
Signal Location with Frequency Mapping

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26 January 2009

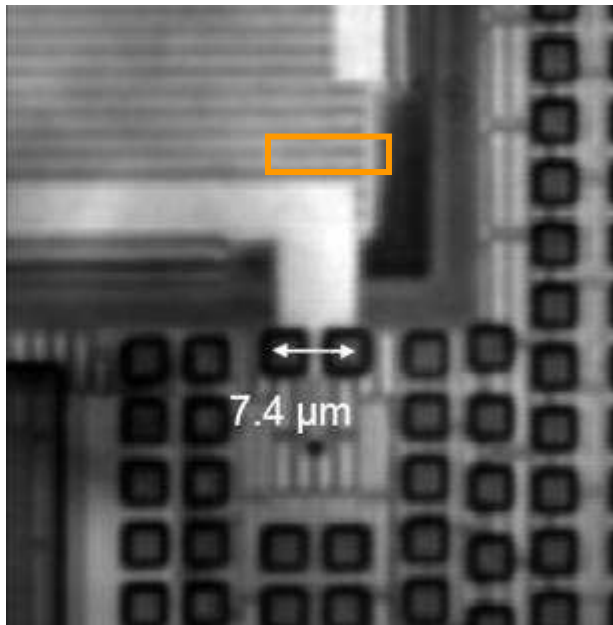
Far-field vs. Aplanatic RSIL

Air-gap SOM Image

Laser: 1340nm

Objective: 100X, Zoom 2

Backside Thickness: 100 μ m

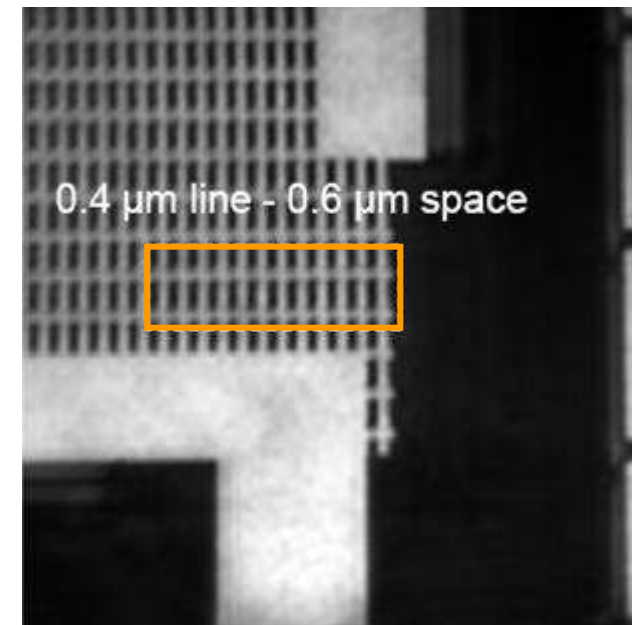


Aplanatic RSIL SOM Image

Laser: 1340nm

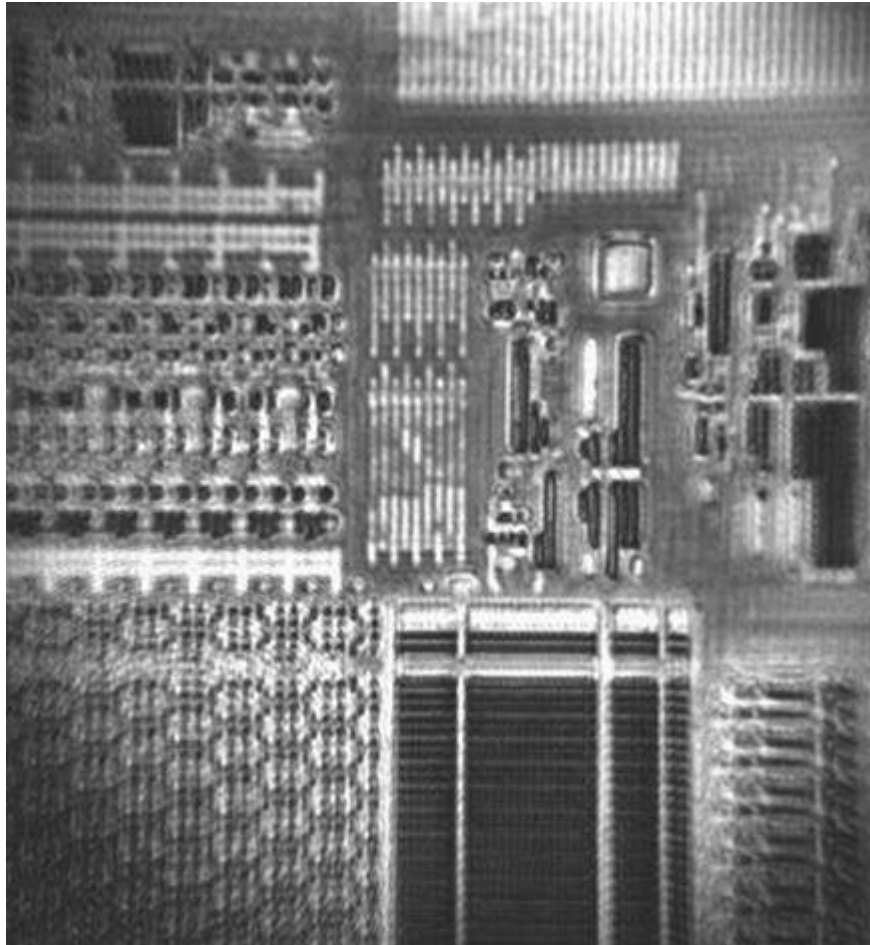
Objective: 20X, Zoom 4

Backside Thickness: 100 μ m



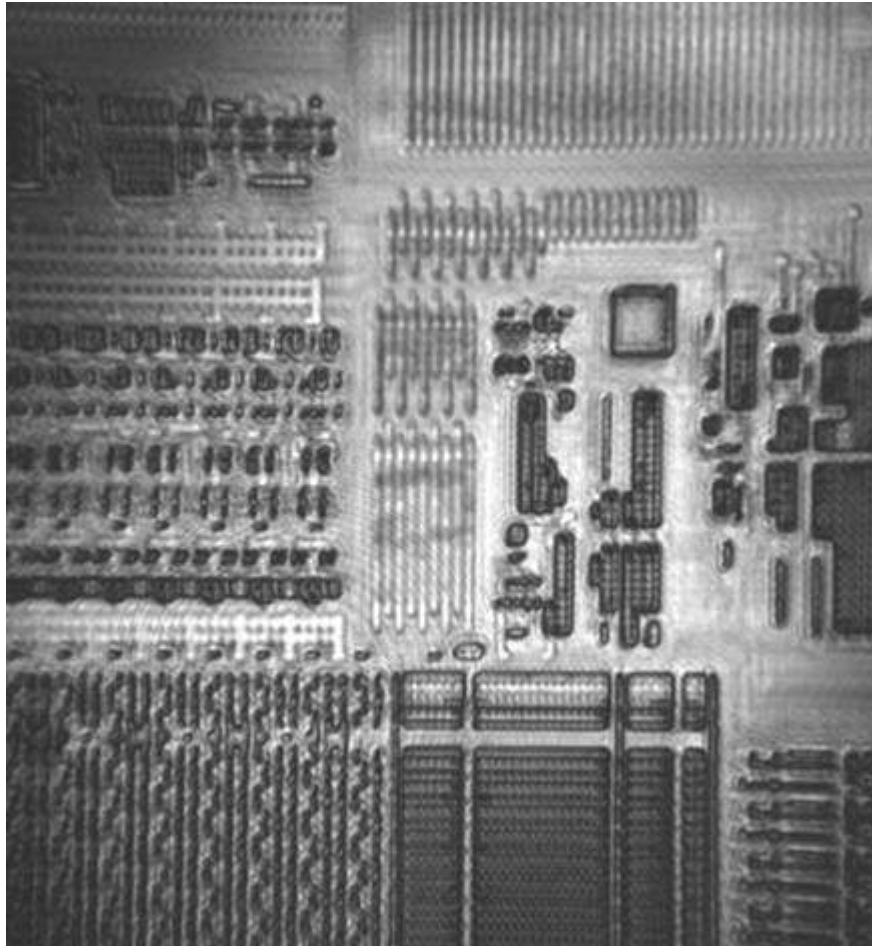
Ref. Goh SH, Private Communication, Mar 08

Aplanatic RSIL Results



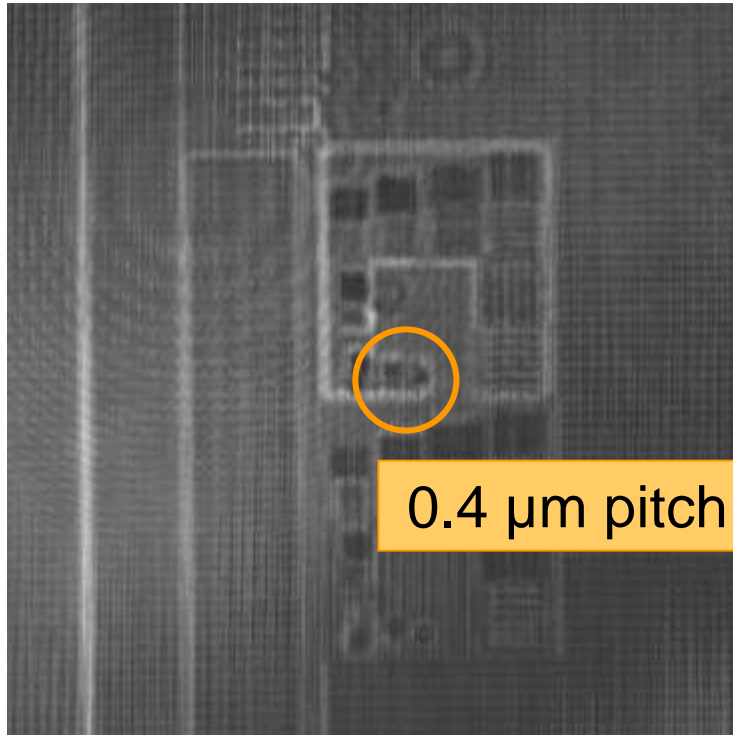
Aplanatic RSIL
RSIL Diameter: 1mm
→ 1340nm laser
Region 1

Aplanatic RSIL Results

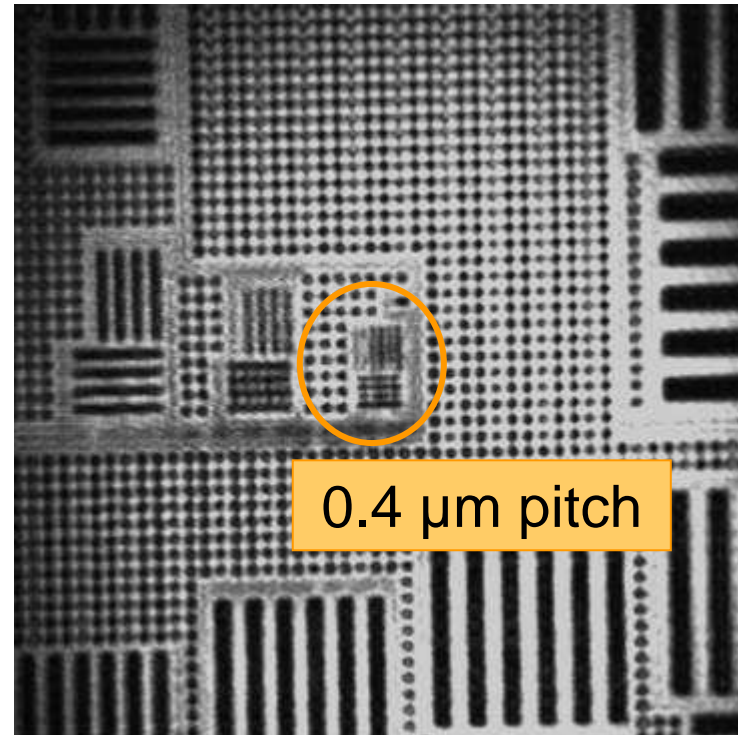


Aplanatic RSIL
RSIL Diameter: 1mm
→ 1064nm laser
Region 1

Experimental results on 1340nm laser

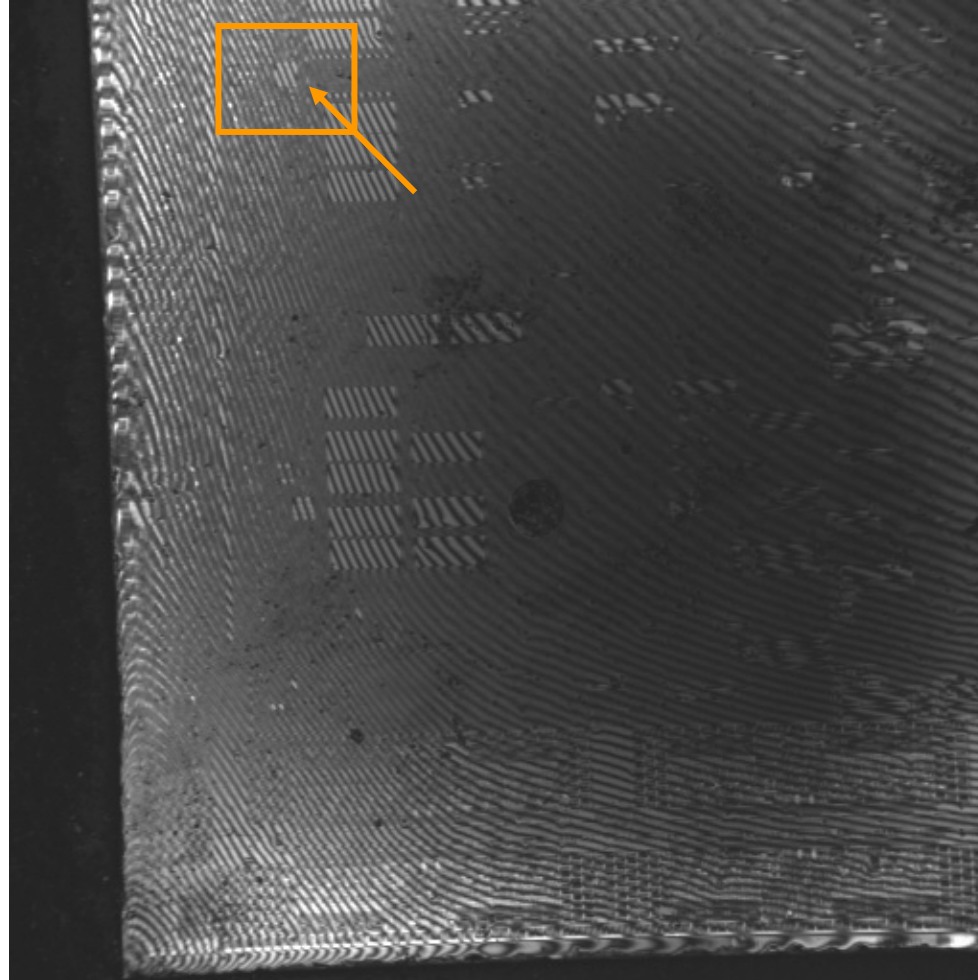


- Semicaps SOM
- 50X Objective (0.42NA)
 - Digital Zoom 3



- Semicaps SOM
- 20X Objective (0.24NA)
 - Digital Zoom 2
 - 1mm diameter Aplanatic RSIL

5X – LSM Image

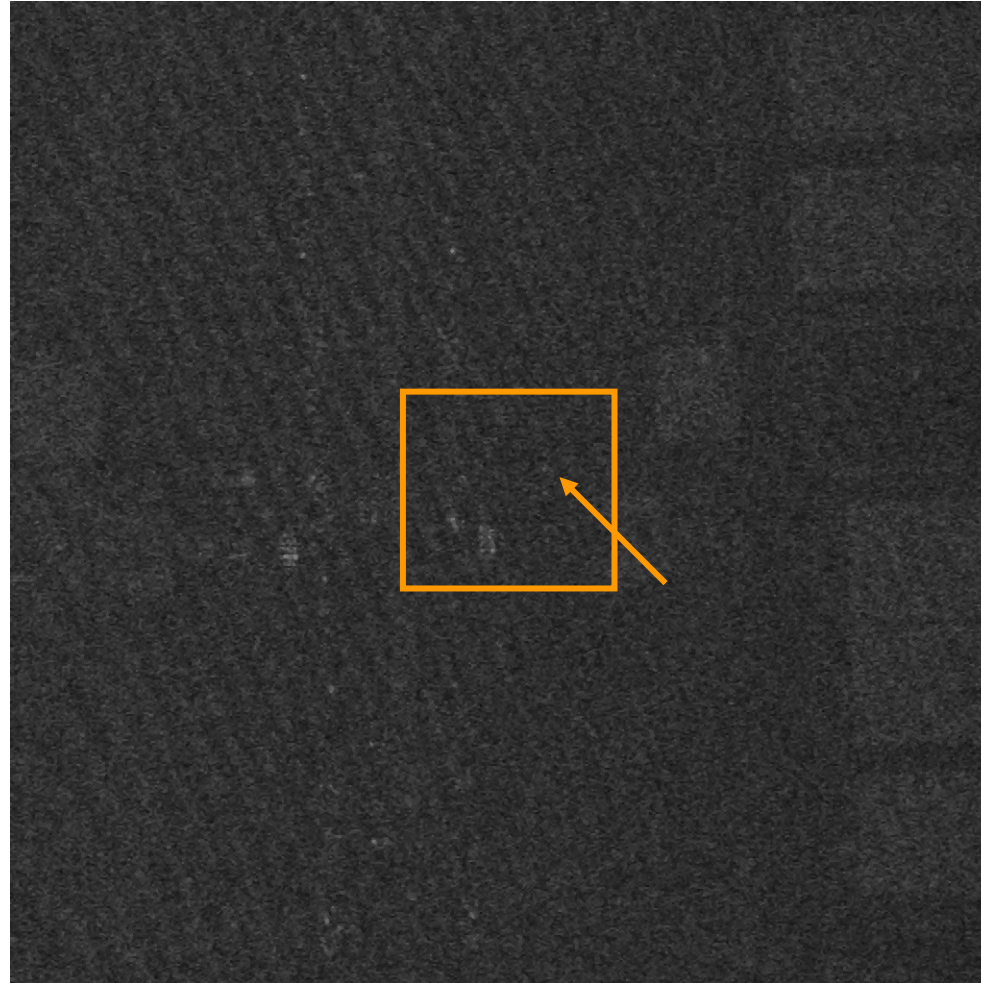


20X – LSM Image

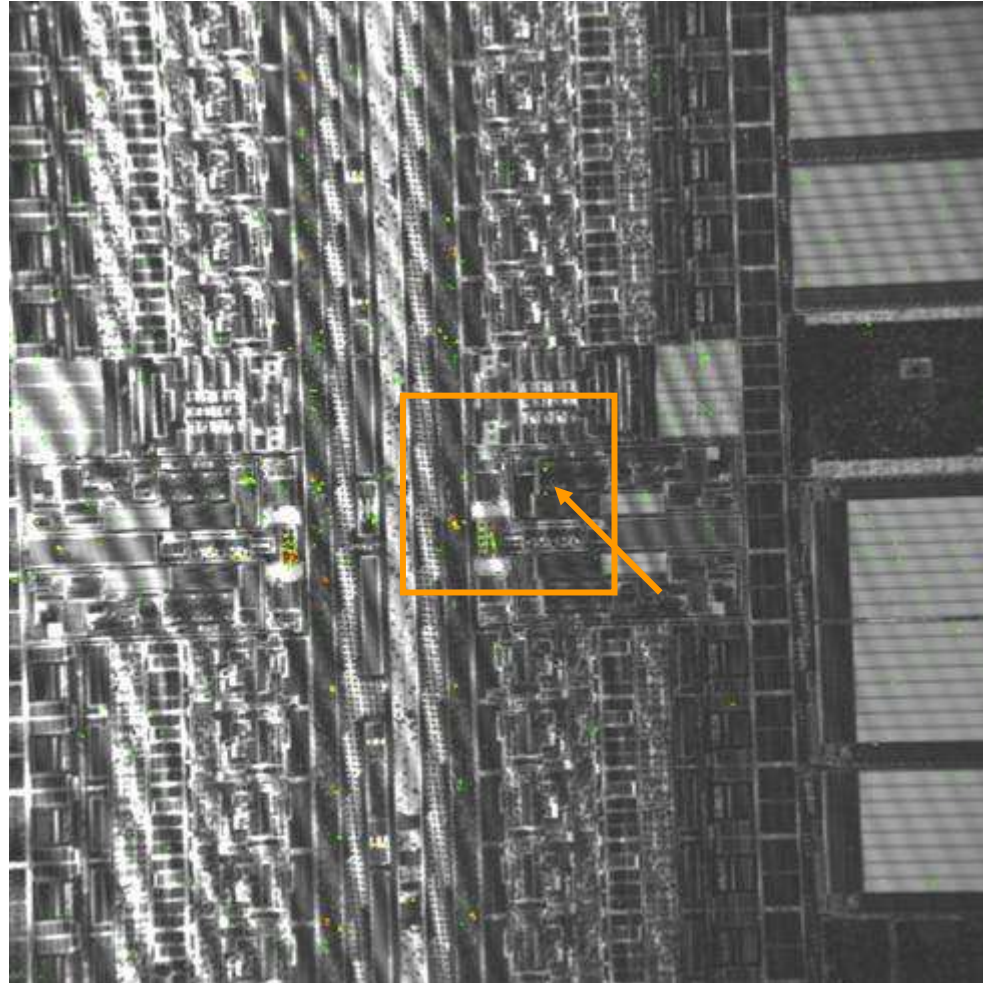


SOM with PEM Option, 080221, Slide 7
SEMICAPS Confidential

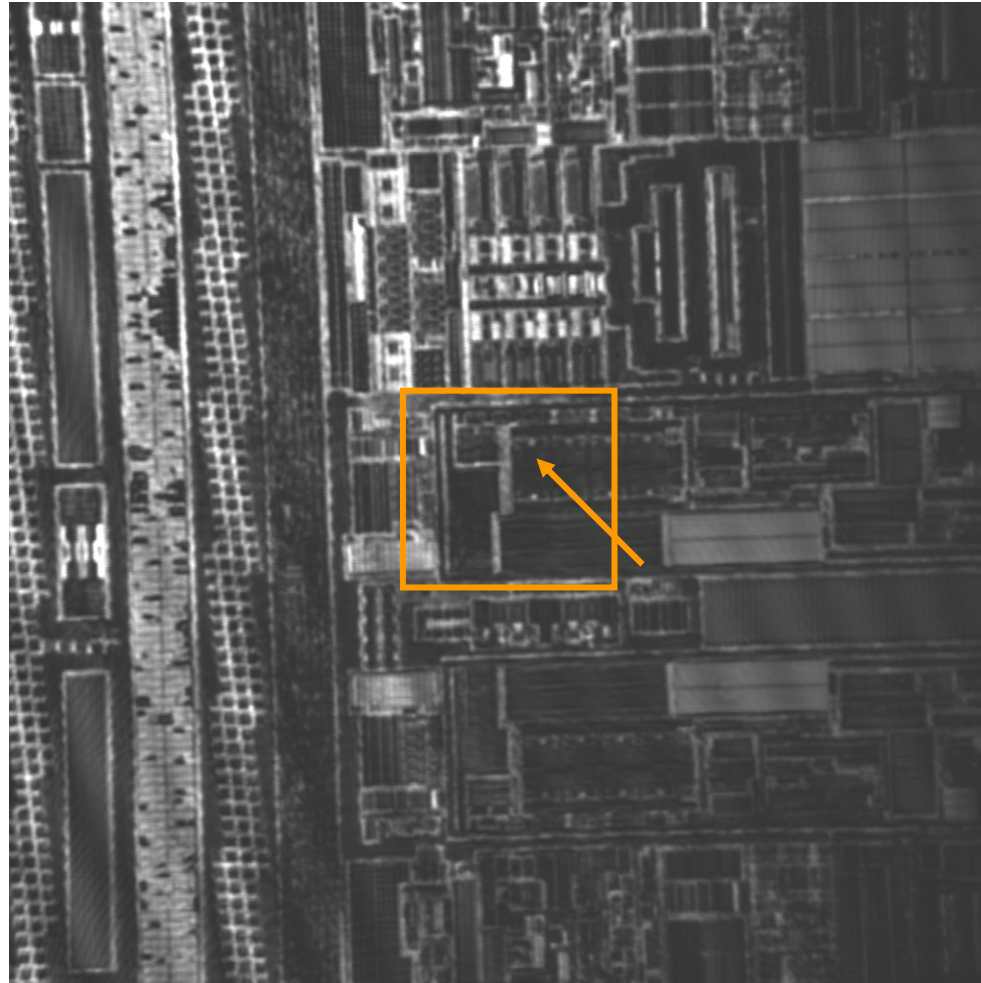
20X – Frequency Mapping (27.5MHz)



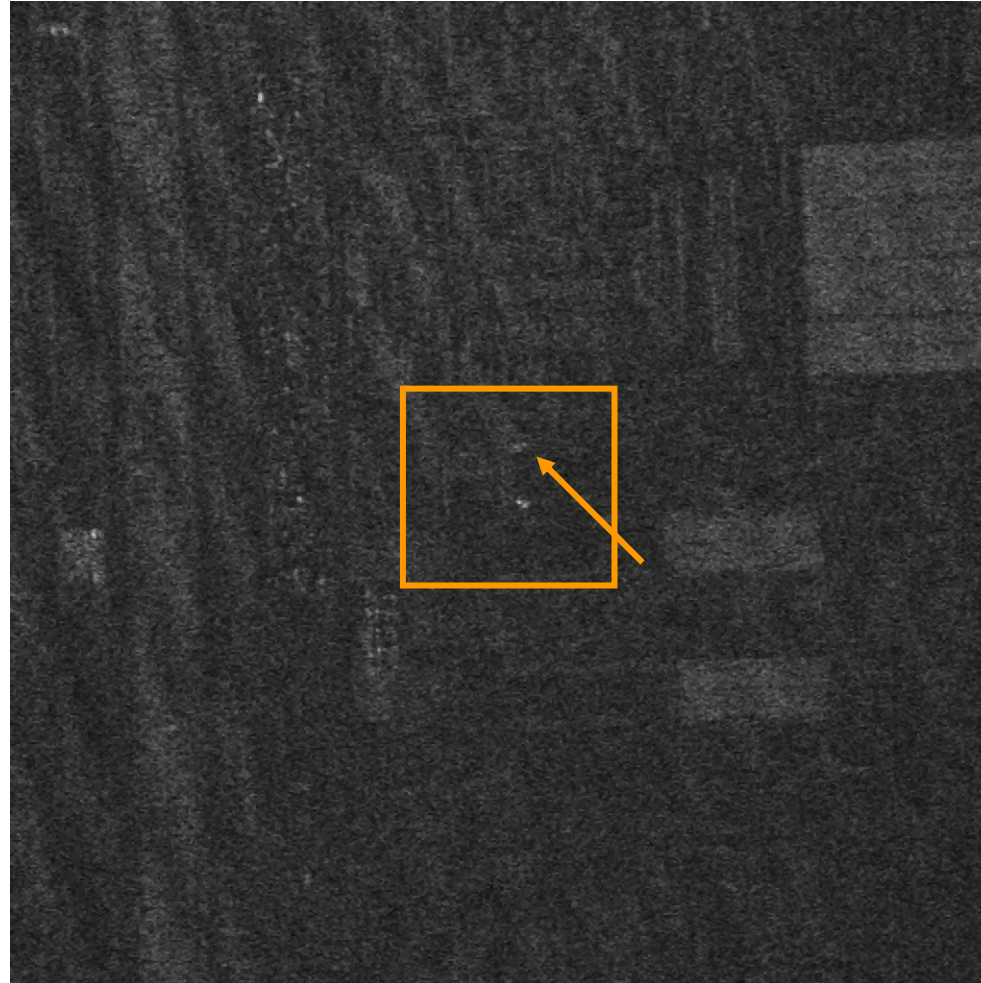
20X – Color Overlay (27.5MHz)



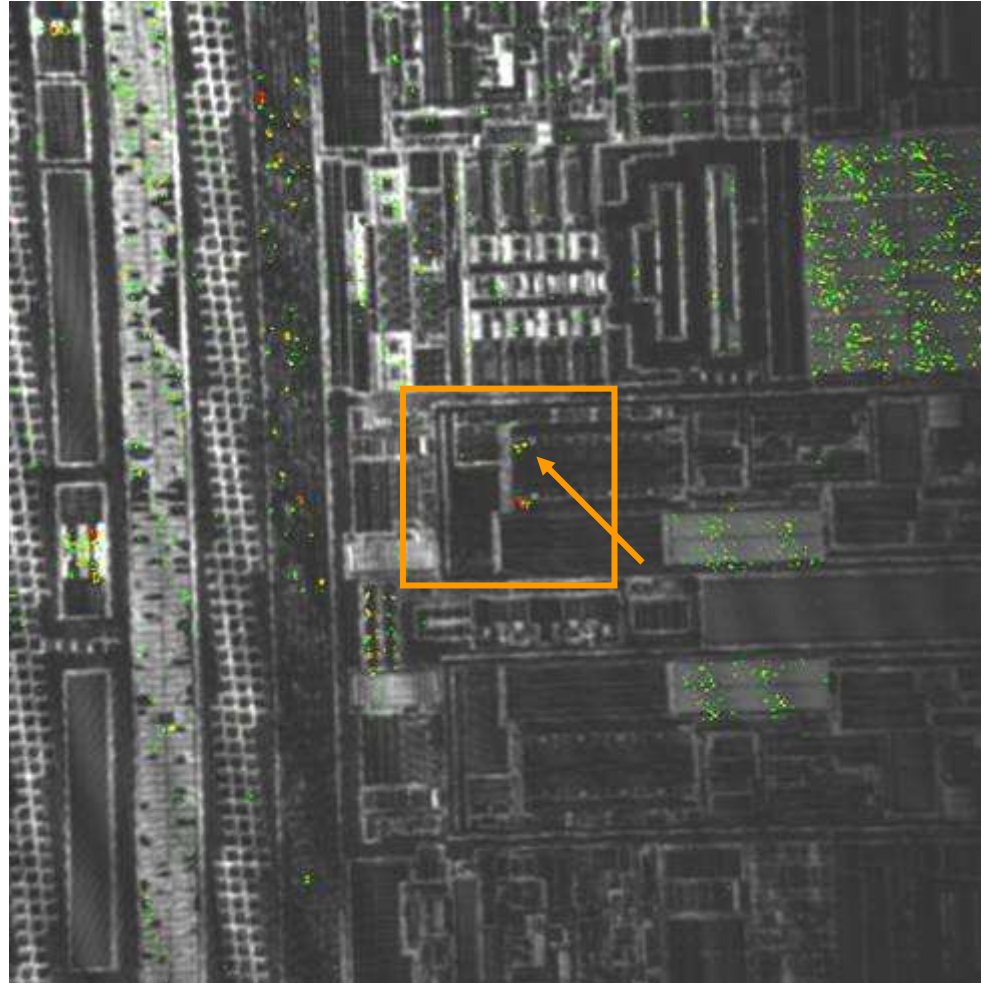
50X – LSM Image



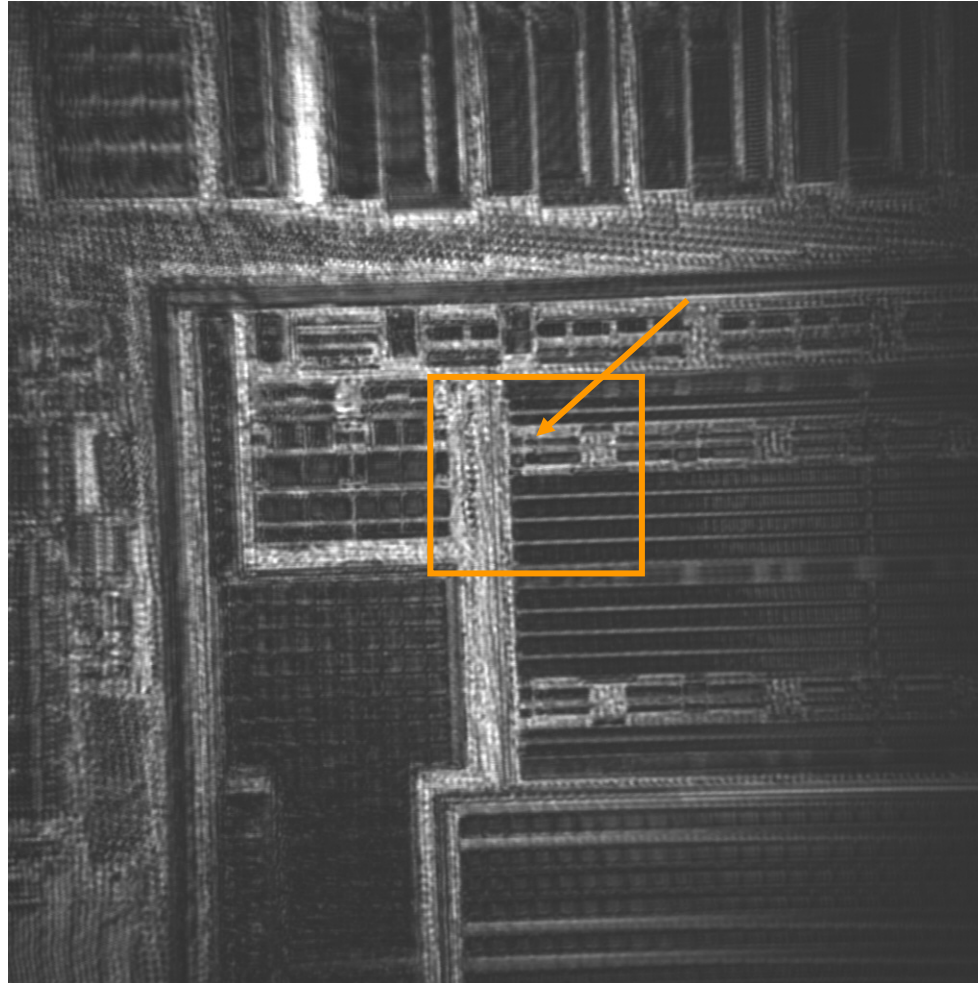
50X – Frequency Mapping (27.5MHz)



50X – Color Overlay (27.5MHz)



CSIL – LSM Image



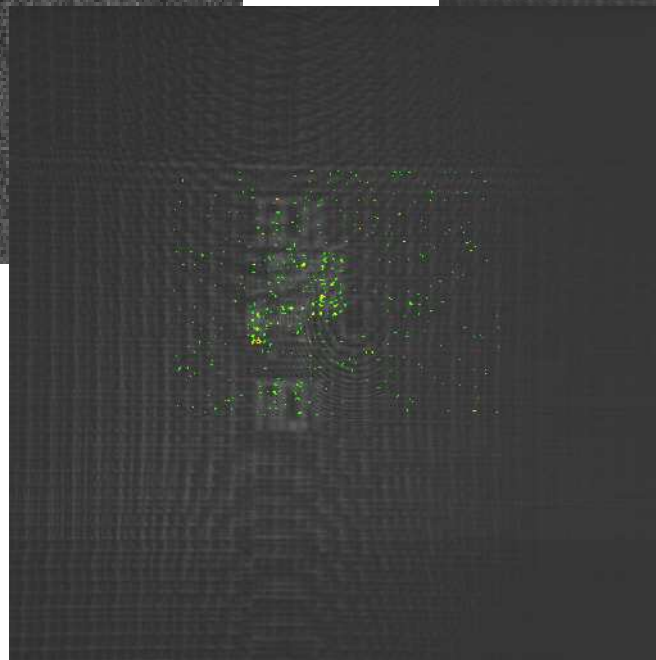
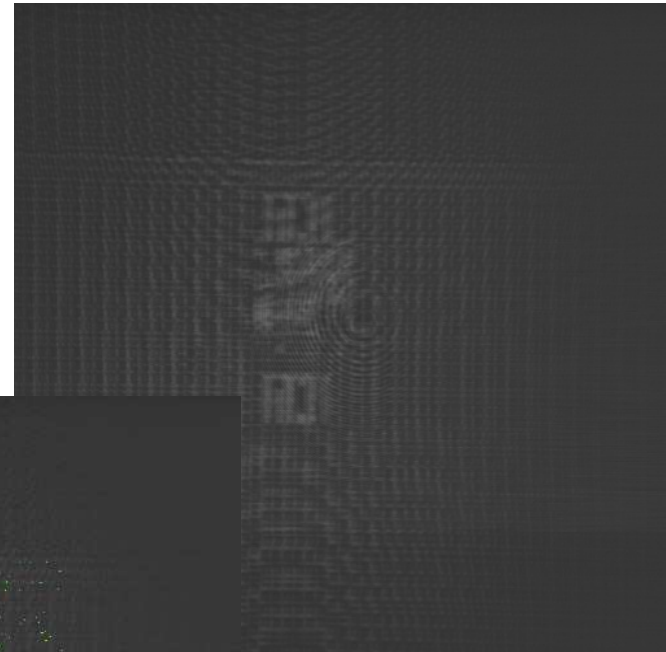
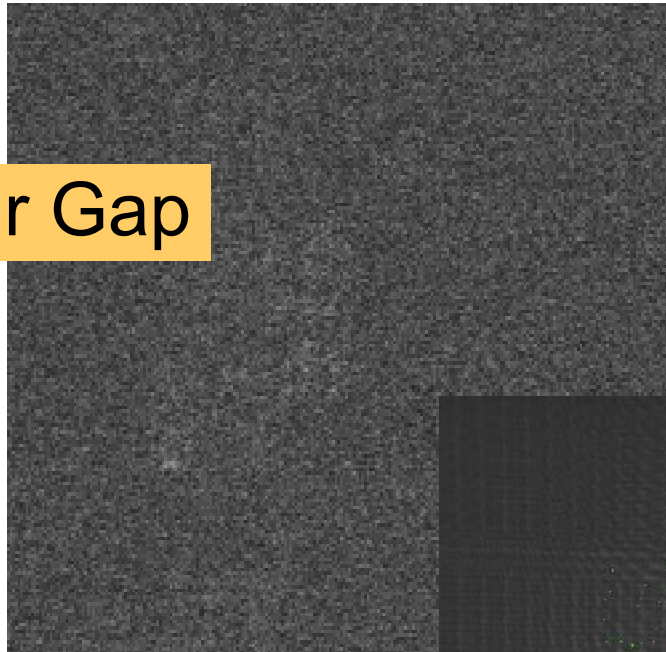
CSIL – Frequency Mapping (27.5MHz)



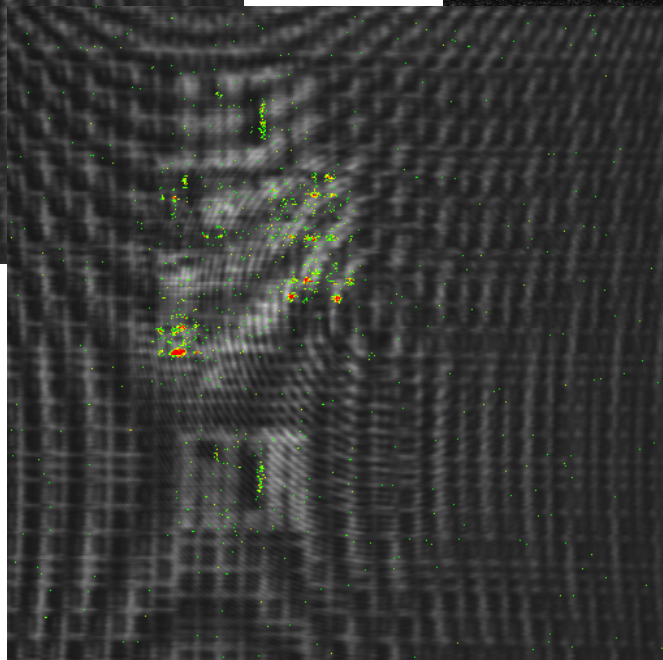
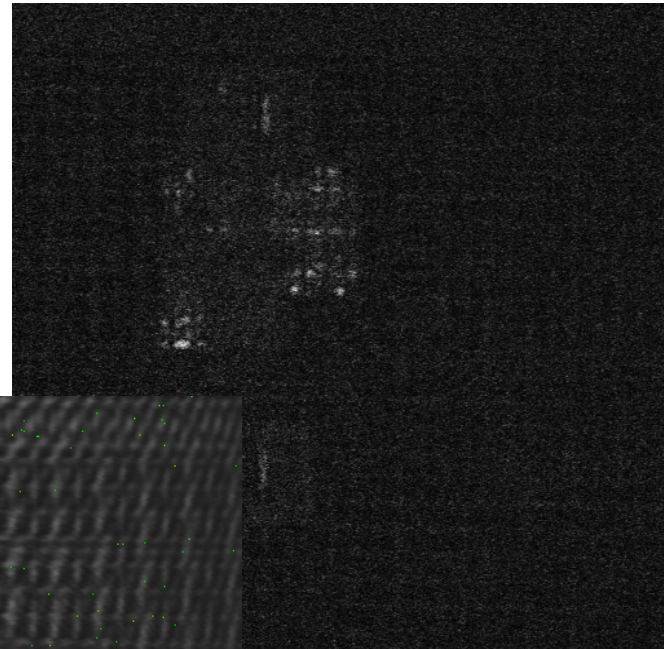
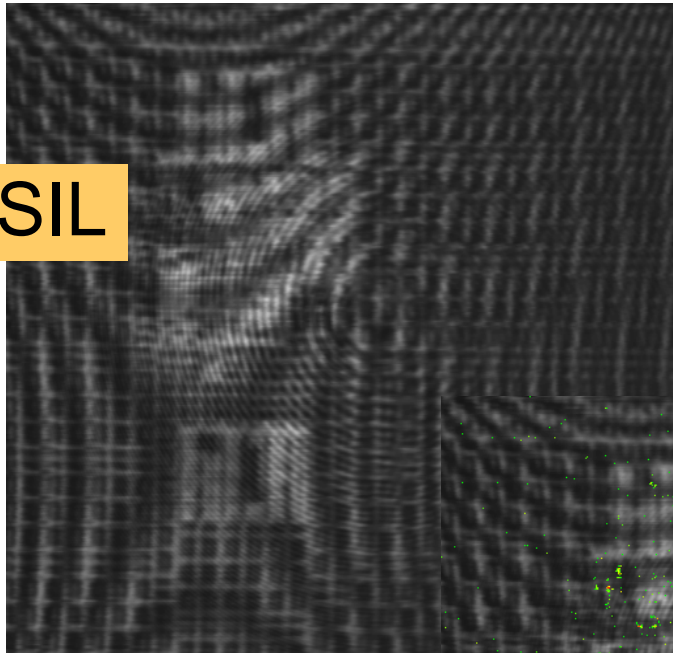
CSIL – Color Overlay (27.5MHz)



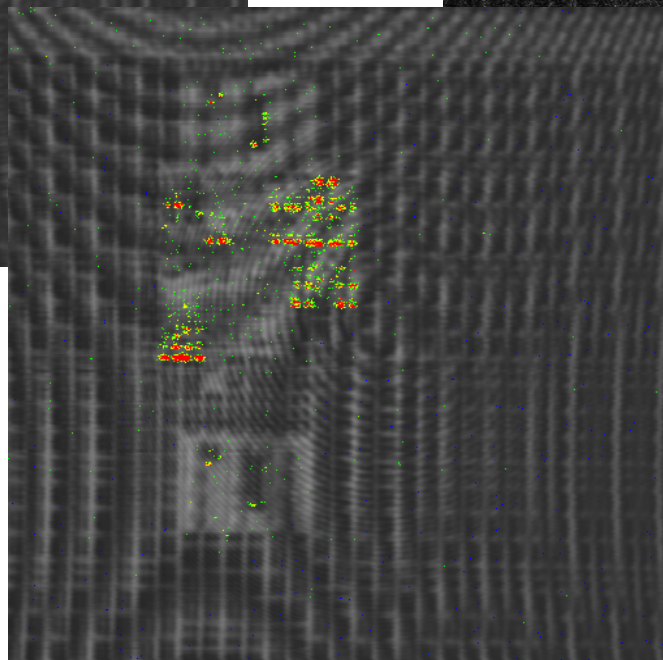
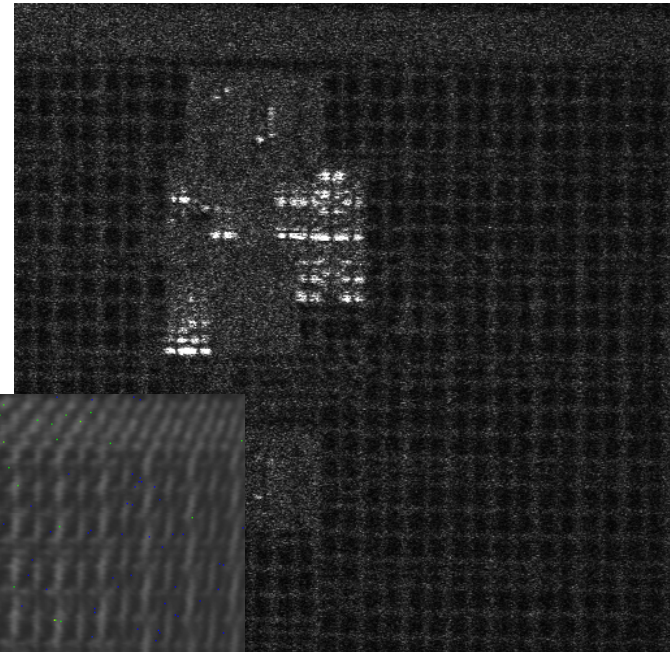
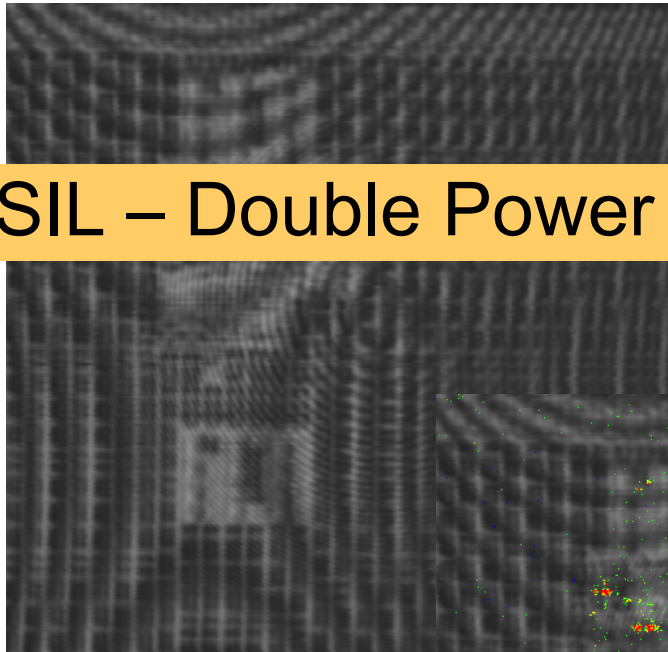
Air Gap



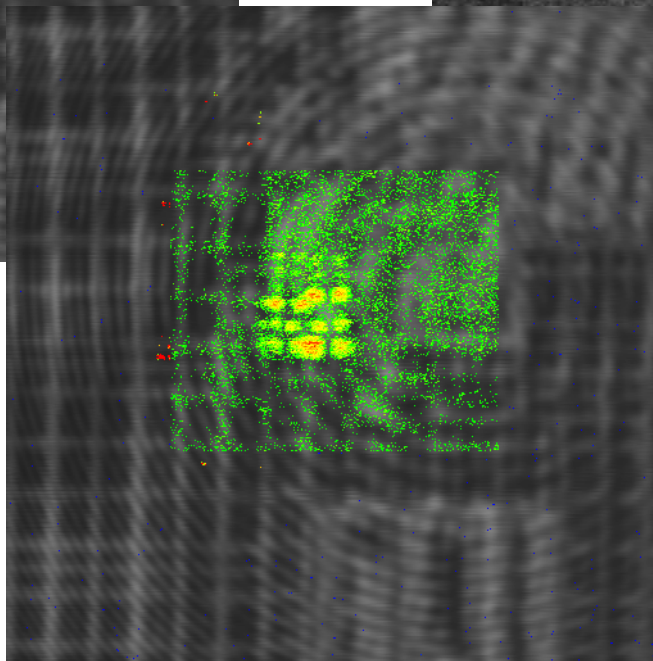
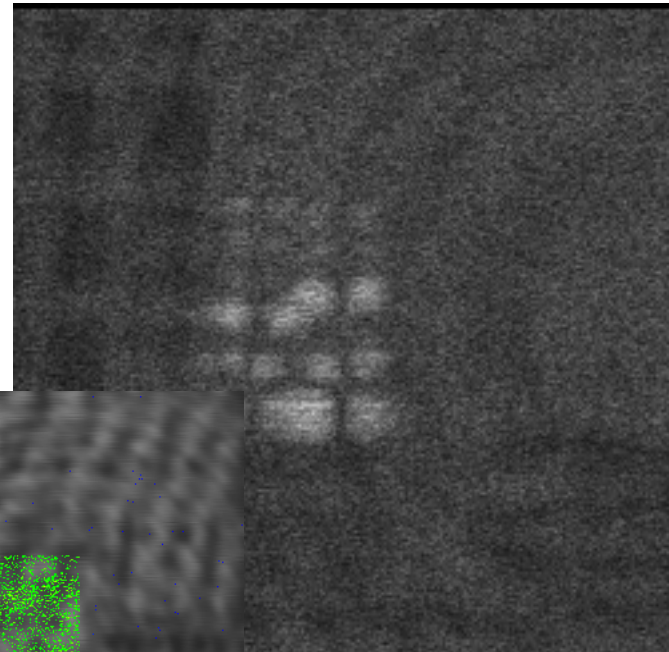
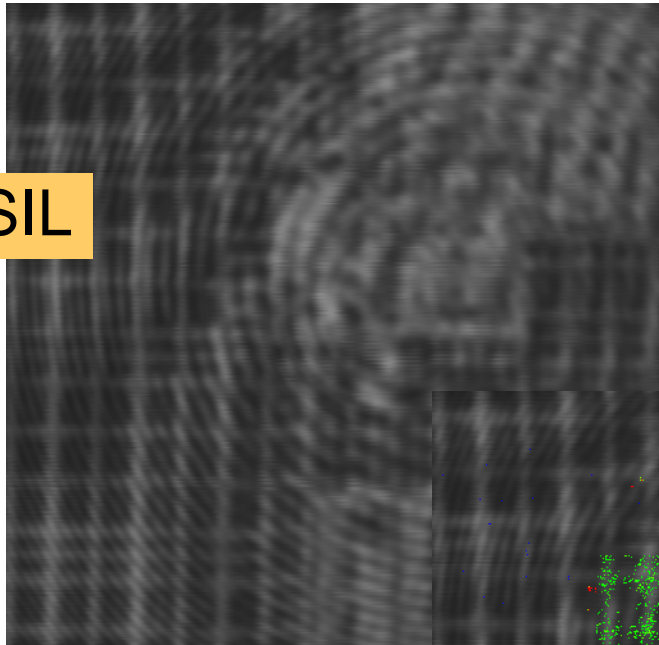
CSIL



CSIL – Double Power



CSIL



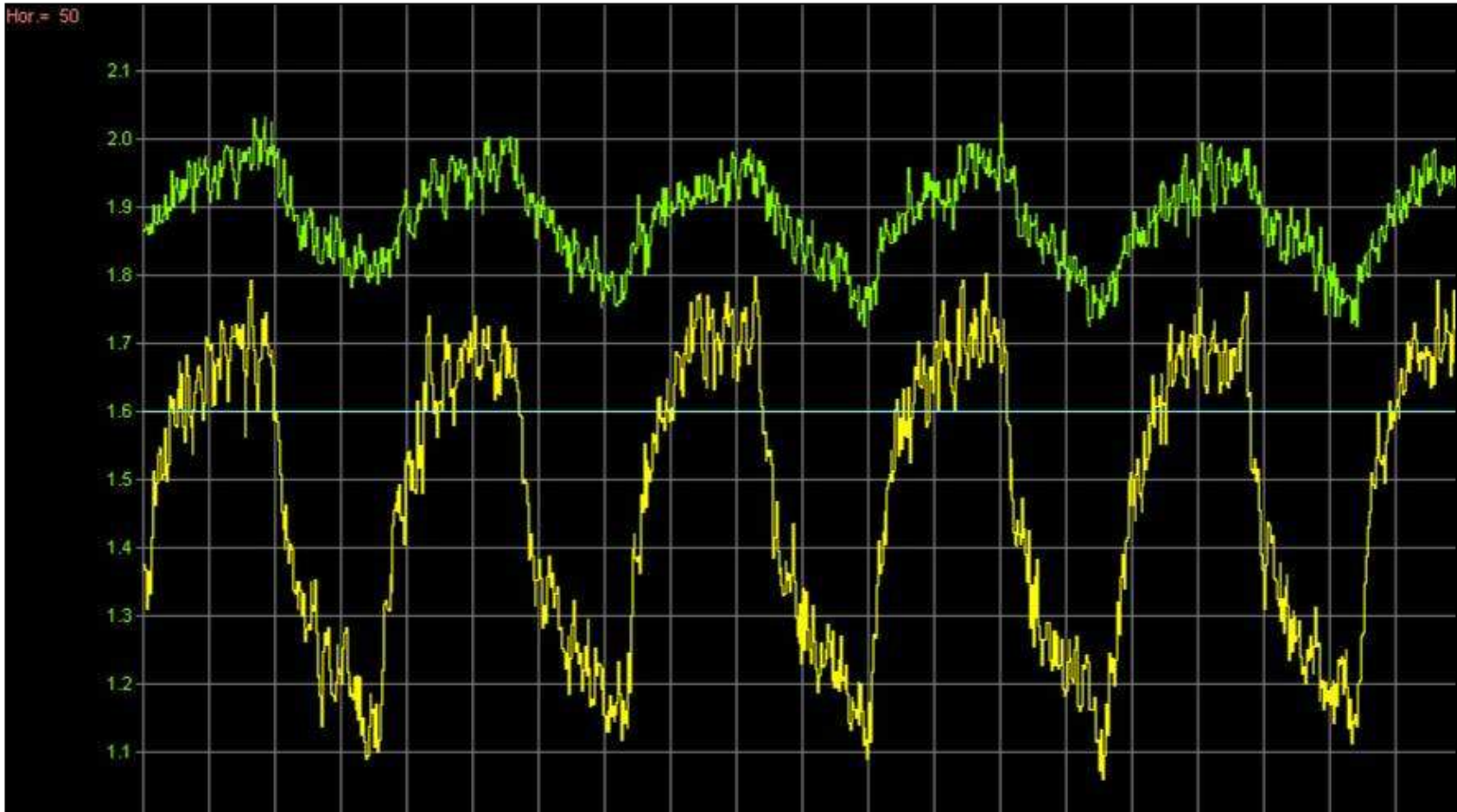
CSIL – Color Overlay (27.5MHz)



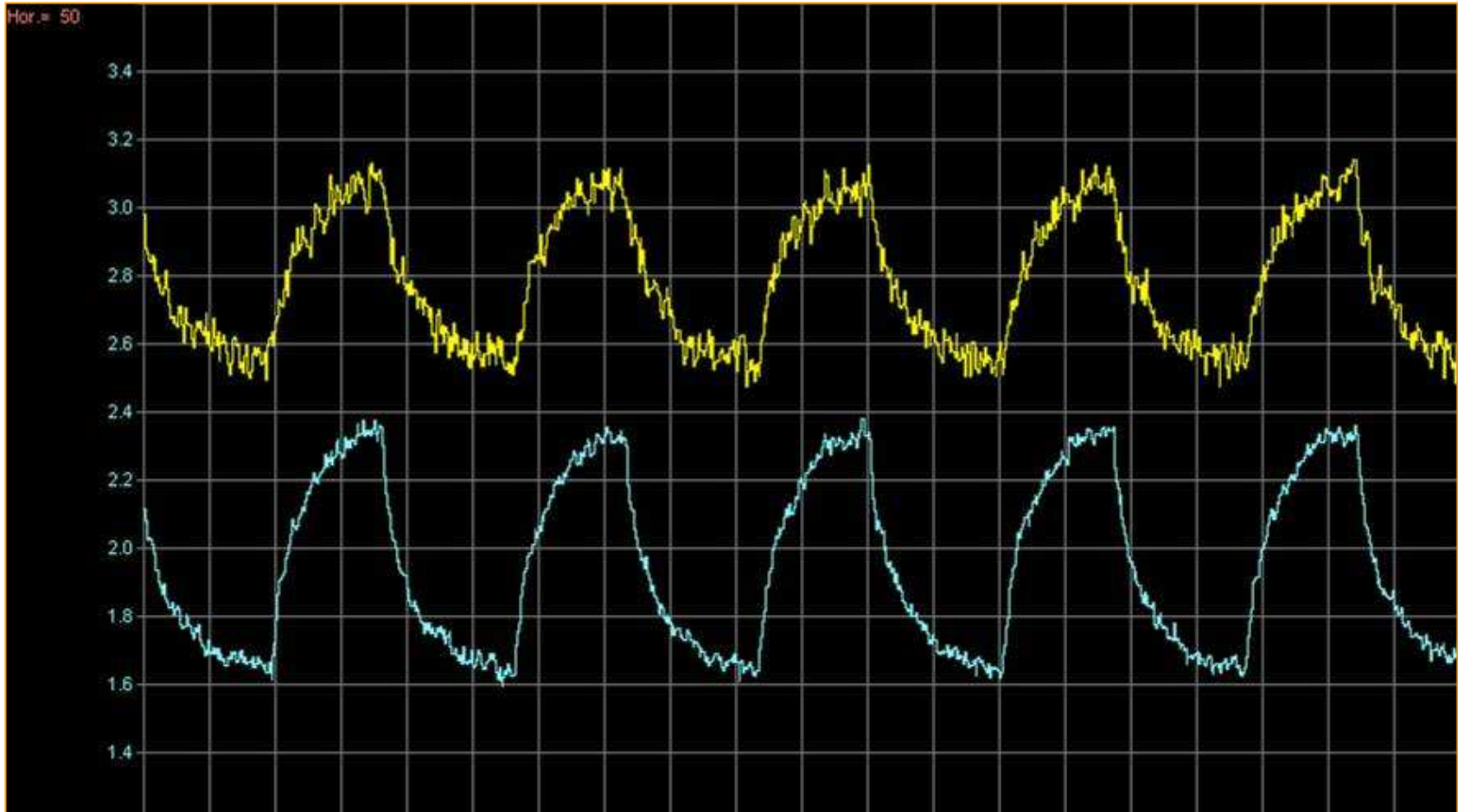
SNR vs. Power



CSIL vs. 50X – 250k Averages (1.5s)



CSIL vs. 50X – 1.0M Averages (6.0s)



end