



深圳市海德门电子有限公司

ShenZhen Deman Electronics Technology Co., Ltd

Antenna Test Report

Project P053-NA Main Antenna

Customer	Beijing Wiseasy Technology Co.,Ltd.	Project	P053
Band	GSM: 850/1900 WCDMA: 2,4,5 LTE: 2,4,5,7,12,17,25,26,41,66	Color	Black
PRS PN	ShenZhen Deman Electronics Technology Co., Ltd	Version	V1.0
Model name	P5K-MAIN-ASM-H3361	Antenna type	FPC+ Cable

Supplier: ShenZhen Deman Electronics Technology Co., Ltd

Address: Sunlord Industrial Park, No. 1 Fengtai Road, Tangxia Town, Dongguan City, Guangdong

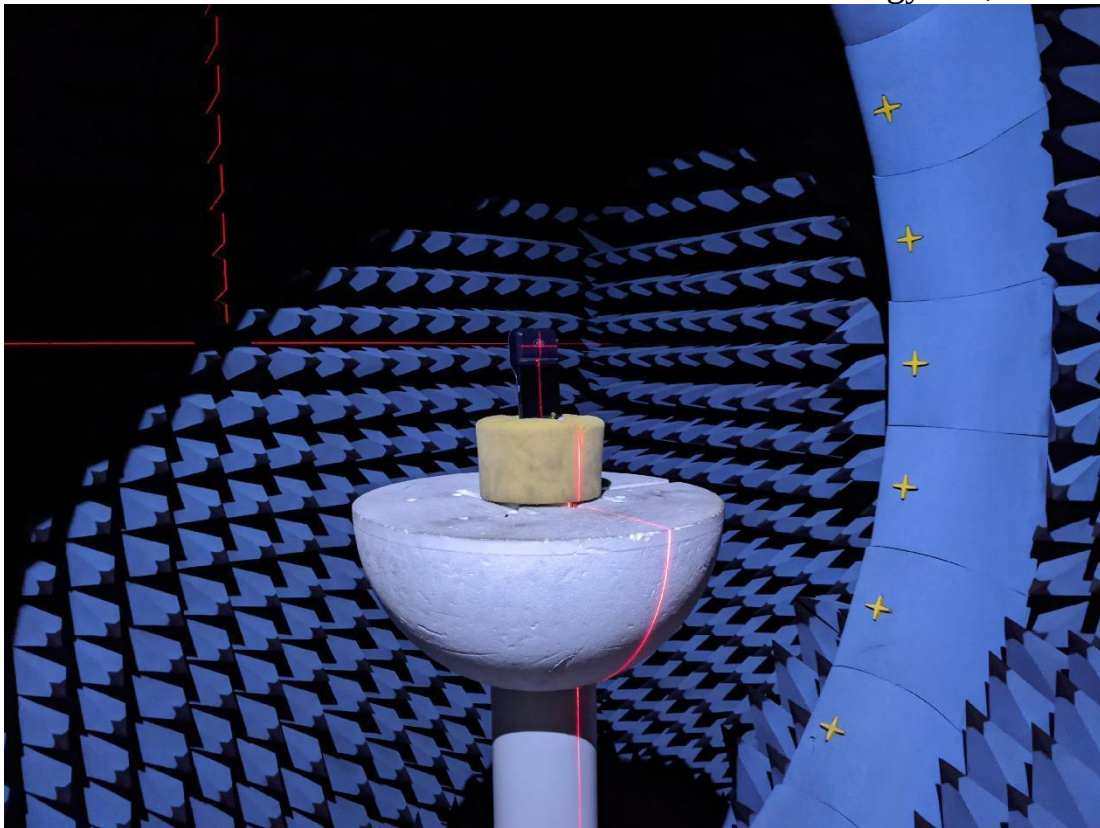
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1.TEST INSTRUMENTATION

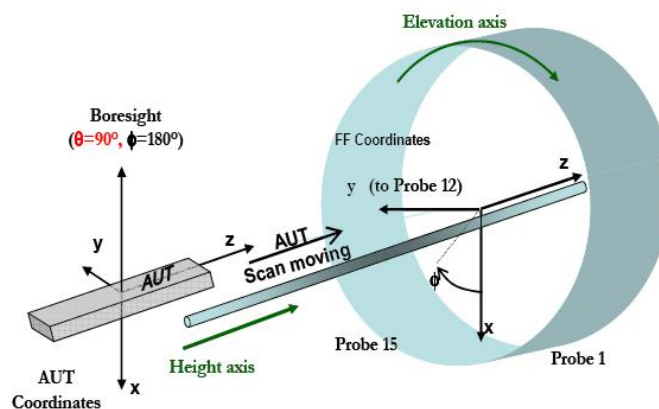
CHAMBER	SATIMO Chamber
Wireless Networking Test Set	Agilent 8960 5515C
NETWORK ANALYZER	Agilent 5072AD
COMPREHENSIVE TESTER	R&S CMW500
TEMPERATURE	20±2℃
HUMIDITY	50±20%rh
Antenna Type	Loop



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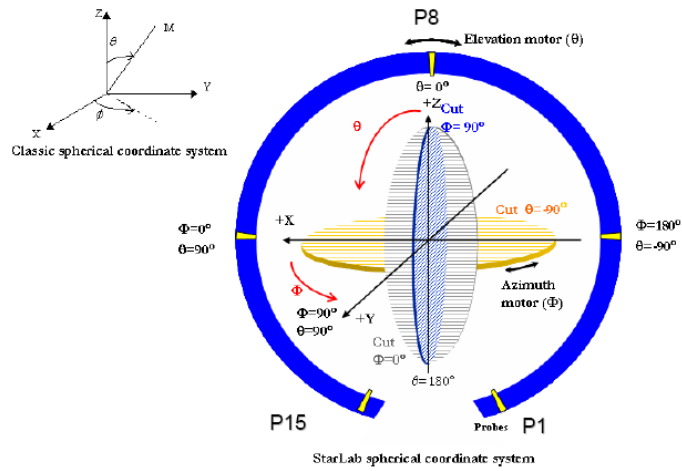
Coordinate system – Cylindrical geometry





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Coordinate system – Spherical geometry



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2. Antenna efficiency

Freq. (MHz)	Eff. (dB)	Gain (dBi)	Freq. (MHz)	Eff. (dB)	Gain (dBi)	Freq. (MHz)	Eff. (dB)	Gain (dBi)
700	-8.72	-3.29	1700	-7.04	-2.06	2200	-5.4	-1.75
710	-8.91	-2.47	1720	-7.23	-1.8	2220	-5.71	-1.59
720	-8.71	-1.9	1740	-7.02	-1.81	2240	-5.75	-1.67
730	-8.39	-1.82	1760	-7.12	-1.8	2260	-5.76	-1.97
740	-8.15	-1.6	1780	-7.39	-1.93	2280	-5.68	-1.54
750	-7.82	-1.5	1800	-7.44	-1.89	2300	-5.45	-1.19
760	-7.74	-1.39	1820	-7.55	-1.97	2320	-5.6	-1.03
770	-7.56	-1.42	1840	-7.72	-2.25	2340	-5.49	-1.1
780	-7.56	-1.44	1860	-7.92	-2.81	2360	-5.45	-1.21
790	-7.8	-1.75	1880	-8.04	-3.34	2380	-5.33	-1.42
800	-7.62	-1.47	1900	-7.92	-2.68	2400	-5.05	-1.2
810	-6.65	-1.44	1920	-7.46	-2.27	2420	-5.02	-0.93
820	-7.35	-1.26	1940	-7.34	-2.49	2440	-4.95	-0.76
830	-6.87	-1.11	1960	-7.06	-2.59	2460	-5.06	-0.92
840	-6.73	-1.62	1980	-7.07	-2.89	2480	-5.12	-0.51
850	-6.64	-2.27	2000	-6.64	-2.59	2500	-5.31	-0.63
860	-6.5	-3.04	2020	-6.38	-2.64	2520	-5.38	-0.63
870	-6.42	-3.68	2040	-6.18	-3.27	2540	-5.49	-0.09
880	-6.39	-4.34	2060	-6.37	-3.24	2560	-5.61	0.24
890	-6.64	-5.04	2080	-6.44	-3	2580	-5.81	0.53
900	-6.63	-5.64	2100	-6.62	-2.55	2600	-6.42	0.35
910	-6.47	-5.47	2120	-6.69	-1.82	2620	-6.73	0.42
920	-6.62	-5.14	2140	-6.36	-1.38	2640	-7.17	0.36
930	-6.67	-4.82	2160	-5.79	-1.28	2660	-6.91	0.28
940	-6.9	-4.34	2180	-5.46	-1.34	2680	-6.79	0.3
950	-6.95	-3.72				2700	-6.45	0.19
960	-6.99	-3.74						

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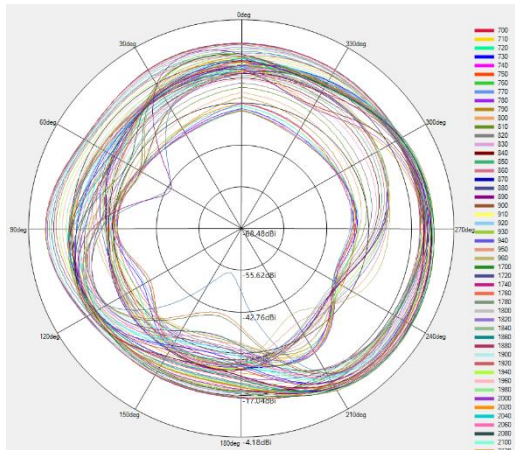
3. TRP&TIS

Unit: dBm

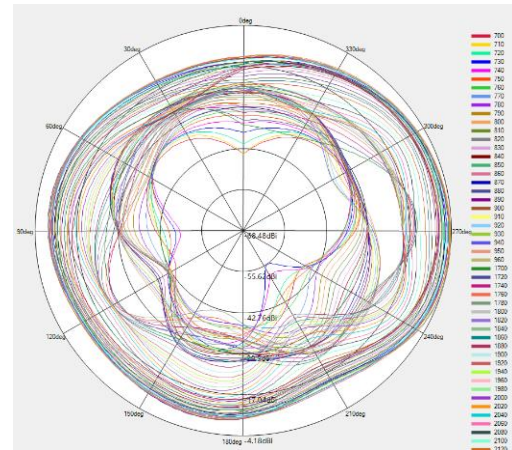
Band	Channel	TRP	TIS	Band	Channel	TRP	TIS
B2	18650	21.33		B66	132022	17.69	
	18900	21.34			132322	19.16	
	19150	21.5	-95.96		132622	21.25	-95.75
B4	20000	17.26		B41	40340	21.22	
	20175	17.99			40740	21.43	
	20350	19.36	-95.36		41140	21.32	-92.85
B5	20450	15.17		W2	9262	21.44	
	20525	16.45			9400	21.52	
	20600	15.21	-89.49		9538	21.88	-109.04
B7	20850	21.28		W4	1312	17.07	
	21100	21.22			1412	18.54	
	21350	21.26	-95.82		1513	18.41	-109.6
B12	23060	13.09		W5	4132	15.37	
	23095	13.25			4185	16.38	
	23130	13.31	-83.37		4233	15.65	-103.6
B17	23780	13.09		850	128	21.72	
	23790	13.32			190	21.85	
	23800	13.56	-83.28		251	22.1	-100.41
B25	26090	21.39		1900	512	27.36	
	26365	21.49			661	27.26	
	26640	21.21	-95.77		810	27.85	-104.55
B26	26740	14.57					
	26865	15.05					
	26990	14.88	-89.4				

4. Antenna lobe pattern

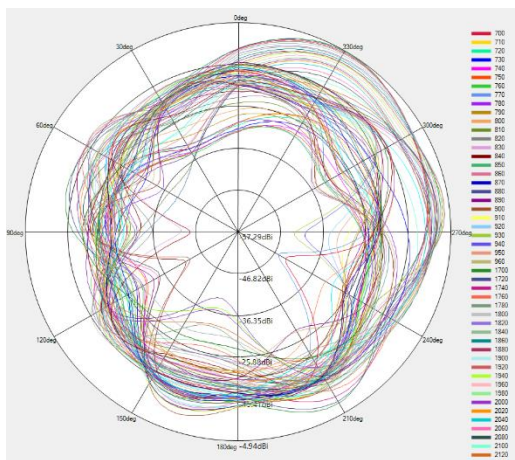
2D Direction diagram



Phi=0

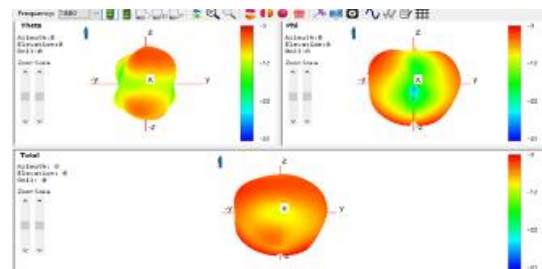
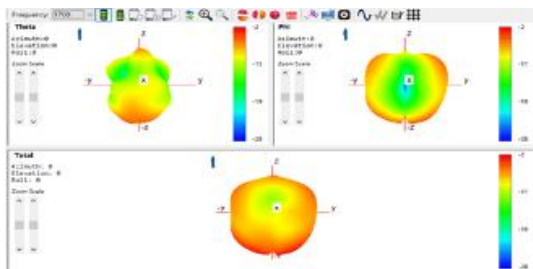


Phi=90



Theta=90

Apple Map

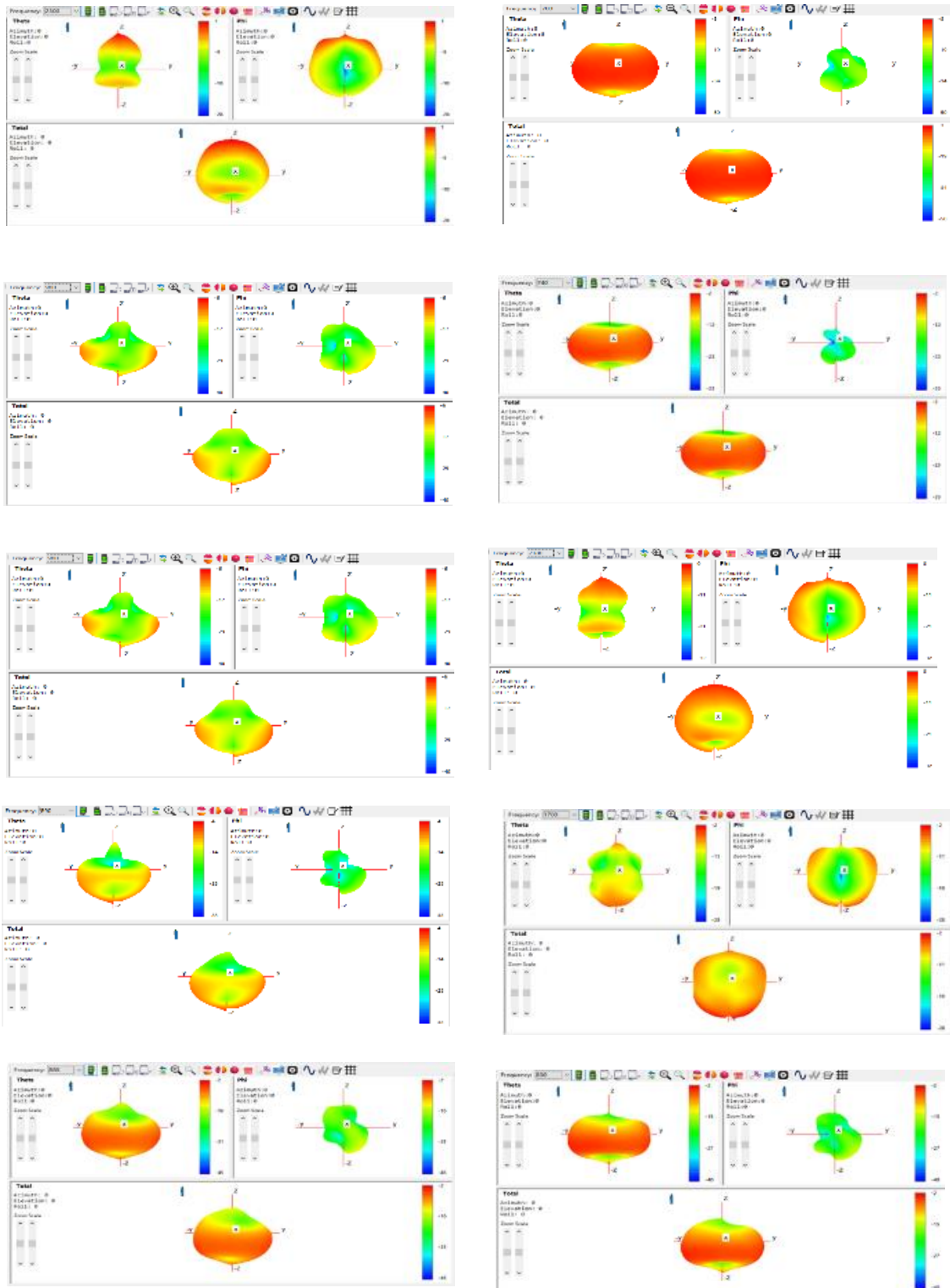


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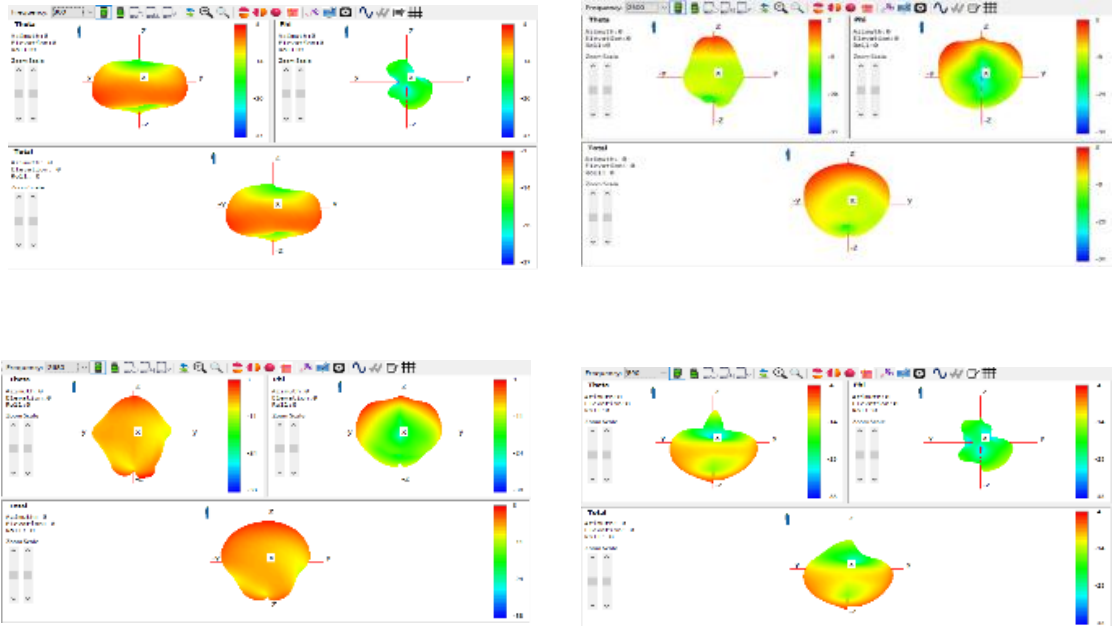


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5.Antenna drawing

