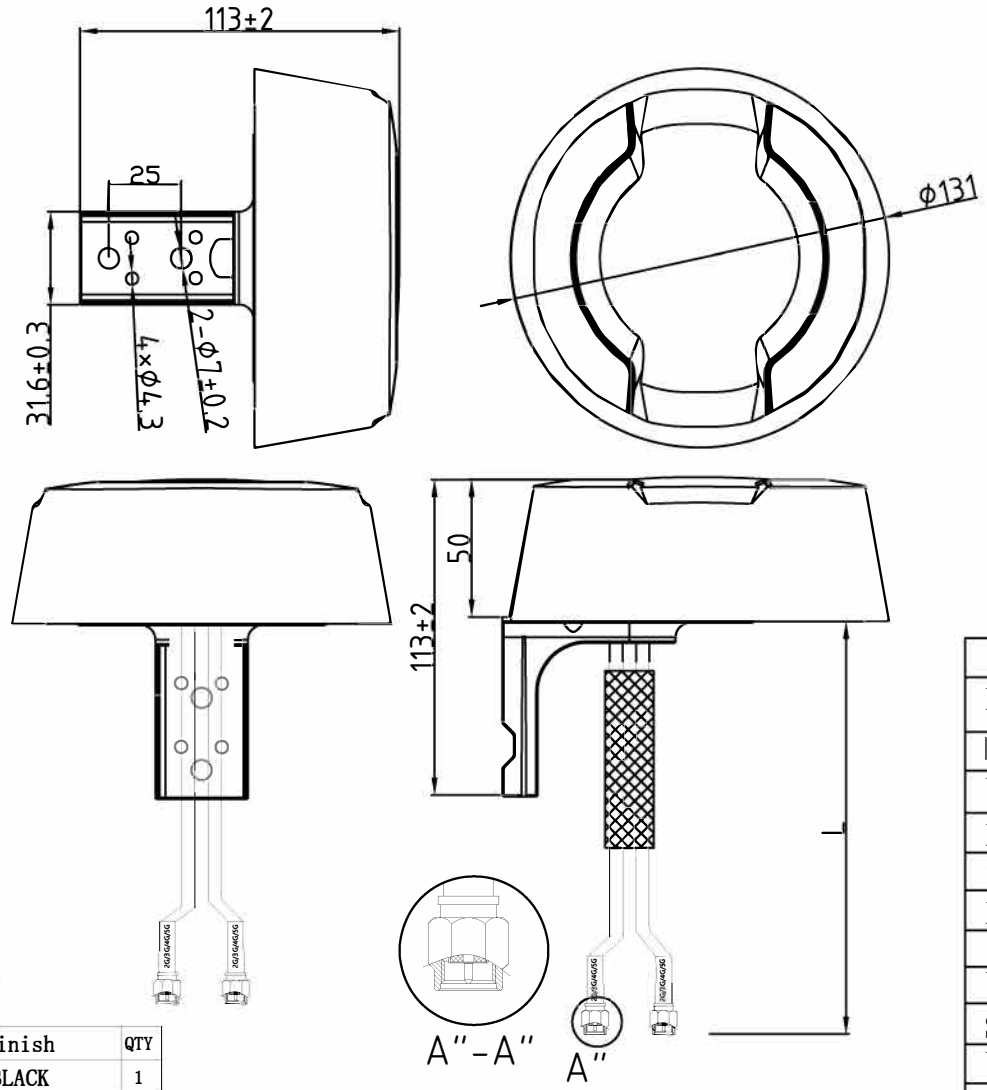
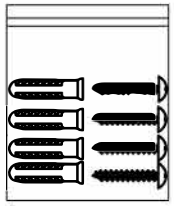
M131 Antenna
5G 2 IN 1 Antenna
test report

Version: ***V 1.1***
Released Date: ***2020/09/07***





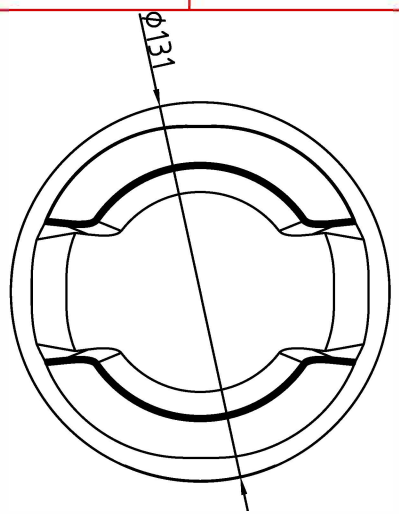
Wall Mounting x4
Screw 4x25L x4

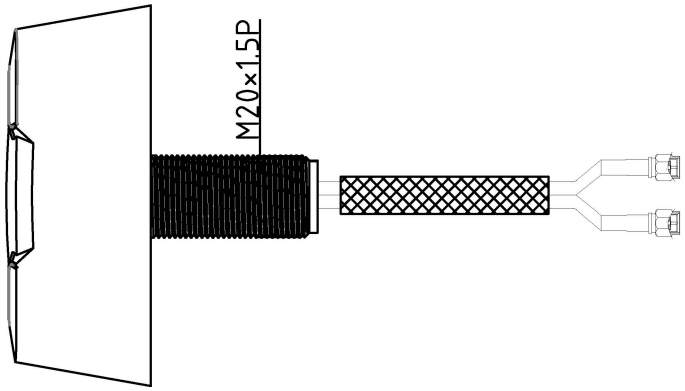
Electrical Properties	
Frequency Range	2* 600~6000MHZ
Impedonce	50 Ω
V.S.W.R.	≤2.5
Radiation	Omni
Gain	7±1DBi
Polarization	Vertical
Mechanical Properties	
Whip	PC+ABS
Standard Connector	SMA MALE
Waterprooflevel	IP68
Operating Temp	−φ40°~ +85°

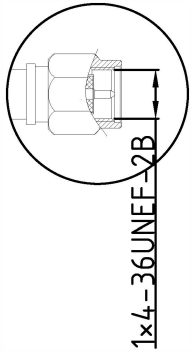
BOM

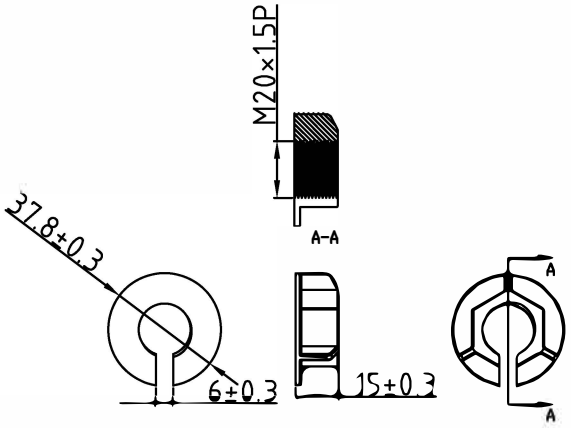
NO	Name	Material	Finish	QTY
1	Top	ABS+PC	BLACK	1
2	Bottom	ABS+PC	BLACK	1
3	CFD 200 Coaxial cable	PE	BLACK	1
4	SMA Connector	Brass	GOLD	2
5	Antenna			2
6	Bracket installation	ABS+PC	BLACK	1
7	Wall maunting	PA6	BLACK	4
8	Screw	SUS304	N.A	4
9	Shrink tube	PE		2

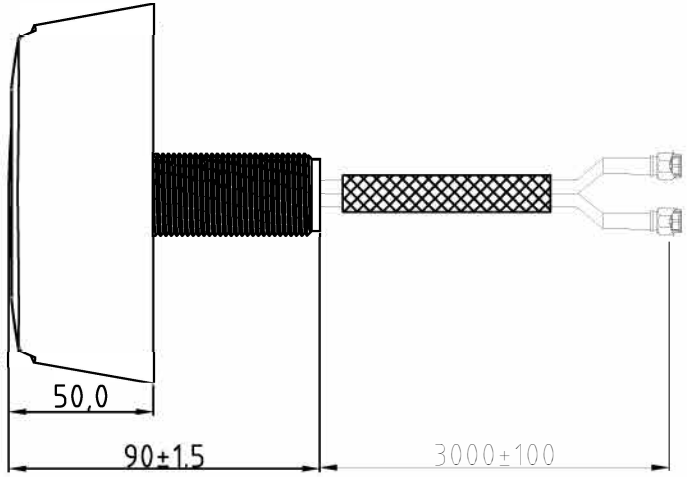
THIRD ANGLE PROJECTION	DRAWED BY	li	MATERIAL:		PART NO:	M131.C2.2.335
	CHECKED BY		FINISH:	BLACK	TITLE:	M131 2-5G Antenna
Tolerance .X ±0.1 .XX ±0.05 .x ±1°	APPROVED BY	King	UNIT: mm		®	
	DATE:	21.4.19	SCALE:1/1			











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NO	Name	Material	Finish	QTY
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2	Bottom	ABS+PC	BLACK	1
3	LMR200 Coaxial cable	PE	BLACK	1
4	SMA Male	Brass	GOLD	2
5	5G Antenna			2
6	Screw installation	ABS+PC	BLACK	1
7	NUT	ABS+PC	BLACK	1
8	Shrink tube	PE	BLACK	2
9	Tube	PET	BLACK	1

THIRD ANGLE PROJECTION	DRAWED BY	li	MATERIAL:		PART NO: M131.C2.2.332
	CHECKED BY		FINISH:	BLACK	TITLE: M131 4G/5G Antenna
Tolerance .X ±0.1 .XX ±0.05 .x ±1°	APPROVED BY	King	UNIT: mm		®
	DATE:	20.8.21	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

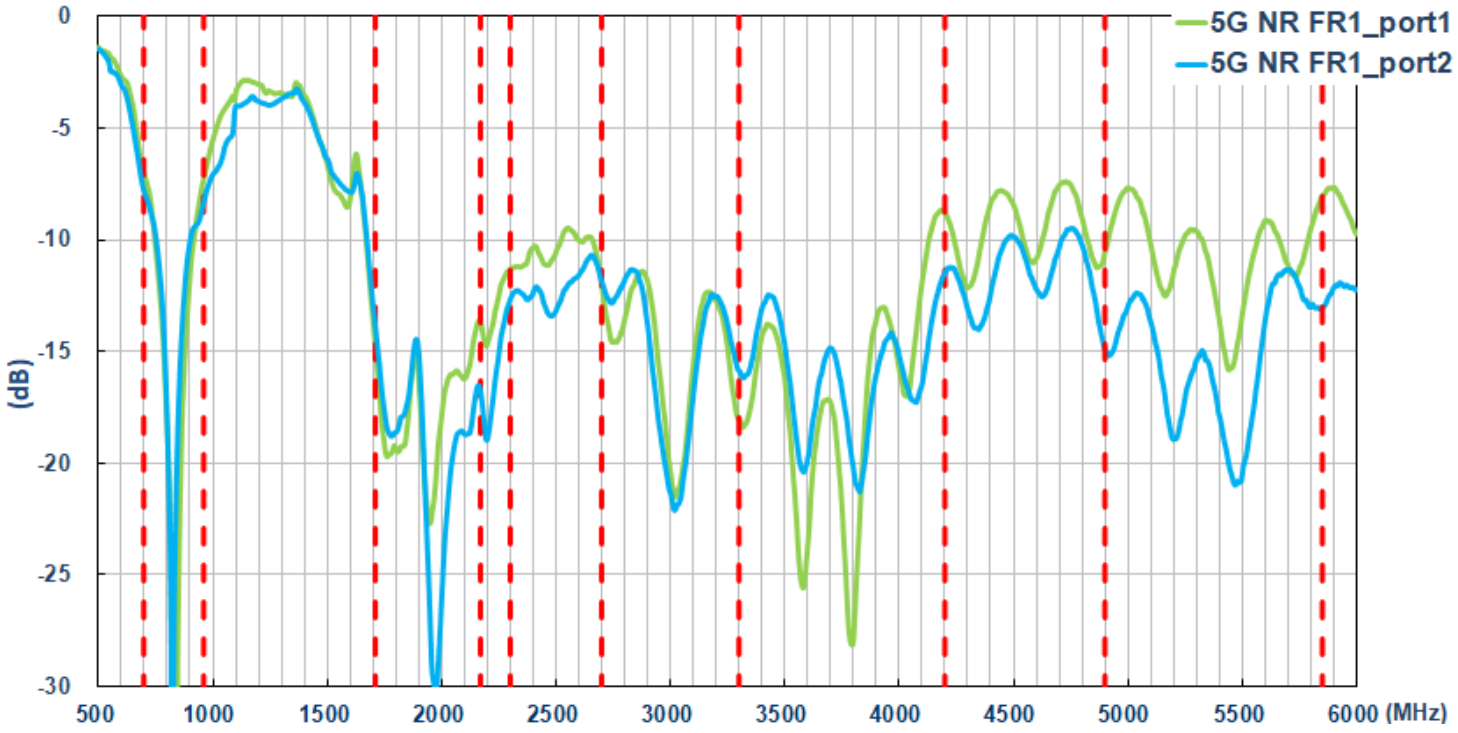
Requirements of Antenna Design

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

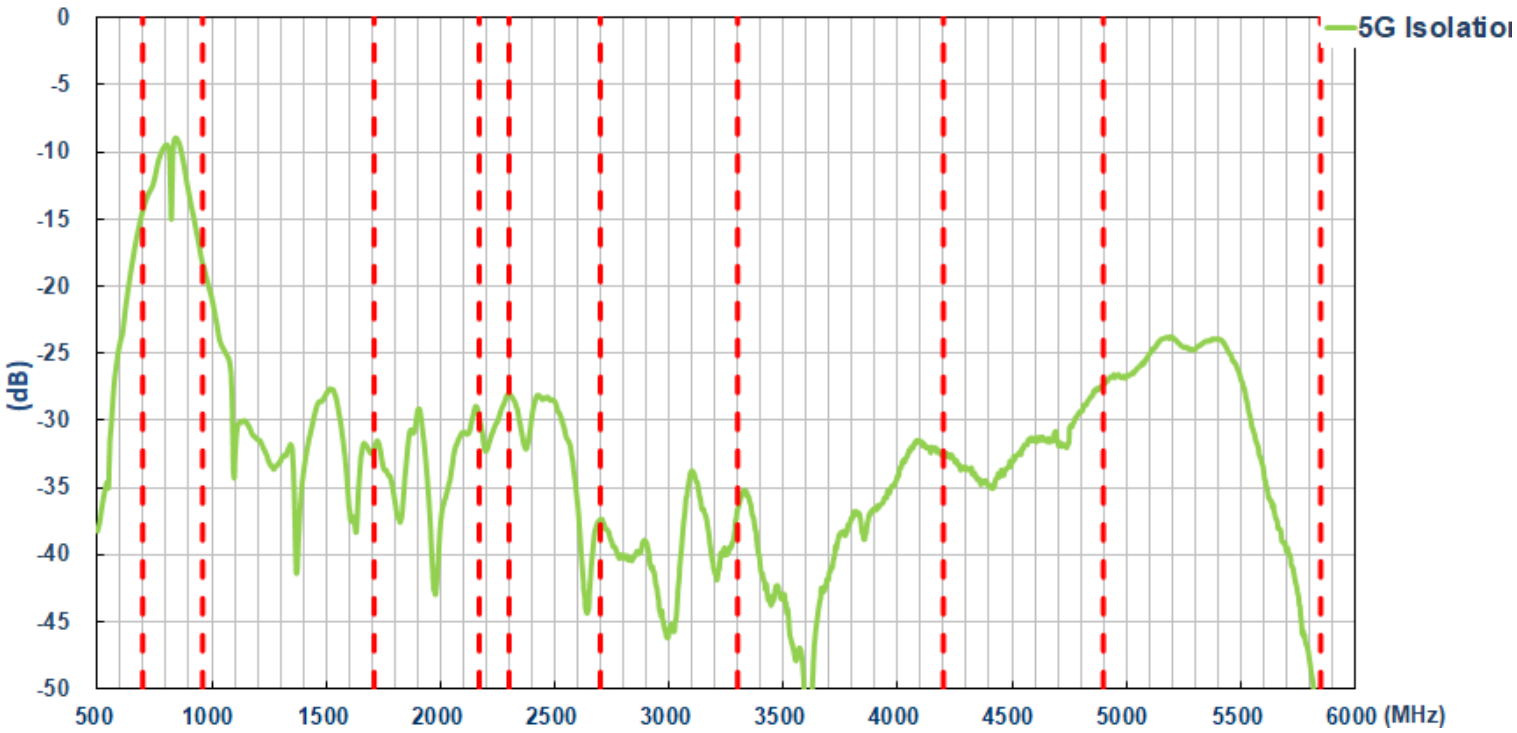
Requirements of Measurement

Test Item	Specification	Remark
Return Loss	<-6dB	
Peak gain (without cable loss)	5G : 3dBi@698~960MHz; 5dBi@1710~2690MHz; 7dBi@3300~3800MHz; 6dBi@5150~5850MHz	
Efficiency (without cable loss)	5G : 50~80%@698~960; 50~80%@1710~2690; 45~70%@3300~3800; 45~70%@5150~5850	

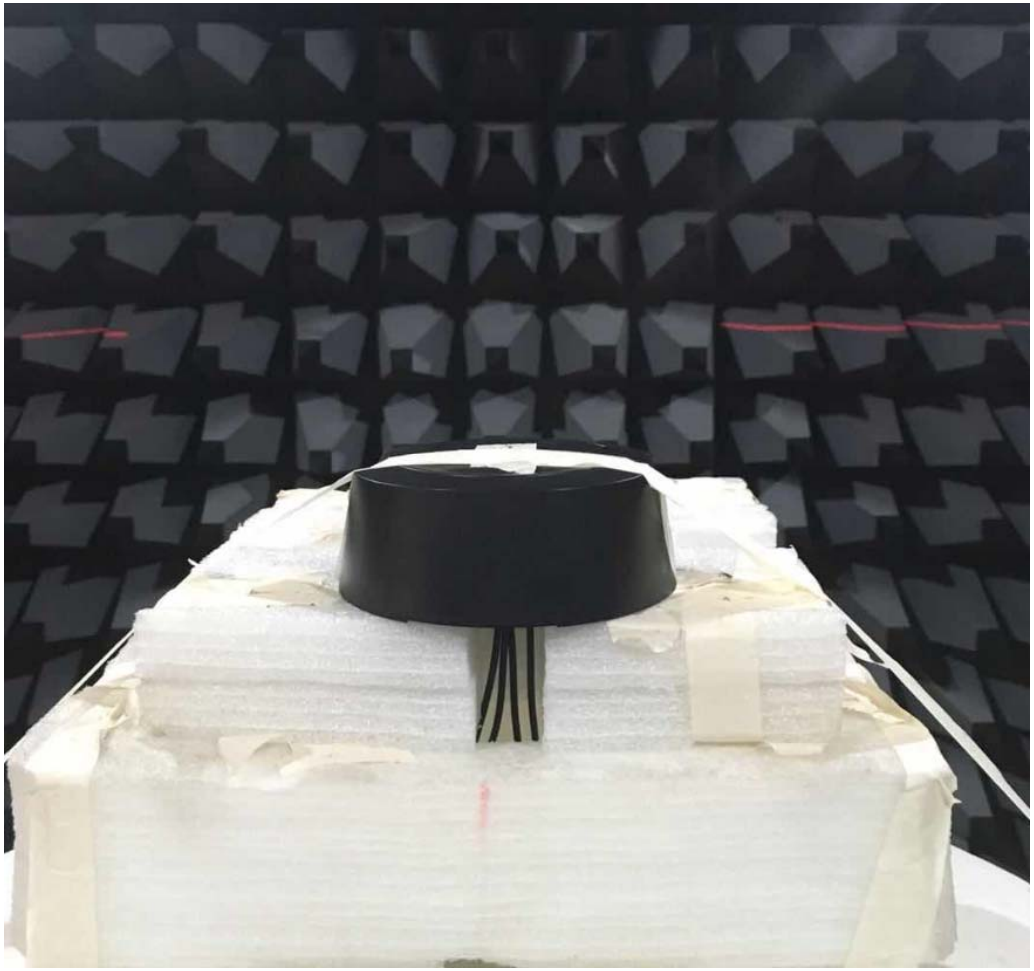
Return Loss_5G

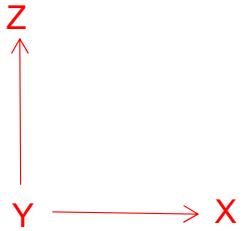


Isolation_5G

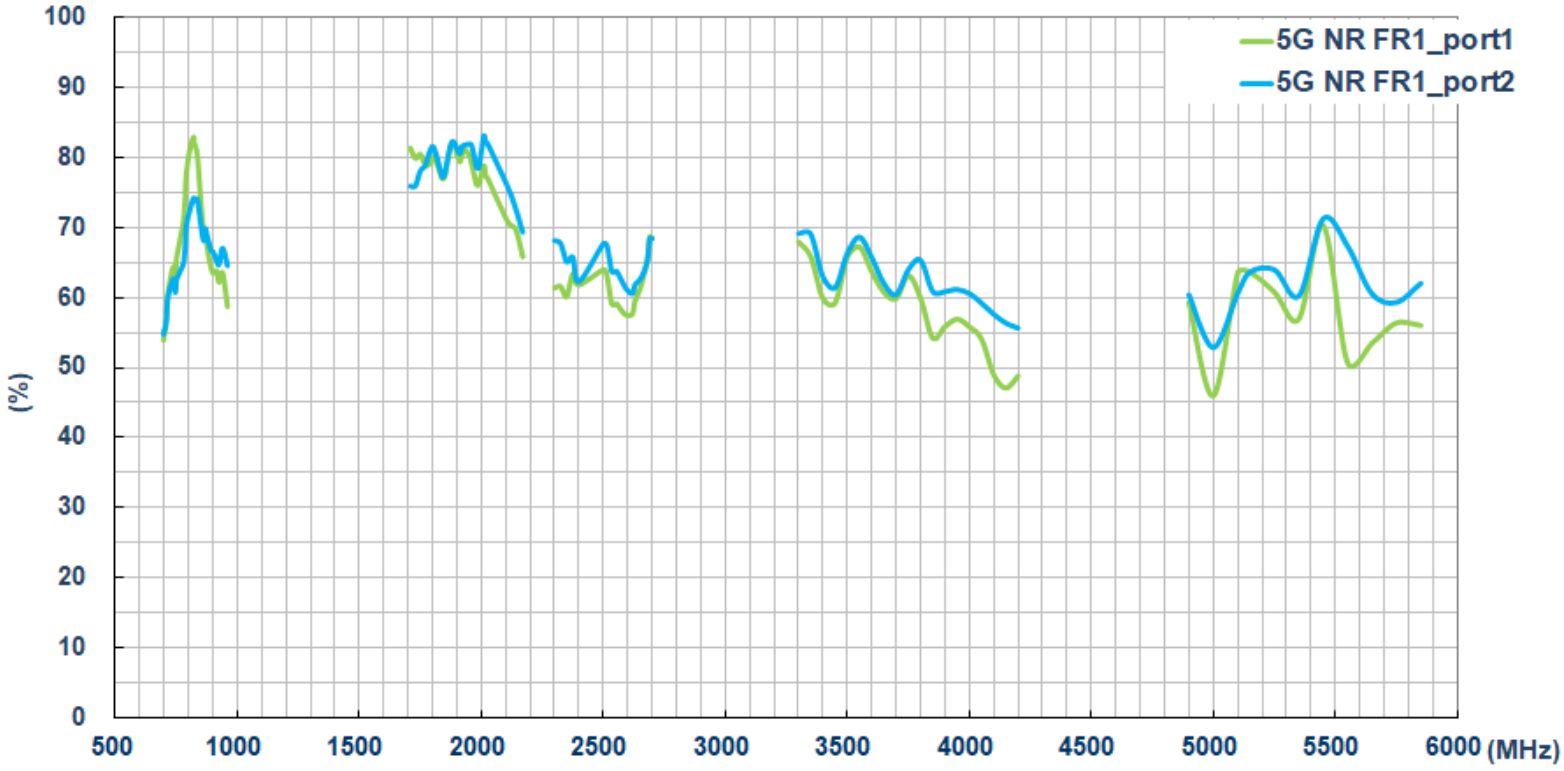


Test Setup

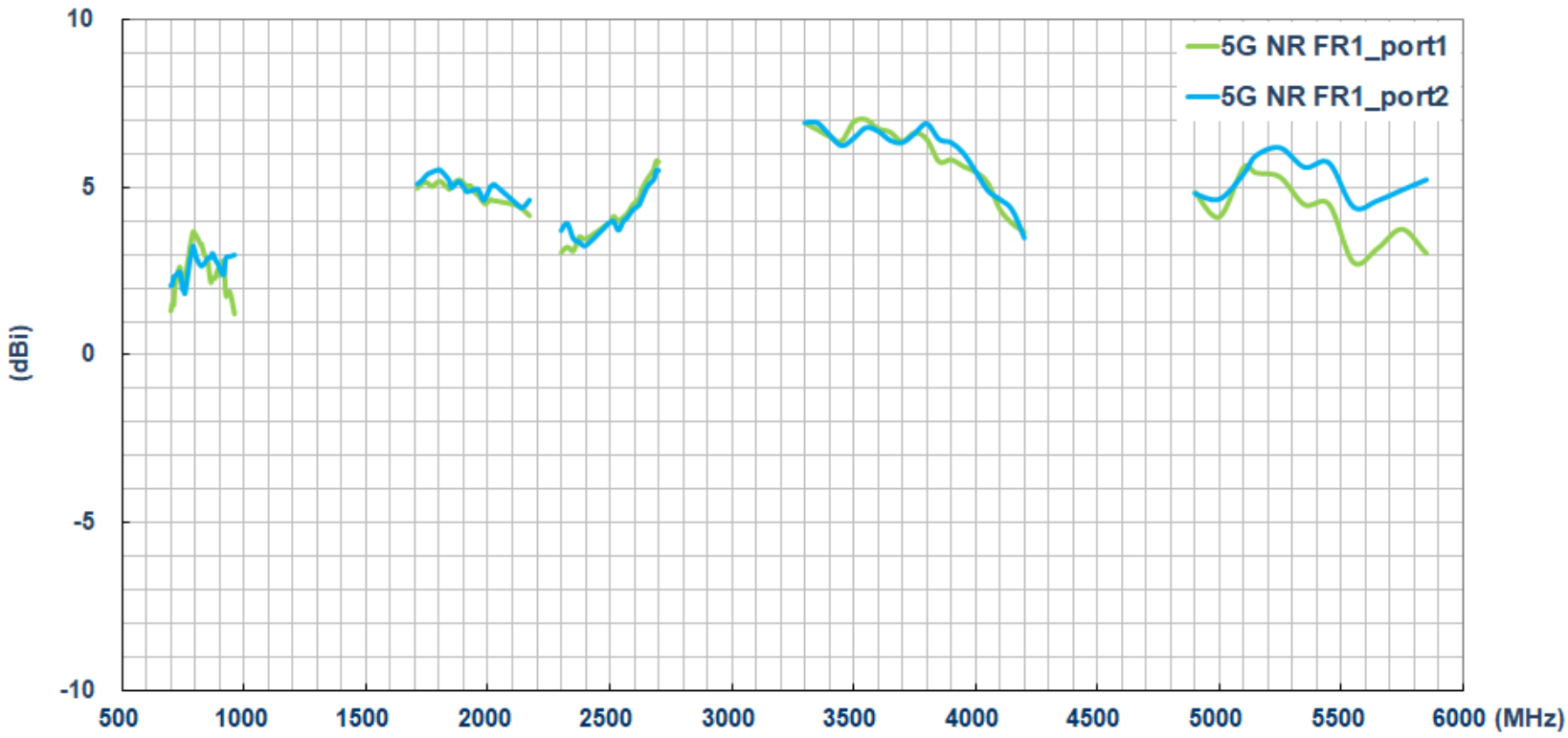




Efficiency_5G NR FR1



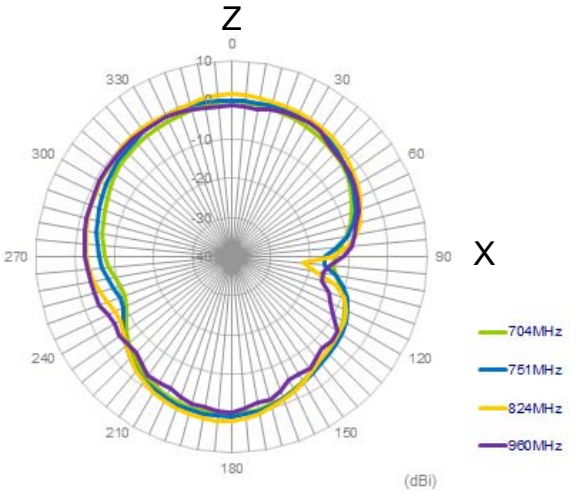
Peak Gain_5G NR FR1

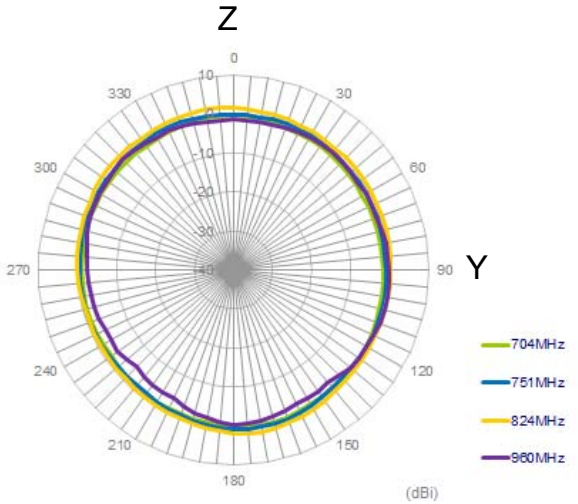


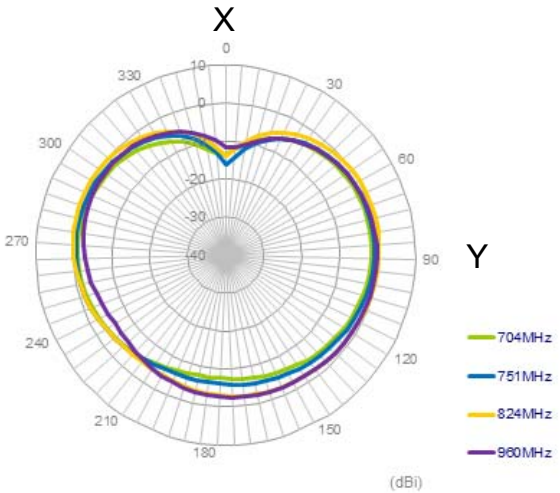
Gain Table

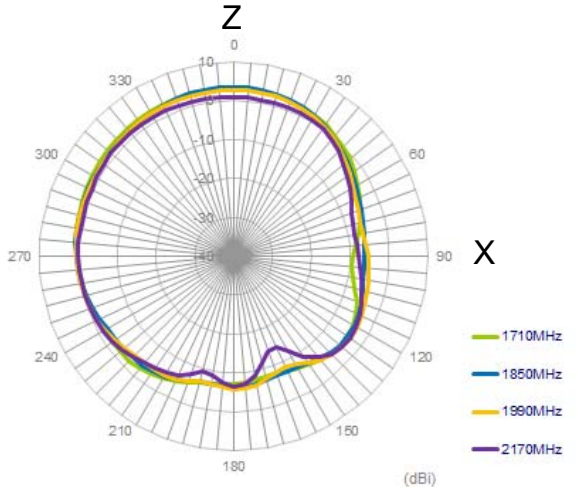
	698~960	1710~2170	2300~2690	3300~4200	5150~5850
	Efficiency				
5G NR FR1_port1	66.75	77.62	61.80	58.68	58.52
5G NR FR1_port2	64.95	78.95	64.85	62.48	63.53
	Peak gain				
5G NR FR1_port1	3.68	5.23	5.79	7.02	5.43
5G NR FR1_port2	3.24	5.50	5.50	6.93	6.18

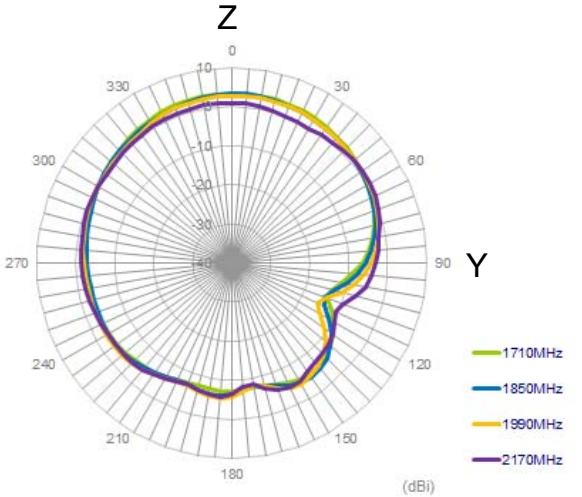
2D Radiation Pattern Results_5G_port1

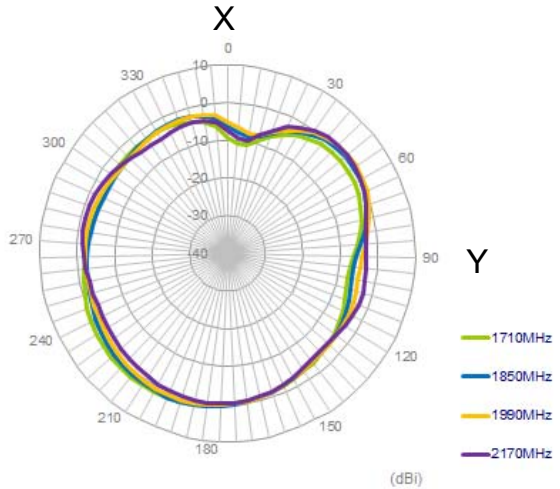




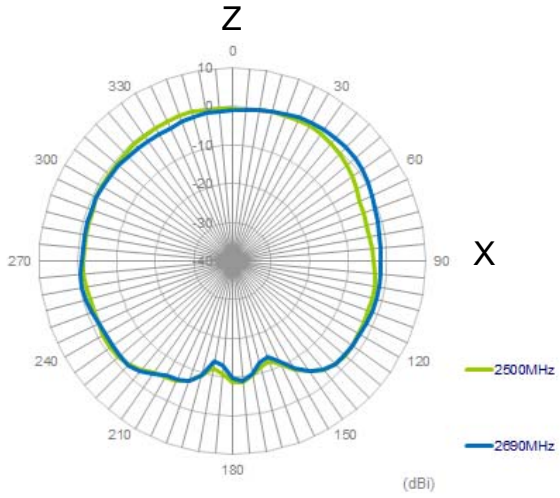


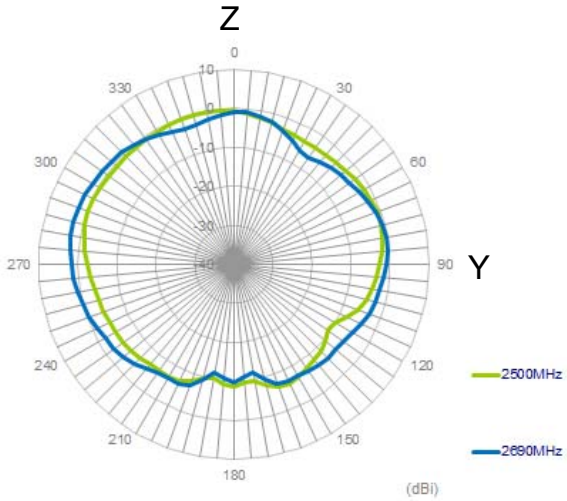


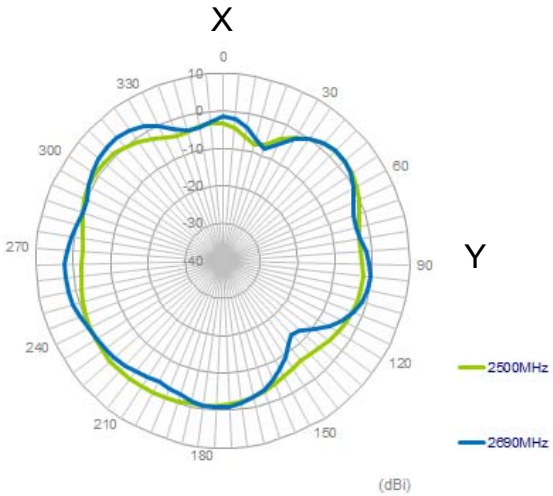


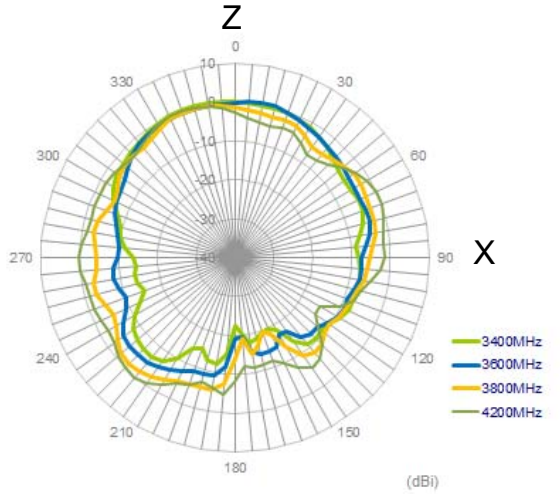


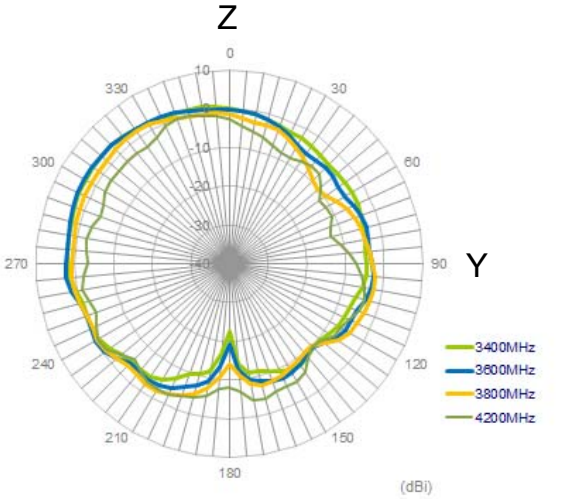
2D Radiation Pattern Results_5G_port1

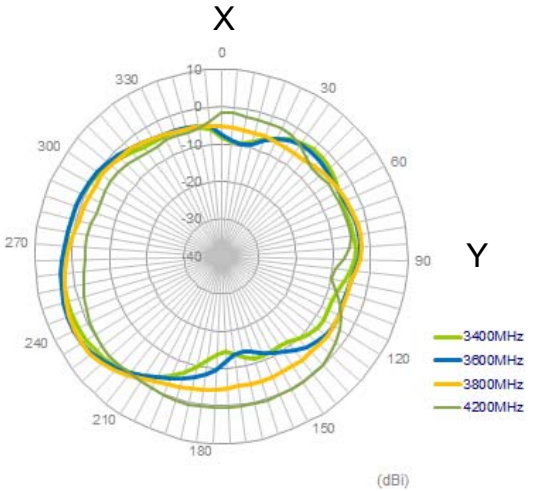




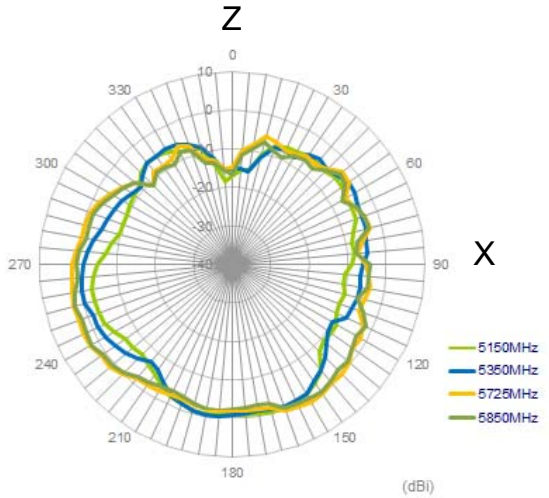


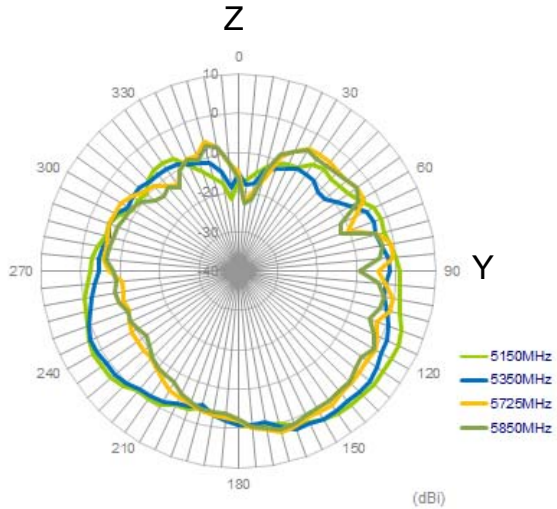


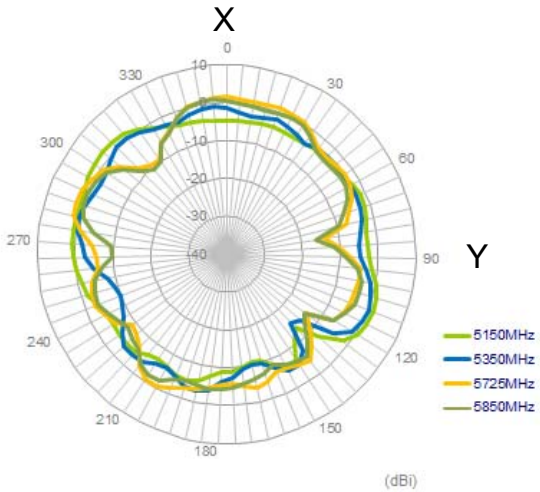




2D Radiation Pattern Results_5G_port1







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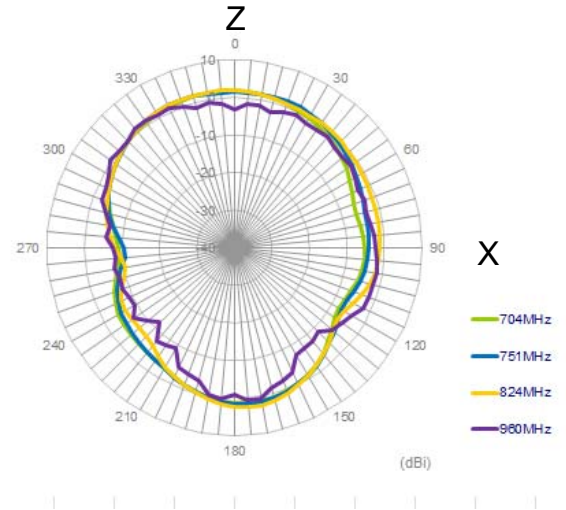
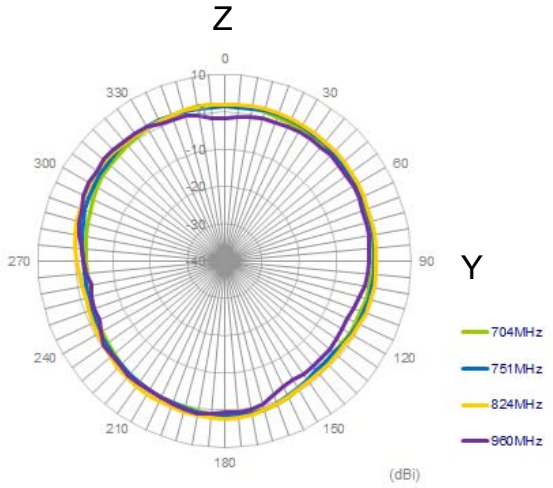
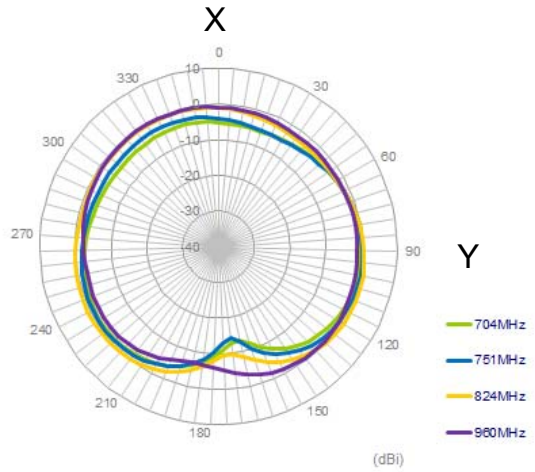
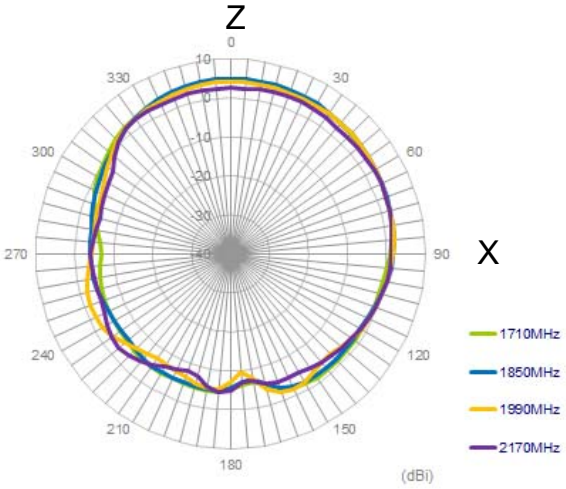
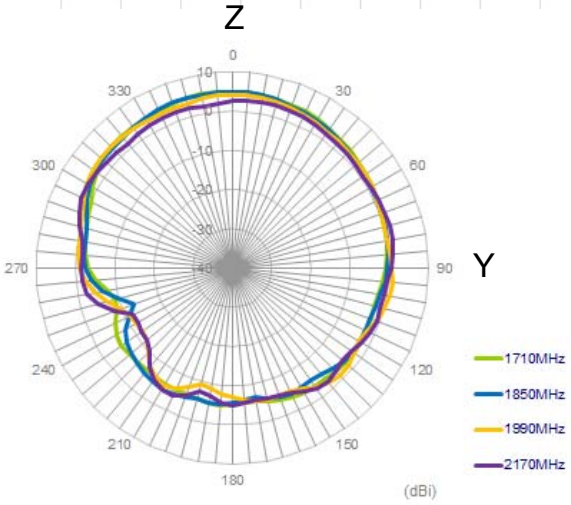
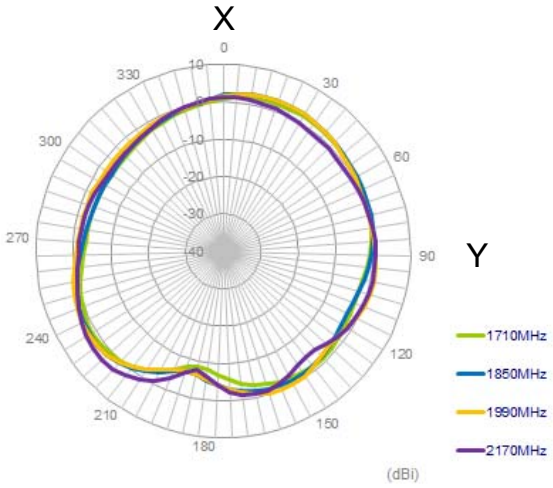




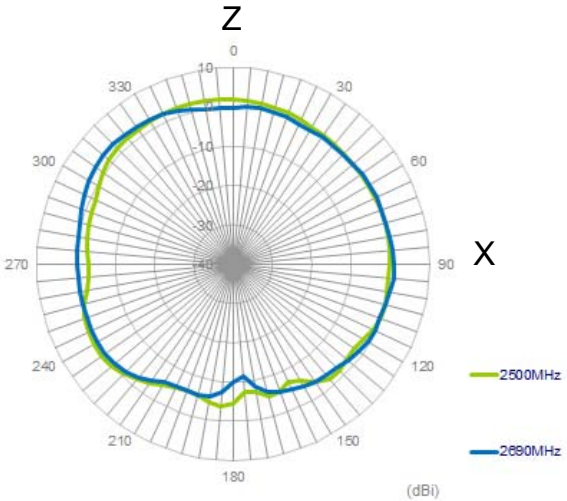


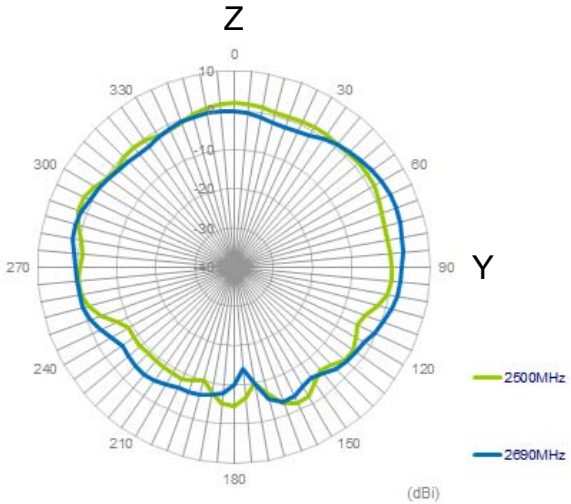


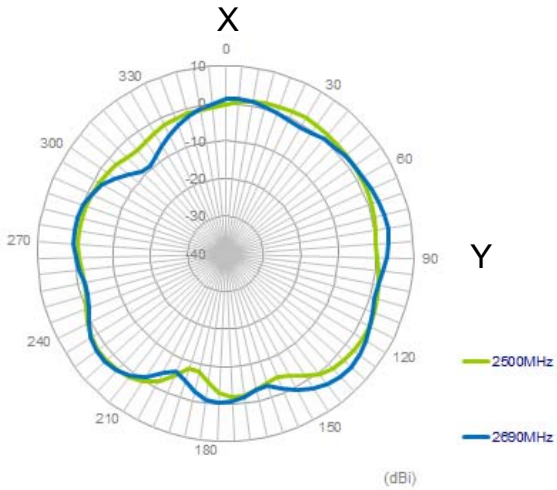


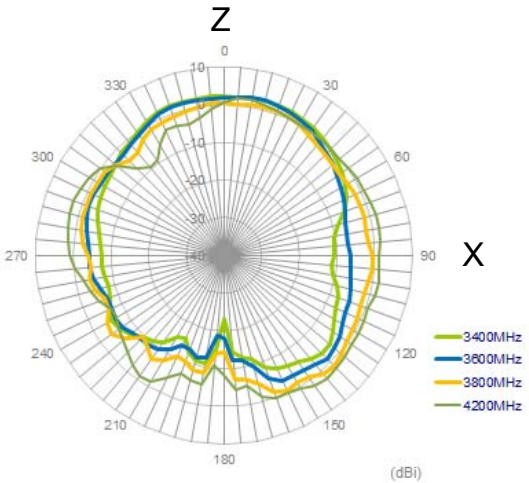


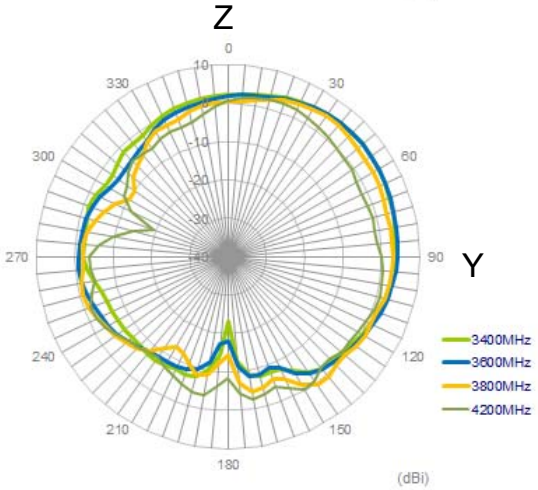
2D Radiation Pattern Results_5G_port2

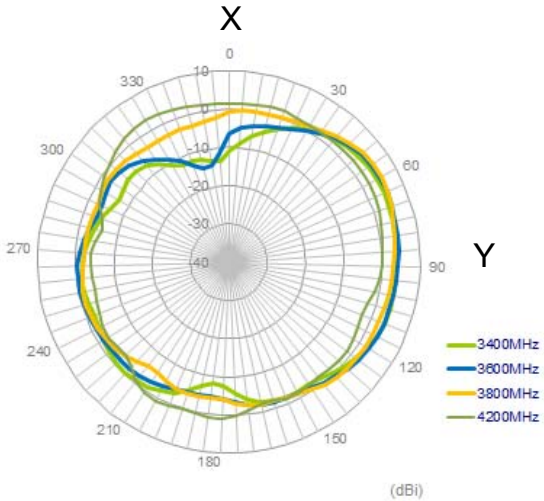
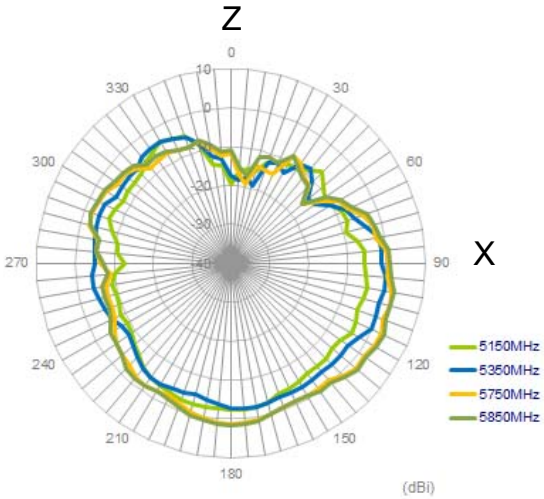
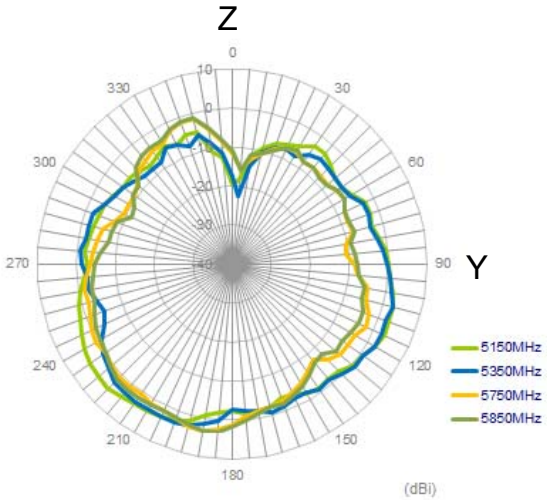
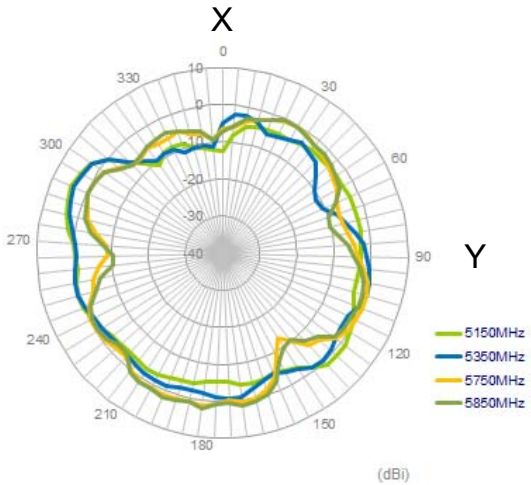












2D Radiation Pattern Results_5G_port2