


How to Set Pitch Intervals Accurately According to FOV

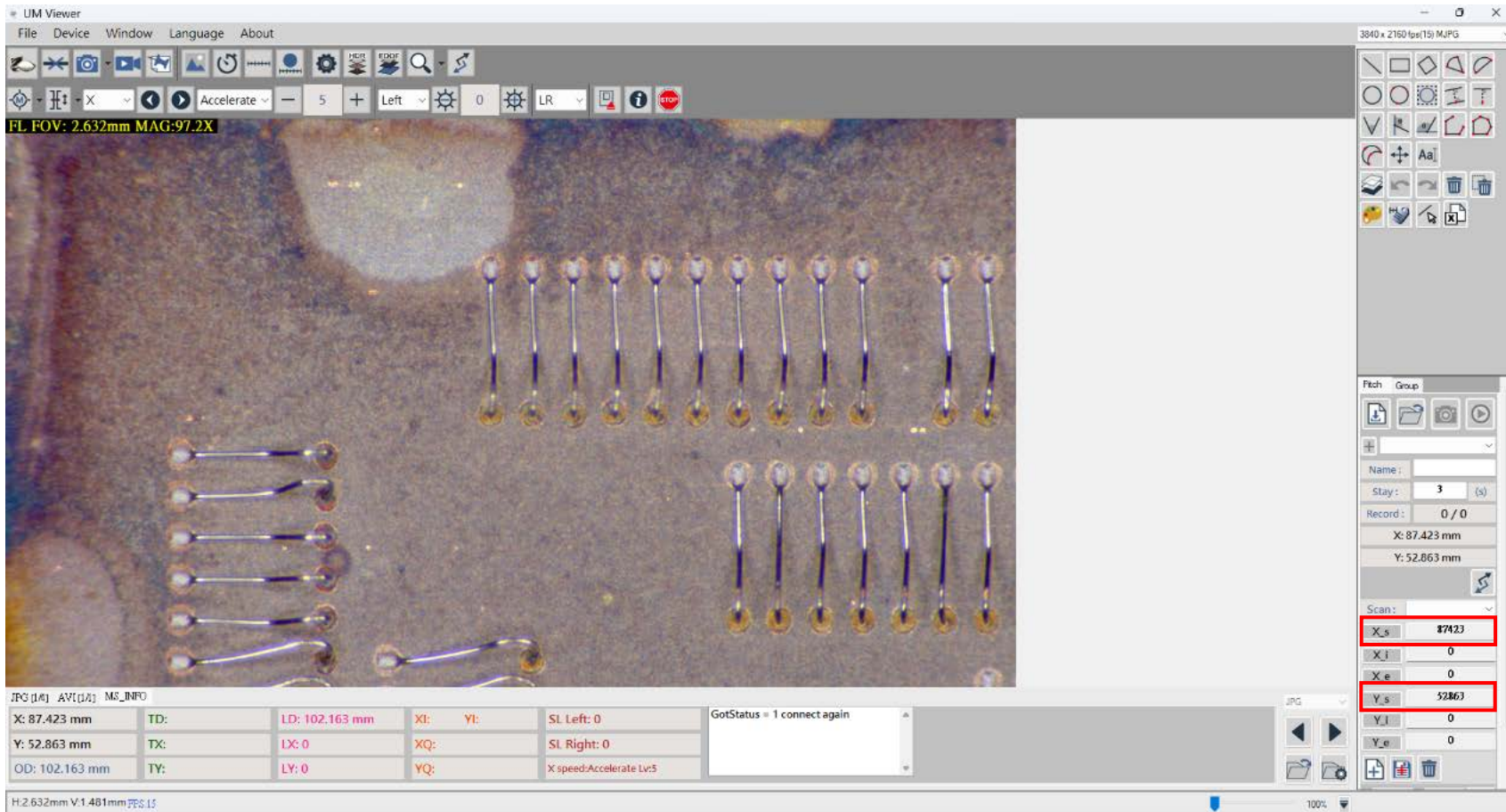
1. Same as standard calibration method: calibrate the field of view (FOV) horizontally (H) and vertically (V) to obtain accurate results



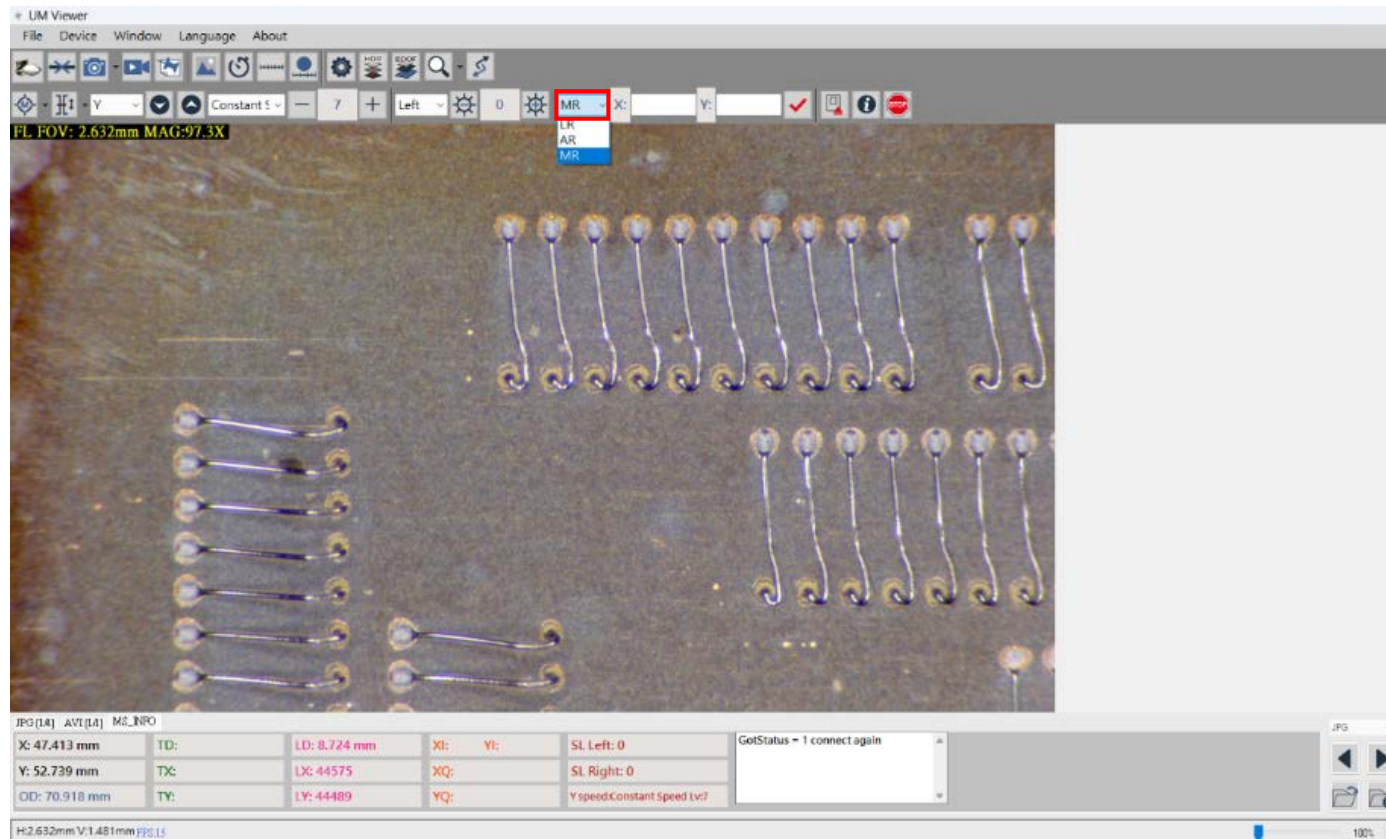
H:2.632mm V:1.481mm FPS:15

H (Horizontal): 2.632 mm V (Vertical): 1.481 mm

2. Click  to open MS220 Function.
Set pitch, click X_s and Y_s.



3. To set the X and Y interval to precisely be the same length as the FOV, the MR function must be used. Select MR function. (Note: MR is to manually set a coordinate and measure the coordinate to any record point in the group.)



Still on the same coordinates as your X_s and Y_s, click the ✓.

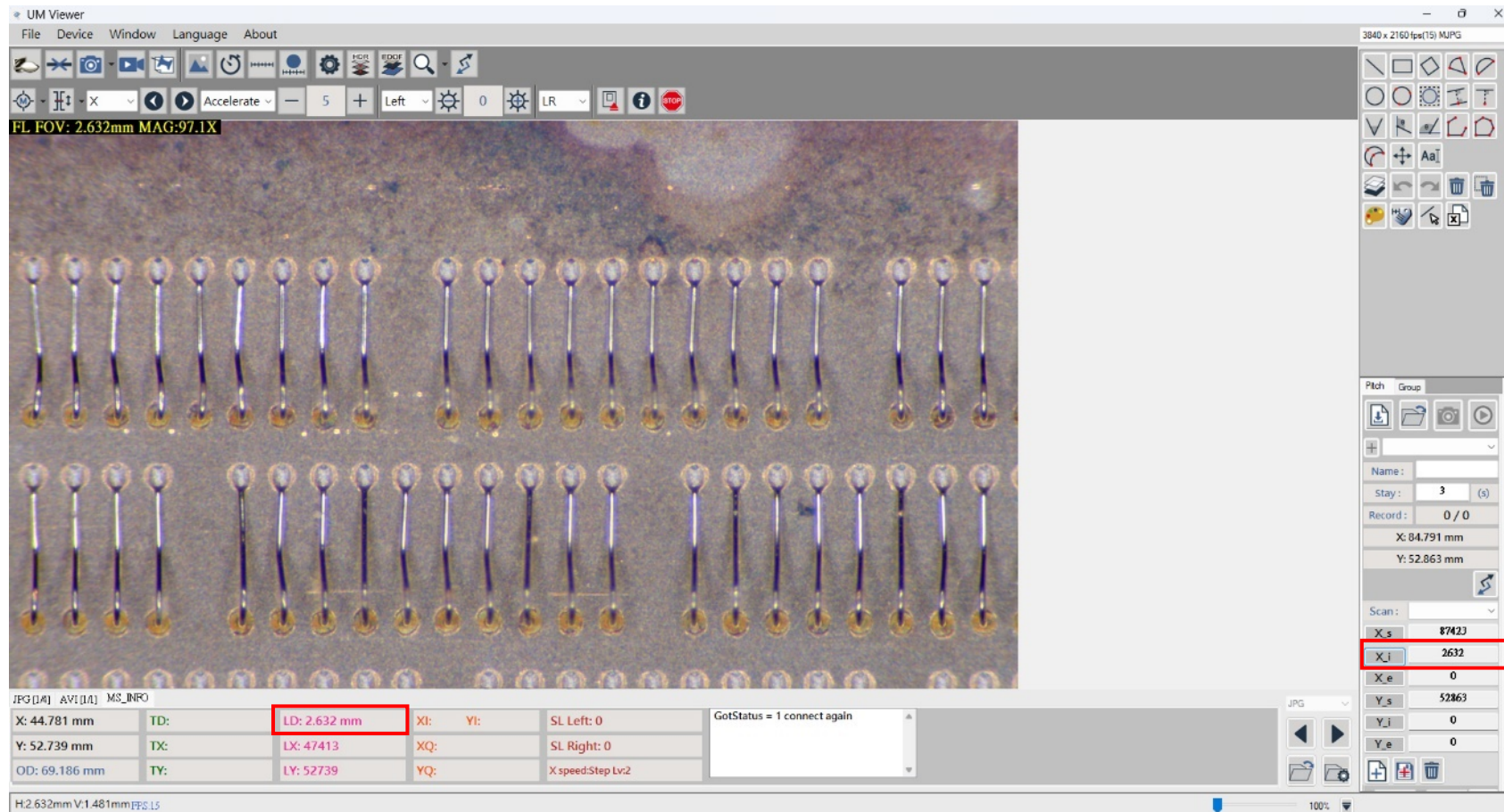


After clicking ✓ the LD (Last Distance) will be set to 0 mm.

JPG [1/4]	AVI [1/1]	MS_INFO			
X: 44.781 mm	TD:	LD: 0 mm	XI:	YI:	SL Left: 0
Y: 52.739 mm	TX:	LX: 44781	XQ:		SL Right: 0
OD: 69.186 mm	TY:	LY: 52739	YQ:		X speed:Step Lv:2

4. Set X interval based on the H FOV, in this example it is 2.632 mm.

Use the left and right keyboard keys ($\leftarrow \rightarrow$) to move **only the X axis** and see the LD display as your guide. When LD shows the same distance as your H FOV measurement, set the **X interval by clicking X_i**. (Note: Select "Step" to precisely control the number of steps)



5. To set Y interval, firstly reset the LD back to 0 mm by clicking ✓ on MR again.

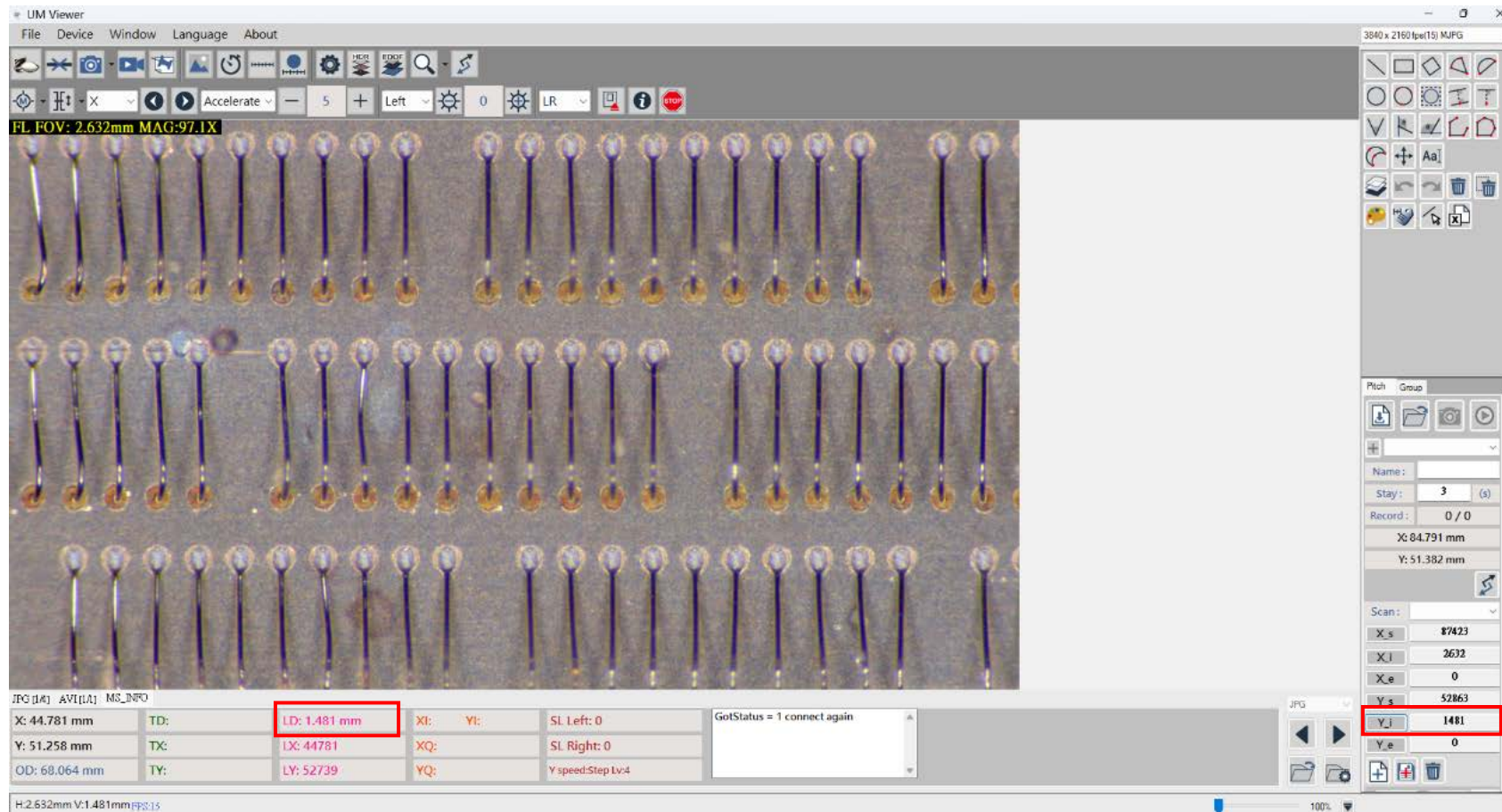
MR ▾ X: Y: ✓

After clicking ✓ the LD (Last Distance) will be set to 0 mm.

JPG [1/4]	AVI [1/1]	MS_INFO			
X: 44.781 mm	TD:	LD: 0 mm	XI:	YI:	SL Left: 0
Y: 52.739 mm	TX:	LX: 44781	XQ:		SL Right: 0
OD: 69.186 mm	TY:	LY: 52739	YQ:		X speed:Step Lv:2

6. Set Y interval based on the V FOV, in this example it is 1.481 mm.

Use the up and down keyboard keys (\uparrow \downarrow) to move **only the Y axis** and see the LD display as your guide. When LD shows the same distance as your H FOV measurement, set the X interval by clicking X_i.



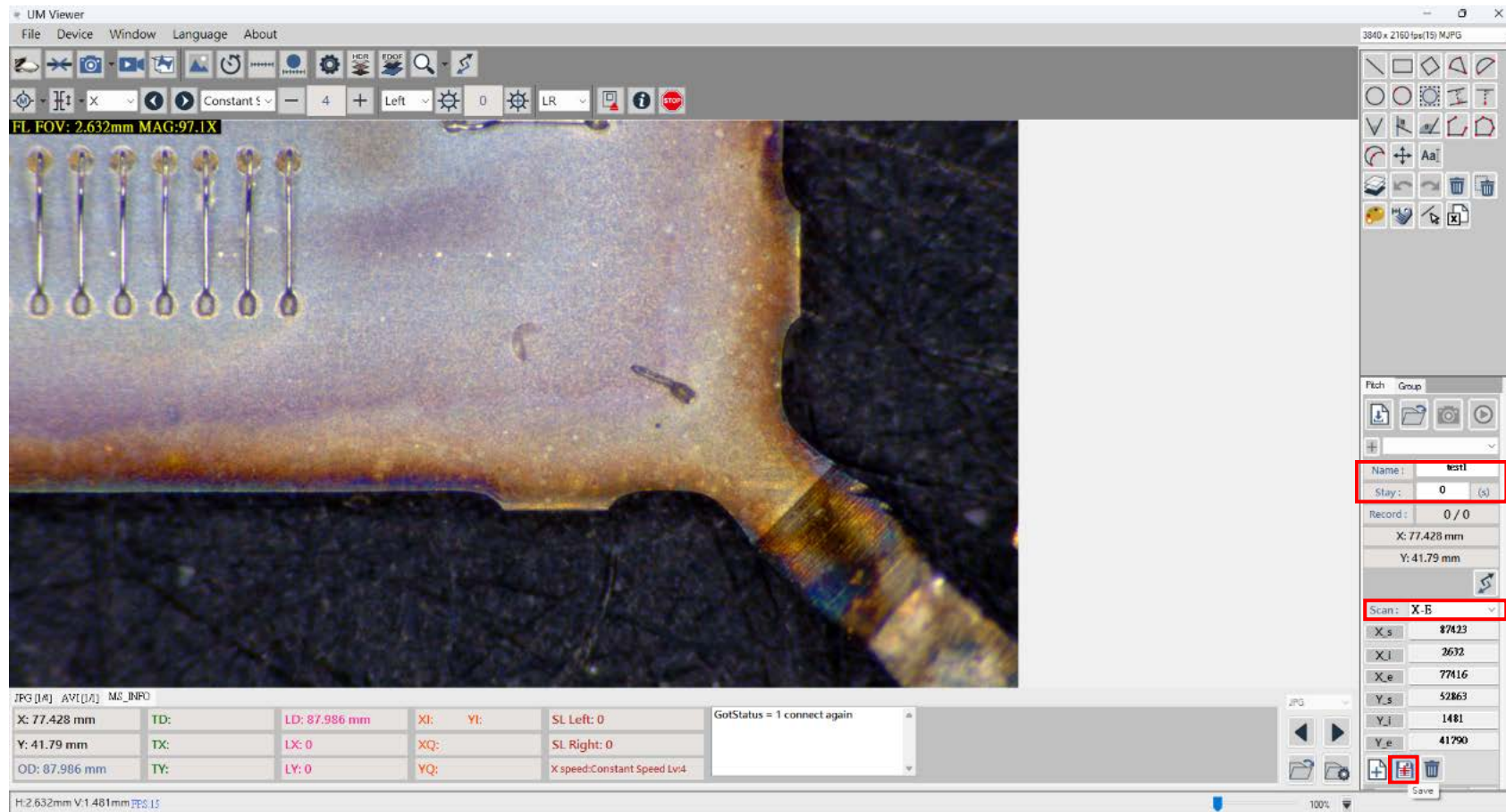
7. Move the stage and set end points for X and Y by clicking X_e and Y_e.

The screenshot shows the UM Viewer software interface. The main window displays a microscope image of a sample with several vertical structures. The interface includes a menu bar (File, Device, Window, Language, About), a toolbar with various icons, and a status bar at the bottom. A table in the bottom right corner, titled 'Scan', lists parameters for X and Y coordinates, with the X_e and Y_e rows highlighted in red. The status bar at the bottom shows 'GotStatus = 1 connect again' and 'X speed: Constant Speed Lv:4'.

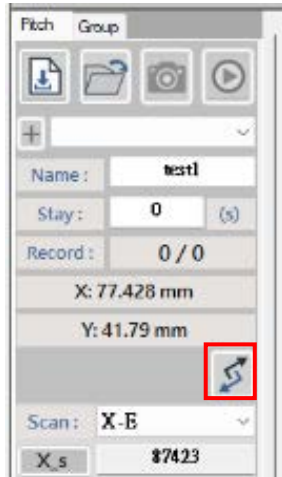
Scan:	
X_s	87423
X_l	2632
X_e	77416
Y_s	52863
Y_l	1481
Y_e	0

Additional interface details: The status bar at the bottom left shows 'H:2.632mm V:1.481mm FPS:14'. The bottom right corner has a 'JPG' button and a '100%' zoom indicator.

8. Name the file, set the stay time and choose the scan mode, and then click save.



9. To see the lists of pitch record coordinates in the pitch file, click the button below.



Lists of pitch record coordinates

FL FOV: 2.632mm MAG:97.1X

UM Viewer
File Device Window Language About
3840 x 2160 fps(15) MJPG

Constant 5
4
Left
0
LR

Pitch Group
+ test1
Name: test1
Stay: 0 (s)
Record: 1 / 45
X: 87.343 mm
Y: 52.51 mm

X: 87.343 mm	TD: 179.805 mm	LD: 101.912 mm	XI: 1	YI: 1	SL Left: 0	GotStatus = 1 connect again
Y: 52.51 mm	TX: 178.976 mm	LX: 0	XQ: 5	SL Right: 0		
OD: 101.912 mm	TY: 11.848 mm	LY: 0	YQ: 9	X speed: Constant Speed Lv4		

H:2.632mm V:1.481mm FPS:15

100%

179.805175
84788.52861
82156.52861
79524.52861
76892.52861
87420.51380
84788.51380
82156.51380
79524.51380
76892.51380
87420.49899
84788.49899
82156.49899
79524.49899
76892.49899
87420.48418
84788.48418