

SPECIFICATION

UNIMAX

2AUOUC6D Antenna

Product approval sheet

Customer	Rhino Mobility LLC	Band	LTE Band 2/4/5/7/12/13/14/17/18/19/25/26/29 /30/41/66/71 WCDMA B2/4/5
FCC ID	2AUOUC6D	Colour	Black

Customer check:

Reach requirement of customer: OK NG

Address: 8 The Green, Suite A, Dover, Delaware, 19901, USA

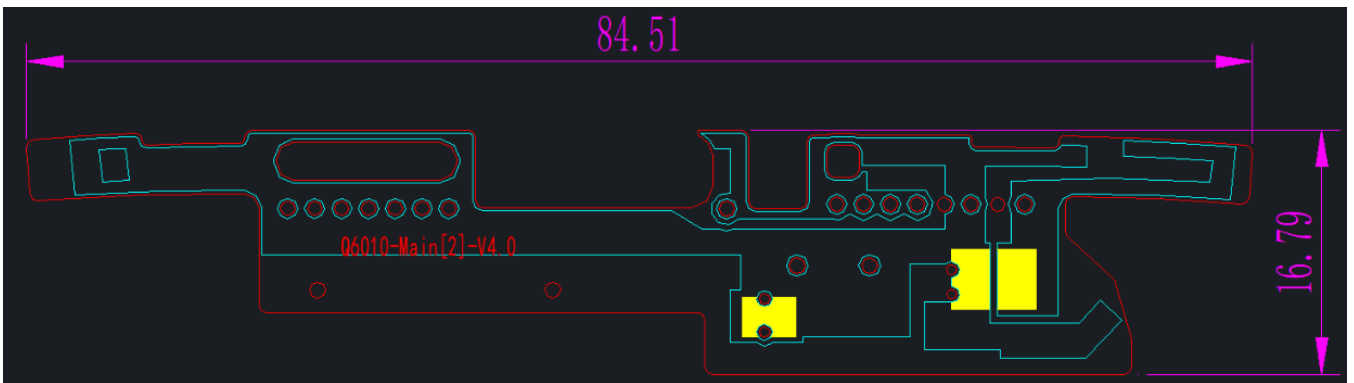
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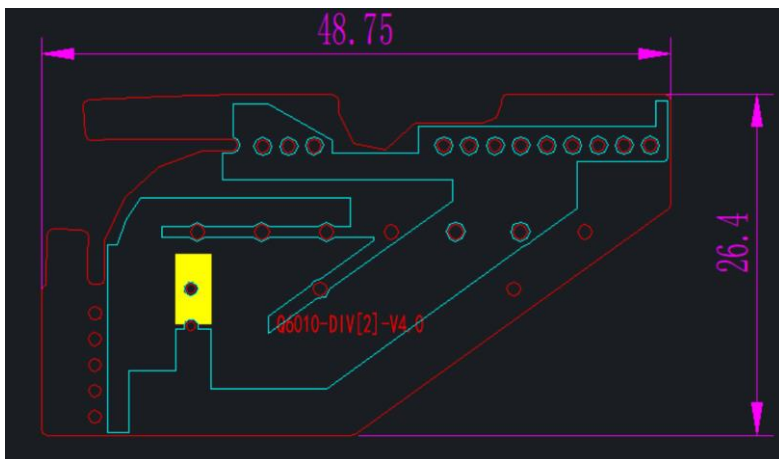
1 General description

1.1 Antenna appearing diagram

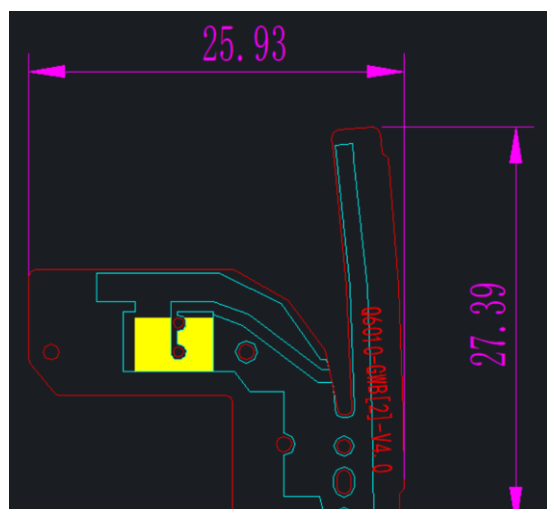
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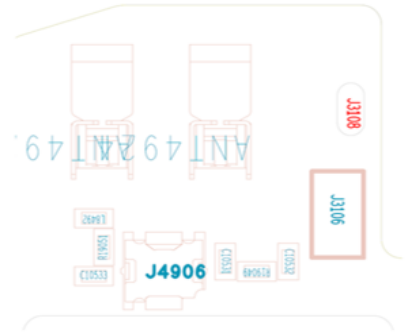


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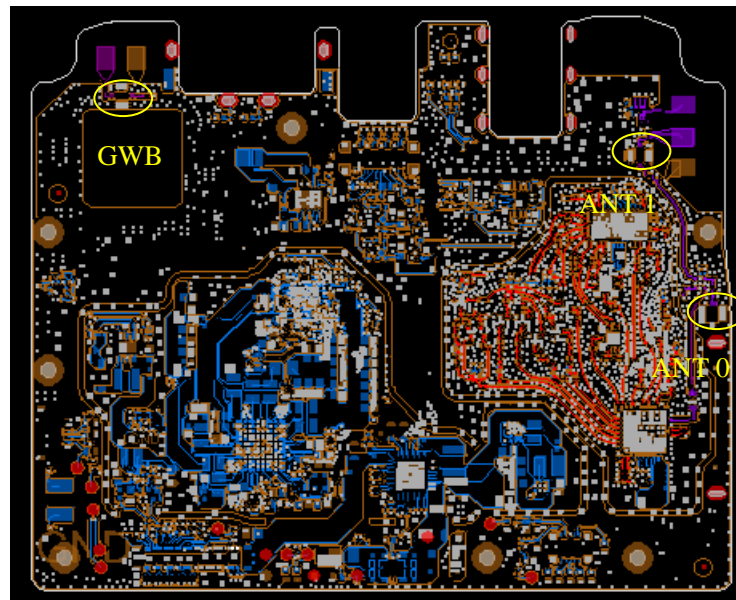


Three-in-one antenna matching

Three-in-one antenna matching	
BIT	VALUE
L8492	NC
R19051	1.5nH
C10533	NC



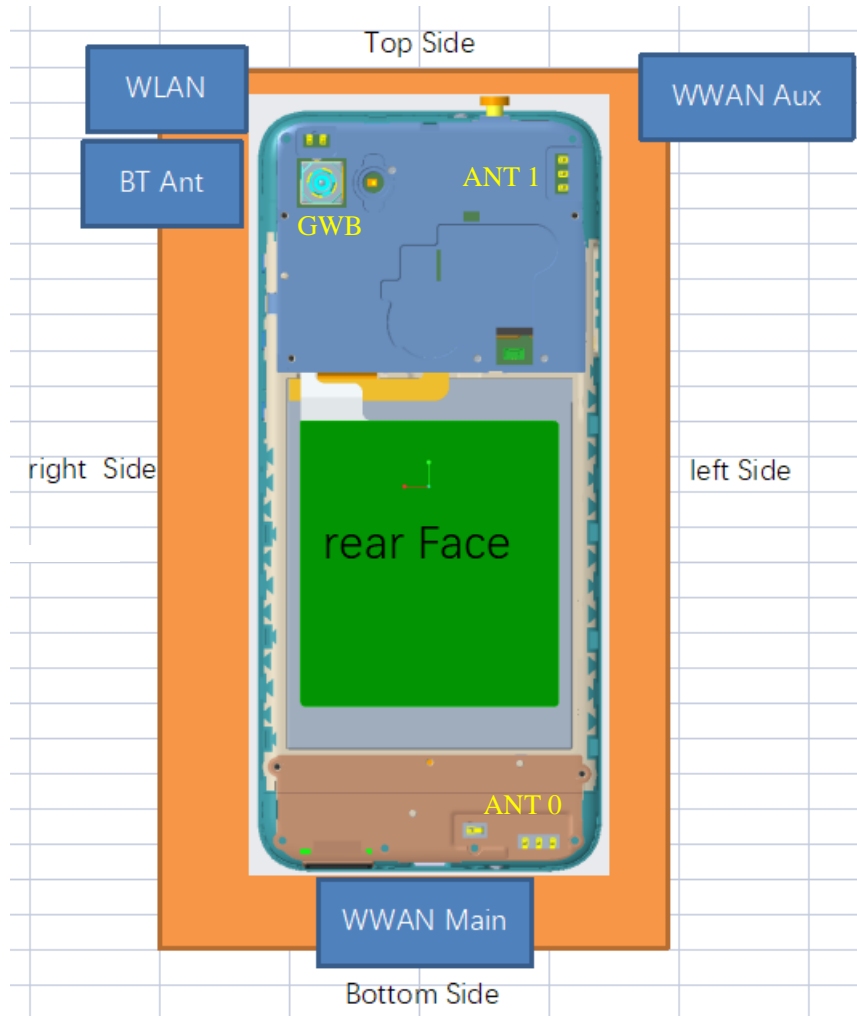
1.3 Antenna PORT



Confidential Information

	LTE	WCDMA	GSM	GPS	WiFi	BT
ANT 0	Band 2/4/5/7/12/13/14/17/18/19/ 25/26/29/30/41/66/71 TRX	Band 2/4/5				
ANT 1	Band 2/4/5/7/12/13/14/17/18/19/ 25/26/29/30/41/66/71 DRX					
GWB				L1	2.4G WiFi 5G WiFi	BT

1.4 Antenna location

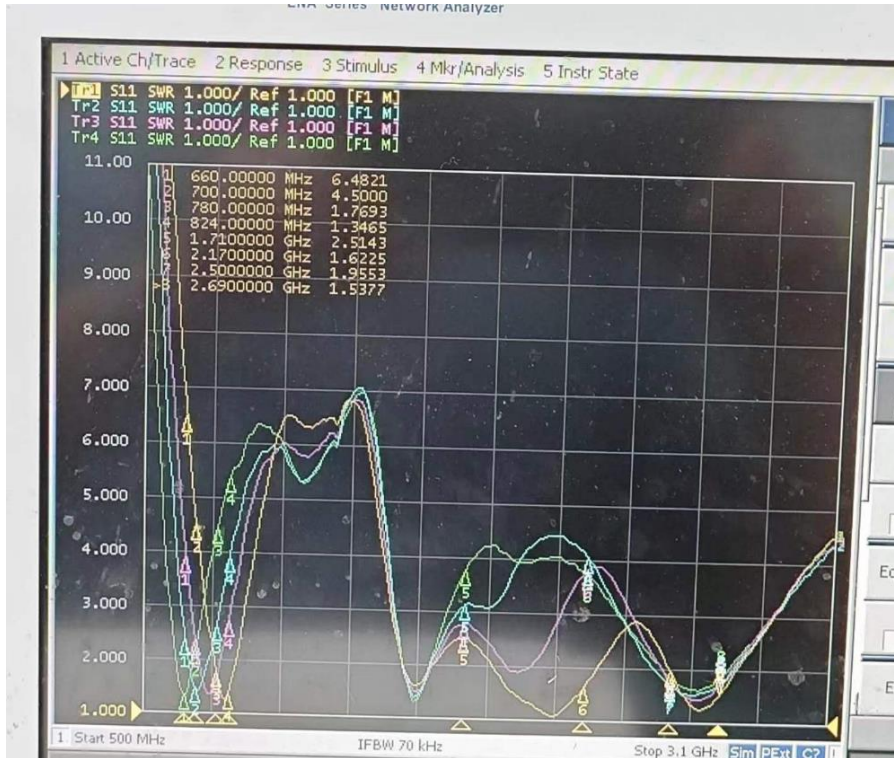


Antenna Location	Support Function	Top Side(mm)	Bottom Side(mm)	Left Side(mm)	Right Side(mm)
WWAN Main Antenna	TX/RX	147.3	1.1	1.1	1.1
WWAN Aux Antenna	DRX	1.1	141.2	1.1	38.3
WLAN Main Antenna	TX/RX	1.1	140.7	47.6	1.1
BT Antenna	follow WLAN Main ANT				

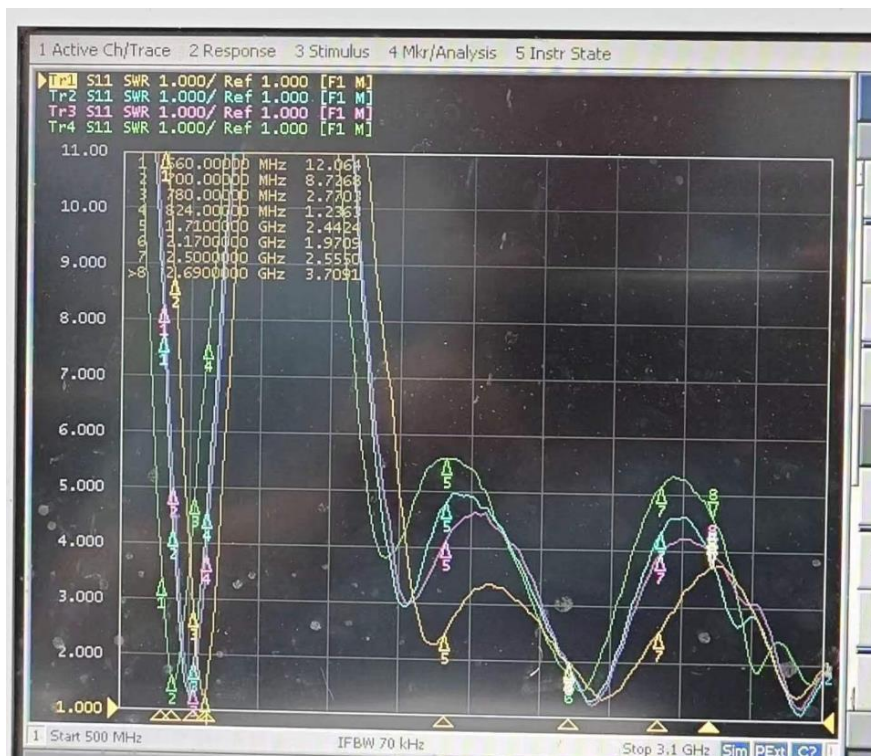
2 Electrical performance

2.1 VSWR

ANT0



ANT1



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2.2 Efficiency & Gain

ANTO

B5

Freq (MHz)	Gain (dBi)
820	-1.8
830	-1.6
840	-1.23
850	-1.13
860	-1.15
870	-1.41
880	-1.52
890	-1.69
900	-1.78

B12

Freq (MHz)	Gain (dBi)
700	-3.65
710	-1.98
720	-1.47
730	-1.2
740	-0.95
750	-0.52
760	-0.38
770	-1.34
780	-1.84
790	-1.62
800	-1

B13

Freq (MHz)	Gain (dBi)
720	-2.15
730	-1.79
740	-1.35
750	-0.9
760	-0.64
770	-1.47
780	-1.85
790	-1.57
800	-0.89

B71

Freq (MHz)	Gain (dBi)
600	-13.04
610	-11.92
620	-9.93
630	-7.69
640	-5.88
650	-4.85
660	-4.07
670	-4
680	-4.62
690	-3.56
700	-2.92

Confidential Information

ANT0 1710~2690MHz
1710-2690

Freq (MHz)	Gain (dBi)	Freq (MHz)	Gain (dBi)	Freq (MHz)	Gain (dBi)
1700	-1.32	2000	-0.25	2300	-0.74
1710	-1.36	2010	-0.08	2310	-1.09
1720	-1.33	2020	-0.07	2320	-1.32
1730	-1.46	2030	0.1	2330	-1.26
1740	-1.71	2040	0.24	2340	-1.32
1750	-1.57	2050	0.26	2350	-1.7
1760	-1.35	2060	0.19	2360	-1.78
1770	-1.34	2070	0.19	2370	-2.28
1780	-1.17	2080	0.13	2380	-2.24
1790	-1.14	2090	0.33	2390	-2.14
1800	-1.25	2100	0.19	2400	-1.76
1810	-1.31	2110	-0.29	2410	-1.58
1820	-1.53	2120	-0.48	2420	-1.23
1830	-1.53	2130	-0.12	2430	-1.11
1840	-1.26	2140	0.01	2440	-0.73
1850	-0.84	2150	-0.01	2450	-0.64
1860	-0.73	2160	-0.02	2460	-0.91
1870	-0.68	2170	-0.03	2470	-0.94
1880	-0.49	2180	0.05	2480	-0.84
1890	-0.29	2190	0.32	2490	-0.57
1900	-0.06	2200	0.41	2500	-0.29
1910	-0.04			2510	-0.22
1920	-0.13			2520	-0.12
1930	-0.18			2530	0.16
1940	-0.46			2540	0.39
1950	-0.43			2550	0.65
1960	-0.59			2560	0.88
1970	-0.67			2570	1.16
1980	-0.6			2580	1.11
1990	-0.41			2590	1.24
				2600	1.43
				2610	1.54
				2620	1.33
				2630	1.31
				2640	1.41
				2650	1.33
				2660	1.41
				2670	1.4
				2680	1.45

Confidential Information

2690	1. 2
2700	1. 11

ANT1

B5

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)
780	10.52	-9.78	-7.44	-9.59
790	13.97	-8.55	-6.65	-8.8
800	20.12	-6.96	-5.37	-7.52
810	19.79	-7.04	-5.49	-7.64
820	19.71	-7.05	-5.05	-7.2
830	18.2	-7.4	-5.27	-7.42
840	16.78	-7.75	-5.06	-7.21
850	15.09	-8.21	-5.21	-7.36
860	13.41	-8.72	-5.67	-7.82
870	11.63	-9.34	-6.45	-8.6
880	9.77	-10.1	-7.35	-9.5
890	8.34	-10.79	-8.14	-10.29
900	6.91	-11.61	-8.86	-11.01

B12

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
700	11.69	-9.32	-5.79
710	16.74	-7.76	-4.11
720	18.13	-7.41	-4.05
730	18.83	-7.25	-4.03
740	19.63	-7.07	-3.94
750	21.67	-6.64	-3.76
760	22.03	-6.57	-3.89
770	16.54	-7.81	-5.03
780	13.55	-8.68	-6.11
790	12.97	-8.87	-6.38
800	13.45	-8.71	-6.34

B13

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
740	13.33	-8.75	-5.29
750	16.44	-7.84	-4.69
760	20.94	-6.79	-3.81
770	19.69	-7.06	-4.34
780	20.49	-6.88	-4.38
790	21.79	-6.62	-4.09
800	25.24	-5.98	-3.77
810	22.07	-6.56	-3.9
820	18.02	-7.44	-4.4

B71

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
620	2.02	-16.95	-14.28
630	3.31	-14.8	-11.74
640	4.7	-13.28	-9.94
650	5.97	-12.24	-8.82
660	7.78	-11.09	-7.83
670	8.63	-10.64	-7.69
680	9.18	-10.37	-7.96
690	9.95	-10.02	-6.86
700	11.54	-9.38	-5.8
710	16.46	-7.84	-4.18
720	17.75	-7.51	-4.19
730	18.37	-7.36	-4.2
740	18.98	-7.22	-4.01
750	20.91	-6.8	-3.82
760	21.26	-6.72	-3.91
770	16.08	-7.94	-5.19
780	13.27	-8.77	-6.23
790	12.81	-8.92	-6.53
800	13.4	-8.73	-6.28
810	11.1	-9.55	-6.63

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ANT 1 1710~2690MHz

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
1710	24.99	-6.02	-2.16	2210	38.4	-4.16	-0.07
1720	25.34	-5.96	-2.07	2220	39.05	-4.08	0.14
1730	24.89	-6.04	-2.06	2230	40.07	-3.97	0.27
1740	24.25	-6.15	-2.09	2240	40.07	-3.97	0.3
1750	24.5	-6.11	-1.97	2250	40.28	-3.95	0.32
1760	25.3	-5.97	-1.69	2260	40.46	-3.93	0.4
1770	24.5	-6.11	-1.66	2270	41.54	-3.82	0.48
1780	25.45	-5.94	-1.37	2280	39.98	-3.98	0.27
1790	26	-5.85	-1.18	2290	40.51	-3.92	0.22
1800	26.11	-5.83	-1.12	2300	41.55	-3.81	0.31
1810	27.26	-5.64	-0.9	2310	42.45	-3.72	0.51
1820	27.02	-5.68	-0.98	2320	44.38	-3.53	0.81
1830	26.74	-5.73	-1.06	2330	46.29	-3.34	1.03
1840	27.93	-5.54	-1.07	2340	46.35	-3.34	1.22
1850	30.26	-5.19	-0.85	2350	47.73	-3.21	1.32
1860	31.05	-5.08	-0.84	2360	45.84	-3.39	1.31
1870	30.78	-5.12	-0.96	2370	45.17	-3.45	1.21
1880	29.87	-5.25	-1.13	2380	45.5	-3.42	1.39
1890	31.16	-5.06	-1.08	2390	46.25	-3.35	1.49
1900	32.92	-4.83	-0.95	2400	45.3	-3.44	1.46
1910	32.34	-4.9	-1.14	2410	44.89	-3.48	1.47
1920	31.69	-4.99	-1.38	2420	42.56	-3.71	1.29
1930	30.95	-5.09	-1.65	2430	41.33	-3.84	1.13
1940	28.53	-5.45	-2.19	2440	40.68	-3.91	1.07
1950	30.26	-5.19	-1.98	2450	40.35	-3.94	1.05
1960	29.52	-5.3	-2.04	2460	40.49	-3.93	1.16
1970	29.1	-5.36	-2.05	2470	37.42	-4.27	0.83
1980	30.57	-5.15	-1.79	2480	37.06	-4.31	0.87
1990	31.69	-4.99	-1.61	2490	38.19	-4.18	1
2000	32.94	-4.82	-1.51	2500	37.96	-4.21	1.11
2010	33.49	-4.75	-1.43	2510	35.96	-4.44	0.89
2020	30.72	-5.13	-1.85	2520	36.42	-4.39	1.08
2030	30.79	-5.12	-1.92	2530	33.89	-4.7	0.73
2040	31.25	-5.05	-2.07	2540	33.04	-4.81	0.64
2050	32.52	-4.88	-1.97	2550	31.62	-5	0.35
2060	36.01	-4.44	-1.45	2560	30.35	-5.18	0.1
2070	37.76	-4.23	-1.09	2570	28.42	-5.46	-0.31
2080	36.79	-4.34	-1	2580	26.28	-5.8	-0.61
2090	37.84	-4.22	-0.74	2590	23.4	-6.31	-1.03
2100	38.67	-4.13	-0.53	2600	23.86	-6.22	-0.94
2110	34.57	-4.61	-1.05	2610	21.89	-6.6	-1.39
2120	33.99	-4.69	-1.11	2620	19.74	-7.05	-1.91
2130	33.75	-4.72	-1.12	2630	18.95	-7.22	-2.36
2140	34.13	-4.67	-1	2640	19.12	-7.18	-2.46
2150	33.93	-4.69	-0.93	2650	18.27	-7.38	-2.8
2160	33.84	-4.71	-0.89	2660	18.93	-7.23	-2.95
2170	34.47	-4.63	-0.87	2670	18.02	-7.44	-3.19
2180	35.18	-4.54	-0.85	2680	17.07	-7.68	-3.47
2190	36.35	-4.39	-0.57	2690	15.92	-7.98	-3.84
2200	37.8	-4.22	-0.21				

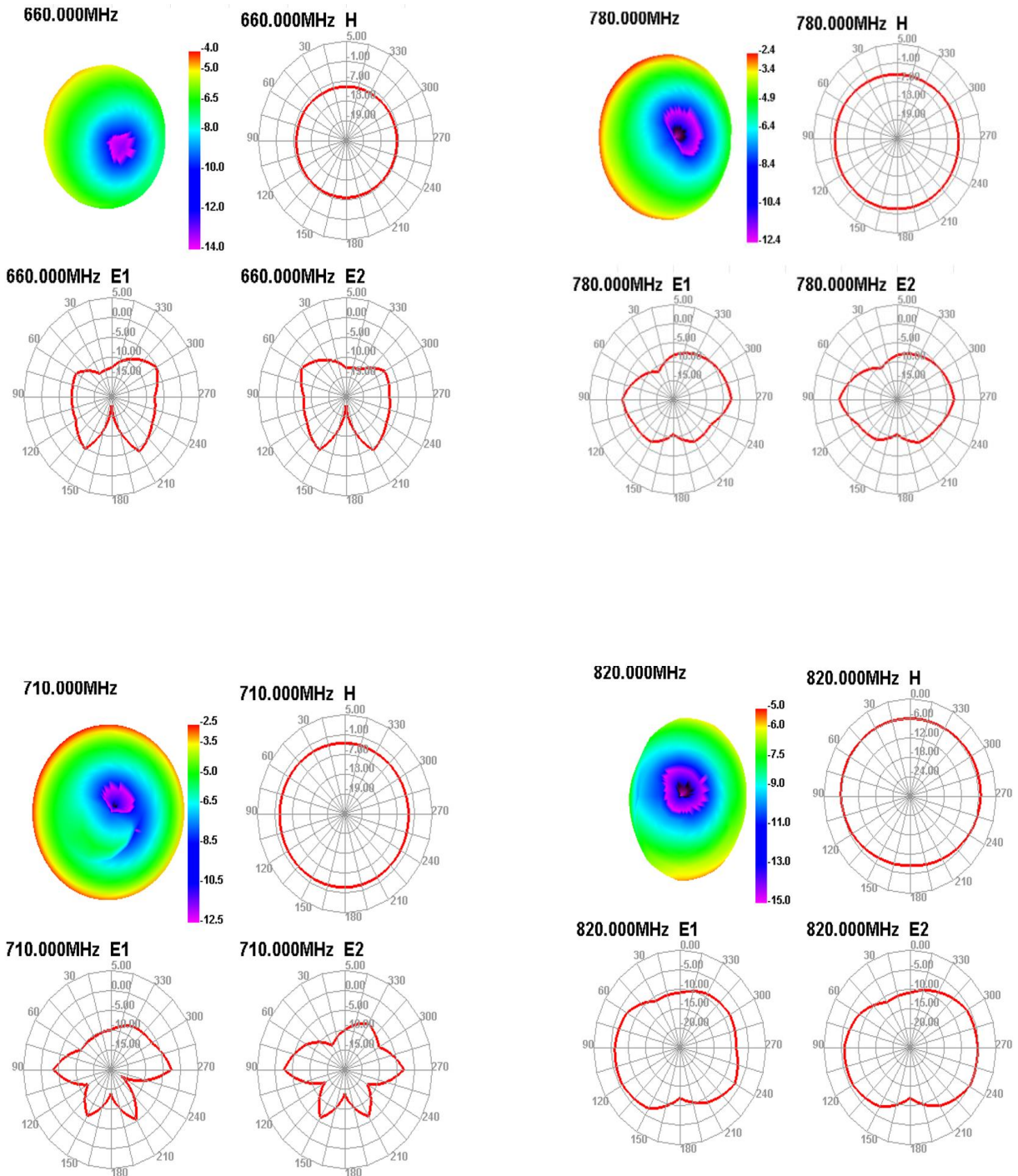
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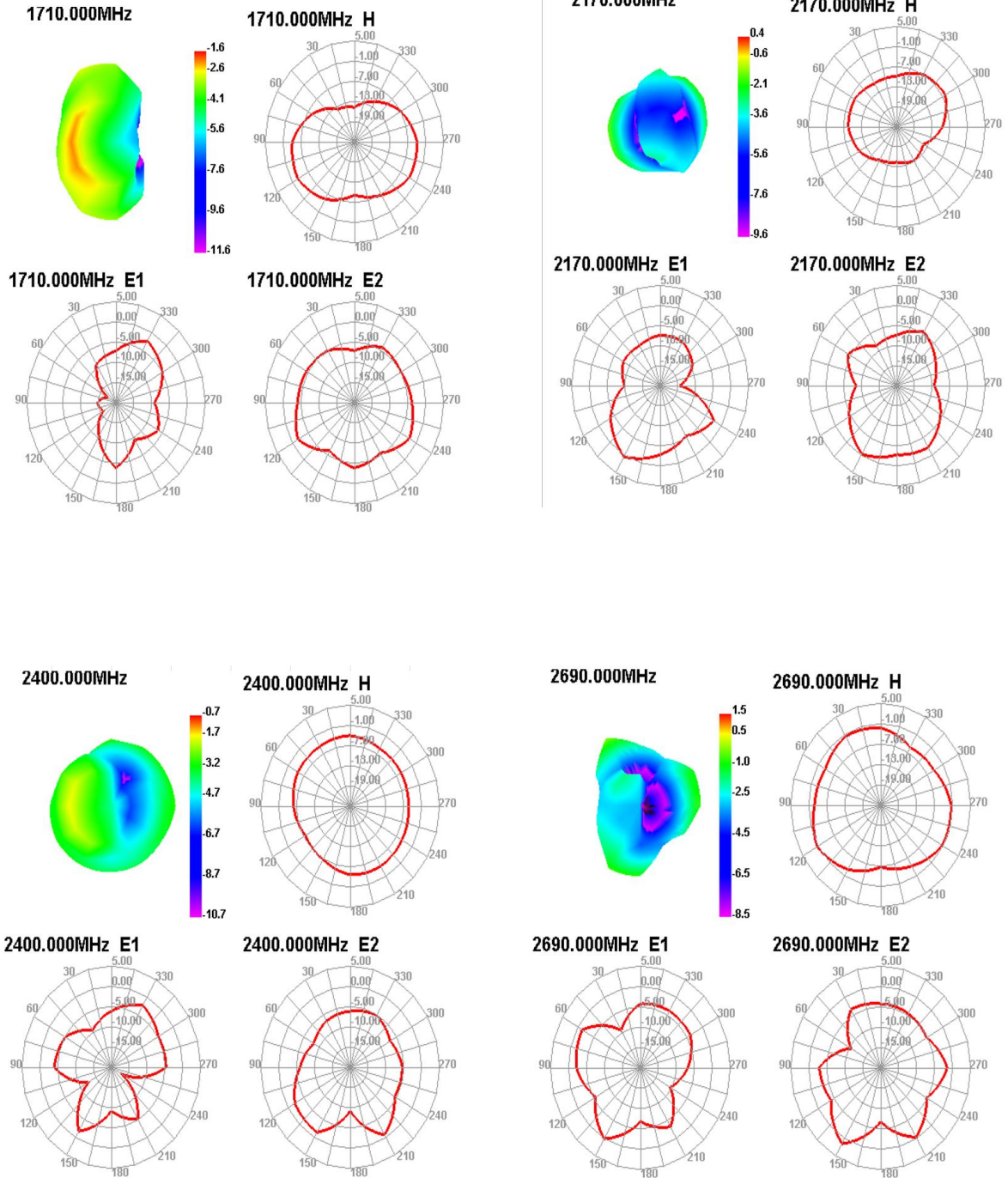
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Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
5150	30.65	-5.14	-0.28	5500	28.79	-5.41	-1.26
5160	31.02	-5.08	-0.43	5510	28.66	-5.43	-1.22
5170	30.38	-5.17	-0.27	5520	29.55	-5.29	-1.17
5180	29.41	-5.32	-0.41	5530	29.26	-5.34	-1.47
5190	28.49	-5.45	-0.51	5540	29.25	-5.34	-1.39
5200	27.83	-5.56	-0.27	5550	28.23	-5.49	-1.59
5210	29.01	-5.37	-0.31	5560	28.1	-5.51	-1.54
5220	29.59	-5.29	-0.29	5570	28.69	-5.42	-0.8
5230	30.78	-5.12	-0.34	5580	28.55	-5.44	-1.26
5240	29.77	-5.26	-0.36	5590	28.16	-5.5	-1.21
5250	27.93	-5.54	-0.41	5600	28.57	-5.44	-1.01
5260	28.5	-5.45	-0.54	5610	28.69	-5.42	-1.04
5270	28.77	-5.41	-0.45	5620	28.63	-5.43	-1.02
5280	28.62	-5.43	-0.71	5630	29	-5.38	-1.06
5290	29.92	-5.24	-0.51	5640	28.76	-5.41	-1.07
5300	27.77	-5.56	-0.38	5650	29.93	-5.24	-1.1
5310	27.74	-5.57	-0.35	5660	30.61	-5.14	-0.95
5320	29.53	-5.3	-0.61	5670	31.18	-5.06	-0.99
5330	29.68	-5.28	-0.67	5680	31.41	-5.03	-0.83
5340	31.66	-5	-0.53	5690	32.42	-4.89	-0.88
5350	32.76	-4.85	-0.47	5700	32.32	-4.91	-0.94
5360	30.68	-5.13	0.1	5710	31.69	-4.99	-0.97
5370	30.18	-5.2	0.01	5720	32.4	-4.89	-1.17
5380	31.12	-5.07	0.08	5730	33.91	-4.7	-0.95
5390	29.31	-5.33	-0.11	5740	34.2	-4.66	-0.54
5400	34.69	-4.6	0.26	5750	35.55	-4.49	-0.36
5410	33.52	-4.75	0.13	5760	33.14	-4.8	0.2
5420	32.63	-4.86	0.21	5770	33.74	-4.72	-0.03
5430	32.58	-4.87	0.14	5780	33.44	-4.76	-0.08
5440	32	-4.95	0.28	5790	33.85	-4.7	-0.01
5450	31.22	-5.06	0.22	5800	32.97	-4.82	-0.14
5460	31.21	-5.06	0.37	5810	33.4	-4.76	0.18
5470	29.59	-5.29	-0.92	5820	33.73	-4.72	-0.21
5480	29.05	-5.37	-0.91	5830	33.64	-4.73	-0.19
5490	28.88	-5.39	-0.85	5840	34.33	-4.64	-0.13
				5850	35.86	-4.45	-0.09
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)				
2400	41.63	-3.81	2.95				
2410	40.97	-3.87	2.94				
2420	39.68	-4.01	2.96				
2430	39.02	-4.09	2.96				
2440	38.87	-4.1	3.03				
2450	38.72	-4.12	3.03				
2460	37.98	-4.2	2.93				
2470	35.77	-4.46	2.61				
2480	35.33	-4.52	2.48				
2490	36.77	-4.34	2.47				
2500	35.91	-4.45	2.33				
1550	32.77	-4.84	1.81				
1555	33.47	-4.75	1.99				
1560	32.9	-4.83	2.02				
1565	32.42	-4.89	2.02				
1570	33.69	-4.73	2.21				
1575	33.49	-4.75	2.25				
1580	34.38	-4.64	2.38				
1585	34.94	-4.57	2.43				
1590	36.06	-4.43	2.46				

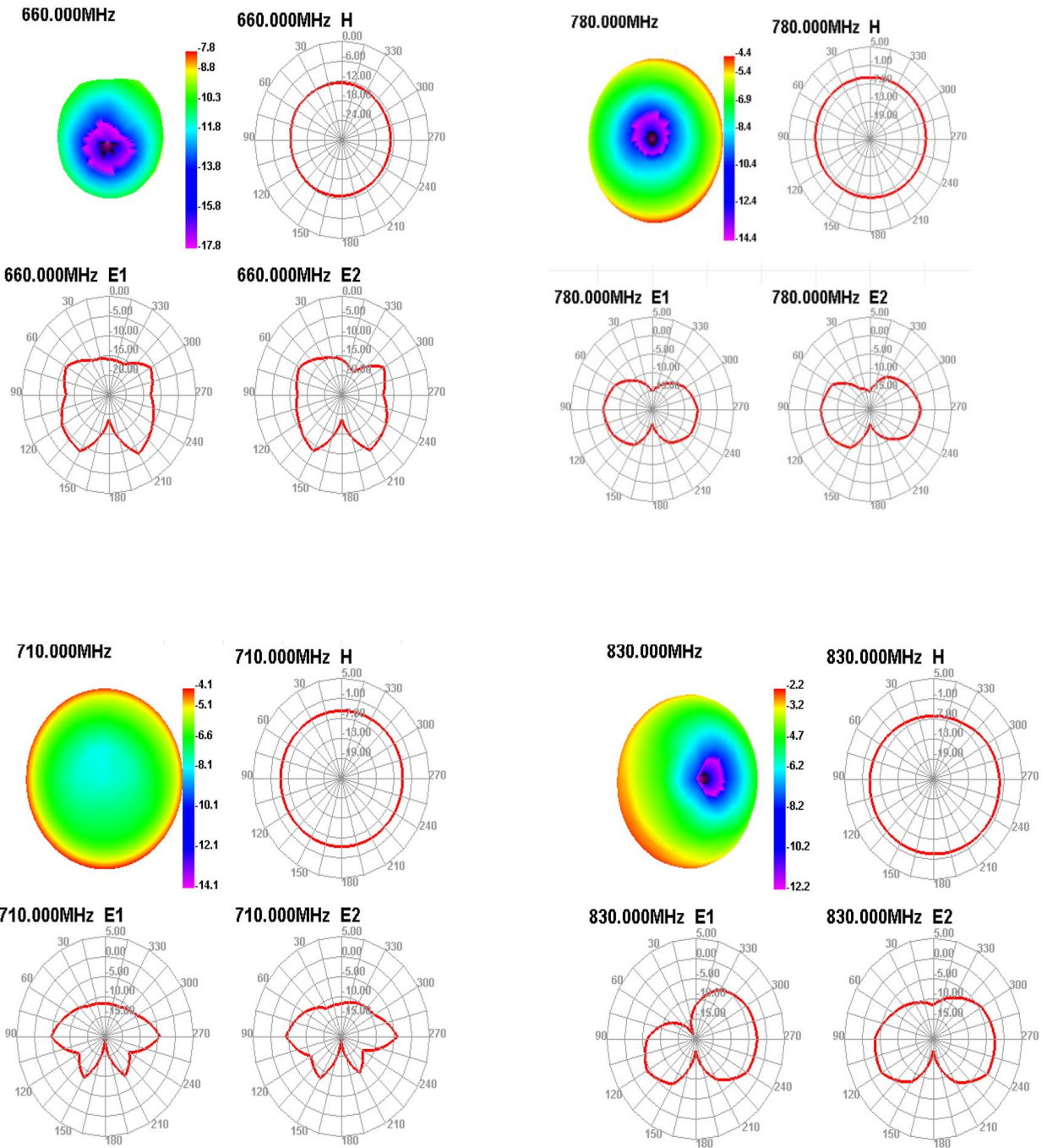
2.3 3D Pattern

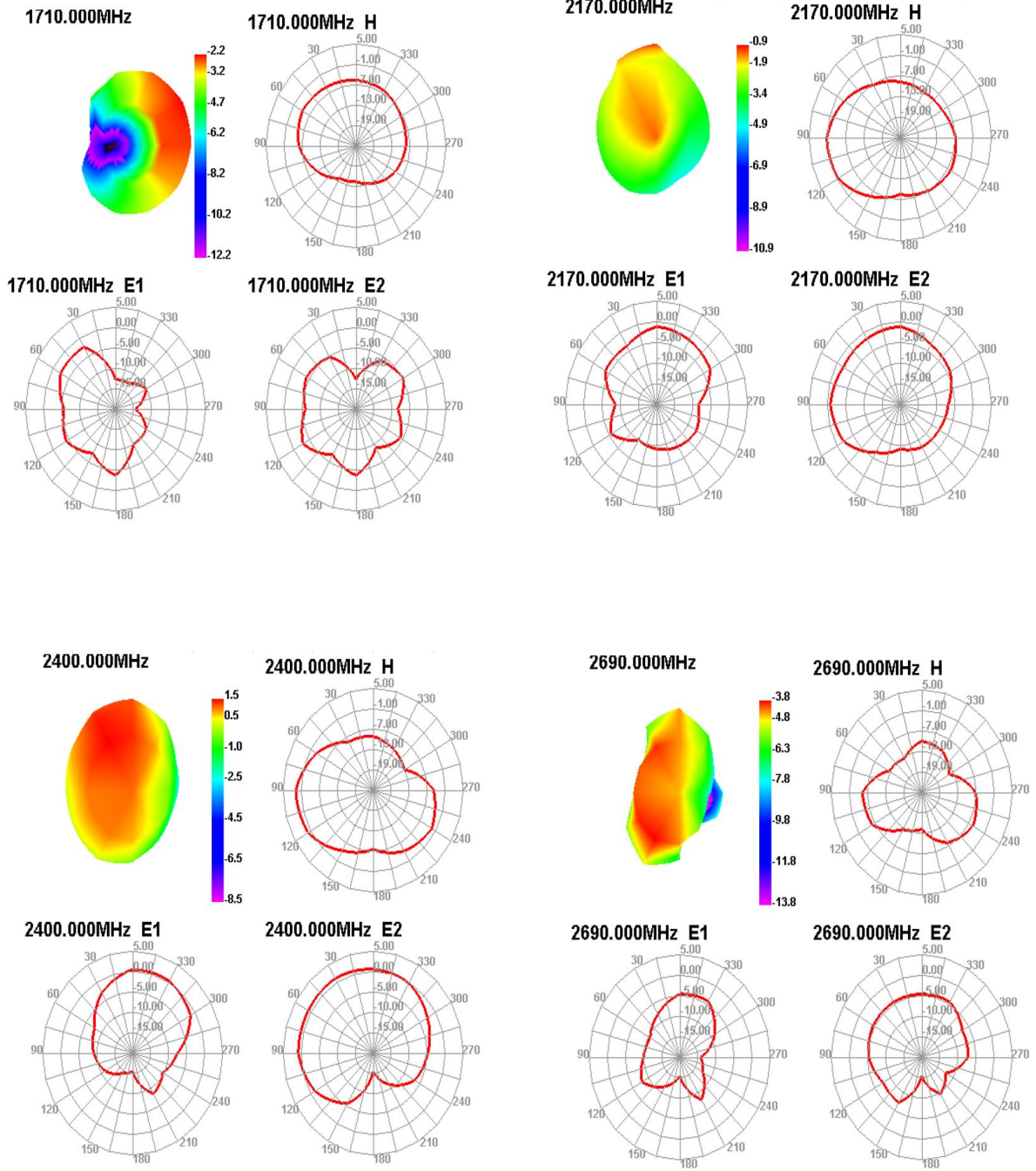
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ANT1





GWB

