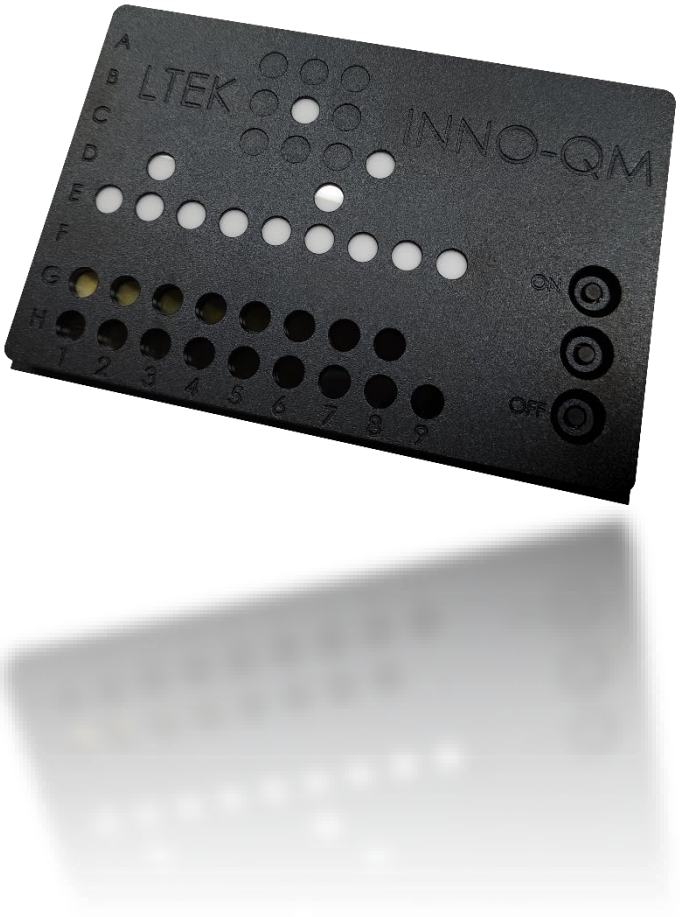
The Innovative Microplate Reader Series

INNO-QM™

Operator's Manual



INNO-QM™

OPERATOR'S MANUAL

LTek
Microplate Reader

INNO-QM™

The Innovative Microplate Reader Series

Abs & Fluo & Lumi Quality Check Test Plate

Operator's Manual

November 2024

Revision 2.0

LTEK Instruments Co., Ltd.

Notices

LTEK Co., Ltd.

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Introduction

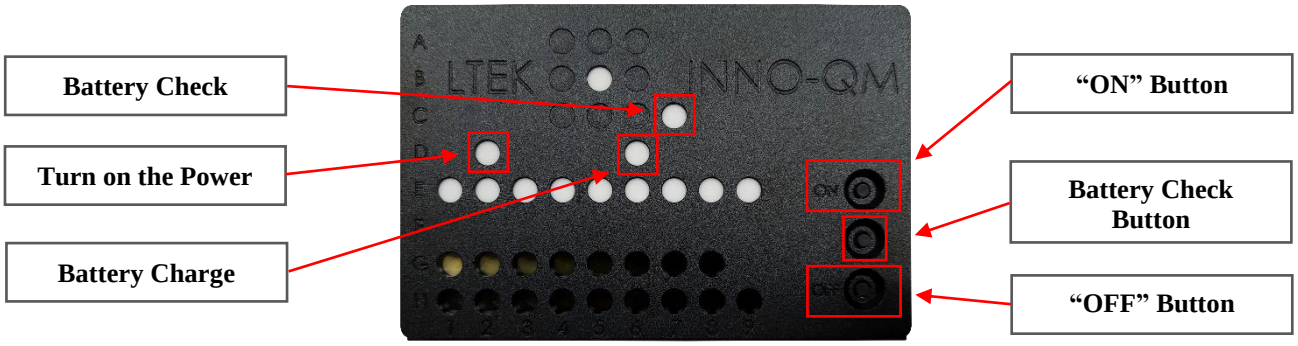
The LTEK INNO microplate reader series is a 21st-century new-generation instrument for all the research that deals with Absorbance, Luminescence, and Fluorescence. **INNO-QM** is an Absorbance, Luminescence, and Fluorescence test plate designed and manufactured just for INNO, INNO-M, INNO-S, and INNO-H for the instrument performance check. It allows the users to check the instrument's quality by checking its linearity, accuracy, and alignment. Also, it is handy when the distributors perform the demonstrations with their customers using the quantitative experiment function with our software INNO-X, which allows for reviewing seven different regression data results and calibration values in graph format.

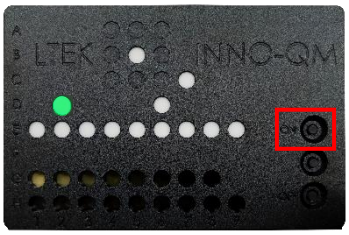
INNO-QM™ (Quality Check Test Plate)

INNO-QM™ (Absorbance & Fluorescence & Luminescence Test Plate)

- Absorbance linearity, accuracy, and alignment check.
- Luminescence linearity, accuracy, and alignment check.
- Fluorescence linearity, accuracy, and alignment check.
- An easy demonstration of the instrument performance was done using the quantitative experiment function.

How to use INNO-QM





<Power ON>

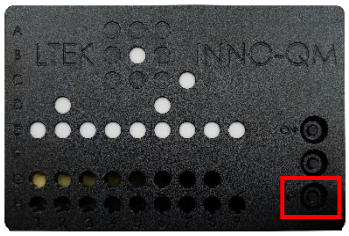
Press the "**ON**" button for about two seconds, and the **Green light** will appear and then disappear in the **D2** well.

<Battery Charge>

When the charging cable is connected, and charging is in progress, a **Green light** is visible in the **D6** well.

<Battery Check>

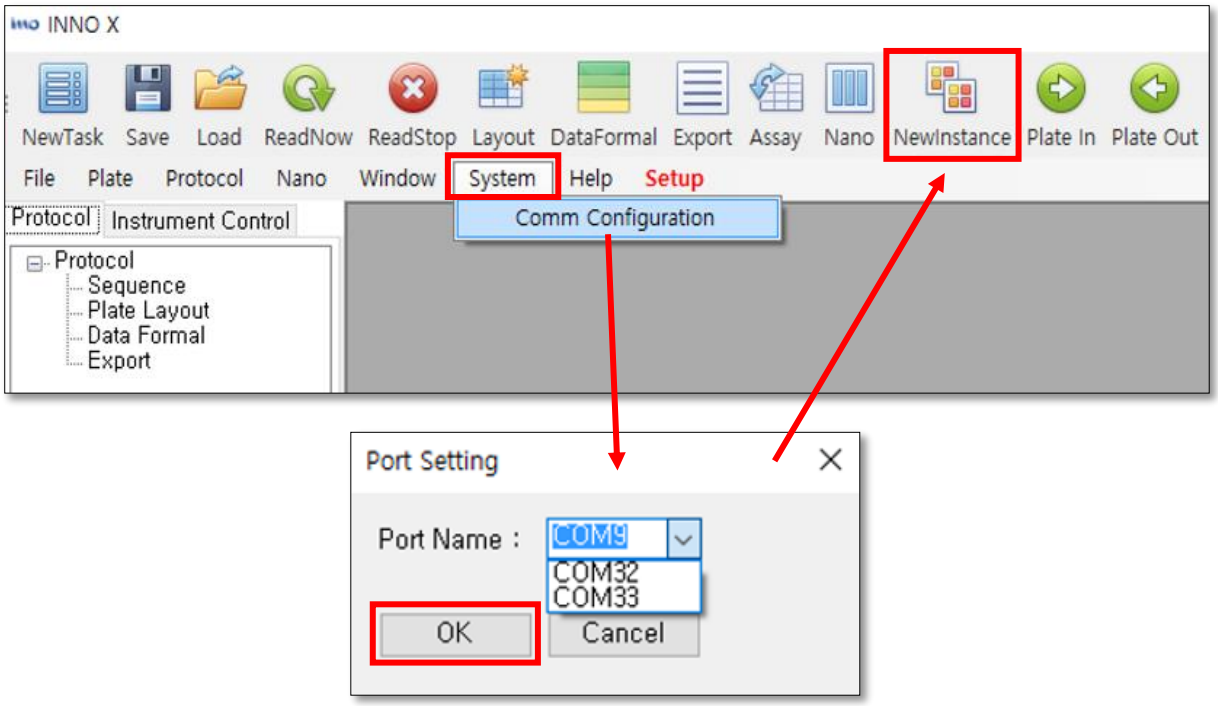
Press the "**Battery Check**" button for about 2 seconds to see the various lights in the **C7** well. **Green** means fully charged, **Blue** means available, and **Red** means charging is required.



<Power OFF>

Pressing the "**OFF**" button turns off the power of INNO-QM. Always press the "**OFF**" button after use to prevent battery discharge. If the battery is low, the measurement will not be accurate.

USB drive port setting



- First, install the USB software driver file – CDM21228_Setup.exe

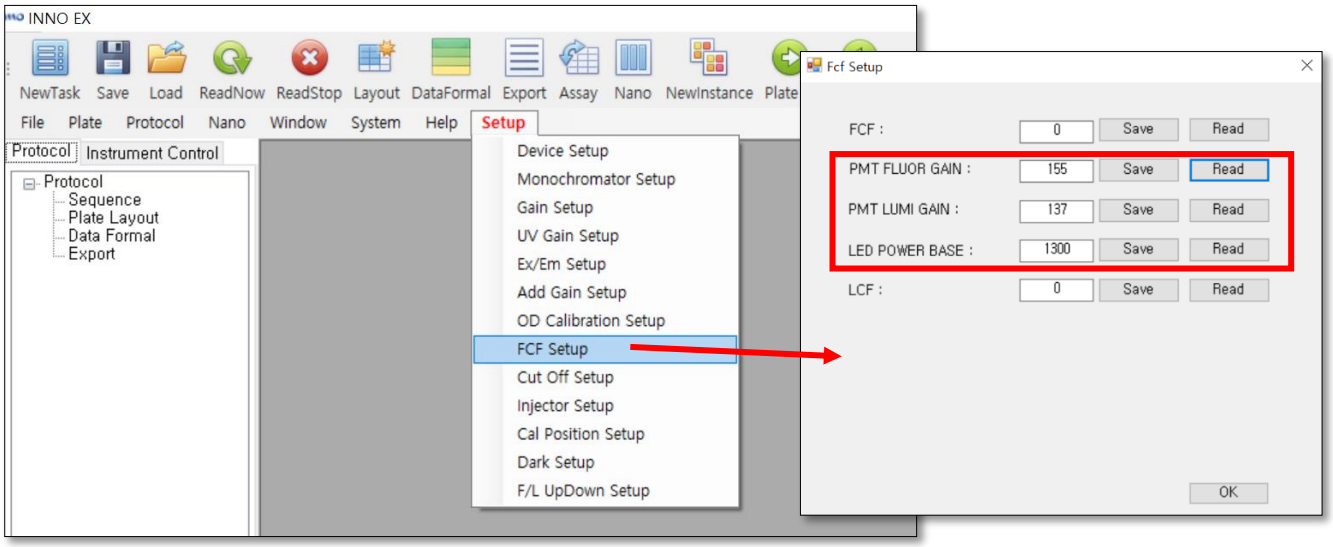
- Turn the INNO microplate reader series power on and connect the USB cable to the device operating PC.

- After the first initialization, run the software and click the "**System**" and "**Comm Configuration**."

- Normally selecting the bottom port will most likely get the connection working.

- Save the changed port and rerun the INNO-X software.

Gain Value Check



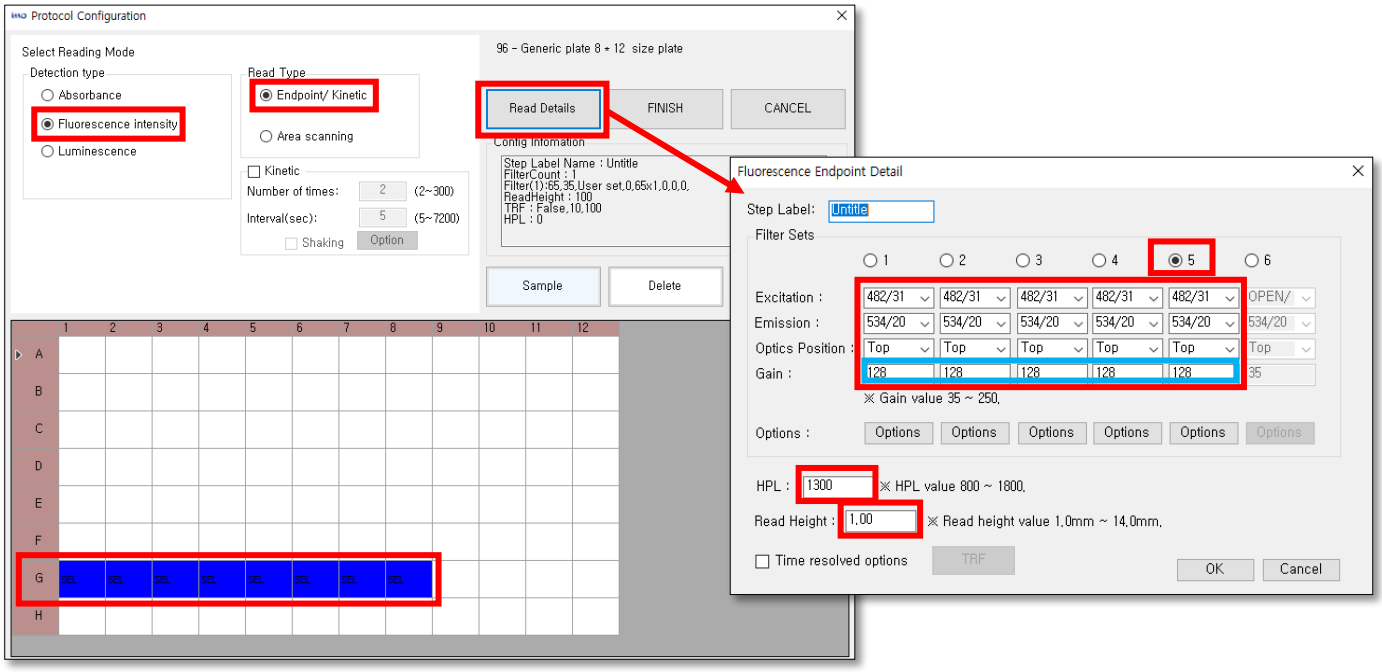
• The gain values are slightly different for each piece of device. Before measuring Fluorescence and Luminescence QC with INNO-QM, please check the gain value setting.

• Go to the "**Setup**" tab in the software and click the "**FCF Setup**". When the "**Fcf Setup**" pop-up appears, click "**Read**" on the three items in the red box to check the default settings.

• "**PMT FLUOR GAIN**" is the gain value used for Fluorescence measurement, and "**PMT LUMI GAIN**" is the gain value used for Luminescence measurement.

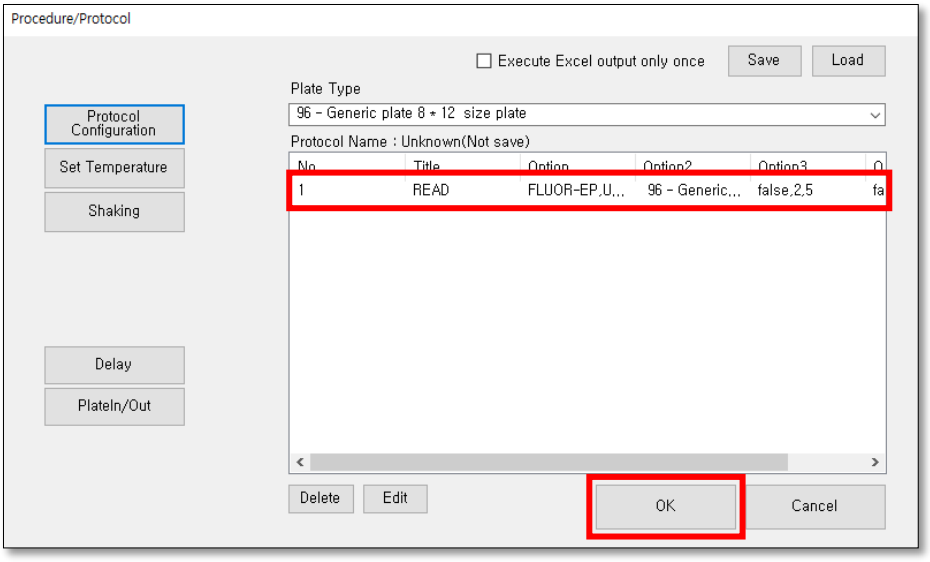
※ The above gain values are default values, and adjusting the gain value during QC helps the graph to become linear. ※

Fluorescence QC I



- For the Fluorescence Q.C., please follow and select the same protocol options as above.

1. Select the 96-well plate in the Procedure/Protocol window.
2. Select "**Fluorescence intensity**" and "**Endpoint / Kinetic**".
3. Select "**G1 to G8"** on the well layout.
4. Click "**Read Details**" and change wavelength "**Count**" **5**.
5. Select Excitation "**482/31**", Emission "**534/20nm**", Optics Position "**Top**", Gain "**_ _ _**", HPL "**1300**", Read Height "**1.00**", and click "**OK**" and "**Finish**".
6. The Gain value of the blue box varies for each of the devices. Please check the contents on page 7 and type them in.



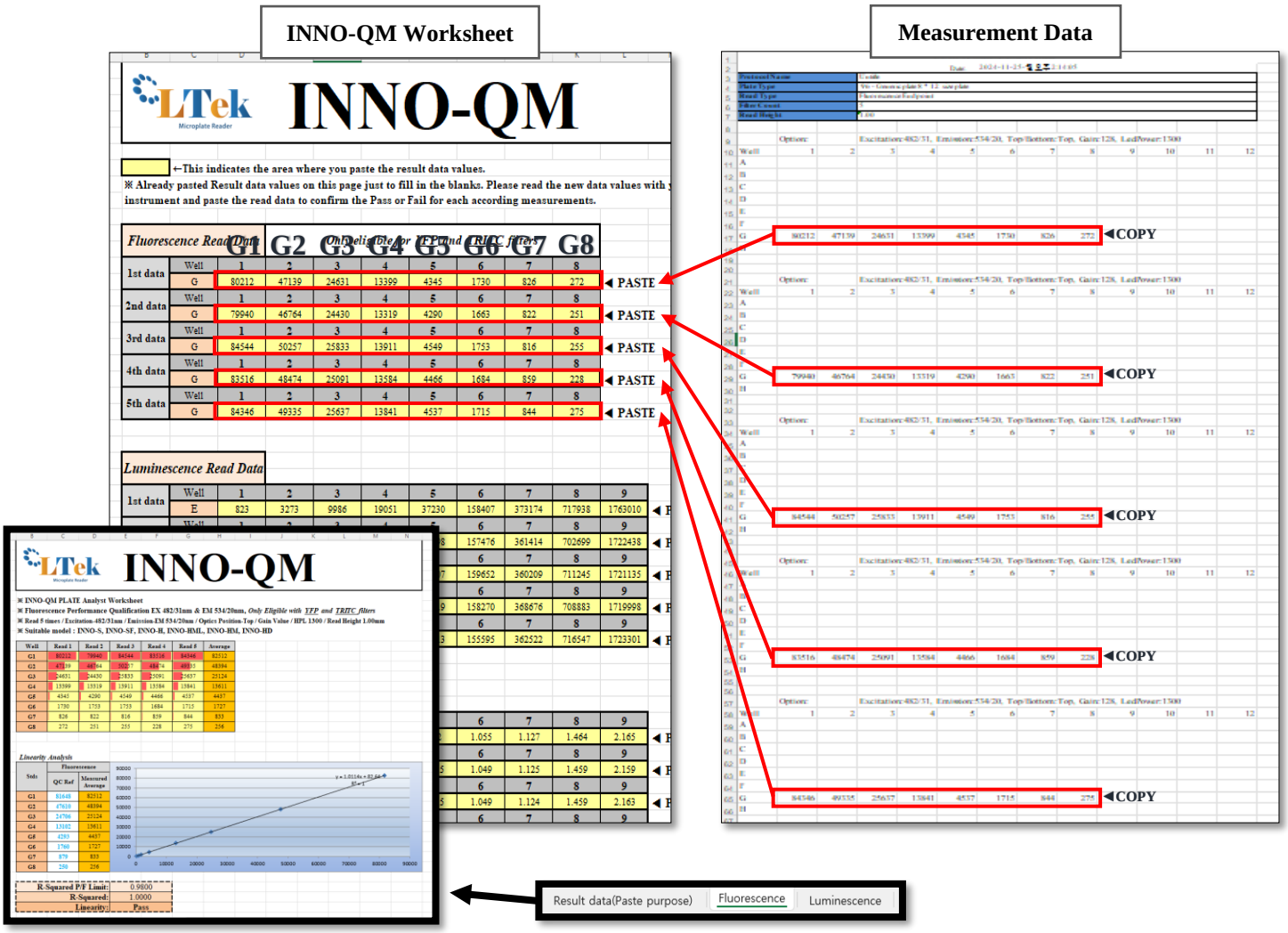
7. Click the "**OK"** button and "**Execute the protocol**".

• Before placing the INNO-QM on the plate carrier of the INNO Microplate reader series, ensure that every well of the plate is free. The dusts laid upon inside of the wells will provide poor results. Use a soft material brush or blower to clean the dust and keep the INNO-QM inside the case when it is not in use to prevent future dusting.

• The suitable models of the Fluorescence are INNO-S, INNO-SF, INNO-H, INNO-HML, INNO-HM, and INNO-HD.

• Pressing the "**OFF**" button turns off the power of INNO-QM. Always press the "**OFF**" button after use to prevent battery discharge. If the battery is low, the measurement will not be accurate.

Fluorescence QC II



• After completing the measurement, **copy G1 to G8** and each measurement data, then **paste** on to the INNO-QM worksheet.

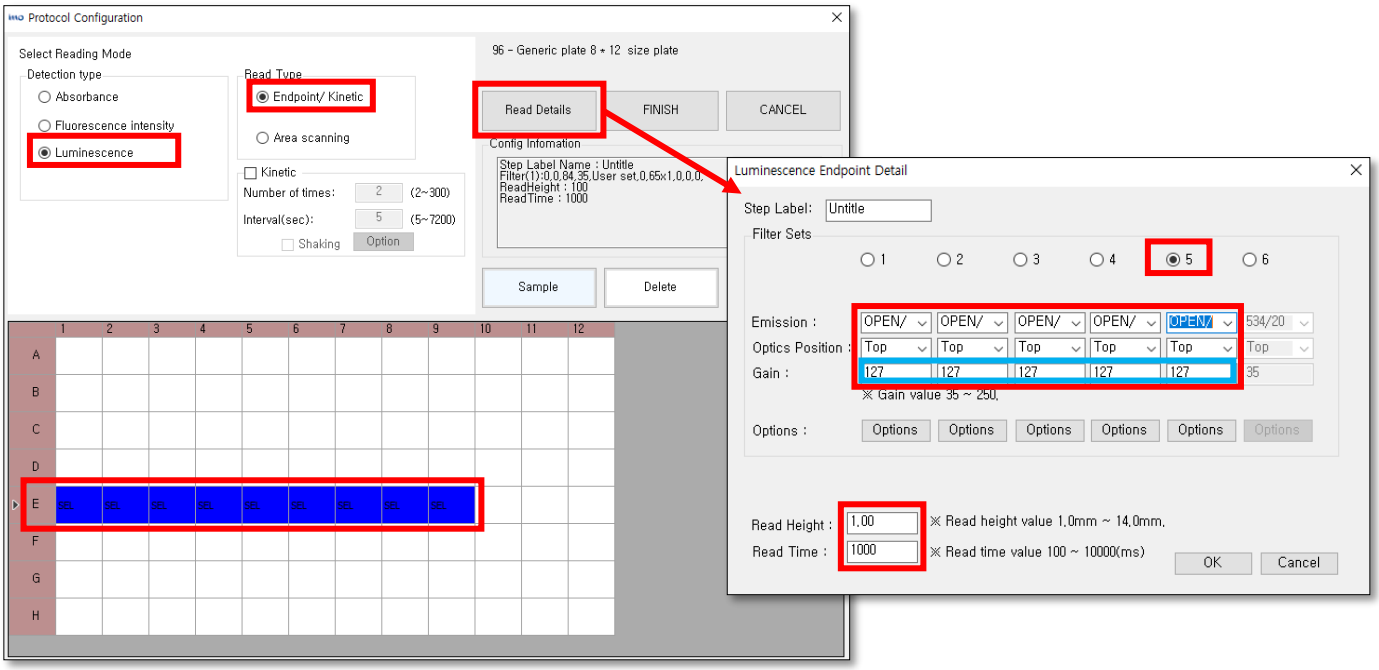
• When you copy and paste the data from the right measured data to the left side of the INNO-QM worksheet. You just have to press "**Ctrl + C**" on the **G1 to G8** of each measurement data, then move on to the worksheet "**Ctrl + V**" to paste the data. Please perform this step **5 times** on each well for 1st to 5th data.

• Move to the **Fluorescence** tab at the bottom to check the linearity of each Fluorescence data. You can adjust the gain value if the graph does not show a linear trend or the linearity does not pass.

• If you have used the above methods and still cannot get a **Pass**, please contact us at the email address below.

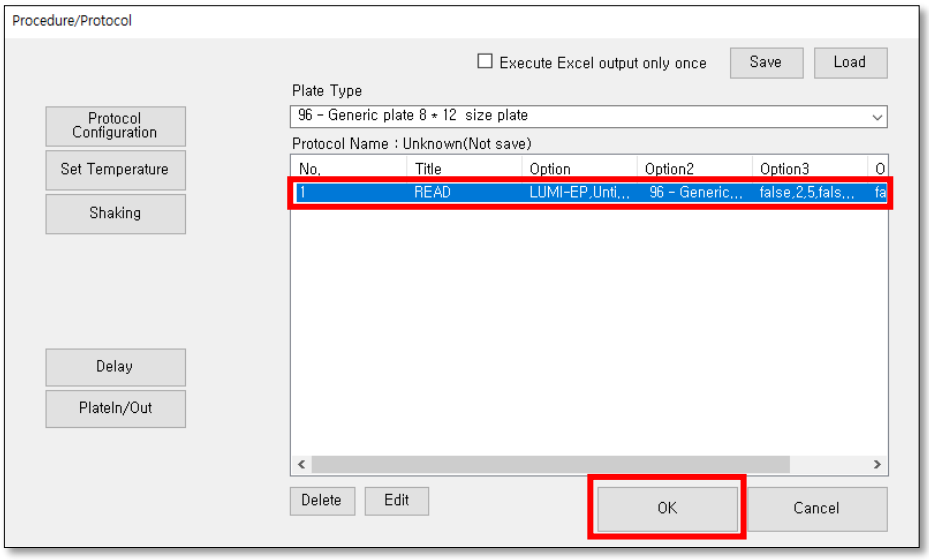
help@ltekc.com

Luminescence QC I



- For the Luminescence Q.C., please follow and select the same protocol options as above.

1. Select the 96-well plate in the Procedure/Protocol window.
2. Select "**Luminescence**" and "**Endpoint / Kinetic**".
3. Select "**E1 to E9"** on the well layout.
4. Click "**Read Details**" and change wavelength "**Count**" **5**.
5. Select Emission "**Open**", Optics Position "**Top**", Gain "**_ _ _**", Read Height "**1.00**", Read Height "**1.00**", and click "**OK**" and "**Finish**".
6. The Gain value of the blue box varies for each of the devices. Please check the contents on page 7 and type them in.



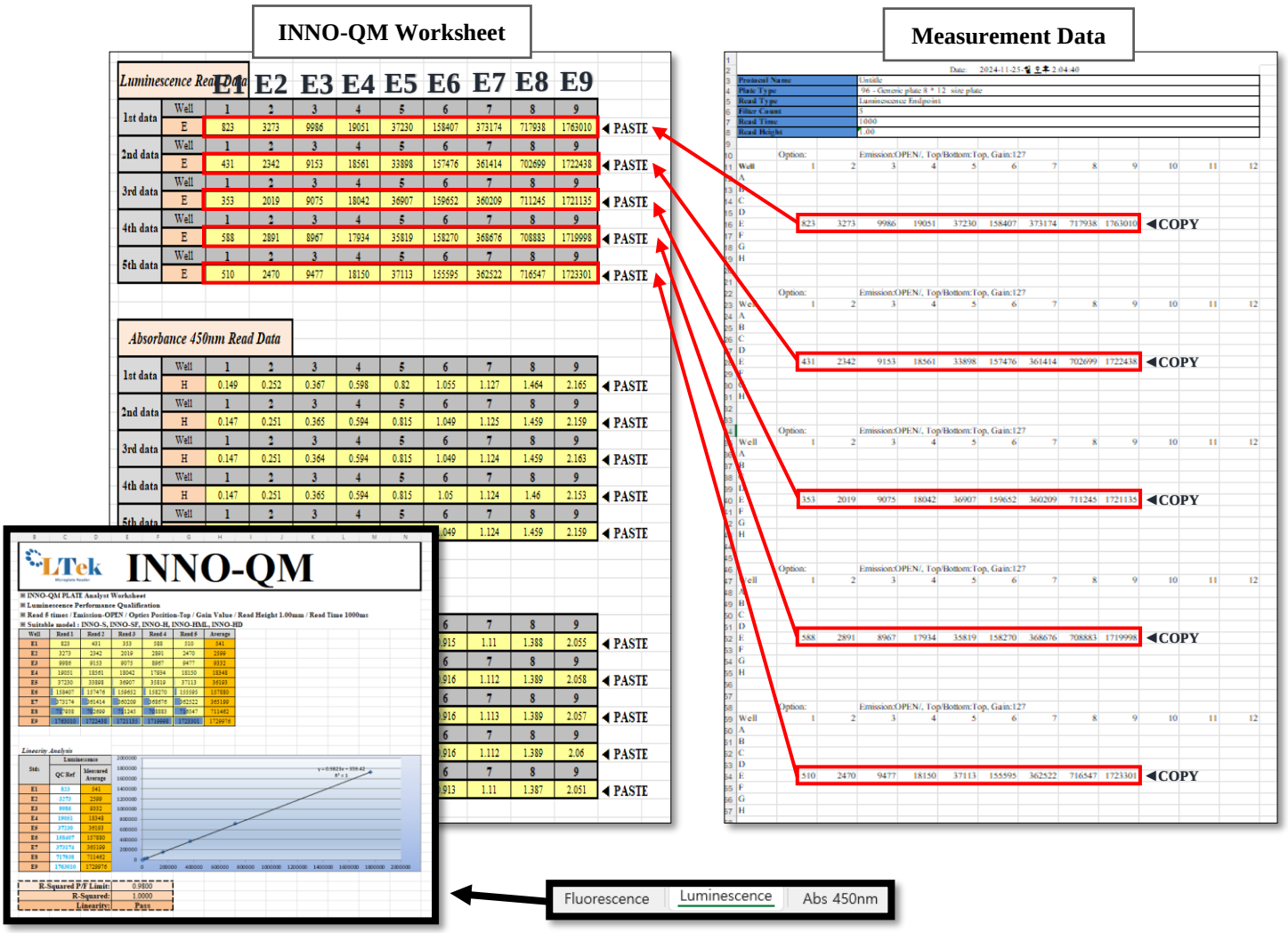
7. Click the "**OK"** button and "**Execute the protocol**".

• Before placing the INNO-QM on the plate carrier of the INNO Microplate reader series, ensure that every well of the plate is free. The dusts laid upon inside of the wells will provide poor results. Use a soft material brush or blower to clean the dust and keep the INNO-QM inside the case when it is not in use to prevent future dusting.

• The suitable models of the Luminescence are INNO-S, INNO-SF, INNO-H, INNO-HML, INNO-HD.

• Pressing the "**OFF**" button turns off the power of INNO-QM. Always press the "**OFF**" button after use to prevent battery discharge. If the battery is low, the measurement will not be accurate.

Luminescence QC II



• After completing the measurement, **copy E1 to E9** and each measurement data, then **paste** on to the INNO-QM worksheet.

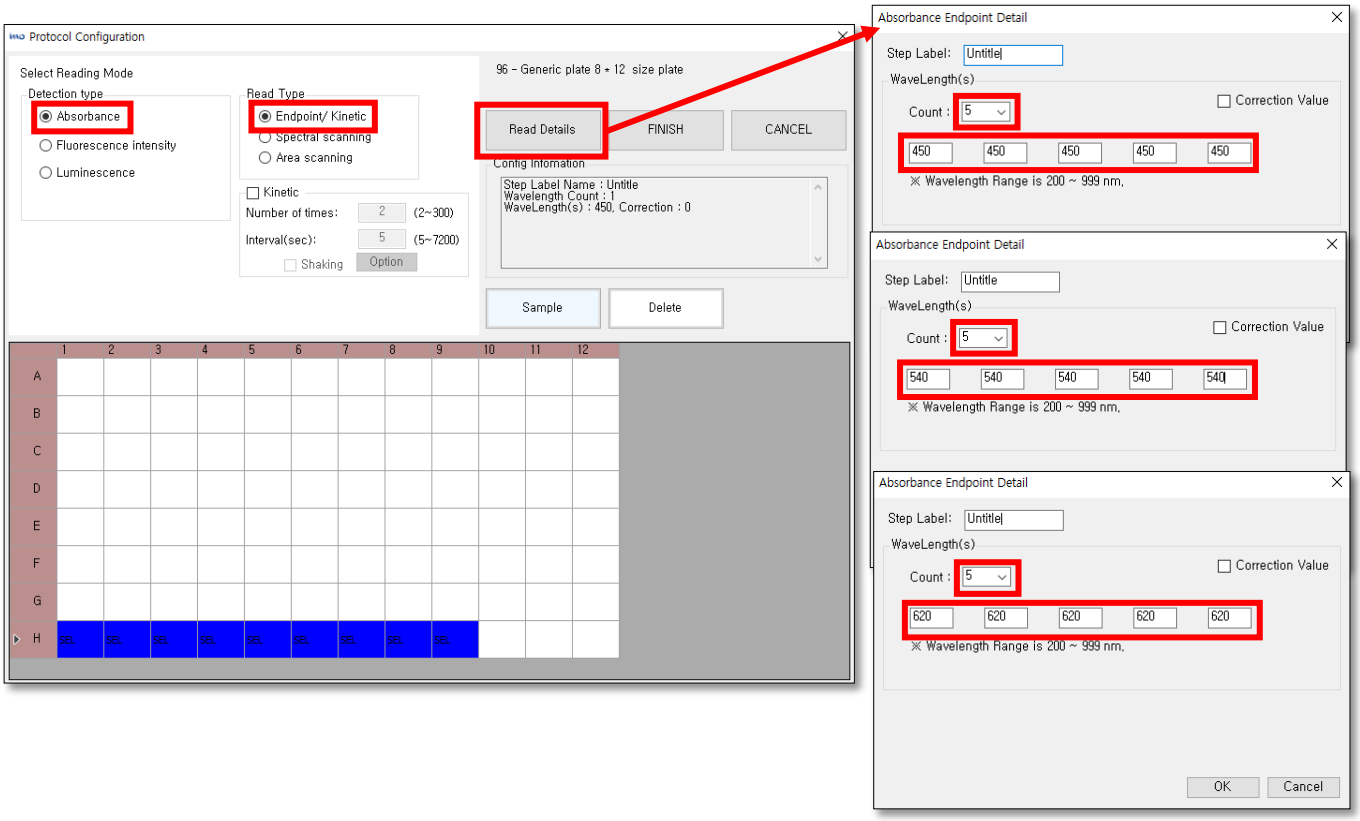
• When you copy and paste the data from the right measured data to the left side of the INNO-QM worksheet. You just have to press "**Ctrl + C**" on the **E1 to E9** of each measurement data, then move on to the worksheet "**Ctrl + V**" to paste the data. Please perform this step **5 times** on each well for 1st to 5th data.

• Move to the **Luminescence** tab at the bottom to check the linearity of each Luminescence data. You can adjust the gain value if the graph does not show a linear trend or the linearity does not pass.

• If you have used the above methods and still cannot get a **Pass**, please contact us at the email address below.

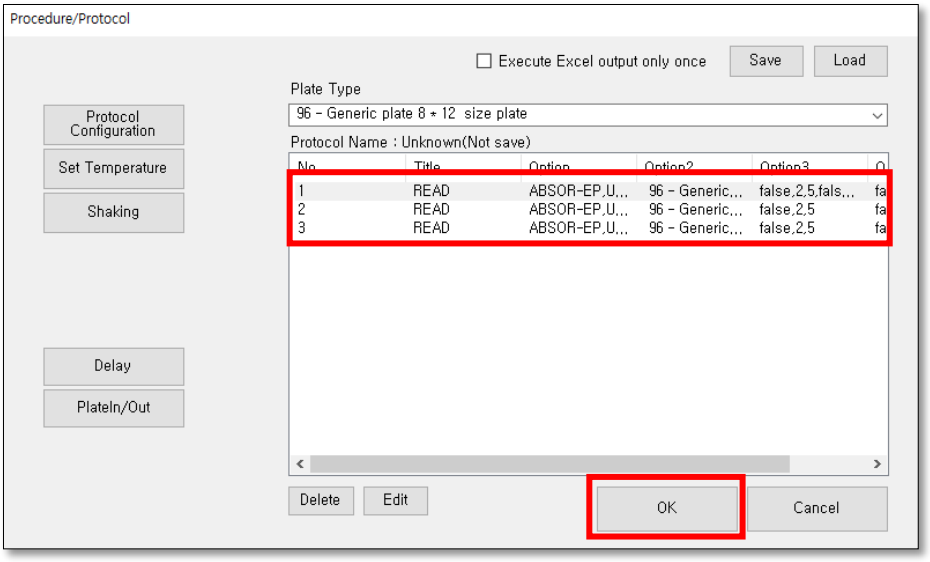
help@ltekc.com

Absorbance QC I



- For the absorbance Q.C., please follow and select the same protocol options as above.

1. Select the 96-well plate in the Procedure/Protocol window.
2. Select “**Absorbance**” and “**Endpoint / Kinetic**”.
3. Select “**H1 to H9”** on the well layout.
4. Click “**Read Details**” and change wavelength “**Count**” **5**.
5. Type **450** in the five blank boxes and click “OK” and “Finish”.
6. Do the same steps 1 to 5 with **540**nm and **620**



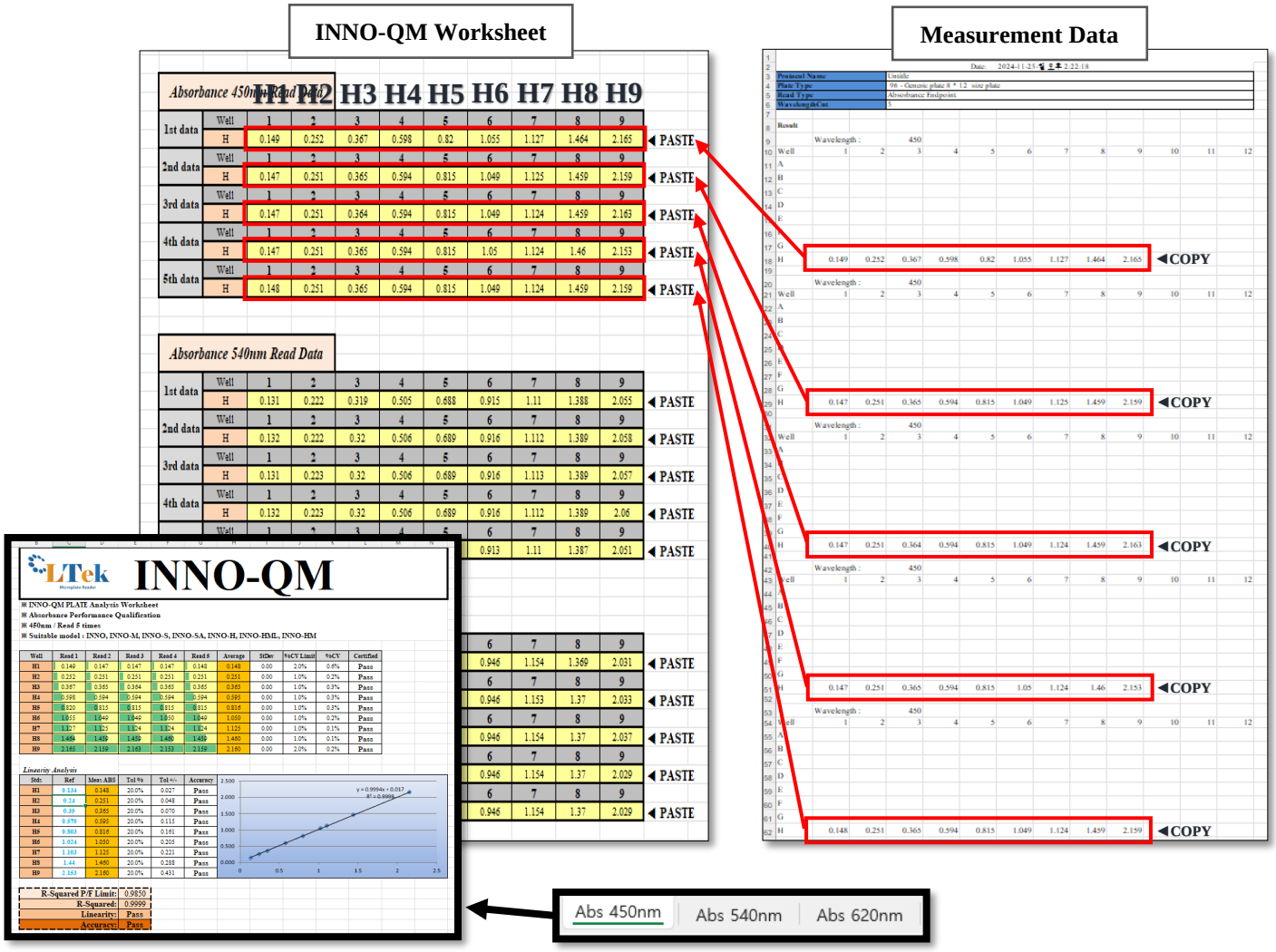
7. Click the "**OK"** button and "**Execute the protocol**".

• Before placing the INNO-QM on the plate carrier of the INNO Microplate reader, ensure that every well of the plate is free. The dusts laid upon inside of the wells will provide poor results. Use a soft material brush or blower to clean the dust and keep the INNO-Q inside the case when it is not in use to prevent future dusting.

• The suitable models of the Absorbance are INNO, INNO-M, INNO-S, INNO-SA, INNO-H, INNO-HML, INNO-HM.

• Pressing the "**OFF**" button turns off the power of INNO-QM. Always press the "**OFF**" button after use to prevent battery discharge. If the battery is low, the measurement will not be accurate.

Absorbance QC II



• After completing the measurement, copy H1 to H9 and each measurement data (450nm, 540nm, and 620nm), then paste on to the INNO-QM worksheet.

• When you copy and paste the data from the right measured data to the left side of the INNO-QM worksheet. You just have to press “Ctrl + C” on the H1 to H9 of each measurement data, then move on to the worksheet “Ctrl + V” to paste the data. Please perform this step 5 times on each well for 1st to 5th data.

• Move to the Absorbance tab at the bottom to check the linearity of each absorbance data.

• If you do not see a “Pass” in your measurements, please contact us using the email below.

help@ltekc.com