

Shenzhen PIPA antenna design Co., LTD.

OTATESTREPORT(Passive)

Project name: UF1002
Preparedby : XIE Mengyang
IssueDate: 20241112

1. Test Laboratory

1.1 Notes of the Test report

This report shall not be reproduced in full or partial. The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of applicable standards stated above.

1.2 Test facility

Satimo SG16 Chamber : testing frequency ranges from 600MHz to 6GHz.

1.3 Testing Location

Company: Shenzhen PIPA antenna design Co.,LTD.

Address: Unit F/4F, buildingA, Junxiangda, Plada, Zhongshanyuan
Road, Nanshan District, Shenzhen

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Telephone: 15571213211

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1.4 Laboratory Environment

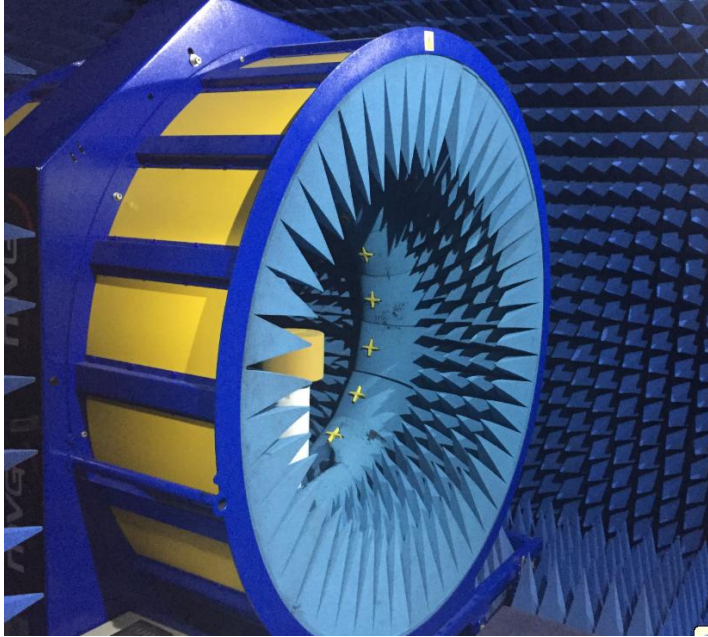
Temperature	Min.= 19°C, Max.=25°C	
Relative humidity	Min.=40%, Max.=72%	
Shield effect	0.6-7GHz	>100dB
Ground resistance	<0.5Ω	

2. General Description of Equipment under Test

2.1 General information

EUT Description	
Product Name	<i>Satimo SG16</i> Chamber
Antenna Type	FPC Antenna
Antenna Manufacturer	Shenzhen PIPA antenna design Co.,LTD.
Test Frequency	617MHz-5000MHz

3. Test Conditions



Test items	Test equipment
S11、S12、VSWR、LOSS	E5071B、E5062A
Efficiency、Gain 3D Radiation Pattern	Satimo SG16Chamber、GP7*4*3Chamber、 E5071B
TRP、TIS	Satimo SG16Chamber、GP7*4*3Chamber、8960 、CMW500、MT8820C、E4438C、

4. Test Results

4.1 Antenna Effi.& Max. Peak Gain

ANTO

Frequency /Mhz	Efficiency / dB	Efficiency / %	MaxGain /dBi	Frequency /Mhz	Efficiency / dB	Efficiency / %	MaxGain /dBi
600	-10.76	8.4	-9.2	1970	-3.54	44.26	1.49
620	-9.72	10.66	-8.1	1990	-3.67	42.95	1.04
640	-9.03	12.51	-6.83	2010	-3.67	42.95	0.94
660	-8.58	13.86	-4.28	2030	-3.83	41.4	0.49
680	-7.85	16.4	-3.81	2050	-3.96	40.18	0.18
700	-7.65	17.16	-2.61	2070	-4.14	38.55	0.64
720	-7.65	17.19	-3.4	2090	-4.29	37.24	1.17
740	-7.36	18.35	-2.88	2110	-4.57	34.91	1.19
760	-7.00	19.94	-1.76	2130	-4.62	34.51	1.36
780	-6.65	21.62	-1.97	2150	-4.93	32.14	1.11
800	-6.57	22.01	-3.38	2170	-5.11	30.83	1.13
820	-6.49	22.45	-3.16	2300	-5.38	28.99	1.08
840	-6.39	22.95	-3.28	2320	-5.43	28.65	1.04
860	-6.71	21.32	-4.01	2340	-5.65	27.23	0.88
880	-6.93	20.26	-4.68	2360	-5.57	27.72	1.03
900	-7.61	17.35	-5.75	2380	-5.85	26.03	0.55
920	-7.87	16.34	-5.37	2400	-5.68	27.05	0.82
940	-8.15	15.3	-4.99	2420	-5.66	27.14	0.75
960	-8.35	14.61	-5.1	2440	-5.61	27.45	0.89
1710	-6.06	24.77	-0.39	2460	-5.61	27.5	0.85
1730	-5.94	25.47	0.07	2480	-5.27	29.73	1.35
1750	-5.61	27.48	0.36	2500	-5.34	29.23	1.43
1770	-5.12	30.76	0.41	2520	-5.38	28.99	1.89
1790	-4.93	32.14	0.11	2540	-5.53	28	2.02
1810	-4.79	33.19	0.34	2560	-5.43	28.61	2.2
1830	-4.63	34.43	1	2580	-5.46	28.46	2.14
1850	-4.42	36.14	1.35	2600	-5.20	30.23	2.34
1870	-4.11	38.82	2.01	2620	-5.20	30.18	2.22
1890	-3.82	41.5	2.62	2640	-5.14	30.59	2.17
1910	-3.80	41.69	2.57	2660	-5.07	31.12	2.08
1930	-3.66	43.05	2.24	2680	-4.98	31.77	2.13
1950	-3.51	44.57	1.69	2700	-5.08	31.07	1.72

ANT1

Frequenc y/Mhz	Efficienc y / dB	Efficienc y / %	MaxGain/ dBi	Frequenc y/Mhz	Efficienc y / dB	Efficienc y / %	MaxGain/ dBi
600	-18.30	1.48	-15.99	1970	-9.78	10.51	-5.9
620	-18.04	1.57	-16.66	1990	-9.79	10.5	-5.47
640	-17.03	1.98	-15.32	2010	-9.78	10.51	-5.12
660	-18.01	1.58	-15.9	2030	-9.78	10.52	-4.68
680	-19.43	1.14	-10.06	2050	-9.80	10.48	-4.53
700	-15.27	2.97	-9.67	2070	-9.79	10.5	-4.3
720	-15.39	2.89	-8.74	2090	-9.73	10.63	-2.88
740	-14.92	3.22	-6.63	2110	-9.74	10.61	-3.5
760	-12.17	6.07	-8.18	2130	-9.76	10.58	-4.3
780	-9.90	10.23	-6.91	2150	-9.77	10.55	-4.81
800	-9.67	10.79	-6.32	2170	-9.79	10.49	-2.08
820	-8.93	12.79	-7.19	2300	-8.65	13.65	-2.76
840	-8.36	14.59	-7.36	2320	-8.50	14.13	-2.85
860	-8.55	13.96	-7.59	2340	-8.89	12.91	-3.38
880	-9.69	10.75	-7.17	2360	-8.81	13.15	-3.41
900	-10.79	8.34	-4.49	2380	-9.12	12.25	-3.62
920	-10.93	8.08	-6.16	2400	-8.94	12.76	-3.42
940	-11.40	7.24	-5.56	2420	-9.08	12.36	-3.42
960	-12.30	5.89	-5.2	2440	-9.32	11.69	-3.39
1710	-9.18	12.08	-0.53	2460	-9.83	10.4	-3.87
1730	-9.35	11.62	-2.17	2480	-9.25	11.89	-3.29
1750	-9.45	11.35	-4.48	2500	-8.32	14.72	-2.08
1770	-9.55	11.08	-4.26	2520	-7.22	18.97	-0.56
1790	-9.62	10.91	-5.53	2540	-6.37	23.07	0.69
1810	-9.52	11.18	-3.43	2560	-5.70	26.92	1.6
1830	-9.69	10.75	-4.44	2580	-5.67	27.1	1.72
1850	-9.73	10.63	-4.6	2600	-5.85	26	1.46
1870	-9.81	10.44	-5.78	2620	-6.24	23.77	0.85
1890	-9.86	10.33	-7.16	2640	-6.86	20.61	0.19
1910	-9.88	10.28	-5.96	2660	-7.22	18.97	-0.24
1930	-9.86	10.33	-5.91	2680	-8.00	15.85	-0.99
1950	-9.80	10.47	-6.38	2700	-8.80	13.18	-1.63

ANT2

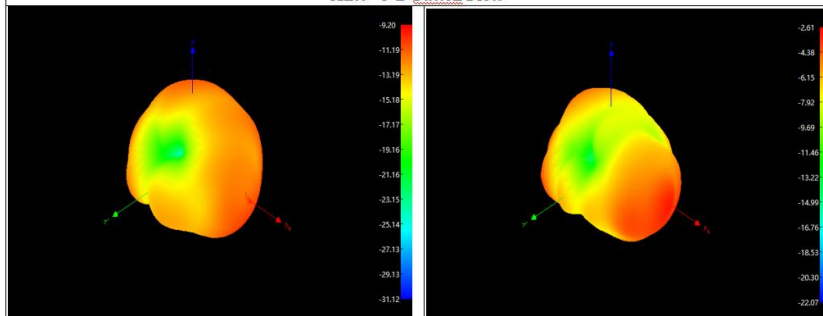
Frequency /Mhz	Efficiency / dB	Efficiency / %	MaxGain /dBi	Frequency /Mhz	Efficiency / dB	Efficiency / %	MaxGain /dBi
1505	-5.35	29.17	-0.81	5150	-5.43	28.66	-0.17
1515	-5.09	30.97	-0.16	5170	-5.33	29.29	0.21
1525	-4.76	33.41	-0.15	5190	-5.18	30.36	0.5
1535	-4.53	35.21	0.67	5210	-5.22	30.06	0.59
1545	-4.29	37.28	0.43	5230	-5.06	31.16	0.91
1555	-4.16	38.34	0.54	5250	-4.75	33.51	1.59
1565	-3.94	40.32	0.69	5270	-4.85	32.77	1.62
1575	-3.81	41.58	0.66	5290	-4.69	33.99	1.88
1585	-4.13	38.65	0.66	5310	-4.57	34.9	1.96
1595	-4.03	39.58	0.55	5330	-4.76	33.44	1.75
2400	-4.35	36.73	0.58	5350	-4.58	34.83	2.01
2410	-4.36	36.64	0.58	5370	-4.65	34.27	2.06
2420	-4.30	37.15	0.18	5390	-4.60	34.69	2.05
2430	-4.24	37.67	0.26	5410	-4.63	34.41	1.85
2440	-4.33	36.9	-0.04	5430	-4.55	35.05	1.73
2450	-4.24	37.67	-0.03	5450	-4.84	32.84	1.22
2460	-4.40	36.31	-0.21	5470	-4.75	33.51	1.14
2470	-4.32	36.98	-0.2	5490	-4.64	34.34	1.12
2480	-4.10	38.9	0.23	5510	-4.91	32.25	0.56
2490	-3.98	39.99	0.4	5530	-4.93	32.12	0.34
2500	-4.04	39.45	0.42	5550	-4.98	31.8	0.11
				5570	-5.21	30.12	-0.28
				5590	-5.21	30.12	-0.35
				5610	-5.17	30.42	-0.4
				5630	-5.30	29.53	-0.6
				5650	-5.54	27.93	-0.92
				5670	-5.51	28.1	-0.85
				5690	-5.96	25.33	-1.39
				5710	-6.01	25.04	-1.46
				5730	-6.09	24.61	-1.47
				5750	-6.37	23.05	-1.72
				5770	-6.22	23.86	-1.4
				5790	-6.12	24.42	-1.24
				5810	-6.41	22.88	-1.56
				5830	-6.15	24.28	-1.26
				5850	-6.35	23.19	-1.5

4.2 Antenna radiation pattern

ANT0

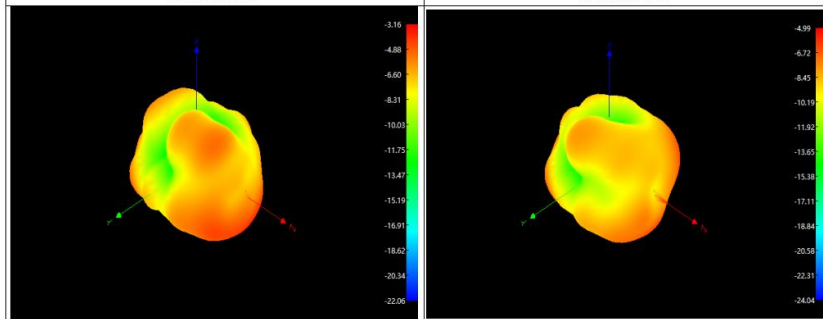
Technical Specification

Ant0 3-D Patten Plots



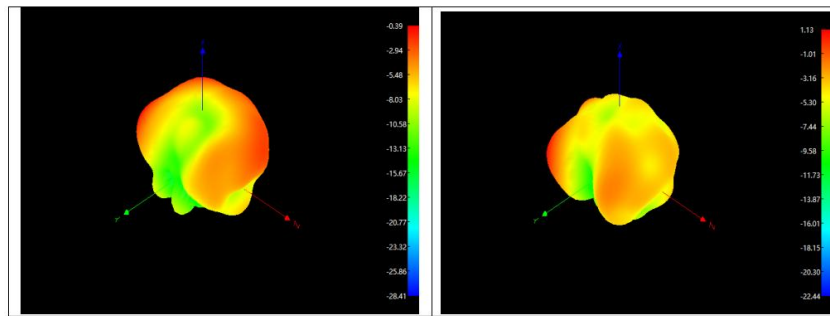
Ant0: 600Mhz

Ant0: 700Mhz



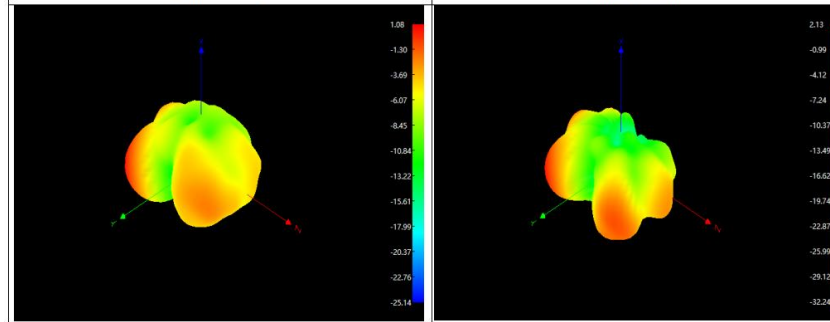
Ant0: 820Mhz

Ant0: 940Mhz



Ant0: 1710Mhz

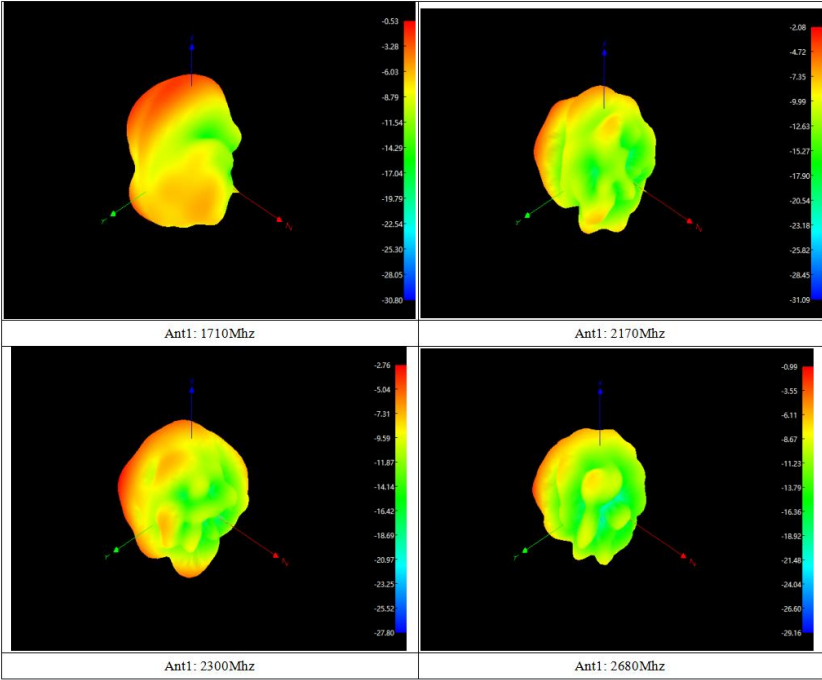
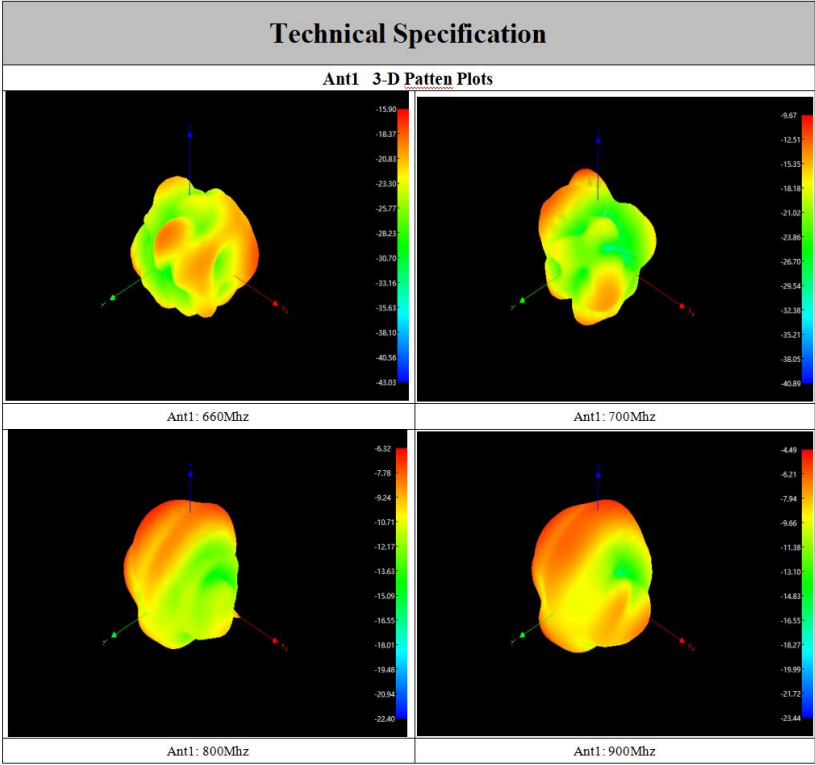
Ant0: 2170Mhz

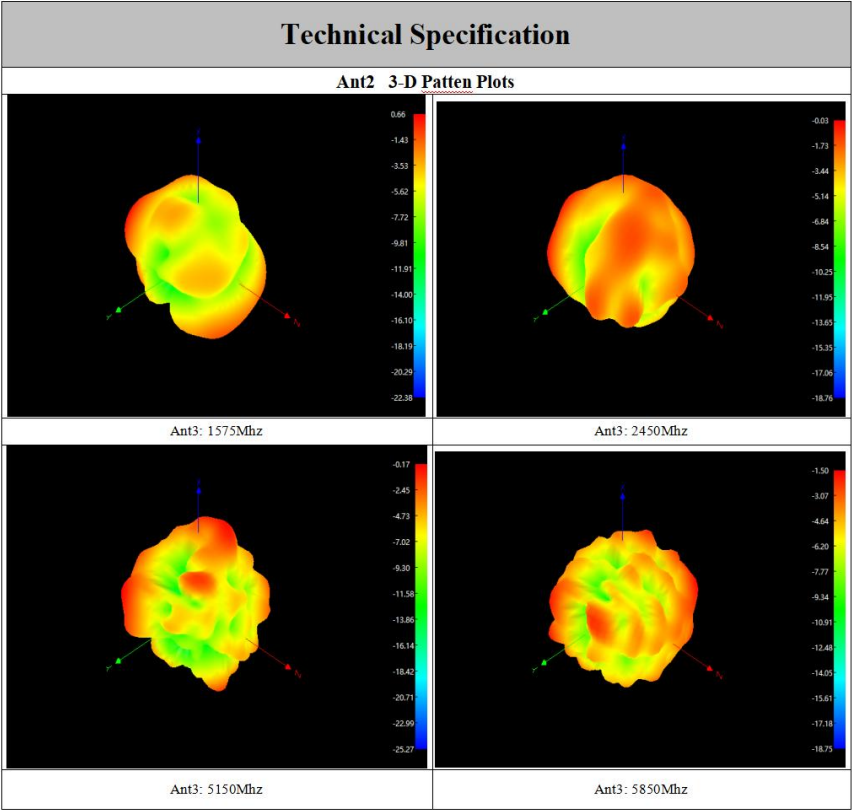


Ant0: 2300Mhz

Ant0: 2680Mhz

ANT1



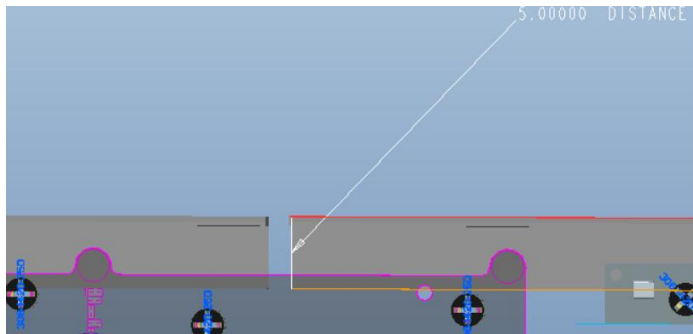
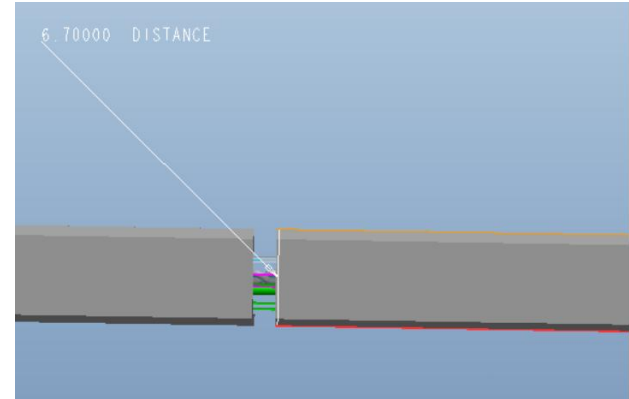
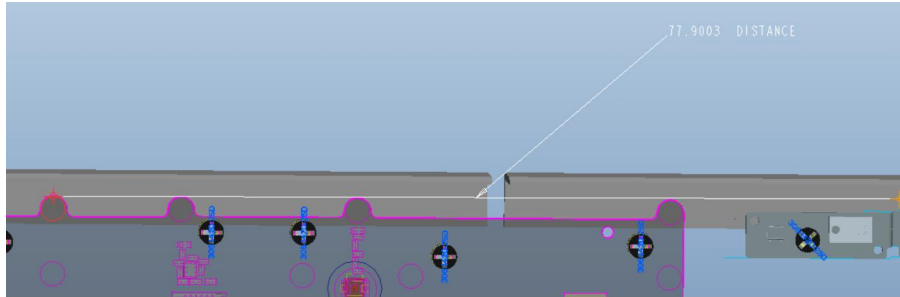


5. Equipment List

Type of Equipment	Manufacture	Model Number
Network Analyzer	Agilent Technologies	E5071B
Switch control System	GTS	RayZone1800
Software	GTS	MaxSign 100 Patten Measurement software

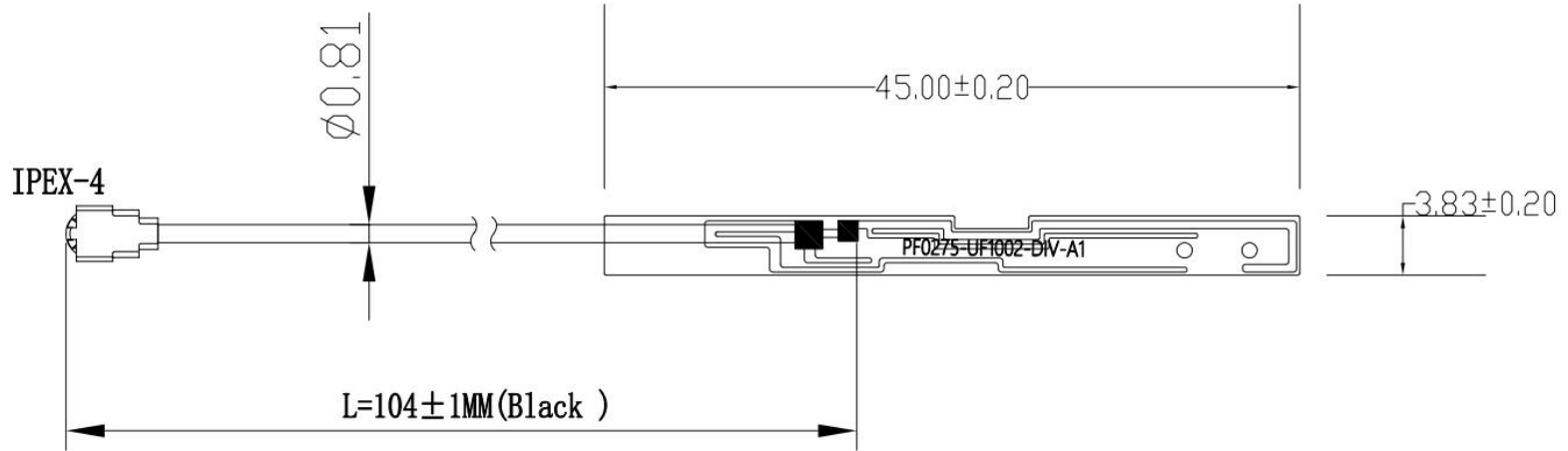
6. Size&Picture

ANT0



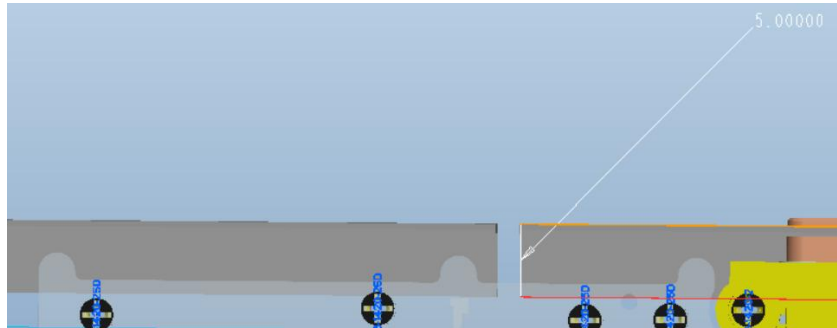
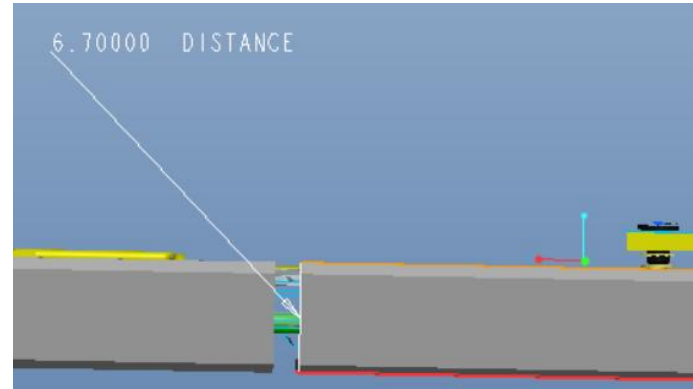
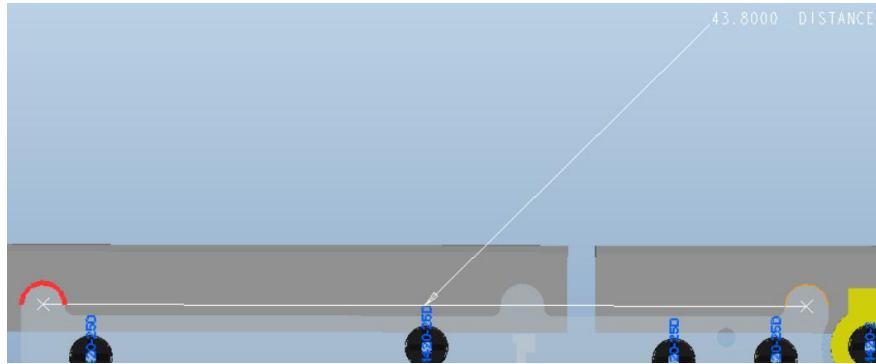
MAIN: GSM/WCDMA/LTE: 77.90*5.00*6.70mm PIFA

ANT1



DIV: GSM/WCDMA/LTE: 45.00*3.83*0.12mm PIFA

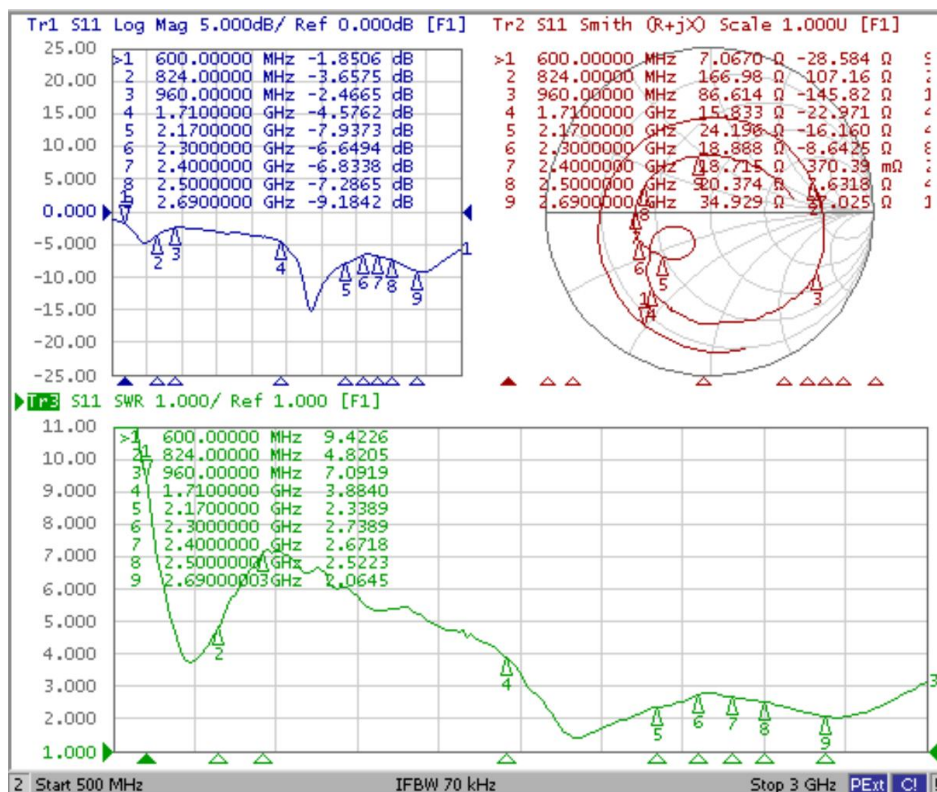
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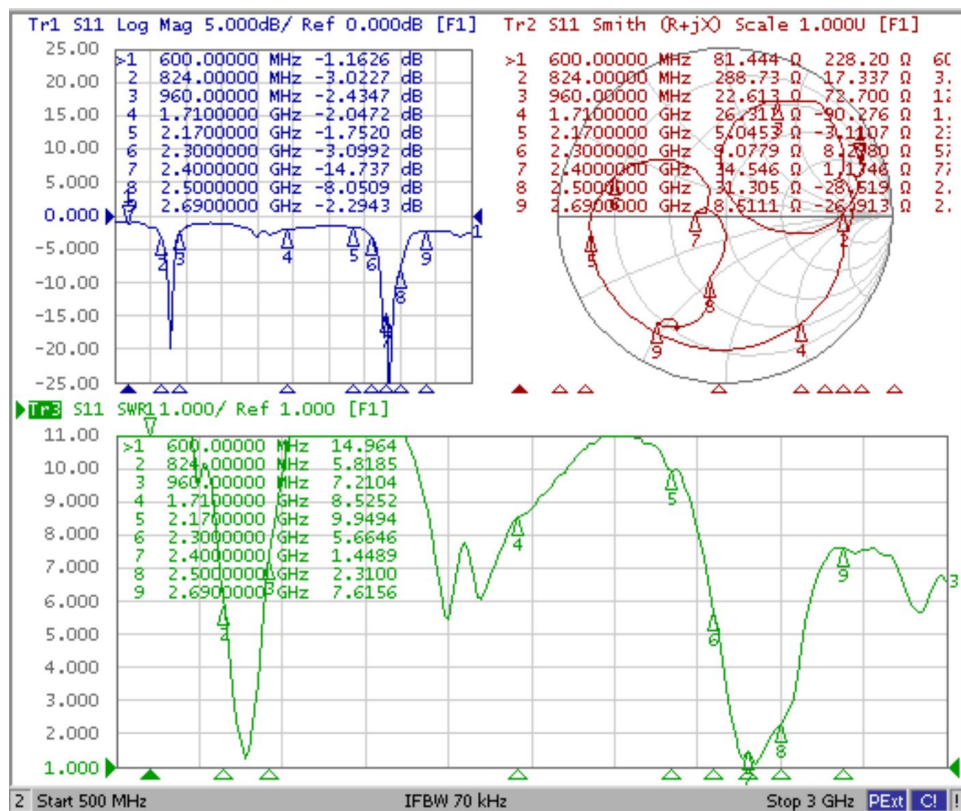


WGB: 43.80*5.00*6.70mm PIFA

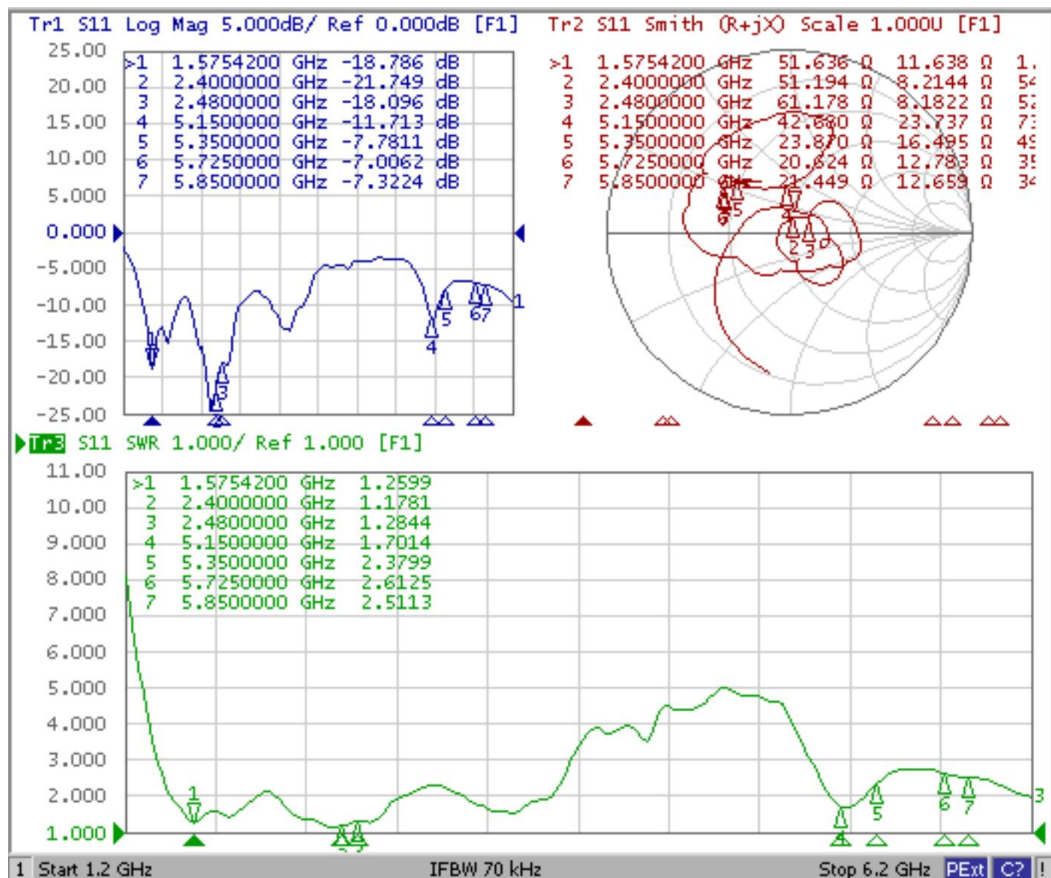
7. S11

ANT0





ANT2



THE END