

Specification for Approval

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Customer:	HL Tronics (Kunshan) Co., Ltd.	Vendor:	HL Tronics
Customer P/N:	-	HL P/N:	-
Customer Device Name:	-	HL Device Name:	P-2458-12M8-QJ-8530X
Version:	A	Approval Date:	2020-05-15

Internal Approval		
Approved By:	Checked By:	Prepared By:
Tking Zhang	Tking Zhang	Yuanyuan Wu
Customer Approval		

Revision:

Date	Rev	Description of Changes
2020-05-15	A	Initial Release

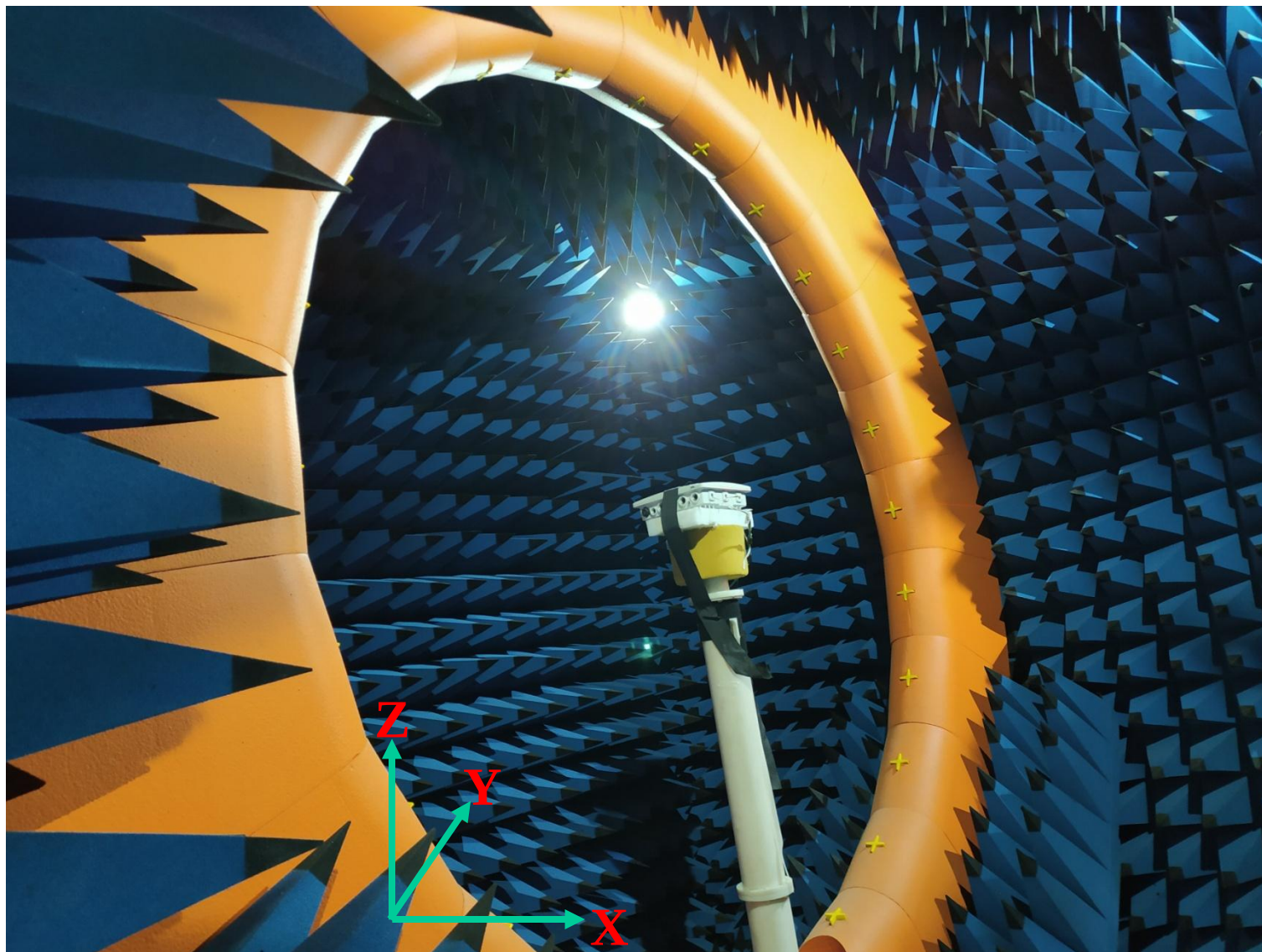
Electrical characteristics:

Model No.	P-2458-12M8-QJ-8530X	
Frequency range (MHz)	2400-2500	5150-5850
VSWR(antenna without cover test)	<3.0	<2.3
Working Temperature	-30℃~+70℃	
Working Humidity	20%RH~70%RH	

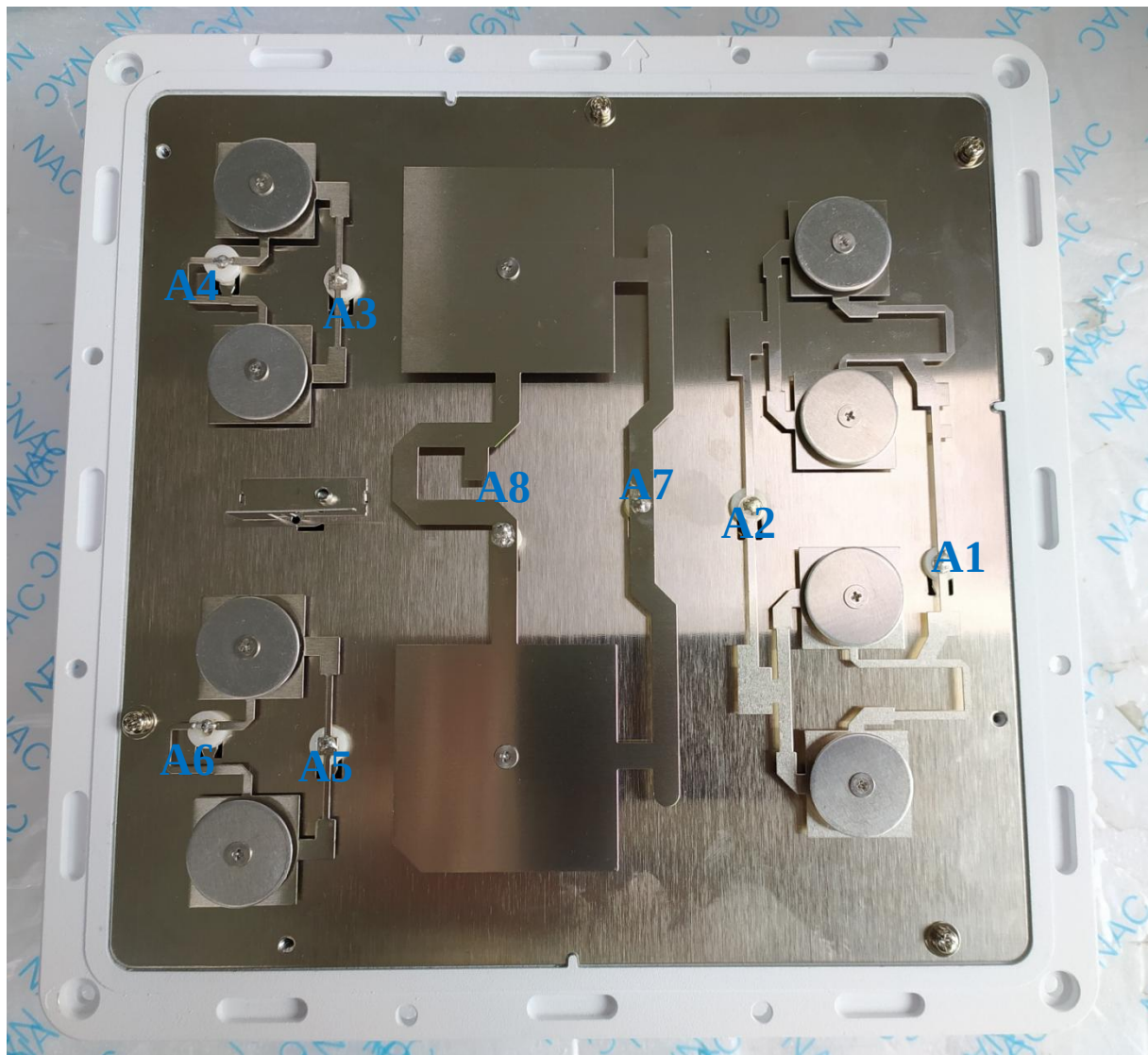
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- 2.S-Parameters(VSWR & isolation)
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- 4.Radiation patterns
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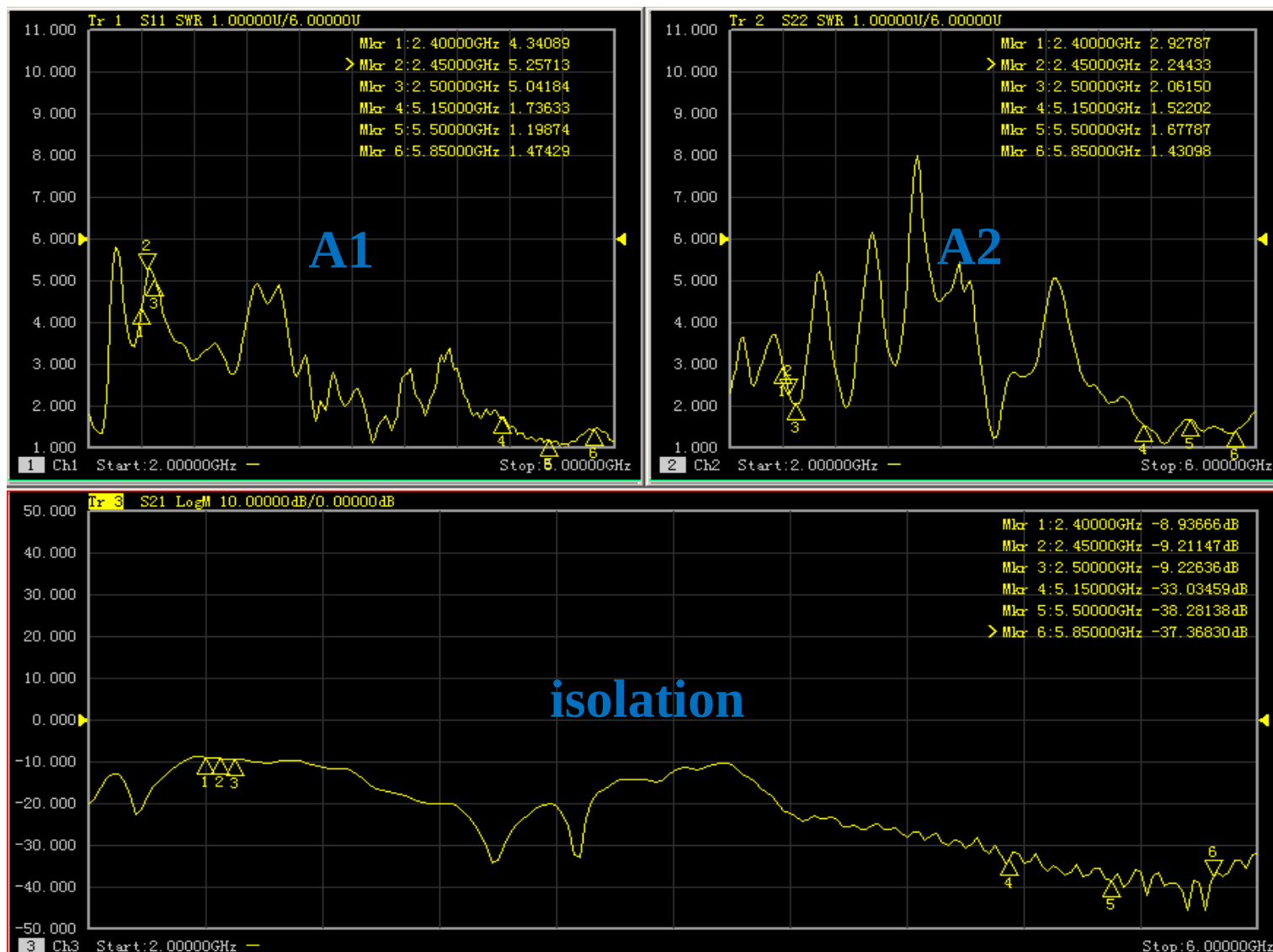
1.Benchmark



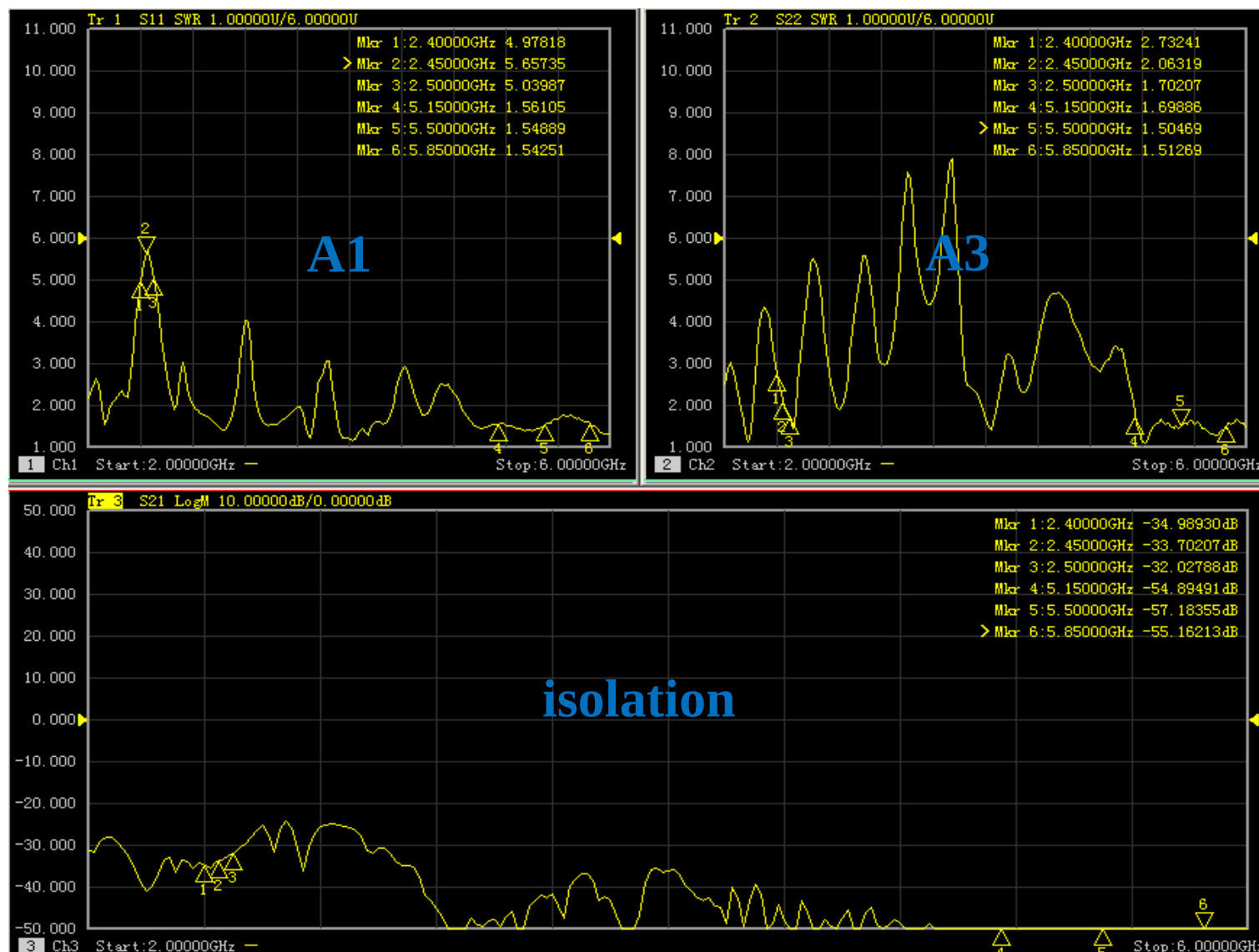
1.Benchmark



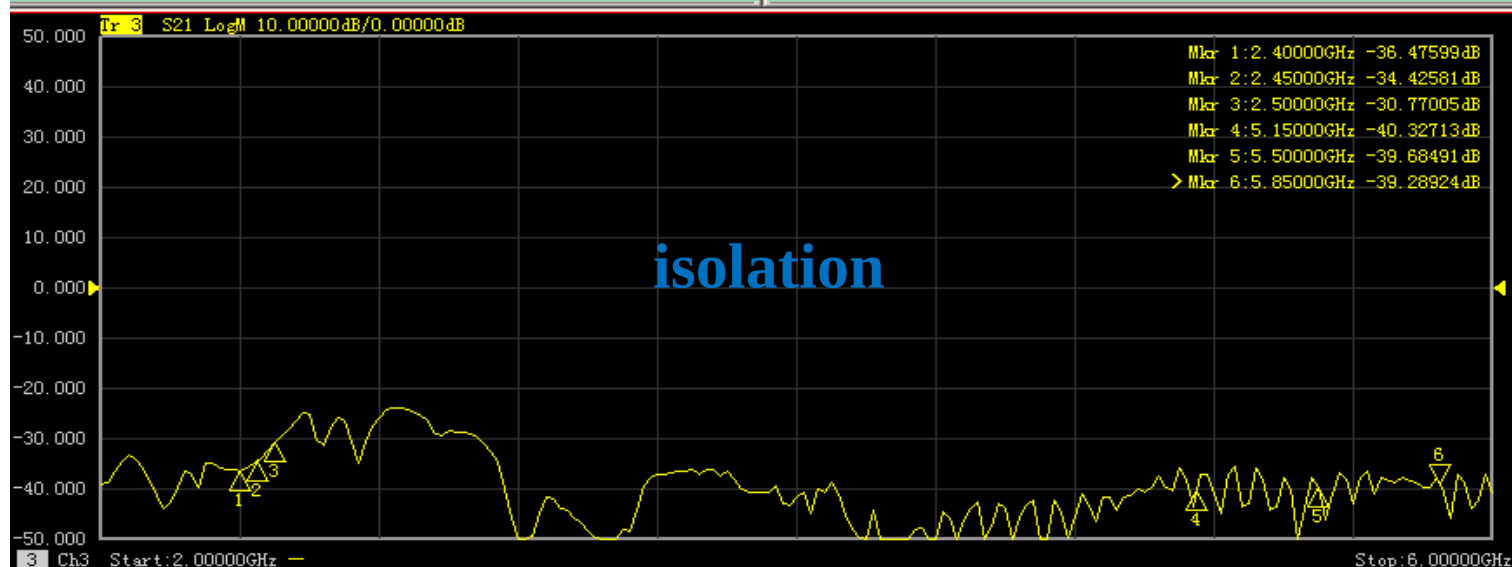
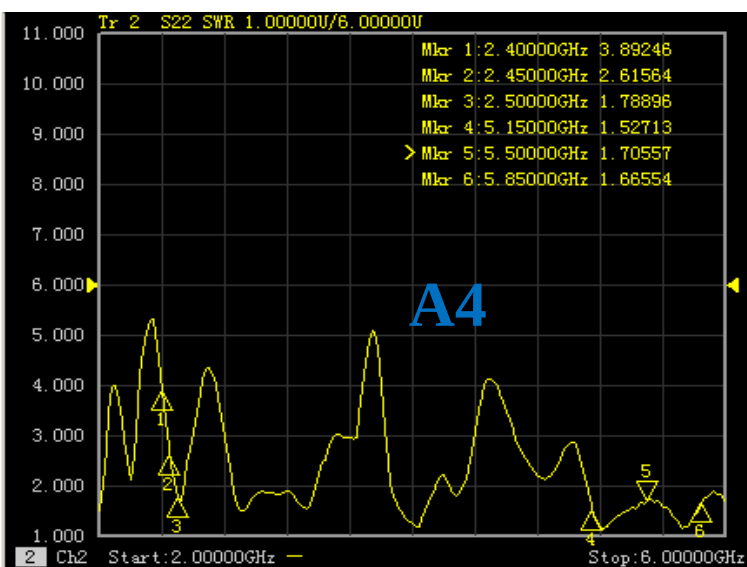
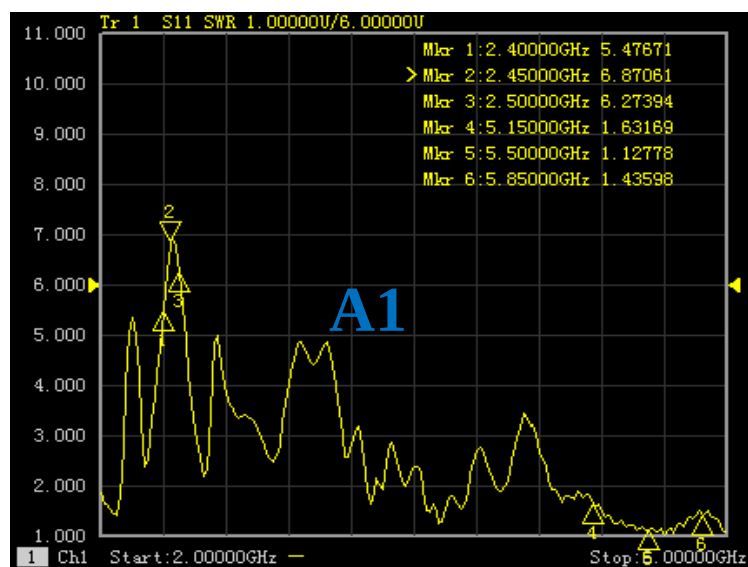
2.S-Parameters(VSWR&isolation)(A1 A2)



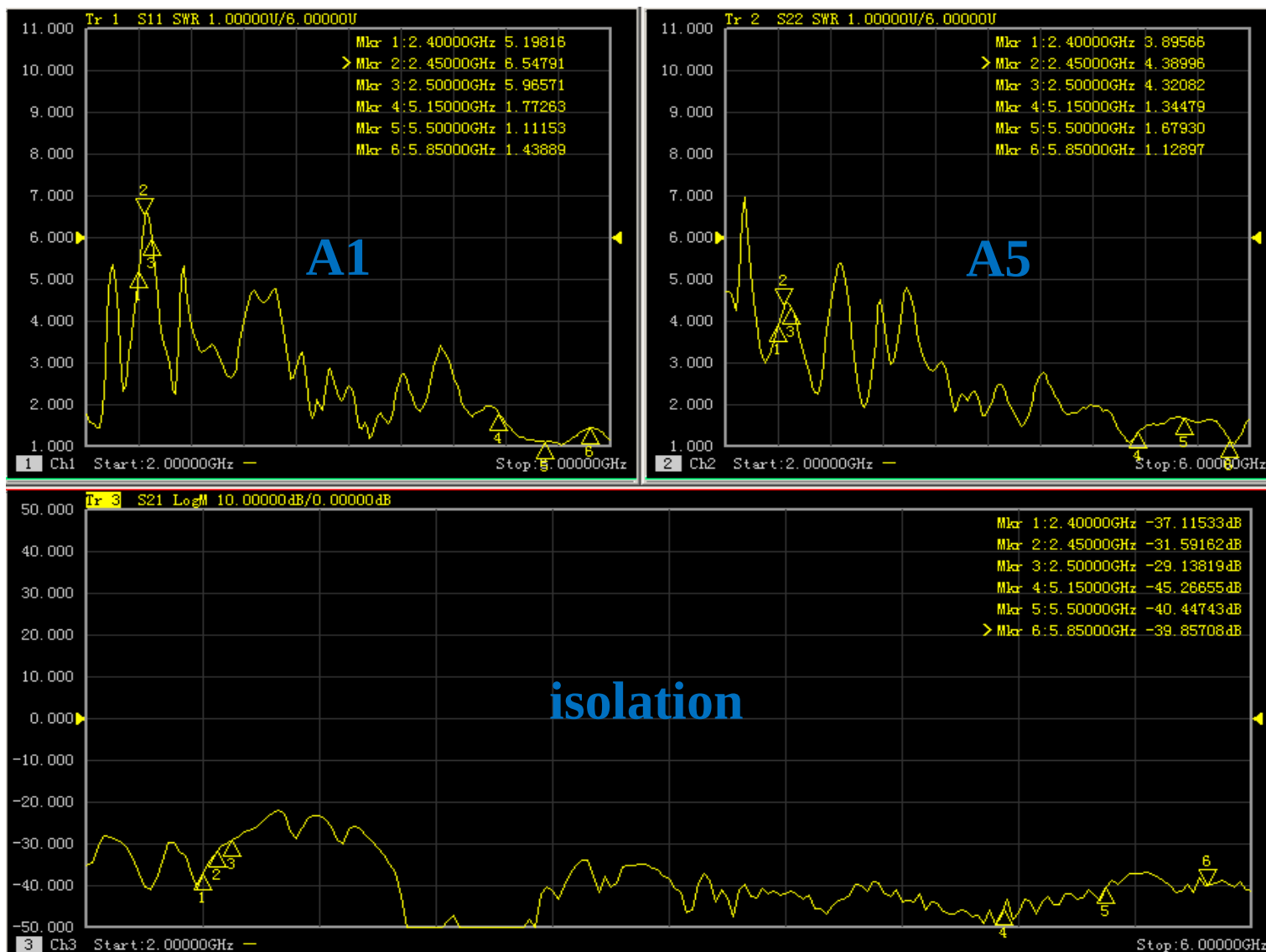
2.S-Parameters(VSWR&isolation)(A1 A3)



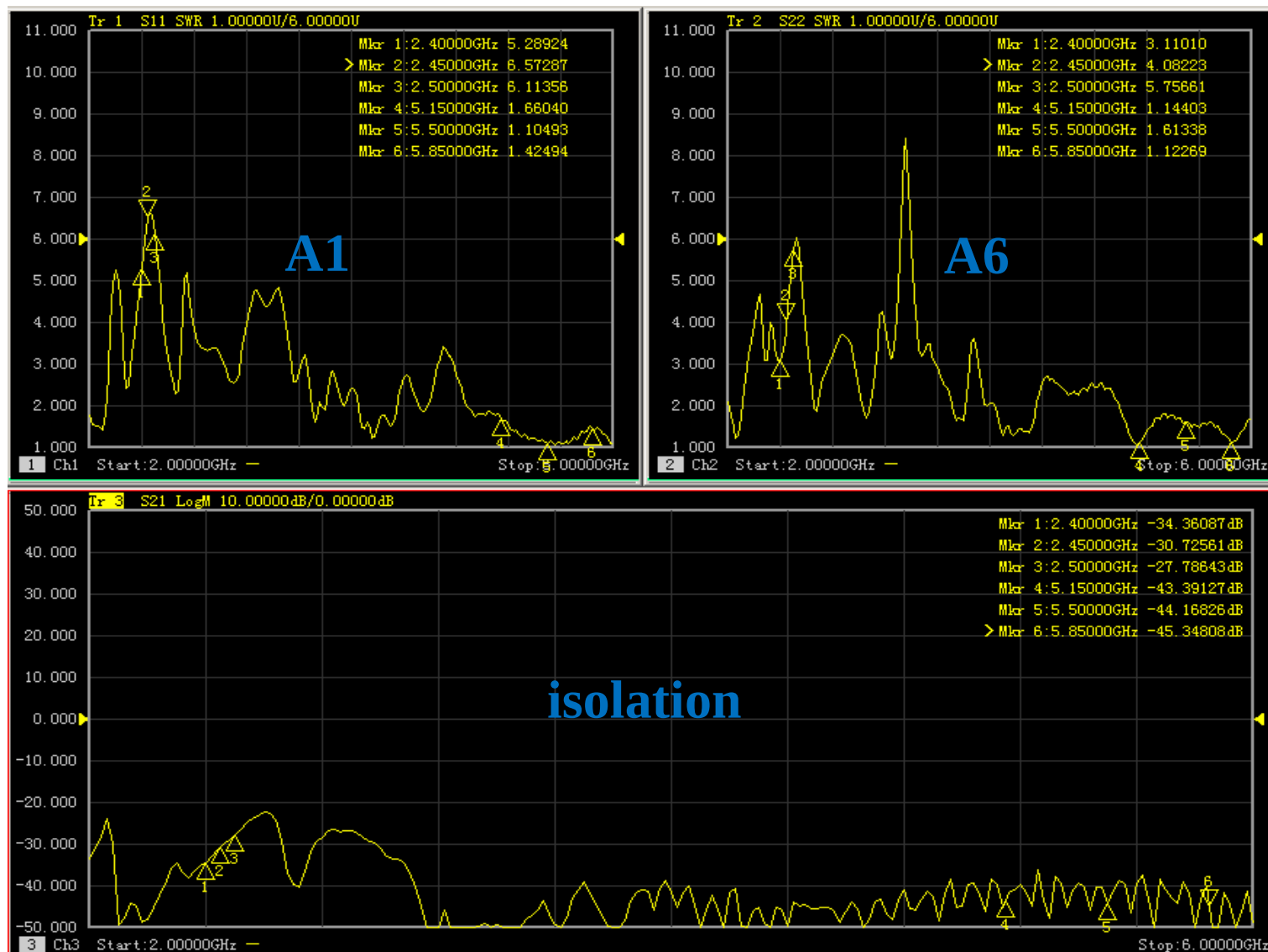
2.S-Parameters(VSWR&isolation)(A1 A4)



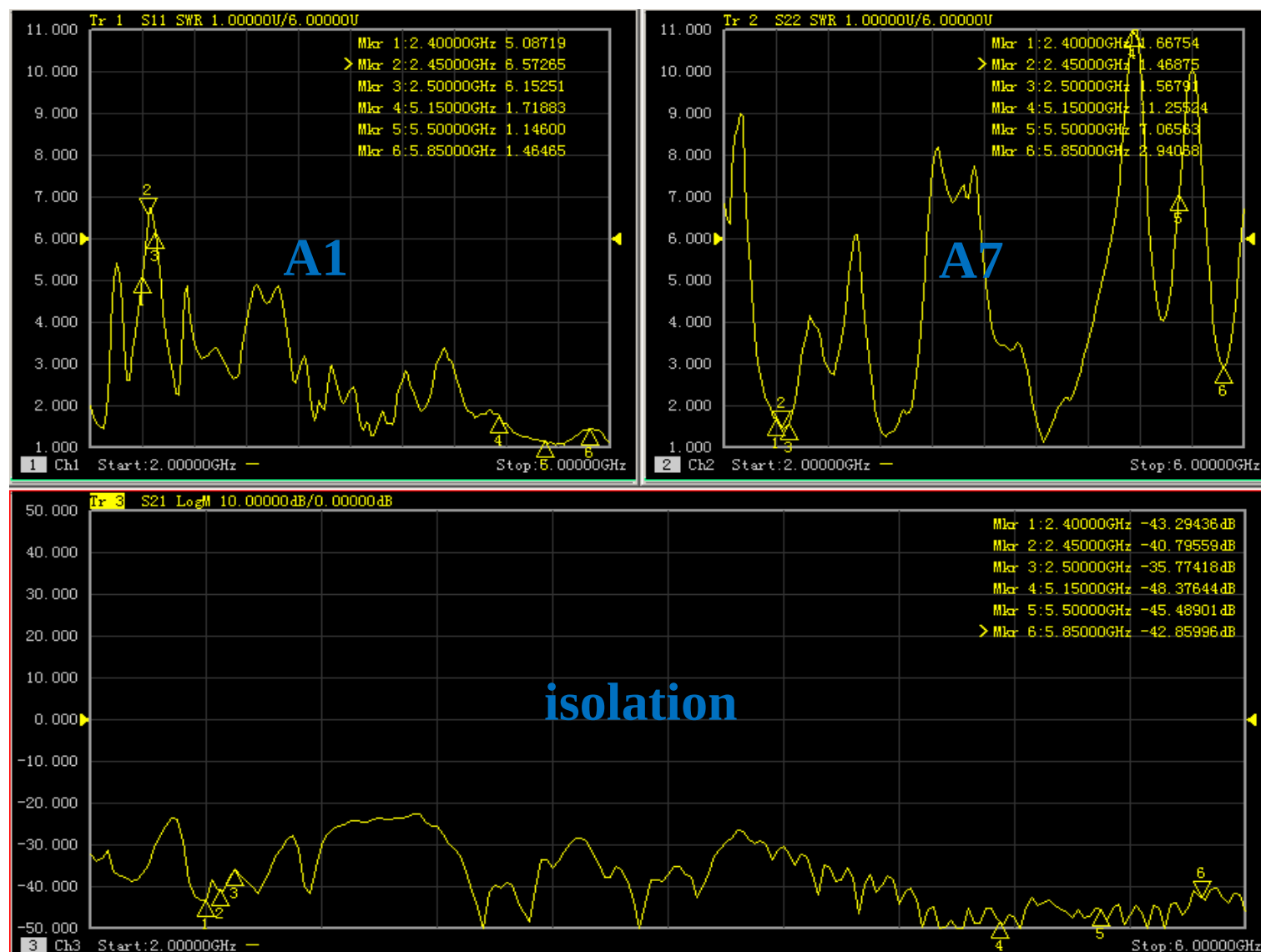
2.S-Parameters(VSWR&isolation)(A1 A5)



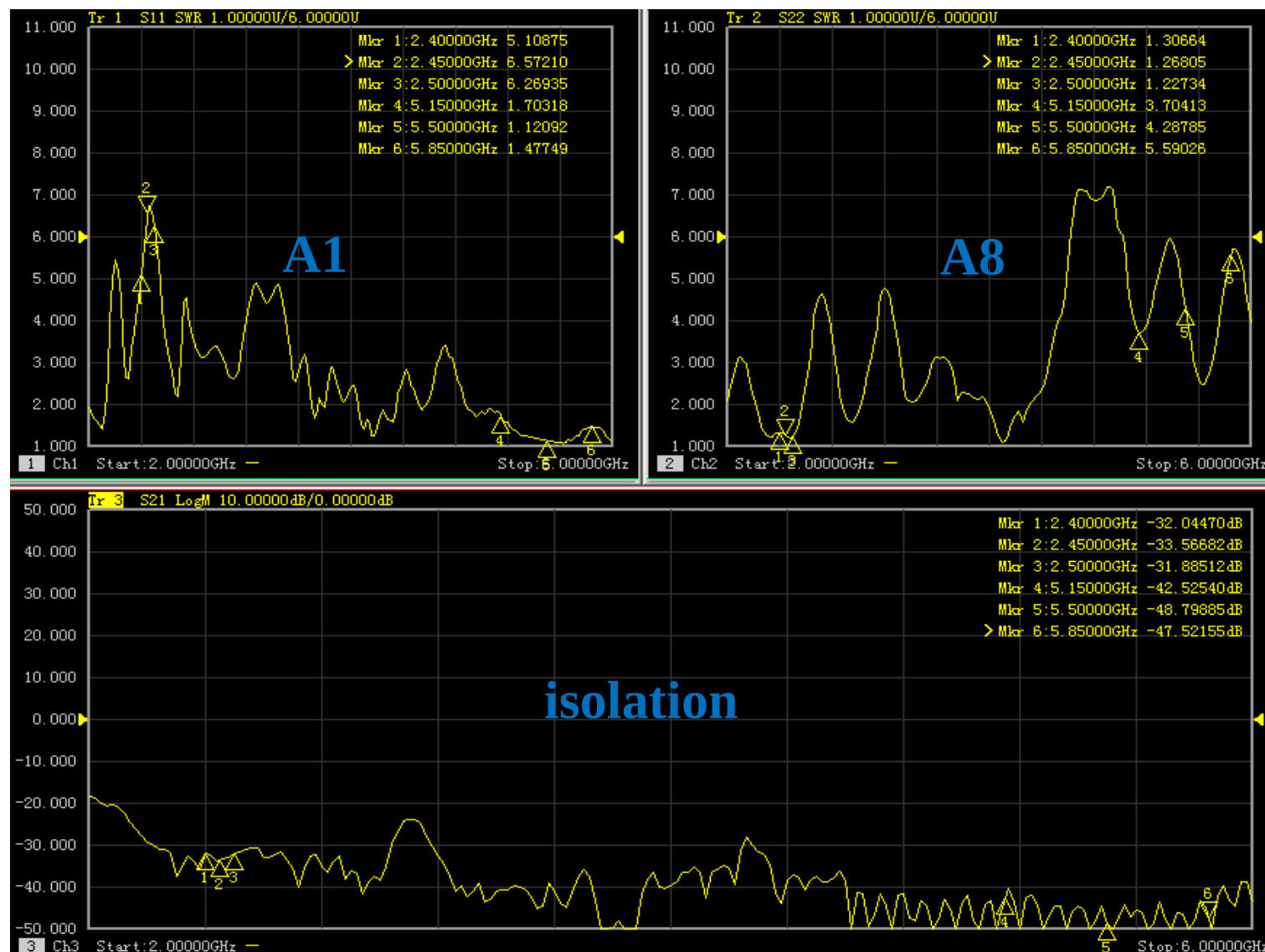
2.S-Parameters(VSWR&isolation)(A1 A6)



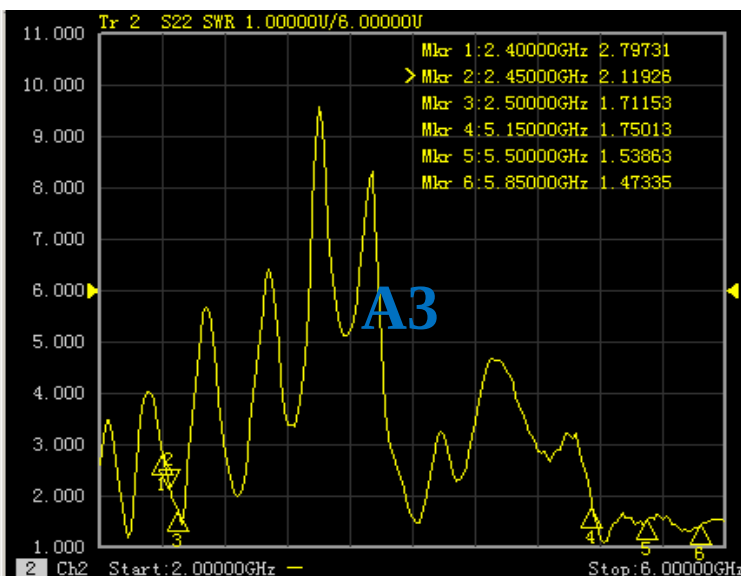
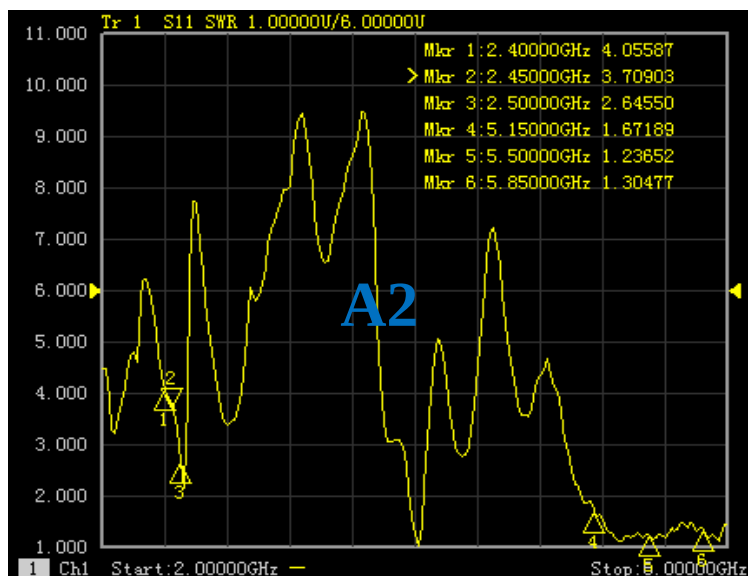
2.S-Parameters(VSWR&isolation)(A1 A7)



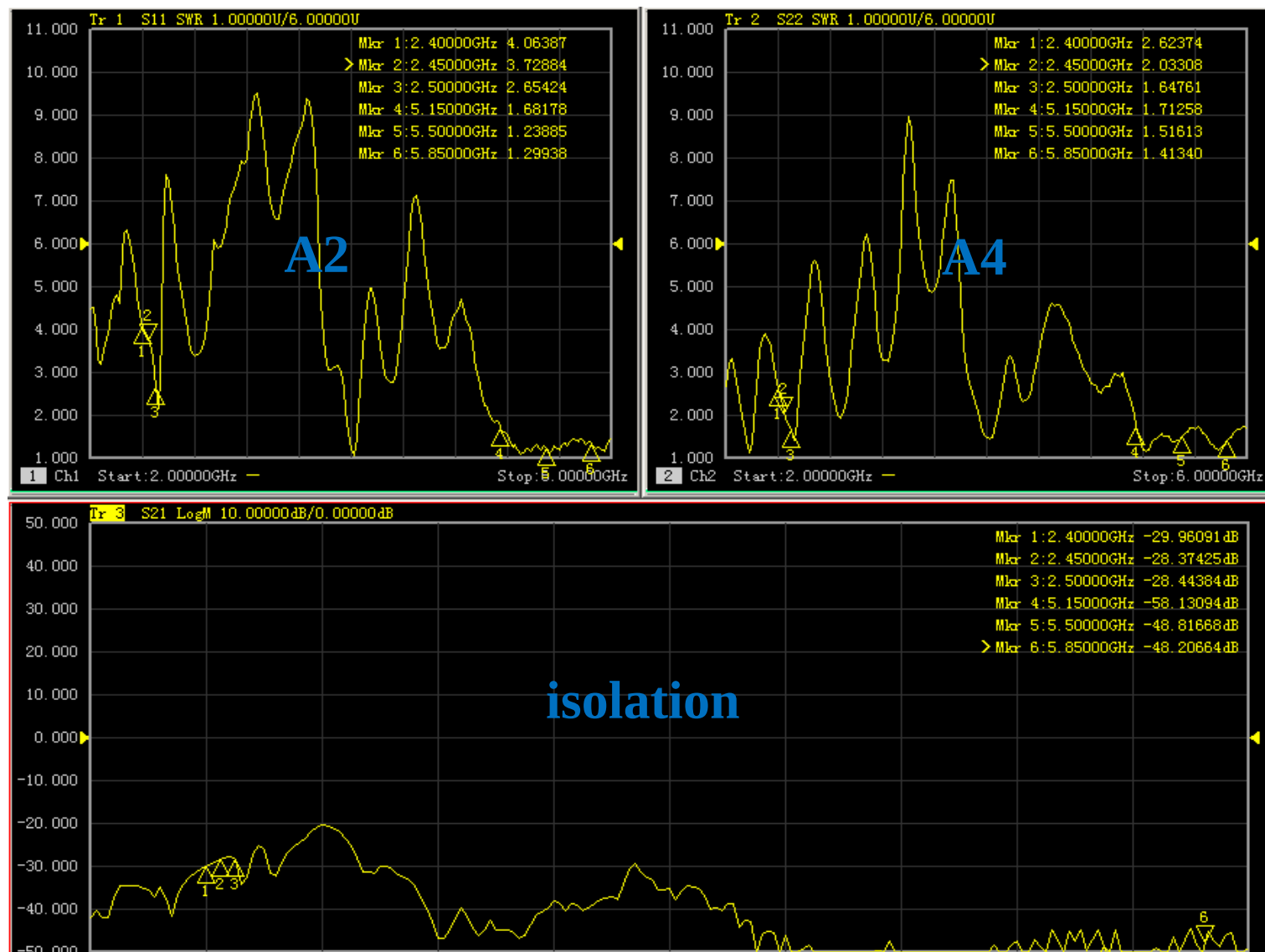
2.S-Parameters(VSWR&isolation)(A1 A8)



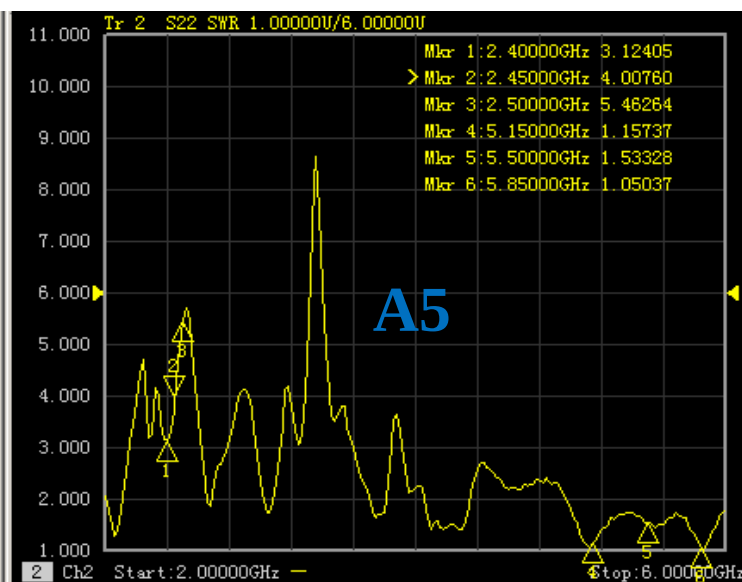
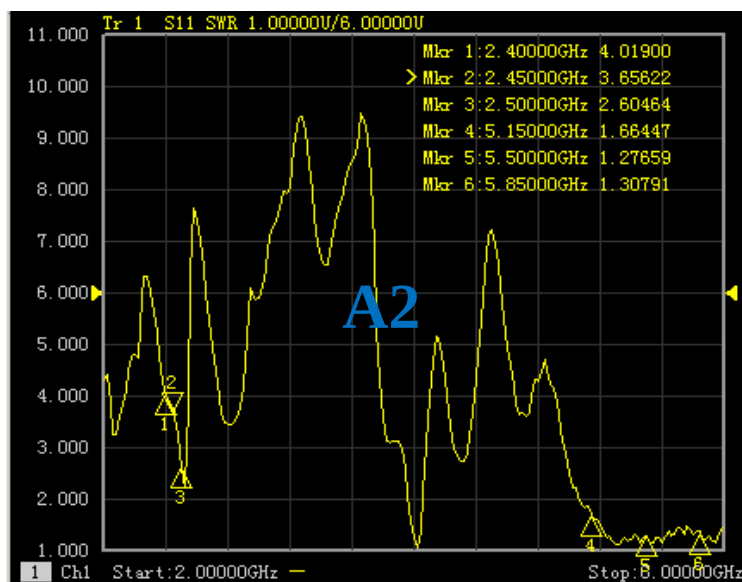
2.S-Parameters(VSWR&isolation)(A2 A3)



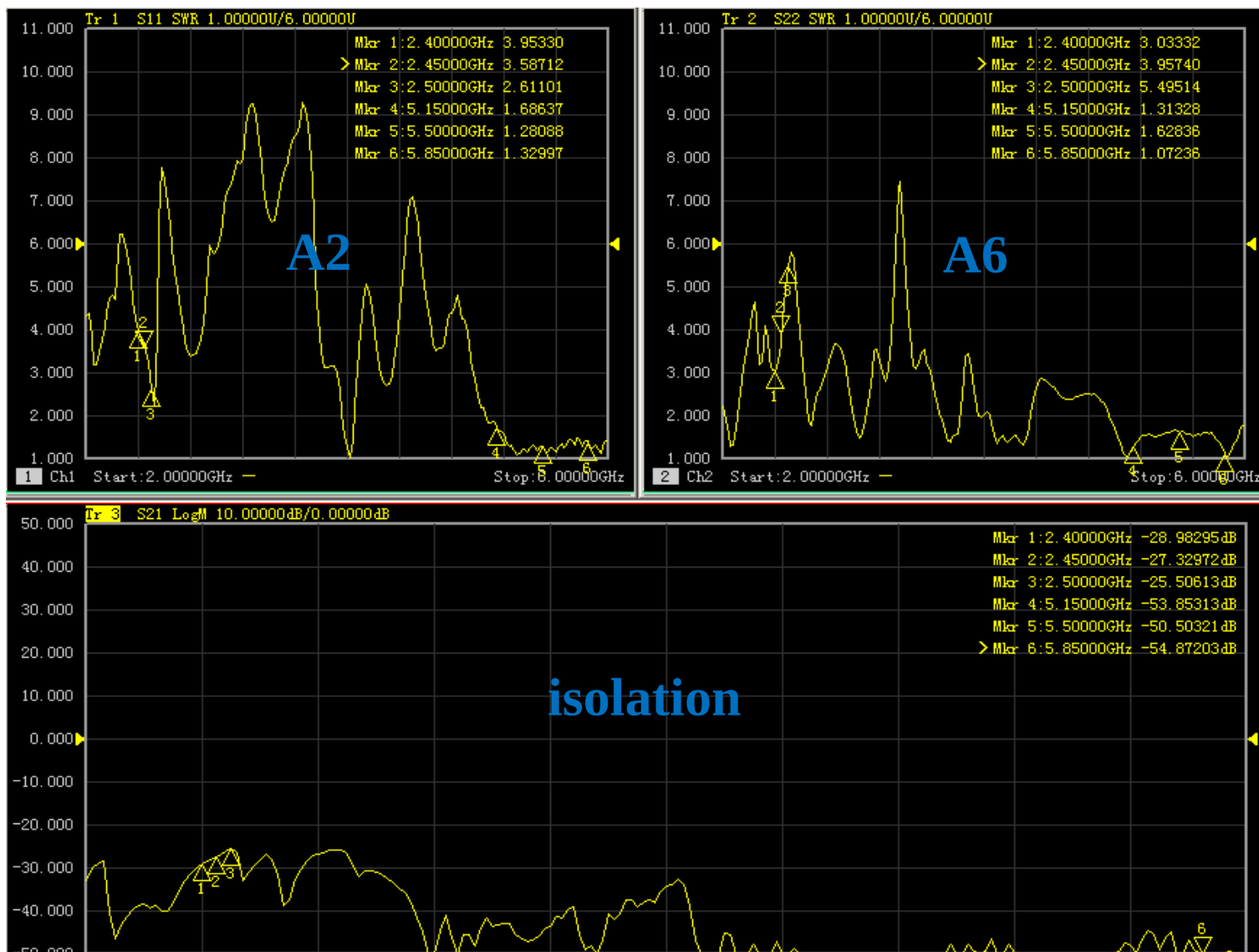
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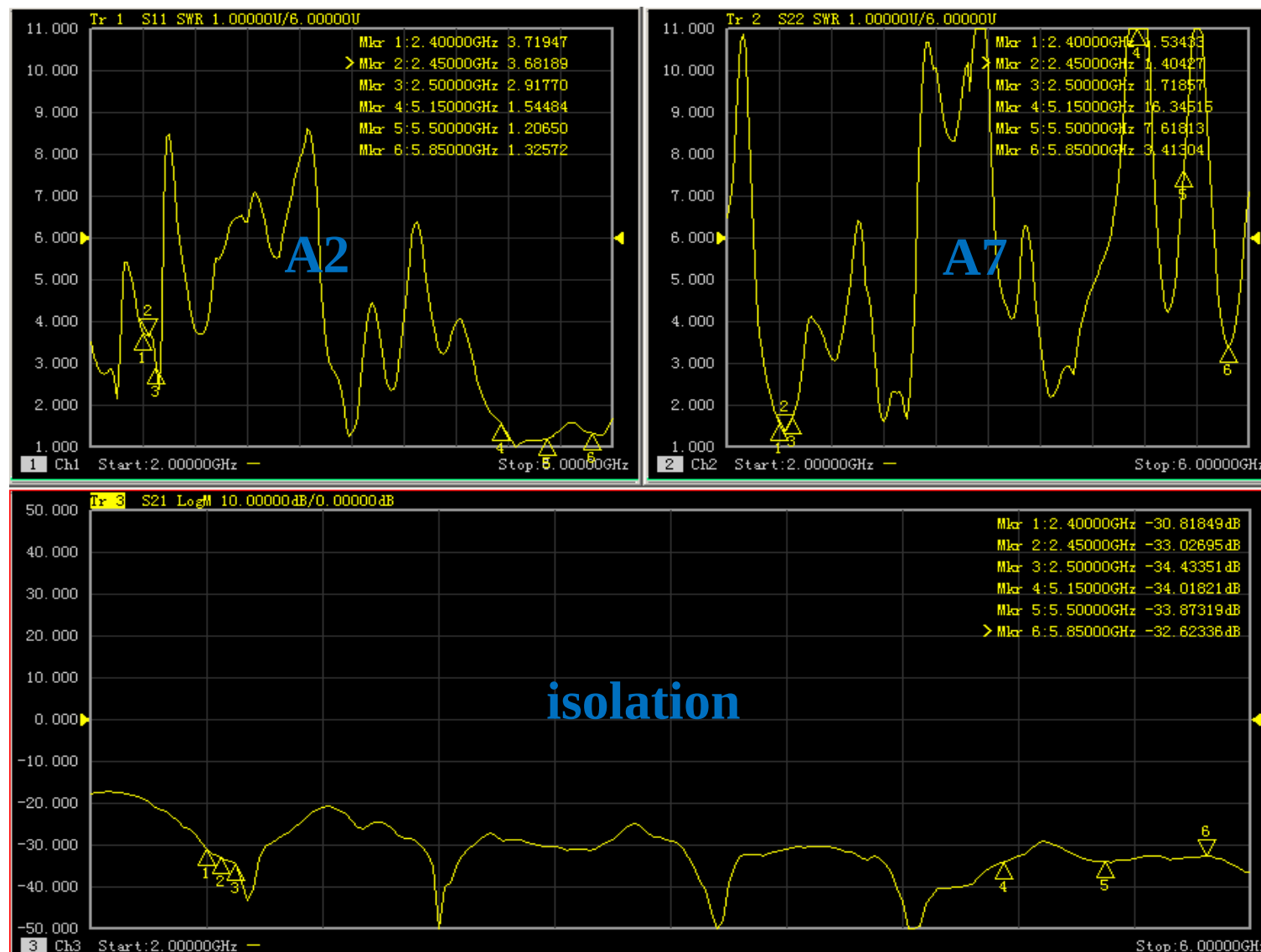
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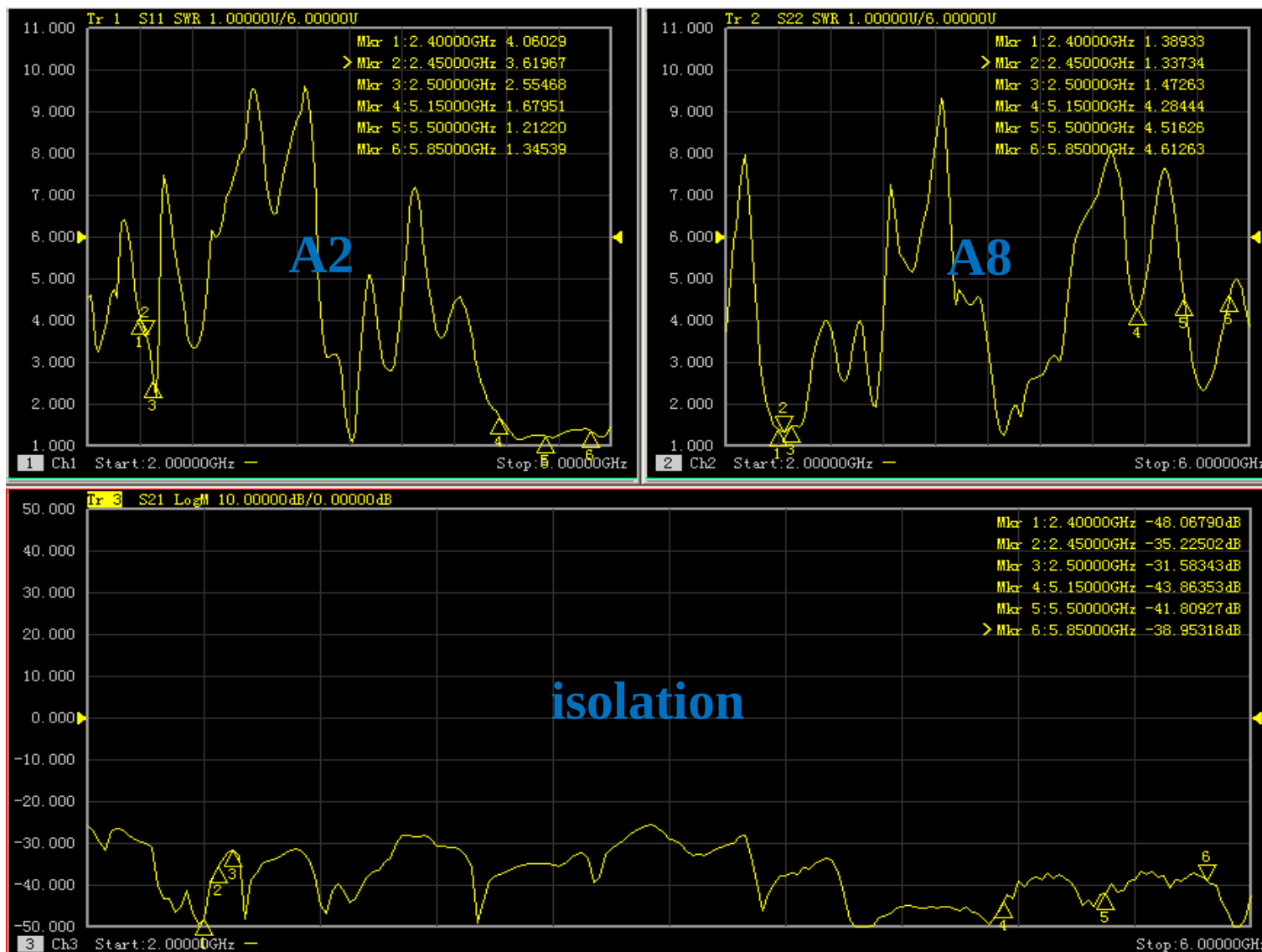
2.S-Parameters(VSWR&isolation)(A2 A6)



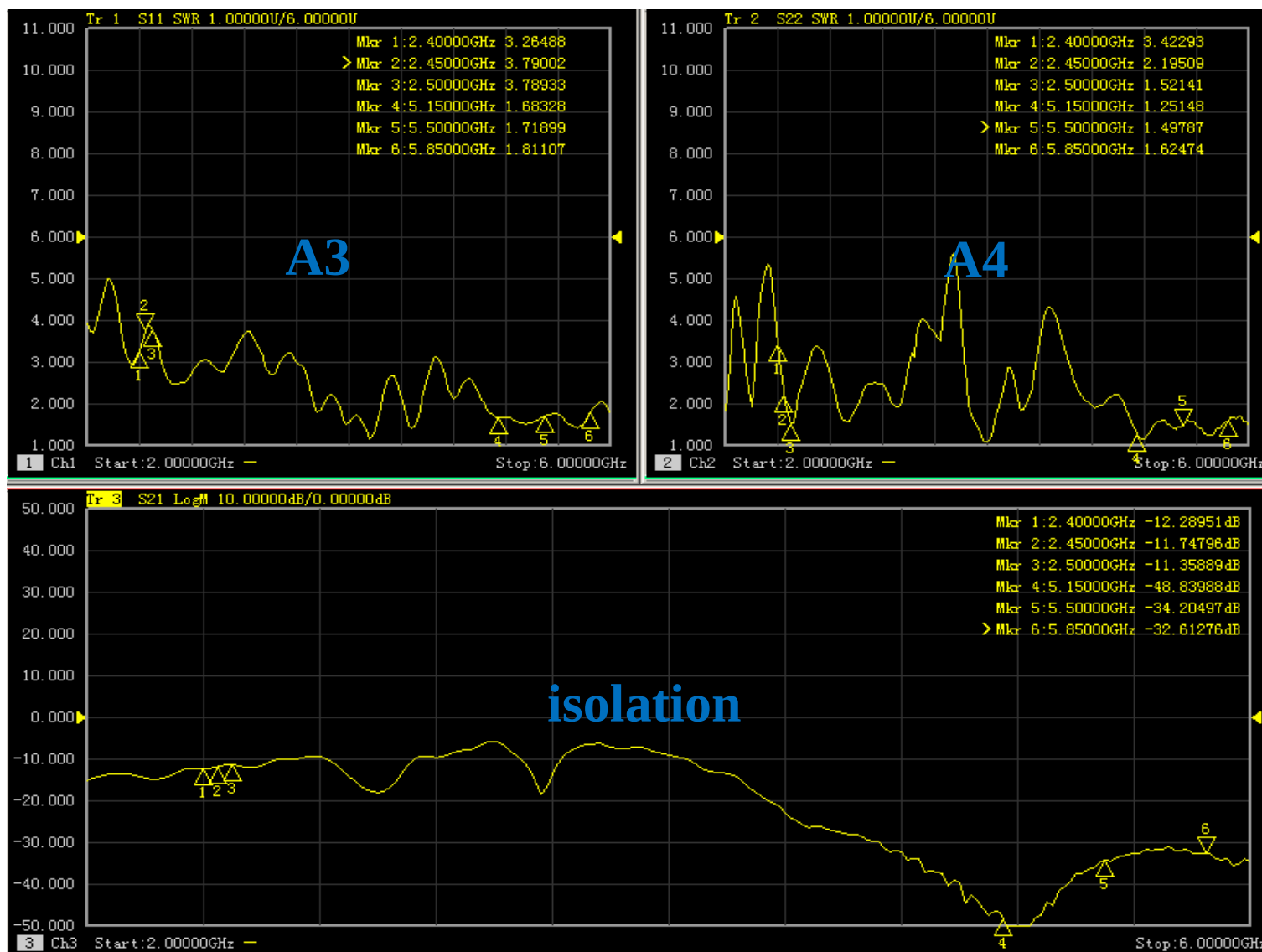
2.S-Parameters(VSWR&isolation)(A2 A7)



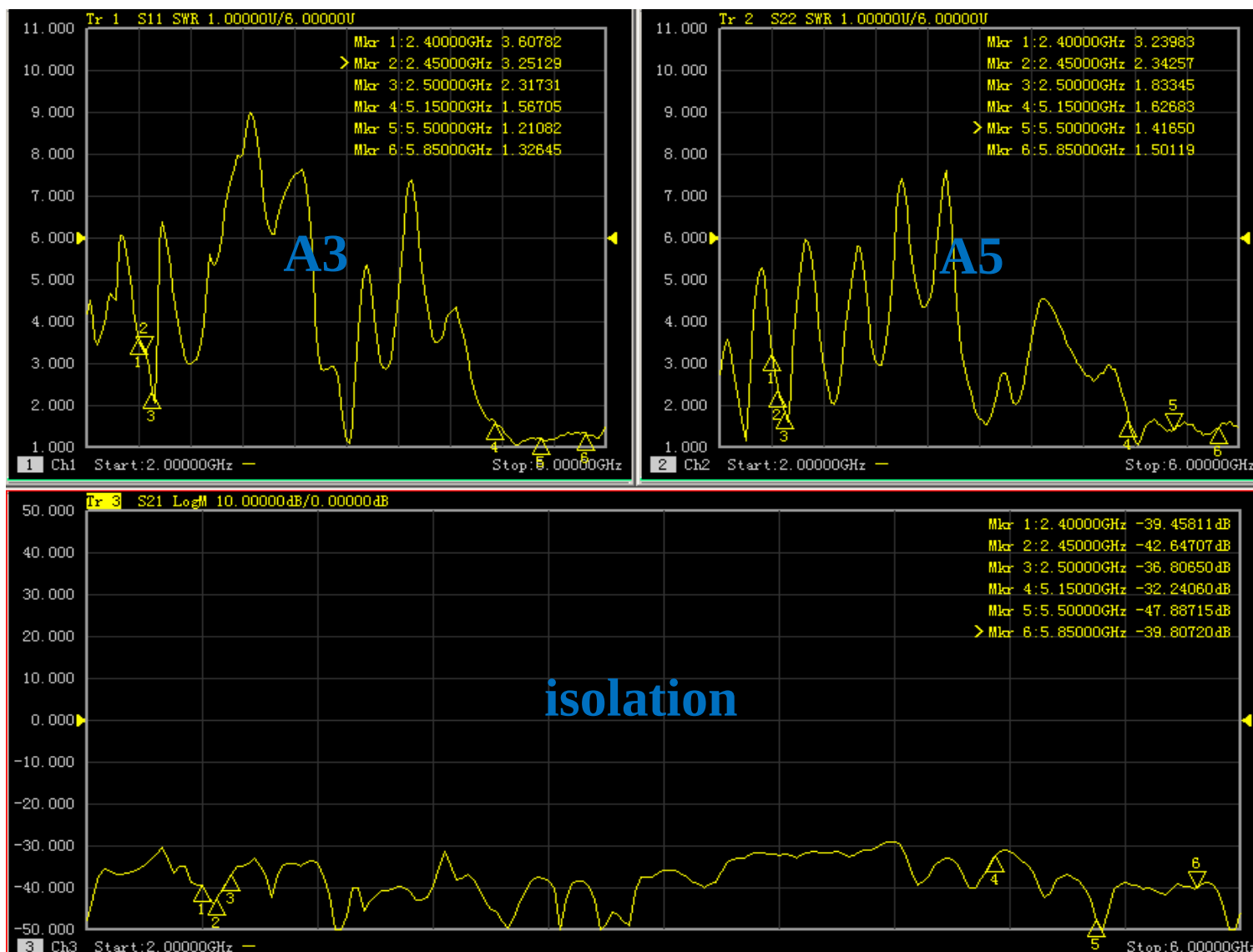
2.S-Parameters(VSWR&isolation)(A2 A8)



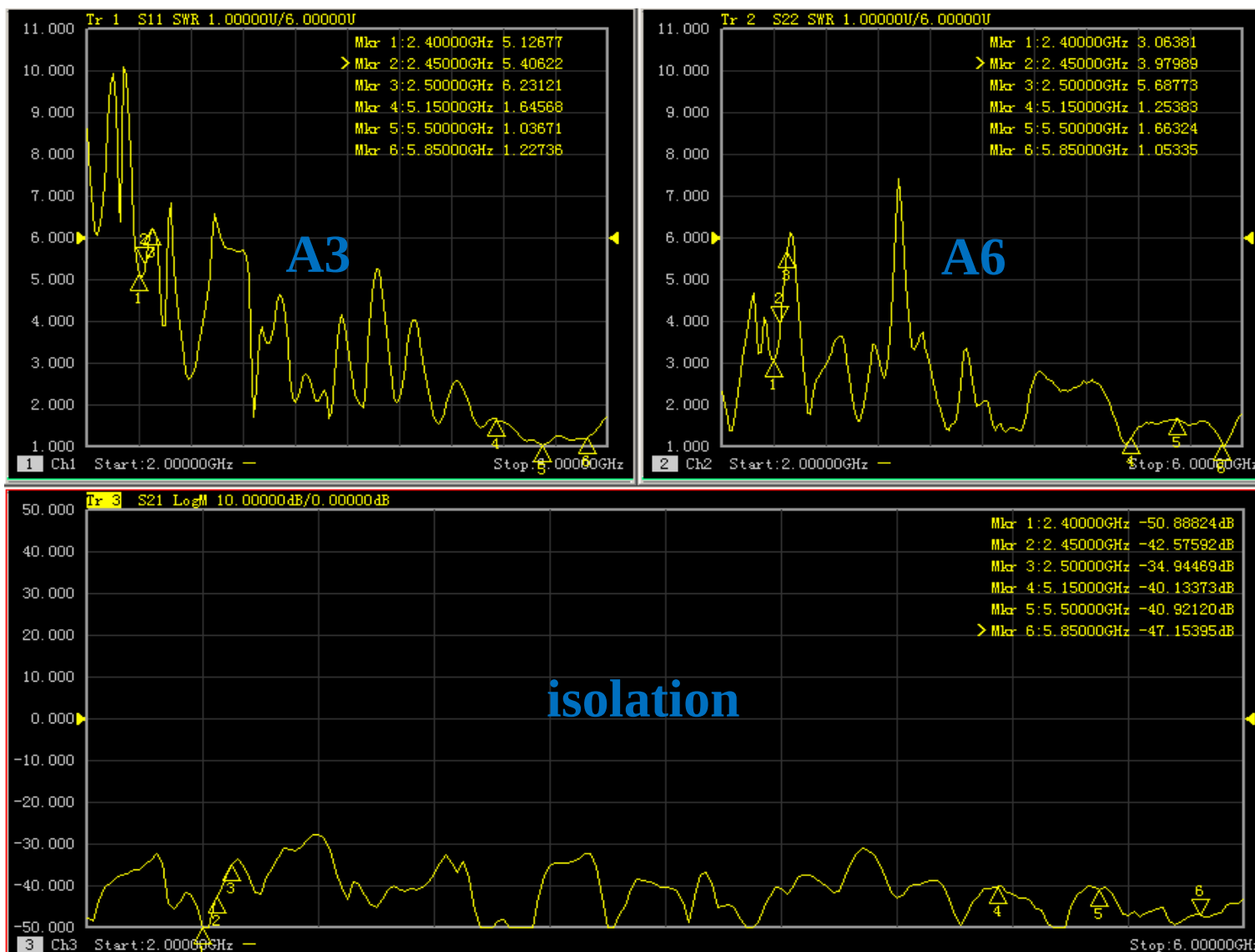
2.S-Parameters(VSWR&isolation)(A3 A4)



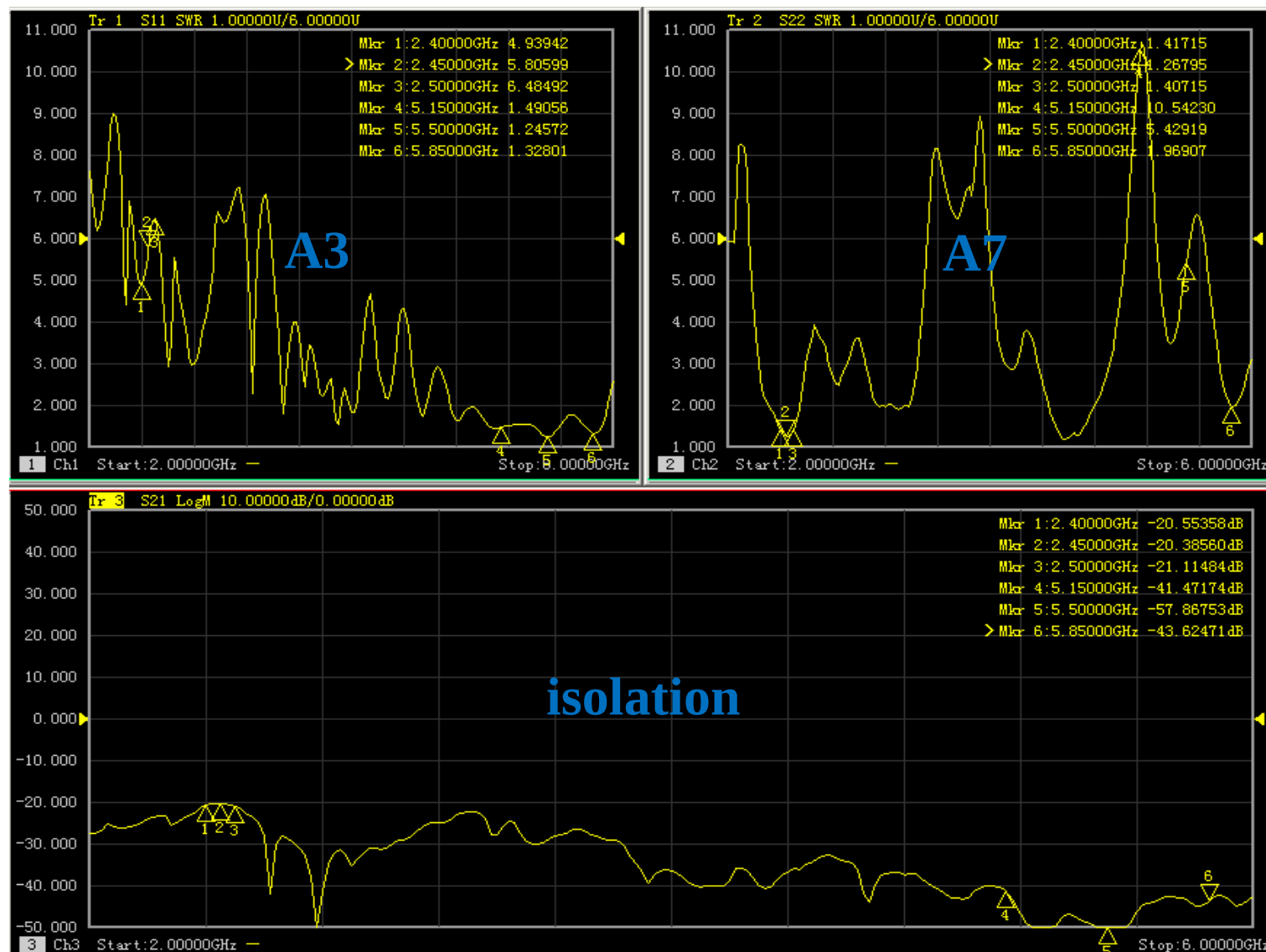
2.S-Parameters(VSWR&isolation)(A3 A5)



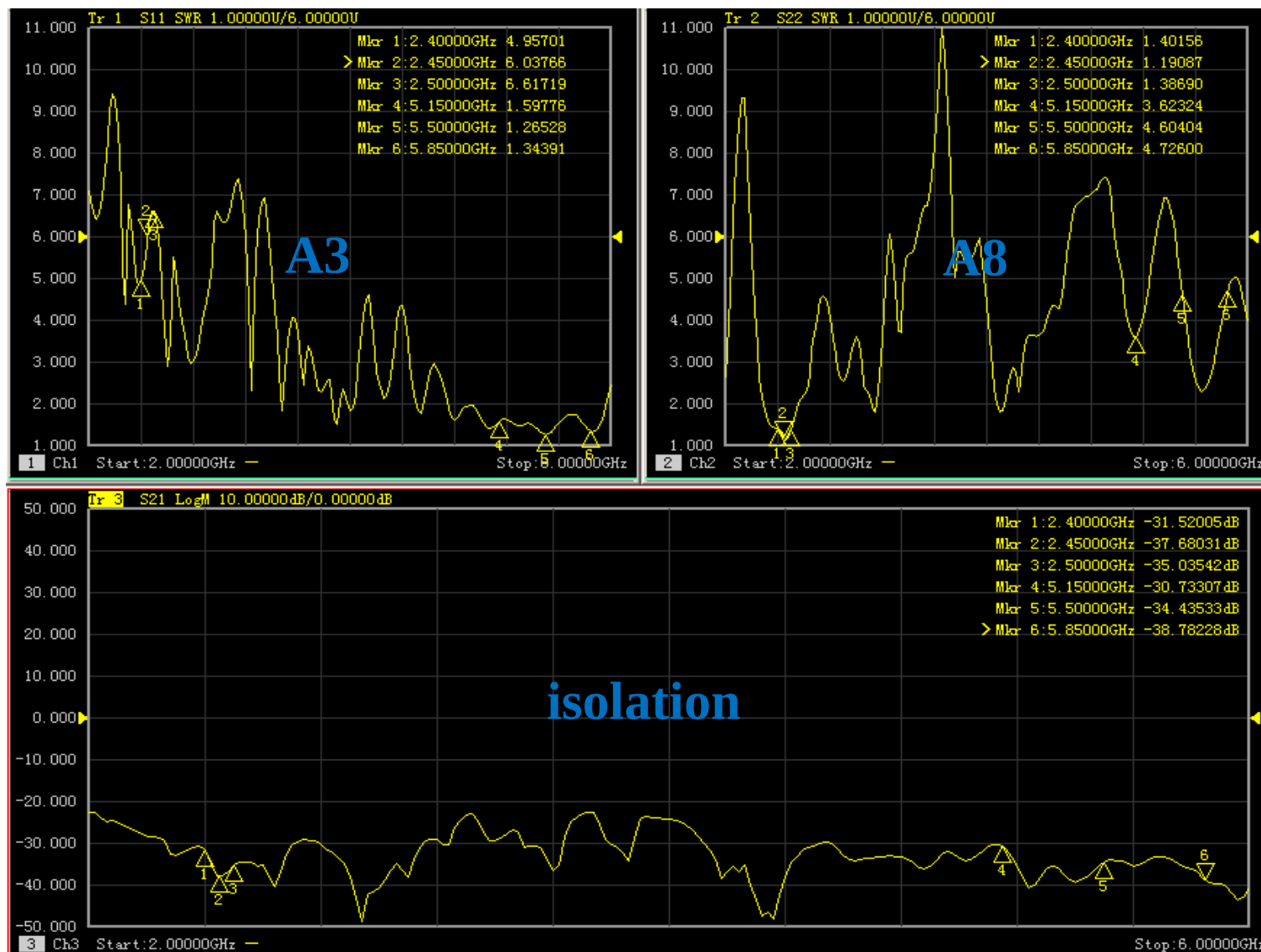
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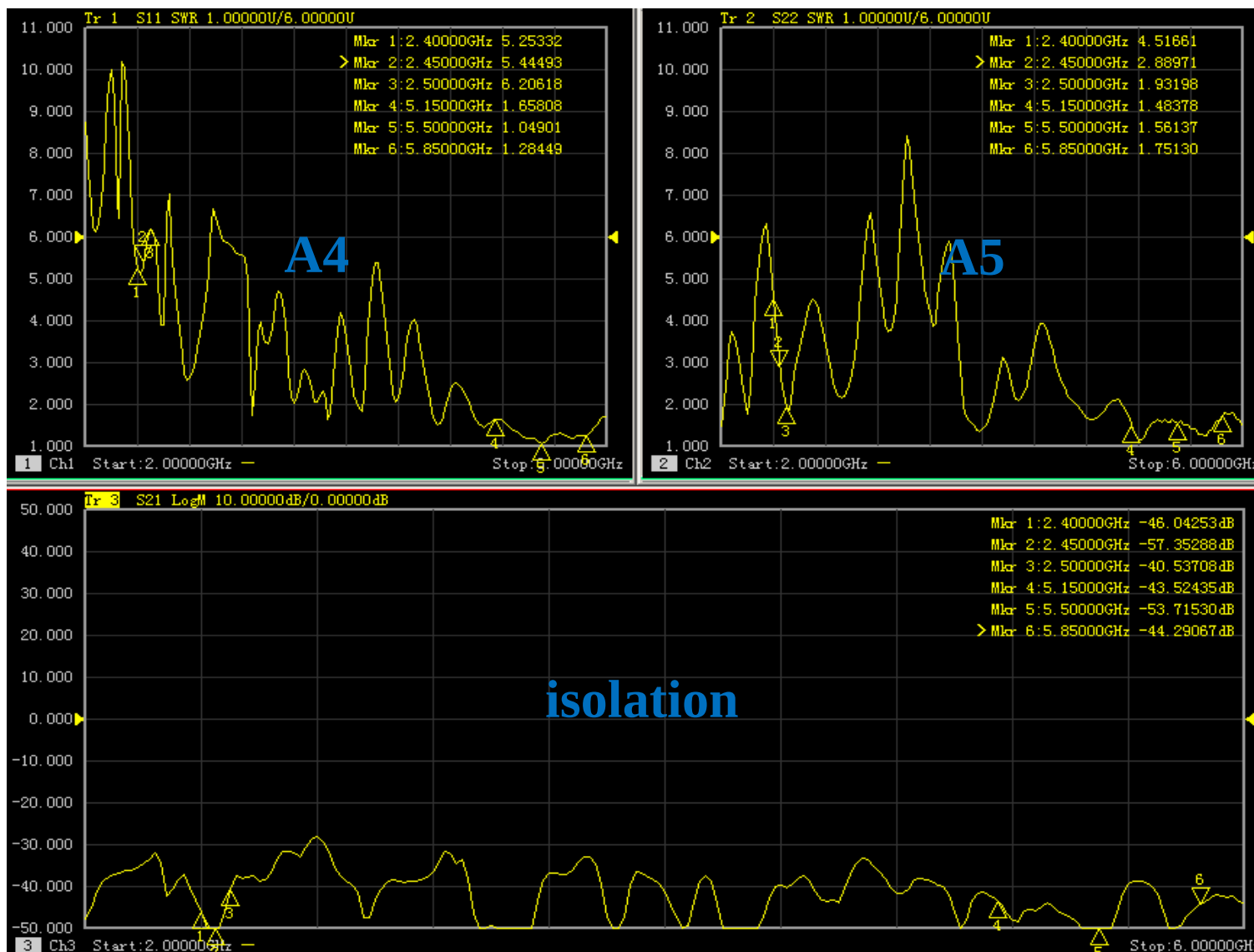
2.S-Parameters(VSWR&isolation)(A3 A7)



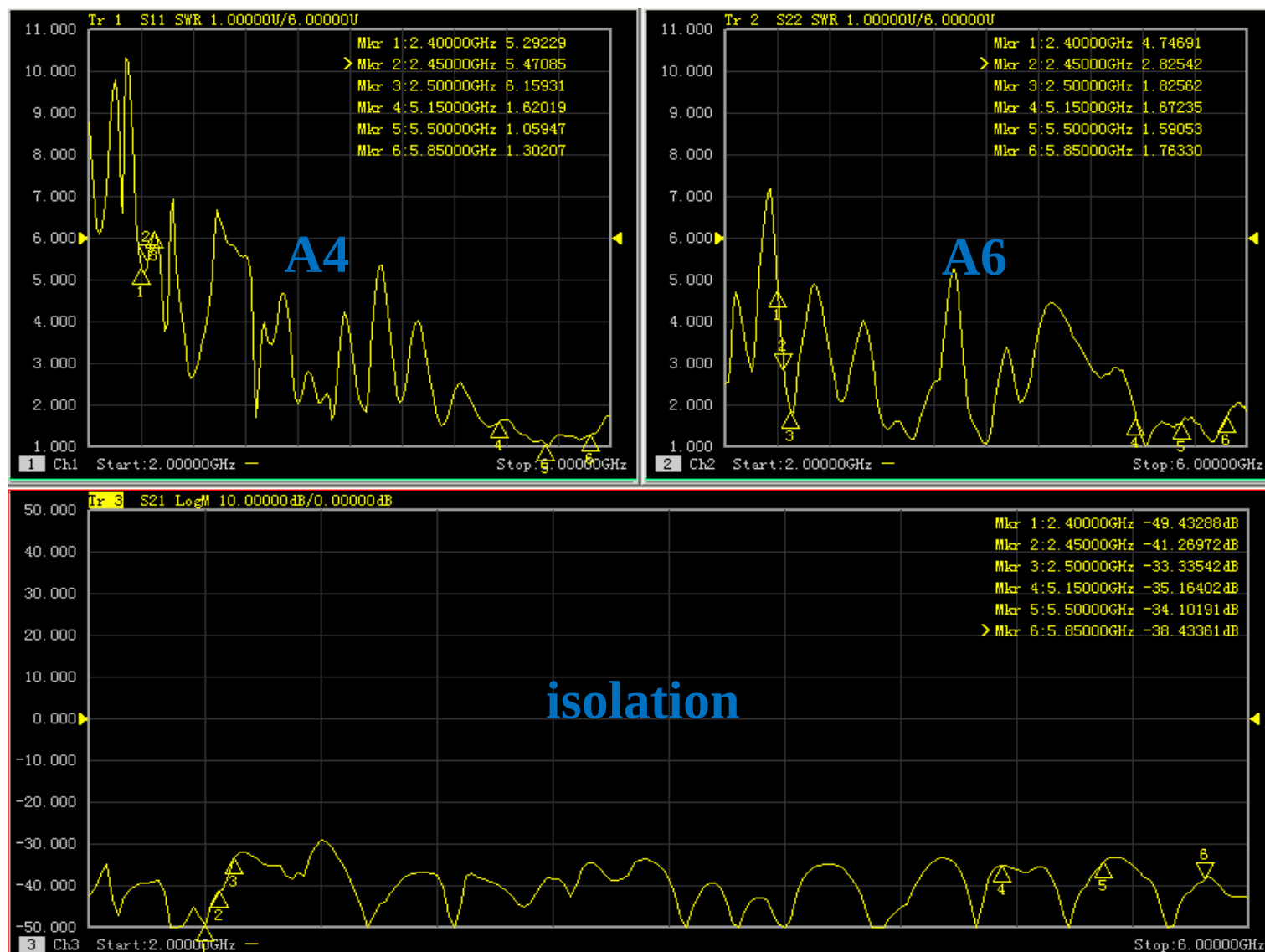
2.S-Parameters(VSWR&isolation)(A3 A8)



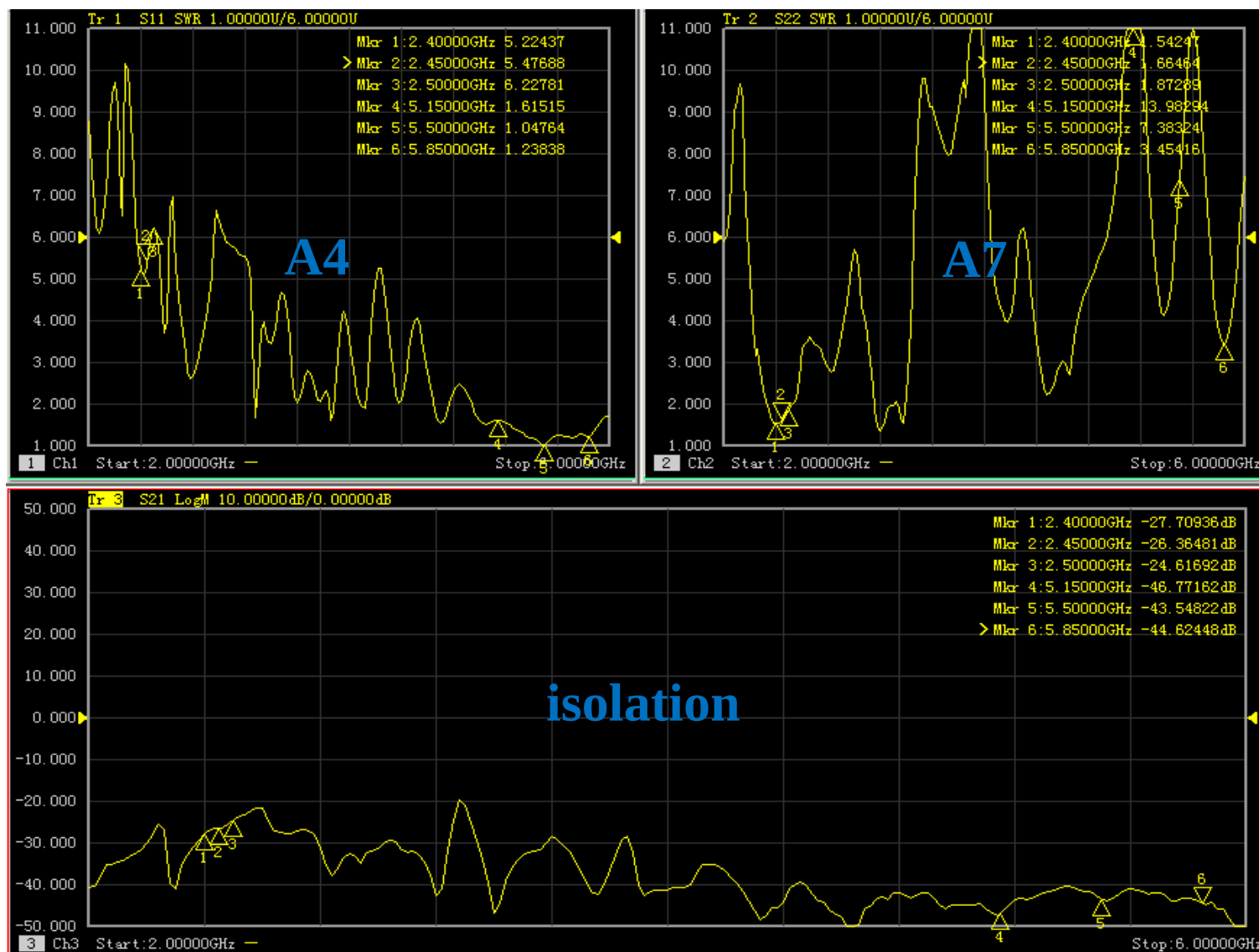
2.S-Parameters(VSWR&isolation)(A4 A5)



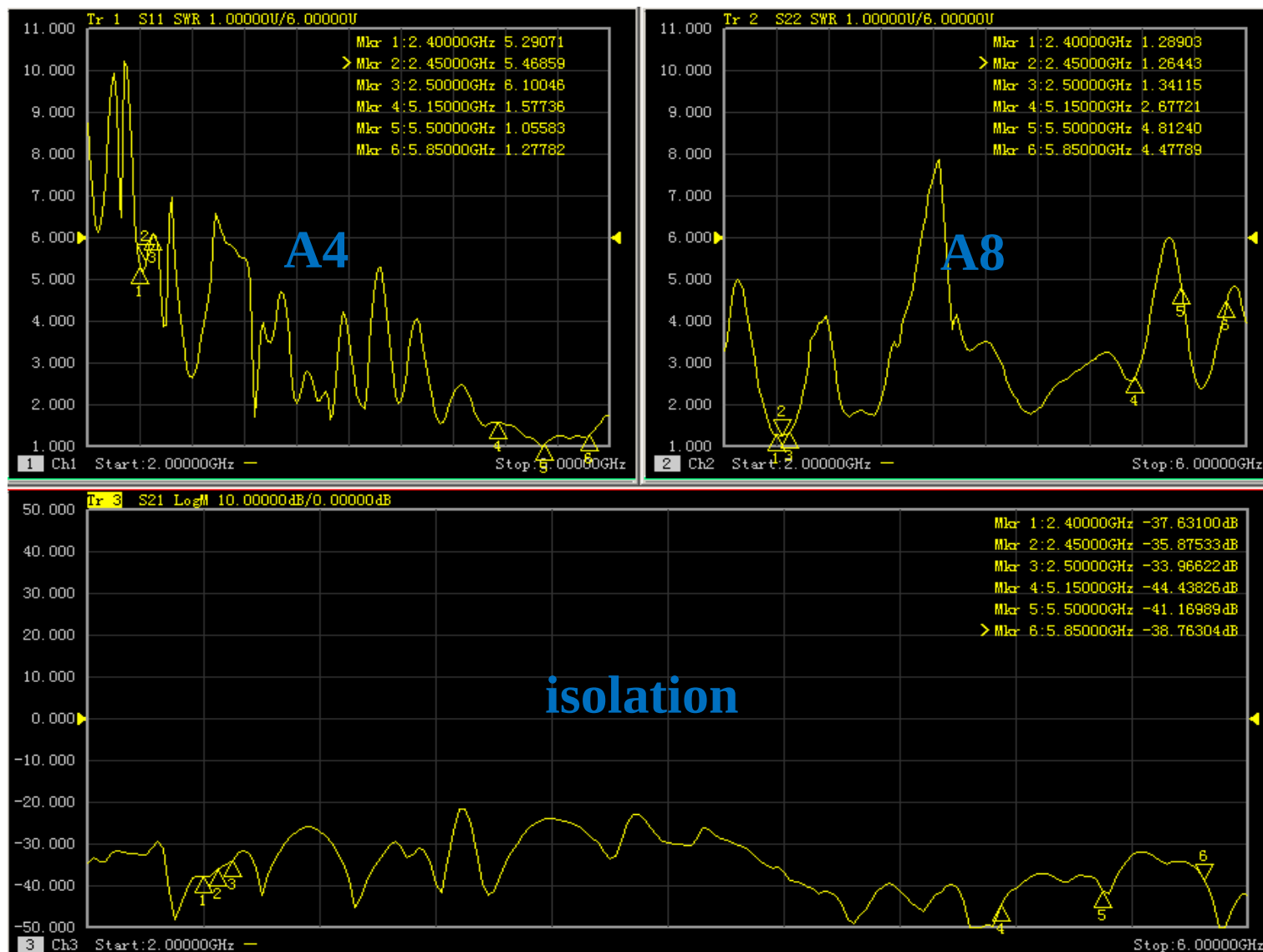
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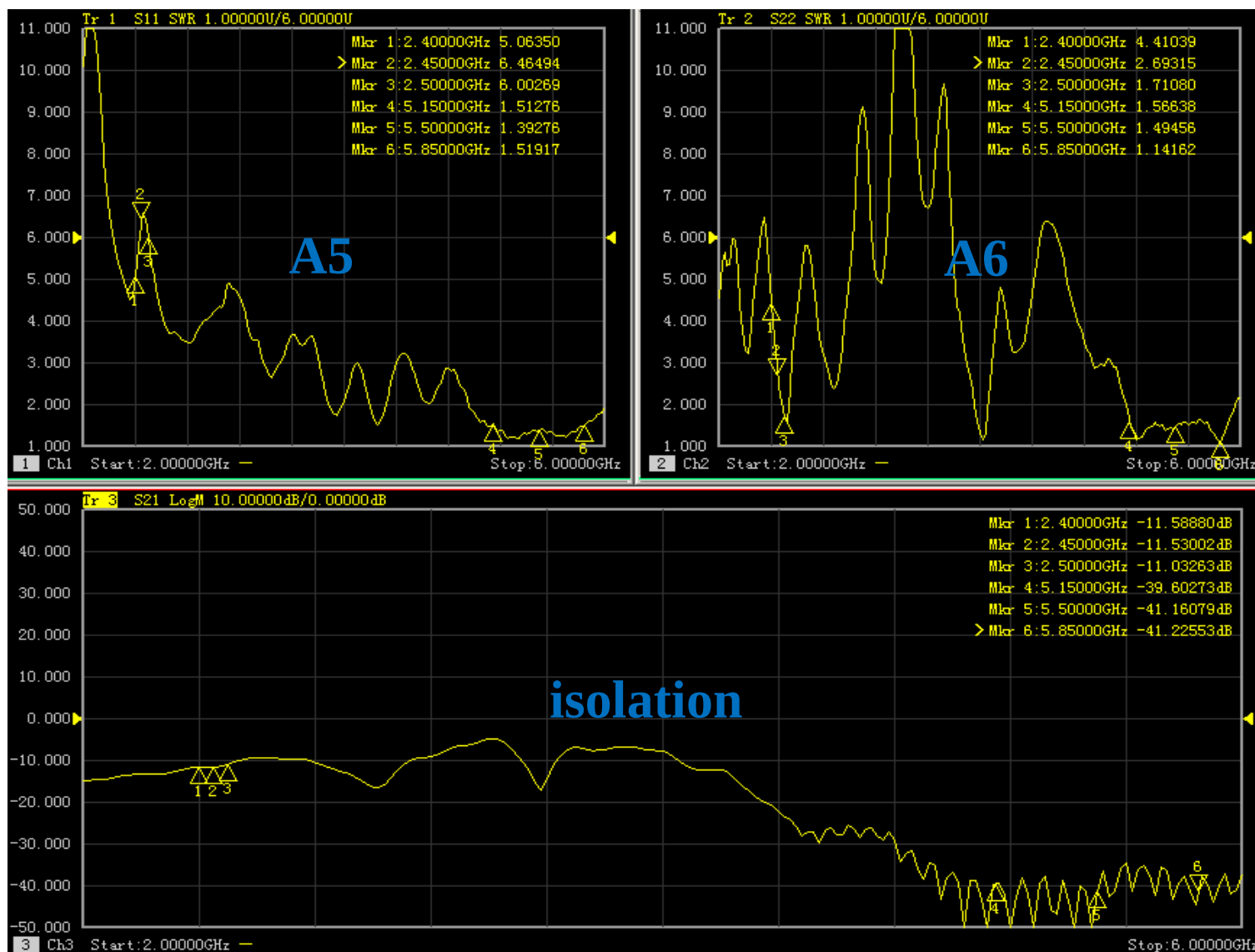
2.S-Parameters(VSWR&isolation)(A4 A7)



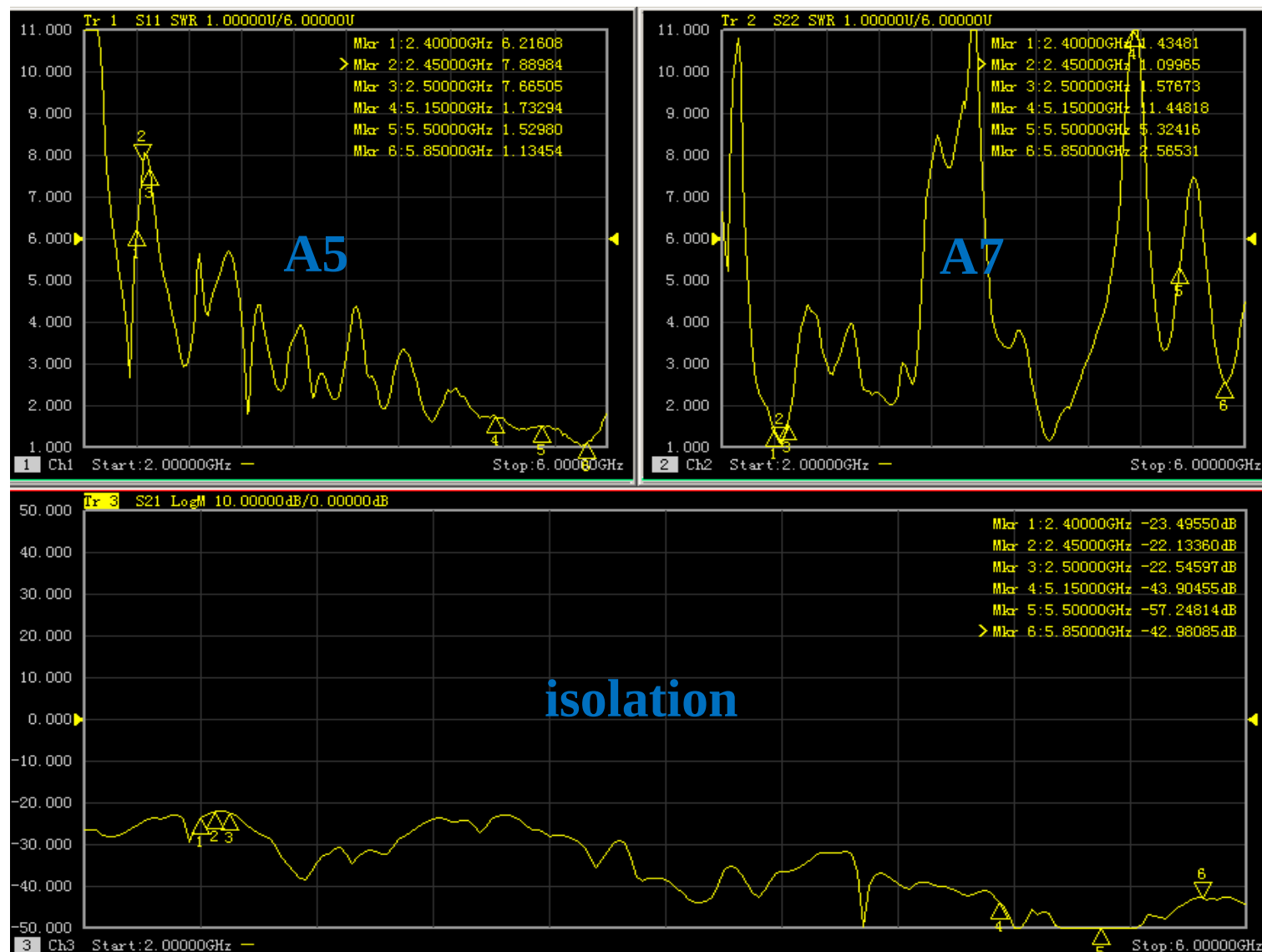
2.S-Parameters(VSWR&isolation)(A4 A8)



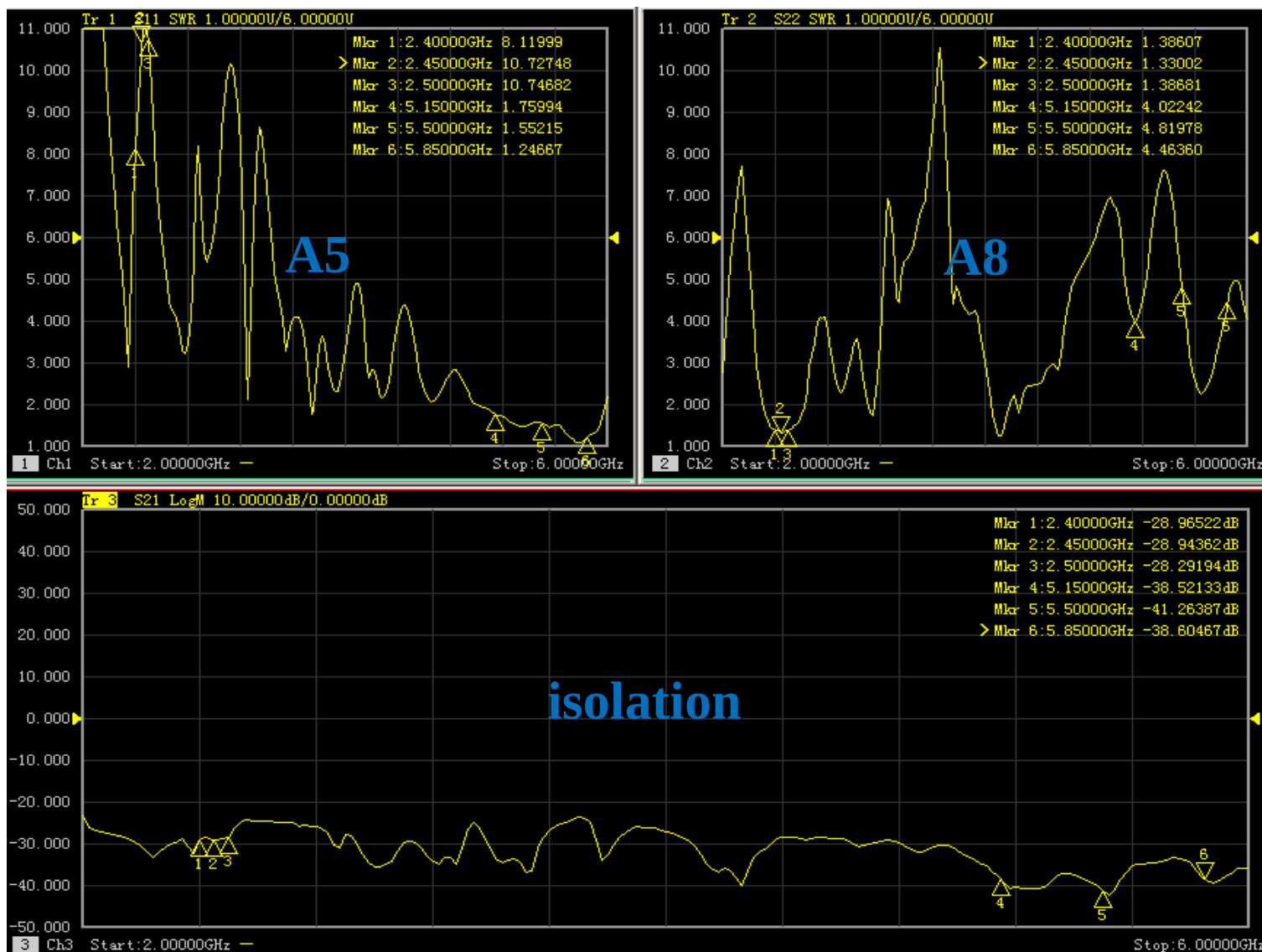
2.S-Parameters(VSWR&isolation)(A5 A6)



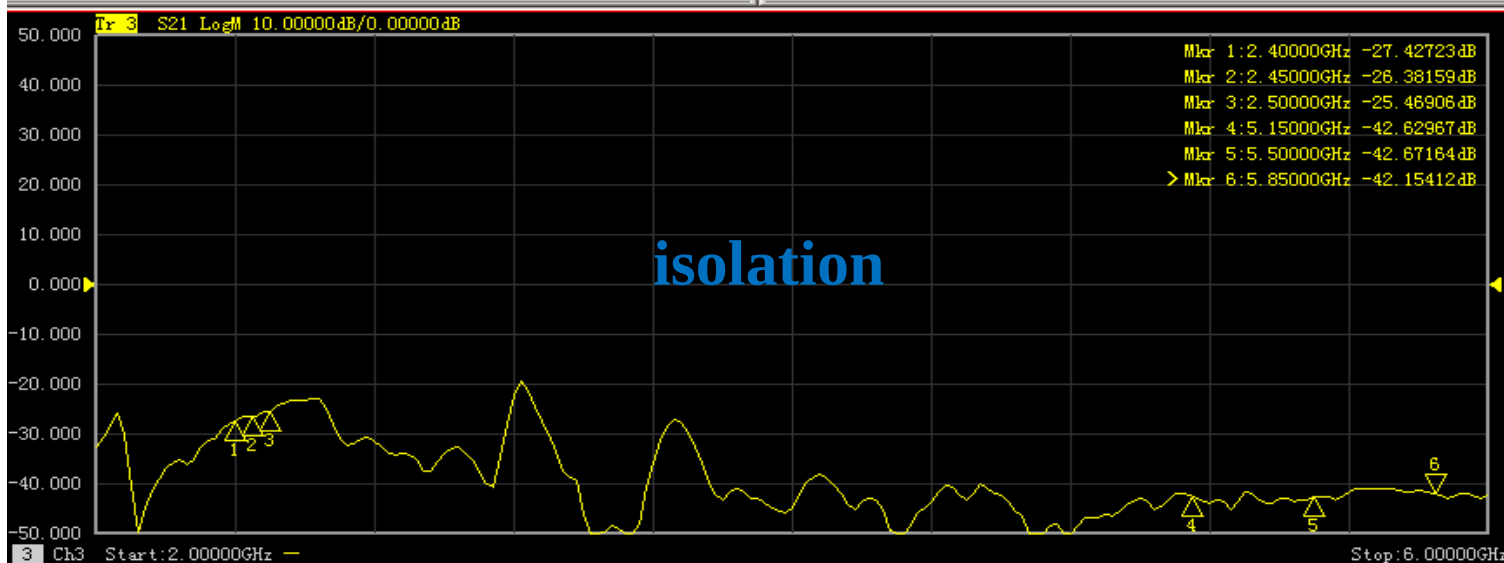
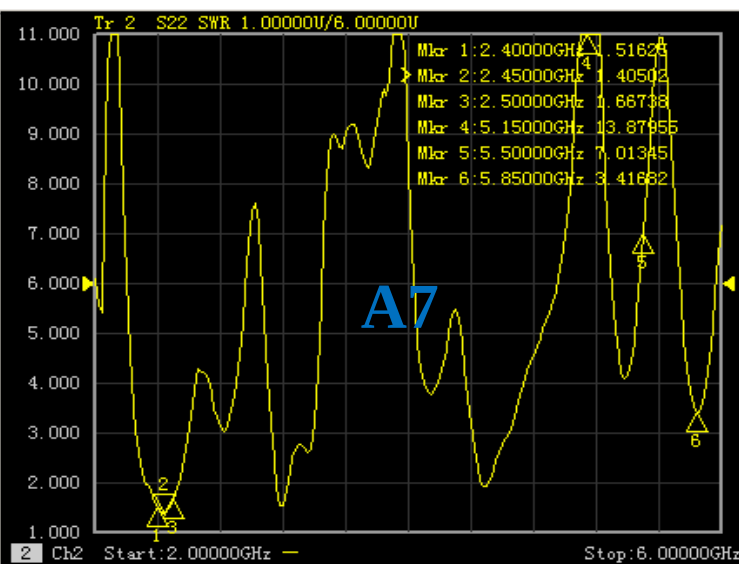
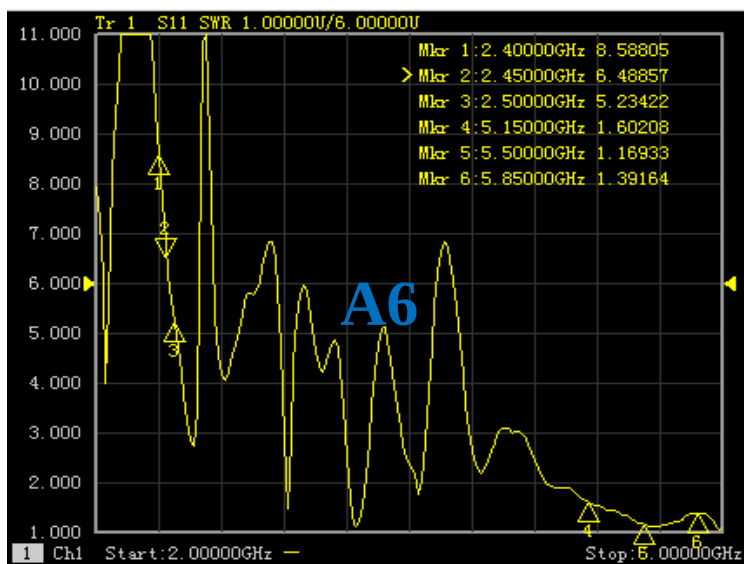
2.S-Parameters(VSWR&isolation)(A5 A7)



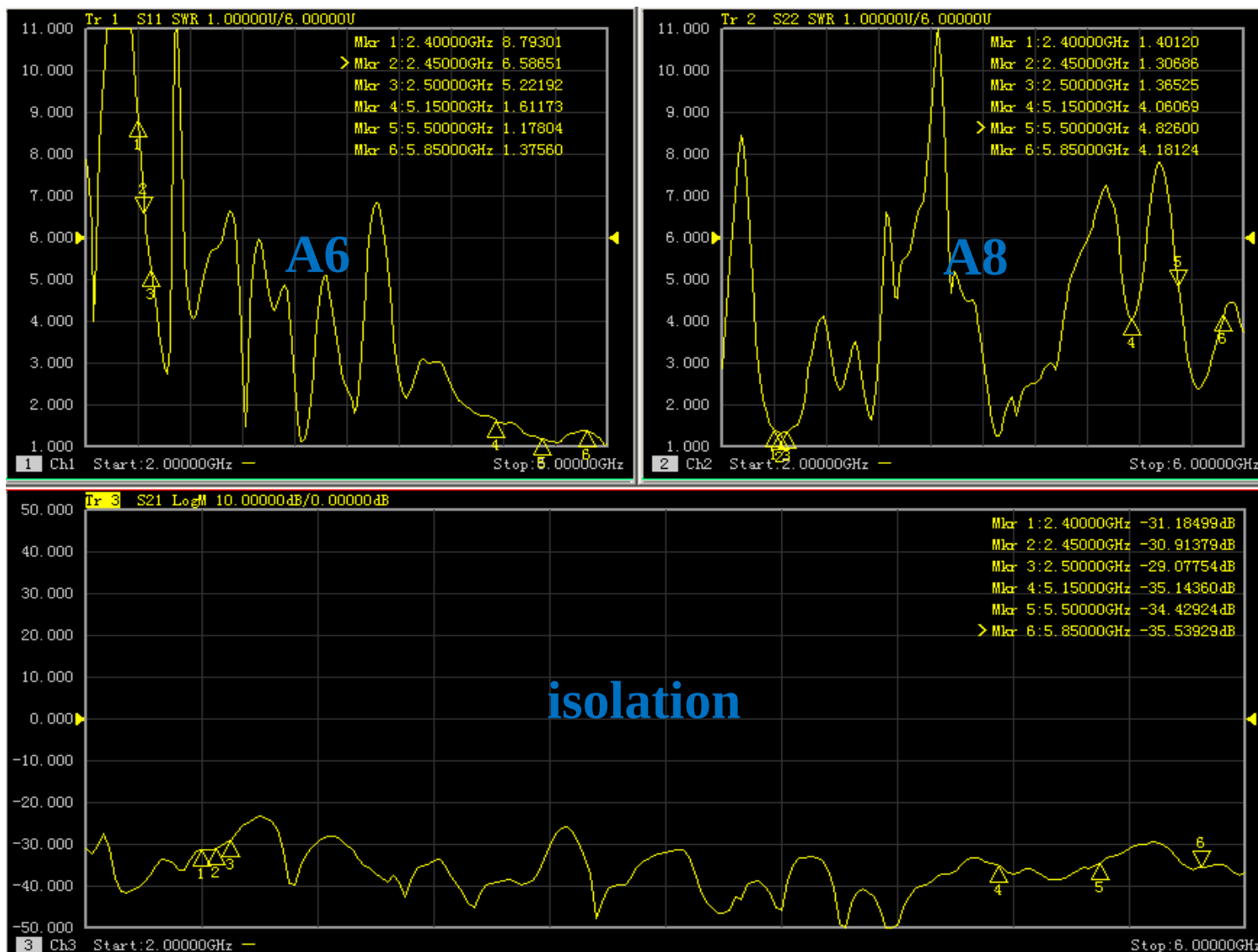
2.S-Parameters(VSWR&isolation)(A5 A8)



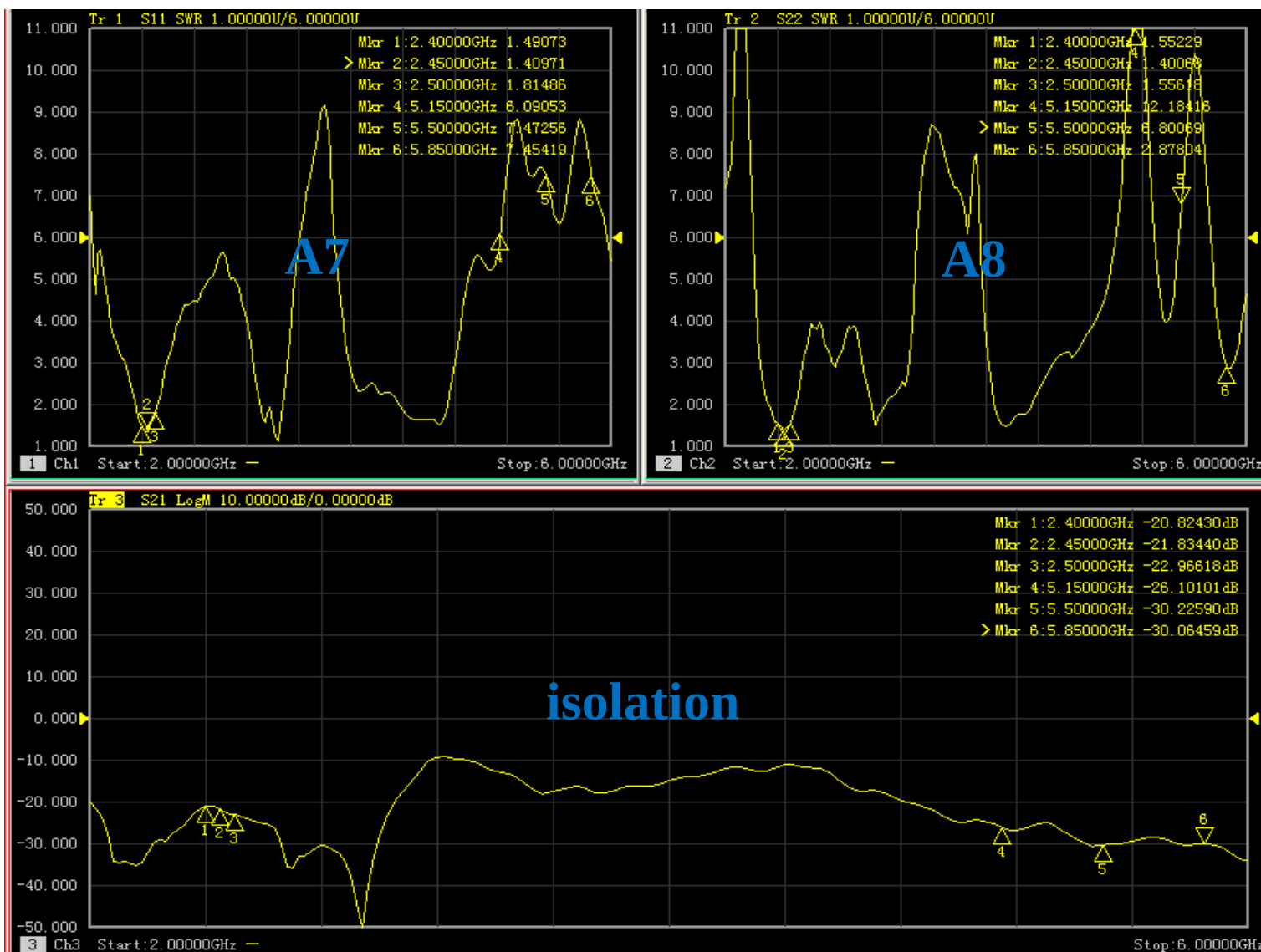
2.S-Parameters(VSWR&isolation)(A6 A7)



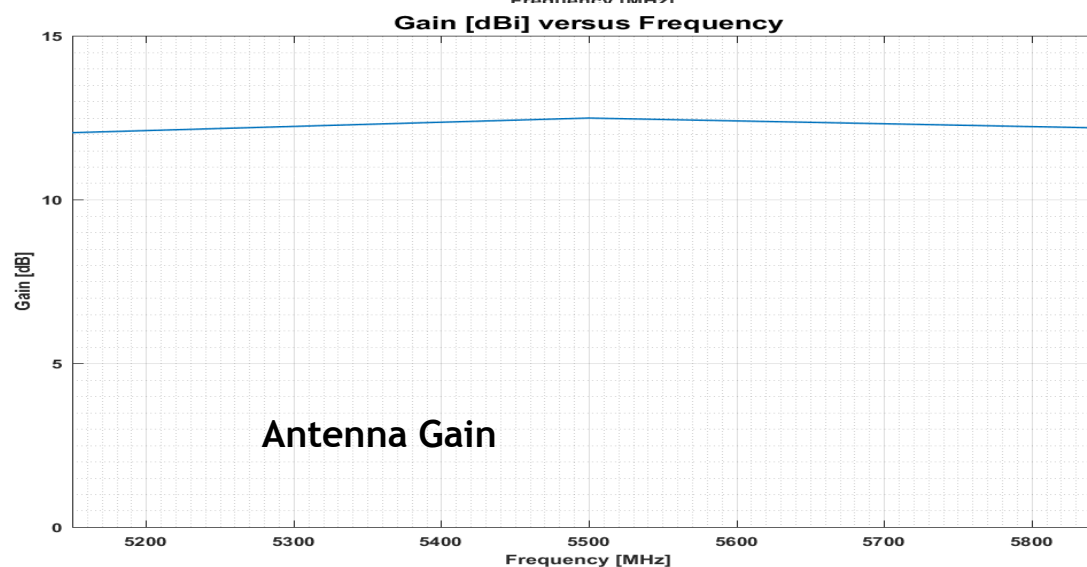
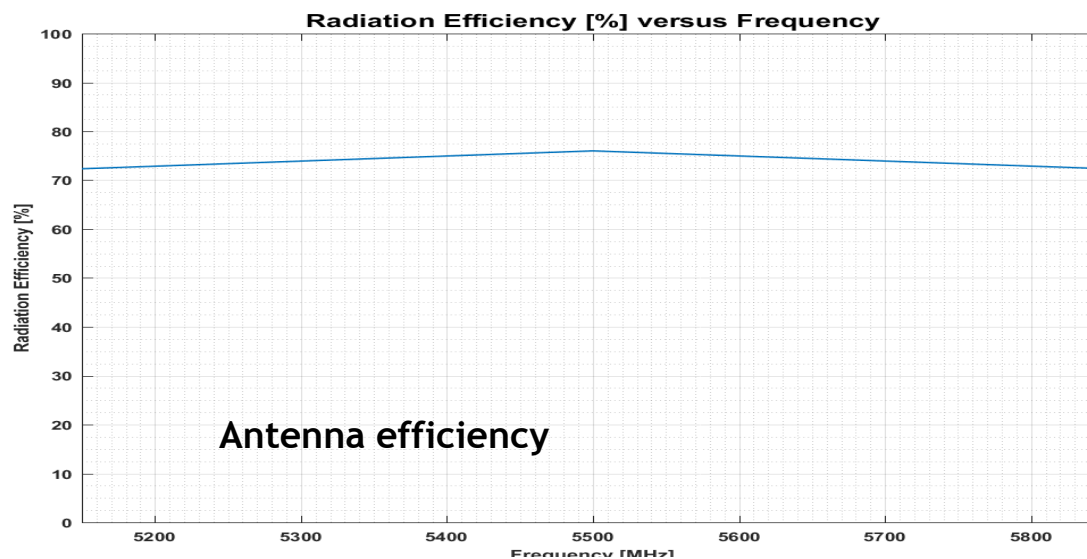
2.S-Parameters(VSWR&isolation)(A6 A8)



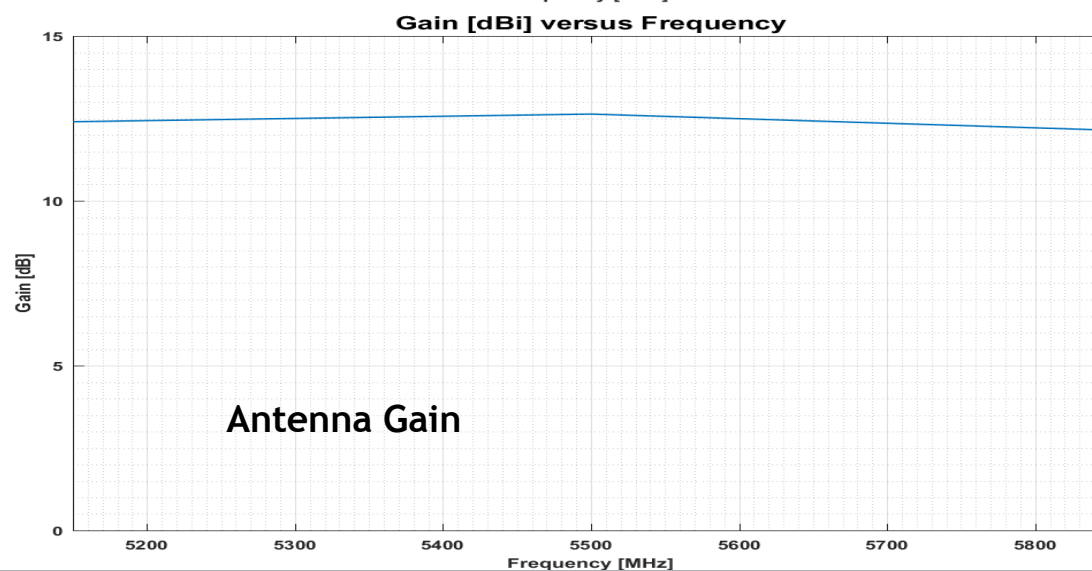
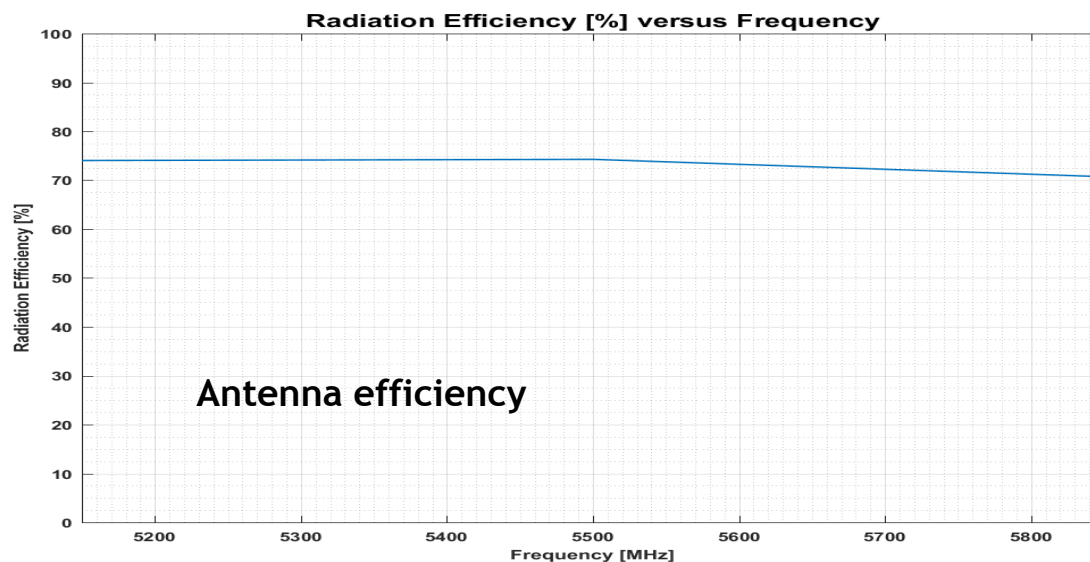
2.S-Parameters(VSWR&isolation)(A7 A8)



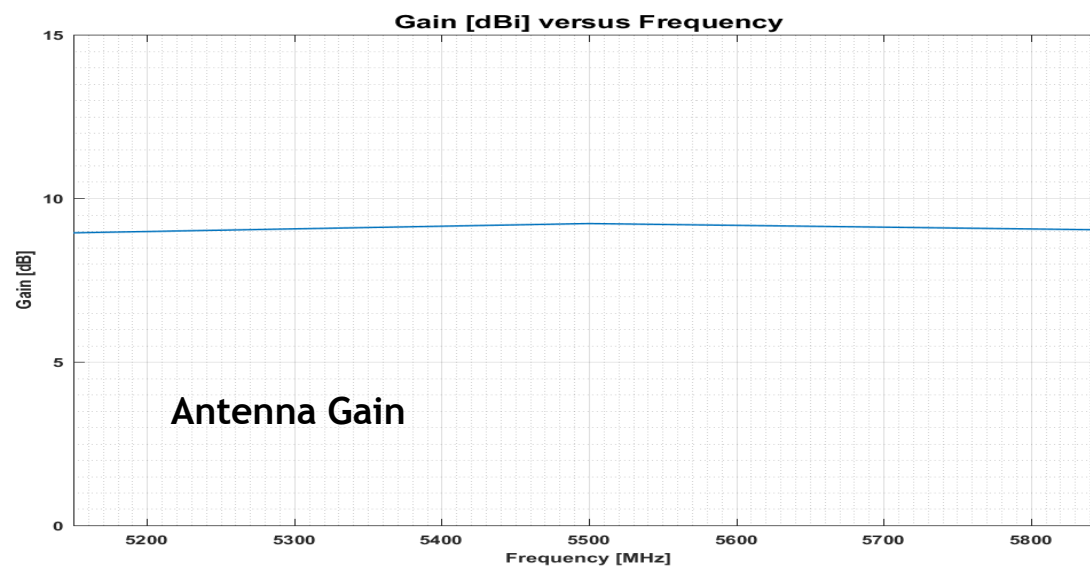
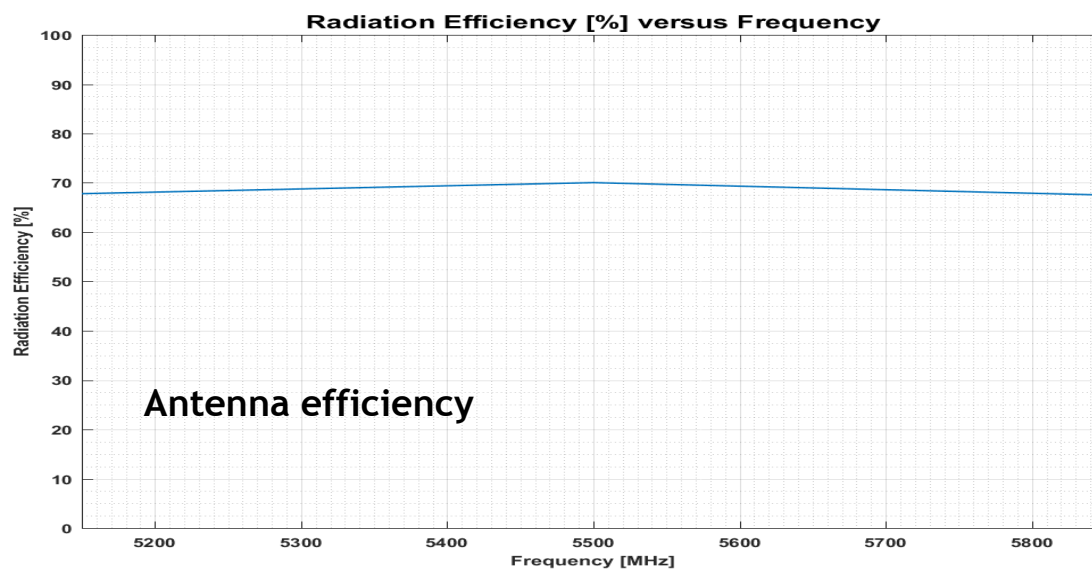
3. Antenna Efficiency & Peak Gain (A1)



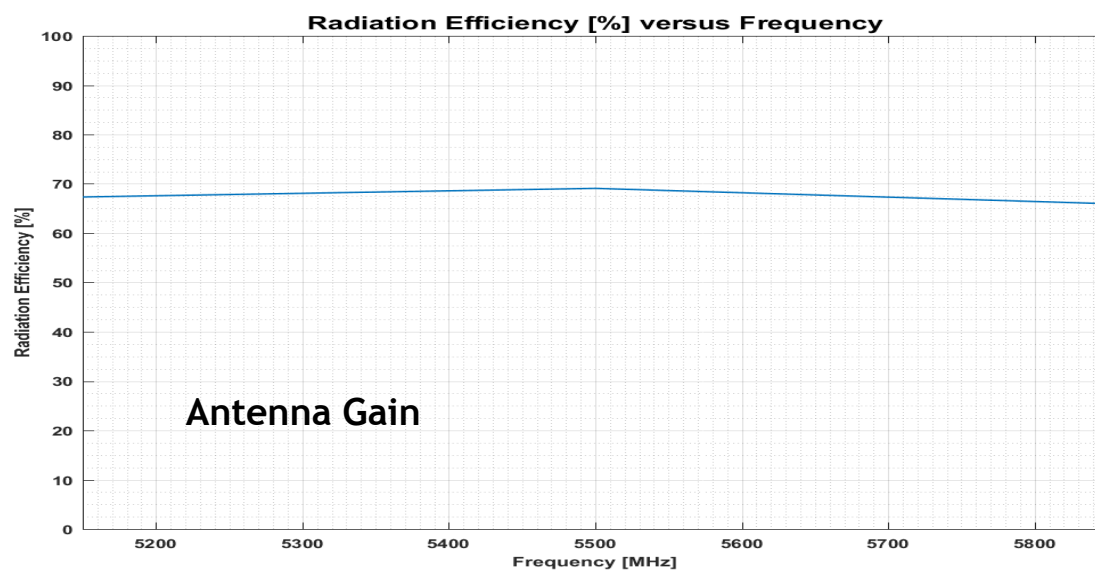
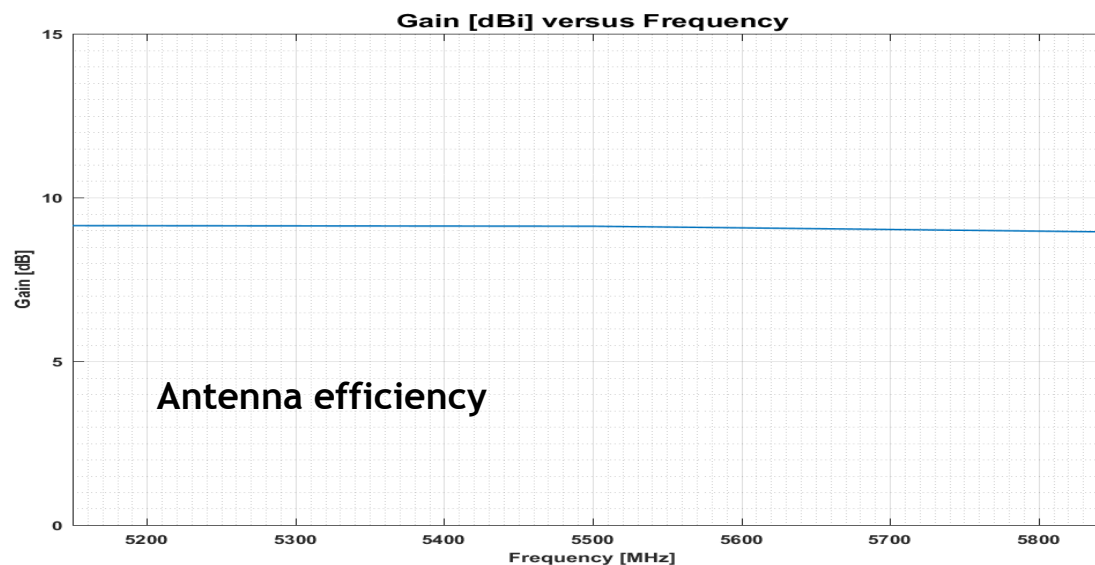
3. Antenna Efficiency & Peak Gain (A2)



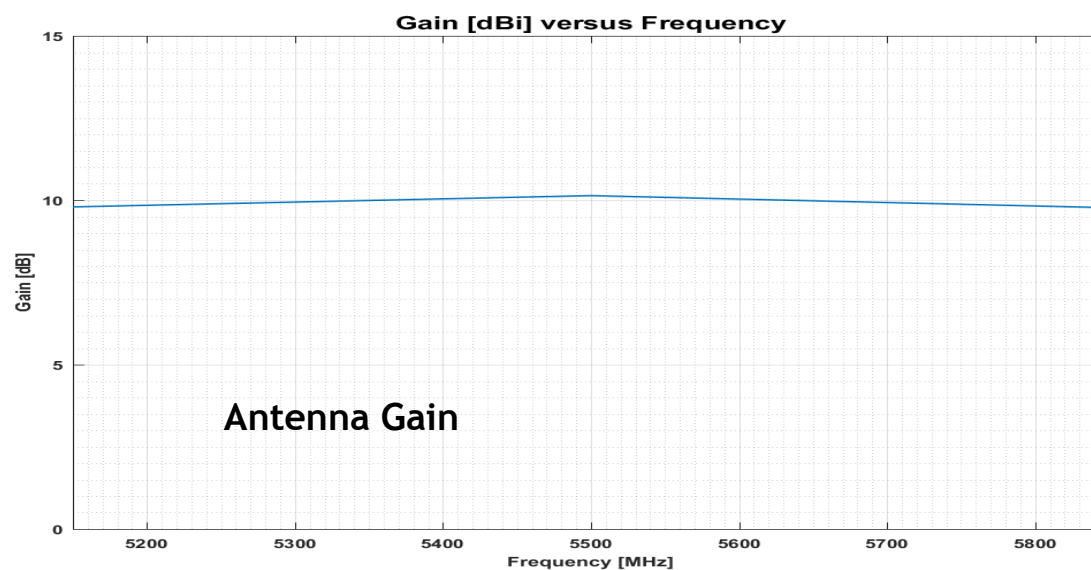
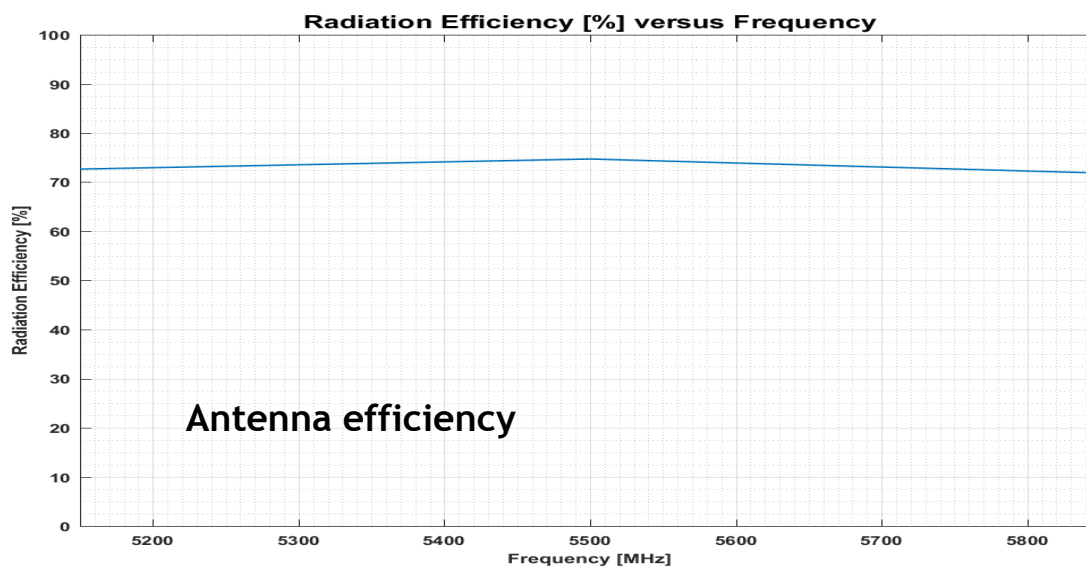
3. Antenna Efficiency & Peak Gain (A3)



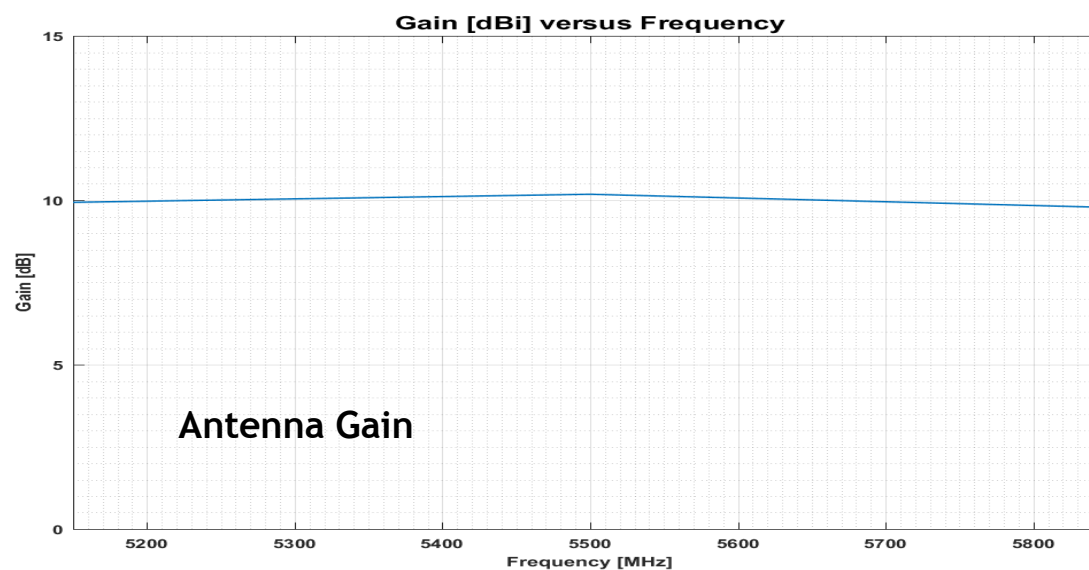
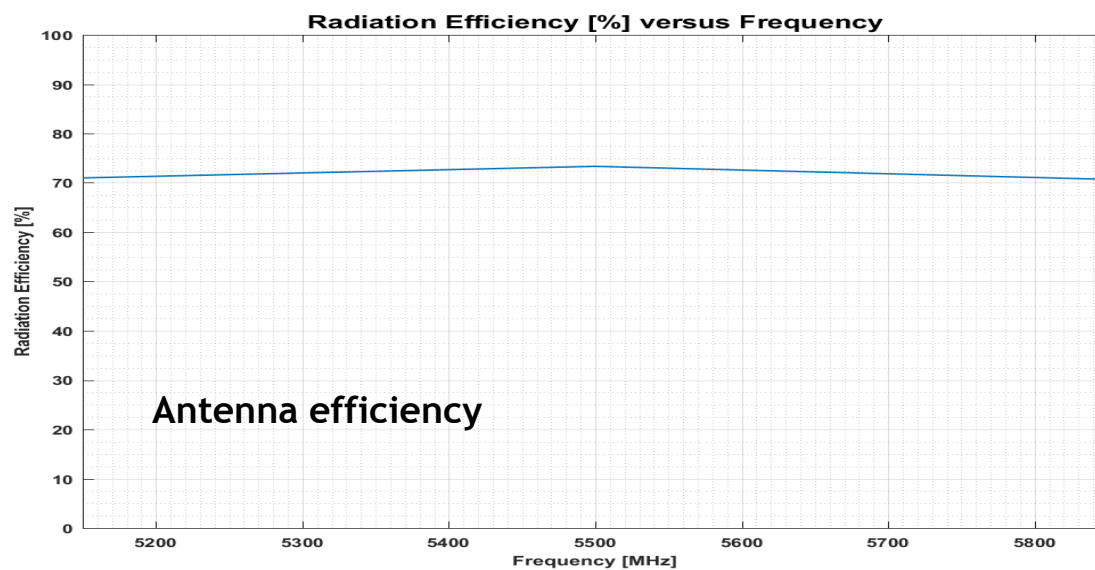
3. Antenna Efficiency & Peak Gain (A4)



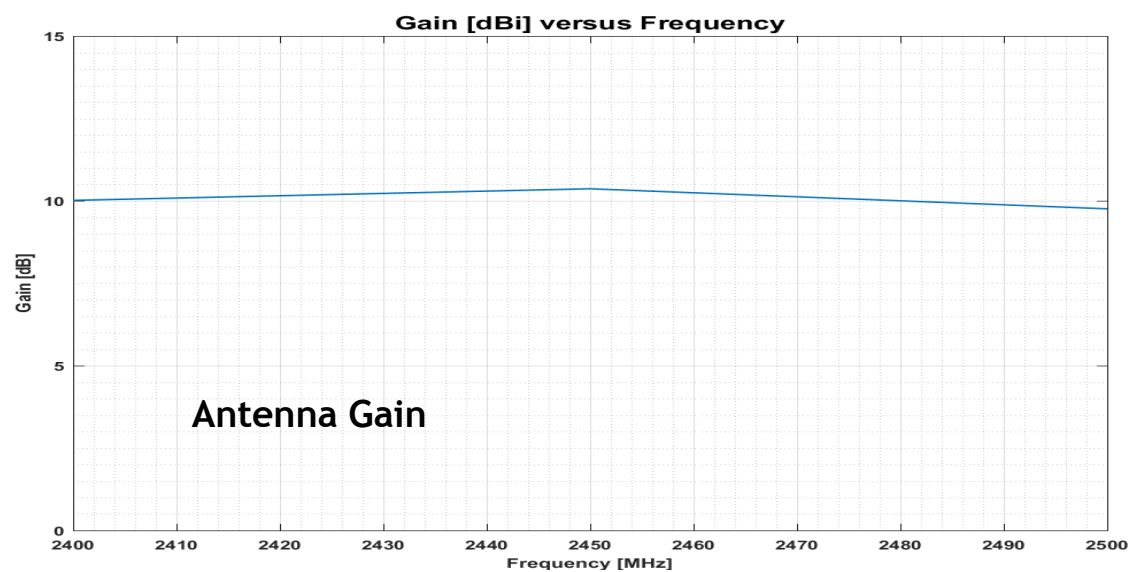
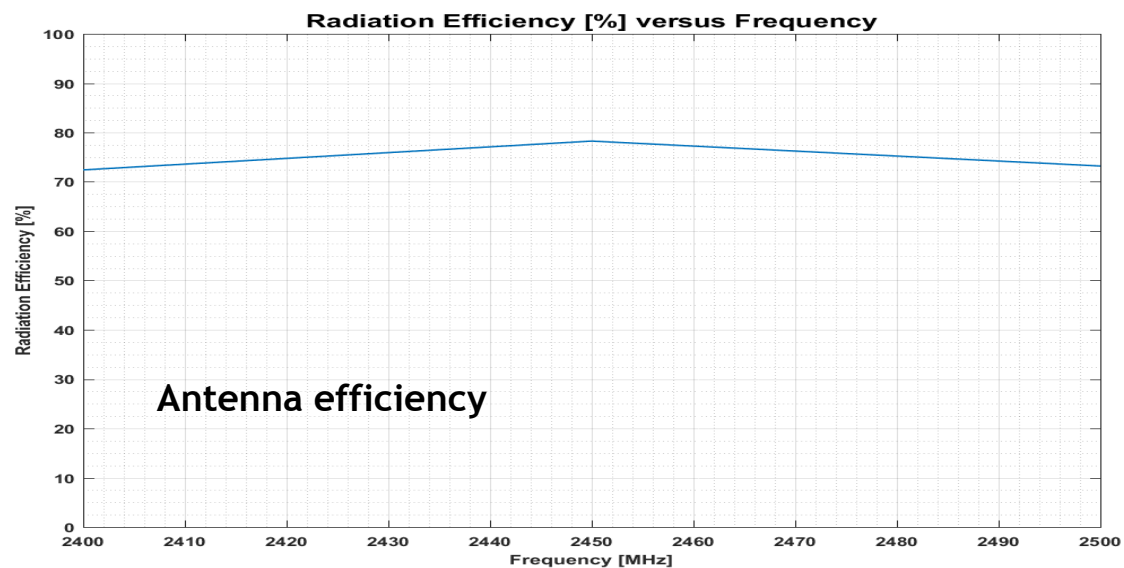
3. Antenna Efficiency & Peak Gain (A5)



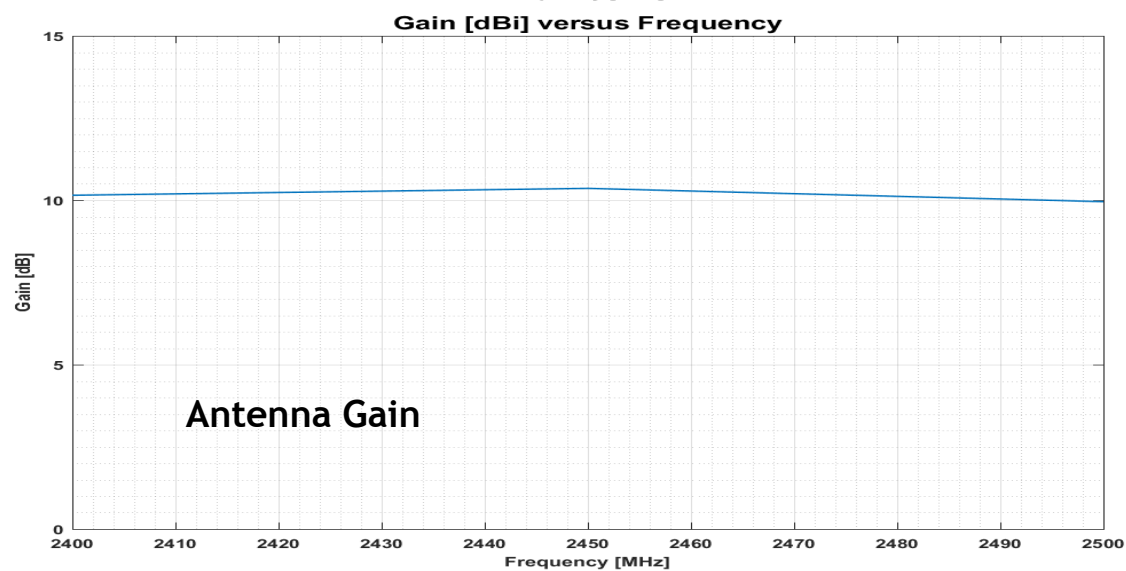
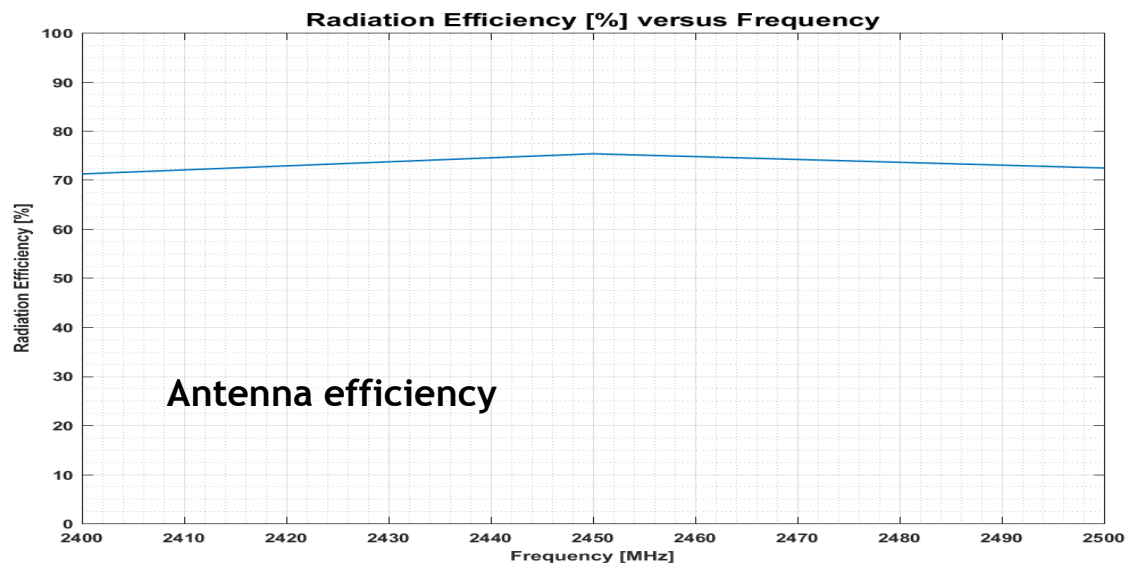
3. Antenna Efficiency & Peak Gain (A 6)



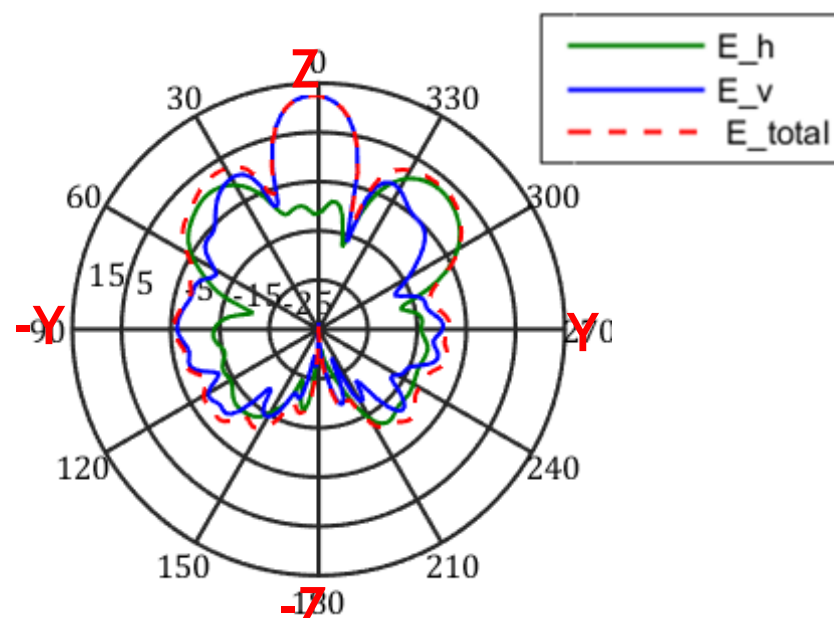
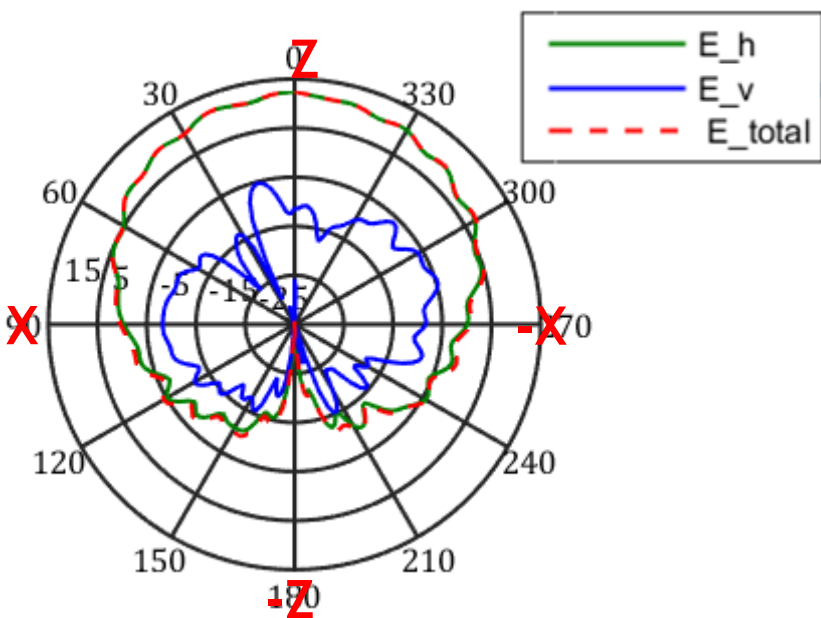
3. Antenna Efficiency & Peak Gain (A7)



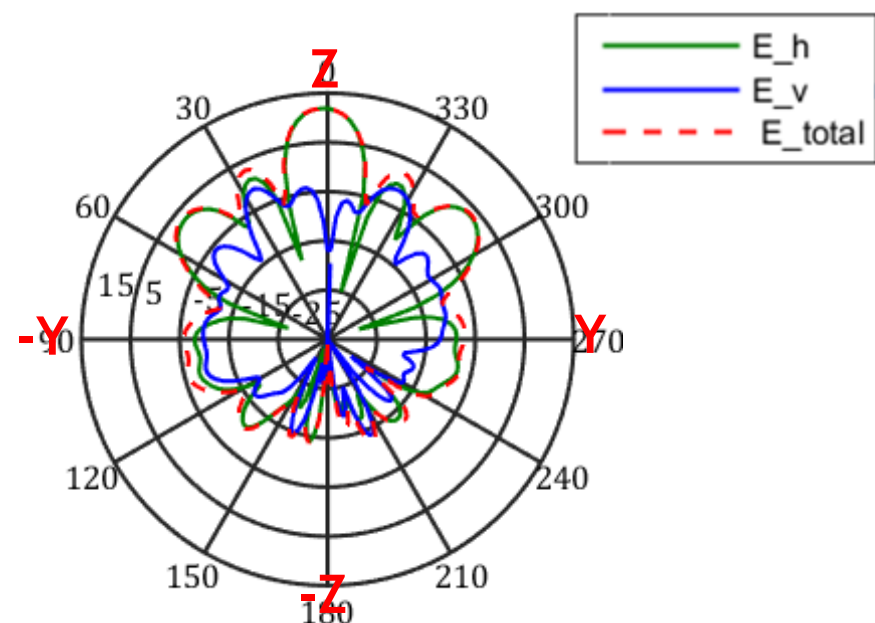
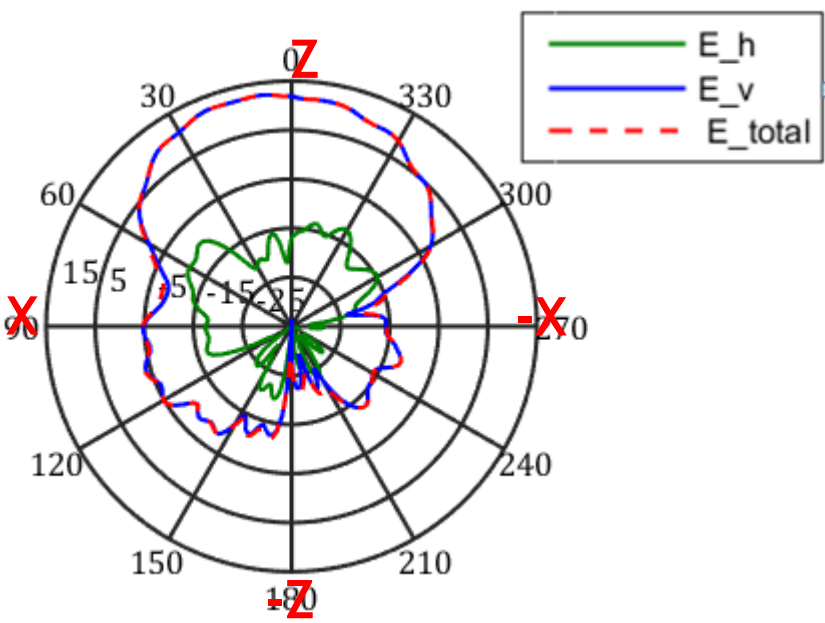
3. Antenna Efficiency & Peak Gain (A 8)



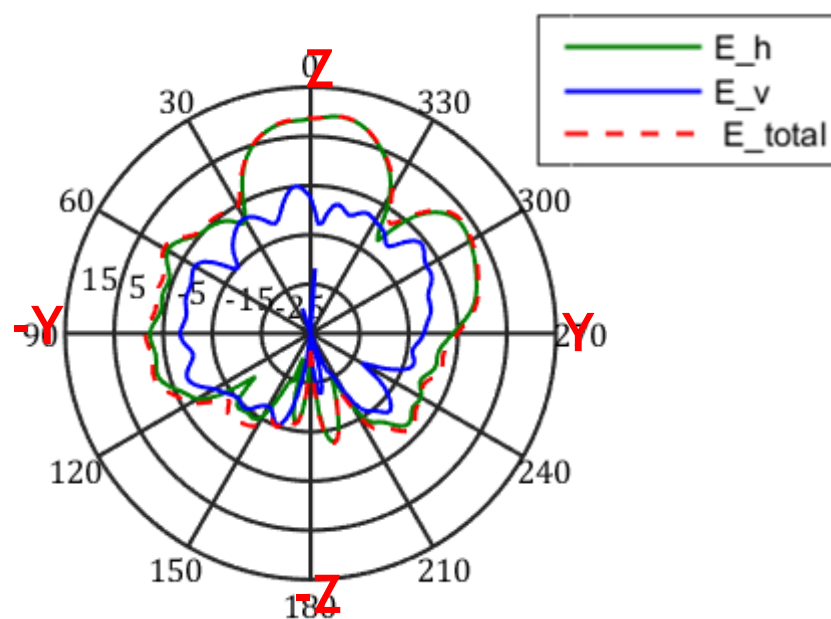
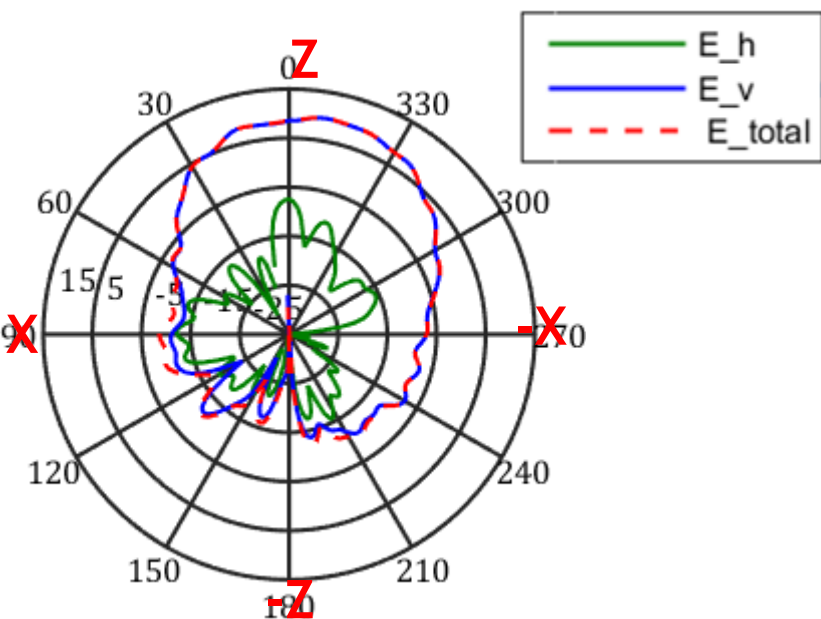
4. Radiation patterns (A1 5500 MHZ)



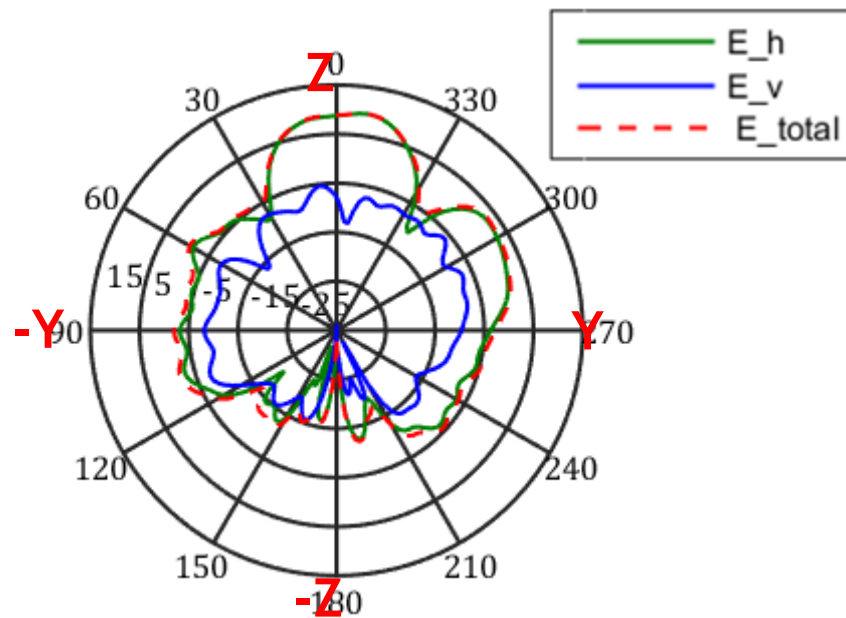
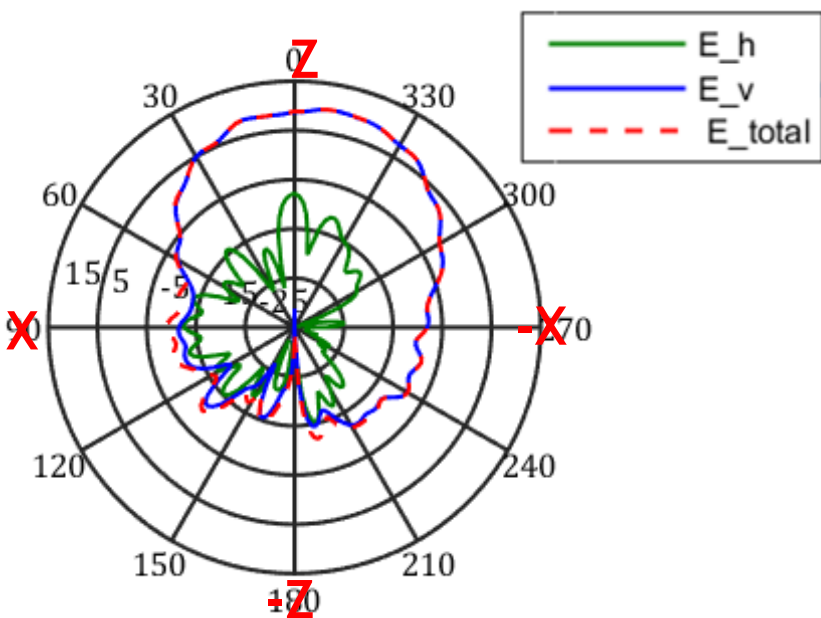
4. Radiation patterns (A2 5500MHZ)



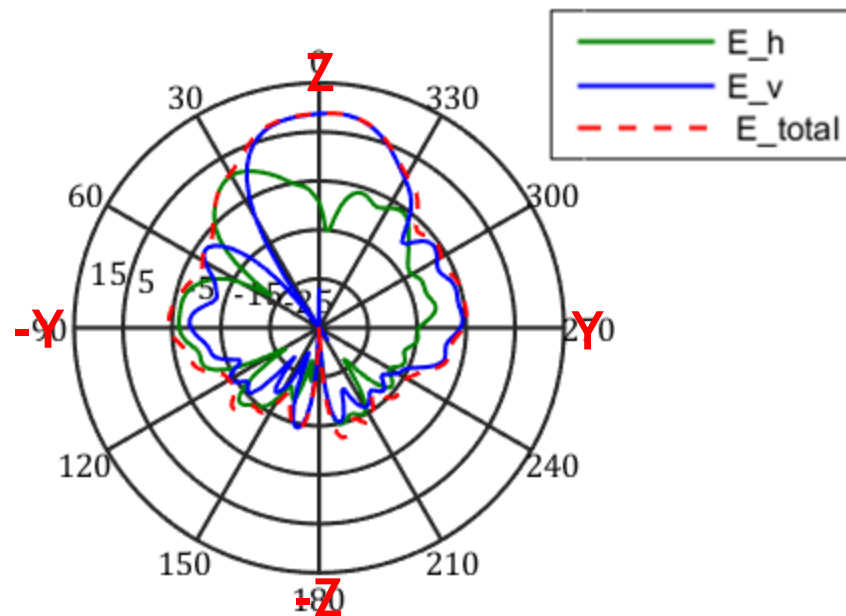
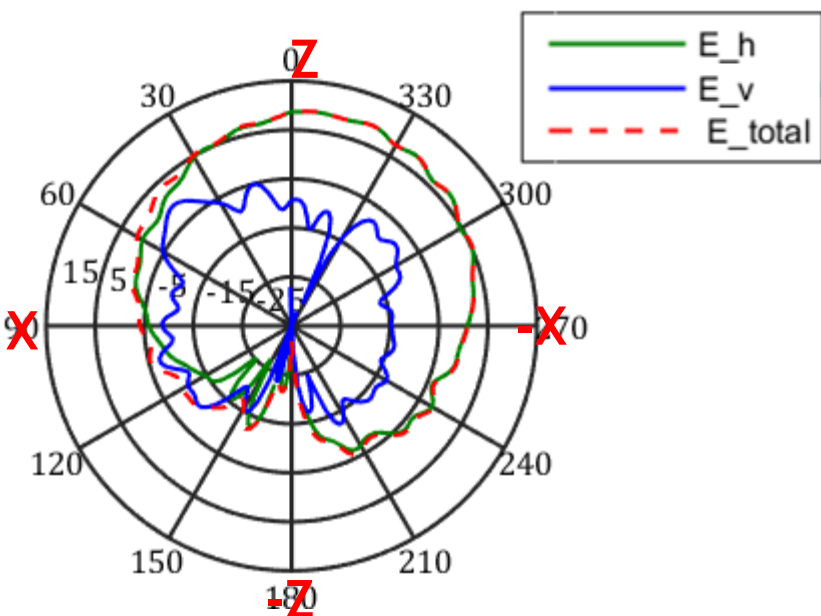
4.Radiation patterns (A3 5500MHZ)



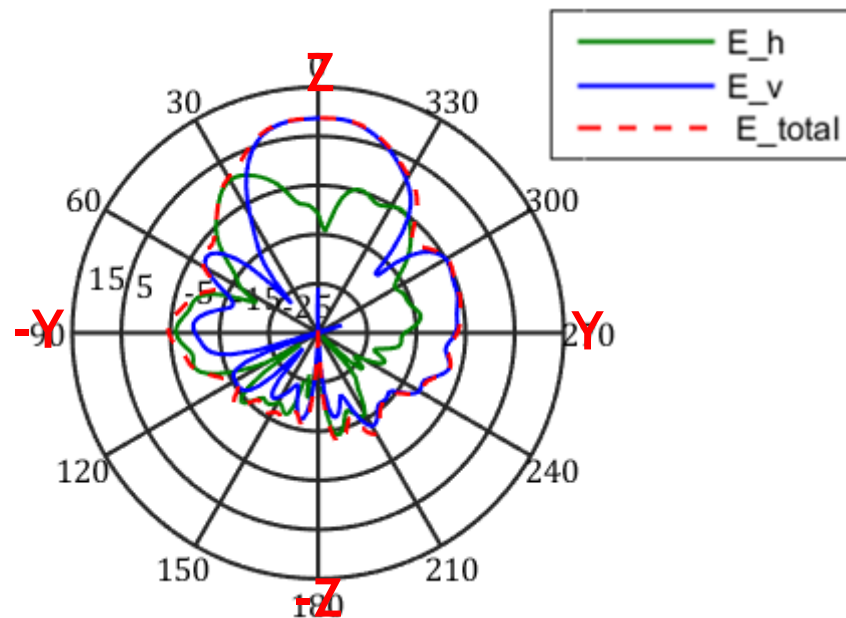
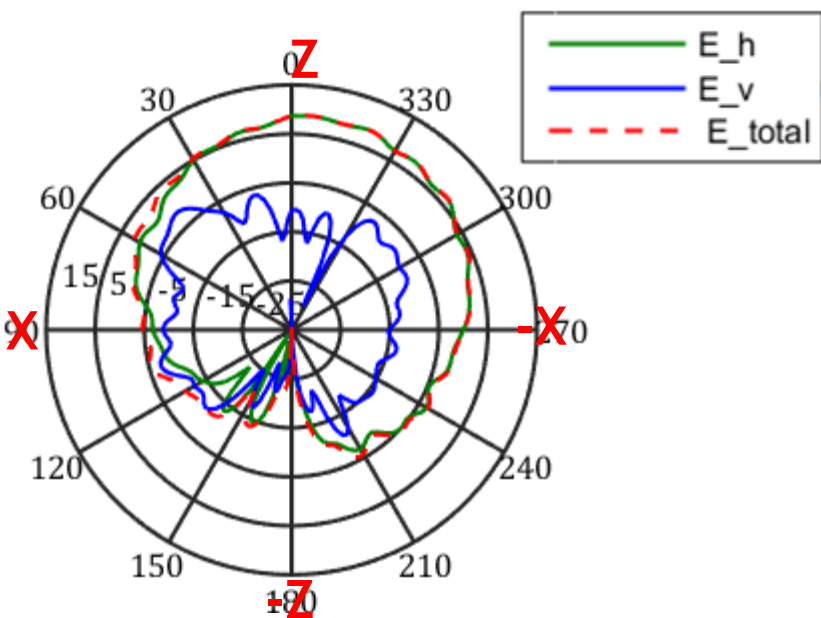
4.Radiation patterns (A4 5500MHZ)



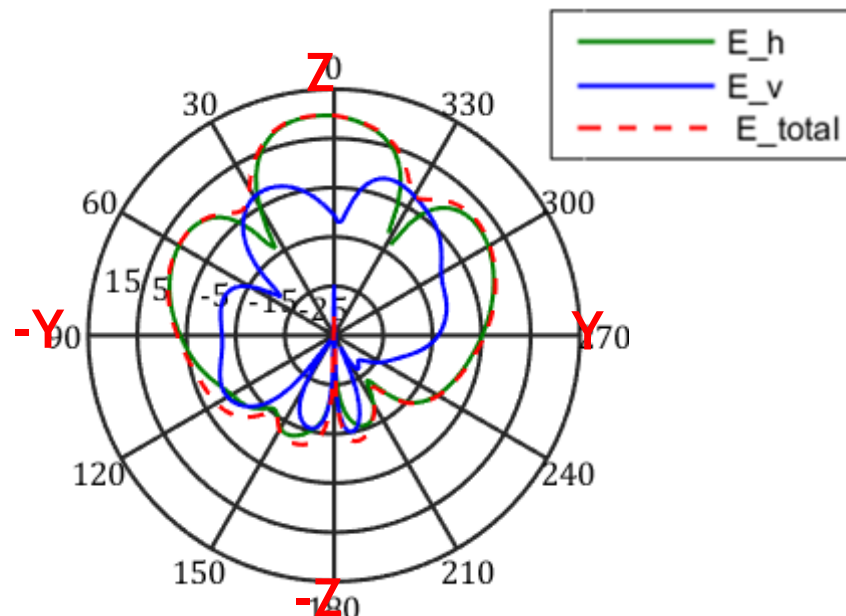
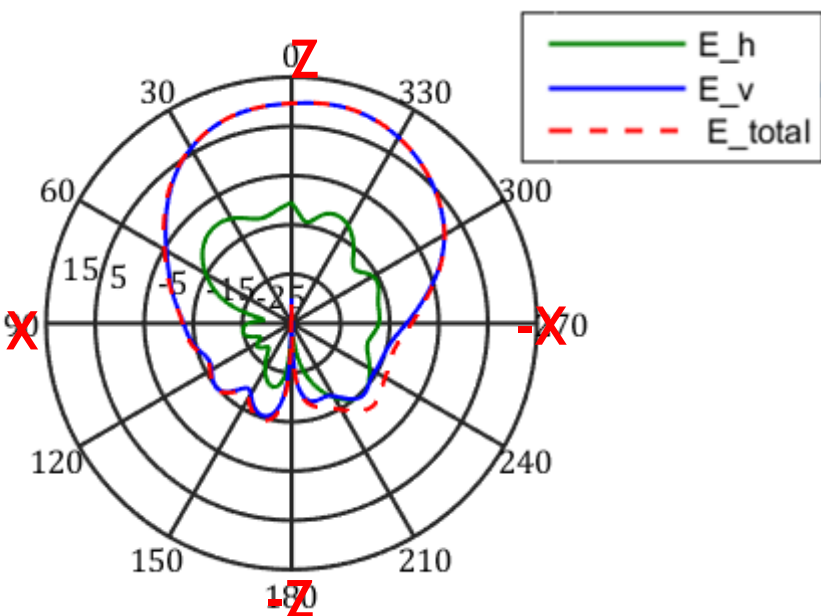
4.Radiation patterns (A5 5500MHZ)



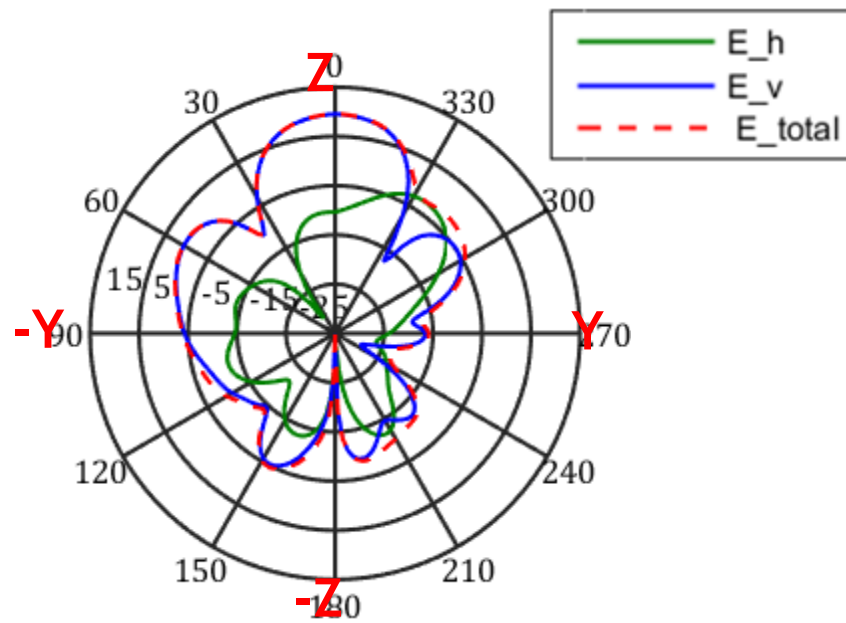
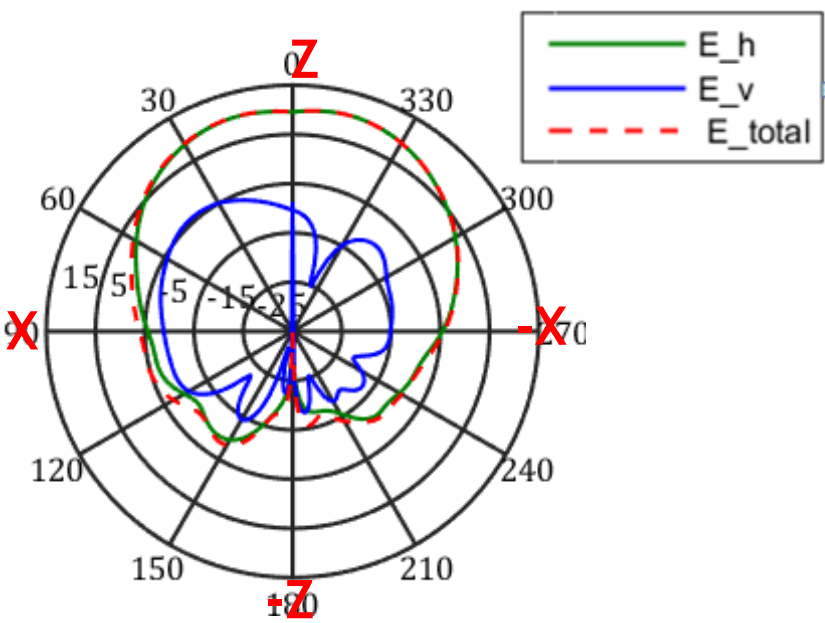
4.Radiation patterns (A6 5500MHZ)



4.Radiation patterns (A7 2450MHZ)



4.Radiation patterns (A8 2450MHZ)



5.Summary

1.测量数据如下:

Item	Frequency(MHz)	2400	2450	2500
A7	Peak Gain(dBi)	10. 13	10. 08	10. 09
	Efficiency (%)	72. 13	74. 56	71. 24
A8	Peak Gain(dBi)	10. 15	10. 06	10. 12
	Efficiency (%)	71. 22	75. 33	72. 43
Item	Frequency(MHz)	5150	5500	5850
A1	Peak Gain(dBi)	12. 04	12. 49	12. 18
	Efficiency (%)	72. 31	74. 56	72. 13
A2	Peak Gain(dBi)	12. 29	12. 53	12. 14
	Efficiency (%)	72. 45	73. 34	71. 58
A3	Peak Gain(dBi)	8. 94	9. 23	9. 03
	Efficiency (%)	68. 86	69. 65	68. 79
A4	Peak Gain(dBi)	9. 14	9. 12	8. 95
	Efficiency (%)	68. 75	69. 46	67. 85
A5	Peak Gain(dBi)	9. 80	10. 14	9. 77
	Efficiency (%)	71. 14	73. 12	71. 04
A6	Peak Gain(dBi)	9. 94	10. 18	9. 78
	Efficiency (%)	71. 25	73. 12	70. 85