

Date : 2024-0415

Bopai Intelligent M6511-4G antenna test report

Project	Head of RF	Head of structure	Band
M6511	LIXIN	CENGOGN	GSM:850/900/1800/1900 WCDMA: B2/B4/B5 LTE:/B2//B4/B5/B12/B17/ B25/B26/B41/B66/B71 WIFI/GPS/BT
备注:			

The company has reviewed and met the requirements of the applicable clauses of GB/T19001-2016/ISO9001:2015 quality management system standard
701, Building 212, Tairan Science and Technology Park, Tairan 4th Road, Futian District, Shenzhen. www.tyquant.com

1. Test environment

Test system: ETS 3D shielded anechoic chamber

Test environment: temperature $22^{\circ}\text{C} \pm 3^{\circ}\text{C}$, humidity $50\% \pm 15\%$

Test Equipment: Use the HP 8753E Network Analyzer when testing passive data

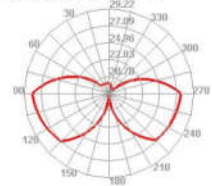
When testing the source data, use the E5515C-8960 3G full-featured comprehensive tester

When testing the source data, use the 8820C 4G full-function comprehensive tester

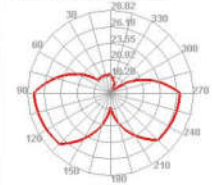


2D pattern

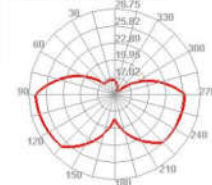
GSM850 128 TRP E2



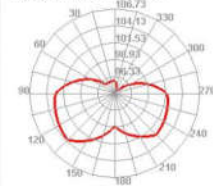
GSM850 190 TRP E2



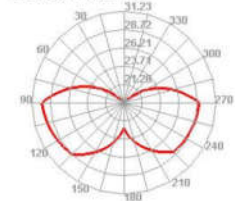
GSM850 251 TRP E2



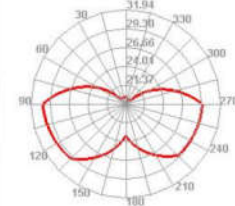
GSM850 251 TIS E2



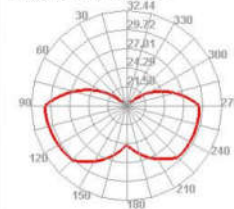
EGSM 1 TRP E2



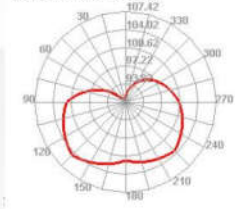
EGSM 62 TRP E2



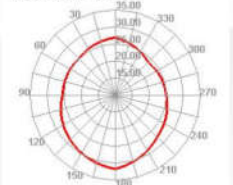
EGSM 124 TRP E2



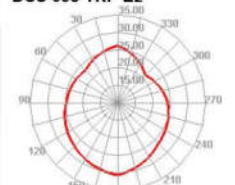
EGSM 124 TIS E2



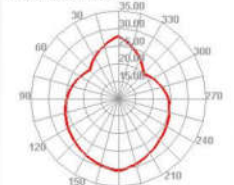
DCS 512 TRP E2



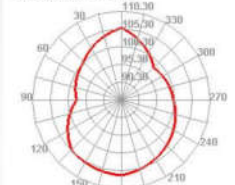
DCS 698 TRP E2



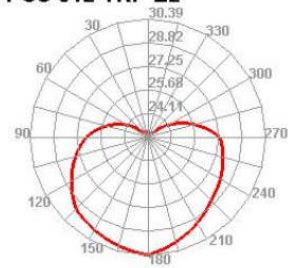
DCS 885 TRP E2



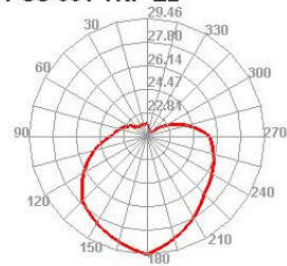
DCS 885 TIS E2



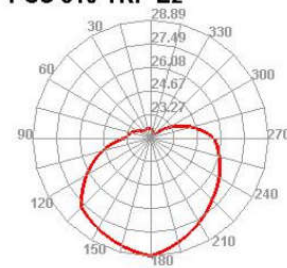
PCS 512 TRP E2



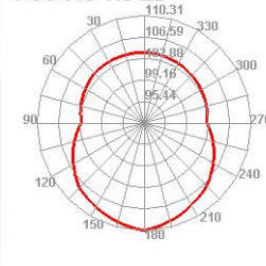
PCS 661 TRP E2



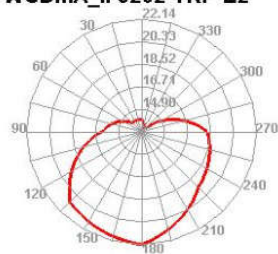
PCS 810 TRP E2



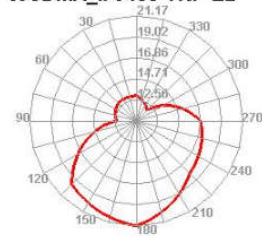
PCS 810 TIS E2



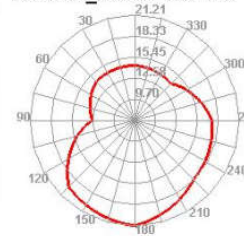
WCDMA_II 9262 TRP E2



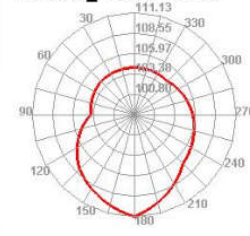
WCDMA_II 9400 TRP E2



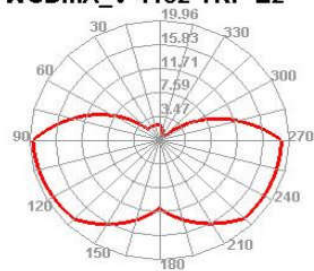
WCDMA_II 9538 TRP E2



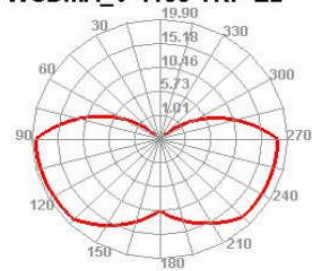
WCDMA_II 9938 TIS E2



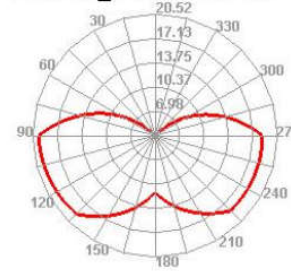
WCDMA_V 4132 TRP E2



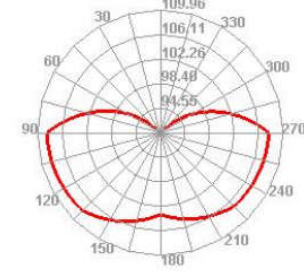
WCDMA_V 4185 TRP E2



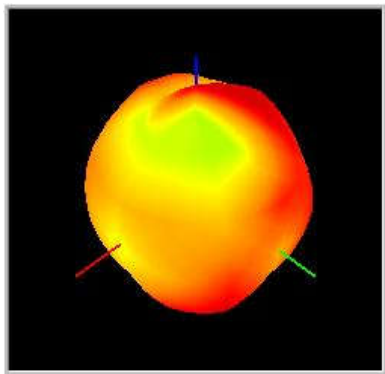
WCDMA_V 4233 TRP E2



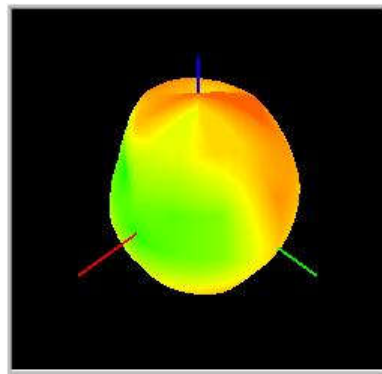
WCDMA_V 4458 TIS E2



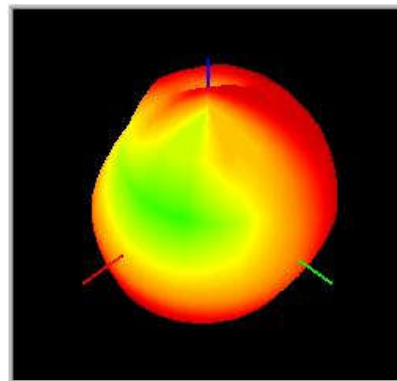
3.9 Antenna Pattern



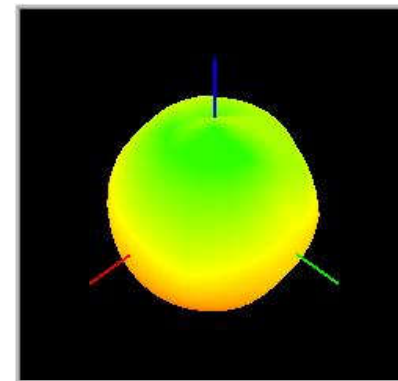
B2



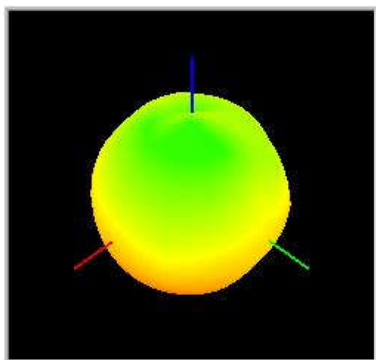
B4



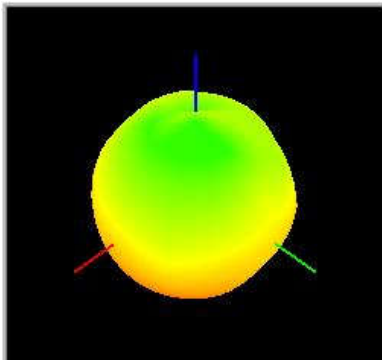
B5



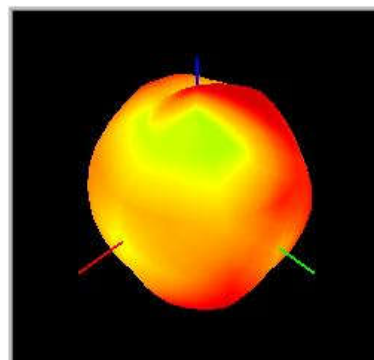
B12/17



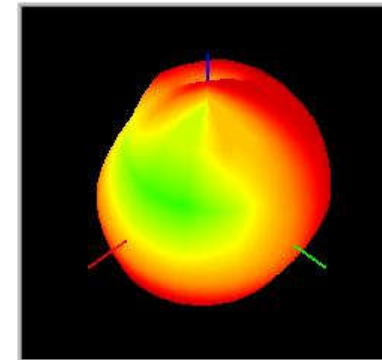
B13



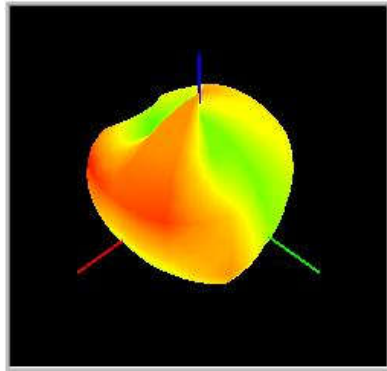
B17



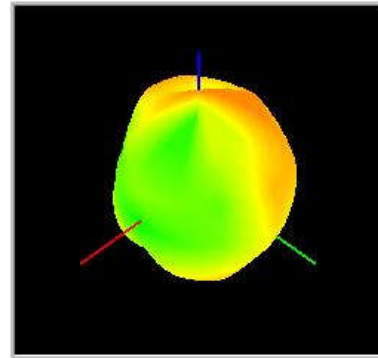
B25



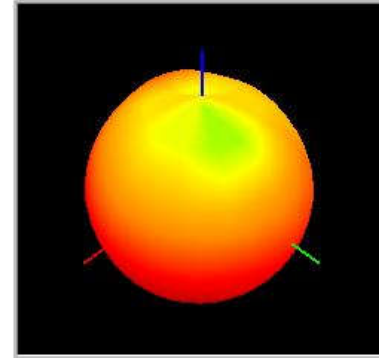
B26



B41



B66



B71

3.91 Antenna Gain

Band	GSM850	GSM900	DCS1800	PCS1900	
AVG Gain (dBi)	0.2	0.3	0.8	0.9	
Band	WCDMA850	WCDMA900	WCDMA1700	WCDMA1900	WIFI/BT
AVG Gain (dBi)	0.2		0.8	0.9	1.1
Band	LTE B2	LTE B4	LTE B5	LTE B12/17	LTE B13
AVG Gain (dBi)	0.9	0.8	0.8	-0.1	-0.1
Band	LTE B25	LTE B26	LTE B41	LTE B66	LTE B71
AVG Gain (dBi)	0.9	0.3	0.9	0.8	-0.3

WiFi and BT antenna efficiency

Passive Test For WIFI2.4										
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	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

