规 格 承 认 书
SPECIFICATION FOR APPROVAL

日期
DATE: 2022.12.09

版本
REV.: V1.0

客 户
CUSTOMER: Huida

客 户 料 号
CUSTOMER P/N:

品 名
PART NAME: HD540 pro External rubber rod antenna

供 方 料 号
SUPPLIER P/N: N12-7253-R0A

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

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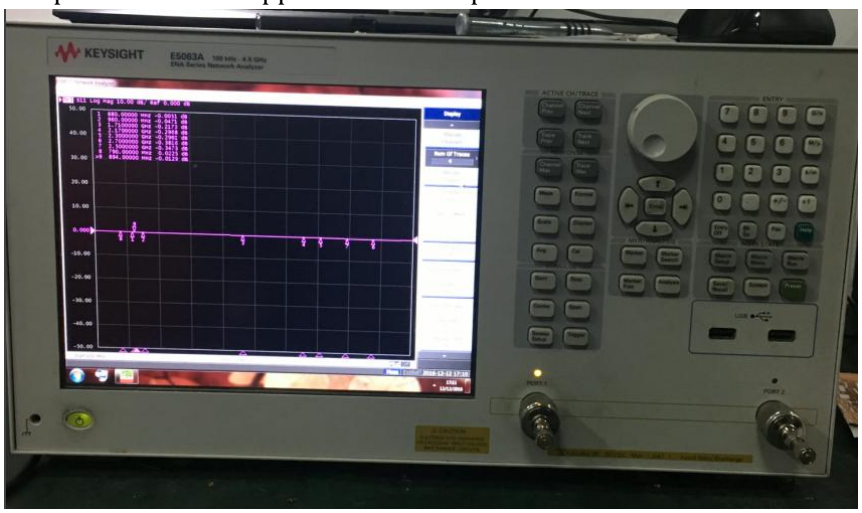
1. RF Fixture Experiment

1.1 Test Setup

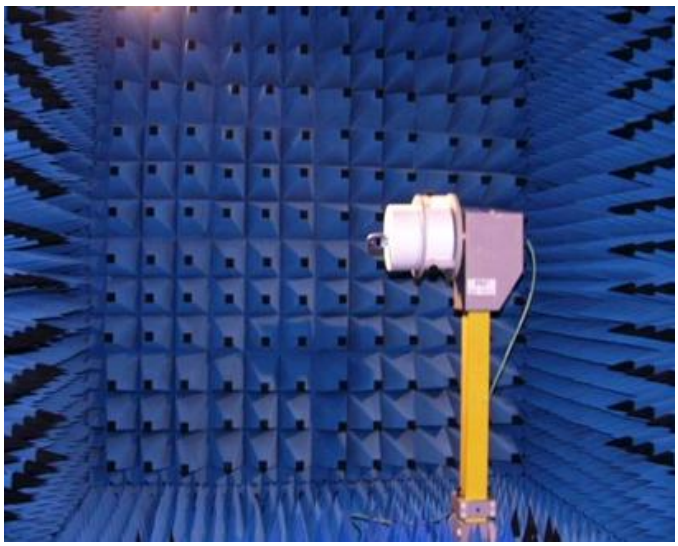
1.1.1 VNA Test Setup

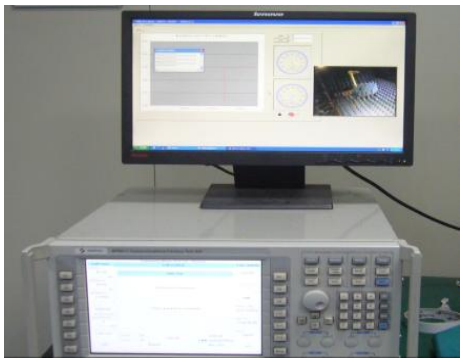
VSWR and Return Loss measurements (S11) were performed using an KeySight E5071C Network Analyzer. The isolation between antennas is also teste. The testing was performed with apparatus in free space.



1.1.4 Anechoic Chamber Test Setup

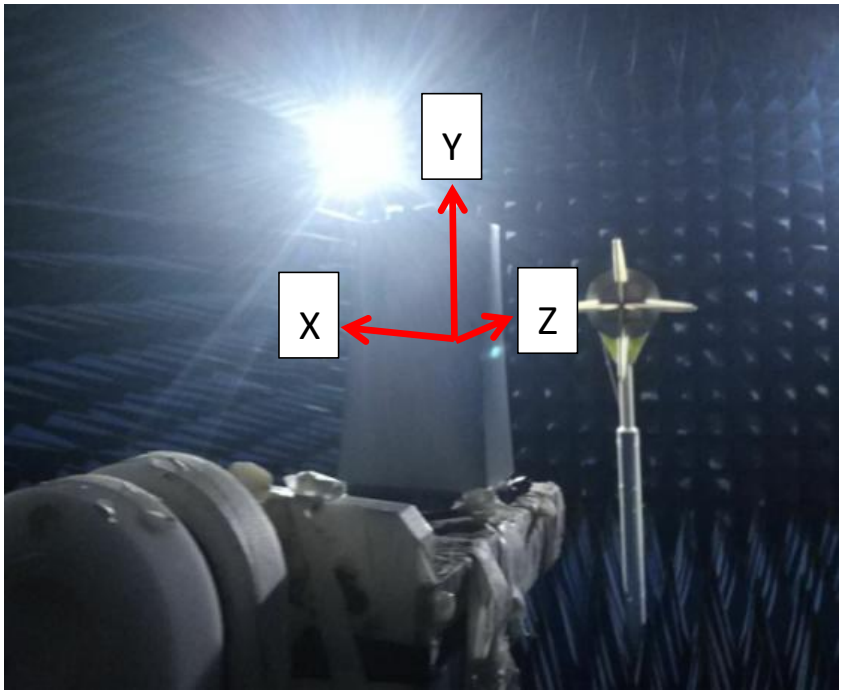
When we test Gain and Efficiency of the antenna, we will use the ETS 3D chamber.
The chamber provides test frequency from 400MHz to 6GHz.The real test environment is showing as following picture



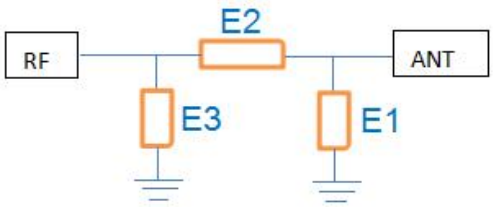


1.2 UE configuration

1.2.1 Antenna location pictures



1.2.2 RF matching for different antennas

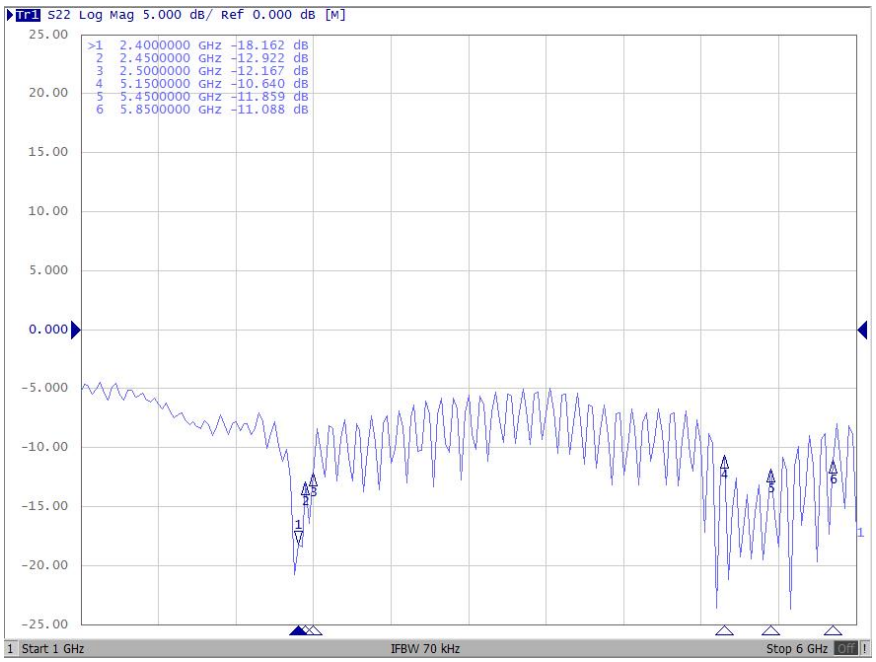


E1(0201)	NA
E2(0201)	0 ohm
E3(0201)	NA

2. Test Result

2.2 Passive Test Result(S parameters)

S11

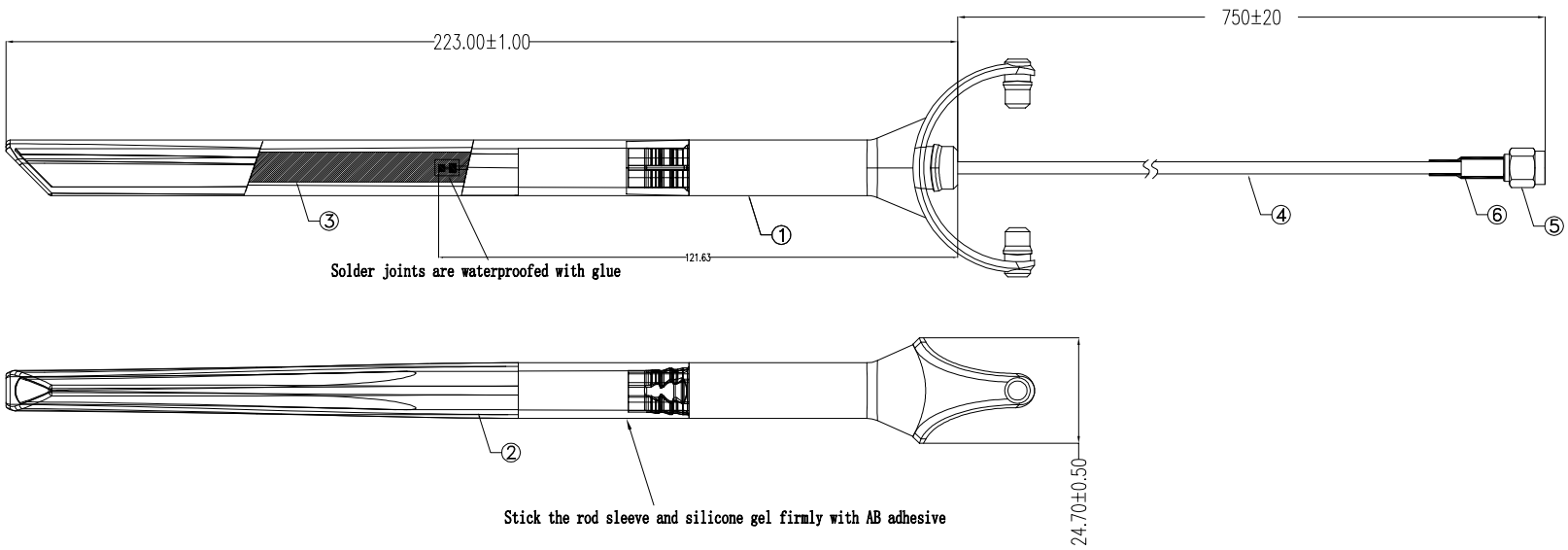


Efficiency

Freq (MHz)	Effi (%)	Gain (dBi)
2400	44.6	1.33
2410	42.35	1.36
2420	45.57	1.48
2430	45.37	1.58
2440	45.62	1.77
2450	46.64	1.62
2460	48.35	1.61
2470	45.33	1.59
2480	43.48	1.45
2490	46.73	1.46
2500	46.02	1.42

Freq (MHz)	Effi (%)	Gain (dBi)
5100	39.02	1.15
5200	39.88	1.58
5300	36.95	1.18
5400	41.05	1.39
5500	37.25	1.35
5600	40.67	1.62
5700	41.88	1.15
5800	41.1	1.21

RoHS
Compliant
G P



No.	Name	Material	Color	Treatment	Amount	Remark
6	heat shrink tubing	EVA	yellow		1	
5	SMA	Male head male needle	yellow		1	
4	RF cable	RG174	black		1	
3	PCB	FR4	black		1	
2	stem casing	ABS	black		1	
1	top base	Silica gel, hardness 50°	black		1	

remark; remarks; comment

1. Marked with "*" as the key size, the unmarked tolerance size is tested according to ±0.15
2. Please refer to the drawing if the dimensions are not marked.
3. ROHS compliant
4. Shipping method: Single shipment

Rev	Description	Date	Remark
A	New drawing		

Shenzhen free technology Co., LTD

Third Angle			
0～10	±0.2	○	
10～18	±0.5	◎	
18～30	±0.8	⊥	
30～40	±1.0	▱	
40～	±2.0	Angle	±0.5°
Location	N/A		

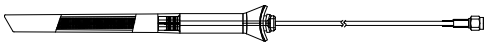
Project	S540 PRO	Date	2022.12.9
PartName	External antenna 1	Designed by	
Part No.	N12-7253-ROA	Checked by	MD tianjin
Material	N/A		RF maohuitao
dwg No.		Approved by	
		Unit mm	Scale 1:1 Rev A

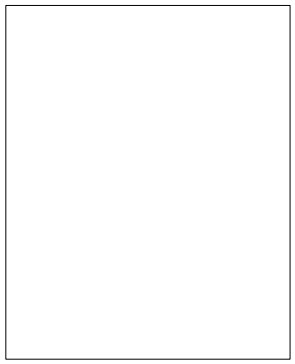
Product packaging specification

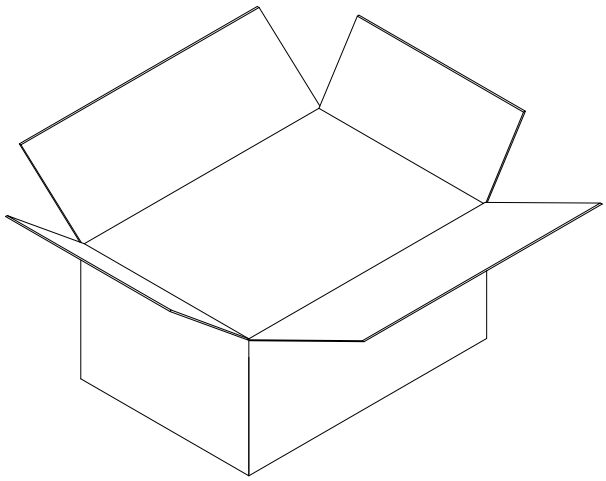
date: 2021.10.16

	versions A
Product name: External antenna	

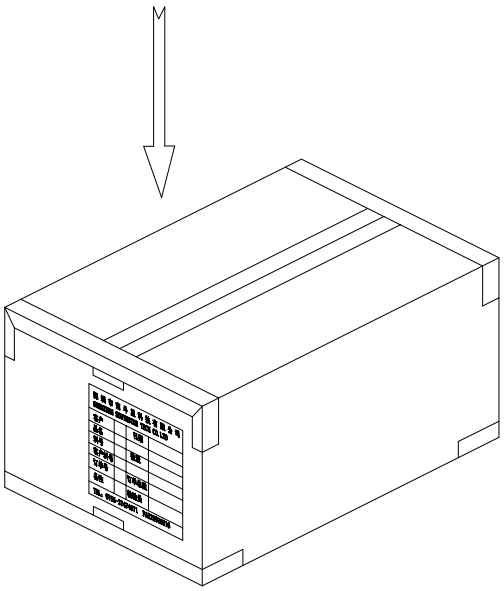
一：Finished antenna ⟹ Two: Put it in a PE bag







4. The actual packing shall prevail



Four: The box is sealed, and the outer box is affixed with our production label and ROHS label.