



深圳市凯普深通讯科技有限公司

Shenzhen Kaipushen Communication Technology Co., Ltd

天线调试报告

Antenna debugging report

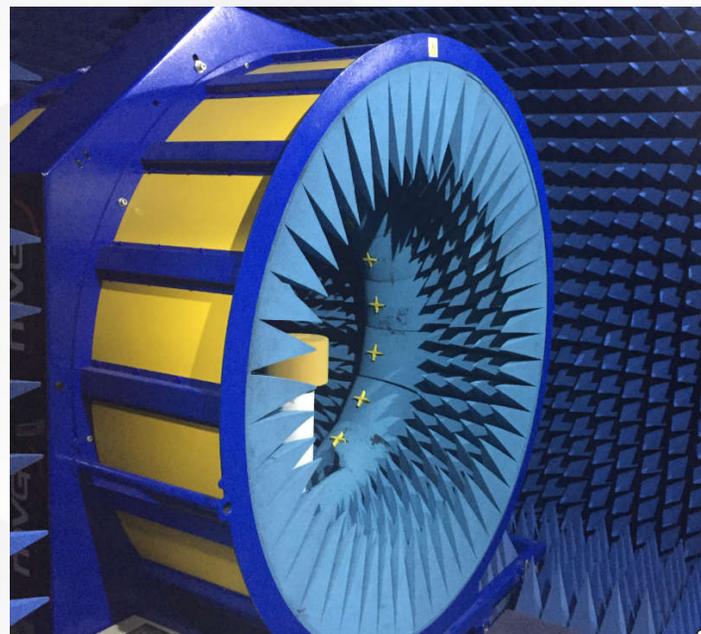
项目名project : S1 PLUS
射 频RF : 江工Jiang Gong
日 期Date : 2024.4.15
版 本version : 01
型号Model: LTE MAIN --- KPS-UN860P-M-MAIN
LTE DIV --- KPS-UN860P-DIV
Wifi/BT/GPS --- KPS-UN860P-G/W/B

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Shenzhen cape deep communication technology co., LTD



实验室测试环境及设备

Laboratory testing environment and equipment



测试项目 Test items	测试设备 Test equipment
S11、S12、VSWR、LOSS	网络分析仪network analyzer E5071B、E5062A
Efficiency、Gain 3D Radiation Pattern	Satimo SG16暗室darkroom、GP7*4*3暗室 darkroom、E5071B
TRP、TIS	Satimo SG16暗室darkroom、GP7*4*3暗室 darkroom、8960、CMW500、MT8820C、 E4438C、

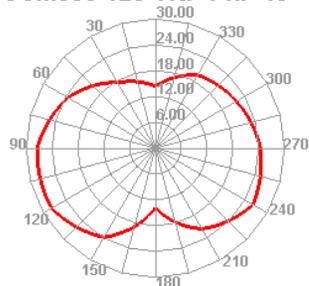
深圳市凯普深通讯科技有限公司
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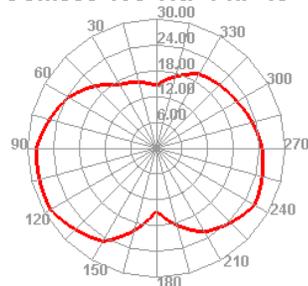
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方向图 Directional Diagram (2G)

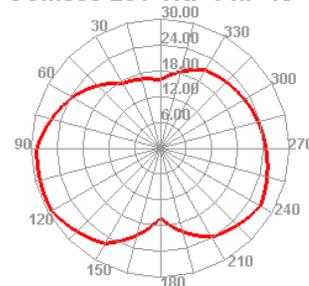
GSM850 128 TRP Phi=45



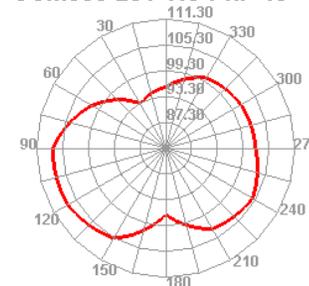
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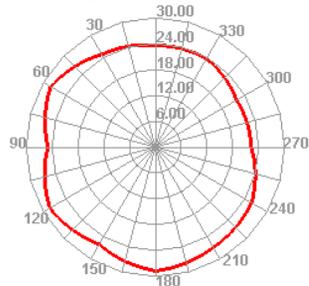
GSM850 251 TRP Phi=45



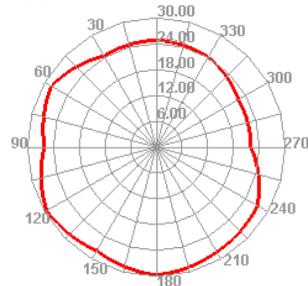
GSM850 251 TIS Phi=45



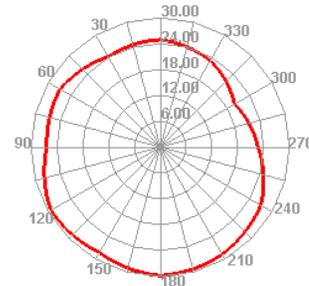
PCS 512 TRP Phi=45



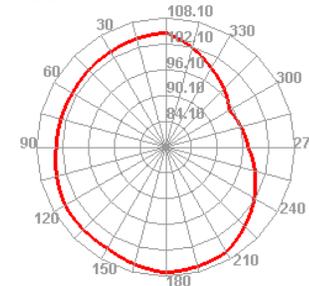
PCS 661 TRP Phi=45



PCS 810 TRP Phi=45



PCS 810 TIS Phi=45

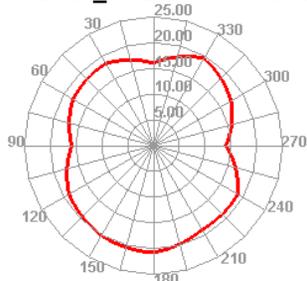




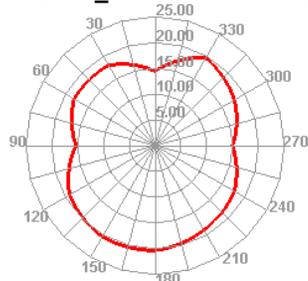
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方向图 Directional Diagram (3G)

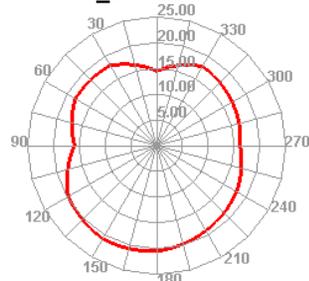
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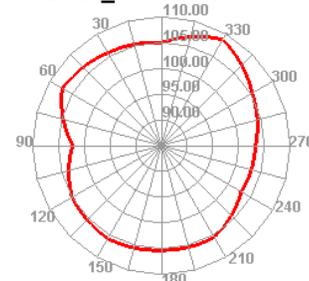
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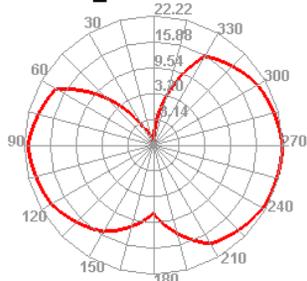
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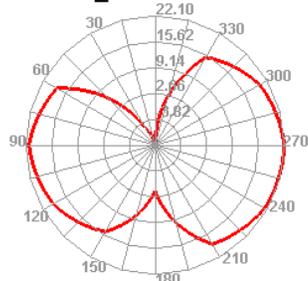
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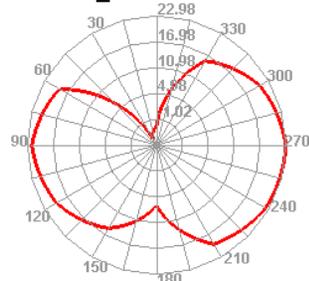
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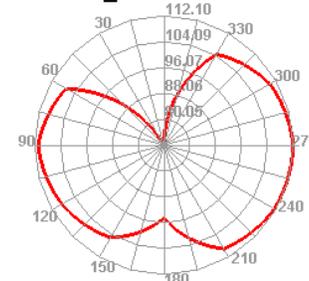
WCDMA_V 4185 TRP Phi=45



WCDMA_V 4233 TRP Phi=45



WCDMA_V 4458 TIS Phi=45

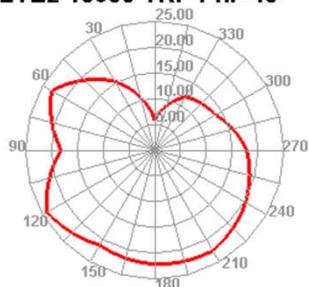




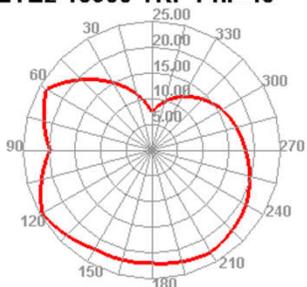
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方向图 Directional Diagram (LTE)

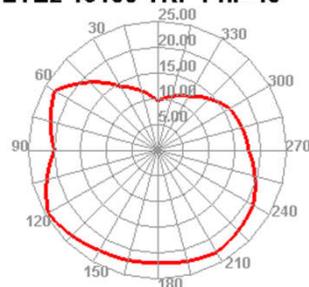
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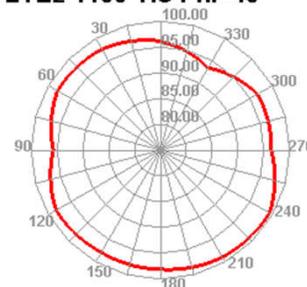
LTE2 18900 TRP Phi=45



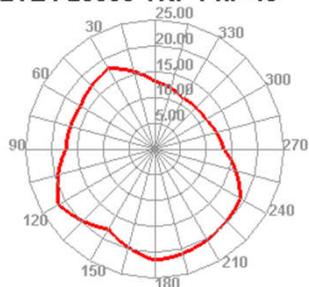
LTE2 19150 TRP Phi=45



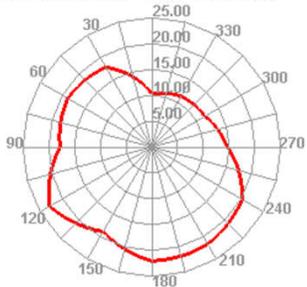
LTE2 1150 TIS Phi=45



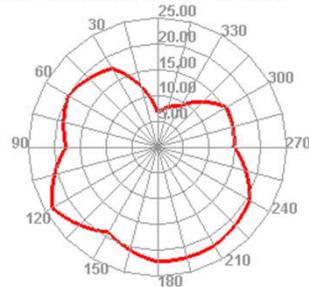
LTE4 20000 TRP Phi=45



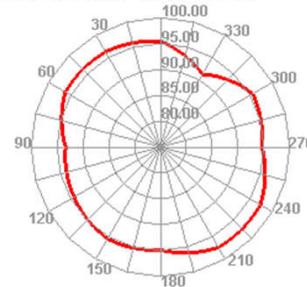
LTE4 20175 TRP Phi=45



LTE4 20350 TRP Phi=45



LTE4 2350 TIS Phi=45

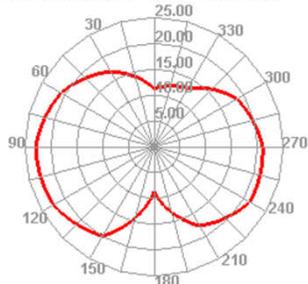




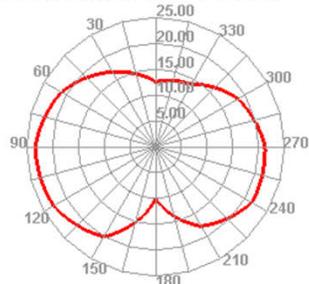
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方向图 Directional Diagram (LTE)

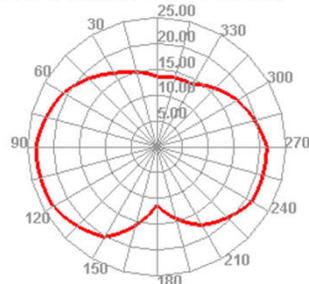
LTE5 20450 TRP Phi=45



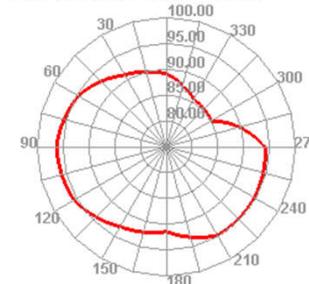
LTE5 20525 TRP Phi=45



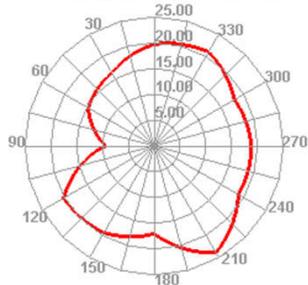
LTE5 20600 TRP Phi=45



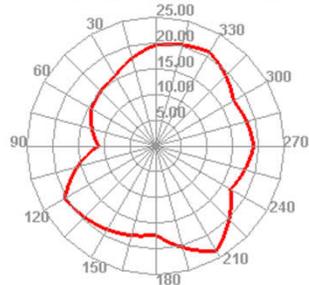
LTE5 2600 TIS Phi=45



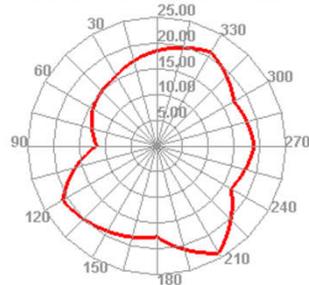
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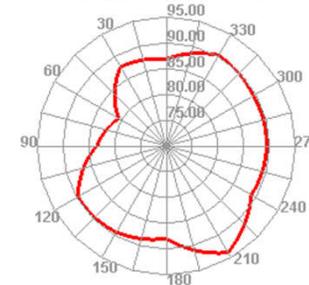
LTE7 21100 TRP Phi=45



LTE7 21400 TRP Phi=45



LTE7 3400 TIS Phi=45

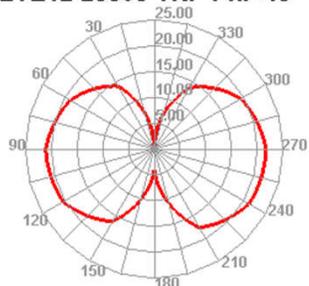




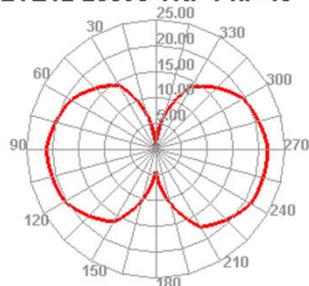
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方向图 Directional Diagram (LTE)

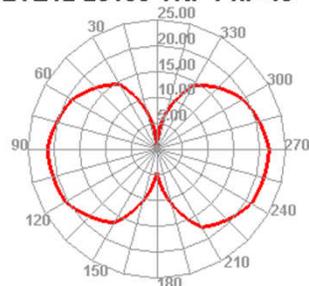
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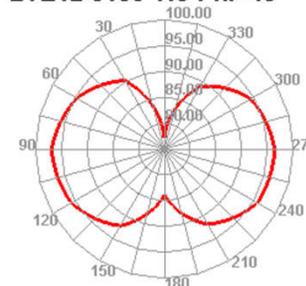
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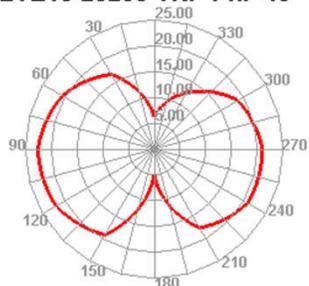
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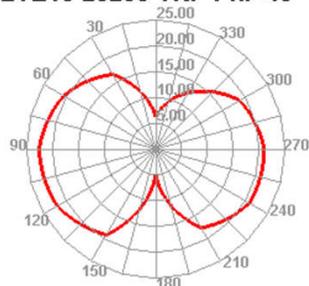
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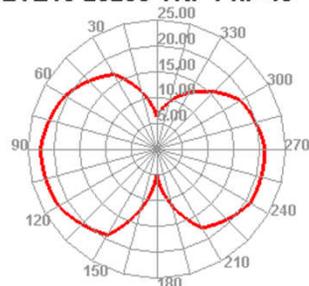
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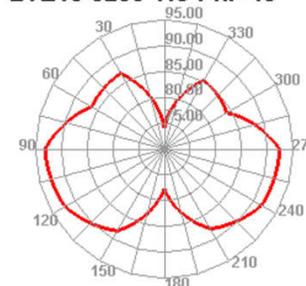
LTE13 23230 TRP Phi=45



LTE13 23230 TRP Phi=45



LTE13 5230 TIS Phi=45

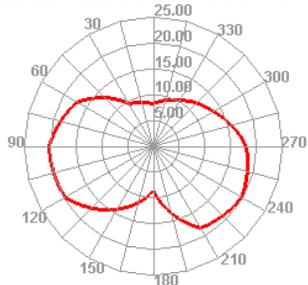




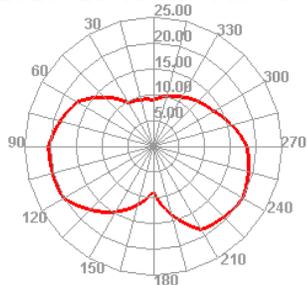
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方向图 Directional Diagram (LTE)

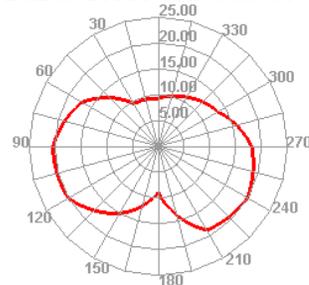
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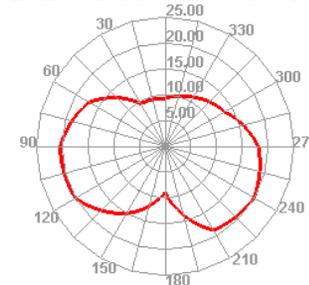
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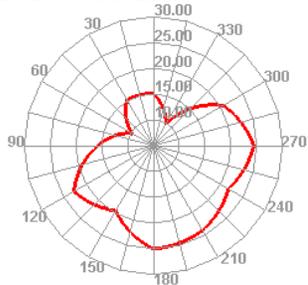
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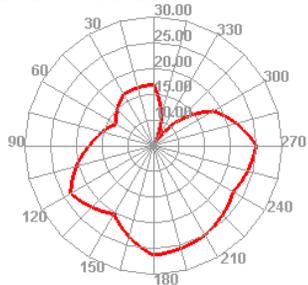
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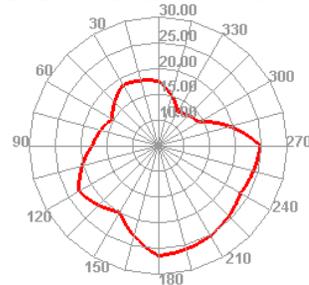
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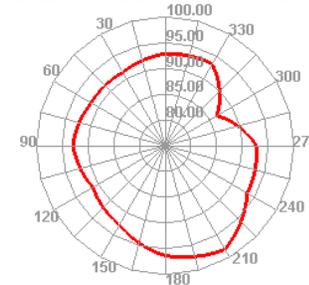
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LTE66 132622 TRP Phi=45



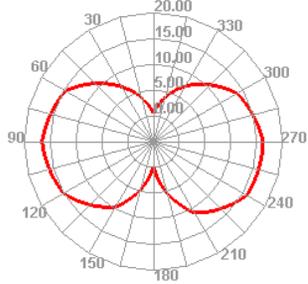
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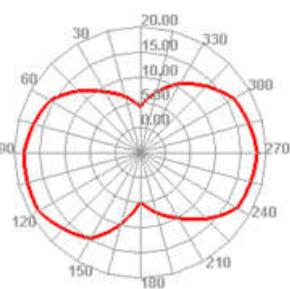


方向图 Directional Diagram (LTE)

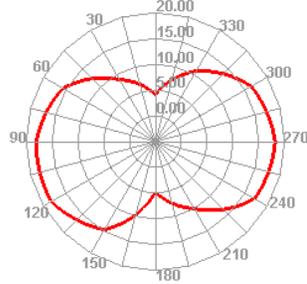
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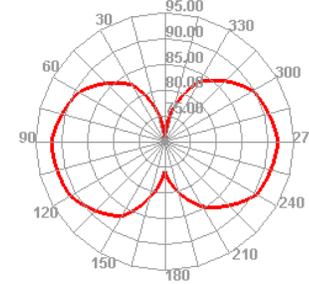
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LTE71 133422 TRP Phi=45



LTE71 68886 TIS Phi=45



Notes:

LTE B25 – Refer to the directional diagram of PCS

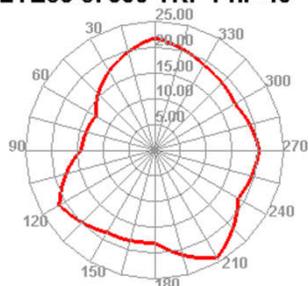
LTE B26 – Refer to the directional diagram of GSM850



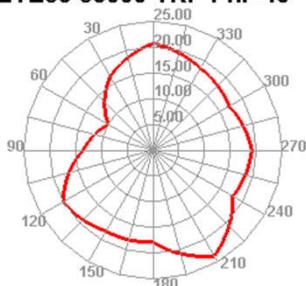
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方向图 Directional Diagram (LTE)

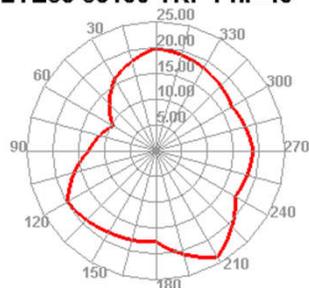
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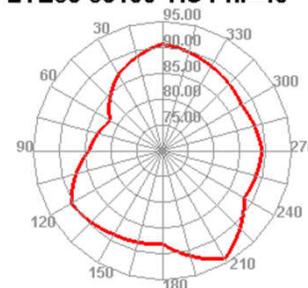
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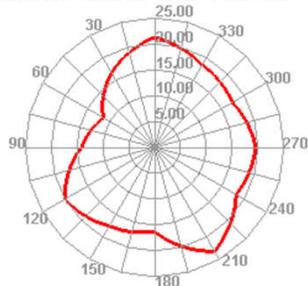
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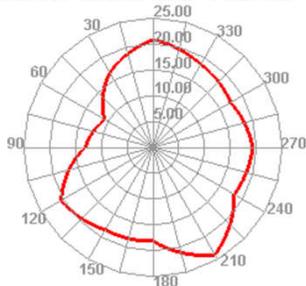
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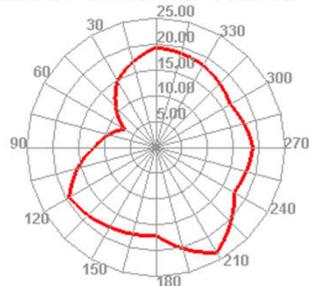
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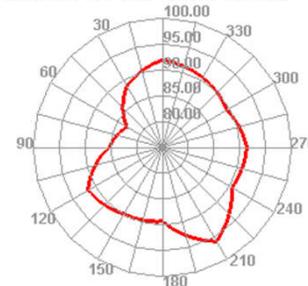
LTE41 40740 TRP Phi=45



LTE41 41140 TRP Phi=45



LTE41 41140 TIS Phi=45

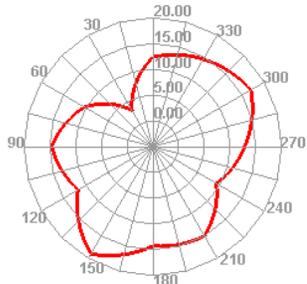




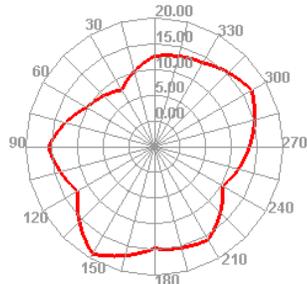
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方向图 Directional Diagram (Wifi)

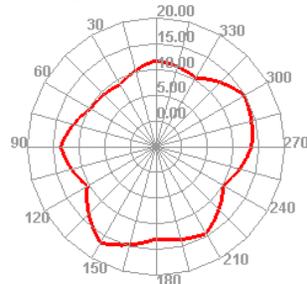
Wifi 1 TRP Phi=45



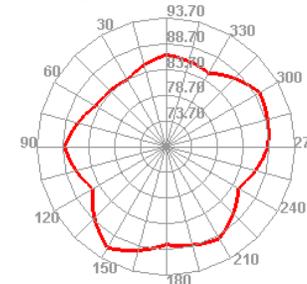
Wifi 6 TRP Phi=45



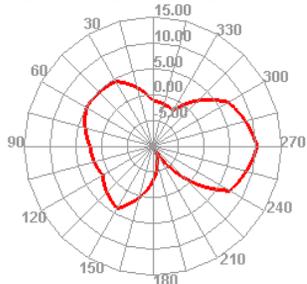
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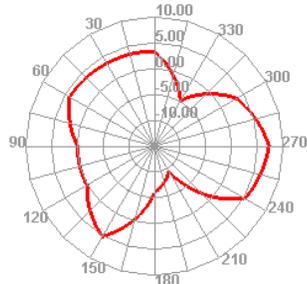
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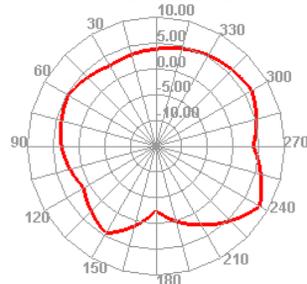
Wifi 36 TRP Phi=45



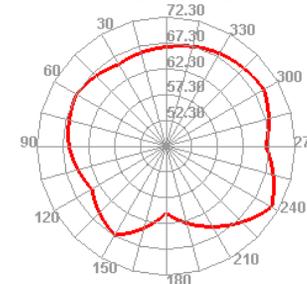
Wifi 60 TRP Phi=45



Wifi 161 TRP Phi=45

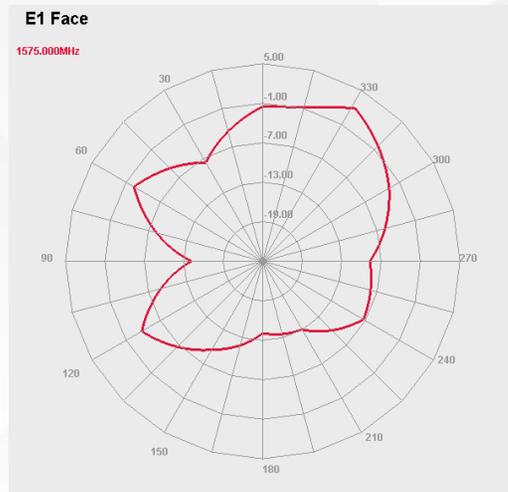


Wifi 161 TIS Phi=45





方向图 Directional Diagram (GPS)





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Antenna Passive data (LTE)

Freq (MHz)	Effi (%)	Gain (dBi)	Freq (MHz)	Effi (%)	Gain (dBi)	Freq (MHz)	Effi (%)	Gain (dBi)	Freq (MHz)	Effi (%)	Gain (dBi)
650	17.40	-4.10	1690	19.87	-2.09	2030	35.20	-0.41	2370	28.18	-0.04
660	16.02	-4.84	1700	34.11	0.34	2040	35.39	-0.55	2380	32.65	0.33
670	16.00	-4.99	1710	37.39	0.79	2050	35.51	-0.55	2390	30.17	-0.30
680	15.49	-4.93	1720	40.39	1.28	2060	40.03	-0.21	2400	30.19	-0.61
690	13.86	-5.17	1730	41.61	1.42	2070	43.15	0.10	2410	28.35	-1.15
700	20.08	-3.81	1740	41.79	1.64	2080	47.76	0.39	2420	29.85	-1.07
710	21.80	-3.21	1750	42.21	1.74	2090	48.91	0.19	2430	27.89	-1.51
720	28.80	-2.70	1760	40.67	1.82	2100	46.58	0.07	2440	30.57	-1.09
730	20.70	-3.22	1770	36.82	1.34	2110	48.00	0.30	2450	31.33	-0.76
740	22.42	-3.19	1780	42.68	2.08	2120	47.34	0.42	2460	30.28	-0.77
750	19.16	-3.57	1790	42.85	1.90	2130	52.23	0.99	2470	26.48	-1.20
760	24.06	-2.64	1800	42.66	1.89	2140	52.39	1.32	2480	32.12	-0.35
770	16.76	-3.89	1810	41.28	1.66	2150	47.86	1.16	2490	36.39	0.31
780	15.78	-4.14	1820	39.57	1.58	2160	43.03	0.98	2500	35.39	0.20
790	17.56	-3.48	1830	37.63	1.33	2170	44.07	1.25	2510	31.05	-0.27
800	35.82	-0.33	1840	35.19	1.07	2180	42.32	1.15	2520	32.90	0.20
810	35.92	-0.20	1850	32.87	0.63	2190	44.79	1.53	2530	32.73	0.36
820	34.64	-0.44	1860	28.30	-0.15	2200	44.38	1.61	2540	26.88	-0.43
830	30.56	-0.96	1870	24.67	-1.03	2210	44.75	1.86	2550	31.52	0.38
840	28.94	-1.37	1880	25.43	-1.25	2220	39.27	1.53	2560	33.70	0.41
850	31.34	-1.10	1890	22.45	-1.93	2230	42.38	2.11	2570	32.59	0.45
860	34.12	-0.78	1900	17.94	-2.50	2240	46.70	2.63	2580	31.77	0.56
870	36.75	-0.42	1910	18.73	-2.09	2250	35.19	1.46	2590	29.82	0.59
880	37.80	-0.29	1920	21.24	-1.43	2260	33.53	1.28	2600	29.15	0.63
890	42.00	0.17	1930	21.26	-1.38	2270	33.13	1.29	2610	28.30	0.68
900	42.61	0.17	1940	21.03	-1.36	2280	35.45	1.61	2620	29.33	0.79
910	44.93	0.32	1950	23.98	-0.80	2290	29.57	0.87	2630	29.68	0.90
920	45.20	0.28	1960	23.91	-0.90	2300	30.27	0.98	2640	30.11	1.00
930	40.43	-0.28	1970	24.36	-0.94	2310	29.51	0.86	2650	29.86	1.06
940	39.00	-0.46	1980	26.01	-0.70	2320	29.52	0.81	2660	30.73	1.20
950	37.82	-0.65	1990	28.37	-0.45	2330	28.24	0.56	2670	31.39	1.31
960	32.92	-1.28	2000	29.35	-0.41	2340	30.27	0.80	2680	31.83	1.32
			2010	30.90	-0.55	2350	31.31	0.86	2690	33.85	1.60
			2020	34.15	-0.37	2360	30.99	0.63	2700	35.79	1.62

Frequency / MHz	Peak Gain / dBi
650 - 960	0.32
1700 - 2700	2.63



Antenna Passive data (Wifi)

Freq (MHz)	Effi (%)	Gain (dBi)
2400	33.63	0.45
2410	31.26	0.26
2420	32.35	0.46
2430	33.47	0.64
2440	36.32	0.98
2450	36.03	0.96
2460	34.39	0.74
2470	31.34	0.33
2480	32.4	0.45
2490	34.46	0.71
2500	36.22	0.85

Freq (MHz)	Effi (%)	Gain (dBi)
5150	25.57	-0.1
5200	31.83	0.64
5250	23.47	-1.4
5300	23.85	-1.3
5350	29.75	-0.88
5400	30.37	0.84
5450	27.4	0.55
5500	32.28	2.11
5550	36.31	3.44
5600	30.67	2.39
5650	33.46	2.05
5700	36.42	2.4
5750	29.27	1.57
5800	29.8	-0.11
5850	34.15	0.6

Frequency / MHz	Peak Gain / dBi
2400 - 2500	0.98
5150 - 5850	3.44



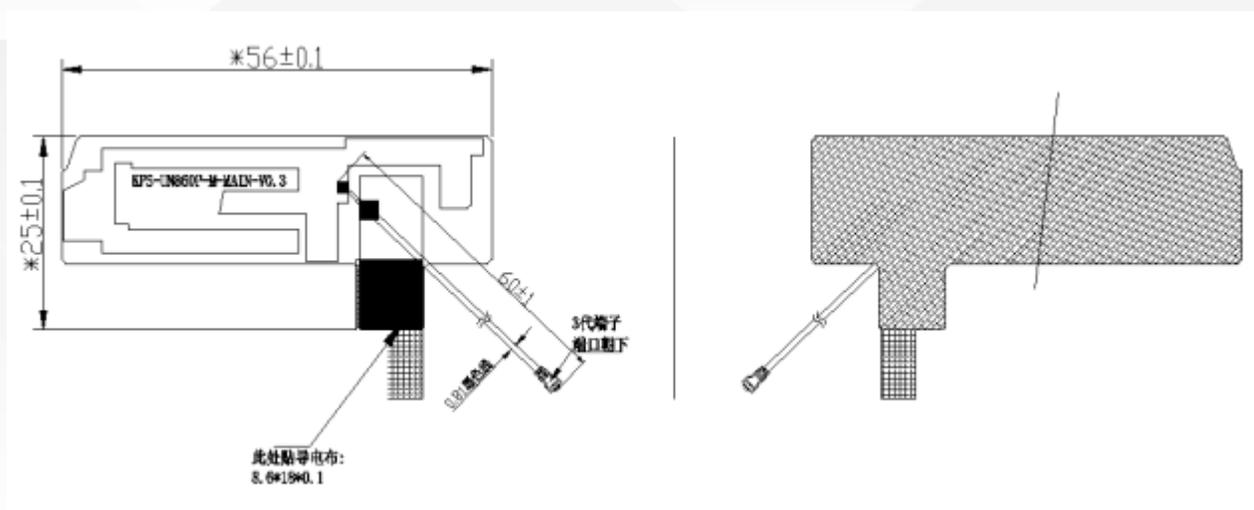
Antenna Passive data (GPS)

Freq (MHz)	Effi (%)	Gain (dBi)
1500	41.62	1.07
1505	38.87	0.73
1510	36.25	0.29
1515	36.98	0.39
1520	41.48	0.89
1525	42.88	0.98
1530	42.05	0.83
1535	39.11	0.55
1540	43.55	1.09
1545	44.9	1.25
1550	45.12	1.28
1555	43.4	1.17
1560	44.33	1.34
1565	45.47	1.45
1570	44.52	1.29
1575	44.16	1.2
1580	44.36	1.17
1585	43.99	1.02
1590	41.85	0.67
1595	41.47	0.64
1600	39.84	0.47

Frequency / MHz	Peak Gain / dBi
1500 - 1600	1.45

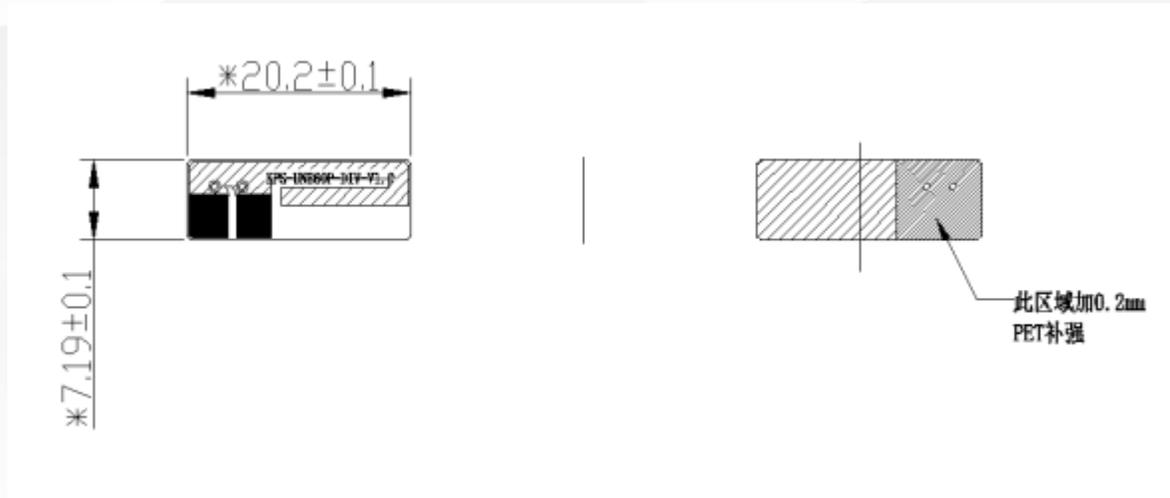


天线尺寸 Antenna size (LTE Main)



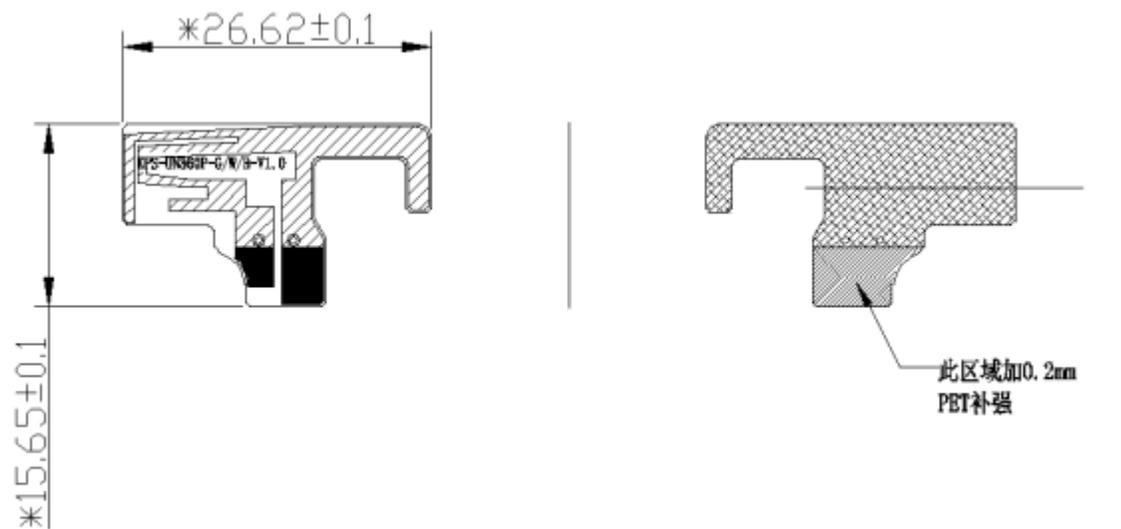


天线尺寸 Antenna size (LTE DIV)





天线尺寸 Antenna size (Wifi + GPS + BT)





联系方式

Contact information

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THE END

**感谢您的宝贵意见！
Thank you for your
valuable feedback !**