

SPECIFICATION

UNIMAX

C6-ROW Antenna

Product approval sheet

Customer	Rhino Mobility LLC	Band	GSM 2/5 WCDMA B5 LTE B2/4/5/7/18/38/40/41
FCC ID	2AUOUC6-ROW	Colour	Black

Customer check:

Reach requirement of customer: ☒OK ☐NG

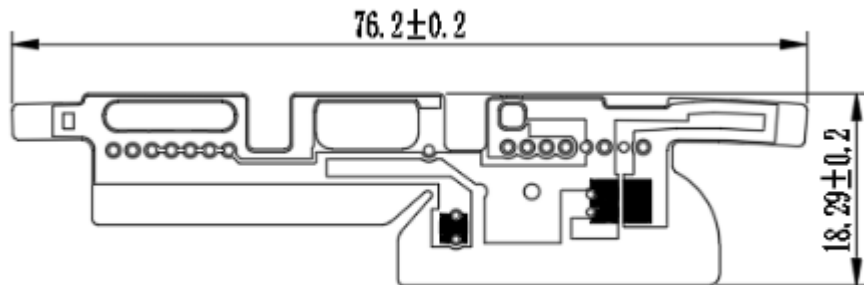
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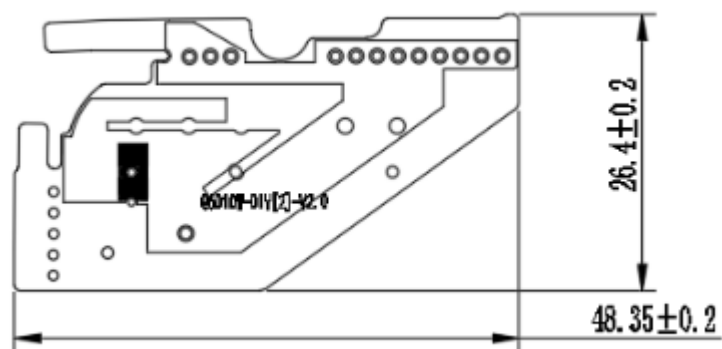
1 General description

1.1 Antenna appearing diagram

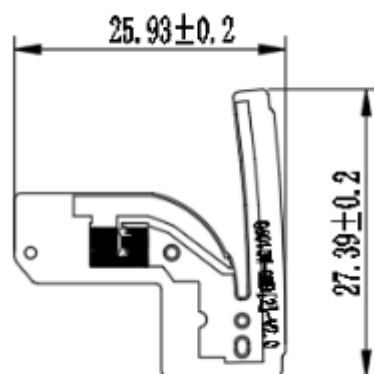
ANT0



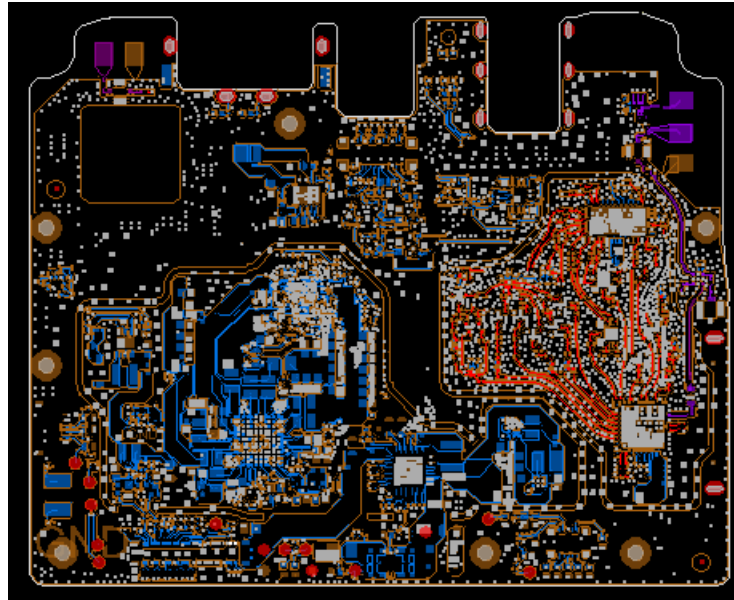
ANT1



GWB

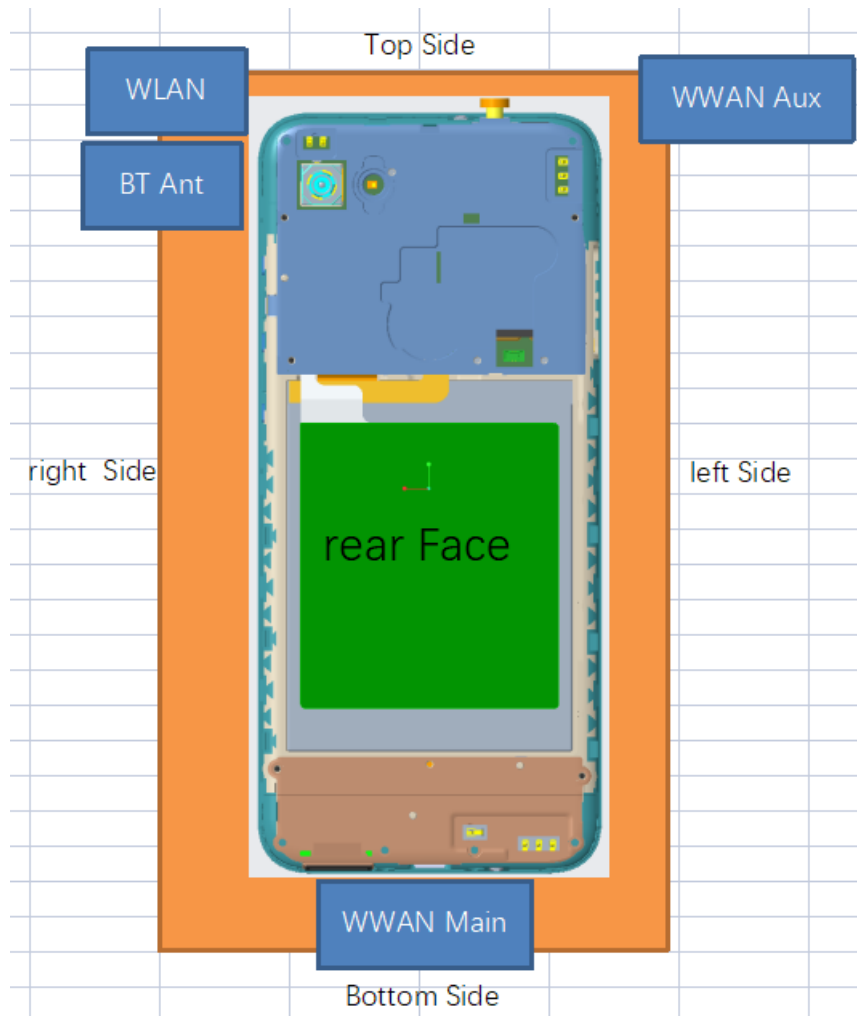


1.3 Antenna PORT



	LTE	WCDMA	GSM	GPS	WiFi	BT
ANT 0	Band 1/2/3/4/5/7/12/13/14/17/ 18/19/20/25/26/29/30/41/ 66/71 TRX	Band 1/5/8/9	GSM 850/900/ 1800/ 1900			
ANT 1	Band 1/2/3/4/5/7/12/13/14/17/ 18/19/20/25/26/29/30/41/ 66/71 DRX					
GWB				L1	2.4G WiFi 5G WiFi	BT

1.4 Antenna location



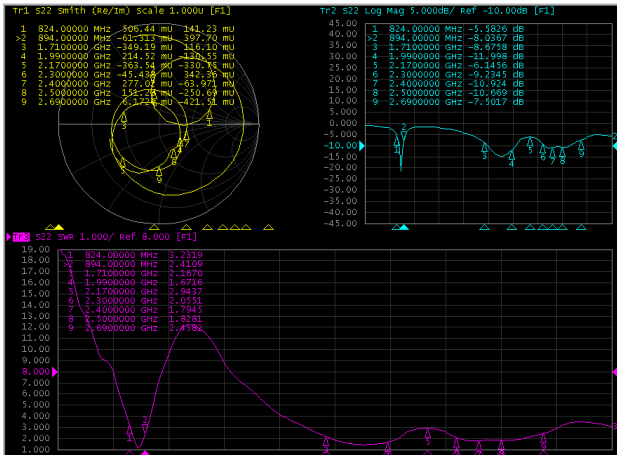
Antenna Location	Support Function	Top Side(mm)	Bottom Side(mm)	Left Side(mm)	Right Side(mm)
WWAN Main Antenna	TX/RX	147.3	1.1	1.1	1.1
WWAN Aux Antenna	DRX	1.1	141.2	1.1	38.3
WLAN Main Antenna	TX/RX	1.1	140.7	47.6	1.1
BT Antenna	follow WLAN Main ANT				

2 Electrical performance

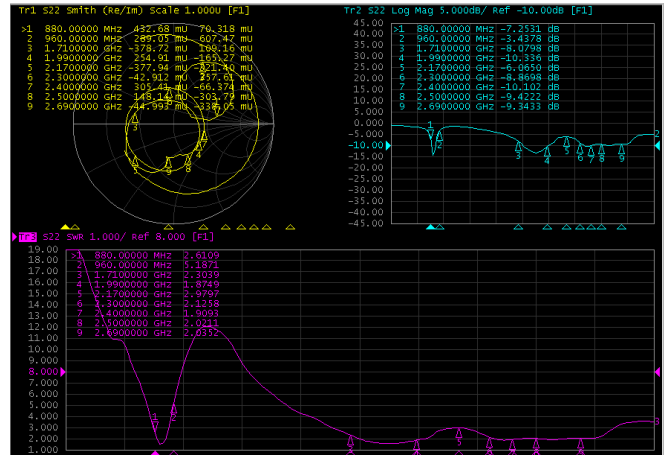
2.1 VSWR

ANT0

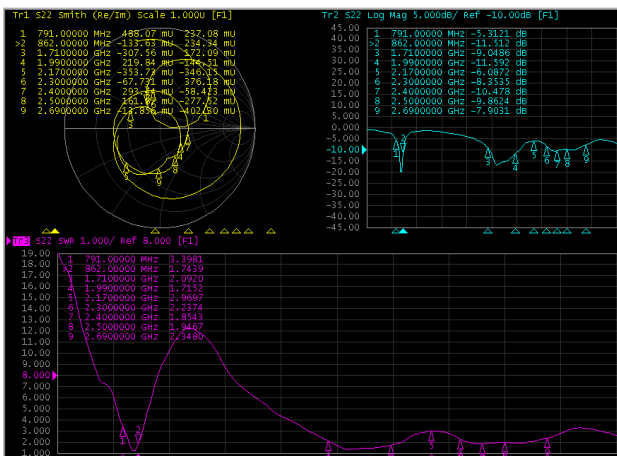
RF1



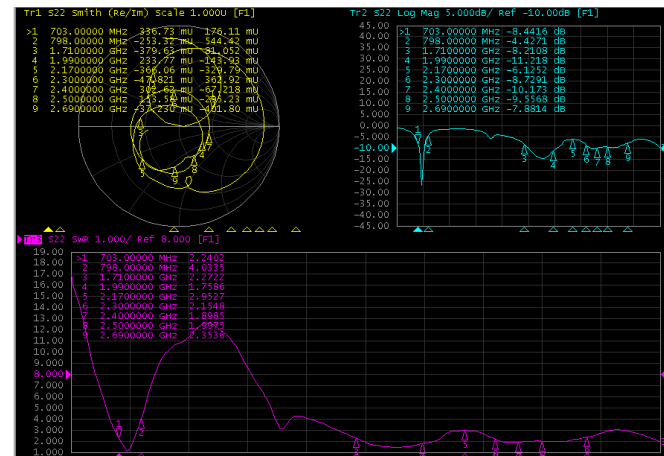
RF2



RF3

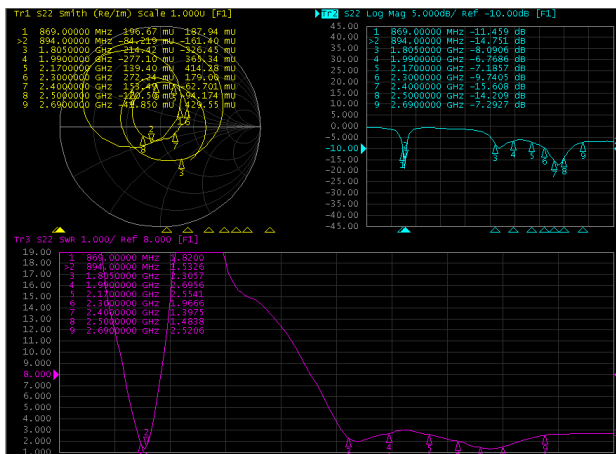


RF4

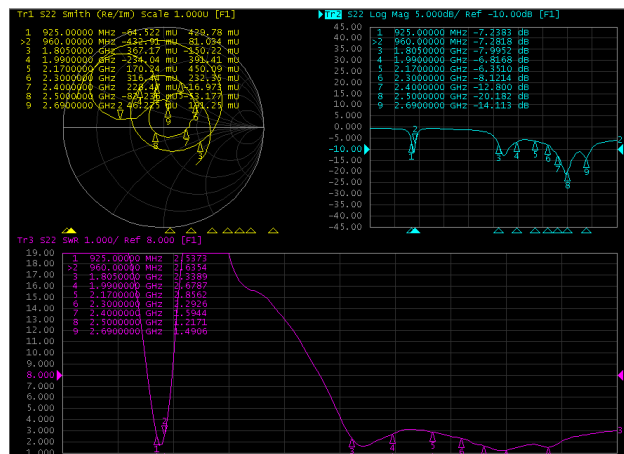


ANT1

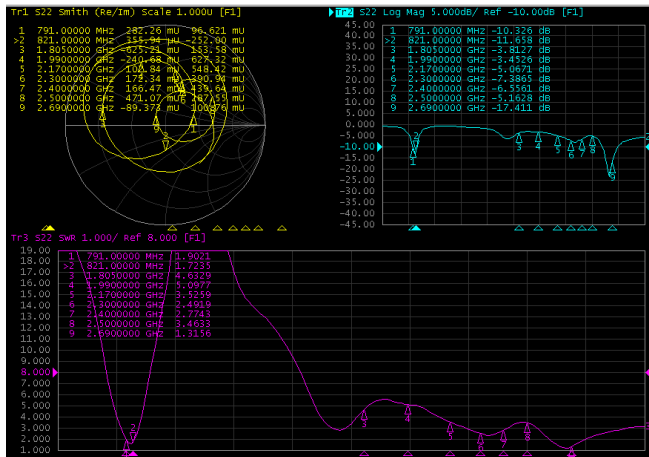
RF1



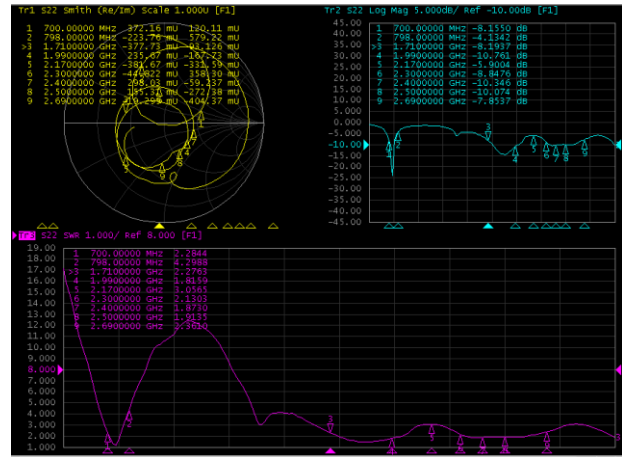
RF2



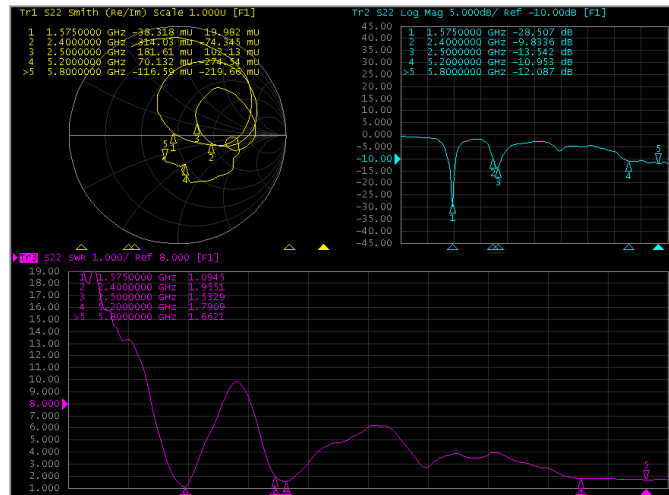
RF3



RF4



GWB



2.2 Efficiency & Gain

ANT0

RF1			
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
800	27.51	-5.6	-2.33
810	28.62	-5.43	-2.18
820	28.02	-5.53	-1.89
830	27.32	-5.64	-1.31
840	28.1	-5.51	-0.86
850	28.53	-5.45	-0.7
860	30.39	-5.17	-0.6
870	31.08	-5.07	-0.55
880	31.76	-4.98	-0.56
890	30.48	-5.16	-0.7
900	25.07	-6.01	-1.49

RF2			
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
860	20.07	-6.97	-2.44
870	22.16	-6.54	-2.04
880	25.15	-5.99	-1.59
890	28.82	-5.4	-0.99
900	31.64	-5	-0.6
910	31.61	-5	-0.6
920	27.78	-5.56	-1.28
930	22.53	-6.47	-2.44
940	17.05	-7.68	-3.61
950	13.02	-8.85	-4.63
960	9.14	-10.39	-6.27

RF3

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
760	25.58	-5.92	-2.43
770	26.06	-5.84	-2.3
780	26.96	-5.69	-2.33
790	31.22	-5.06	-1.79
800	38.86	-4.1	-0.99
810	37.95	-4.21	-0.99
820	36.25	-4.41	-0.59
830	34.06	-4.68	-0.13
840	33.53	-4.75	0.06
850	32.24	-4.92	-0.11
860	31.21	-5.06	-0.42
870	28.41	-5.46	-0.89
880	25.2	-5.99	-1.51

RF4

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
700	33.13	-4.8	-1.4
710	39.42	-4.04	-0.58
720	35.5	-4.5	-1.26
730	33.47	-4.75	-1.32
740	30.25	-5.19	-1.81
750	25.66	-5.91	-2.19
760	22.01	-6.57	-2.85
770	17.38	-7.6	-3.74
780	16.41	-7.85	-4.06
790	15.77	-8.02	-4.37

ANT0 1710~2690MHz

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
1710	34.41	-4.63	0.16	1970	34.09	-4.67	0.56	2300	17.26	-7.63	-1.67	2500	29.8	-5.26	-0.42
1720	37.23	-4.29	0.46	1980	35.64	-4.48	0.57	2310	18.57	-7.31	-1.26	2510	27.92	-5.54	-0.77
1730	37.64	-4.24	0.54	1990	34.35	-4.64	0.52	2320	19.52	-7.09	-1	2520	27.84	-5.55	-0.89
1740	36.54	-4.37	0.49	2000	34.24	-4.66	0.57	2330	20.55	-6.87	-0.7	2530	26.2	-5.82	-1.45
1750	36.64	-4.36	0.66	2010	32.88	-4.83	0.53	2340	21.04	-6.77	-0.64	2540	25.67	-5.9	-1.77
1760	36.11	-4.42	0.89	2020	30.17	-5.2	0.23	2350	23.21	-6.34	-0.26	2550	25.97	-5.86	-1.78
1770	36.22	-4.41	1.13	2030	29.51	-5.3	0.18	2360	23.12	-6.36	-0.4	2560	26.74	-5.73	-1.74
1780	35.93	-4.44	1.12	2040	27.5	-5.61	-0.16	2370	23.35	-6.32	-0.43	2570	25.7	-5.9	-1.92
1790	34.57	-4.61	1.01	2050	26.15	-5.83	-0.74	2380	24.47	-6.11	-0.3	2580	24.83	-6.05	-2.15
1800	33.97	-4.69	1.05	2060	27.39	-5.62	-0.8	2390	26.48	-5.77	-0.04	2590	23.35	-6.32	-2.43
1810	33.86	-4.7	1.26	2070	29.39	-5.32	-0.82	2400	28.57	-5.44	0.19	2600	24.41	-6.12	-2.2
1820	33.16	-4.79	1.3	2080	29.87	-5.25	-1.22					2610	23.42	-6.3	-2.18
1830	33.55	-4.74	1.54	2090	30.75	-5.12	-1.43					2620	21.16	-6.75	-2.64
1840	33.79	-4.71	1.62	2100	30.38	-5.17	-1.57					2630	20.72	-6.84	-2.62
1850	34.68	-4.6	1.79	2110	25.61	-5.92	-2.03					2640	21.46	-6.68	-2.58
1860	35.7	-4.47	1.93	2120	25.02	-6.02	-1.94					2650	21.53	-6.67	-2.42
1870	35.95	-4.44	1.89	2130	23.84	-6.23	-1.92					2660	22.74	-6.43	-2.15
1880	36.56	-4.37	1.89	2140	22.6	-6.46	-1.97					2670	22.68	-6.44	-2.05
1890	38.04	-4.2	1.82	2150	20.82	-6.81	-2.12					2680	22.51	-6.48	-2.14
1900	39.68	-4.01	1.84	2160	19.77	-7.04	-2.3					2690	21.85	-6.61	-2.28
1910	39.89	-3.99	1.74	2170	19.03	-7.21	-2.32					2700	21.56	-6.66	-2.43
1920	40.68	-3.91	1.73	2180	18.26	-7.38	-2.28								
1930	39.54	-4.03	1.48	2190	16.18	-7.91	-2.67								
1940	36.94	-4.32	1.16	2200	15.46	-8.11	-2.67								
1950	36.22	-4.41	1.12												
1960	34.64	-4.6	0.78												

ANT1**RF1**

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
850	10.88	-9.63	-5.62
860	12.68	-8.97	-4.64
870	14.63	-8.35	-4.07
880	17.28	-7.62	-3.2
890	18.71	-7.28	-2.99
900	17.64	-7.54	-3.18
910	15.95	-7.97	-3.78
920	14.31	-8.44	-4.33

RF2

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
910	10.66	-9.72	-5.46
920	12.75	-8.95	-4.6
930	14.21	-8.47	-4.34
940	15.73	-8.03	-4.26
950	17.84	-7.49	-4.14
960	18.57	-7.31	-4.21

Confidential Information

RF3

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
780	12.7	-8.96	-6.45
790	14.34	-8.43	-5.3
800	18.32	-7.37	-3.73
810	17.35	-7.61	-3.02
820	16.65	-7.79	-2.71
830	14.61	-8.35	-3.34
840	12.7	-8.96	-4.36
850	11.7	-9.32	-5.99

RF4

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
740	13.39	-8.73	-5.49
750	14.86	-8.28	-4.86
760	17.48	-7.57	-4.58
770	16.59	-7.8	-4.84
780	16.06	-7.94	-5.51
790	15.92	-7.98	-5.13
800	17.4	-7.6	-4.1
810	15.74	-8.03	-3.64

RF1

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
1710	5.46	-12.63	-7.08	1970	36.72	-4.35	-0.91	2300	36.23	-4.41	-0.66	2500	42.18	-3.75	0.99
1720	6.78	-11.69	-6.22	1980	36.3	-4.4	-1.05	2310	36.96	-4.32	-0.54	2510	39.08	-4.08	0.55
1730	8.1	-10.91	-5.42	1990	36.1	-4.43	-1.15	2320	37.83	-4.22	-0.32	2520	38.44	-4.15	0.56
1740	9.18	-10.37	-4.93	2000	36.66	-4.36	-1.23	2330	38.63	-4.13	-0.18	2530	37.33	-4.28	0.34
1750	10.03	-9.99	-4.56	2010	35.35	-4.52	-1.42	2340	39.4	-4.05	-0.07	2540	36.42	-4.39	0.31
1760	12.25	-9.12	-3.7	2020	34.13	-4.67	-1.54	2350	43.5	-3.62	0.16	2550	36.83	-4.34	0.32
1770	13.81	-8.6	-3.16	2030	34.68	-4.6	-1.38	2360	43.97	-3.57	0.34	2560	37	-4.32	0.29
1780	16.33	-7.87	-2.46	2040	35.24	-4.53	-1.19	2370	44.93	-3.47	0.5	2570	35.62	-4.48	0.32
1790	18.12	-7.42	-2.17	2050	35.41	-4.51	-1.05	2380	45.03	-3.46	0.52	2580	34.98	-4.56	0.35
1800	19.69	-7.06	-1.92	2060	33.1	-4.8	-1.35	2390	44.98	-3.47	0.7	2590	34.27	-4.65	0.42
1810	21.24	-6.73	-1.74	2070	31.11	-5.07	-1.65	2400	47.24	-3.26	0.88	2600	35.26	-4.53	0.52
1820	23.07	-6.37	-1.55	2080	31.28	-5.05	-1.58					2610	35.14	-4.54	0.52
1830	24.28	-6.15	-1.41	2090	32.65	-4.86	-1.33					2620	32.54	-4.88	0.11
1840	26.25	-5.81	-1.32	2100	34.15	-4.67	-1.11					2630	32.59	-4.87	0.13
1850	28.98	-5.38	-0.93	2110	28.76	-5.41	-1.9					2640	33.8	-4.71	0.26
1860	29.38	-5.32	-1.05	2120	27.91	-5.54	-2.11					2650	33.29	-4.78	0.19
1870	29.88	-5.25	-1	2130	29.47	-5.31	-1.97					2660	32.82	-4.84	0.16
1880	31.73	-4.98	-0.9	2140	32.35	-4.9	-1.57					2670	31.41	-5.03	-0.03
1890	33.69	-4.73	-0.87	2150	33.19	-4.79	-1.28					2680	29.46	-5.31	-0.3
1900	35.71	-4.47	-0.65	2160	34.02	-4.68	-0.99					2690	28.87	-5.4	-0.39
1910	36.69	-4.35	-0.73	2170	31.3	-5.04	-1.24					2700	27.94	-5.54	-0.51
1920	36.23	-4.41	-0.87	2180	31.78	-4.98	-1.04								
1930	36.47	-4.38	-0.87	2190	34.08	-4.68	-0.68								
1940	36.23	-4.41	-0.96	2200	36.79	-4.34	-0.32								
1950	37.11	-4.3	-0.84												
1960	36.51	-4.38	-0.91												

GWB

GPS

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
1550	31.18	-5.06	1.62
1555	31.31	-5.04	1.43
1560	31.64	-5	1.28
1565	31.31	-5.04	0.98
1570	31.48	-5.02	0.76
1575	31.22	-5.06	0.48
1580	31.55	-5.01	0.31
1585	31.09	-5.07	0.01
1590	30.84	-5.11	-0.25
1595	32.32	-4.91	-0.16
1600	31.02	-5.08	-0.43



2.4G WIFI

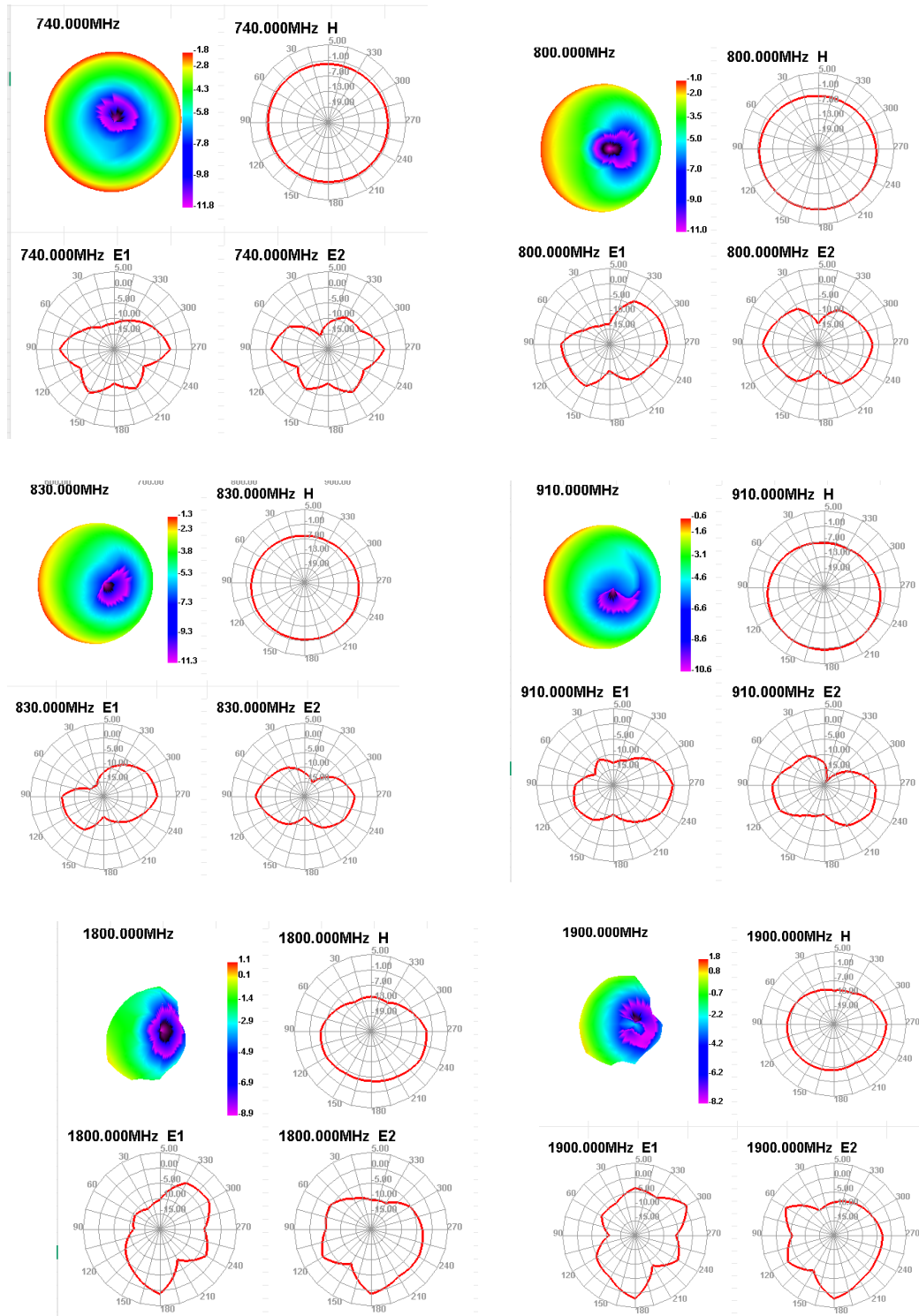
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	32.11	-4.93	1.3
2410	33.76	-4.72	1.38
2420	33.73	-4.72	1.34
2430	34.51	-4.62	1.4
2440	35.89	-4.45	1.5
2450	37.52	-4.26	1.7
2460	37.54	-4.25	1.78
2470	36.13	-4.42	1.58
2480	36.28	-4.4	1.74
2490	37.73	-4.23	1.89
2500	37.71	-4.24	2.12

5G WIFI

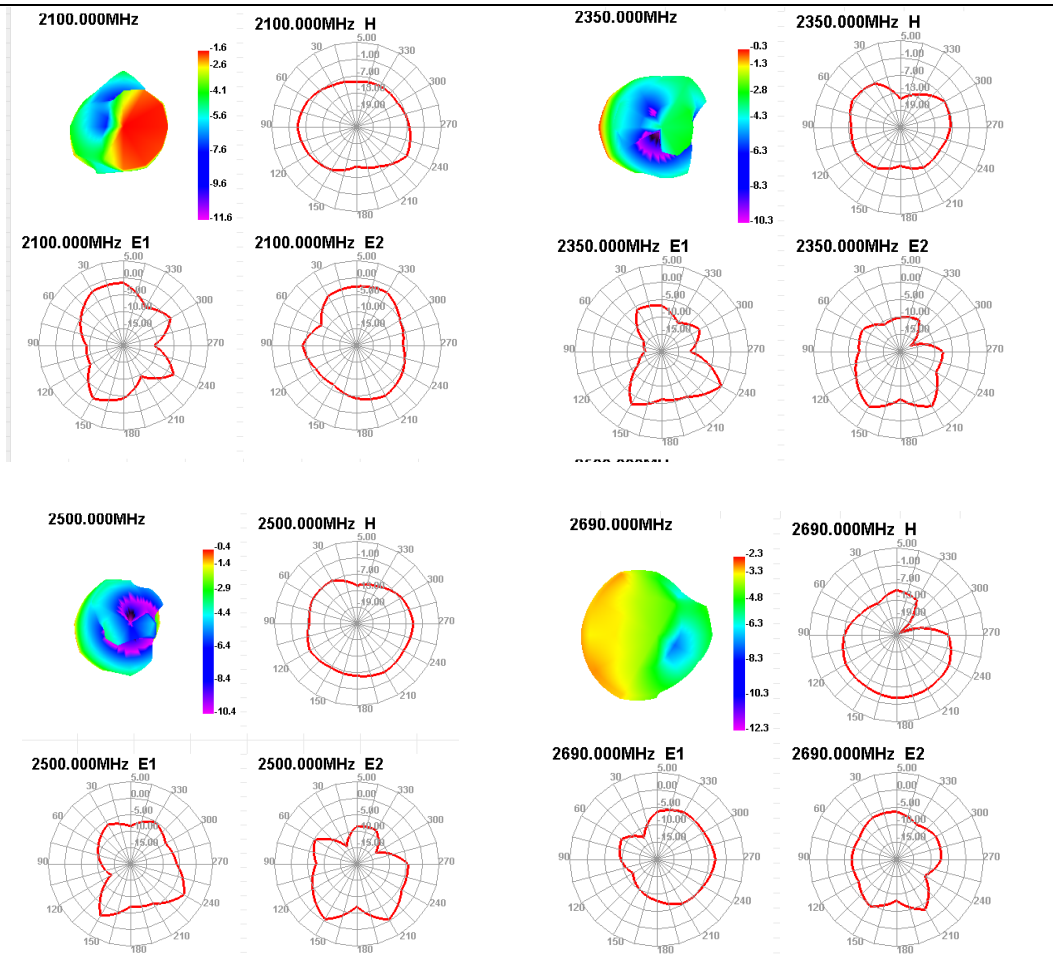
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
5150	25.8	-5.88	-1.02	5510	22.87	-6.41	-1.24
5160	24.59	-6.09	-1.34	5520	23.14	-6.36	-1.15
5170	23.13	-6.36	-1.62	5530	24.83	-6.05	-0.66
5180	22.33	-6.51	-1.68	5540	26.2	-5.82	-0.46
5190	22.6	-6.46	-1.57	5550	25.07	-6.01	-0.63
5200	23.16	-6.35	-1.4	5560	23.64	-6.26	-1.01
5210	24.29	-6.15	-1.31	5570	24.28	-6.15	-0.94
5220	24.5	-6.11	-1.24	5580	25.44	-5.95	-0.56
5230	24.11	-6.18	-1.35	5590	25.91	-5.87	-0.6
5240	23.27	-6.33	-1.42	5600	25.99	-5.85	-0.9
5250	23.27	-6.33	-1.57	5610	25.39	-5.95	-0.9
5260	24.23	-6.16	-1.55	5620	25.53	-5.93	-1.1
5270	23.81	-6.23	-1.57	5630	26.3	-5.8	-1.07
5280	24.05	-6.19	-1.59	5640	25.99	-5.85	-1.3
5290	25.32	-5.97	-1.41	5650	26.49	-5.77	-1.23
5300	24.47	-6.11	-1.49	5660	27.62	-5.59	-0.83
5310	24.66	-6.08	-1.55	5670	25.98	-5.85	-1.05
5320	27.08	-5.67	-1.34	5680	25.74	-5.89	-1.15
5330	26.39	-5.79	-1.37	5690	25.82	-5.88	-1.15
5340	27.5	-5.61	-1.36	5700	26.07	-5.84	-0.95
5350	28.23	-5.49	-1.3	5710	25.22	-5.98	-1.01
5360	27.86	-5.55	-1.17	5720	23.53	-6.28	-1.34
5370	27.96	-5.53	-1.06	5730	23.45	-6.3	-1.05
5380	28.06	-5.4	-0.88	5740	23.98	-6.2	-0.93
5390	26.5	-5.77	-1.3	5750	24.63	-6.09	-1.04
5400	30.66	-5.13	-0.48	5760	22.15	-6.55	-1.44
5410	30.41	-5.17	-0.44	5770	22.03	-6.57	-1.33
5420	30.69	-5.13	-0.44	5780	20.46	-6.89	-1.9
5430	29.52	-5.3	-0.37	5790	20.15	-6.96	-1.88
5440	28.85	-5.4	-0.47	5800	19.21	-7.17	-1.93
5450	28	-5.53	-0.57	5810	19.23	-7.16	-2.15
5460	27.91	-5.54	-0.64	5820	20.19	-6.95	-1.95
5470	27.56	-5.6	-0.49	5830	19.31	-7.14	-2.18
5480	25.85	-5.88	-0.88	5840	18.68	-7.29	-2.12
5490	25.66	-5.91	-0.86	5850	19.74	-7.05	-2.07
5500	24.28	-6.15	-0.98				

2.3 3D Pattern

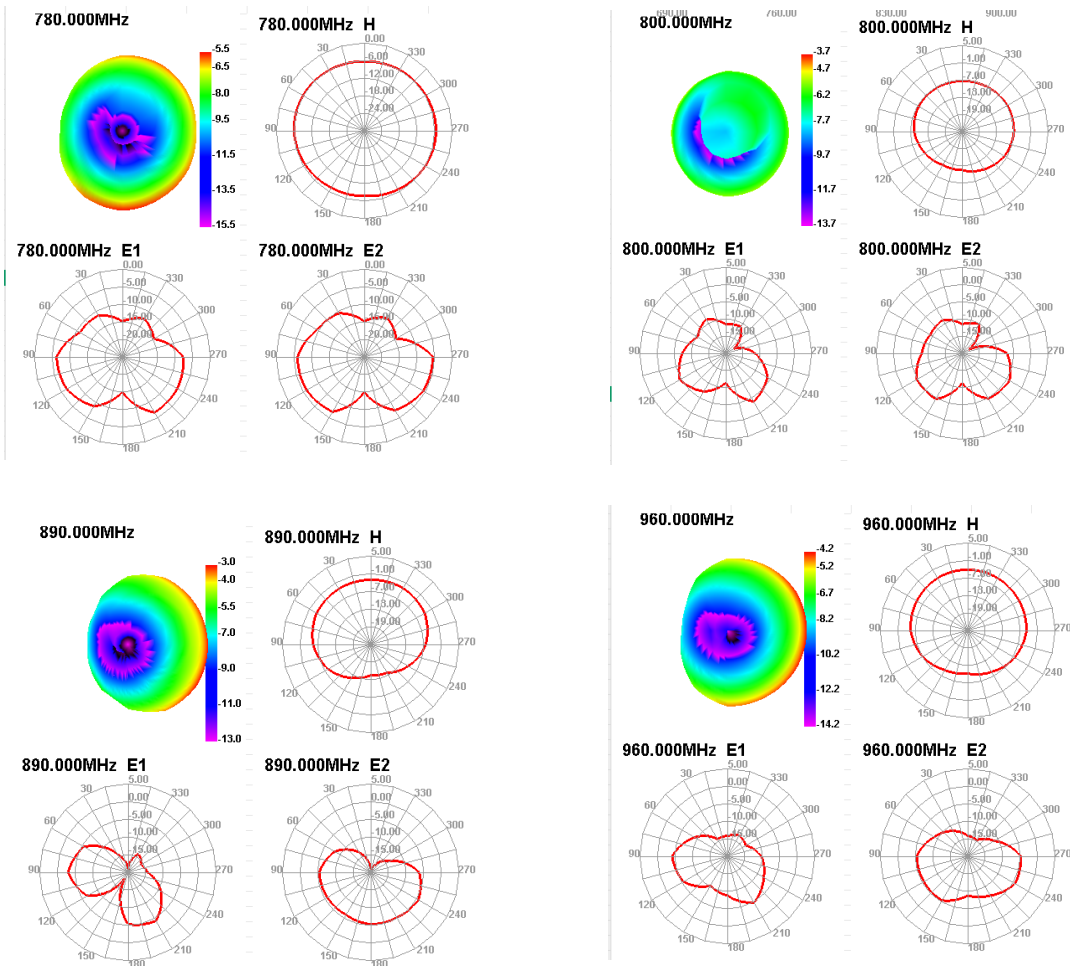
ANT0

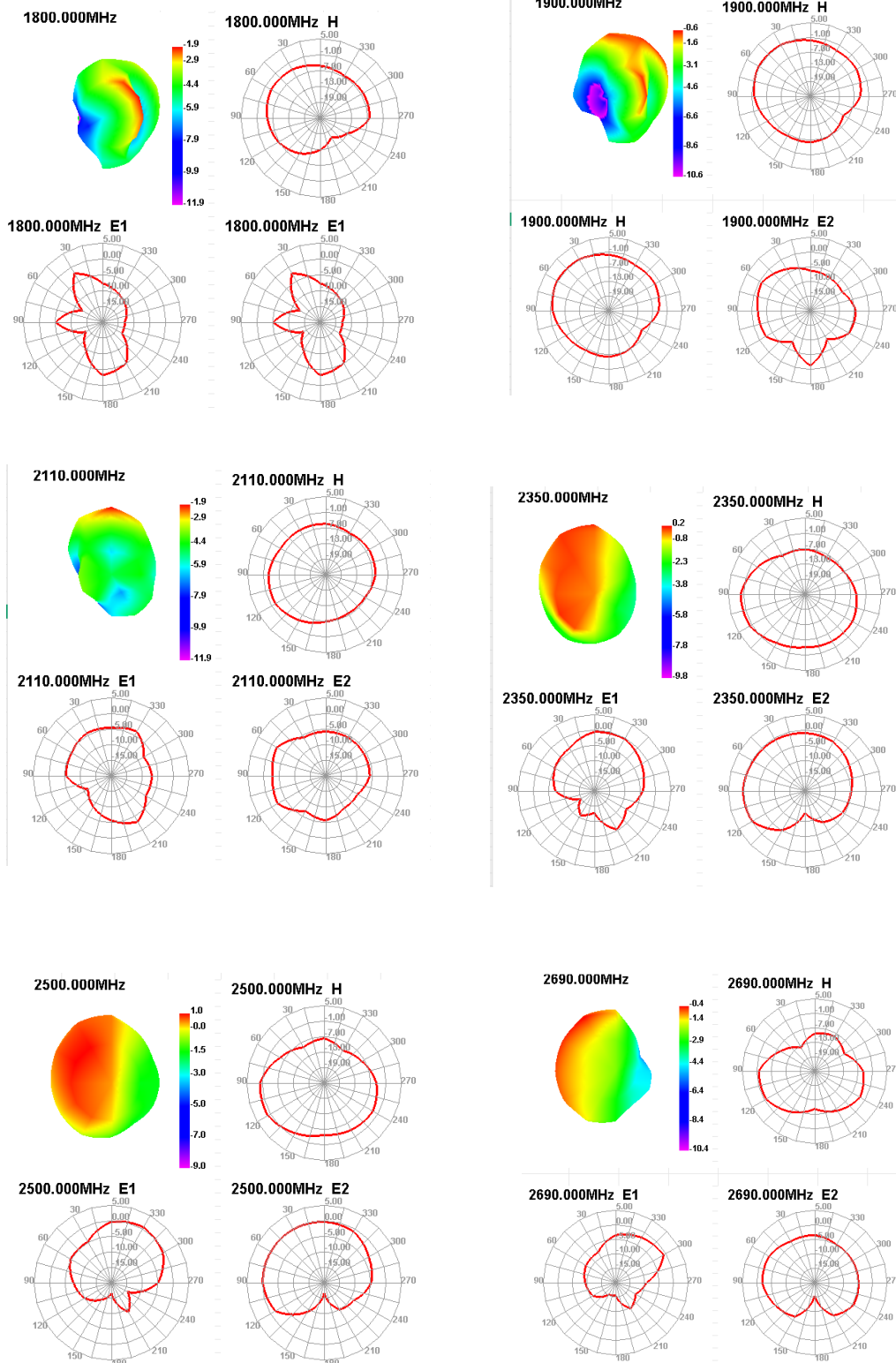


Confidential Information



ANT1





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