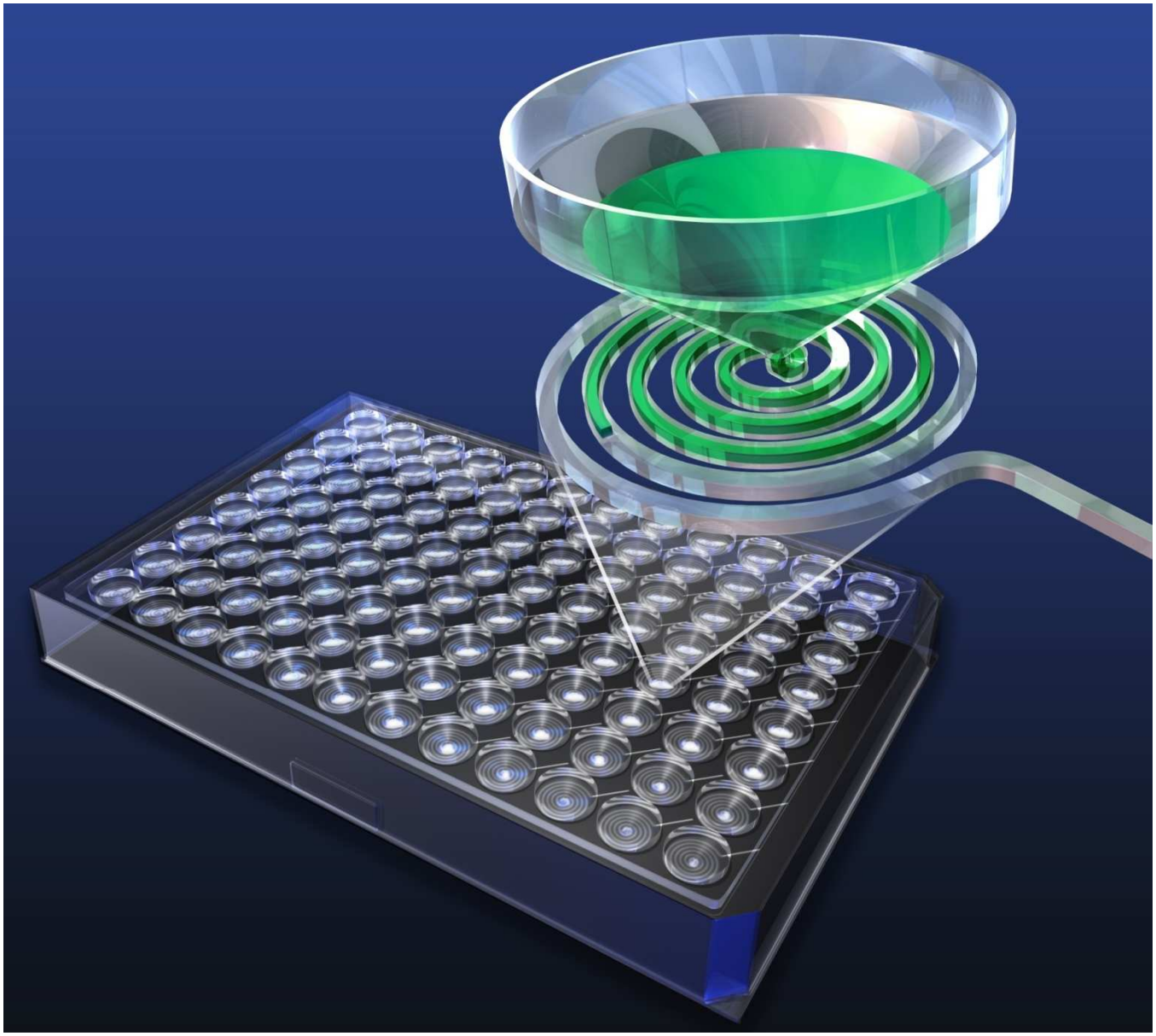
TECHNICAL NOTE

TN0004: Optimiser™ Microplate System (ELISA) Setup Guide on the BMG FLUOStar® Omega Microplate Reader

OPTIMISER™

THE NEXT GENERATION OF MICROPLATES



SILOAM biosciences

Better Immunoassays through Innovative Microfluidics

READER SETUP WITH BMG FLUOSTAR® OMEGA :

The BMG FLUOStar® Omega Multi-mode Microplate Reader with fluorescence function has been tested for compatibility with Siloam's Optimiser™ microplate System in ELISA assay with OptiGlow™ chemifluorescent substrate. Please refer to the Optimiser™ Technology page on Siloam's website for more details on the principles behind the Optimiser™ microplate platform. For more detailed information of FLUOStar® readers or software, please contact BMG LABTECH's technical support.

Recommended Optics

	Wavelength
Excitation	544* nm
Emission	590 nm

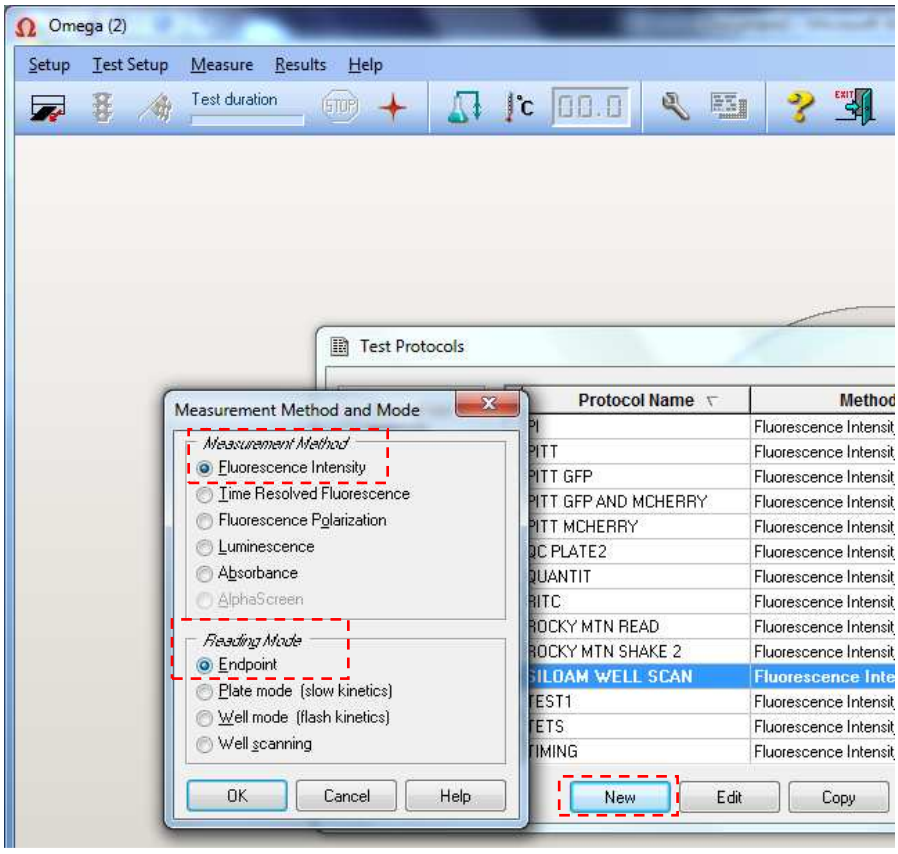
**There is no significant difference using excitation wavelength at 529nm or 544nm in this reader.*

Instrument Setup

Turn on the plate reader, and open up Omega control software on computer.

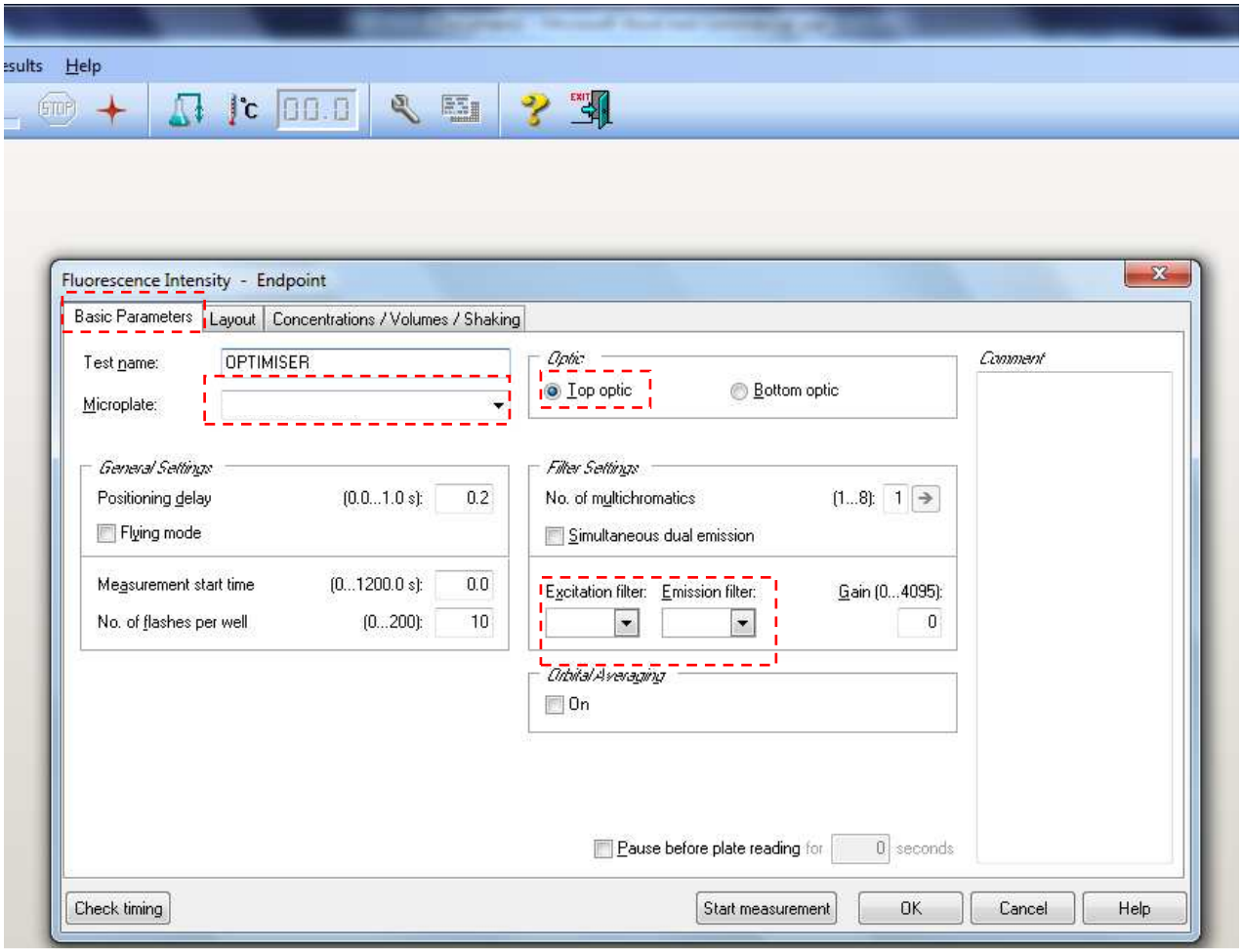
Step 1- Select the Measurement Method

Create a new test protocol, select "**Fluorescence Intensity**" at Measurement Method and "**Endpoint**" at Reading Mode.



Step 2- Select the Plate Type and Optic Probe Direction

In **Basic Parameters**, input your test name, select the "**SBS Standard 96-well**" for Microplate Type, select "**Top optic**" for Optic, select appropriate Excitation Filter and Emission Filter as described in Page 1, leave all other selection as default, leave the gain as is, it will be adjusted in following steps.



Step 3 - Gain adjustment:

An Optimiser® Plate will be used with one well containing positive control solution.

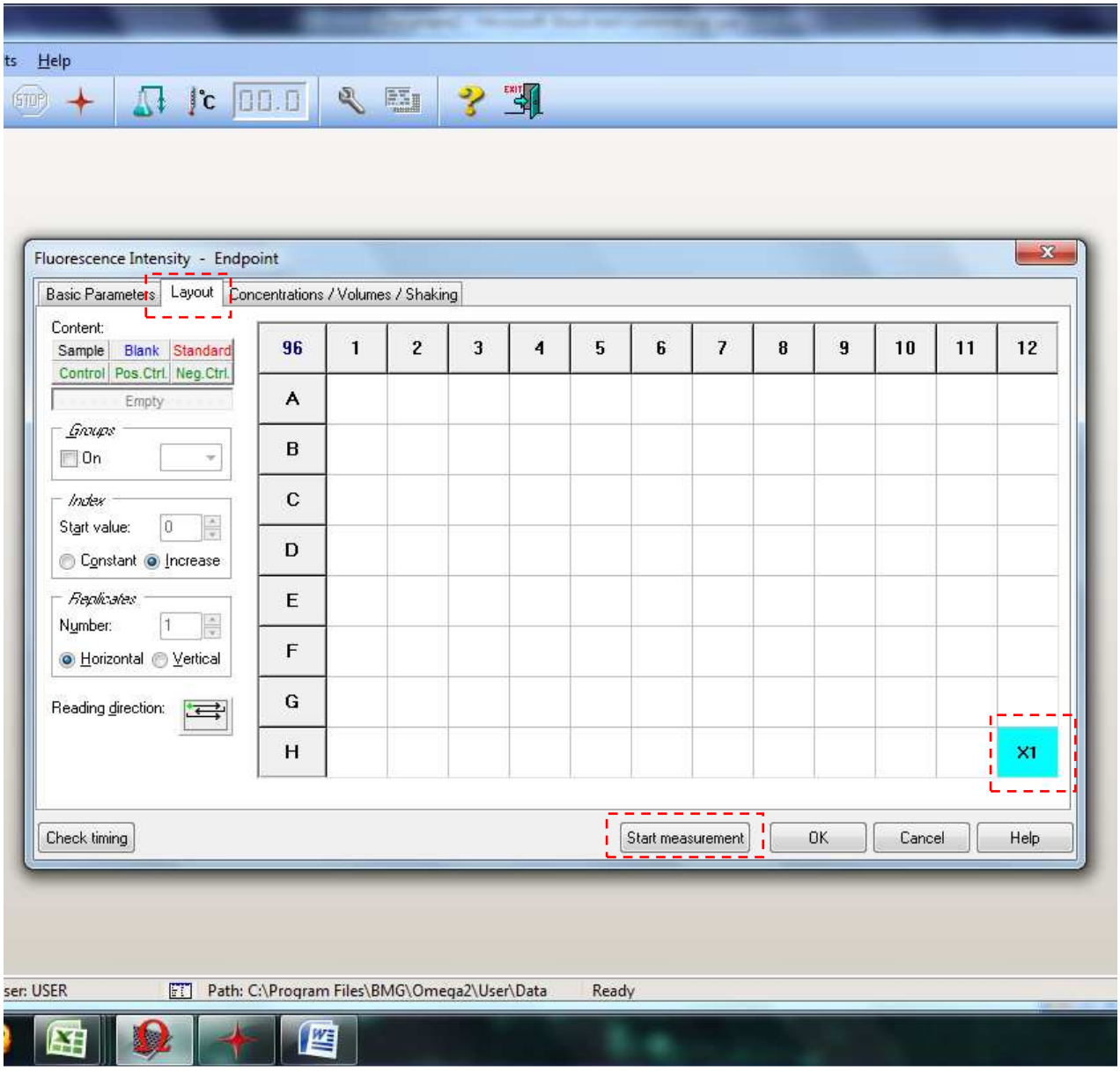
Material:

1) Siloam's SAv-HRP (cat# OMR-HRP). *Note: Any HRP conjugate with concentration greater than 1 µg/mL can be used for this test with following experimental protocol*
2) Siloam's OptiGlow™ substrate.
3) One Optimiser™ Microplate. Well **H1** is used for the sensitivity adjustment

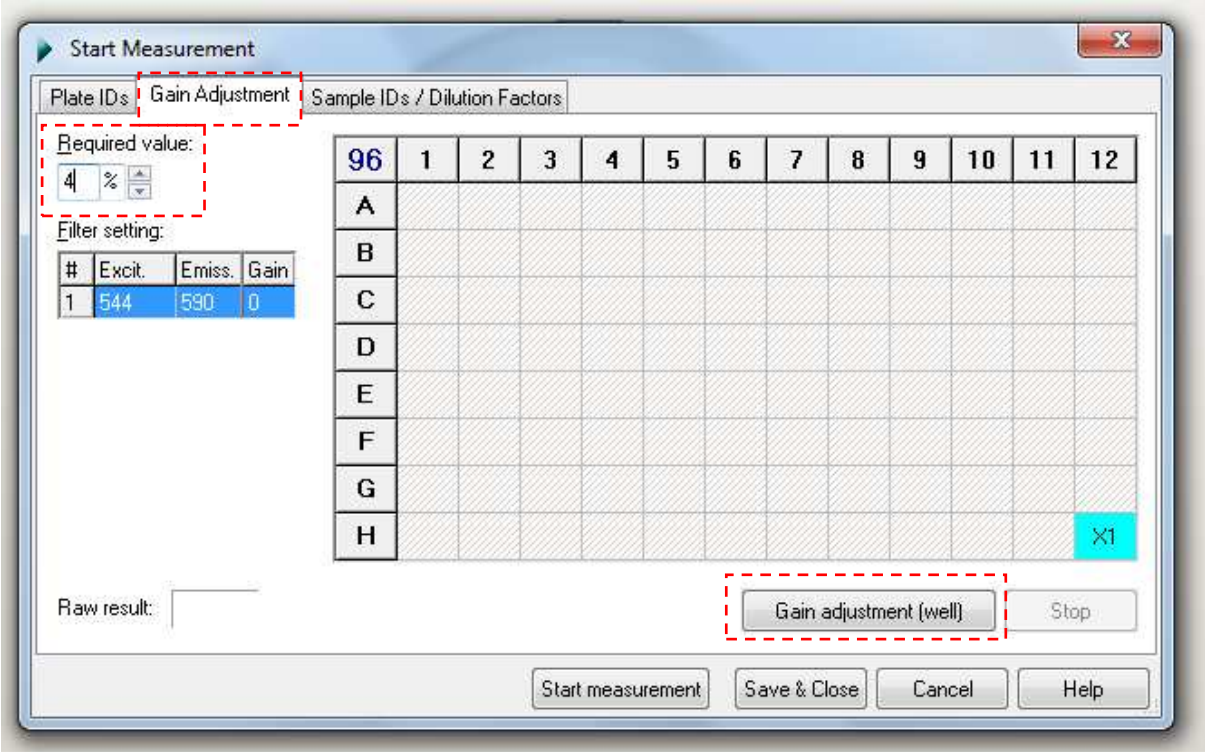
Positive Control Preparation and Loading:

In a clean plastic tube, add 50 µL of OptiGlow™-A, 50 µL of OptiGlow™-B, 1 µL of OptiGlow™-C, and 1 µL of supplied SAv-HRP stock solution, mix well, and wait for 2 minutes. The substrate will be fully developed and stable for hours. Load 4 µL of mixture into one well *(well H12 is used in this instruction)* of Optimiser™ microplate and wait until the well is empty (do not use pad/holder)

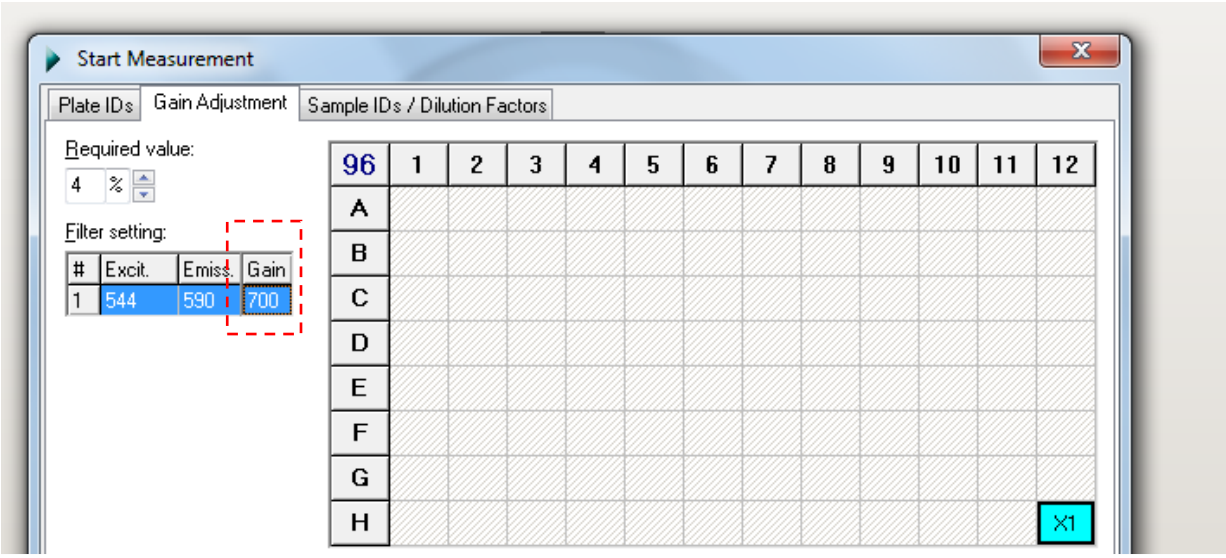
In the software, change to panel of Layout, double click to select well H12, click "**Start Measurement**".



Go panel of Gain Adjustment, input **4%** in the Required Value. Then click "**Gain Adjustment (well)**". The reader will read well H12 and automatic select the gain which gives the RFU reading close to 10,400.



The selected gain will appear in the "filter setting", save or record this number. The gain setting will be valid for all Optimiser™ based assays. Readjust the gain only if a) changing the reader or b) changing the optical unit such as light bulb, filters, etc.



Technical Assistance: If you require assistance, please contact Siloam Biosciences, Inc. Technical Support at +1 (513) 429-2976 or techsupport@siloambio.com.

Additional technical assistance is available under the Technical Support tab on the Siloam Biosciences web site (http://siloambio.com/).

- Using Optimiser™ Immunoassay Microplate Video
- Optimiser™ User's Guide
- Reader Settings
- Quick Reference Guide
- Frequently Asked Questions
- Application Notes

Two additional videos appear under the Technology tab of the web site.

- Optimiser™ Principles of Operation
- Running an Assay with Optimiser™

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