



规格承认书

SPECIFICATION FOR APPROVAL

日期
DATE: 2024.10.24

版本
REV.: 1.0

客 户
CUSTOMER: Asiatelco Technologies Co.

客 户 料 号
CUSTOMER P/N:

品 名
PART NAME: 1RR0100113TLB

供 方 料 号
SUPPLIER P/N:

送样日期 Date:		送样数量 Q'TY:	Pcs
客户确认 CUSTOMER APPROVED BY			
工程研发部	生产采购部	承认	
ENGINEER R&D DEPT	BUSSINESS DEPT	APPROVED BY	

供方确认 SUPPLIER SIGNATURE		
研发部	工程部	批准
ENGINEER R&D DEPT	ENGINEER R&D DEPT	APPROVAL

Index

1. RF Fixture Experiment	3
1.1 Test Setup	3
1.2 UE configuration	4
2. Test Result	5
2.1 Passive Test Result(S parameters)	5

1. RF Fixture Experiment

1.1 Test Setup

1.1.1 VNA Test Setup

VSWR and Return Loss measurements (S_{11}) were performed using an Keysight E5071C Network Analyzer. The isolation between antennas is also tested. The testing was performed with apparatus in free space.

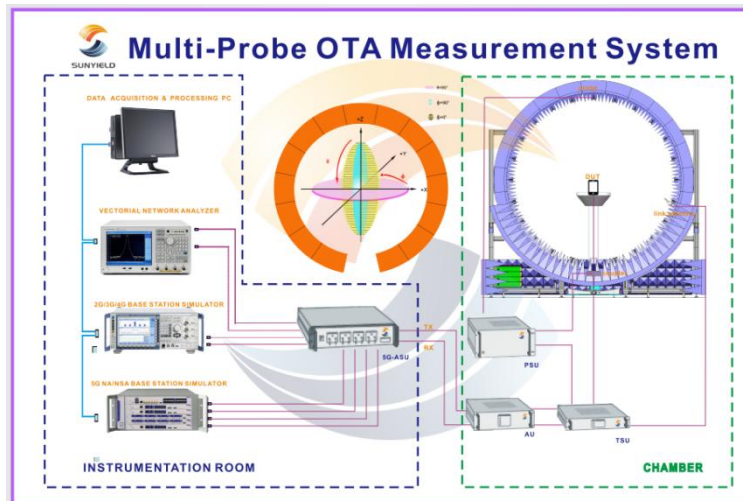


1.1.2 Anechoic Chamber Test Setup

When we test Gain and Efficiency of the antenna, we will use the Multi-Probe OTA Measurement System 3D chamber.

The chamber provides test frequency from 400MHz to 6GHz. The real test environment is showing as following picture





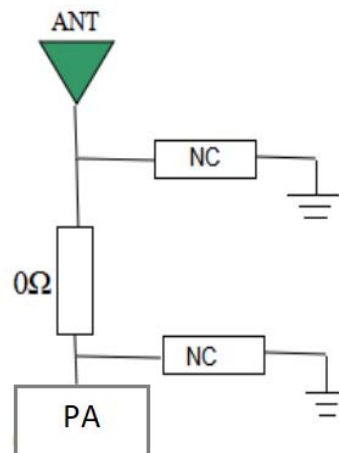
1.2 UE configuration

1.2.1 Antenna location pictures



1.2.2 RF matching for different antennas

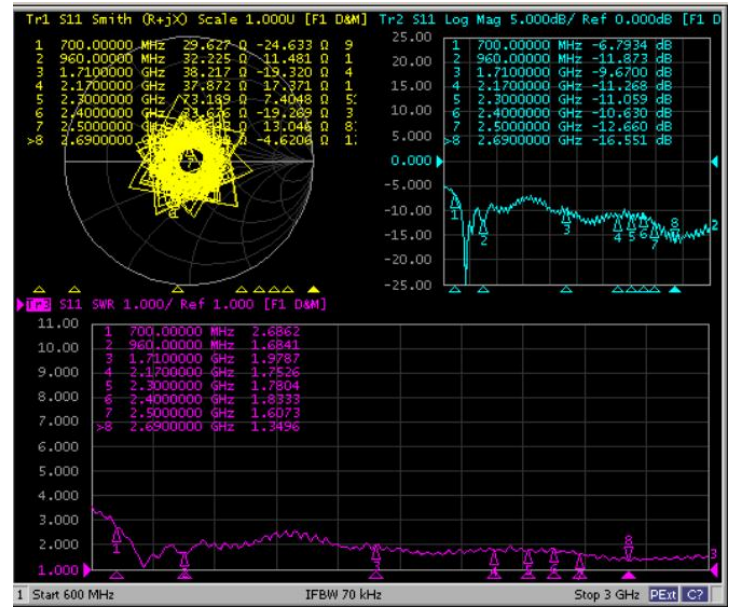
Main antenna matching



2. Test Result

2.1 Passive Test Result(S parameters)

Main antenna S11



频率 (MHz)	增益 (dBi)	效率 (%)	频率 (MHz)	效率 (dB)	效率 (%)	频率 (MHz)	增益 (dBi)	效率 (%)
700	-3.82	41.51	1960	-7.56	17.55	2490	-7.9	16.24
710	-4.9	32.34	1970	-6.55	22.13	2500	-6.86	20.61
720	-5.47	28.39	1980	-7.08	19.6	2510	-7.37	18.31
730	-5.44	28.59	1990	-7.01	19.91	2520	-6.86	20.59
740	-7.11	19.47	2000	-8.37	14.55	2530	-7.23	18.93
750	-7.16	19.23	2010	-7.59	17.42	2540	-6.94	20.21
760	-7.34	18.44	2020	-7.54	17.6	2550	-6.79	20.95
770	-5.52	28.06	2030	-7.88	16.29	2560	-7.09	19.54
780	-5.57	27.7	2040	-8.09	15.54	2570	-6.67	21.52
790	-3.34	46.4	2050	-8.56	13.94	2580	-7.08	19.6
800	-2.37	57.93	2060	-7.85	16.41	2590	-6.49	22.44
810	-1.21	75.66	2070	-8.48	14.18	2600	-6.98	20.07
820	-3.04	49.68	2080	-8.13	15.39	2610	-6.54	22.2
830	-4.4	36.28	2090	-8.7	13.49	2620	-6.71	21.32
840	-4.07	39.17	2100	-8.75	13.34	2630	-6.44	22.69
850	-4.74	33.59	2110	-8.73	13.4	2640	-6.39	22.95
860	-5.16	30.47	2120	-8.7	13.48	2650	-6.57	22.05
870	-6.39	22.95	2130	-8.81	13.15	2660	-6.06	24.76
880	-5.73	26.73	2140	-9.21	11.99	2670	-6.44	22.68

890	-5.89	25.74	2150	-9.01	12.57	2680	-5.79	26.34
900	-5.43	28.62	2160	-9.2	12.03	2690	-6.22	23.87
910	-5.25	29.86	2170	-9.22	11.97	2700	-5.53	28
920	-4.7	33.91	2180	-9.29	11.78	2710	-5.82	26.21
930	-4.39	36.4	2190	-9.23	11.95	2720	-6.13	24.38
940	-5.05	31.3	2200	-8.97	12.67	2730	-5.88	25.8
950	-3.92	40.56	2210	-8.88	12.95	2740	-5.94	25.46
960	-3.53	44.39	2220	-9.03	12.51	2750	-5.65	27.24
1700	-8.99	12.63	2230	-9.01	12.55	2760	-6.39	22.98
1710	-9.36	11.58	2240	-9.18	12.09	2770	-6.12	24.41
1720	-9.53	11.14	2250	-8.85	13.02	2780	-6.55	22.14
1730	-8.92	12.83	2260	-8.96	12.7	2790	-6.24	23.74
1740	-8.92	12.82	2270	-9.07	12.38	2800	-6.36	23.1
1750	-8.38	14.54	2280	-8.87	12.98	2810	-6.71	21.35
1760	-8.73	13.39	2290	-9.21	11.99	2820	-6.44	22.72
1770	-8.25	14.95	2300	-8.69	13.51	2830	-6.88	20.5
1780	-8.63	13.71	2310	-9	12.58	2840	-6.44	22.72
1790	-7.79	16.62	2320	-8.61	13.78	2850	-6.69	21.41
1800	-8.16	15.29	2330	-8.89	12.91	2860	-6.61	21.84
1810	-8.12	15.42	2340	-8.7	13.5	2870	-6.86	20.6
1820	-8.16	15.26	2350	-8.92	12.83	2880	-6.97	20.09
1830	-7.67	17.11	2360	-8.56	13.92	2890	-6.75	21.14
1840	-7.05	19.71	2370	-8.43	14.37	2900	-6.85	20.65
1850	-7.66	17.13	2380	-8.42	14.39	2910	-6.99	19.98
1860	-7.45	17.99	2390	-8.55	13.97	2920	-7.21	19.02
1870	-7.64	17.2	2400	-8.91	12.85	2930	-6.79	20.92
1880	-6.57	22.04	2410	-7.88	16.28	2940	-6.88	20.5
1890	-7.05	19.71	2420	-8.09	15.52	2950	-7.15	19.28
1900	-6.81	20.85	2430	-7.83	16.48	2960	-7.42	18.1
1910	-7.43	18.07	2440	-8.32	14.72	2970	-7.63	17.27
1920	-6.51	22.33	2450	-7.61	17.35	2980	-7.09	19.56
1930	-6.23	23.8	2460	-7.58	17.44	2990	-7.41	18.17
1940	-6.95	20.19	2470	-7.82	16.52	3000	-7.67	17.1
1950	-6.76	21.06	2480	-7.69	17.03			