

High Speed Transmitter and Receiver Test Report TLK10081

Communication Interface – CIF

June 2014

TLK10081 Reference Measurements

- Direct Attach Copper (DAC) Cable
 - 3m
 - 5m
 - 6m
 - 7m
- FR4 Test Trace Board
 - 4 in distance | 10 mil trace width
 - 4 in distance | 4 mil trace width
 - 16 in distance | 4 mil trace width
 - 20 in distance | 4 mil trace width
 - 32 in distance | 4 mil trace width
 - 36 in distance | 4 mil trace width
 - 40 in distance | 6 mil trace width
 - 44 in distance | 8 mil trace width
 - 48 in distance | 8 mil trace width

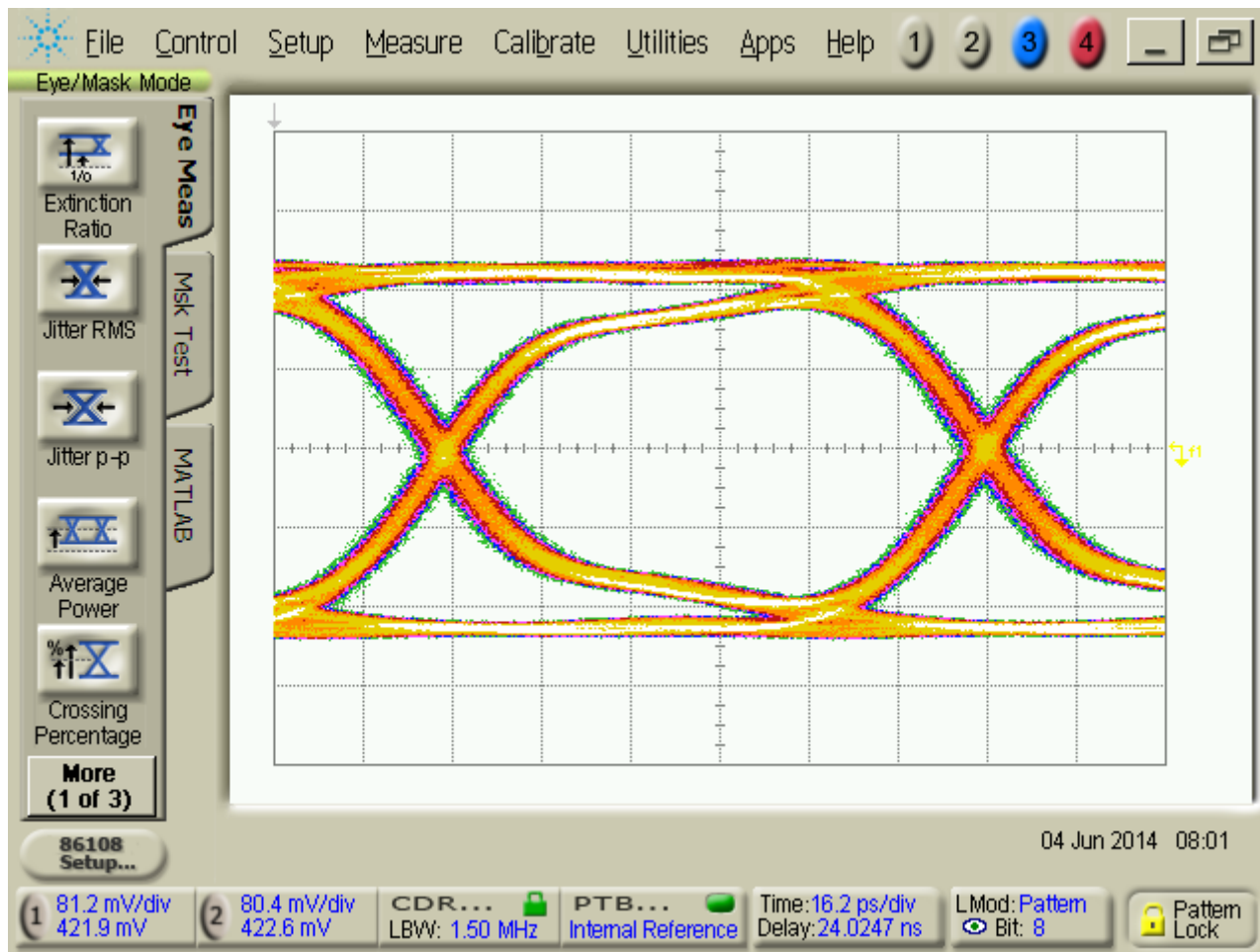
Table of used TLK10081 Settings

- Data Rate: 10.3125Gbps
- Test Pattern: PRBS 2³¹ Test Pattern
- BER Achieved: 3x10⁻¹²

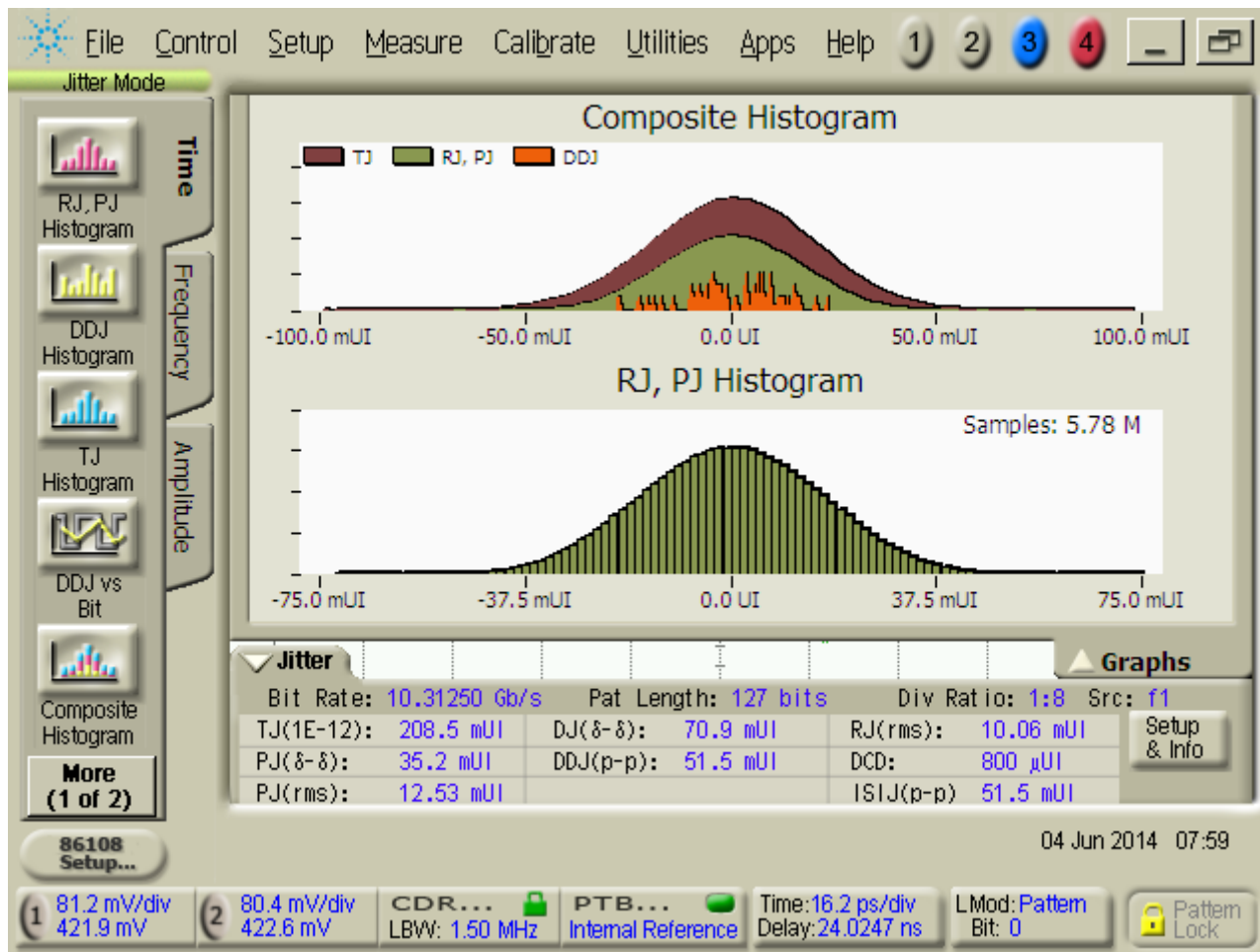
TRACE	Copper Cables				FR4									
	3m	5m	6m	7m	4in 10mil	4in 4mil	16in 4mil	20in 4mil	32in 4mil	36in 4mil	40in 6mil	44in 8mil	48in 8mil	
SWING	1400	1400	1400	1400	1180	1180	1180	1180	1180	1340	1400	1340	1340	
PRE	-7,5	-7,5	-10	-7,5	0	0	0	0	-12,5	-12,5	-10	-12,5	-12,5	
POST1	-22,5	-22,5	-22,5	-35	0	0	0	0	-25	-27,5	-35	-35	-30	
ENTRACK	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
EQ	13/9	13/9	13/9	13/9	1/9	1/9	1/9	1/9	3/9	7/9	7/9	9/9	9/9	

The table above shows testing that was done with different cables and board traces. Slides 7-19 show the channel losses for each of these conditions. The channel loss, when applied to the transmitter eye diagram shown on slide 4 is then received at the TLK10081 de-aggregator. BER Achieved : 3x10⁻¹² indicates that the TLK10081 receiver is able to recover a transmitter eye when passed through the wide range of loss profiles as shown in pages 7-19.

TLK10081 Transmitter Eye Diagram

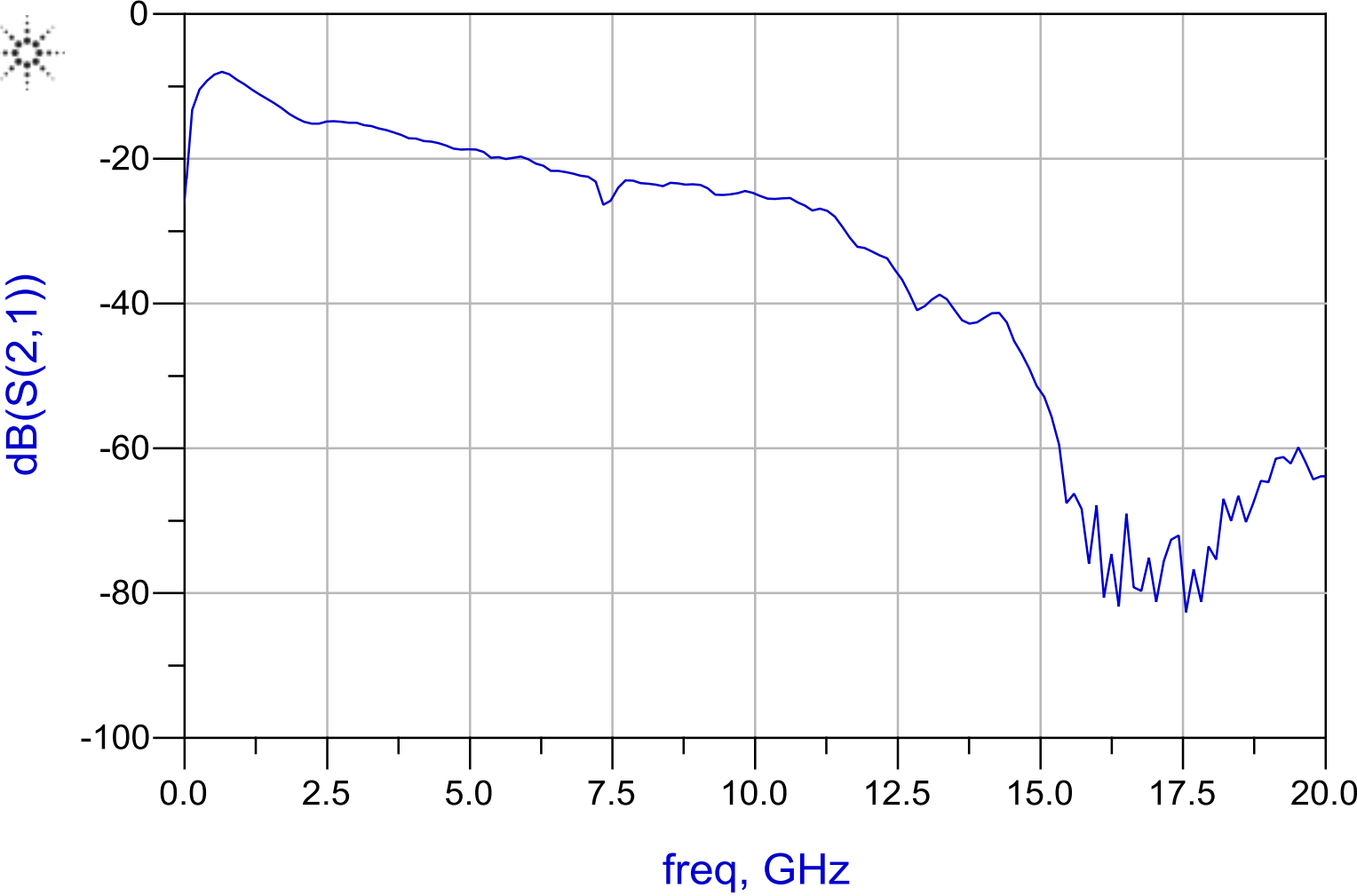


TLK10081 Transmitter Jitter Data

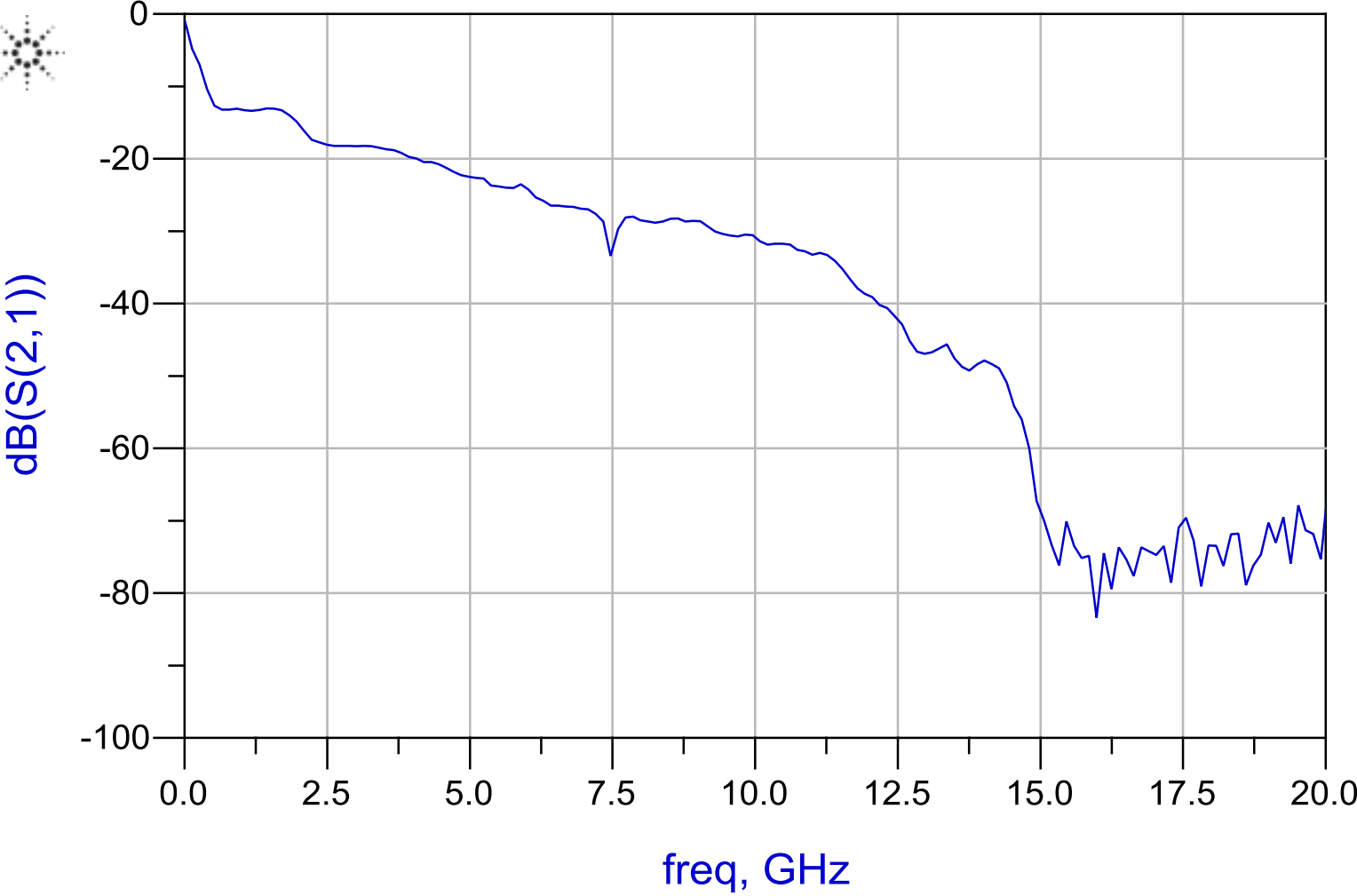


Channel loss Data

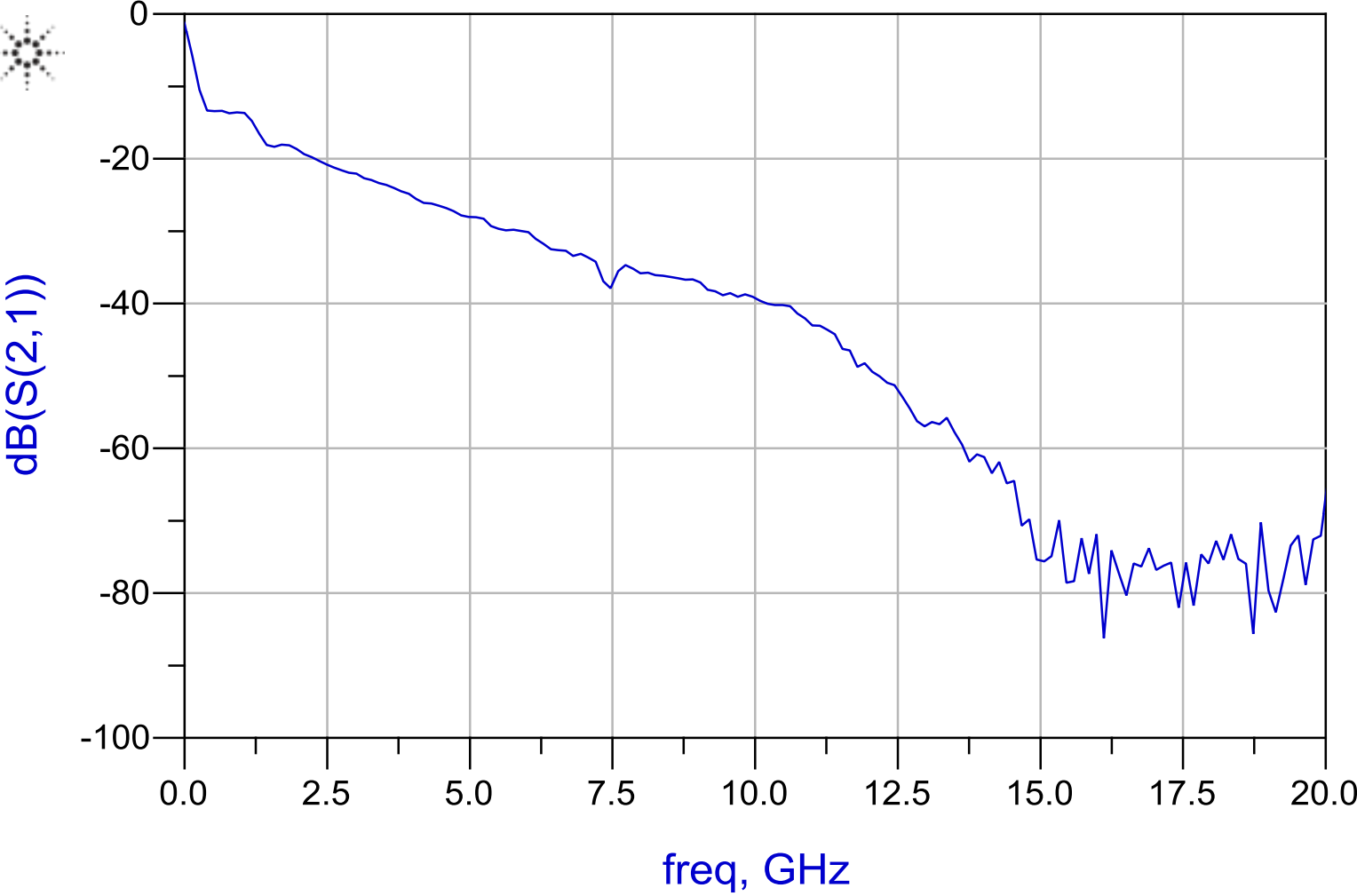
3 Meter DAC Cable



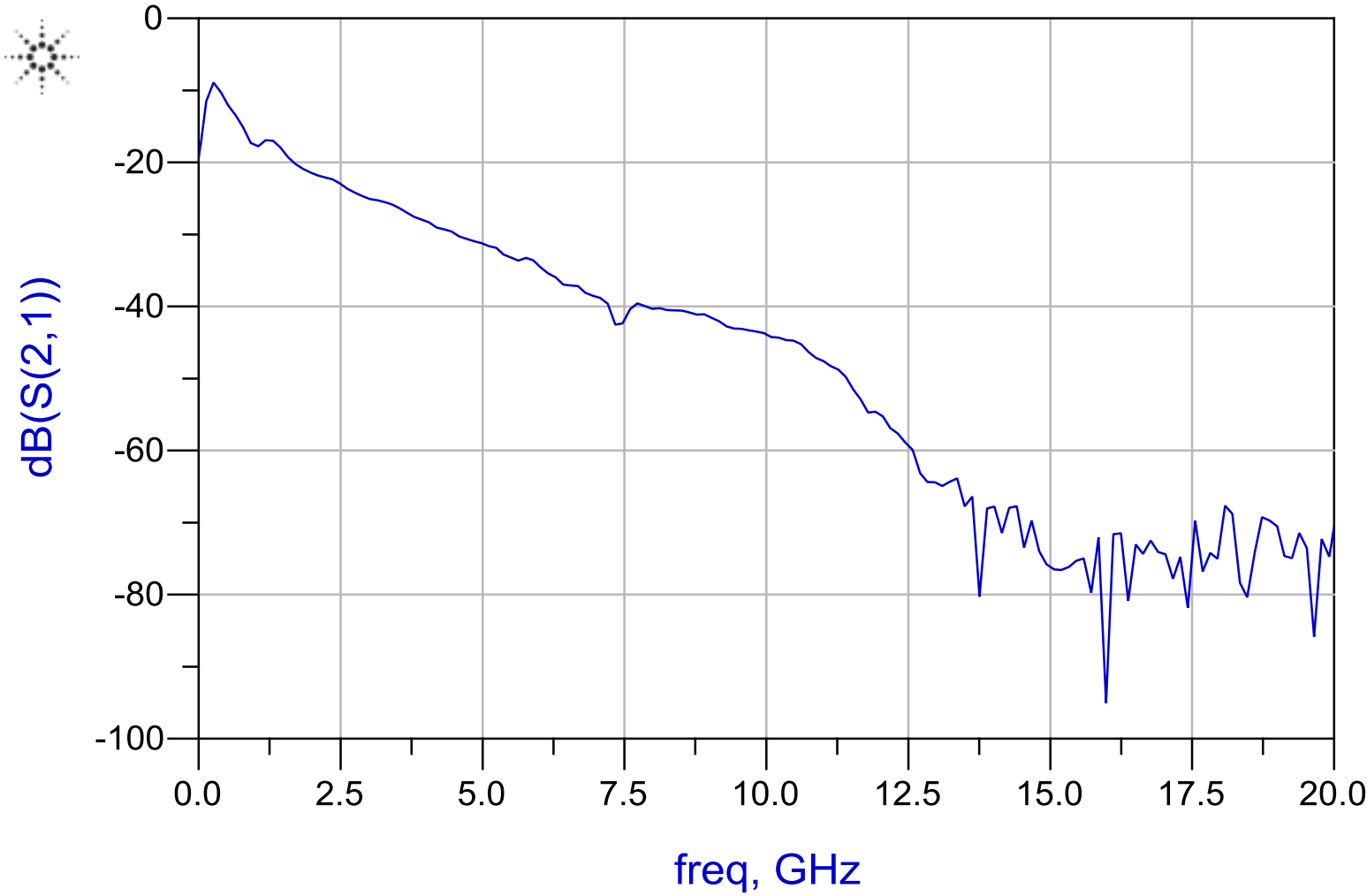
5 Meter DAC Cable



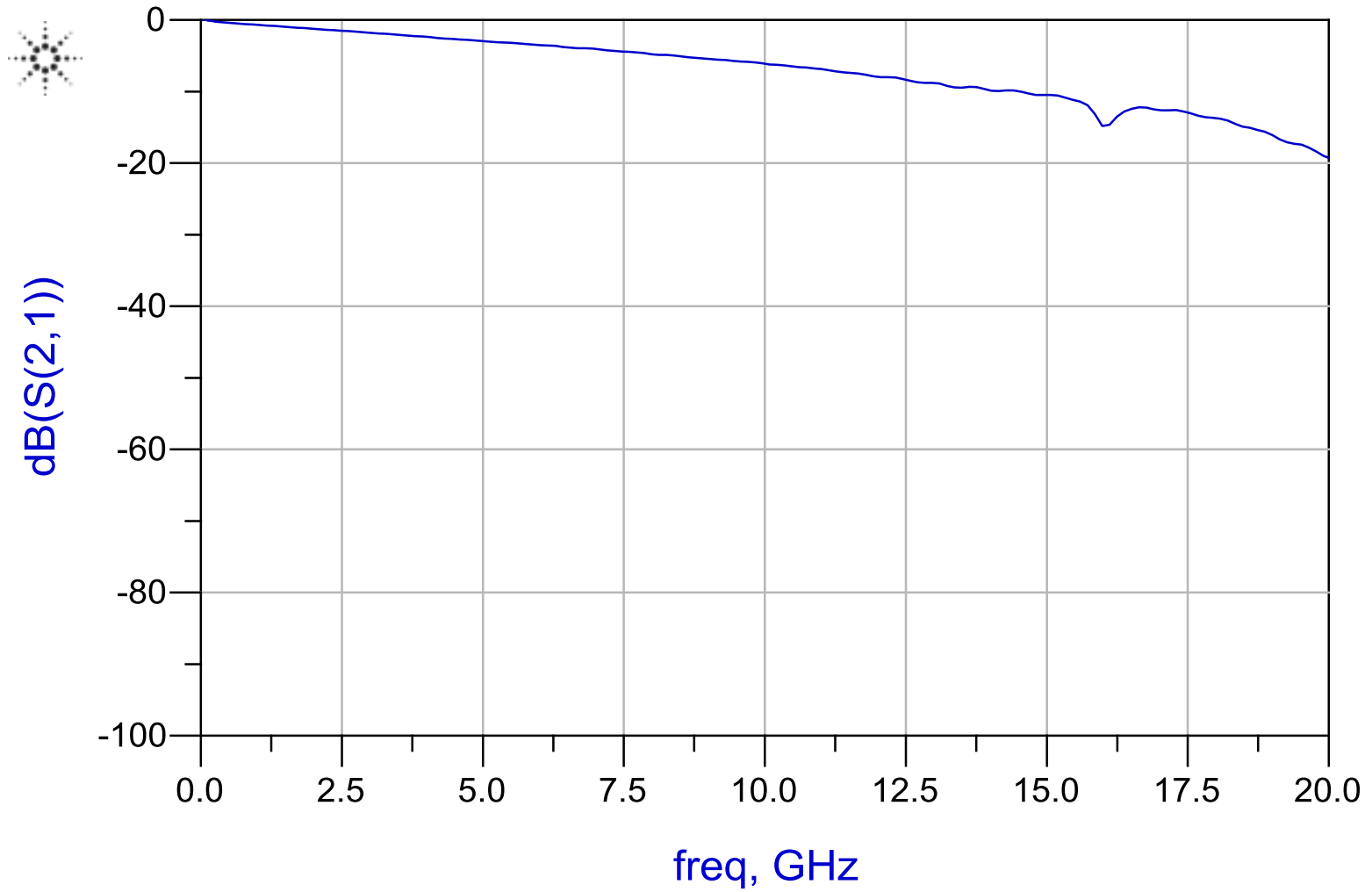
6 Meter DAC Cable



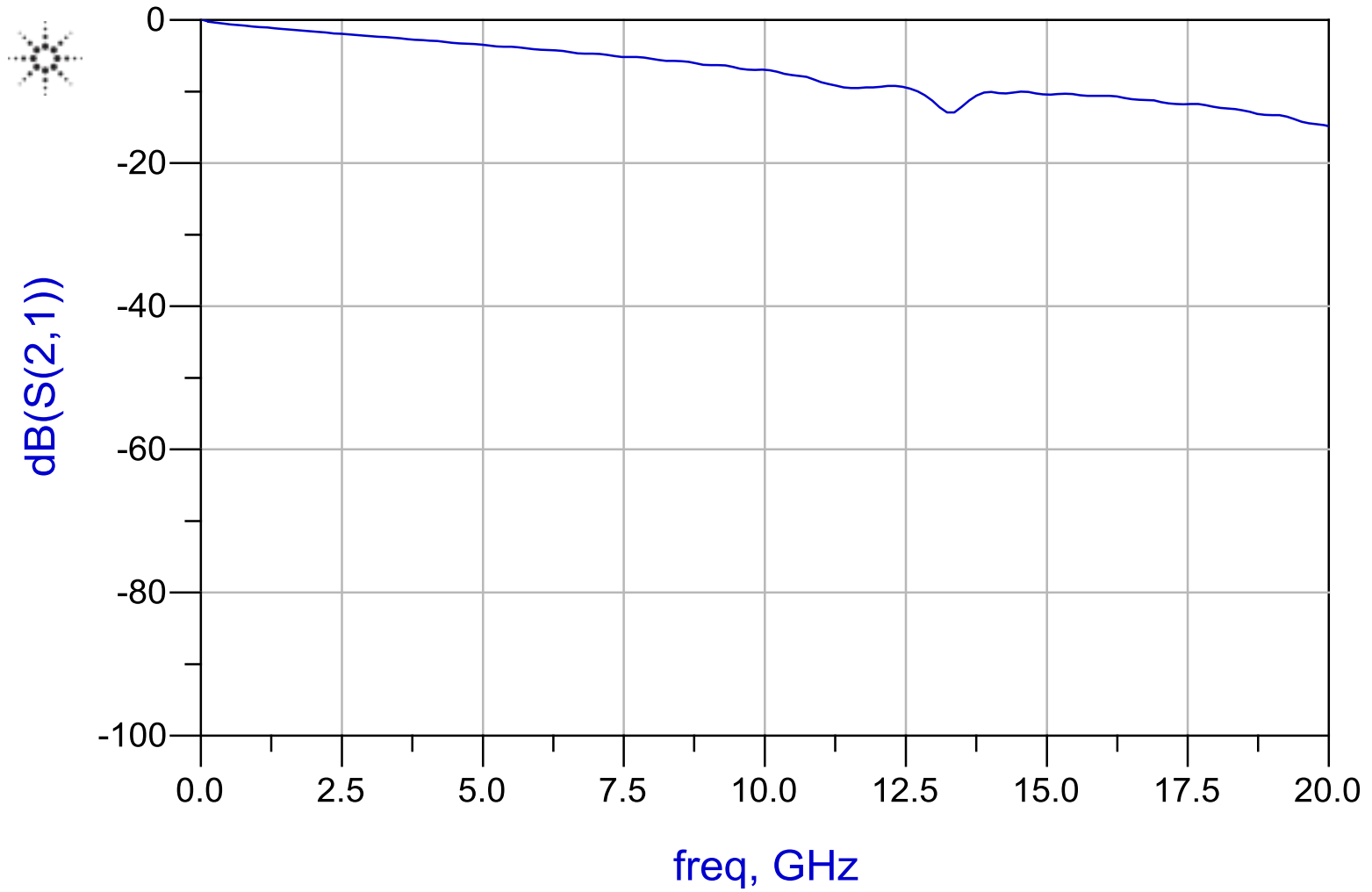
7 Meter DAC Cable



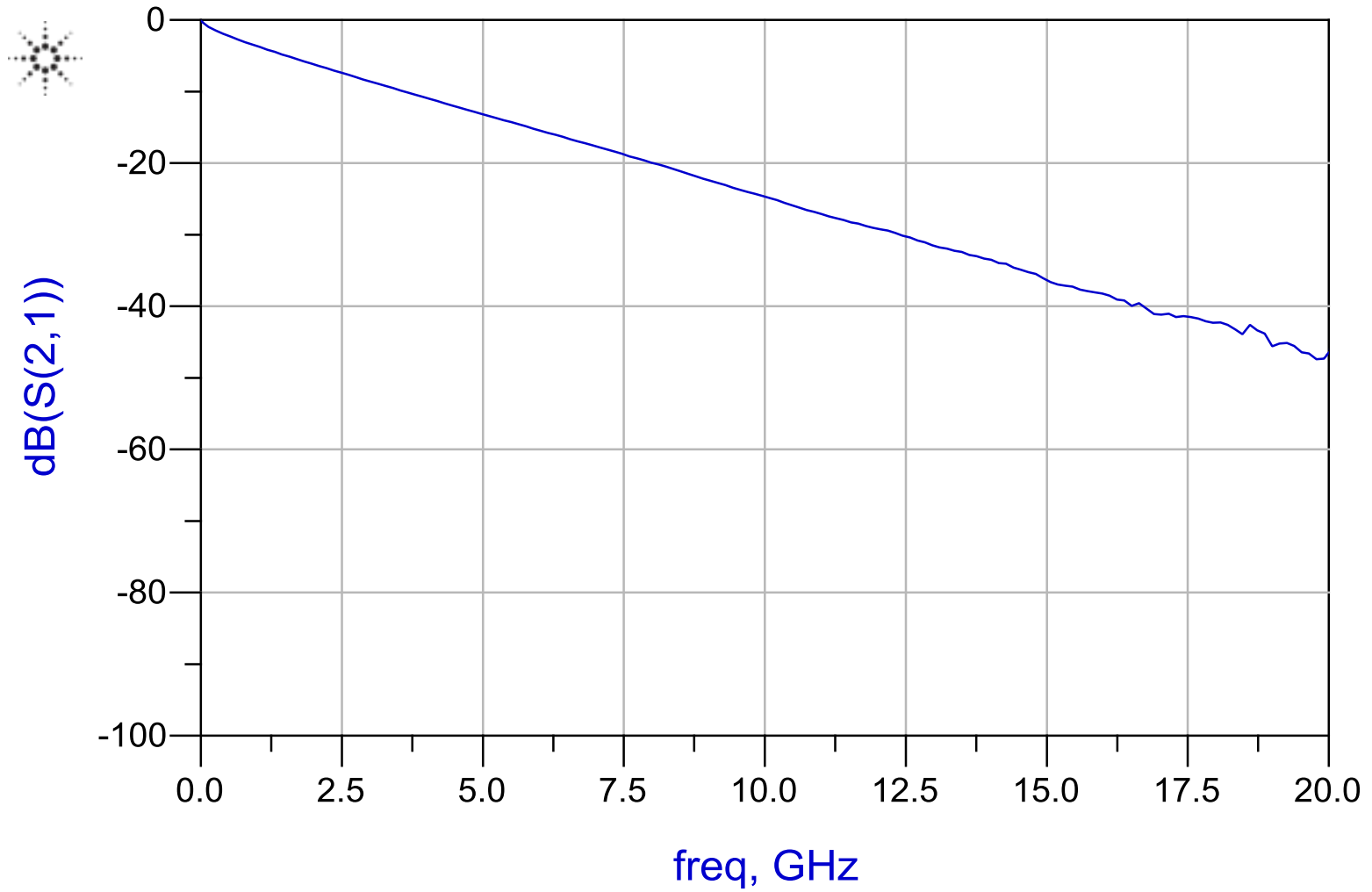
FR4 Test Trace Board 4 in | 10 mil



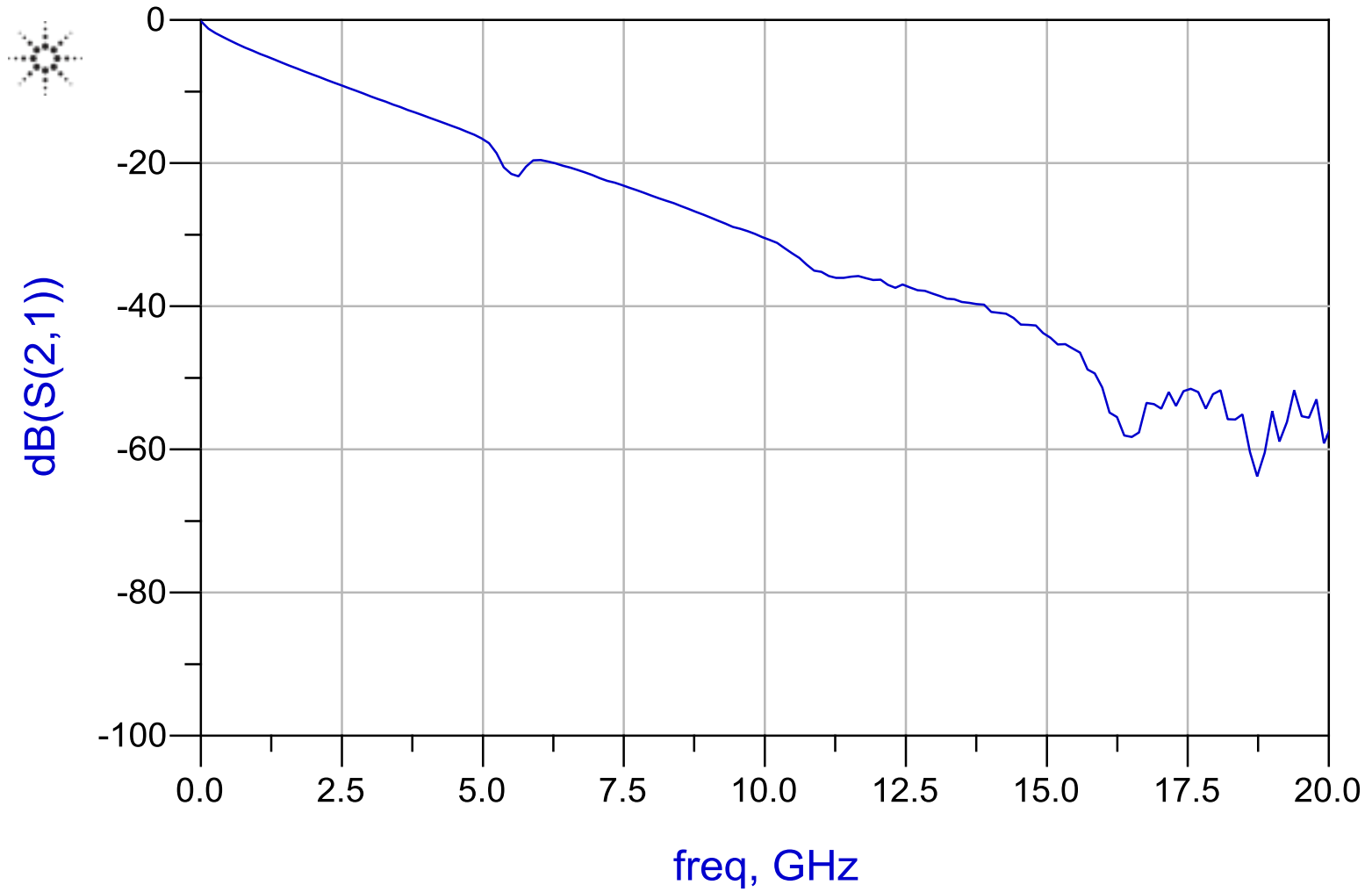
FR4 Test Trace Board 4 in | 4 mil



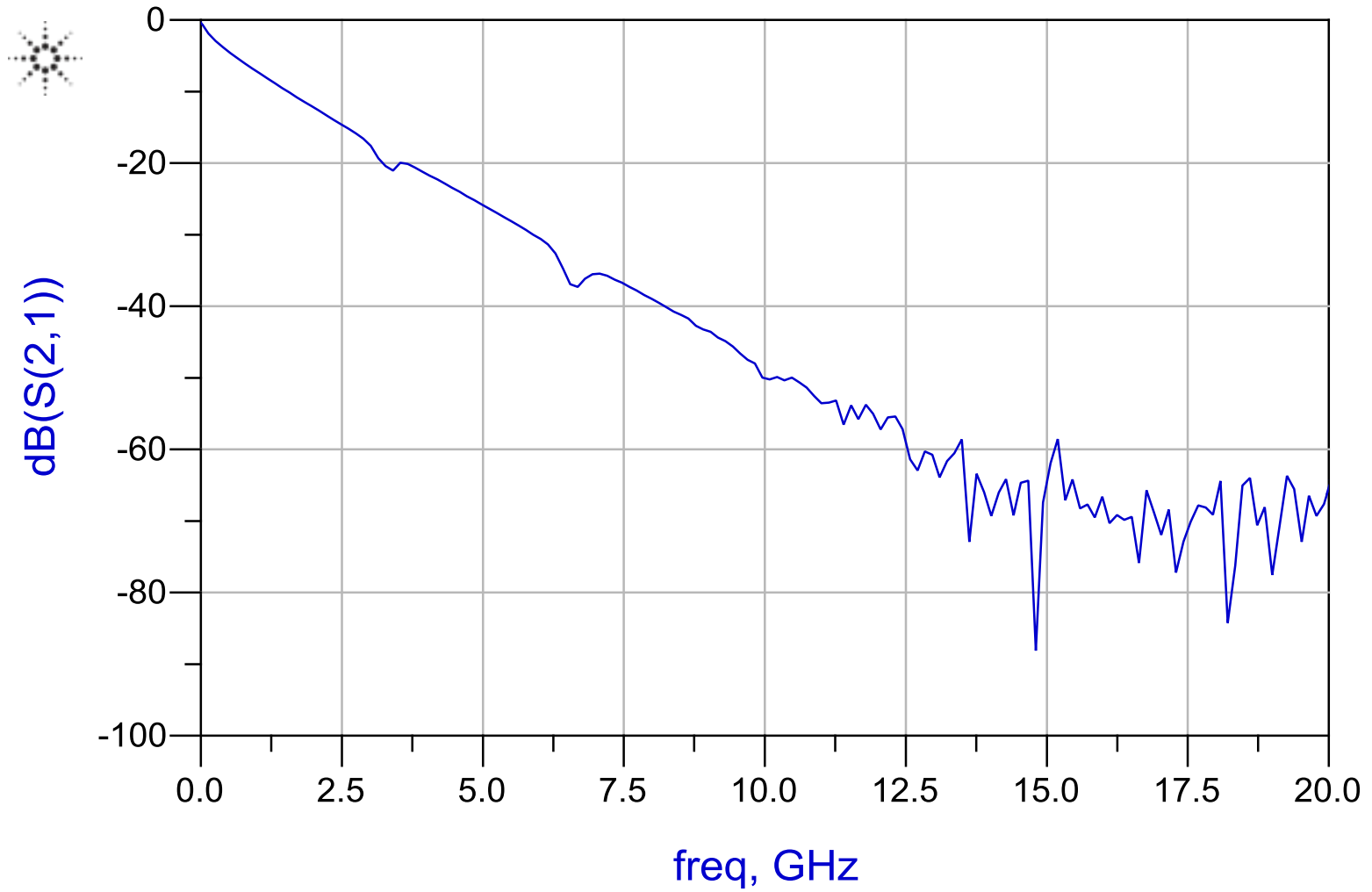
FR4 Test Trace Board 16 in | 4 mil



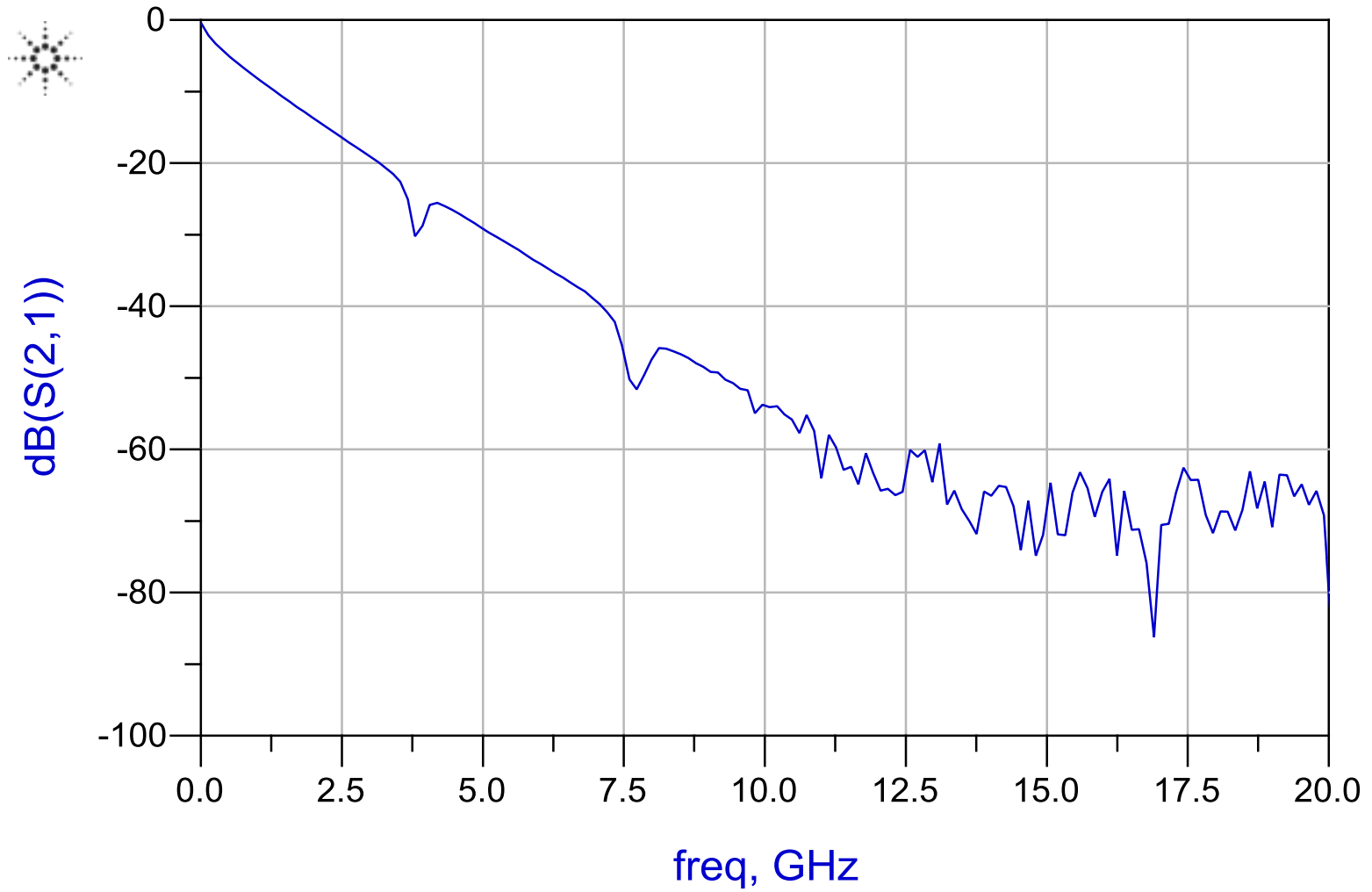
FR4 Test Trace Board 20 in | 4 mil



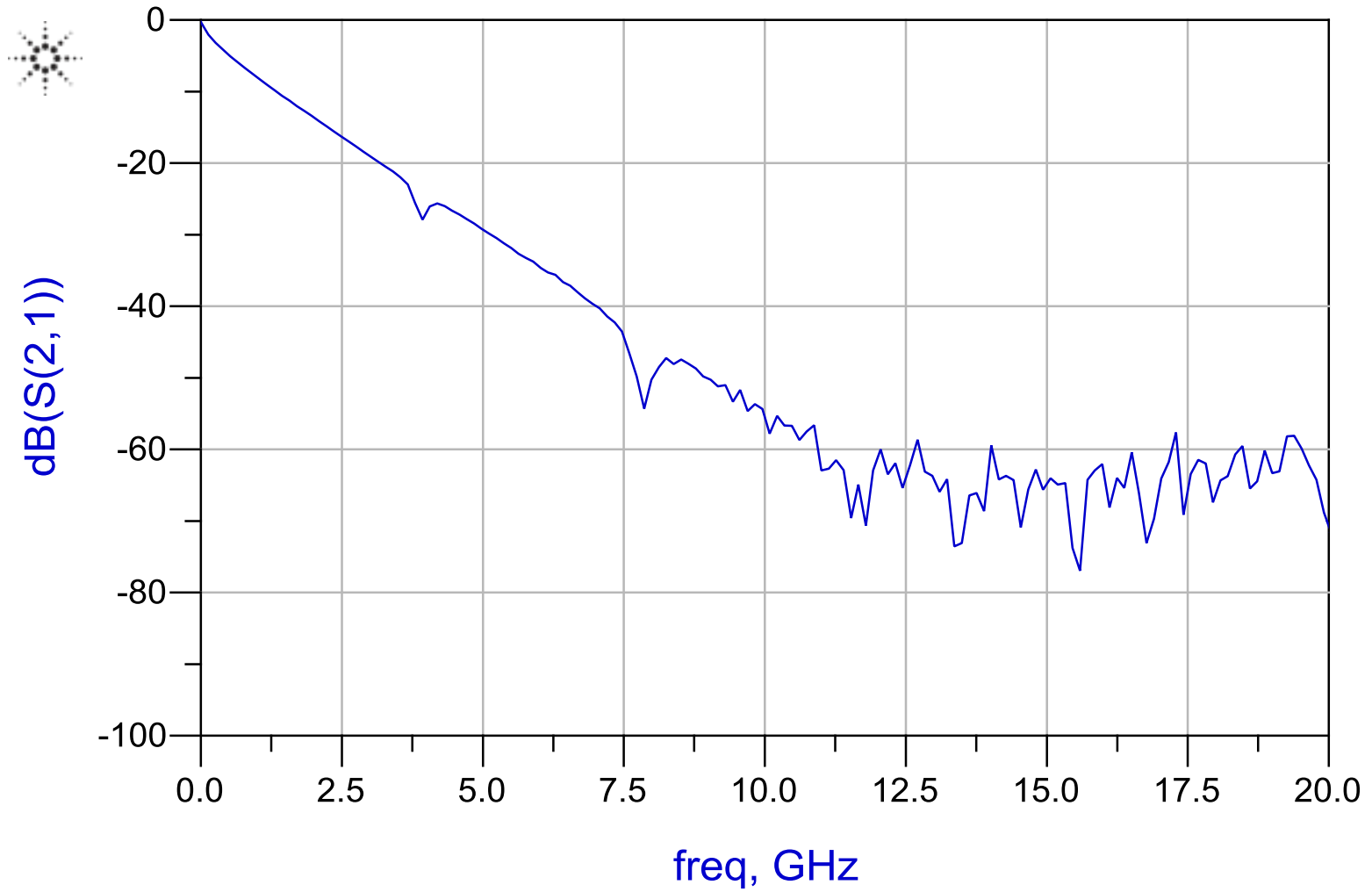
FR4 Test Trace Board 32 in | 4 mil



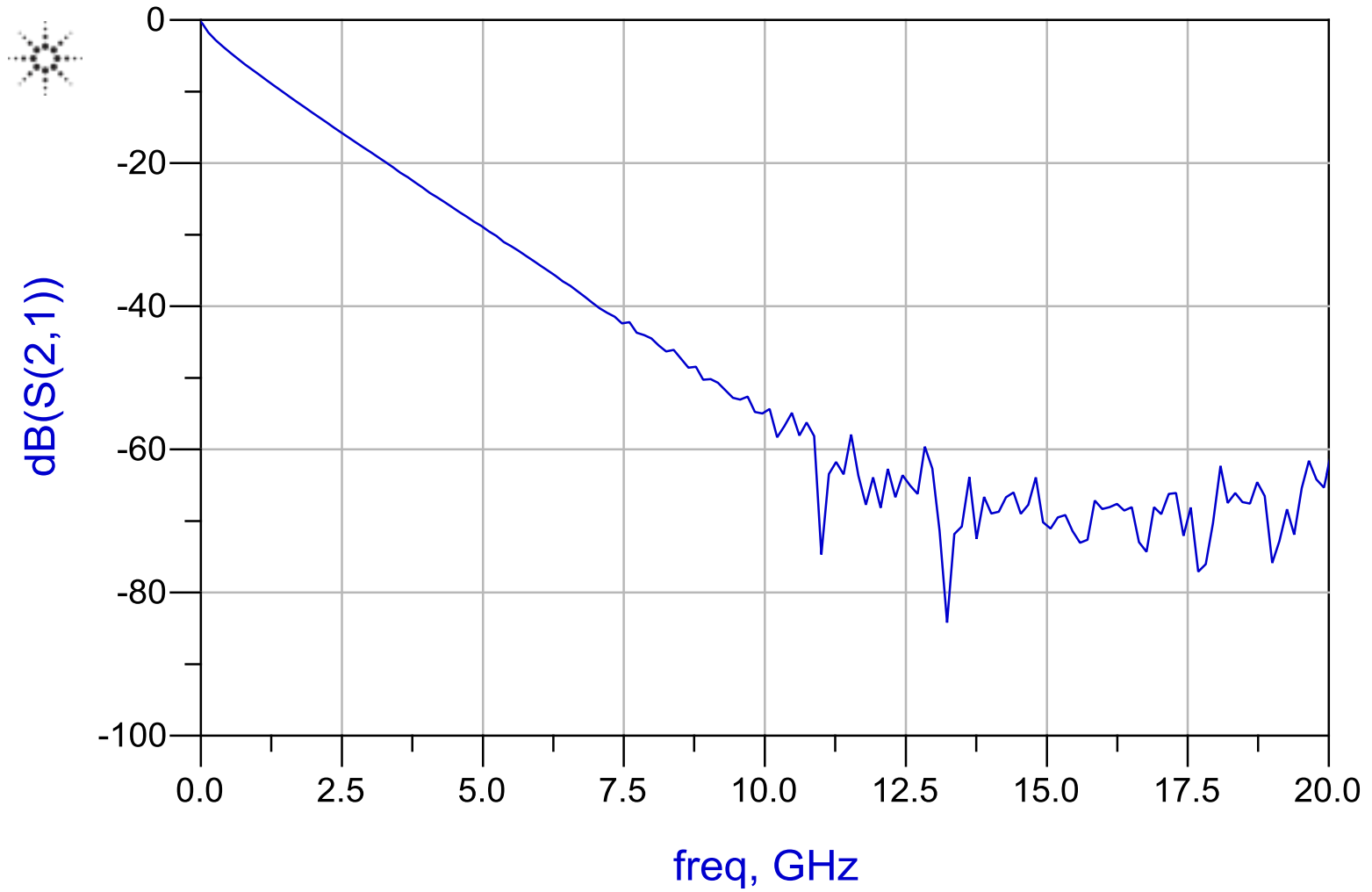
FR4 Test Trace Board 36 in | 4 mil



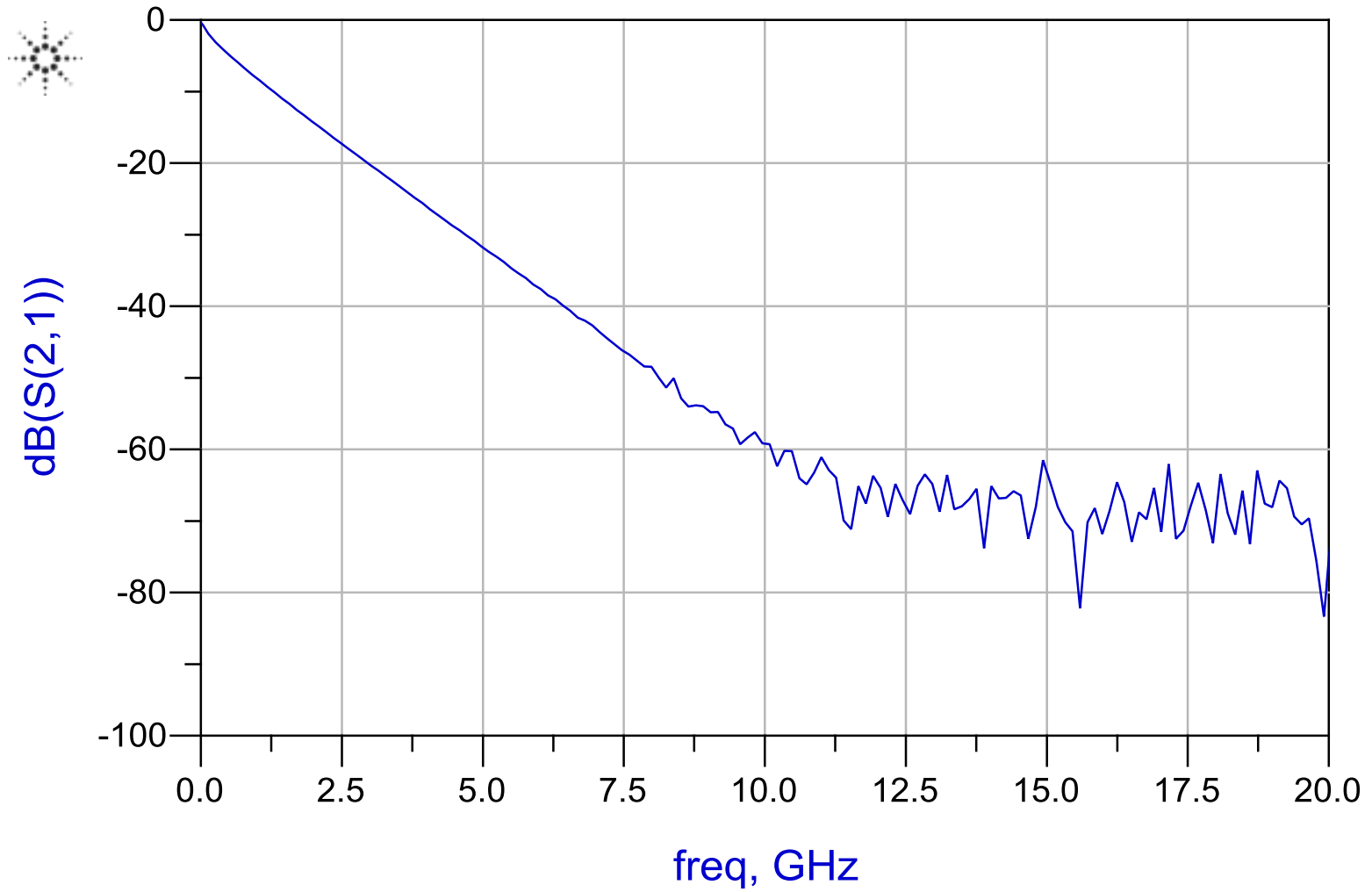
FR4 Test Trace Board 40 in | 6 mil



FR4 Test Trace Board 44 in | 8 mil



FR4 Test Trace Board 48 in | 8mil



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