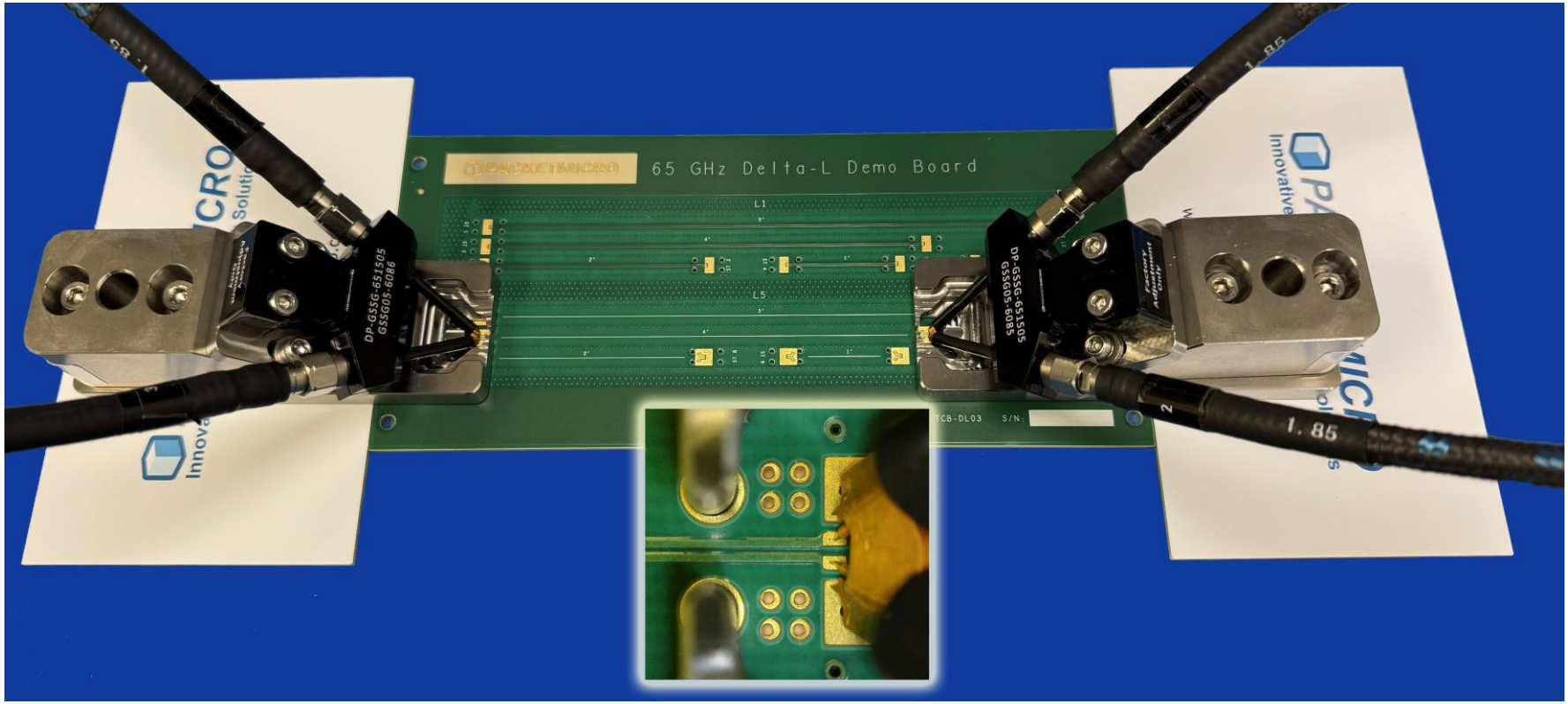
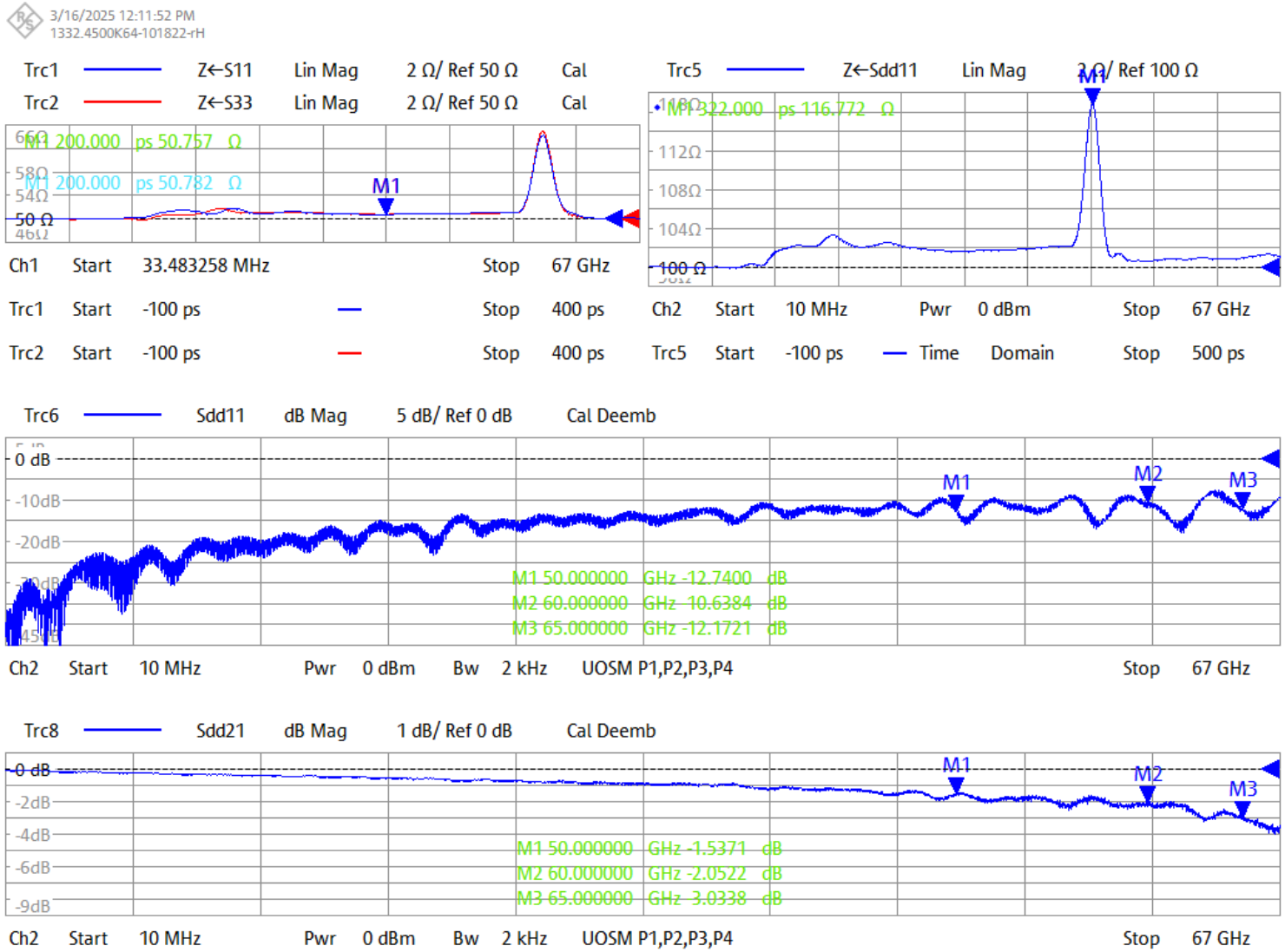
65 GHz Handheld Probe for Delta-L

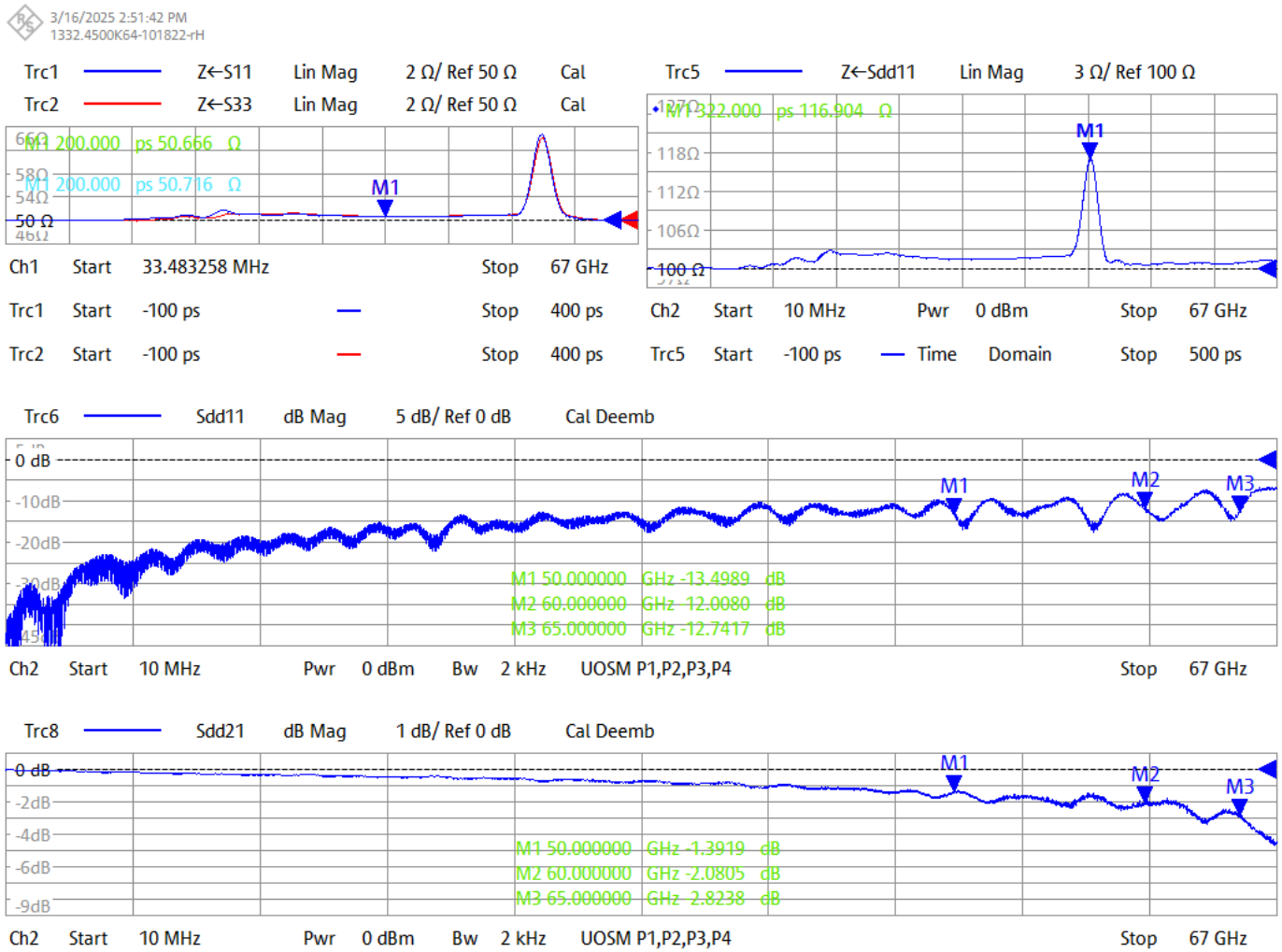


- **PacketMicro 65 GHz GSSG Handheld Probe**

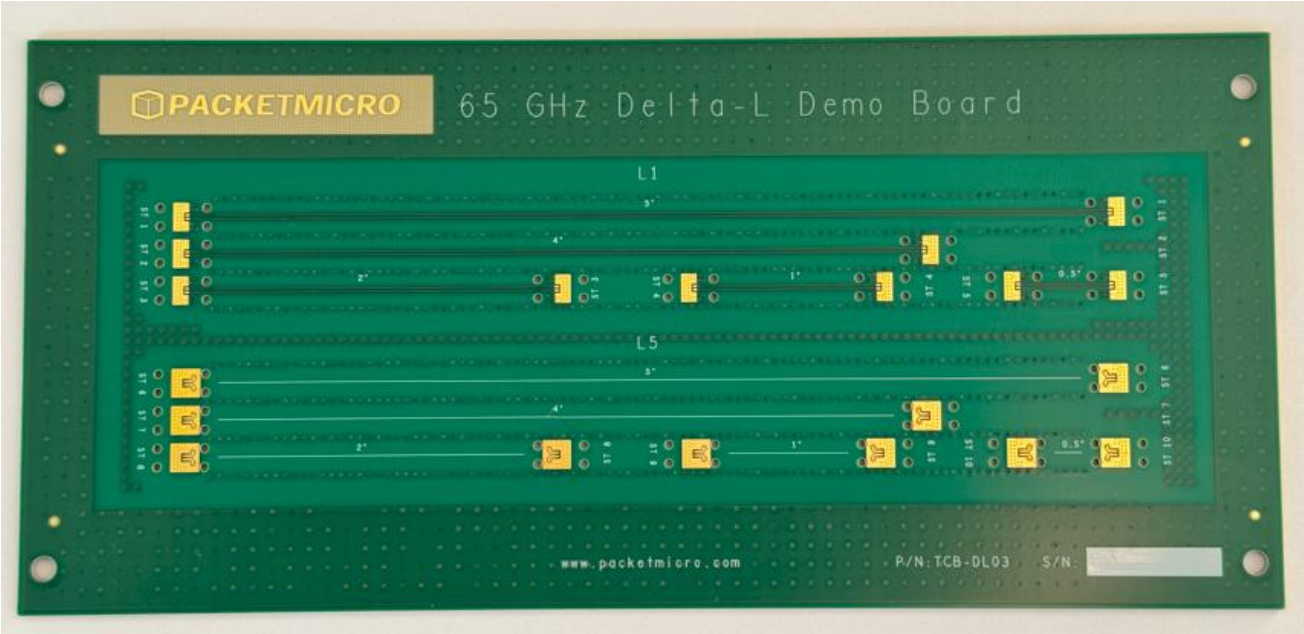
DP-GSSG-651505_6001 (0.5 mm BGA)



DP-GSSG-651505_6002 (0.5 mm BGA)

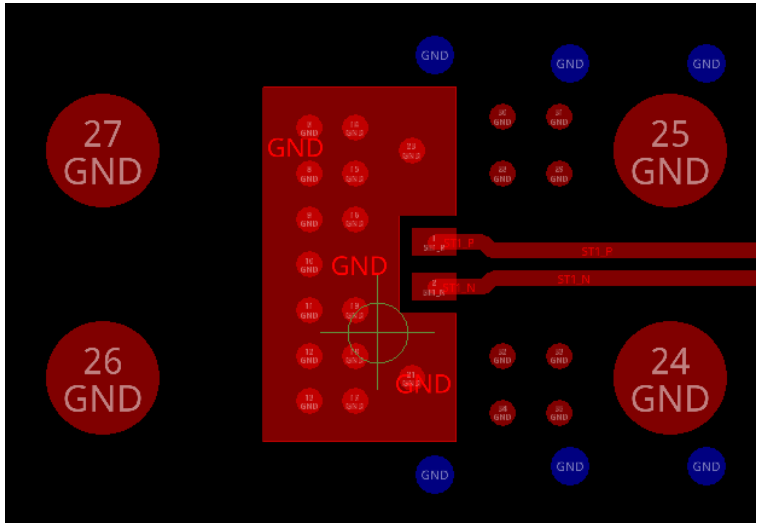


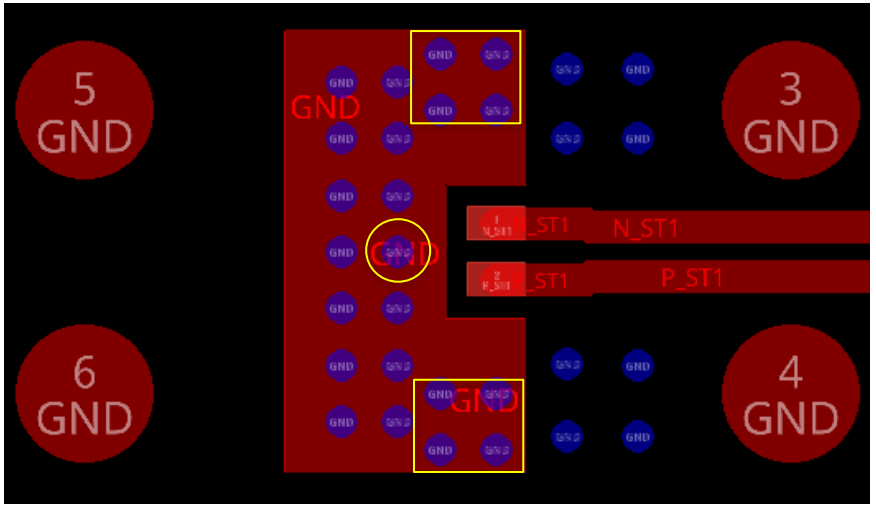
Test Board TCB-DL03



Layer No	LAYER DESCRIPTION	Segment	Cu WT(OZ PER SQ FT)	EST THK (MILS)	Differential (85 Ohms+/-10%)		Dk	Df
					LW/LS (MILS)	Calculated Zdiff	@1GHz	@1GHz
	SOLDERMASK							
1	TRACE	Cu	0.5 + Plating	1.6	12/5.75	83.45		
		Prepreg	R-5670G (1078x2)	6.68			3.15	0.002
2	GND	Cu	1	1.35	REF	REF		
		Core	R-5775G	11.81			3.45	0.002
3	GND	Cu	1	1.35	REF	REF		
		Prepreg	R-5670G (1080+2116x3)	17.11			3.58	0.002
4	GND	Cu	1	1.35	REF	REF		
		Core	R-5775G	11.81			3.45	0.002
5	TRACE	Cu	1	1.35	10/10	85.69		
		Prepreg	R-5670G (1078x2)	6.43			3.15	0.002
6	GND	Cu	0.5 + Plating	1.6	REF	REF		
	SOLDERMASK							
	Est Board thickness over conductors (mils)			62.44 mils				
	Meg6							

Delta-L Footprint





Intel Delta-L 4.0
(0.5 mm pitch)

Non-standard probe launch
(Additional GND vias added)

*Please note that this is a non-standard footprint. By using it, you acknowledge and accept all associated risks.

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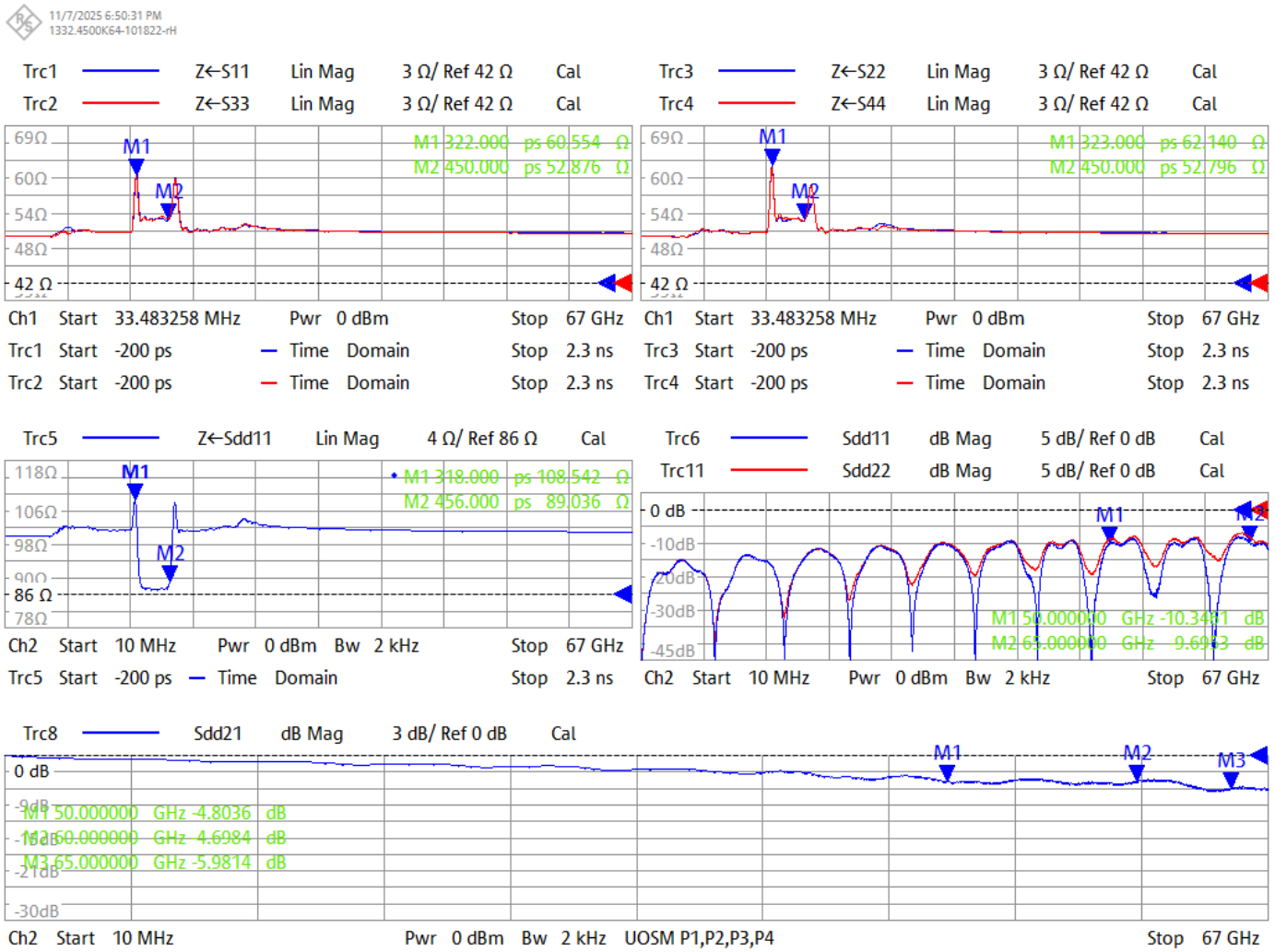
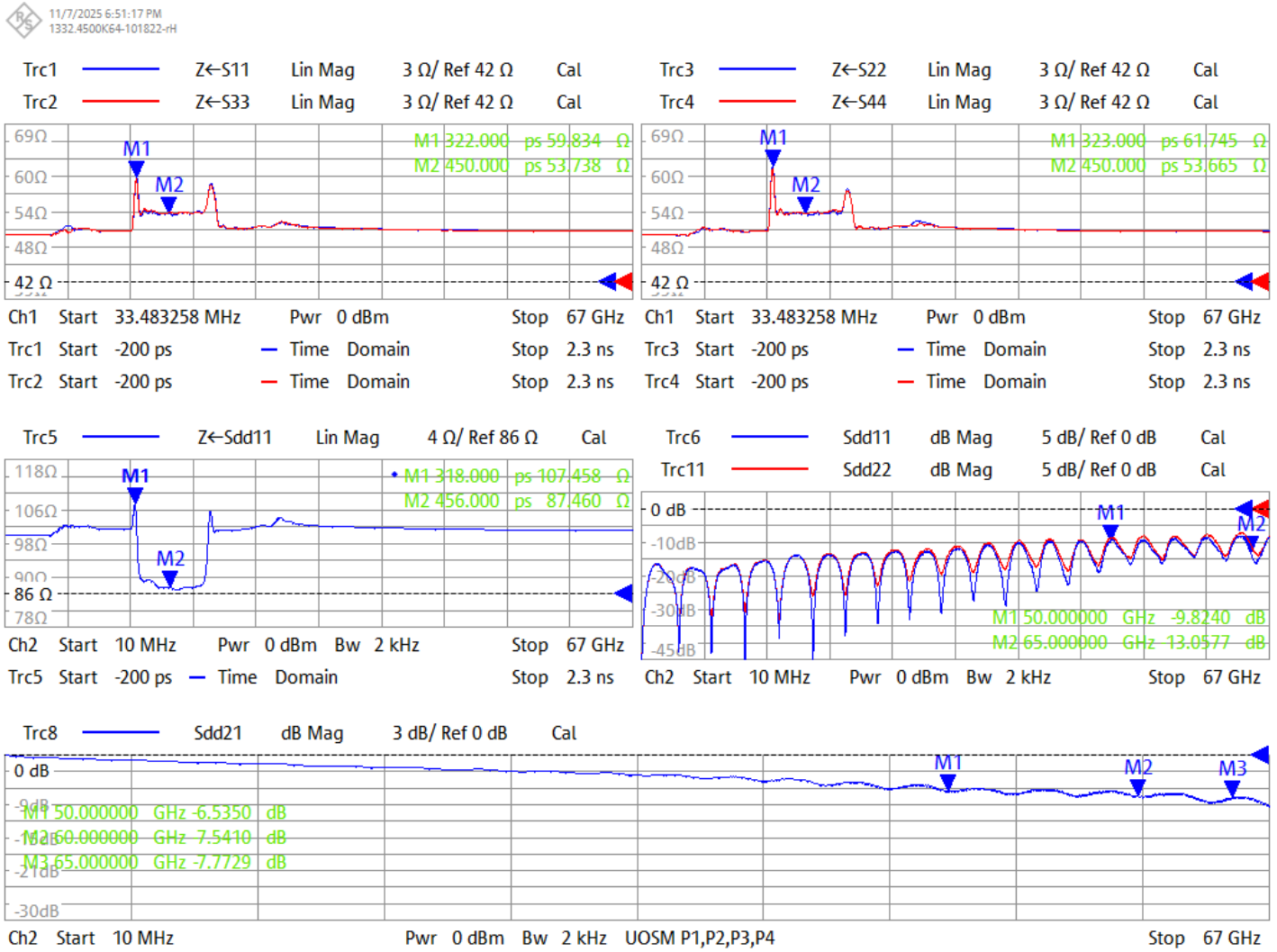
Microstrip Traces

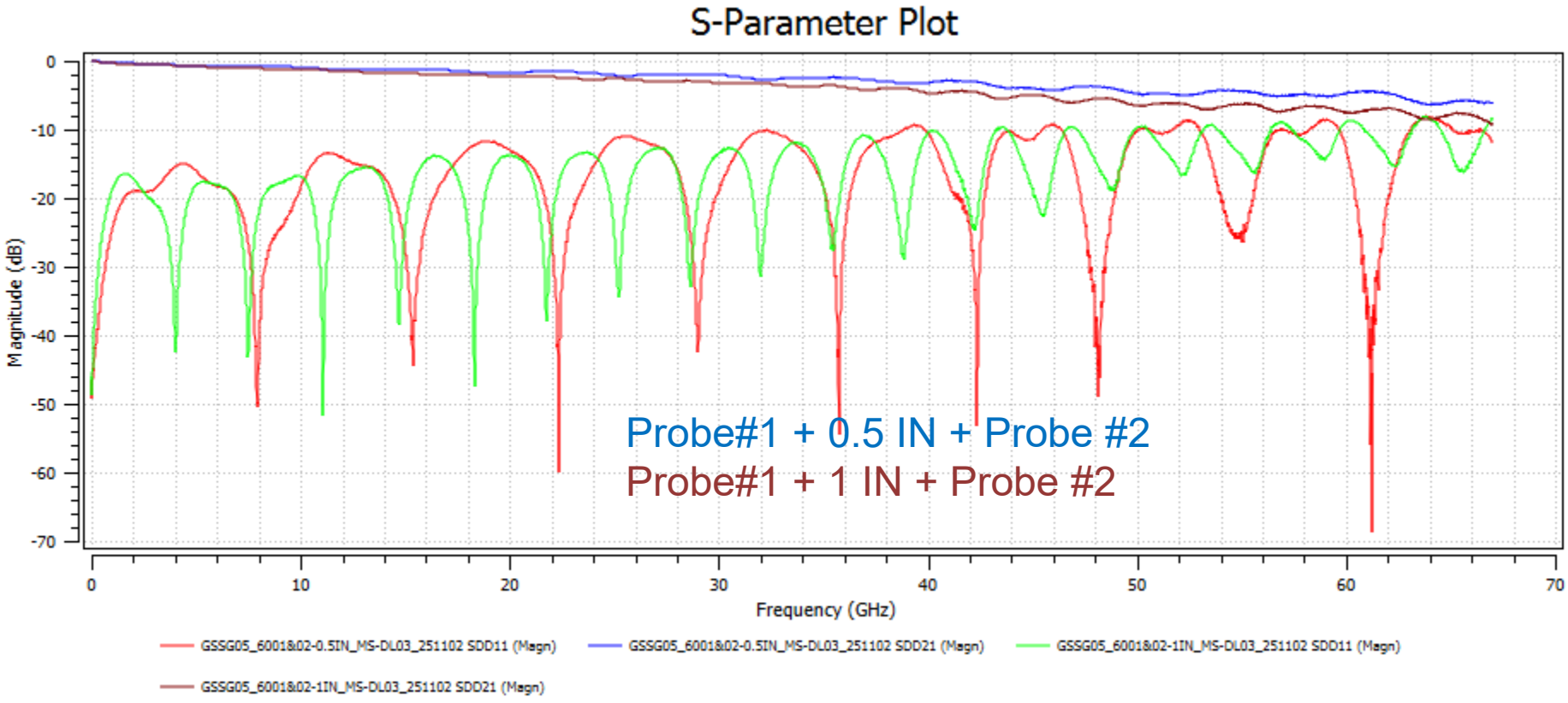
Probe#1 + 0.5 IN Microstrip + Probe#2



Probe#1 + 1 IN Microstrip + Probe#2

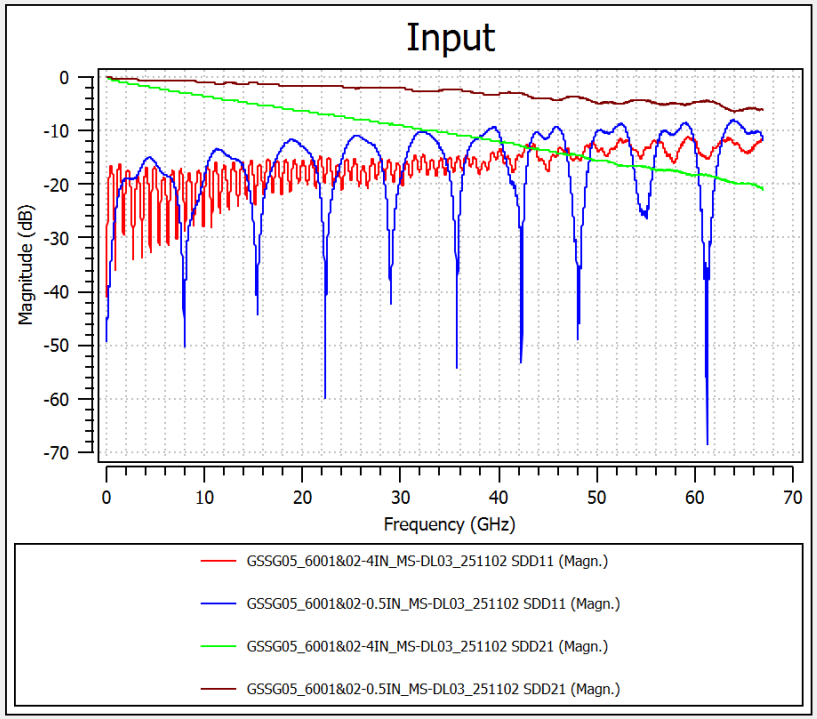


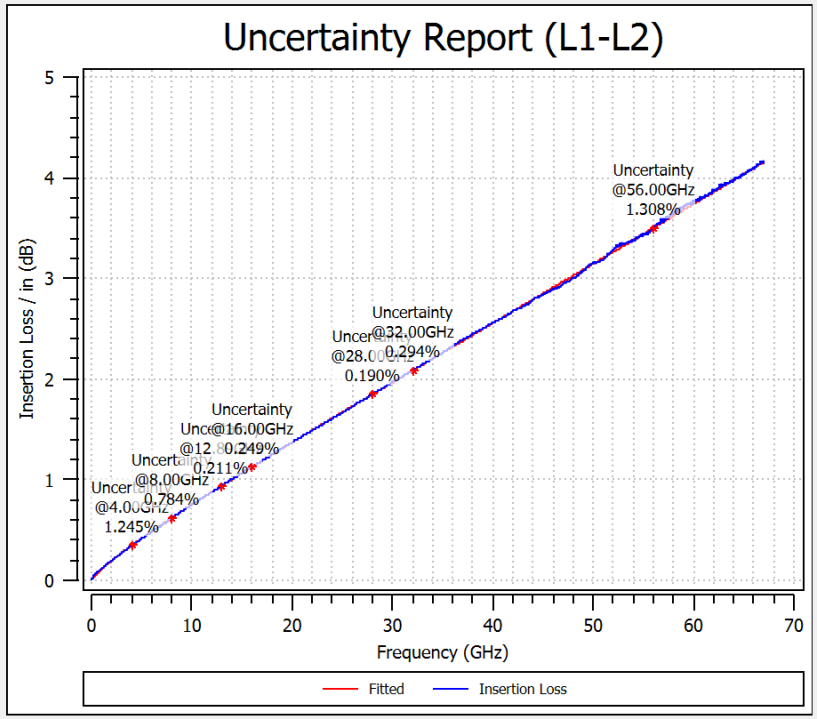
Sdd21 vs. Sdd11 1 IN & 0.5 IN



Sdd21 & Sdd11 Crossover @ ~ 64 GHz

Delta-L Microstrip 4 IN & 1 IN





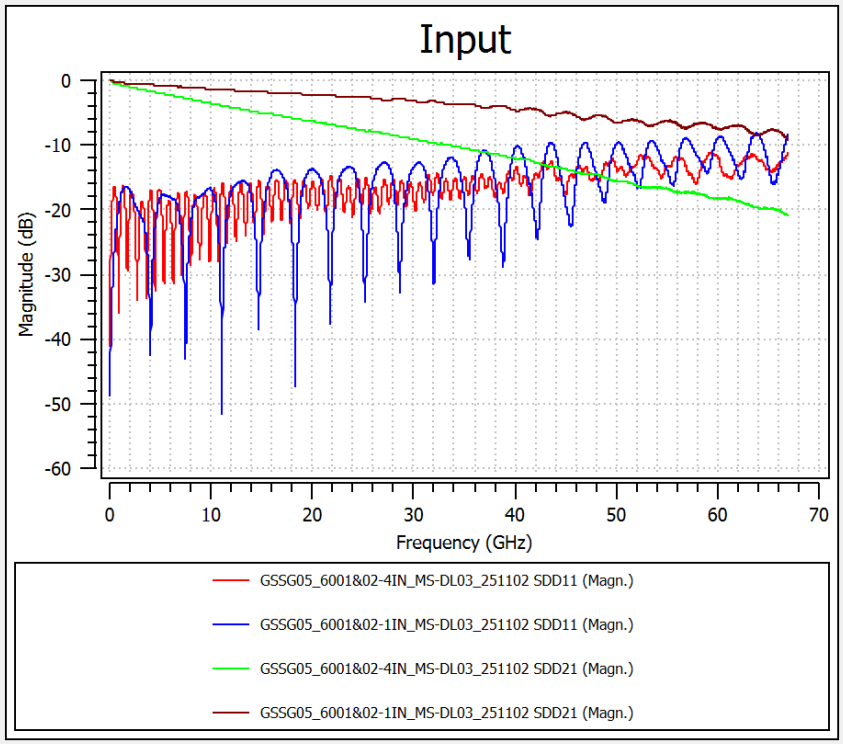
DUT Length (in)	Ref. Length (in)	Effective Length (in)
4.000	0.500	3.500

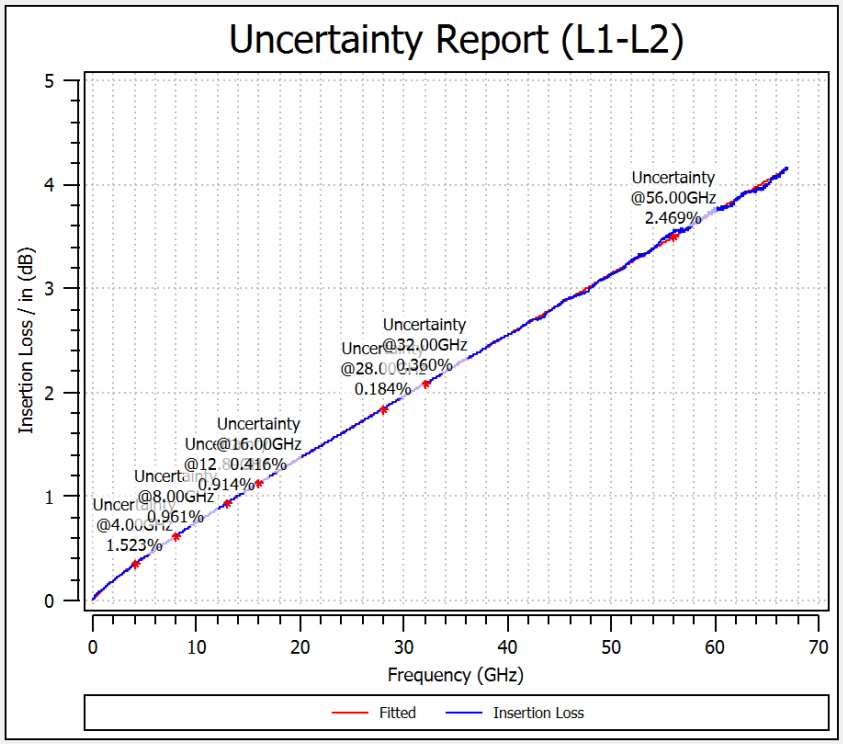
Z of Trace 1 (Ω)	Z of Trace 2 (Ω)
87.632	87.357

Uncertainty (%)	dB/in
Frequency: 4.00 GHz	
1.245	0.345
Frequency: 8.00 GHz	
0.784	0.620
Frequency: 12.89 GHz	
0.211	0.934

Export Uncertainty Data... Save PDF Report...

Delta-L Microstrip 4 IN & 0.5 IN





DUT Length (in)	Ref. Length (in)	Effective Length (in)
4.000	1.000	3.000

Z of Trace 1 (Ω)	Z of Trace 2 (Ω)
87.632	86.994

Uncertainty (%)	dB/in
Frequency: 4.00 GHz	
1.523	0.346
Frequency: 8.00 GHz	
0.961	0.621
Frequency: 12.89 GHz	
0.914	0.934

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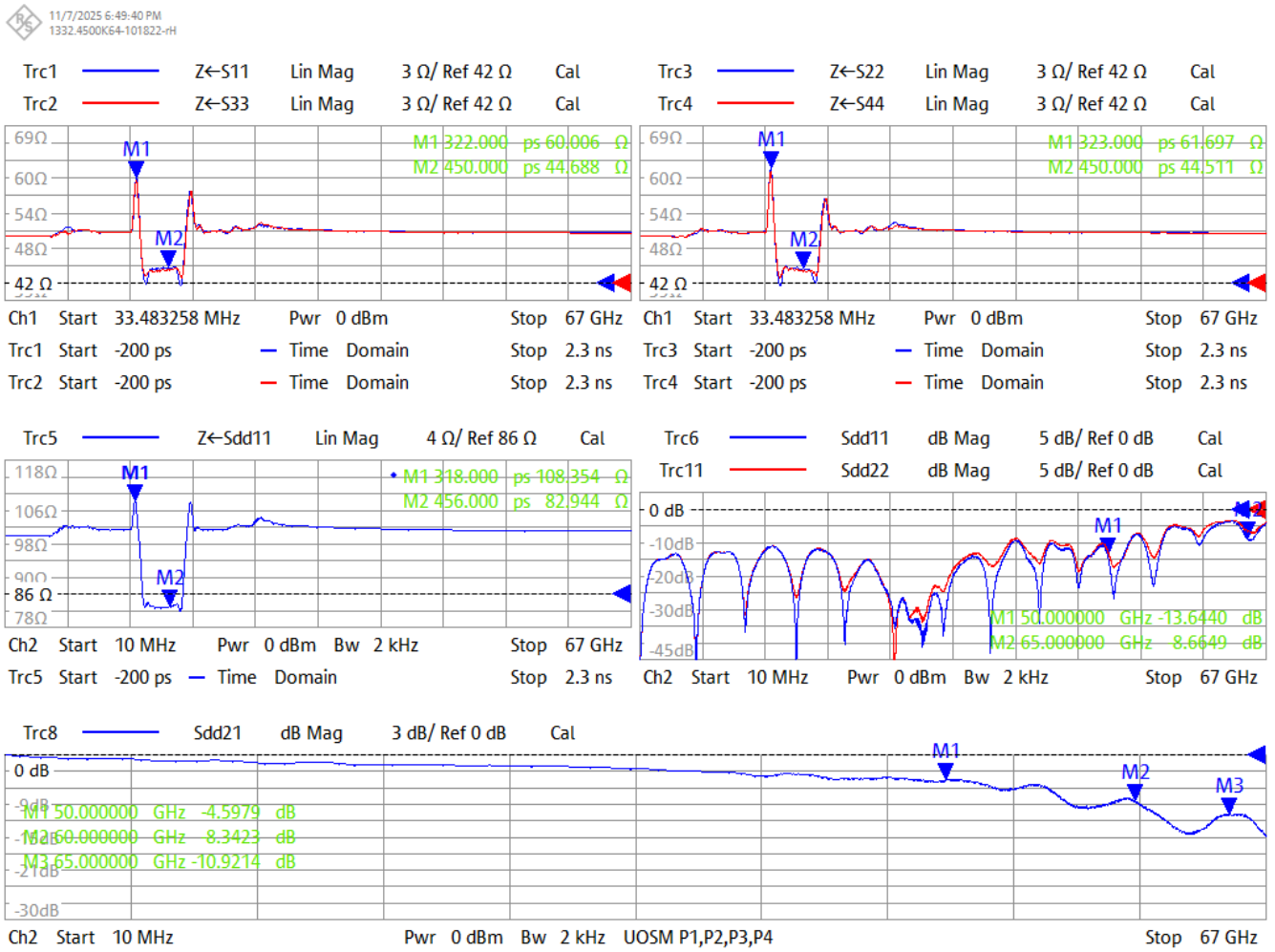
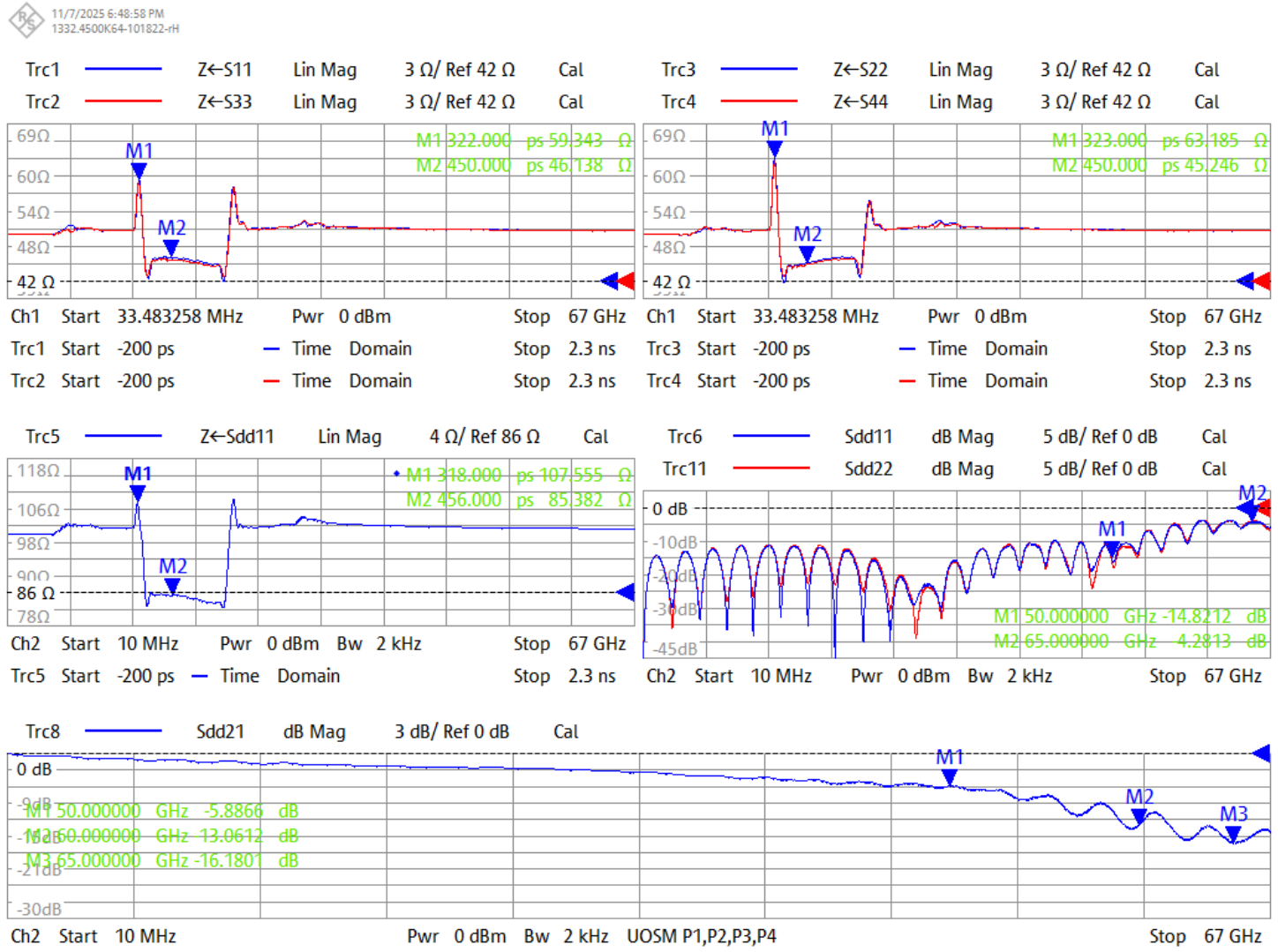
Stripline Traces
(With 6-mil Via Stub)

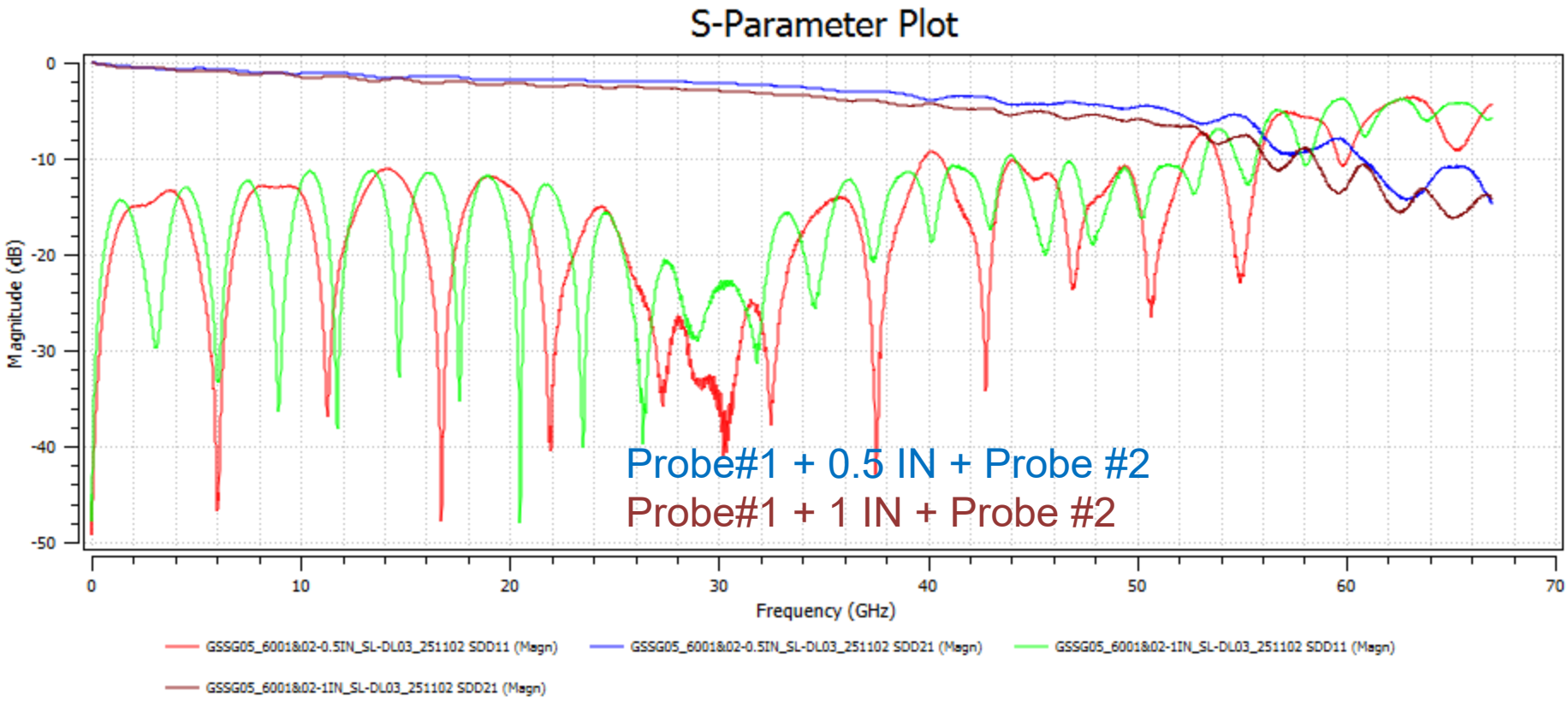
Probe#1 + 0.5 IN Stripline + Probe#2



Probe#1 + 1 IN Stripline + Probe#2

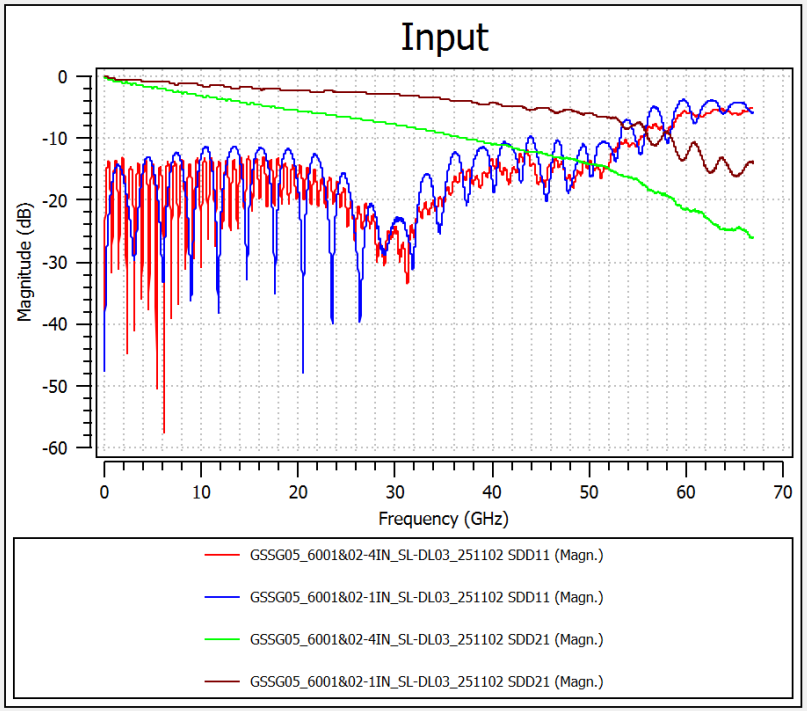


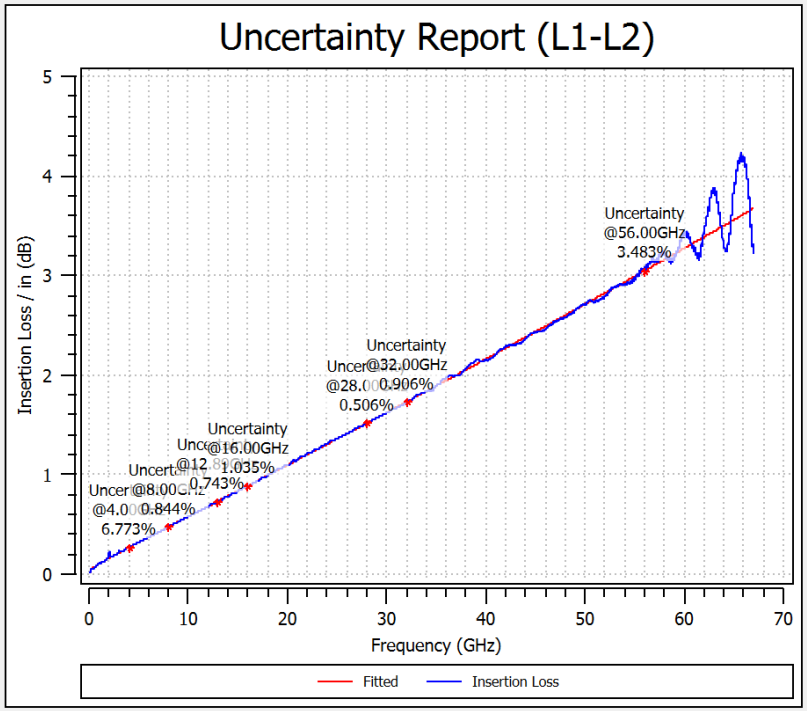
Sdd21 vs. Sdd11 1 IN & 0.5 IN



Sdd21 & Sdd11 Crossover @ ~ 53 GHz

Delta-L Stripline 4 IN & 1 IN





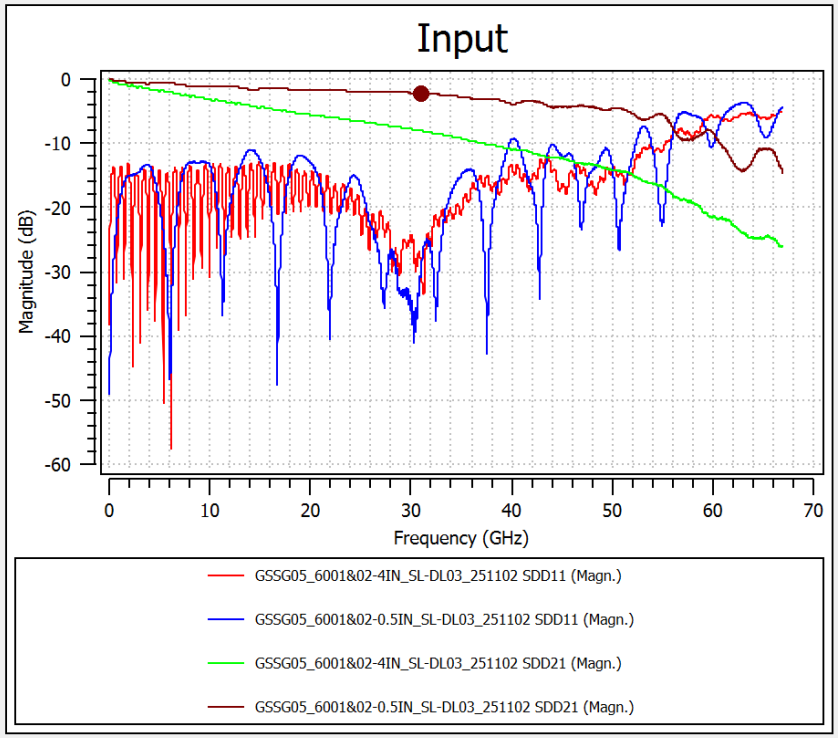
DUT Length (in)	Ref. Length (in)	Effective Length (in)
4.000	1.000	3.000

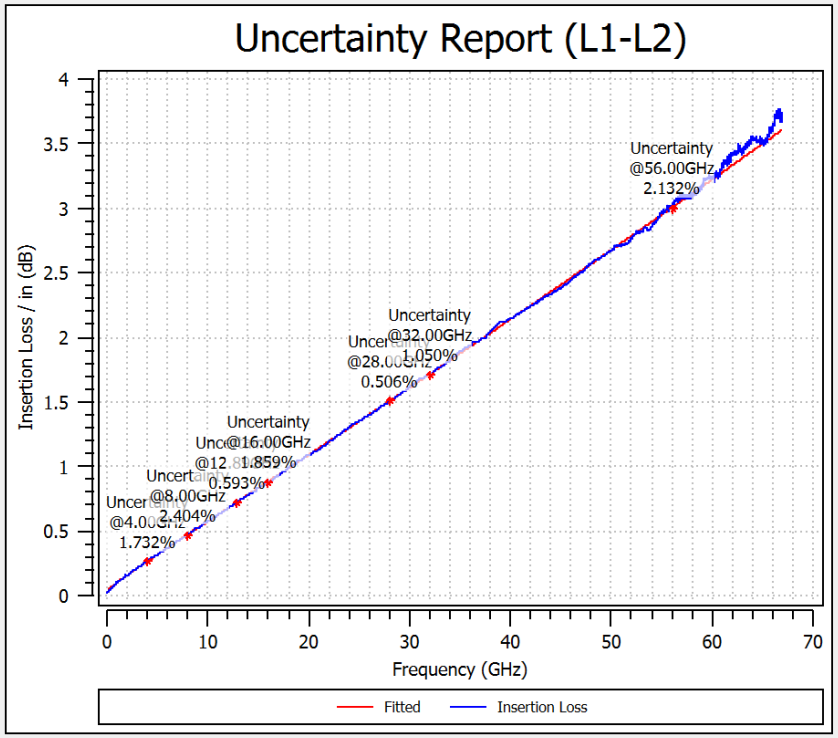
Z of Trace 1 (Ω)	Z of Trace 2 (Ω)
82.402	84.739

Uncertainty (%)	dB/in
Frequency: 4.00 GHz	
6.773	0.266
Frequency: 8.00 GHz	
0.844	0.474
Frequency: 12.89 GHz	
0.743	0.727

Export Uncertainty Data... Save PDF Report...

Delta-L Stripline 4 IN & 0.5 IN





DUT Length (in)	Ref. Length (in)	Effective Length (in)
4.000	0.500	3.500

Z of Trace 1 (Ω)	Z of Trace 2 (Ω)
82.402	83.018

Uncertainty (%)	dB/in
Frequency: 4.00 GHz	
1.732	0.264
Frequency: 8.00 GHz	
2.404	0.472
Frequency: 12.89 GHz	
0.593	0.723

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Thank You

We help make PCB probing easy!

- Benchtop DIY Probe Stations
- Rugged 65 GHz Differential Probes
- Rugged 30 GHz Single-ended Probes
- Engineering Services
- One-stop shopping for SI analysis tools, flexible RF cables, PDN filters, digital microscopes, etc.

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