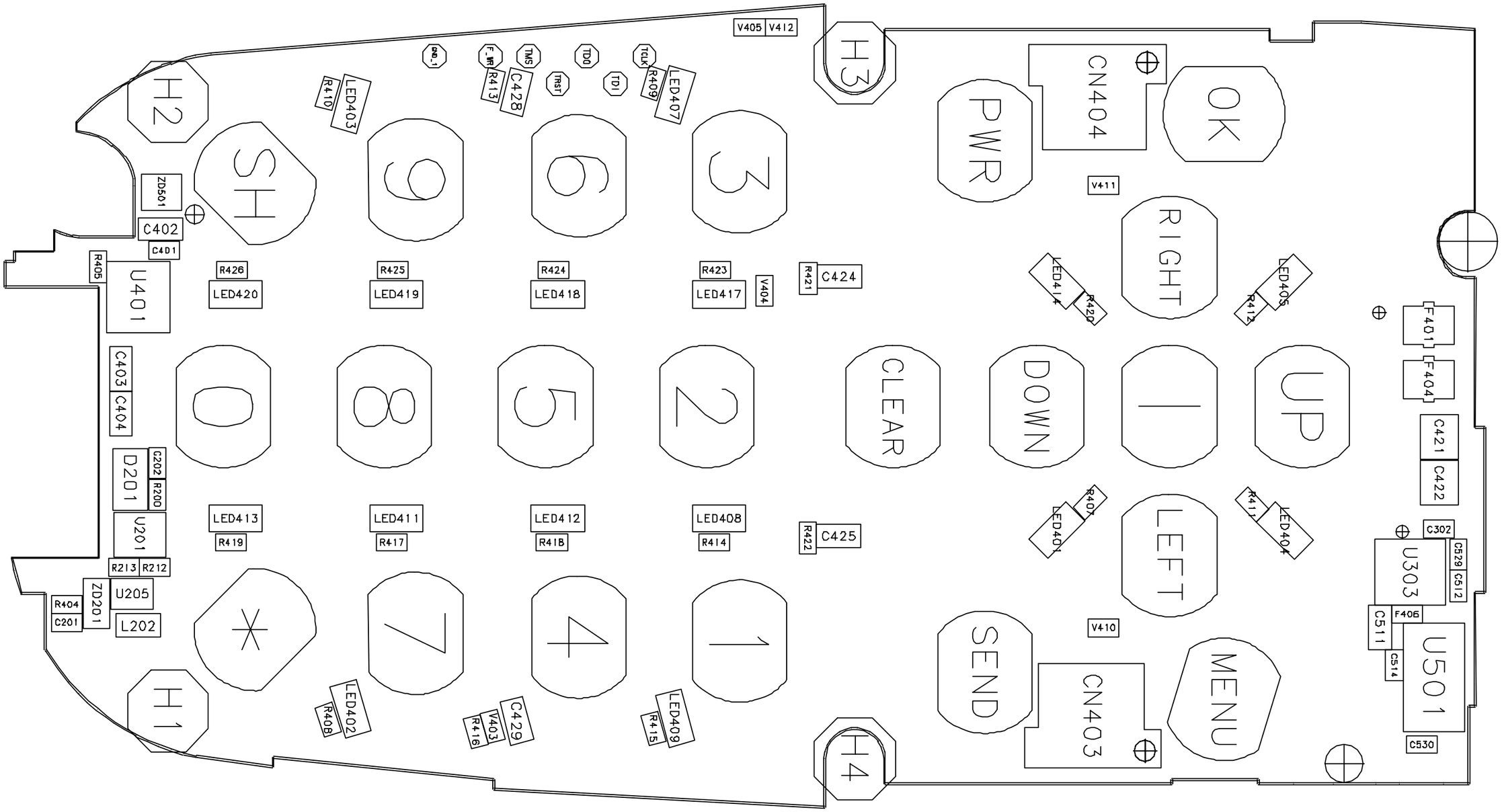
2. Main PCB Bottom Diagram



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