TFCompanion Release May 2019
(build 05192019)

This release includes:

1. Integrated camera module
2. Measurement History dialog update

I. Integrated camera software module

MProbe 40 MSP systems (MProbe 20 system have is as an option) include 2MP camera that can be operated with a standard camera software that is separate from TFCompanion. However, standard camera software does not support identification of the precise location of the measurement or display of the measurement results.

New release include integrated camera module in TFCompanion software. It allows positioning and adjusting the size of a reticle to match exactly the measurement spot size and location.

Connecting camera

To start camera – select Configure/Connect camera from the main menu

Camera is initialized and image displayed either "docked" (inside TFCompanion frame) or in the separate window(default). This behavior can be controlled/changed by the user (see details further below)

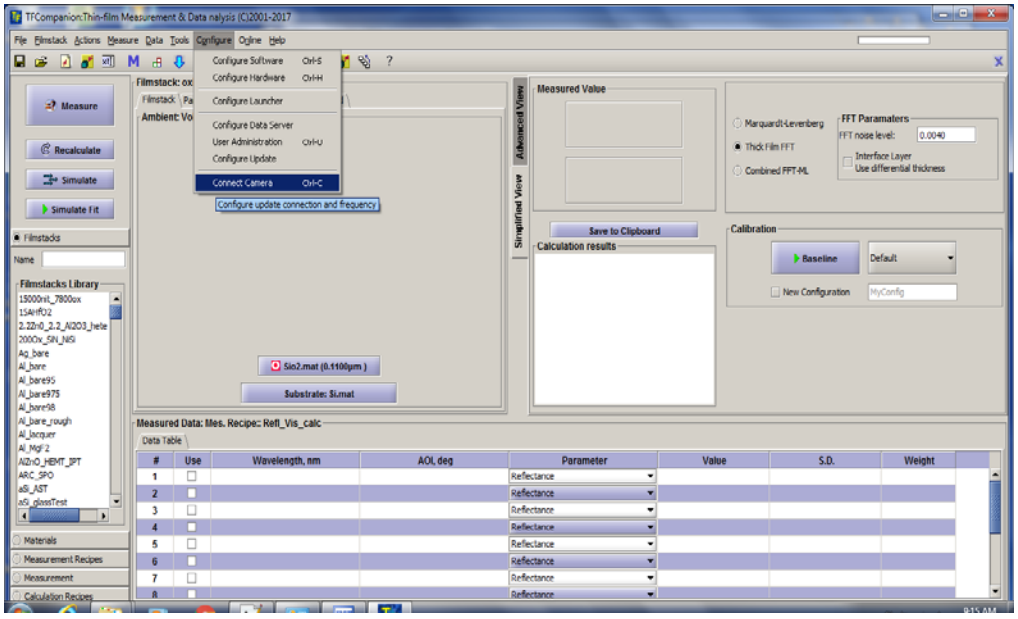
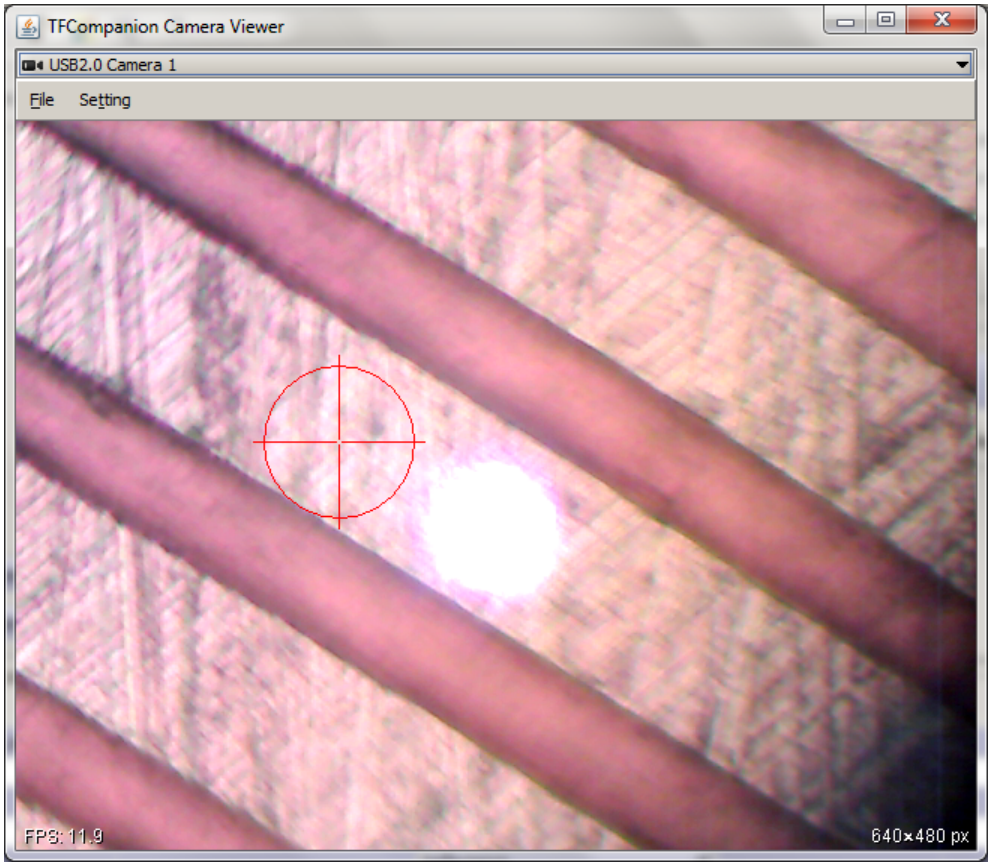


Fig. 1. To start camera – select Configure/Connect camera from the main menu

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Configuring reticle.

Connect SMA port of the microscope camera adapter (on top of the microscope) to illumination source of MProbe system with a fiberoptics cable. Dim microscope illumination so the lightspot is visible on the sample (it helps to have patterned/structured sample for easy focusing)



Fig, 2. Lightspot and reticle are displayed on the sample surface but they do not overlap yet.

Move the mouse cursor to the reticle, press/hold left mouse button and drag the reticle to the light spot.

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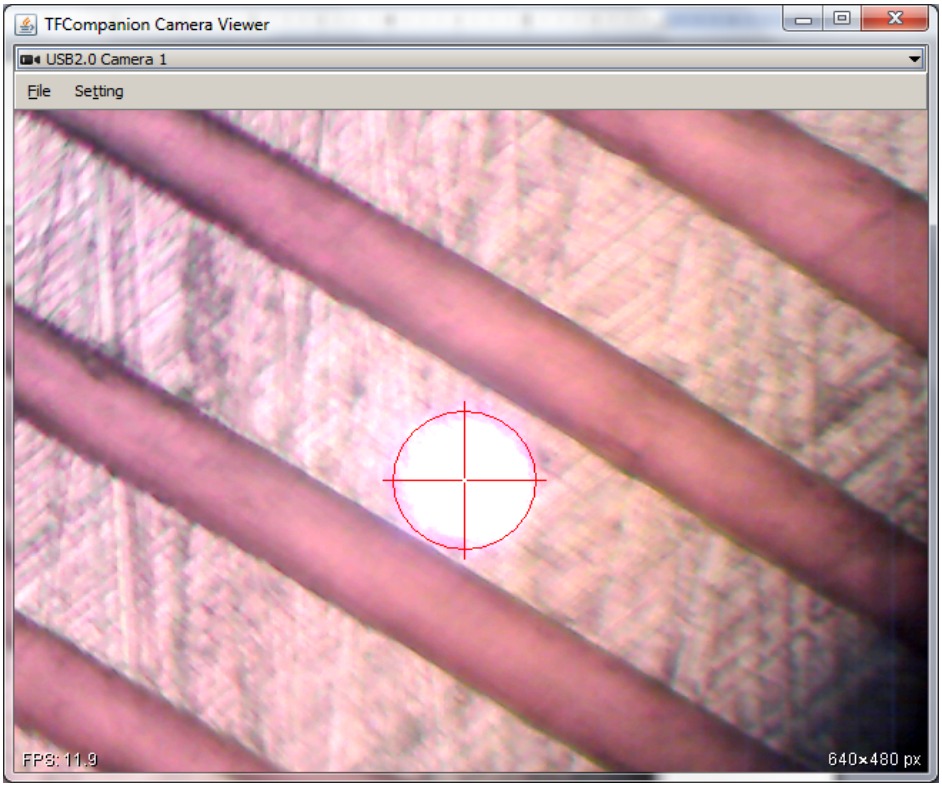
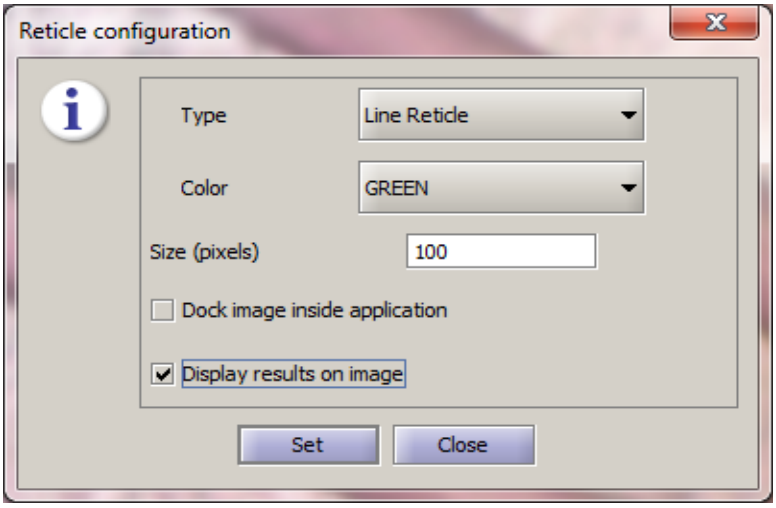


Fig. 3 Reticle is now matching/overlapping the light spot

Select Setting from the image menu to display Reticle configuration dialog that allow to set size, color, and type of the reticle. As well as “Dock” and “Display results” properties



Fig, 4 Reticle configuration dialog.

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When “Dock” check box is selected – the image will be displayed inside TFCompanion frame, otherwise it is displayed in a separate frame (use Setting/Save) and restart TFCompanion for docking property change to take

effect. If “Display results” checked – measurement results are displayed on the picture

After reticle properties are set, select Setting/Save – this saves configuration to a properties file and they will be remembered by the software during next sessions.

Position and size of the measurement spot is, generally, maintained during change of the objectives.

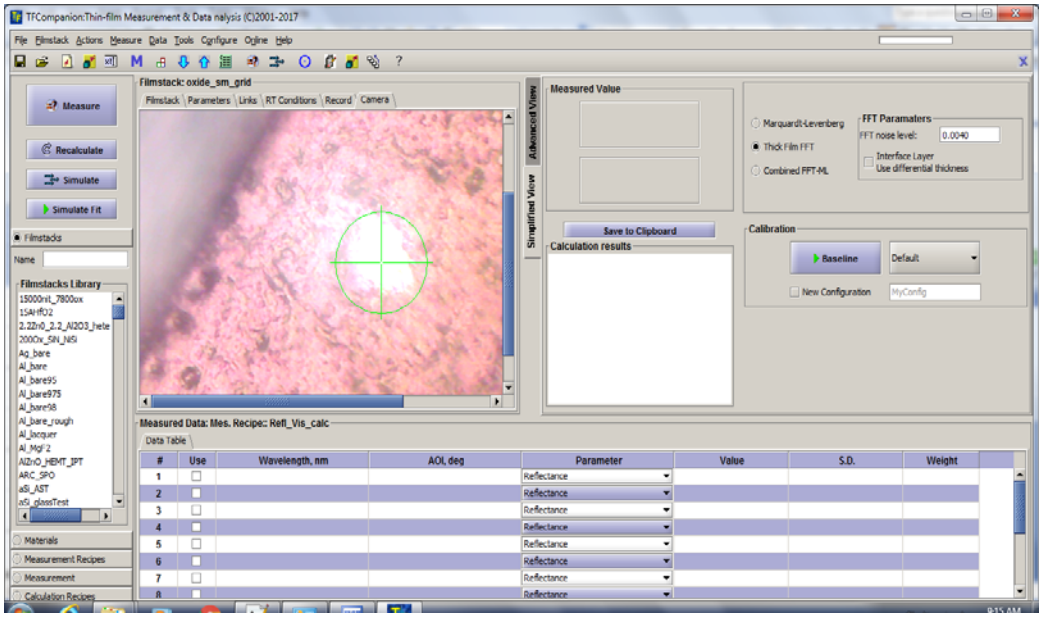


Fig. 5 Image in the docked position

Measurement

Connect SMA port of the microscope camera adapter (on top of the microscope) to spectrometer SMA port of MProbe system with a fiberoptics cable. *MProbe illumination is not used anymore and can be dimmed*. Increase the microscope illuminator intensity to a maximum.

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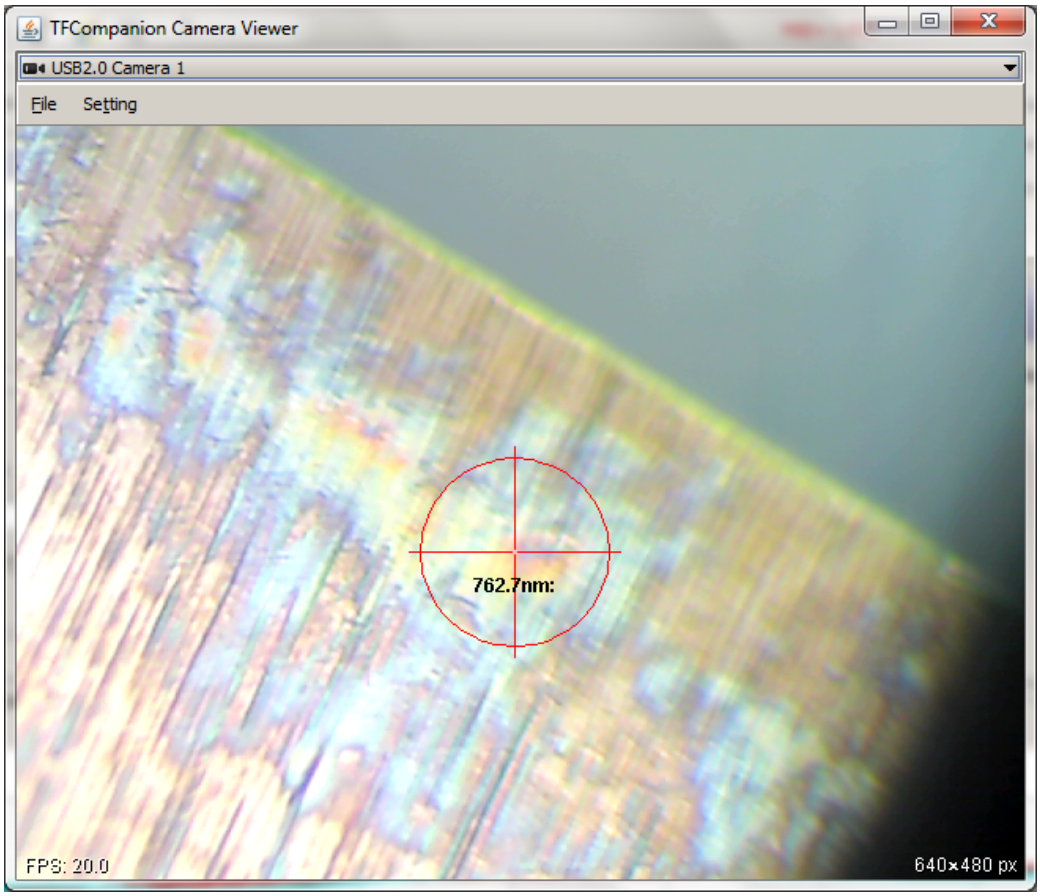


Fig. 6. Position reticle at the measurement area on the sample and measure – results of the measurement are displayed on the image. (they are also displayed in the usual display location in TFCompanion interface). Measurement spot is 20µm on the image.

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II. Measurement History Dialog Update

1. Custom settings dialog is added to set following options:
   - Data export directory location. If set, this directory will be used as a default to save exported data
   - "No directory prompt" option. If set, user will not be prompted to select directory – only need to input data file name
   - "Clear data option" If selected, data is automatically cleared after data saving/export
   - Data type option (tab or csv). If selected, data file format is set automatically – no prompt to select format is displayed.

2. Sample Id and lot ID are displayed in the table and exported with the data
   ID format -> sampleID#LotID
3. Data export button is enlarged and highlighted with green color for easy recognition

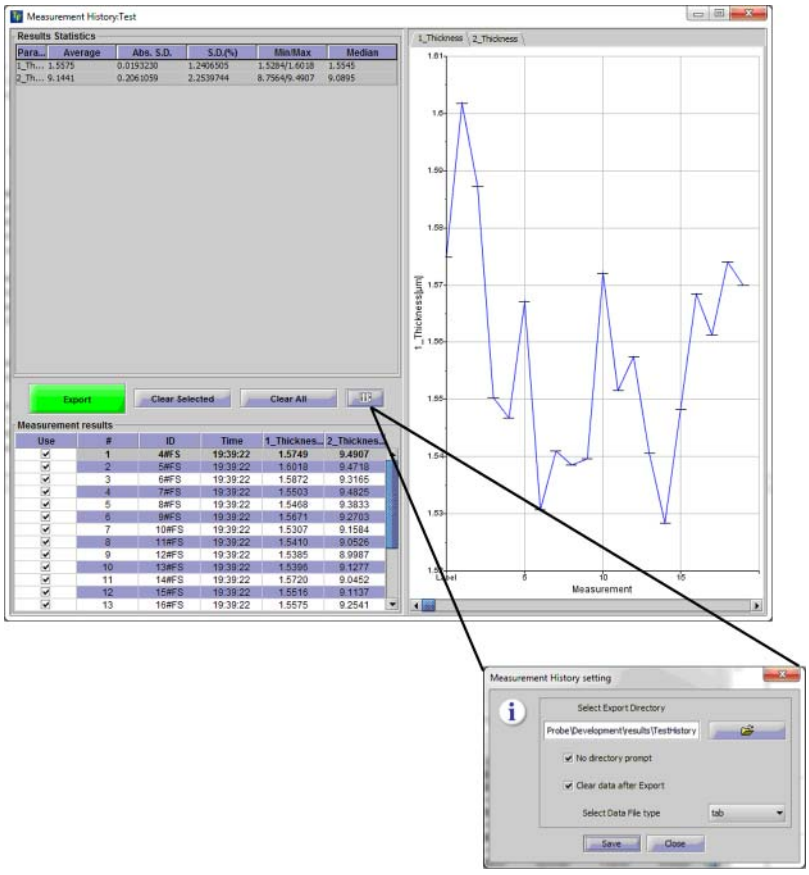


Fig.7 Measurement History dialog and Options setting

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Date: May 17. 2019
Operator: Leo

#	ID	Time	1_Thickness[?m]	2_Thickness[?m]
1	4#FS	19:28:12	1.5749	9.4907
2	5#FS	19:28:12	1.6018	9.4718
3	6#FS	19:28:12	1.5872	9.3165
4	7#FS	19:28:12	1.5503	9.4825
5	8#FS	19:28:12	1.5468	9.3833
6	9#FS	19:28:12	1.5671	9.2703
7	10#FS	19:28:12	1.5307	9.1584
8	11#FS	19:28:12	1.5410	9.0526
9	12#FS	19:28:12	1.5385	8.9987
10	13#FS	19:28:12	1.5396	9.1277
11	14#FS	19:28:12	1.5720	9.0452
12	15#FS	19:28:12	1.5516	9.1137
13	16#FS	19:28:12	1.5575	9.2541
14	17#FS	19:28:12	1.5406	9.0653
15	18#FS	19:28:12	1.5284	9.0366
16	19#FS	19:28:12	1.5483	8.9795
17	20#FS	19:28:12	1.5684	9.0371
18	21#FS	19:28:12	1.5613	8.9611
19	22#FS	19:28:12	1.5740	8.8808
20	23#FS	19:28:12	1.5699	8.7564

Fig. 8. Export data file format

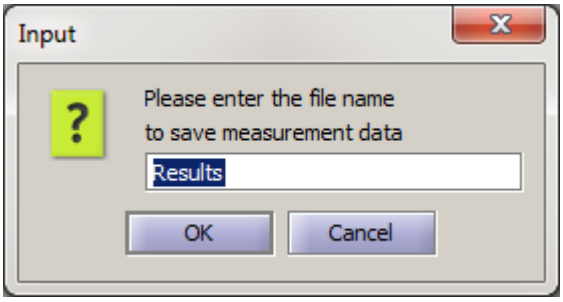


Fig. 9. File name prompt (set directory and file format are used without a prompt)

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