



AFTtEch

深圳市安弗特电子有限公司

**AFT tech Electronic Co., Ltd. (Shenzhen)**

Antenna manufacturer: AFT tech Electronic Co., Ltd. (Shenzhen)  
 Address: Room 302, 3rd Floor, Building B, Hong Kong-Shenzhen  
 Innovation Park, No. 40 Huaning Road, Dalang Street, Longhua  
 District, Shenzhen

Antenna model: P80-A13

Antenna type: PIFA

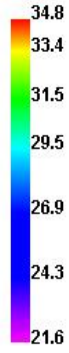
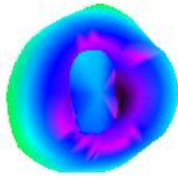
Frequency (MHz)	Gain (dBi)	Frequency (MHz)	Gain (dBi)	Frequency (MHz)	Gain (dBi)	Frequency (MHz)	Gain (dBi)
700	-0.78	1720	3.03	2030	1.65	2440	3.03
710	-0.68	1730	2.84	2040	1.75	2450	2.94
720	-0.02	1740	2.72	2050	1.66	2460	2.84
730	-0.09	1750	2.75	2060	1.79	2470	2.80
740	-0.47	1760	2.78	2070	1.94	2480	2.80
750	-0.82	1770	2.94	2080	2.04	2490	2.67
760	-0.95	1780	3.16	2090	2.11	2500	2.72
770	-0.98	1790	3.05	2100	2.34	2510	2.46
780	-0.99	1800	2.97	2110	2.46	2520	1.91
790	-0.95	1810	3.03	2120	2.64	2530	1.74
800	-0.94	1820	3.08	2130	2.83	2540	1.81
810	-0.93	1830	2.98	2140	2.88	2550	1.56
820	-0.91	1840	2.93	2150	2.93	2560	1.03
830	-0.84	1850	2.56	2160	3.24	2570	1.18
840	-1.04	1860	1.89	2170	3.12	2580	1.20
850	-1.15	1870	1.85	2300	3.42	2590	1.28
860	-1.11	1880	1.69	2310	3.54	2600	1.31
870	-1.36	1890	1.62	2320	3.72	2610	1.29
880	-1.49	1900	1.53	2330	3.68	2620	1.07
890	-1.61	1920	1.56	2340	3.75	2630	1.44
900	-1.82	1930	1.55	2350	3.24	2640	1.54
910	-1.93	1940	1.57	2360	2.96	2650	1.34
920	-1.95	1950	1.35	2370	2.86	2660	1.12
930	-2.09	1960	1.49	2380	2.79	2670	1.08
940	-2.29	1970	1.61	2390	2.84	2680	0.96
950	-2.15	1980	1.87	2400	2.89	2690	1.05
960	-2.08	1990	1.63	2410	2.94	2700	1.05
1700	3.00	2000	1.58	2420	2.96		
1710	3.00	2020	1.53	2430	2.94		

WIFI 2.4G		BT 2.4G	
Frequency (MHz)	Gain (dBi)	Frequency (MHz)	Gain (dBi)
2400	1.37	2400	1.37
2410	1.42	2410	1.42
2420	1.46	2420	1.46
2430	1.48	2430	1.48
2440	1.55	2440	1.55
2450	1.58	2450	1.58
2460	1.41	2460	1.41
2470	1.52	2470	1.52
2490	1.46	2490	1.46
2500	1.42	2500	1.42

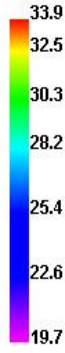
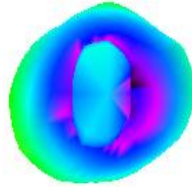
WIFI 5G		GPS	
Frequency (MHz)	Gain (dBi)	Frequency (MHz)	Gain (dBi)
5150	1.91	1560	0.85
5200	1.61	1562	0.77
5250	1.70	1564	0.77
5300	1.54	1566	0.75
5350	1.76	1568	0.65
5400	1.66	1570	0.49
5450	1.78	1572	0.41
5500	1.25	1574	0.32
5550	1.15	1576	0.25
5600	0.67	1578	0.23
5650	1.03	1580	0.24
5700	2.08		
5750	2.37		
5800	1.80		
5850	2.59		

Apple map direction map:

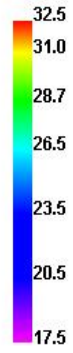
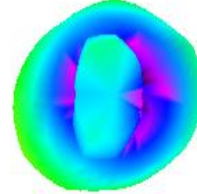
GSM850 128 TRP



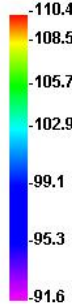
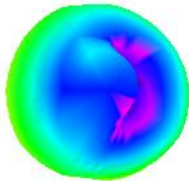
GSM850 190 TRP



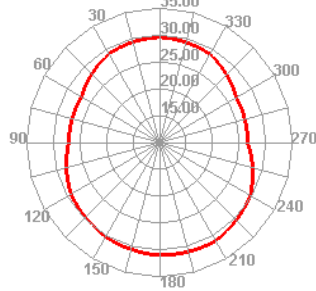
GSM850 251 TRP



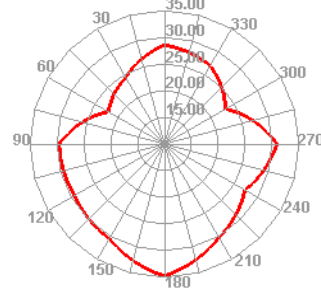
GSM850 251 TIS



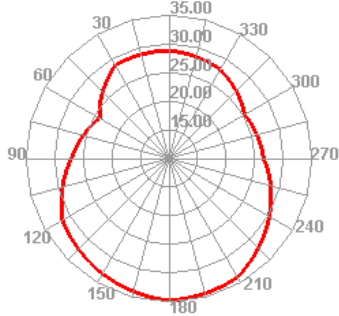
GSM850 128 TRP H



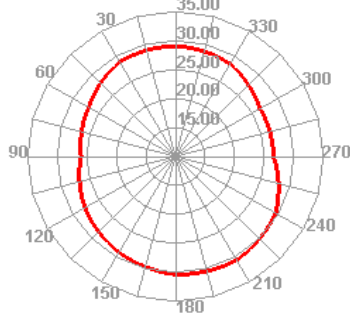
GSM850 128 TRP E1



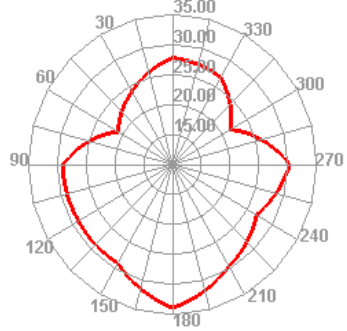
GSM850 128 TRP E2

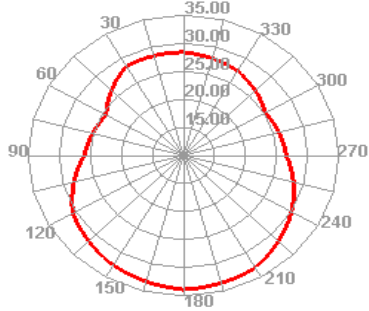
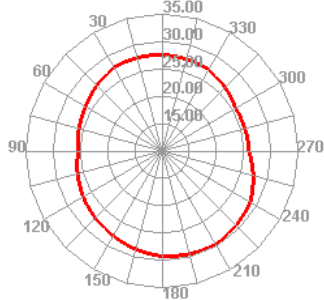
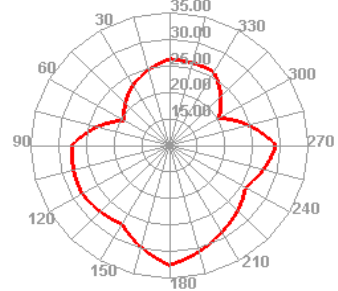
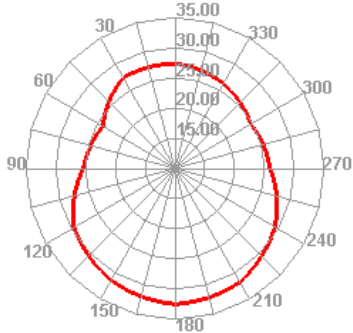
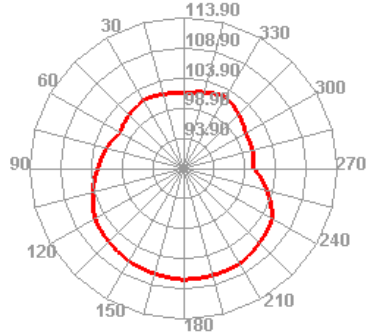
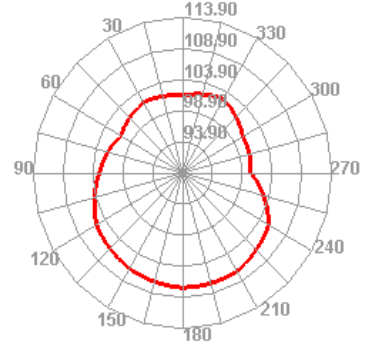
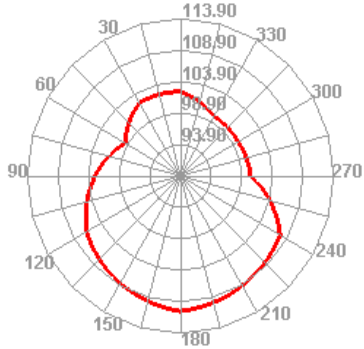
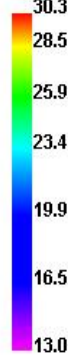
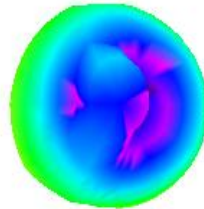
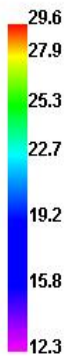
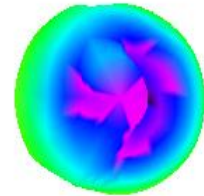
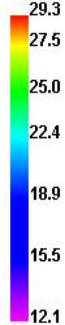
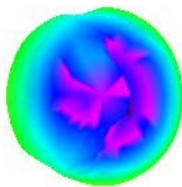
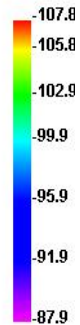
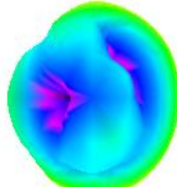
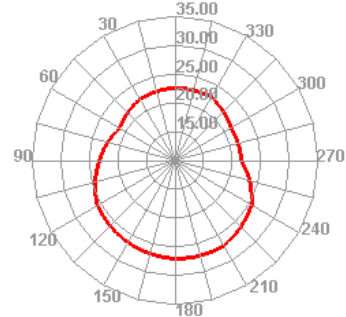


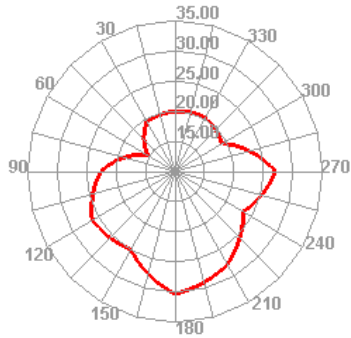
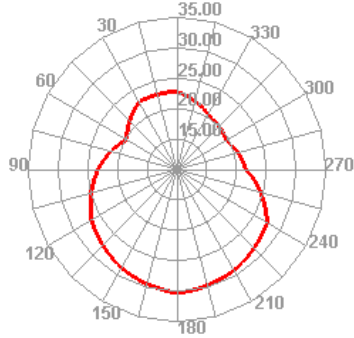
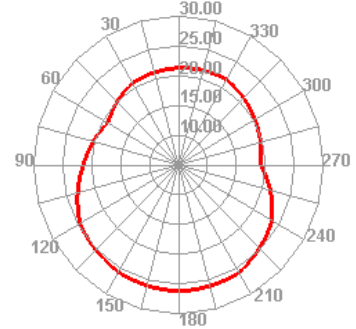
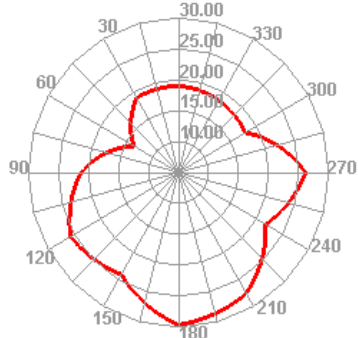
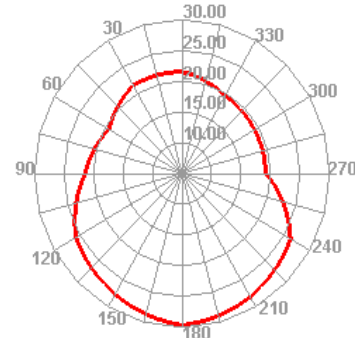
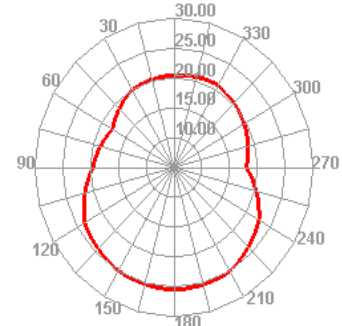
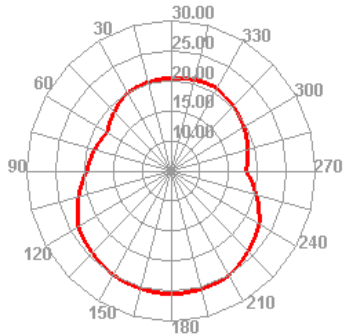
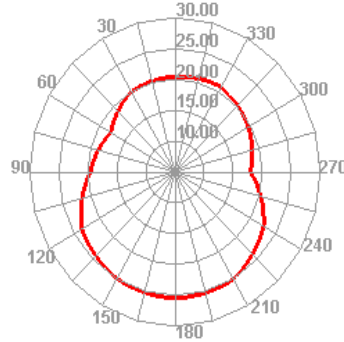
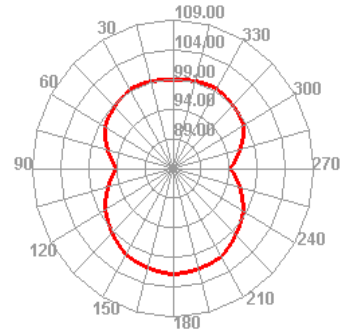
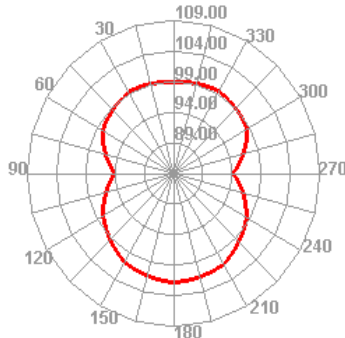
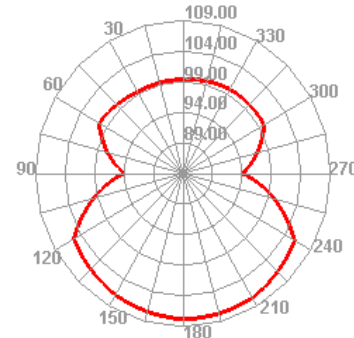
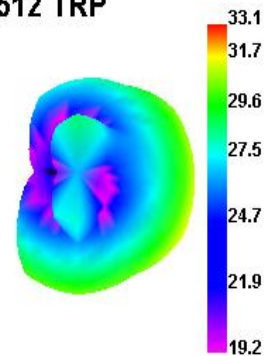
GSM850 190 TRP H



GSM850 190 TRP E1

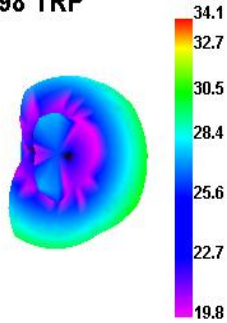


**GSM850 190 TRP E2**

**GSM850 251 TRP H**

**GSM850 251 TRP E1**

**GSM850 251 TRP E2**

**GSM850 251 TIS H**

**GSM850 251 TIS H**

**GSM850 251 TIS E2**

**EGSM 1 TRP**

**EGSM 62 TRP**

**EGSM 124 TRP**

**EGSM 124 TIS**

**EGSM 1 TRP H**


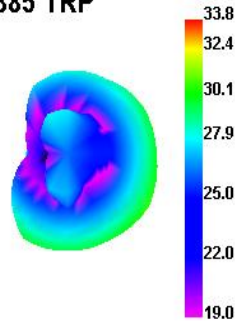
**EGSM 1 TRP E1**

**EGSM 1 TRP E2**

**EGSM 62 TRP H**

**EGSM 62 TRP E1**

**EGSM 62 TRP E2**

**EGSM 124 TRP H**

**EGSM 124 TRP H**

**EGSM 124 TRP H**

**EGSM 124 TIS H**

**EGSM 124 TIS H**

**EGSM 124 TIS E2**

**DCS 512 TRP**




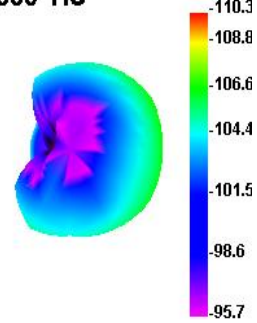
DCS 698 TRP



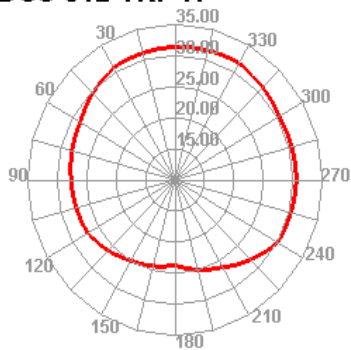
DCS 885 TRP



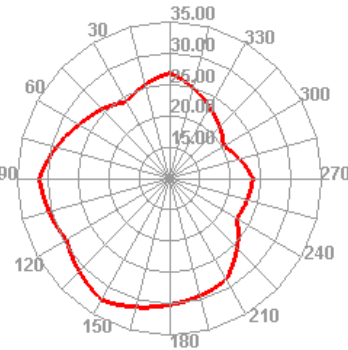
DCS 885 TIS



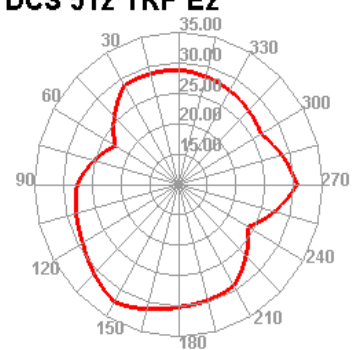
DCS 512 TRP H



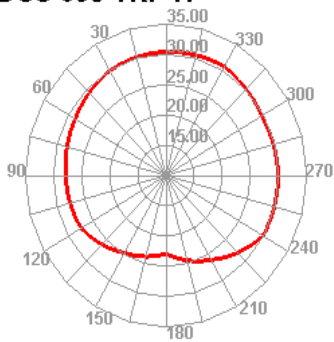
DCS 512 TRP E1



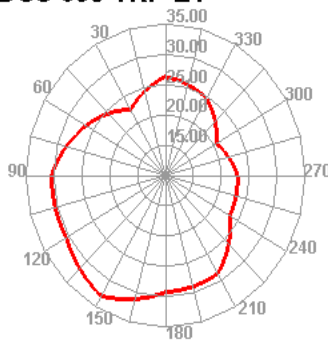
DCS 512 TRP E2



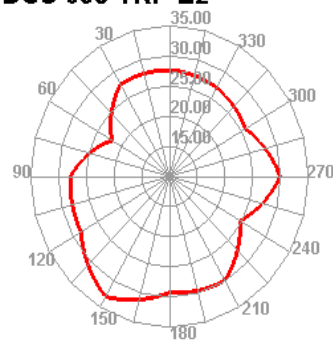
DCS 698 TRP H



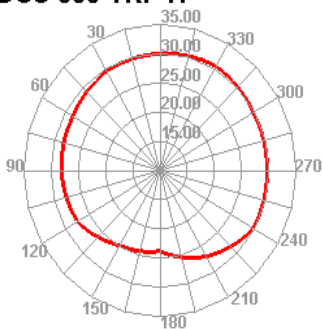
DCS 698 TRP E1



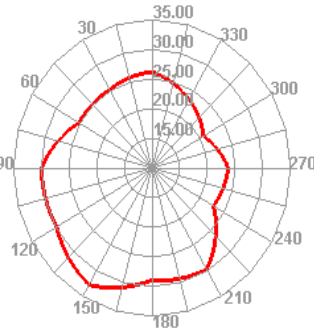
DCS 698 TRP E2



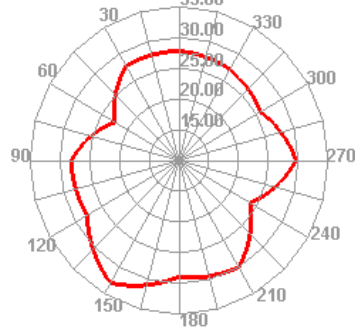
DCS 885 TRP H

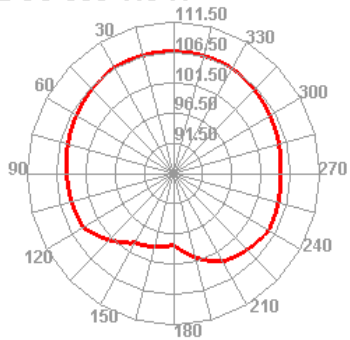
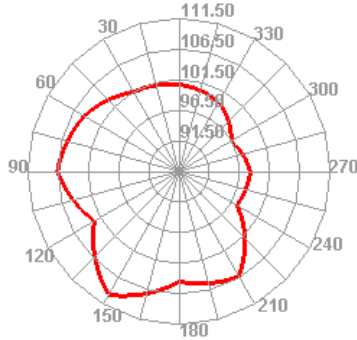
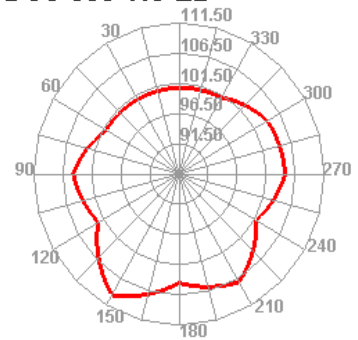
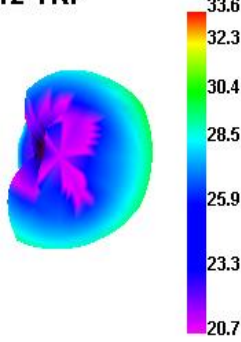
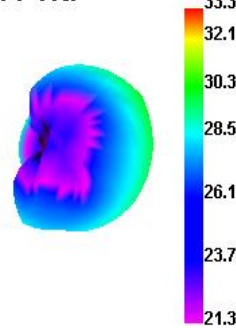
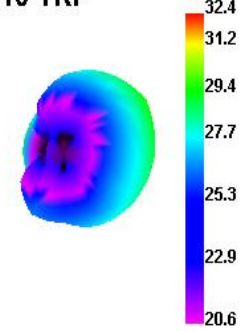
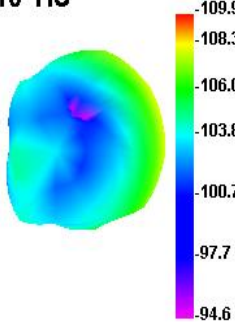
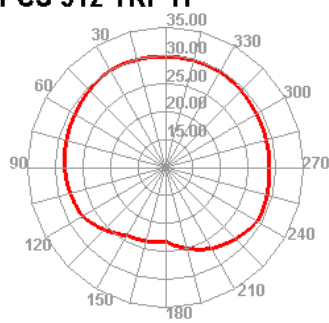
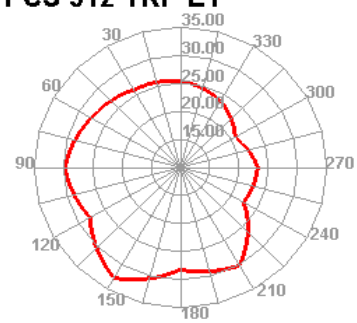
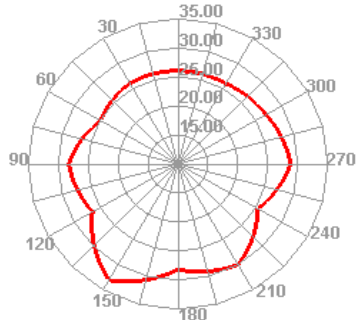
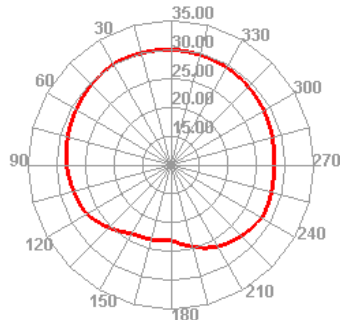
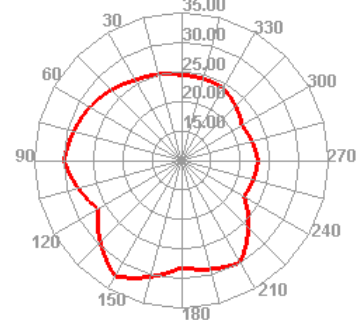


DCS 885 TRP E1

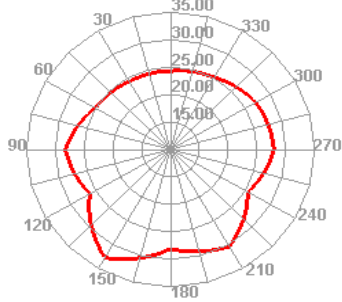


DCS 885 TRP E2

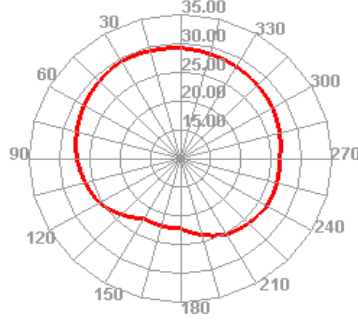


**DCS 885 TIS H**

**DCS 885 TIS E1**

**DCS 885 TIS E2**

**PCS 512 TRP**

**PCS 661 TRP**

**PCS 810 TRP**

**PCS 810 TIS**

**PCS 512 TRP H**

**PCS 512 TRP E1**

**PCS 512 TRP E2**

**PCS 661 TRP H**

**PCS 661 TRP E1**


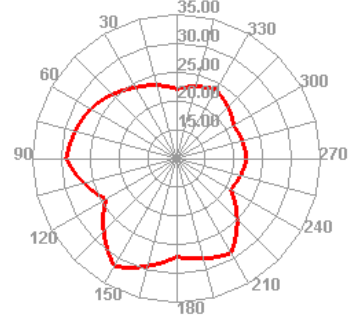
PCS 661 TRP E2



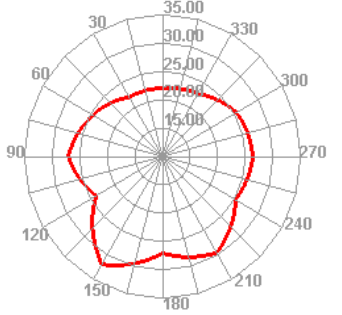
PCS 810 TRP H



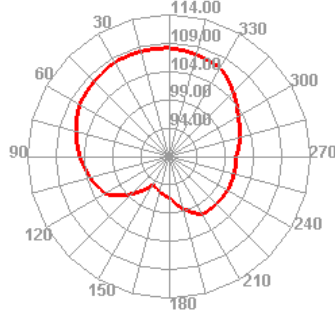
PCS 810 TRP E1



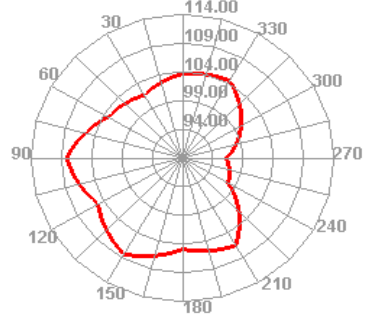
PCS 810 TRP E2



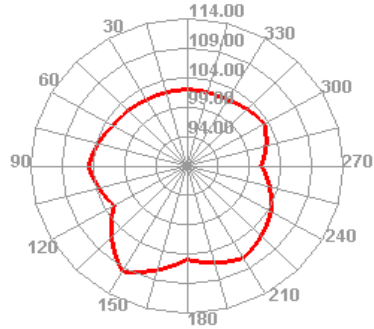
PCS 810 TIS H



PCS 810 TIS E1

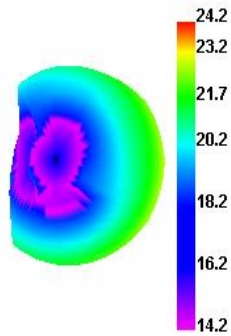


PCS 810 TIS E2

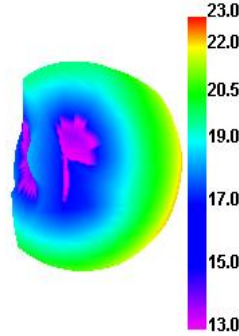




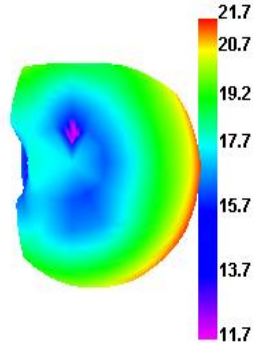
WCDMA\_I 9612 TRP



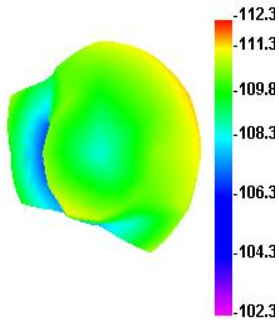
WCDMA\_I 9750 TRP



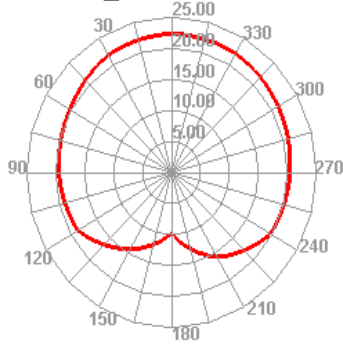
WCDMA\_I 9888 TRP



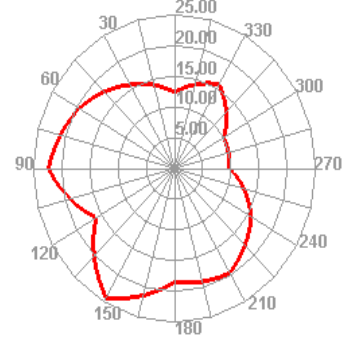
WCDMA\_I 10838 TIS



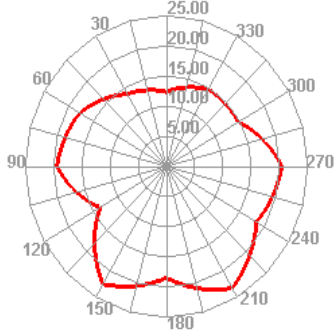
WCDMA\_I 9612 TRP H



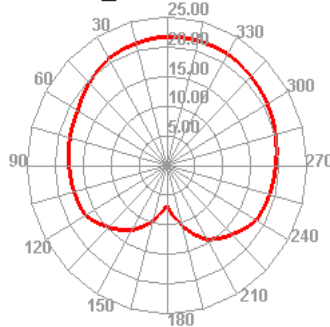
WCDMA\_I 9612 TRP E1



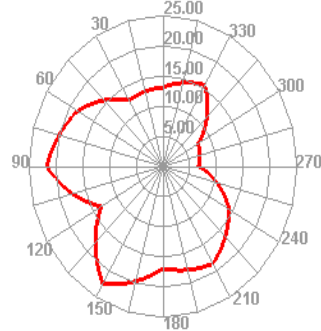
WCDMA\_I 9612 TRP E2



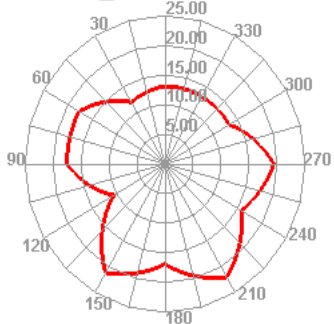
WCDMA\_I 9750 TRP H



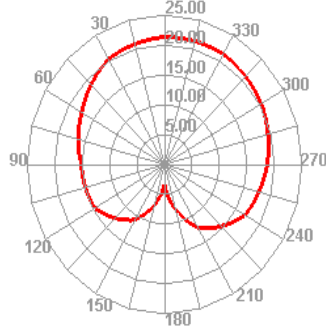
WCDMA\_I 9750 TRP E1



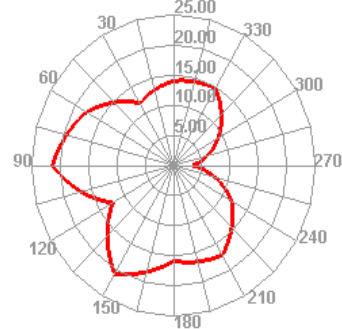
WCDMA\_I 9750 TRP E2

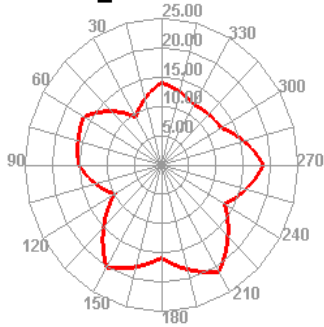
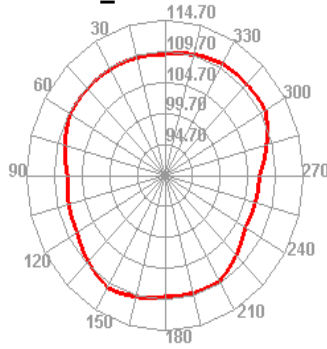
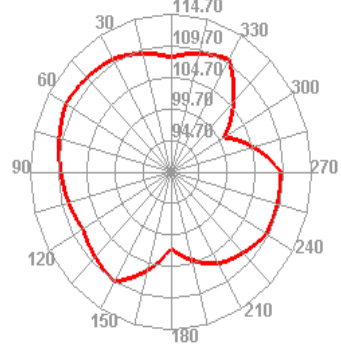
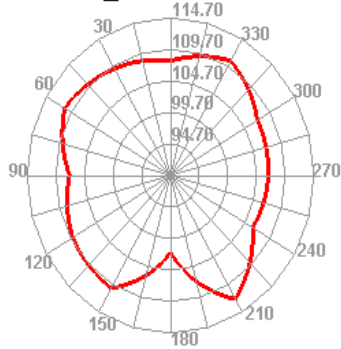
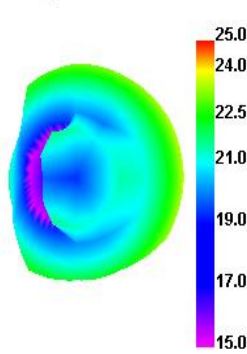
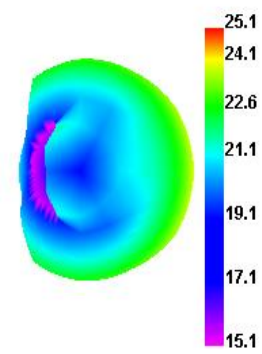
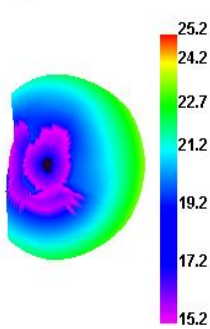
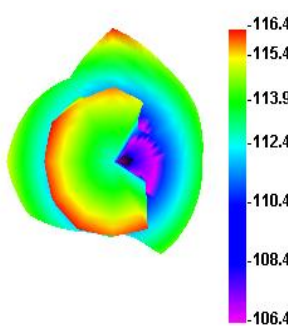
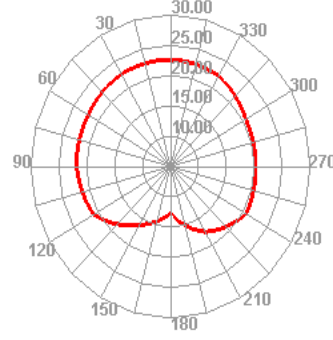
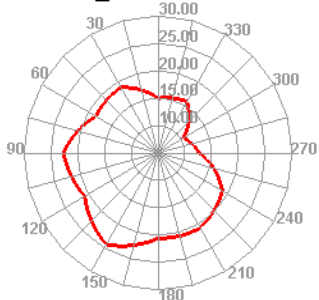
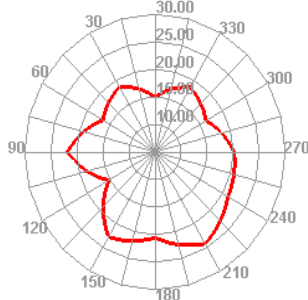
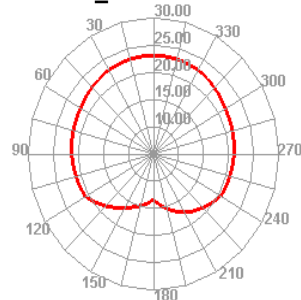


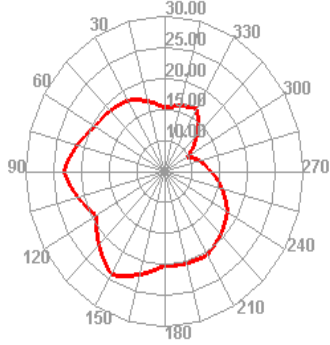
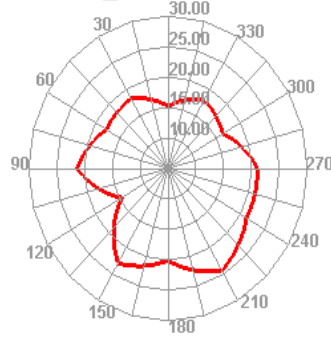
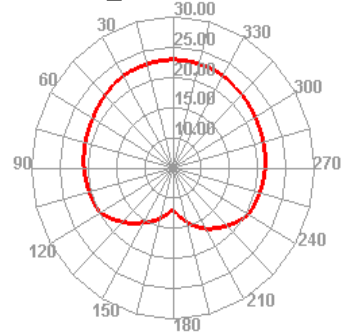
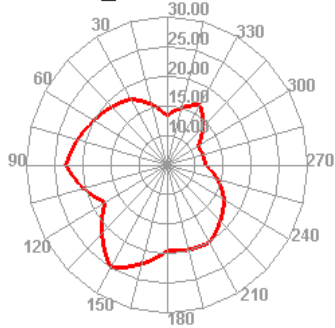
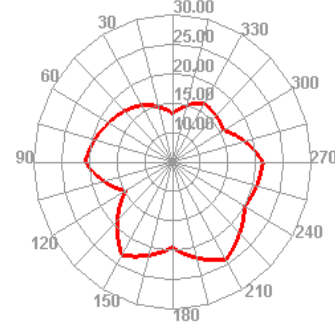
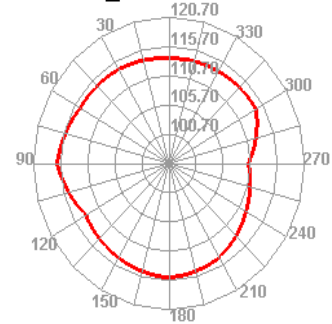
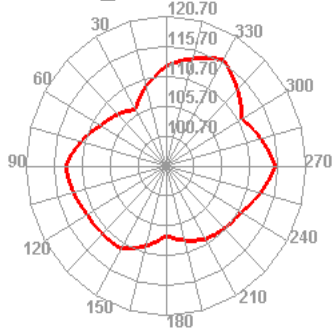
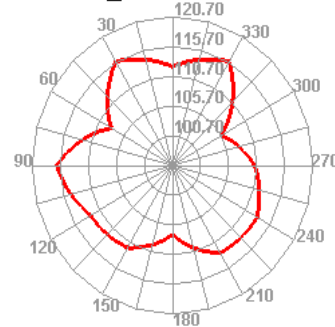
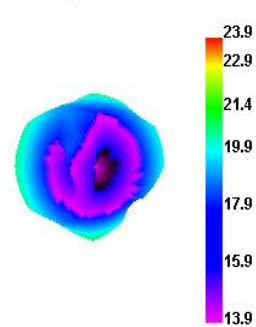
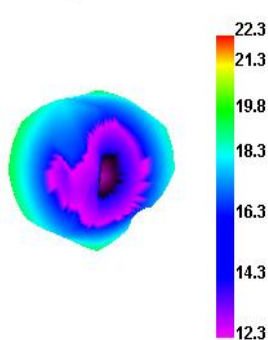
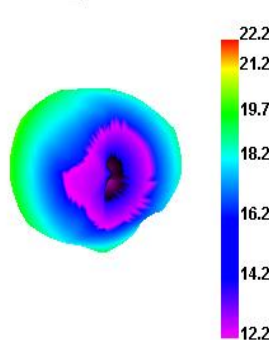
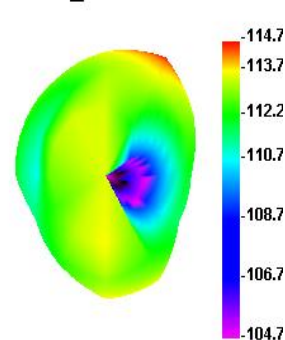
WCDMA\_I 9888 TRP H

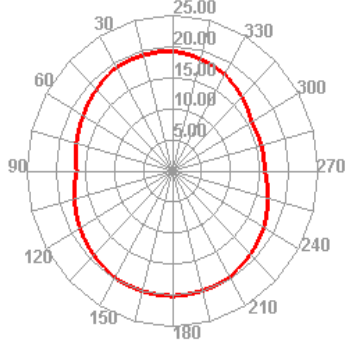
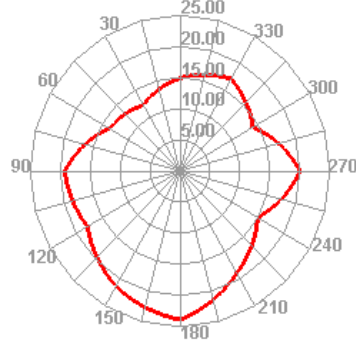
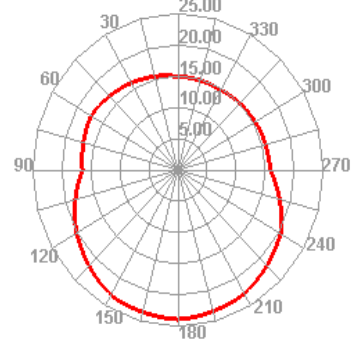
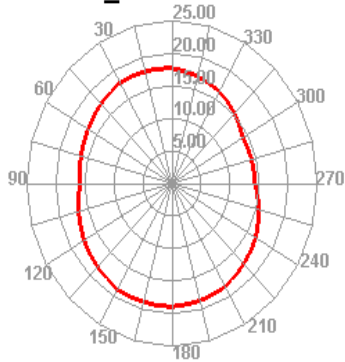
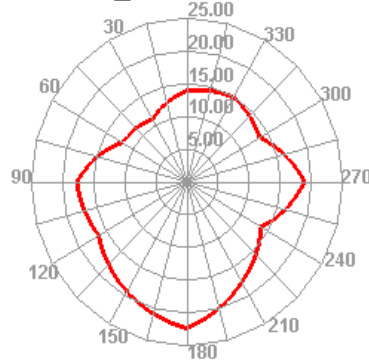
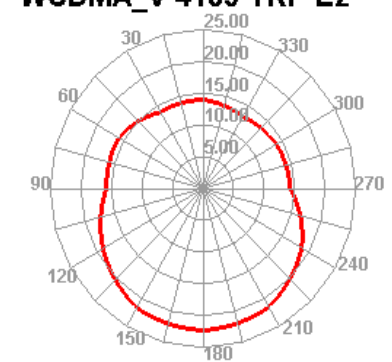
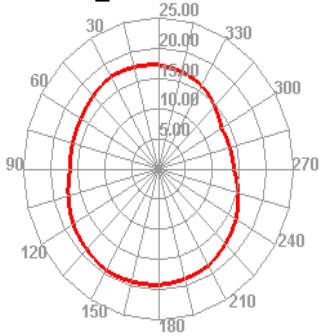
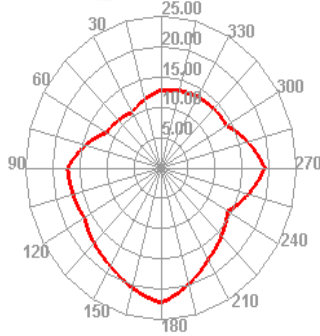
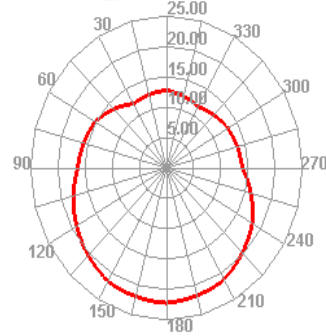
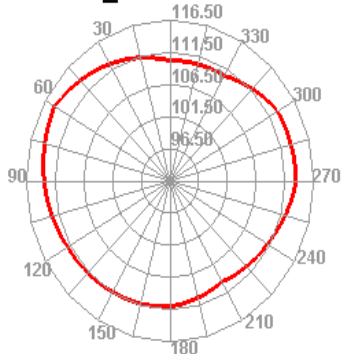
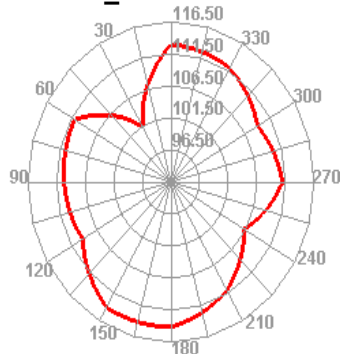
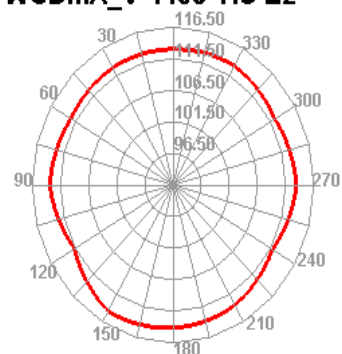


WCDMA\_I 9888 TRP E1



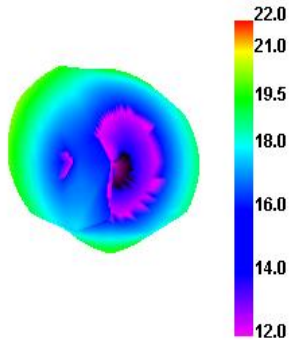
**WCDMA\_I 9888 TRP E2**

**WCDMA\_I 10838 TIS H**

**WCDMA\_I 10838 TIS E1**

**WCDMA\_I 10838 TIS E2**

**WCDMA\_II 9262 TRP**

**WCDMA\_II 9400 TRP**

**WCDMA\_II 9538 TRP**

**WCDMA\_II 9938 TIS**

**WCDMA\_II 9262 TRP H**

**WCDMA\_II 9262 TRP E1**

**WCDMA\_II 9262 TRP E2**

**WCDMA\_II 9400 TRP H**


**WCDMA\_II 9400 TRP E1**

**WCDMA\_II 9400 TRP E2**

**WCDMA\_II 9538 TRP H**

**WCDMA\_II 9538 TRP E1**

**WCDMA\_II 9538 TRP E2**

**WCDMA\_II 9938 TIS H**

**WCDMA\_II 9938 TIS E1**

**WCDMA\_II 9938 TIS E2**

**WCDMA\_V 4132 TRP**

**WCDMA\_V 4185 TRP**

**WCDMA\_V 4233 TRP**

**WCDMA\_V 4458 TIS**


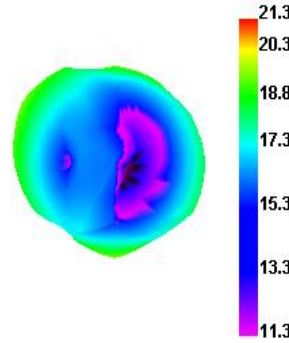
**WCDMA\_V 4132 TRP H**

**WCDMA\_V 4132 TRP E1**

**WCDMA\_V 4132 TRP E2**

**WCDMA\_V 4185 TRP H**

**WCDMA\_V 4185 TRP E1**

**WCDMA\_V 4185 TRP E2**

**WCDMA\_V 4233 TRP H**

**WCDMA\_V 4233 TRP E1**

**WCDMA\_V 4233 TRP E2**

**WCDMA\_V 4458 TIS H**

**WCDMA\_V 4458 TIS E1**

**WCDMA\_V 4458 TIS E2**




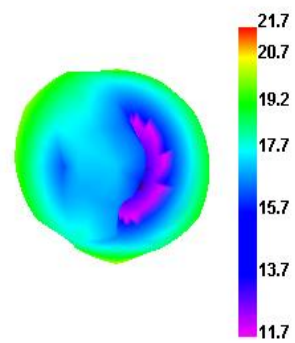
WCDMA\_VIII 2712 TRP



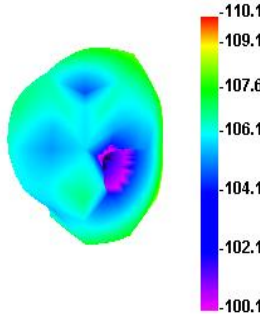
WCDMA\_VIII 2788 TRP



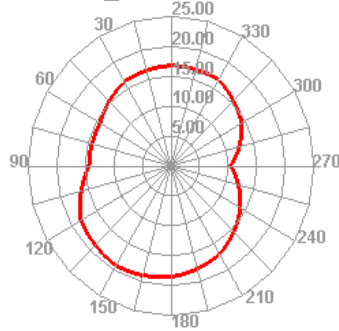
WCDMA\_VIII 2863 TRP



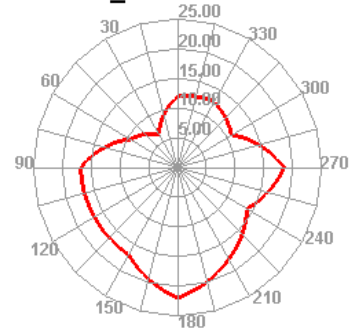
WCDMA\_VIII 3088 TIS



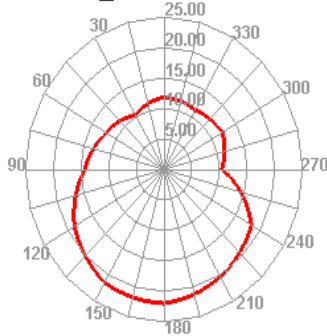
WCDMA\_VIII 2712 TRP H



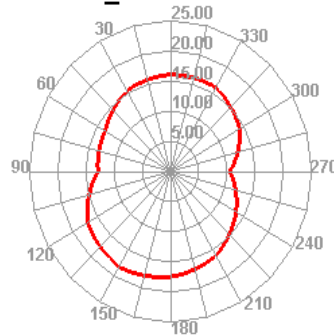
WCDMA\_VIII 2712 TRP E1



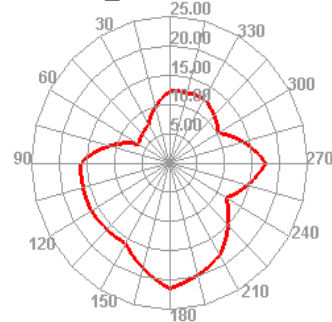
WCDMA\_VIII 2712 TRP E2



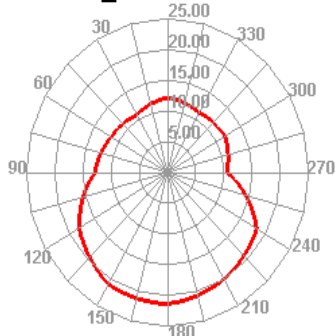
WCDMA\_VIII 2788 TRP H



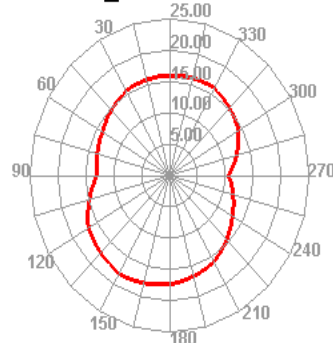
WCDMA\_VIII 2788 TRP E1



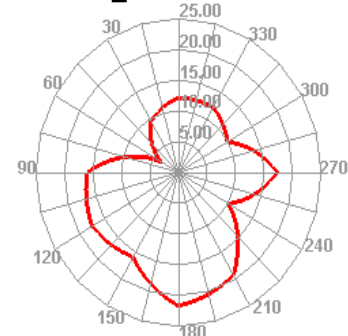
WCDMA\_VIII 2788 TRP E2

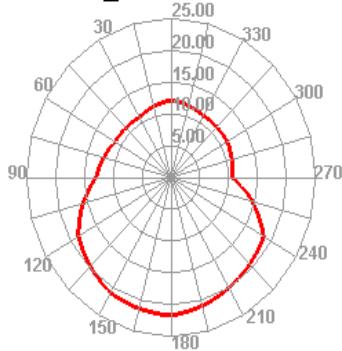
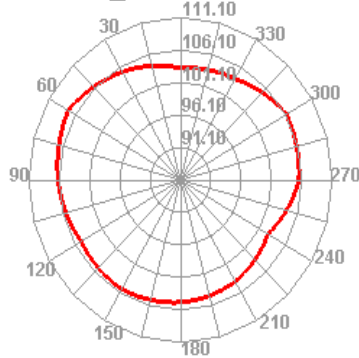
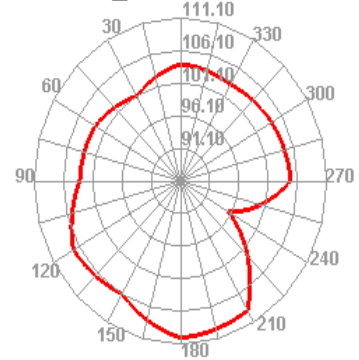
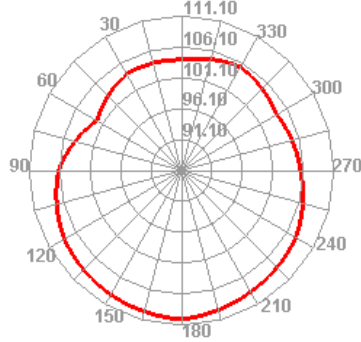
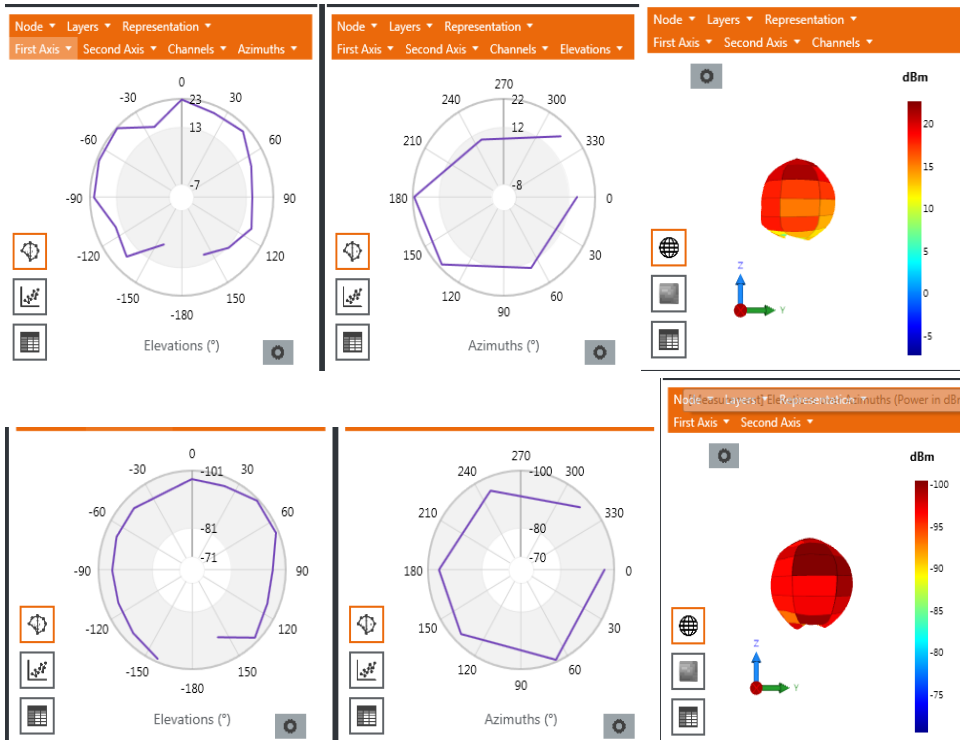


WCDMA\_VIII 2863 TRP H

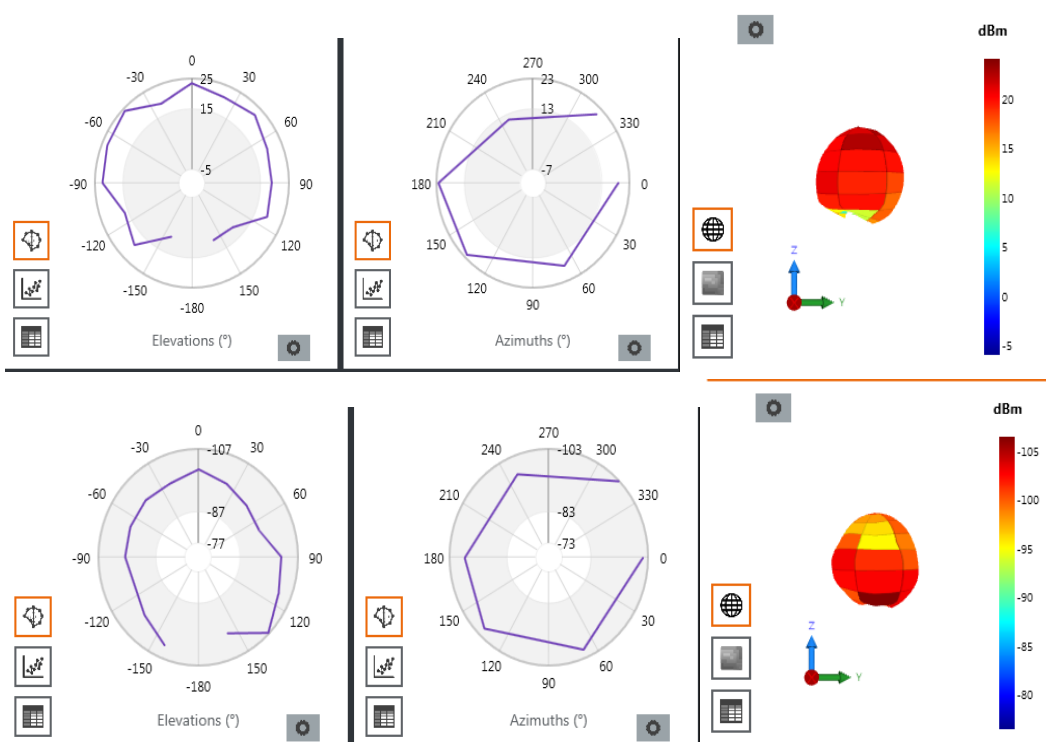
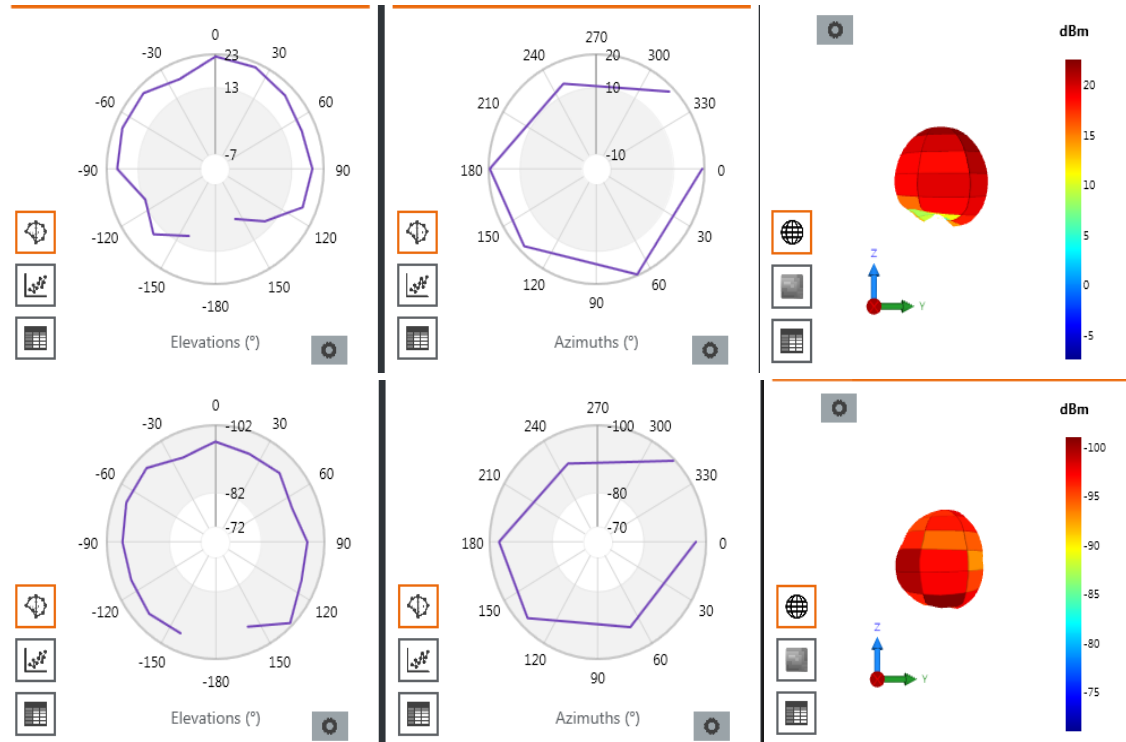


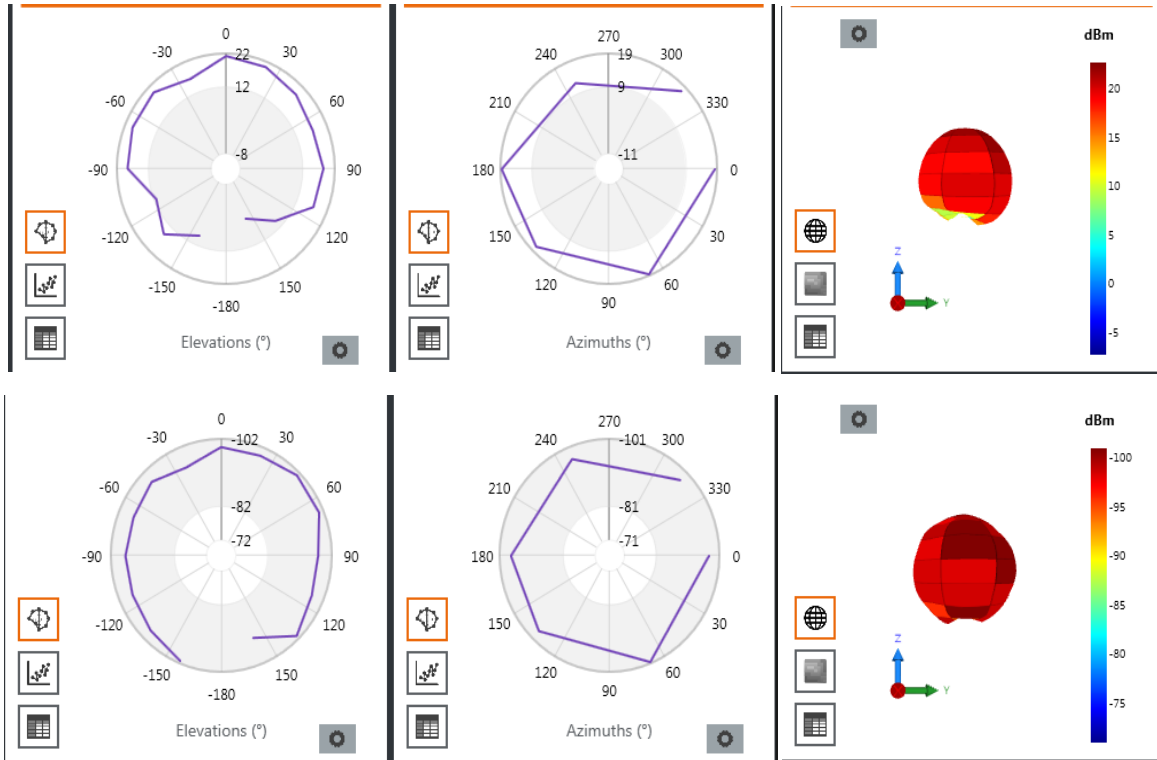
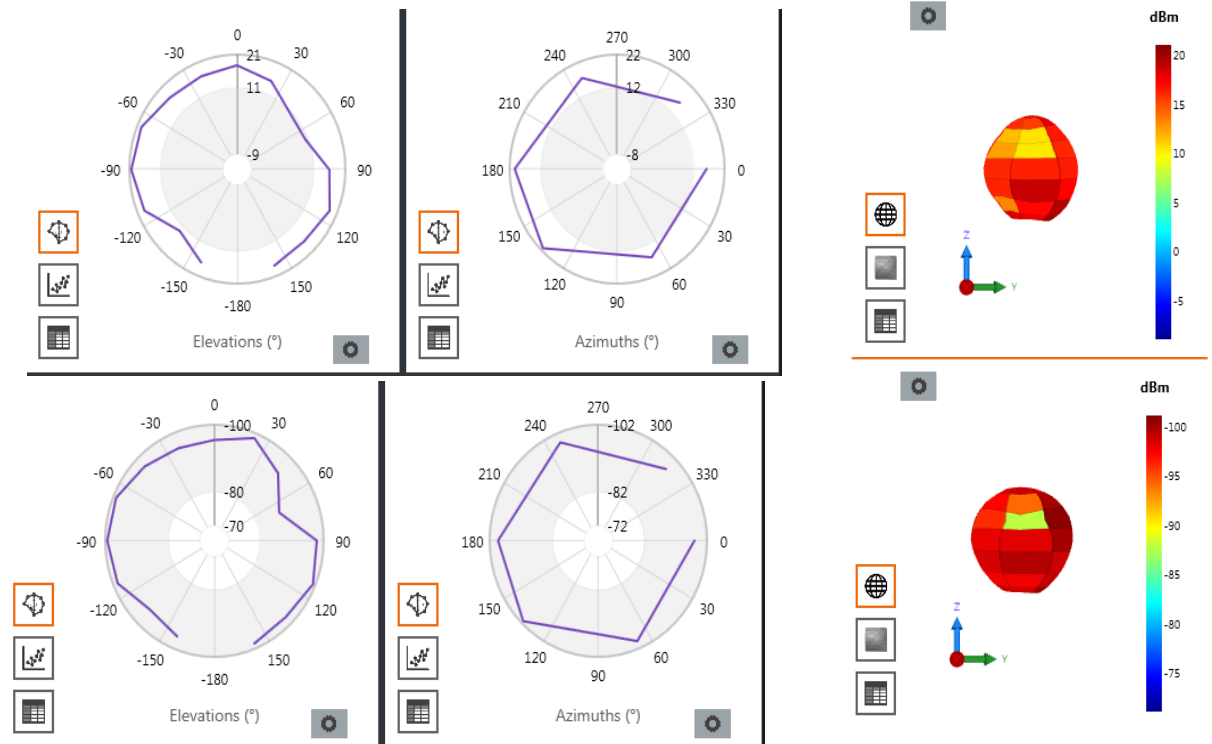
WCDMA\_VIII 2863 TRP E1

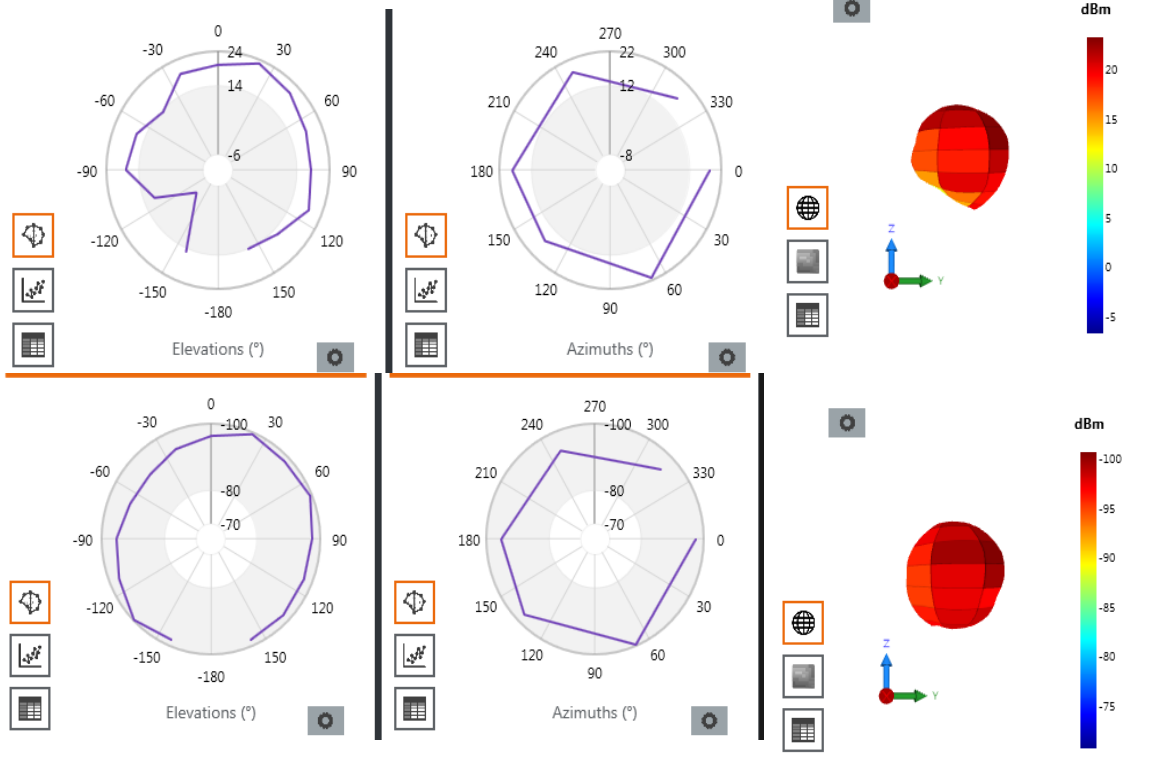
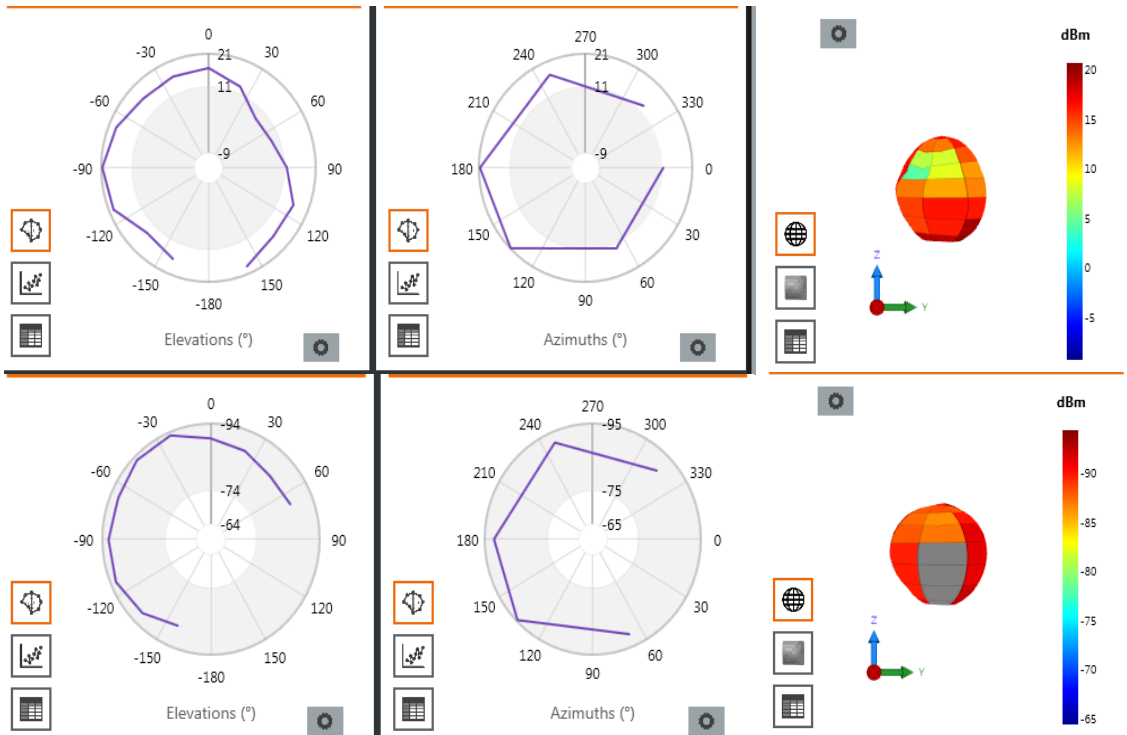


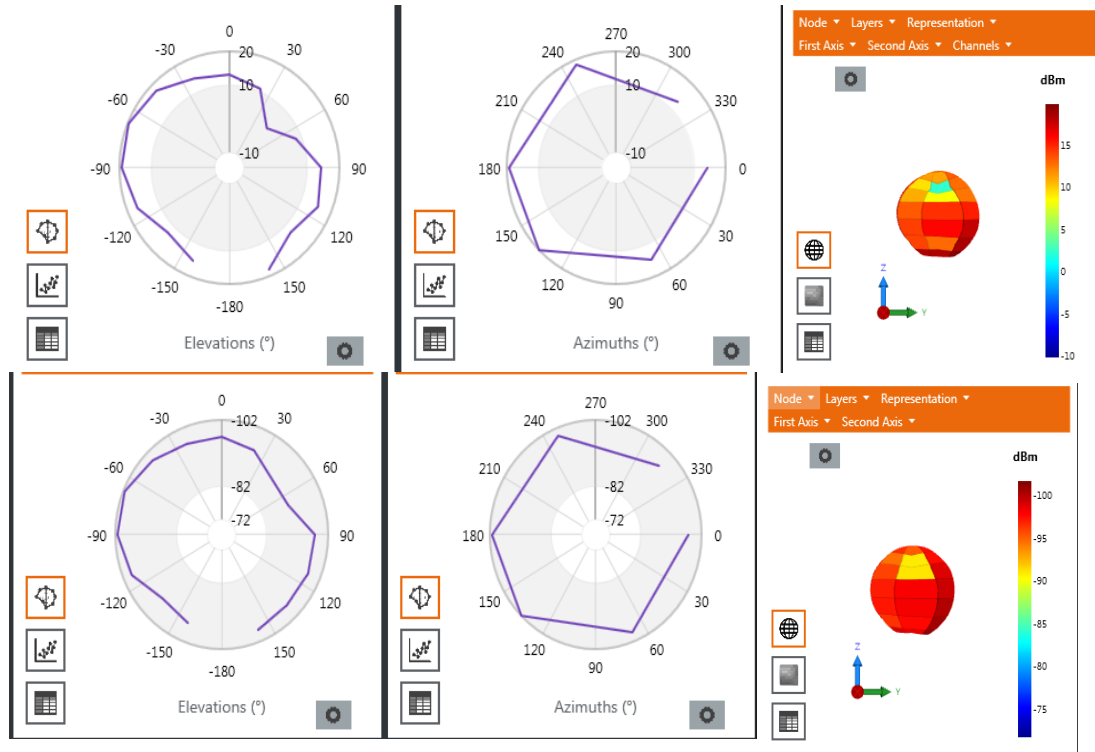
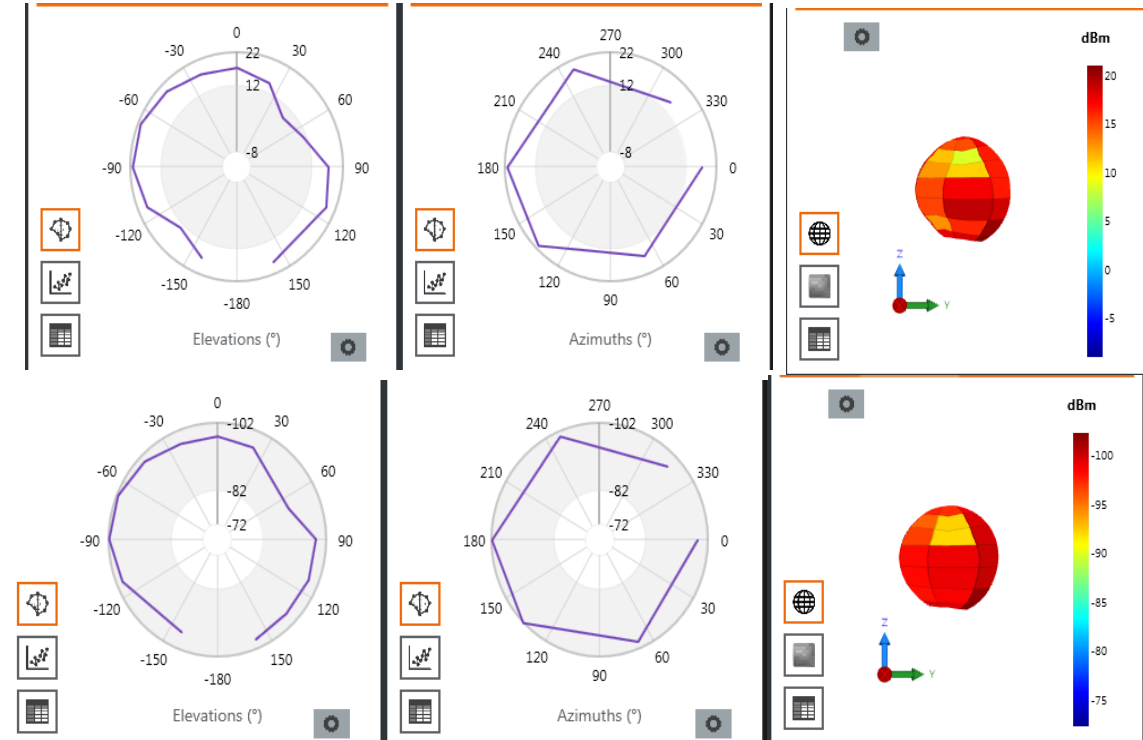
**WCDMA\_VIII 2863 TRP E2**

**WCDMA\_VIII 3088 TIS H**

**WCDMA\_VIII 3088 TIS E1**

**WCDMA\_VIII 3088 TIS E2**

**LTE-B1**


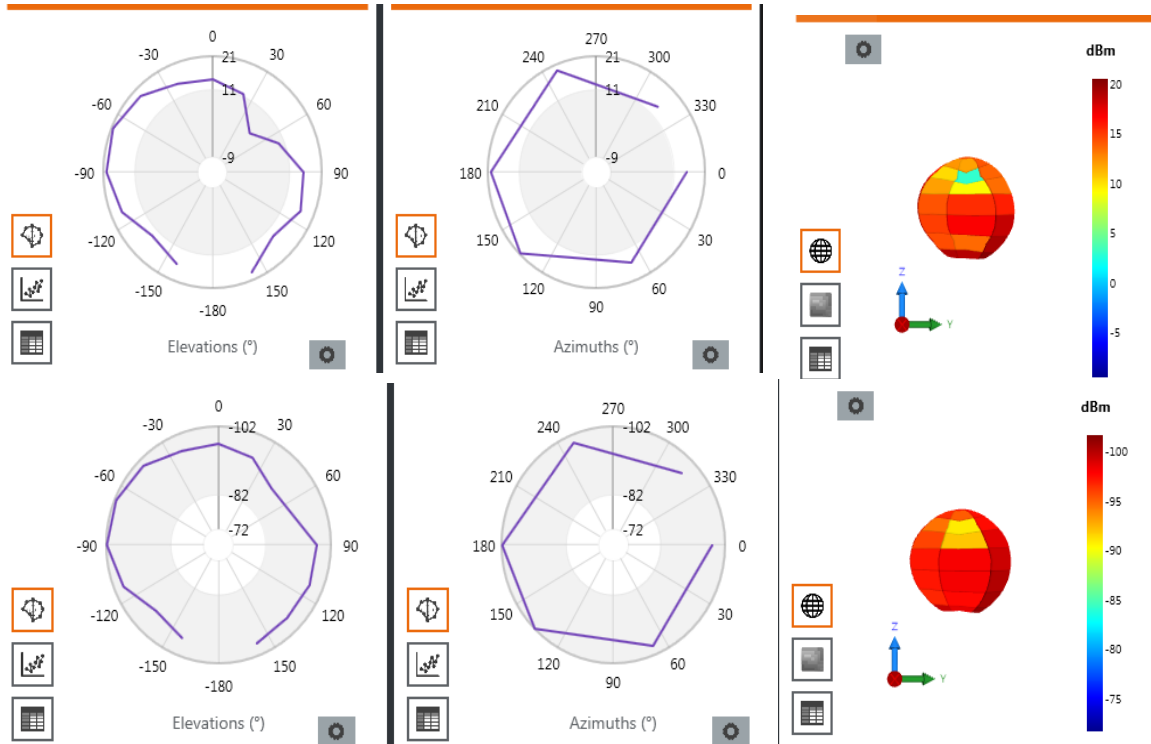
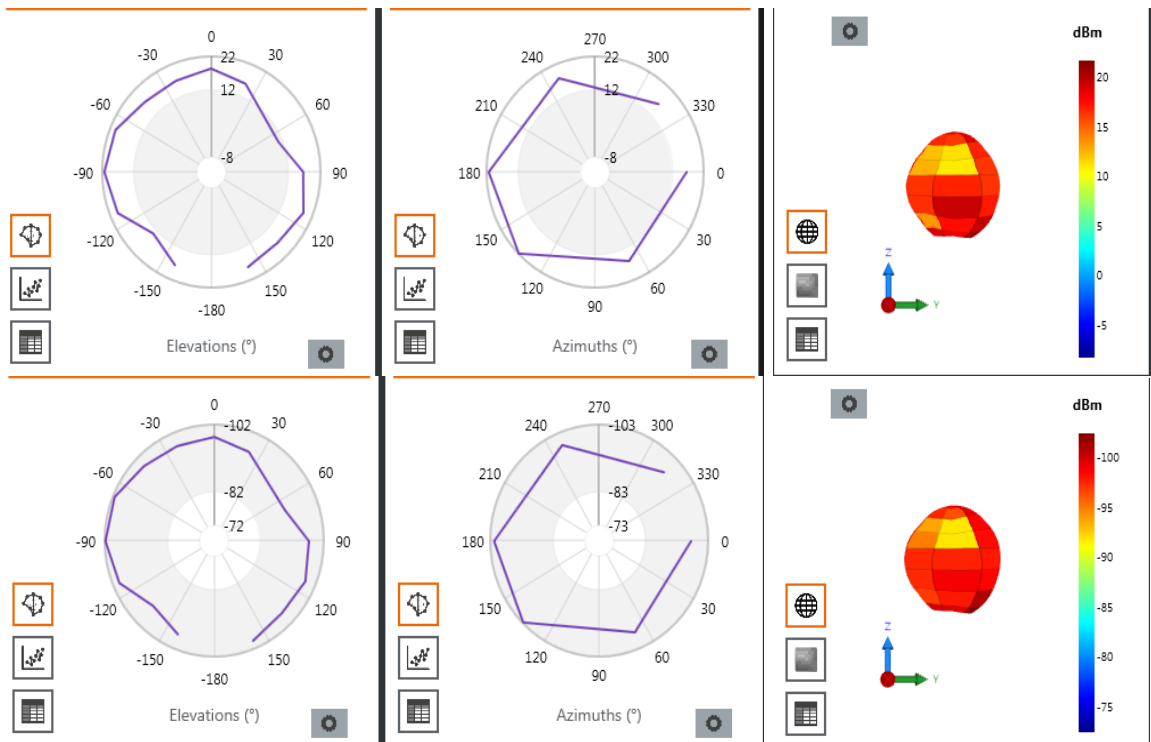


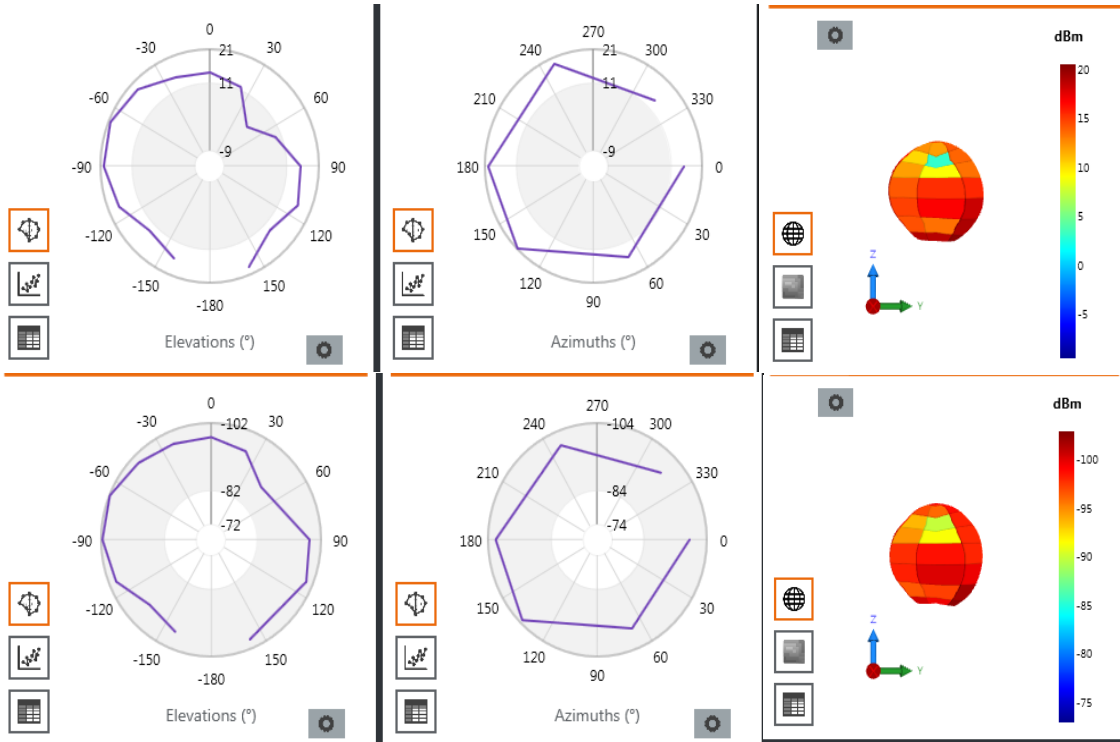
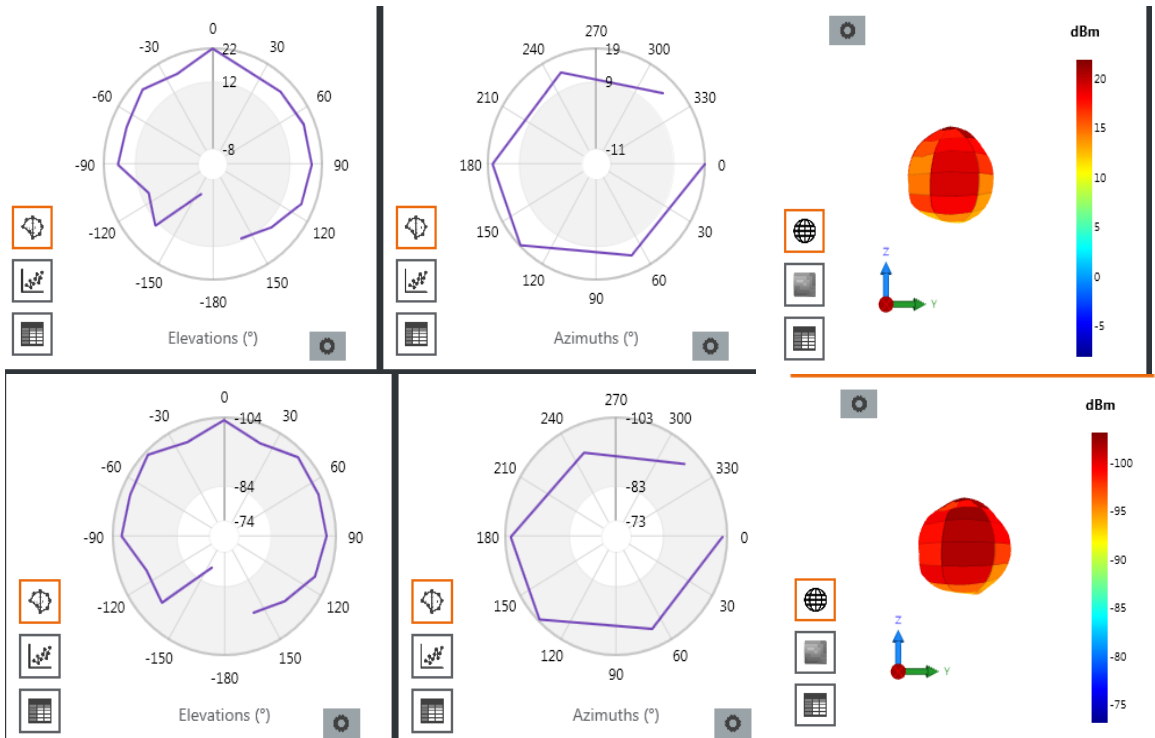
**LTE-B2**

**LTE-B3**


**LTE-B4**

**LTE-B5**


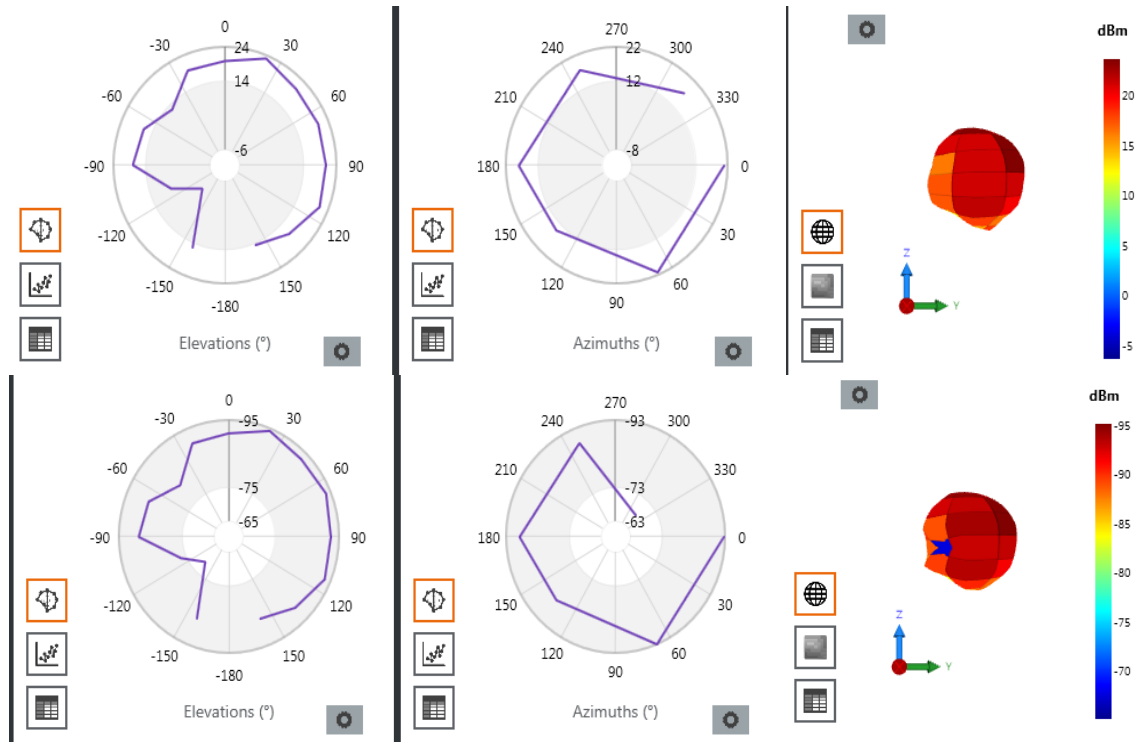
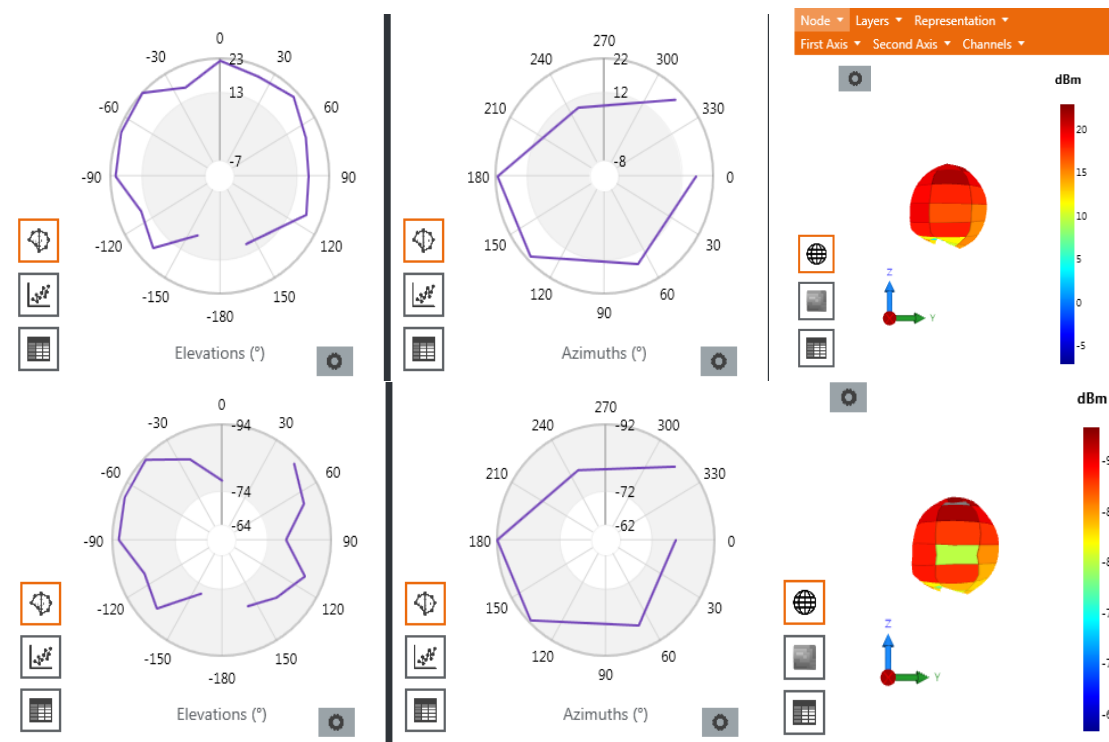
**LTE-B7**

**LTE-B8**


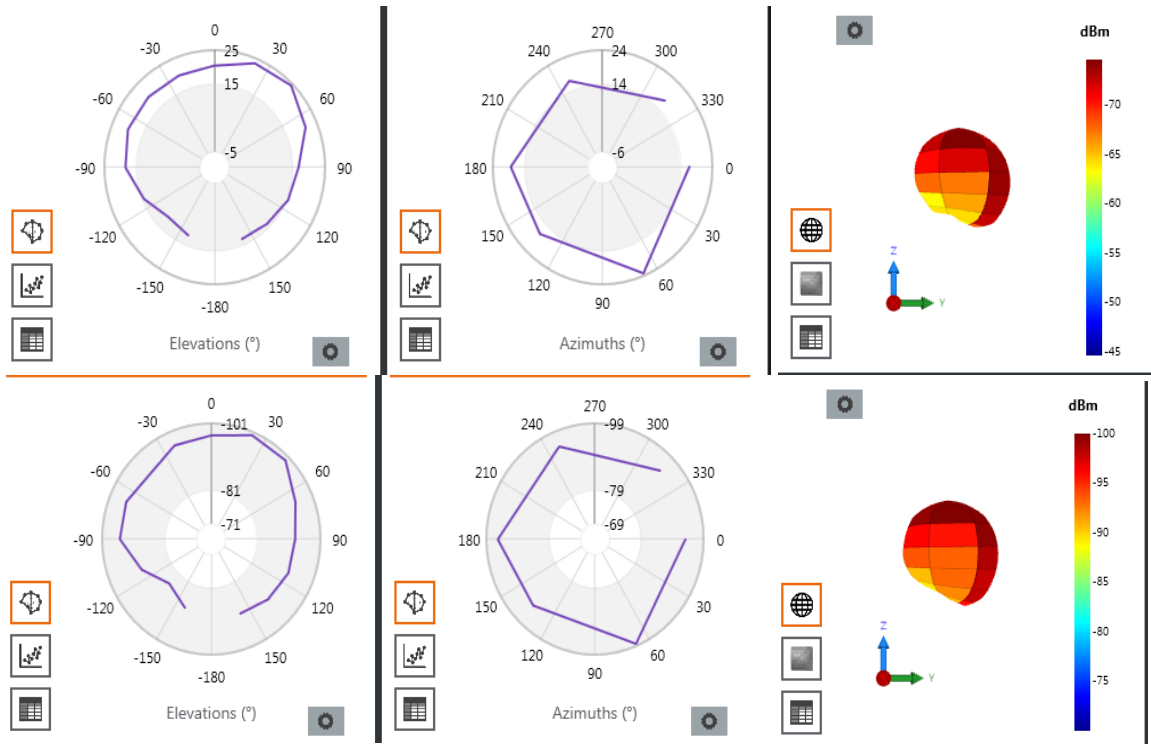
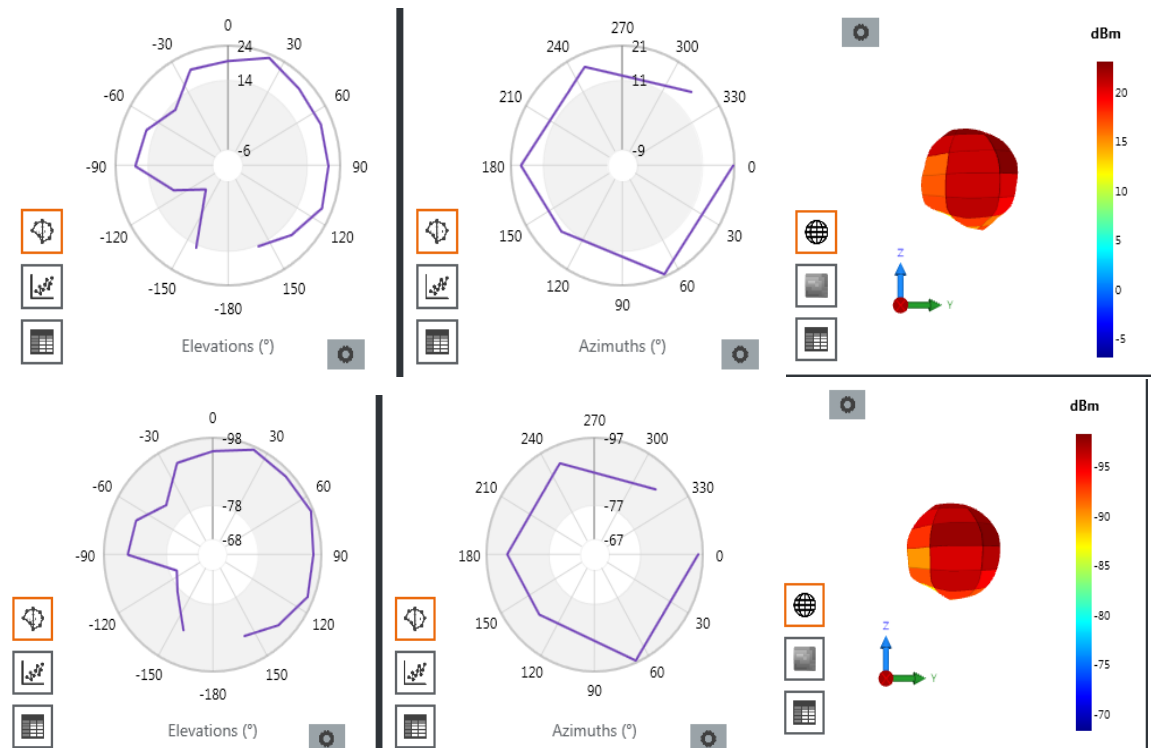
**LTE-B12**

**LTE-B13**


**LTE-B17**

**LTE-B20**


**LTE-B28**

**LTE-B34**


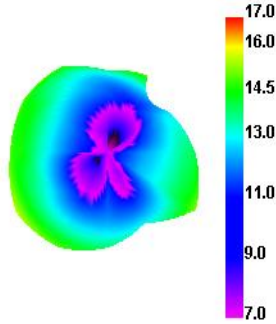


**LTE-B38**

**LTE-B39**


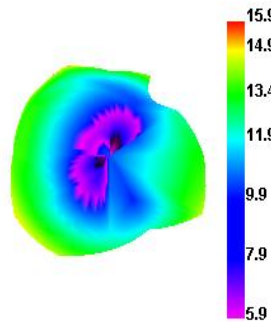
**LTE-B40**

**LTE-B41**


WIFI2.4G

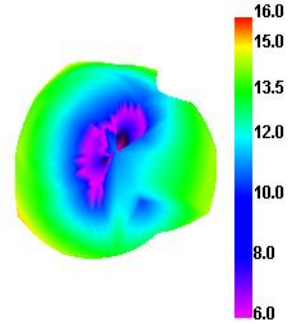
Wifi 1 TRP



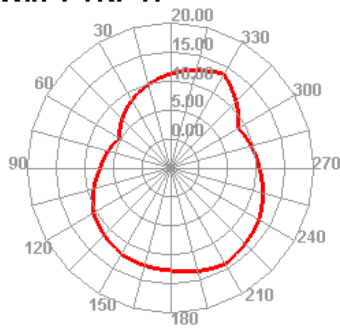
Wifi 6 TRP



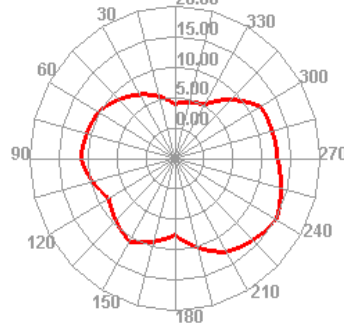
Wifi 13 TRP



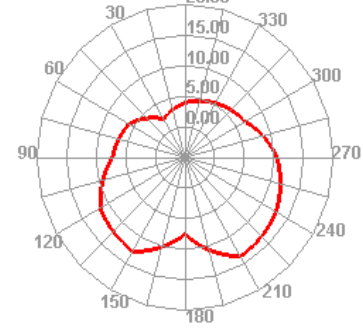
Wifi 1 TRP H



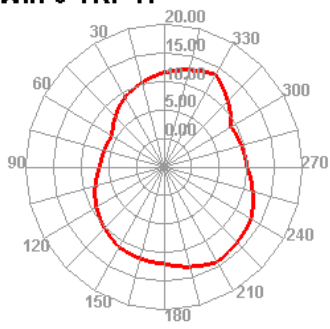
Wifi 1 TRP E1



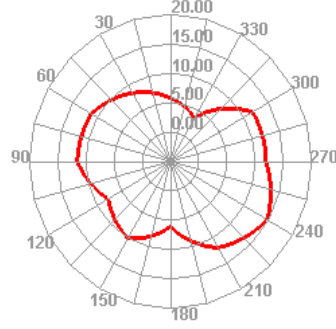
Wifi 1 TRP E2



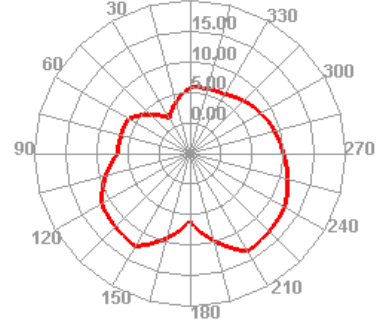
Wifi 6 TRP H



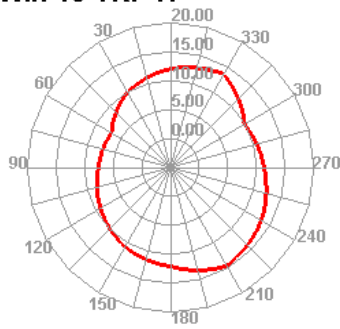
Wifi 6 TRP E1



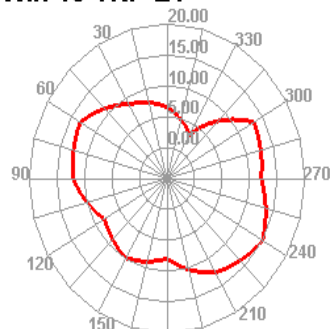
Wifi 6 TRP E2



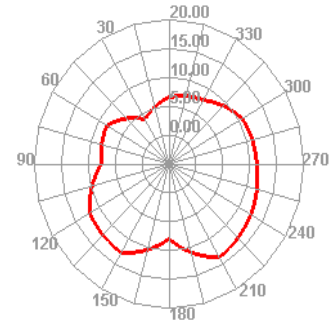
Wifi 13 TRP H



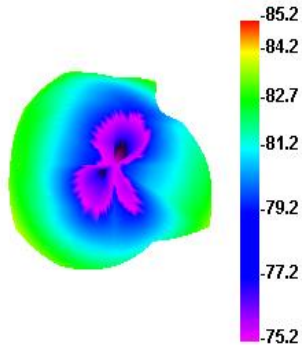
Wifi 13 TRP E1



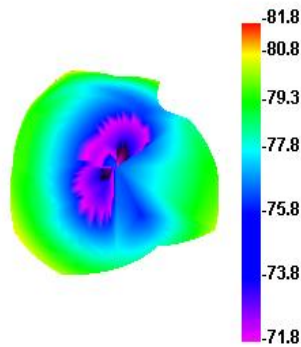
Wifi 13 TRP E2



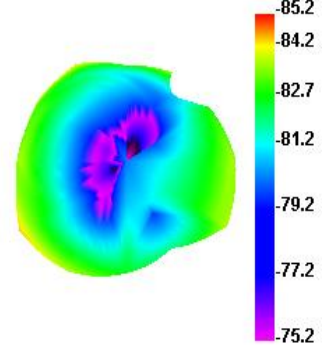
Wifi 1 TIS



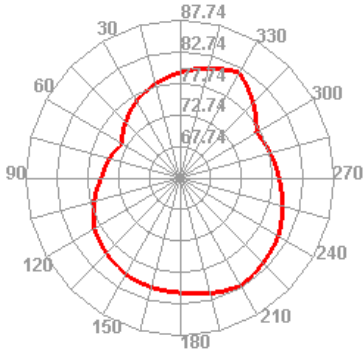
Wifi 6 TIS



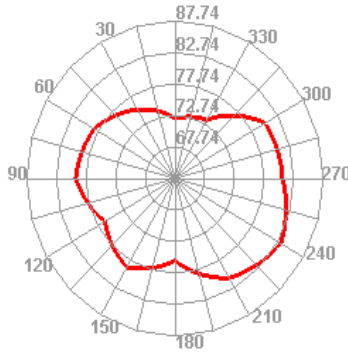
Wifi 13 TIS



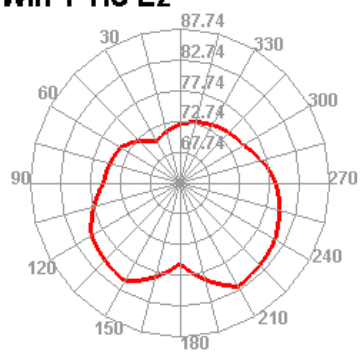
Wifi 1 TIS H



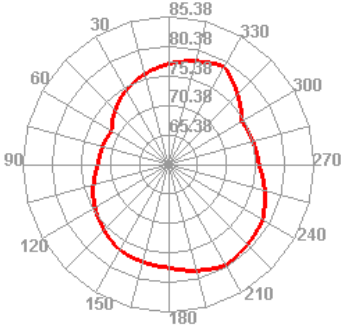
Wifi 1 TIS E1



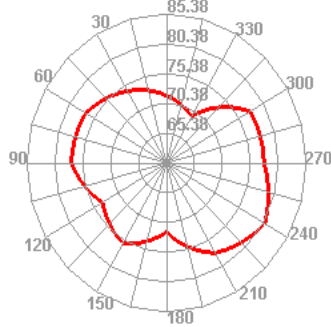
Wifi 1 TIS E2



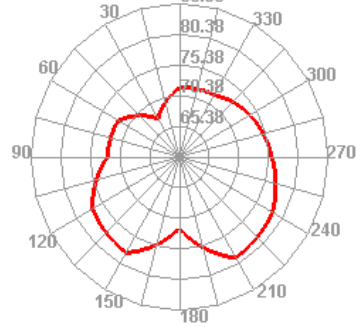
Wifi 6 TIS H



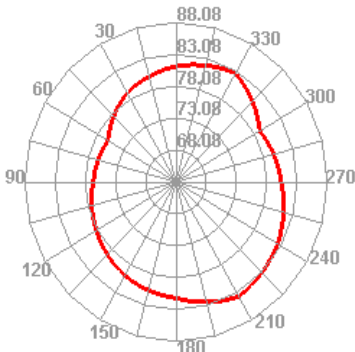
Wifi 6 TIS E1



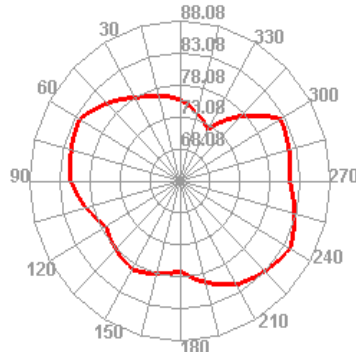
Wifi 6 TIS E2



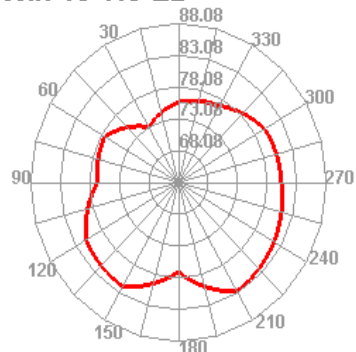
Wifi 13 TIS H



Wifi 13 TIS E1

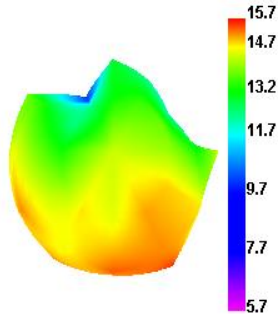


Wifi 13 TIS E2

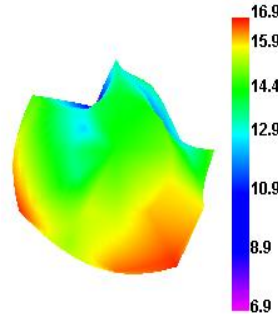


WIFI5G

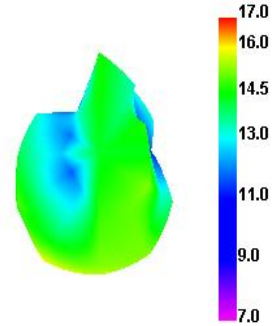
Wifi 36 TRP



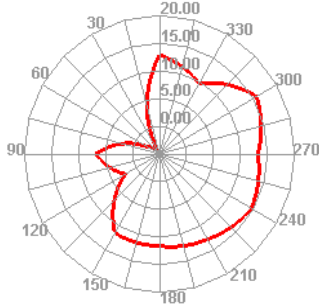
Wifi 64 TRP



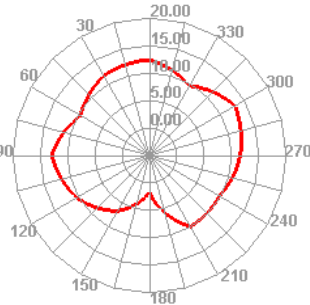
Wifi 165 TRP



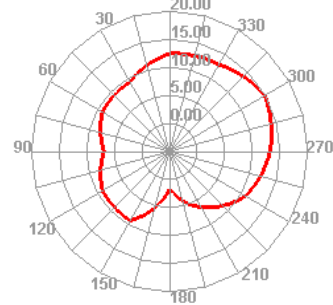
Wifi 36 TRP H



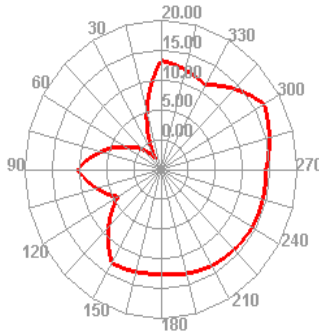
Wifi 36 TRP E1



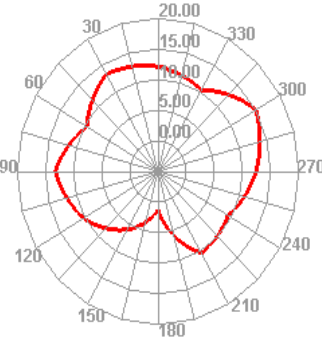
Wifi 36 TRP E2



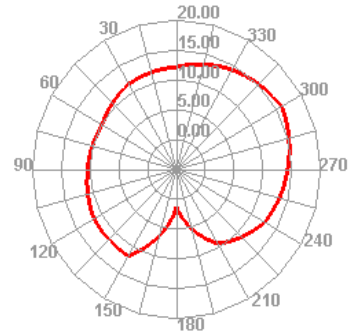
Wifi 64 TRP H



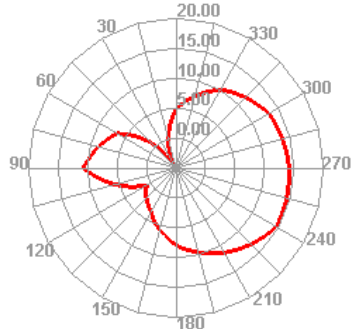
Wifi 64 TRP E1



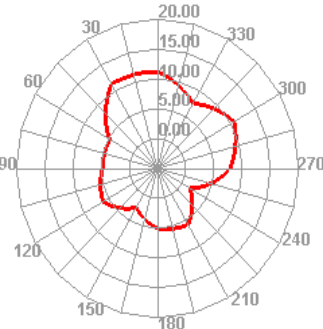
Wifi 64 TRP E2



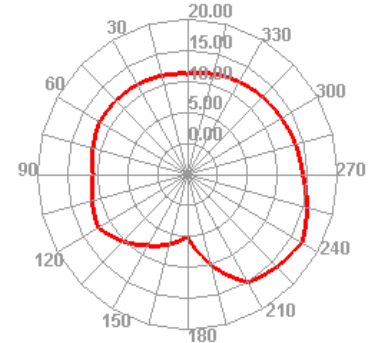
Wifi 165 TRP H



Wifi 165 TRP E1

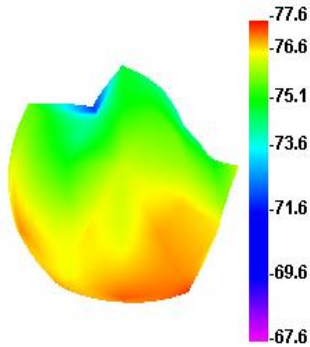


Wifi 165 TRP E2

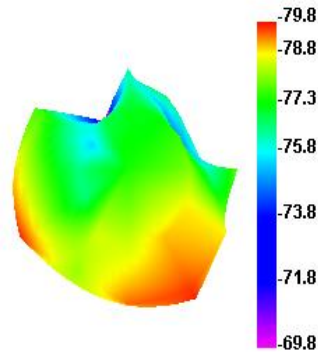




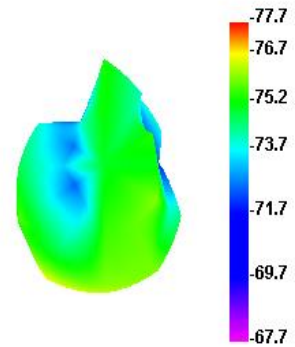
Wifi 36 TIS



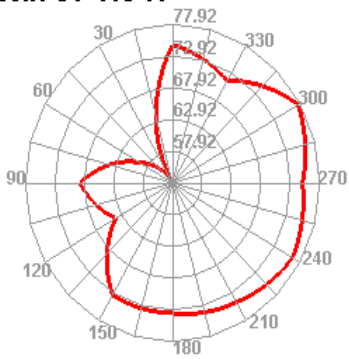
Wifi 64 TIS



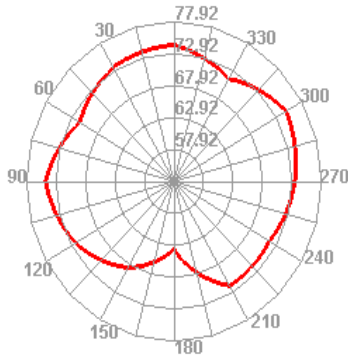
Wifi 165 TIS



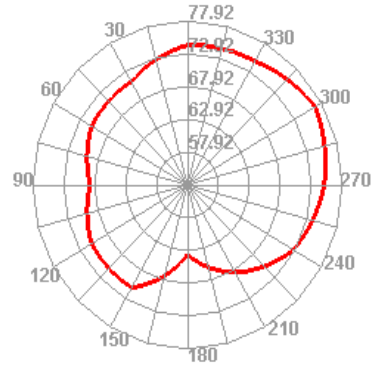
Wifi 36 TIS H



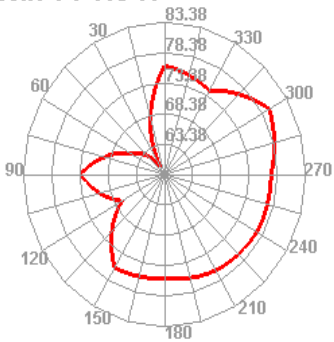
Wifi 36 TIS E1



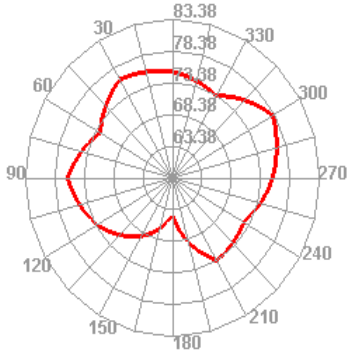
Wifi 36 TIS E2



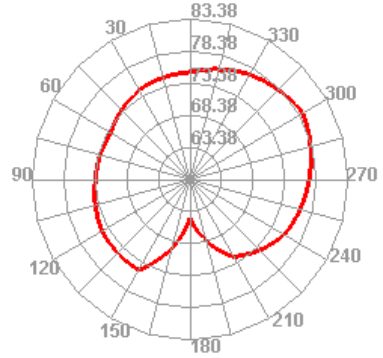
Wifi 64 TIS H



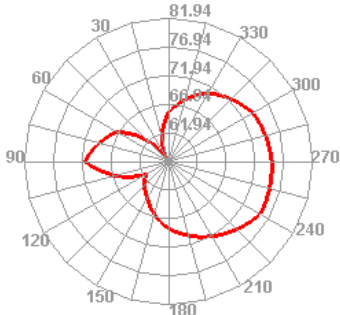
Wifi 64 TIS E1



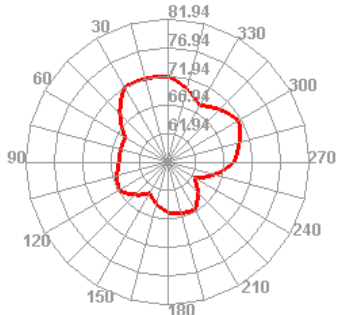
Wifi 64 TIS E2



Wifi 165 TIS H



Wifi 165 TIS E1



Wifi 165 TIS E2

