



SPECIFICATION FOR APPROVAL

Date 2024/12/04
File No 24120401
Revision 1.0

CUSTOMER: Fortinet

CUSTOMER NO: FON-W80B

PART NAME: WIFI Antenna

SUPPLIER NO: YJL01.106.048.301A

Date: Q'TY:

CUSTOMER APPROVED BY		
APPROVAL	CHIEF	SUPERVISOR

SUPPLIER SIGNATURE		
APPROVAL	CHECK	DESIGN
 ChenGuoqiang	XieLi	ChenXingyi

YJ-RD-F04-A





Spec Item

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12	N/A	N/A	N/A
13	-	-	-



RoHS

Compatible

CUSTOMER

PART NO

REV.

DESCRIPTION

DATE

A

Initial release

2023-01-07

B

Modify the shape and route

2023-02-06

C

Modify the shape and route, Add tear-off zones

2023-02-08

D

Modify the route

2023-03-14

E

Modify the shape and route

2023-03-17

F

Modify the shape and route

2023-03-23

G

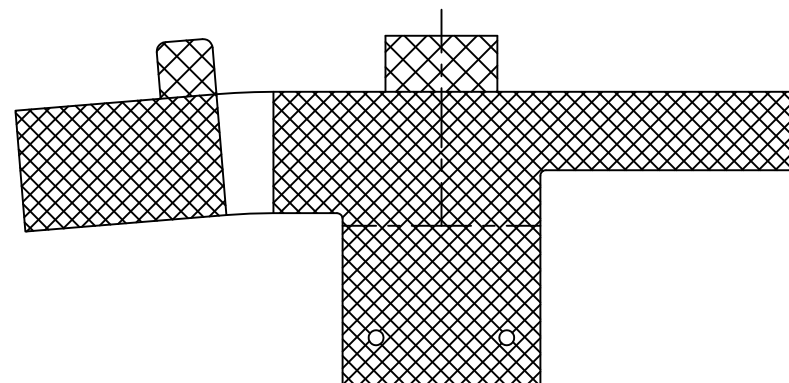
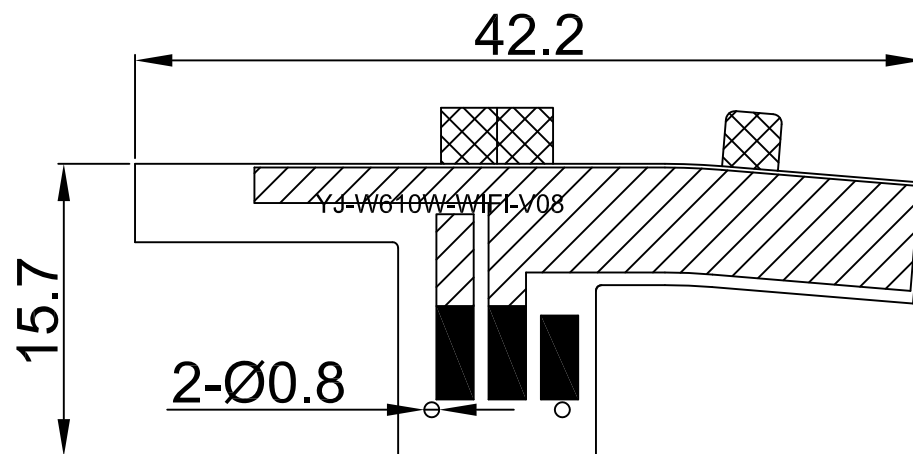
Modify the route

2023-04-15

H

Modify the route

2023-04-18



▨ Cabling area ■ Gilded Zone ▩ Tear zone

Notes:

1. Material: one and a half base materials; FPCB thickness: 0.1mm.
2. Color/surface treatment: solder joint gold plating, 3M tape division line on the back, Color: black ink, white silk screen.
3. Size: Belt * is the key size.
4. Tolerance: Tolerance is not specified, refer to standard tolerance.



东莞市一佳电子通讯科技有限公司
DONGGUAN YIJIA ELECTRONICS COMMUNICATION TECHNOLOGY CO., LTD

PART NAME: WIFI Antenna

PART NO.: YJL01.106.048.301A

DATE: 2023-04-18

APPROVED BY

CHECKED BY

DESIGNED BY

Symbol for units and scale, showing a circle with a crosshair and a square.

Tolerance

He Qingjun

Deng Lei

Liao Guangxi

UNITS: mm

SCALE: 1/1

REVISION: H

X.X ±0.50

X.XX±0.15

X° ±3°



Antenna Specification

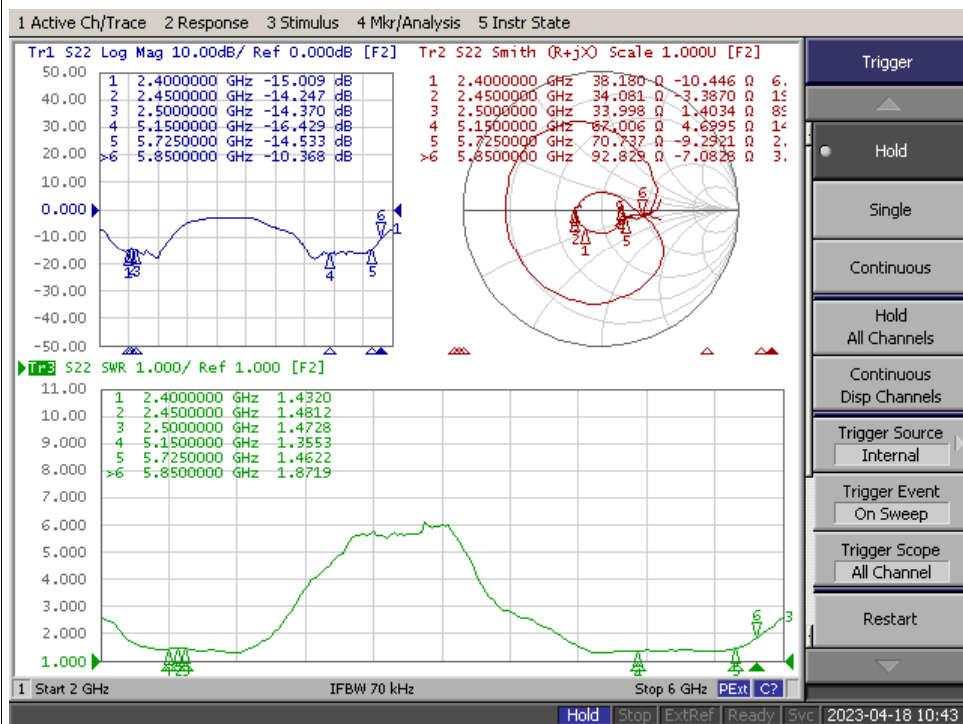
Electrical Properties	
Frequency	2.4-2.5GHz 5.15-5.85GHz
Impedance	50 Ohm Nominal
V.S.W.R	2.0 Max
Gain	4.2 dBi@2.4-2.5GHz 1.7 dBi@5.15-5.85GHz
Radiation	Omni-directional
Polarization	Linear
Physical Properties	
Connector	None
Cable Type	None
Cable Length	None
Cable Color	None
Operating Temp.	-40 ~ +85 °C
Storage Temp / Humidity	25±5°C / <70%





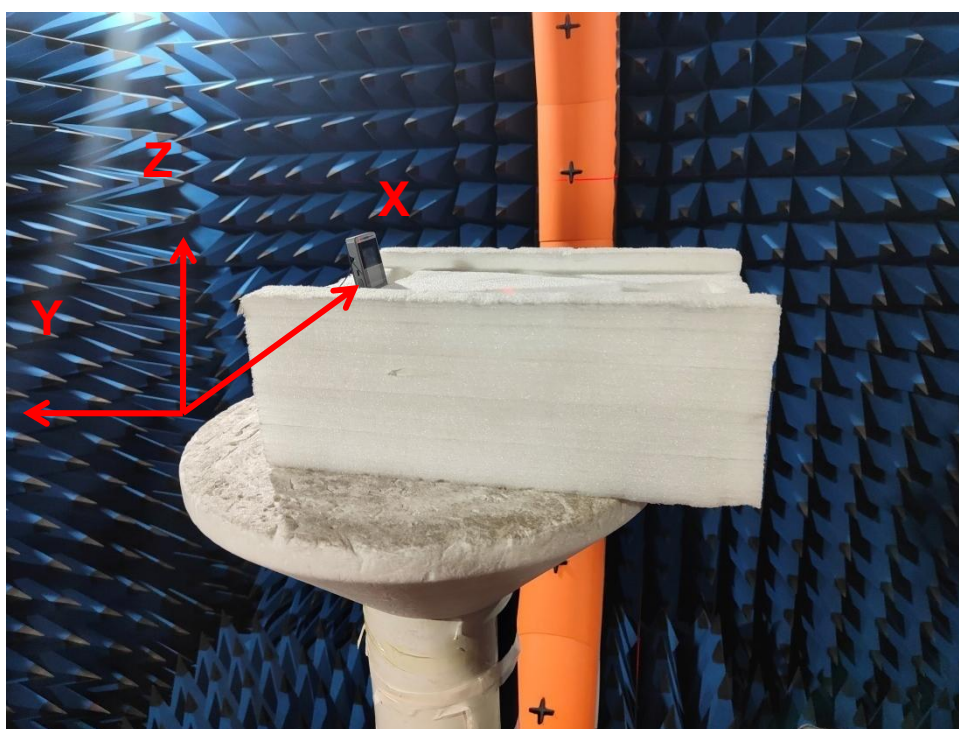
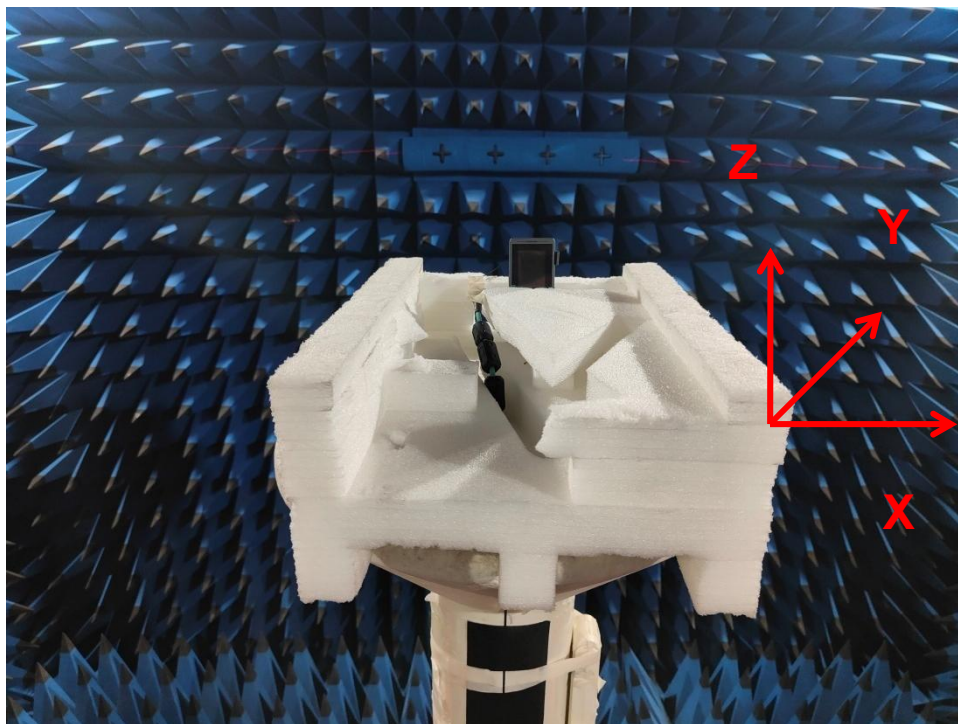
Antenna Performance Test

*Agilent
E5071B
S11
Parameter
Test //
WiFi
Antenna*





Antenna Passive Test





Passive Test For WiFi Antenna (2.4G)			
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	61.5	-2.1	3.8
2410	62.1	-2.1	3.7
2420	62.8	-2.0	3.7
2430	63.4	-2.0	3.8
2440	62.1	-2.1	3.6
2450	64.7	-1.9	4.0
2460	61.7	-2.1	3.8
2470	64.3	-1.9	4.2
2480	61.2	-2.1	3.8
2490	63.0	-2.0	4.0
2500	59.8	-2.2	3.7





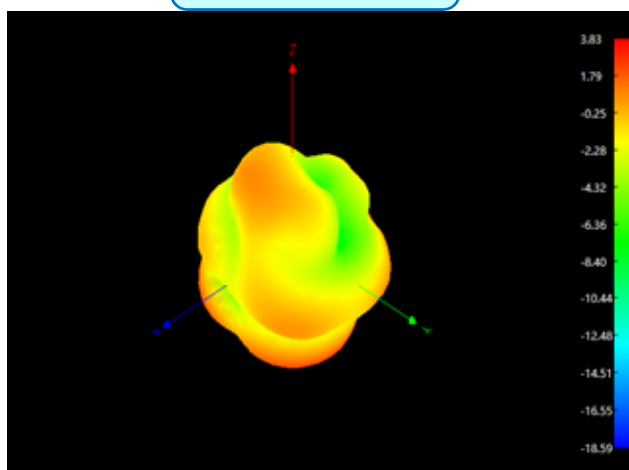
Passive Test For WiFi Antenna (5.8G)			
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
5150	54.5	-2.6	1.4
5200	56.6	-2.5	1.6
5250	51.9	-2.9	1.2
5300	49.8	-3.0	0.8
5350	50.5	-3.0	0.8
5400	55.9	-2.5	1.4
5450	55.9	-2.5	1.3
5500	51.8	-2.9	1.1
5550	57.7	-2.4	1.6
5600	58.8	-2.3	1.6
5650	56.0	-2.5	1.4
5700	54.0	-2.7	1.5
5750	52.6	-2.8	1.4
5800	51.9	-2.9	1.6
5850	51.4	-2.9	1.7



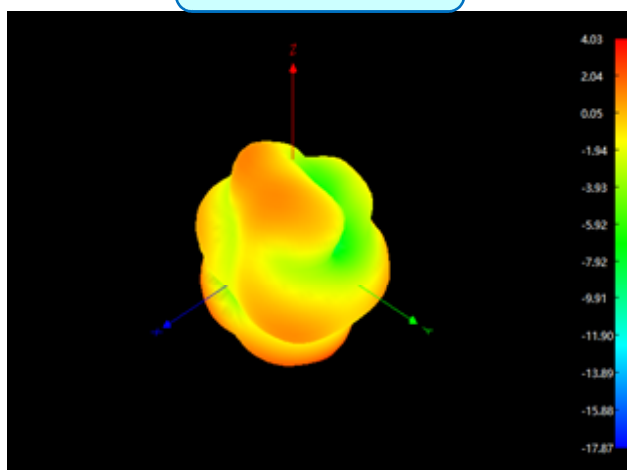


Radiation Pattern For WIFI Antenna

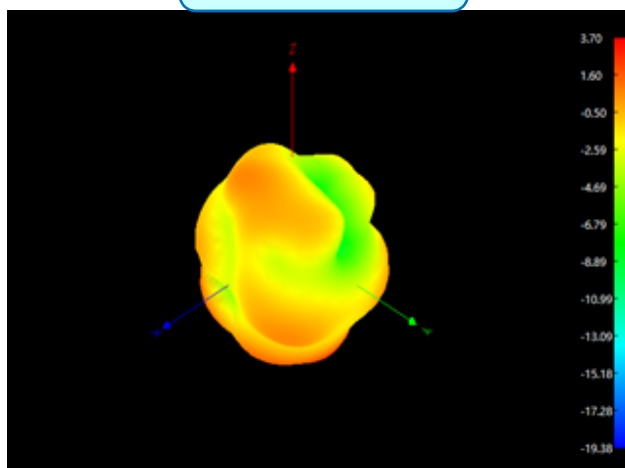
2400MHz



2450MHz

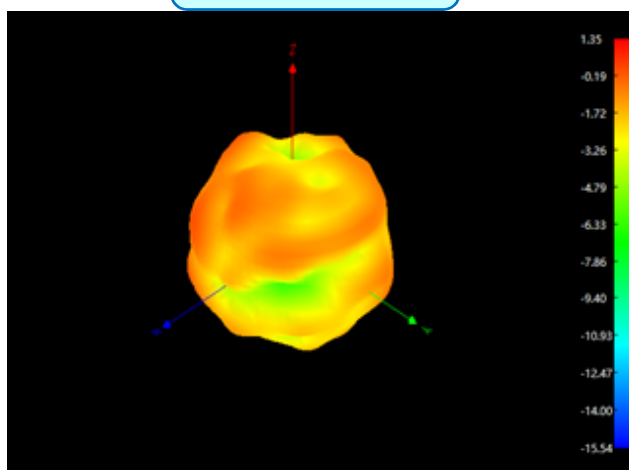


2500MHz

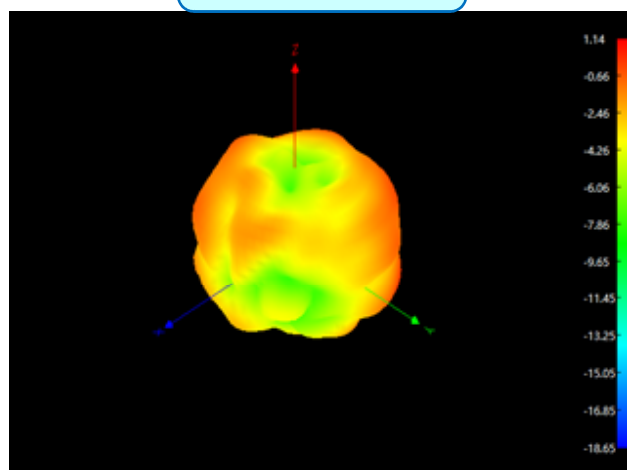




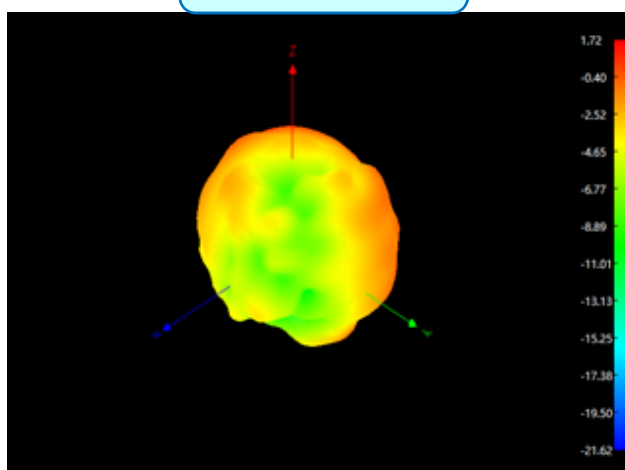
5150MHz



5500MHz

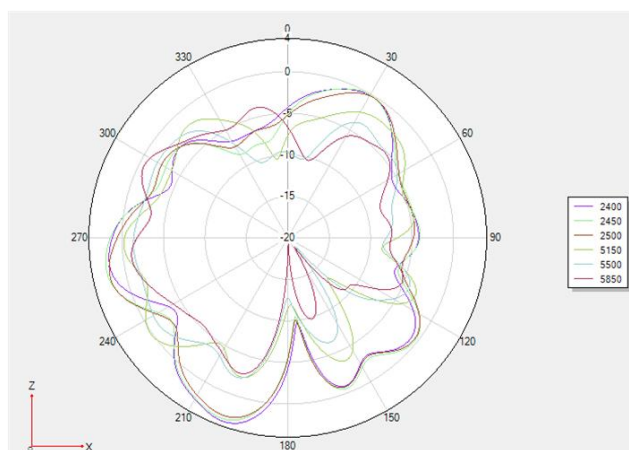


5850MHz

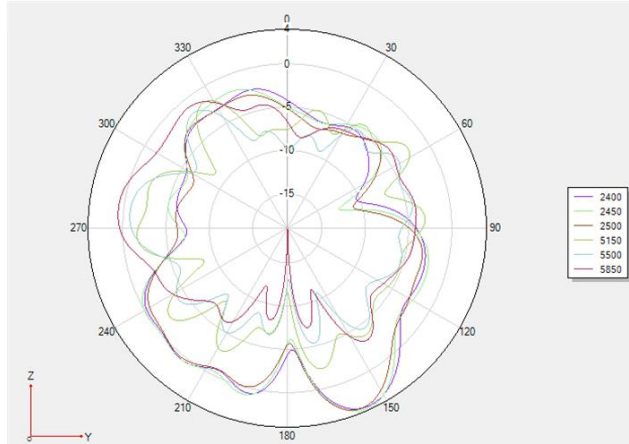




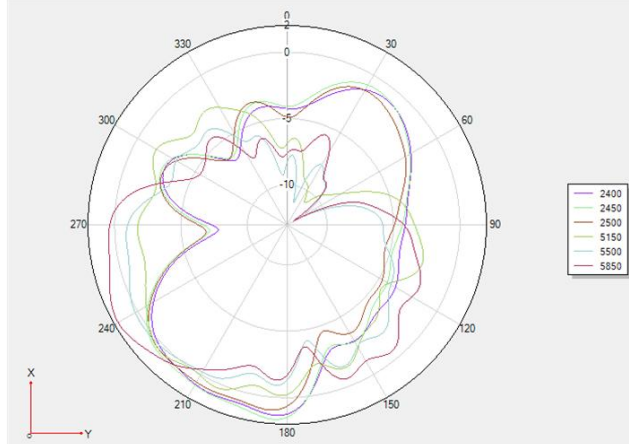
Phi 0°



Phi 90°

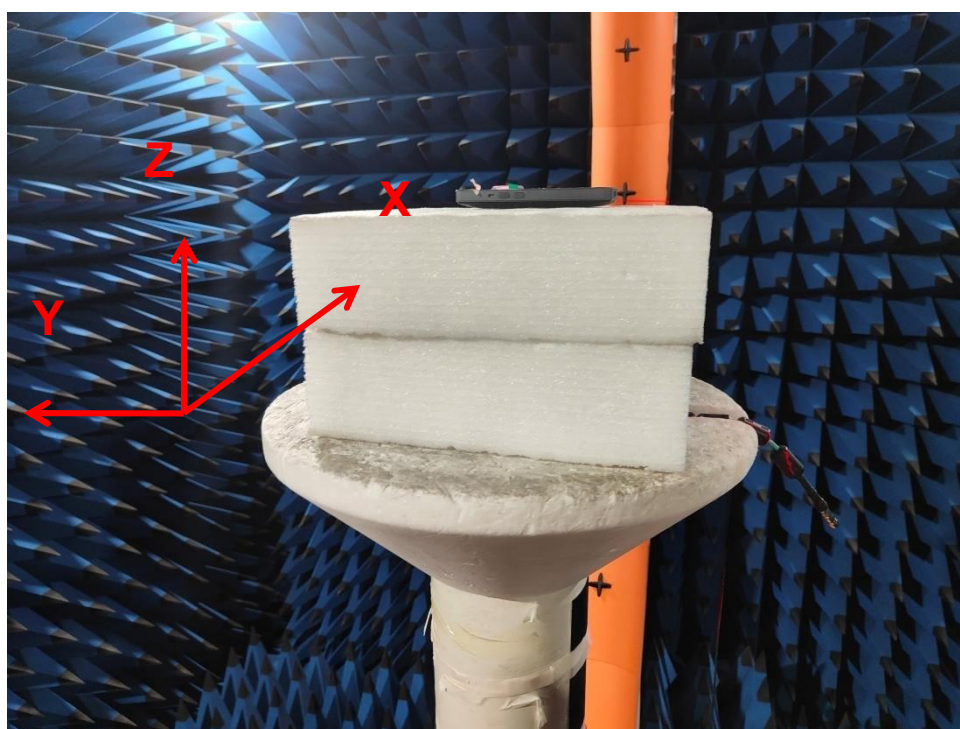
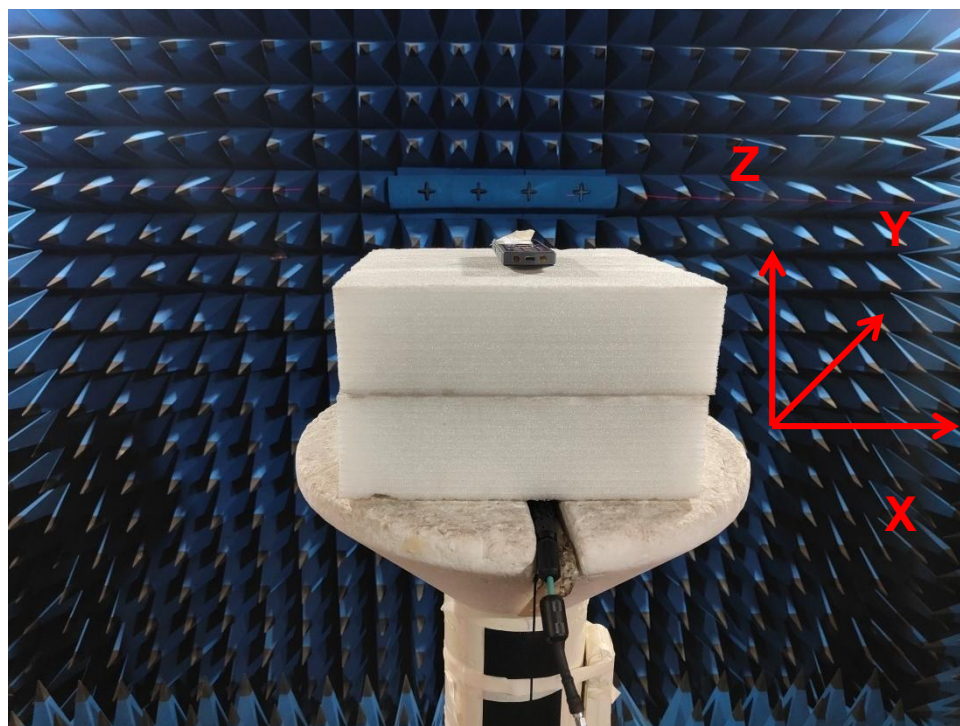


Theta 90°





Antenna Active Test





Active Test For WIFI Antenna							
Band	Channel	Data Rate	TRP	EIRP	Data Rate	TIS	EIS
WIFI 2.4G 802.11b	1	11Mbps	15.0	20.3	11Mbps	-86.3	-91.8
	6		15.1	19.9		-86.6	-91.9
	11		14.9	20.3		-86.7	-92.4
WIFI 5G 802.11a	149	6Mbps	14.3	19.5	54Mbps	-73.7	-78.3
	157		14.1	19.3		-73.9	-78.5
	161		13.8	19.3		-73.2	-78.1





东莞市一佳电子通讯科技有限公司
DONGGUAN YIJIA ELECTRONICS COMMUNICATION TECHNOLOGY CO., LTD

Device



Yuanfu Industrial Park, No.59, Muyu Road, Shatou Community, Chang'an Town, Dongguan, Guangdong



东莞市一佳电子通讯科技有限公司
DONGGUAN YIJIA ELECTRONICS COMMUNICATION TECHNOLOGY CO., LTD

WiFi Antenna



Yuanfu Industrial Park, No.59, Muyu Road, Shatou Community, Chang'an Town, Dongguan, Guangdong