

Professional organization engaged in research and development,
manufacturing, and sales of mobile phone antennas



深圳市浩天诚无线科技有限公司
SHENZHEN HAOTIAN CHENG WIRELESS TECHNOLOGY CO.,LTD.

Antenna performance test report

Customer Name	Clouds and sky	RF Engineer	Xiao Qiang
Project Name	Y6120A	Structural Engineer	Huang Zhenming
Antenna Band	GSM+WCDMA+LTE		
Report Version	Time	Content Summary	
V1.0	2025. 9. 25	Antenna Test Report	

Test Report Catalog

- ❧ I. Overall rendering of the machine
- ❧ II Main antenna matching circuit
- ❧ III Main antenna switch logic
- ❧ IV Master antenna test data
- ❧ V. Sub-antenna test data
- ❧ VI. Antenna gain efficiency
- ❧ VII Environmental treatment
- ❧ VIII Note

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III Main antenna switch logic

Logic	control frequency band
RF1	GSM900/1800/1900+WCDMA:B1.2.8+LTE-B1/2/3/4/7/66
RF2	GSM850+WCDMA850+LTE-B5
RF3	LTE-B12.13.17.28B
RF4	LTE-B71

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I V Master antenna test data

Band	TRP/TIS	L	M	H	Band	TRP/TIS	L	M	H
GSM850	TRP	27.71	27.86	27.98	LTE-B1	TRP	20.09	19.87	19.6
	TIS			-103.57		TIS			-93.46
GSM900	TRP	28.27	28.39	28.5	LTE-B2	TRP	19.65	19.38	19.25
	TIS			-103.06		TIS			-94.01
DCS1800	TRP	25.39	25.24	25.08	LTE-B3	TRP	19.43	19.31	19.16
	TIS			-103.37		TIS			-93.44
PCS1900	TRP	26.12	25.96	25.8	LTE-B4	TRP	19.51	19.62	19.66
	TIS			-103.68		TIS			-93.89
WCDMA-B1	TRP	19.69	19.74	19.93	LTE-B5	TRP	19.67	19.69	19.71
	TIS			-105.25		TIS			-95.73
WCDMA-B2	TRP	19.57	19.35	19.18	LTE-B7	TRP	18.13	18.25	18.31
	TIS			-105.5		TIS			-91.21
WCDMA-B4	TRP	19.39	19.43	19.57	LTE-B12	TRP	17.64	17.81	18.06
	TIS			-104.88		TIS			-95.05
WCDMA-B8	TRP	19.24	19.36	19.47	LTE-B13	TRP		17.72	
	TIS			-105.16		TIS		-95.12	

IV Master antenna test data

Band	TRP/TIS	L	M	H	Band	TRP/TIS	L	M	H
LTE-B17	TRP	17.68	17.89	18.06	LTE-B66	TRP	19.38	19.26	19.1
	TIS			-95.24		TIS			-93.47
LTE-B20	TRP	19.72	19.8	19.87	LTE-B71	TRP	17.14	17.3	17.52
	TIS			-95.46		TIS			-93.19
LTE-B28	TRP	17.79	18.32	18.12					
	TIS			-95.4					

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VI. Main antenna gain efficiency

Freq (MHz)	Effi (%)	Gain (dBi)	Freq (MHz)	Effi (%)	Gain (dBi)	Freq (MHz)	Effi (%)	Gain (dBi)	Freq (MHz)	Effi (%)	Gain (dBi)
660	18.04	-4.07	1710	43.74	1.01	2010	67.73	1.74	2310	31.55	-0.55
670	23.41	-3	1720	44.08	0.85	2020	65.35	1.75	2320	33.33	-0.37
680	29.3	-2.28	1730	45.61	0.79	2030	61.55	1.67	2330	35.74	-0.08
690	34.49	-1.52	1740	51.84	1.14	2040	61.21	1.69	2340	36.88	0.14
700	34.87	-1.39	1750	59.12	1.29	2050	58.16	1.39	2350	38.65	0.46
710	33.53	-1.54	1760	62.94	1.3	2060	56.67	1.09	2360	36.12	0.27
720	32.63	-1.72	1770	60.05	0.81	2070	54.62	0.74	2370	34.76	0.15
730	30.43	-2	1780	61.88	0.87	2080	57.21	0.82	2380	38.65	0.7
740	27.17	-2.62	1790	62.08	0.8	2090	58.21	0.93	2390	35.98	0.37
750	24.89	-3.1	1800	58.71	0.65	2100	59.83	1.27	2400	35.34	0.31
760	23.14	-3.45	1810	64.86	1.16	2110	53.66	1.07	2410	32.92	-0.04
770	22.66	-3.48	1820	65.85	1.3	2120	50.62	0.99	2420	31.96	-0.28
780	21.85	-3.67	1830	64.58	1.31	2130	47.17	0.83	2430	28.37	-0.84
790	20.27	-4.07	1840	64.1	1.32	2140	44.89	0.62	2440	24.89	-1.34
800	20.03	-3.88	1850	65.34	1.34	2150	43.12	0.37	2450	27.38	-0.95
810	18.14	-4.21	1860	67.73	1.34	2160	38.46	-0.07	2460	28.46	-0.88
820	23.45	-2.92	1870	64.53	0.82	2170	40.72	0.21	2470	29.72	-0.97
830	27.6	-2.34	1880	68.49	1.03	2180	39.31	-0.01	2480	33.63	-0.75
840	33.86	-1.65	1890	68.32	1.09	2190	36.61	-0.3	2490	33.94	-0.7
850	40.83	-0.89	1900	65.47	0.95	2200	38.24	-0.08	2500	32.01	-0.8
860	42.99	-0.62	1910	64.43	0.87	2210	37.6	-0.14	2510	31.56	-0.72
870	43.96	-0.22	1920	66.94	1.12	2220	34.47	-0.54	2520	30.33	-0.89
880	42.04	-0.37	1930	66.67	1.24	2230	30.35	-1.14	2530	33.87	-0.51
890	35.86	-0.07	1940	67.1	1.4	2240	31.6	-0.88	2540	36.4	-0.26
900	37.26	0.22	1950	71.6	1.79	2250	29.38	-1.14	2550	38.01	-0.2
910	35.11	-0.02	1960	68.97	1.78	2260	27.87	-1.26	2560	37.02	-0.32
920	34.42	-0.32	1970	69.36	1.89	2270	30.26	-0.96	2570	36.2	-0.27
930	36.98	-0.13	1980	69.55	1.96	2280	29.16	-1.1	2580	39.16	0.16
940	36.87	-0.41	1990	69.03	1.87	2290	26.06	-1.41	2590	35.33	-0.17
950	29.42	-1.81	2000	68.27	1.77	2300	27.93	-1.07	2600	39.84	0.28
960	20.85	-3.61							2610	46.38	1.03
									2620	44.36	0.82
									2630	41.19	0.6
									2640	40.72	0.54
									2650	42.66	0.7
									2660	36.95	0.07
									2670	38.04	0.25
									2680	47.36	1.32
									2690	43.72	1.06

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VI. Diversity antenna gain efficiency

Freq (MHz)	Effi (%)	Gain (dBi)	Freq (MHz)	Effi (%)	Gain (dBi)	Freq (MHz)	Effi (%)	Gain (dBi)
1710	20.25	-1.33	2100	49.11	2.19	2460	50.84	1.44
1720	22.89	-0.86	2110	46.15	1.86	2470	50.68	1.41
1730	24.1	-0.73	2120	45.34	1.62	2480	52.84	1.68
1740	23.39	-0.89	2130	42.26	1.14	2490	51.46	1.67
1750	24.55	-0.82	2140	40.96	1.05	2500	47.25	1.35
1760	26.34	-0.79	2150	43.46	1.23	2510	46.13	1.26
1770	24.79	-1.46	2160	40.7	0.89	2520	44.67	1.12
1780	26.32	-1.19	2170	44.73	1.22	2530	49.19	1.5
1790	30.03	-0.56	2180	47.85	1.43	2540	51.12	1.64
1800	31.6	-0.21	2190	46.58	1.22	2550	51.35	1.61
1810	31.41	-0.2	2200	47.17	1.09	2560	48.41	1.33
1820	30.5	-0.26	2210	46.69	0.95	2570	43.44	0.86
1830	32.02	-0.11	2220	47.01	1.03	2580	46.65	1.13
1840	31	-0.27	2230	44.14	0.78	2590	43.75	0.86
1850	32.43	0.31	2240	47.68	1.11	2600	44.55	0.92
1860	37.69	1.2	2250	48.66	1.19	2610	49.04	1.31
1870	37.63	1.55	2260	39.01	0.19	2620	46.61	1.01
1880	38.41	1.75	2270	37.97	-0.08	2630	39.59	0.24
1890	36.5	1.64	2280	40.14	-0.12	2640	35.99	-0.13
1900	37.24	1.73	2290	43.28	-0.13	2650	39.02	0.18
1910	38.56	1.84	2300	45.97	-0.21	2660	38.55	0.05
1920	39.98	1.92	2310	44.13	-0.59	2670	37.67	0
1930	42.25	2.22	2320	41.6	-1.04	2680	41.41	0.41
1940	42.53	2.37	2330	44.24	-1.07	2690	39.38	0.2
1950	42.88	2.47	2340	42.75	-1.05			
1960	40.5	2.29	2350	41.01	-1.02			
1970	41.36	2.37	2360	44.48	-0.51			
1980	42.4	2.38	2370	43.42	-0.46			
1990	42.23	2.23	2380	45.6	-0.11			
2000	41.25	2.03	2390	46.05	0.07			
2010	40.86	1.85	2400	46.57	0.27			
2020	39.91	1.64	2410	45.38	0.41			
2030	39.23	1.44	2420	45.29	0.62			
2040	41.07	1.7	2430	46.8	0.94			
2050	40.91	1.85	2440	46.05	0.93			
2060	40.46	1.8	2450	49.94	1.36			
2070	39.85	1.6						
2080	43.22	1.76						
2090	45.74	1.9						

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VI. Three-in-one antenna gain efficiency

Freq (MHz)	Effi (%)	Gain (dBi)	Freq (MHz)	Effi (%)	Gain (dBi)	Freq (MHz)	Effi (%)	Gain (dBi)
1550	29.33	-0.51	2400	18.01	-3.7	5000	34.91	-0.45
1560	32.07	-0.08	2410	19.55	-3.43	5050	30.2	-1.08
1570	32.59	0.06	2420	20.54	-3.31	5100	32.49	-0.75
1580	33.43	0.19	2430	19.38	-3.49	5150	36.57	-0.45
1590	33.85	0.26	2440	19.17	-3.56	5200	35.13	-0.63
1600	32.8	0.1	2450	20.53	-3.32	5250	29.25	-1.53
1610	32.46	-0.21	2460	18.51	-3.89	5300	29.08	-1.93
1620	31.65	-0.42	2470	20.14	-3.67	5350	31.37	-1.23
1630	30.09	-0.71	2480	23.92	-2.94	5400	40.8	0.09
1640	28.91	-0.83	2490	24.97	-2.82	5450	36.24	-0.54
1650	28.57	-0.85	2500	24.2	-2.98	5500	33.43	-1.1
1660	27.18	-1.12				5550	31.43	-0.92
						5600	37.35	0.03
						5650	34.51	-0.1
						5700	29.9	-0.36
						5750	32.79	-0.14
						5800	27.11	-0.63
						5850	27.87	-0.18
						5900	26.87	-0.41