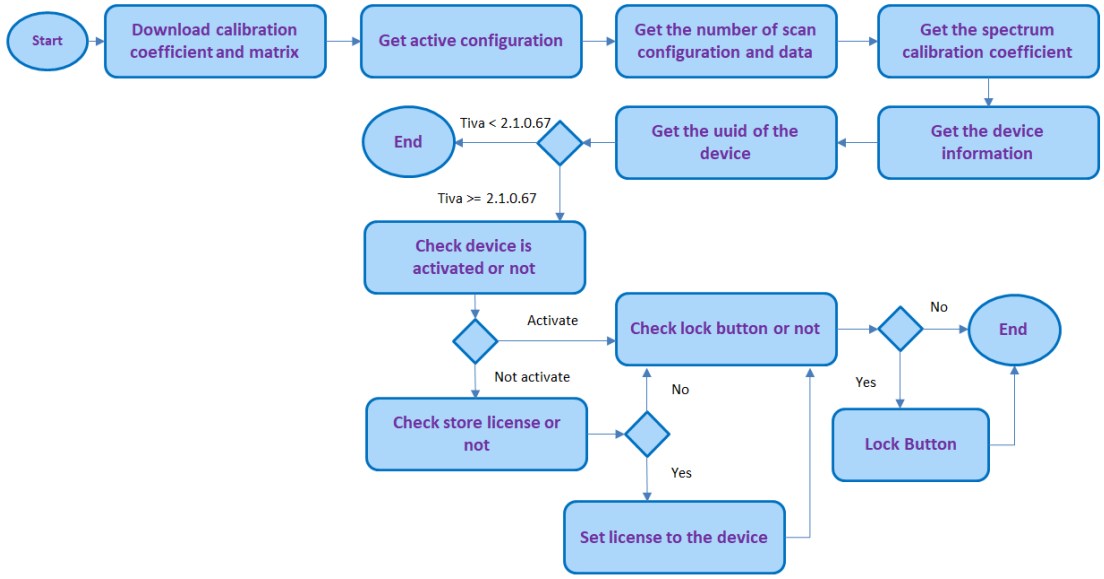
Connected to the Device (ScanViewActivity):



1. Call the **ISCNIRScanSDK.SetCurrentTime()** to download calibration coefficient and matrix. Register **RefCoeffDataProgressReceiver** to see the progress of download calibration coefficient. Register **CalMatrixDataProgressReceiver** to see the progress of download calibration matrix. Register **RefDataReadyReceiver** to get calibration coefficient and matrix.

2. Call the **ISCNIRScanSDK.GetActiveConfig()** to request to get active configuration from the device. Register **GetActiveScanConfReceiver** to get the index of active configuration.

3. Call the **ISCNIRScanSDK.GetScanConfig()** to request to get the number of scan configuration and data from the device. Register **ScanConfSizeReceiver** to get the number of scan configuration. Register **ScanConfReceiver** to get the scan configuration.

4. Call the **ISCNIRScanSDK.GetSpectrumCoef()** to request to get the spectrum calibration coefficient. Register **SpectrumCalCoefficientsReadyReceiver** to get the spectrum calibration coefficient.

5. Call the **ISCNIRScanSDK.GetMFGNumber()** to request to get the Manufacturing Serial Number of the device. Register ReturnMFGNumReceiver to get the Manufacturing Serial Number . Call the **ISCNIRScanSDK.GetDeviceInfo()** to request to get the device information. Register **DeviceInfoReceiver** to get the device information.

6. Call the **ISCNIRScanSDK.GetUUID()** to request to get the uuid from the device. Register **GetUUIDReceiver** to get the uuid.

If the tiva version >=2.1.0.67 for the device, continue with the following steps.

7. Call the **ISCNIRScanSDK.ReadActivateState()** to request to get whether the device is activate. Register **RetrunReadActivateStatusReceiver** to get whether the device is activated.

(a)Device is activated : Call the **SetDeviceButtonStatus()** to check whether user want to lock button. Call the **ISCNIRScanSDK.ControlPhysicalButton(ISCNIRScanSDK.PhysicalButton.Lock)** to lock button. Call the **ISCNIRScanSDK.ControlPhysicalButton(ISCNIRScanSDK.PhysicalButton.Unlock)** to unlock button.

(b)Device is not activated : Check whether store license in the app.

(1)Have license : Call the **ISCNIRScanSDK.SetLicenseKey(data)** to set the license. Register **RetrunActivateStatusReceiver** to get the license is valid or not. Call the **SetDeviceButtonStatus()** to check whether user want to lock button.

(2)Not have license : Call the **SetDeviceButtonStatus()** to check whether user want to lock button.

Perform Scan (ScanViewActivity):

Call the **PerformScan(long delaytime)** to scan the sample. You should register **ScanDataReadyReceiver** to get the scan result.

Set the scan configuration to the device (ScanViewActivity): (Note: This only set the configuration to the device memory and generating the scan patterns accordingly)

1. Call the **ChangeScanConfigToByte()** and write quick set UI settings to **ISCNIRScanSDK. ScanConfigInfo write_scan_config**. It will return the byte array of the scan config (return **EXTRA_DATA**).

2. Call the **ISCNIRScanSDK.ScanConfig(EXTRA_DATA,ISCNIRScanSDK.ScanConfig.SET)** to set the configuration to the device.

If you want to verify the scan configuration was set successfully, just need to register **WriteScanConfigStatusReceiver** to get back and check whether the set scan configuration in the device memory is valid.

Example as following steps :

1. Call the **ISCNIRScanSDK.ReadCurrentScanConfig()** to get the current device configuration.

2. User needs to register **ReturnCurrentScanConfigurationDataReceiver** to get the byte array of current configuration of the device.

3. Call the **Compareconfig(intent.getByteArrayExtra(ISCNIRScanSDK.EXTRA_CURRENT_CONFIG_DATA))** to compare whether the configuration set by the device and the configuration set by the user in the quick set are the same.

Manual Mode (ScanViewActivity)

User need to open the manual mode by turning on the light **ISCNIRScanSDK.ControlLamp(ISCNIRScanSDK.LampState.ON)**.

User can set the lamp on (**ISCNIRScanSDK.ControlLamp(ISCNIRScanSDK.LampState.ON)**)or off (**ISCNIRScanSDK.ControlLamp(ISCNIRScanSDK.LampState.OFF)**), PGA **(ISCNIRScanSDK.SetPGA(pga))** and Scan Repeats**(ISCNIRScanSDK.SetScanRepeat(scan_repeat))** in the manual mode.

Close the manual mode as follows or reference to **ChangeLampState()**:

1. If the lamp is turned on, should close the lamp(**ISCNIRScanSDK.ControlLamp(ISCNIRScanSDK.LampState.OFF)**).
2. Change the lamp state to auto(**ISCNIRScanSDK.ControlLamp(ISCNIRScanSDK.LampState.AUTO)**).

Update reference to the device (ScanViewActivity) :

1. Call the **SetReferenceParameter()** to set the reference configuration to the device.
2. Register **WriteScanConfigStatusReceiver** to get back and check whether the set scan configuration in the device memory is valid.
3. Call the **ISCNIRScanSDK.ReadCurrentScanConfig()** to get the current device configuration.
4. Register **ReturnCurrentScanConfigurationDataReceiver** to get the byte array of current configuration of the device.
5. Call the **Compareconfig(intent.getByteArrayExtra(ISCNIRScanSDK.EXTRA_CURRENT_CONFIG_DATA))** to compare whether the configuration set by the device and the configuration set by the user in the quick set are the same.
6. Call the **PerformScan(long delaytime)** to scan the reference sample**.**
7. Call the **ISCNIRScanSDK.SaveReference()** to save the reference to the device.

8. After finish saving the reference to the device, set active scan configuration to the device**(ISCNIRScanSDK.ScanConfig(ActiveConfigByte,ISCNIRScanSDK.ScanConfig.SET))** and disconnect.

License Setting (ActivationViewActivity):

Call the **ISCNIRScanSDK.SetLicenseKey(data)** to set the license**(license length is 24)**. Register **RetrunActivateStatusReceiver** to check whether the license is set success.

Call the **ISCNIRScanSDK.SetLicenseKey(data)** and set the data to **"000000000000000000000000"** can lock the device.

Device Information (DeviceInfoViewActivity):

Call the **ISCNIRScanSDK.GetDeviceInfo()** to request the device information from the device. Register **DeviceInfoReceiver** to get the device information.

Device Status (DeviceStatusViewActivity):

Call the **ISCNIRScanSDK.GetDeviceStatus()** to request the device status from the device. Register **mStatusReceiver** to get the device status.

Scan Configuration (ScanConfigurationsViewActivity):

Call the **ISCNIRScanSDK.GetScanConfig()** to request the number of scan configuration and scan configuration data. Register **ScanConfSizeReceiver** to get the number of scan configuration. Register **ScanConfReceiver** to get scan configuration data.

Call the **ISCNIRScanSDK.GetActiveConfig()** to request the active configuration in the device. Register **GetActiveScanConfReceiver** to get active configuration index.

Save the configuration to the device (AddScanConfigViewActivity):

1. Call the **ChangeScanConfigToByte()** and write UI settings to **ISCNIRScanSDK. ScanConfigInfo write_scan_config**. It will return the byte array of the scan configuration(return **EXTRA_DATA**).
2. Call the **ISCNIRScanSDK.ScanConfig(EXTRA_DATA,ISCNIRScanSDK.ScanConfig.SAVE)** to set the configuration to the device.

User need to register **WriteScanConfigStatusReceiver** to check whether the setting is successful.

Lock Button (AddScanConfigViewActivity):

Call the **ISCNIRScanSDK.ControlPhysicalButton(ISCNIRScanSDK.PhysicalButton.Lock)** to lock the physical button.
Call the **ISCNIRScanSDK.ControlPhysicalButton(ISCNIRScanSDK.PhysicalButton.Unlock)** to unlock the physical button.

Lamp Ramp Up ADC and Lamp ADC among repeated times (ScanViewActivity):

Support tiva ≧v2.4.3, main board is F, and tiva ≧3.3.0, main board is O.

1. Call the **ISCNIRScanSDK.GetScanLampRampUpADC()** to request lamp ramp up ADC.
2. Register **ReturnLampRampUpADCReceiver** to get lamp ramp up ADC.
3. Call the I**SCNIRScanSDK.GetLampADCAverage()** to request lamp ADC among repeated times.
4. Register **ReturnLampADCAverageReceiver** to get lamp ADC among repeated times.