

# ISC Android SDK User's Guide

Sep. 4, 2018

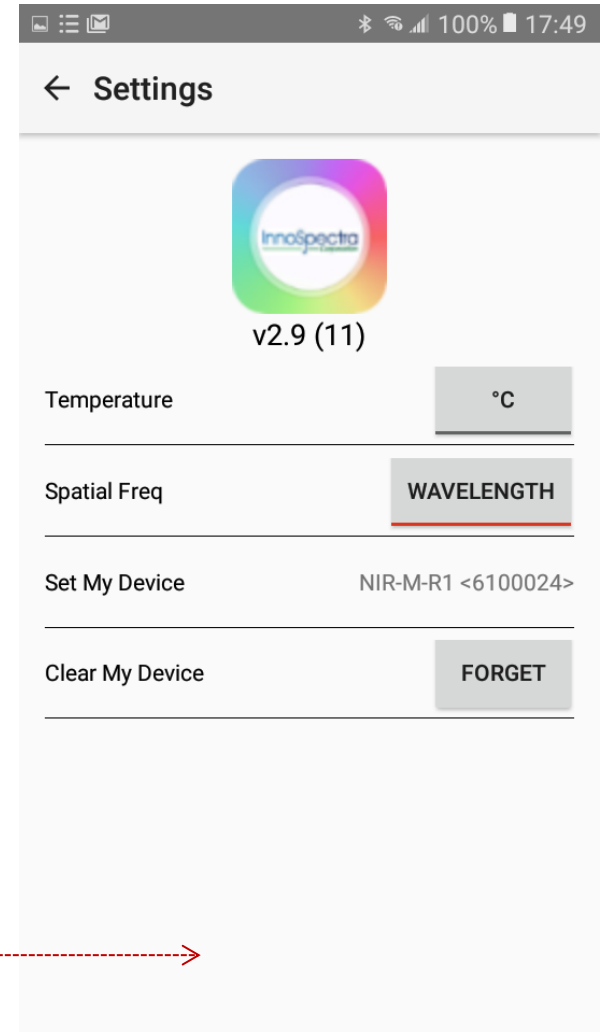
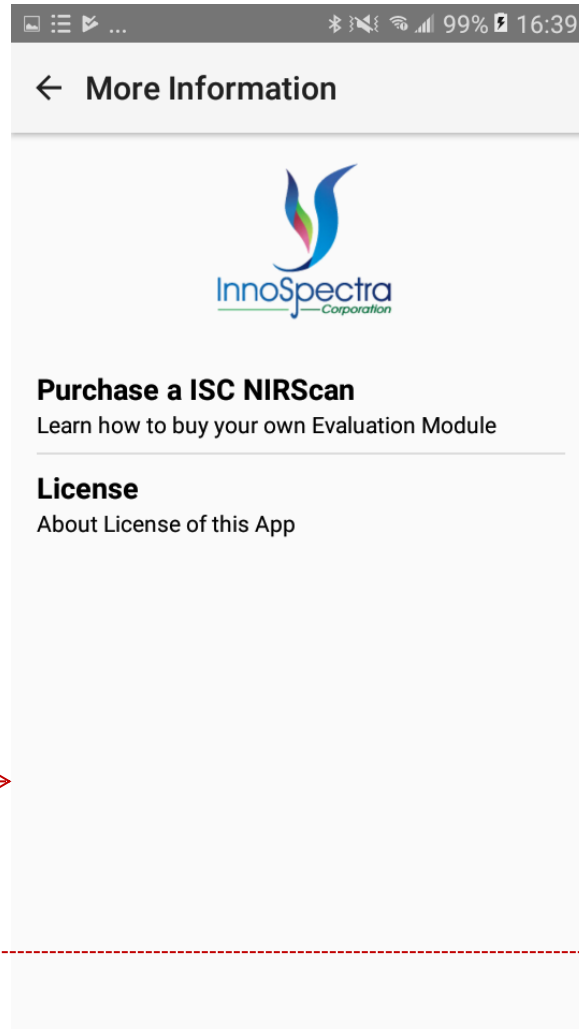
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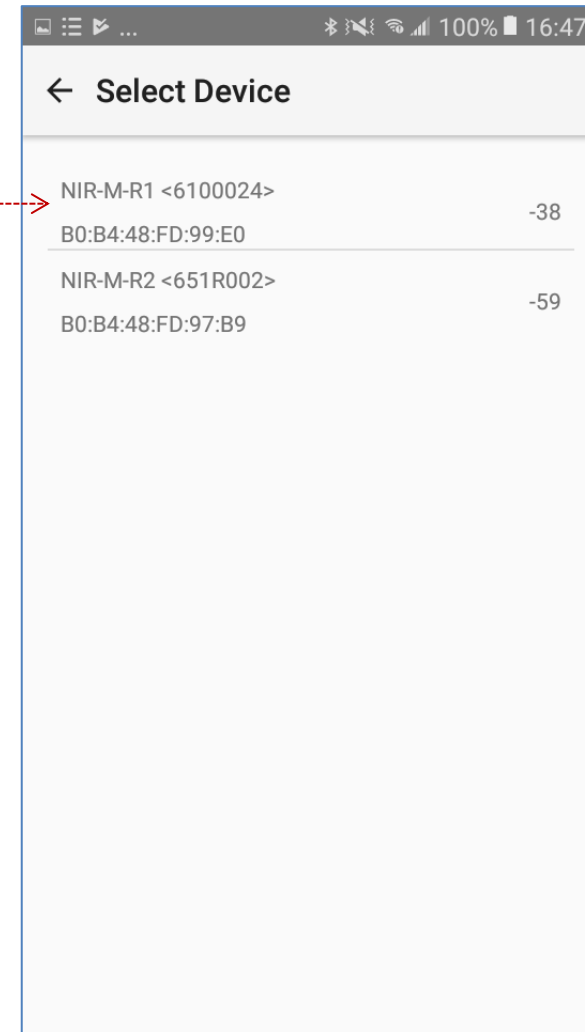
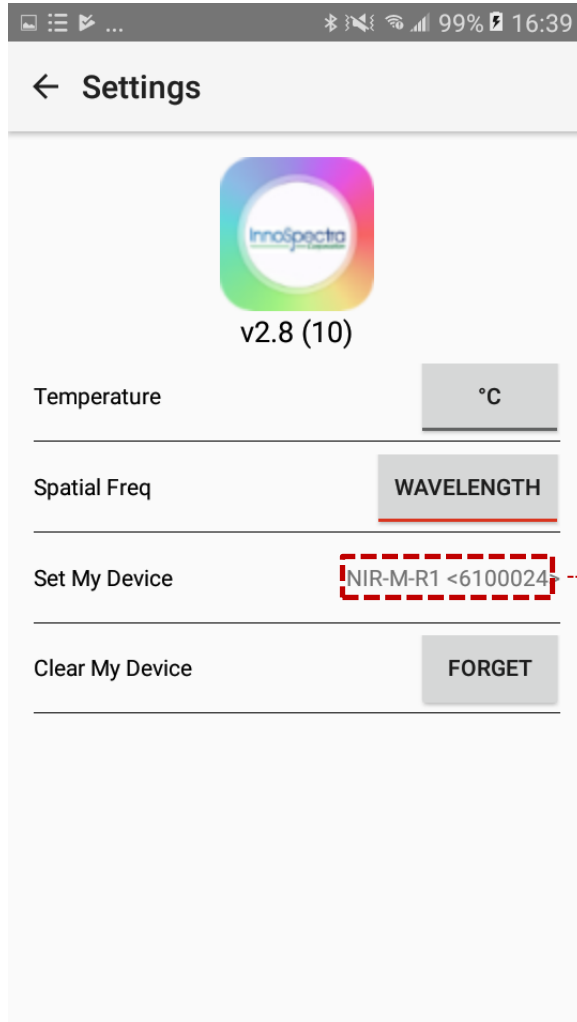
# INTRODUCTION

# Main Page



# Select the device

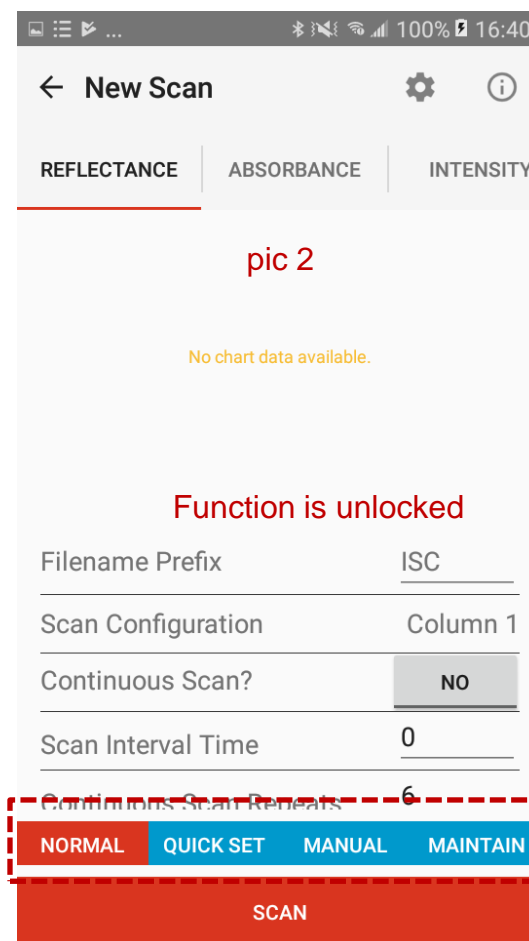
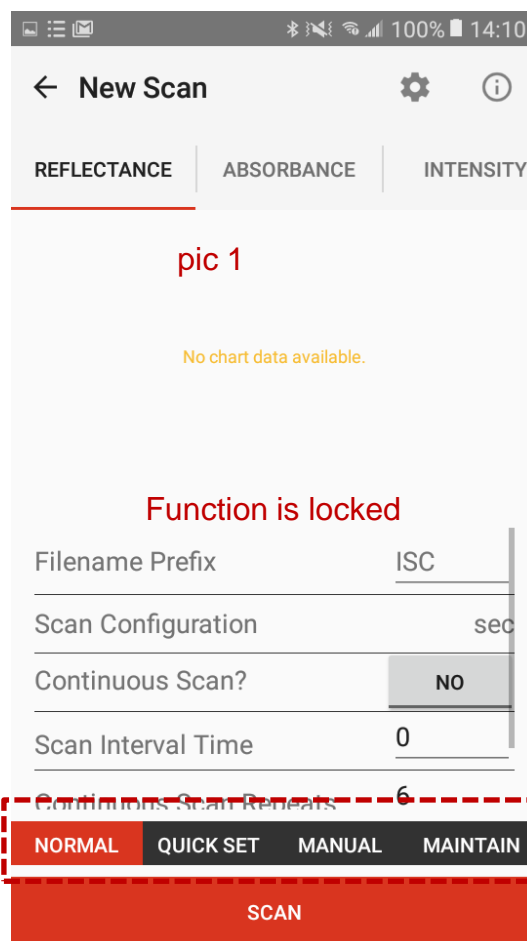
- First user should go to setting page from main page and select the device.



Press to select device

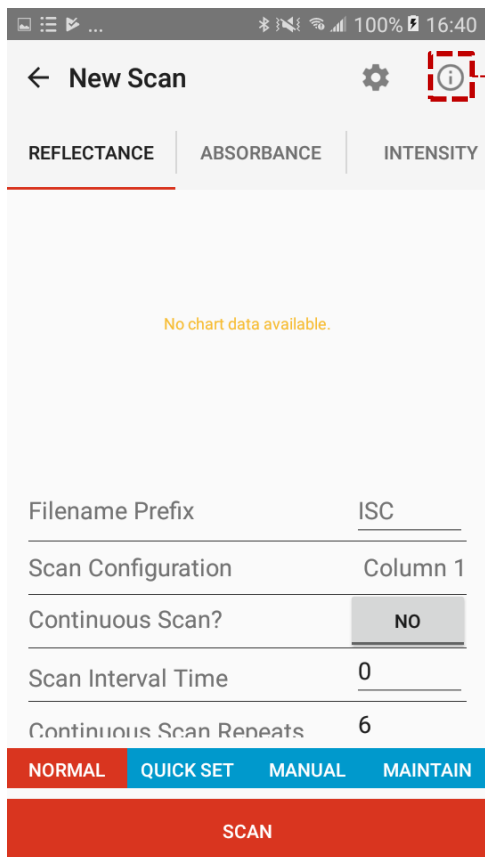
# Connect to Device

- 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 unactive 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

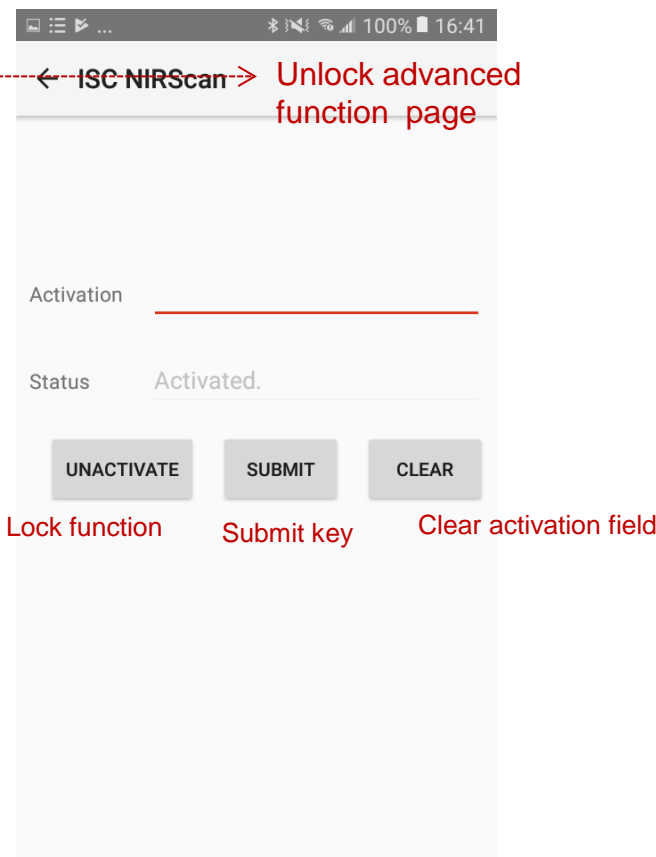
Continuous Scan?: NO

Scan Interval Time: 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

# How to Unlock Advanced Function

- Step 1: Press button to go to activation key page. User can see the status is “Function is locked”.
- Step 2: Input key then press “SUBMIT”. The status will change to “Activated” when user input correct key.
- Step3: Back to scan page. The function will unlock.

← New Scan

REFLECTANCE | ABSORBANCE | INTENSITY

**Step 1**

No chart data available.

Filename Prefix: ISC

Scan Configuration: sec

Continuous Scan?: NO

Scan Interval Time: 0

Continuous Scan Repeats: 6

**Function is locked**

NORMAL | QUICK SET | MANUAL | MAINTAIN

SCAN

← ISC NIRScan

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

Status: Function is locked.

UNACTIVATE | SUBMIT | CLEAR

**Activation key page**

← ISC NIRScan

**Step 2**

Activation: 4cee48a45b5918a86a28a7a8

Status: Activated

UNACTIVATE | SUBMIT | CLEAR

← New Scan

REFLECTANCE | ABSORBANCE | INTENSITY

**Step 3**

No chart data available.

Filename Prefix: ISC

Scan Configuration: Column 1

Continuous Scan?: NO

Scan Interval Time: 0

Continuous Scan Repeats: 6

**Function is unlocked**

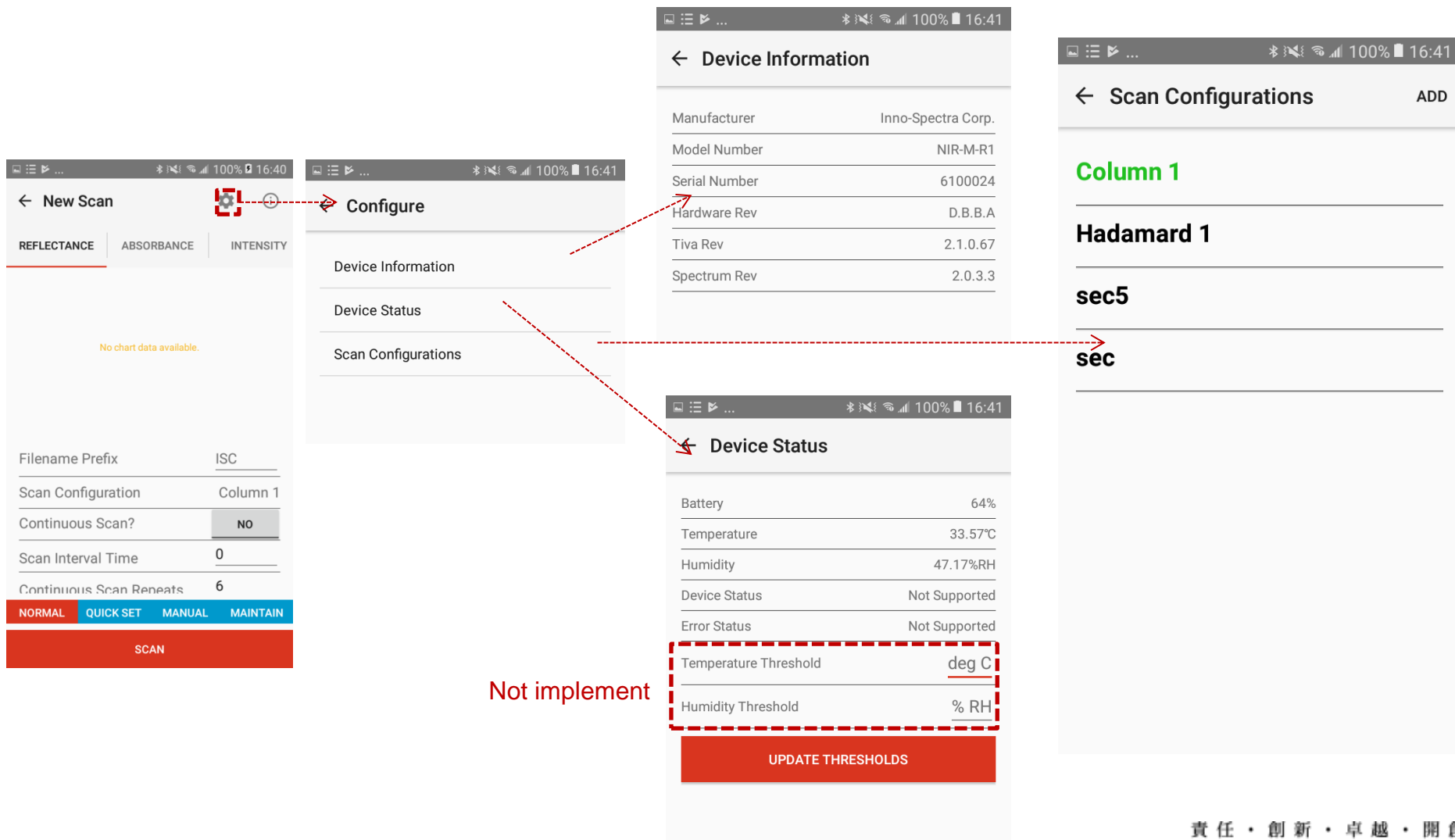
NORMAL | QUICK SET | MANUAL | MAINTAIN

SCAN



# Configure Page

- User can go to configure page from scan page.



The image displays a sequence of mobile app screens for the InnoSpectra device configuration. Red dashed arrows indicate the navigation flow from the 'New Scan' screen to the 'Configure' screen, and then to the 'Device Information', 'Device Status', and 'Scan Configurations' screens.

**New Scan Screen:** Shows tabs for REFLECTANCE, ABSORBANCE, and INTENSITY. A 'No chart data available.' message is present. Below are input fields for Filename Prefix (ISC), Scan Configuration (Column 1), Continuous Scan? (NO), Scan Interval Time (0), and Continuous Scan Repeats (6). At the bottom are buttons for NORMAL, QUICK SET, MANUAL, and MAINTAIN, and a large red SCAN button.

**Configure Screen:** A menu with three options: Device Information, Device Status, and Scan Configurations. Red dashed arrows point from these options to their respective detail screens.

**Device Information Screen:** Displays the following details:
 

Manufacturer	Inno-Spectra Corp.
Model Number	NIR-M-R1
Serial Number	6100024
Hardware Rev	D.B.B.A
Tiva Rev	2.1.0.67
Spectrum Rev	2.0.3.3

**Device Status Screen:** Displays the following status information:
 

Battery	64%
Temperature	33.57°C
Humidity	47.17%RH
Device Status	Not Supported
Error Status	Not Supported

 Below this is a section for thresholds, which is highlighted with a red dashed box and labeled 'Not implement':
 

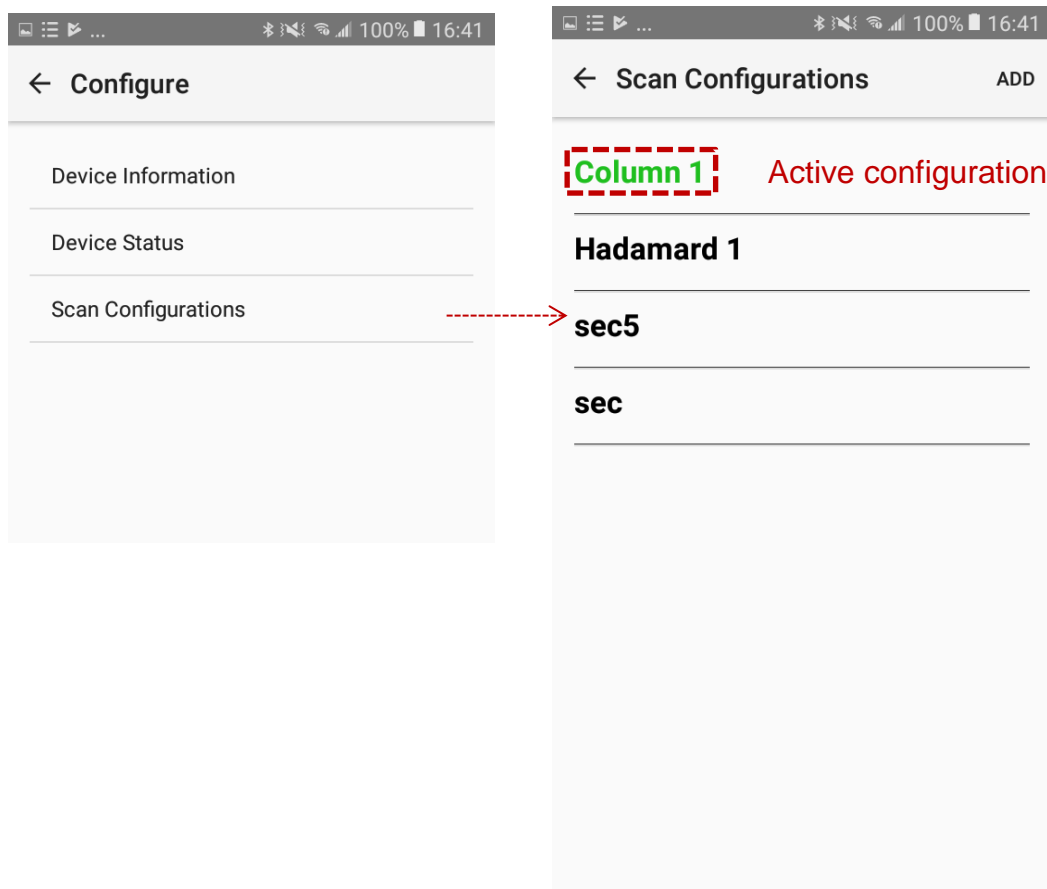
Temperature Threshold	deg C
Humidity Threshold	% RH

 At the bottom is a red button labeled 'UPDATE THRESHOLDS'.

**Scan Configurations Screen:** Shows a list of configurations. The first entry is 'Column 1' with a value of 'Hadamard 1' and a unit of 'sec5'. The second entry is 'sec'.

# 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

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

NORMAL    QUICK SET    MANUAL    MAINTAIN

SCAN

Select plot method

Select scan method

Scan data

← Configure

Device Information

Device Status

Scan Configurations

ISC NIRScan    Unlock function page

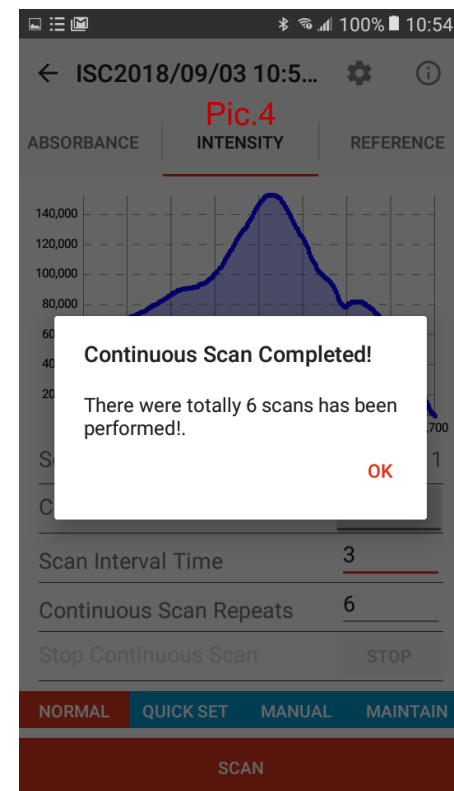
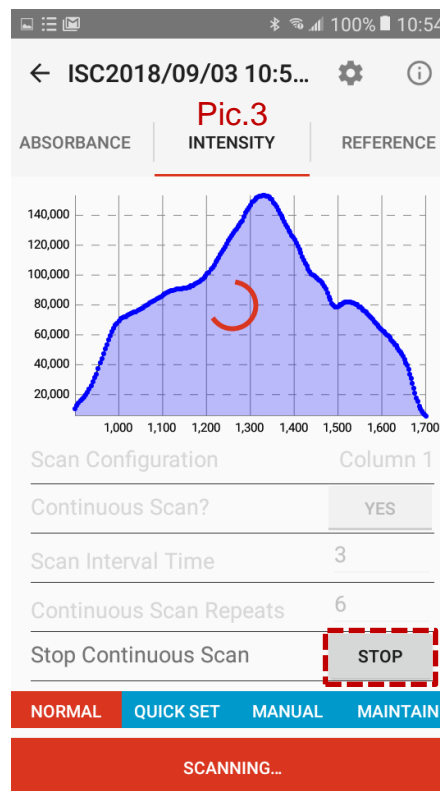
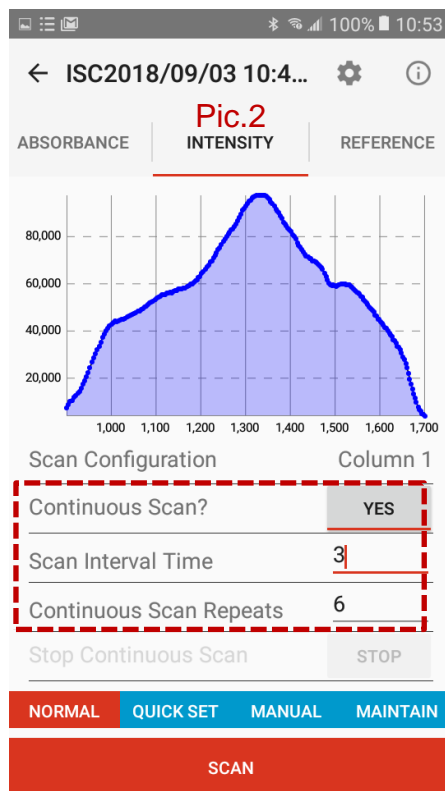
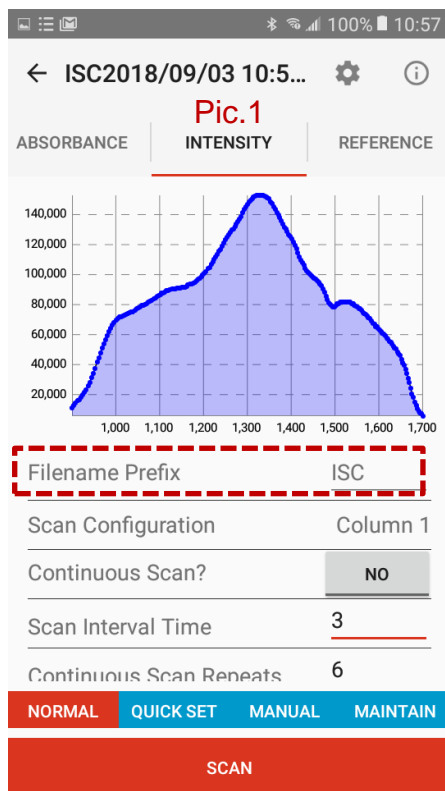
Activation

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).



- The image displays four sequential screenshots of the 'New Scan' interface in the SpectraLab app, illustrating the configuration process. Each screenshot shows a top navigation bar with a back arrow, the title 'New Scan', and settings/info icons. Below the navigation bar are three tabs: REFLECTANCE, ABSORBANCE, and INTENSITY. The main area contains a message 'No chart data available.' and a list of configuration parameters. The bottom of each screen features a row of four buttons: NORMAL, QUICK SET, MANUAL, and MAINTAIN, and a large red 'SCAN' button at the very bottom.

  - Screenshot 1:** Shows the 'New Scan' screen with the 'QUICK SET' button highlighted.
  - Screenshot 2:** Shows the 'New Scan' screen with the 'SET' button highlighted.
  - Screenshot 3:** Shows the 'New Scan' screen with the 'SET' button highlighted.
  - Screenshot 4:** Shows the 'New Scan' screen with the 'SET' button highlighted and a red dashed box around the 'Continuous Scan Mode' and 'Scan Interval Time' settings.

The configuration parameters shown in the screenshots are:

  - Lamp-Stable Time(ms): 625
  - Scan Method: Column
  - Spectral Start (nm): 900
  - Spectral End (nm): 1700
  - Scan Width (nm): 2.34
  - Scan Width (nm): 2.34
  - D-Res. (pts, max:447): 15
  - Average Scans (times): 6
  - Exposure Time (ms): 0.635
  - Continuous Scan Mode: OFF
  - Continuous Scan Mode: OFF
  - Scan Interval Time: 0
  - Continuous Scan Repeats: 6
  - Stop Continuous Scan: STOP
  - Set all config: SET
  - Continuous Scan Mode: ON
  - Scan Interval Time: 0
  - Continuous Scan Repeats: 6
  - Stop Continuous Scan: STOP
  - Set all config: SET

# 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

Continuous 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

Continuous 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

Continuous Scan Repeats 6

Scan Configuration Column 1

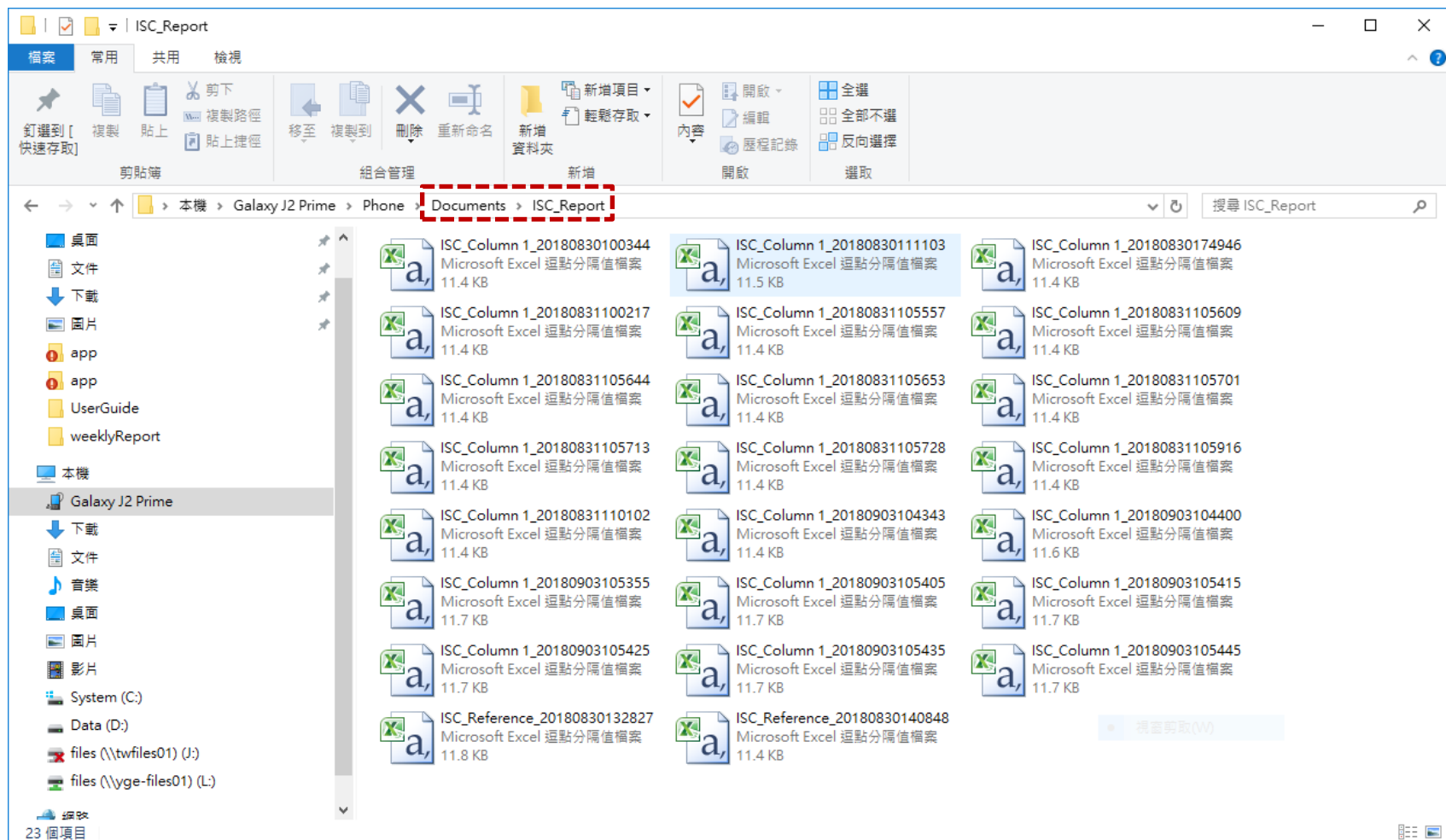
NORMAL QUICK SET MANUAL MAINTAIN

SCAN



# .CSV file

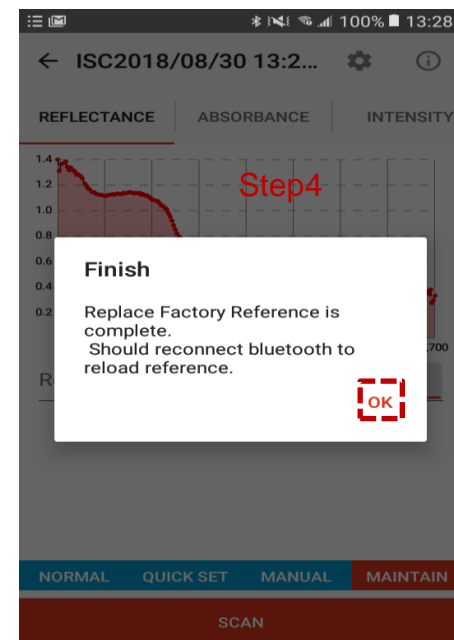
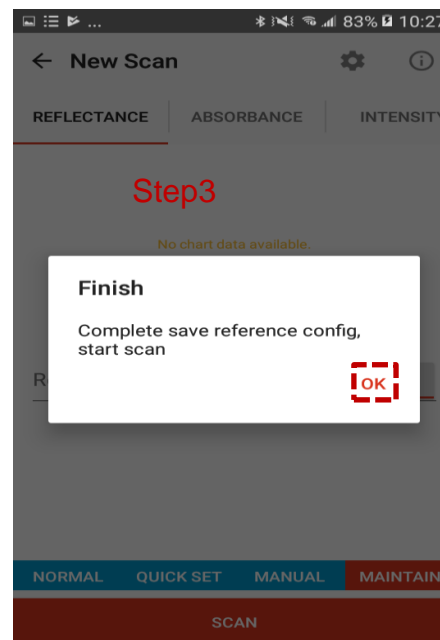
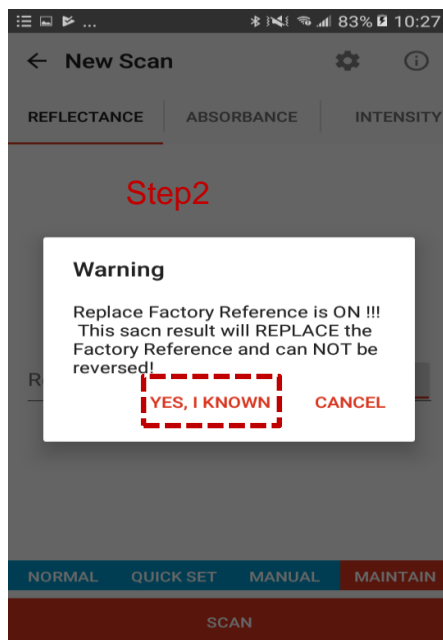
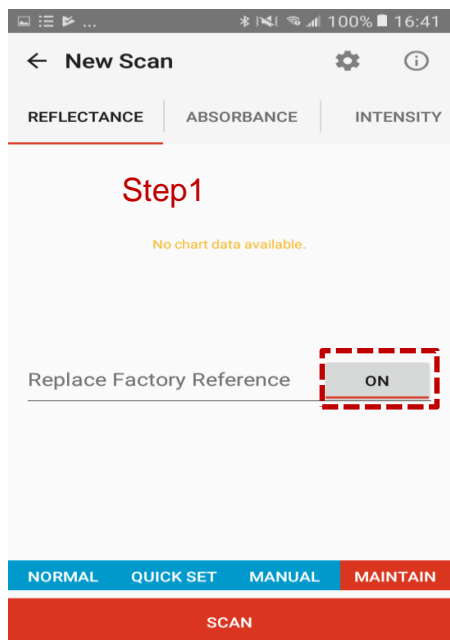
- After scan, the scan report (.csv file) will save to Documents/ISC\_Report.
- The phone should use USB to connect PC and find the file.



# 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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