Shenzhen Tian yu tong electronics co., ltd

天宇通科技
TYT TECHNOLOGY

SHENZHEN TYT COMMUNICATION CO.,LTD.

ULTRA S25/ULTRA S26-4G antenna

client	Bopai intelligent	Frequency band range	GSM:850/900/1800/1900 WCDMA:850/900/1700/1900/2100 LTE:B1/2/3/4/5/7/8/12/17/19/20/25/26/28/38/40/41/66 WIFI/GPS/BT
Project name	ULTRA S25 ULTRA S26	RD designer	Cen Guoping
RF designer	Li Xin	check	
approve		date	2026-0922
Customer's signature:			

Address: 2A201, Commercial Building 2, Xinma Trade City, Henggang Community, Henggang Street, Longgang District, Shenzhen, China

Catalogue of acknowledgement

1， Cover information

2， Antenna physical picture

3， Bill Of Material

4， Antenna pattern

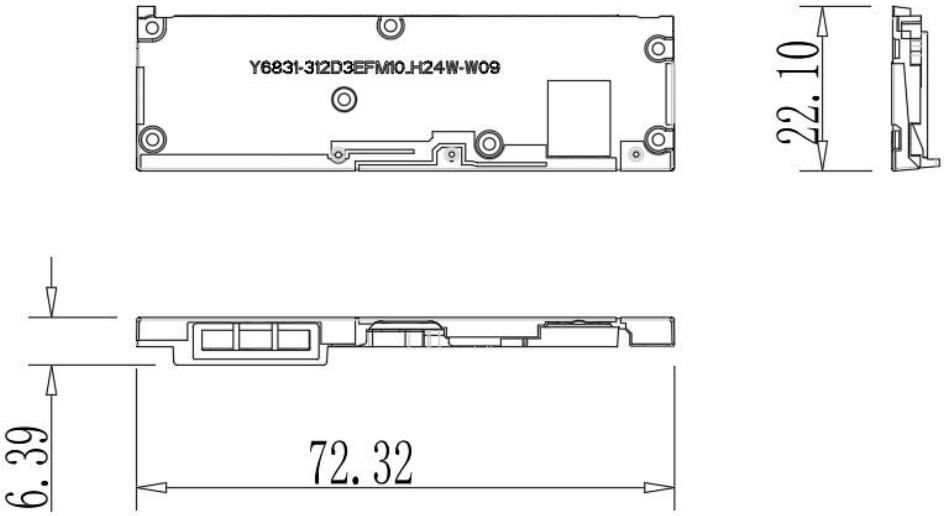
5， antenna gain

6， Antenna structure design drawings

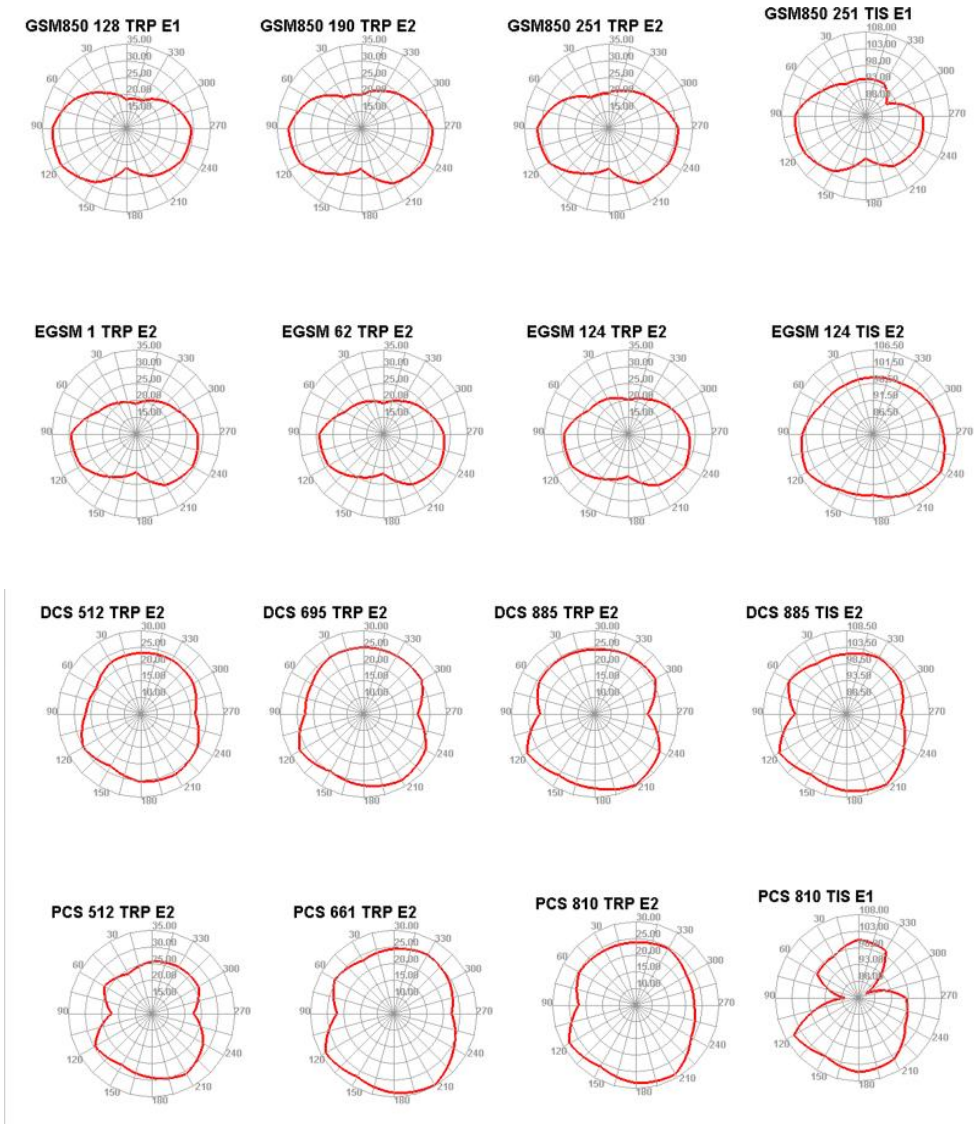
2：Antenna physical picture

No.		Our material number	Part name	describe	quantity
one		TYT4941-4G-FPC-GSM-A	GSM antenna	FPC	one
2		TYT4941-4G-FPC-GWB-A	GPS/WIFI /BT antenna	FPC	one
three		TYT4941-4G-FPC-LTE-A	LTE antenna	FPC	one

Main antenna shape



2D pattern



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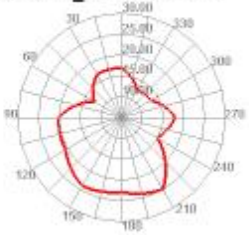

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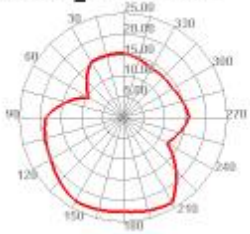

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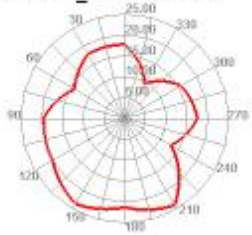

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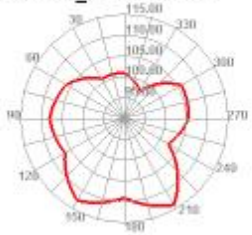

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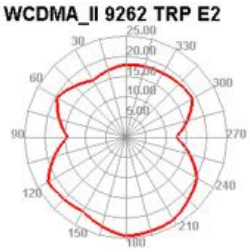

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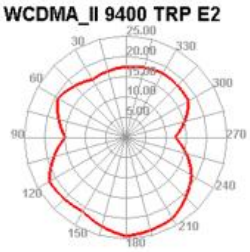

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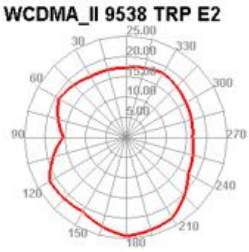

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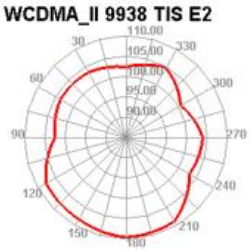

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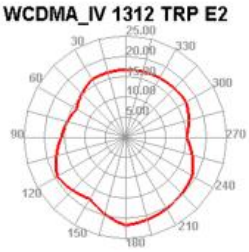

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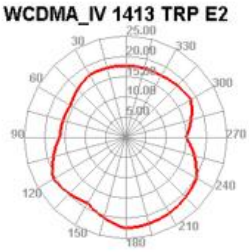

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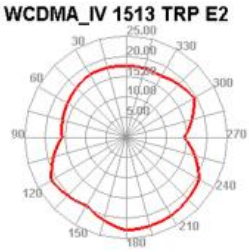

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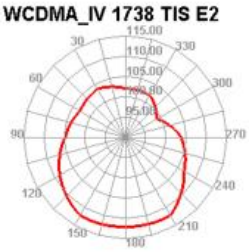

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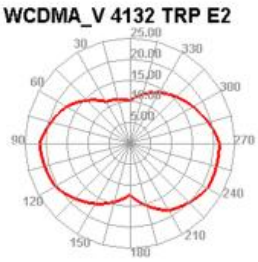

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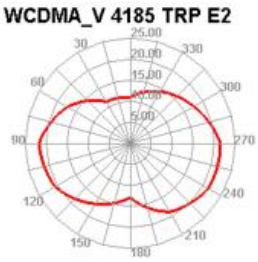

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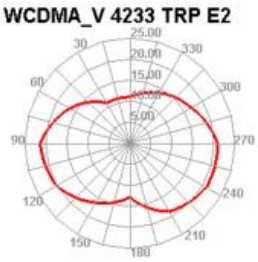

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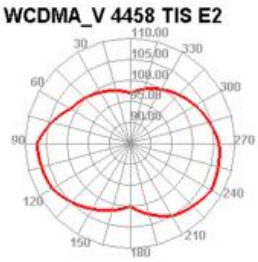

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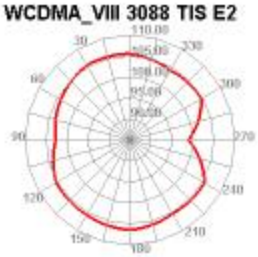

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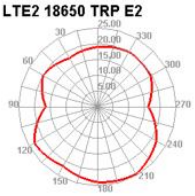
LTE1 18300 TRP E2

LTE1 18550 TRP E2

LTE1 550 TIS E2

LTE2 18650 TRP E2



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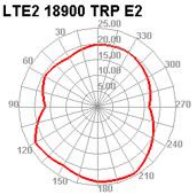

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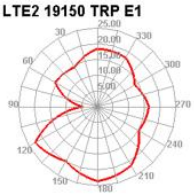

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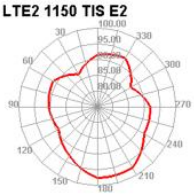

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LTE3 19575 TRP E2

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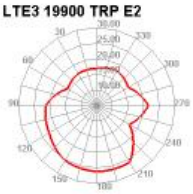

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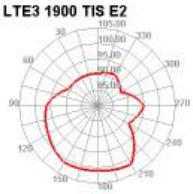

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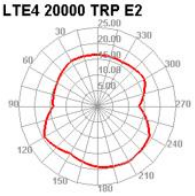

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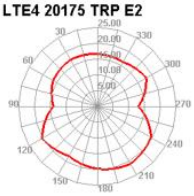

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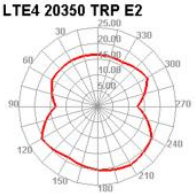

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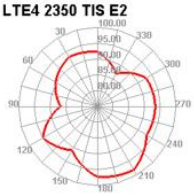

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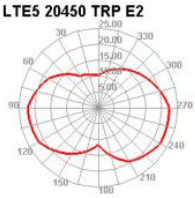

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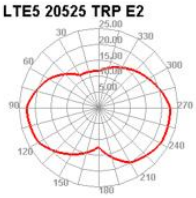

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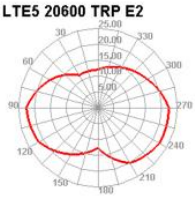

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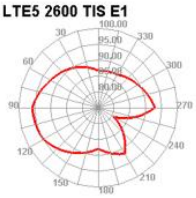

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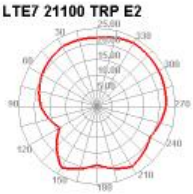

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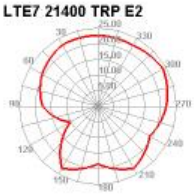

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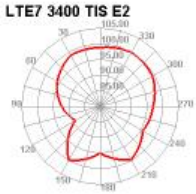

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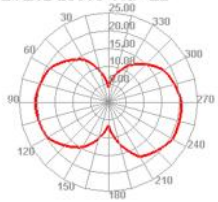
LTE8 21625 TRP E2

LTE8 21750 TRP E2

LTE8 3750 TIS E2

LTE12 23060 TRP E2



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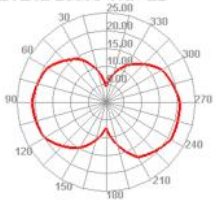

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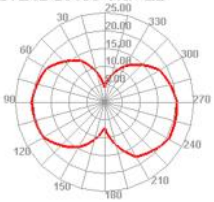

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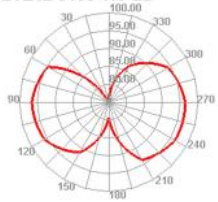

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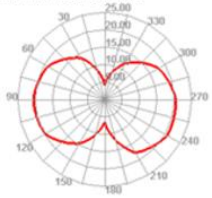

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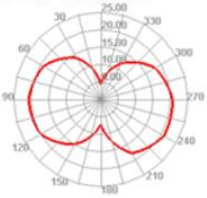

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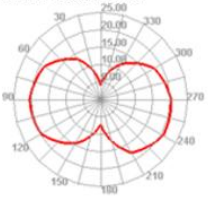

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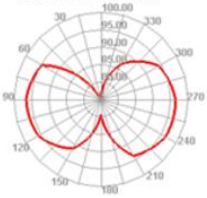

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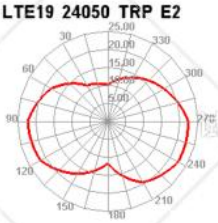

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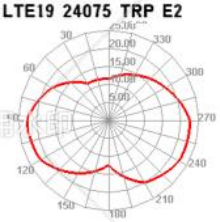

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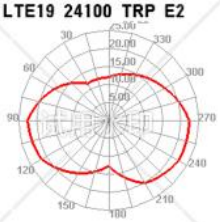

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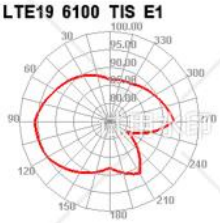


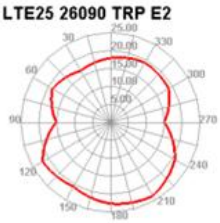
LTE20 24200 TRP E2

LTE20 24300 TRP E2

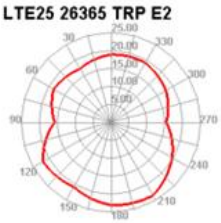
LTE20 24400 TRP E2

LTE20 6200 TIS E2

LTE25 26090 TRP E2



LTE25 26365 TRP E2



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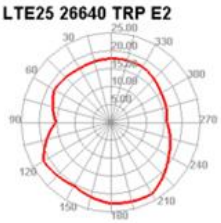
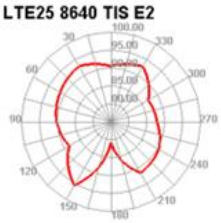
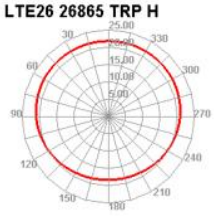


LTE25 8640 TIS E2



LTE26 26865 TRP H



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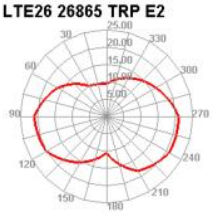

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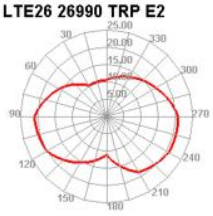

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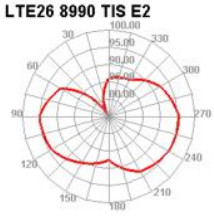

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LTE28 27410 TRP E2

LTE28 27610 TRP E2

LTE28 9610 TIS E2

LTE38 37800 TRP E2

LTE38 38000 TRP E2

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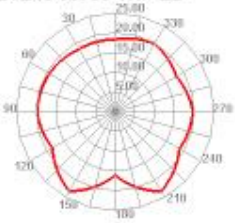
LTE40 38700 TRP E2



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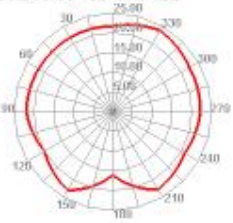

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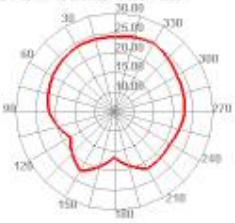

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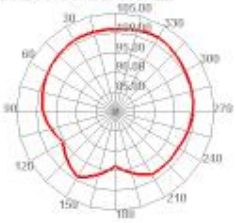


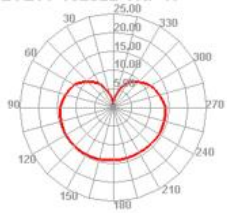
LTE41 40240 TRP E2

LTE41 40620 TRP E2

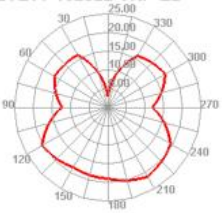
LTE41 41240 TRP E2

LTE41 41240 TIS E2

LTE66 132022 TRP H



LTE66 132822 TRP E2



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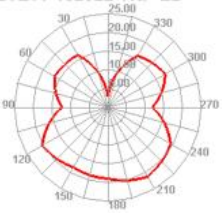
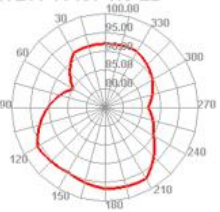
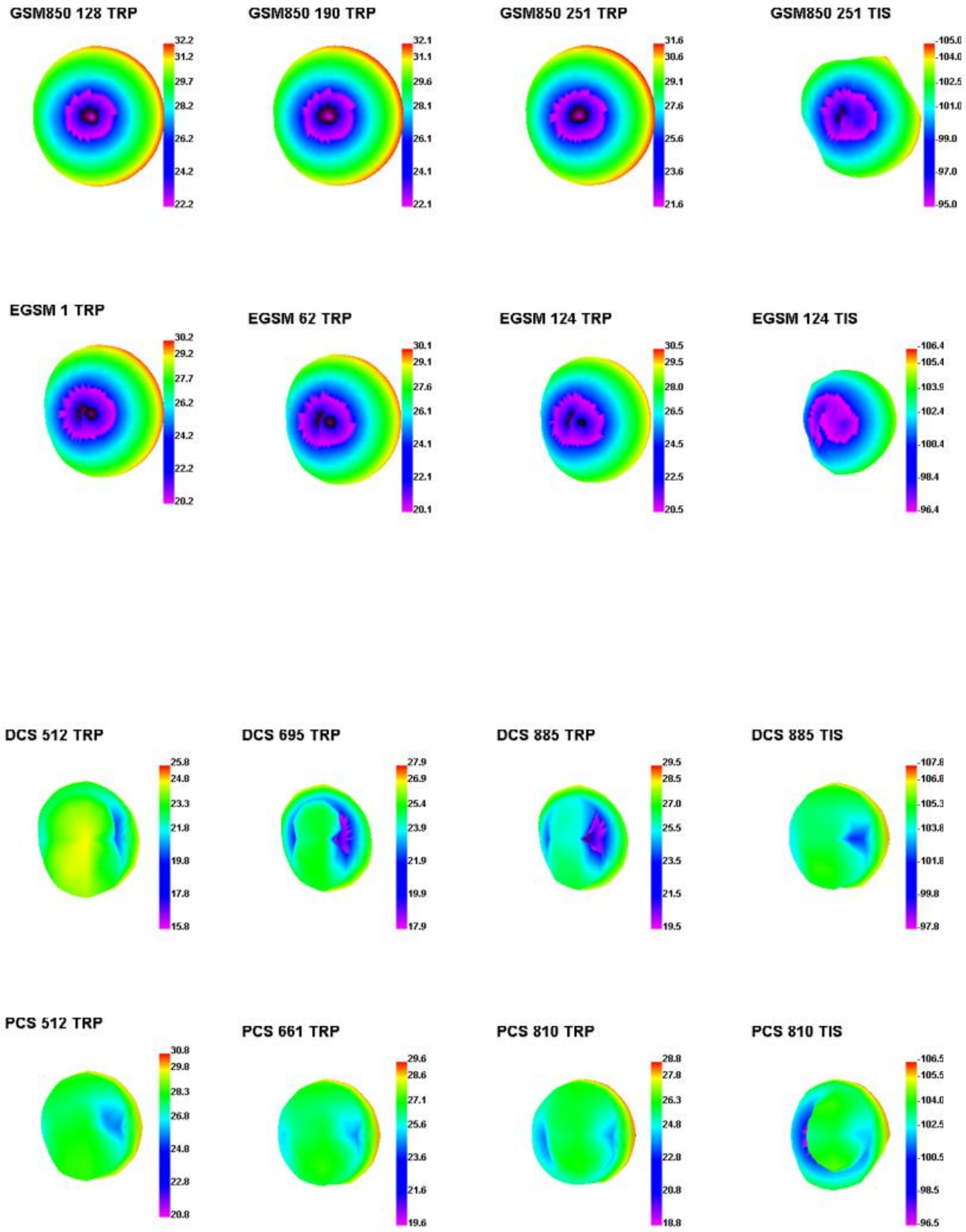


LTE66 66486 TIS E2



3D pattern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24.2
22.2
GSM850 190 TRP
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31.1
29.6
28.1
26.1
24.1
22.1
GSM850 251 TRP
31.6
30.6
29.1
27.6
25.6
23.6
21.6
GSM850 251 TIS
-105.0
-104.0
-102.5
-101.0
-99.0
-97.0
-95.0
EGSM 1 TRP
30.2
29.2
27.7
26.2
24.2
22.2
20.2
EGSM 62 TRP
30.1
29.1
27.6
26.1
24.1
22.1
20.1
EGSM 124 TRP
30.5
29.5
28.0
26.5
24.5
22.5
20.5
EGSM 124 TIS
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-105.4
-103.9
-102.4
-100.4
-98.4
-96.4
DCS 512 TRP
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24.8
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25.4
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19.9
17.9
DCS 885 TRP
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28.5
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23.5
21.5
19.5
DCS 885 TIS
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-105.3
-103.8
-101.8
-99.8
-97.8
PCS 512 TRP
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26.8
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PCS 661 TRP
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PCS 810 TRP
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22.8
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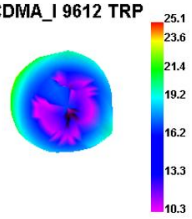
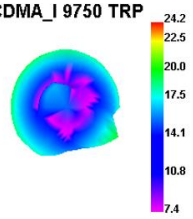
WCDMA_I 9612 TRP



WCDMA_I 9750 TRP



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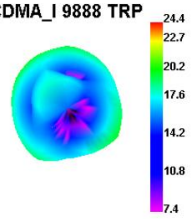
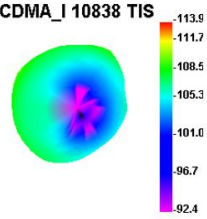
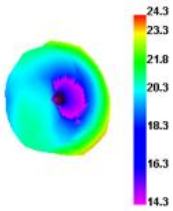


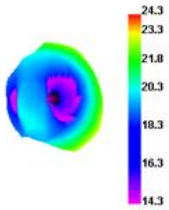
WCDMA_I 10838 TIS



WCDMA_II 9262 TRP



WCDMA_II 9400 TRP



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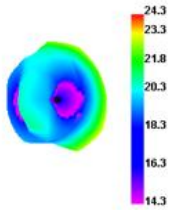
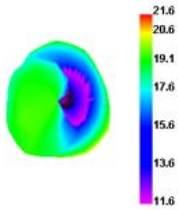


WCDMA_IV 1312 TRP



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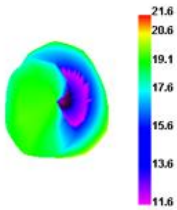

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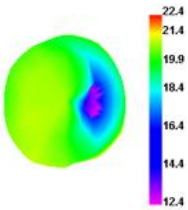
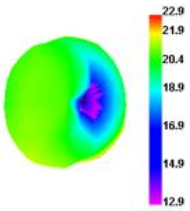
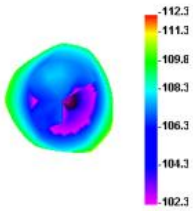


WCDMA_IV 1513 TRP



WCDMA_IV 1738 TIS



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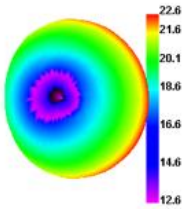

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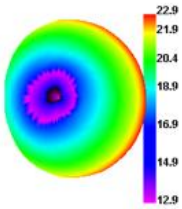

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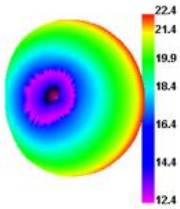

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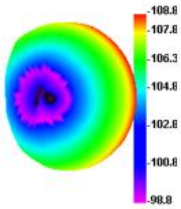
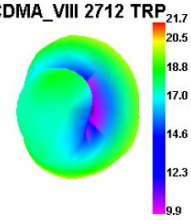
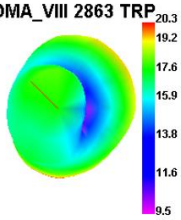


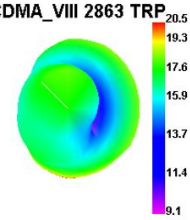
WCDMA_VIII 2712 TRP



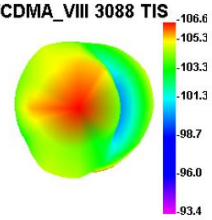
WCDMA_VIII 2863 TRP

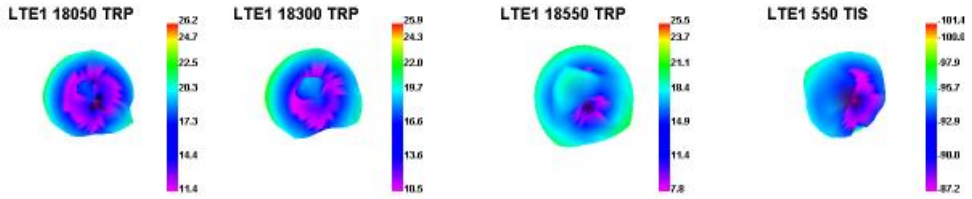


WCDMA_VIII 2863 TRP



WCDMA_VIII 3088 TIS

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22.0
19.7
16.6
13.6
10.5
LTE1 18550 TRP
25.5
23.7
21.1
18.4
14.9
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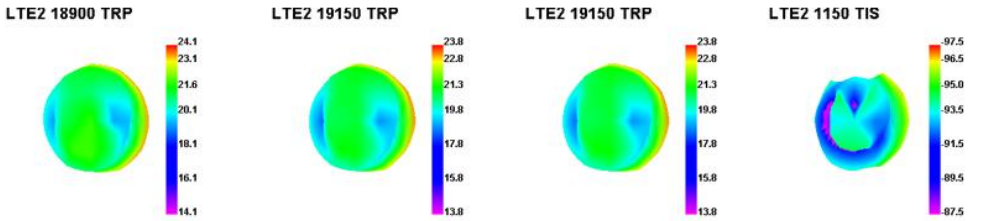
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13.8
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23.8
22.8
21.3
19.8
17.8
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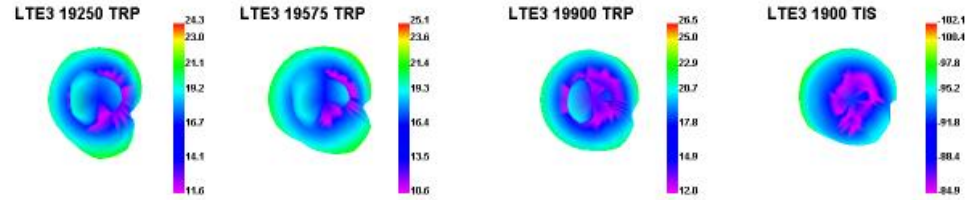
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19.3
16.4
13.5
10.6
LTE3 19900 TRP
26.5
25.0
22.9
20.7
17.8
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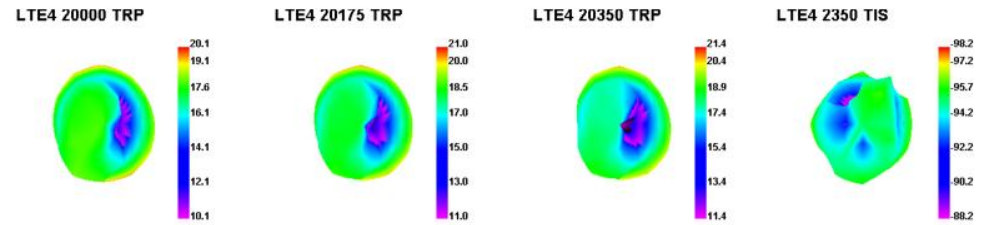
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18.5
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13.0
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21.4
20.4
18.9
17.4
15.4
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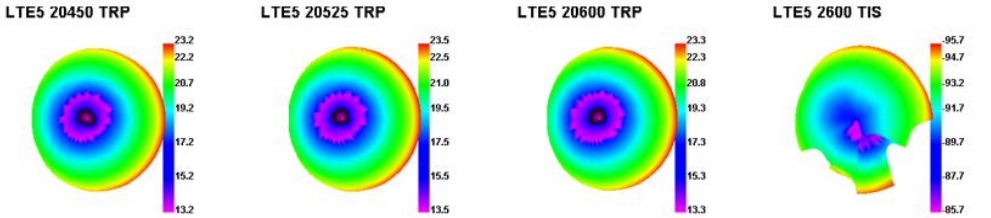
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LTE5 20600 TRP
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20.8
19.3
17.3
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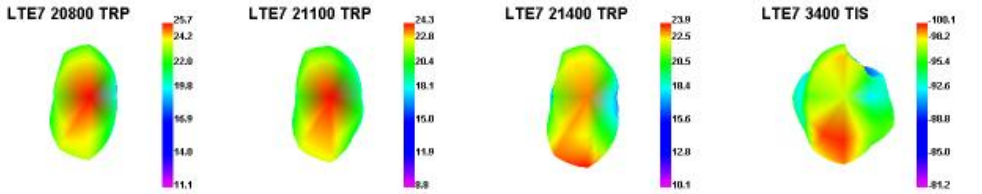
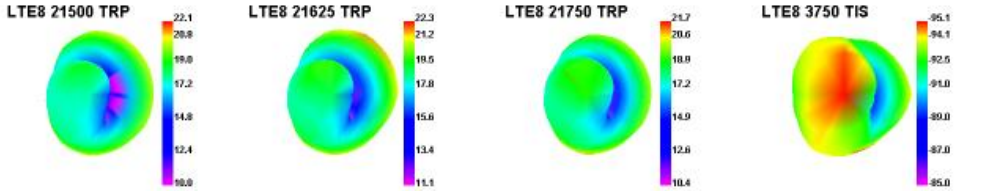
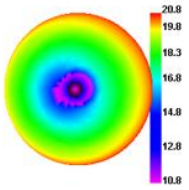

LTE7 20800 TRP
25.7
24.2
22.0
19.8
16.9
14.0
11.1
LTE7 21100 TRP
24.3
22.8
20.4
18.1
15.0
11.9
8.8
LTE7 21400 TRP
23.8
22.5
20.5
18.4
15.6
12.8
10.1
LTE7 3400 TIS
-100.1
-98.2
-95.4
-92.6
-88.8
-85.0
-81.2


LTE8 21500 TRP
22.1
20.8
19.0
17.2
14.8
12.4
10.0
LTE8 21625 TRP
22.3
21.2
19.5
17.8
15.6
13.4
11.1
LTE8 21750 TRP
21.7
20.6
18.9
17.2
14.9
12.6
10.4
LTE8 3750 TIS
-95.1
-94.1
-92.5
-91.0
-89.0
-87.0
-85.0

LTE12 23060 TRP



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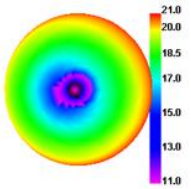

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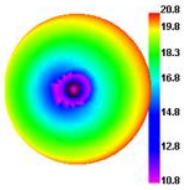
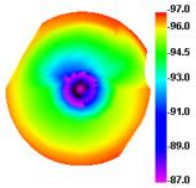


LTE12 5130 TIS



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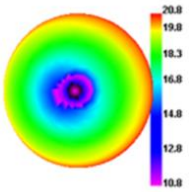

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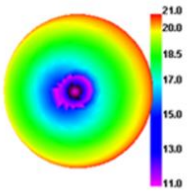

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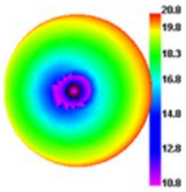
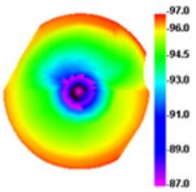


LTE17 5800 TIS



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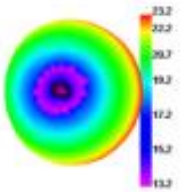

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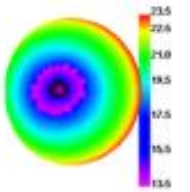

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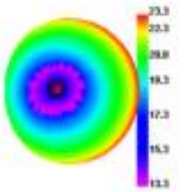
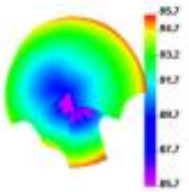


LTE19 6100 TIS



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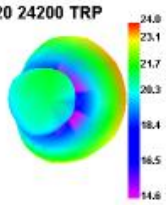

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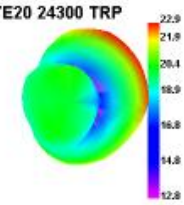

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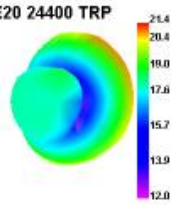

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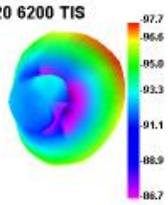

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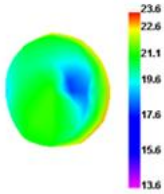

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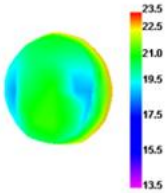

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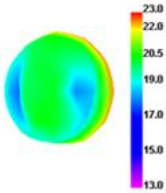

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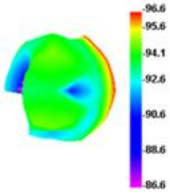

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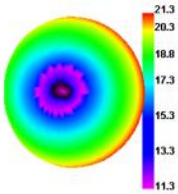

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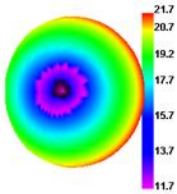

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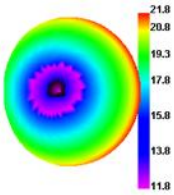

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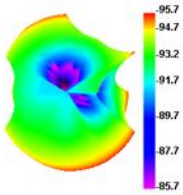
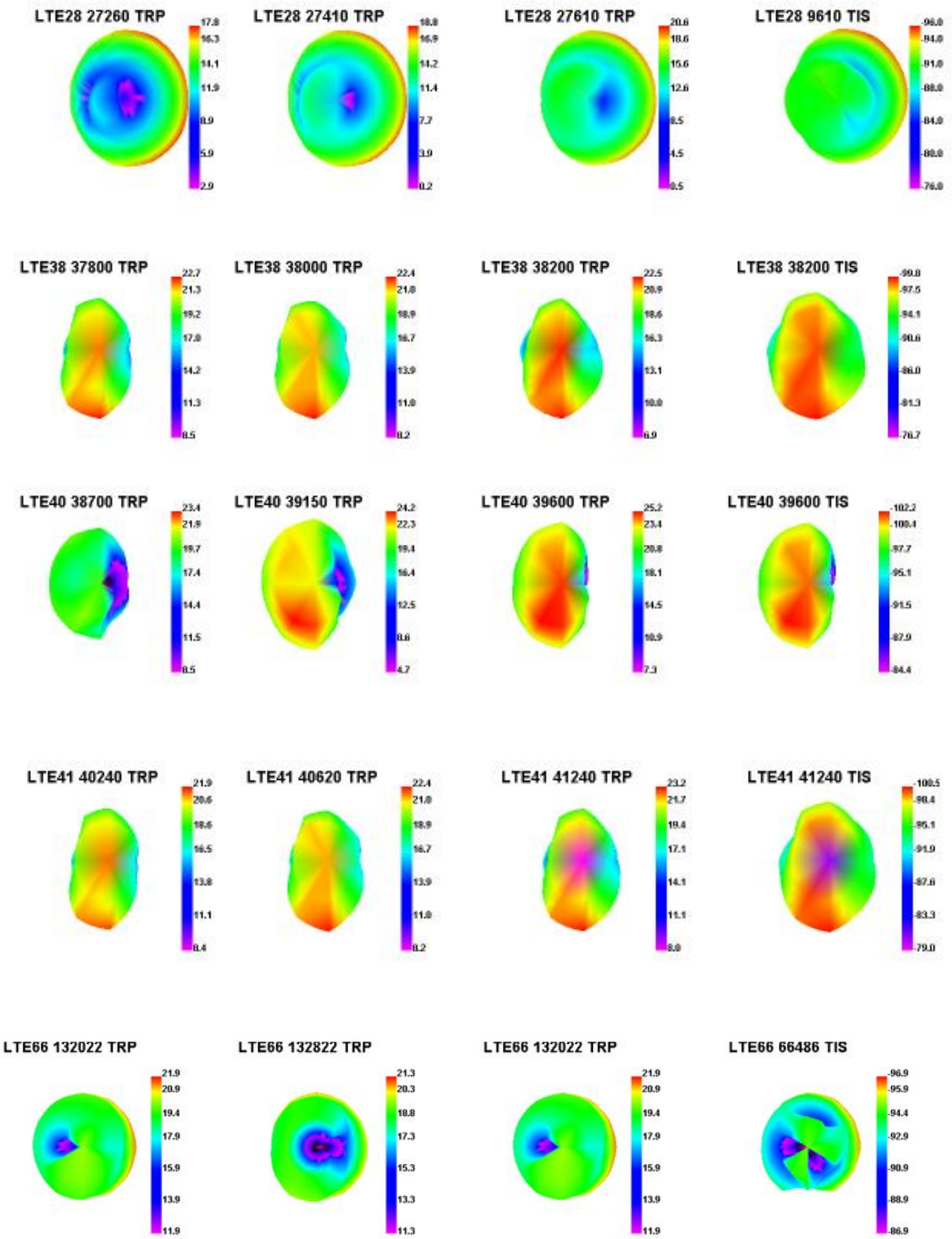
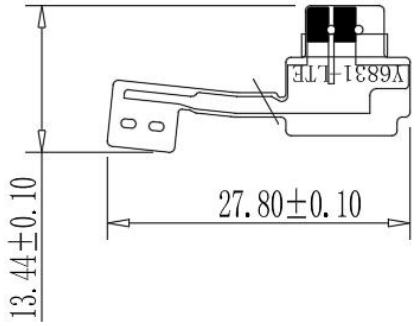




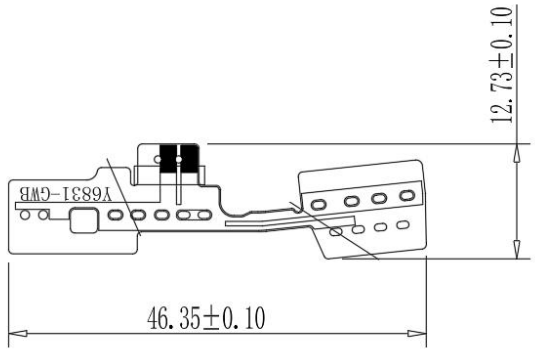
Main antenna gain

	GSM850	EGSM900	DCS1800	PCS1900	W(B1)	W(B2)	W(B4)	W(B5)	W(B8)
AVG Gain(dbi)	0.2	0.3	0.7	0.8	0.8	0.8	0.7	0.2	0.3
4G	B1	B2	B3	B4	B5	B7	B8	B12	B17
AVG Gain(dbi)	0.8	0.8	0.8	0.7	0.2	0.8	0.3	0.1	0.1
4G	B19	B20	B25	B26	B28	B38	B40	B41	B66
AVG Gain(dbi)	0.2	0.2	0.8	0.2	0.1	0.8	0.8	0.8	0.8

Divided antenna shape

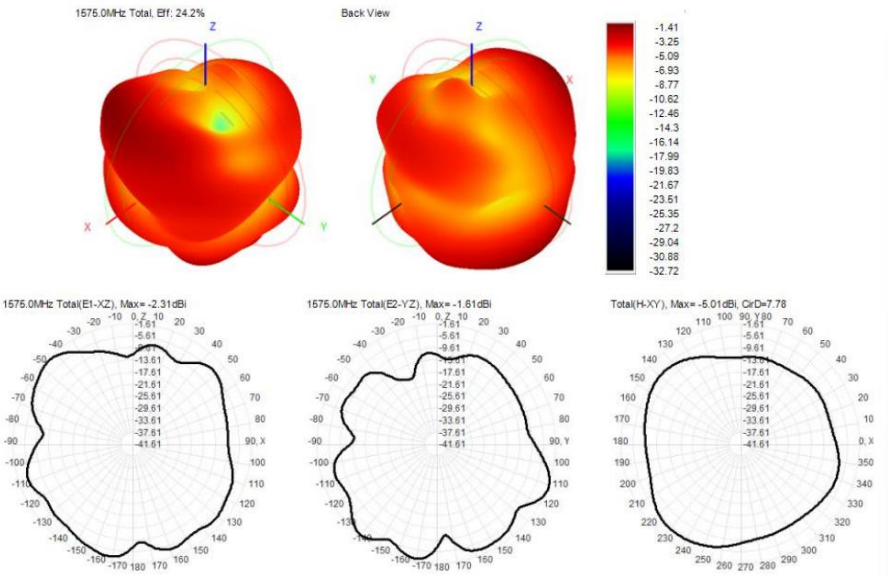


Three-in-one antenna shape

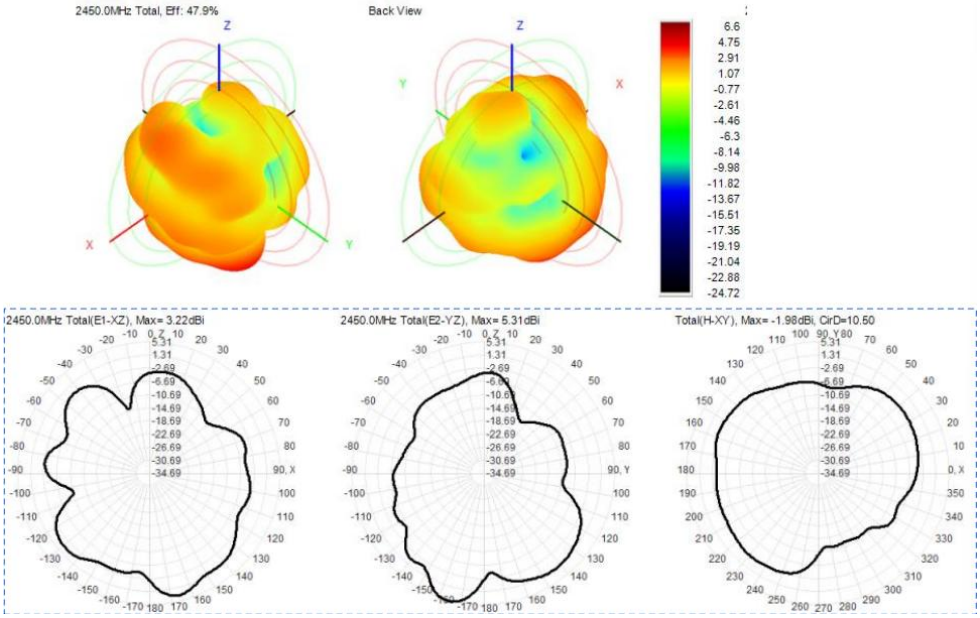
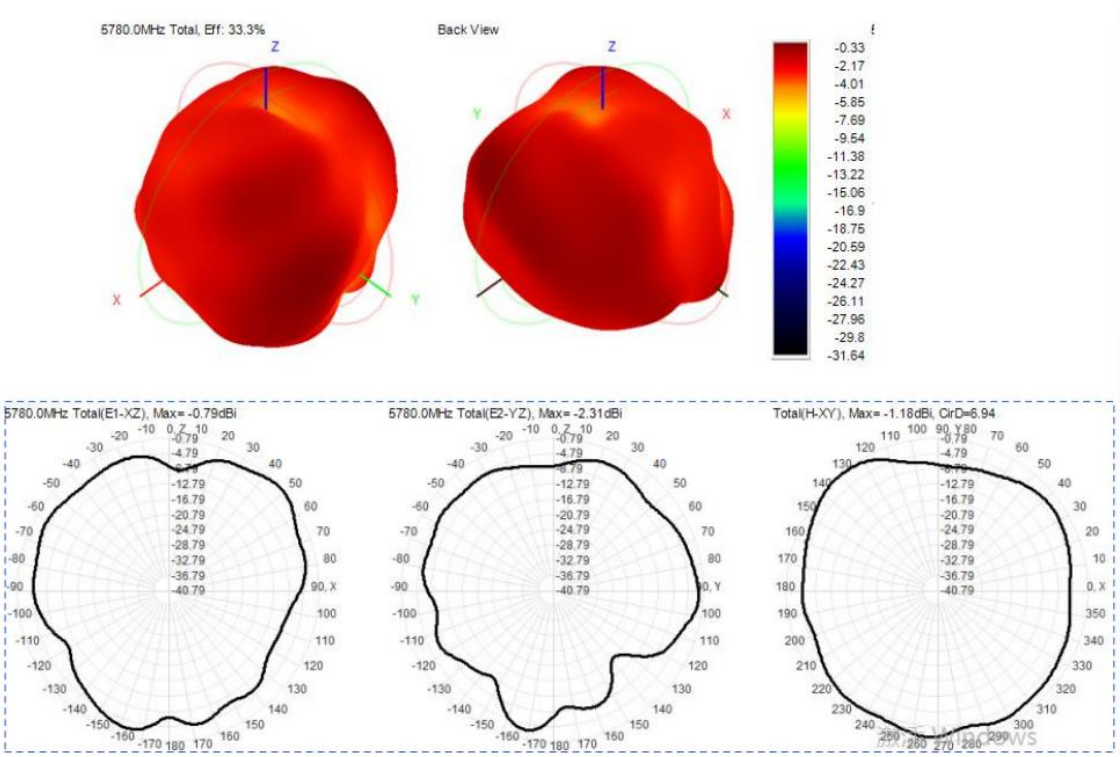


GPS and 2.4G/5G WIFI/BT antenna gain

Passive Test For GPS										
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHIS (%)	DHIS (%)	Max (dB)	Min (dB)	Attenut Hor	Attenut Ver
1515.42	29.31	-5.15	0.72	-1.34	15.415	18.89	0.82	-20.85	46.71	46.5
1525.42	30.16	-5.04	0.85	-1.39	14.929	19.23	0.95	-20.06	46.71	46.55
1535.42	31.03	-4.88	0.96	-1.85	12.193	19.83	1.06	-19.99	46.72	46.55
1545.42	31.49	-4.75	1.01	-1.04	12.234	20.25	1.11	-19.47	46.84	46.76
1555.42	32.25	-4.53	1.06	-0.56	12.305	20.94	1.29	-19.36	46.91	46.98
1565.42	32.57	-4.46	1.19	-0.76	11.846	21.72	1.39	-19.47	46.99	47.16
1575.42	32.52	-4.45	1.18	-0.87	12.482	21.03	1.38	-19.49	47.16	47.37
1585.42	30.95	-4.64	1.08	-1.57	11.921	20.02	1.28	-20.32	47.29	47.52
1595.42	30.69	-4.68	0.96	-1.23	14.699	19.98	1.12	-20.39	47.48	47.73
1605.42	29.98	-4.84	0.92	-0.98	15.883	19.09	1.07	-20.58	47.61	47.9
1615.42	29.93	-4.91	0.86	-0.48	17.436	18.49	0.96	-20.77	47.66	47.92



Passive Test For WIFI2.4										
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHIS (%)	DHIS (%)	Max (dB)	Min (dB)	Attenut Hor	Attenut Ver
2400	34.31	-4.65	0.81	-1.34	15.415	18.89	0.81	-19.85	52.57	52.52
2410	35.16	-4.54	0.76	-1.39	14.929	20.234	0.76	-19.06	52.61	52.56
2420	31.03	-5.08	0.3	-1.85	12.193	18.832	0.3	-16.99	52.49	52.49
2430	33.49	-4.75	1.11	-1.04	12.234	21.258	1.11	-19.47	52.55	52.52
2440	35.25	-4.53	1.59	-0.56	12.305	22.941	1.59	-20.3	52.69	52.57
2450	33.57	-4.74	1.39	-0.76	11.846	21.727	1.39	-20.47	52.92	52.78
2460	33.52	-4.75	1.28	-0.87	12.482	21.039	1.28	-23.49	52.79	52.62
2470	29.95	-5.24	0.58	-1.57	11.921	18.024	0.58	-26.3	52.83	52.65
2480	34.69	-4.6	0.92	-1.23	14.699	19.988	0.92	-23.39	52.81	52.65
2490	35.98	-4.44	1.17	-0.98	15.883	20.098	1.17	-21.58	53	52.81
2500	38.93	-4.1	1.67	-0.48	17.436	21.492	1.67	-19.77	53.02	52.84



Passive Test For 5150-5900										
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHIS (%)	DHIS (%)	Max (dB)	Min (dB)	Attenut Hor	Attenut Ver
5150	29.06	-5.37	-0.78	-2.93	12.359	16.702	-0.78	-14.77	55.96	55.76
5180	26.96	-5.69	-0.93	-3.08	11.816	15.147	-0.93	-14.77	56.12	56.06
5210	24.01	-6.2	-1.61	-3.76	10.787	13.219	-1.61	-14.53	56.35	56.28
5240	21.73	-6.63	-2.15	-4.3	9.609	12.119	-2.15	-14.58	56.56	56.48
5270	22.1	-6.56	-1.99	-4.14	9.649	12.448	-1.99	-14.61	56.85	56.82
5300	28.08	-5.52	-1.14	-3.29	12.227	15.854	-1.14	-13.53	57.12	57.06
5330	31.5	-5.02	-0.65	-2.8	13.764	17.741	-0.65	-12.6	57.36	57.22
5360	38.51	-4.14	-0.37	-1.78	16.911	21.598	0.37	-11.07	57.58	57.62
5390	29.46	-5.31	-0.93	-3.08	12.94	16.518	-0.93	-11.95	57.86	57.83
5420	32.91	-4.83	-0.47	-2.62	14.438	18.476	-0.47	-11.2	58.15	58.12
5450	30.3	-5.19	-0.77	-2.92	13.324	16.979	-0.77	-11.31	58.46	58.39
5480	36.34	-4.4	-0.17	-2.32	16.005	20.335	-0.17	-10.8	58.69	58.63
5510	39.18	-4.07	-0.11	-2.04	17.163	22.016	0.11	-10.7	58.92	58.89
5540	32.03	-4.95	-0.63	-2.78	13.89	18.135	-0.63	-11.47	59.22	59.17
5570	32.59	-4.87	-0.64	-2.79	13.93	18.661	-0.64	-11.05	59.55	59.52
5600	26.88	-5.71	-1.45	-3.6	11.343	15.536	-1.45	-11.28	59.83	59.79
5630	27	-5.69	-1.12	-3.27	11.577	15.422	-1.12	-11.34	60.16	60.13
5660	30.52	-5.15	-0.72	-2.87	13.391	17.133	-0.72	-10.87	60.52	60.49
5690	35.01	-4.56	-0.21	-2.36	15.471	19.54	-0.21	-10.08	60.85	60.76
5720	35.77	-4.47	-0.08	-2.23	15.774	19.992	-0.08	-10.22	61.13	61.09
5750	36.47	-4.38	-0.15	-2.3	16.052	20.416	-0.15	-10.39	61.52	61.48
5780	40.63	-3.91	0.29	-1.86	17.799	22.835	0.29	-10.25	61.83	61.76
5810	36.96	-4.32	0.01	-2.14	16.099	20.857	0.01	-11.07	62.12	62.08
5840	36.19	-4.41	-0.15	-2.3	15.405	20.783	-0.15	-11.47	62.39	62.36
5870	30.85	-5.11	-0.9	-3.05	12.727	18.127	-0.9	-12.5	62.76	62.69
5900	35.63	-4.48	-0.18	-2.33	14.887	20.746	-0.18	-11.63	63.06	63.02