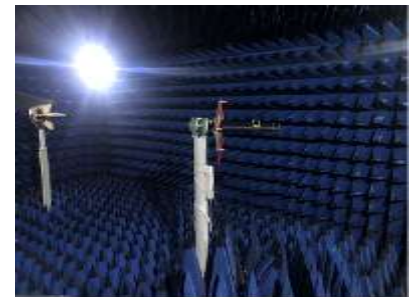


Test Report of Antenna of Youlimaike C65

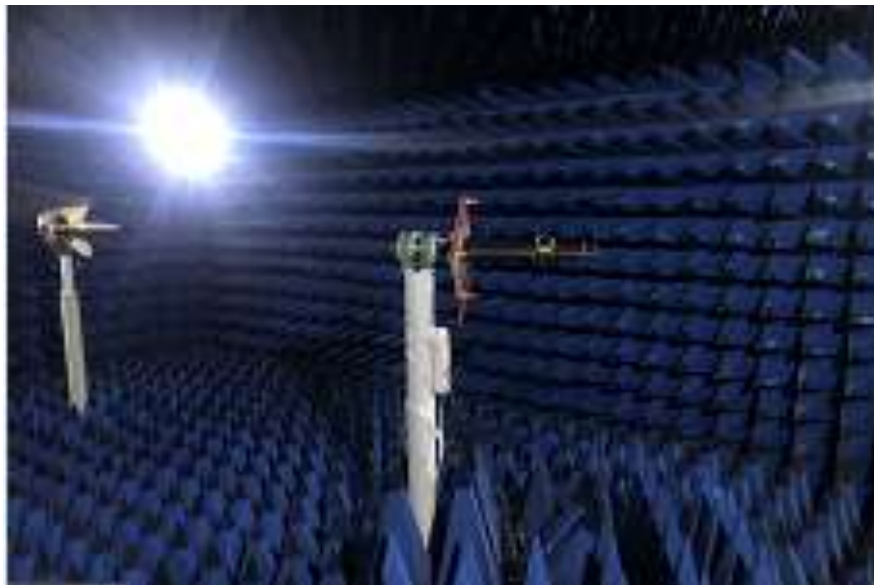
Radio frequency: Hong
Yuankai

Date: 2026. 3. 27



Project development environment

As we transition from the Internet era to the intelligent era, China is actively building a digital society and smart cities. Over the next 5-10 years, both the consumer electronics market and the Internet of Things (IoT) sector will demonstrate tremendous growth potential. The wireless communications field is highly diversified. In the future, Yusheng will leverage its core strengths in antenna technology, customer platform advantages, and comprehensive capabilities to deliver professional-grade product solutions with strong market competitiveness.



Yusheng Communications product portfolio covers nearly all antenna applications for wireless terminal devices, including automotive antennas, high-precision surveying and mapping antennas, UAV ground and satellite data navigation antennas, high-precision positioning antennas, wireless transmission antennas for medical devices, consumer-grade antennas (for mobile phones, tablets, and laptops), base station and indoor distribution antennas, smart wearable antennas (for smartwatches and TWS earphones), security and home automation antennas, as well as antennas for various wireless data transmission and control smart devices.

1

Project Debugging Introduction

2

Report Version Outline

3

mainboard conduction

4

active antenna parameter

5

antenna source free parameter

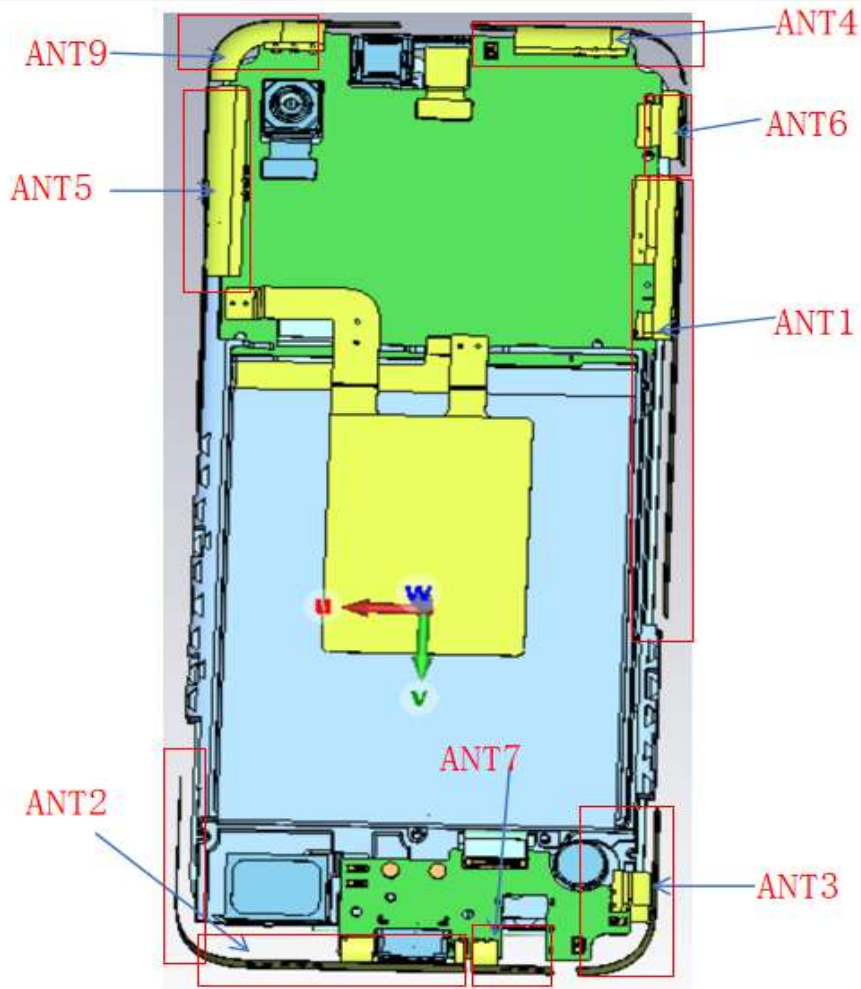
6

Summary & Notes

Report Version Outline

Report Version	Report time	Issues addressed by this antenna development
V0.5	2025. 12. 30	Complete System Test Report
V0.6	2026. 1. 26	Complete Equipment Test Report (Optimized Four-in-One)
V0.7	2026. 1. 27	Complete Equipment Test Report (with added left and right hand data)
V0.8	2026. 1. 30	Complete System Optimization Test Report
V0.9	2026. 02. 04	Complete System Optimization Test Report (Optimization A2, A9)
V1.0	2026. 03. 11	Complete Equipment Test Report (Add Side Button Adjustment for ANT1)
V1.1	2026. 03. 27	Acknowledgment documents

Antenna layout



The location of antenna was recorded in annex B

ANT1	LB TRx: Band 5/12/13/14/17/18/19/26/29/71, 5G NR n5/26/71 MB PRx MIMO: Band 2/4/25/66, 5G NR n2/25/66
ANT2	LB TRx(switch)/DRx : Band 5/12/13/14/17/18/19/26/29/71, 5G NR n5/26/71 MB DRx MIMO: Band 2/4/25/66, 5G NR n2/25/66
ANT3	MHB Tx1/DRx: Band 2/4/7/25/30/38/41/66, 5G NR n2/7/25/41/66
ANT4	MB TRx: Band 2/4/25/66, 5G NR n2/25/66 HB PRx MIMO: Band 7/30/38/41, 5G NR n7/30/41 UHB PRx MIMO: Band 48, 5G NR n48/77/78
ANT5	HB TRx: Band 7/30/38/41, 5G NR n7/30/41 UHB DRx: Band 48, 5G NR n48/77/78
ANT6	UHB TRx: Band 48, 5G NR n48/77/78
ANT7	UHB DRx MIMO: Band 48, 5G NR n48/77/78 HB DRx MIMO: Band 7/30/38/41, 5G NR n7/41
ANT9	WIFI 2.4G/5G, Bluetooth, GPS L1

active antenna parameters

A1

	frequency range	CH	TRP (db)	TIS (dbm)
LTE	B5	CH(LOW)	15.51	
		CH(Med)	15.51	
		CH(highg)	14.54	-94.30
	B12	CH(LOW)	12.74	
		CH(Med)	13.17	
		CH(highg)	13.58	-93.16
	B13	CH(LOW)		
		CH(Med)	14.51	-93.07
		CH(highg)		
	B14	CH(LOW)		
		CH(Med)	14.77	-91.80
		CH(highg)		

	frequency range	CH	TRP (db)	TIS (dbm)
LTE	B17	CH(LOW)	14.05	
		CH(Med)	14.45	
		CH(highg)	14.82	-91.92
	B18	CH(LOW)	15.11	
		CH(Med)	15.32	
		CH(highg)	15.39	-95.34
	B19	CH(LOW)	15.46	
		CH(Med)	15.41	
		CH(highg)	15.09	-94.36
	B20	CH(LOW)	15.69	
		CH(Med)	15.06	
		CH(highg)	14.83	-93.34
	B71	CH(LOW)	12.43	
		CH(Med)	12.04	
		CH(highg)	12.30	-92.24

active antenna parameters

A2

	frequency range	CH	TRP (db)	TIS (dbm)
LTE	B5	CH(LOW)	18.74	
		CH(Med)	18.78	
		CH(highg)	18.16	-90.65
	B12	CH(LOW)	17.57	
		CH(Med)	17.29	
		CH(highg)	17.15	-90.59
	B13	CH(LOW)		
		CH(Med)	17.84	-90.34
		CH(highg)		
	B14	CH(LOW)		
		CH(Med)	17.57	-89.21
		CH(highg)		

	frequency range	CH	TRP (db)	TIS (dbm)
LTE	B17	CH(LOW)	18.3	
		CH(Med)	18.27	
		CH(highg)	18.12	-88.4
	B18	CH(LOW)	18.54	
		CH(Med)	18.74	
		CH(highg)	18.68	-92.42
	B19	CH(LOW)	18.65	
		CH(Med)	18.72	
		CH(highg)	18.41	-90.85
	B20	CH(LOW)	18.74	
		CH(Med)	18	
		CH(highg)	17.91	-90.64
	B71	CH(LOW)	18.11	
		CH(Med)	18.32	
		CH(highg)	17.65	-86.93

active antenna parameters

	frequency range	CH	TRP (db)	TIS (dbm)		frequency range	CH	TRP (db)	TIS (dbm)
LTE	B1	CH(LOW)	21.07		LTE	B7	CH(LOW)	17.63	
		CH(Med)	20.23				CH(Med)	18.72	
		CH(highg)	20.69	-97.72			CH(high g)	19.63	-95.41
	B2	CH(LOW)	21.39			B38	CH(LOW)	20.37	
		CH(Med)	21.16				CH(Med)	20.43	
		CH(highg)	21.27	-96.56			CH(high g)	20.39	-92.29
	B3	CH(LOW)	21.13			B41	CH(LOW)	19.13	
		CH(Med)	21.57				CH(Med)	22.12	-93.37
		CH(highg)	20.88	-98.49			CH(high g)	21.27	
	B4	CH(LOW)	21.05			B66	CH(LOW)	21.05	
		CH(Med)	21.34				CH(Med)	21.42	
		CH(highg)	21.55	-95.39			CH(high g)	21.41	-95.81

active antenna parameters

	frequency range	CH	TRP (db)	TIS (dbm)
LTE	B25 (5M)	CH(LOW)	20.69	
		CH(Med)	20.54	
		CH(highg)	20.10	-99.14
	B29	CH(LOW)		
		CH(Med)		
		CH(highg)		-89.75
	B30	CH(LOW)		
		CH(Med)	16.90	-95.07
		CH(highg)		
	B48	CH(LOW)	20.19	
		CH(Med)	19.65	
		CH(highg)	20.04	-96.85

active antenna parameters

	frequency range	CH	TRP (db)	TIS (dbm)		frequency range	CH	TRP (db)	TIS (dbm)
NR	N2	CH(LOW)	21.70		NR	N71	CH(LOW)	17.84	
		CH(Med)	21.54				CH(Med)	18.03	
		CH(high g)	21.22	-97.33			CH(highg)	18.17	-89.35
	N5	CH(LOW)	19.45			N77	CH(LOW)	21.4	
		CH(Med)	19.35				CH(Med)	21.67	
		CH(high g)	19.23	-92.72			CH(highg)	19.45	-88.05
	N41	CH(LOW)	20.67			N78	CH(LOW)	21.17	
		CH(Med)	21.35				CH(Med)	22.12	
		CH(high g)	21.06	-85.24			CH(highg)	21.55	-89.54

active antenna parameters

	frequency range	CH	TRP (db)	TIS (dbm)
END C	B66-N2	CH(LOW)	19.02	
		CH(Med)	19.14	
		CH(highg)	19.19	-97.65

WiFi active parameters

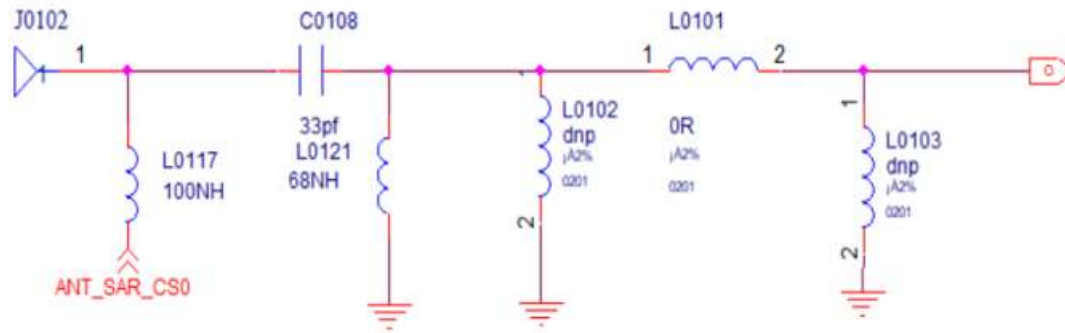
	802.11	CH	TRP (db)	TIS (dbm)
WiFi	11b	1	15.99	
		6	15.20	
		11	15.64	-85.06
	11g	1	13.86	
		6	13.04	
		11	13.48	-70.08
	11n	1	13.25	
		6	13.31	
		11	13.51	-66.02
	11a (6M)	40	14.25	
		56	14.90	
		157	16.55	-86.34

ANT1 antenna switch logic

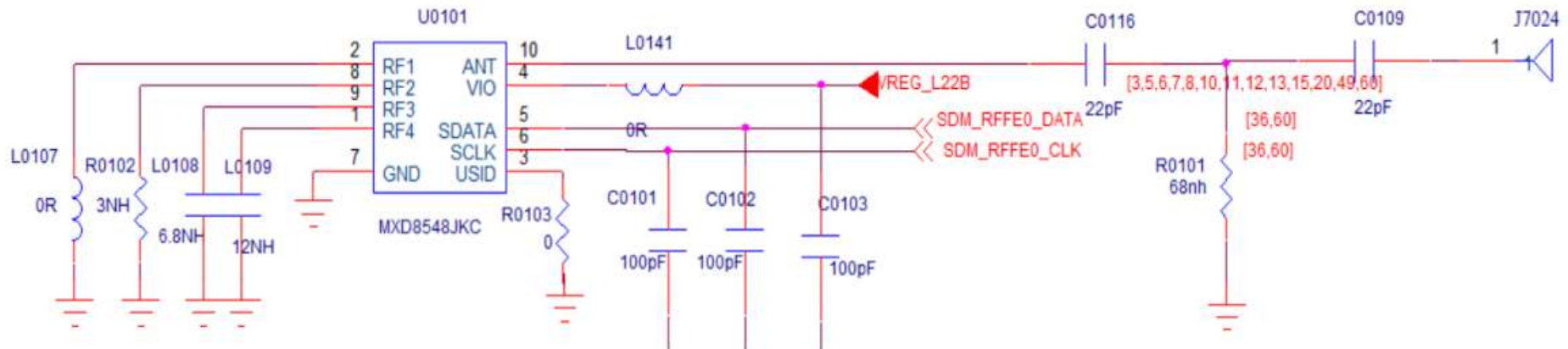
RF1 (5.6pF)	B1/5/8/18/19/20/26;N5/26
RF2 (0Ω)	B13/14
RF3 (6.8nH)	B12/17/28/29;N28/29
RF4 (9.1nH)	B2/3/4/25/66/71;N2/25/66/71

ANT1 antenna switch logic

Main road alignment modification section: L0102: 12nH



Switch matching changes section: R0101:NC; C0116:0 Ω ; C0109: 56pF; L0107: 5.6pF; R0102: 0 Ω ; L0108: 6.8nH; L0109: 9.1nH



Antenna passive parameters-ANT1-LB TRX+MB PRX MIMO

RF1: 800M-880M

Passive Test			
Freq	Effi	Gain	Effi
(MHz)	(dBi)	(dBi)	(%)
800.0	-12.81	-10.06	5.24
810.0	-11.08	-8.11	7.8
820.0	-9.09	-5.54	12.33
830.0	-7.56	-3.72	17.53
840.0	-6.77	-2.86	21.05
850.0	-6.8	-3.12	20.88
860.0	-7.26	-4.08	18.81
870.0	-7.98	-4.18	15.93
880.0	-8.98	-4.88	12.65

RF2: 720M-800M

Passive Test			
Freq	Effi	Gain	Effi
(MHz)	(dBi)	(dBi)	(%)
720.0	-12.23	-9.07	5.98
730.0	-10.7	-7.57	8.52
740.0	-9.02	-5.99	12.52
750.0	-7.41	-4.46	18.15
760.0	-6.34	-3.49	23.21
770.0	-5.99	-3.14	25.17
780.0	-6.23	-3.35	23.83
790.0	-8.13	-4.87	15.37
800.0	-10.18	-6.82	9.6

Antenna passive parameters-ANT1-LB

TRX+MB PRX MIMO

RF3: 700M-780M

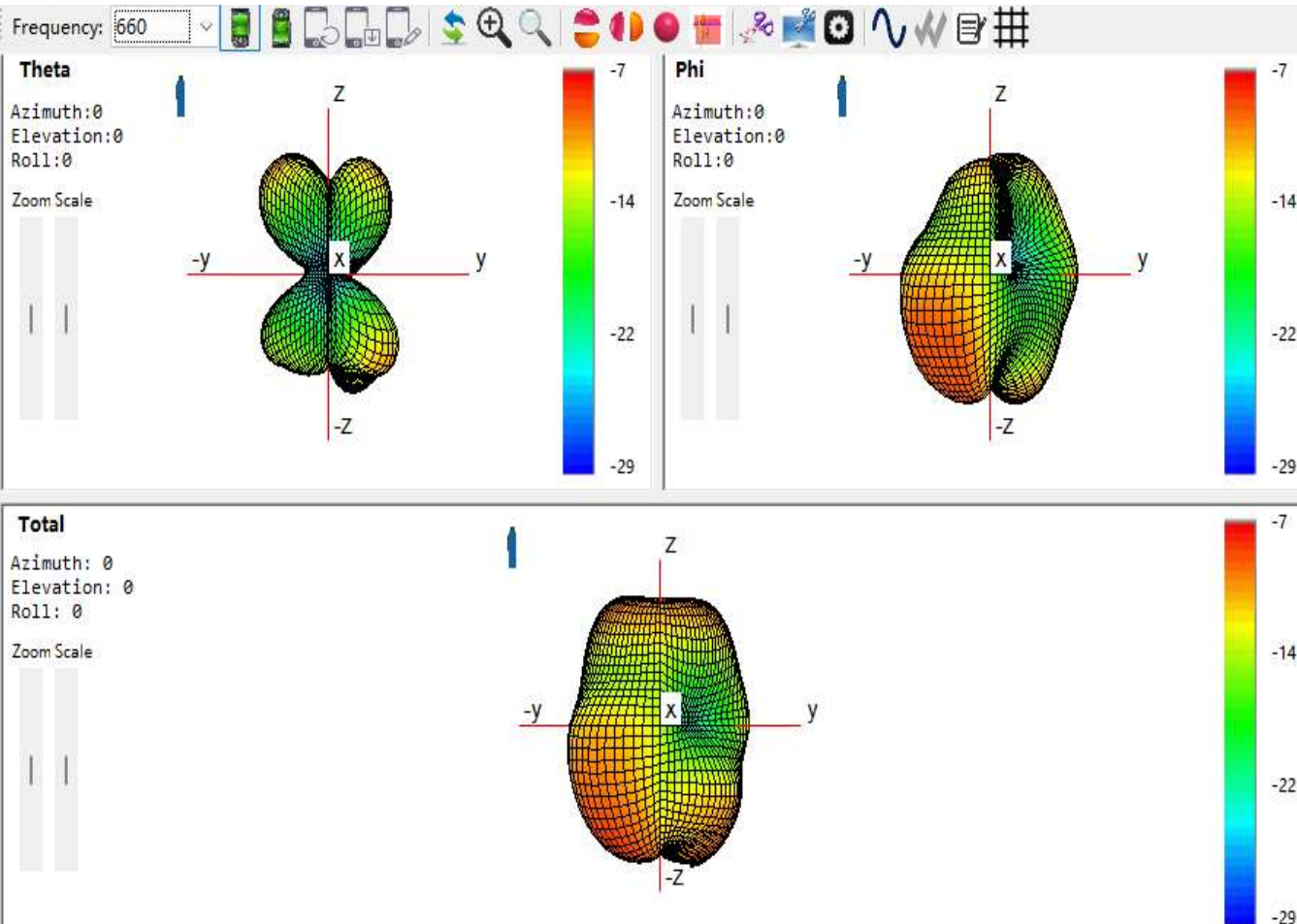
Passive Test			
Freq	Effi	Gain	Effi
(MHz)	(dBi)	(dBi)	(%%)
700.0	-8.85	-5.31	13.02
710.0	-7.51	-4	17.75
720.0	-6.84	-3.4	20.71
730.0	-6.93	-3.57	20.28
740.0	-7.6	-4.36	17.36
750.0	-8.33	-5.22	14.68
760.0	-9.13	-6.23	12.21
770.0	-9.91	-7.12	10.21
780.0	-10.57	-7.46	8.78

RF4: 620M-700M

Passive Test			
Freq	Effi	Gain	Effi
(MHz)	(dBi)	(dBi)	(%%)
620.0	-10.28	-6.99	9.38
630.0	-9.71	-6.24	10.7
640.0	-9.87	-6.38	10.31
650.0	-10.51	-7.05	8.9
660.0	-11.42	-7.96	7.22
670.0	-12.2	-8.72	6.02
680.0	-12.94	-9.32	5.08
690.0	-13.62	-9.94	4.35
700.0	-14.08	-10.33	3.91

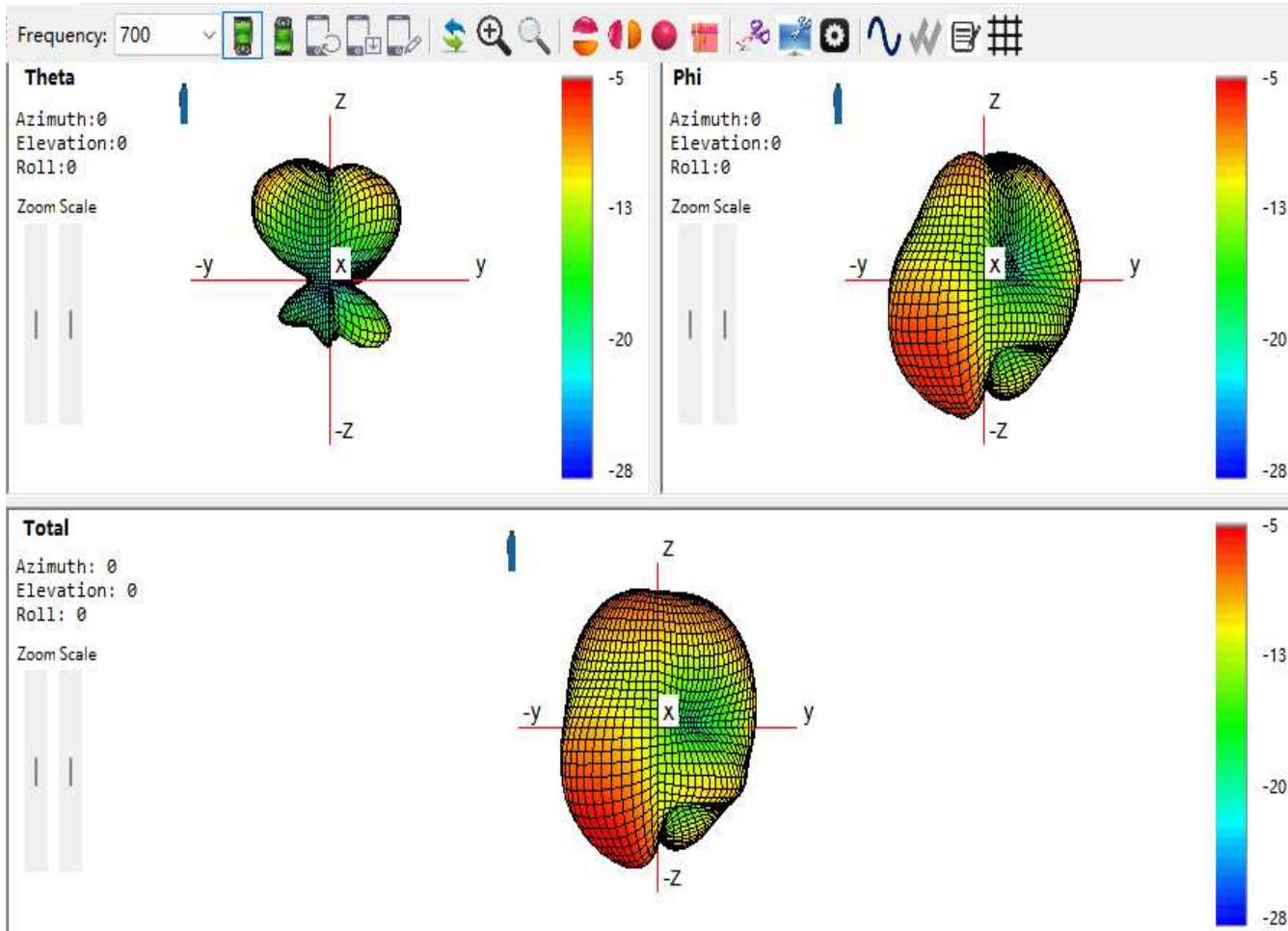
Antenna passive parameters-ANT1-LB TRX+MB PRX

MIMO-directional diagram



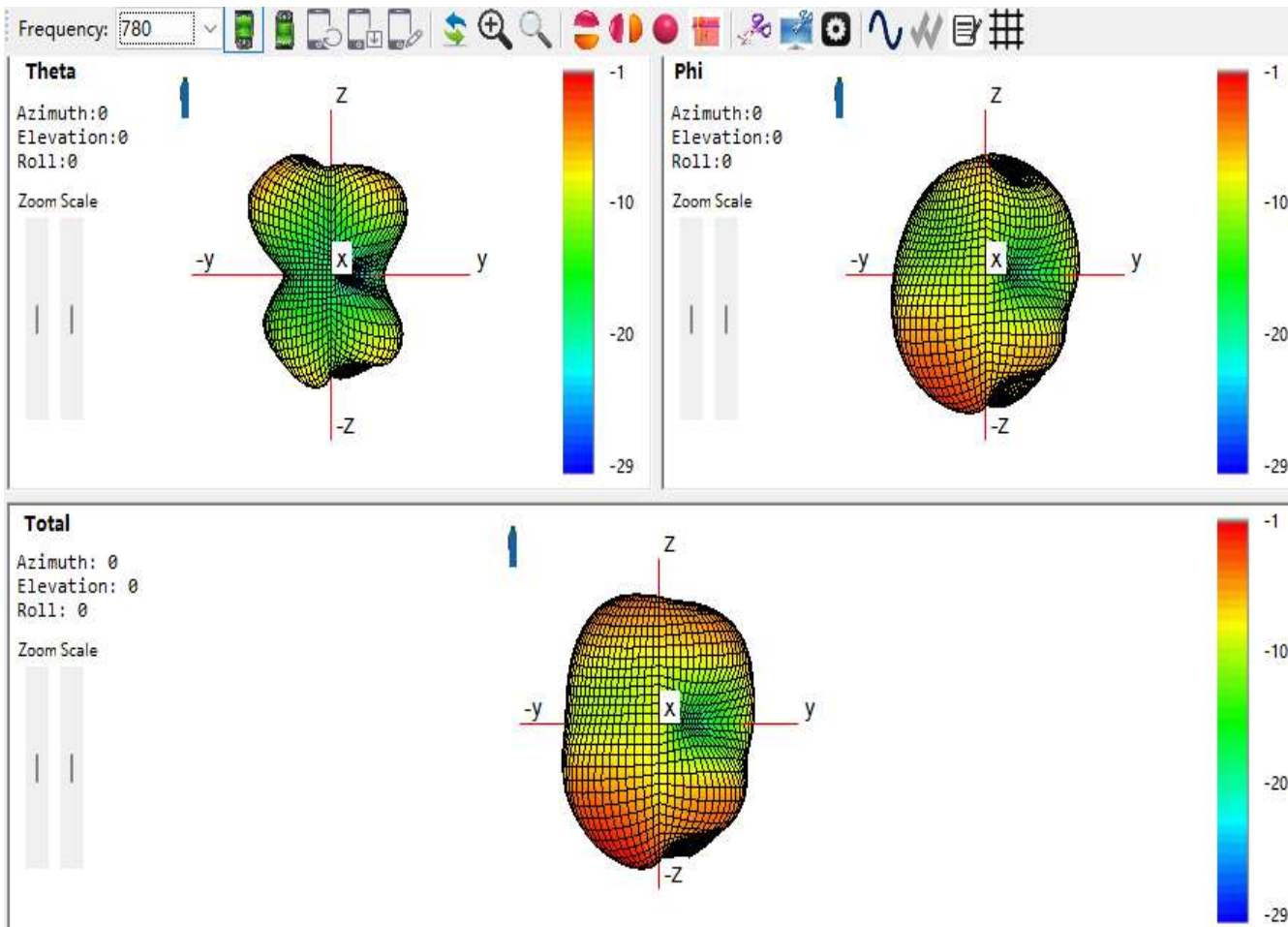
Antenna passive parameters-ANT1-LB TRX+MB PRX

MIMO-directional diagram



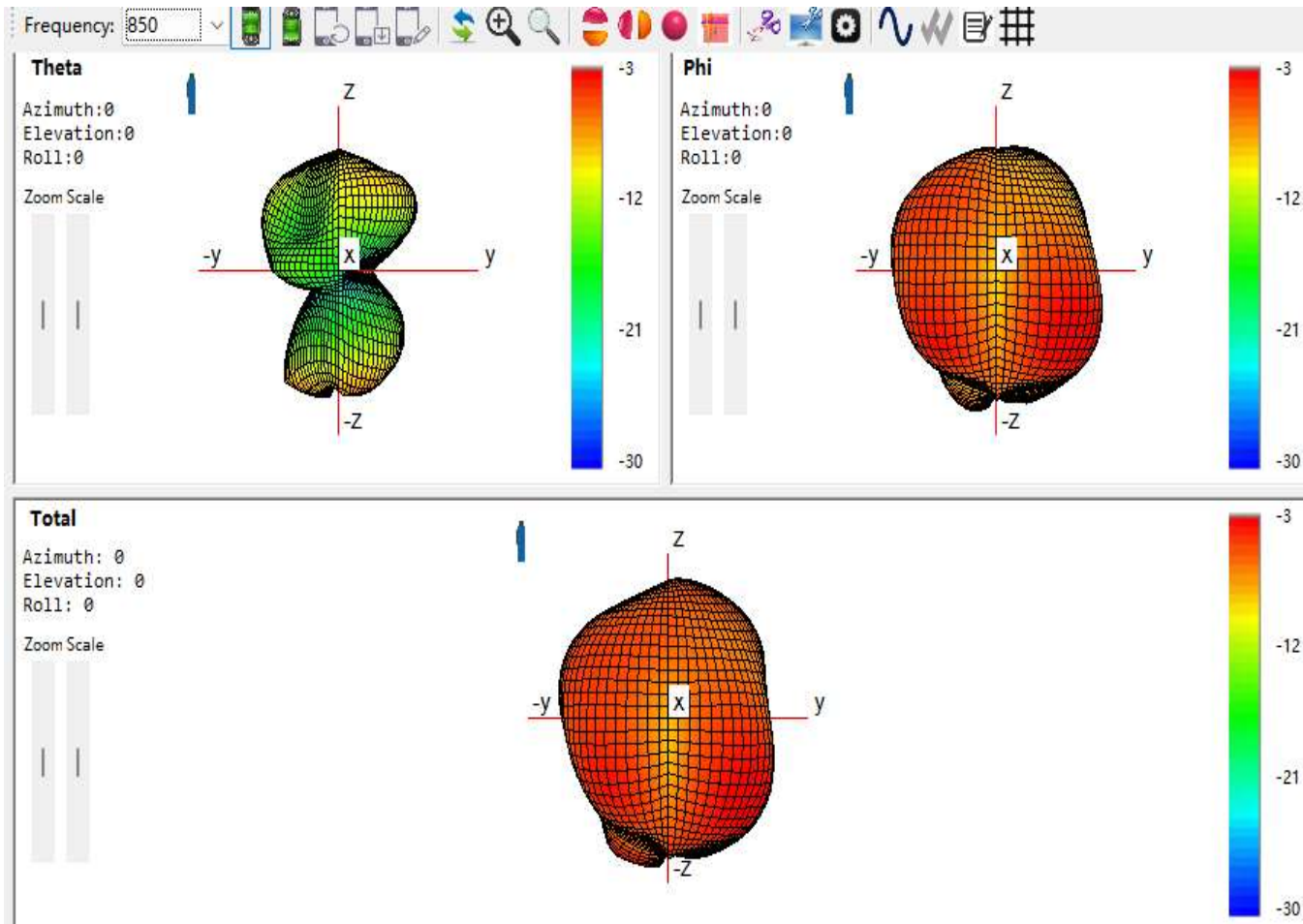
Antenna passive parameters-ANT1-LB TRX+MB PRX

MIMO-directional diagram



Antenna passive parameters-ANT1-LB TRX+MB PRX

MIMO-directional diagram

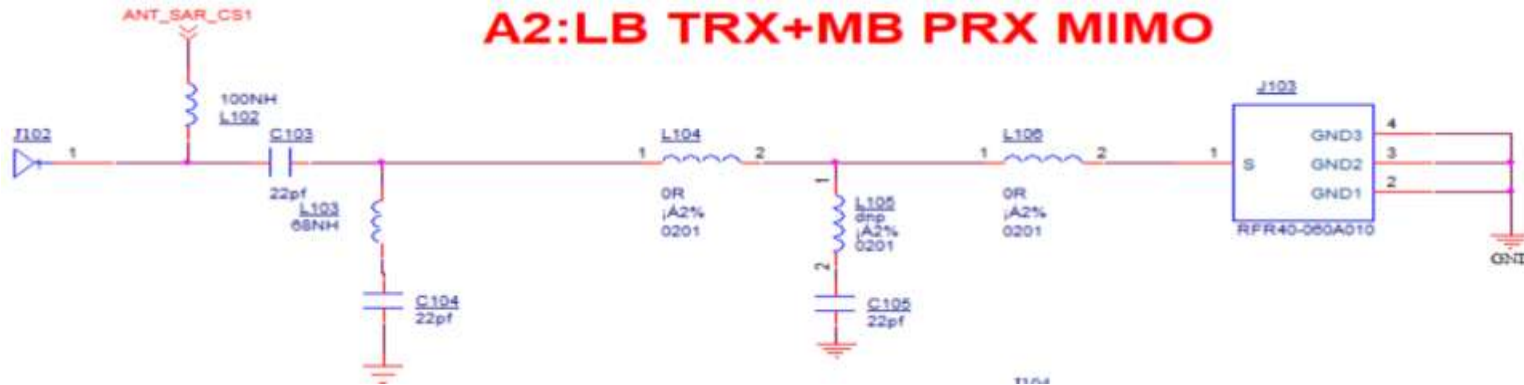


ANT2 antenna switch logic

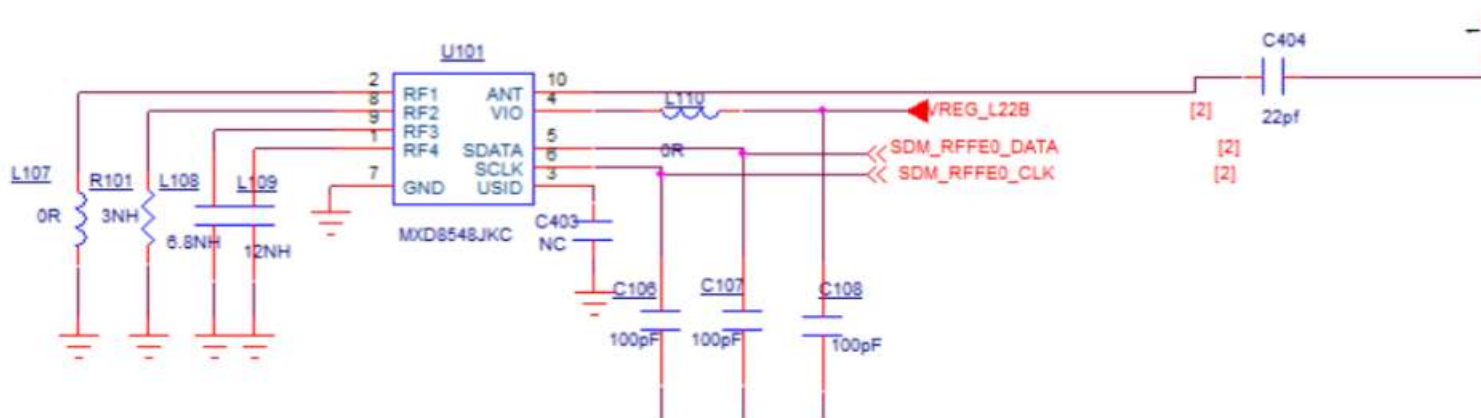
RF1 (0 Ω)	B1/2/3/4/5/8/18/19/20/25/26/66;N2/5/25/26/66
RF2 (4.7nH)	B13/14
RF3 (12nH)	B12/17/28/29;N28/29
RF4 (15nH)	B71;N71

ANT2 antenna switch logic

Main road alignment modification section: L105: 15nH

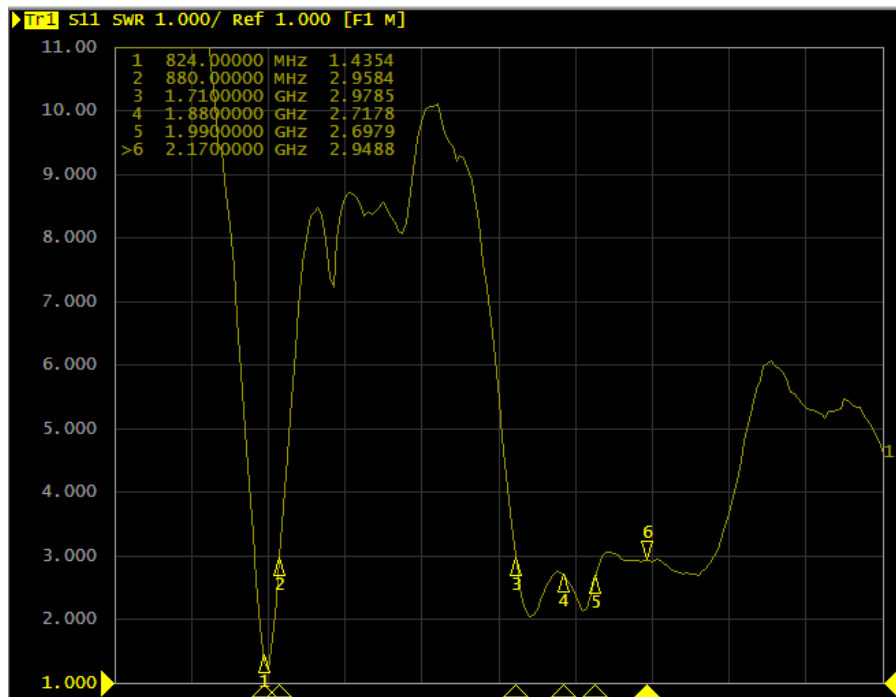


Switch matching changes section: C404: 56pF; L107: 0Ω;
R101: 4.7nH; L108: 12nH; L109: 15nH

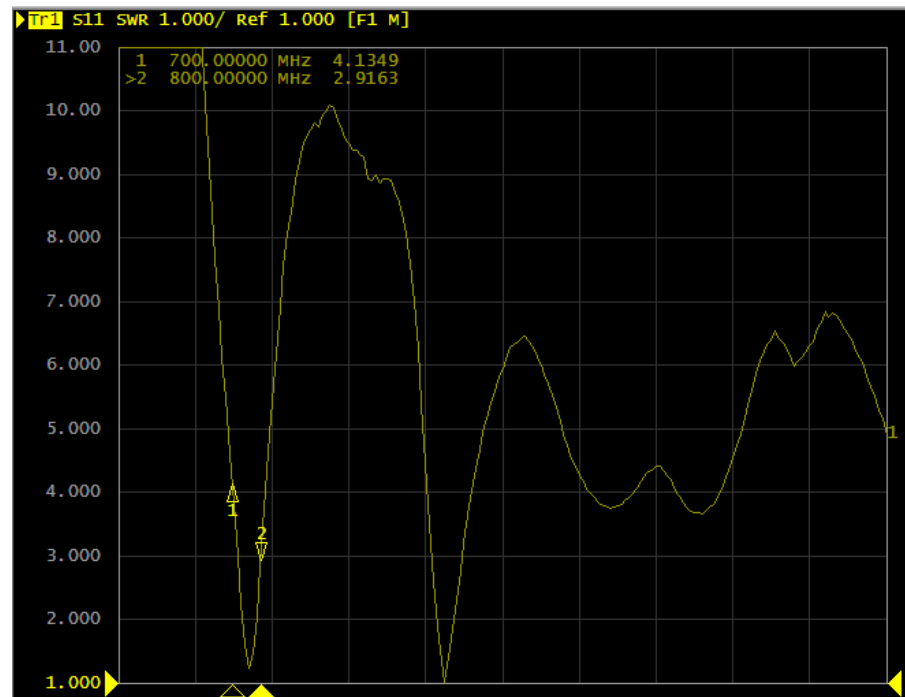


Antenna passive parameters-ANT2-LB DRX+MB DRX

RF1:



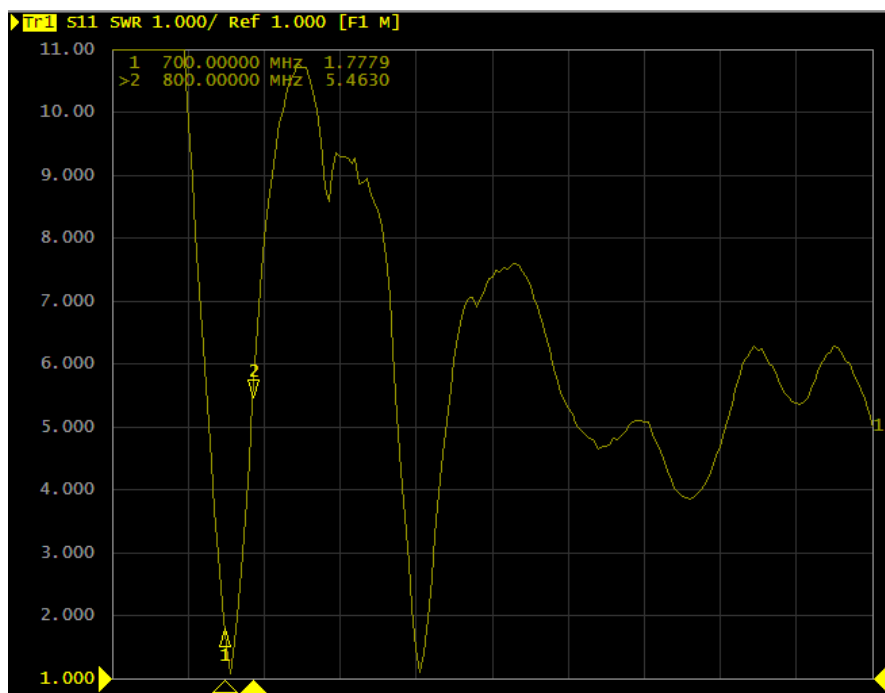
RF2:



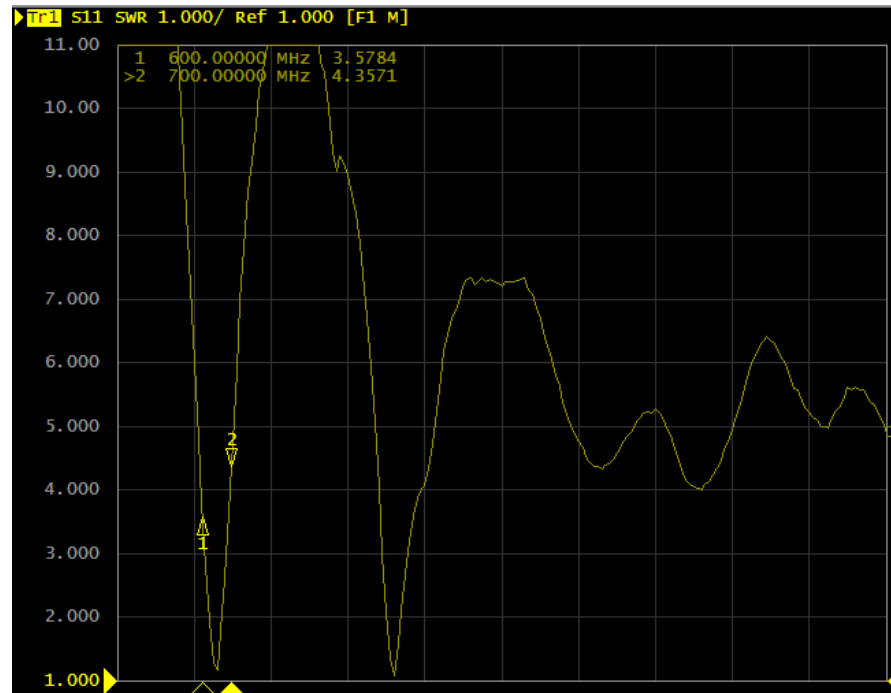
Antenna passive parameters-ANT2-LB

DRX+MB DRX

RF3:



RF4:



Antenna passive parameters-ANT2-LB DRX+MB DRX

RF1: 800M-880M, 1800M-2170M

Passive Test							
Freq	Effi	Gain	Effi	Freq	Effi	Gain	Effi
(MHz)	(dBi)	(dBi)	(%)	(MHz)	(dBi)	(dBi)	(%)
800.0	-9.29	-5.64	11.79	1920.0	-6.26	-1.04	23.65
810.0	-8.5	-5.02	14.11	1940.0	-6.68	-1.44	21.49
820.0	-7.8	-4.21	16.58	1960.0	-6.63	-1.39	21.72
830.0	-7.23	-3.51	18.92	1980.0	-6.68	-1.38	21.5
840.0	-6.91	-2.99	20.38	2000.0	-6.26	-1.12	23.66
850.0	-6.88	-2.83	20.51	2020.0	-6.08	-1.37	24.65
860.0	-7.16	-3.06	19.23	2040.0	-5.99	-1.82	25.16
870.0	-7.2	-3.09	19.04	2060.0	-5.87	-2.01	25.91
880.0	-7.23	-3.3	18.93	2080.0	-5.88	-2.13	25.8
1800.0	-7.01	-2.18	19.89	2100.0	-5.85	-2.08	26.02
1820.0	-6.94	-2.12	20.21	2120.0	-5.94	-2.02	25.47
1840.0	-6.81	-1.97	20.83	2140.0	-6.19	-2.08	24.07
1860.0	-6.73	-1.46	21.24	2160.0	-6.7	-2.32	21.38
1880.0	-6.43	-1.2	22.74	2180.0	-7.05	-2.45	19.73
1900.0	-6.09	-0.86	24.61	2200.0	-7.34	-2.63	18.47

RF2: 700M-800M

Passive Test			
Freq	Effi	Gain	Effi
(MHz)	(dBi)	(dBi)	(%)
720.0	-8.18	-4.56	15.19
730.0	-7.67	-4.03	17.11
740.0	-7.11	-3.48	19.43
750.0	-6.56	-2.92	22.08
760.0	-6.09	-2.42	24.62
770.0	-5.72	-1.97	26.82
780.0	-5.48	-1.77	28.33
790.0	-6.63	-2.89	21.71
800.0	-8.03	-4.29	15.74

Antenna passive parameters-ANT2-LB

DRX+MB DRX

RF3: 700M-780M

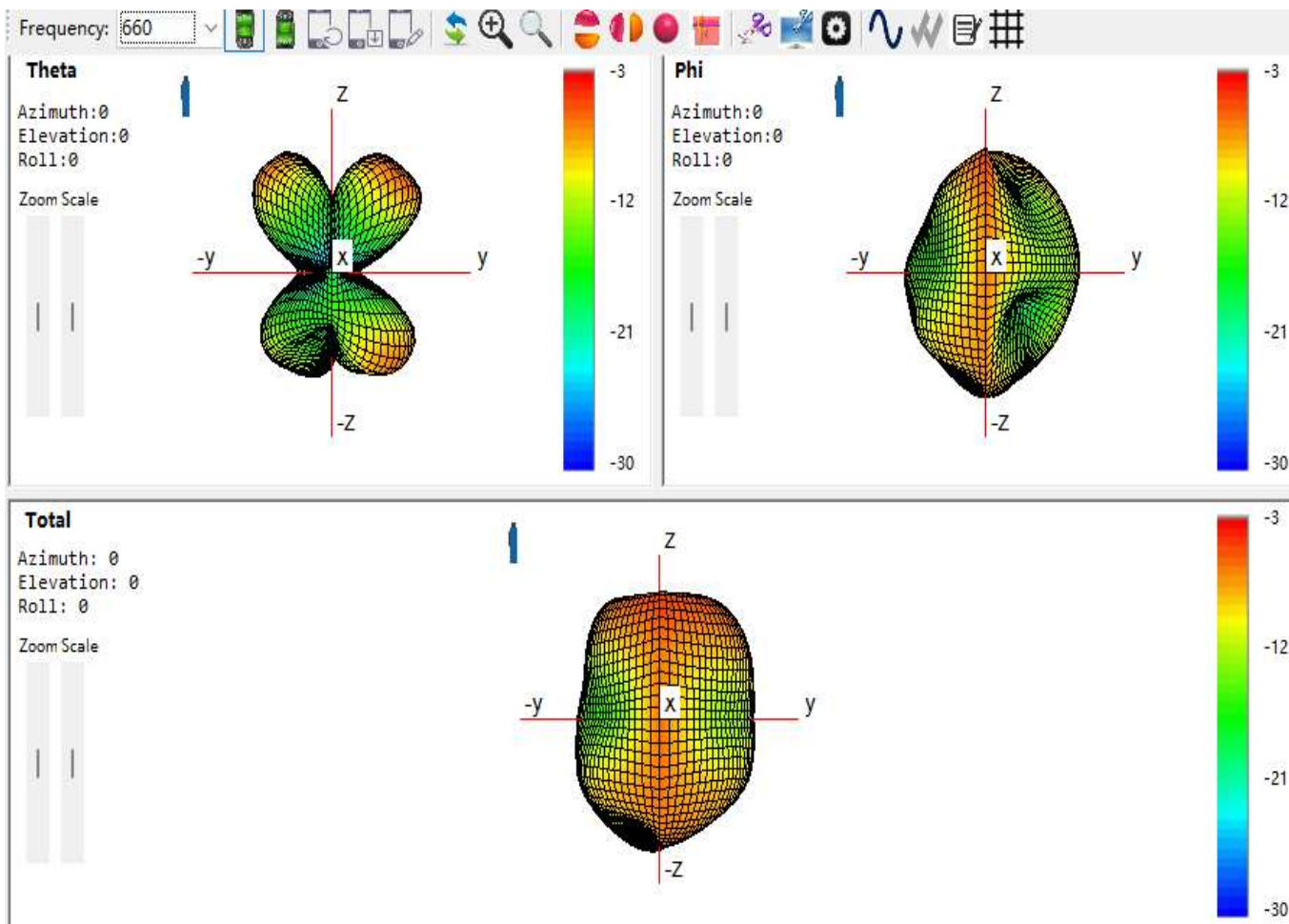
Passive Test			
Freq	Effi	Gain	Effi
(MHz)	(dBi)	(dBi)	(%)
700.0	-7.6	-3.95	17.37
710.0	-6.65	-3.01	21.65
720.0	-5.98	-2.4	25.23
730.0	-5.75	-2.31	26.63
740.0	-5.75	-2.47	26.61
750.0	-5.83	-2.64	26.14
760.0	-6.15	-2.96	24.28
770.0	-6.61	-3.51	21.83
780.0	-7.19	-3.95	19.08

RF4: 620M-700M

Passive Test			
Freq	Effi	Gain	Effi
(MHz)	(dBi)	(dBi)	(%)
620.0	-10.58	-7.49	8.76
630.0	-9.49	-6.42	11.24
640.0	-8.45	-5.3	14.3
650.0	-7.64	-4.36	17.24
660.0	-7.11	-3.74	19.46
670.0	-6.88	-3.45	20.49
680.0	-6.9	-3.42	20.41
690.0	-7.2	-3.65	19.05
700.0	-7.54	-3.93	17.63

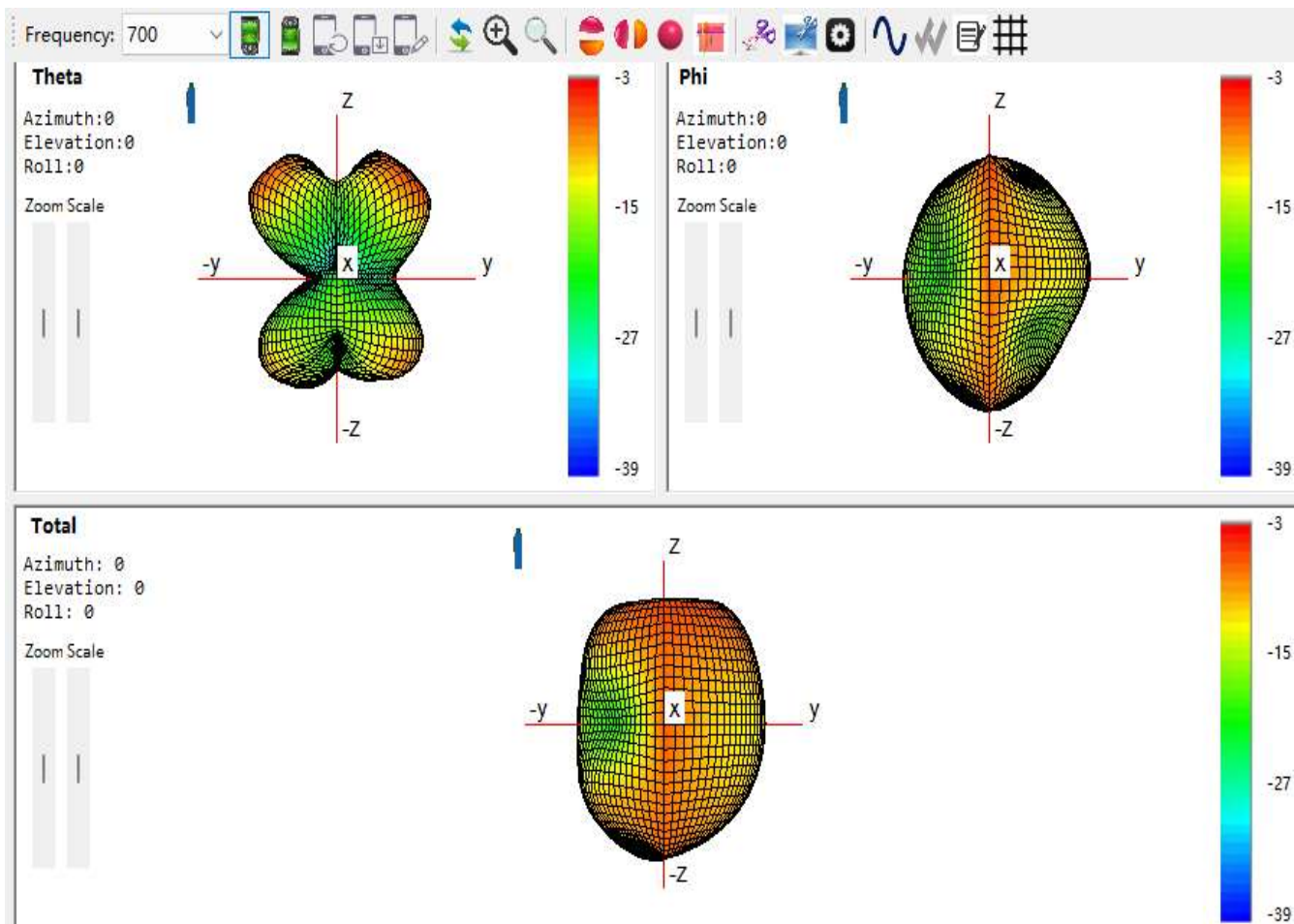
Antenna passive parameters-ANT2-LB DRX+MB

DRX-directional diagram



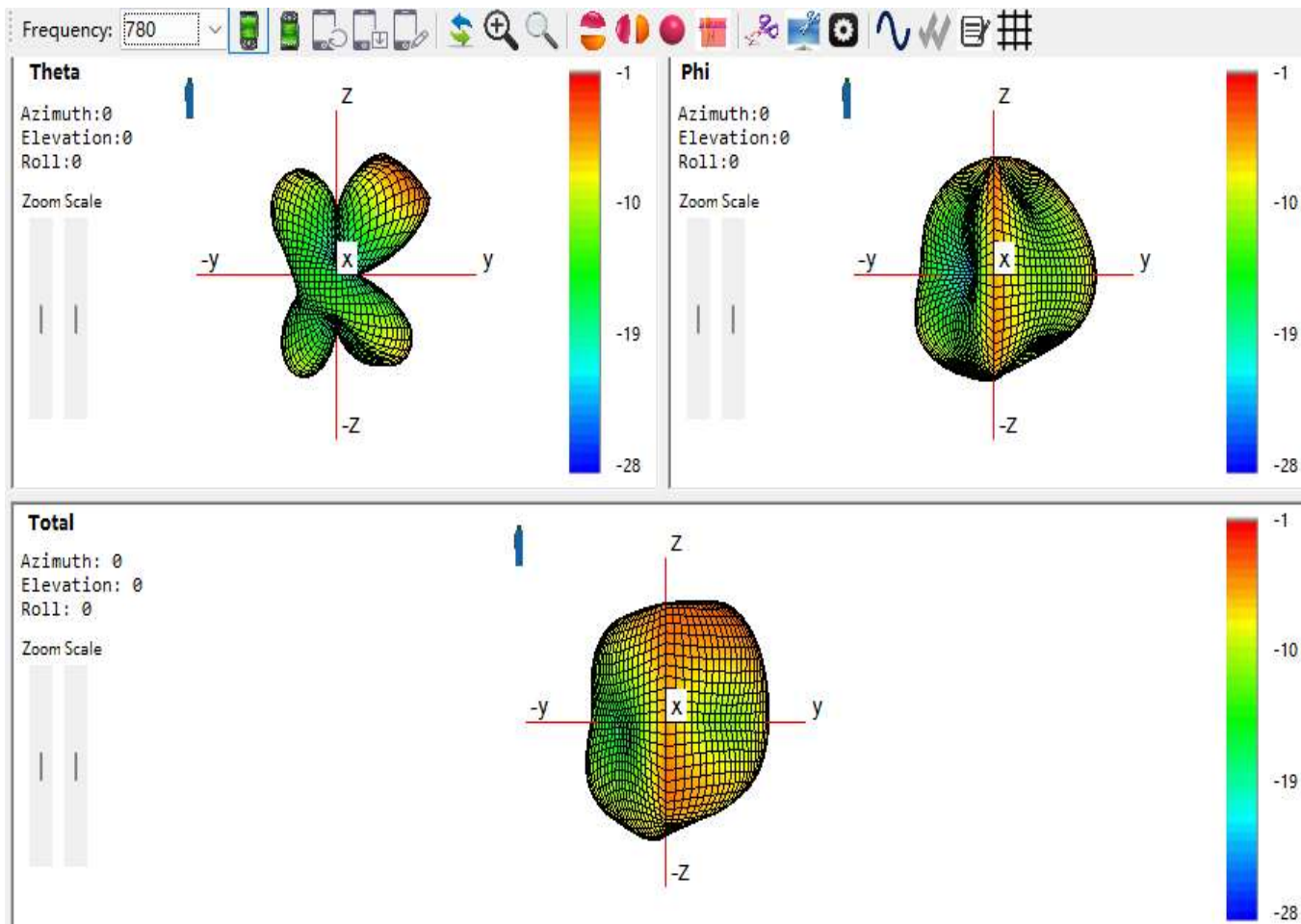
Antenna passive parameters-ANT2-LB DRX+MB

DRX-directional diagram



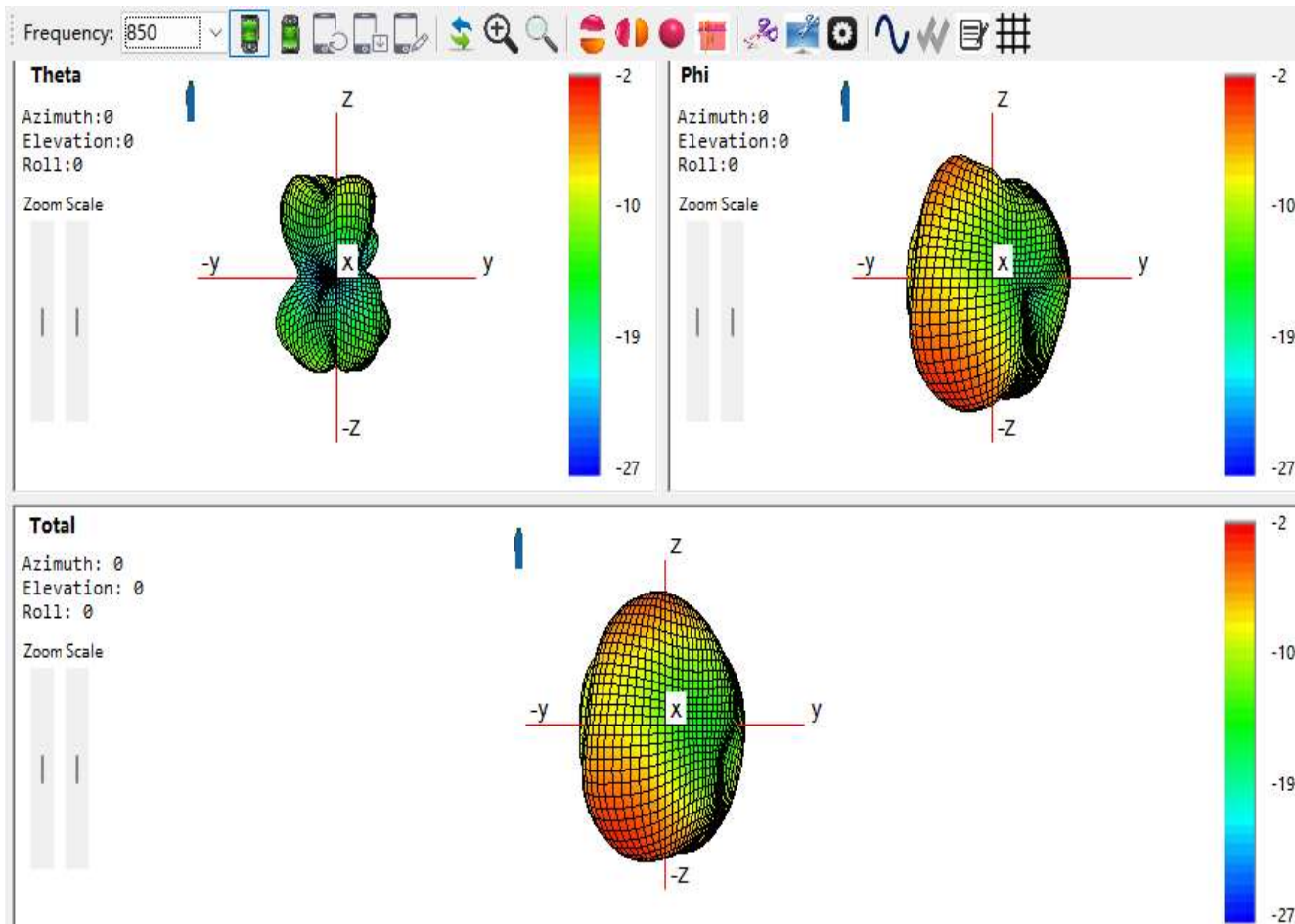
Antenna passive parameters-ANT2-LB DRX+MB

DRX-directional diagram



Antenna passive parameters-ANT2-LB DRX+MB

DRX-directional diagram



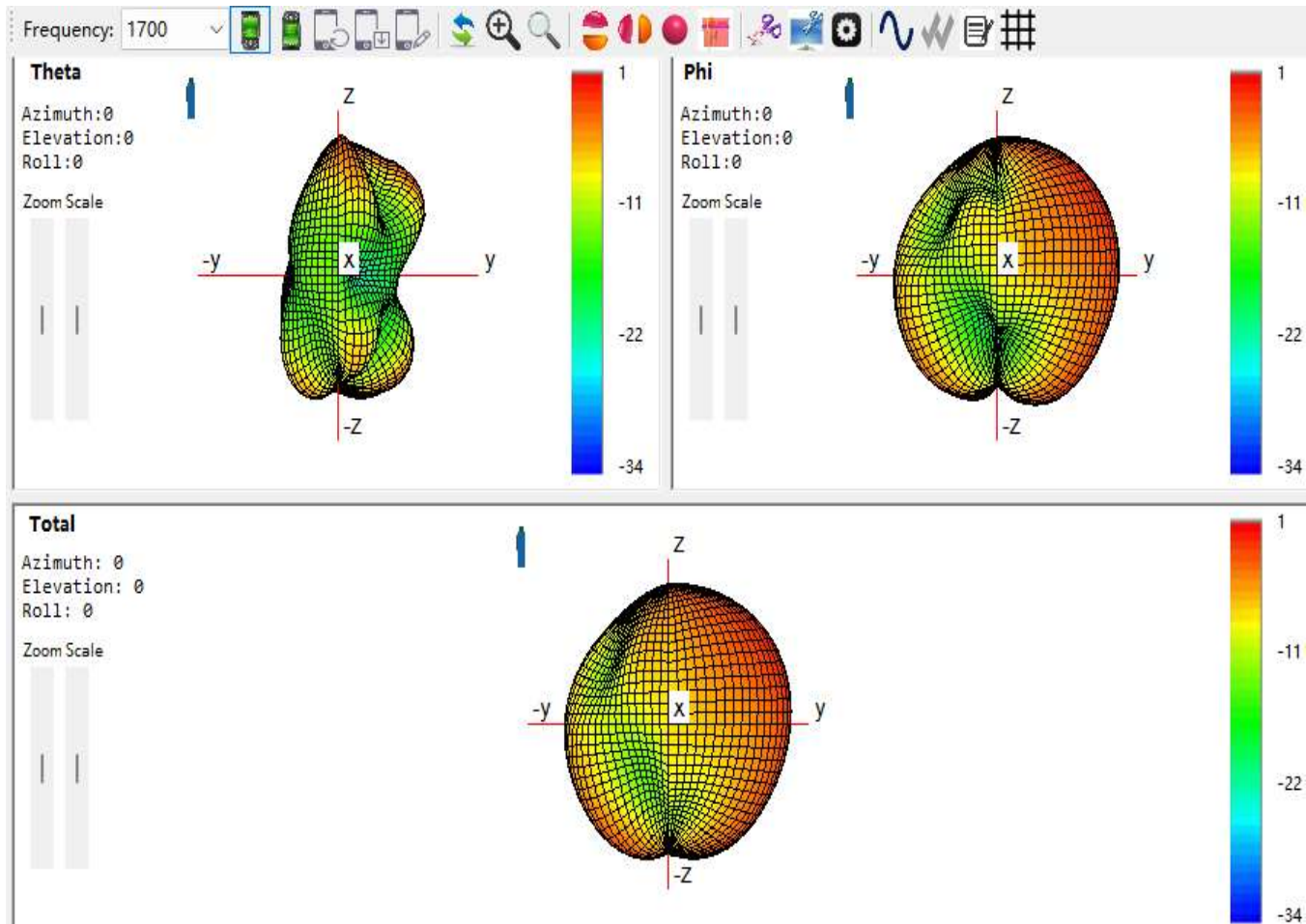
Antenna passive parameters-ANT3-MHB TX1/DRX

Main road alignment modification
section: L116: 4.3nH

Passive Test								Passive Test							
Freq	Effi	Gain	Effi	Freq	Effi	Gain	Effi	Freq	Effi	Gain	Effi	Freq	Effi	Gain	Effi
(MHz)	(dBi)	(dBi)	(%)	(MHz)	(dBi)	(dBi)	(%)	(MHz)	(dBi)	(dBi)	(%)	(MHz)	(dBi)	(dBi)	(%)
1700.0	-5.31	-1.53	29.45	1960.0	-3.83	-0.04	41.44	2220.0	-3.98	-0.54	40.02	2480.0	-4.41	-1.09	36.26
1720.0	-5.13	-1.4	30.68	1980.0	-4.21	-0.29	37.9	2240.0	-4	-0.45	39.85	2500.0	-4.38	-0.95	36.47
1740.0	-4.76	-0.84	33.44	2000.0	-4.16	-0.18	38.38	2260.0	-4.1	-0.55	38.93	2520.0	-4.25	-0.68	37.54
1760.0	-4.38	-0.3	36.48	2020.0	-4.18	-0.21	38.17	2280.0	-4.05	-0.29	39.33	2540.0	-4.01	-0.32	39.68
1780.0	-4.16	-0.01	38.4	2040.0	-4.24	-0.33	37.7	2300.0	-4.06	-0.28	39.23	2560.0	-3.97	-0.09	40.06
1800.0	-4.17	-0.27	38.26	2060.0	-4.14	-0.43	38.57	2320.0	-4.19	-0.55	38.09	2580.0	-3.89	0.05	40.86
1820.0	-4.58	-0.82	34.86	2080.0	-4.05	-0.43	39.37	2340.0	-4.21	-0.49	37.92	2600.0	-3.88	0.33	40.96
1840.0	-4.1	-0.53	38.87	2100.0	-3.91	-0.3	40.64	2360.0	-4.41	-0.58	36.21	2620.0	-3.88	0.67	40.89
1860.0	-4.15	-0.64	38.42	2120.0	-3.85	-0.24	41.21	2380.0	-4.51	-0.6	35.43	2640.0	-3.83	0.92	41.42
1880.0	-4.15	-0.61	38.44	2140.0	-3.76	-0.19	42.06	2400.0	-4.61	-0.86	34.57	2660.0	-3.83	0.97	41.44
1900.0	-3.91	-0.28	40.68	2160.0	-3.76	-0.32	42.09	2420.0	-4.6	-1.2	34.71	2680.0	-3.8	0.87	41.67
1920.0	-3.78	-0.09	41.91	2180.0	-3.79	-0.49	41.75	2440.0	-4.46	-1.21	35.79	2700.0	-3.66	1.28	43.08
1940.0	-3.76	-0.1	42.07	2200.0	-3.85	-0.46	41.22	2460.0	-4.58	-1.36	34.84				

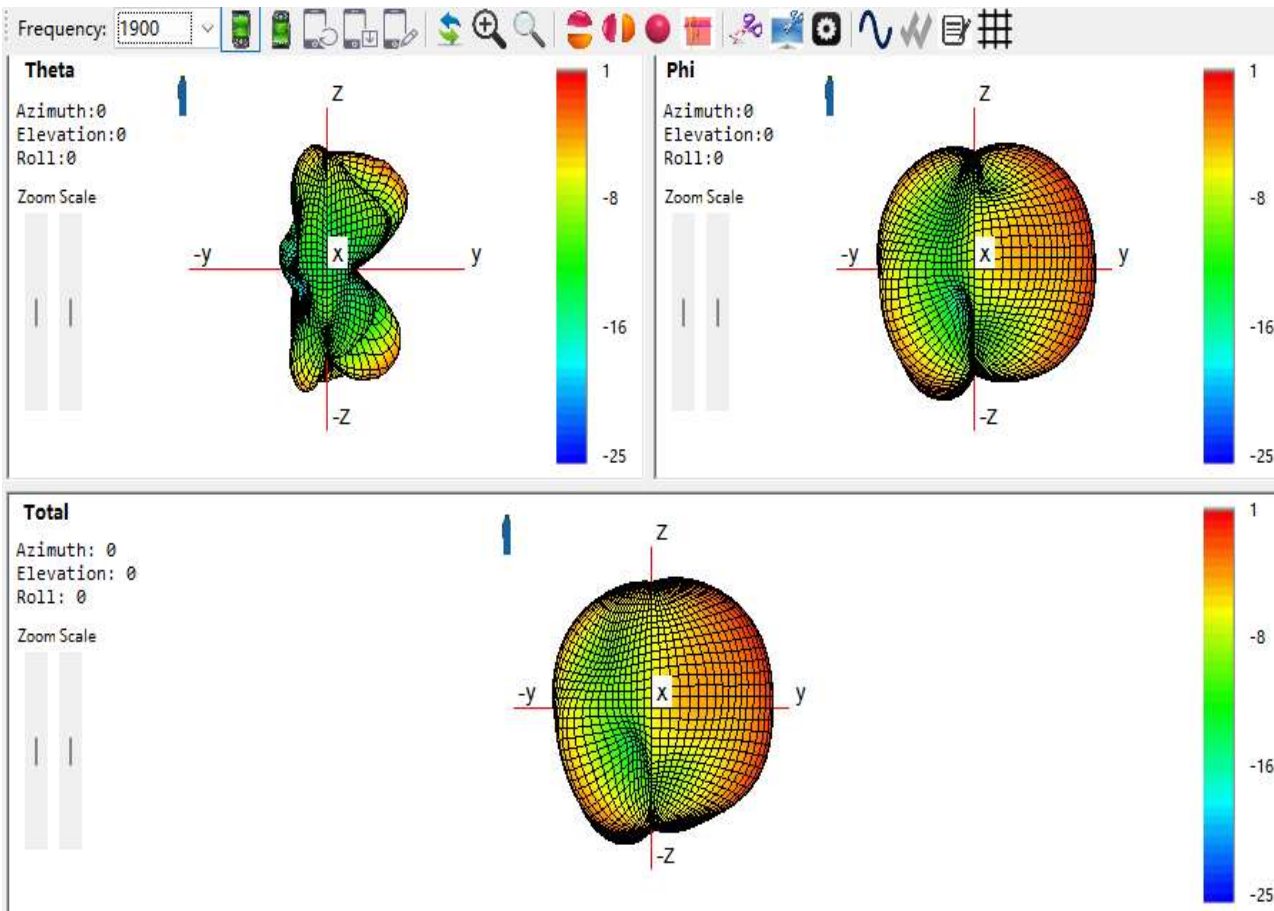
Antenna passive parameters-ANT3-MHB

TX1/DRX-directional diagram



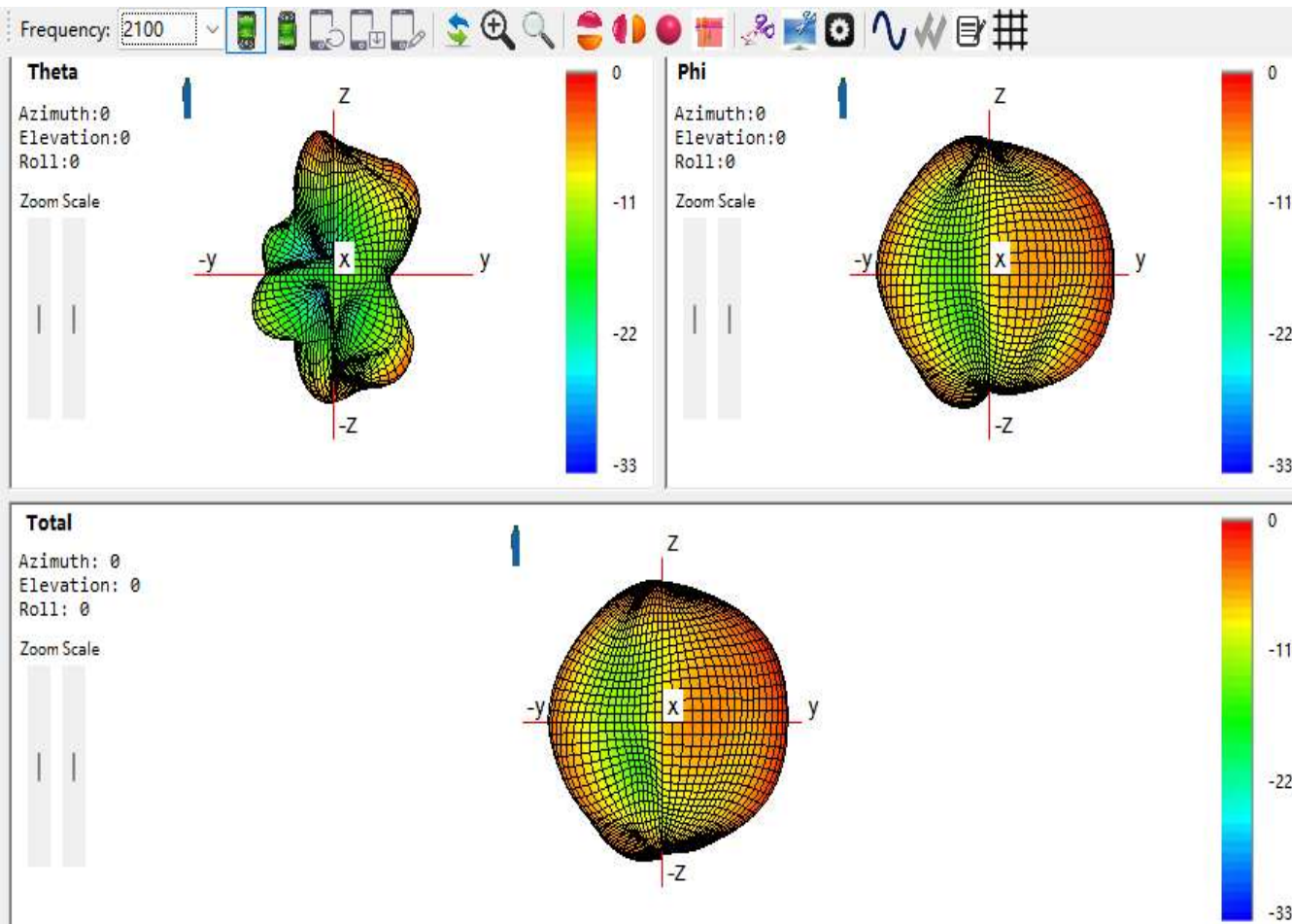
Antenna passive parameters-ANT3-MHB

TX1/DRX-directional diagram



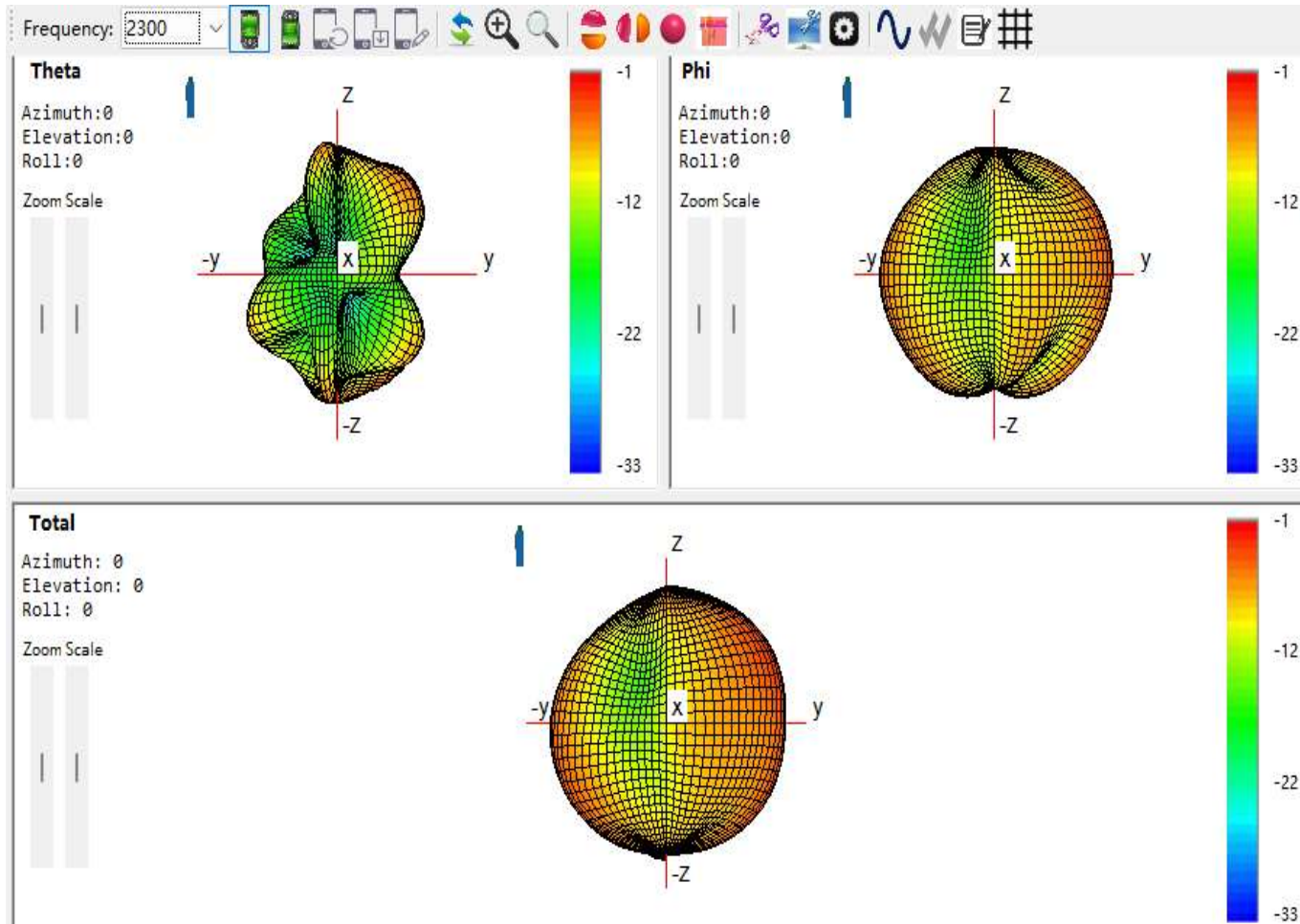
Antenna passive parameters-ANT3-MHB

TX1/DRX-directional diagram



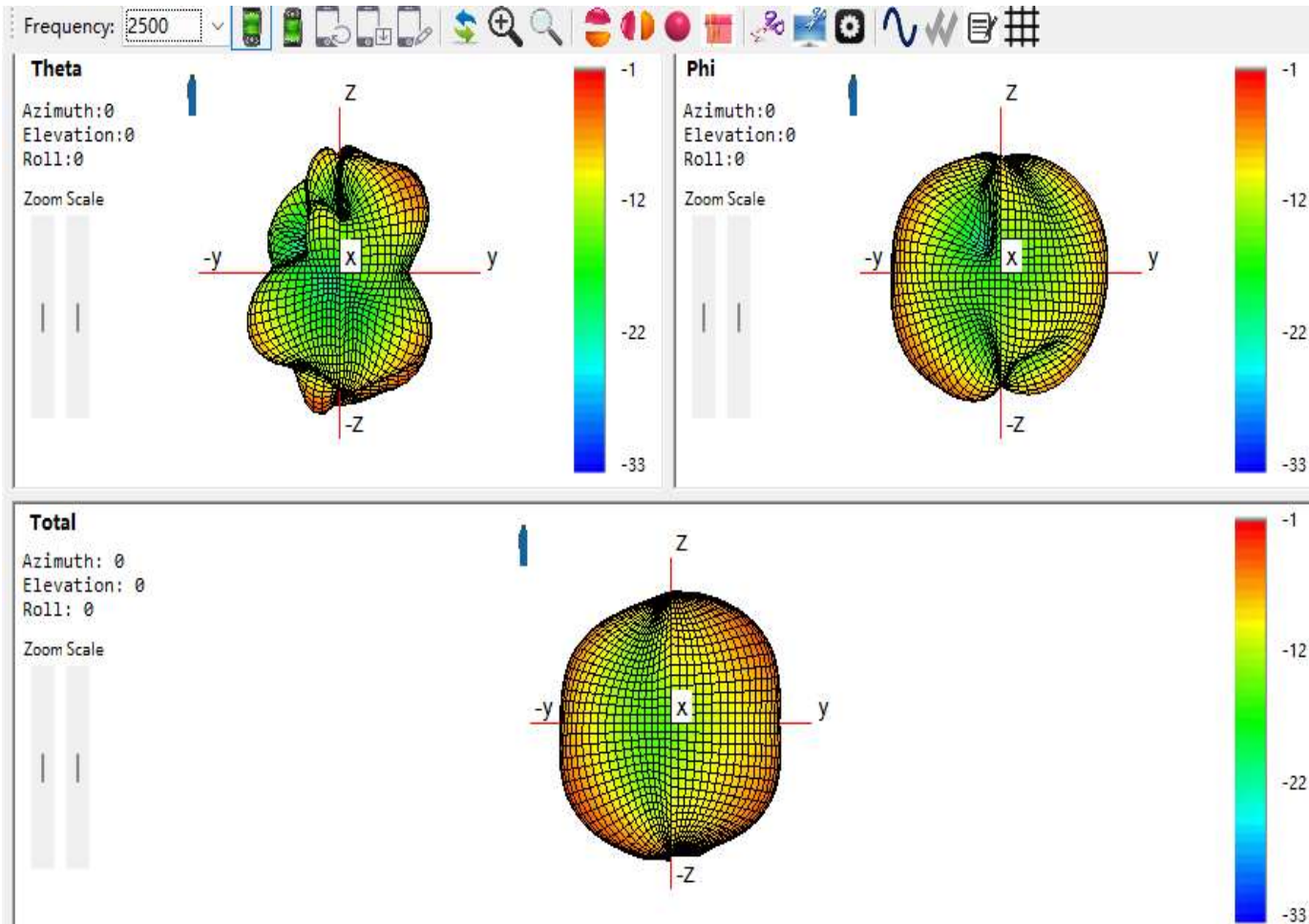
Antenna passive parameters-ANT3-MHB

TX1/DRX-directional diagram



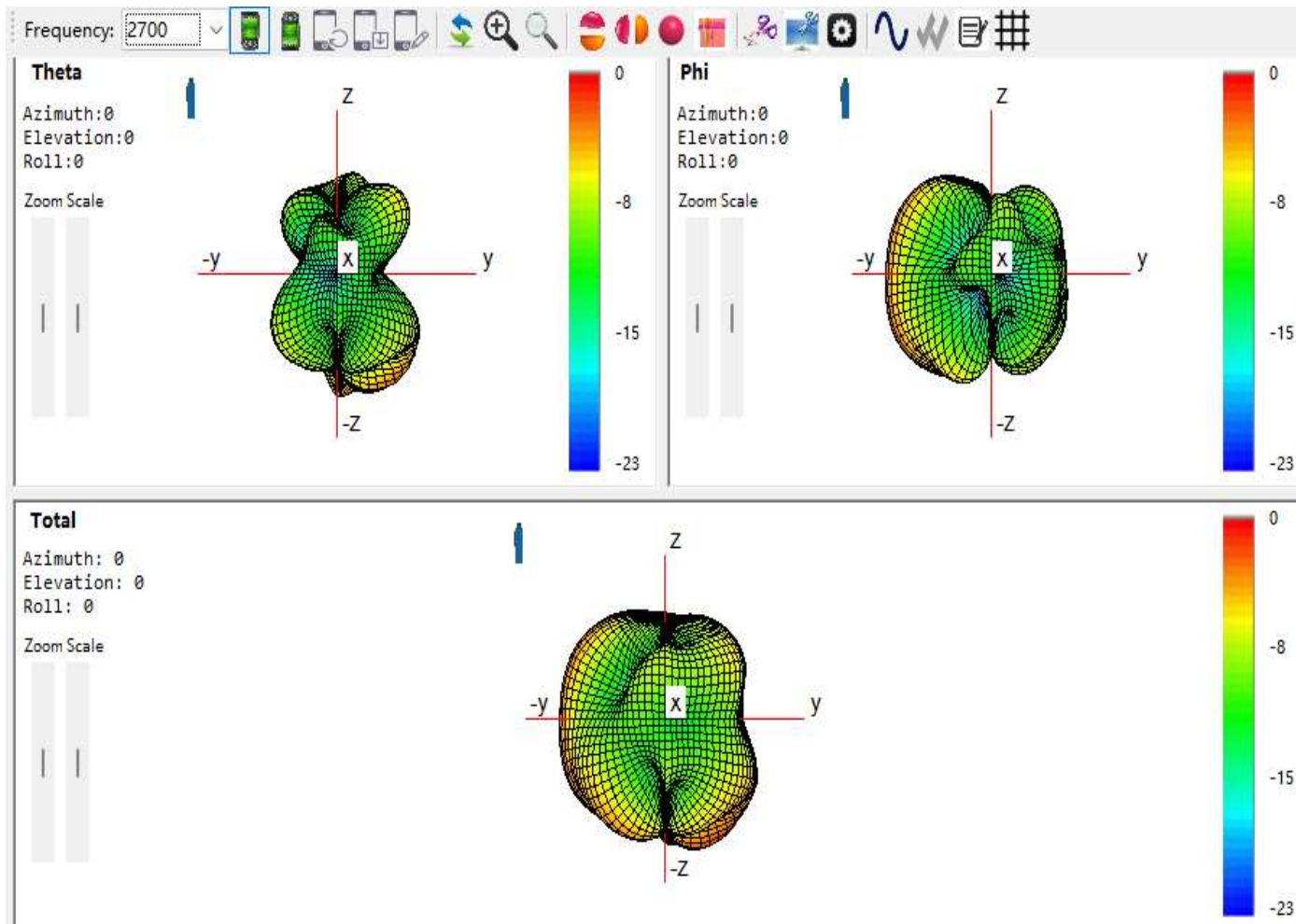
Antenna passive parameters-ANT3-MHB

TX1/DRX-directional diagram



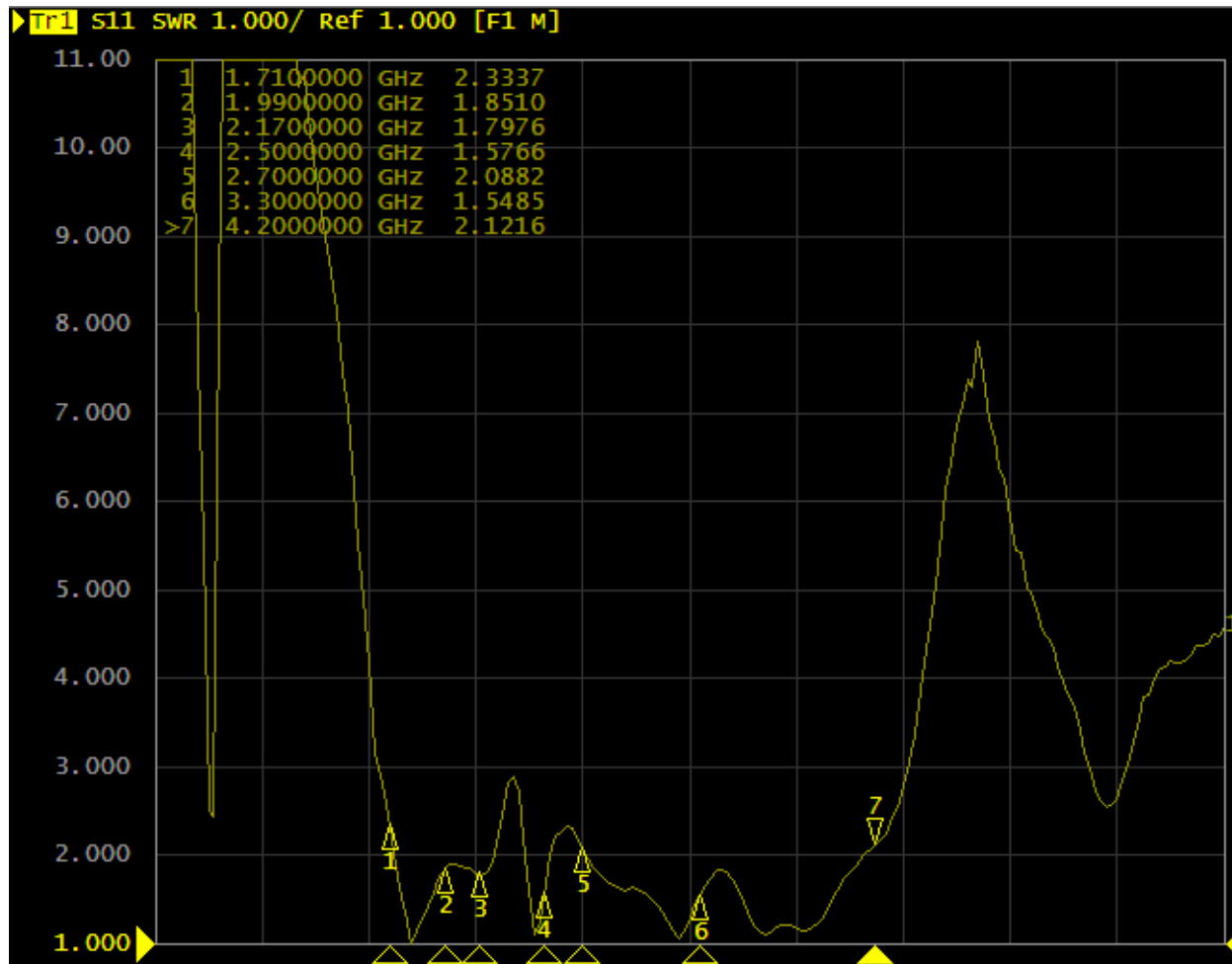
Antenna passive parameters-ANT3-MHB

TX1/DRX-directional diagram



Antenna passive parameters-ANT4-MB TRX+HB PRX+UHB PRX MIMO

Main road alignment
modification section:
L8523: 1.5nH



Main road alignment
modification section:
L8523: 1.5nH

Antenna passive parameters ANT4-MB TRX+HB PRX+IHR PRX MIMO

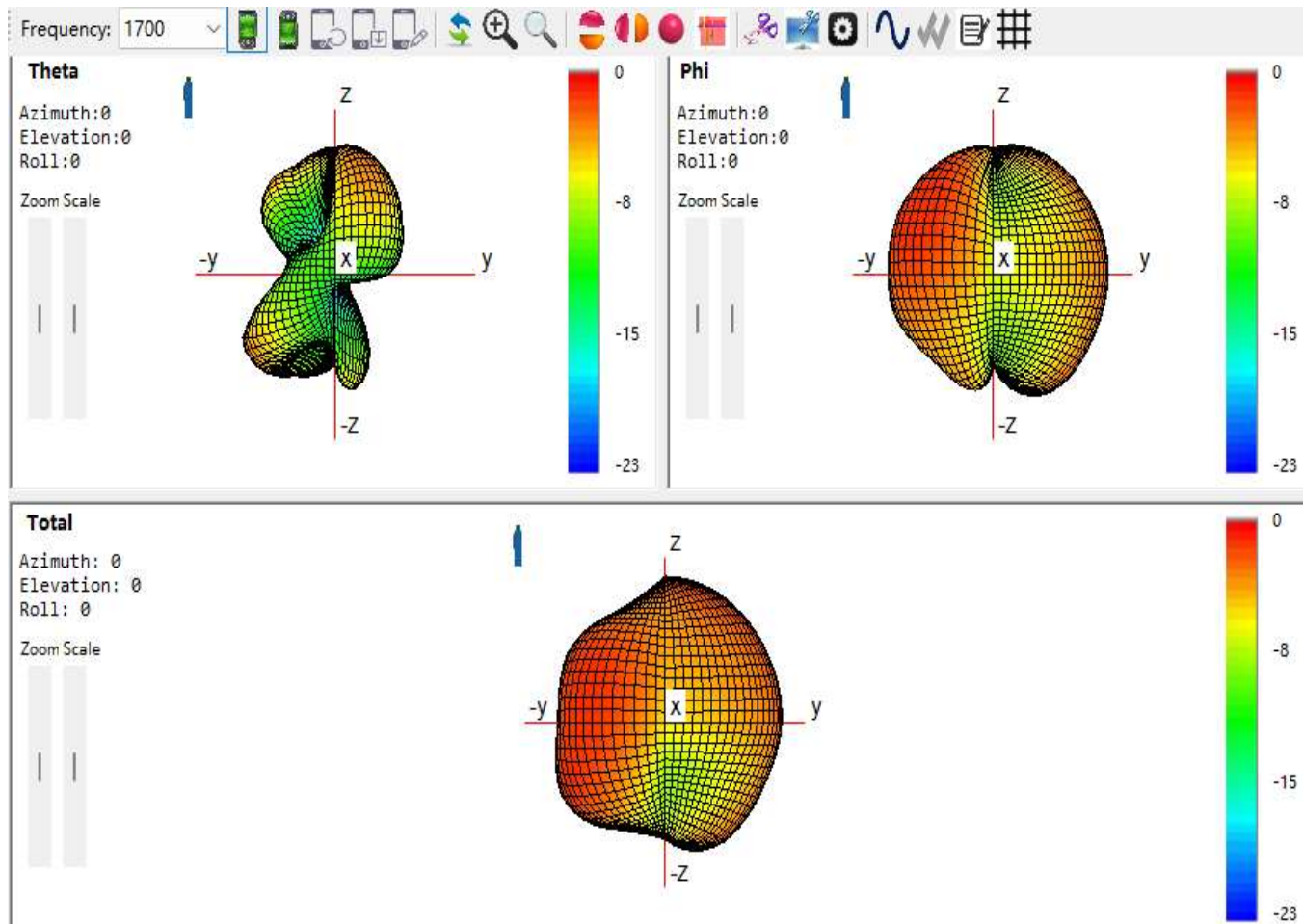
Passive Test								Passive Test							
Freq	Effi	Gain	Effi	Freq	Effi	Gain	Effi	Freq	Effi	Gain	Effi	Freq	Effi	Gain	Effi
(MHz)	(dBi)	(dBi)	(%)	(MHz)	(dBi)	(dBi)	(%)	(MHz)	(dBi)	(dBi)	(%)	(MHz)	(dBi)	(dBi)	(%)
1700.0	-4.92	-0.51	32.19	1960.0	-4.35	1.09	36.73	2220.0	-6.78	-3.22	20.99	2480.0	-6.79	-3.15	20.94
1720.0	-4.88	0.19	32.49	1980.0	-4.5	0.84	35.46	2240.0	-7.64	-3.95	17.21	2500.0	-6.96	-3.3	20.12
1740.0	-4.64	1.2	34.36	2000.0	-4.28	0.69	37.32	2260.0	-9	-5.28	12.59	2520.0	-7.17	-3.25	19.19
1760.0	-4.37	2.02	36.54	2020.0	-4.37	0.35	36.56	2280.0	-9.74	-6.25	10.62	2540.0	-7.28	-3.14	18.72
1780.0	-4.22	2.55	37.82	2040.0	-4.68	0.15	34.03	2300.0	-9.8	-6.64	10.46	2560.0	-7.61	-3.21	17.35
1800.0	-4.2	2.74	37.99	2060.0	-4.94	0.16	32.03	2320.0	-9.64	-6.61	10.86	2580.0	-7.86	-3.19	16.37
1820.0	-4.53	2.52	35.26	2080.0	-5.1	0.11	30.9	2340.0	-9.23	-5.86	11.95	2600.0	-7.99	-3.06	15.89
1840.0	-3.93	2.99	40.46	2100.0	-5.1	0.19	30.93	2360.0	-8.8	-5.22	13.18	2620.0	-7.86	-2.79	16.38
1860.0	-3.91	2.73	40.65	2120.0	-5.14	0.07	30.61	2380.0	-8.2	-4.68	15.12	2640.0	-7.56	-2.35	17.53
1880.0	-3.96	2.46	40.21	2140.0	-5.28	-0.29	29.65	2400.0	-7.84	-4.38	16.45	2660.0	-7.42	-2.22	18.1
1900.0	-3.93	2.31	40.47	2160.0	-5.64	-1.08	27.31	2420.0	-7.42	-4.08	18.1	2680.0	-7.3	-2.24	18.61
1920.0	-4.08	1.9	39.06	2180.0	-5.9	-1.75	25.71	2440.0	-7.03	-3.88	19.83	2700.0	-7.18	-2.41	19.14
1940.0	-4.29	1.3	37.2	2200.0	-6.22	-2.7	23.87	2460.0	-6.95	-3.63	20.2				

Antenna passive parameters-ANT4-MB TRX+HB PRX+UHB PRX MIMO

Main road alignment
modification section:
L8523: 1.5nH

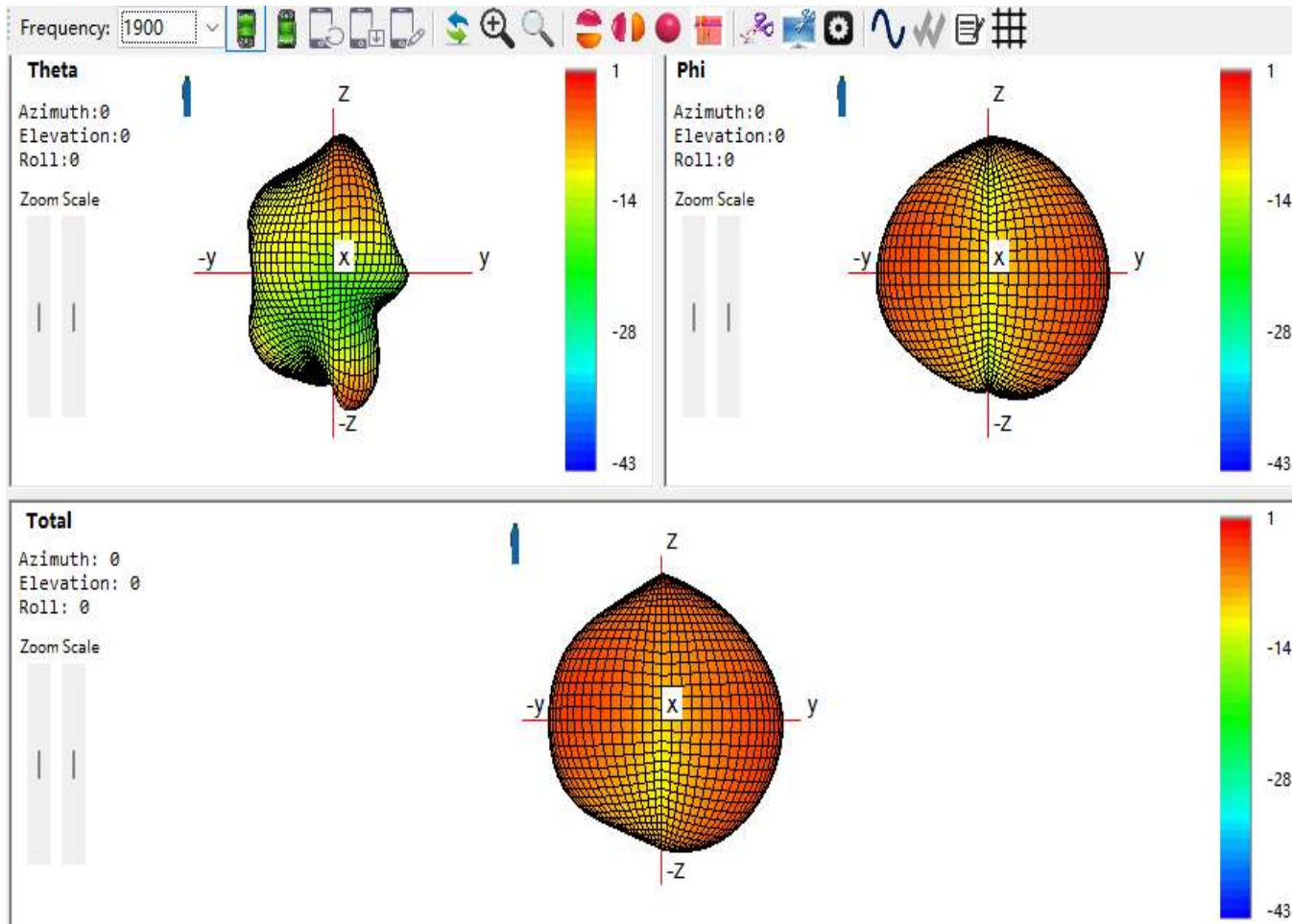
Passive Test								Passive Test							
Freq	Effi	Gain	Effi	Freq	Effi	Gain	Effi	Freq	Effi	Gain	Effi	Freq	Effi	Gain	Effi
(MHz)	(dBi)	(dBi)	(%)	(MHz)	(dBi)	(dBi)	(%)	(MHz)	(dBi)	(dBi)	(%)	(MHz)	(dBi)	(dBi)	(%)
3300	-3.89	1.84	40.81	3560	-4.34	0.32	36.79	3820	-4.54	-0.64	35.12	4080	-6.46	-1.07	22.58
3320	-3.66	2.12	43.07	3580	-4.73	-0.43	33.62	3840	-4.73	-0.8	33.63	4100	-6.5	-1.12	22.4
3340	-3.52	2.23	44.43	3600	-5	-1.04	31.66	3860	-5.05	-1.21	31.22	4120	-6.63	-1.27	21.72
3360	-3.55	2.18	44.19	3620	-4.96	-1.41	31.95	3880	-5.12	-1.28	30.79	4140	-6.59	-1.15	21.95
3380	-3.55	2.19	44.12	3640	-4.8	-1.57	33.12	3900	-5.28	-1.18	29.61	4160	-6.64	-1.09	21.68
3400	-3.73	2.01	42.33	3660	-4.51	-1.28	35.37	3920	-5.29	-0.89	29.57	4180	-6.75	-1.01	21.12
3420	-3.8	1.98	41.69	3680	-4.25	-1.07	37.57	3940	-5.15	-0.29	30.54	4200	-6.75	-0.74	21.16
3440	-3.86	1.91	41.12	3700	-4.07	-1.08	39.19	3960	-5.3	-0.15	29.48				
3460	-3.79	1.92	41.74	3720	-3.92	-0.9	40.58	3980	-5.17	0.17	30.43				
3480	-3.72	1.94	42.42	3740	-3.87	-0.76	40.99	4000	-5.35	0.13	29.19				
3500	-3.8	1.68	41.65	3760	-4.01	-0.76	39.73	4020	-5.6	-0.14	27.54				
3520	-3.8	1.44	41.73	3780	-3.98	-0.53	40	4040	-5.8	-0.34	26.32				
3540	-4.17	0.83	38.25	3800	-4.24	-0.51	37.7	4060	-6.26	-0.85	23.64				

Antenna passive parameters-ANT4-MB TRX+HB PRX+UHB PRX MLM0=directional diagram



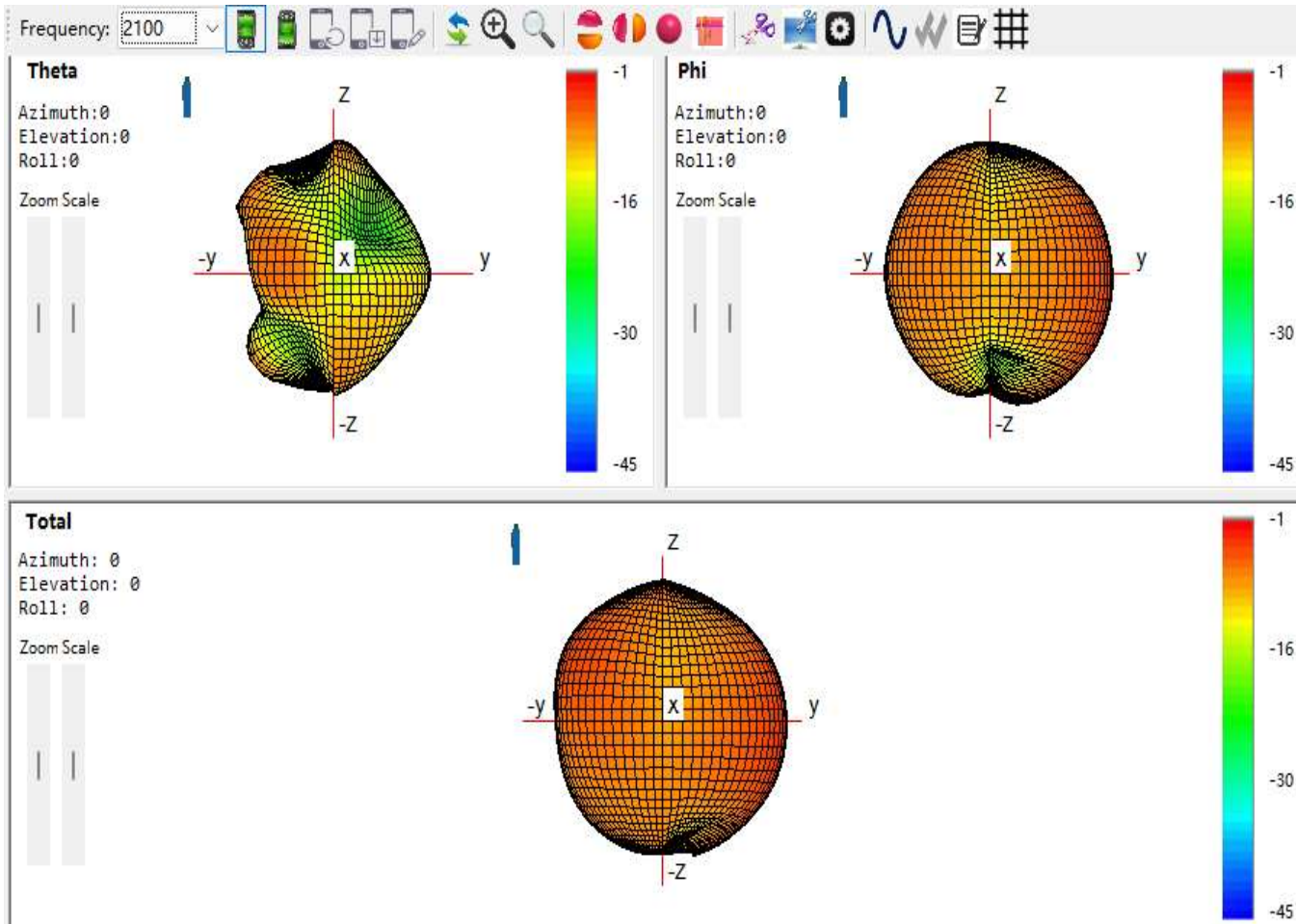
Antenna passive parameters-ANT4-MB TRX+HB PRX+UHB PRX

MLM0-directional diagram



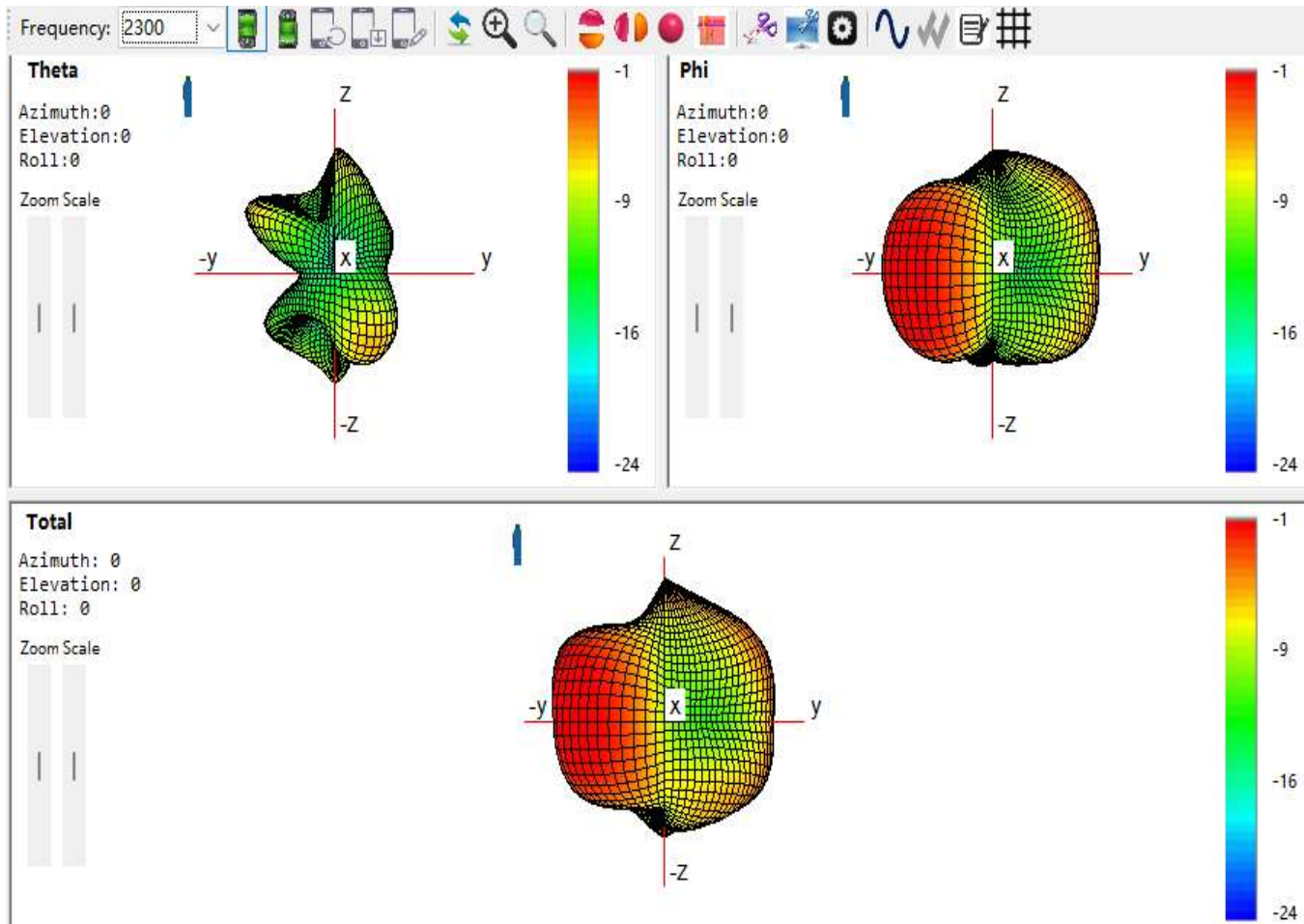
Antenna passive parameters-ANT4-MB TRX+HB PRX+UHB PRX

MLM0-directional diagram

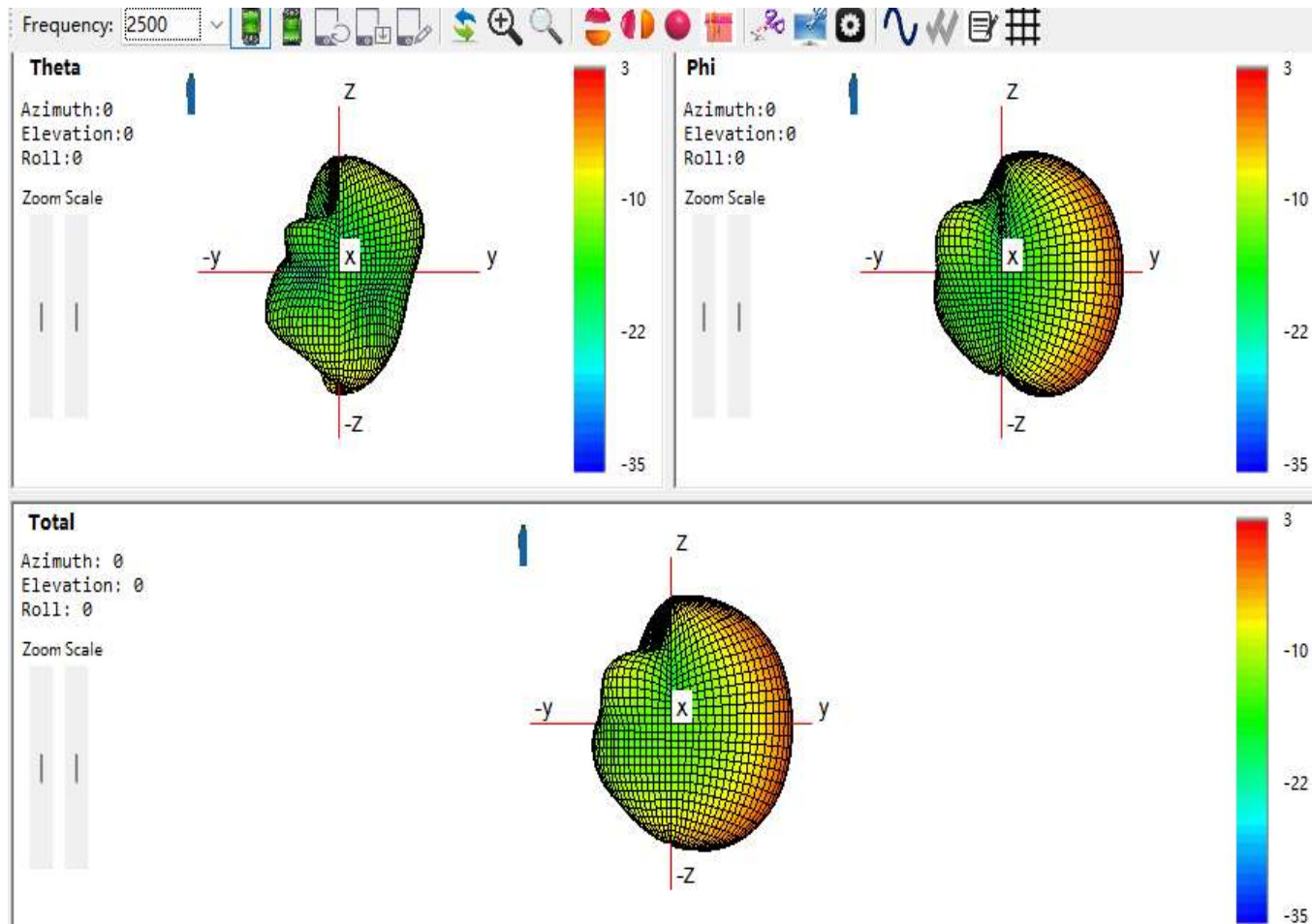


Antenna passive parameters-ANT4-MB TRX+HB PRX+UHB PRX

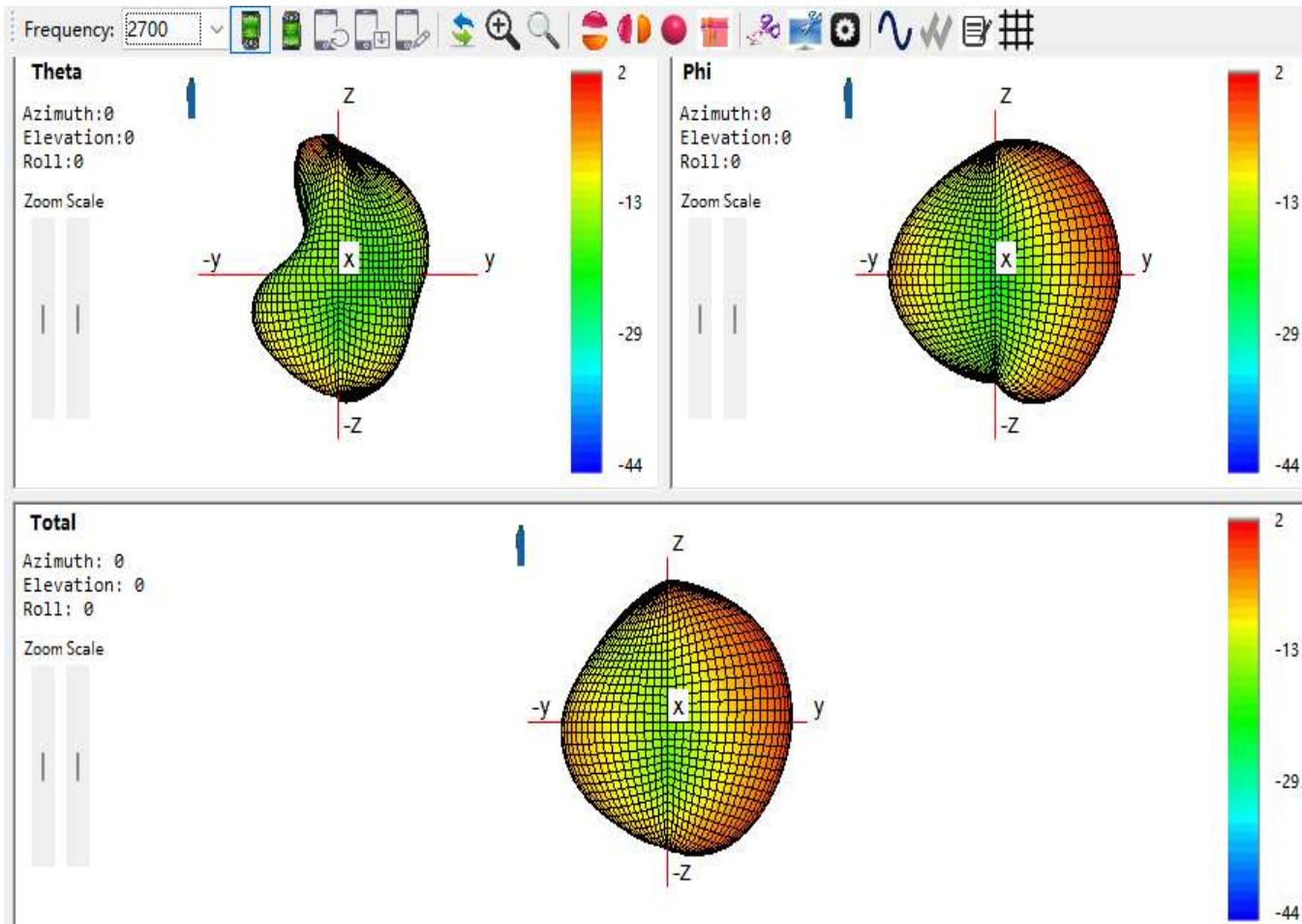
MLM0=directional diagram



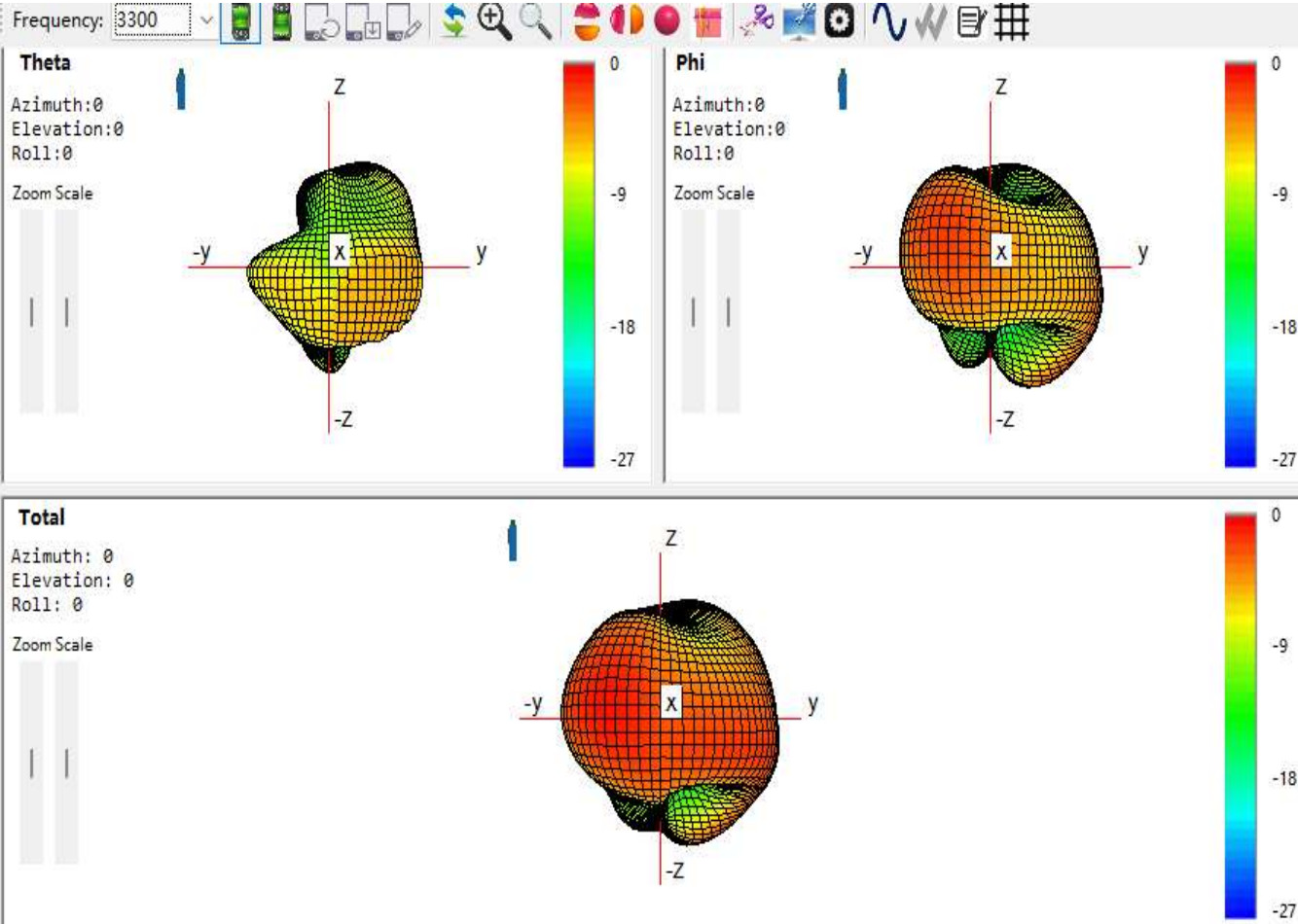
Antenna passive parameters-ANT4-MB TRX+HB PRX+UHB PRX MLM0=directional diagram



Antenna passive parameters-ANT4-MB TRX+HB PRX+UHB PRX MLM0=directional diagram

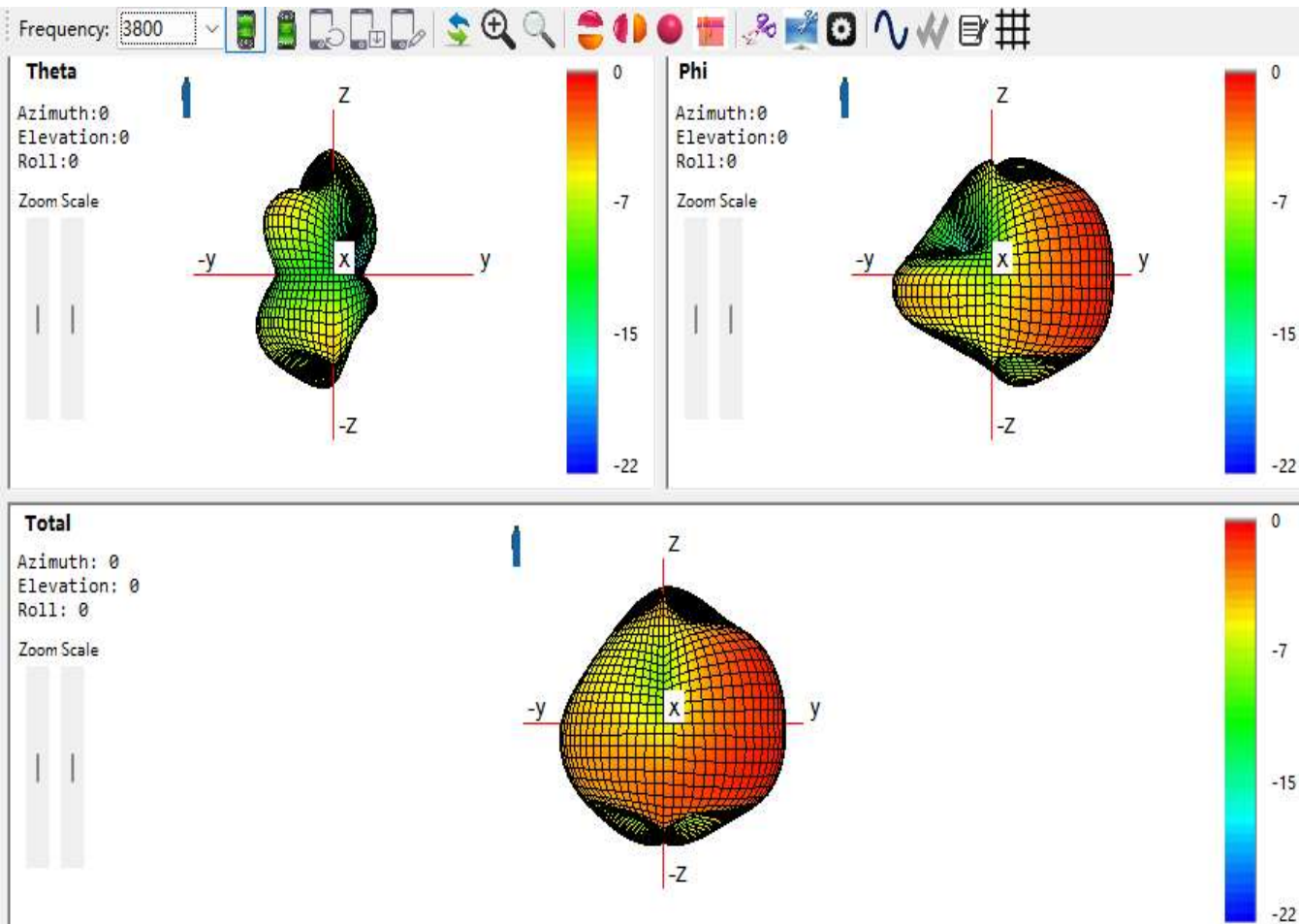


Antenna passive parameters-ANT4-MB TRX+HB PRX+UHB PRX MIMO-directional diagram

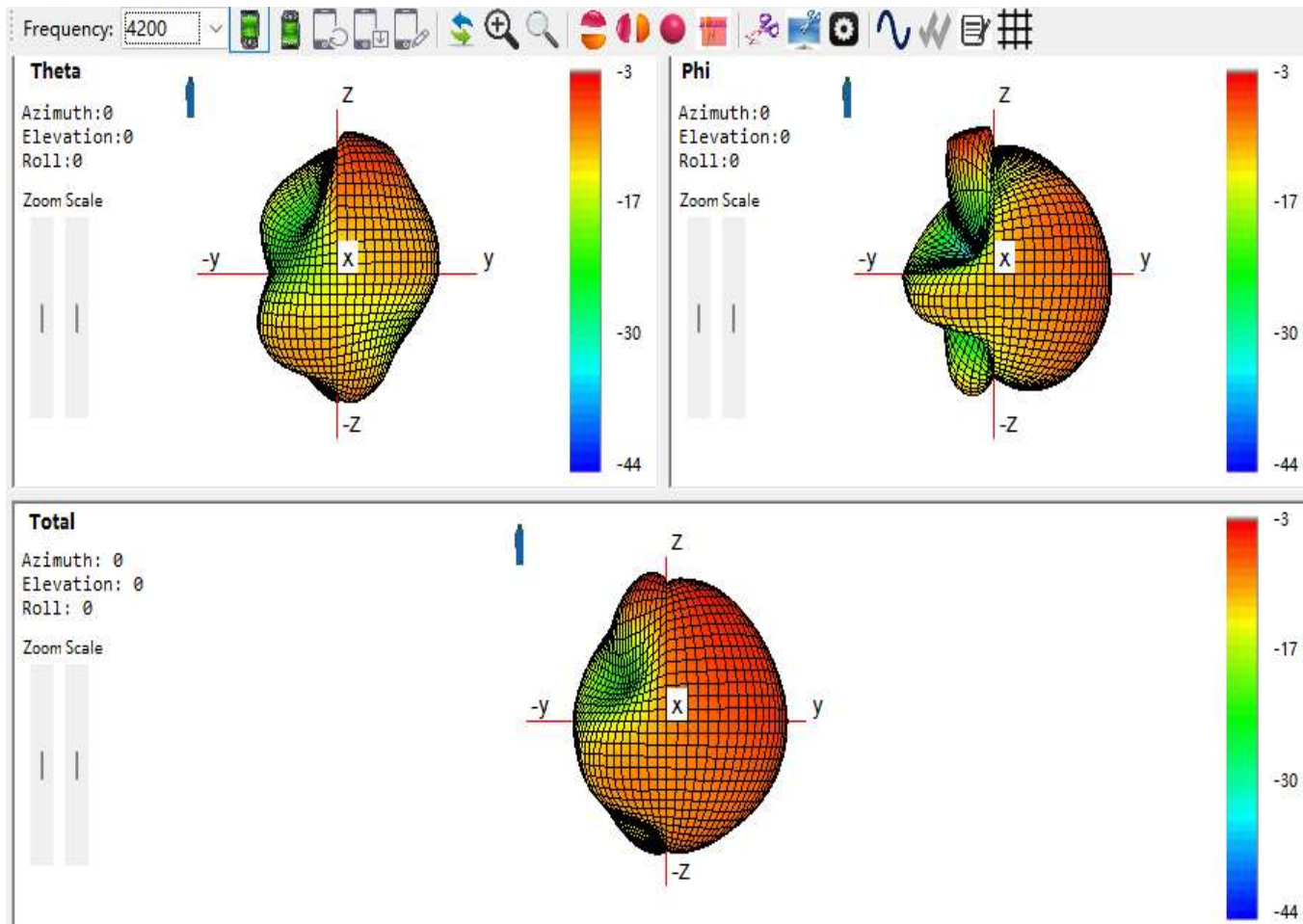


Antenna passive parameters-ANT4-MB TRX+HB PRX+UHB PRX

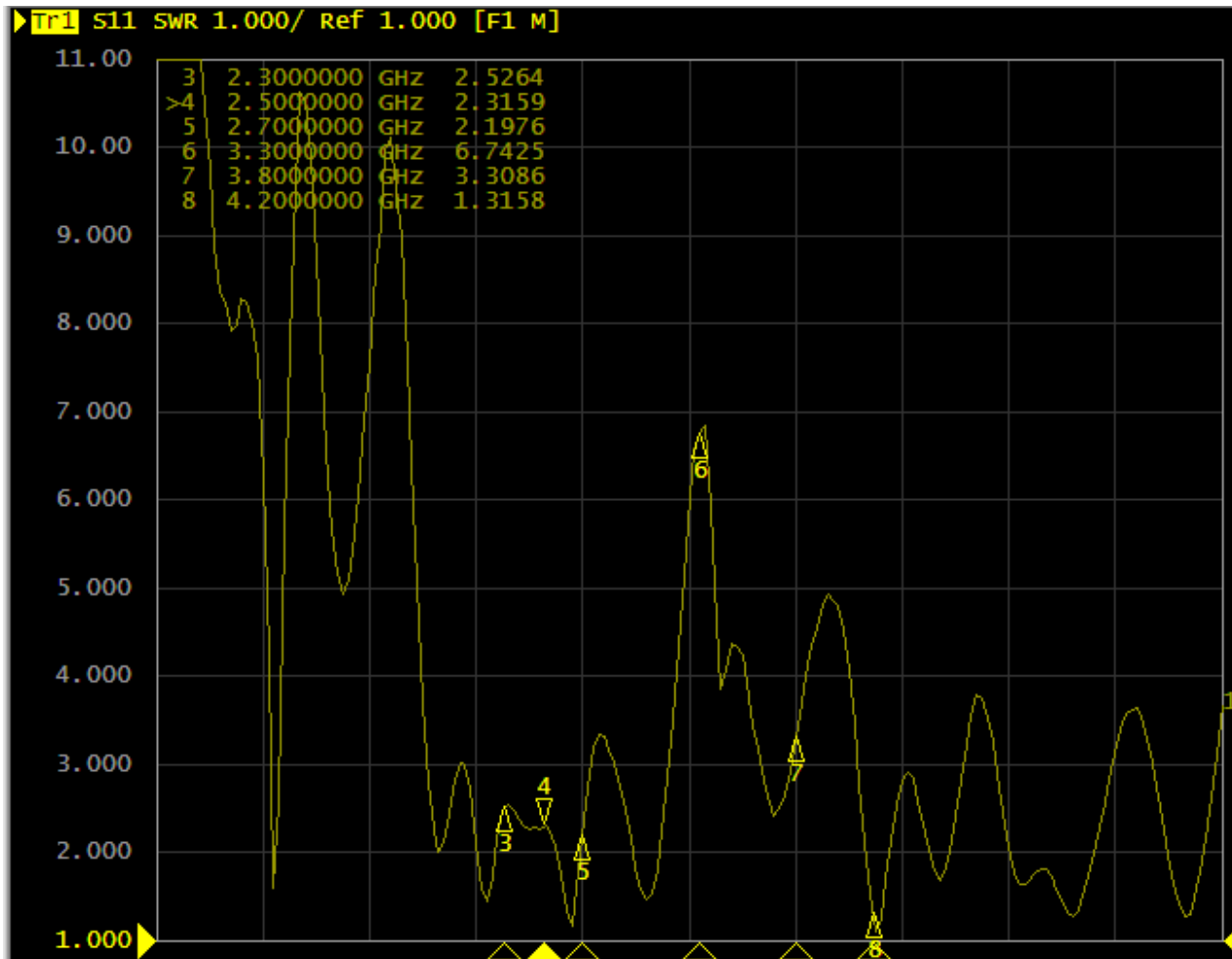
MLM0=directional diagram



Antenna passive parameters-ANT4-MB TRX+HB PRX+UHB PRX MLM0=directional diagram



Antenna passive parameters-ANT5-HB TRX+UHB DRX



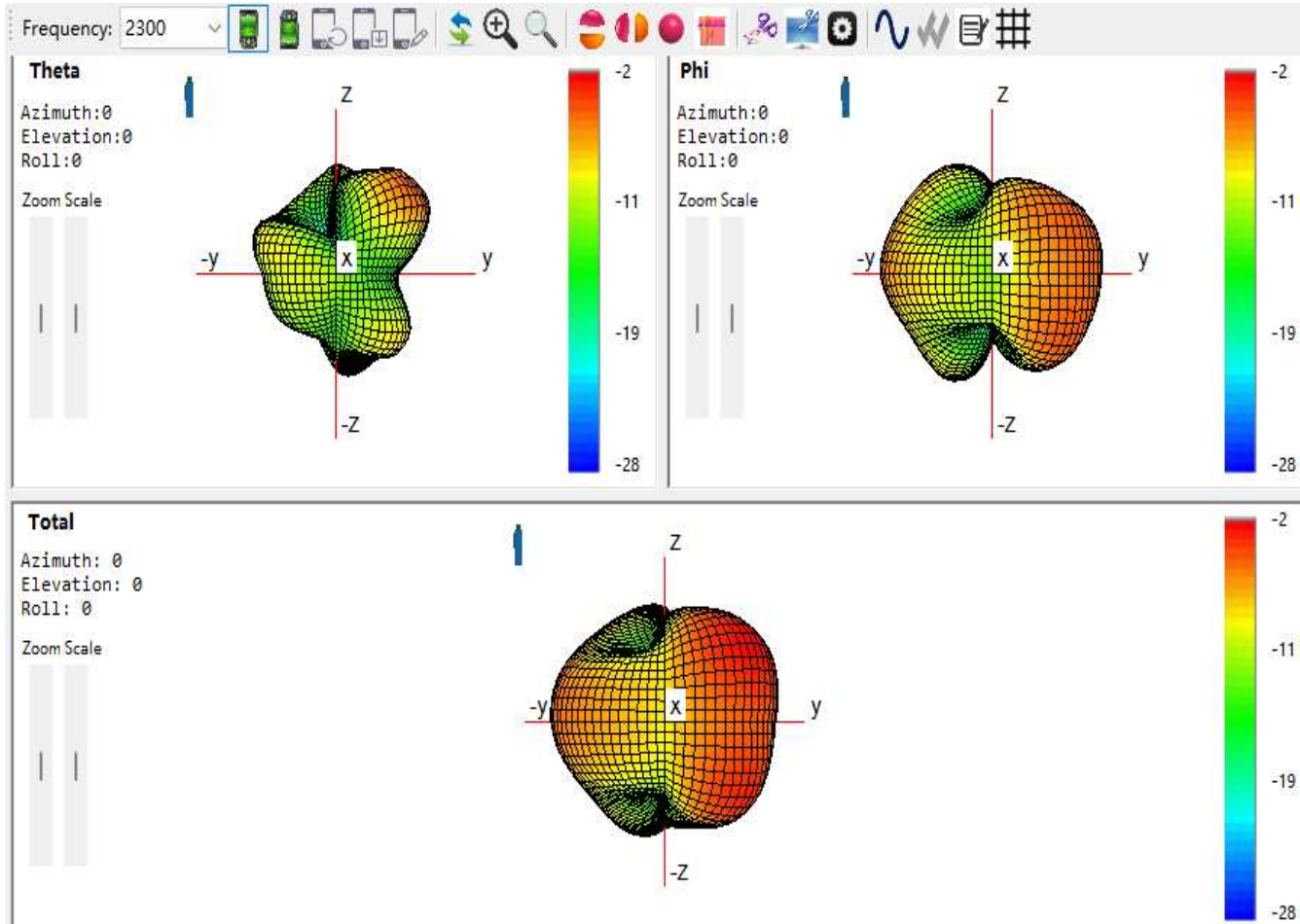
Antenna passive parameters-ANT5-HB

TRX+UHR DRX

Passive Test								Passive Test							
Freq	Effi	Gain	Effi	Freq	Effi	Gain	Effi	Freq	Effi	Gain	Effi	Freq	Effi	Gain	Effi
(MHz)	(dBi)	(dBi)	(%)	(MHz)	(dBi)	(dBi)	(%)	(MHz)	(dBi)	(dBi)	(%)	(MHz)	(dBi)	(dBi)	(%)
2300.0	-6.96	-2.14	20.14	2560.0	-4.02	1.51	39.6	3300	-13.18	-8.59	4.81	3820	-10.42	-6.71	9.09
2320.0	-6.61	-1.36	21.85	2580.0	-4.02	1.21	39.65	3340	-11	-6	7.94	3860	-10.42	-6.57	9.09
2340.0	-6.14	-0.56	24.34	2600.0	-4.17	0.72	38.25	3380	-8.38	-4.13	14.53	3900	-10.3	-6.13	9.33
2360.0	-5.83	-0.01	26.12	2620.0	-4.36	0.28	36.6	3420	-8.64	-5.17	13.67	3940	-9.84	-5.34	10.38
2380.0	-5.44	0.55	28.61	2640.0	-4.5	-0.05	35.46	3460	-9.31	-5.41	11.73	3980	-9.22	-4.54	11.96
2400.0	-5.07	0.96	31.1	2660.0	-4.63	-0.35	34.41	3500	-9.64	-5.6	10.87	4020	-8.77	-3.81	13.28
2420.0	-4.75	1.38	33.47	2680.0	-4.7	-0.59	33.89	3540	-9.94	-5.85	10.15	4060	-8.23	-2.82	15.03
2440.0	-4.47	1.68	35.75	2700.0	-4.65	-0.74	34.3	3580	-10.45	-6.21	9.02	4100	-7.28	-1.53	18.69
2460.0	-4.54	1.58	35.18					3620	-10.57	-6.25	8.77	4140	-6.28	-0.52	23.52
2480.0	-4.38	1.76	36.44					3660	-10.38	-6.15	9.16	4180	-5.58	0.08	27.7
2500.0	-4.41	1.78	36.22					3700	-10.09	-6.23	9.8	4200	-5.23	0.32	29.99
2520.0	-4.33	1.8	36.9					3740	-10.07	-6.49	9.83				
2540.0	-4.07	1.8	39.15					3780	-10.06	-6.46	9.87				

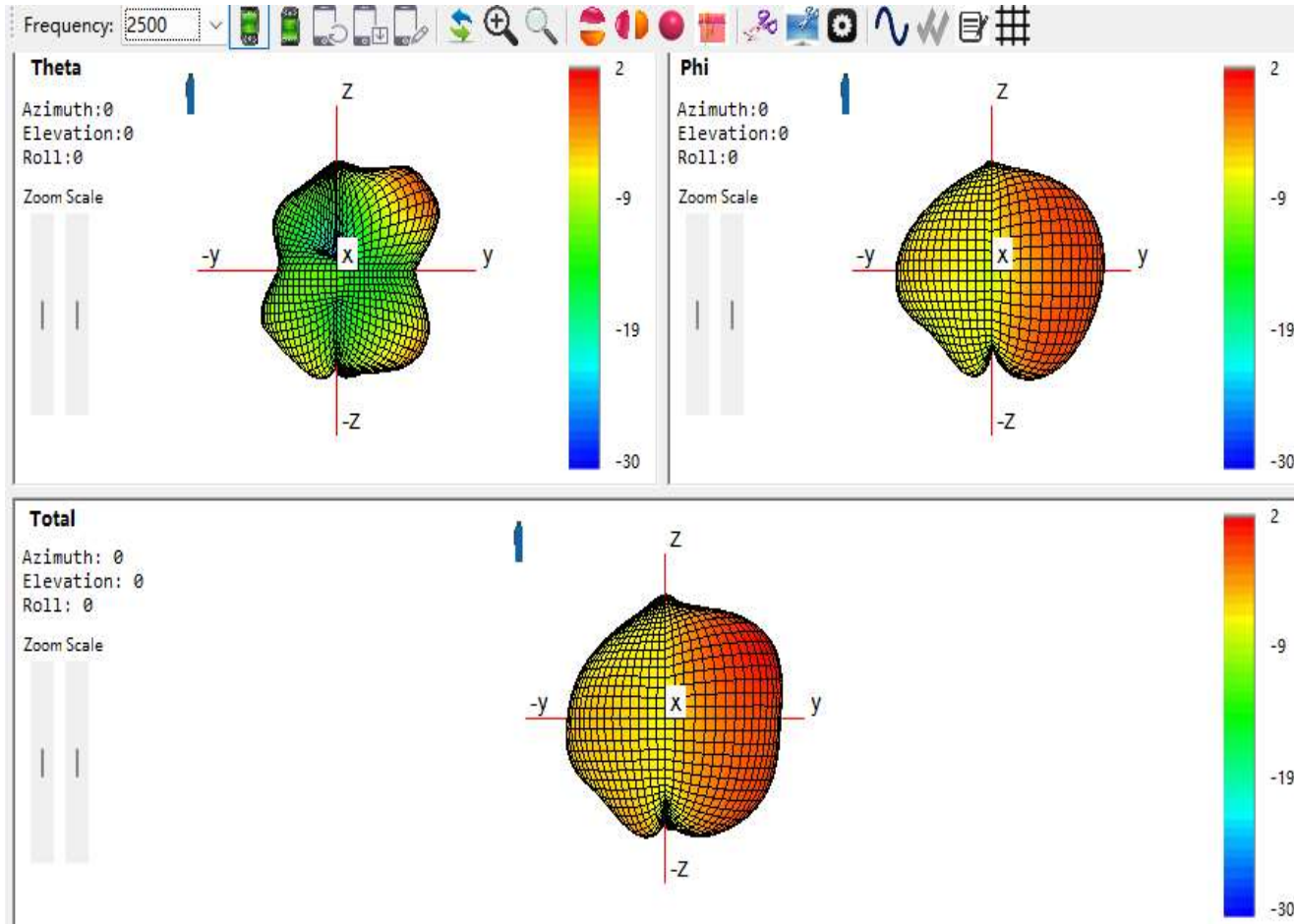
Antenna passive parameters-ANT5-HB

TRX+UHB DRX=directional diagram



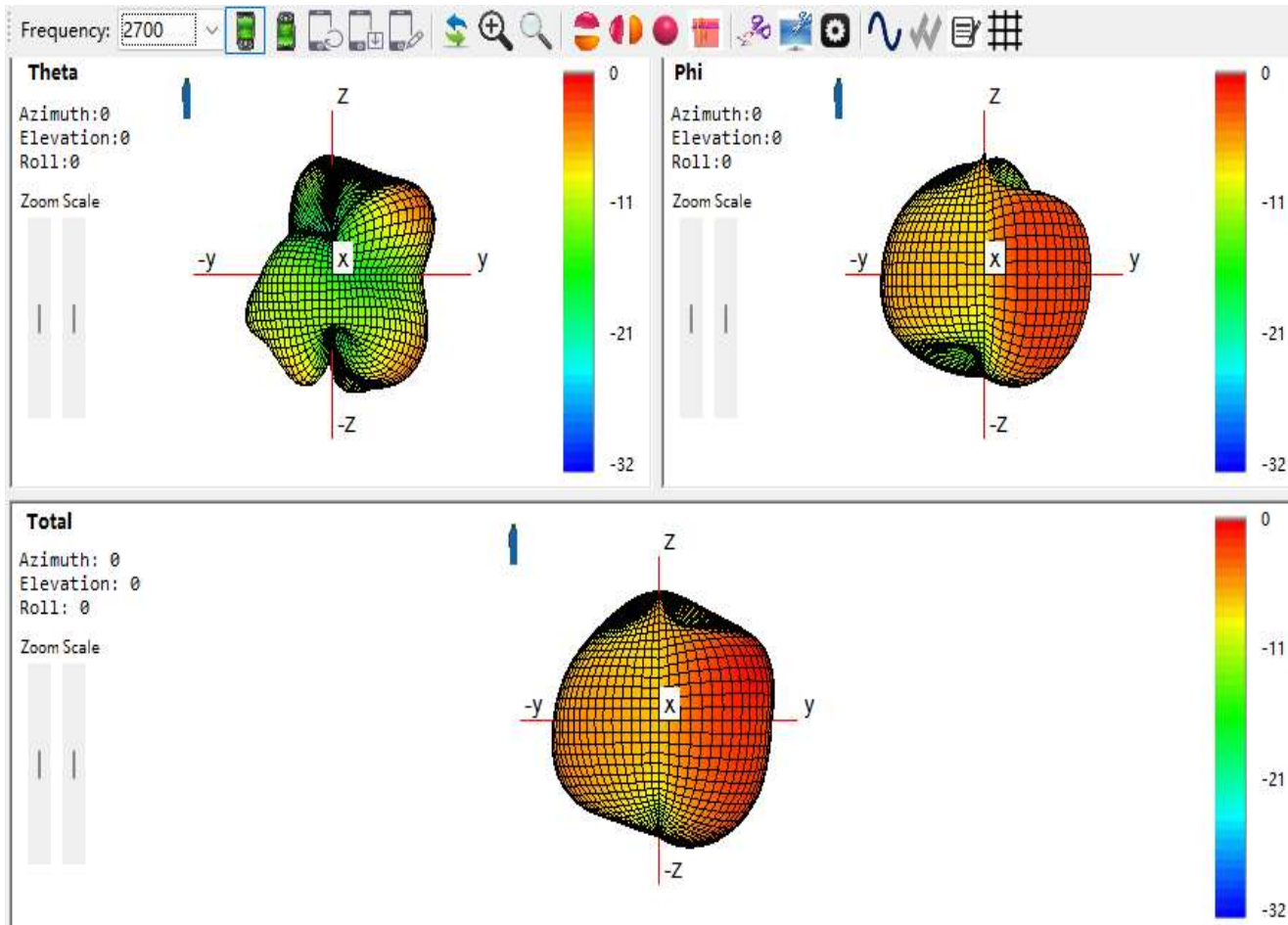
Antenna passive parameters-ANT5-HB

TRX+UHB DRX=directional diagram



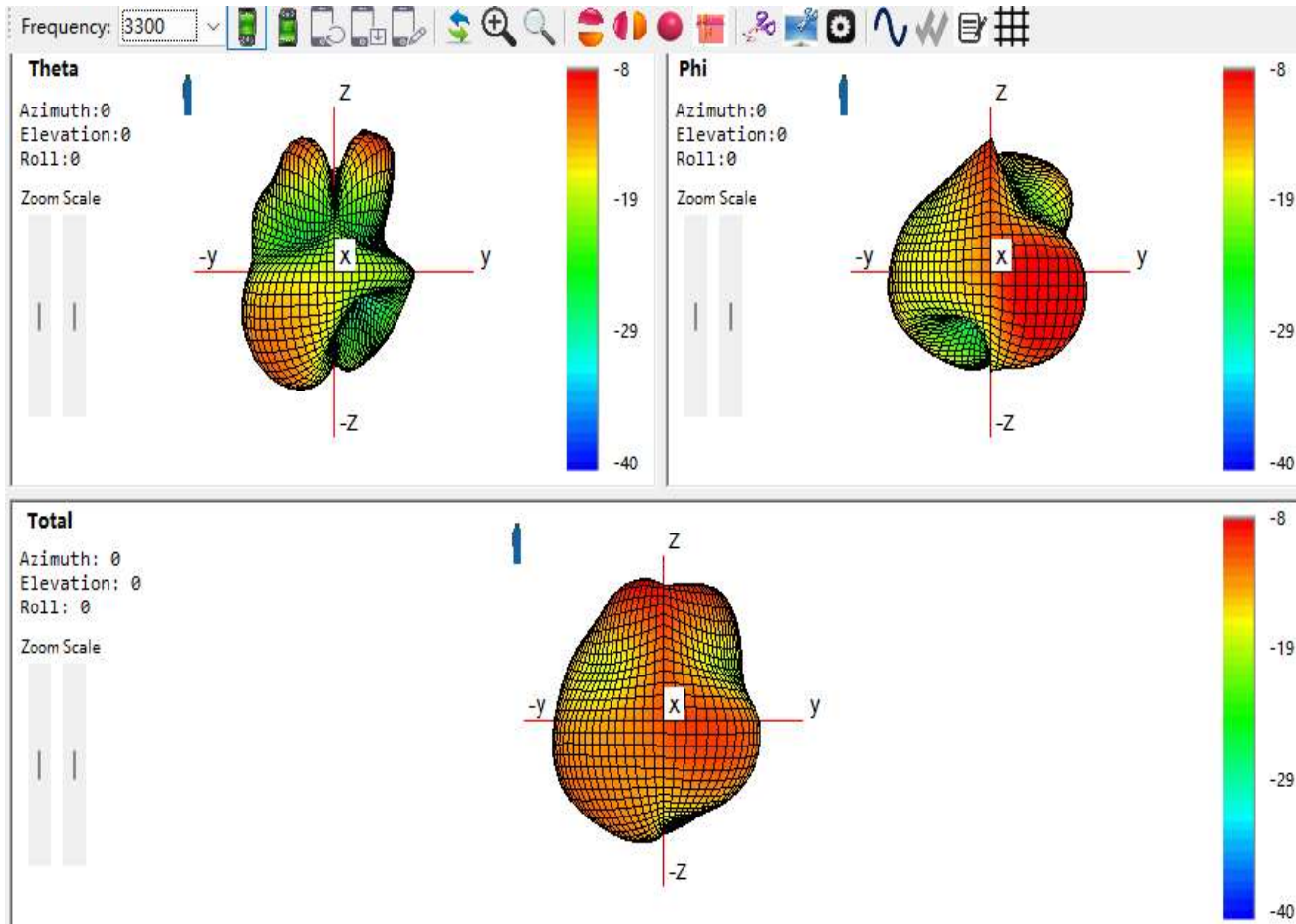
Antenna passive parameters-ANT5-HB

TRX+UHB DRX=directional diagram



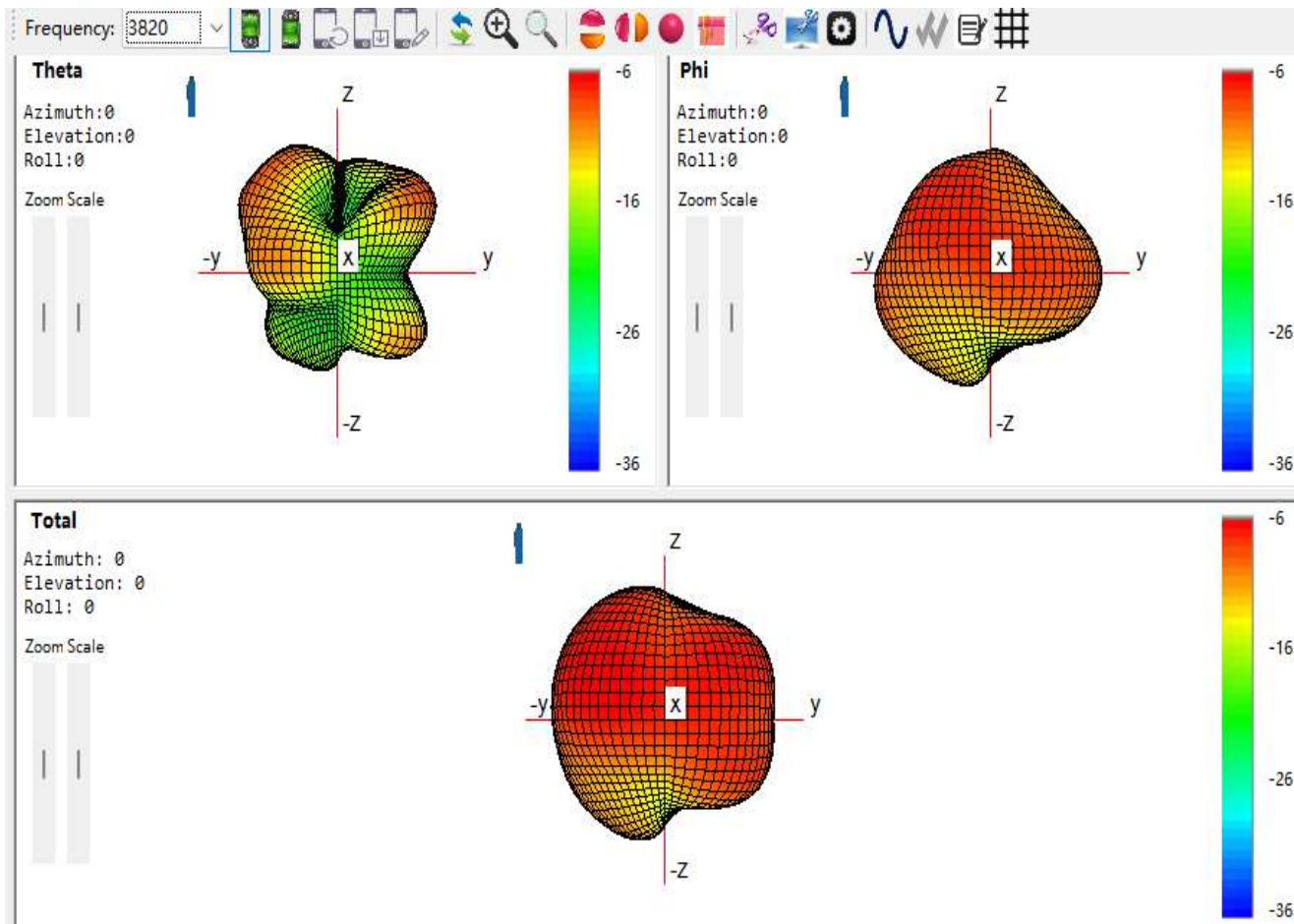
Antenna passive parameters-ANT5-HB

TRX+UHB DRX=directional diagram

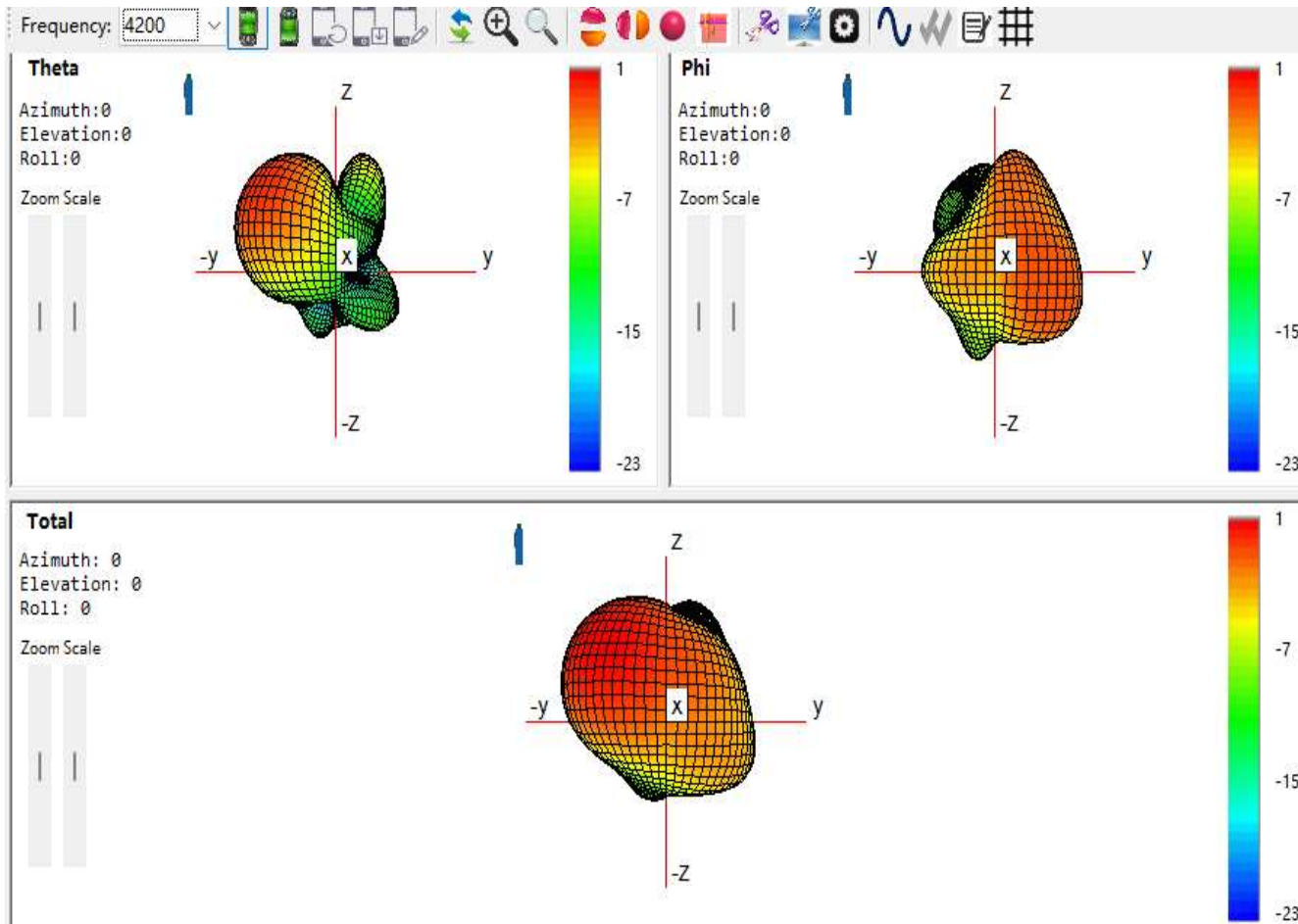


Antenna passive parameters-ANT5-HB

TRX+UHB DRX-directional diagram

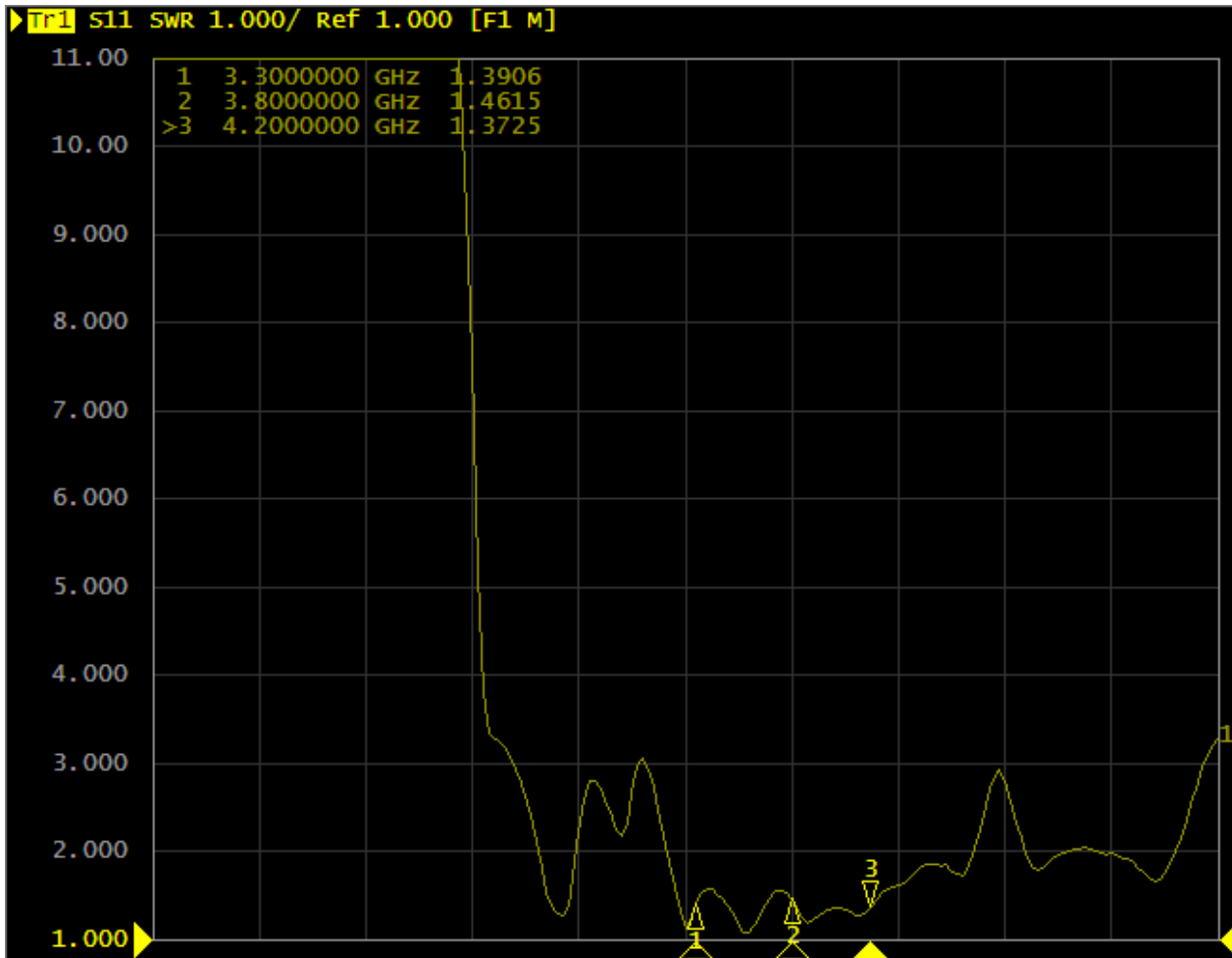


Antenna passive parameters-ANT5-HB TRX+UHB DRX-directional diagram



Antenna passive parameters- ANT6-UHB TRX

Main road alignment modification
section: L0124: 1nH



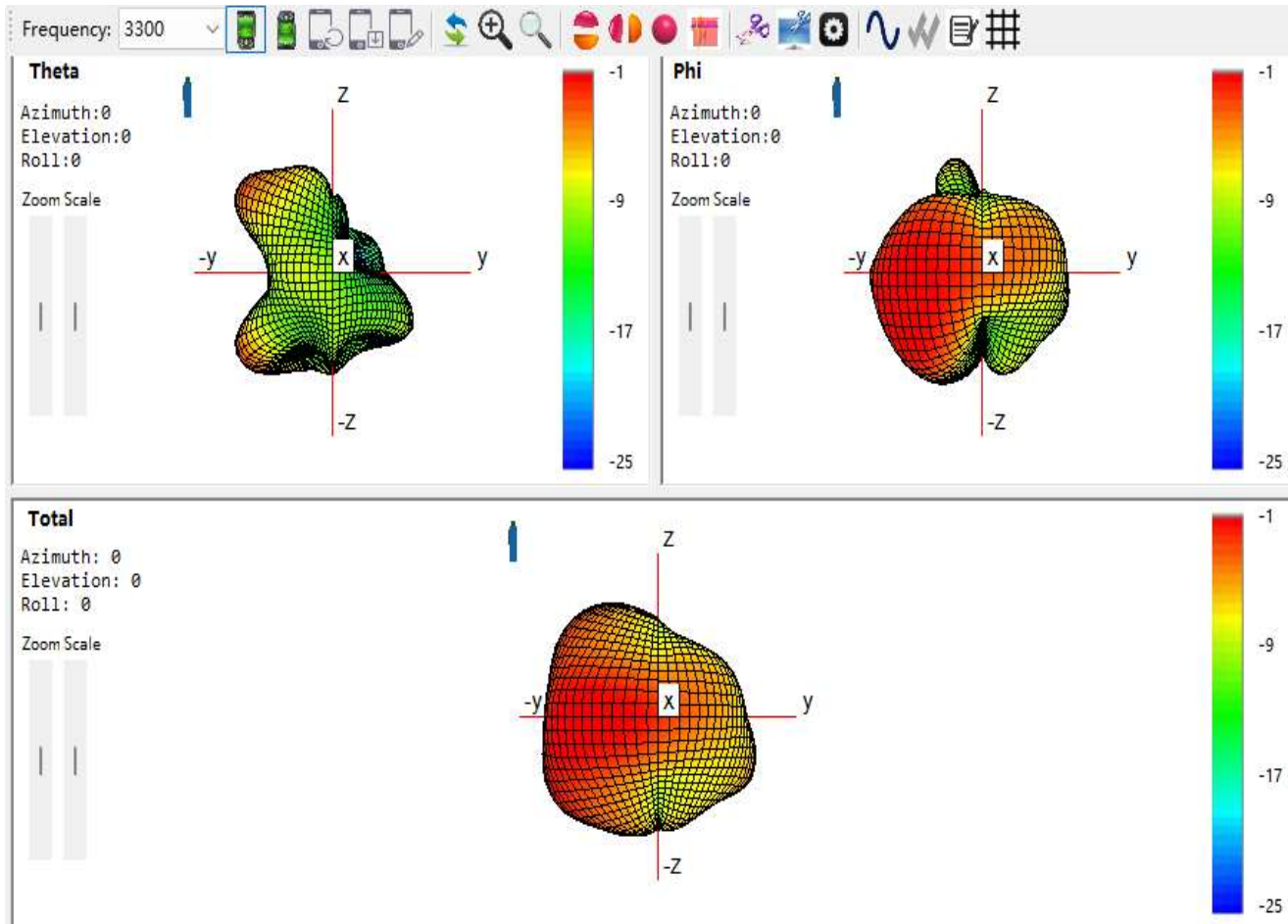
Antenna passive parameters– ANT6–UHB TRX

Main road alignment modification
section: L0124: 1nH

Passive Test							
Freq	Effi	Gain	Effi	Freq	Effi	Gain	Effi
(MHz)	(dBi)	(dBi)	(%)	(MHz)	(dBi)	(dBi)	(%)
3300	-3.86	0.37	41.1	3780	-3.65	1.17	43.19
3340	-3.56	1.58	44.08	3820	-4.02	0.72	39.63
3380	-3.62	2.15	43.45	3860	-4.23	0.35	37.77
3420	-3.73	2.32	42.39	3900	-4.39	0.1	36.42
3460	-3.62	2.54	43.4	3940	-4.32	0.51	36.99
3500	-3.44	2.75	45.31	3980	-4.28	0.88	37.34
3540	-3.54	-0.60	44.27	4020	-4.54	0.59	35.17
3580	-3.86	-0.73	41.12	4060	-4.84	0	32.81
3620	-4.18	-0.61	38.15	4100	-4.79	-0.24	33.19
3660	-3.95	-0.69	40.24	4140	-4.9	-0.71	32.35
3700	-3.61	-0.66	43.55	4180	-5.6	-1.76	27.53
3740	-3.5	-0.64	44.64	4200	-6.05	-2.27	24.84

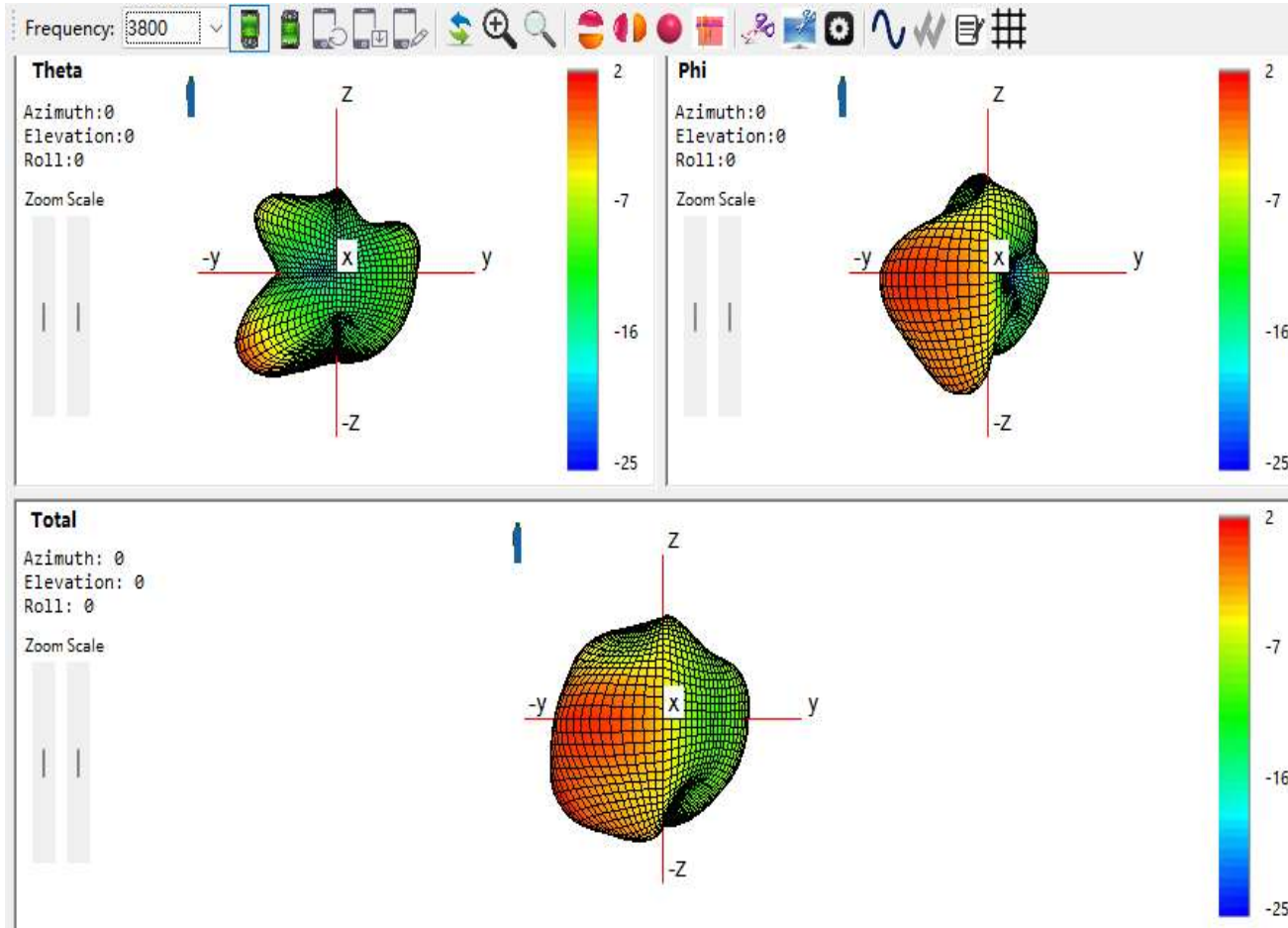
Antenna passive parameters-ANT6-UHB

TRX-directional diagram



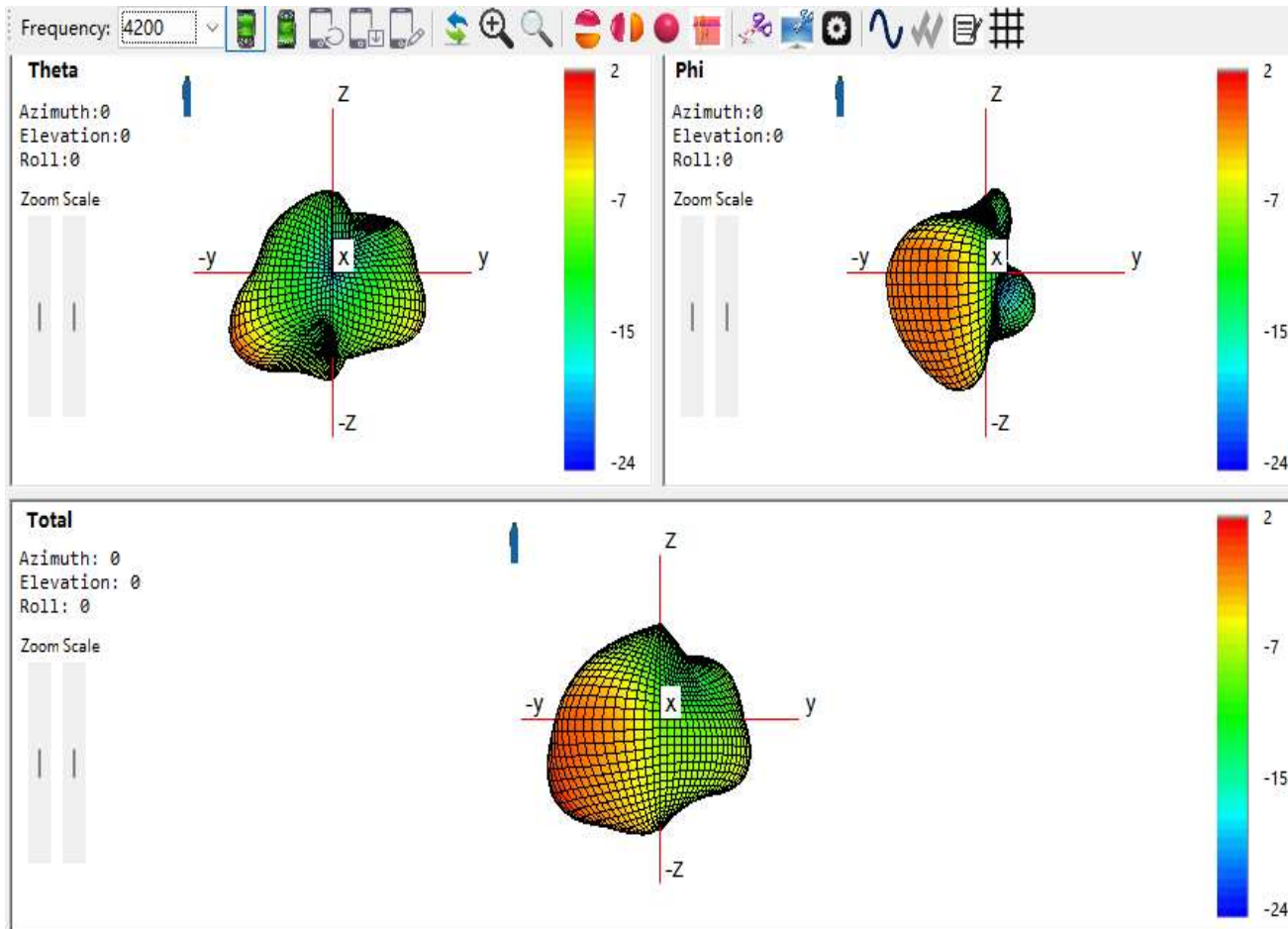
Antenna passive parameters-ANT6-UHB

TRX-directional diagram



Antenna passive parameters-ANT6-UHB

TRX-directional diagram



Antenna passive parameters-ANT7-HB DRX

MIMO+UHB DRX MIMO

Passive Test							
Freq	Effi	Gain	Effi	Freq	Effi	Gain	Effi
(MHz)	(dBi)	(dBi)	(%)	(MHz)	(dBi)	(dBi)	(%)
2300.0	-5.41	-1.17	28.8	2560.0	-4.18	-0.58	38.18
2320.0	-5.32	-1.22	29.41	2580.0	-4.08	-0.4	39.05
2340.0	-5.09	-1.04	30.98	2600.0	-4.08	-0.49	39.11
2360.0	-4.9	-0.96	32.34	2620.0	-4.21	-0.84	37.94
2380.0	-4.75	-0.91	33.53	2640.0	-4.24	-0.74	37.66
2400.0	-4.7	-0.94	33.92	2660.0	-4.17	-0.69	38.31
2420.0	-4.64	-0.97	34.39	2680.0	-4.25	-0.84	37.55
2440.0	-4.57	-0.98	34.94	2700.0	-4.38	-1.07	36.51
2460.0	-4.53	-1.08	35.21				
2480.0	-4.42	-1	36.17				
2500.0	-4.45	-1.02	35.88				
2520.0	-4.35	-0.85	36.75				
2540.0	-4.27	-0.83	37.44				

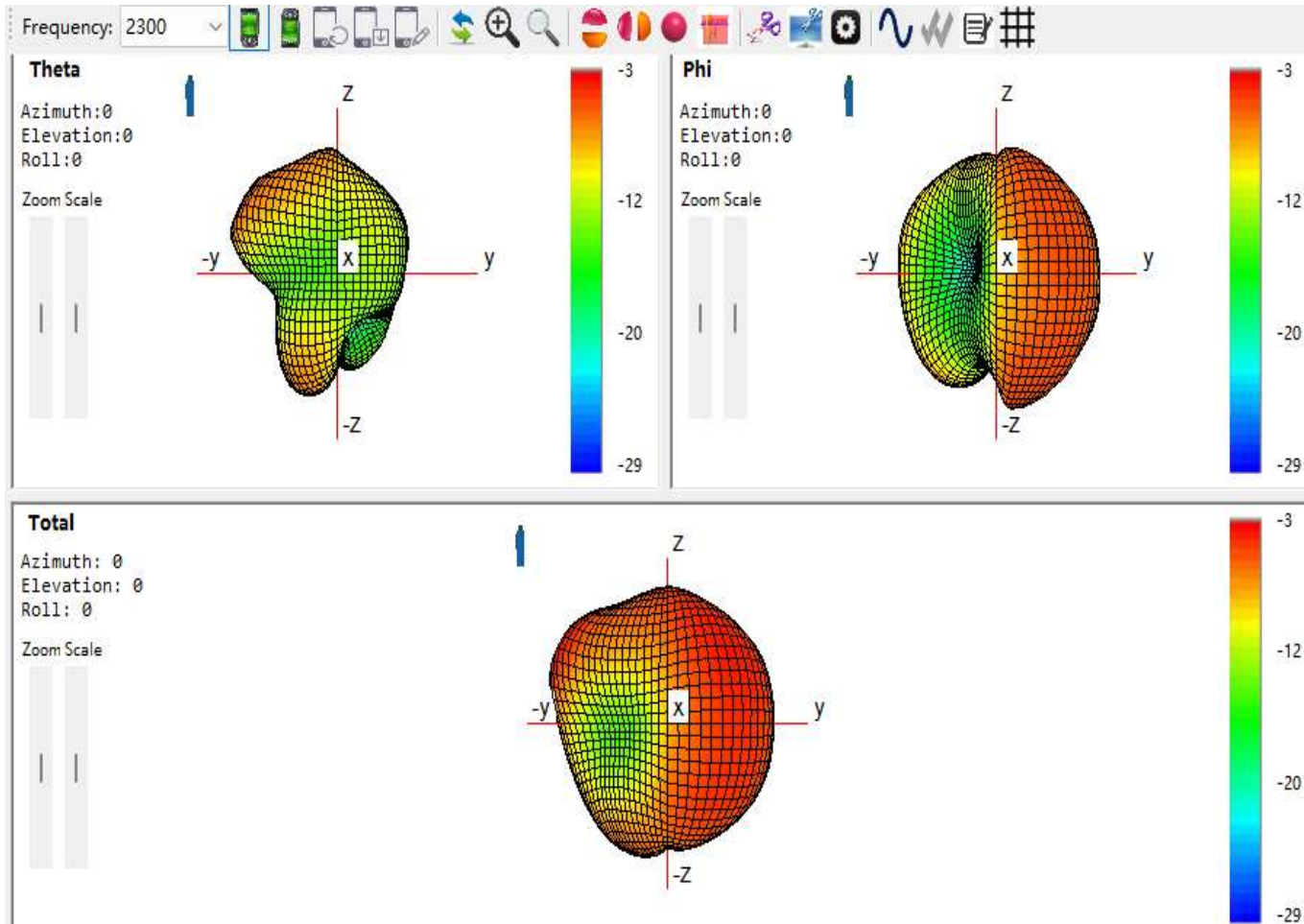
Passive Test							
Freq	Effi	Gain	Effi	Freq	Effi	Gain	Effi
(MHz)	(dBi)	(dBi)	(%)	(MHz)	(dBi)	(dBi)	(%)
3300	-7.91	-3.47	16.17	3560	-5.27	-0.47	29.68
3320	-7.92	-3.51	16.14	3580	-5.85	-1.24	26.02
3340	-7.68	-3.29	17.07	3600	-6.21	-1.75	23.95
3360	-7.42	-2.96	18.1	3620	-6.33	-2	23.26
3380	-7.05	-2.5	19.7	3640	-6.54	-2.28	22.2
3400	-6.82	-2.21	20.79	3660	-6.64	-2.33	21.66
3420	-6.43	-1.76	22.75	3680	-6.78	-2.48	20.97
3440	-6.04	-1.3	24.92	3700	-7.08	-2.83	19.6
3460	-5.58	-0.79	27.65	3720	-7.45	-3.31	17.97
3480	-5.12	-0.14	30.78	3740	-8.05	-4	15.67
3500	-4.77	0.31	33.33	3760	-8.76	-4.76	13.29
3520	-4.49	0.64	35.55	3780	-9.13	-5.14	12.23
3540	-4.88	0.24	32.49	3800	-9.59	-5.05	10.98

Antenna passive parameters-ANT7-HB DRX MIMO+UHB DRX MIMO

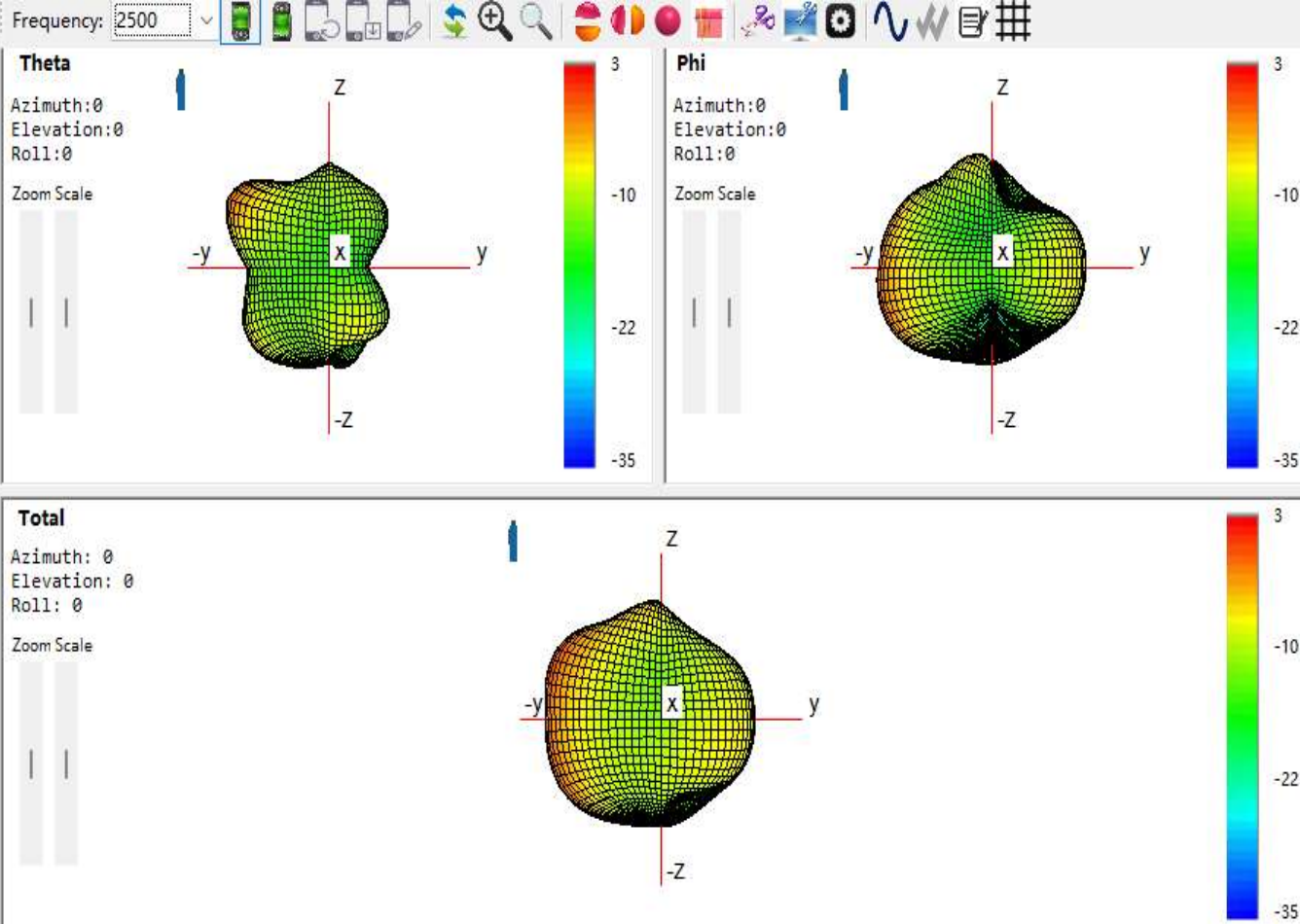
Passive Test

Freq	Effi	Gain	Effi	Freq	Effi	Gain	Effi
(MHz)	(dBi)	(dBi)	(%%)	(MHz)	(dBi)	(dBi)	(%%)
3820	-9.82	-4.45	10.42	4080	-5.12	-1.03	30.74
3840	-9.5	-3.81	11.23	4100	-5.05	-1.02	31.29
3860	-8.93	-3.49	12.8	4120	-5.12	-1.19	30.78
3880	-8.06	-3.21	15.63	4140	-5.05	-1.18	31.26
3900	-7.49	-2.61	17.82	4160	-5.12	-1.31	30.78
3920	-6.89	-2.03	20.48	4180	-5.32	-1.58	29.4
3940	-6.21	-1.4	23.94	4200	-5.49	-1.82	28.24
3960	-5.89	-1.1	25.75				
3980	-5.37	-0.64	29.03				
4000	-5.23	-0.7	30.01				
4020	-5.16	-0.7	30.51				
4040	-5.03	-0.67	31.43				
4060	-5.2	-1.04	30.17				

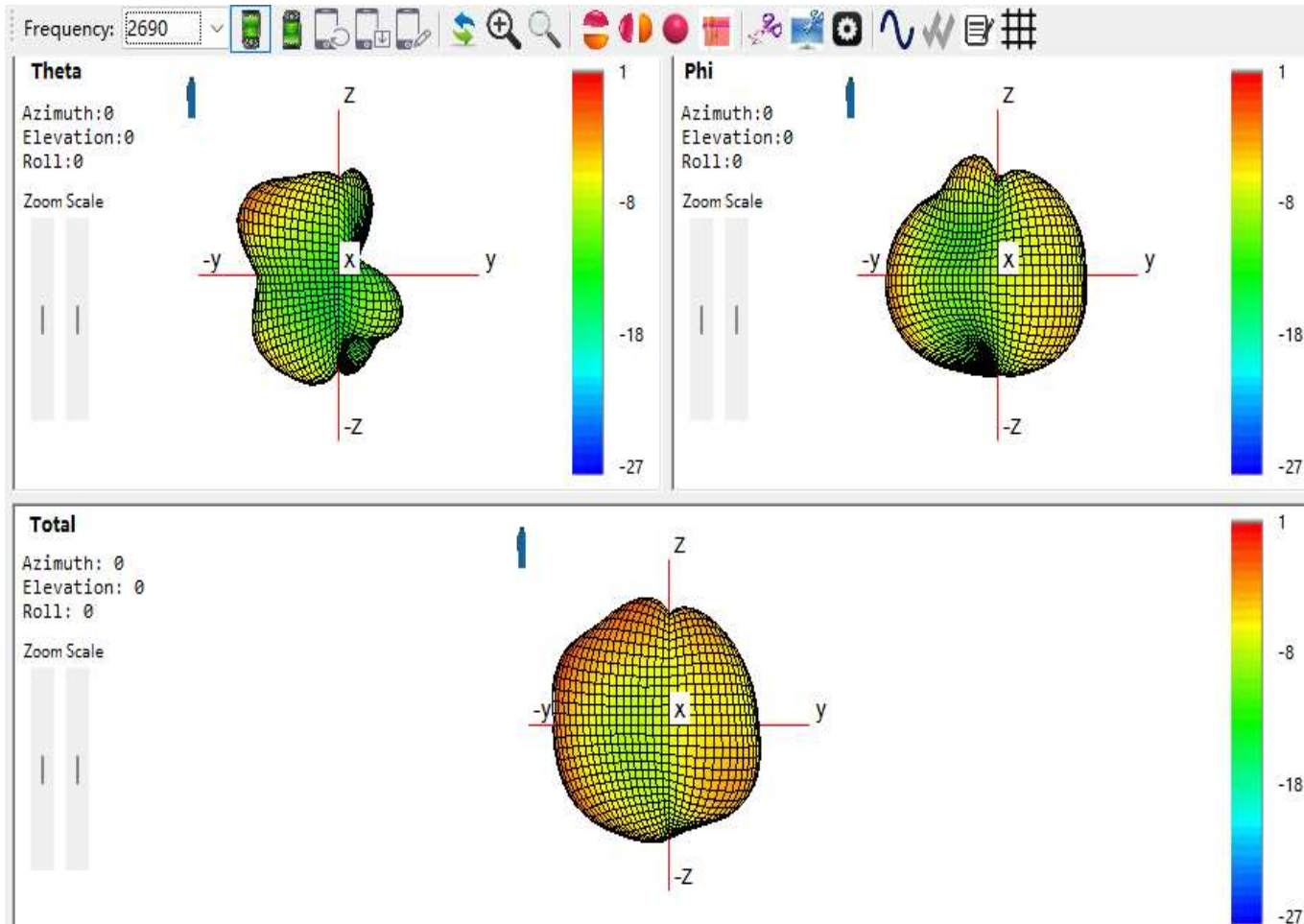
Antenna passive parameters-ANT7-HB DRX MIMO+UHB DRX MIMO-directional diagram



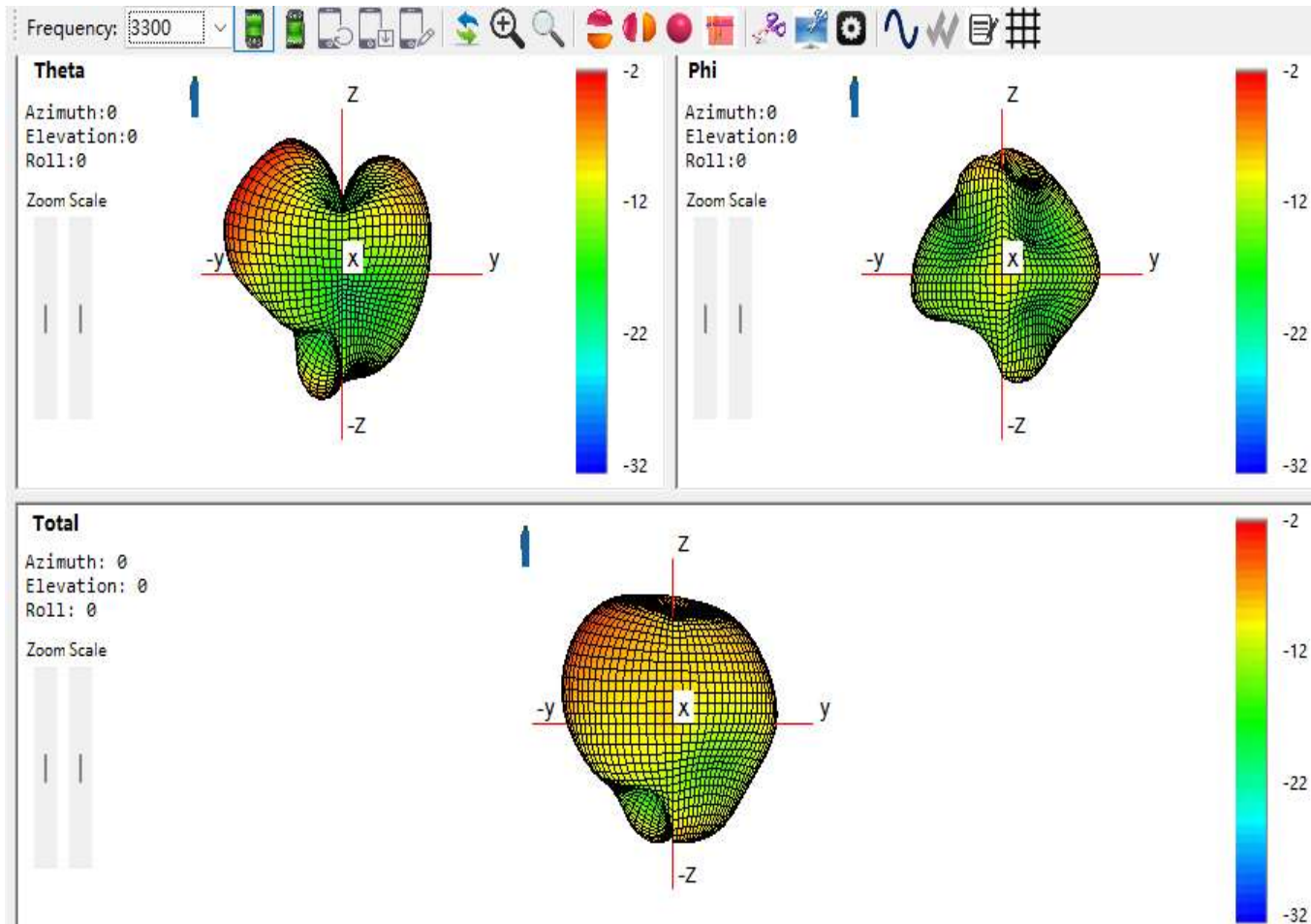
Antenna passive parameters-ANT7-HB DRX MIMO+UHB DRX MIMO-directional diagram



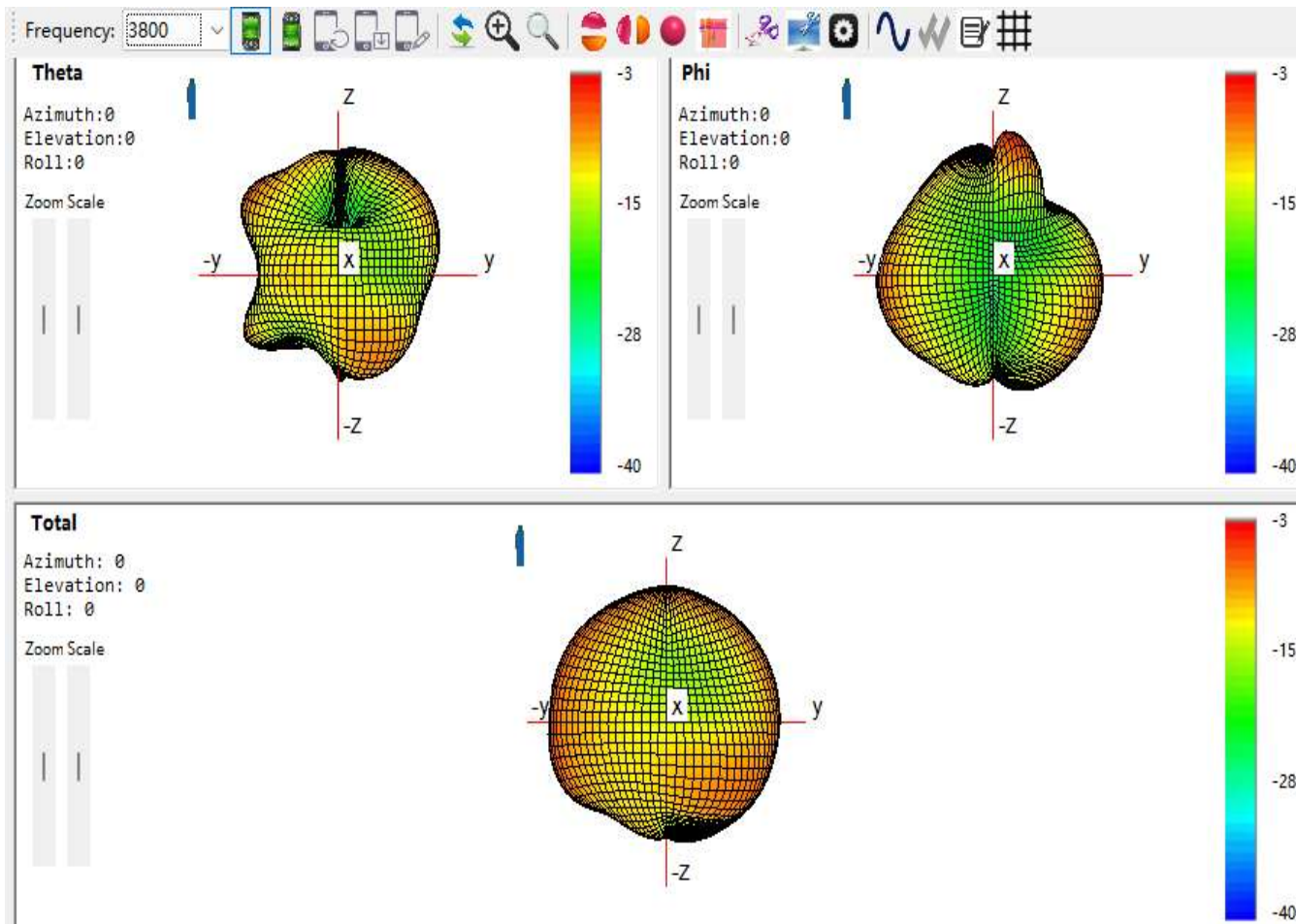
Antenna passive parameters-ANT7-HB DRX MIMO+UHB DRX MIMO-directional diagram



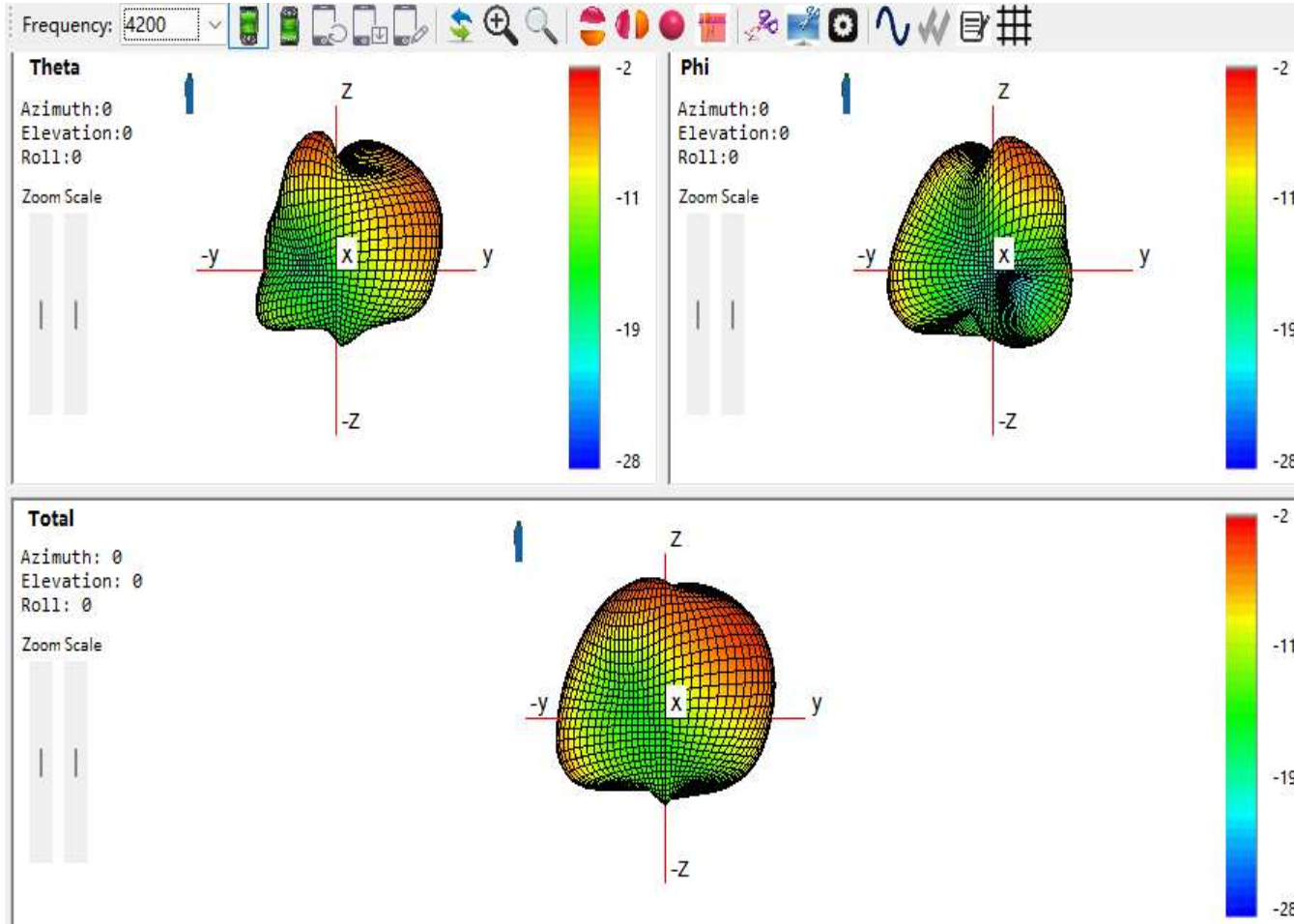
Antenna passive parameters-ANT7-HB DRX MIMO+UHB DRX MIMO-directional diagram



Antenna passive parameters-ANT7-HB DRX MIMO+UHB DRX MIMO-directional diagram

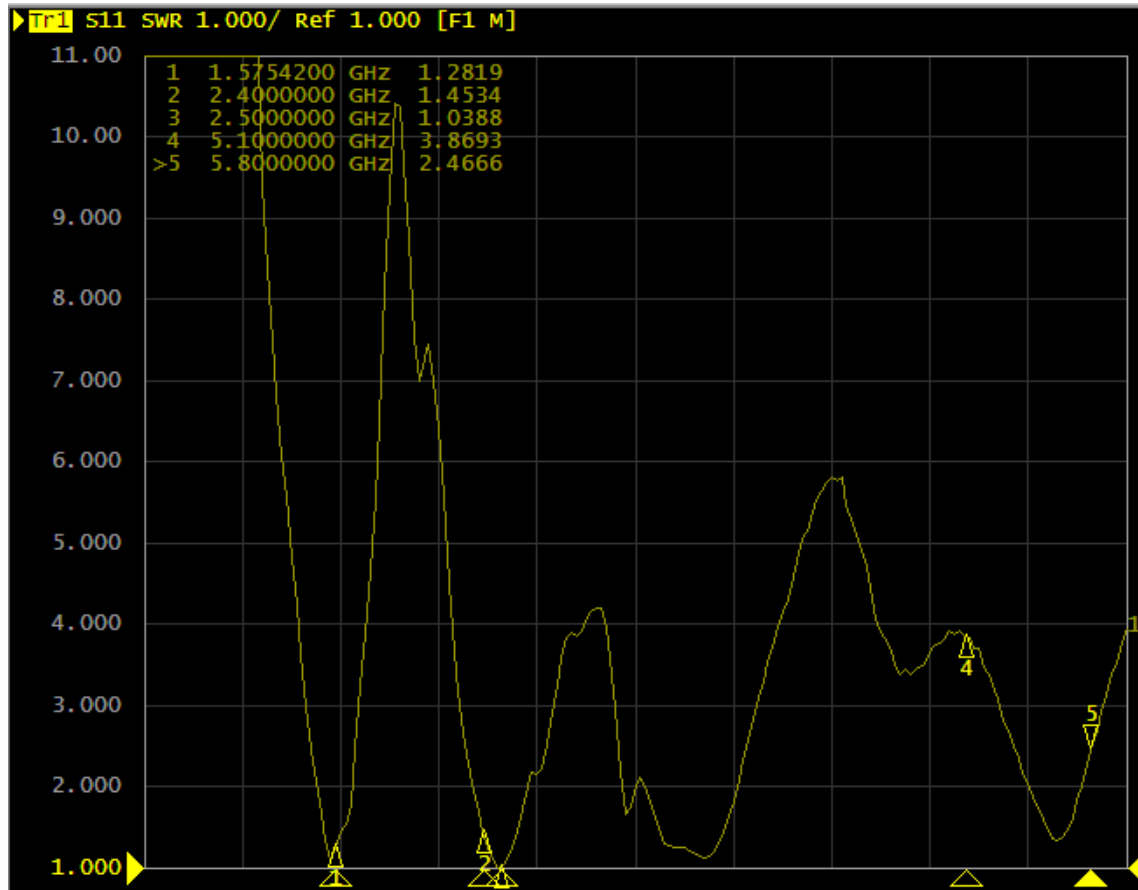


Antenna passive parameters-ANT7-HB DRX MIMO+UHB DRX MIMO-directional diagram



Antenna passive parameters-ANT9-WIFI 2. 4G/5G+GPS L1

Main road alignment modification
section: L10620: 12nH



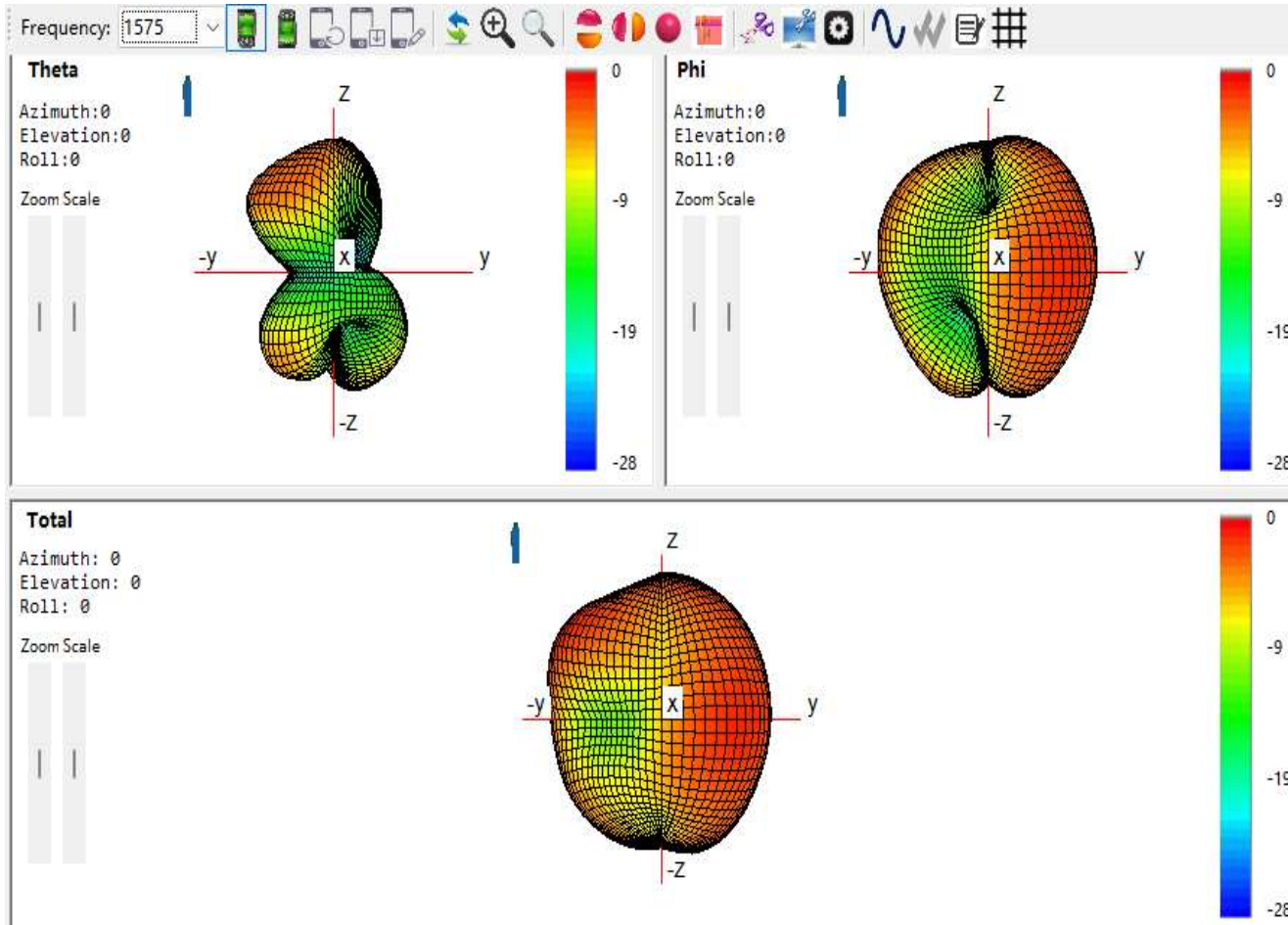
Antenna passive parameters-ANT9-WIFI 2. 4G/5G+GPS L1

Main road alignment modification
section: L10620: 12nH

Passive Test								Passive Test							
Freq	Effi	Gain	Effi	Freq	Effi	Gain	Effi	Freq	Effi	Gain	Effi	Freq	Effi	Gain	Effi
(MHz)	(dBi)	(dBi)	(%)	(MHz)	(dBi)	(dBi)	(%)	(MHz)	(dBi)	(dBi)	(%)	(MHz)	(dBi)	(dBi)	(%)
1555	-3.33	0.06	46.48	2400	-4.66	0.62	34.22	5100	-5.07	0.09	31.13	5540	-4.12	2.87	38.72
1560	-3.43	-0.04	45.41	2410	-4.54	0.71	35.12	5140	-5.03	0.22	31.41	5580	-4.03	2.66	39.55
1565	-3.5	-0.09	44.69	2420	-4.45	0.79	35.85	5180	-4.61	0.53	34.6	5620	-3.77	2.67	41.96
1570	-3.51	-0.05	44.56	2430	-4.36	0.88	36.61	5220	-4.61	0.6	34.59	5660	-3.87	2.38	41.01
1575	-3.54	-0.04	44.3	2440	-4.38	0.79	36.48	5260	-4.48	1.41	35.61	5700	-4.2	1.93	38.03
1580	-3.64	-0.08	43.29	2450	-4.49	0.71	35.58	5300	-4.52	1.64	35.3	5740	-4.38	1.54	36.46
1585	-3.74	-0.07	42.25	2460	-4.63	0.47	34.46	5340	-4.41	1.46	36.23	5780	-4.85	0.48	32.71
1590	-3.83	-0.09	41.36	2470	-4.62	0.43	34.49	5380	-4.1	1.75	38.93	5800	-5.27	-0.38	29.73
1595	-3.96	-0.17	40.14	2480	-4.65	0.23	34.27	5420	-3.82	2.33	41.48				
				2490	-4.72	0.13	33.75	5460	-3.95	2.76	40.31				
				2500	-4.79	0	33.19	5500	-4.33	2.6	36.89				

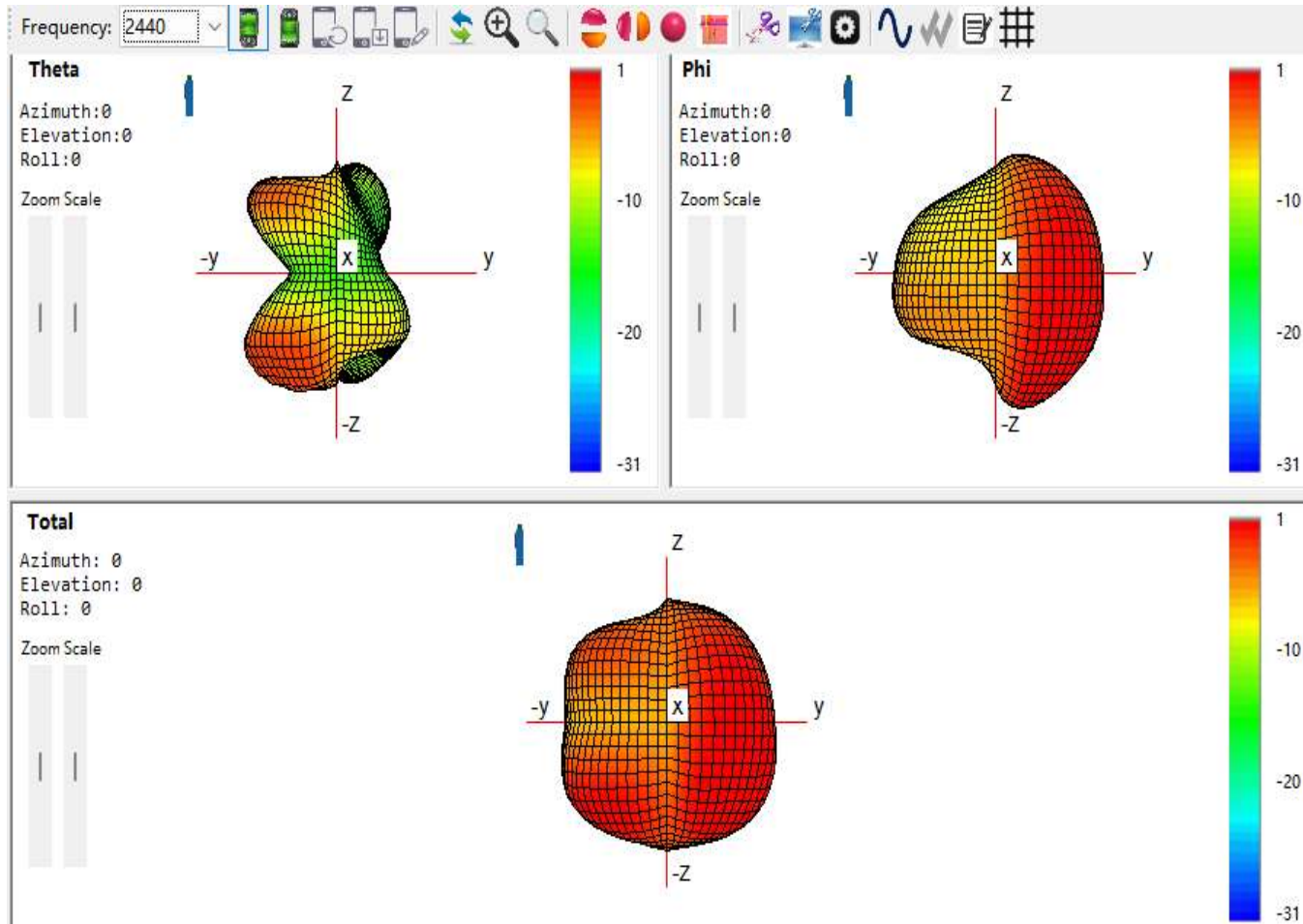
Antenna passive parameters-ANT9-WIFI

2. 4G/5G+GPS L1-directional diagram



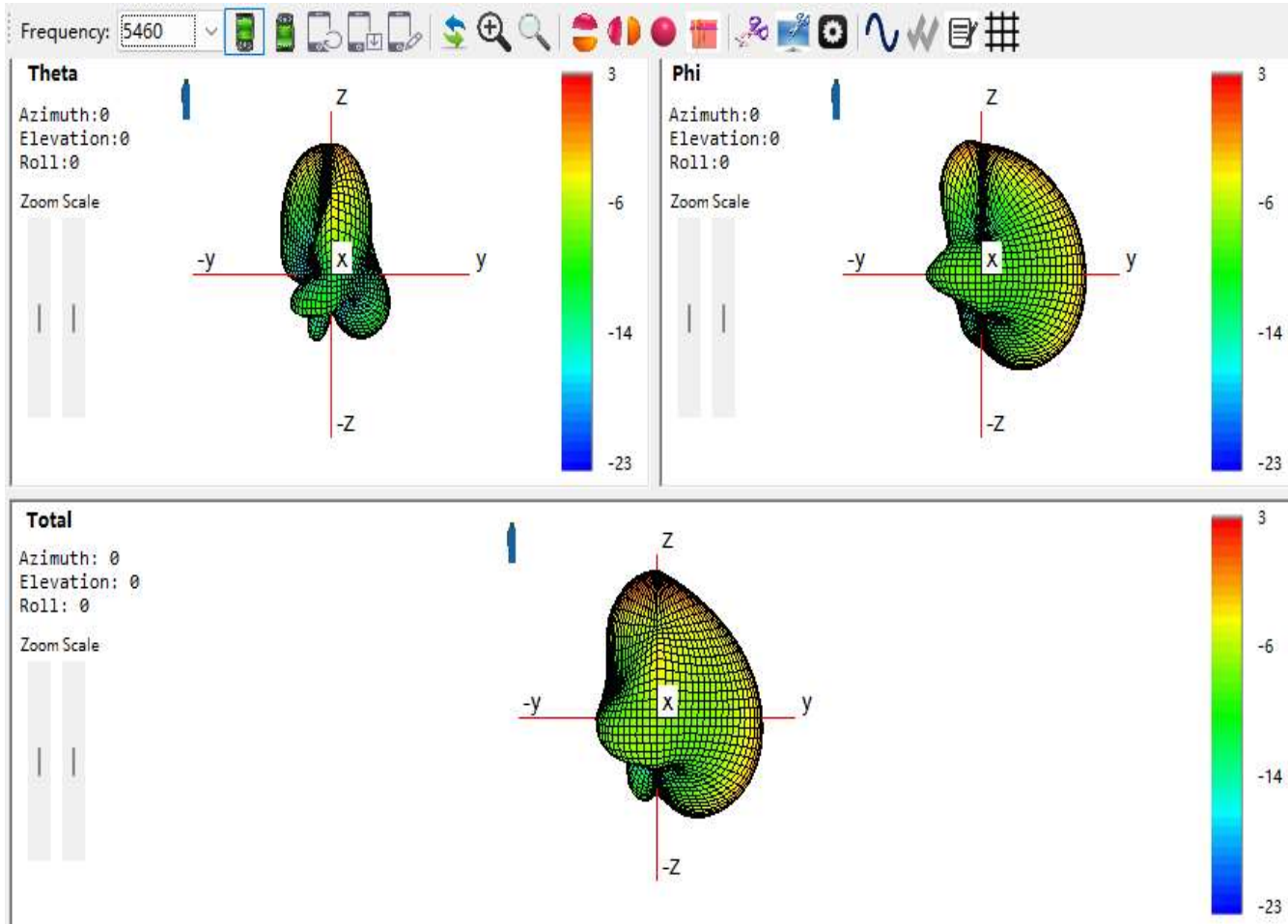
Antenna passive parameters-ANT9-WIFI

2. 4G/5G+GPS L1-directional diagram



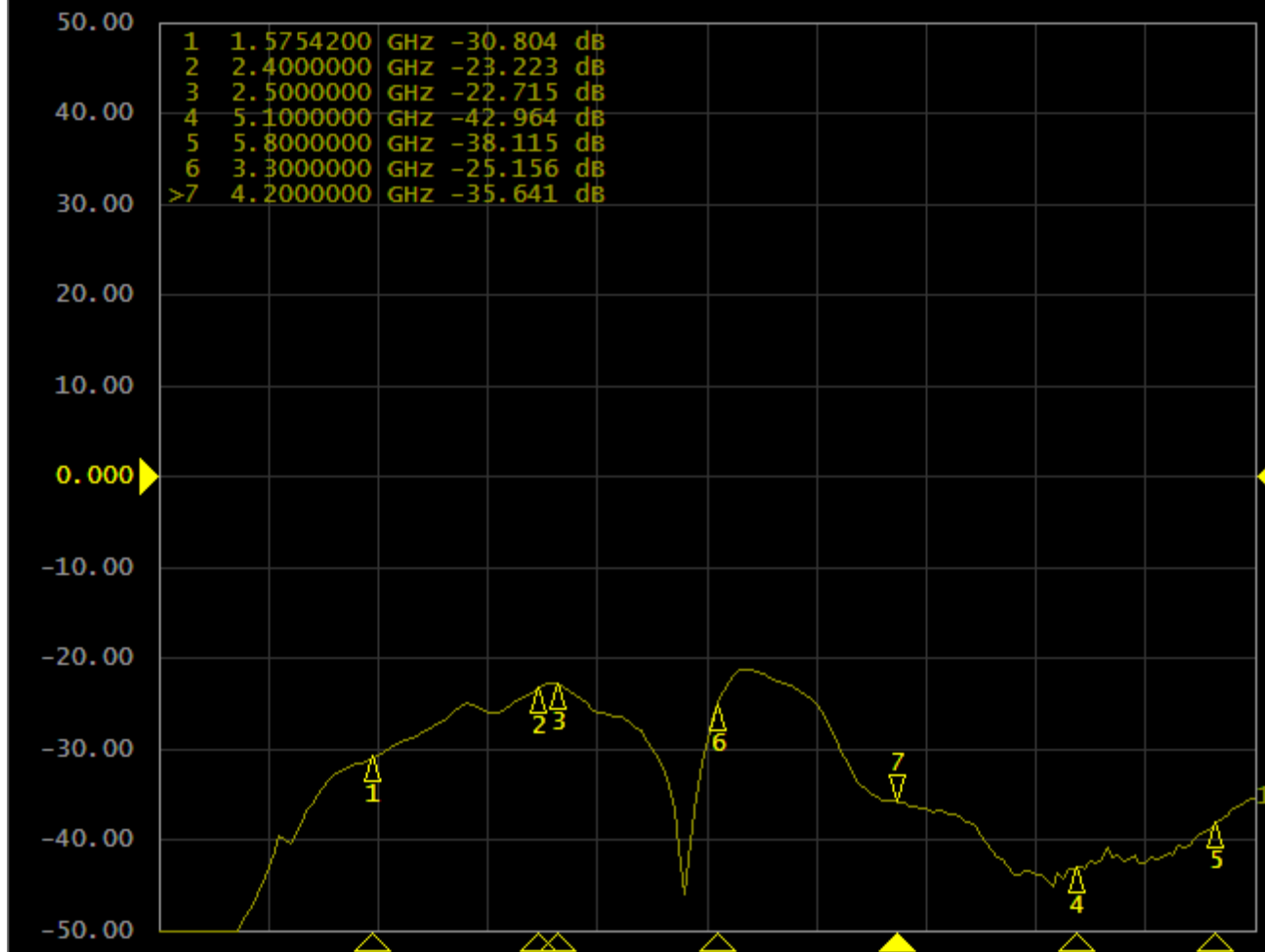
Antenna passive parameters-ANT9-WIFI

2.4G/5G+GPS L1-directional diagram



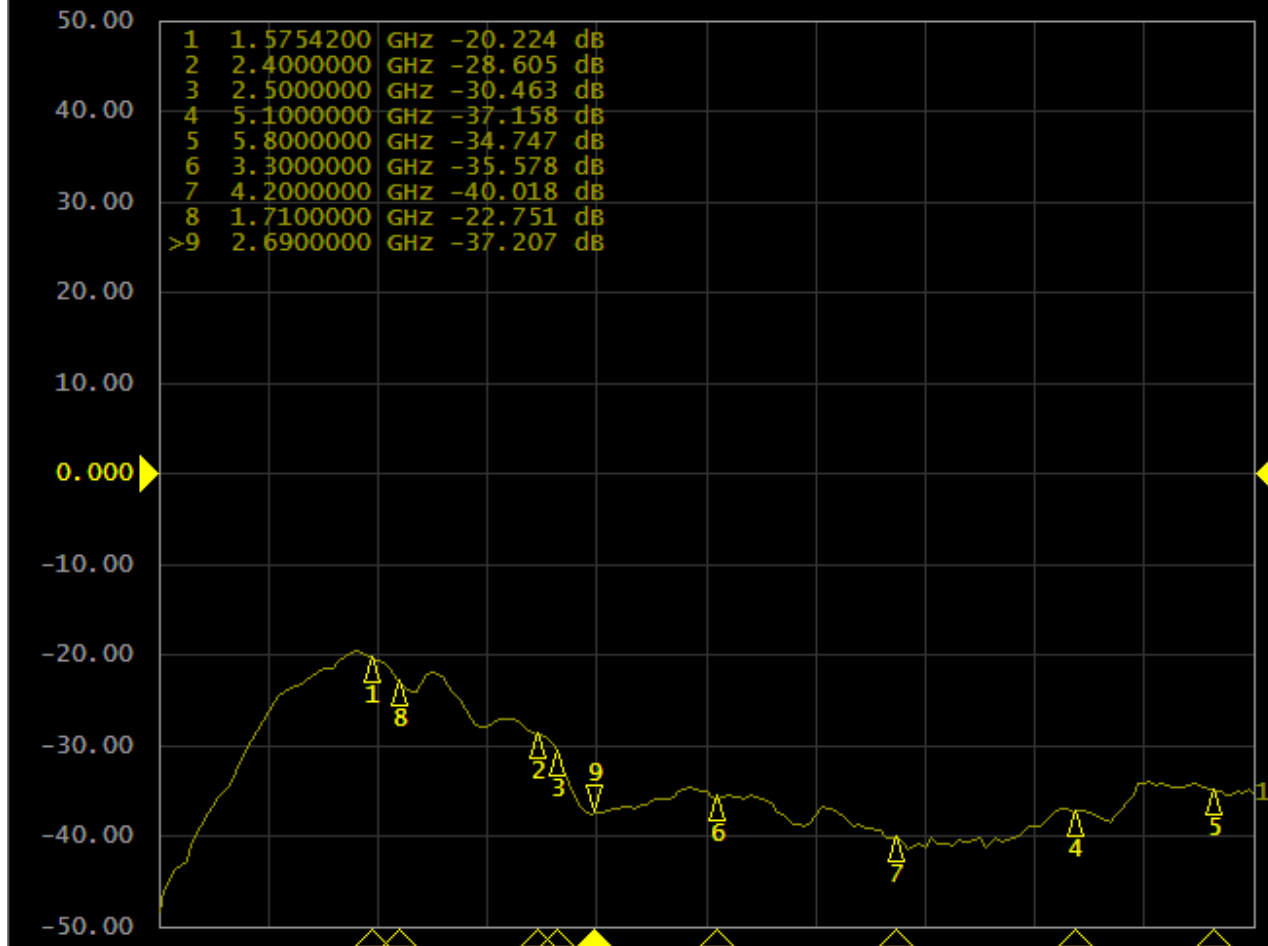
Isolation degree between ANT5 and ANT9

► **Tr1** S21 Log Mag 10.00dB/ Ref 0.000dB [M]

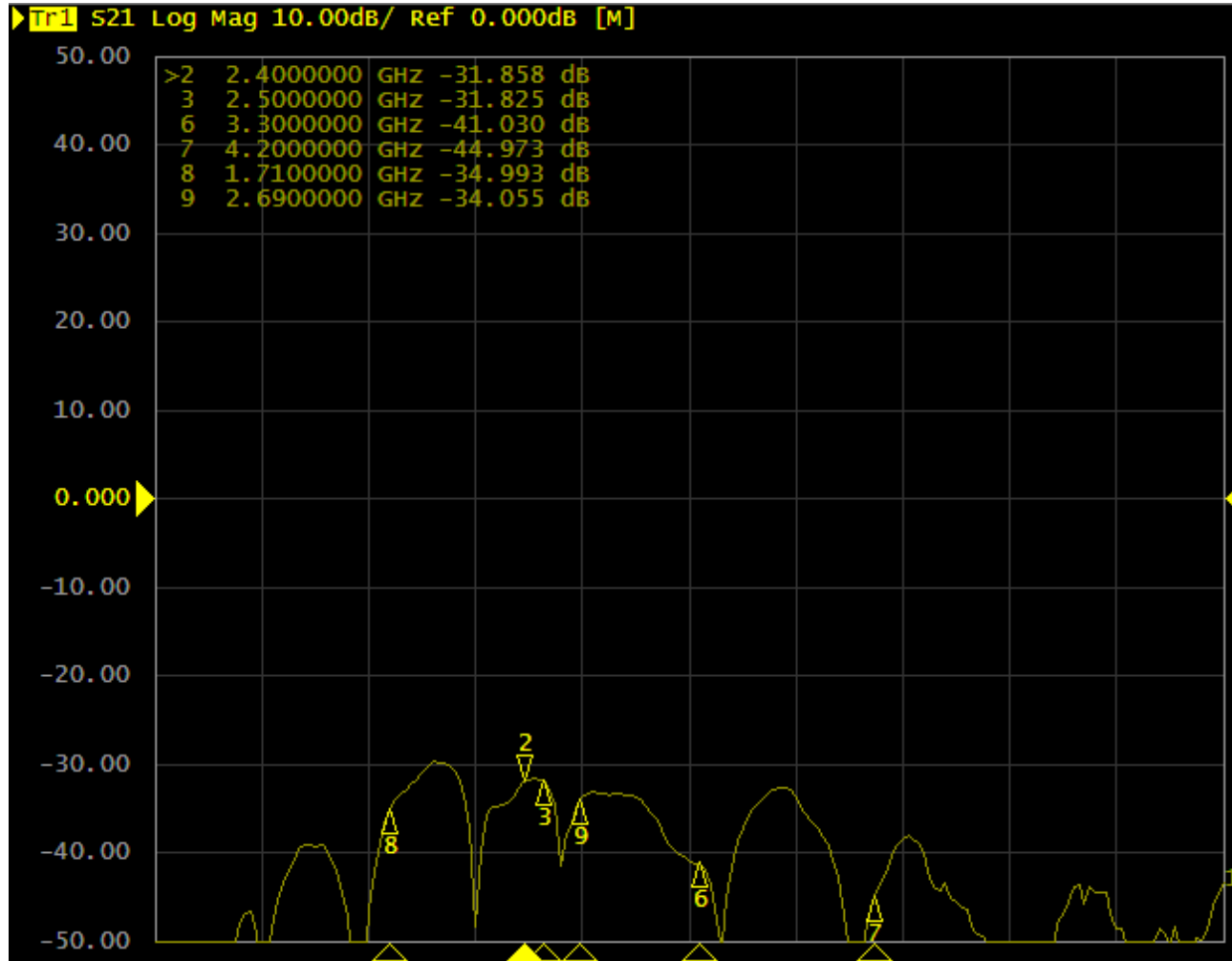


Isolation degree between ANT4 and ANT9

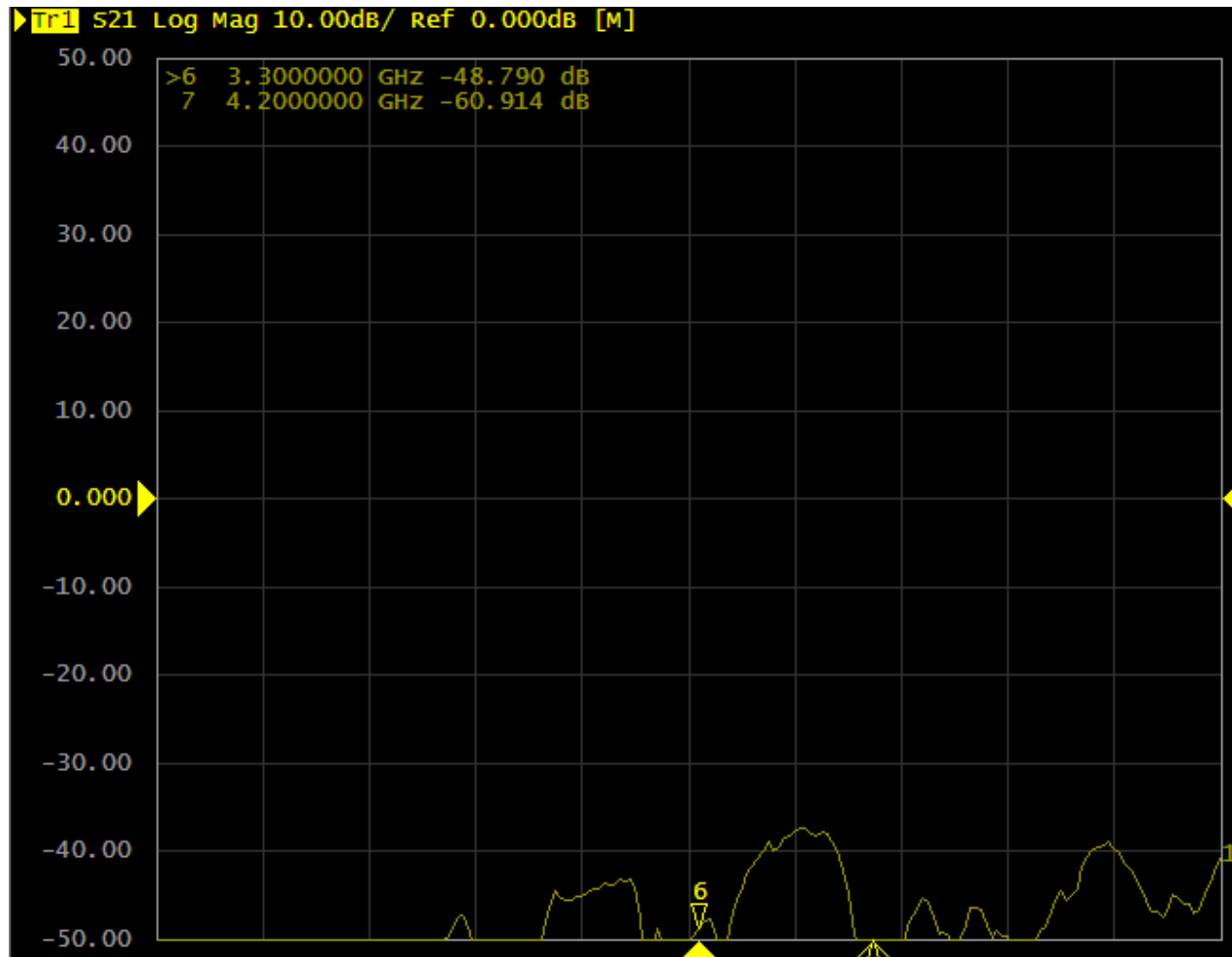
► **Tp1** S21 Log Mag 10.00dB/ Ref 0.000dB [M]



Isolation degree between ANT5 and ANT4

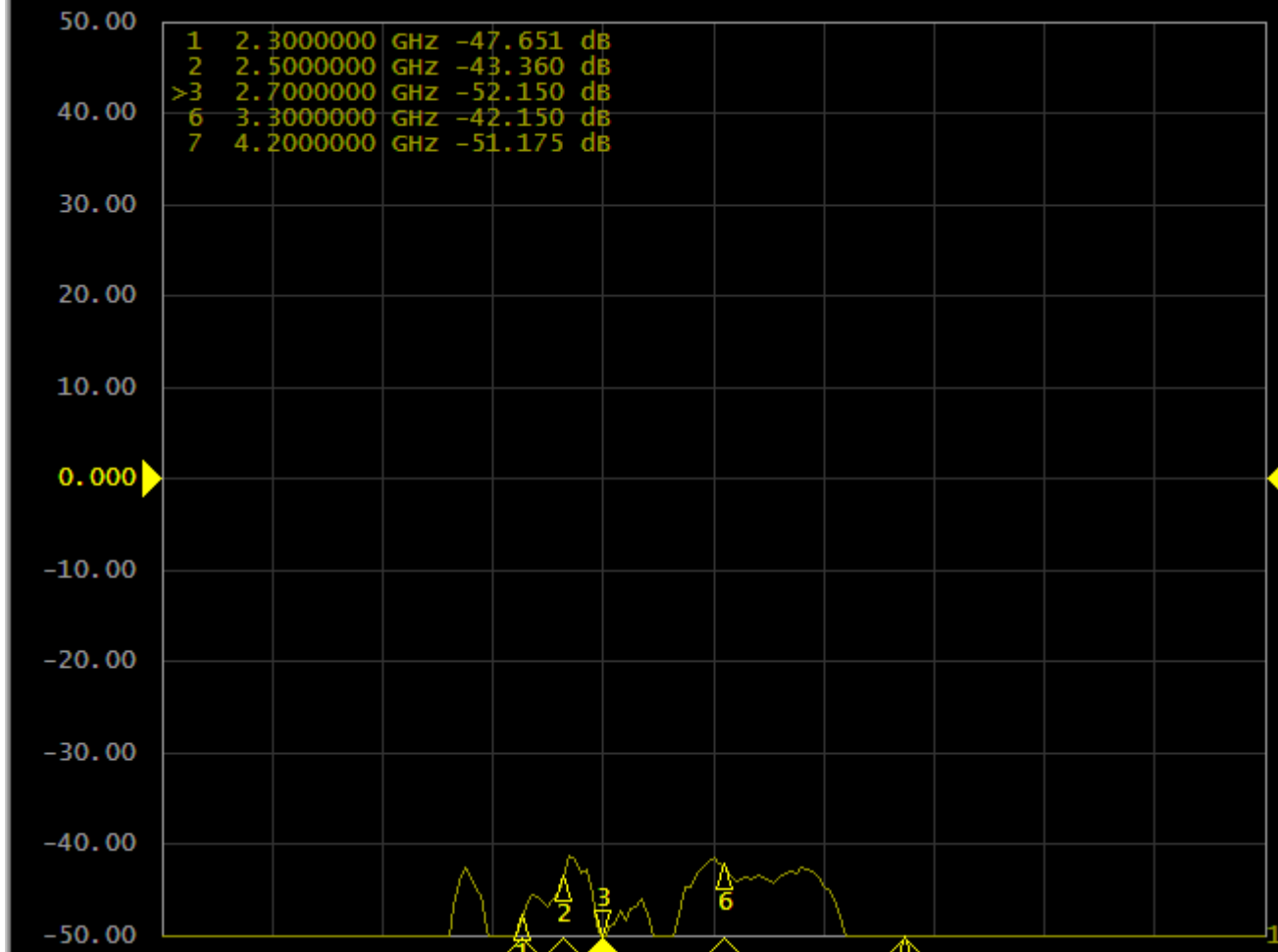


Isolation degree between ANT5 and ANT6

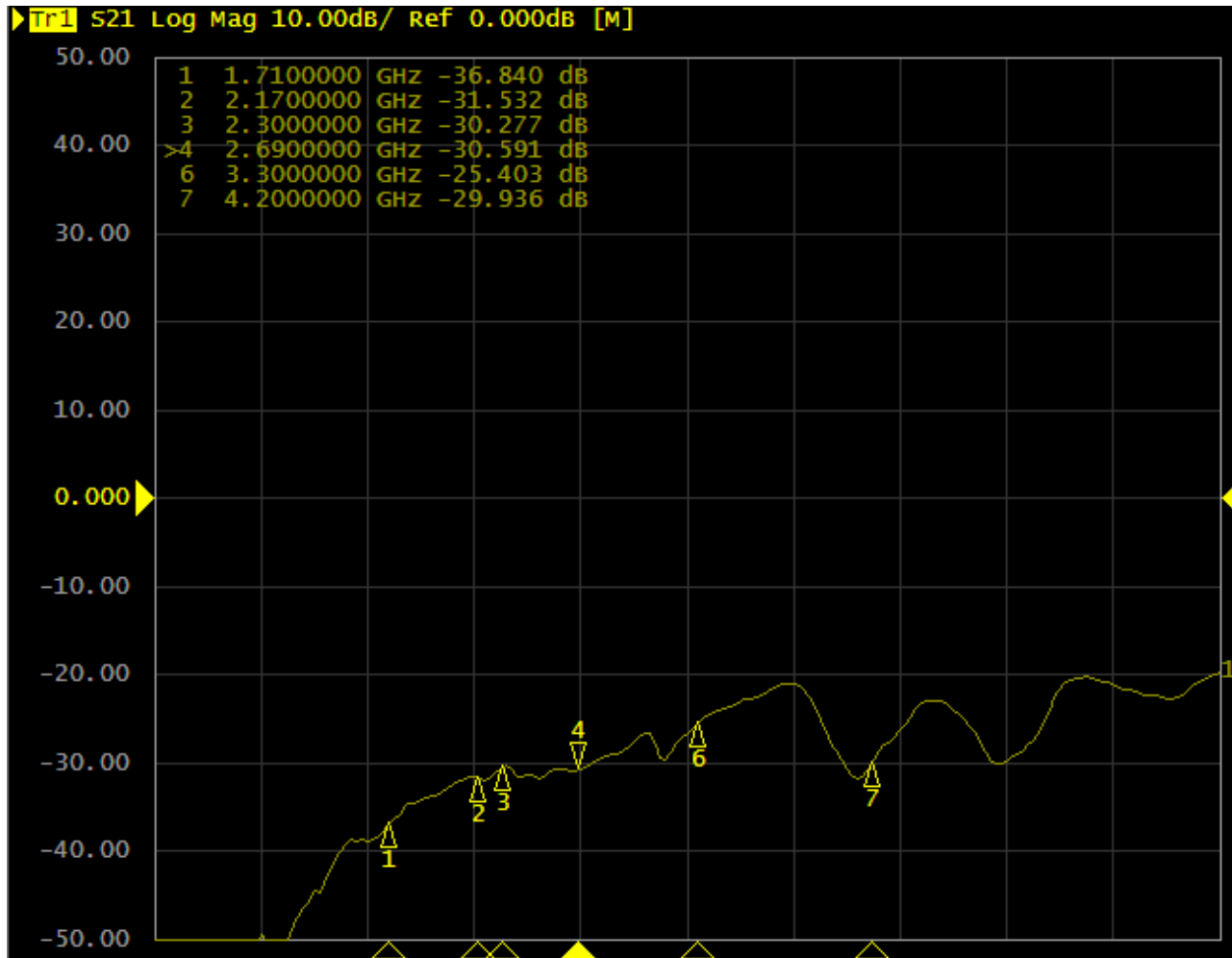


Isolation degree between ANT5 and ANT7

► Tr1 S21 Log Mag 10.00dB/ Ref 0.000dB [M]

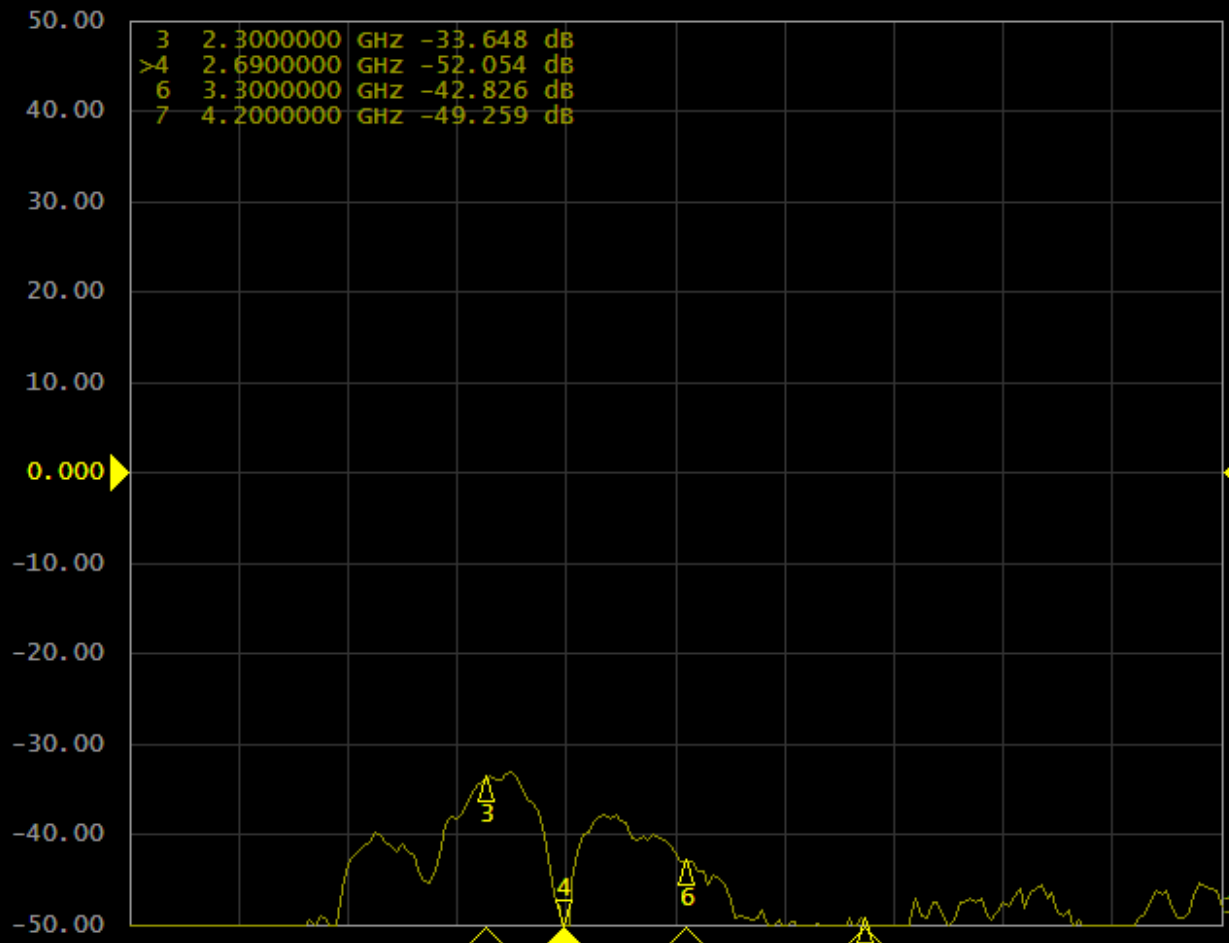


Isolation degree between ANT4 and ANT7

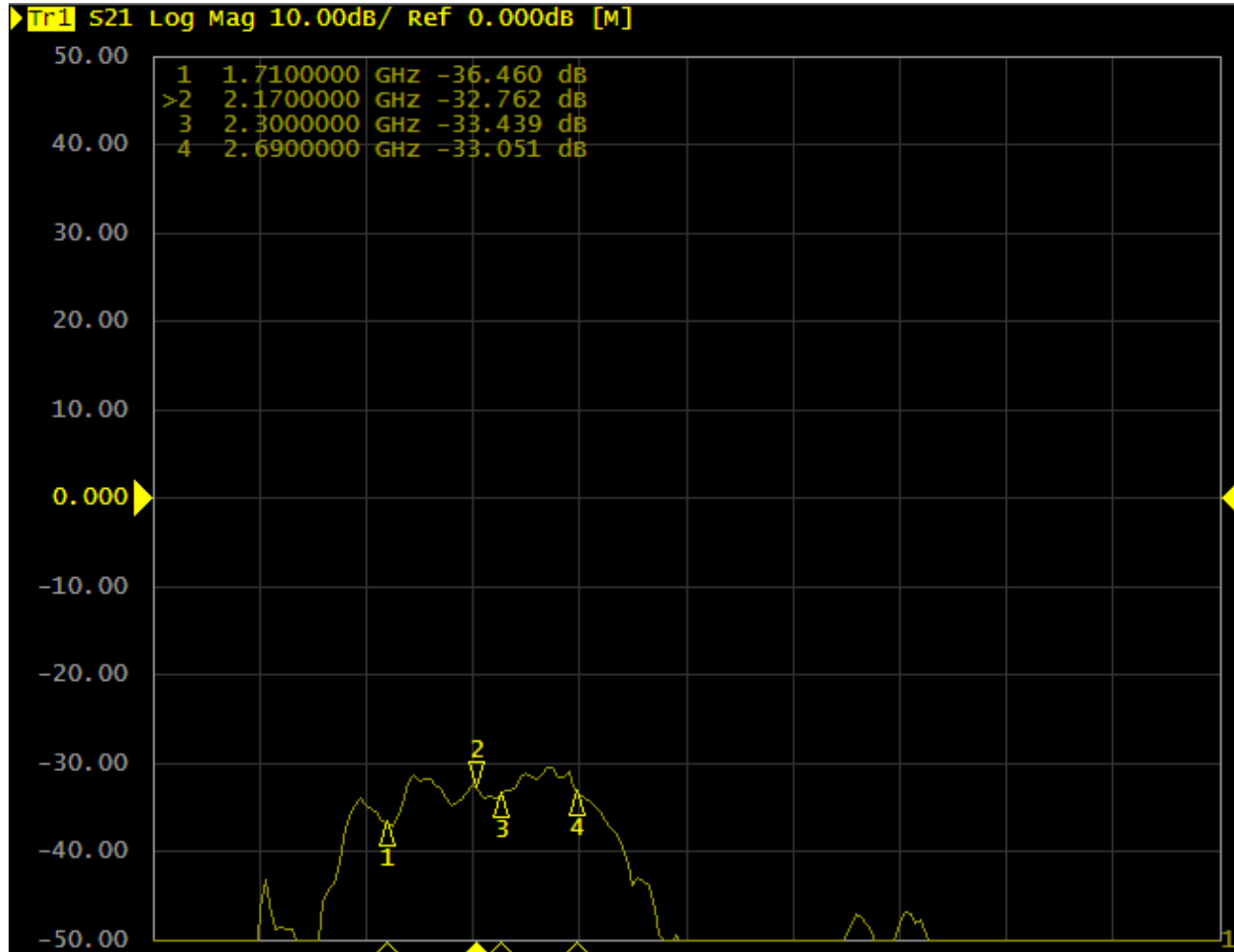


Isolation degree
between ANT5 and
ANT7

▶ Tr1 S21 Log Mag 10.00dB/ Ref 0.000dB [M]

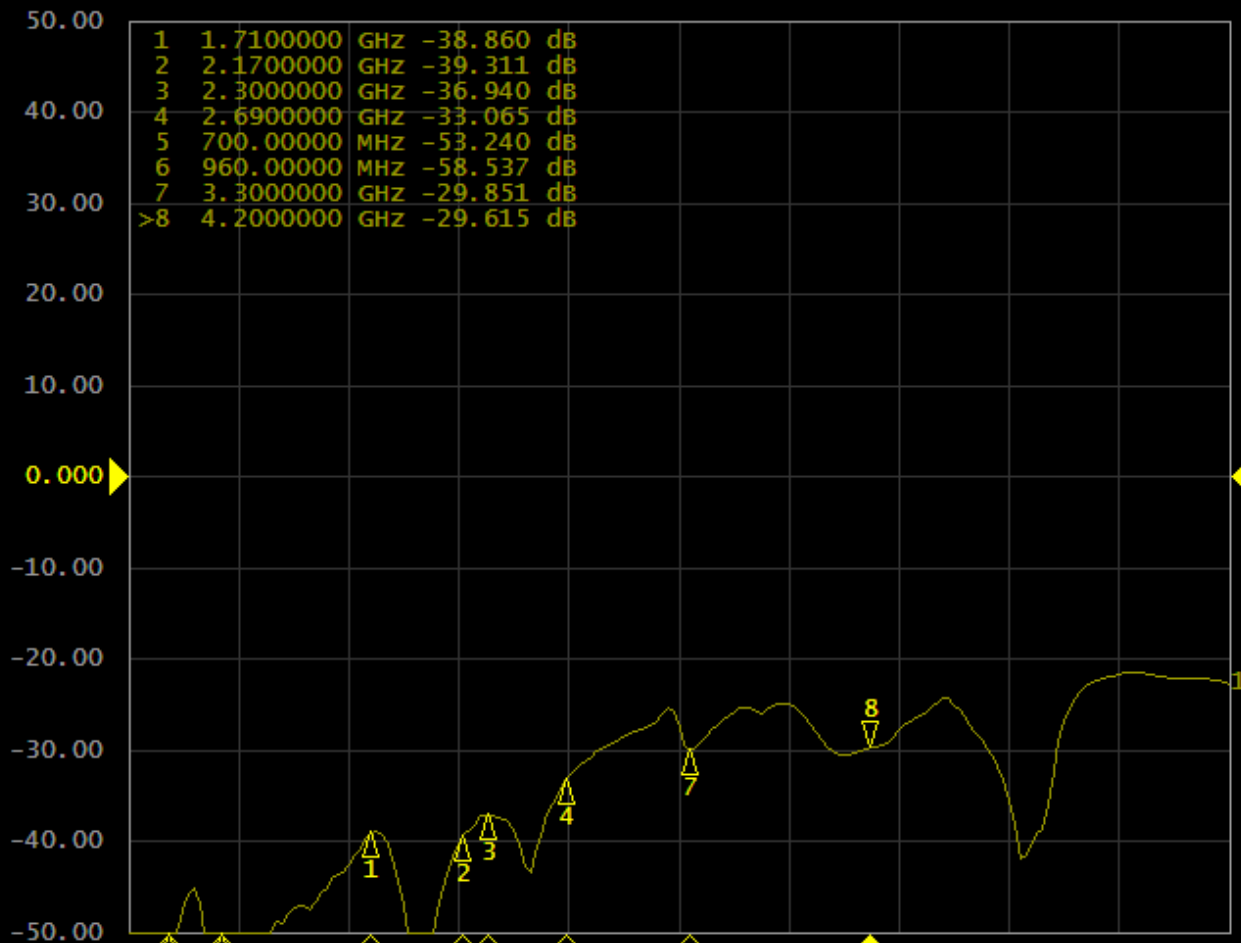


Isolation degree between ANT4 and ANT3

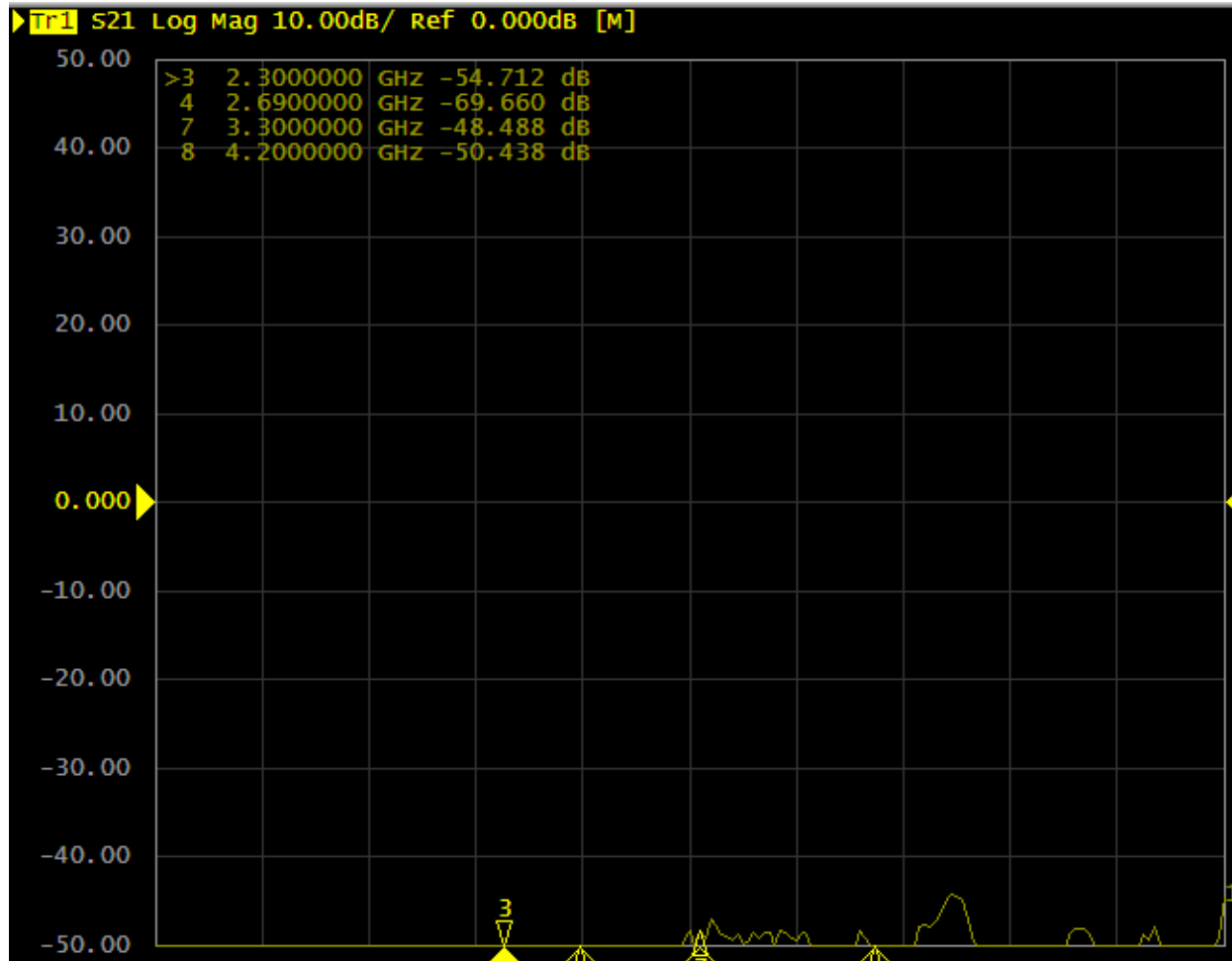


Isolation degree between ANT1 and ANT2

► Tr1 S21 Log Mag 10.00dB/ Ref 0.000dB [M]

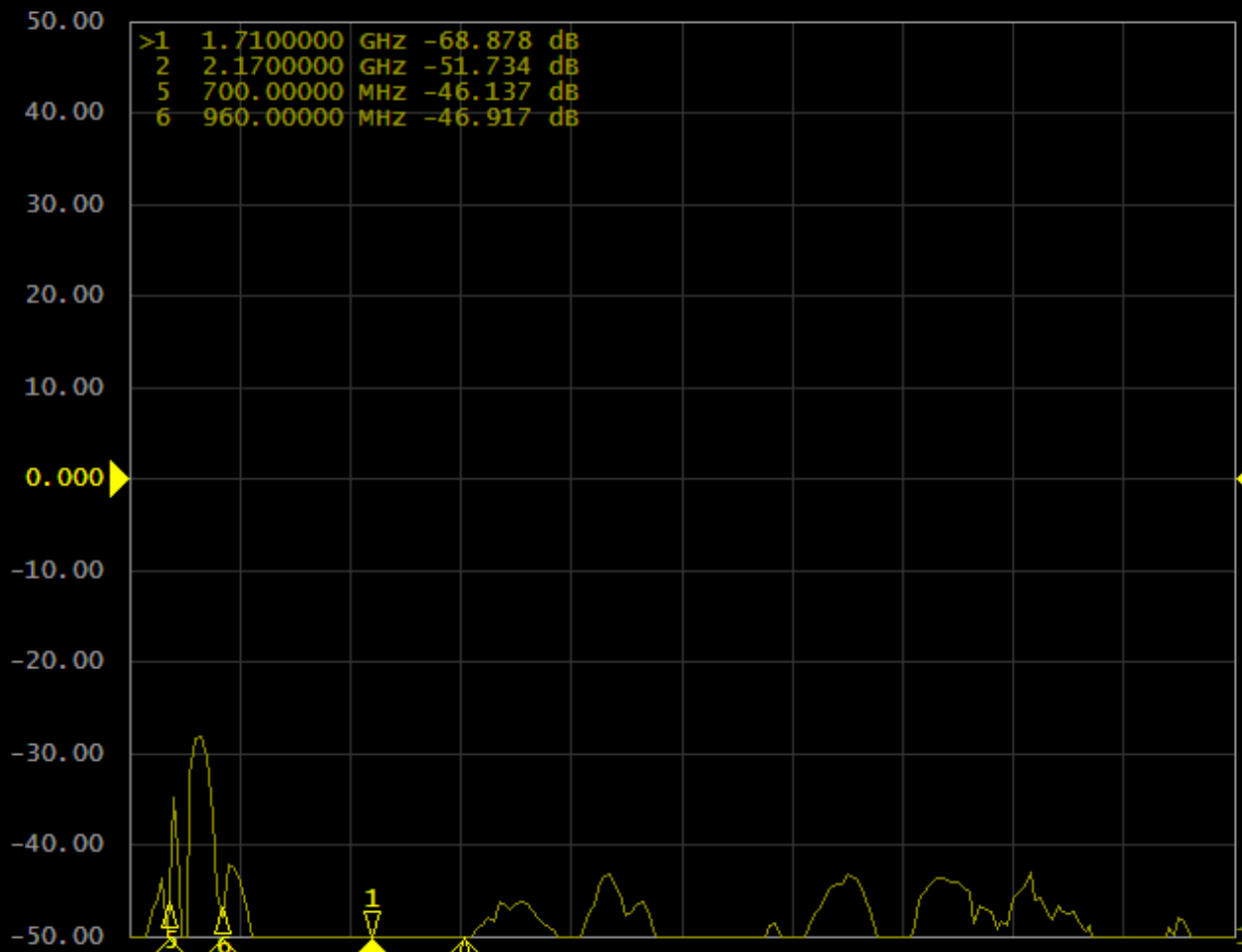


Isolation degree between ANT6 and ANT7

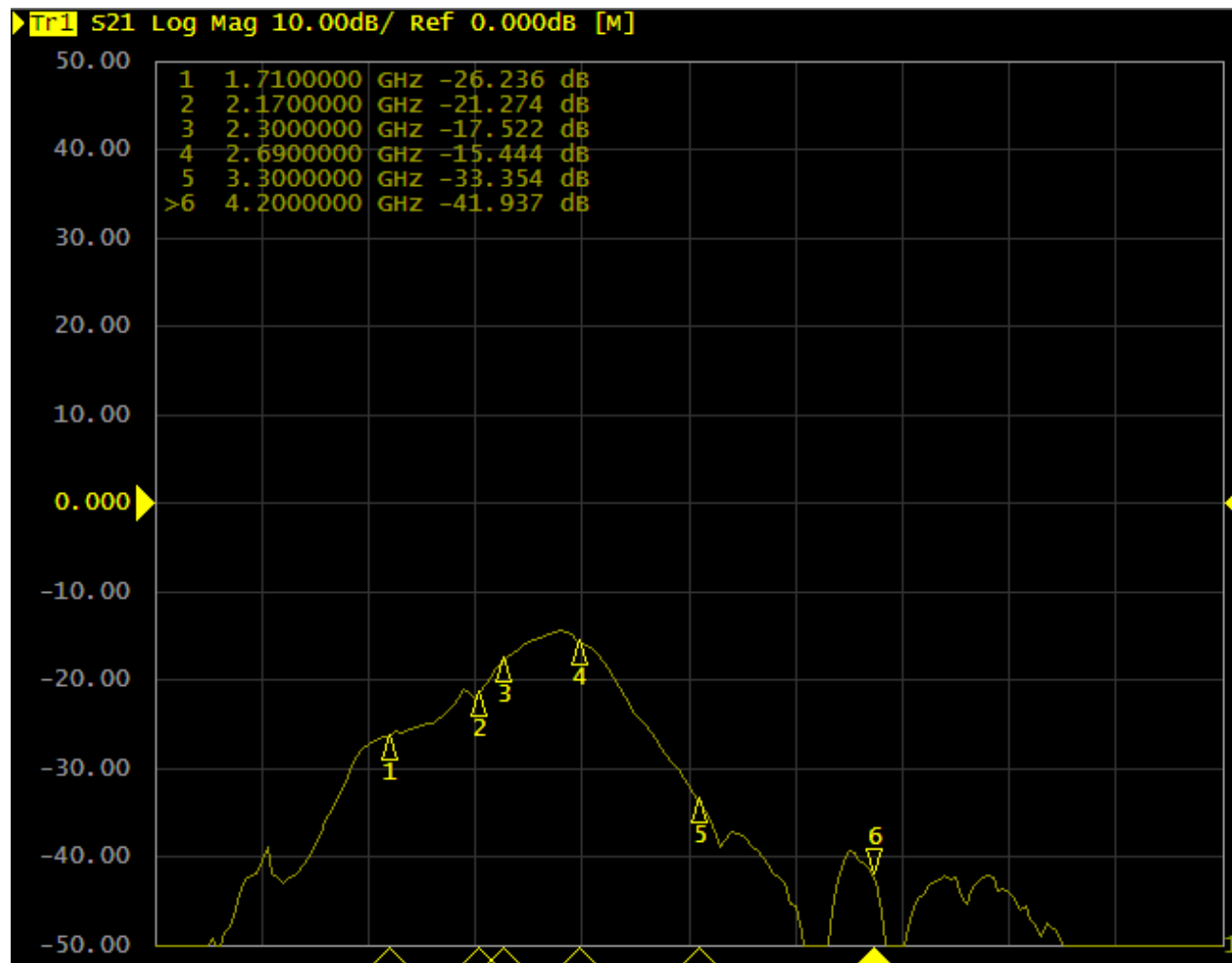


Isolation degree between ANT1 and ANT0

► Tr1 S21 Log Mag 10.00dB/ Ref 0.000dB [M]

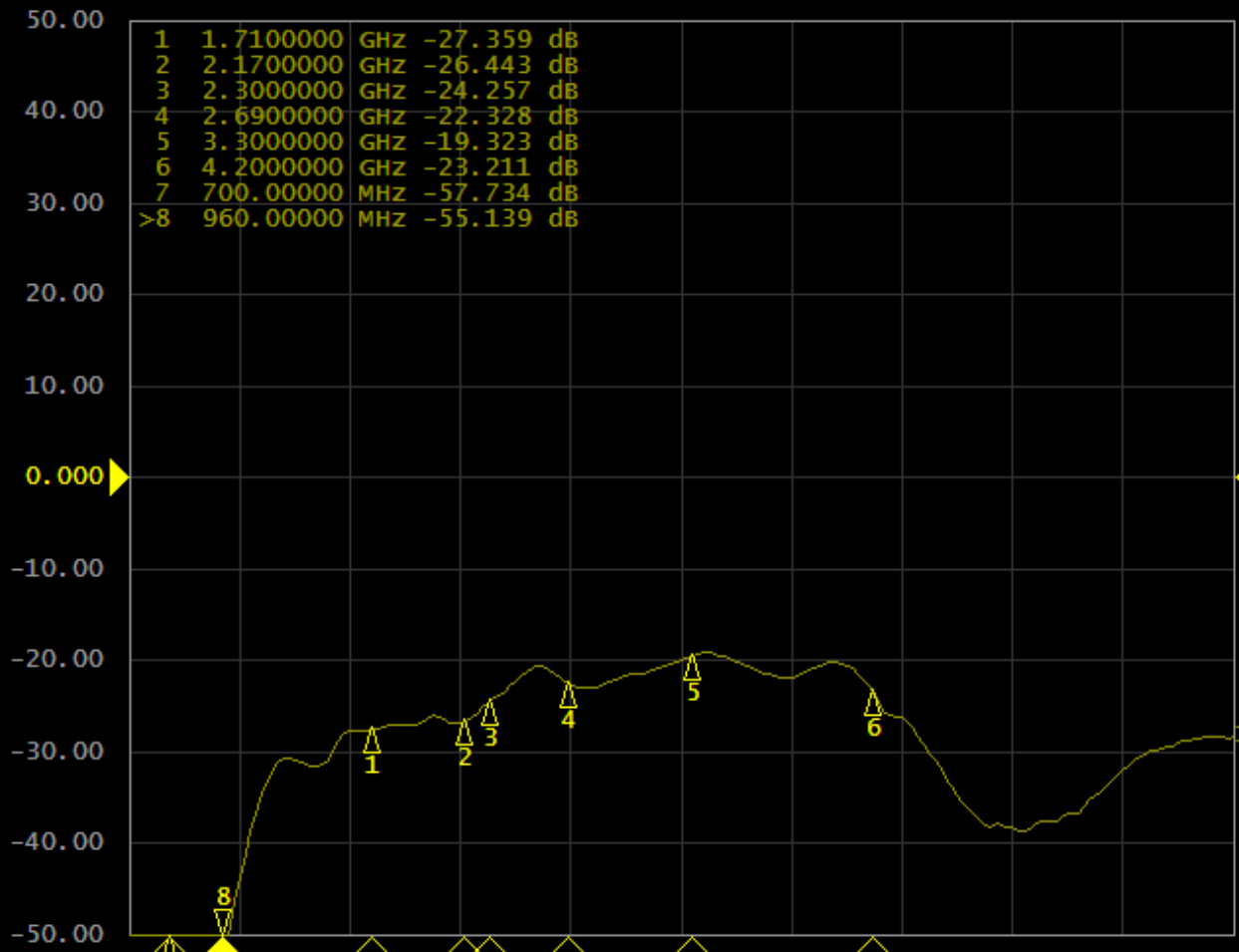


Isolation degree between ANT3 and ANT7

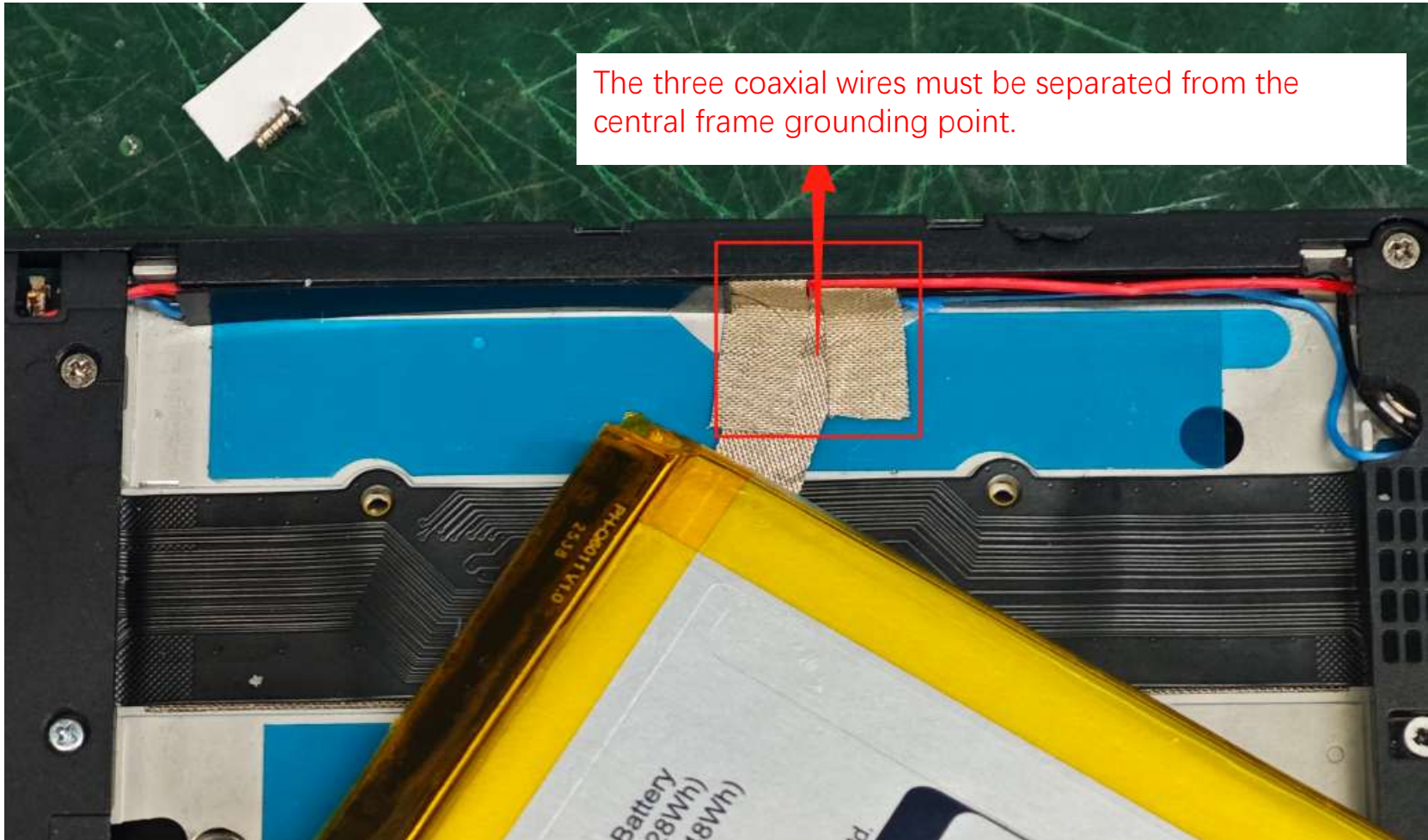


Isolation degree between ANT7 and ANT8

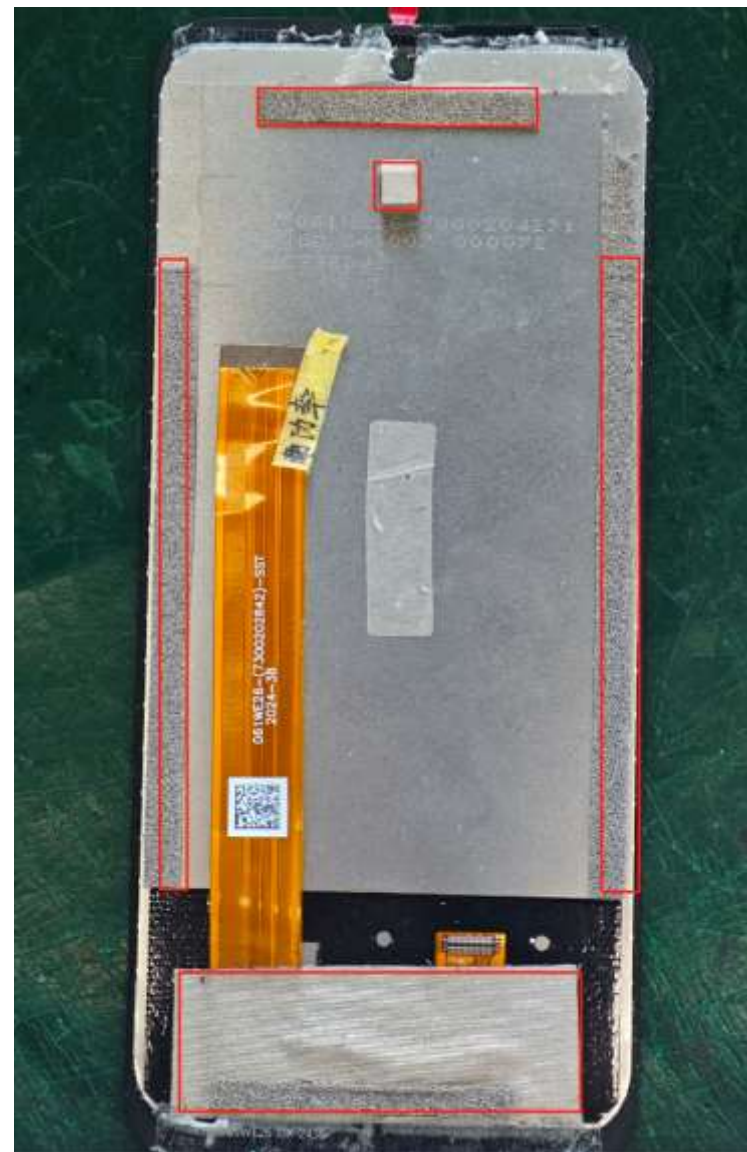
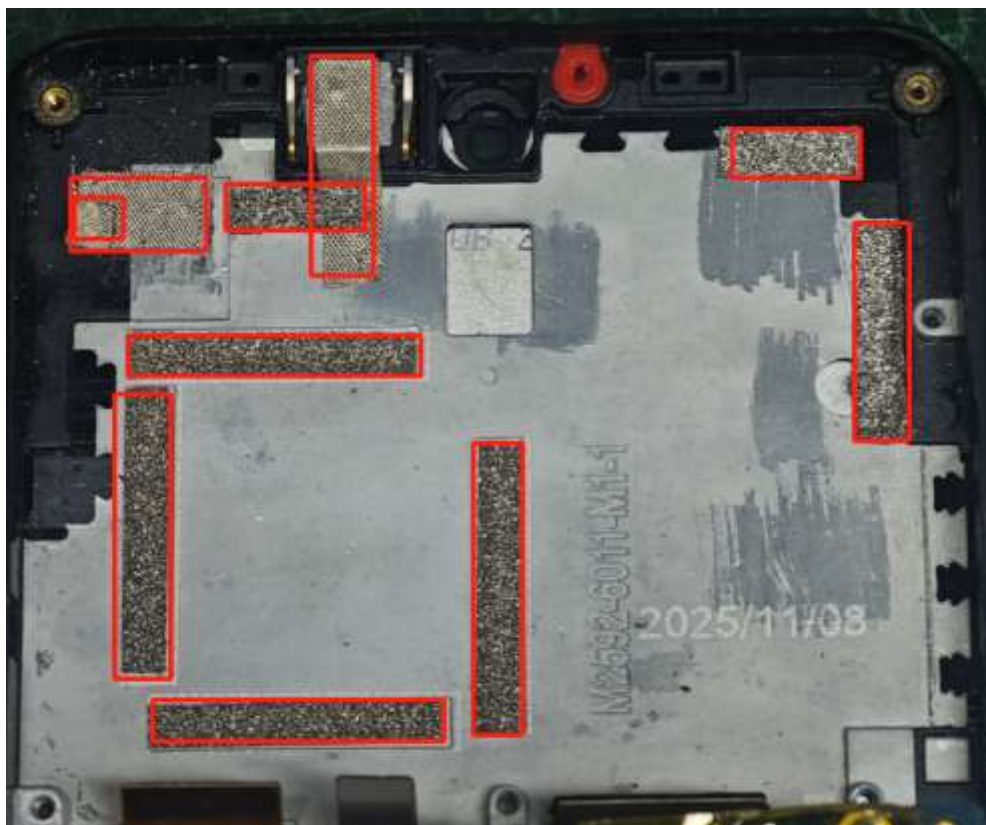
► **Tp1** S21 Log Mag 10.00dB/ Ref 0.000dB [M]



Environmental treatment



Environmental treatment

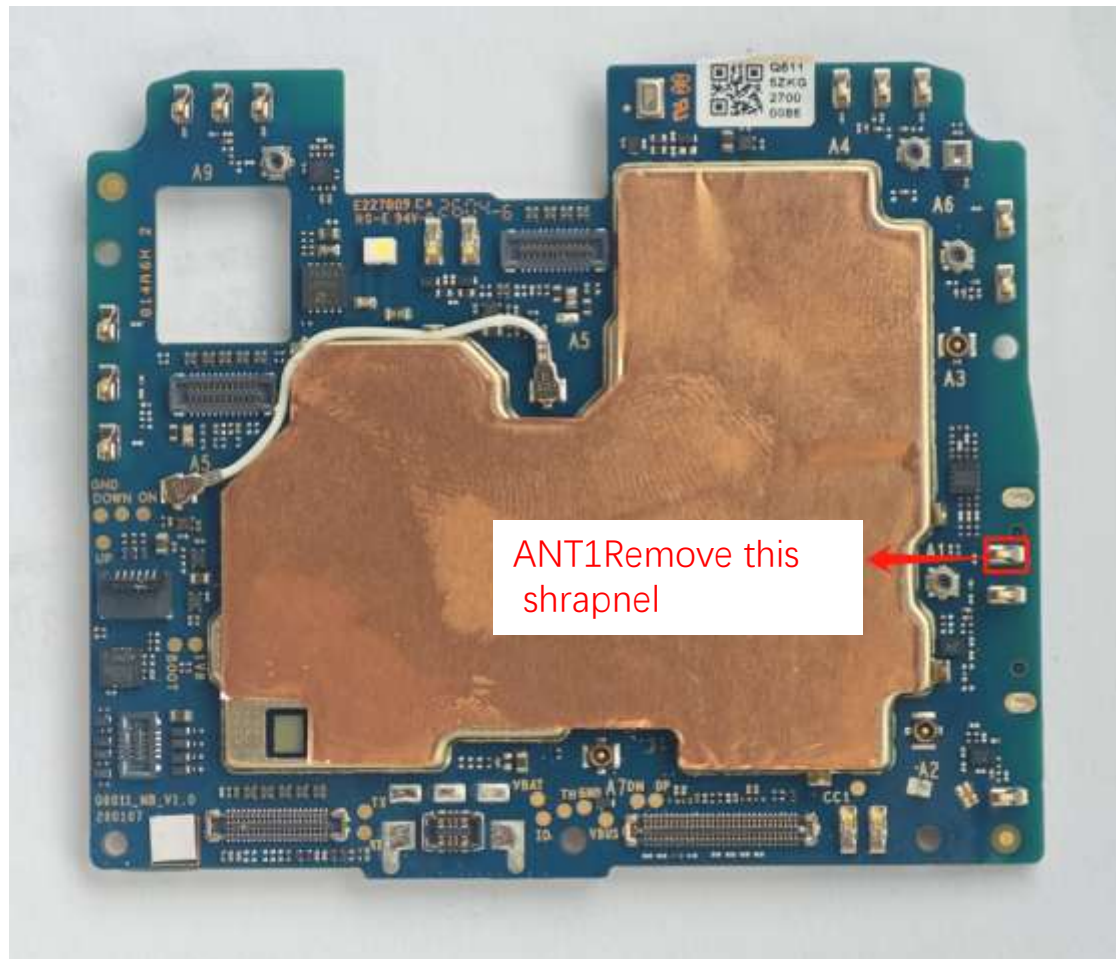


Environmental treatment



Special attention must be paid to the stability of grounding connections between this component and the central frame.
(It is recommended to add conductive fabric or thin conductive foam)

Environmental treatment

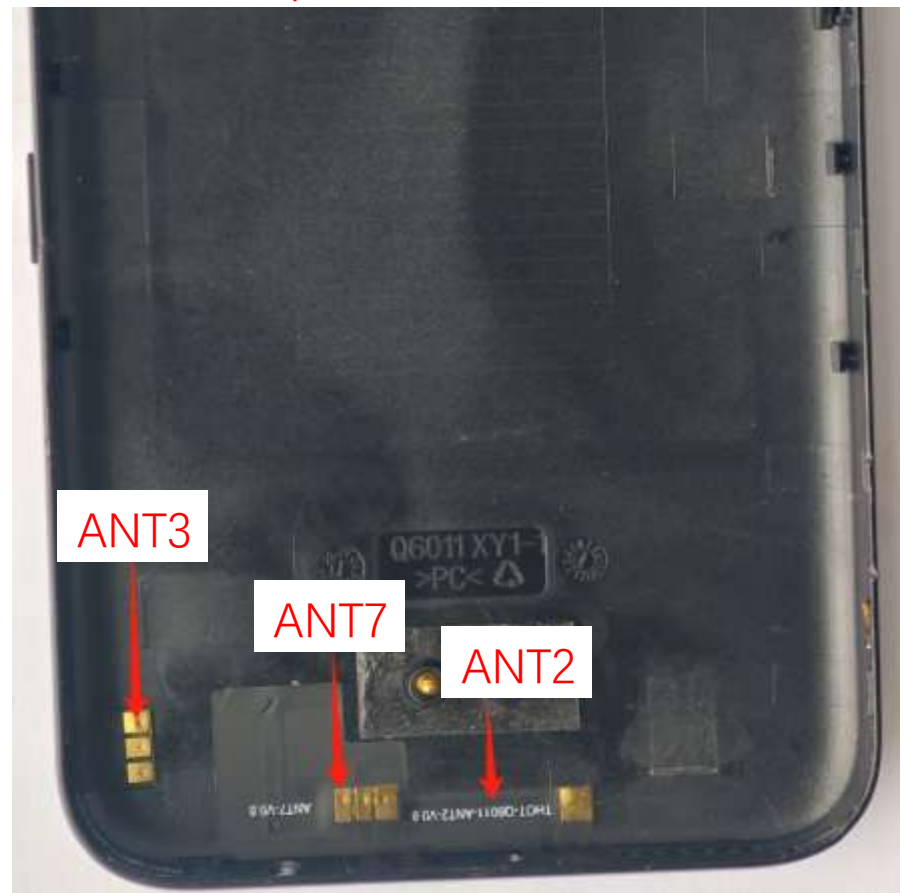


Antenna Layout

Upper part:



Lower part:



sum up

- 1, The middle frame metal beneath the feed points of ANT5 and ANT6 must be ground off.
- 2, The three coaxial wires of ANT2/3/7 must be separated from the central frame grounding at each midpoint.
- 3, Only the matches with marked changes will be updated; other matches remain unchanged.

Thank you!



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