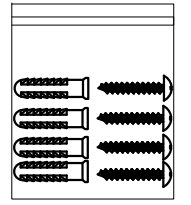
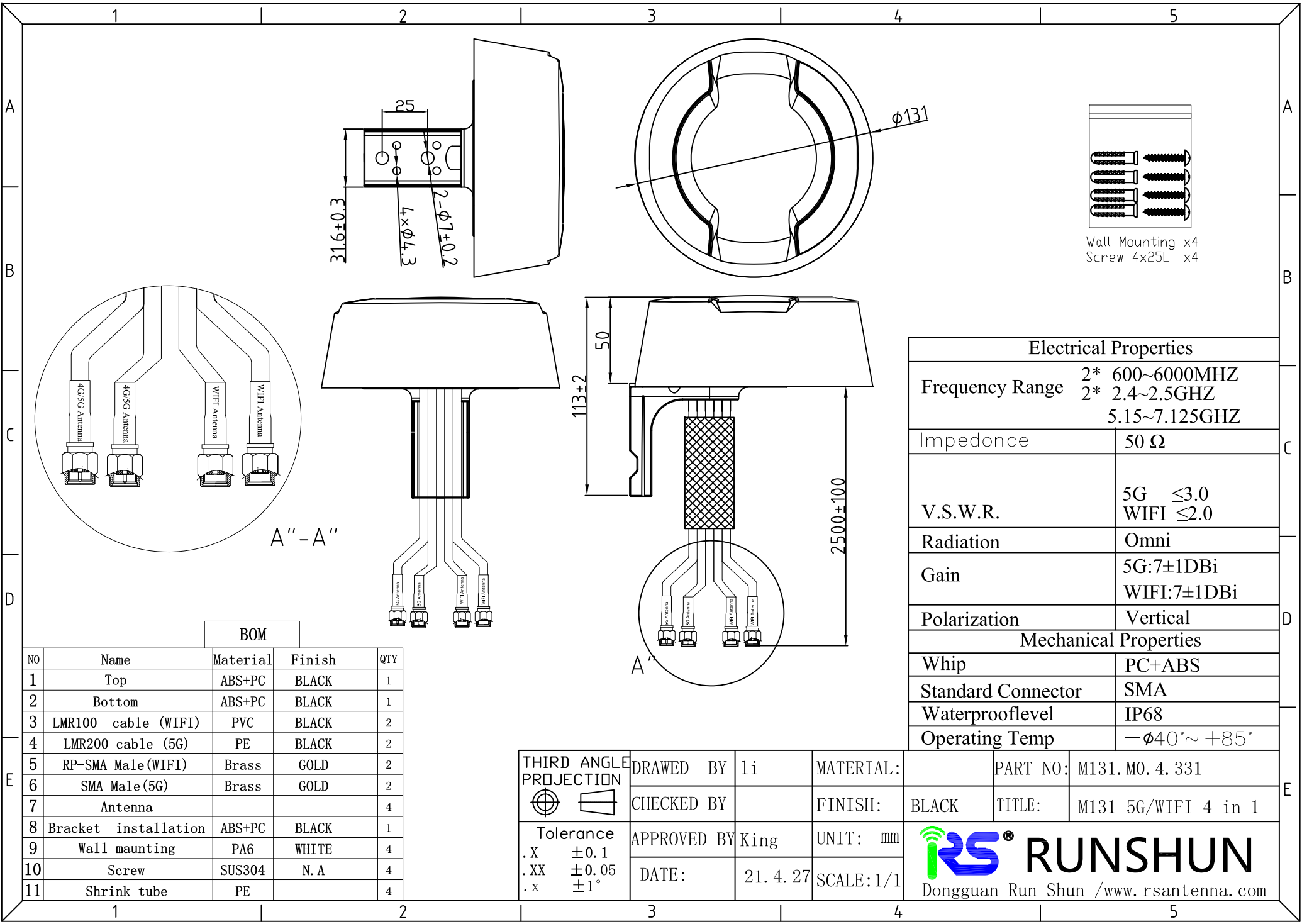


***M131.M0.4.333***  
***5G/WIFI/4 IN 1 Antenna***  
***test report***

*Version: V 1.1*

*Released Date: 2020/09/07*



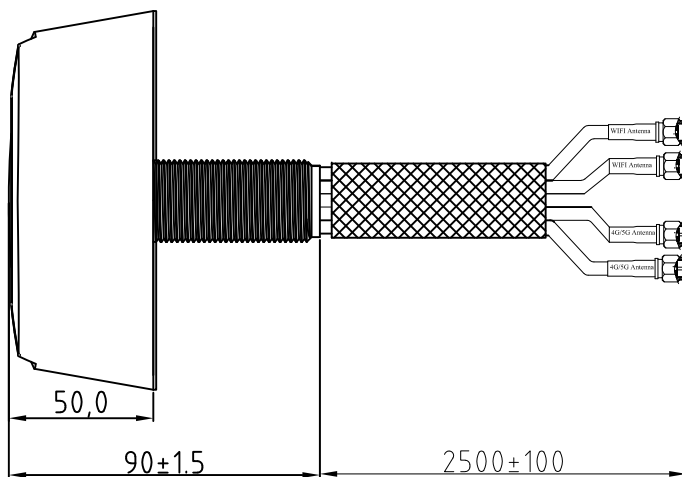
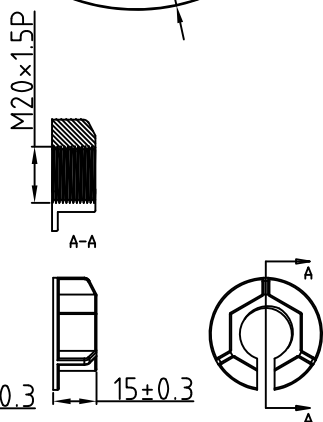
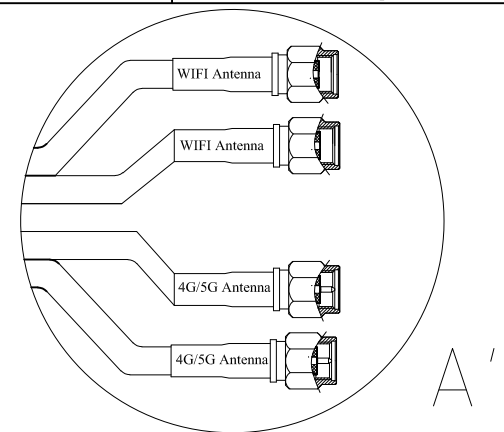
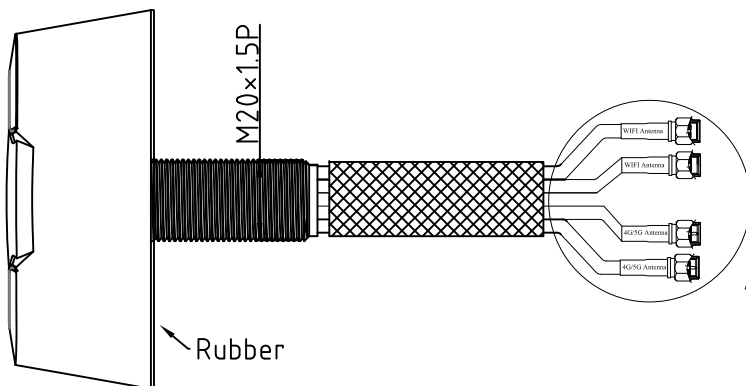
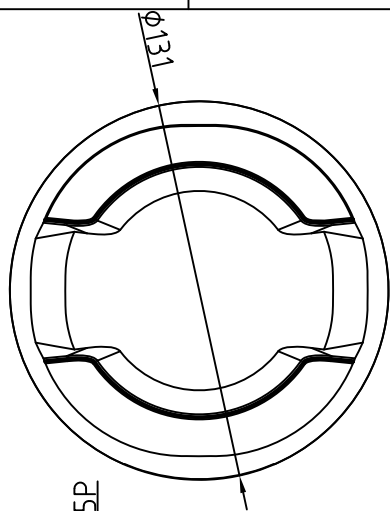
Wall Mounting x4  
Screw 4x25L x4

Electrical Properties	
Frequency Range	2* 600~6000MHZ 2* 2.4~2.5GHZ 5.15~7.125GHZ
Impedance	50 Ω
V.S.W.R.	5G ≤3.0 WIFI ≤2.0
Radiation	Omni
Gain	5G:7±1DBi WIFI:7±1DBi
Polarization	Vertical
Mechanical Properties	
Whip	PC+ABS
Standard Connector	SMA
Waterprooflevel	IP68
Operating Temp	-φ40°~ +85°

BOM				
NO	Name	Material	Finish	QTY
1	Top	ABS+PC	BLACK	1
2	Bottom	ABS+PC	BLACK	1
3	LMR100 cable (WIFI)	PVC	BLACK	2
4	LMR200 cable (5G)	PE	BLACK	2
5	RP-SMA Male (WIFI)	Brass	GOLD	2
6	SMA Male (5G)	Brass	GOLD	2
7	Antenna			4
8	Bracket installation	ABS+PC	BLACK	1
9	Wall maunting	PA6	WHITE	4
10	Screw	SUS304	N. A	4
11	Shrink tube	PE		4

THIRD ANGLE PROJECTION 	DRAWN BY	li	MATERIAL:		PART NO:	M131.M0.4.331
	CHECKED BY		FINISH:	BLACK	TITLE:	M131 5G/WIFI 4 in 1
	Tolerance		APPROVED BY	King	UNIT:	mm
	.X ±0.1 .XX ±0.05 .x ±1°	DATE:	21.4.27	SCALE:	1/1	

**RUNSHUN**  
Dongguan Run Shun /www.rsantenna.com

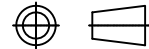


Electrical Properties	
Frequency Range	2* 600~6000MHZ 2* 2.4~2.5GHZ 5.15~7.125GHZ
Impedance	50 Ω
V.S.W.R.	5G ≤3.0 WIFI ≤2.0
Radiation	Omni
Gain	5G:7±1DBi WIFI:7±1DBi
Polarization	Vertical
Mechanical Properties	
Whip	PC+ABS
Standard Connector	SMA
Waterprooflevel	IP68
Operating Temp	-φ40°~ +85°

BOM

NO	Name	Material	Finish	QTY
1	Top	ABS+PC	BLACK	1
2	Bottom	ABS+PC	BLACK	1
3	LMR100 Cable(WIFI)	PVC	BLACK	2
4	LMR200 Cable(5G)	PE	BLACK	2
5	RP-SMA Male(WIFI)	Brass	GOLD	2
6	SMA Male(5G)	Brass	GOLD	2
7	Antenna			4
8	Screw installation	ABS+PC	BLACK	1
9	NUT	PA66	BLACK	1
10	Shrink tube	PE		4

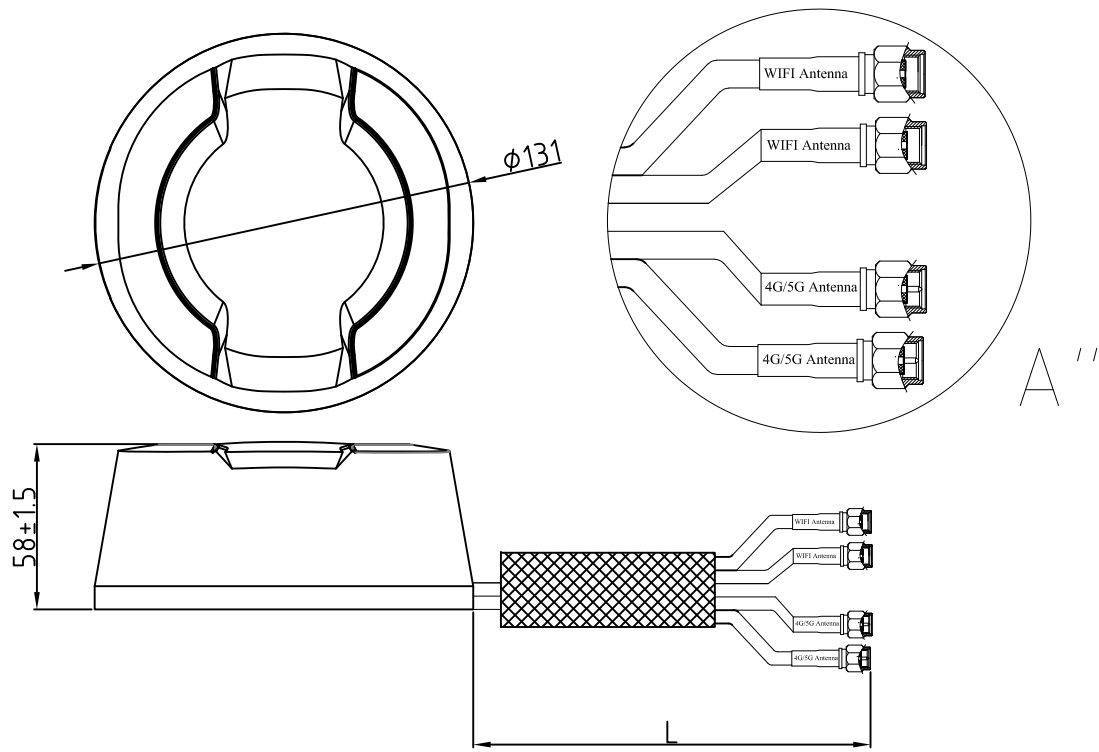
THIRD ANGLE PROJECTION



Tolerance	
.X	±0.1
.XX	±0.05
.x	±1°

DRAWN BY	li	MATERIAL:		PART NO:	M131.M0.4.332
CHECKED BY		FINISH:	BLACK	TITLE:	M131 5G/WIFI 4 in 1
APPROVED BY	King	UNIT:	mm		
DATE:	21.4.27	SCALE:	1/1		





Electrical Properties	
Frequency Range	2* 600~6000MHZ 2* 2.4~2.5GHZ 5.15~7.125GHZ
Impedance	50 Ω
V.S.W.R.	5G ≤3.0 WIFI ≤2.0
Radiation	Omni
Gain	5G:7±1DBi WIFI:7±1DBi
Polarization	Vertical
Mechanical Properties	
Whip	PC+ABS
Standard Connector	SMA
Waterprooflevel	IP68
Operating Temp	-φ40°~ +85°

BOM

NO	Name	Material	Finish	QTY
1	Top	ABS+PC	BLACK	1
2	Bottom	ABS+PC	BLACK	1
3	LMR100 Cable(WIFI)	PVC	BLACK	2
4	LMR200 Cable(5G)	PE	BLACK	2
5	RP-SMA Male(WIFI)	Brass	GOLD	2
6	SMA Male(5G)	Brass	GOLD	2
7	Antenna			4
8	Magnetic Bottom cover	ABS+PC	BLACK	1
9	Magnetic	NdFeB	Silver	3
10	Shrink tube	PE		4

<b>THIRD ANGLE PROJECTION</b>  Tolerance .X ±0.1 .XX ±0.05 .x ±1°	DRAWN BY	li	MATERIAL:		PART NO:	M131.M0.4.333
	CHECKED BY		FINISH:	BLACK	TITLE:	M131 5G/WIFI 4 in 1
	APPROVED BY	King	UNIT:	mm	<b>RUNSHUN</b> Dongguan Run Shun /www.rsantenna.com	
	DATE:	21.4.27	SCALE:	1/1		

## *Contents*

- Revised History
- Specification
- Antenna Placement & Solution
- Return Loss & Isolation Results
- Test Setup
- Efficiency & PeakGain & Gain Table
- 2D Radiation Pattern Results

## Revision History

Released Date	Version	Record
2020/08/25	1.0	Antenna test report
2020/09/07	1.1	Increase Antenna Frequency to 6GHz

# Specification

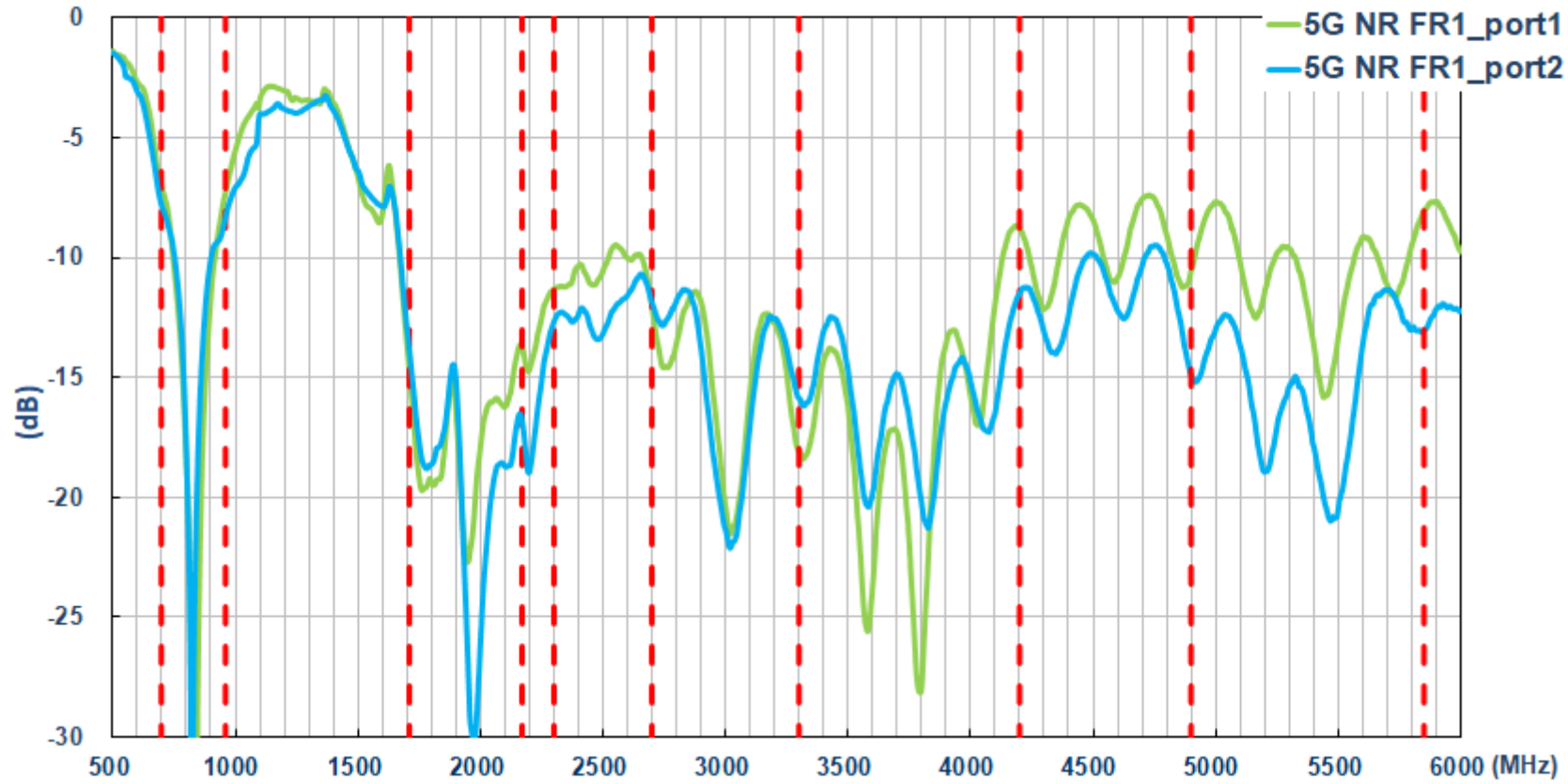
## Requirements of Antenna Design

RF Function	Number of ANT	Frequency Band	Remark
5G NR FR1	2	698~960/1710~2690/3300~4200/5150~5850MHz	
WIFI	2	2400~2500/5150~5850MHz	

## Requirements of Measurement

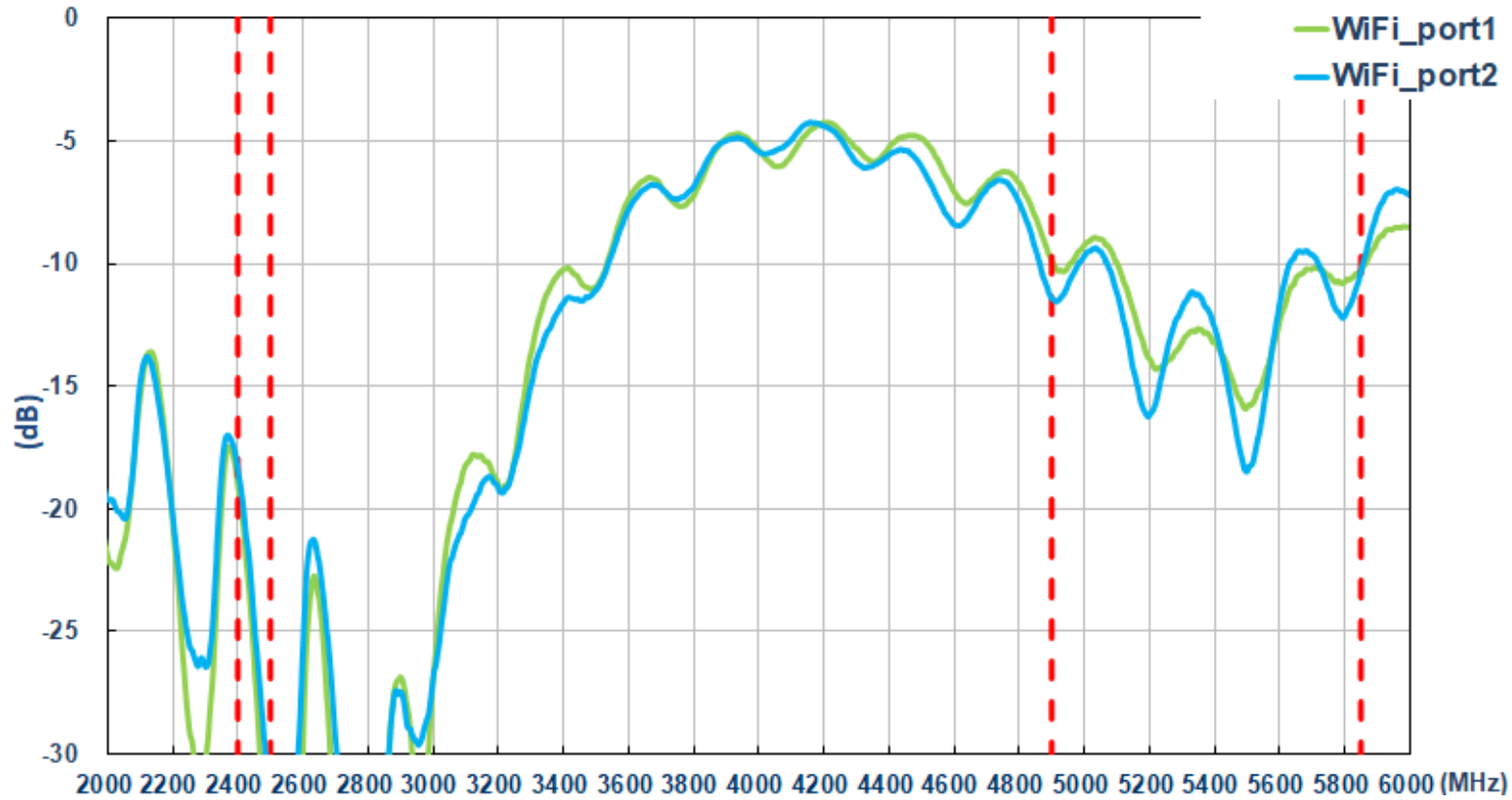
Test Item	Specification	Remark
Return Loss	<-8dB@5G NR FR1 <-10dB@WiFi	
Peak gain (without cable loss)	5G : 2dBi@698~960MHz; 4dBi@1710~2690MHz; 5dBi@3300~3800MHz; 6dBi@5150~5850MHz WiFi: 2dBi@2400~2500MHz; 6dBi@5150~5850MHz	
Efficiency (without cable loss)	5G : 50~80%@698~960; 50~80%@1710~2690; 45~70%@3300~3800; 45~70%@5150~5850 WiFi: 50~60%@2400~2500MHz; 50~80%@5150~5850MHz	

# Return Loss\_5G

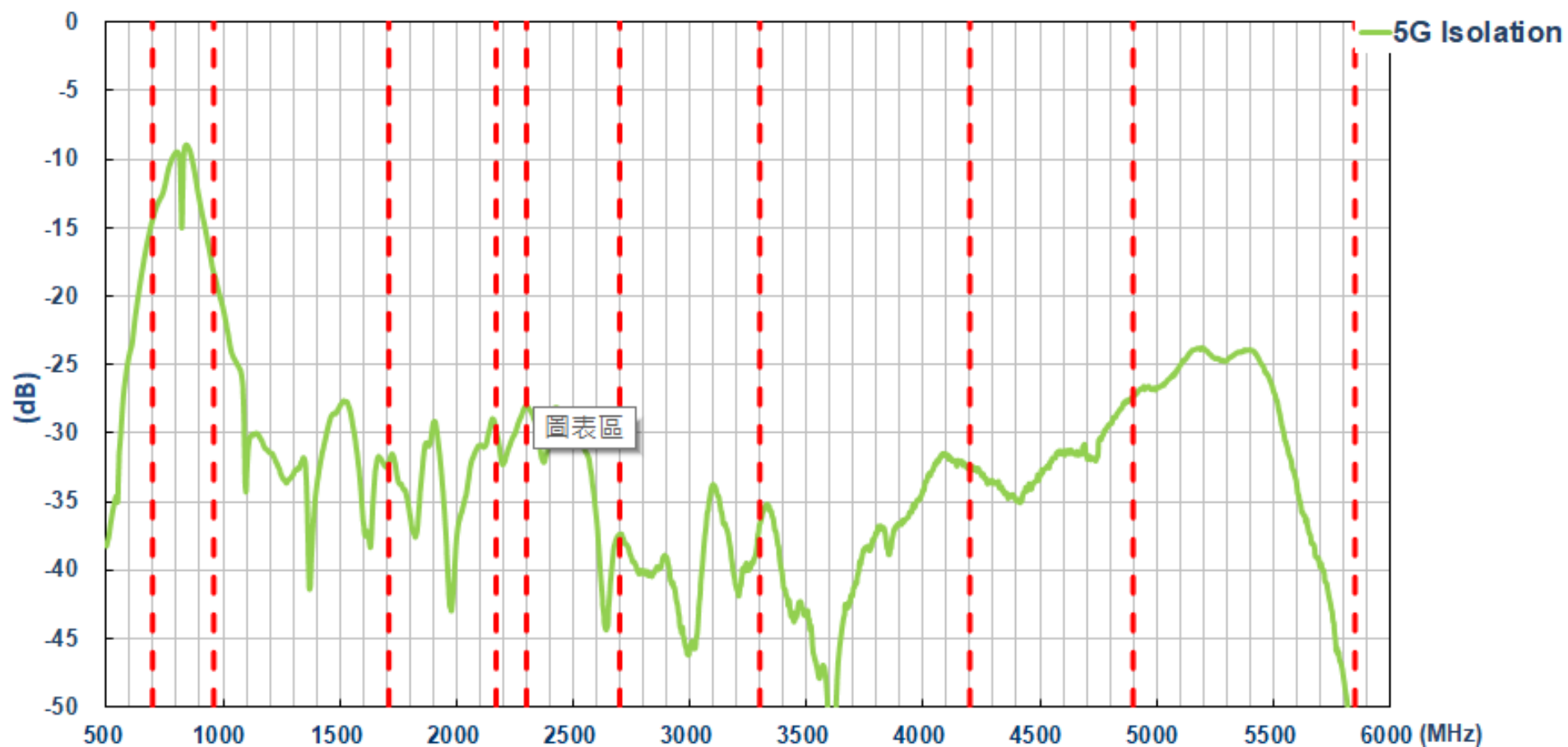




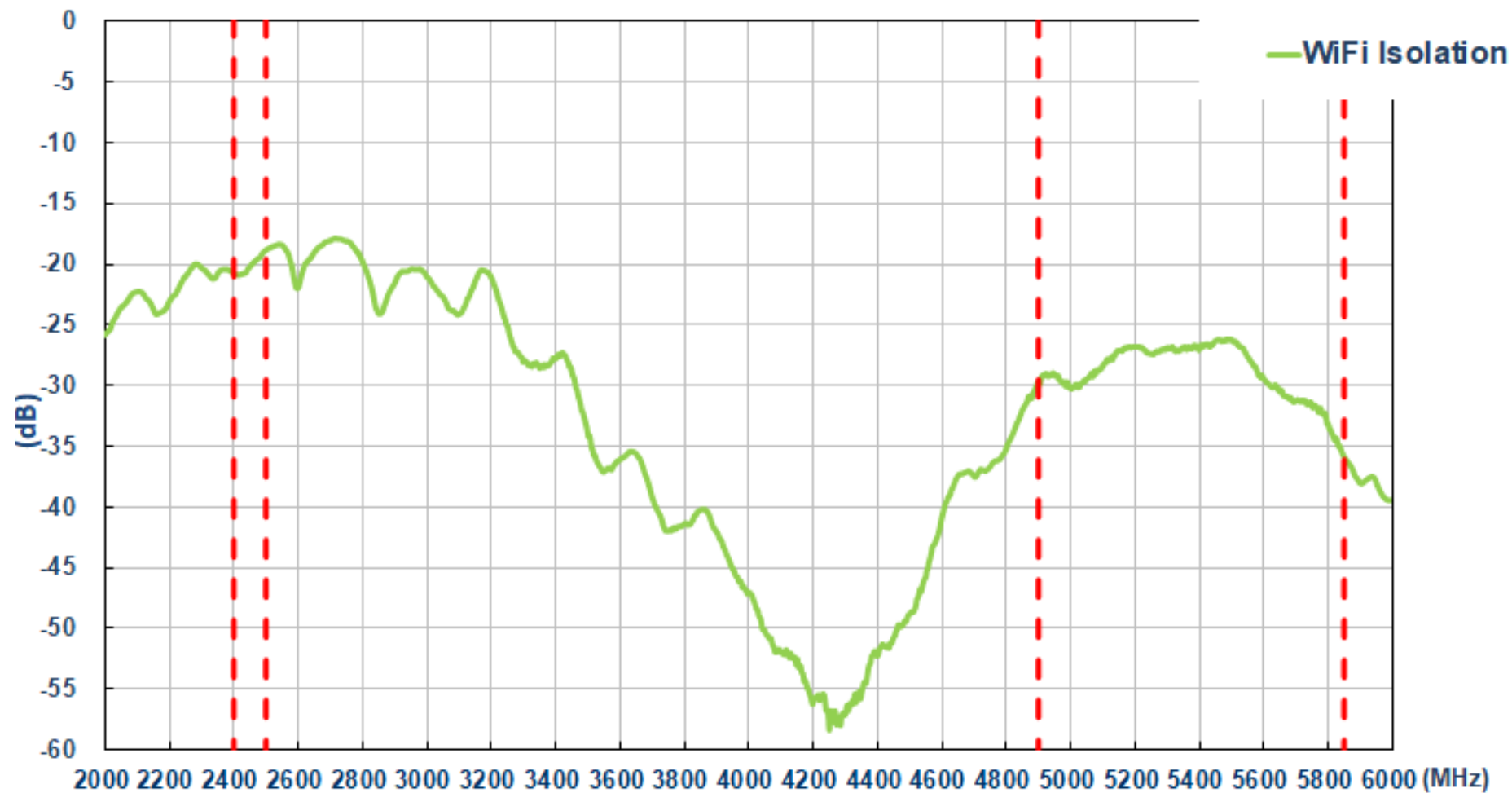
# Return Loss\_WiFi



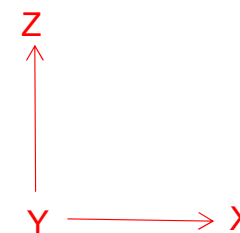
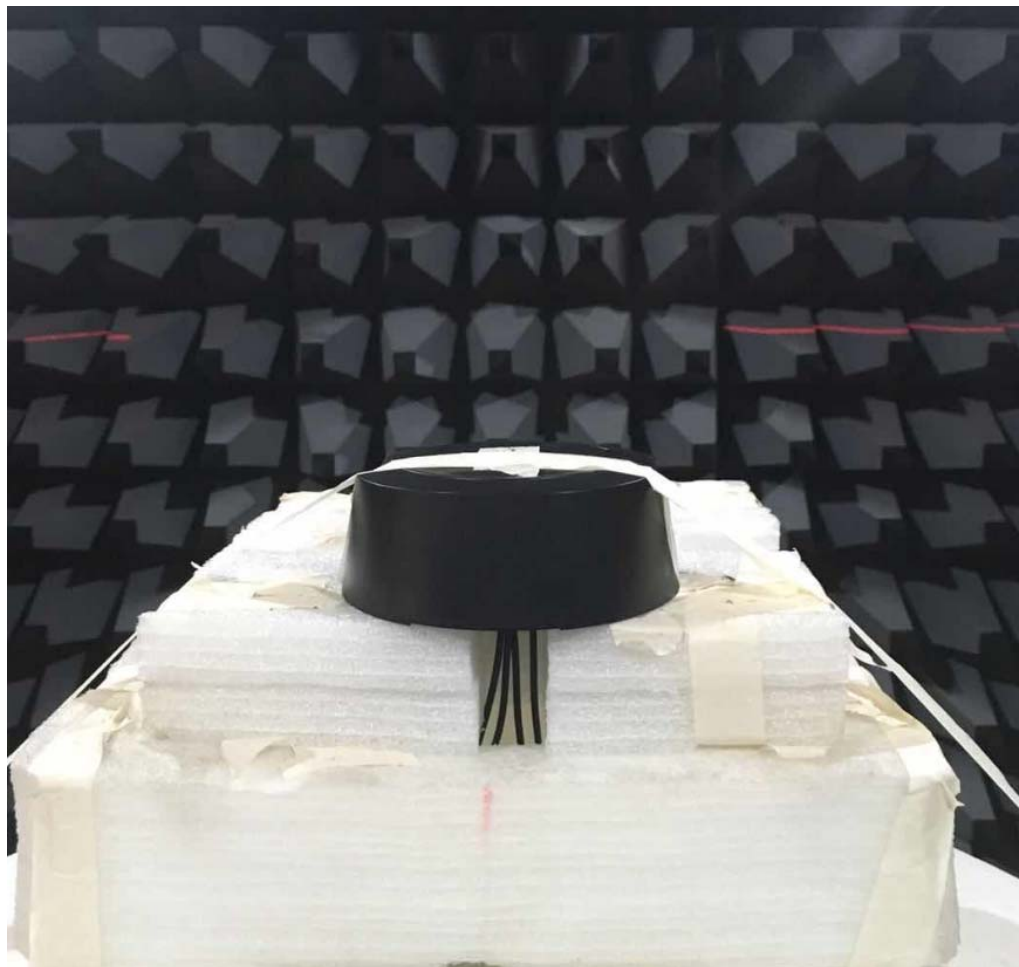
# Isolation\_5G



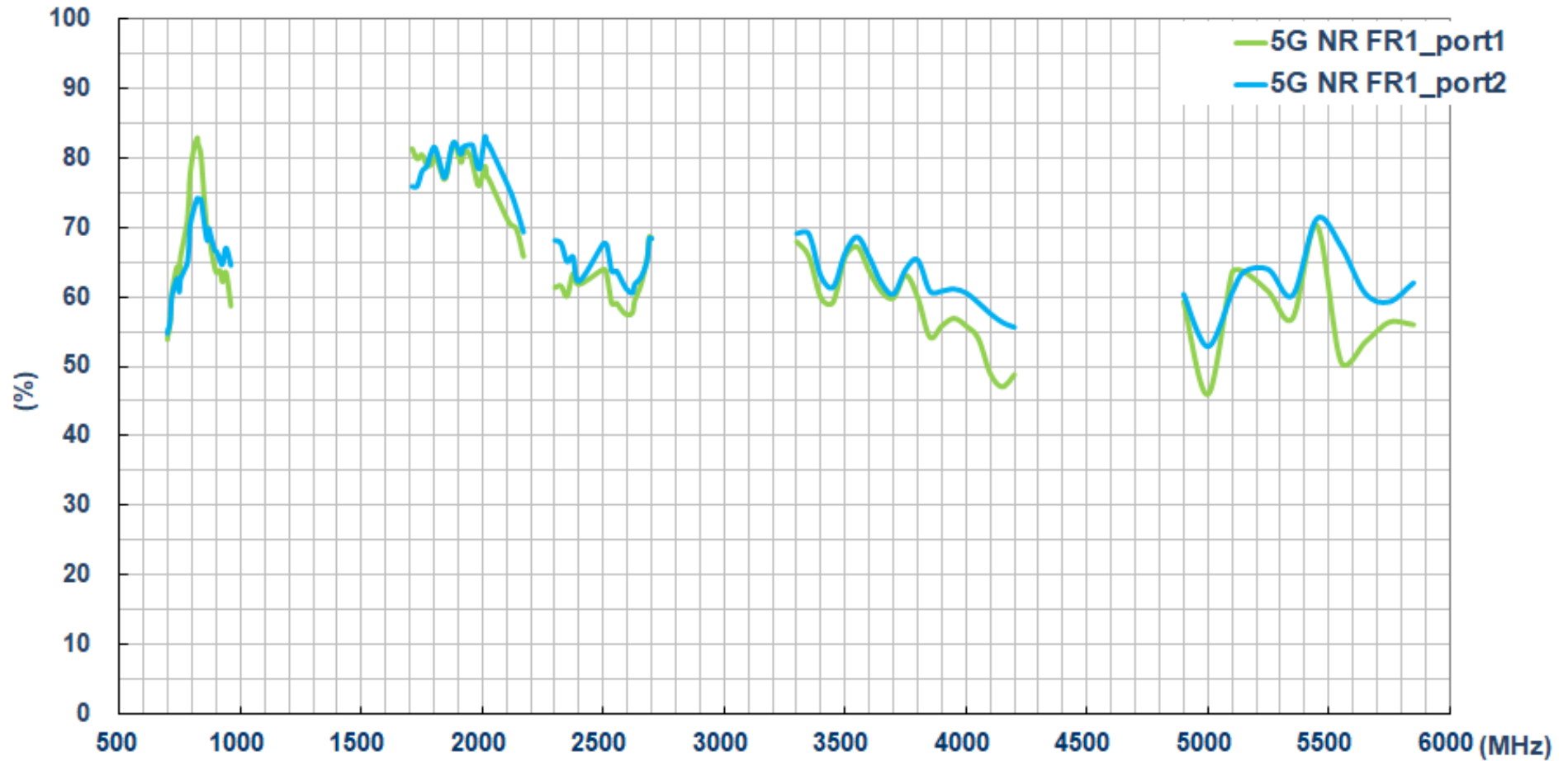
# Isolation\_WiFi



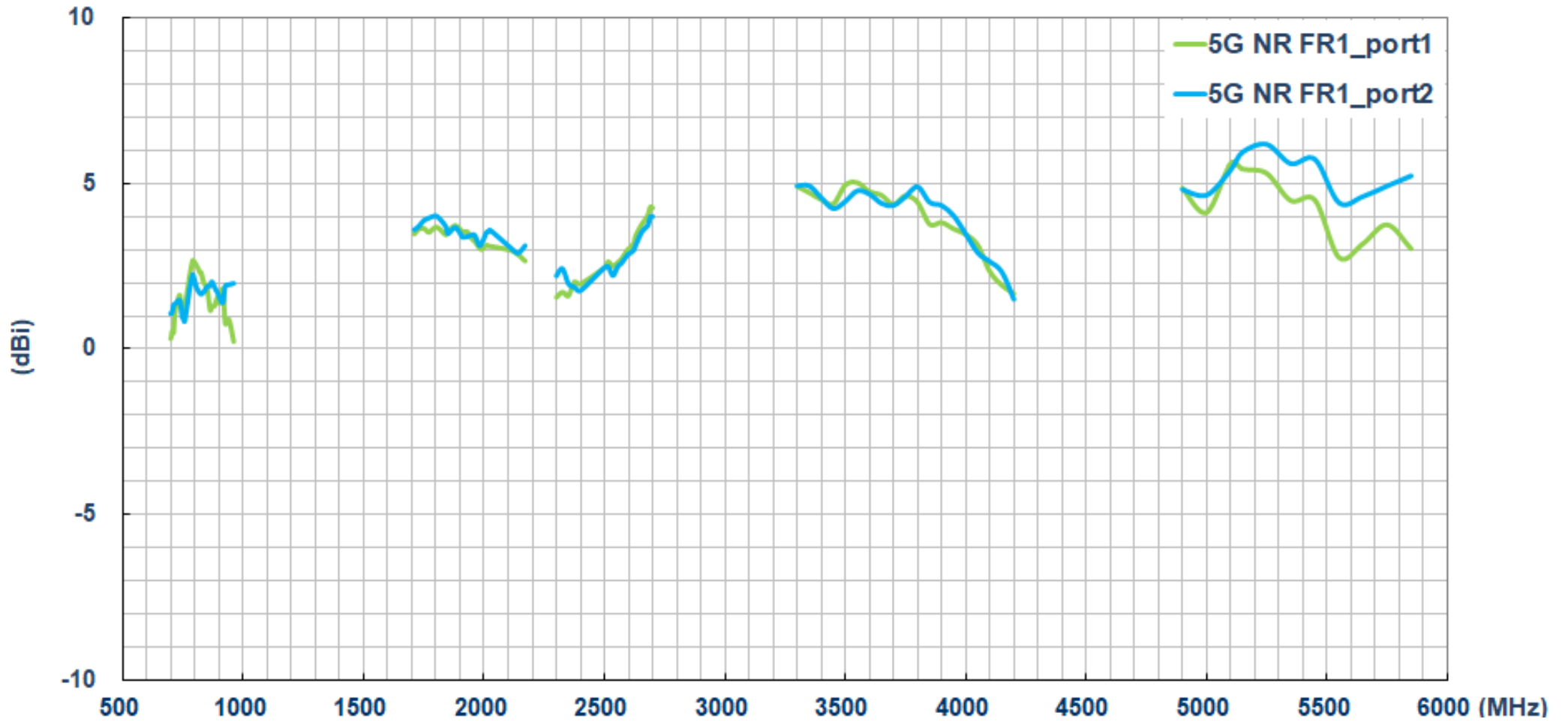
## Test Setup



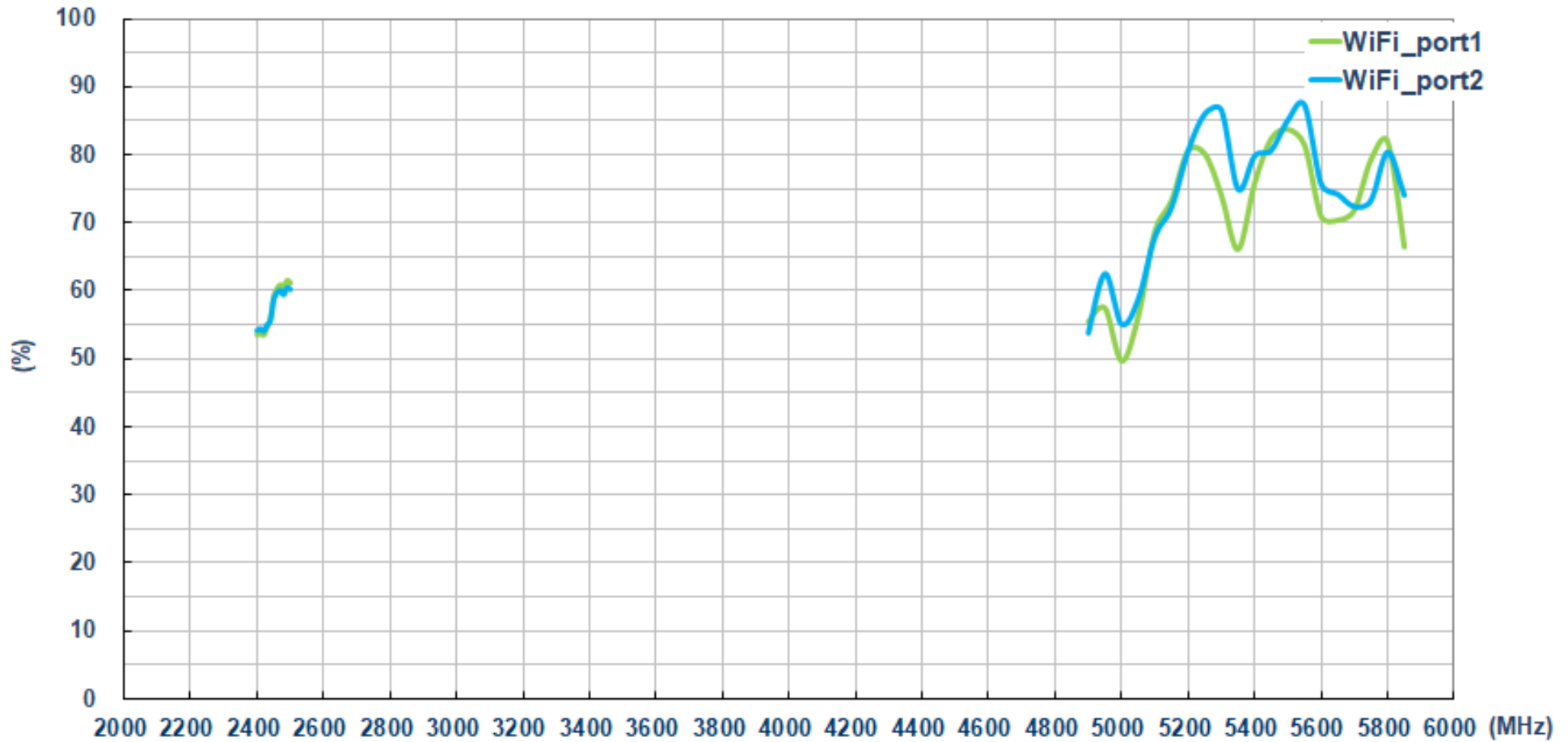
# Efficiency\_5G NR FR1



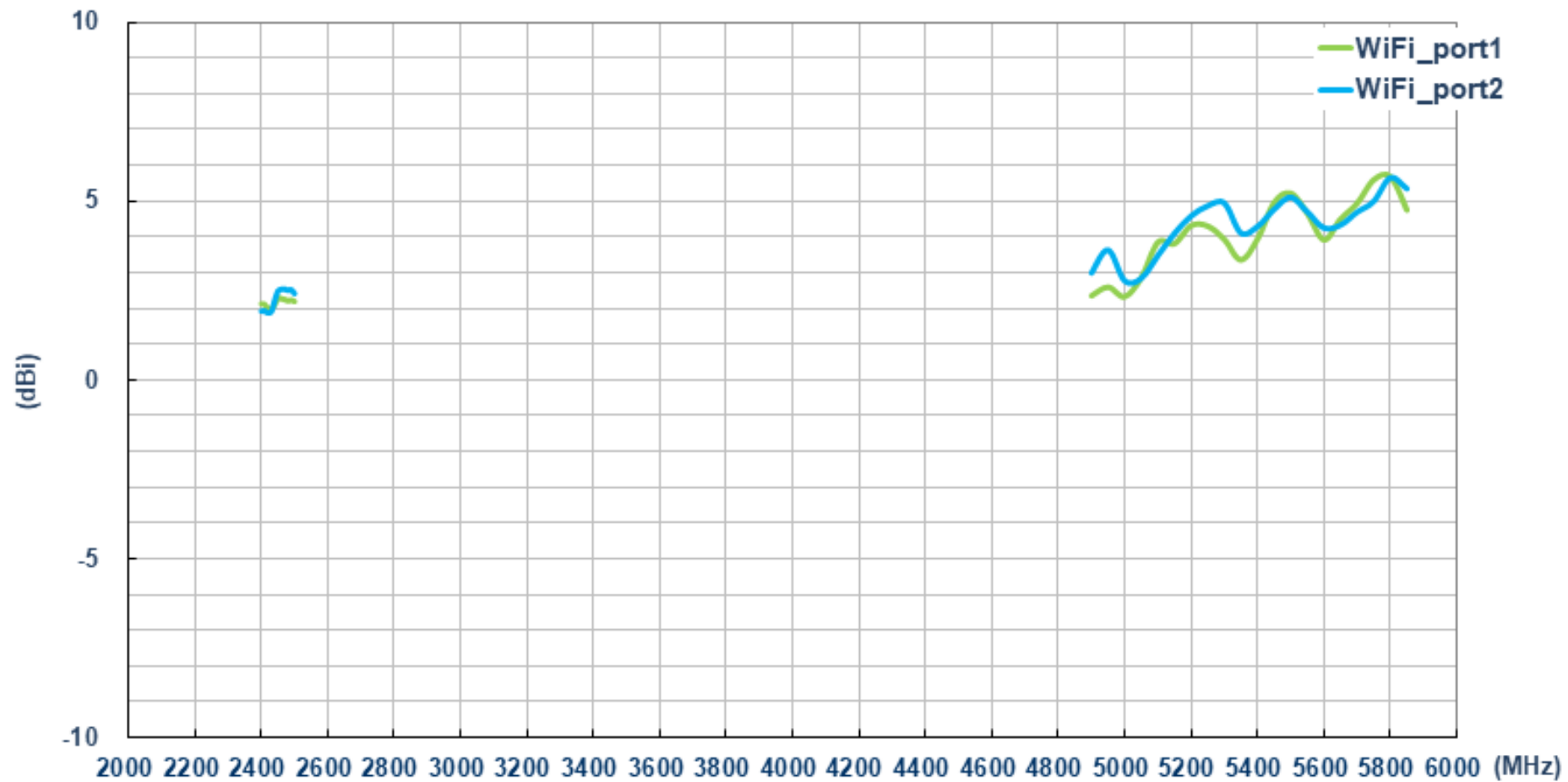
# Peak Gain\_5G NR FR1



# Efficiency\_WiFi



# Peak Gain\_WiFi





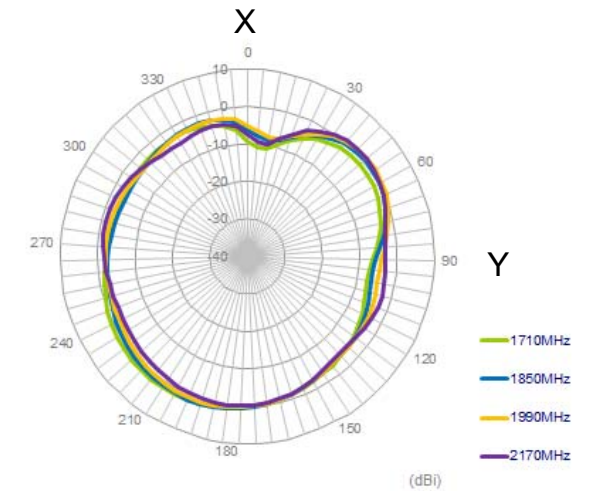
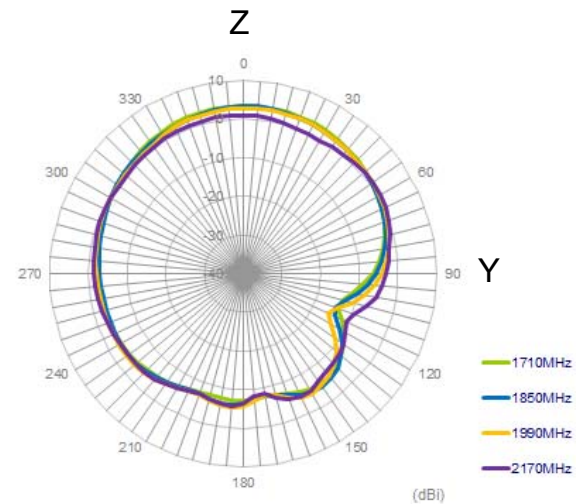
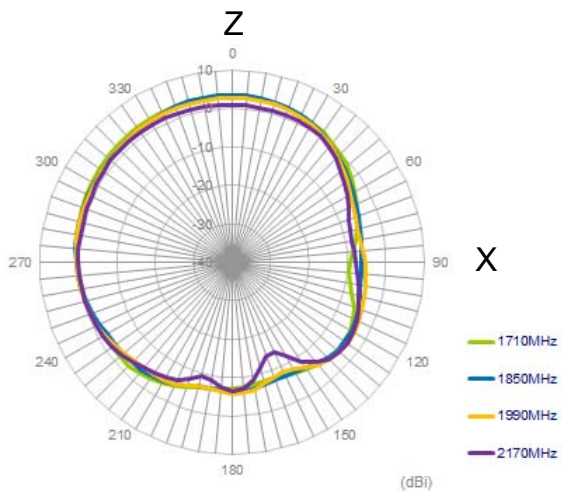
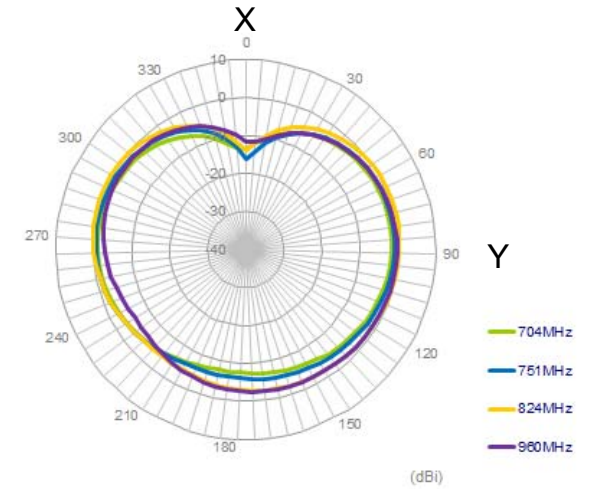
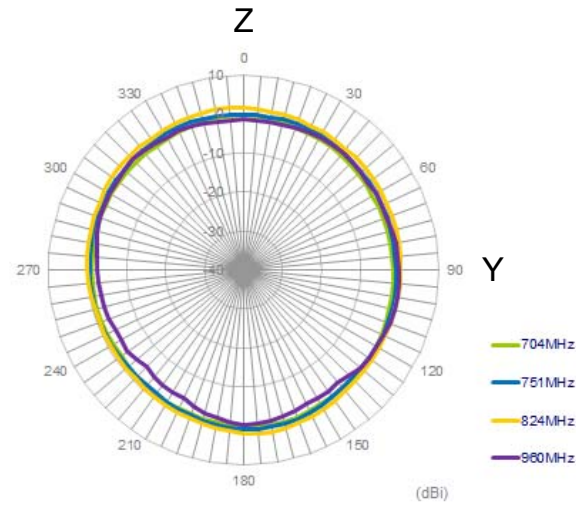
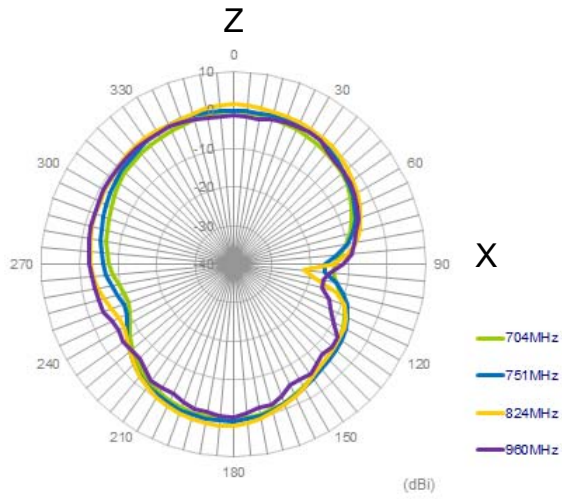
# Gain Table

	698~960	1710~2170	2300~2690	3300~4200	5150~5850
	<b>Efficiency</b>				
5G NR FR1_port1	66.75	77.62	61.80	58.68	58.52
5G NR FR1_port2	64.95	78.95	64.85	62.48	63.53
	<b>Peak gain</b>				
5G NR FR1_port1	2.68	3.73	4.29	5.02	5.43
5G NR FR1_port2	2.24	4.00	4.00	4.93	6.18

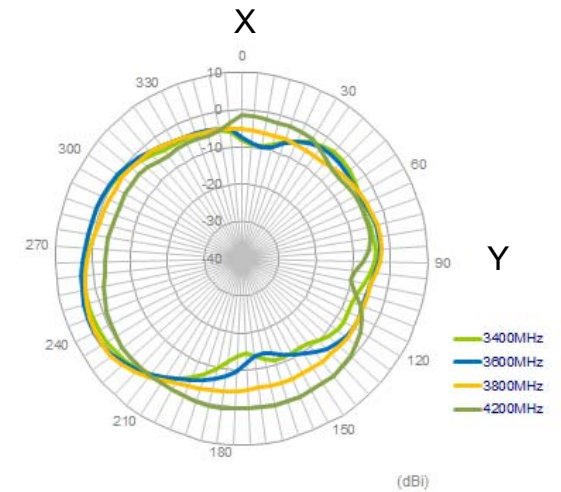
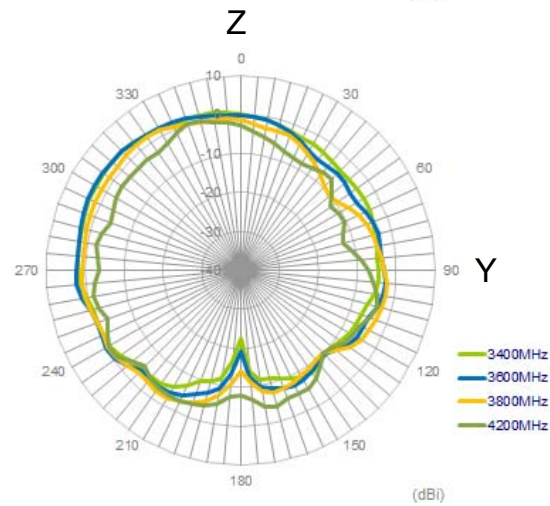
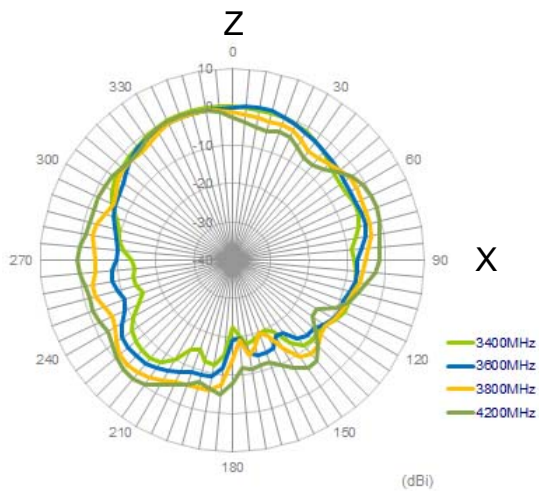
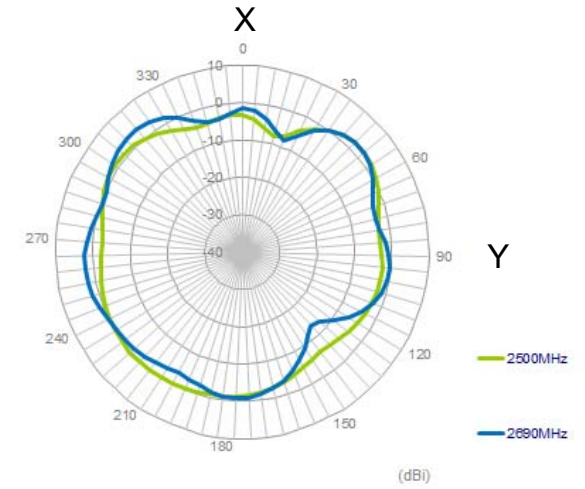
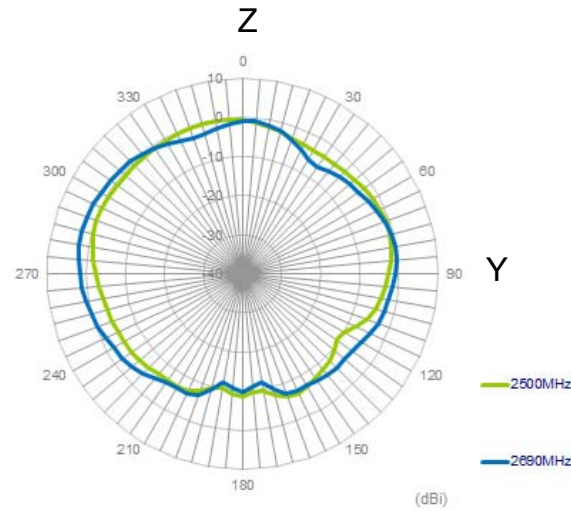
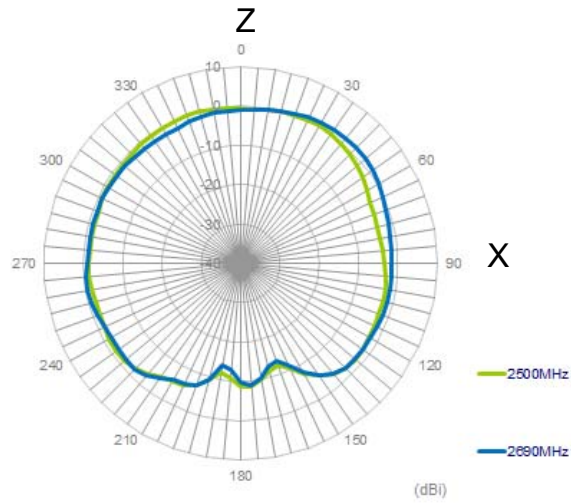
  

	WiFi 2.4G 2400~2500	WiFi 5G 4900~5850
	<b>Efficiency</b>	
WiFi_port1	57.72	75.89
WiFi_port2	57.46	78.89
	<b>Average gain</b>	
WiFi_port1	2.28	5.68
WiFi_port2	2.55	5.66

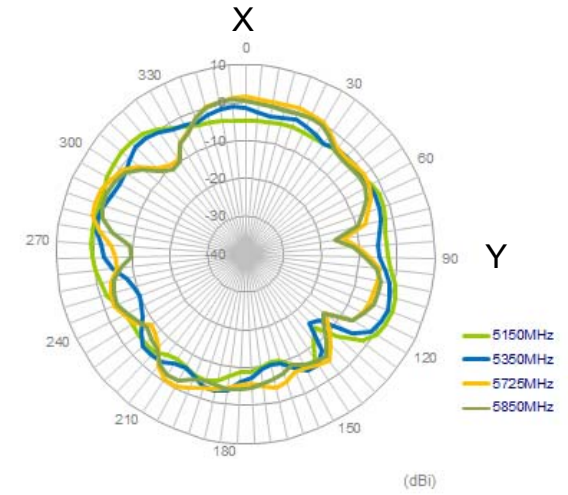
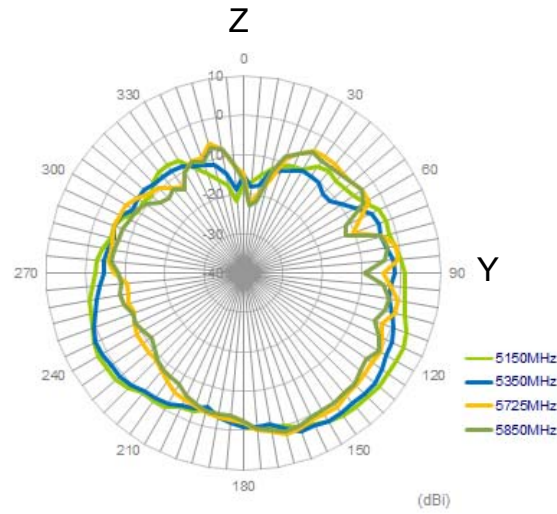
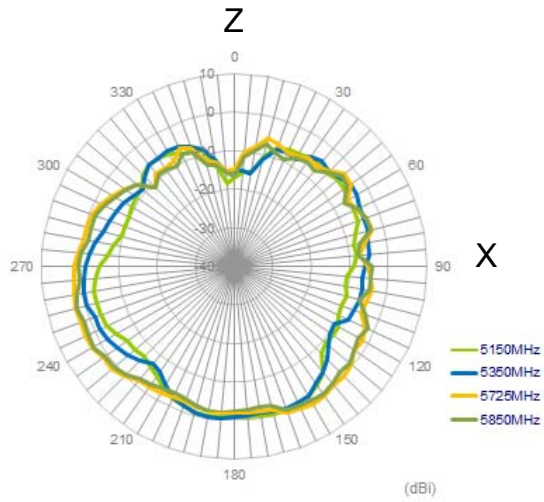
# 2D Radiation Pattern Results\_5G\_port1



# 2D Radiation Pattern Results\_5G\_port1

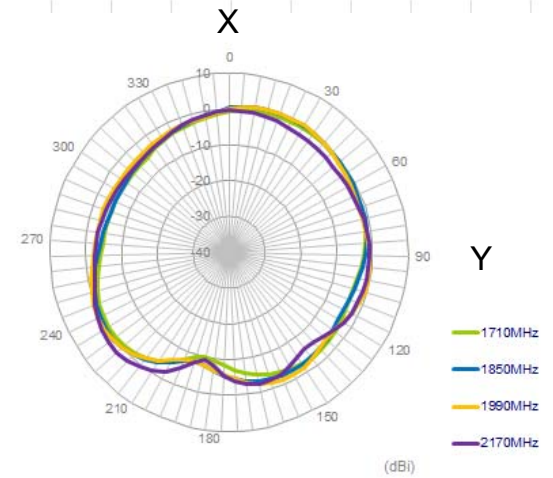
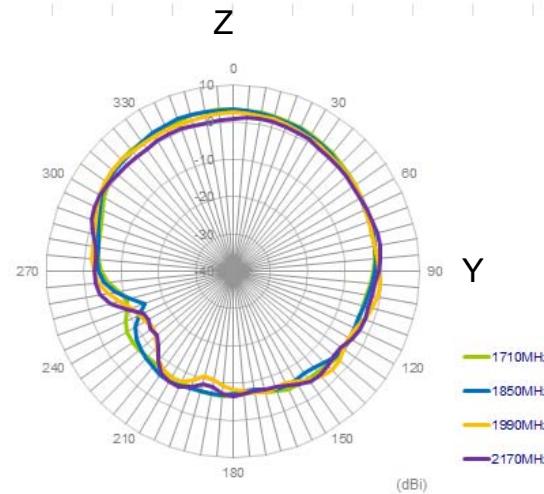
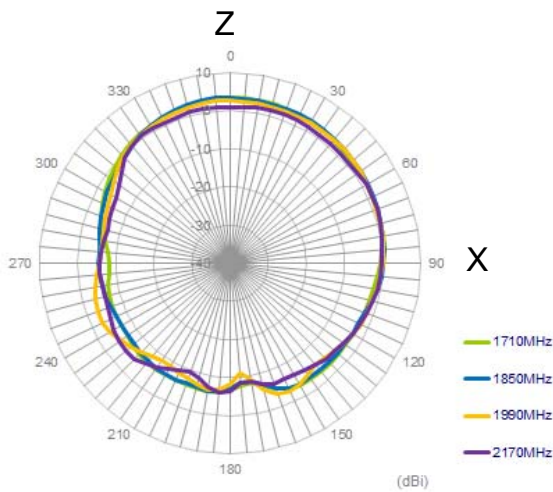
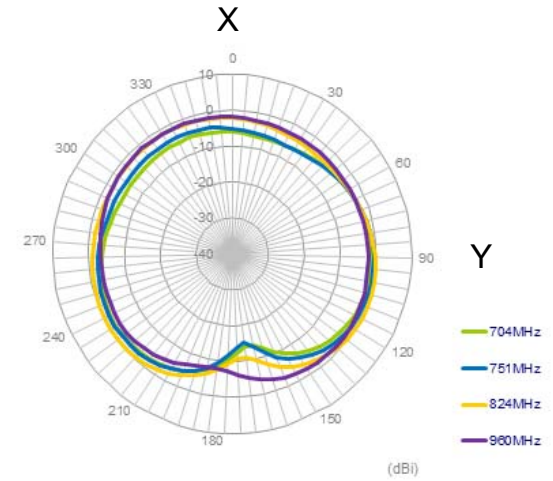
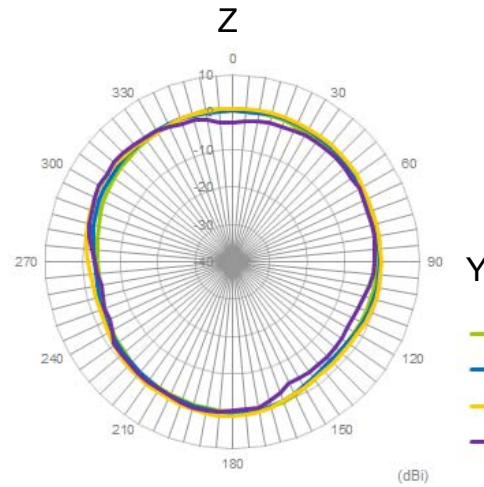
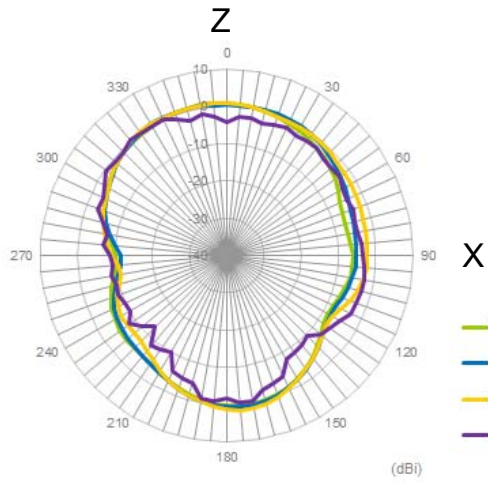


# 2D Radiation Pattern Results\_5G\_port1

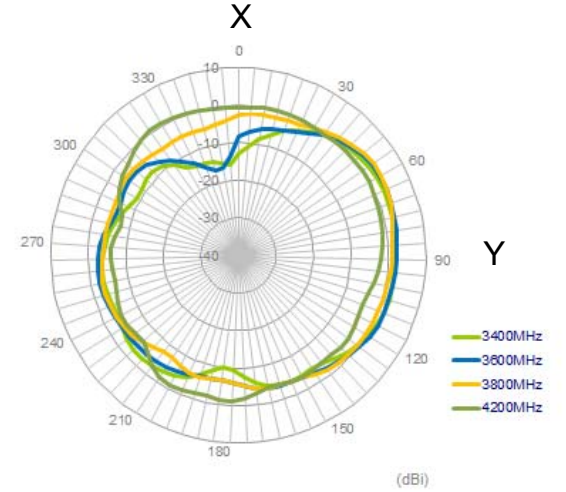
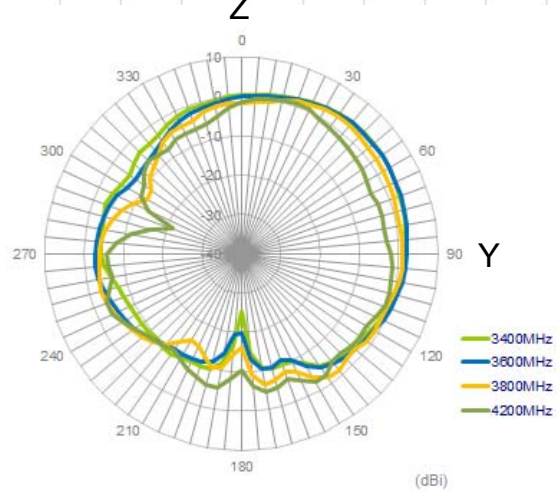
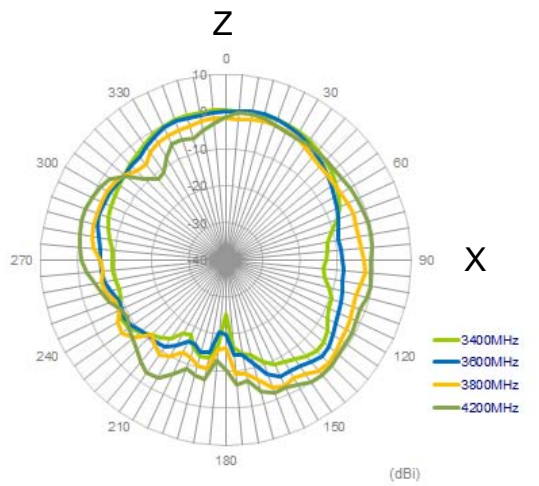
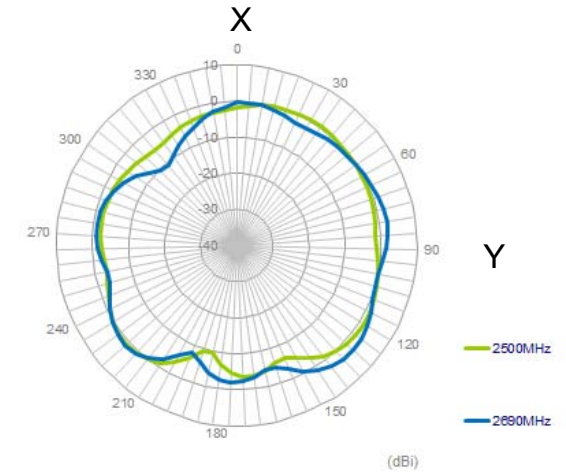
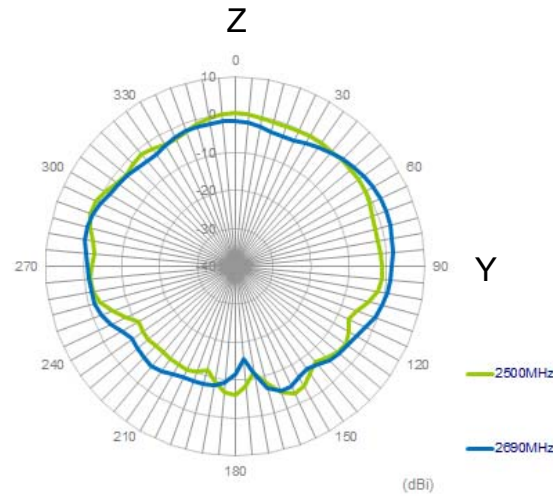
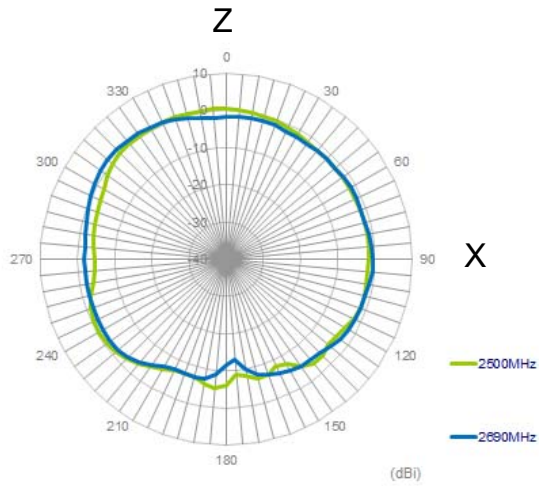




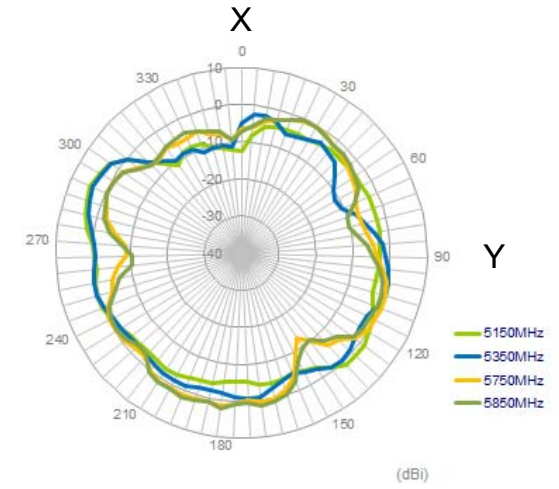
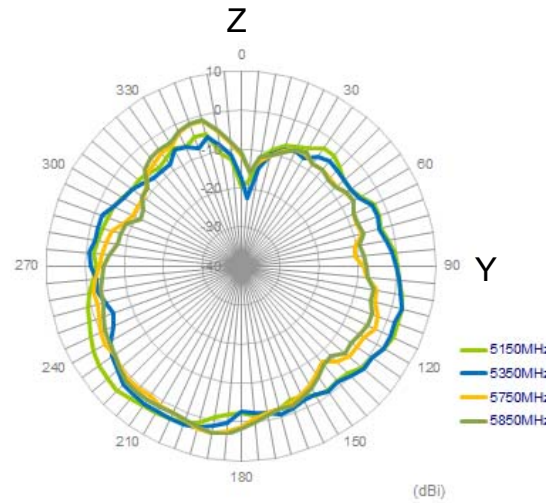
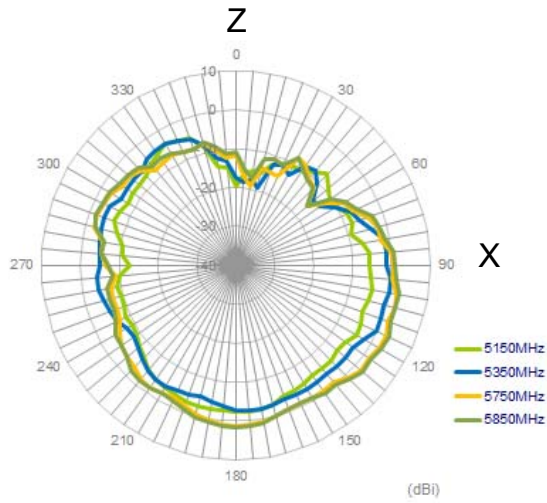
# 2D Radiation Pattern Results\_5G\_port2



# 2D Radiation Pattern Results\_5G\_port2

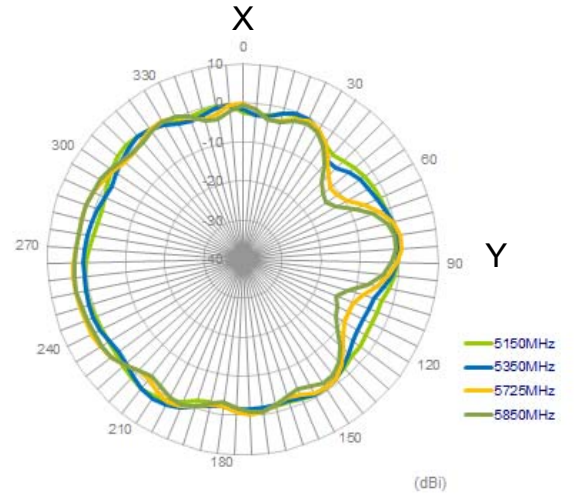
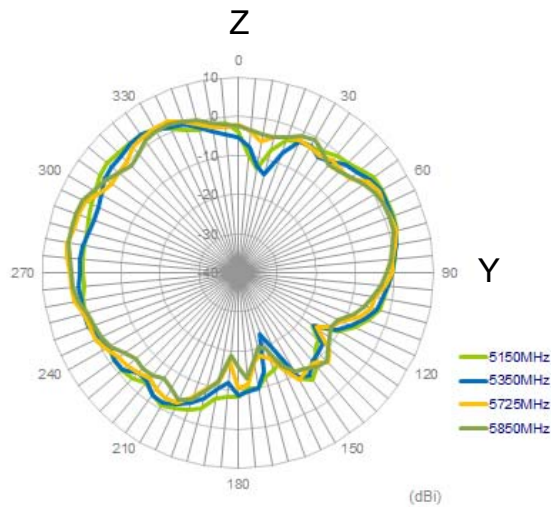
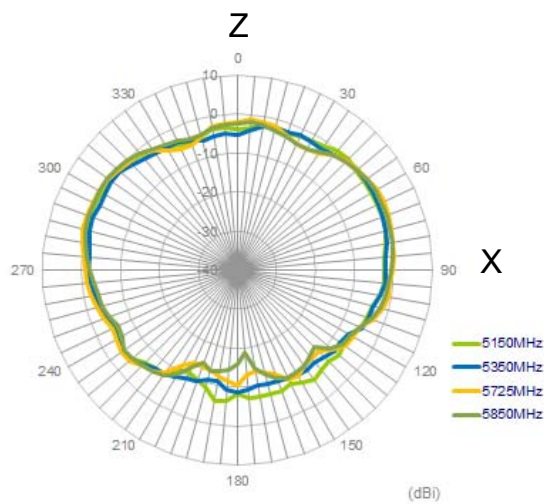
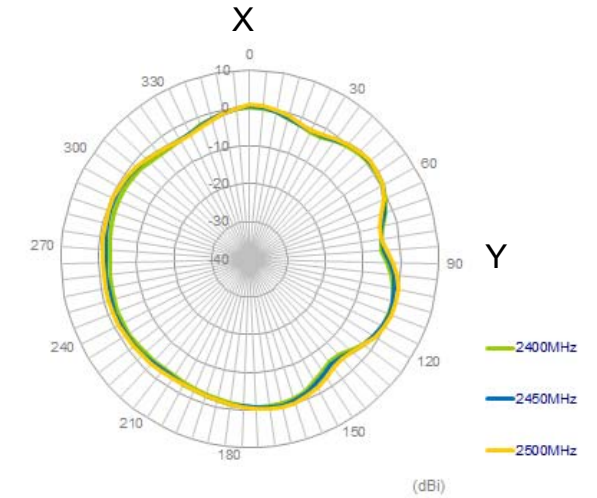
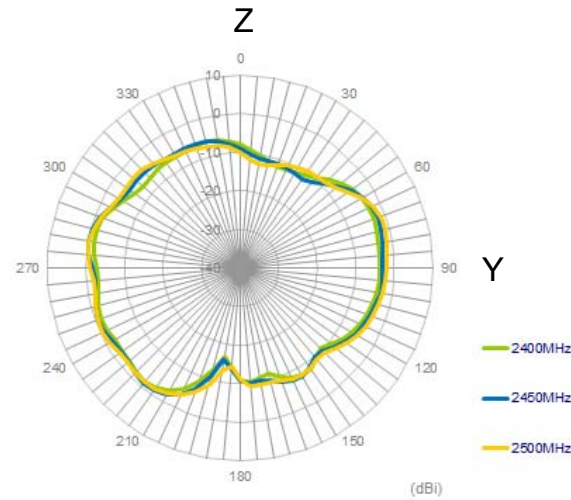
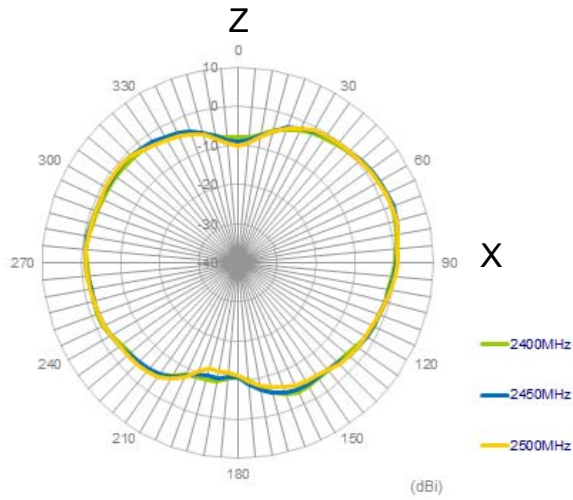


# 2D Radiation Pattern Results\_5G\_port2



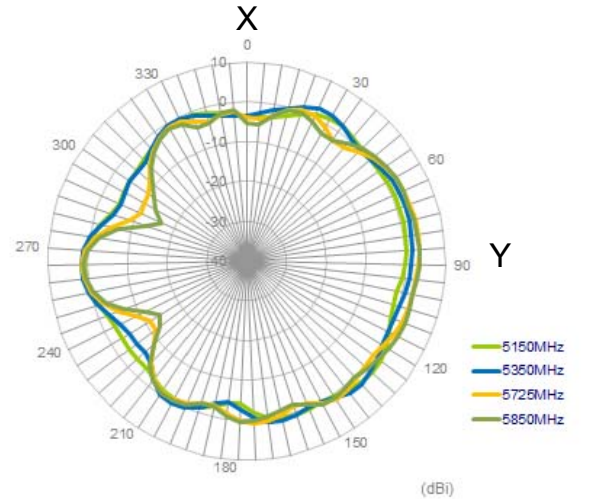
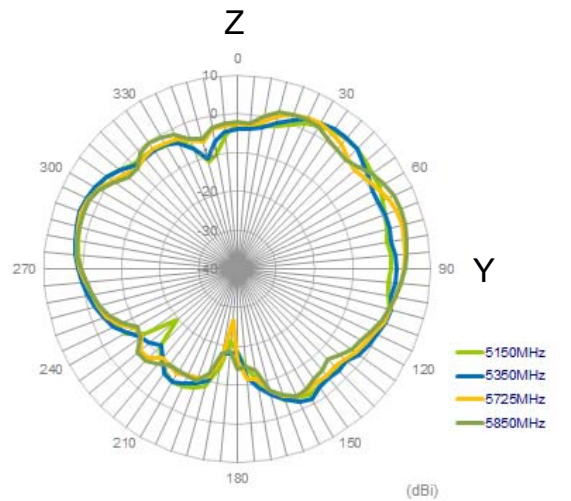
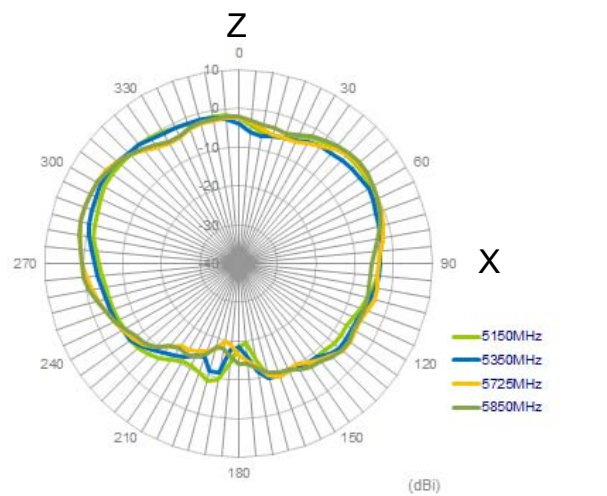
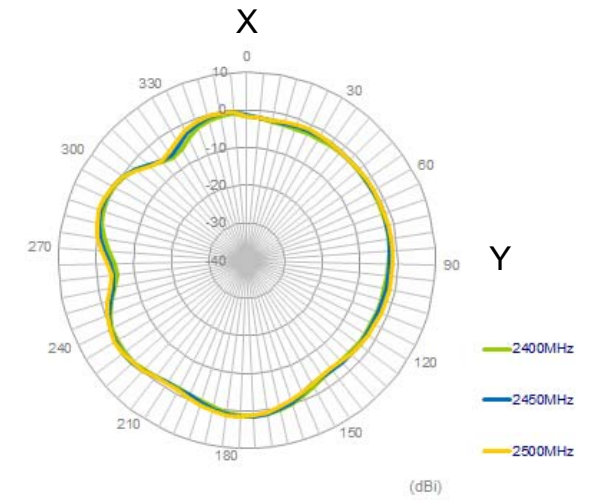
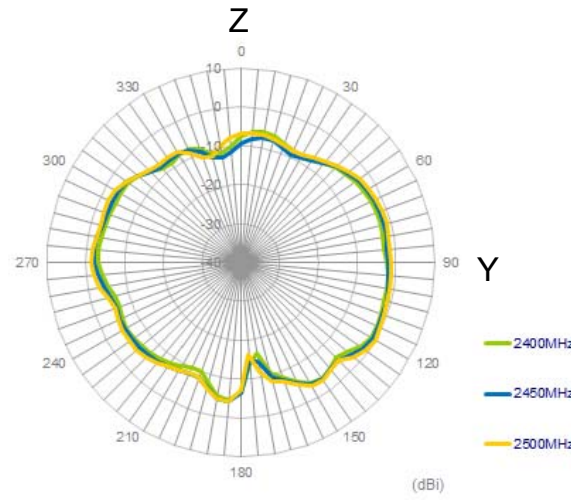
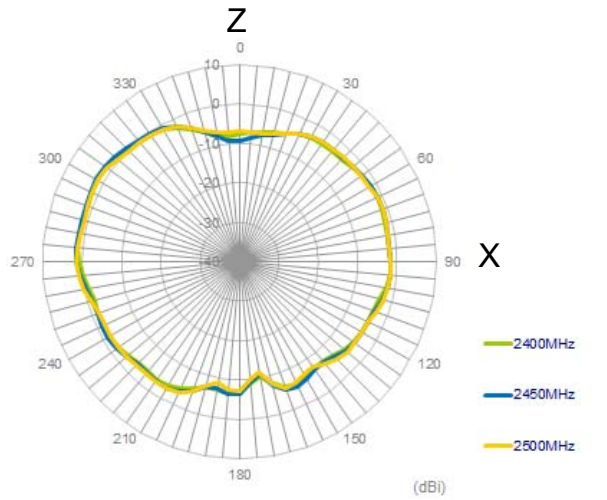


# 2D Radiation Pattern Results\_WiFi\_port1





# 2D Radiation Pattern Results\_WiFi\_port2



## Contact With RS

China Mainland:Rushun Technology Co., Ltd.

Dongguan Factory

Address: Humen Town, Dongguan City, GuangDong Province, 523932 China

Email: [King@rsantenna.com](mailto:King@rsantenna.com)

[Tel:+86](tel:+8613268639768) 13268639768

Taiwan: DingYang Technology Co., Ltd.

Taiwan Factory

Address:2F.-1, No. 18, Daren 2nd St., Zhongli Dist., Taoyuan City 320, Taiwan (R.O.C.)

Email: [terry@rsantenna.com](mailto:terry@rsantenna.com)

[Tel:+886](tel:+886978811326) 978-811-326