

# ISC NIRScan GUI User's Guide

Feb. 4, 2020

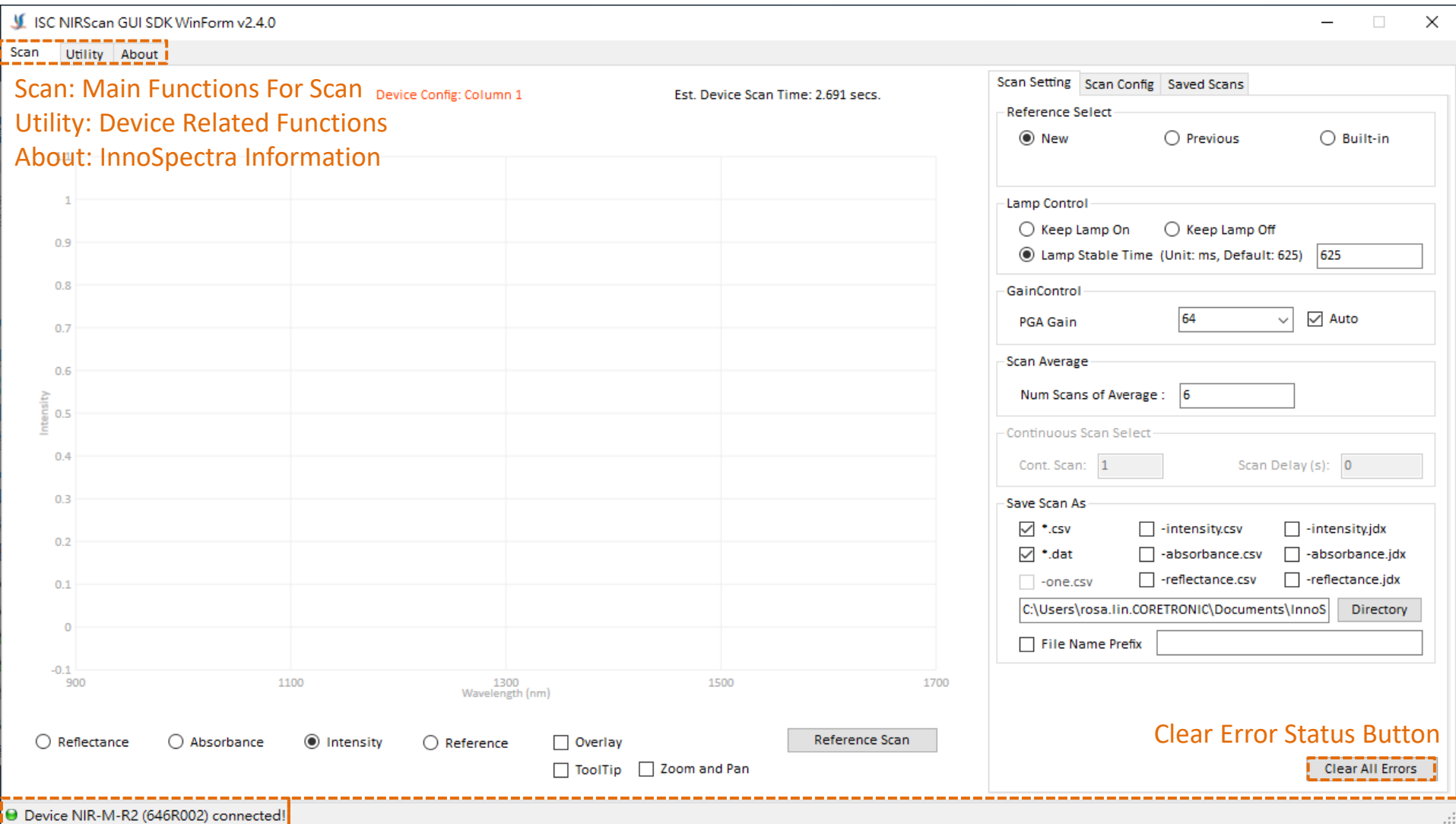
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- Introduction
- Performing A Scan
- Update Built-in Reference Data
- Firmware Update

# INTRODUCTION

# Main Window



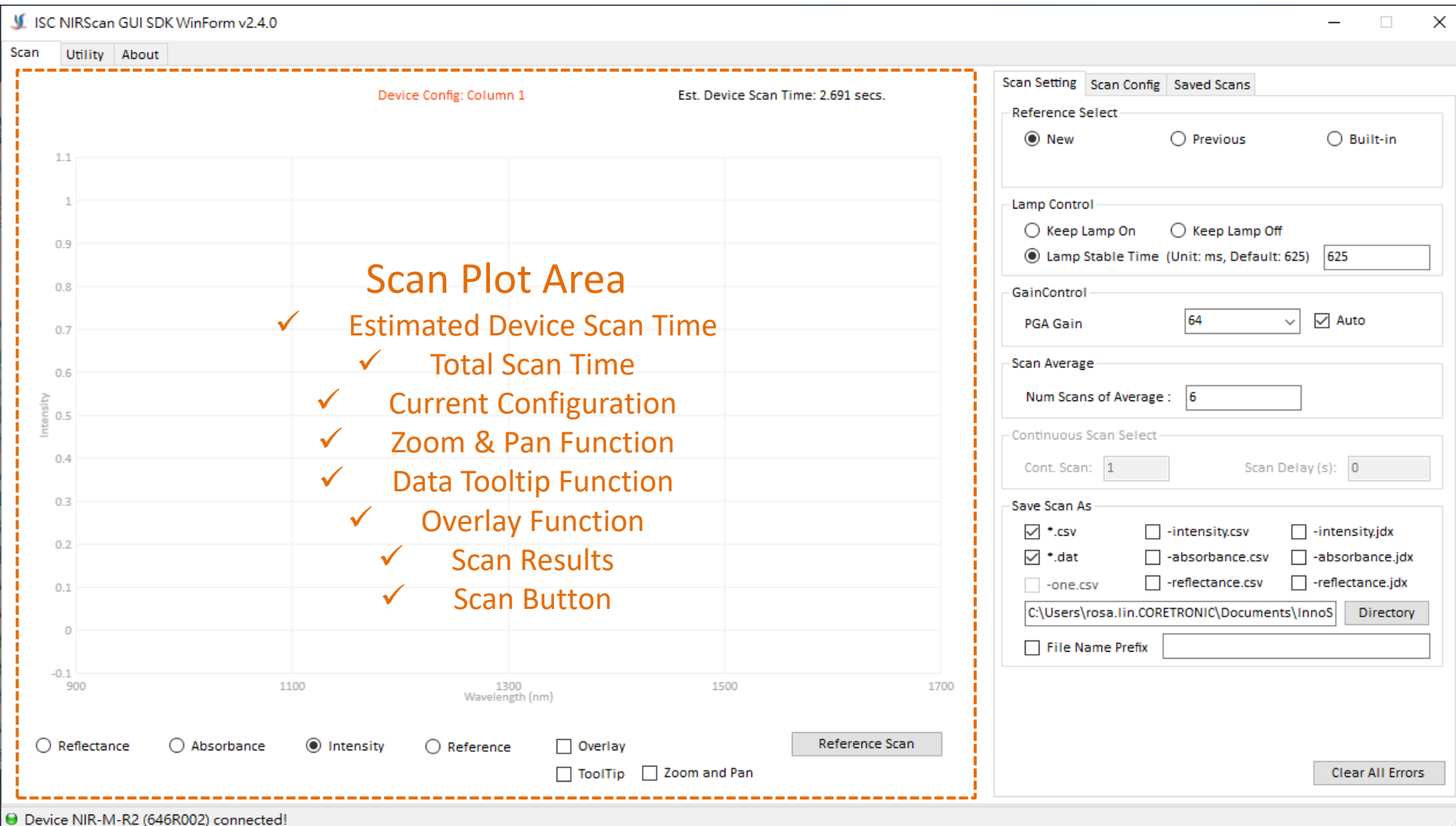
Device Status

Device Error Status

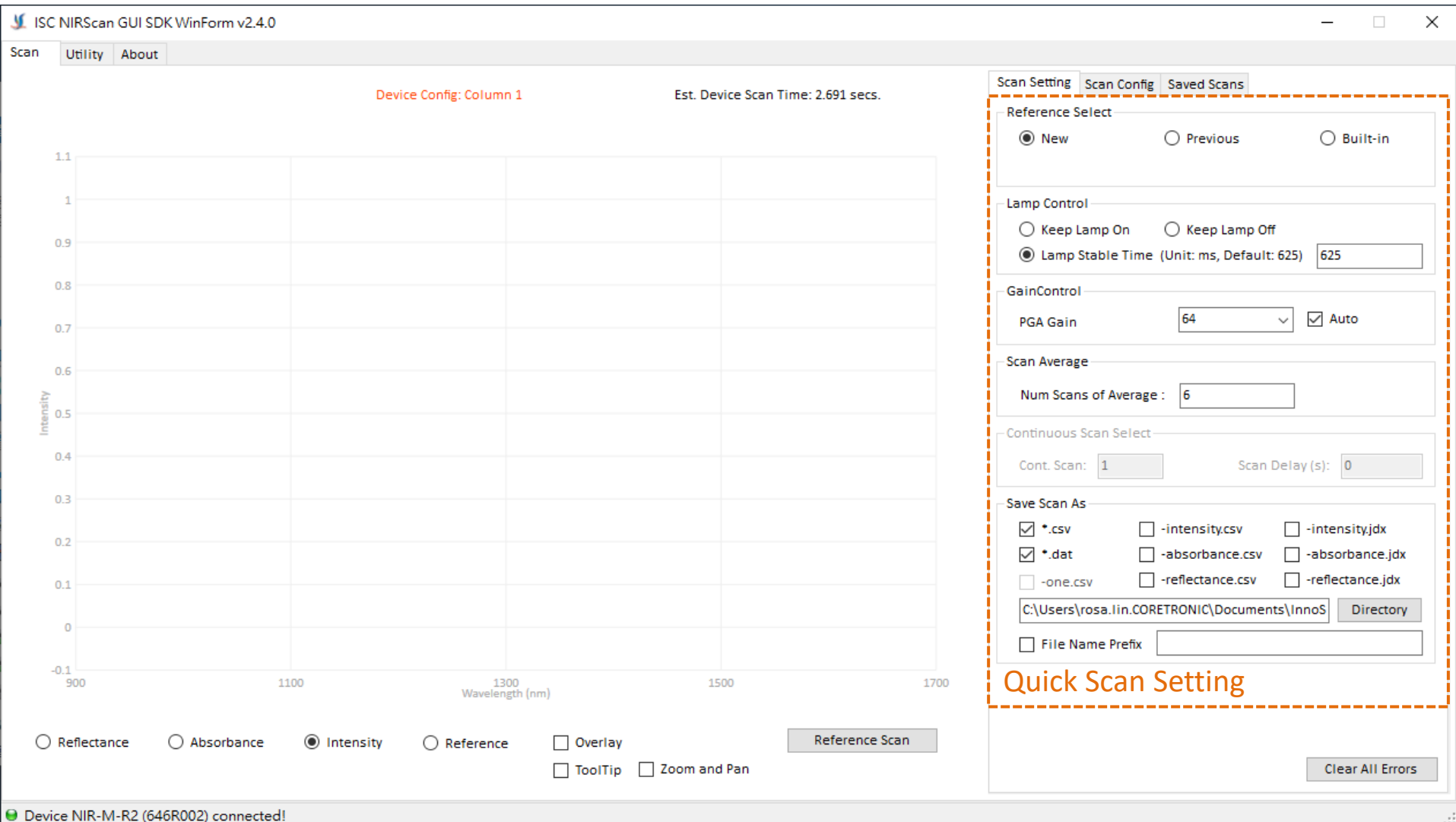
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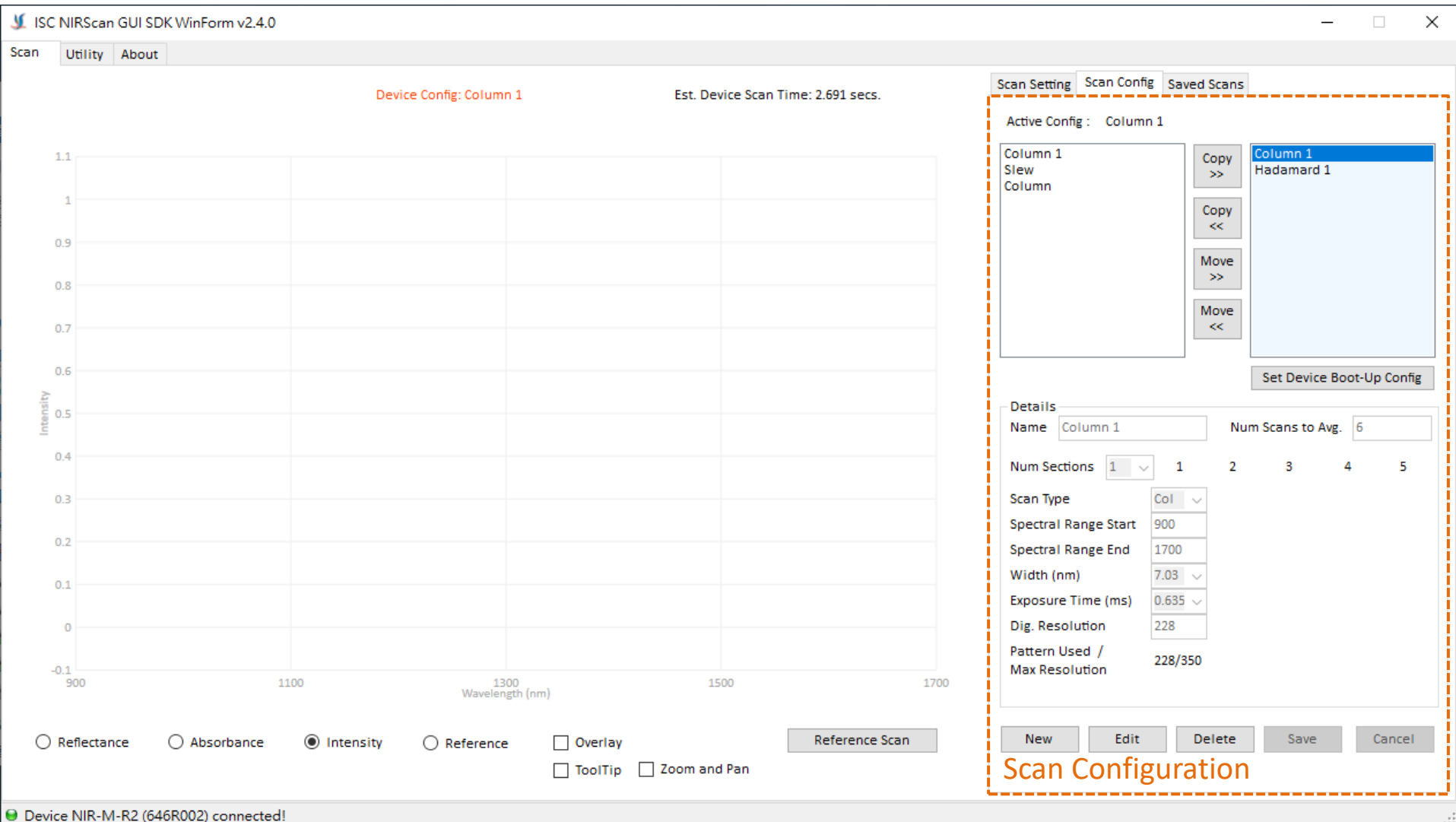
# Scan Page



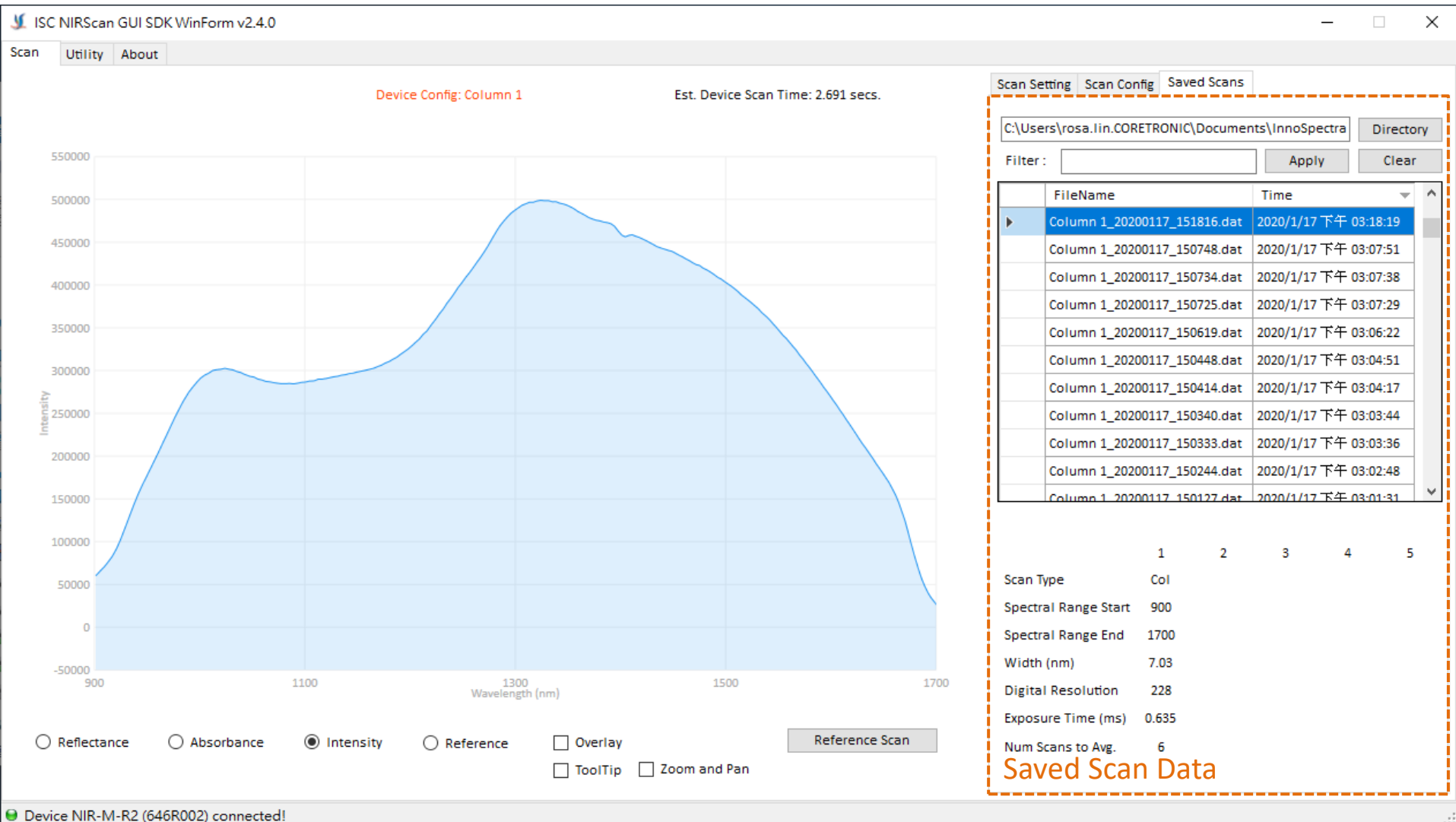
# Scan Page



# Scan Page



# Scan Page





# Utility Page

ISC NIRScan GUI SDK WinForm v2.4.0

Scan Utility About

Model Name

Serial Number

Date and Time

Lamp Usage

 (hours)

TIVA Firmware Update

File Name

DLPC150 Firmware Update

File Name

Device Information

GUI Version	2.4.0
Tiva SW Version	2.4.1
DLPC Flash Version	2.2.0
Main Board Version	D
Detector Board Version	B
Model Name	NIR-M-R2
Device Serial Number	646R002

- Model Name:** Allows regex "a-zA-Z0-9\_-" to set, and  $\leq 16$  characters.
- Serial Number:** Allows regex "a-zA-Z0-9\_-" to set, and  $\leq 8$  characters.
- Date and Time:** Because there is no RTC battery in the device, the system time is written when the GUI is initialized.
- Lamp Usage:** According to the module to determine whether the lamp usage can be read or write.

Lamp Intensity

Shift Vect Coeff 0

☐ Write Enable Shift Vect Coeff 1

Shift Vect Coeff 2

Status : Activated!

Device

Reset System

Backup Factory Reference

Update Reference Data

Restore Factory Reference

Button Status: Unlocked!

Bluetooth LE Advertising Name

Device NIR-M-R2 (646R002) connected!

# Utility Page

ISC NIRScan GUI SDK WinForm v2.4.0

Scan Utility About

Model Name

Set Get

Serial Number

Set Get

Date and Time

Sync Get

Lamp Usage

 (hours)

Set Get

Sensors

Battery Changer Status

Battery Capacity

System Humidity

System Temp

Tiva Temp

Lamp Intensity

Read

Bluetooth LE Advertising Name

Default Set Get

TIVA Firmware Update

File Name  \*.bin

Browse

Update

DLPC150 Firmware Update

File Name  \*.img

Browse

Update

Device Information

GUI Version	2.4.0
Tiva SW Version	2.4.1
DLPC Flash Version	2.2.0
Main Board Version	D
Detector Board Version	B
Model Name	NIR-M-R2
Device Serial Number	646R002
umber	95UB114GC0V646F002
	DE:67:0C:88:67:2D:6A:21
	5min 48sec

Activation Key

Key  Set Clear

Status : Activated! Manage

Device

Reset System Reset

Backup Factory Reference BackUp

Update Reference Data Update

Restore Factory Reference Restore

Button Status: Unlocked! Lock Unlock

• TIVA Firmware Update: Binary File for main board.

• DLPC150 Firmware Update: Image File for detector board.

Scan Cfg Ver : 0 Pix-Wave Coeff 2

Shift Vect Coeff 0

☐ Write Enable Shift Vect Coeff 1

Write Generic Shift Vect Coeff 2

Restore Factory Calibration Data Read Coeffs Write Coeffs

Device NIR-M-R2 (646R002) connected!

# Utility Page

- **Device Information:** Display all information about firmware and hardware.

ISC NIRScan GUI SDK WinForm v2.4.0

Scan Utility About

Model Name

Serial Number

TIVA Firmware Update

File Name

DLPC150 Firmware Update

File Name

Date and Time

Lamp Usage

 (hours)

Sensors

Battery Changer Status

Battery Capacity

System Humidity

System Temp

Tiva Temp

Lamp Intensity

Calibration Coefficients

Cal Coeff Ver : 0 Pix-Wave Coeff 0

Ref Cal Ver : 0 Pix-Wave Coeff 1

Scan Cfg Ver : 0 Pix-Wave Coeff 2

Shift Vect Coeff 0

☐ Write Enable Shift Vect Coeff 1

Shift Vect Coeff 2

Device Information

GUI Version	2.4.0
Tiva SW Version	2.4.1
DLPC Flash Version	2.2.0
Main Board Version	D
Detector Board Version	B
Model Name	NIR-M-R2
Device Serial Number	646R002
Manufacturing Serial Number	95UB114GC0V646F002
Device UUID	DE:67:0C:88:67:2D:6A:21
Lamp Usage	5min 48sec

Activation Key

Key

Status : Activated!

Device

Reset System

Backup Factory Reference

Update Reference Data

Restore Factory Reference

Button Status: Unlocked!

Bluetooth LE Advertising Name

Device NIR-M-R2 (646R002) connected!

# Utility Page

ISC NIRScan GUI SDK WinForm v2.4.0

Scan Utility About

Model Name

Set Get

Serial Number

Set Get

TIVA Firmware Update

File Name  Browse

Date and Time

Sync Get

Lamp Usage

 (hours)
 

Set Get

DLPC150 Firmware Update

File Name  Browse

Device Information

GUI Version	2.4.0
Tiva SW Version	2.4.1
DLPC Flash Version	2.2.0
Main Board Version	D
Detector Board Version	B
Model Name	NIR-M-R2
Device Serial Number	646R002
Manufacturing Serial Number	95UB114GCV646F002
Device UUID	DE:67:0C:88:67:2D:6A:21
Lamp Usage	5min 48sec

Sensors

Battery Changer Status

Battery Capacity

System Humidity

System Temp

Tiva Temp

Lamp Intensity

Calibration Coefficients

Cal Coeff Ver :	0	Pix-Wave Coeff 0	<input type="text"/>
Ref Cal Ver :	0	Pix-Wave Coeff 1	<input type="text"/>
Scan Cfg Ver :	0	Pix-Wave Coeff 2	<input type="text"/>
		Shift Vect Coeff 0	<input type="text"/>
<input type="checkbox"/> Write Enable		Shift Vect Coeff 1	<input type="text"/>
<input type="button" value="Write Generic"/>		Shift Vect Coeff 2	<input type="text"/>

Activation Key

Key  Set Clear

Status : Activated!

Device

Reset System

Backup Factory Reference

Update Reference Data

Restore Factory Reference

Button Status: Unlocked!

• **Battery Status:** If a Lithium-Ion or Lithium polymer single cell battery is connected.

• **Humidity / HDC Temperature:** Reads by the **HDC1010** in the Main Board.

• **Tiva Temperature:** Reads by the **Tiva internal sensor** in the Main Board.

• **Lamp Intensity:** Reads the value of the lamp output.

Device NIR-M-R2 (646R002) connected!

# Utility Page

ISC NIRScan GUI SDK WinForm v2.4.0

Scan Utility About

Model Name:  Set Get

Serial Number:  Set Get

Date and Time:  Sync Get

Lamp Usage:  (hours) Set Get

Sensors

Battery Changer Status

Battery Capacity

System Humidity

System Temp

Tiva Temp

Lamp Intensity

Read

TIVA Firmware Update

File Name:  Browse

Update

Device Information

GUI Version	2.4.0
Tiva SW Version	2.4.1
DLPC Flash Version	2.2.0
Main Board Version	D
Detector Board Version	B
Model Name	NIR-M-R2
Device Serial Number	646R002
Manufacturing Serial Number	95UB114GC0V646F002
Device UUID	DE:67:0C:88:67:2D:6A:21
Lamp Usage	5min 48sec

Activation Key

Key:  Set Clear

Status: Activated! Manage

Device

Reset System Reset

Backup Factory Reference BackUp

Bluetooth LE Advertising Name

Default Set Get

Device NIR-M-R2 (646R002) connected!

### Calibration Coefficient Parameter Mapping

- Pixel to Wavelength:  $ax^2 + bx + c$
- Shift Vector:  $dy^2 + ey + f$

Calibration Coefficients		
Cal Coeff Ver :	0	Pix-Wave Coeff 0 <input type="text" value="c"/>
Ref Cal Ver :	0	Pix-Wave Coeff 1 <input type="text" value="b"/>
Scan Cfg Ver :	0	Pix-Wave Coeff 2 <input type="text" value="a"/>
		Shift Vect Coeff 0 <input type="text" value="f"/>
<input type="checkbox"/> Write Enable		Shift Vect Coeff 1 <input type="text" value="e"/>
<input type="button" value="Write Generic"/>		Shift Vect Coeff 2 <input type="text" value="d"/>
<input type="button" value="Restore Factory Calibration Data"/> <input type="button" value="Read Coeffs"/> <input type="button" value="Write Coeffs"/>		

When "Write Enable "checked, user can set the coefficients to the device.

- Write Generic:** Set the default coefficients to the device.
- Restore Factory Calibration Data:** The three conditions should be reached.
  - The Tiva version of device  $\geq 2.1.0.67$
  - The device is activated.
  - The factory calibration data has save in the device.
- Read Coeffs:** Read coefficients from the device.
- Write Coeffs:** Write coefficients to the device.

# Utility Page

ISC NIRScan GUI SDK WinForm v2.4.0

Scan Utility About

Model Name

Serial Number

TIVA Firmware Update

File Name

DLPC150 Firmware Update

File Name

Device Information

GUI Version	2.4.0
Tiva SW Version	2.4.1
DLPC Flash Version	2.2.0
Main Board Version	D
Detector Board Version	B
Model Name	NIR-M-R2
Device Serial Number	646R002
Manufacturing Serial Number	95UB114GC0V646F002
Device UUID	DE:67:0C:88:67:2D:6A:21
Lamp Usage	5min 48sec

Date and Time

Lamp Usage

 (hours)

Sensors

Battery Changer Status

Battery Capacity

System Humidity

System Temp

Tiva Temp

Lamp Intensity

Calibration Coefficients

Cal Coeff Ver :	0	Pix-Wave Coeff 0	<input type="text"/>
Ref Cal Ver :	0	Pix-Wave Coeff 1	<input type="text"/>
Scan Cfg Ver :	0	Pix-Wave Coeff 2	<input type="text"/>
		Shift Vect Coeff 0	<input type="text"/>
<input type="checkbox"/> Write Enable		Shift Vect Coeff 1	<input type="text"/>
<input type="button" value="Write Generic"/>		Shift Vect Coeff 2	<input type="text"/>

Bluetooth LE Advertising Name

Activation Key

Key

Status : Activated!

Button Status: Unlocked!

Device NIR-M-R2 (646R002) connected!

- **Key Activated Functions:** Lamp Usage Set/Get, Restore Default Calibration Coefficients, Bluetooth LE Advertising Name Set/Get, Button Status Lock/Unlock
- **Key Not Activated:** None

# Utility Page

ISC NIRScan GUI SDK WinForm v2.4.0

Scan Utility About

Model Name

Serial Number

TIVA Firmware Update

File Name

Date and Time

Lamp Usage

 (hours)

DLPC150 Firmware Update

File Name

Sensors

Battery Changer Status

Battery Capacity

System Humidity

System Temp

Tiva Temp

Lamp Intensity

Calibration Coefficients

Cal Coeff Ver : 0 Pix-Wave Coeff 0

Ref Cal Ver : 0 Pix-Wave Coeff 1

Scan Cfg Ver : 0 Pix-Wave Coeff 2

Shift Vect Coeff 0

☐ Write Enable Shift Vect Coeff 1

Shift Vect Coeff 2

Device Information

GUI Version	2.4.0
Tiva SW Version	2.4.1
DLPC Flash Version	2.2.0
Main Board Version	D
Detector Board Version	B
Model Name	NIR-M-R2
Device Serial Number	646R002
Manufacturing Serial Number	95UB114GC0V646F002
Device UUID	DE:67:0C:88:67:2D:6A:21
Lamp Usage	5min 48sec

Activation Key

Key

Status : Activated!

Device

Reset System

Backup Factory Reference

Update Reference Data

Restore Factory Reference

Button Status: Unlocked!

Bluetooth LE Advertising Name

Bluetooth LE Advertising Name Set/Get: Set the advertising name to device, and get or read default the advertising name from the device.

Device NIR-M-R2 (646R002) connected!

# Utility Page

ISC NIRScan GUI SDK WinForm v2.4.0

Scan Utility About

Model Name

Serial Number

TIVA Firmware Update

File Name

DLPC150 Firmware Update

File Name

Device Information

GUI Version	2.4.0
Tiva SW Version	2.4.1
DLPC Flash Version	2.2.0
Main Board Version	D
Detector Board Version	B
Model Name	NIR-M-R2
Device Serial Number	646R002
Manufacturing Serial Number	95UB114GC0V646F002
Device UUID	DE:67:0C:88:67:2D:6A:21
Lamp Usage	5min 48sec

Date and Time

Lamp Usage

 (hours)

Sensors

Battery Changer Status

Battery Capacity

System Humidity

System Temp

Tiva Temp

Lamp Intensity

Calibration Coefficients

Cal Coeff Ver :	0	Pix-Wave Coeff 0	<input type="text"/>
Ref Cal Ver :	0	Pix-Wave Coeff 1	<input type="text"/>
Scan Cfg Ver :	0	Pix-Wave Coeff 2	<input type="text"/>
		Shift Vect Coeff 0	<input type="text"/>
<input type="checkbox"/> Write Enable		Shift Vect Coeff 1	<input type="text"/>
<input type="button" value="Write Generic"/>		Shift Vect Coeff 2	<input type="text"/>

Bluetooth LE Advertising Name

Activation Key

Key

Status : Activated!

Device

Reset System

Backup Factory Reference

Update Reference Data

Restore Factory Reference

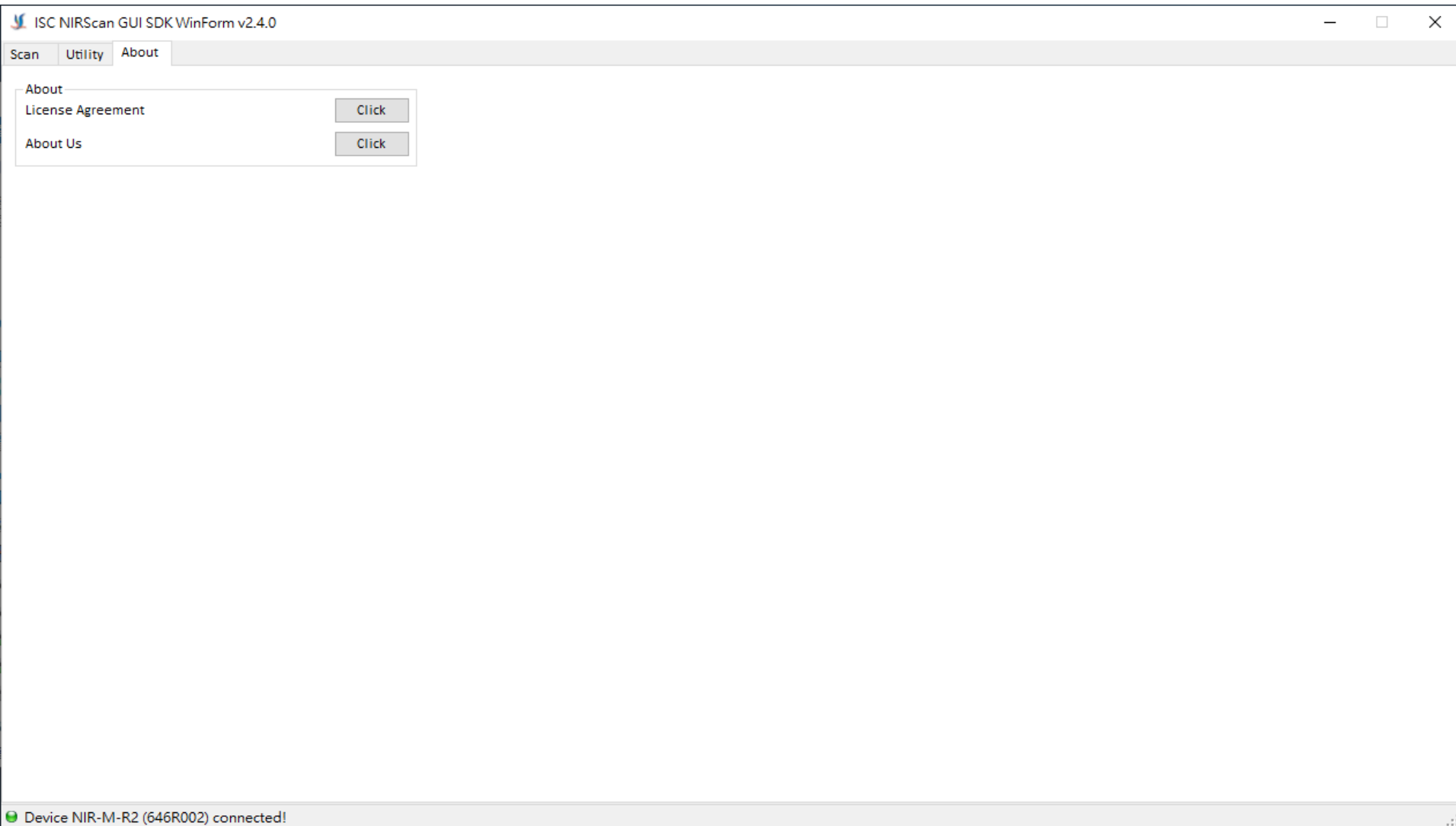
  

Button Status: Unlocked!

- **Reset System:** Reset firmware and application software.
- **Update Reference Data:** Replace factory reference data to customized reference data.
- **Backup/Restore:** Only can backup or restore factory reference data.
- **Button Lock/Unlock:** Lock or unlock the button on the device.



# Help



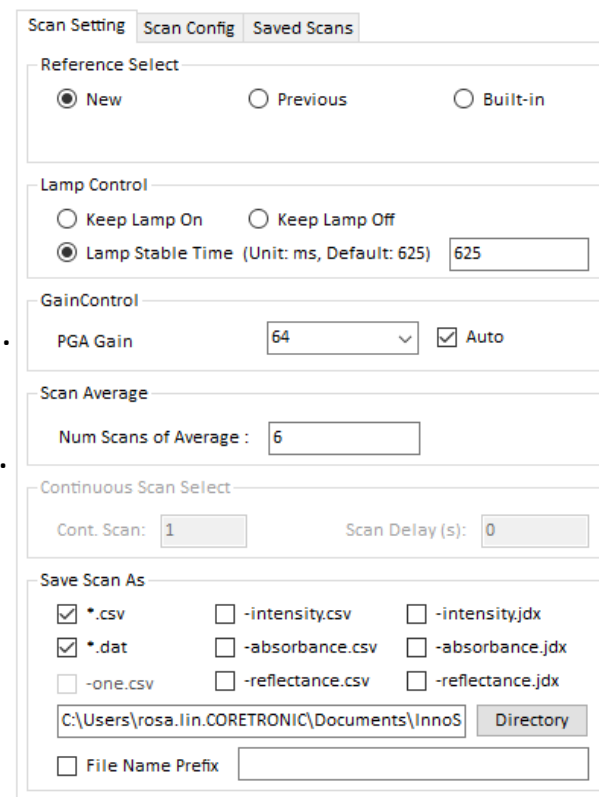
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# PERFORMING A SCAN

# Scan Setting

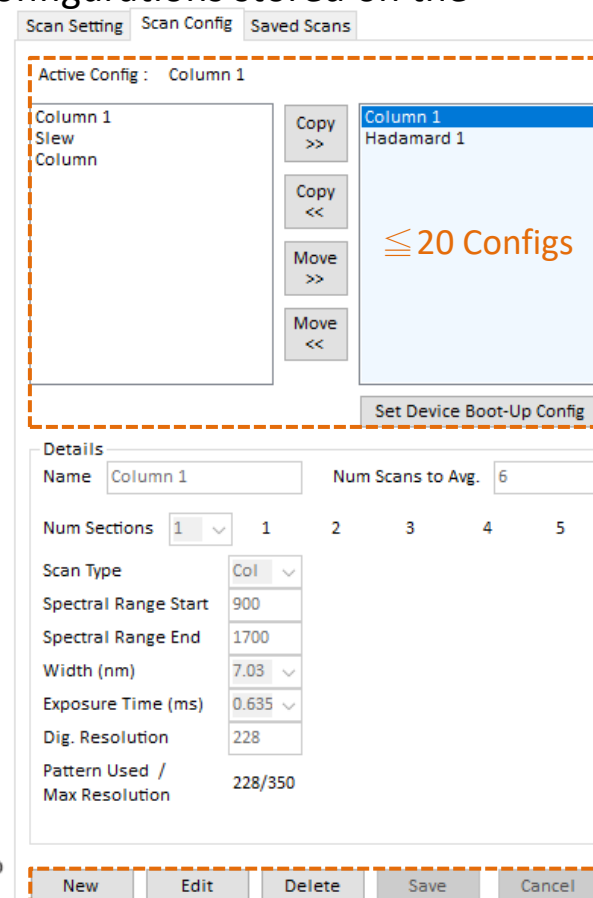
- **Reference Selection:** Allows the user to choose the reference for the absorbance or reflectance graph. The reference options include:
  - Built-In: Interpolates the reference stored on TIVA EEPROM at the factory to match the current scan configuration parameters.
  - Previous: Choose the reference from the previous use of the “New” option.
  - New: Place a highly reflective material like a metal coated with Spectralon on the sample window and perform a scan. This new scan is stored on the PC and can then be selected with the “Previous” reference radio button.
- **Lamp Control:** Controls lamp on/off and lamp stable time. When “Lamp Stable Time” is selected, user can set lamp stable time to extend lamp stabilization. This allows the user to avoid any lamp stability issues and reduce lamp wear caused by turning on and off the lamps, as well as the additional time needed to wait for the lamps to stabilize before executing a scan.
- **Scan Average:** Allow the user to change average times.
- **Gain Control:** Allows the user to choose the gain setting for scan.
  - Auto: System will calculate a suitable gain value.
  - Fixed: User select one gain value.
- **Continue Scan:** Allows the user to do auto repeat scan.
- **Save Scan As:** Allows the user to save which kind of file and where to store them.



The screenshot shows the 'Scan Setting' window of the InnoSpectra software. It features several tabs: 'Scan Setting' (selected), 'Scan Config', and 'Saved Scans'. The 'Reference Select' section has three radio buttons: 'New' (selected), 'Previous', and 'Built-in'. The 'Lamp Control' section has two radio buttons: 'Keep Lamp On' and 'Keep Lamp Off', with 'Lamp Stable Time' selected. A text box next to 'Lamp Stable Time' shows '625' with '(Unit: ms, Default: 625)' in parentheses. The 'GainControl' section has a 'PGA Gain' dropdown set to '64' and a checked 'Auto' checkbox. The 'Scan Average' section has a 'Num Scans of Average' text box set to '6'. The 'Continuous Scan Select' section has a 'Cont. Scan' text box set to '1' and a 'Scan Delay (s)' text box set to '0'. The 'Save Scan As' section has checkboxes for file formats: '\*.csv' (checked), '\*.dat' (checked), and '-one.csv' (unchecked). There are also checkboxes for file types: '-intensity.csv', '-absorbance.csv', and '-reflectance.csv' (all unchecked), and corresponding '.jdx' files. A text box shows the save directory: 'C:\Users\rosa.lin\CORETRONIC\Documents\InnoS', with a 'Directory' button next to it. At the bottom, there is a 'File Name Prefix' checkbox and an empty text box.

# Scan Configuration

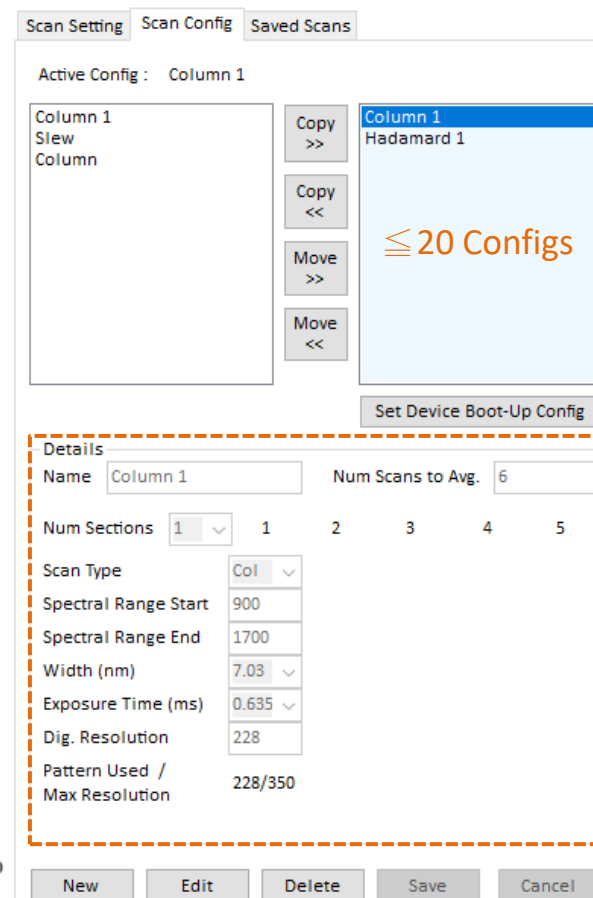
- Local configuration saved to the PC. Device configuration saved on the device at most 20 sets.
- Built-in configurations: **Column 1, Hadamard 1.**
- *Italic* is the system boot-up configuration which can be set from “*Set Device Boot-Up Config*” button.
- The “Copy” and “Move” buttons allow copying or moving scan configurations stored on the PC to the device or **from the device to the PC.**
- Single click one configuration that can display data to the Details block.
- Double click one configuration that can set to the device, and display with orange color.
- “New” button can create a configuration.
- “Edit” button can edit the selected configuration.
- **“Delete” button can delete the selected configuration.**
- “Save” button can save editing to local or device.
- “Cancel” button can quit editing without saving.



The screenshot shows the 'Scan Configuration' window with three tabs: 'Scan Setting', 'Scan Config', and 'Saved Scans'. The 'Scan Config' tab is active, showing a list of configurations on the left and a details panel on the right. The 'Active Config' is 'Column 1'. The details panel shows the configuration name 'Column 1', 'Slew', and 'Column'. The 'Num Sections' is set to 1. The 'Scan Type' is 'Col'. The 'Spectral Range Start' is 900, 'Spectral Range End' is 1700, 'Width (nm)' is 7.03, 'Exposure Time (ms)' is 0.635, 'Dig. Resolution' is 228, and 'Pattern Used / Max Resolution' is 228/350. The 'Num Scans to Avg.' is 6. The 'Set Device Boot-Up Config' button is visible. The bottom of the window has buttons for 'New', 'Edit', 'Delete', 'Save', and 'Cancel'.

# Scan Configuration

- **Name:** Configuration name which display to the list.
- **Number of Scans to Average:** This is the repeated continuous scans that are averaged together.
- **Number of Sections:** A scan can be broken up into 1 ~ 5 sections. Each section can have individual set of the following parameters:
  - **Scan Type:**
    - Column: Selects one wavelength at a time.
    - Hadamard: Creates a set with several wavelengths multiplexed at a time and then decodes the individual wavelengths.
  - **Spectral Range (nm):** Start and End wavelengths or spectral range of interest for the scan between 900 nm to 1700 nm.
  - **Width (nm):** This number selects the width of the groups of pixels in the generated **Column** or **Hadamard** patterns.
  - **Exposure Time (ms):** The exposure time can be individually set for each section in the range of **0.635ms** to **60.960ms**.
  - **Digital resolution:** This number defines how many wavelength points are captured across the defined spectral range. Each wavelength point corresponds to a pattern that is displayed on the DMD.
- **Total Patterns Used:** The GUI computes the maximum number of wavelength points and indicates then in the bottom of each section. The total maximum number of patterns for all sections of a scan is 624.



The screenshot shows the 'Scan Config' tab of the InnoSpectra software. It displays a list of configurations on the left and a detailed view of the 'Column 1' configuration on the right. The detailed view includes fields for Name, Num Scans to Avg., Num Sections, Scan Type, Spectral Range Start/End, Width (nm), Exposure Time (ms), Dig. Resolution, and Pattern Used / Max Resolution. A dashed orange box highlights the detailed configuration fields.

Active Config : Column 1

Column 1  
Slew  
Column

Copy >>  
Copy <<  
Move >>  
Move <<

Column 1  
Hadamard 1

≤ 20 Configs

Set Device Boot-Up Config

Details

Name: Column 1 Num Scans to Avg.: 6

Num Sections: 1 1 2 3 4 5

Scan Type: Col

Spectral Range Start: 900

Spectral Range End: 1700

Width (nm): 7.03

Exposure Time (ms): 0.635

Dig. Resolution: 228

Pattern Used / Max Resolution: 228/350

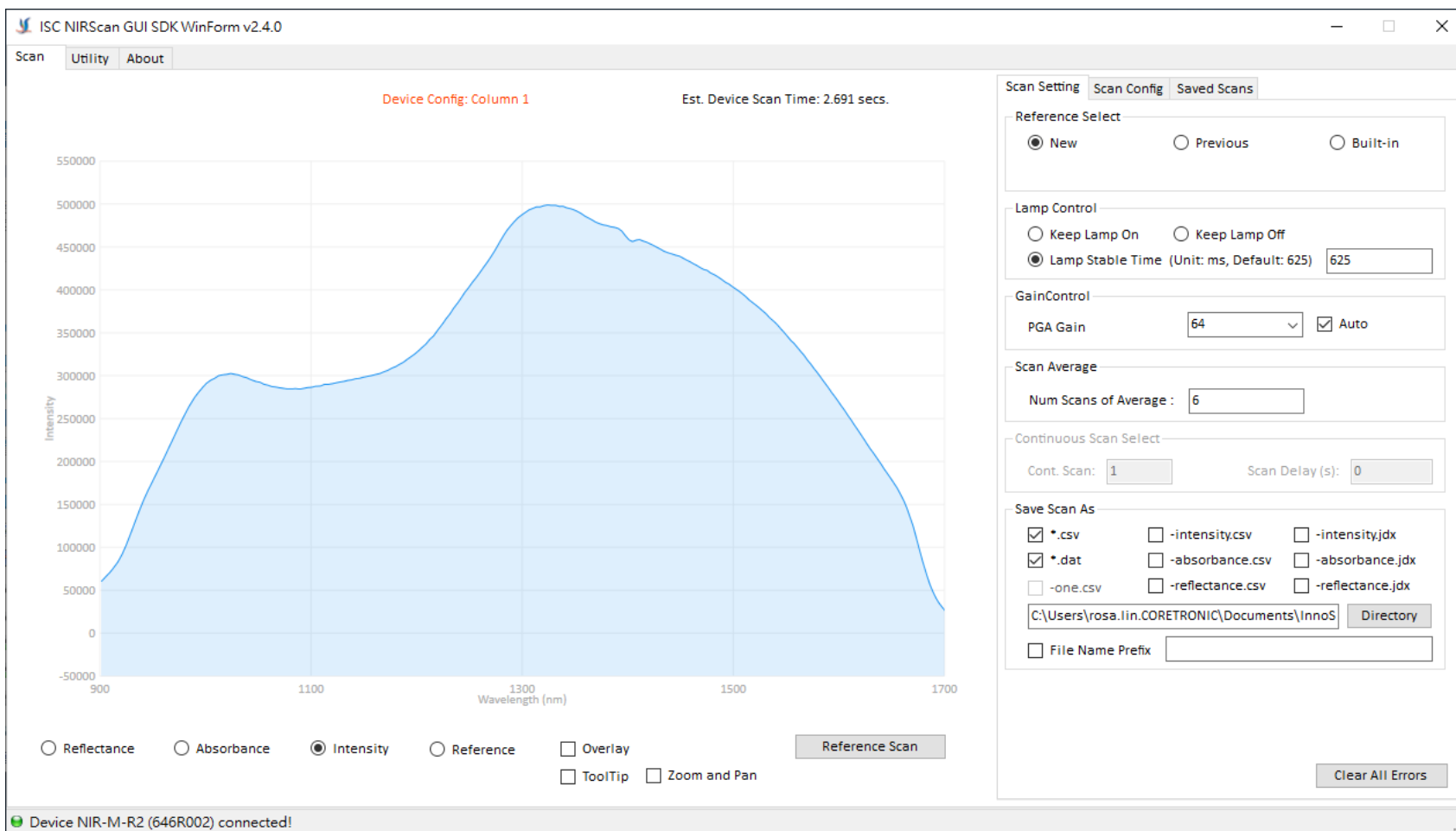
New Edit Delete Save Cancel

# Create A Scan Configuration

1. Select one of the local or device configuration. The background color of selected configuration list will be set to blue color.
2. Click “New” button.
3. Enter the configuration name.
4. Enter the number of scans to average for corresponding back-to-back scans averaged together.
5. Enter the number of sections. The section number doesn’t exceed 5 sections. Sections can overlap in start and end wavelengths.
6. For each section:
  - a. Select the scan type: column or hadamard.
  - b. Type in the desired spectral range between 900 and 1700 nm.
  - c. Select the width that corresponds to the smallest wavelength content that you want to resolve.
  - d. Enter the desired exposure time.
  - e. Enter the desired digital resolution which is number of wavelength points captured across the spectral range.
7. After saving the configuration, it will synchronize to Configuration List.

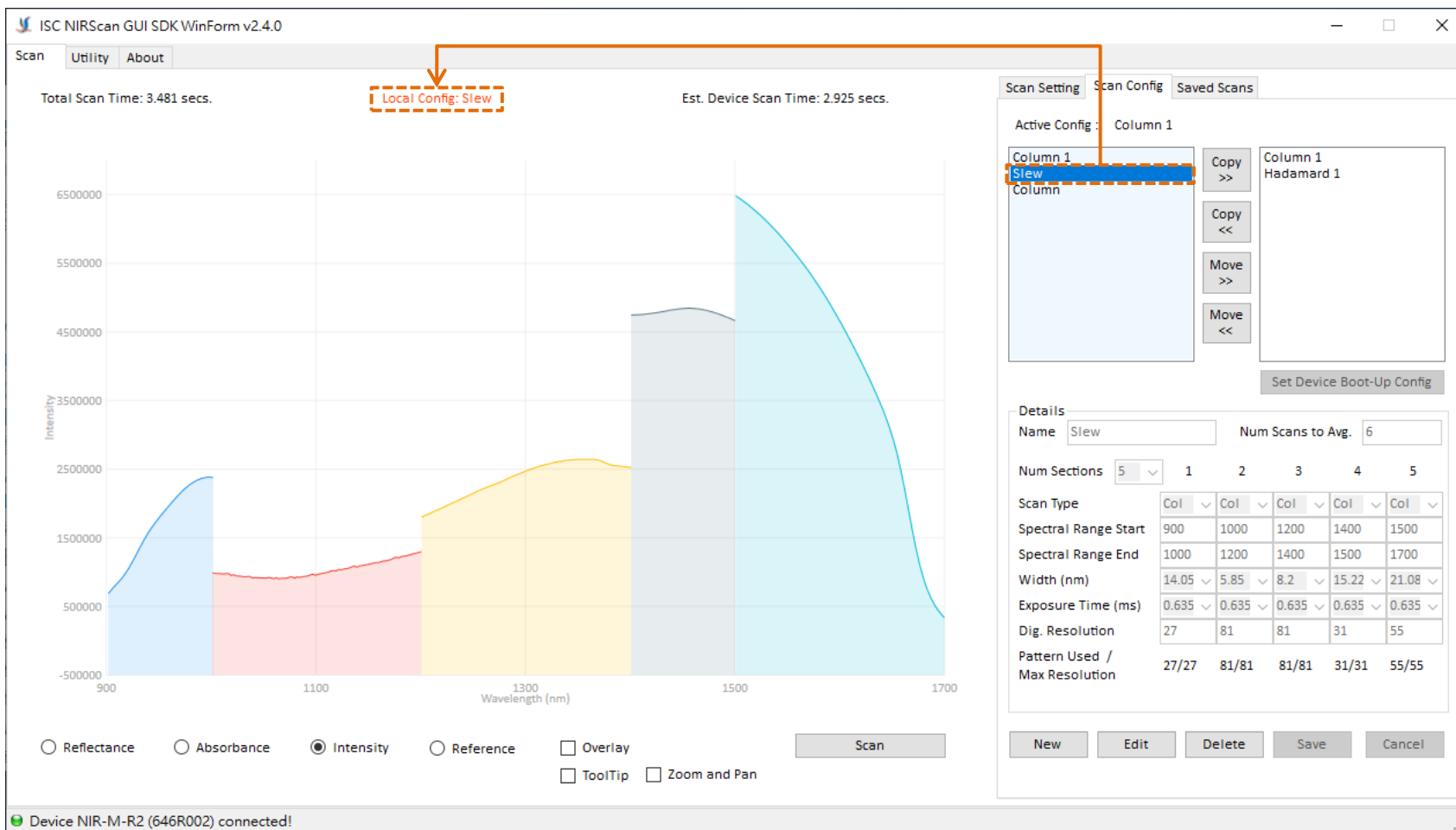
# Scanning A Local Reference

- Select a configuration and double click to set to the device.
- Select “New” reference to perform a scan.
- This new scan is stored on the PC and then can be selected with the “Previous” reference radio button.



# Scanning A Sample

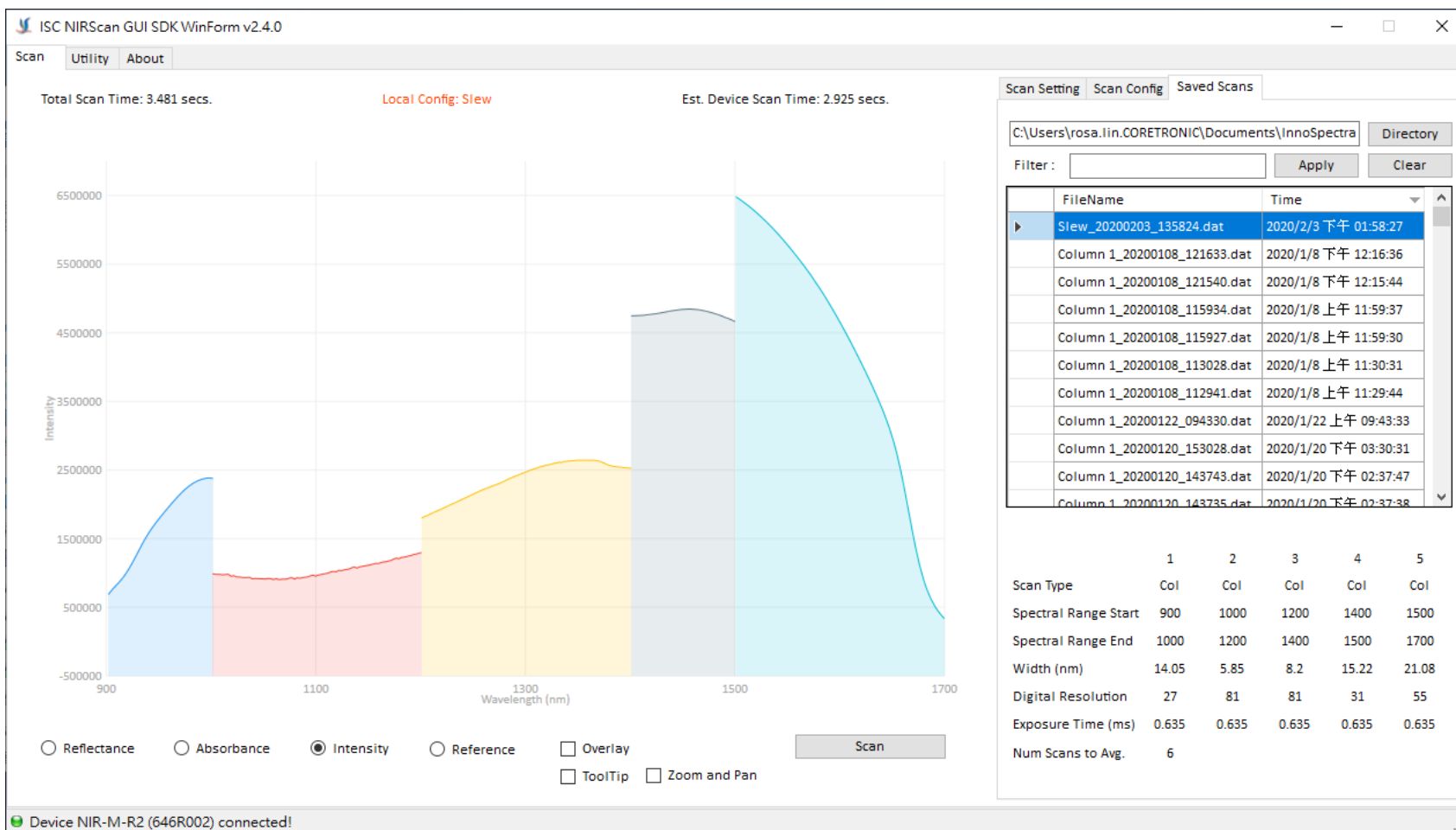
- Select a configuration and double click to set to the device.
- Select the reference from built-in or previous.
- The location of the scan is saved under the “Save Scan As.”
- Click “Scan” button to perform a new scan.





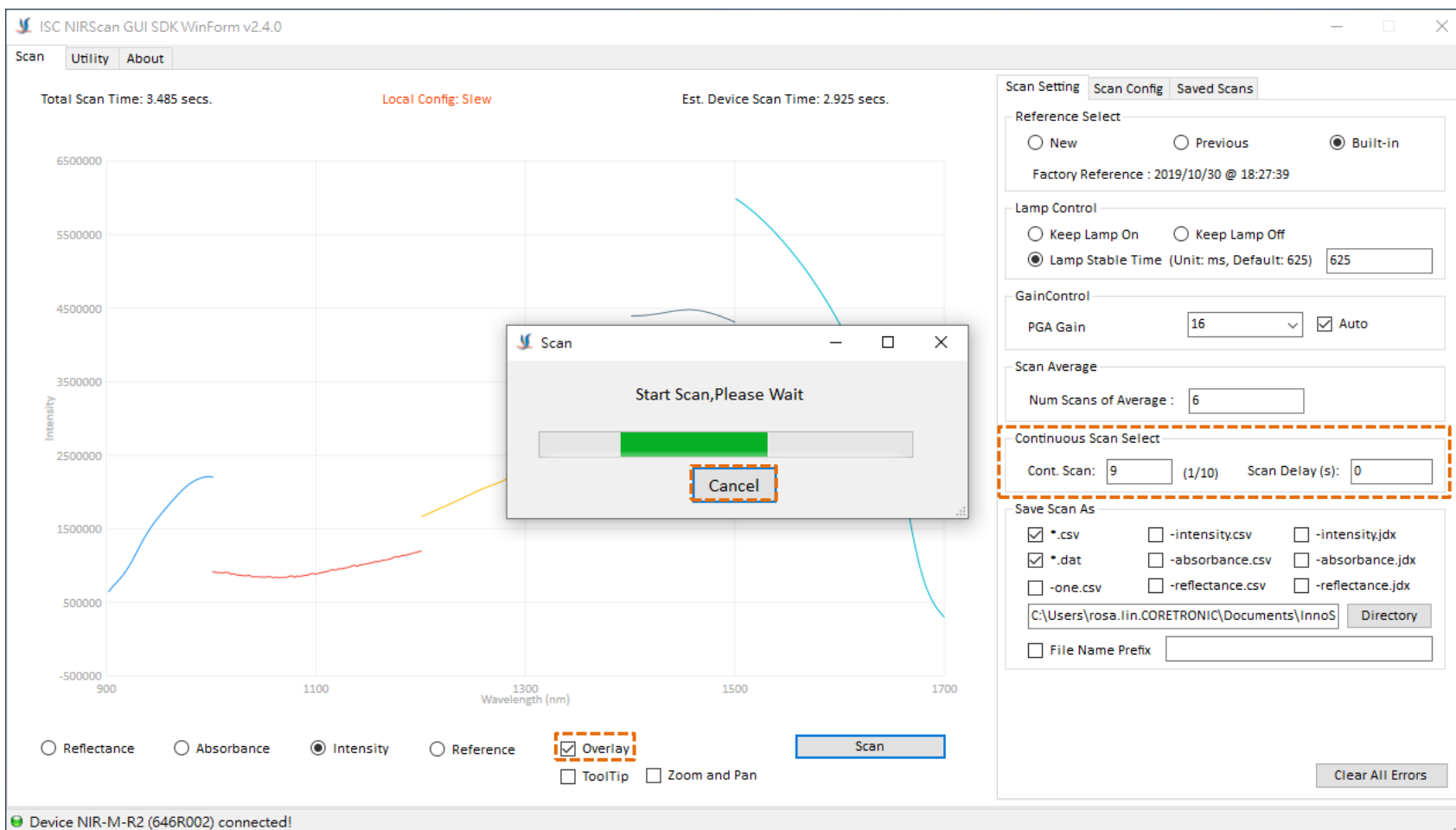
# Saved Scans

- To display previous scans, select “Saved Scans” tab. The files are stored with the name of the scan configuration and date and time of the scan.
- To plot a file, select one of the files as shown in below.
- The “Saved Scans” tab can read the file offline.



# Continuous Scan

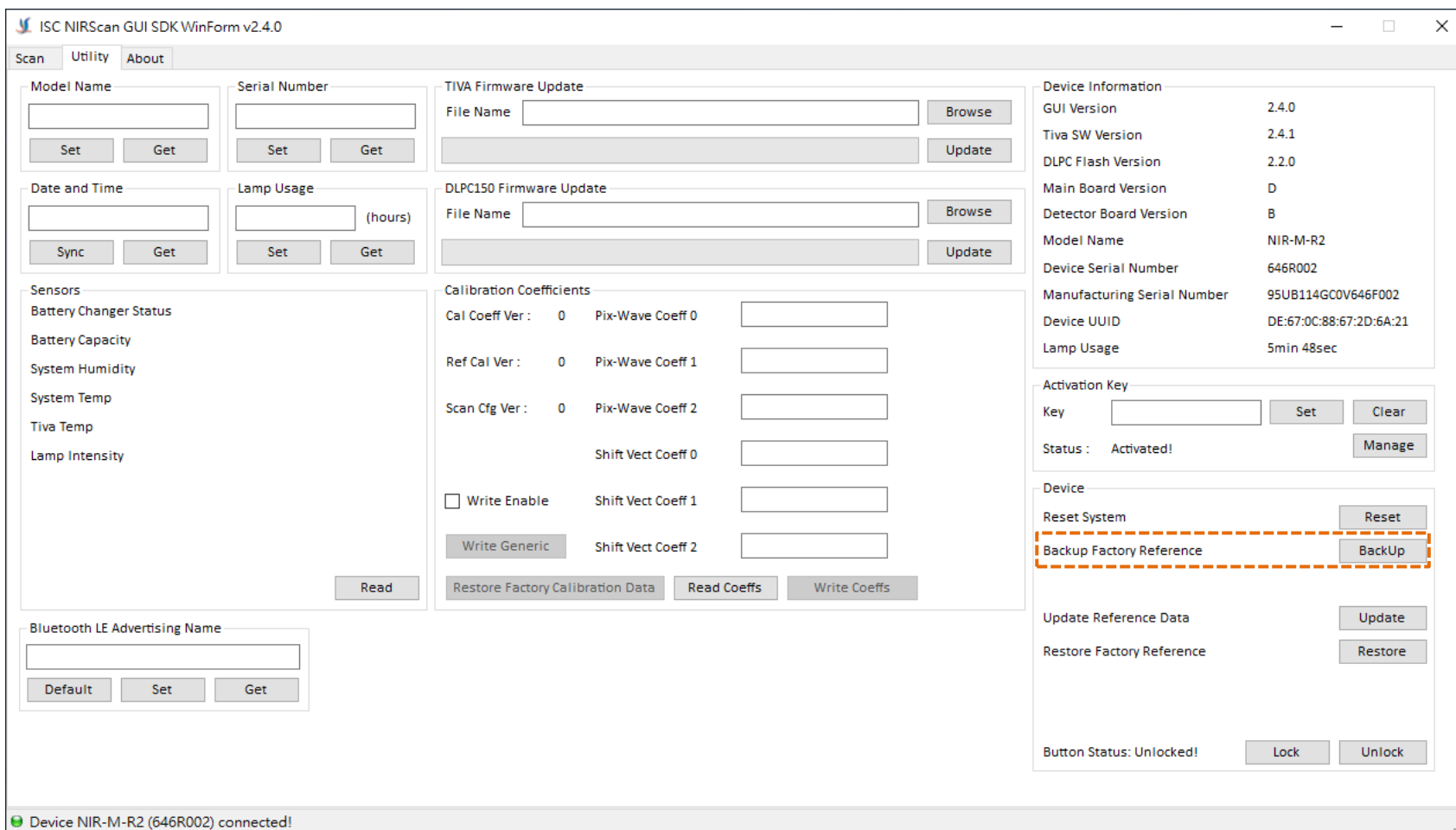
- In addition to a single scan also provides continuous scanning, and can overlay the scan results to view trends.
- Input the number of Continuous Scans and Scan Delay Time, and click “Scan” button to perform scans. Press “Cancel” to stop continuous scan if user wants.



# UPDATE BUILT-IN REFERENCE DATA

# Backup Factory Reference

- This function only backs up the factory reference data and can not be executed once the built-in reference data has been modified.
- Before replacing device's factory reference data, user needs to back up the data. This data will be saved to the PC.



The screenshot displays the ISC NIRScan GUI SDK WinForm v2.4.0 interface. The 'Utility' tab is selected, showing various device configuration and status sections. The 'Backup Factory Reference' button is highlighted with a dashed orange box, indicating the function being discussed. The interface includes sections for Model Name, Serial Number, TIVA Firmware Update, Date and Time, Lamp Usage, Sensors, Calibration Coefficients, Device Information, Activation Key, and Device settings. A status bar at the bottom indicates 'Device NIR-M-R2 (646R002) connected!'.

ISC NIRScan GUI SDK WinForm v2.4.0

Scan Utility About

Model Name: [Text Box] Set Get

Serial Number: [Text Box] Set Get

TIVA Firmware Update: File Name [Text Box] Browse Update

Date and Time: [Text Box] Sync Get

Lamp Usage: [Text Box] (hours) Set Get

Sensors: Battery Changer Status, Battery Capacity, System Humidity, System Temp, Tiva Temp, Lamp Intensity

Calibration Coefficients: Cal Coeff Ver: 0, Pix-Wave Coeff 0, Ref Cal Ver: 0, Pix-Wave Coeff 1, Scan Cfg Ver: 0, Pix-Wave Coeff 2, Shift Vect Coeff 0, Shift Vect Coeff 1, Shift Vect Coeff 2, Write Enable, Write Generic, Restore Factory Calibration Data, Read Coeffs, Write Coeffs

Device Information: GUI Version 2.4.0, Tiva SW Version 2.4.1, DLPC Flash Version 2.2.0, Main Board Version D, Detector Board Version B, Model Name NIR-M-R2, Device Serial Number 646R002, Manufacturing Serial Number 95UB114GC0V646F002, Device UUID DE:67:0C:88:67:2D:6A:21, Lamp Usage 5min 48sec

Activation Key: Key [Text Box] Set Clear, Status: Activated! Manage

Device: Reset System, Backup Factory Reference (highlighted), Reset, BackUp

Update Reference Data: Update

Restore Factory Reference: Restore

Button Status: Unlocked! Lock Unlock

Device NIR-M-R2 (646R002) connected!

# Restore Factory Reference

- This function only restores the factory reference data, which can not be performed without backing up the data.
- The factory reference data is restored from the PC.

ISC NIRScan GUI SDK WinForm v2.4.0

Scan Utility About

Model Name

Set Get

Serial Number

Set Get

TIVA Firmware Update

File Name  Browse

Update

Date and Time

Sync Get

Lamp Usage

 (hours)

Set Get

DLPC150 Firmware Update

File Name  Browse

Update

Sensors

Battery Changer Status

Battery Capacity

System Humidity

System Temp

Tiva Temp

Lamp Intensity

Read

Calibration Coefficients

Cal Coeff Ver : 0 Pix-Wave Coeff 0

Ref Cal Ver : 0 Pix-Wave Coeff 1

Scan Cfg Ver : 0 Pix-Wave Coeff 2

Shift Vect Coeff 0

☐ Write Enable Shift Vect Coeff 1

Write Generic Shift Vect Coeff 2

Restore Factory Calibration Data Read Coeffs Write Coeffs

Device Information

GUI Version	2.4.0
Tiva SW Version	2.4.1
DLPC Flash Version	2.2.0
Main Board Version	D
Detector Board Version	B
Model Name	NIR-M-R2
Device Serial Number	646R002
Manufacturing Serial Number	95UB114GC0V646F002
Device UUID	DE:67:0C:88:67:2D:6A:21
Lamp Usage	5min 48sec

Activation Key

Key  Set Clear

Status : Activated! Manage

Device

Reset System Reset

Backup Factory Reference BackUp

Update Reference Data Update

Restore Factory Reference Restore

Button Status: Unlocked! Lock Unlock

Bluetooth LE Advertising Name

Default Set Get

Device NIR-M-R2 (646R002) connected!

# Replace Built-In Reference

- Before replacing stored reference data, preparing a highly reflective material. A 99% reflective material can be created by coating a metal with Spectralon®.
- Before replacing stored reference data, user needs to read User Agreements to agree to bear the consequences.

Question

?

**IMPORTANT!!!**

This will REPLACE your FACTORY REFERENCE DATA and could NOT be REVERTED.

Are you sure you want to do this ?

Step 1

是(Y) 否(N)

Question

?

User Agreements:

1. I am well aware of the purpose of factory reference data and have been well trained to replace it.
2. I fully understand that the factory reference data can be replaced but not revertible.
3. I agree to pay extra fee to recover the factory reference data if I make anything wrong.

I agree with above terms and would like to continue the process.

Step 2

是(Y) 否(N)

Question

?

**IMPORTANT!!!**

Please confirm again with this process.

Do you still want to do this?

Step 3

是(Y) 否(N)

Question

?

Please place the reference sample and press 'OK' to start the reference scan...

Step 4

確定 取消

# FIRMWARE UPDATE

# Tiva Firmware Update

- To update the TIVA FW, click the “Browse” button to search for the TIVA FW file (for example, \\ISC-NIRScan-Tiva-v2.4.1.bin). Then, click the “Update” button. The firmware will be flashed on the TIVA internal Flash while the progress bar indicates the update process.

TIVA Firmware Update

File Name



# DLPC Firmware Update

- To update the DLPC150 firmware, click the “Browse” button to search for the DLPC150 firmware file (for example, \\DLPR150PROM\_2.2.0.img). Then, click the “Update” button. The firmware will be flashed to the board while the progress bar indicates the update process.

DLPC150 Firmware Update

File Name

Browse

Update

# Thank You



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Responsibility Innovation Superiority Entrepreneurship