

***Mars1417V3
Wireless
Panel
Calibration
Manual***

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Revision History

REV **DATE** **DOCUMENT NAME [REASON FOR CHANGE]**

1.0	18/05/2020	Mars1417V3 Calibration Manual <i>[New Manual – iRay SDK Version 5969]</i>
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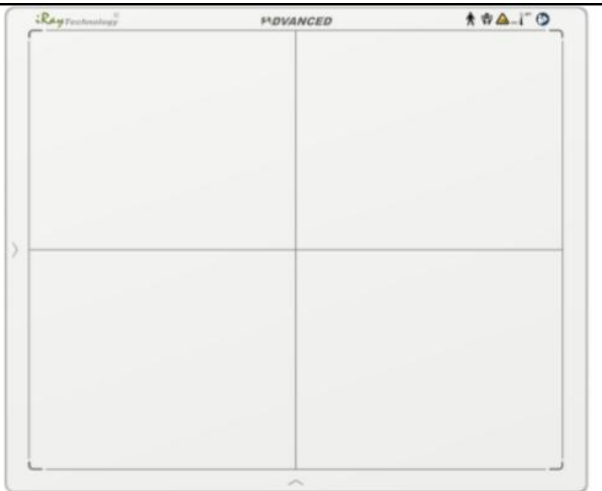
Introduction

This documentation is provided to you, the service technician, with all information necessary to calibrate the Mars1417V3 Panel. For more detailed information on the operation and specifications of your wireless detector, please review the following documentation:

Manual References:

085-201-10_Mars1417V3 User Manual A1

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Only qualified service personnel should attempt to install, modify, service or operate the Mars1417V3 detector.

1 Mars1417V3 Panel Calibration

1.1 Panel Calibration

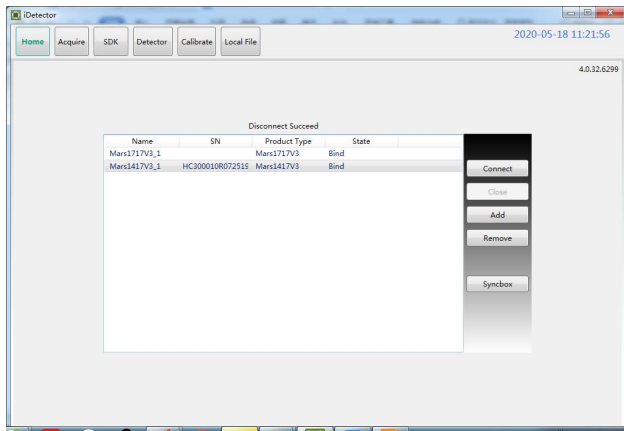
Before performing the following steps, make sure the Mars1417V3 panel is powered on with External Power cord and connected with the supplied **Link cable**.

1.2 iDetector Interface

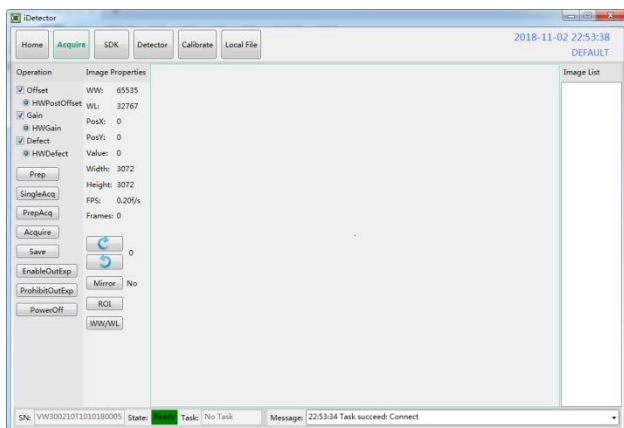
Open iDetector interface window .

1.2.1 Connecting into the Panel from iDetector

1. Click the highlight **Mars1417V3** under the name column and then click **Connect**.

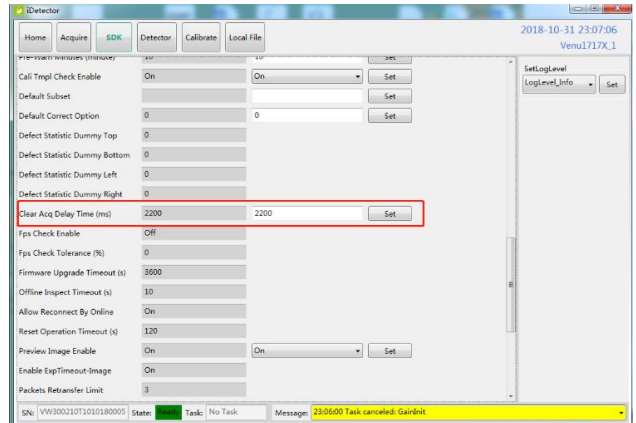


2. The **Acquire** tab is selected by default when you first connect to the panel in iDetector.

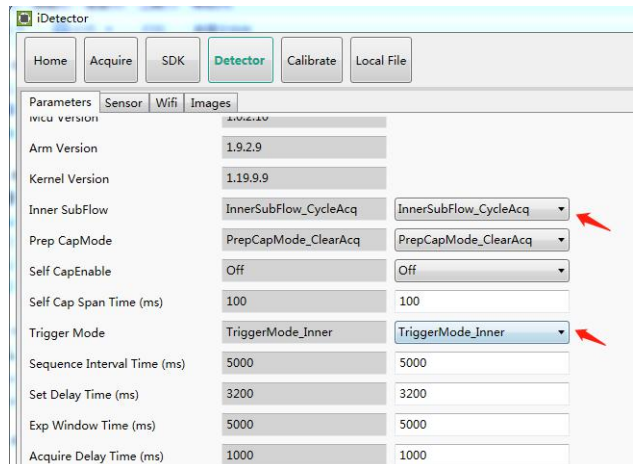


1.2.2 Panel Calibration Setup

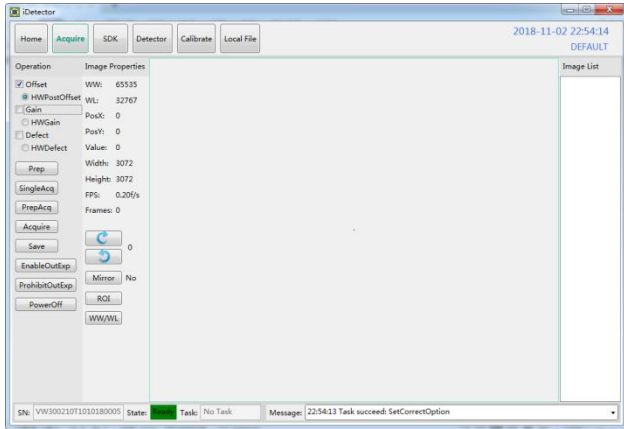
1. Before start calibrate the panel. Click **SDK** Tab and change the Clear Acq Delay time to 2200 then click “set” button



2. Click **Detector** tab and make sure that panel Inner SubFlow was set to **CycleAcq** and the Trigger Mode is **Inner**



3. On the **Acquire** tab in iDetector, uncheck the **Defect**, **Gain** check boxes **in that order**.

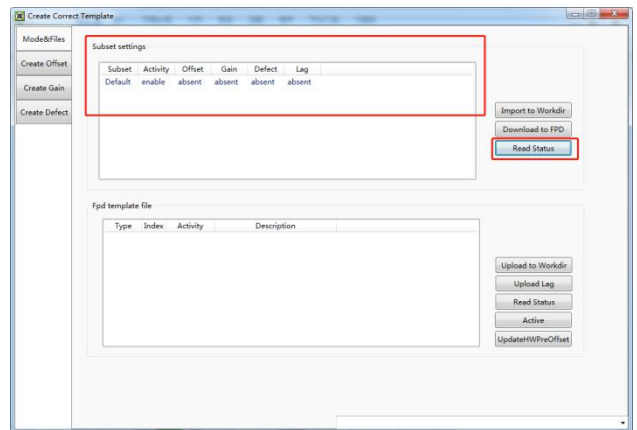


- **No Grid** = remove any grid or pressure grid cover.
- **No Objects** = remove any objects from the surface of the panel.

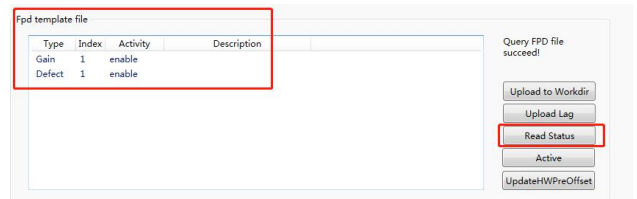
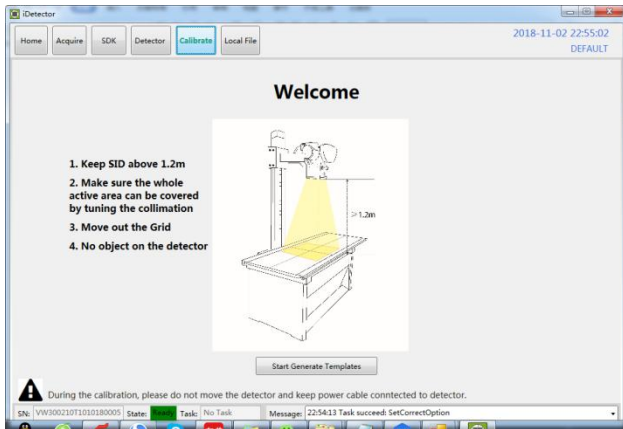
6. Click the **Mode&Files Tab**, Click **Read Status** button on the top right side to get the status of the calibration file under ..x64\work_dir\Mars1417V3\Correct\Default. Currently there is no calibration file.

Note: during the calibration, please do not move the detector once calibration has been started.

4. Select the **Calibrate** tab, and click **Start Generate Templates**.



7. Click the **Read Status** button on the bottom right side to get the calibration status in the panel, The panel already have the original gain and defect template in it.



The Calibration wizard will open into a new window, presenting the **Welcome** screen.

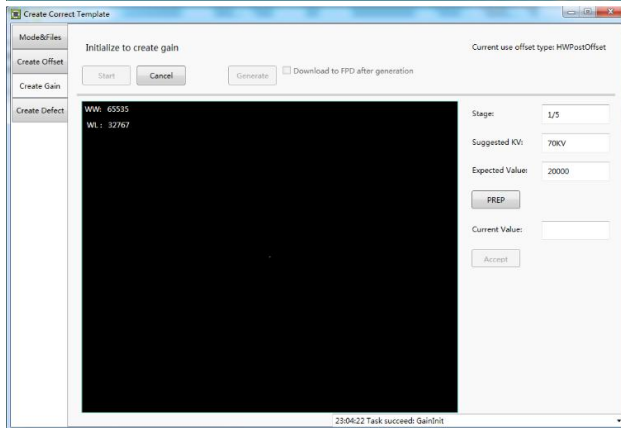
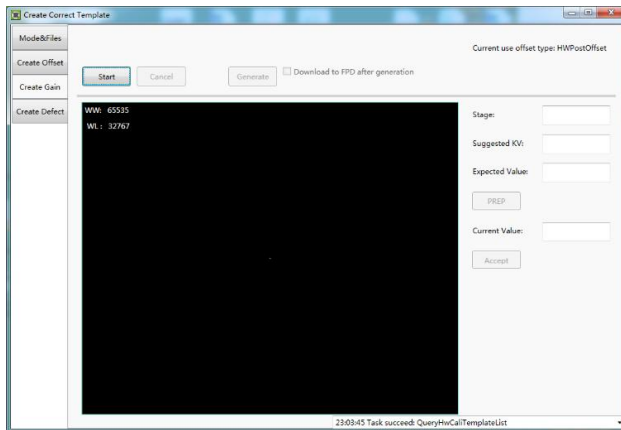
5. Set X-ray environment:

- **Tube SID** = 50" or higher (at least greater than 47").
- **No Collimation** = open collimator blades at least 1" past the edges of the panel on all sides.

1.2.3 Panel Gain Calibration

Note: the Gain Calibration screen requires 5 exposures. The left-hand side of the screen tells you the image you get. The right-hand side tells you the suggested KV to use for the current exposure

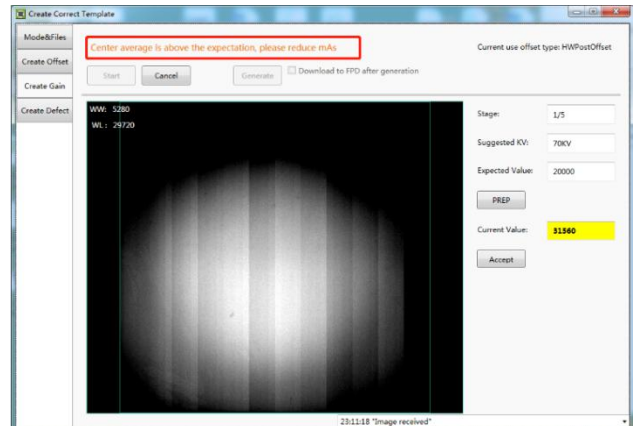
1. Click **Create Gain** Tab then **Start** Button



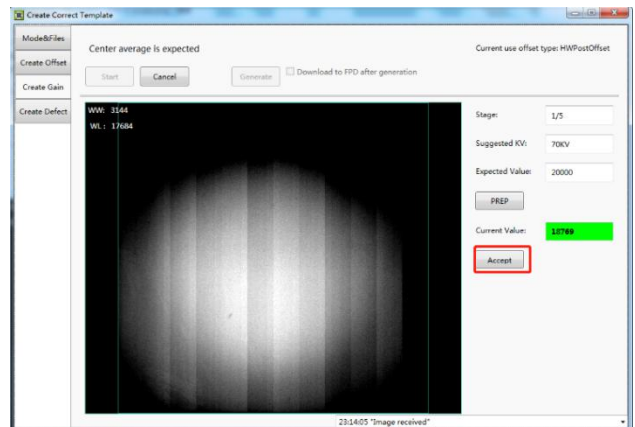
2. Set your techniques to **70kV / 3.2mAs** ,Prep the generate then click **PREP** button ,take your **first** exposure before **2s** count down is over.

Note: After taking an exposure, the Current Vale will either covered green, if it was successful, or yellow, we have to adjust mAs and exposure again

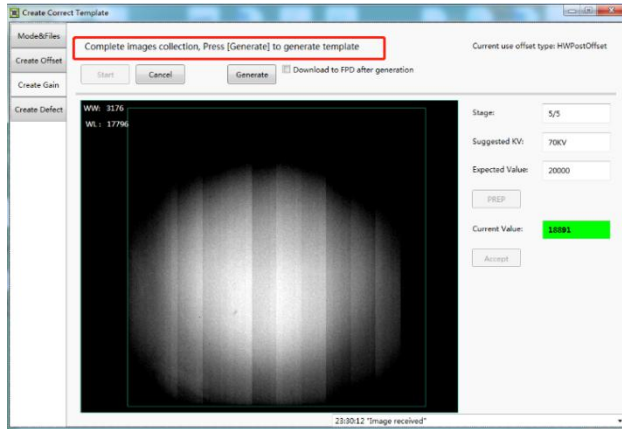
3. If the exposure was NOT acceptable (yellow), adjust mAs up or down, **Prep the generate then click PREP** button to take another exposure before **2s** count down is over.



4. If the exposure was acceptable (green status), click **Accept** to move to the next gain frame.



5. After taking all 5 gain exposures, click **Generate** button in the top middle.

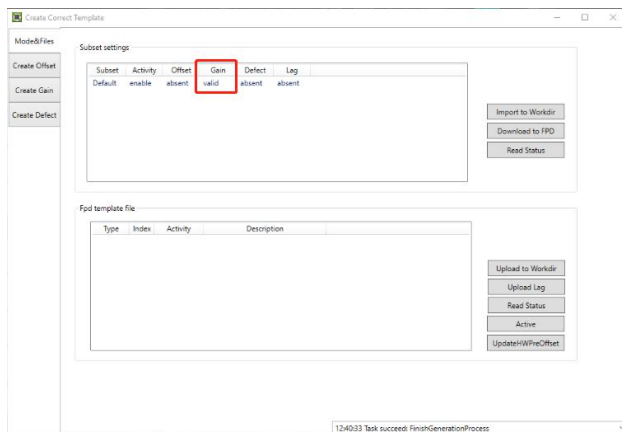


1.2.4 Panel Defect Calibration (Optional)

A new defect map can be created by running the Defect Calibration. A defect calibration is **ONLY** needed if you are seeing dead pixels or lines in your images.

1. Right after you finished the Gain calibration in **Section 1.2.3**, click **Create Defect Tab** proceed to the **Defect Calibration** screen.

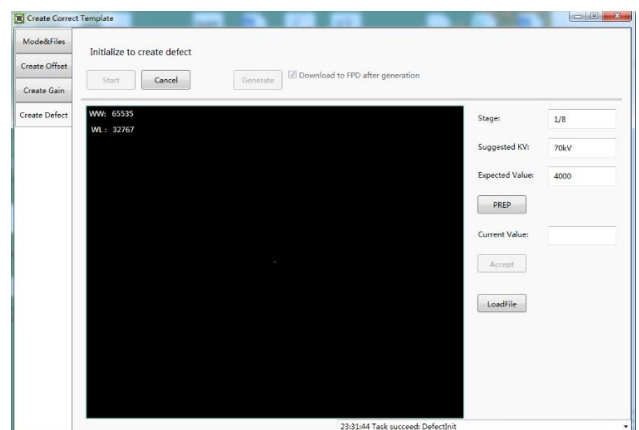
6. Note that Gain status now shows **valid** under **Mode&Files**.



Note: the Defect Calibration screen requires 8 exposures. The right hand side of the screen tells you the suggested KV to use for the current exposure.

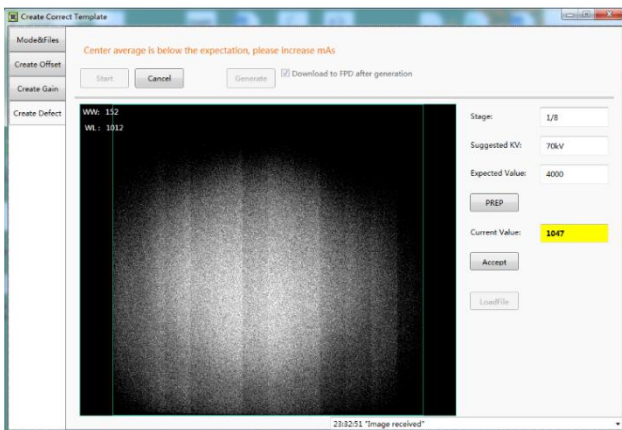
2. Set your techniques to **70kV / 0.64 mAs** Prep the generate then click **PREP** button ,take your **first exposure before 2s count down is over.**

Note: Click **Create Defect Tab** proceed to **Section 1.2.4** for **Panel Defect Calibration**, **ONLY** if needed. A defect calibration is only needed if you are seeing dead pixels or lines in your images. **Otherwise** proceed to **Section 1.2.5** to download the new Gain calibration file to the panel

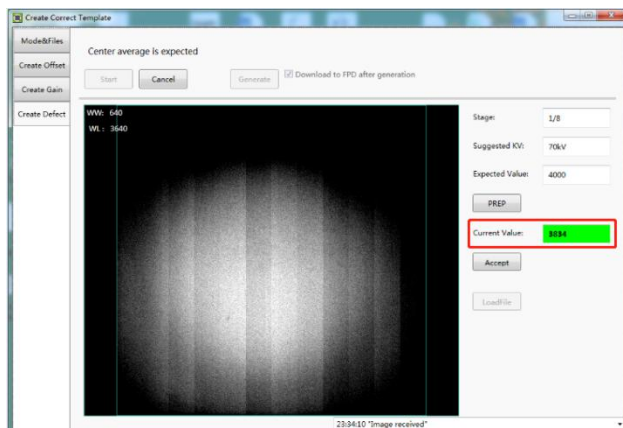


Note: after taking an exposure, the Current Value will either covered green, if it was successful, or yellow, we have to adjust mAs and exposure again

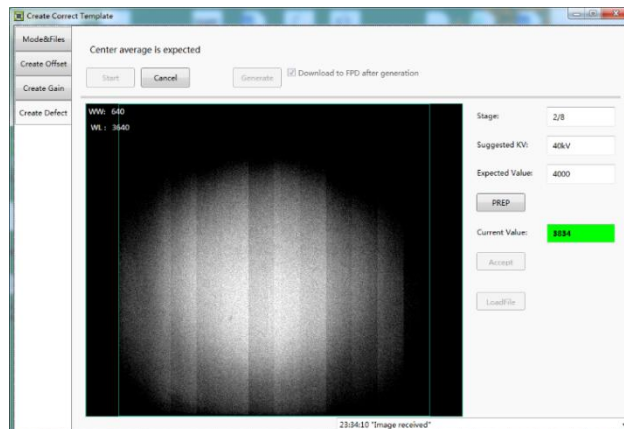
- If the exposure was NOT acceptable (yellow status), adjust mAs up or down, Prep the generate then click **PREP** button to take another exposure **before 2s count down is over**.



- If the exposure was acceptable (green status), click **Accept** to move to the next frame.



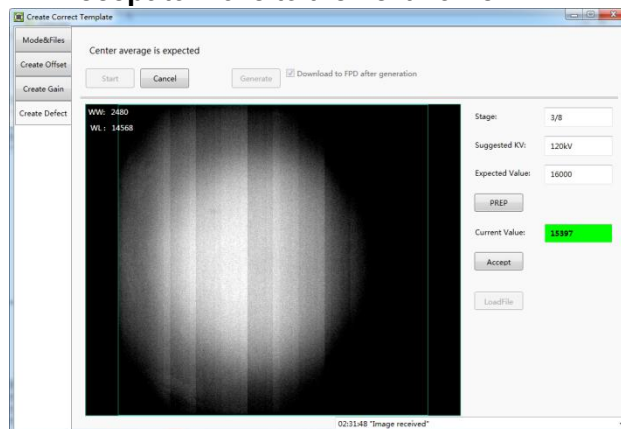
- Set your techniques to **40kV / 5 mAs**, Prep the generate then click **PREP** button to take your **second** exposure **before 2s count down is over**.



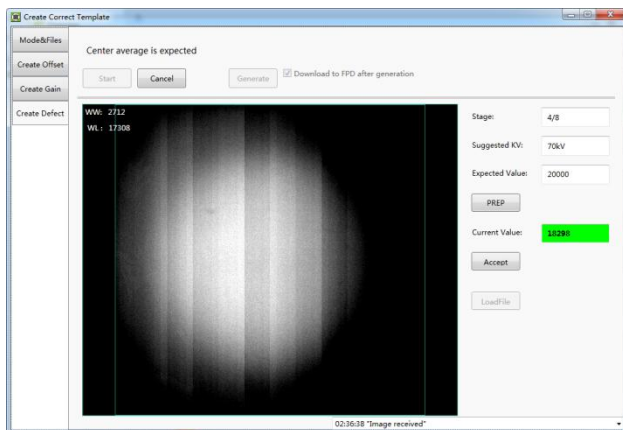
- If the exposure was acceptable, click **Accept** to move to the next frame.

- Set your techniques to **120kV / 0.64 mAs**, Prep the generate then click **PREP** button to take your **third** exposure **before 2s count down is over**.

- If the exposure was acceptable, click **Accept** to move to the next frame.

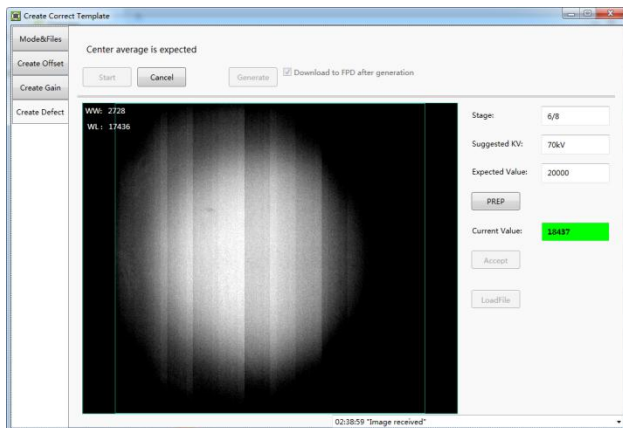


- Set your techniques to **70kV / 3.2mAs**, Prep the generate then click **PREP** button to take your **Fourth** exposure **before 2s count down is over**.

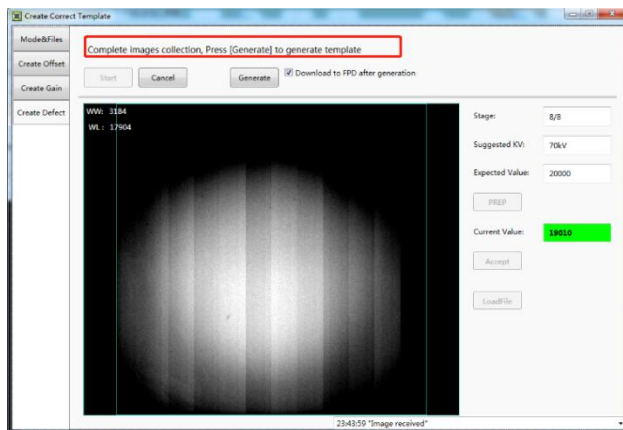


10. If the exposure was acceptable, click **Accept** to move to the next frame.

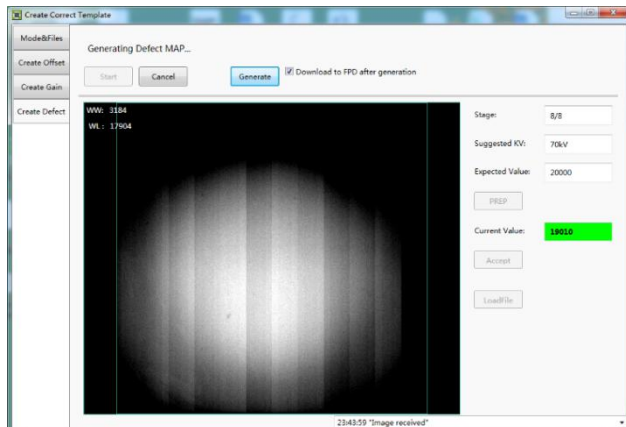
11. Continue to take exposures with techniques set to **70kV / 3.2mAs** for the remaining frames (5-8).



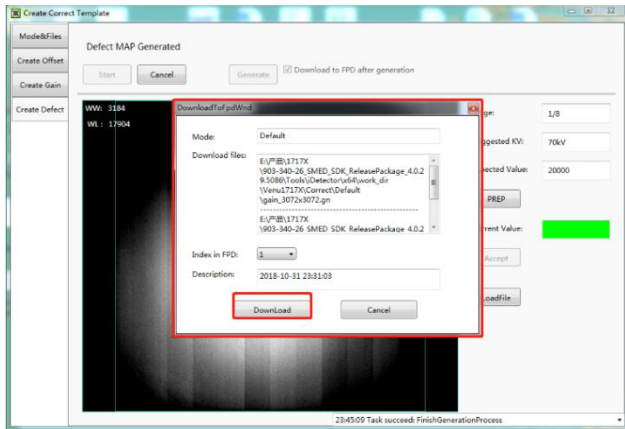
12. After taking all 8 defect exposures, Click **Generate** Button to generate the Defect template



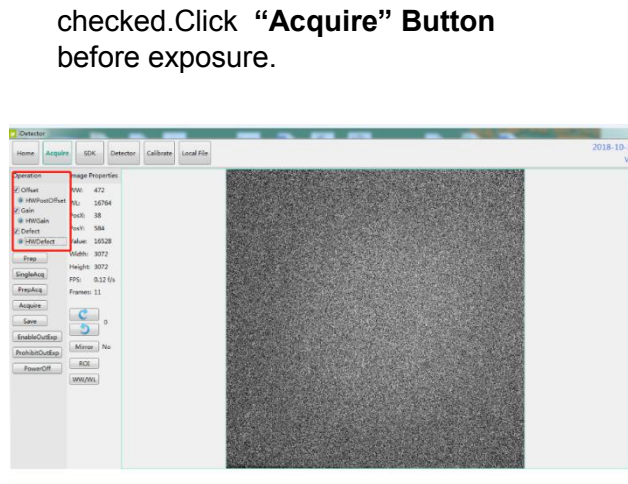
13. Wait for the **Defect Map Generation** to complete.



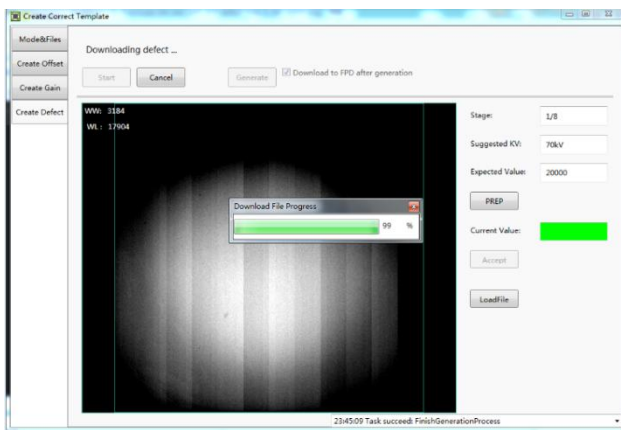
14. After defect template was generated, An interface will pop up, Click download to download the gain and defect template you just created into the panel



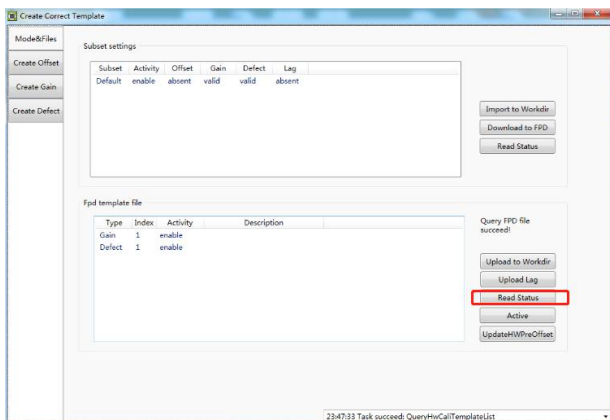
15. Wait till the download was successful.



18. Calibration is good.



16. Click on **Mode and Files** then Click **Read Status**. If FPD template file shows gain and Defect as enabled then close.

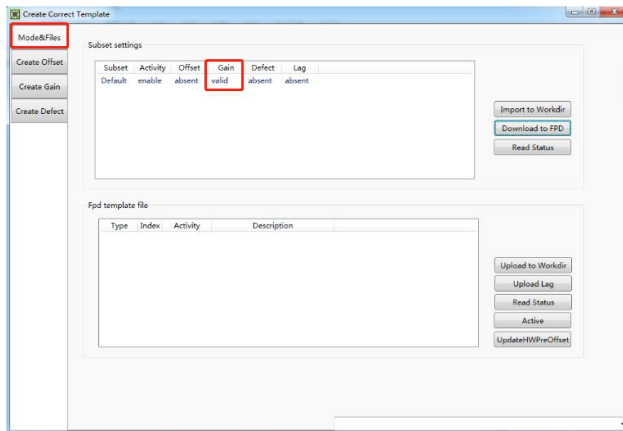


17. Click **Acquire** Tab and Take a test shot with **HWGain** and **HWDefect** was

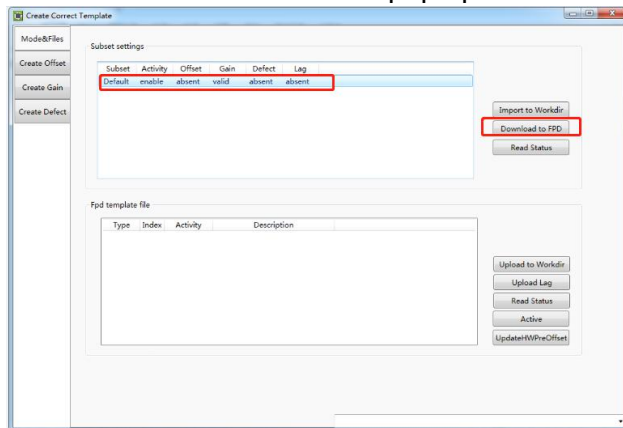
1.2.5 Download the New Gain Calibration File to the Panel

After Create the Gain and Now we need to download the new calibration files to the panel.

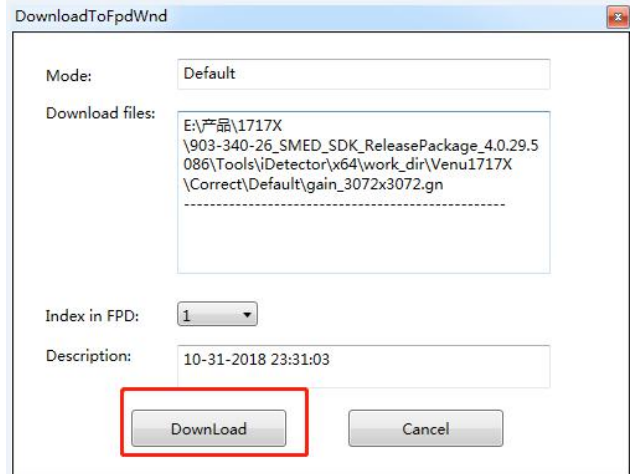
1. Within the **Calibrate** tab, click **Mode&Files** tab, then click the **ReadStatus** button. Gain template shows valid.



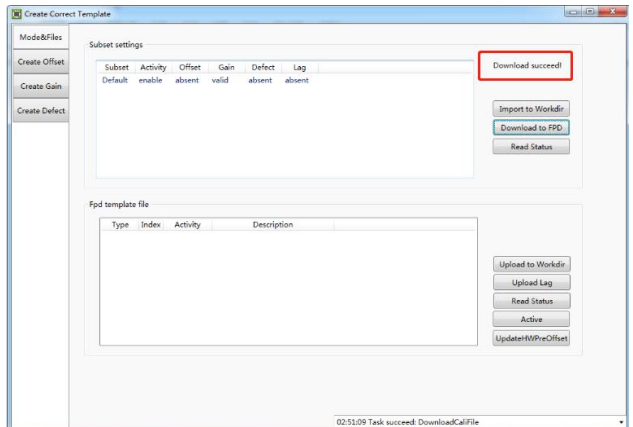
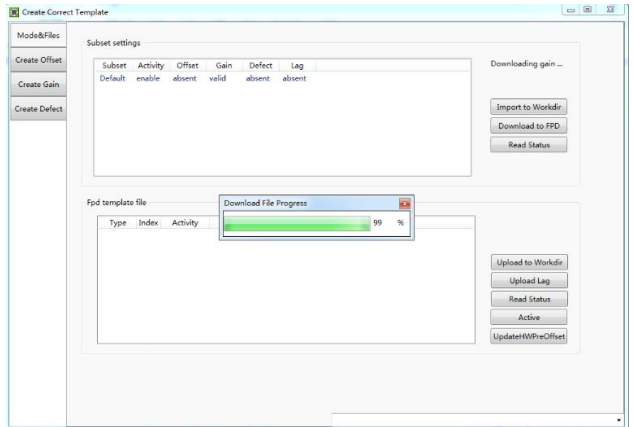
2. Select the Default, Click **Download to FPD** and an interface will pop up.



3. Click Download button



4. Wait till the download was successful.



Note: If the download was failed , please disable the firewall and antivirus. If still not work please go to ..\iDetector\x64 and manually start **FTPServer.exe**

1.2.6 Re-enabling the Calibration Operation Options

1. Select the **Acquire** tab and check the **HWPostOffset**, **HWGain** and **HWDefect**. checkboxes, **in that order**.

