



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

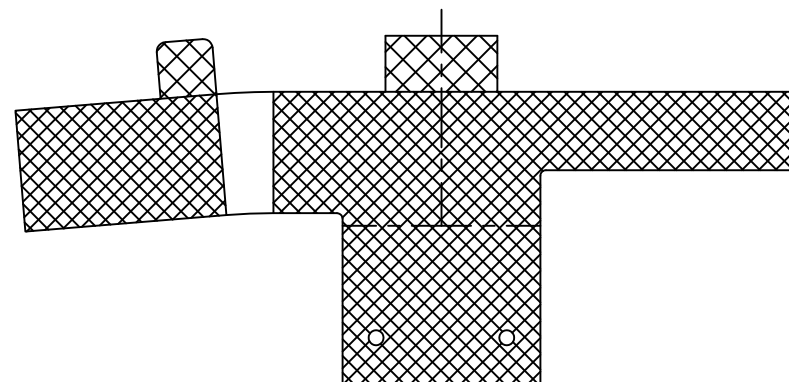
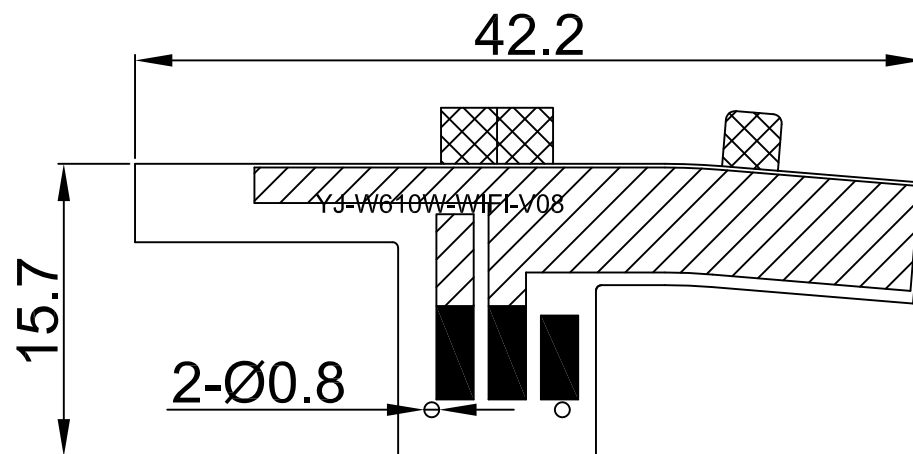
Modify the route

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



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

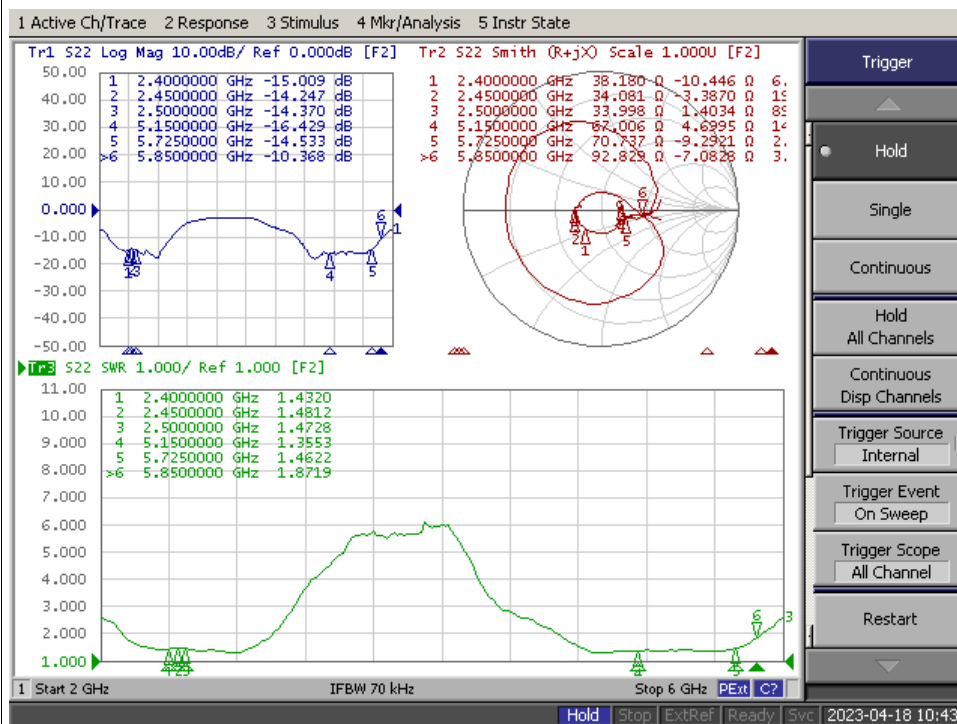
Electrical Properties	
Frequency	2.4-2.5GHz 5.15-5.85GHz
Impedance	50 Ohm Nominal
V.S.W.R	2.0 Max
Gain	4.2 dBi@2.4-2.5GHz 1.7 dBi@5.15-5.85GHz
Radiation	Omni-directional
Polarization	Linear
Physical Properties	
Connector	None
Cable Type	None
Cable Length	None
Cable Color	None
Operating Temp.	-40 ~ +85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





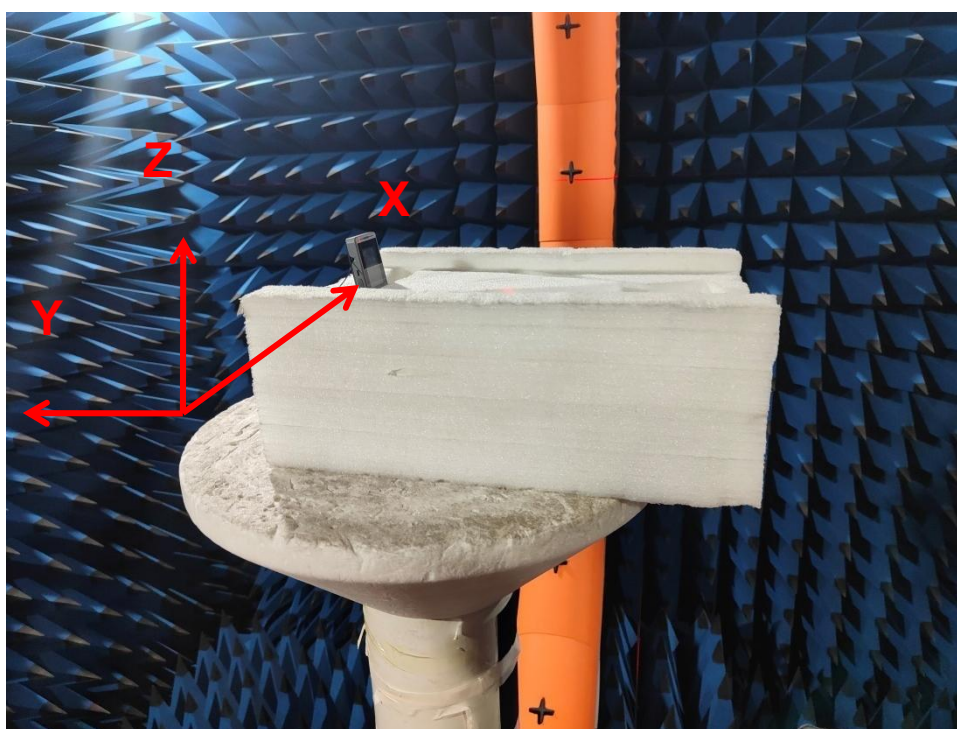
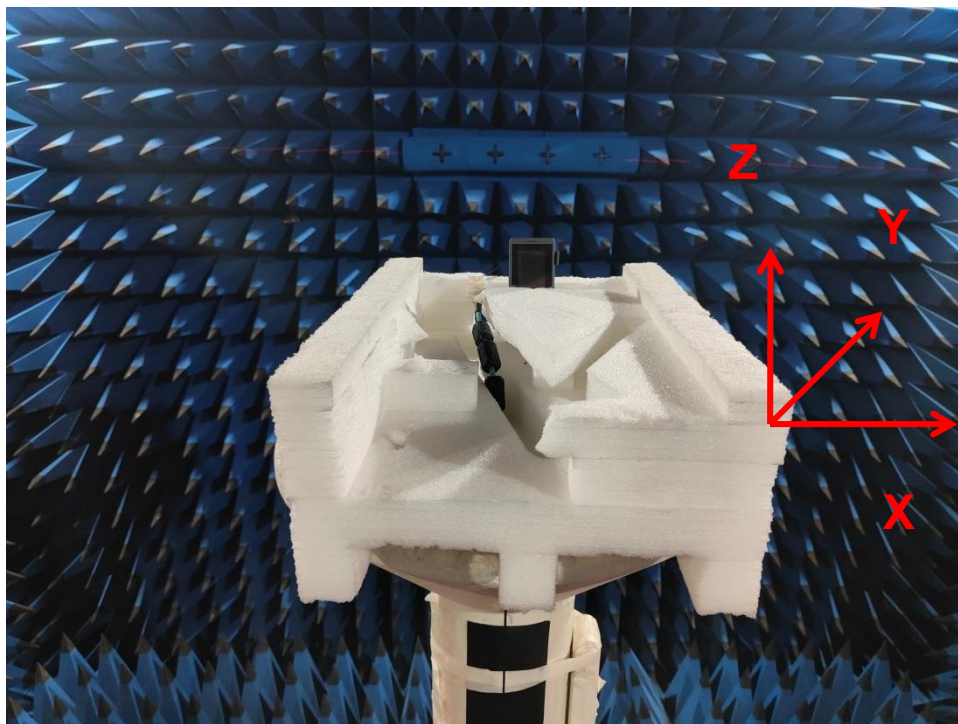
Antenna Performance Test

*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





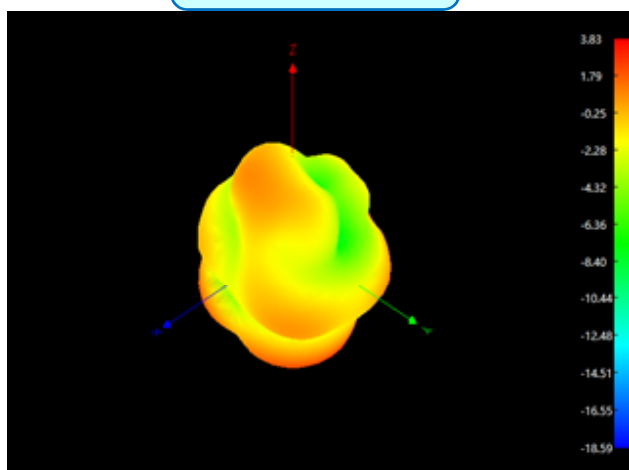
Passive Test For WiFi Antenna (5.8G)			
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
5150	54.5	-2.6	1.4
5200	56.6	-2.5	1.6
5250	51.9	-2.9	1.2
5300	49.8	-3.0	0.8
5350	50.5	-3.0	0.8
5400	55.9	-2.5	1.4
5450	55.9	-2.5	1.3
5500	51.8	-2.9	1.1
5550	57.7	-2.4	1.6
5600	58.8	-2.3	1.6
5650	56.0	-2.5	1.4
5700	54.0	-2.7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



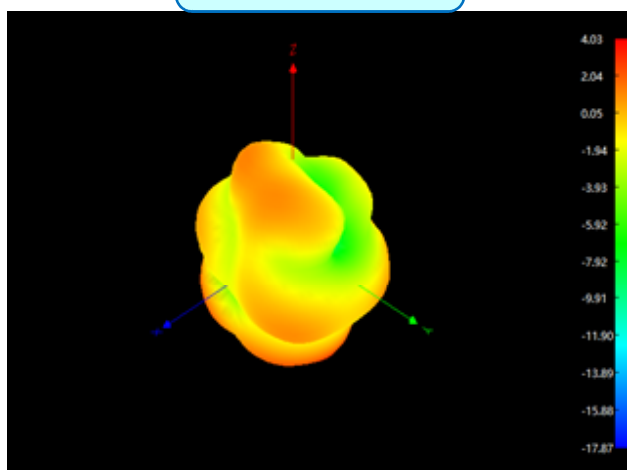


Radiation Pattern For WIFI Antenna

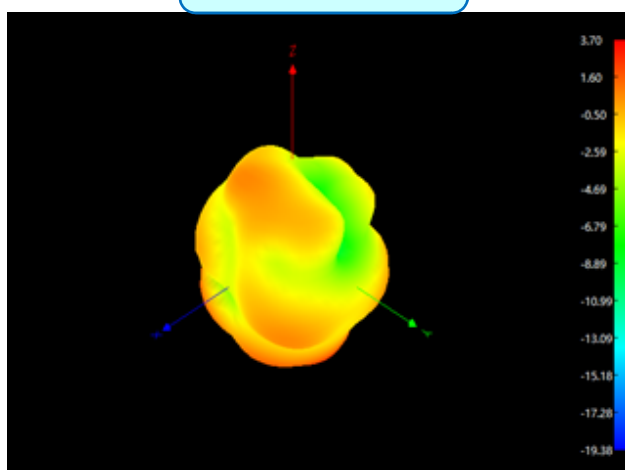
2400MHz



2450MHz

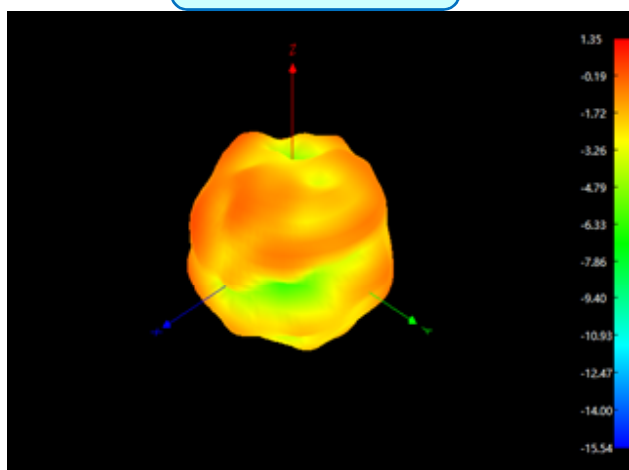


2500MHz

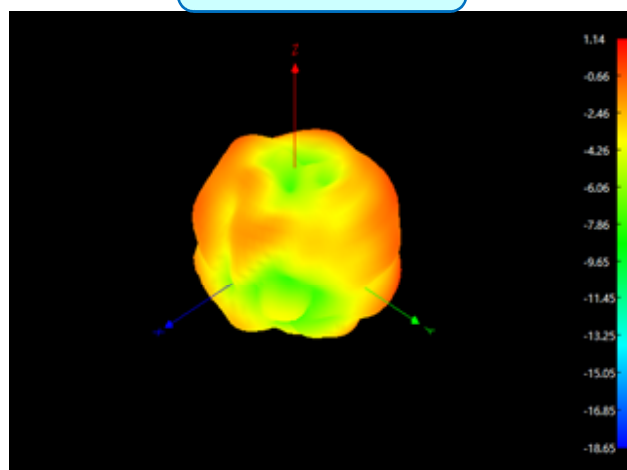




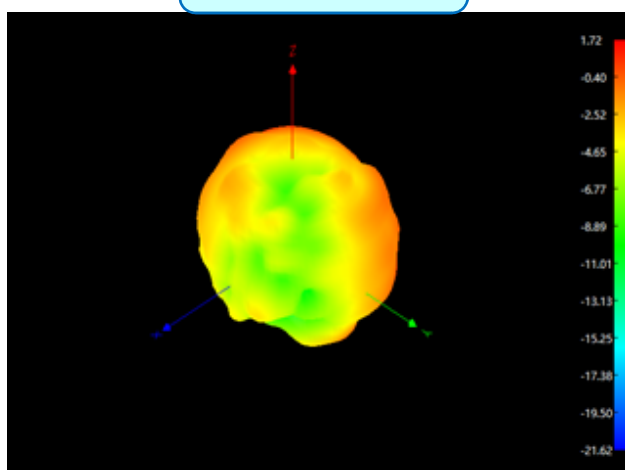
5150MHz



5500MHz

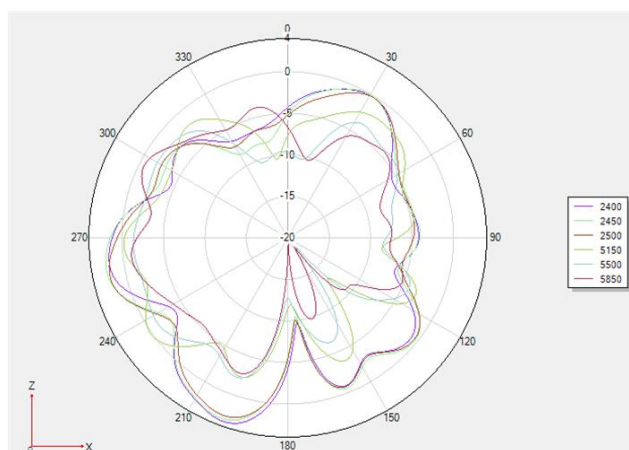


5850MHz

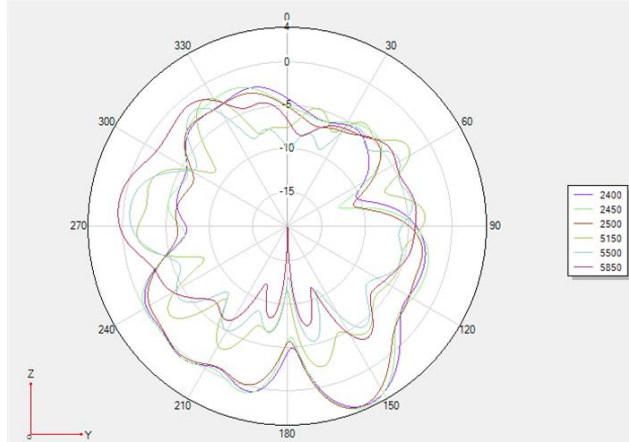




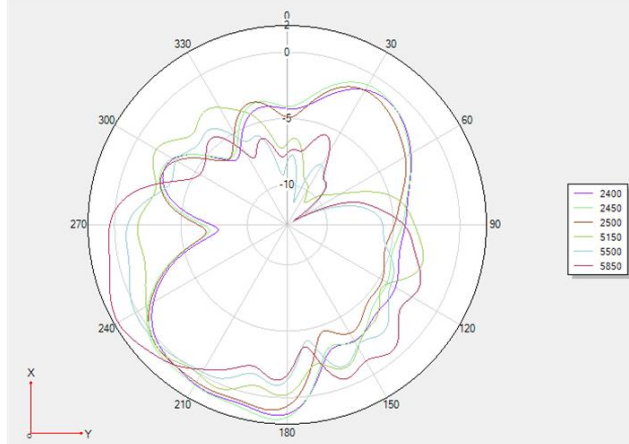
Phi 0°



Phi 90°

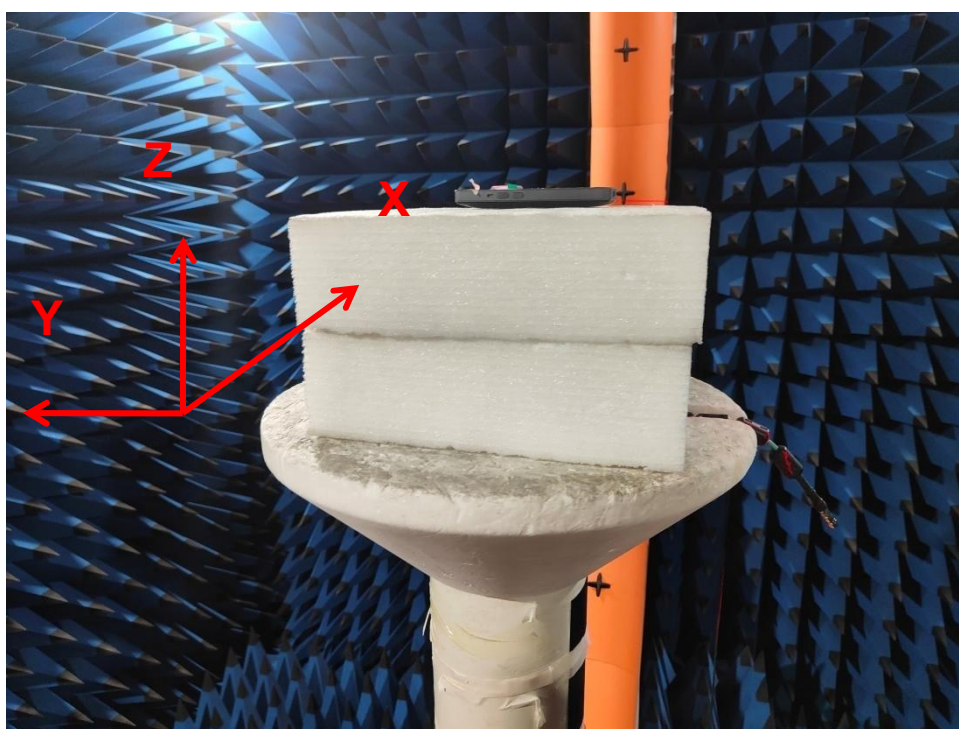
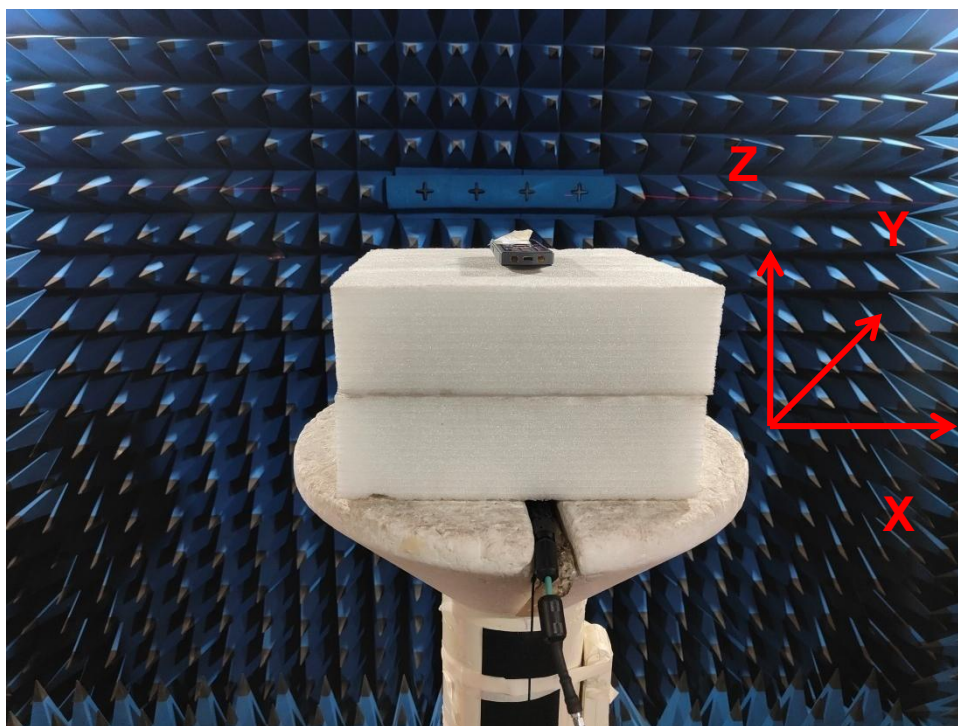


Theta 90°





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





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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



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