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规格承认书

SPECIFICATION FOR APPROVAL

日期
DATE: 2021. 04. 01

版本
REV.: V01

客 户
CUSTOMER: 德明通讯（上海）有限公司

客 户 料 号
CUSTOMER P/N:

品 名
PART NAME: PCT1230（主）

供 方 料 号
SUPPLIER P/N: N12-4899-R0A

送样日期 **Date:** 送样数量 **Q'TY:** 5 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

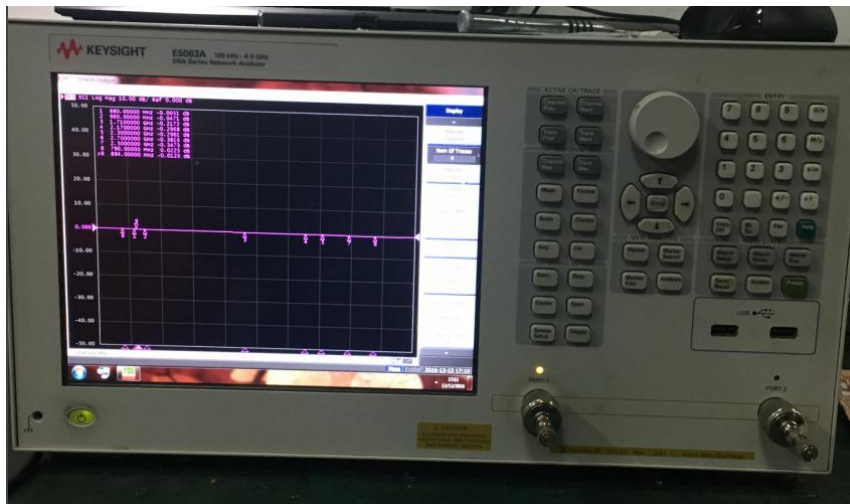
1. RF Fixture Experiment.....	3
1.1 Test Setup.....	3
1.2 UE configuration.....	5
2. Test Result.....	6
2.2 Passive Test Result(S parameters).....	7-13
2.3 Active Test Result(TRP TIS).....	14
3. Mechanical instruction.....	15
4. Packing.....	16

1. RF Fixture Experiment

1.1 Test Setup

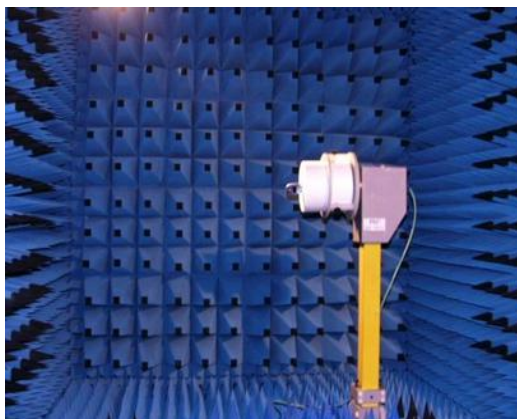
1.1.1 VNA Test Setup

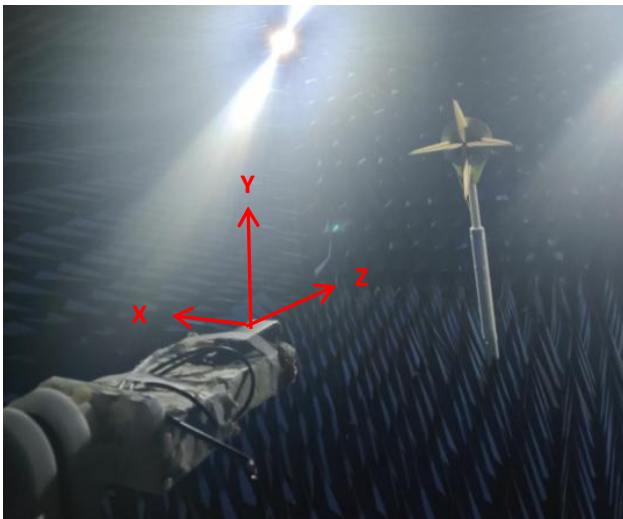
VSWR and Return Loss measurements (S_{11}) were performed using an Keysight E5063A Network Analyzer. The isolation between antennas is also tested. The testing was performed with apparatus in free space.



1.1.2 Anechoic Chamber Test Setup

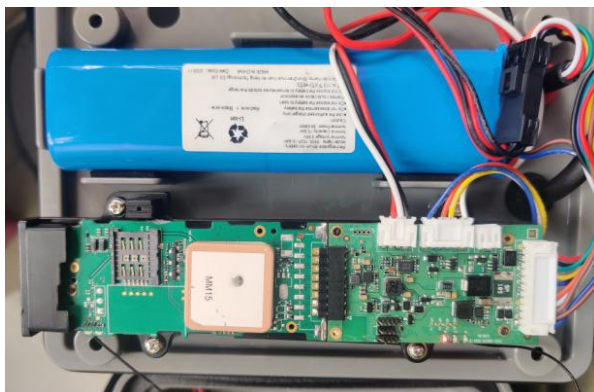
When we test Gain and Efficiency of the antenna, we will use the ETS 3D chamber. The chamber provides test frequency from 400MHz to 6GHz. The real test environment is showing as following picture





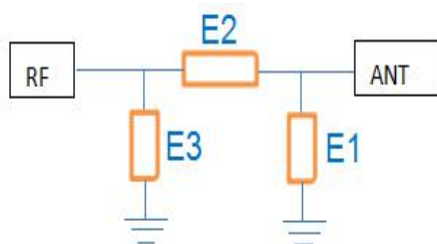
1.2 UE configuration

1.2.1 Antenna location picture



1.2.2 RF matching for different antennas

LTE



E1 (0402)	NA
E2 (0402)	0 欧姆
E3 (0402)	NA

2. Test Result

2.2 Passive Test Result(S parameters)

LTE Antenna-S11



LTE Antenna Effi

Freq (MHz)	Effi (%)	Gain (dBi)	Freq (MHz)	Effi (%)	Gain (dBi)
700	21.8	-0.63	1840	40.96	3.8
710	22.16	0.19	1850	45.41	4.09
720	24.17	-0.36	1860	46.51	4.44
730	26.39	-1.39	1870	44.82	4.28
740	28.2	-1.87	1880	44.91	4.51
750	23.81	-1.83	1890	45.68	4.31
760	20.01	-2.28	1900	45.63	4.38
770	16.41	-3.07	1910	46.59	4.72
780	13.16	-3.37	1920	45.37	4.68
790	15.53	-2.06	1930	44.29	4.5
800	16.77	-2.01	1940	42.76	4.48
810	12.04	-3.81	1950	41.07	4.42
820	11.57	-4.46	1960	40.99	4.38
830	13.57	-3.84	1970	40.18	4.26
840	14.56	-3	1980	40.29	4.16
850	13.77	-3.07	1990	43.41	4.4
860	13.01	-3.85	2000	42.11	4.43
870	14.52	-3.74	2010	42.77	4.56
880	16.32	-3.41	2020	44.99	4.37
890	13.89	-4.18	2030	49.43	4.59
900	12.93	-5.66	2040	47.32	4.05
1710	47.49	2.78	2050	45.09	3.56
1720	52	3.49	2060	42.92	2.94
1730	51.45	3.69	2070	41.97	2.42
1740	49.22	3.58	2080	42.69	2.25
1750	51.22	3.86	2090	44.89	2.12
1760	51.96	4	2100	45.69	2.18
1770	50.68	3.97	2110	40.41	1.59
1780	47.78	3.83	2120	39.86	1.73
1790	45.59	3.77	2130	39.54	1.71
1800	44.23	3.75	2140	42.35	2.04
1810	41.79	3.81	2150	41.27	1.95
1820	39.64	3.54	2160	43.35	2.17
1830	37.82	3.44	2170	43.41	2.1

2.3 Active Test Result(TRP TIS)

Band	Channel	Test BW	TRP (dBm)	TIS (dBm)
Band 2	Low	10MHz	20.41	
	Middle	10MHz	20.35	
	High	10MHz	20.08	-92.24
Band 4	Low	10MHz	20.11	
	Middle	10MHz	20.25	
	High	10MHz	20.16	-92.17
Band 12	Low	10MHz	20.35	
	Middle	10MHz	20.07	
	High	10MHz	20.48	-86.44

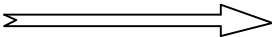
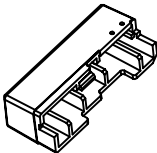
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成品名称 :PCT1230

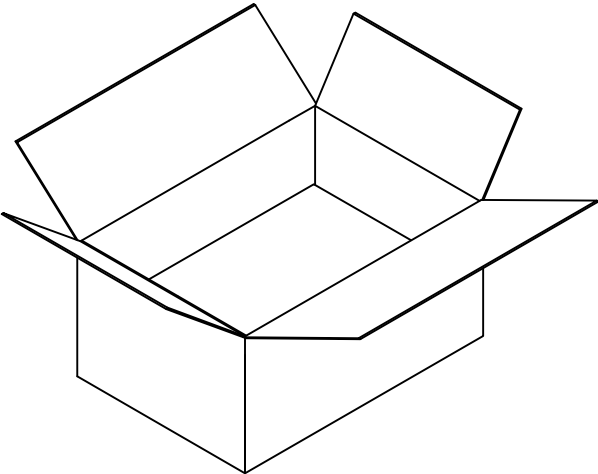
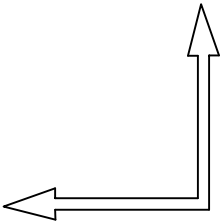
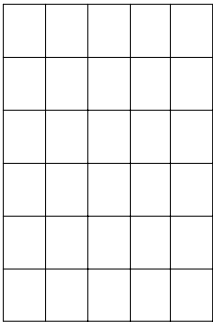
版本: A

客户: 德明

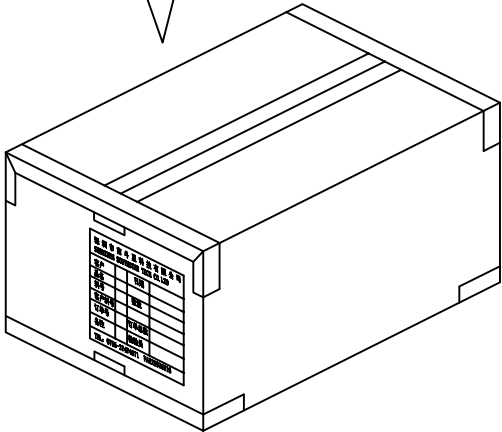
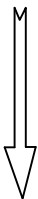
一: 成品天线



二: 用吸塑盘包装



三: 装一箱, 以实际包装为准



四: 封箱, 外箱贴我司生产标签和 ROHS 标签.

批准: _____ 拟制: 殷正军 确认: 毛惠涛