

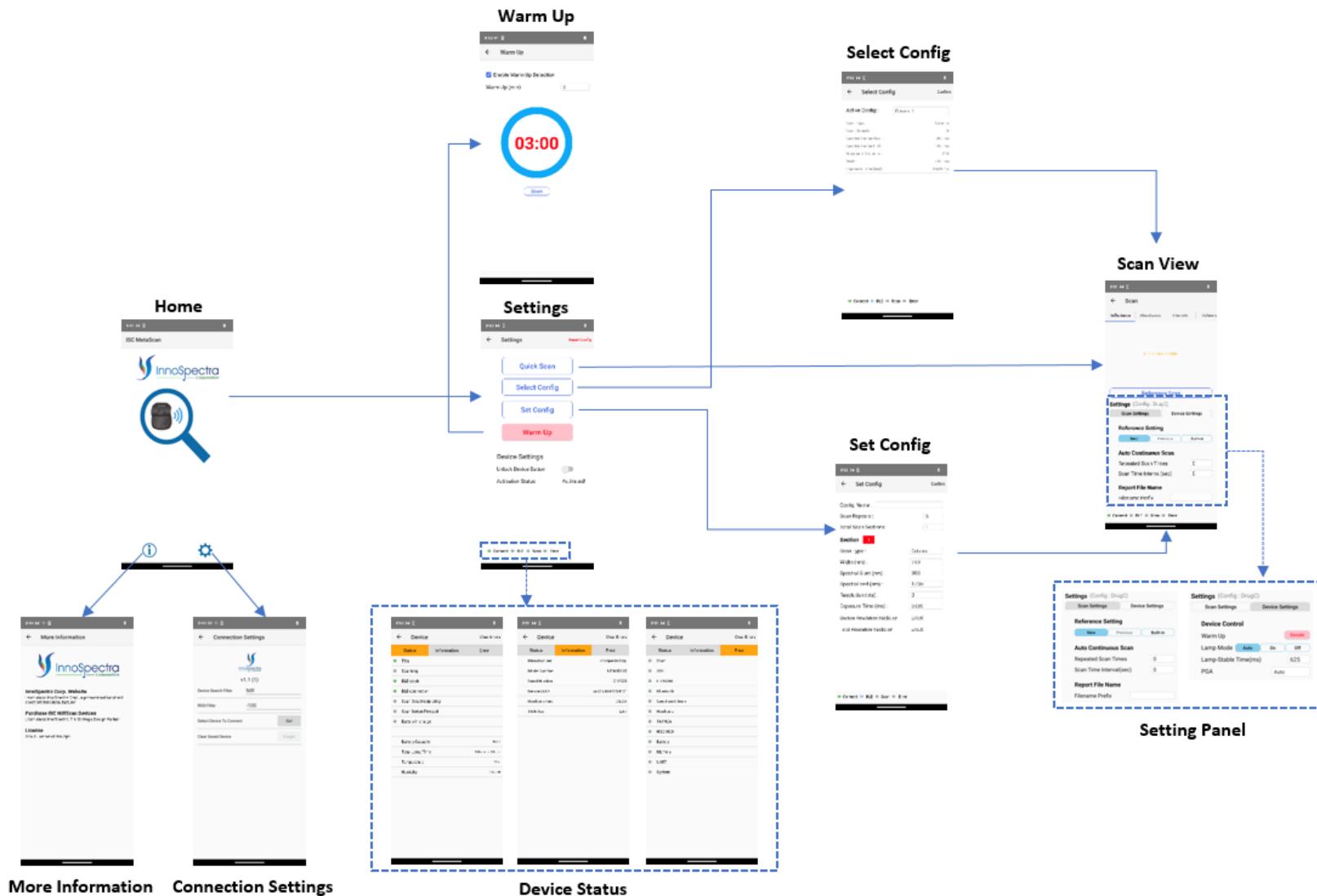


Android MetaScan

User Guide V4

Jan. 25, 2024

Application Outline



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Contents

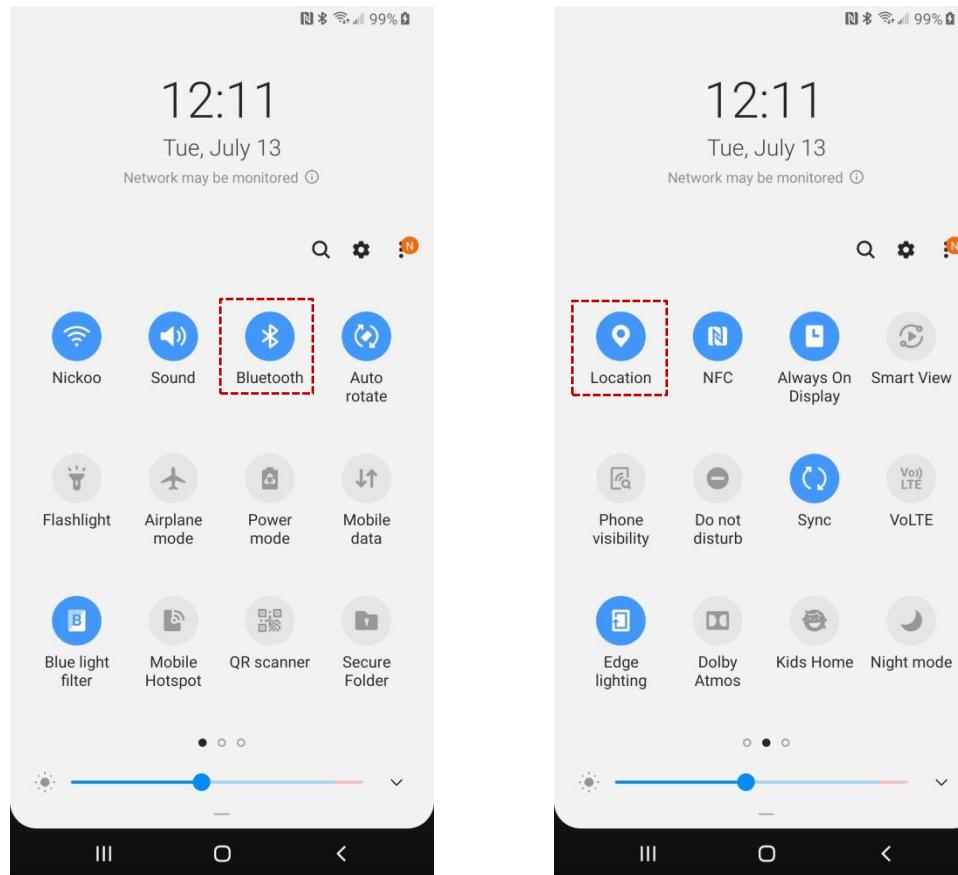
- Notice
- Introduction of Interface
- Connection
- Warm Up
- Quick Scan & Default Setting
- Select Config
- Set Config
- Reference
- Reset Default Config
- Device Information



Notice

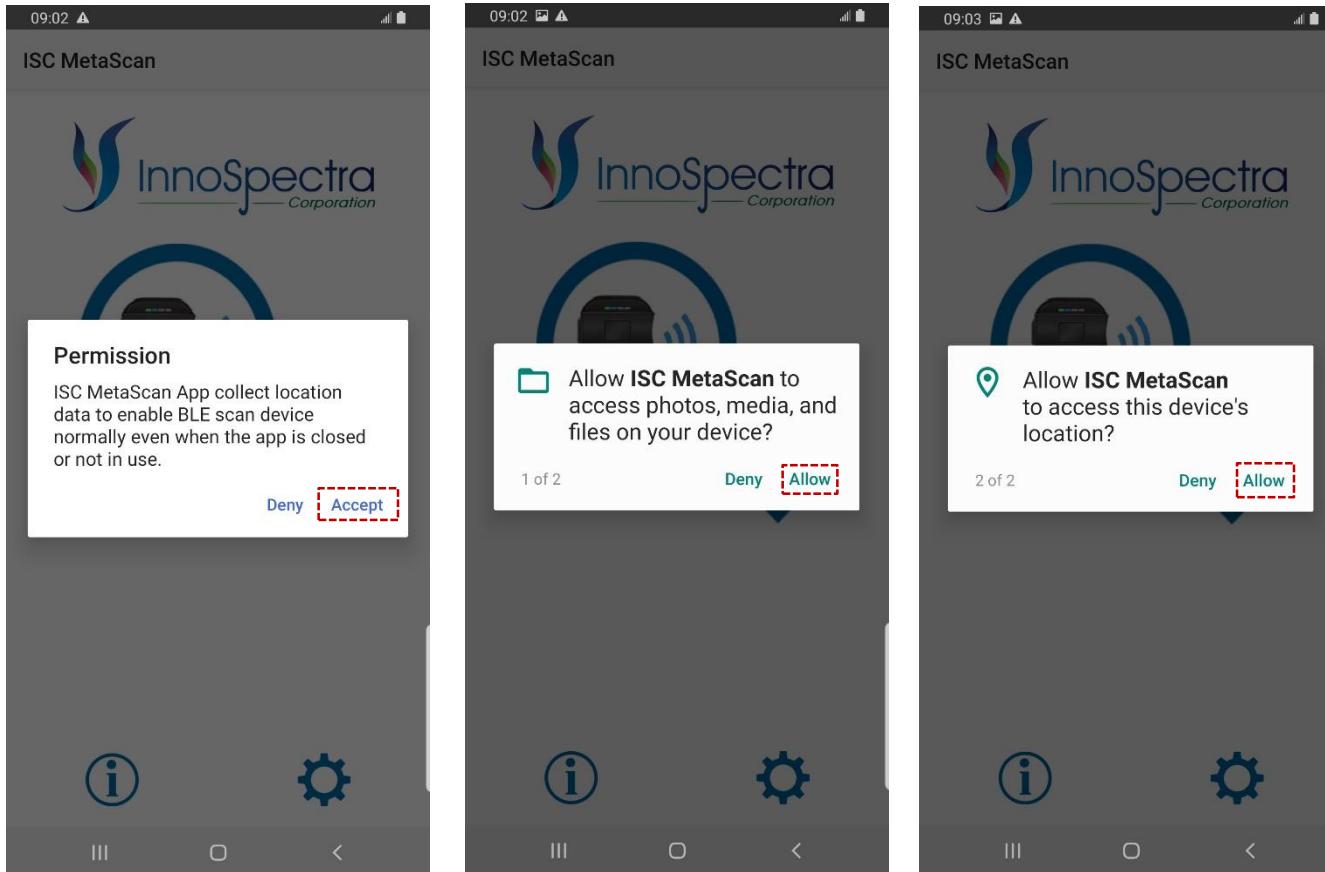
Notice (For Android ≤ 11)

- User should open the Bluetooth and might need to open location due to the different phone's manufacturer's requirements.



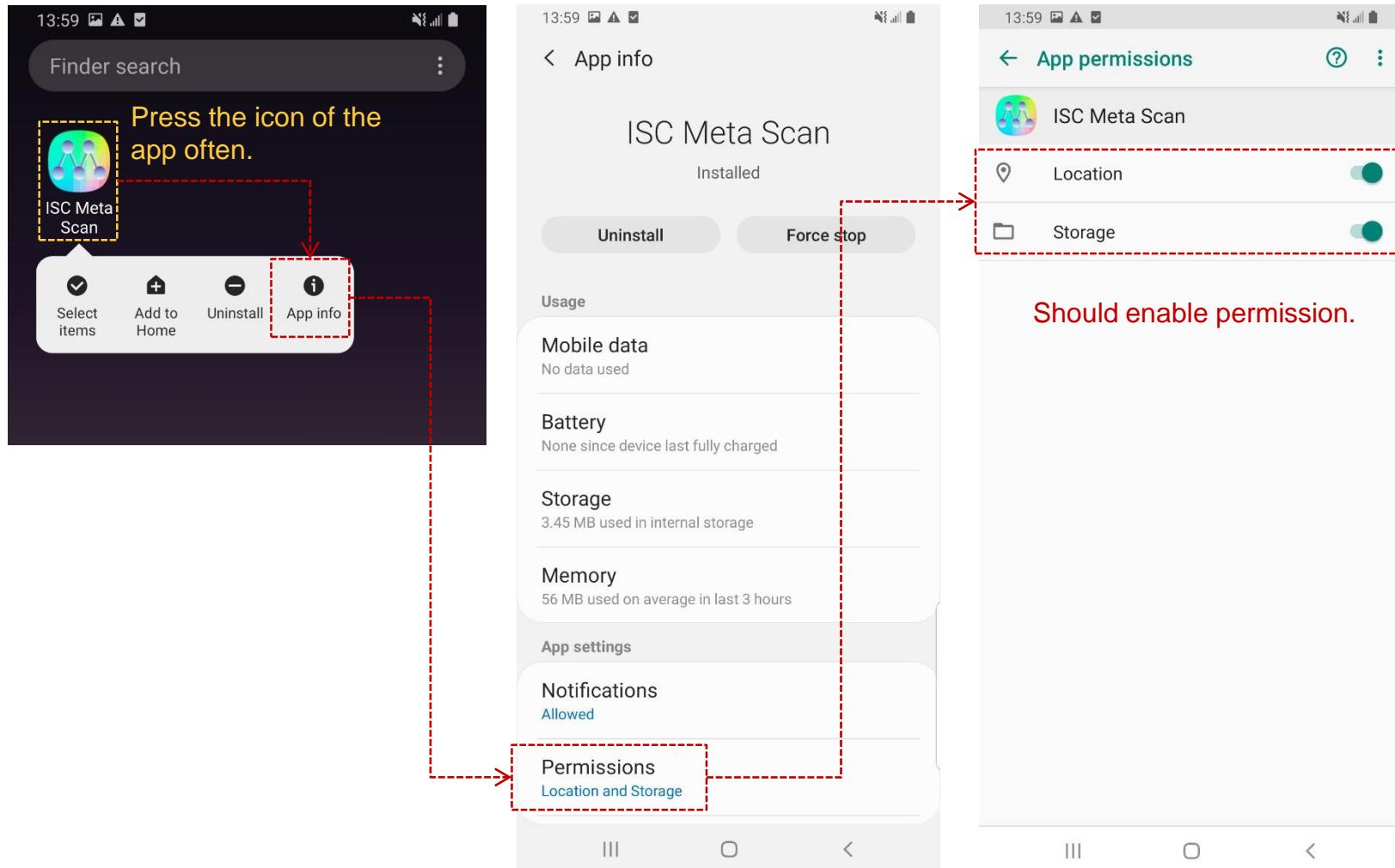
Notice (For Android ≤ 11)

- When open app, a reminder window will pop up to remind the user that the location information must be collected for the Bluetooth to be able to search for the device normally. After accepting, should permit to save the graph, media, file, and location.



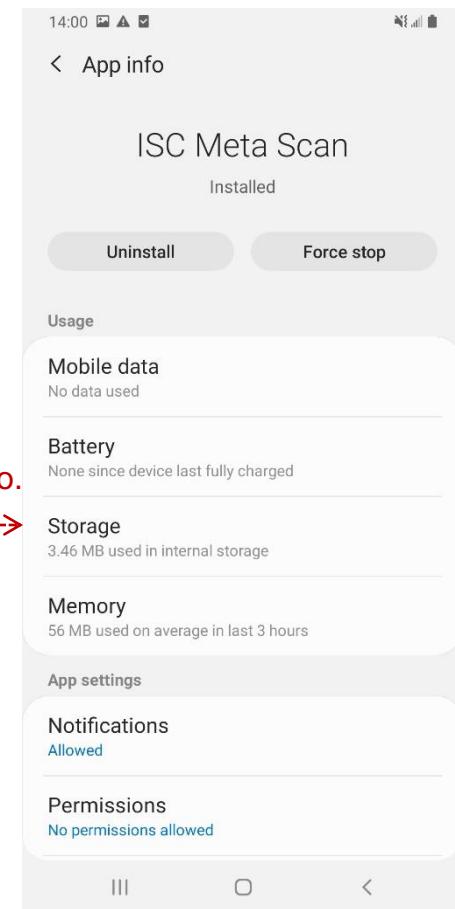
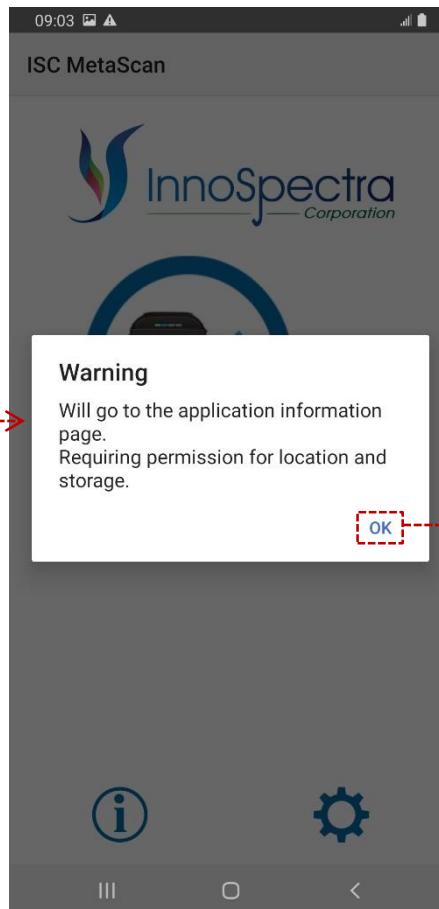
Notice (For Android ≤ 11)

- If the device still cannot be found, it is necessary to confirm whether the APP has an allowable permission location.



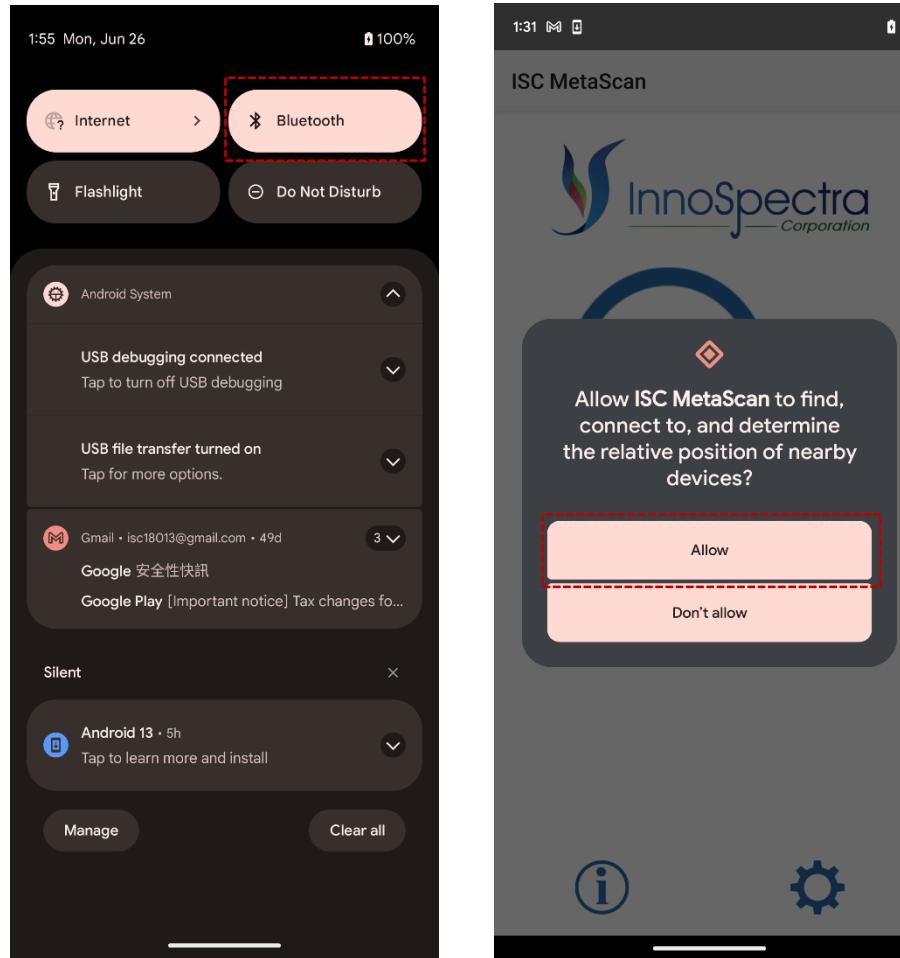
Notice (For Android ≤ 11)

- If the user does not allow the location or storage permissions, the connected deice will pop out warning message. After press ok will automatically jump to app info page. User must manually open the location and storage permissions to use the APP (Note: Can see previous page).



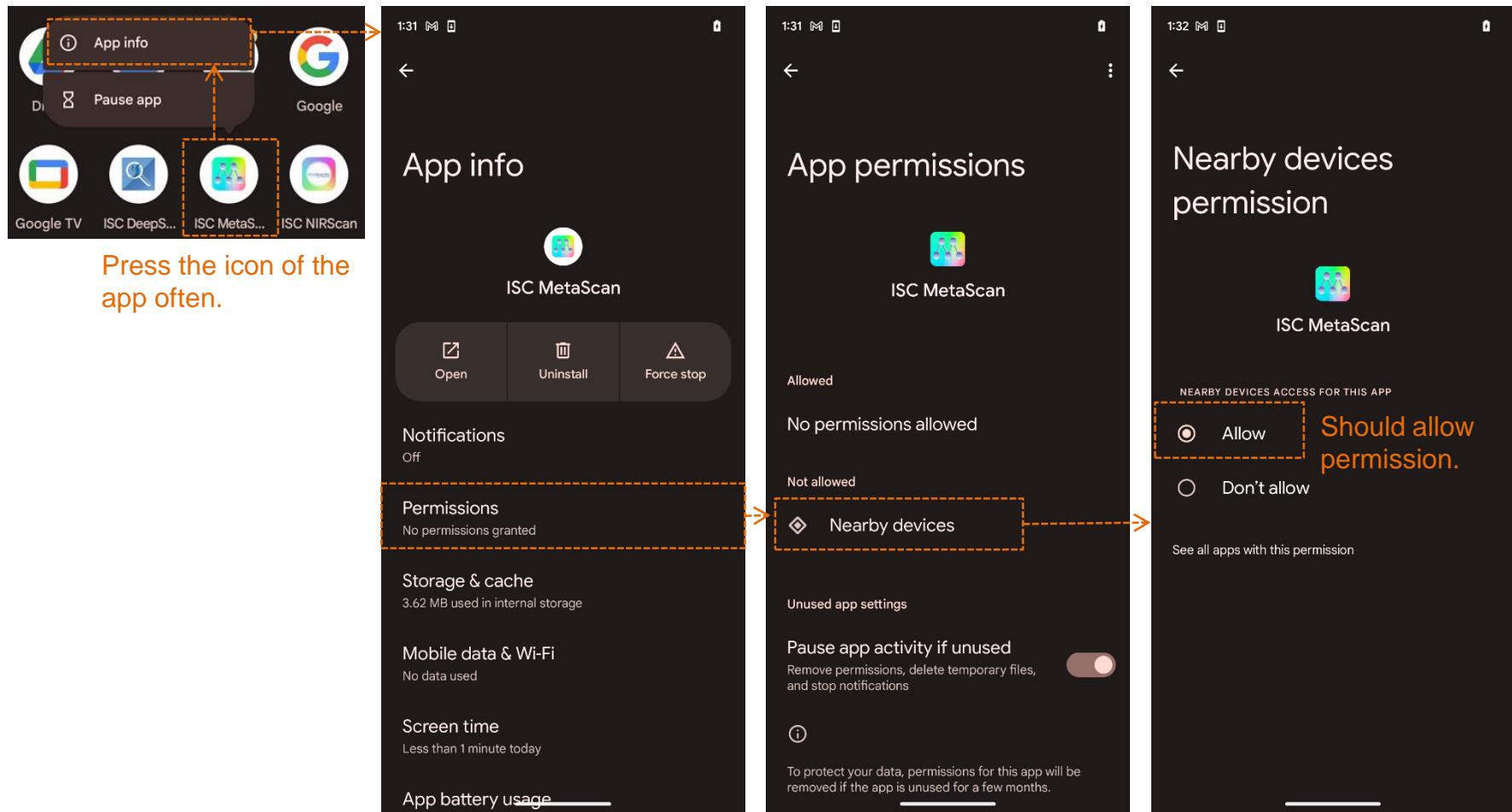
Notice (For Android ≥ 12)

- User should open the Bluetooth due to the different phone's manufacture's requirements.
- When open app, need to allow the permission of nearby devices.



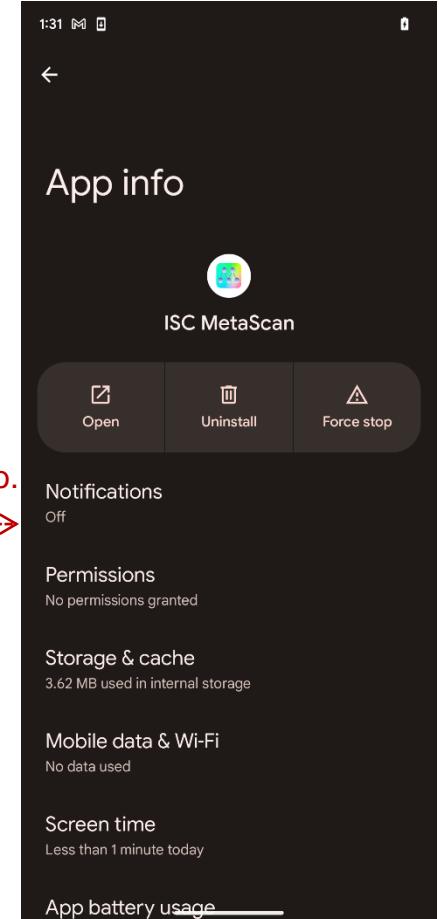
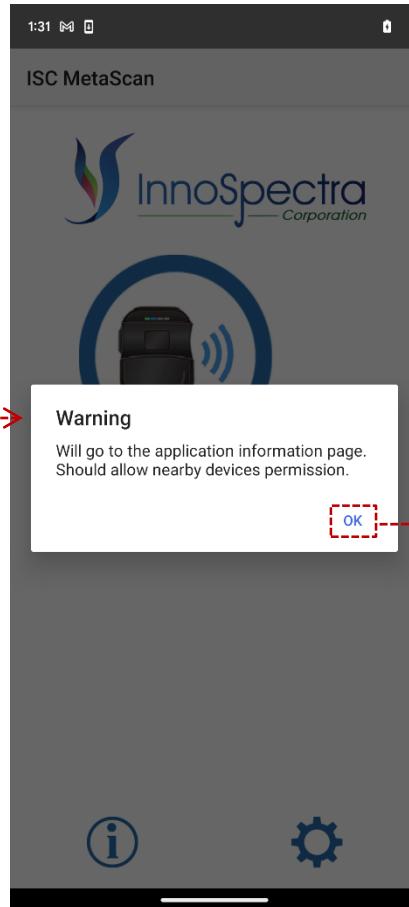
Notice (For Android ≥ 12)

- If the device still cannot be found, it is necessary to confirm whether the APP has an allowable permission nearby devices.



Notice (For Android ≥ 12)

- If the user does not allow nearby devices, the connected deice will pop out warning message. After press ok will automatically jump to app info page. User must manually allow nearby devices permissions to use the APP (Note: Can see previous page).





Introduction of Interface

Home Page



Home

Information

8:44 8:44

← More Information

InnoSpectra Corporation

InnoSpectra Corp. Website
Learn about InnoSpectra Corp., a professional handheld spectrometers manufacturer!

Purchase ISC NIRScan Devices
Learn about InnoSpectra, TI's Strategic Design Partner

License
About License of this App

8:41

ISC MetaScan



Connection Settings

10:33

← Connection Settings

InnoSpectra Corporation

v1.1 (5)

Device Search Filter:

RSSI Filter:

Select Device To Connect: NIR-M-R2-OB <019R027>

Clear Saved Device

Settings

8:52

← Settings

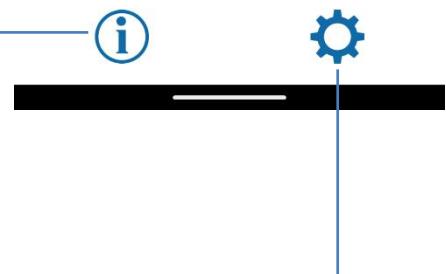
Reset Config

-
-
-
-

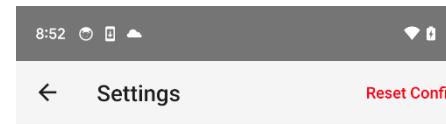
Device Settings

Unlock Device Button

Activation Status Activated!



Settings



Quick Scan:

Direct to Scan View with device default config.

Set Config:

Set config with customized parameters.

Reset Config :

Clear the device's config list.

Select Config:

Select config from Config List.

Warm Up:

Warm up the device.

Device Setting:

Switch of device button.

Device Settings

Unlock Device Button

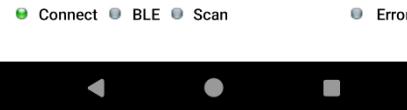


Activation Status

Activated!

Status Bar:

Direct to Device Details.



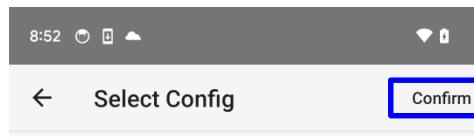
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Select Config & Set Config

Use different config to scan, it can be set as default config latter.

Select Config



8:52 Select Config Confirm

Active Config : Column 1

Scan Type : Column

Scan Repeats : 6

Spectral Range Start : 900 nm

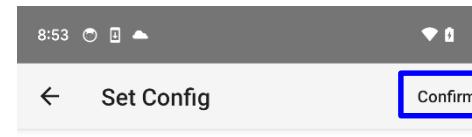
Spectral Range End : 1700 nm

Number of Patterns : 228

Width : 7.03 nm

Exposure Time (ms) : 0.635 ms

Set Config



8:53 Set Config Confirm

Config Name : Test

Scan Repeats : 6

Total Scan Sections : 1

Section 1

Scan Type : Column

Width (nm) : 7.03

Spectral Start (nm) : 900

Spectral End (nm) : 1700

Resolution (pts) : 228

Exposure Time (ms) : 0.635

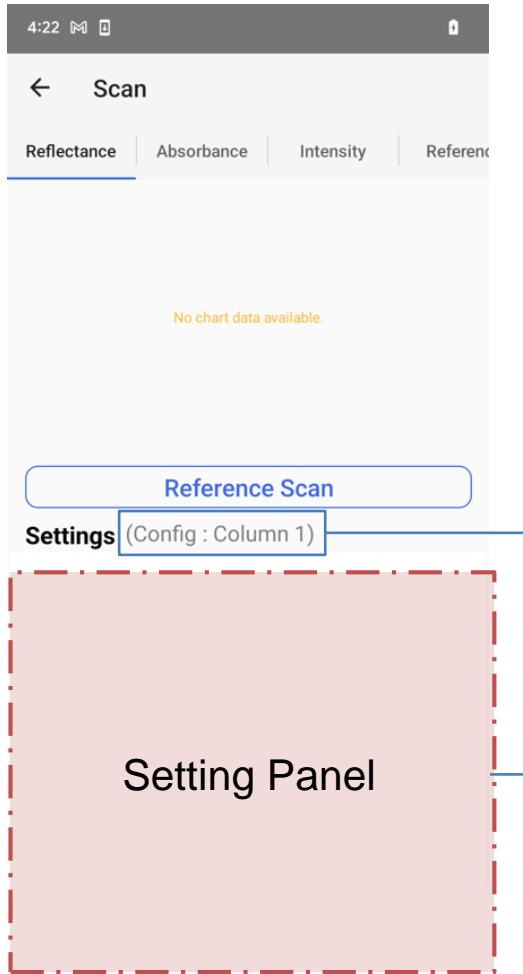
Oversampling 2.0

Confirm:
Direct to Scan View

Connect BLE Scan Error

Connect BLE Scan Error

Scan View



Three detailed configuration panels are shown, each with a blue arrow pointing from the "Settings (Config : Column 1)" button in the Setting Panel:

- Current Config:** Shows the current configuration details:

Scan Type :	Column
Scan Repeats :	6
Spectral Range Start :	900 nm
Spectral Range End :	1700 nm
Number of Patterns :	228
Width :	7.03 nm
Exposure Time (ms) :	0.635 ms
- Scan Settings:** Shows settings for Reference Setting, Auto Continuous Scan, and Report File Name:
 - Reference Setting: New (selected), Previous, Built-in
 - Auto Continuous Scan: Repeated Scan Times (0), Scan Time Interval(sec) (0)
 - Report File Name: Filename Prefix (empty input field)
- Device Settings:** Shows Device Control settings:

Warm Up	Execute
Lamp Mode	Auto (selected), On, Off
Lamp-Stable Time(ms)	625
PGA	Auto

Current Config:

- Current config details



Scan Settings:

- Reference mode
- Auto continuous scan
- Report prefix name

Device Settings:

- Warm up
- Lamp mode
- Lamp-stable time
- PGA

Device Details – Status/Information/Error



● Connect ● BLE ● Scan ● Error

Access from any Status Bar

The image displays four screenshots of a mobile application interface, illustrating how to access device details from various status bars.

- Screenshot 1 (Left): Device Status Bar**

8:50 M B

Device

Clear Errors

Status	Information	Error
Tiva		
Scanning		
BLE stack		
BLE connection		
Scan Data Interpreting		
Scan Button Pressed		
Battery in charge		

Battery Capacity: 100%

Total Lamp Time: 13hr 7min 31sec

Temperature: 29°C

Humidity: 79% RH
- Screenshot 2 (Second from Left): Device Information Bar**

8:51 M B

Device

Clear Errors

Status	Information	Error
Manufacturer	Inno-Spectra Corp.	
Model Number	NIR-M-R2-OB	
Serial Number	019R038	
Device UUID	de:67:c:88:67:75:47:21	
Hardware Rev.	D.B.B.A	
TIVA Rev.	2.4.7	
- Screenshot 3 (Third from Left): Device Error Bar**

8:51 M B

Device

Clear Errors

Status	Information	Error
Scan		
ADC		
EEPROM		
Bluetooth		
Spectrum Library		
Hardware		
TMP006		
HDC1000		
Battery		
Memory		
UART		
System		

A blue box highlights the "Scan" row, and blue text below it says "Press to see error details."
- Screenshot 4 (Right): Detailed Scan Error Status**

4:37 M B

Detailed Scan Error Status

DLPC150 Boot Error
DLPC150 Init Error
DLPC150 Lamp Driver Error
DLPC150 Crop Image Failed
ADC Data Error
CFG Invalid
Scan Pattern Streaming
DLPC150 Read Error

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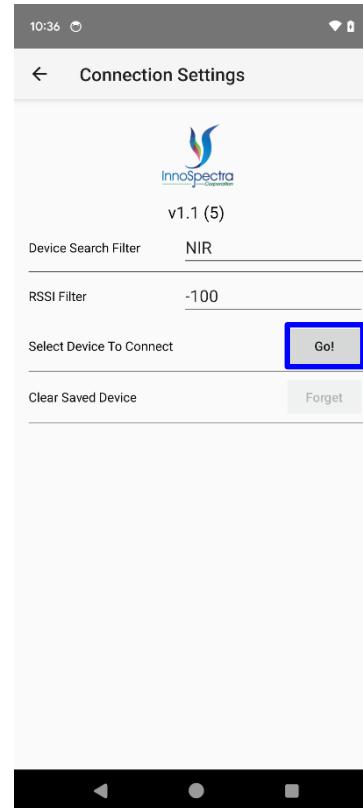
Connection

Connection - Set Target Device

Target device is required before connecting to device.



Set scanning filter by Device Name/RSSI.

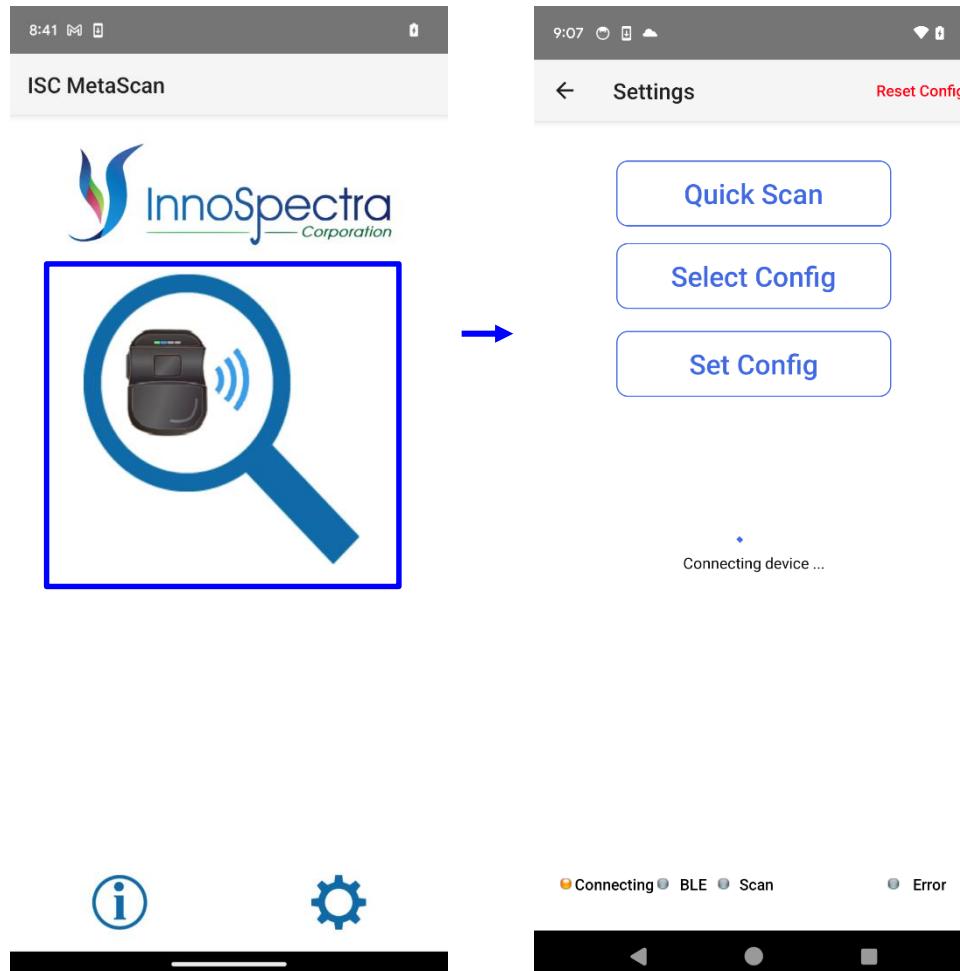


Display a list of available devices.



Connection - Connect to Device

Press the icon of the magnifying glass to start connecting the device.



Status bar on bottom presents connection status.

Connecting

Connecting BLE Scan Error

Connected

Connect BLE Scan Error



Connecting BLE Scan

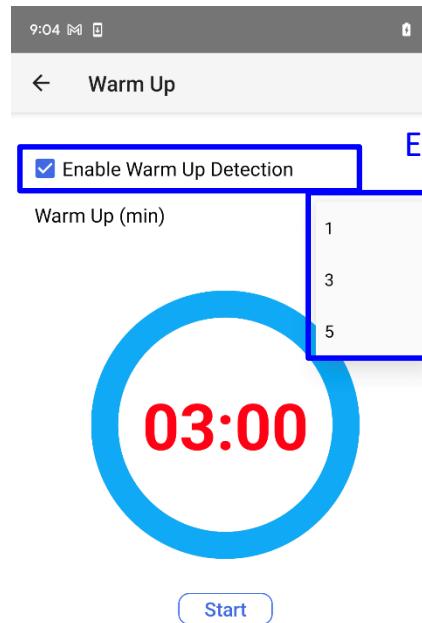
Error



Warm Up

Warm Up

After the device is connected, if need to warm up will directly enter the warm up view. Both the settings view and the scan view have buttons that link to the warm up view. The warm up time can be selected from 1, 3, and 5 minutes. Warm up detection can be canceled.



Enable and disable warm up detection.

Select warm up time.

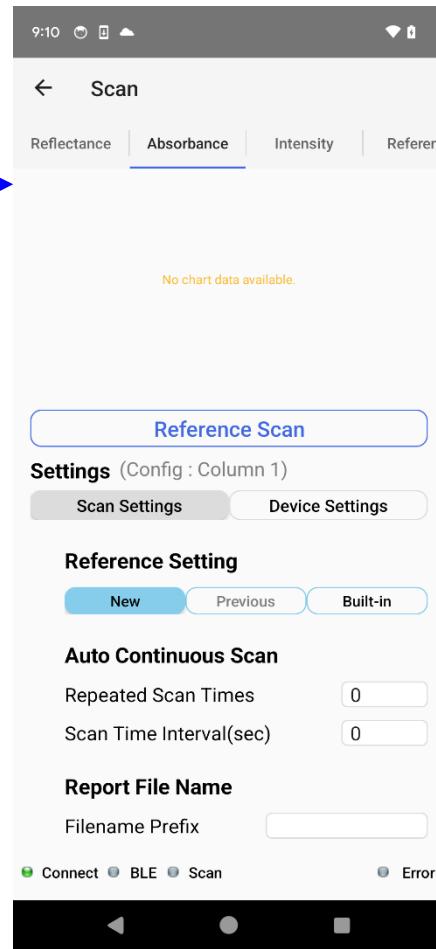
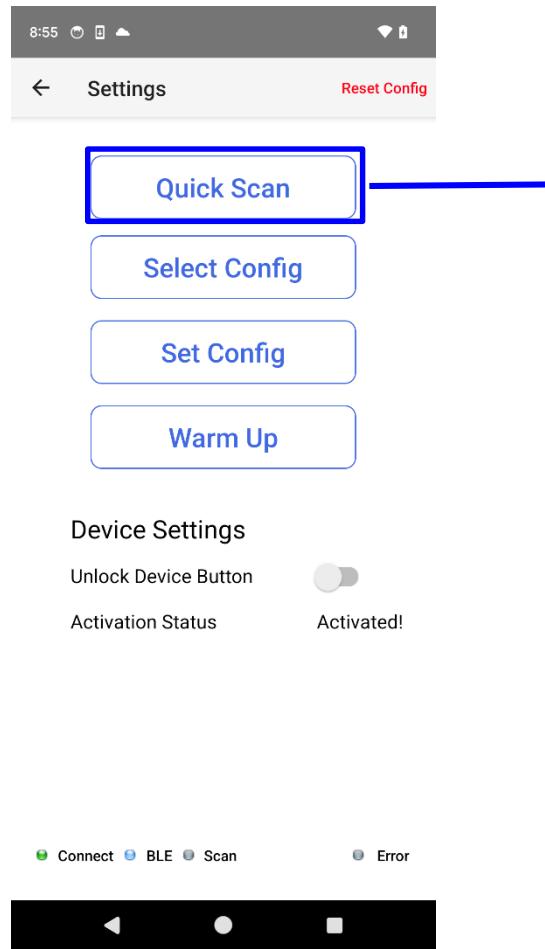
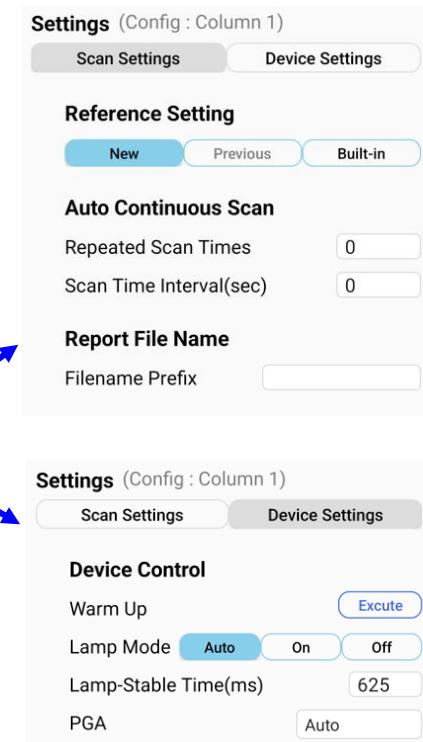


Quick Scan & Default Setting

Quick Scan & Default Setting

Perform scan by Quick Scan would apply device active config, and the default settings are set as following 2 pictures on right side.

Users can choose to scan the new reference first and then scan the sample, or directly select the built-in (factory reference) to scan the sample directly.

The image displays two detailed views of the 'Scan Settings' screen from the mobile application. Both views show the 'Scan Settings' tab selected. The left view shows the 'Reference Setting' section with the 'New' button highlighted in blue. The right view shows the 'Device Control' section, which includes 'Warm Up' (with an 'Excute' button), 'Lamp Mode' (set to 'Auto'), 'On' (button), 'Off' (button), 'Lamp-Stable Time(ms)' (set to 625), and 'PGA' (set to 'Auto'). Both views also include a 'Device Settings' tab.

Quick Scan & Default Setting – Reference Type

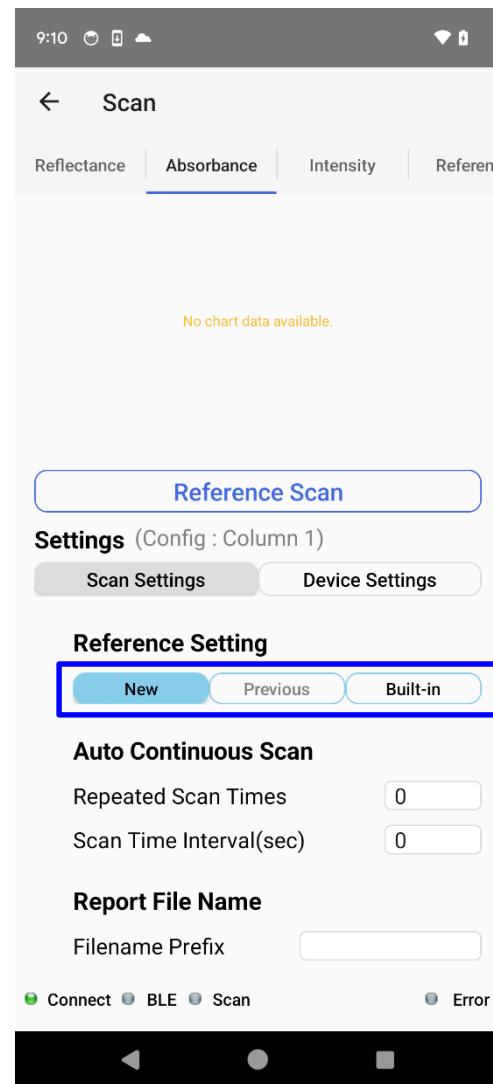


There are 3 reference types for scan.

New: The scan result would be saved as reference for Previous scan and not saved as report.

Previous: Enabled when new reference scan result is available. Scan result is computed with new reference. Report would be saved.

Built-in: Scan result is computed with device factory reference. Report would be saved.

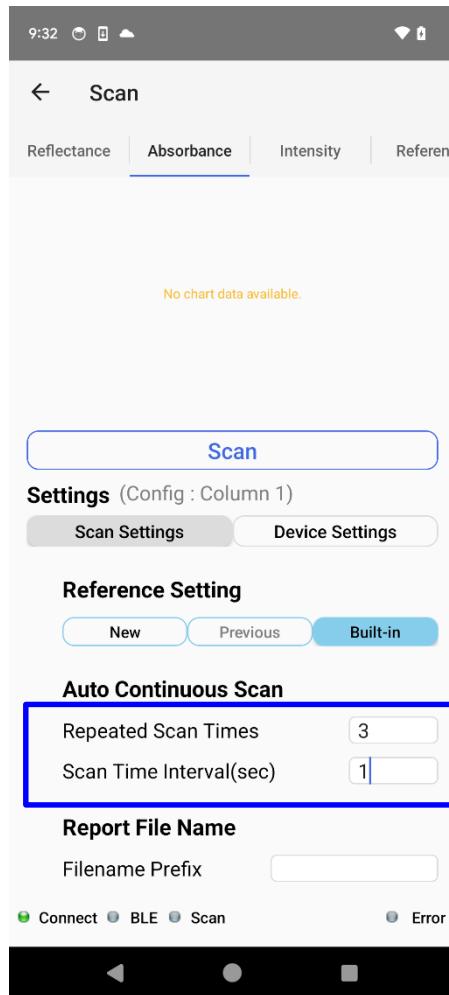


Previous segment is enabled only if new reference scan has been performed.

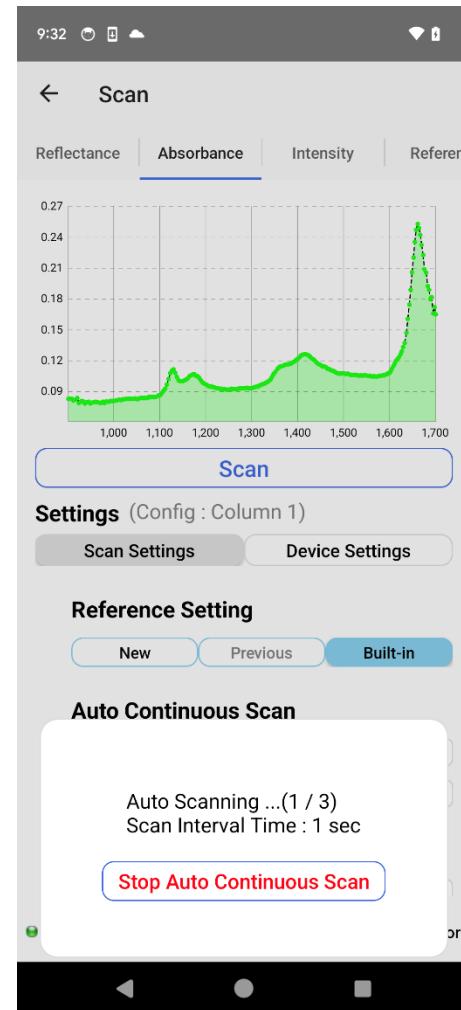
Quick Scan & Default Setting – Auto Continuous Scan



Auto continuous scan is available with previous/built-in scan.



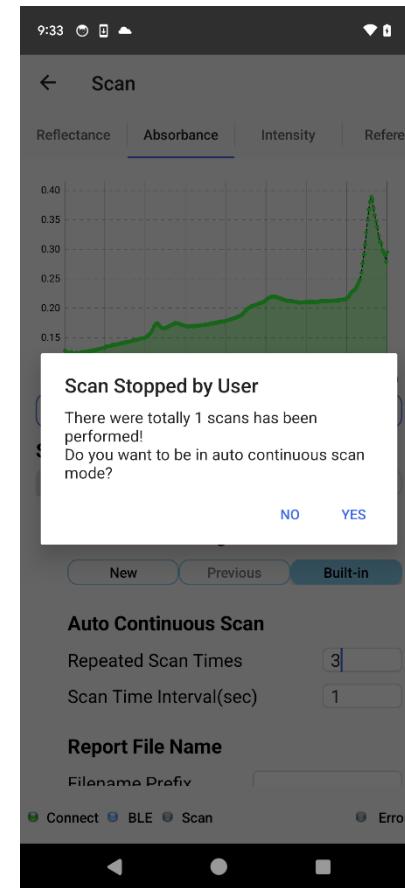
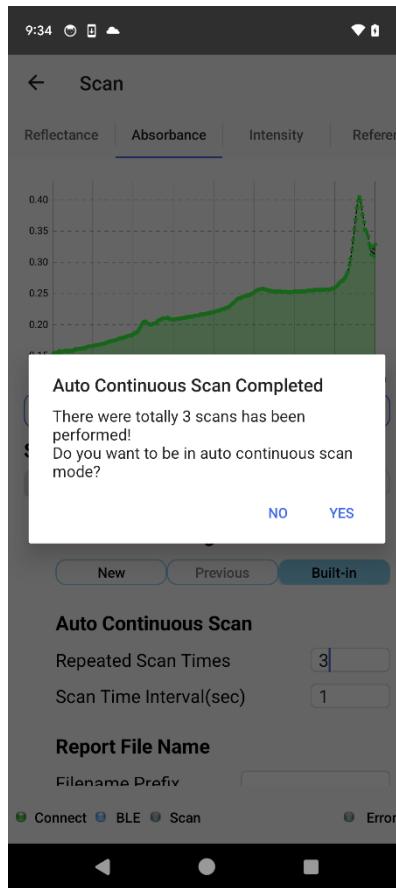
Repeat Scan Times:
Number of scan to be processed
Scan Time Interval(s):
Break time between continuous
scan



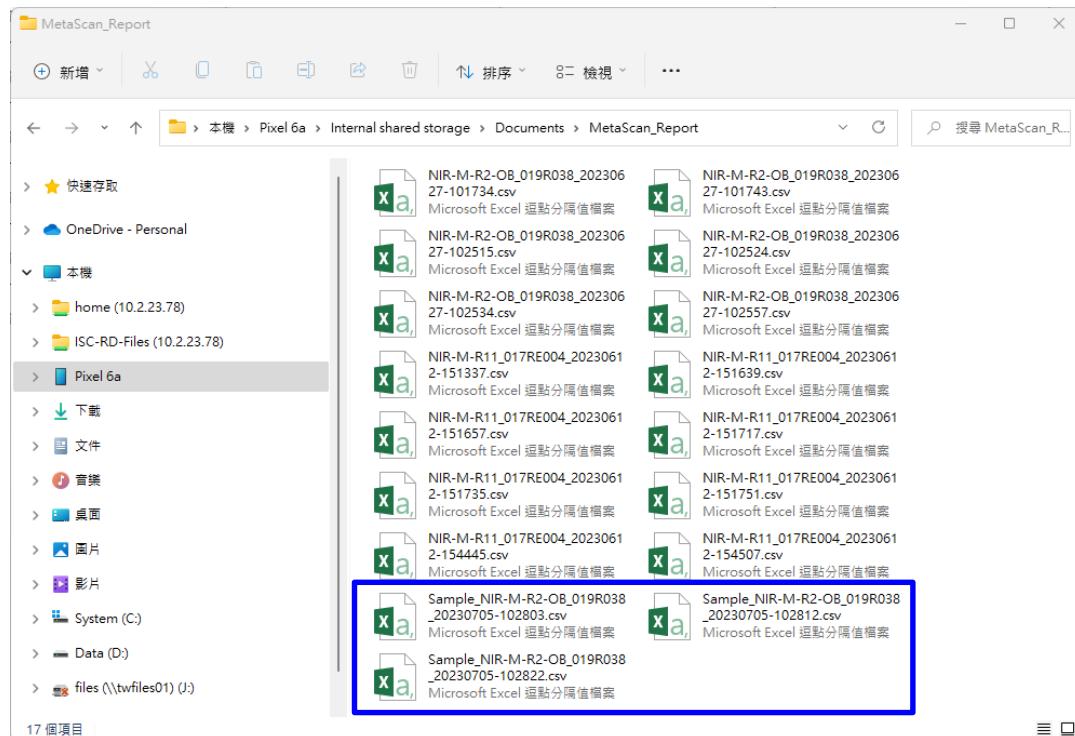
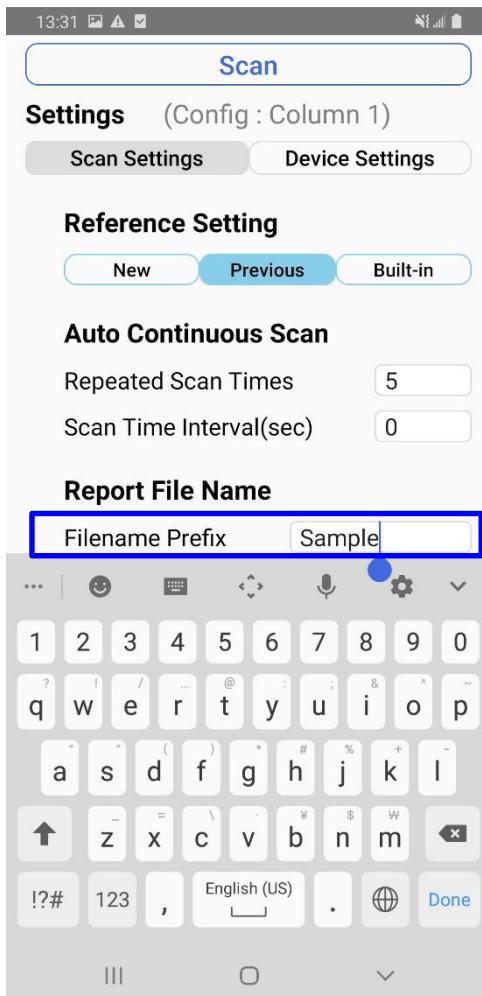
Quick Scan & Default Setting – Auto Continuous Scan



When the auto continuous scanning is completed or the scanning is stopped midway, the dialog will pop up asking the user whether to continue in the auto continuous scanning mode.



Quick Scan & Default Setting – Report File Name



Rename the saved report file name with prefix.

Quick Scan & Default Setting – Device Settings



Switch the setting panel content.

Settings (Config : Column 1)

Scan Settings Device Settings

Device Control

Warm Up	<input type="button" value="Excute"/>	Link to warm up view.		
Lamp Mode	Auto	On	Off	Set lamp status.
Lamp-Stable Time(ms)	625		Set lamp-stable time.	
PGA	<input type="button" value="Auto"/>		Set PGA.	



Select Config

Select Config



The screenshots illustrate the flow of selecting a configuration:

- Settings Screen:** Shows buttons for "Quick Scan", "Select Config" (which is highlighted with a blue box), "Set Config", and "Warm Up".
- Select Config Screen:** Shows the "Select Active Config." dialog. It lists the active configuration details:
 - Active Config : Column 1
 - Scan Type : Hadamard 1
 - Scan Repeats :
 - Spectral Range Start :
 - Spectral Range End :
 - Number of Patterns :
 - Width :
 - Exposure Time (ms) :A "Confirm" button is highlighted with a blue box. A blue arrow points from the "Select Config" button on the previous screen to this one.
- Scan Screen:** Shows the "Scan" interface with tabs for Reflectance, Absorbance (which is selected and highlighted with a blue box), Intensity, and Reference. It displays the message "No chart data available." A blue box highlights the "Absorbance" tab.

Selected config details.

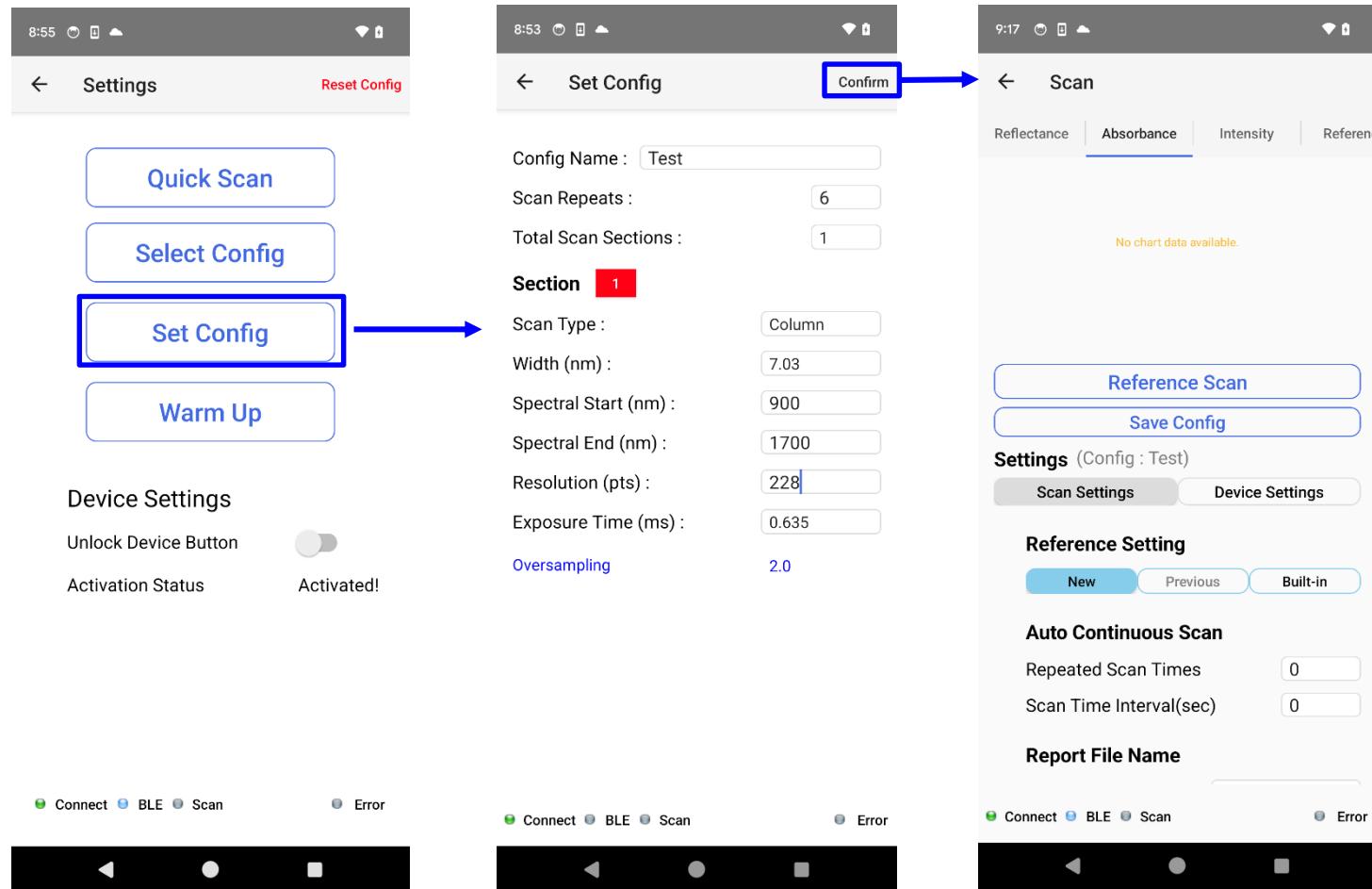
Available if selected config is different from device default config.



Set Config

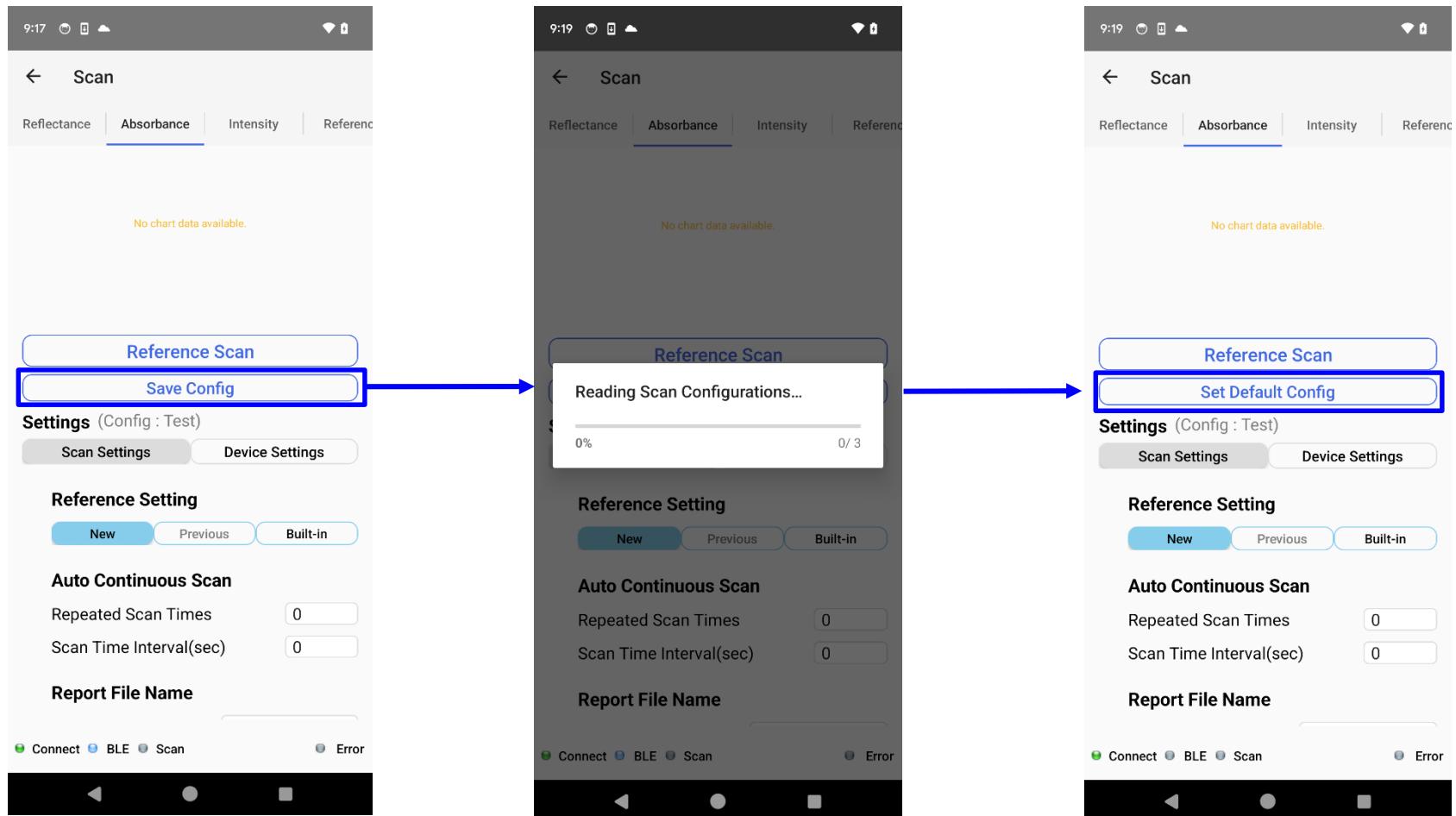
Set Config

The set config would be applied for later scan, and it is just a temporary config that is not saved to device.



Set Config (Save to Device)

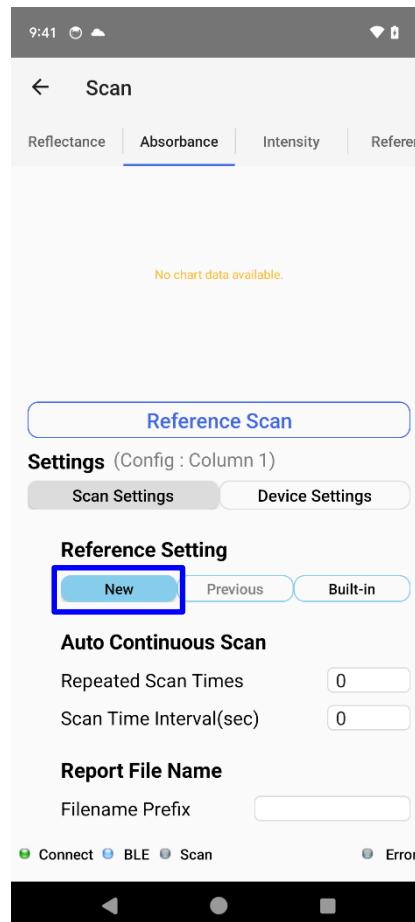
After the set config is saved to device, the scan config list will be obtained from the device and then can be set as default.



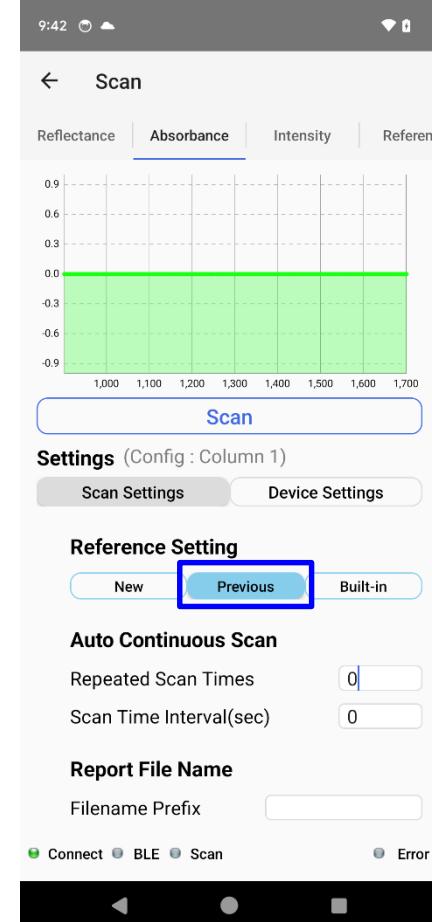
Reference

Reference

Users can create a new reference. It is necessary to set the reference setting to new, and then place the reference white to start scanning. If user can select previous for the reference setting, it means that the user has created a new reference.



Prepare scan new reference.



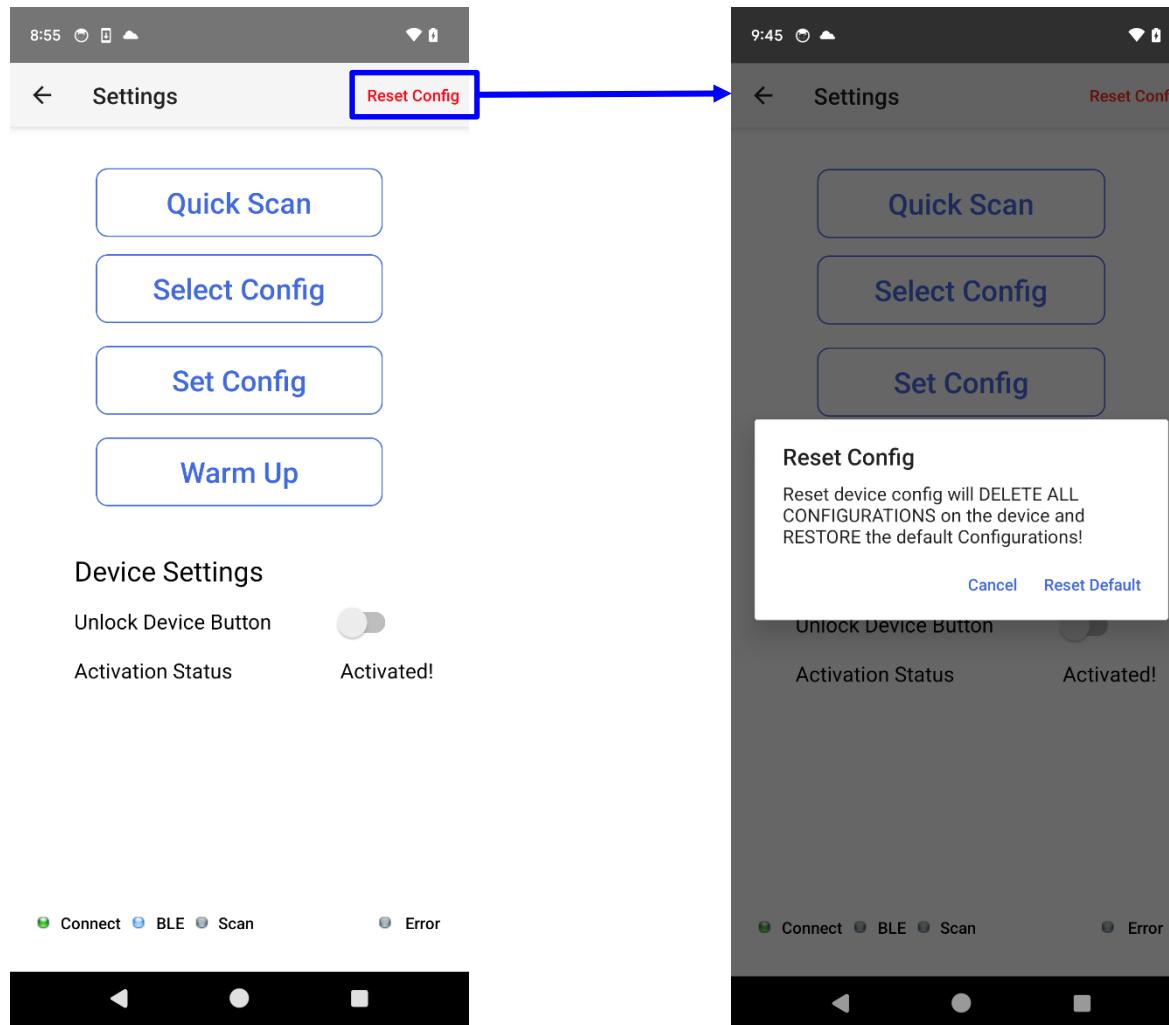
User have create new reference.



Reset Default Config

Reset Default Config

Reset config would remove all configs except Column 1 and Hadamard 1.





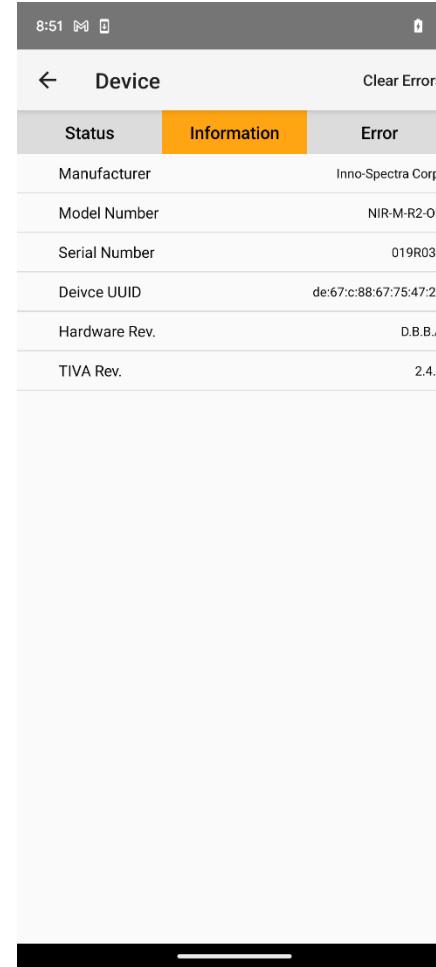
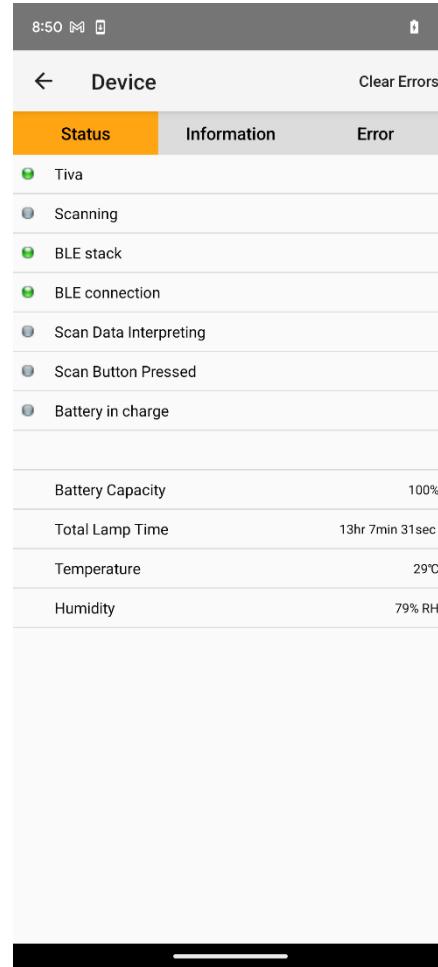
Device Information

Device Information – Status/Information

Device information could be accessed by any status bar.

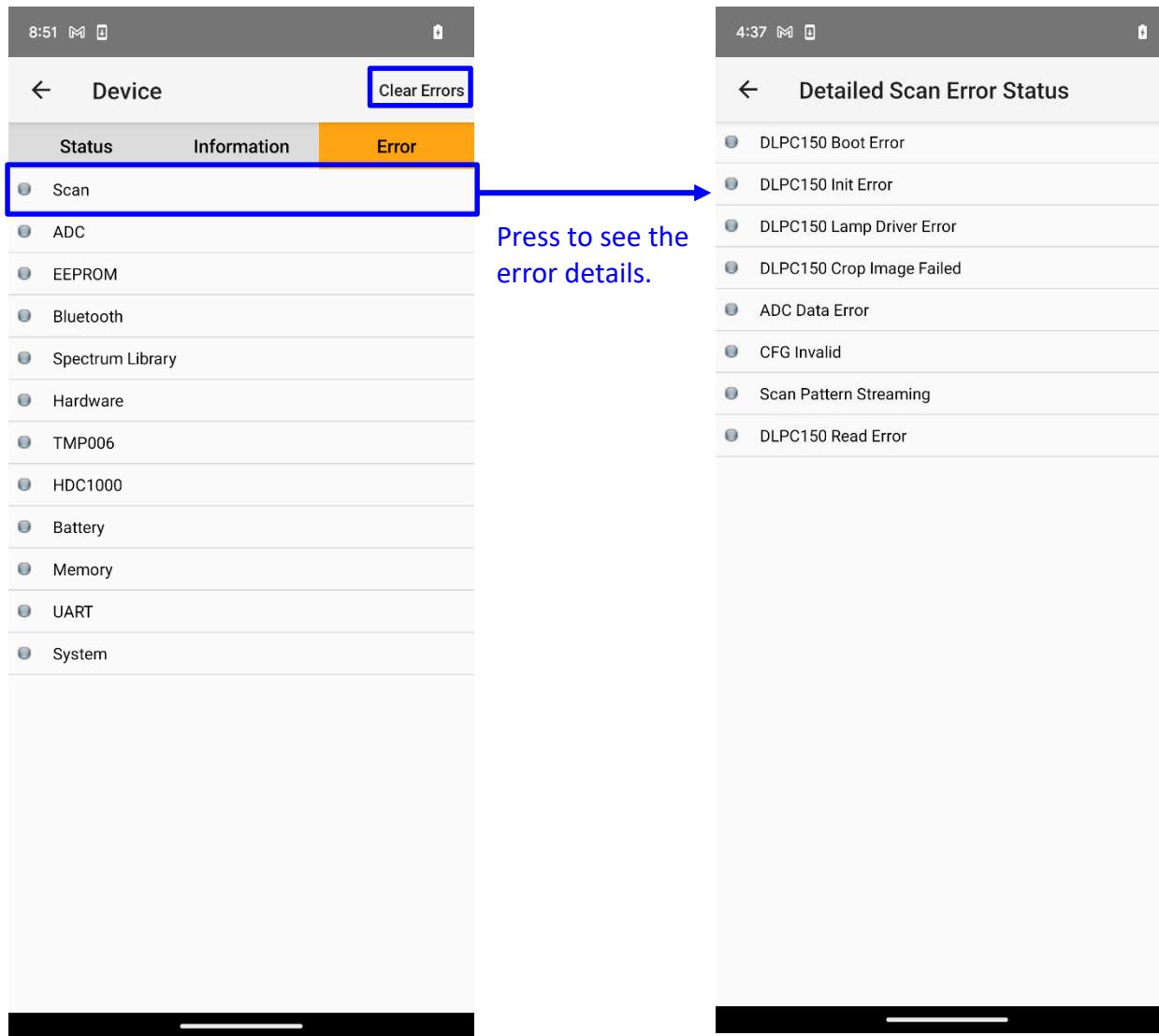
● Connect ● BLE ● Scan ● Error

Status Bar



Device Information – Error

“Clear Errors” clears device error and return to home page.



8:51 M 8:51 M

← Device Clear Errors

Status	Information	Error
Scan		
ADC		
EEPROM		
Bluetooth		
Spectrum Library		
Hardware		
TMP006		
HDC1000		
Battery		
Memory		
UART		
System		

4:37 M 4:37 M

← Detailed Scan Error Status

- DLPC150 Boot Error
- DLPC150 Init Error
- DLPC150 Lamp Driver Error
- DLPC150 Crop Image Failed
- ADC Data Error
- CFG Invalid
- Scan Pattern Streaming
- DLPC150 Read Error

Thank You

