

# ISC Android SDK User's Guide

Sep. 16, 2020

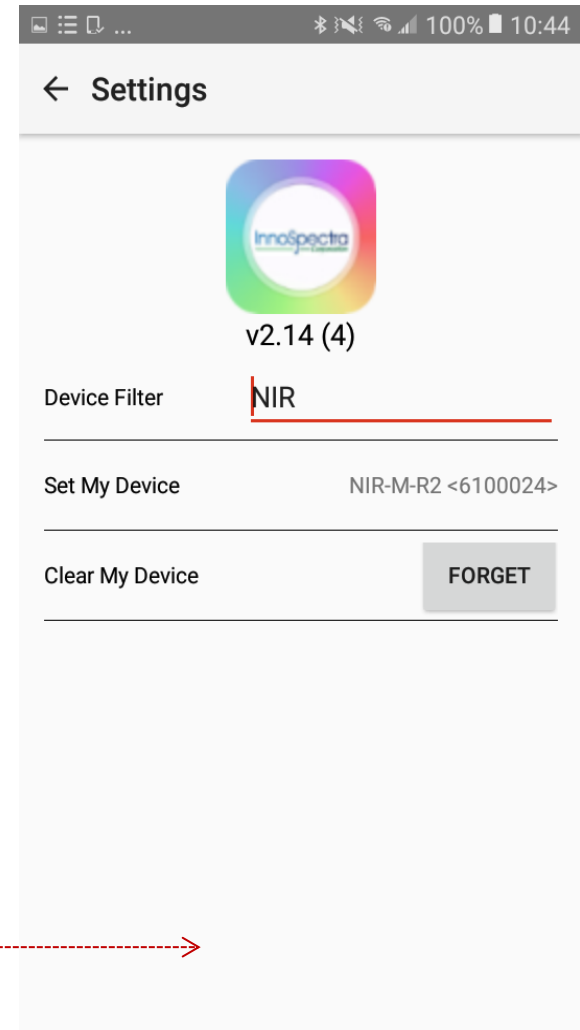
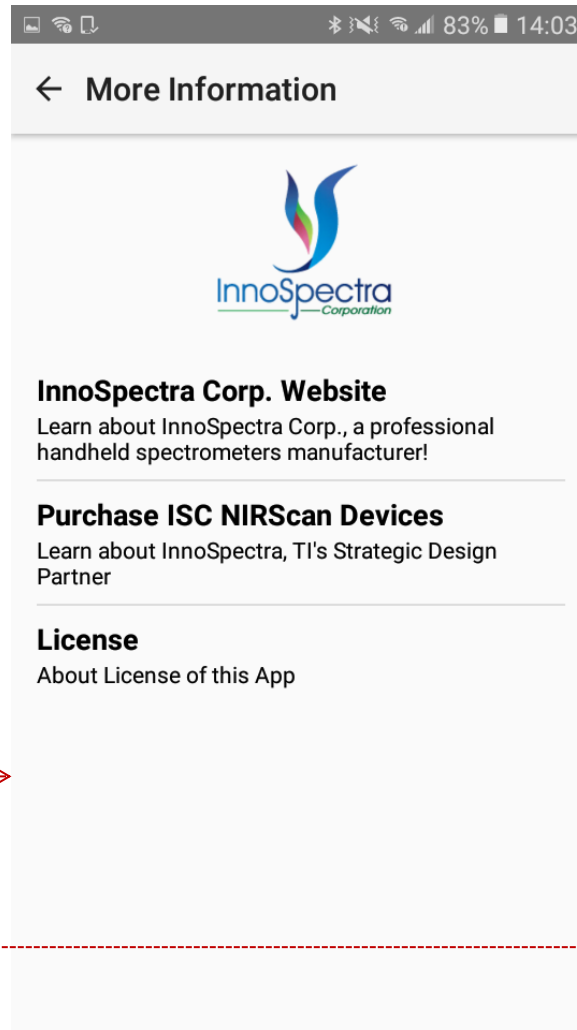
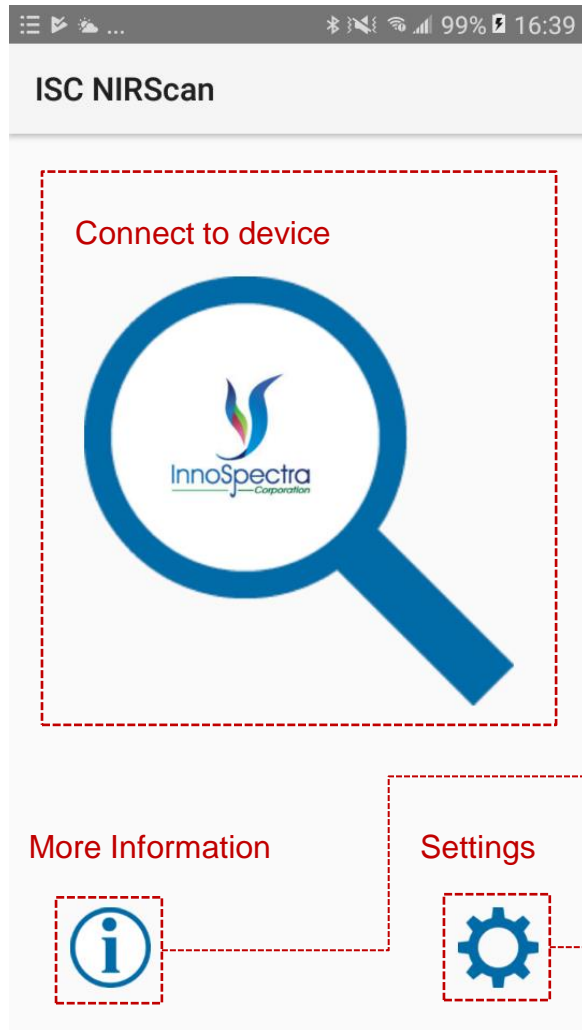
# Contents



- Introduction
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- Update Built-in Reference Data
- Notice

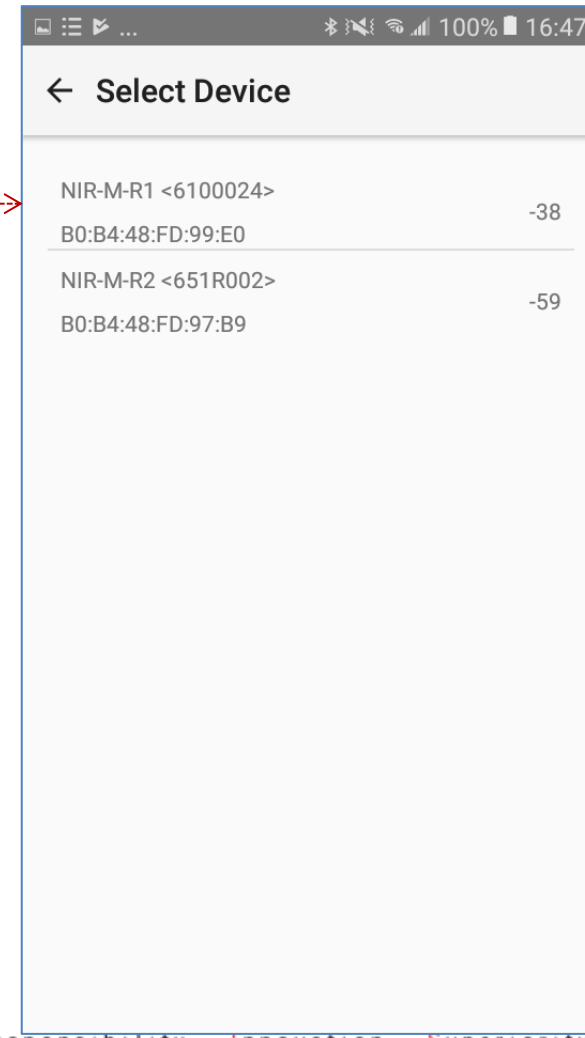
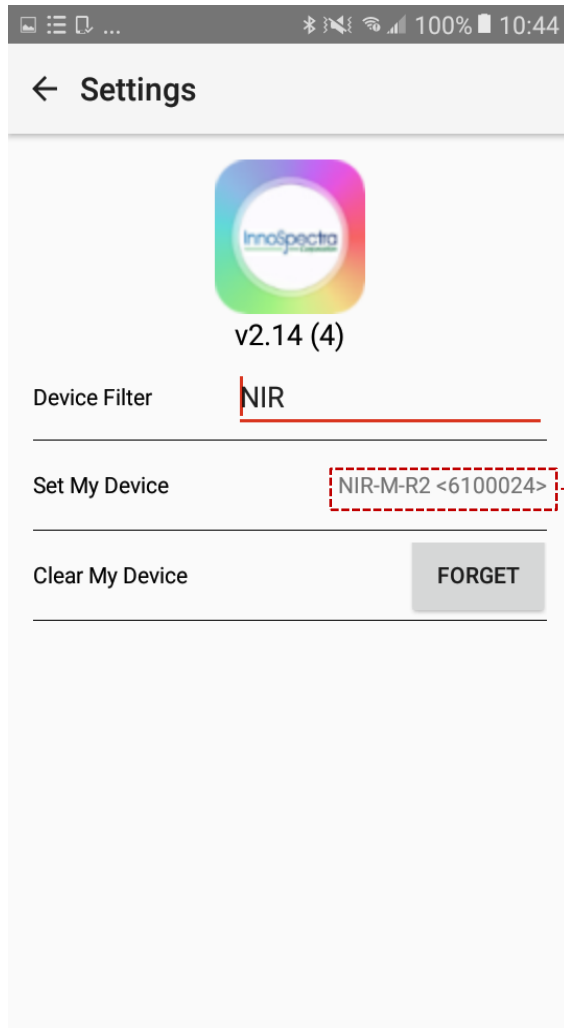
# INTRODUCTION

# Main Page



# Select the device

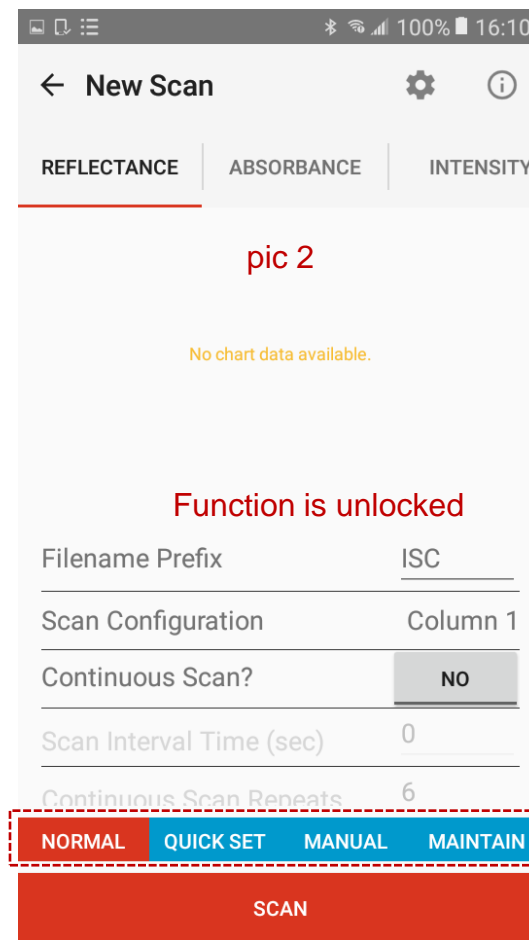
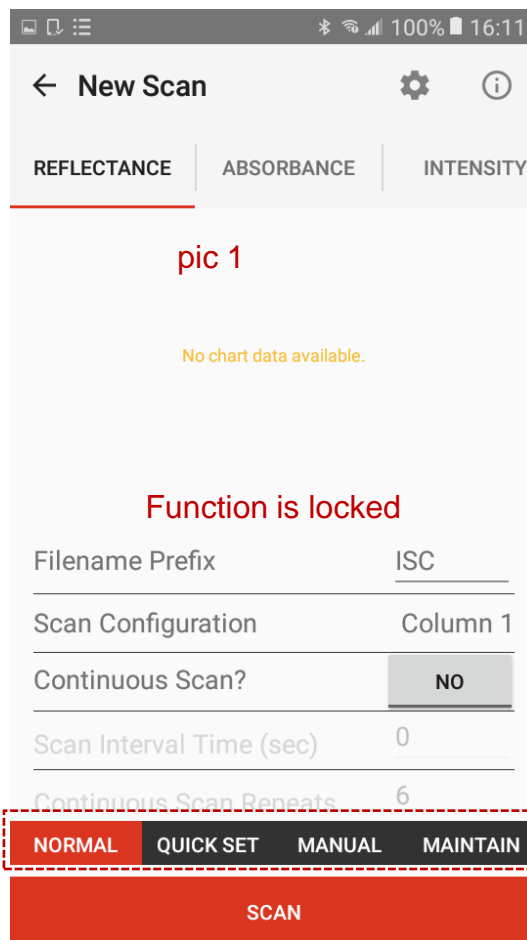
- First user should go to setting page from main page and select the device.
- User can set the device filter to search the device.



Press to select device

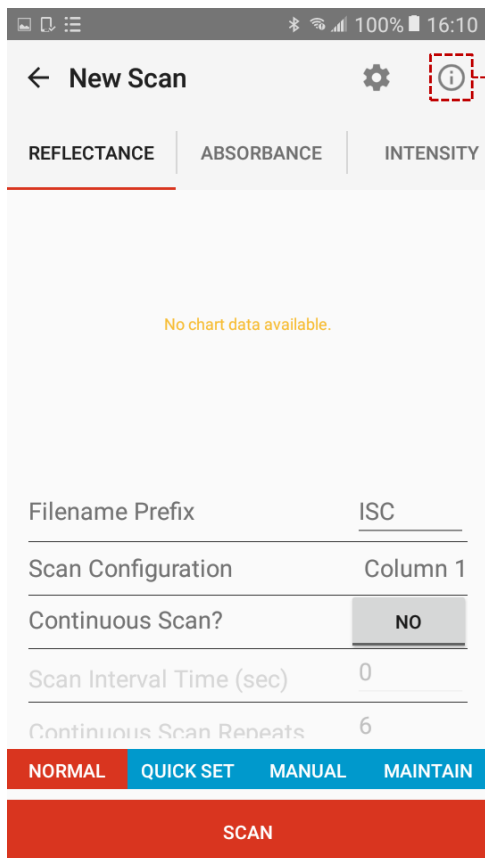
# Connect to Device

- Second, user can press connect to device from the main page then go to the scan page.
- There are two scan pages. If function is locked user will see pic 1. If function is unlocked, user will see pic 2.



# Unlock Advanced Function Page

- User can input key in activation field then press submit. If advanced function is unlocked, the status will show “Activated”. If advanced function is locked, the status will show function is locked.
- User press “UNACTIVATE” button. The function will lock and the status will show function is locked.
- User press “CLEAR” button. The activation field will clear.



← New Scan

REFLECTANCE | ABSORBANCE | INTENSITY

No chart data available.

Filename Prefix: ISC

Scan Configuration: Column 1

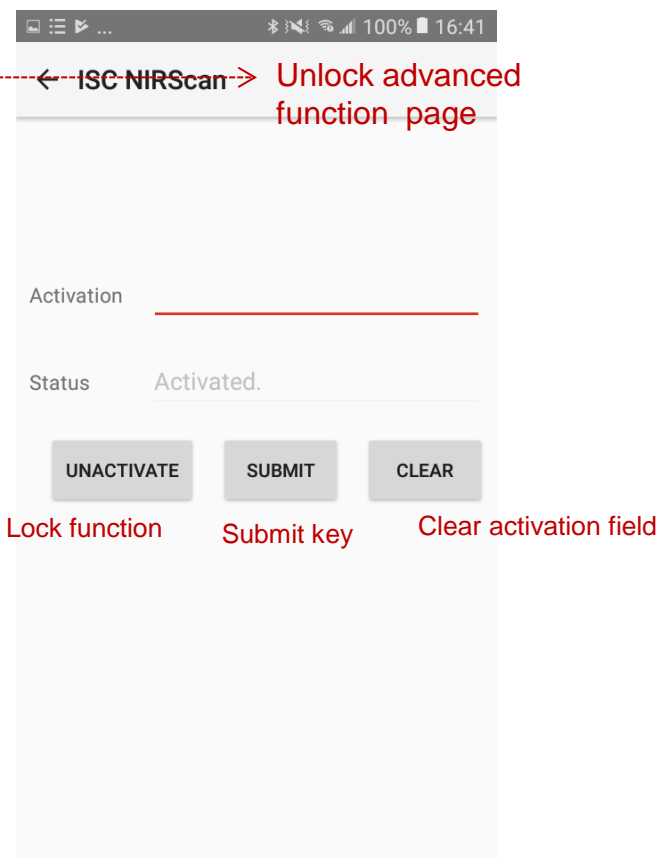
Continuous Scan?: NO

Scan Interval Time (sec): 0

Continuous Scan Repeats: 6

NORMAL | QUICK SET | MANUAL | MAINTAIN

SCAN



← ISC NIRScan →

Activation: \_\_\_\_\_

Status: Activated.

UNACTIVATE | SUBMIT | CLEAR

Lock function | Submit key | Clear activation field

Unlock advanced function page

- ← New Scan

REFLECTANCE | ABSORBANCE | INTENSITY

## Step 1

No chart data available.

Filename Prefix	ISC
Scan Configuration	Column 1
Continuous Scan?	NO
Scan Interval Time (sec)	0

Function is locked

NORMAL QUICK SET MANUAL MAINTAIN

SCAN

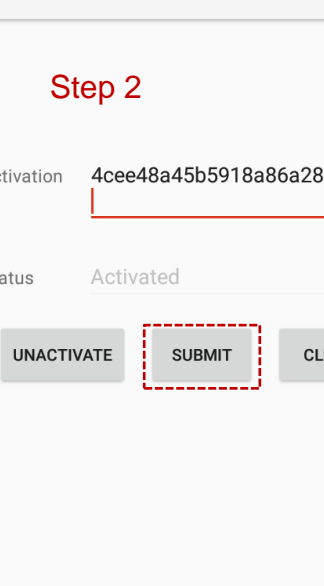
← ISC NIRScan

→ Activation key page

Activation

Status Function is locked.

UNACTIVATE SUBMIT CLEAR



← ISC NIRScan

## Step 2

Activation 4cee48a45b5918a86a28a7a8

Status Activated

UNACTIVATE SUBMIT CLEAR

← New Scan

REFLECTANCE | ABSORBANCE | INTENSITY

**Step 3**

No chart data available.

Filename Prefix

Scan Configuration

Continuous Scan?

Scan **Function is unlocked**

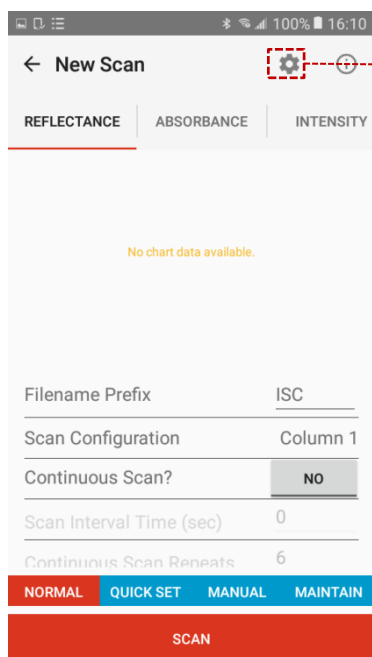
Continuous Scan Repeats

**NORMAL QUICK SET MANUAL MAINTAIN**



# Configure Page

- User can go to configure page from scan page.
- Press “Device Information” can see the device information.
- Press “Device Status” can see the device status.
- Press “CLICK” button in device status filed can see the detailed device status.
- User can decide whether to turn on the device button.



← New Scan

REFLECTANCE | ABSORBANCE | INTENSITY

No chart data available.

Filename Prefix: ISC

Scan Configuration: Column 1

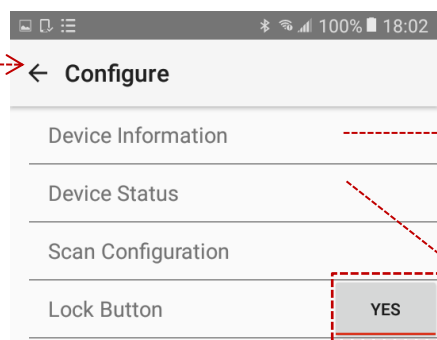
Continuous Scan?: NO

Scan Interval Time (sec): 0

Continuous Scan Repeats: 6

NORMAL | QUICK SET | MANUAL | MAINTAIN

SCAN



← Configure

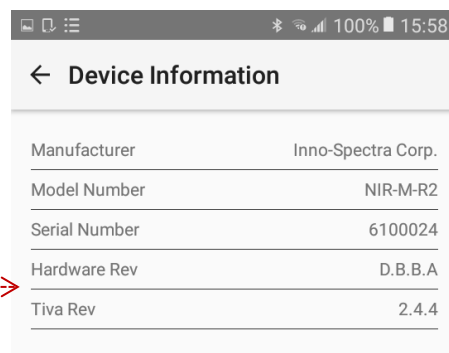
Device Information

Device Status

Scan Configuration

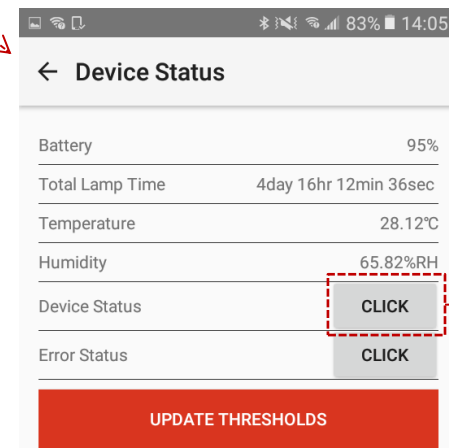
Lock Button: YES

Decide whether to turn on the device button



← Device Information

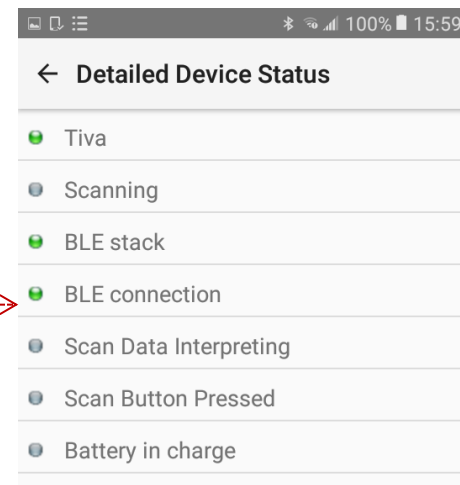
Manufacturer	Inno-Spectra Corp.
Model Number	NIR-M-R2
Serial Number	6100024
Hardware Rev	D.B.B.A
Tiva Rev	2.4.4



← Device Status

Battery	95%
Total Lamp Time	4day 16hr 12min 36sec
Temperature	28.12°C
Humidity	65.82%RH
Device Status	CLICK
Error Status	CLICK

UPDATE THRESHOLDS

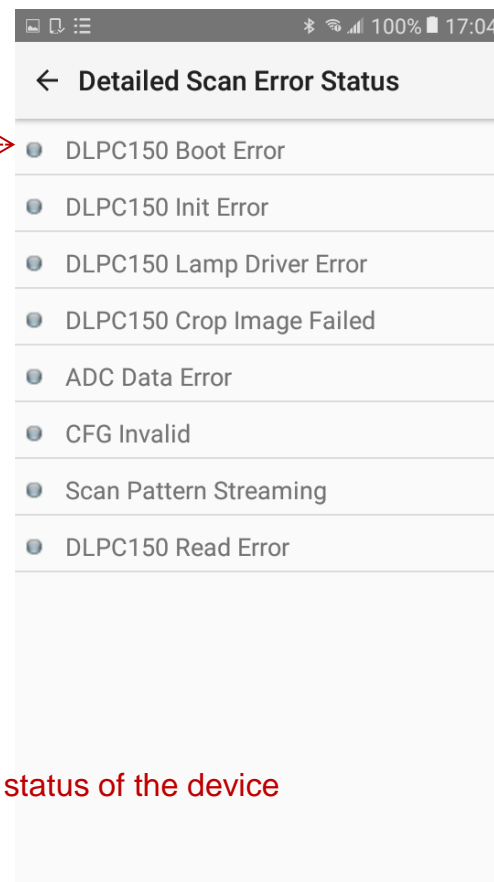
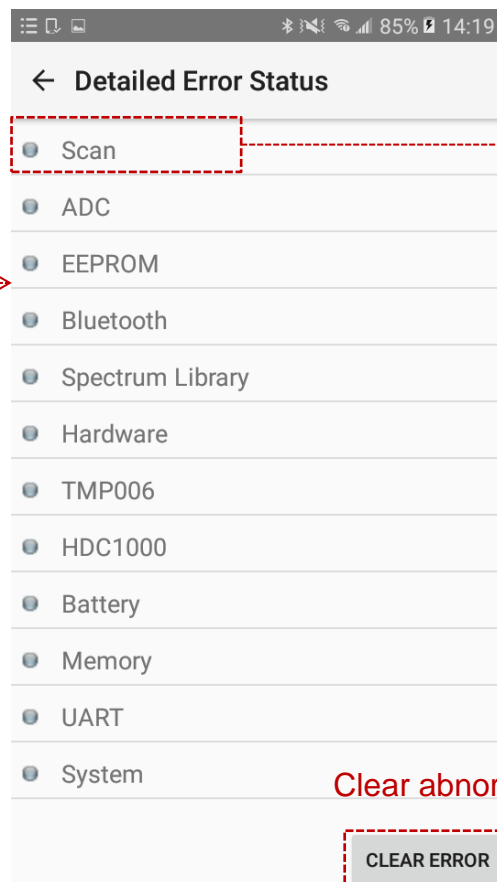
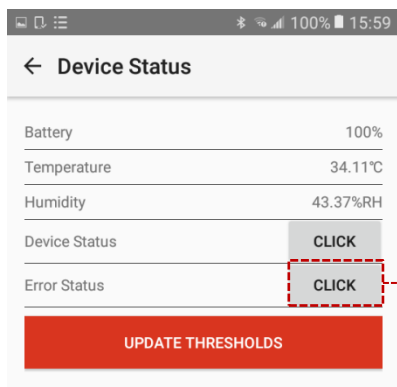


← Detailed Device Status

- Tiva
- Scanning
- BLE stack
- BLE connection
- Scan Data Interpreting
- Scan Button Pressed
- Battery in charge

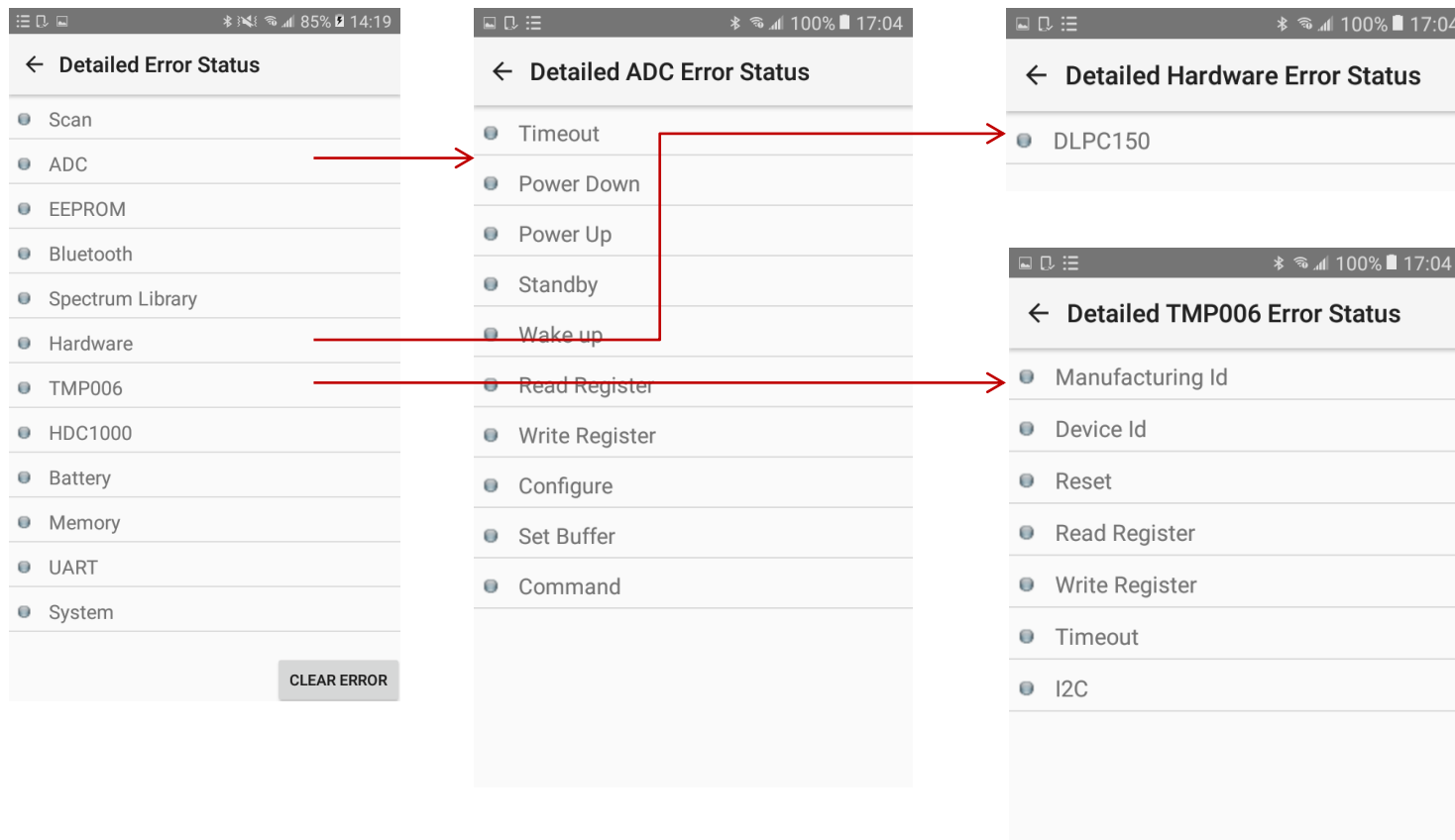
# Configure Page

- Press “CLICK” button in error status filed can see the detailed error status.
- Press “CLEAR ERROR” button can clear abnormal status of the device.
- Press “Scan” in detailed status can see detailed scan error status.



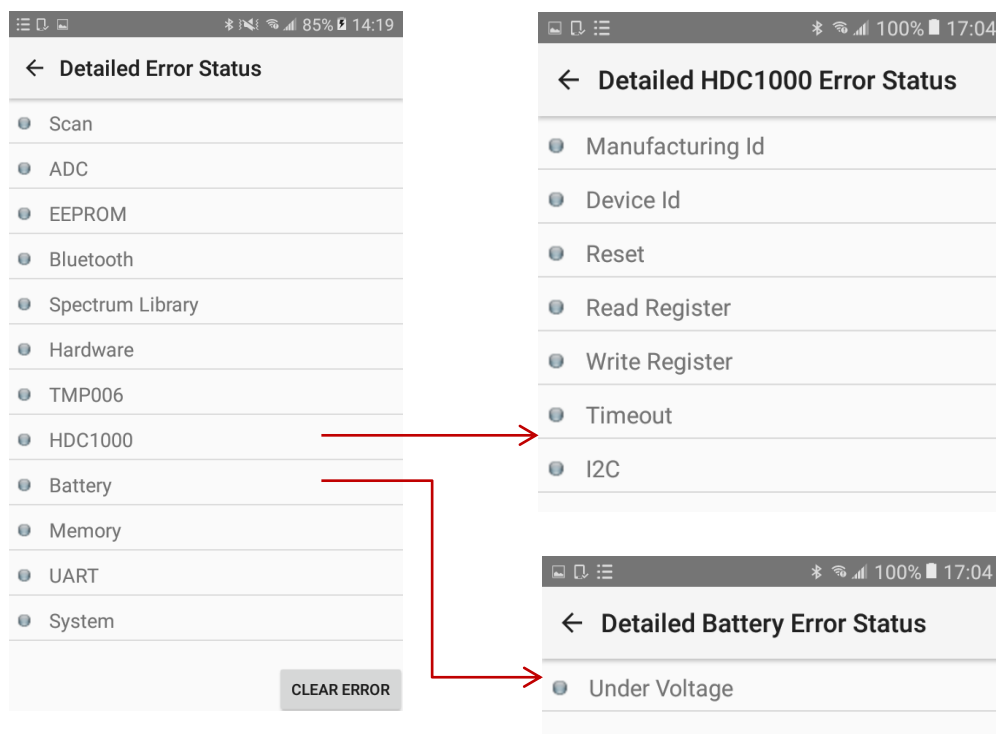
# Configure Page

- Press “ADC” in detailed status can see detailed adc error status.
- Press “Hardware” in detailed status can see detailed hardware error status.
- Press “TMP006” in detailed status can see detailed tmp006 error status.



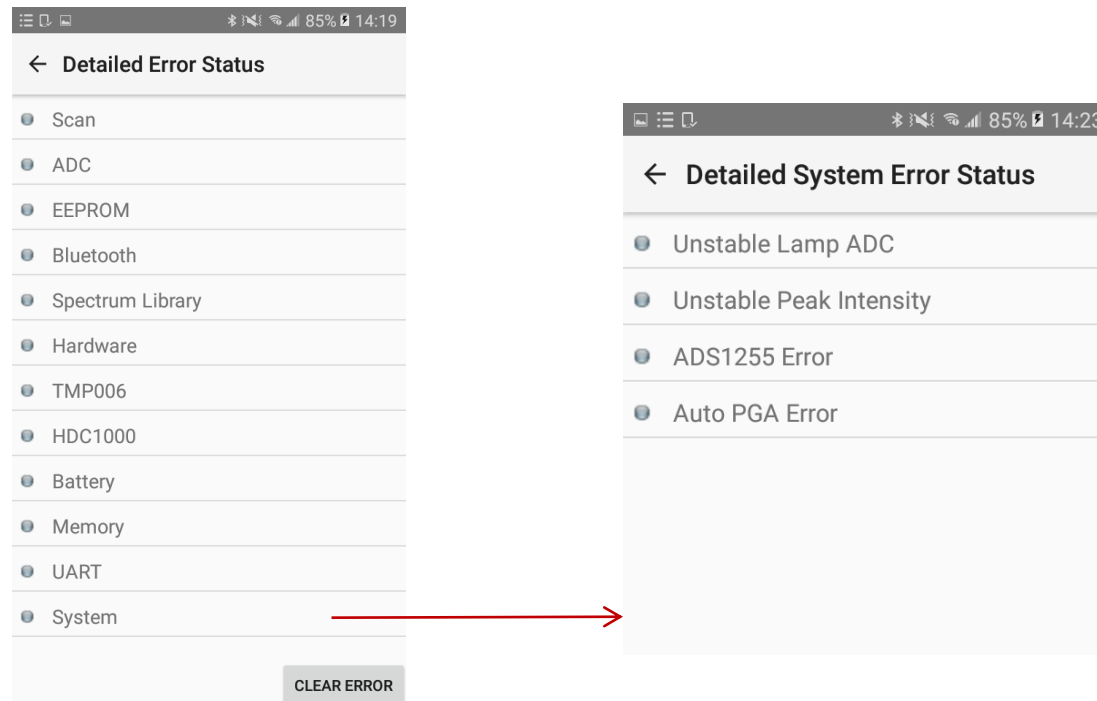
# Configure Page

- Press “HDC1000” in detailed status can see detailed hdc1000 error status.
- Press “Battery” in detailed status can see detailed battery error status.



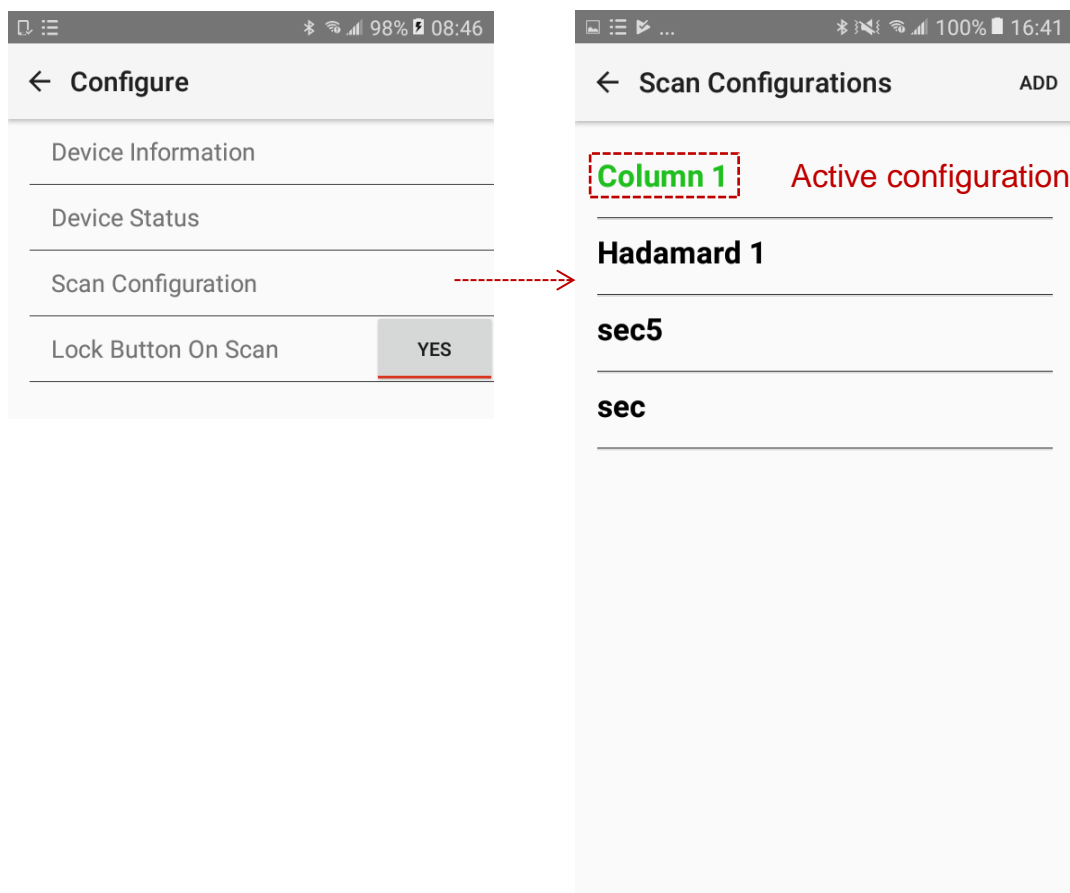
# Configure Page

- Press “System” in detailed status can see detailed System error status.



# Scan Configurations Page

- Scan configurations page will show the configurations saved in device.
- The green is represented the active configuration.
- User can press other configuration to change the active configuration.
- The active configuration is used to default configuration.



# Create A Scan Configuration

- Step 1: Input config name, scan repeats, total scan sections, and section info then save.
- Step 2: Press “OK” when pop out configuration saving dialog. The app will back to scan configurations and re-download config.
- Step 3: The config will list to scan configurations.

← Scan Configurations ADD

Column 1

Hadamard 1

sec5

sec

← Adding Configurations SAVE

Config Index **Step1** 5

Config SerialNumber 6100024

Config Name BLE-Cfg-28164147

Scan Repeats 1

Total Scan Sections 5

Section **1** 2 3 4 5

Type(0:Column,1:Hadamard) 0

Width(2-52): 2.34nm 2

Spectral Start (nm) 900

Spectral End (nm) 1700

D-Res. (pts, max:447) 2

Exposure(0-6): 0.635ms 0

← Adding Configurations SAVE

Config Index **Step2** 5

Config SerialNumber 6100024

Config Name BLE-Cfg-28164147

Scan Repeats 1

Total Scan Sections 5

Section 1 2 3 4 5

Type(0:Column,1:Hadamard) 0

Width(2-52): 2.34nm 2

Spectral Start (nm) 900

Spectral End (nm) 1700

D-Res. (pts, max:447) 2

Exposure(0-6): 0.635ms 0

**Configuration Saving**

Configuration has been saved to device!

OK

← Scan Configurations ADD

Column 1 **Step3**

Hadamard 1

sec5

sec

**BLE-Cfg-28164147**



# PERFORMING A SCAN



# Scan Page

Back to main page  
and disconnect to device

Unlock function page

← New Scan Configure  

REFLECTANCE ABSORBANCE INTENSITY

Select plot method

No chart data available.

Spectrum data plot

Filename Prefix ISC

Scan Configuration Column 1

Continuous Scan? NO

Scan Interval Time 0

Continuous Scan Repeats 6

Select scan method

NORMAL QUICK SET MANUAL MAINTAIN

SCAN

Scan data

← Configure

Device Information

Device Status

Scan Configuration

Lock Button YES

ISC NIRScan

Unlock function page

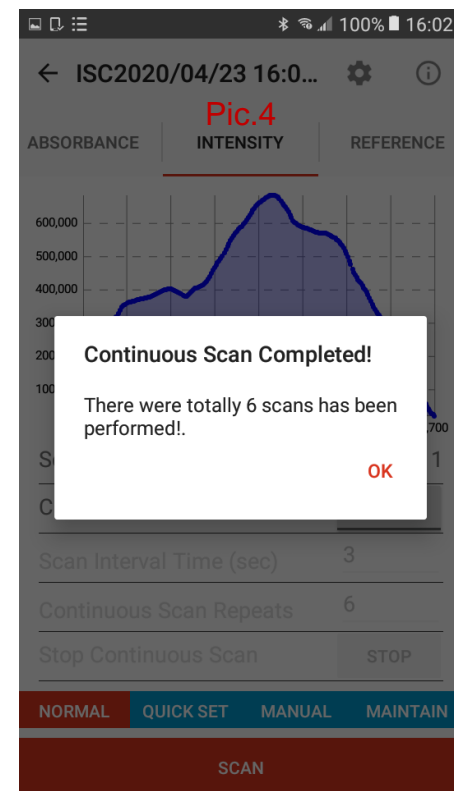
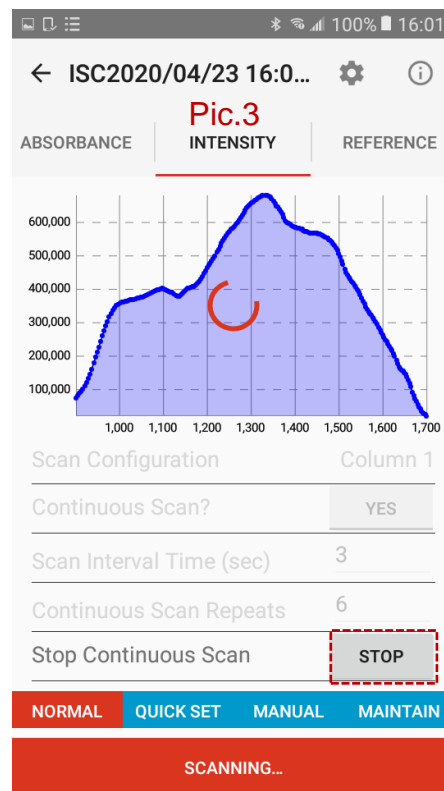
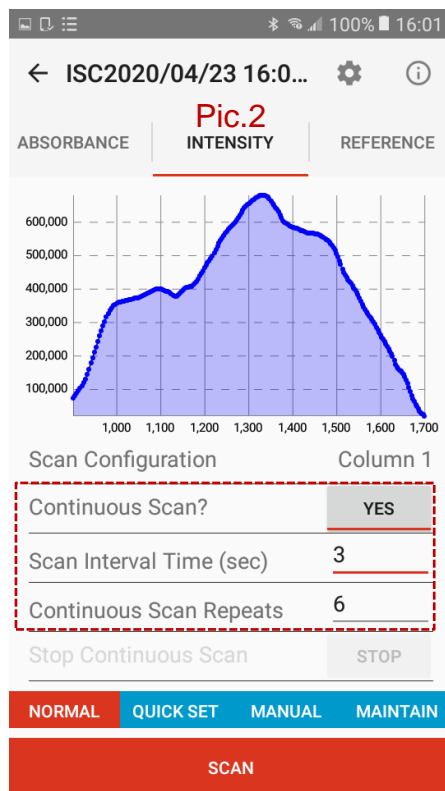
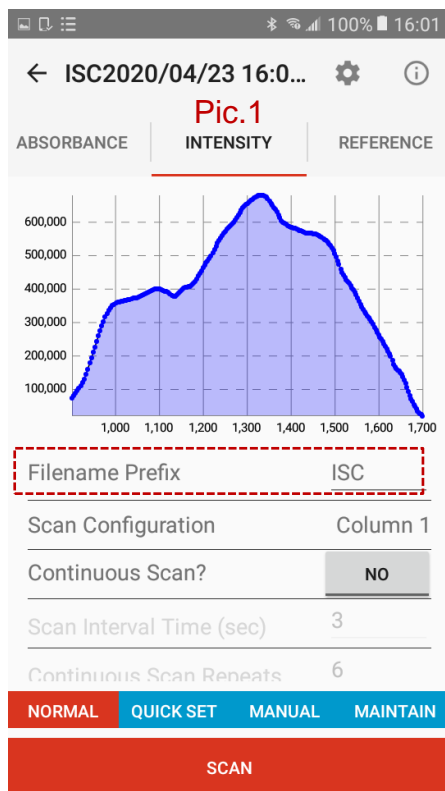
Activation

Status Activated.

UNACTIVATE SUBMIT CLEAR

# Normal Scan

- Press “SCAN”, the result will show in the plot and save .csv in the phone. The file path is Documents/ISC\_Report/. User can modify filename prefix before scan (Pic.1).
- If user want to continuous scan, open continuous scan and set scan interval time and continuous scan repeats (Pic.2). User can press “STOP” to stop scan in continuous scan mode (Pic.3). After continuous scan complete, will pop out dialog (Pic.4).



- [illegible]

# Manual Scan

- In auto mode, user can set lamp-stable time.
- In manual scan mode, user can set lamp on or off, pga gain and scan repeats.

← New Scan

REFLECTANCE | ABSORBANCE | INTENSITY

Auto mode

No chart data available.

Lamp-Stable Time(ms) 625

Manual Scan Mode OFF

Turn-On Lamp OFF

Set Scan PGA 1

Scan Repeats 6

NORMAL QUICK SET MANUAL MAINTAIN

SCAN

← New Scan

REFLECTANCE | ABSORBANCE | INTENSITY

Manual scan mode

No chart data available.

Lamp-Stable Time(ms) 625

Manual Scan Mode ON

Turn-On Lamp ON

Set Scan PGA 1

Scan Repeats 6

NORMAL QUICK SET MANUAL MAINTAIN

SCAN

← New Scan

REFLECTANCE | ABSORBANCE | INTENSITY

Manual Scan Mode ON

Turn-On Lamp ON

Set Scan PGA 1

Scan Repeats 6

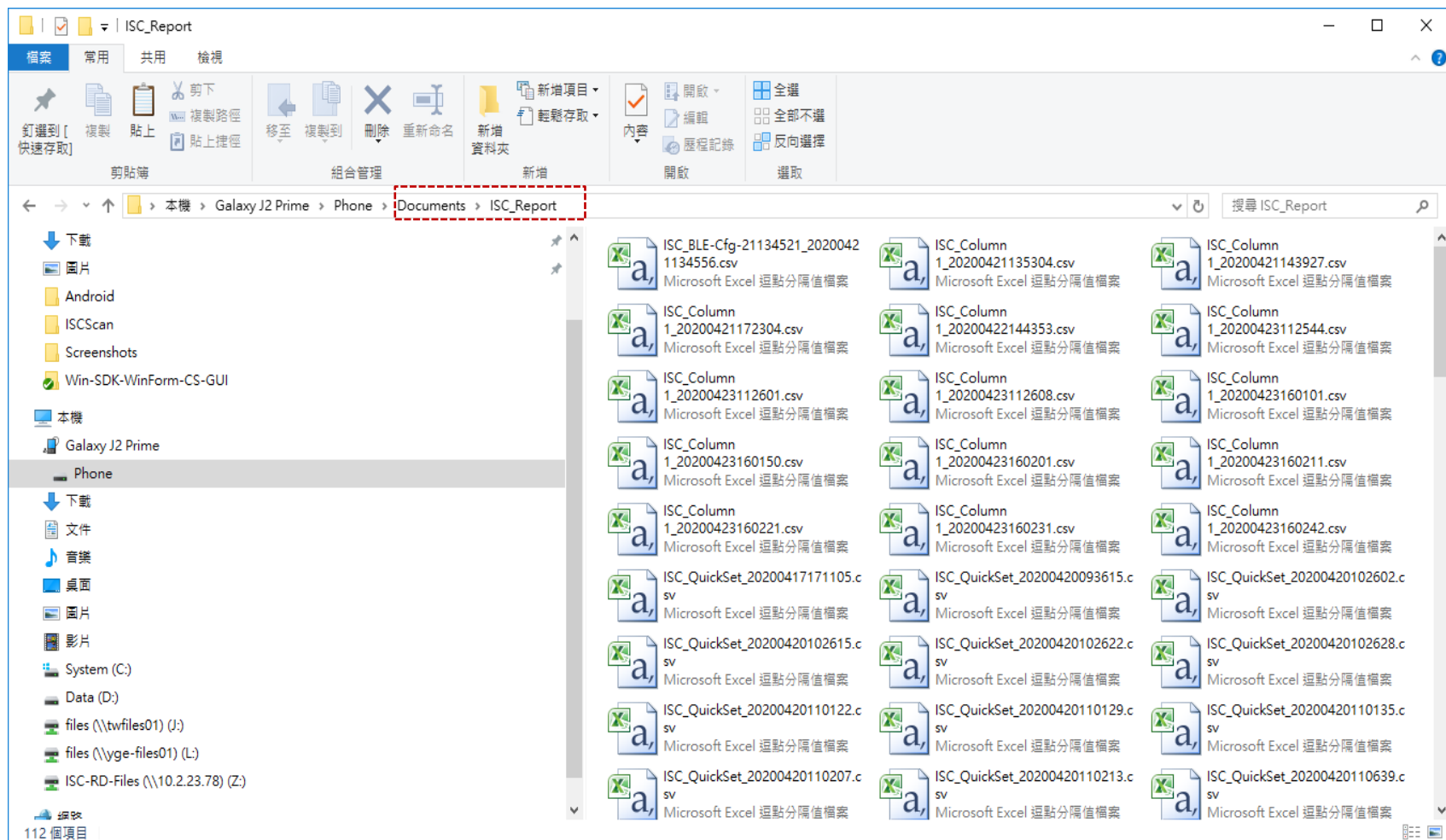
Scan Configuration Column 1

NORMAL QUICK SET MANUAL MAINTAIN

SCAN

# .CSV file

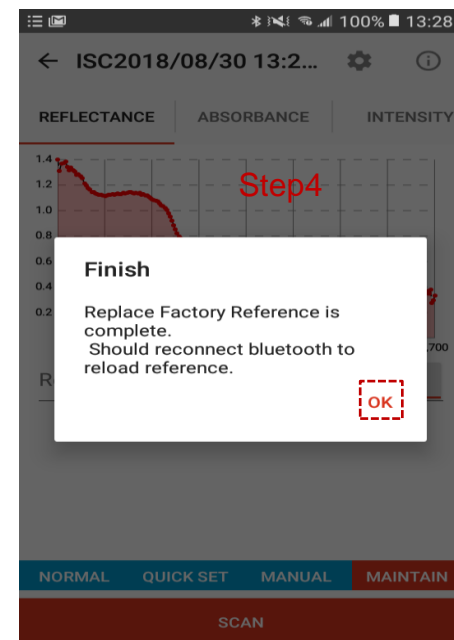
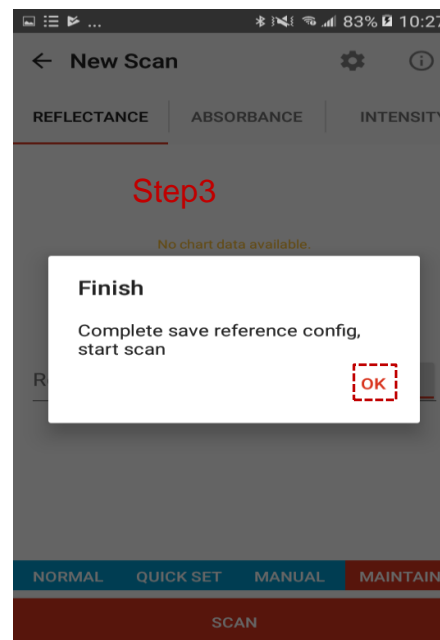
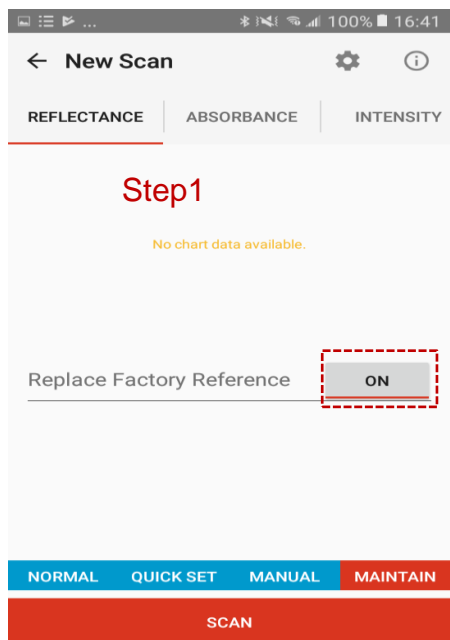
- After scan, the scan report (.csv file) will save to Documents/ISC\_Report.
- The phone should use USB to connect PC and find the file.



# UPDATE BUILT-IN REFERENCE DATA

# Replace Built-In Reference

- Before replacing stored reference data, preparing a highly reflective material. A 99% reflective material as Spectralon® is preferred.
- Step1: Turn on “Replace Factory Reference” then scan. The warning dialog will pop out.
- Step2: Select “YES,I KNOWN”. The device will set config. If set config success, the finish config will pop out.
- Step3: Select “OK” then the device will start scan.
- Step4: Complete save reference will pop out finish dialog. Select “OK” and wait for 3 sec, the device will disconnect. User should reconnect to download new reference.



# Notice



# Notice

- User should open the bluetooth and might need to open GPS due to the different phone's manufacture's requirements.
- When open app, should permit to save the graph, media, file, and location.



# Thank You



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Responsibility Innovation Superiority Entrepreneurship