

APPROVAL SHEET

CUSTOMER : _____
CUSTOMER'S PART NO. : _____
DESCRIPTION : **RF ANTENNA ASSEMBLY (Dipole)**
PART NO. : **EDA-2010-6G0R2-A3**
DATE : _____
AUTHORIZED BY : *Alain Chen*

	FULLY APPROVED	PARTIALLY APPROVED	REJECTED
SIGN			
SUGGESTION			

美磊科技股份有限公司

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E-mail : info@maglayers.com.tw



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Revisions

REV.	Description	Date	Prepared by	Approved by
V01	New Release	2021/10/19	<i>Maggie</i>	<i>Alain</i>

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Antenna Specification

ELECTRICAL PROPERTIES

- 1.1 Frequency Range.....617-960MHz/1100-1612MHz
1710-2170MHz/2170-2300MHz
2300-2700MHz/3300-3800MHz
3800-4200MHz/4400-5000MHz
5150-5950MHz
- 1.2 Impedance.....50 Ohm Nominal
- 1.3 VSWR.....7(Max)
- 1.4 Radiation.....Omni-directional
- 1.5 Peak Gain617-960MHz/2.55dBi
1100-1612MHz/2.15dBi
1710-2170MHz/2.72dBi
2170-2300MHz/2.43dBi
2300-2700MHz/4.75dBi
3300-3800MHz/4.17dBi
3800-4200MHz/4.67dBi
4400-5000MHz/4.50dBi
5150-5950MHz/6.43dBi
- 1.6 Polarization.....Linear Vertical
- 1.7 Admitted Power.....1W

PHYSICAL PROPERTIES

- 2.1 Cable.....RG-178
- 2.2 Antenna Cover.....ABS
- 2.3 Antenna Base.....PC+PBT
- 2.4 Operating Temp.....-20°C ~ +65°C
- 2.5 Storage Temp.....-30°C ~ +70°C
- 2.6 Color.....Black



Mechanical Specification

RoHS COMPLIANT

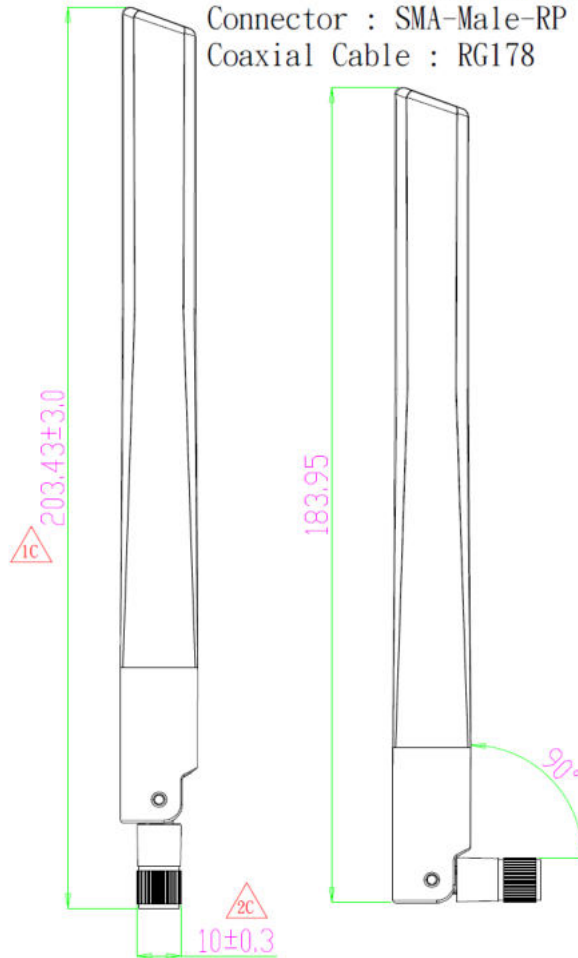
MECHANICAL

Antenna Cover : ABS
Antenna Base : PC+PBT
Color : Black

ELECTRICAL

Frequency : 617-960MHz/1100-1612MHz/
1710-2170MHz/2170-2300MHz/
2300-2700MHz/3300-3800MHz/
3800-4200MHz/4400-5000MHz/
5150-5950MHz

Connector : SMA-Male-RP
Coaxial Cable : RG178

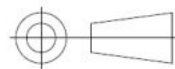


NEW Release		12/12/19	Maggie
LTR	DESCRIPTION	DATE	REQ. BY
設計 DR.	核准 APP.		
Maggie	Alvin	2019/12/12	2019/12/12
版本說明		REVISION NOTE	
MAGLAYERS			

※凡標記△記號者, 為品管檢驗之尺寸

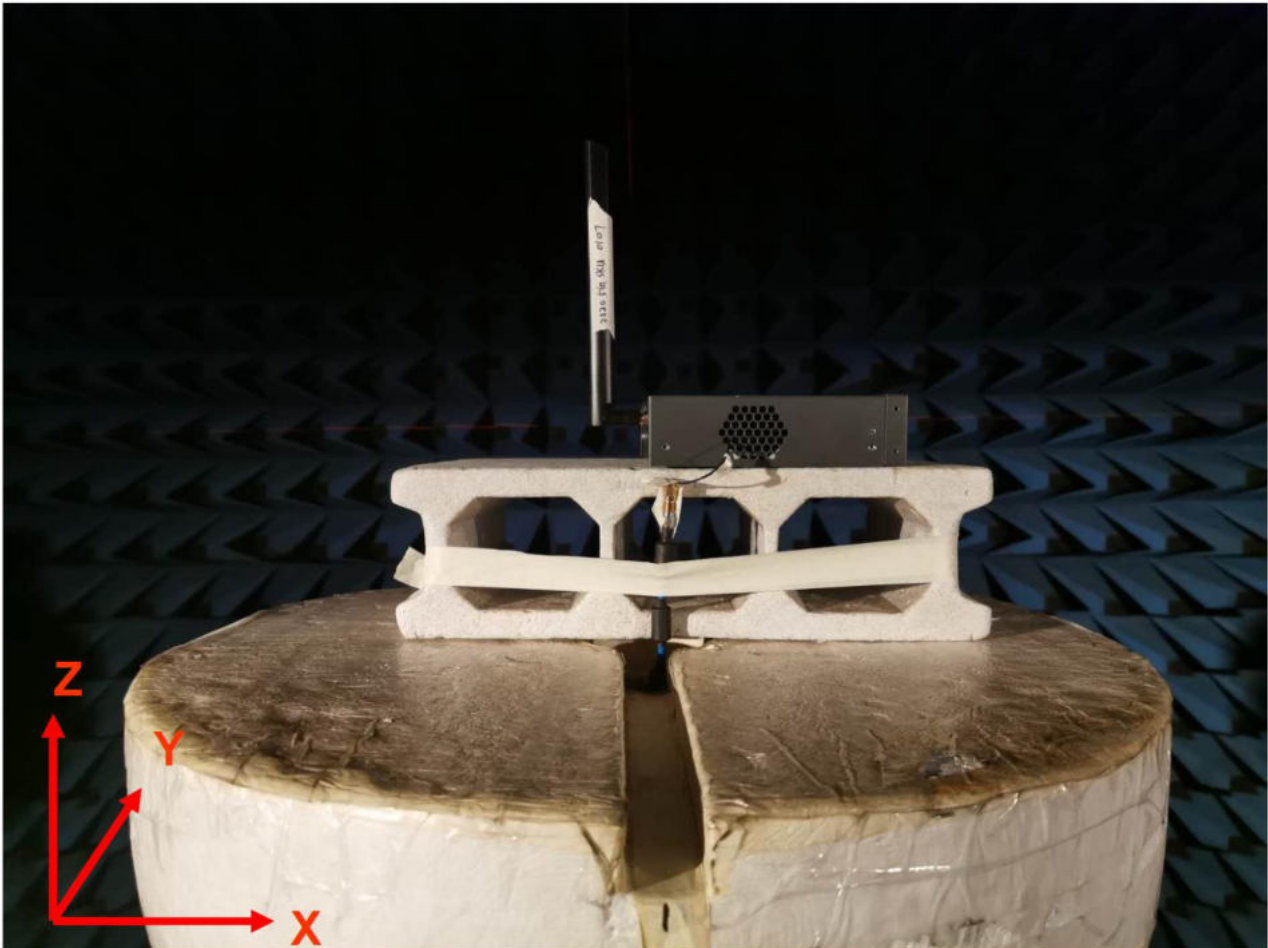
容許公差	TOLERANCE
.XXX	±0.20
.XX	±0.35
.X	±0.50
X	±1.00
ANG	±5

品名
ARTICLE
EDA-2010-6G0R2-A3



單位 UNIT	比例 SCALE	張數 SHEET	版本 REV.
mm	****	1	A

Experimental Setup



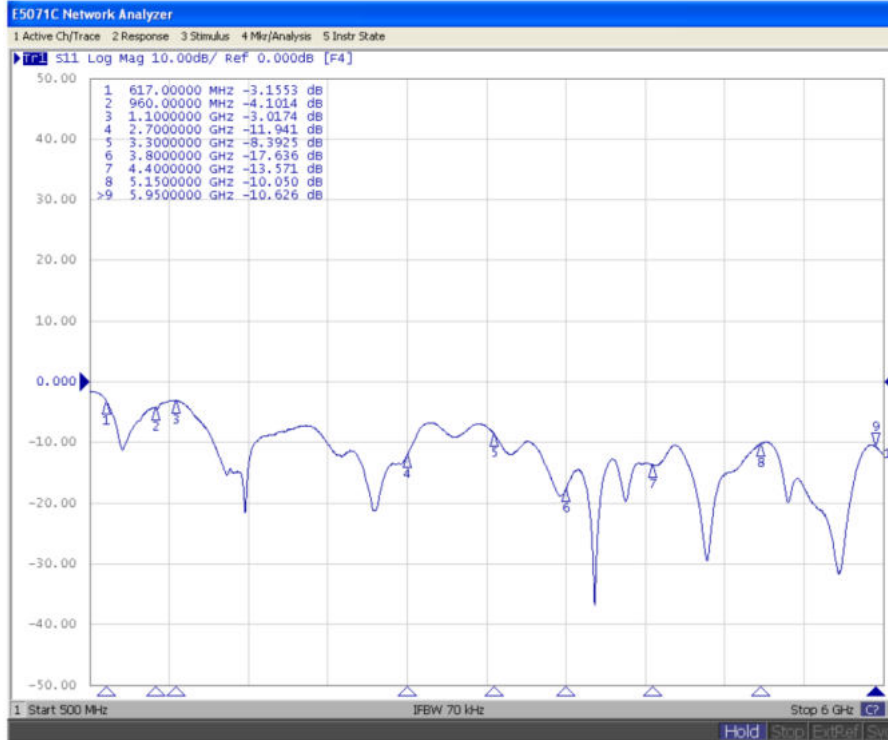
RF Antenna Assembly

ELECTRICAL CHARACTERISTICS

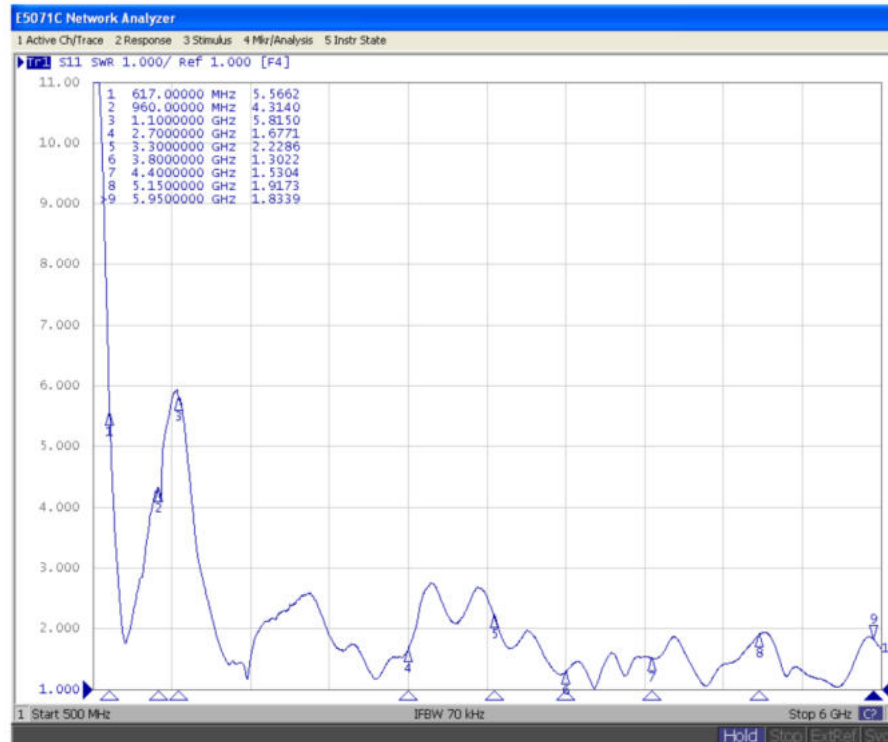
P/NO: EDA-2010-6G0R2-A3

Spec: 617-960MHz/1100-1612MHz/1710-2170MHz/2170-2300MHz
2300-2700MHz/3300-3800MHz/3800-4200MHz/4400-5000MHz
5150-5950MHz

Return Loss

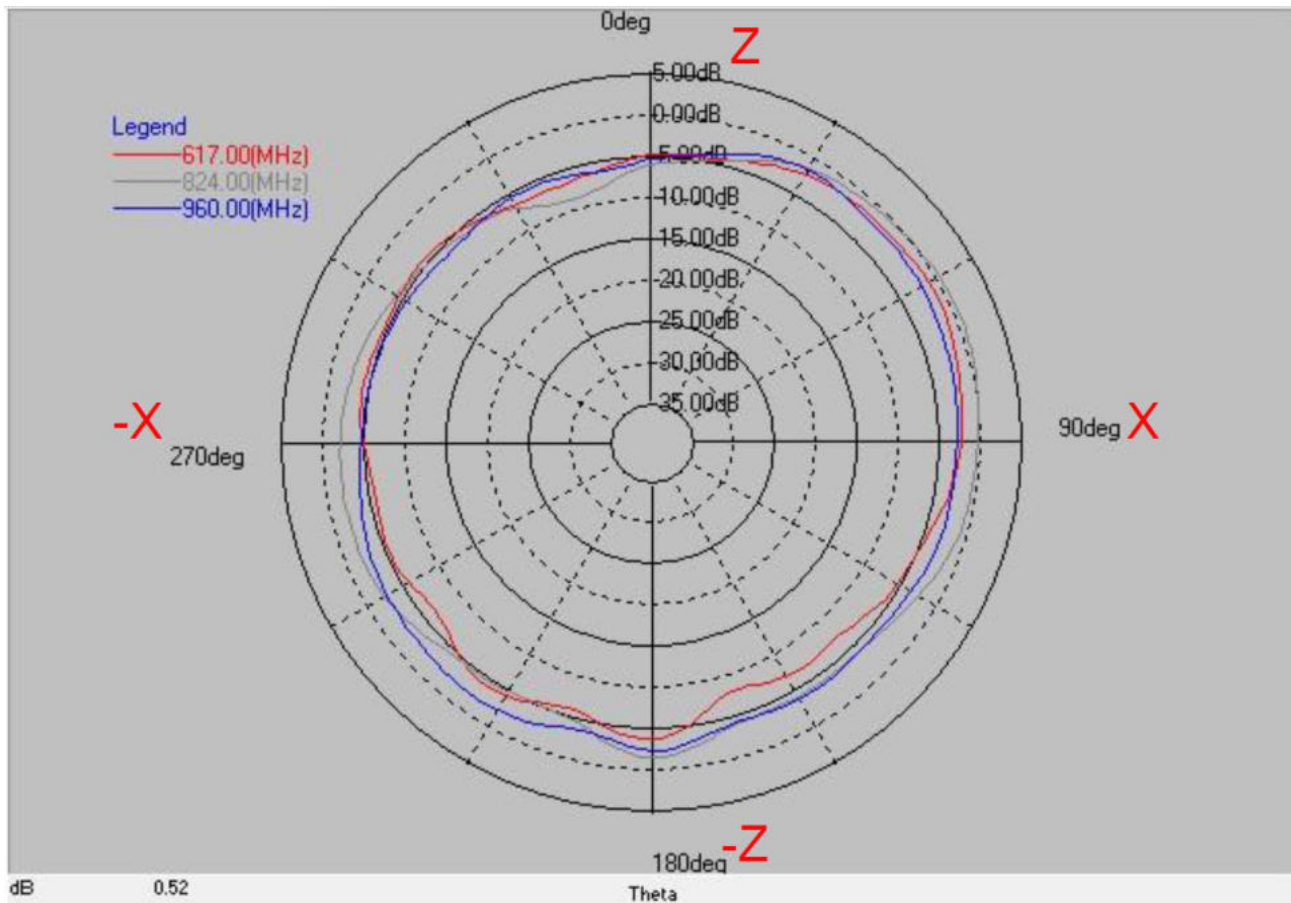


VSWR



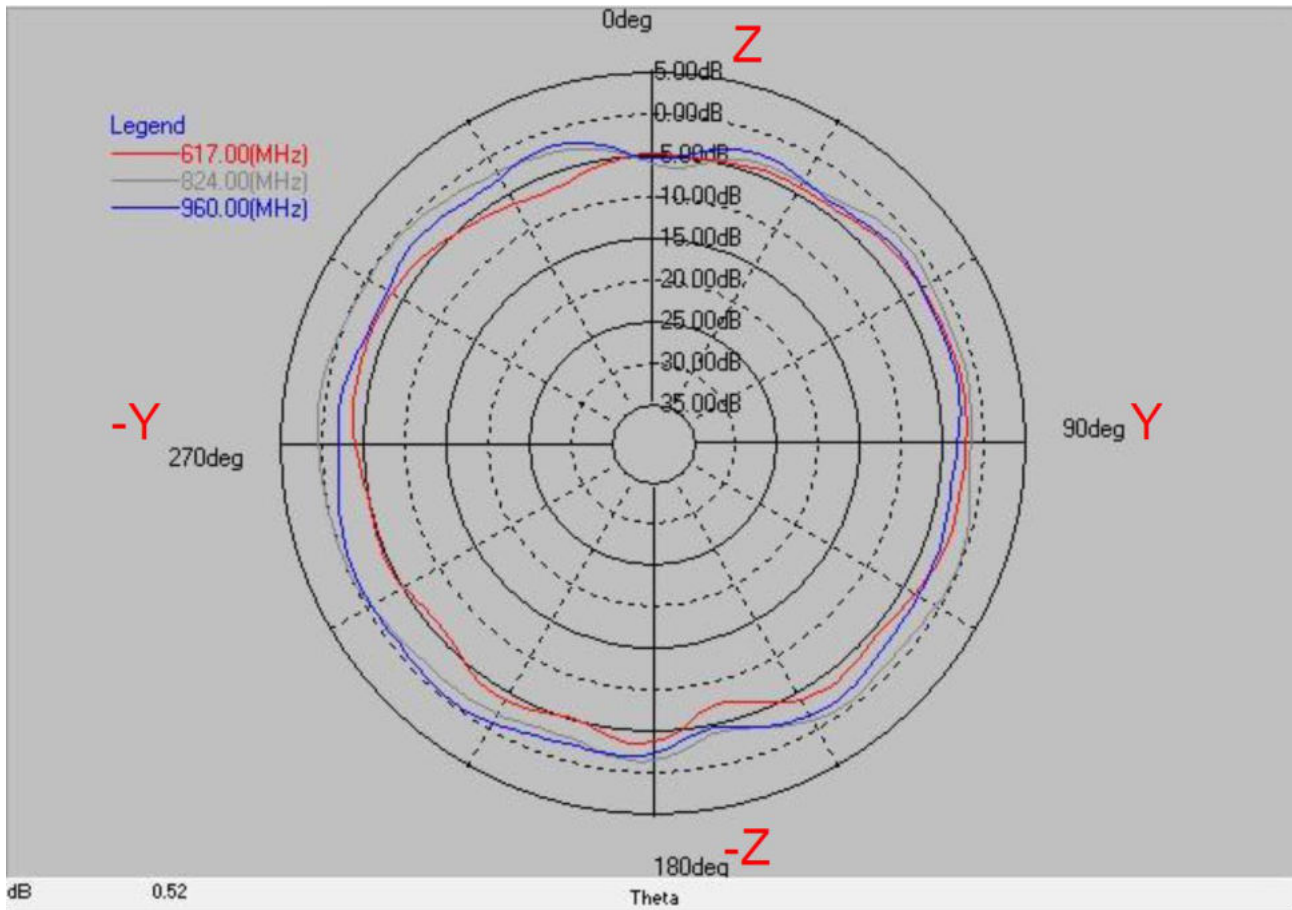
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2D Gain Pattern_Antenna_ZX Cut(Phi=0)



Layer	Max value	Min value	Average
617(MHz)	-0.90 dB	-8.19 dB	-4.31 dB
824(MHz)	0.63 dB	-9.04 dB	-2.67 dB
960(MHz)	-1.75 dB	-6.44 dB	-3.56 dB

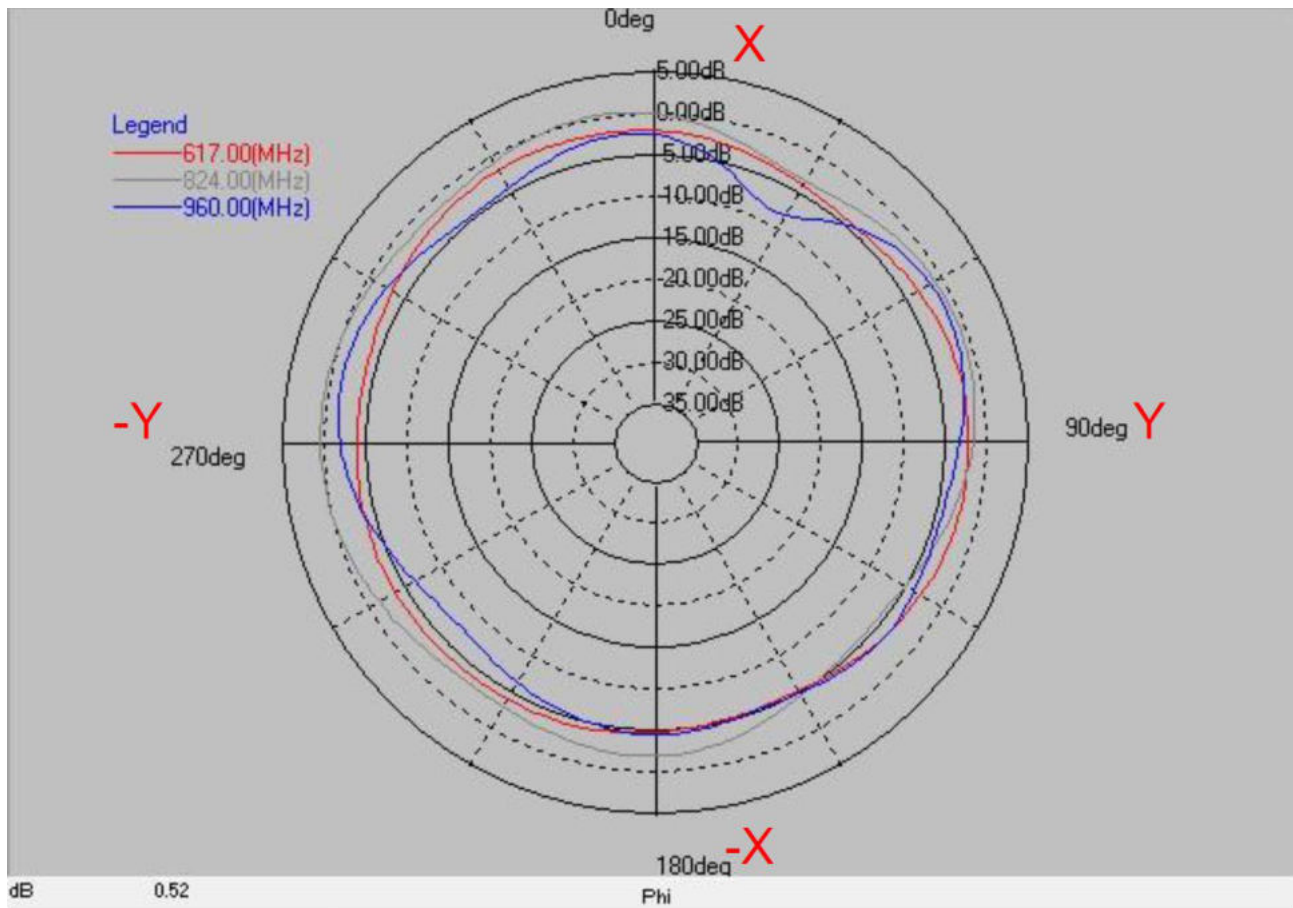
2D Gain Pattern_Antenna_ZY Cut(Phi=90)



Layer	Max value	Min value	Average
617(MHz)	-1.83 dB	-7.60 dB	-4.10 dB
824(MHz)	0.68 dB	-6.55 dB	-1.51 dB
960(MHz)	-0.44 dB	-5.56 dB	-2.42 dB



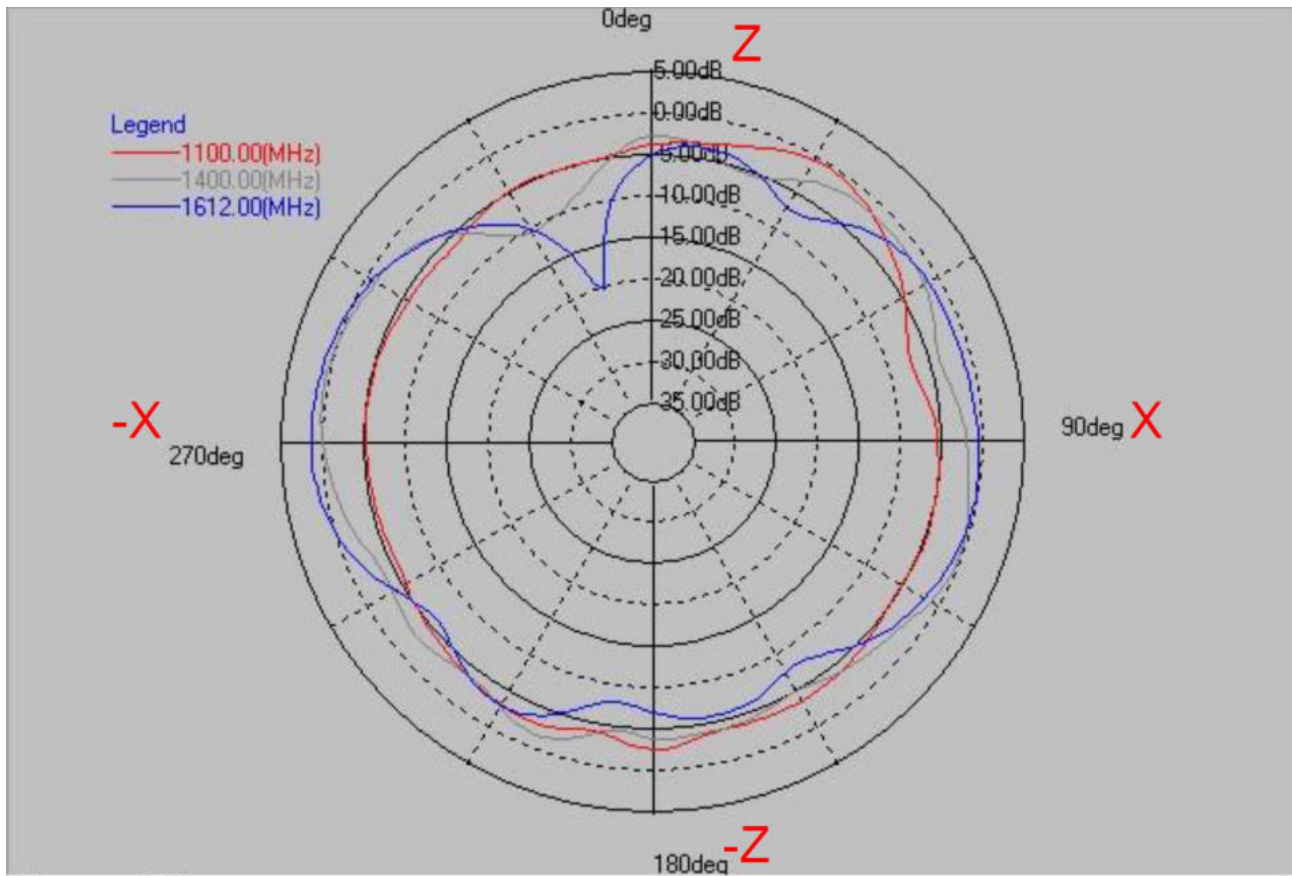
2D Gain Pattern_Antenna_XY Cut(Theta=90)



Layer	Max value	Min value	Average
617(MHz)	-1.97 dB	-5.48 dB	-3.40 dB
824(MHz)	0.51 dB	-5.78 dB	-1.70 dB
960(MHz)	-1.33 dB	-8.62 dB	-3.88 dB

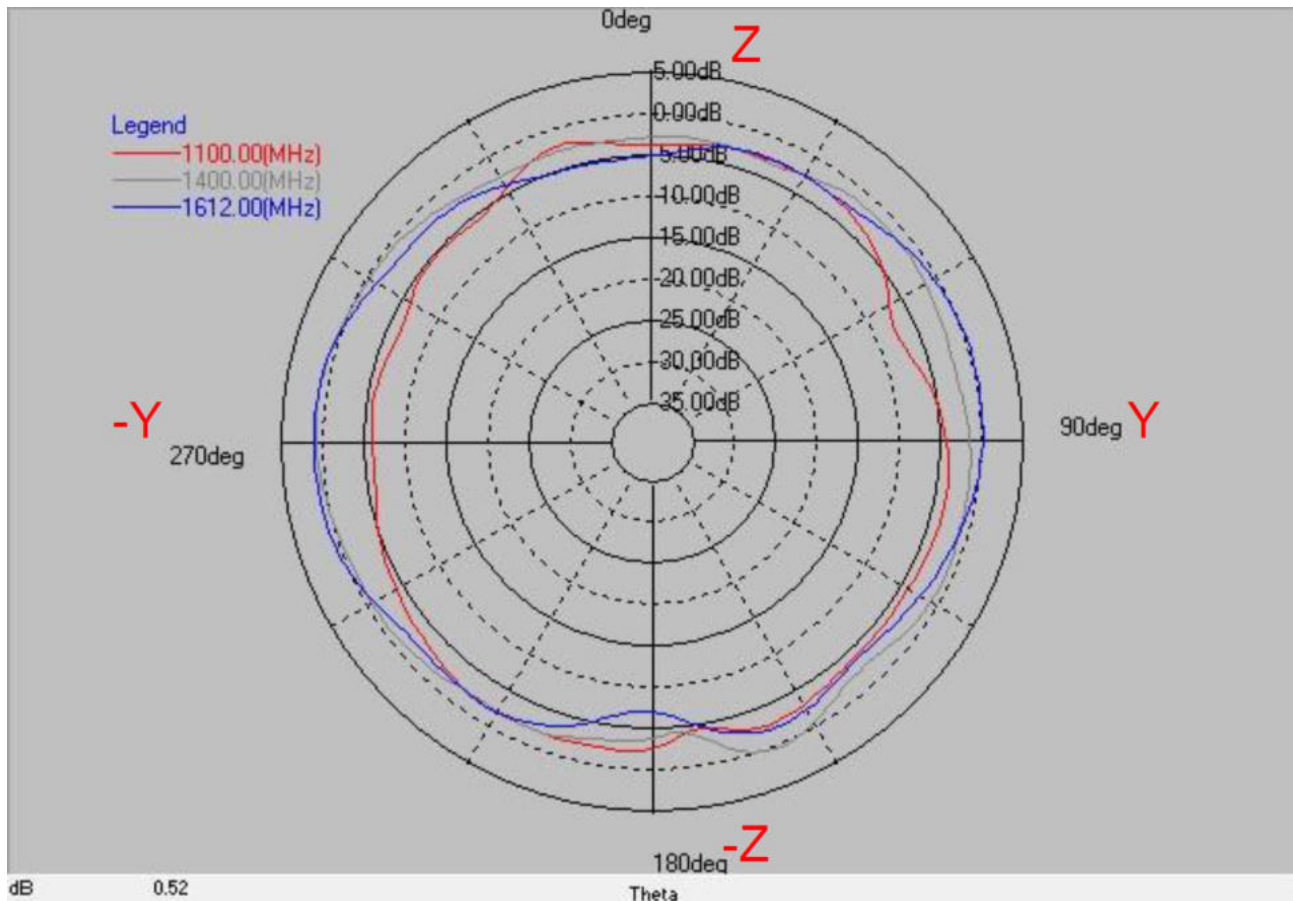


2D Gain Pattern_Antenna_ZX Cut(Phi=0)



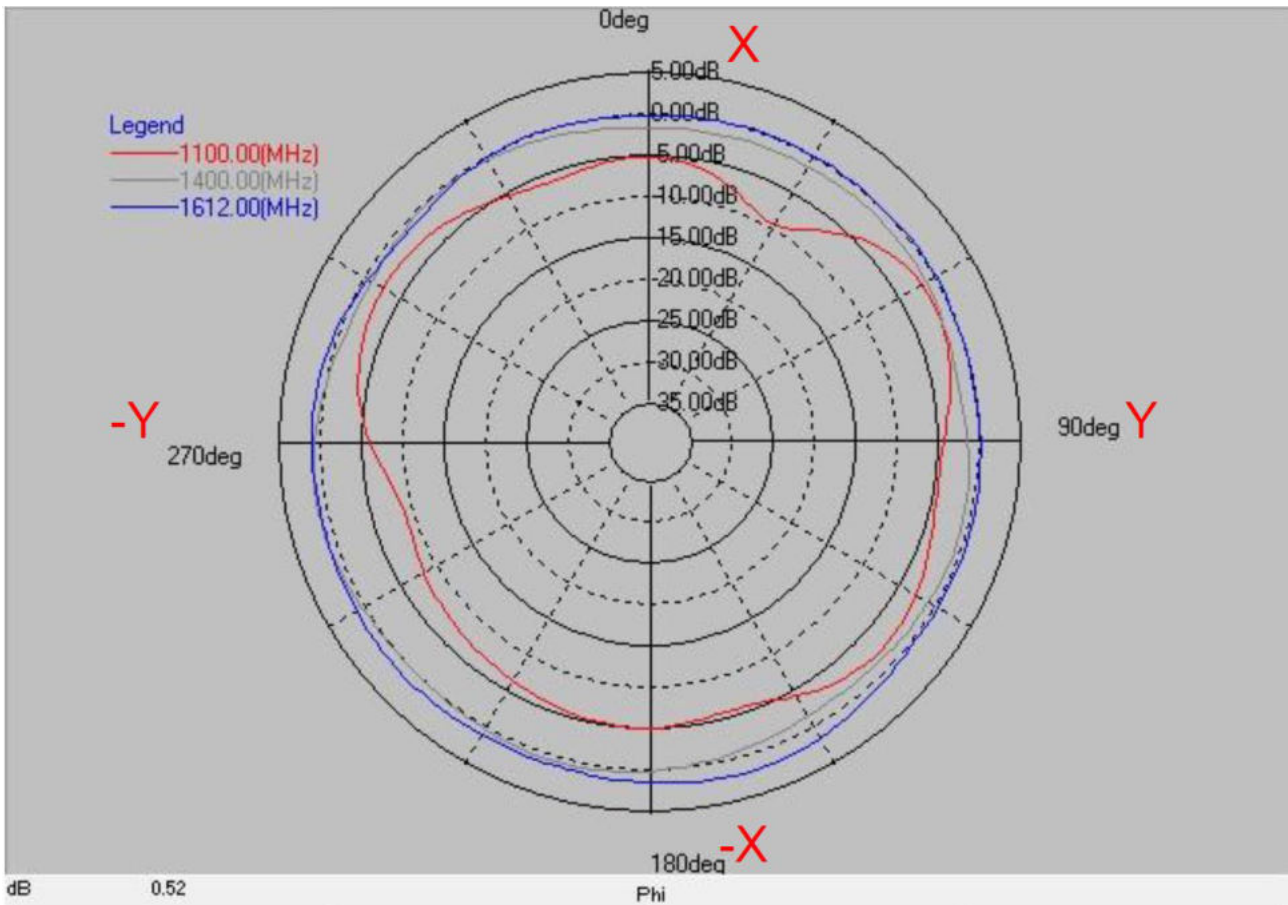
Layer	Max value	Min value	Average
1100(MHz)	-0.59 dB	-7.16 dB	-4.21 dB
1400(MHz)	0.46 dB	-10.78 dB	-2.74 dB
1612(MHz)	1.38 dB	-20.63 dB	-2.82 dB

2D Gain Pattern_Antenna_ZY Cut(Phi=90)



Layer	Max value	Min value	Average
1100(MHz)	-2.05 dB	-7.45 dB	-3.95 dB
1400(MHz)	0.93 dB	-4.55 dB	-1.48 dB
1612(MHz)	1.12 dB	-7.25 dB	-1.80 dB

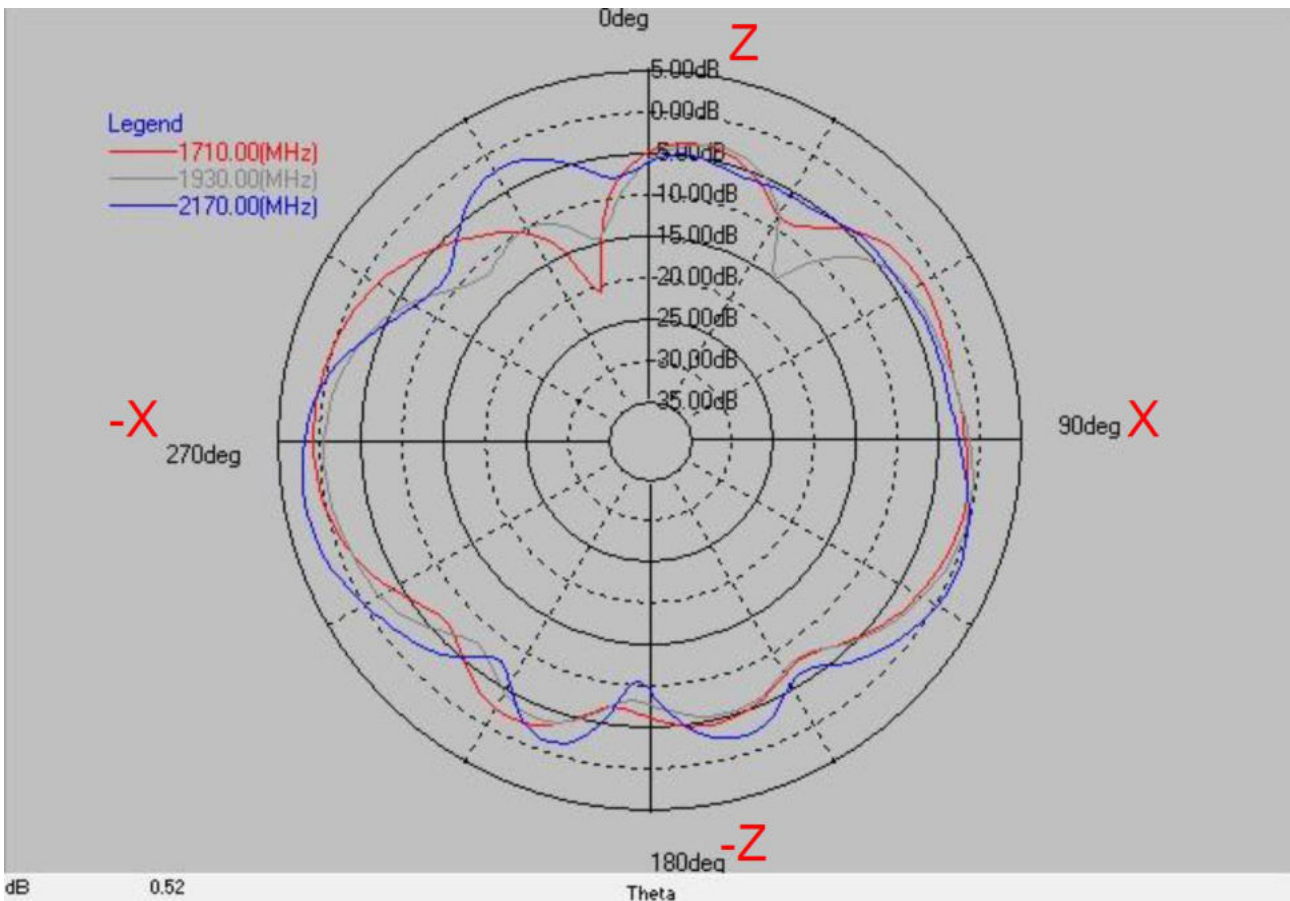
2D Gain Pattern Antenna XY Cut(Theta=90)



Layer	Max value	Min value	Average
1100(MHz)	-1.66 dB	-9.65 dB	-4.69 dB
1400(MHz)	1.14 dB	-1.86 dB	-0.63 dB
1612(MHz)	1.84 dB	-1.08 dB	0.52 dB



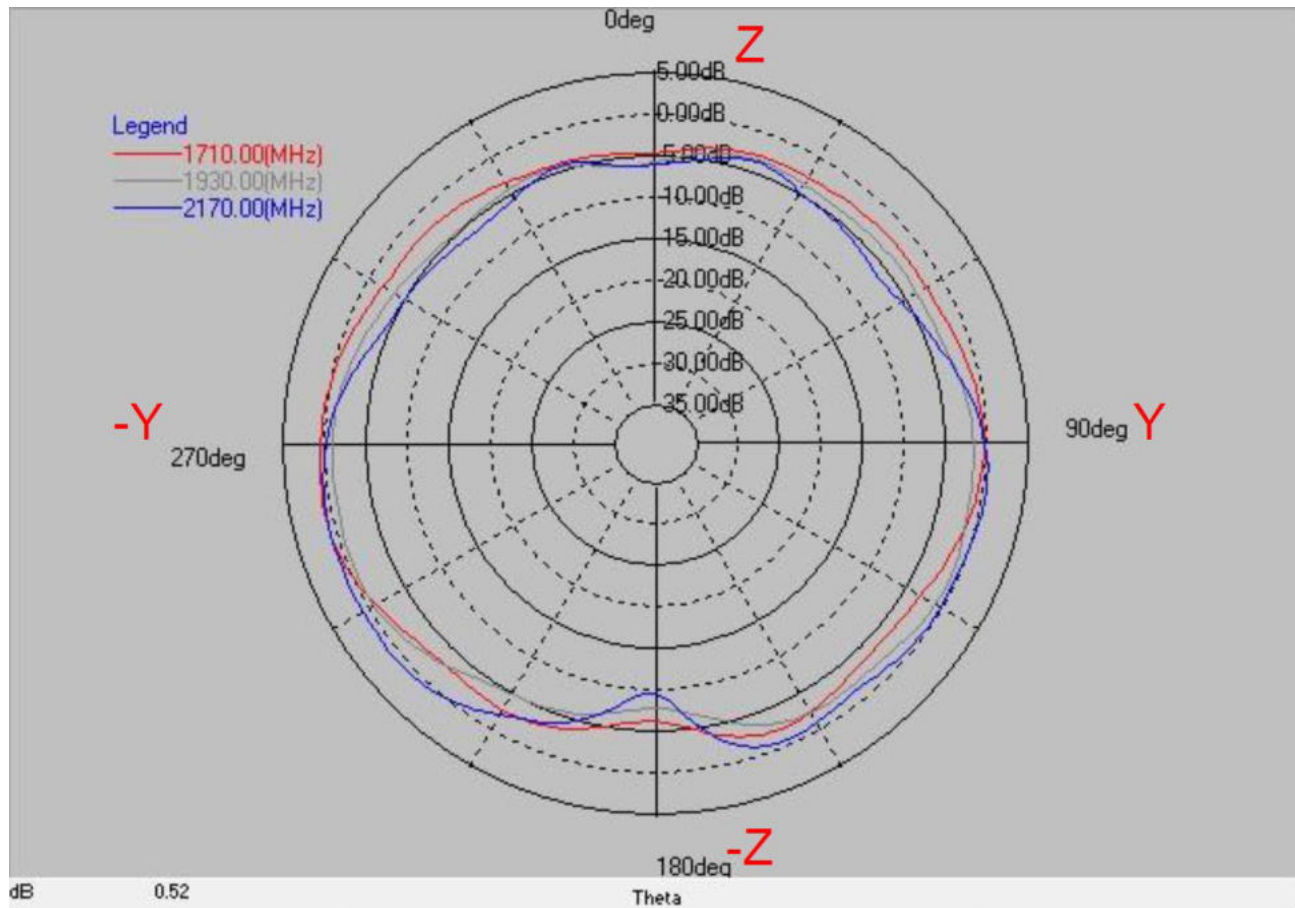
2D Gain Pattern_Antenna_ZX Cut(Phi=0)



Layer	Max value	Min value	Average
1710(MHz)	0.82 dB	-21.17 dB	-3.31 dB
1930(MHz)	-0.25 dB	-14.92 dB	-4.10 dB
2170(MHz)	2.46 dB	-10.70 dB	-2.50 dB



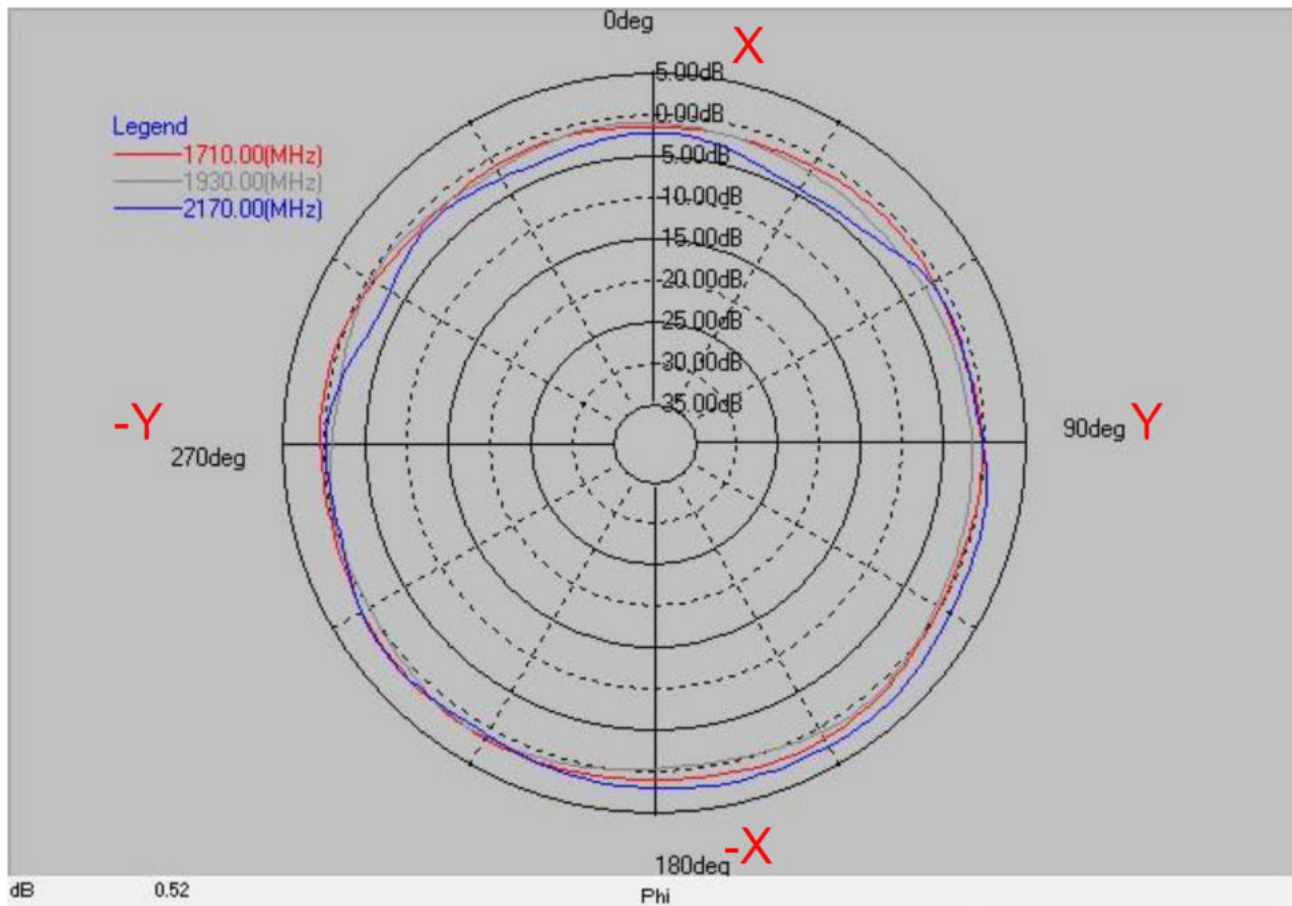
2D Gain Pattern Antenna ZY Cut(Phi=90)



Layer	Max value	Min value	Average
1710(MHz)	0.84 dB	-6.39 dB	-2.18 dB
1930(MHz)	-0.57 dB	-7.96 dB	-3.01 dB
2170(MHz)	0.86 dB	-9.73 dB	-2.27 dB



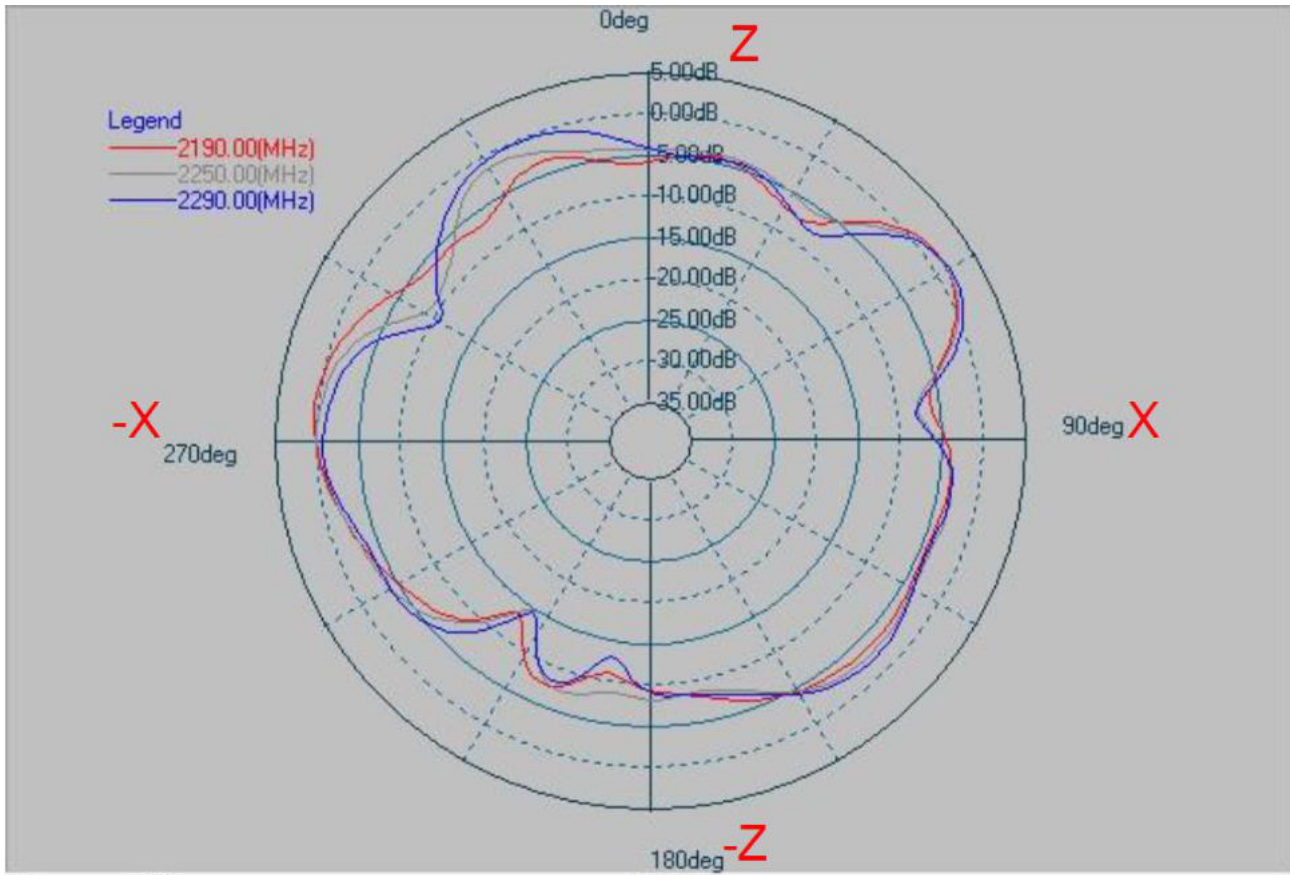
2D Gain Pattern_Antenna_XY Cut(Theta=90)



Layer	Max value	Min value	Average
1710(MHz)	1.41 dB	-1.71 dB	0.01 dB
1930(MHz)	1.21 dB	-2.44 dB	-0.70 dB
2170(MHz)	2.49 dB	-4.54 dB	-0.09 dB

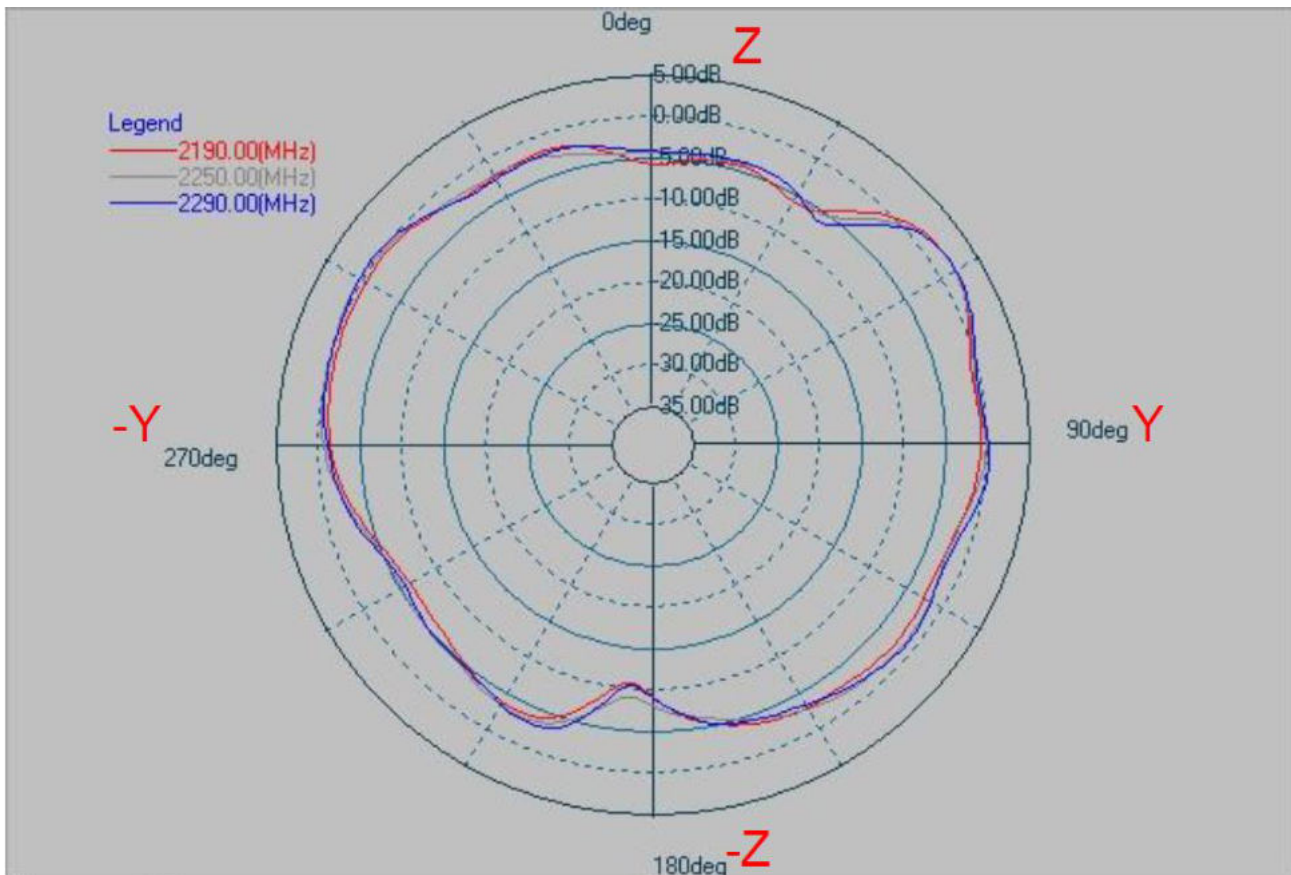


2D Gain Pattern_Antenna_ZX Cut(Phi=0)



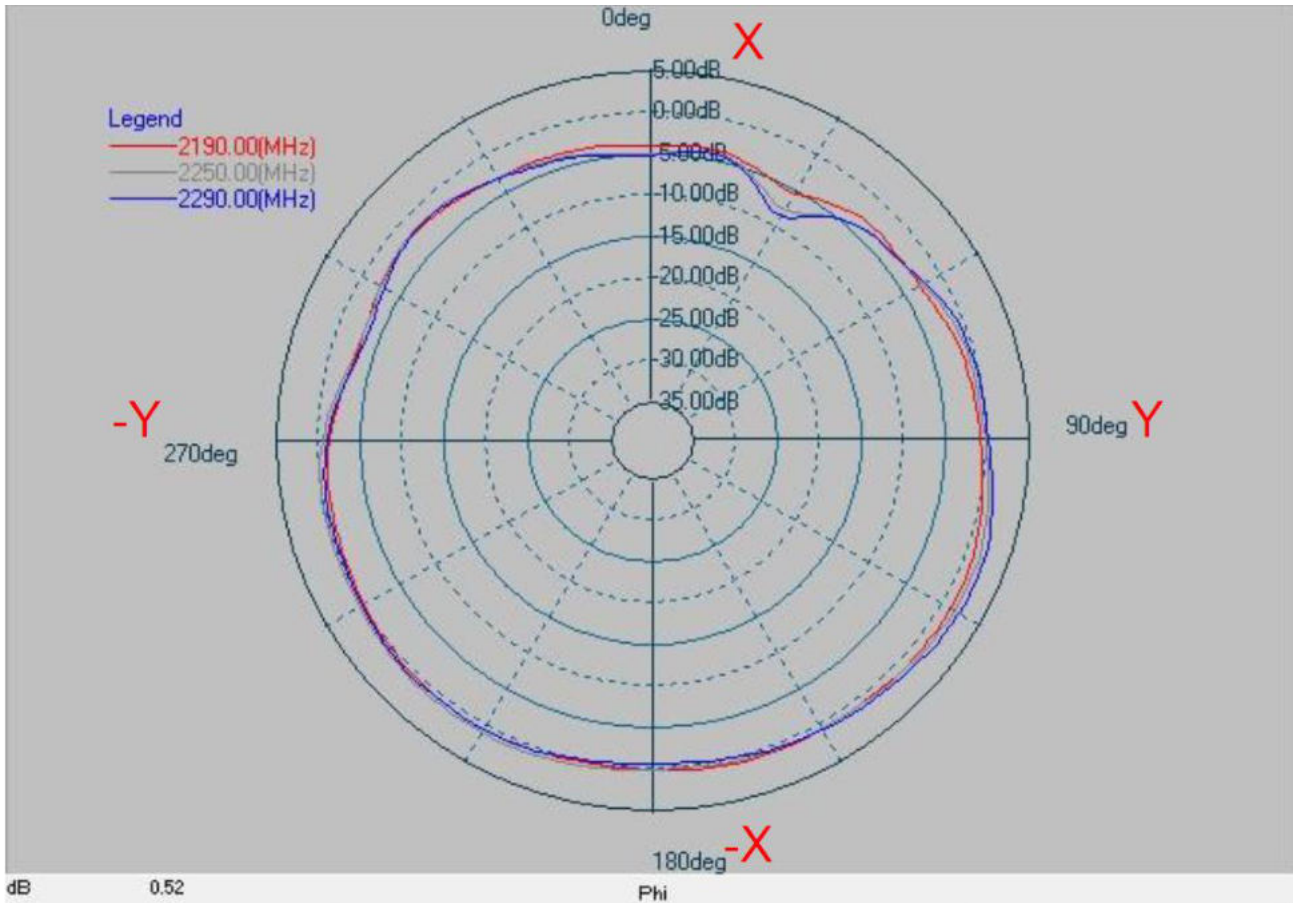
Layer	Max value	Min value	Average
2190(MHz)	1.40 dB	-13.68 dB	-3.93 dB
2250(MHz)	1.34 dB	-14.91 dB	-3.75 dB
2290(MHz)	1.64 dB	-14.81 dB	-3.67 dB

2D Gain Pattern_Antenna_ZY Cut(Phi=90)



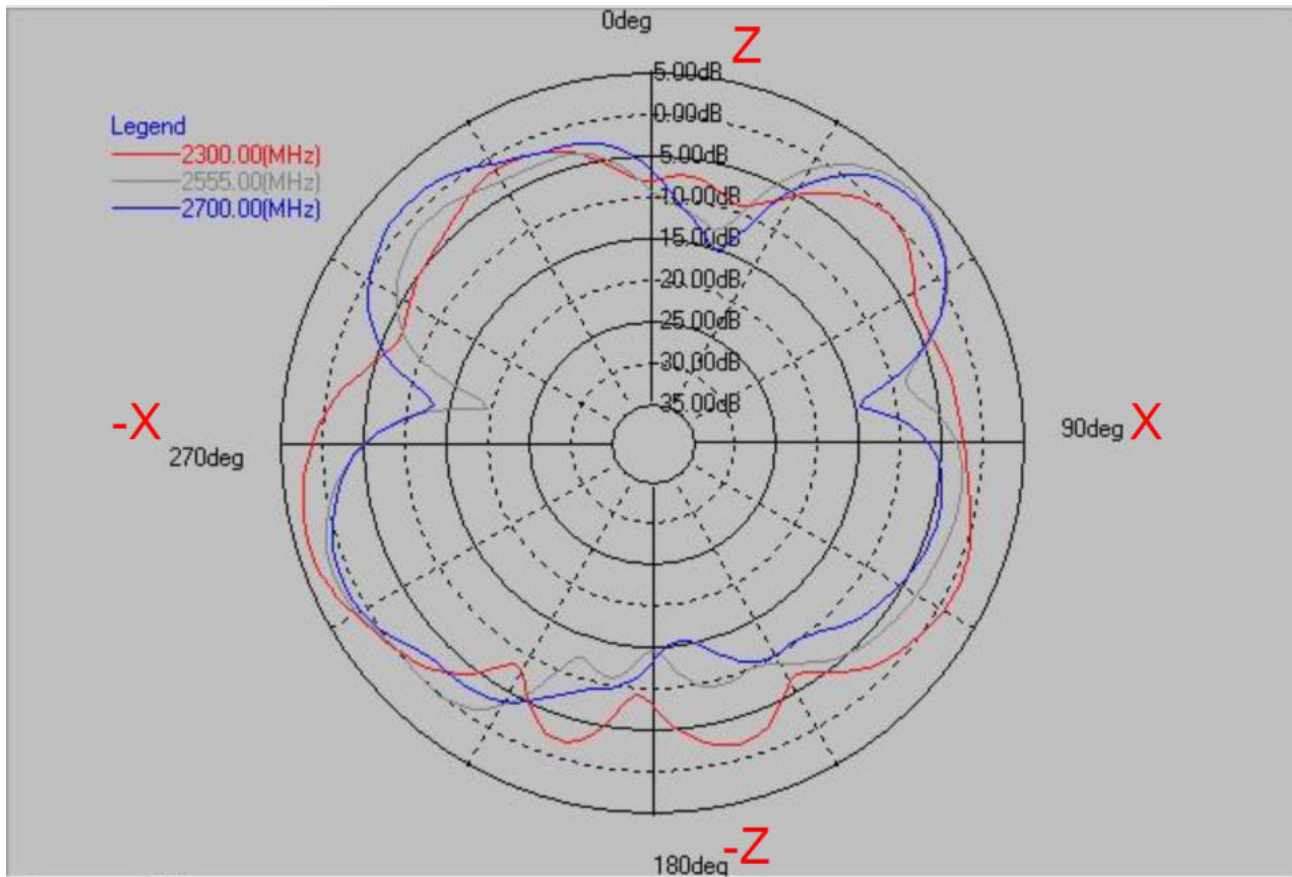
Layer	Max value	Min value	Average
2190(MHz)	1.95 dB	-10.94 dB	-2.54 dB
2250(MHz)	1.84 dB	-9.12 dB	-2.20 dB
2290(MHz)	2.05 dB	-10.61 dB	-2.14 dB

2D Gain Pattern_Antenna_XY Cut(Theta=90)



Layer	Max value	Min value	Average
2190(MHz)	1.18 dB	-5.65 dB	-1.07 dB
2250(MHz)	1.75 dB	-7.87 dB	-0.81 dB
2290(MHz)	2.43 dB	-8.84 dB	-0.86 dB

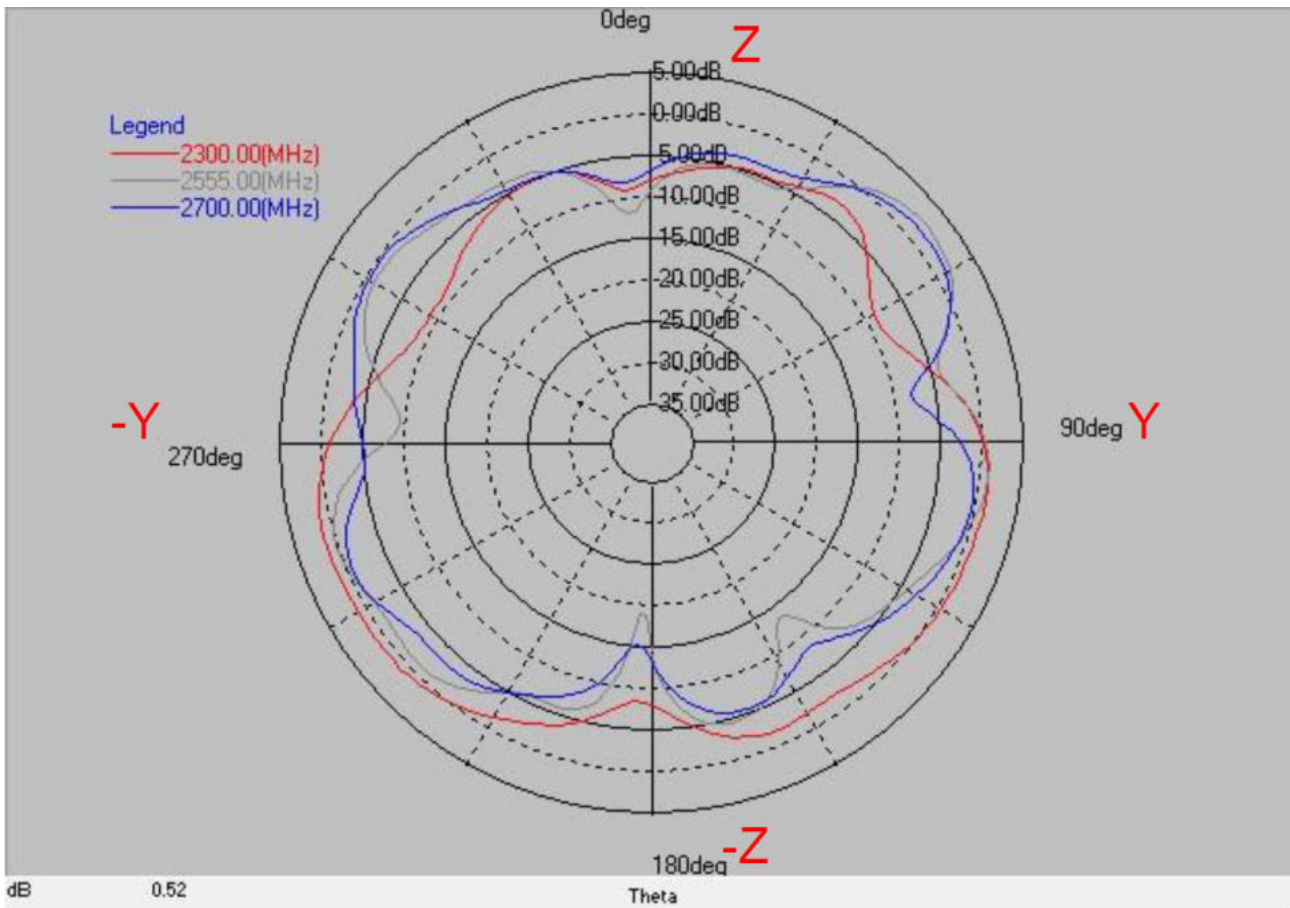
2D Gain Pattern_Antenna_ZX Cut(Phi=0)



Layer	Max value	Min value	Average
2300(MHz)	3.46 dB	-9.45 dB	-1.96 dB
2555(MHz)	3.82 dB	-19.62 dB	-2.58 dB
2700(MHz)	3.33 dB	-15.85 dB	-2.77 dB



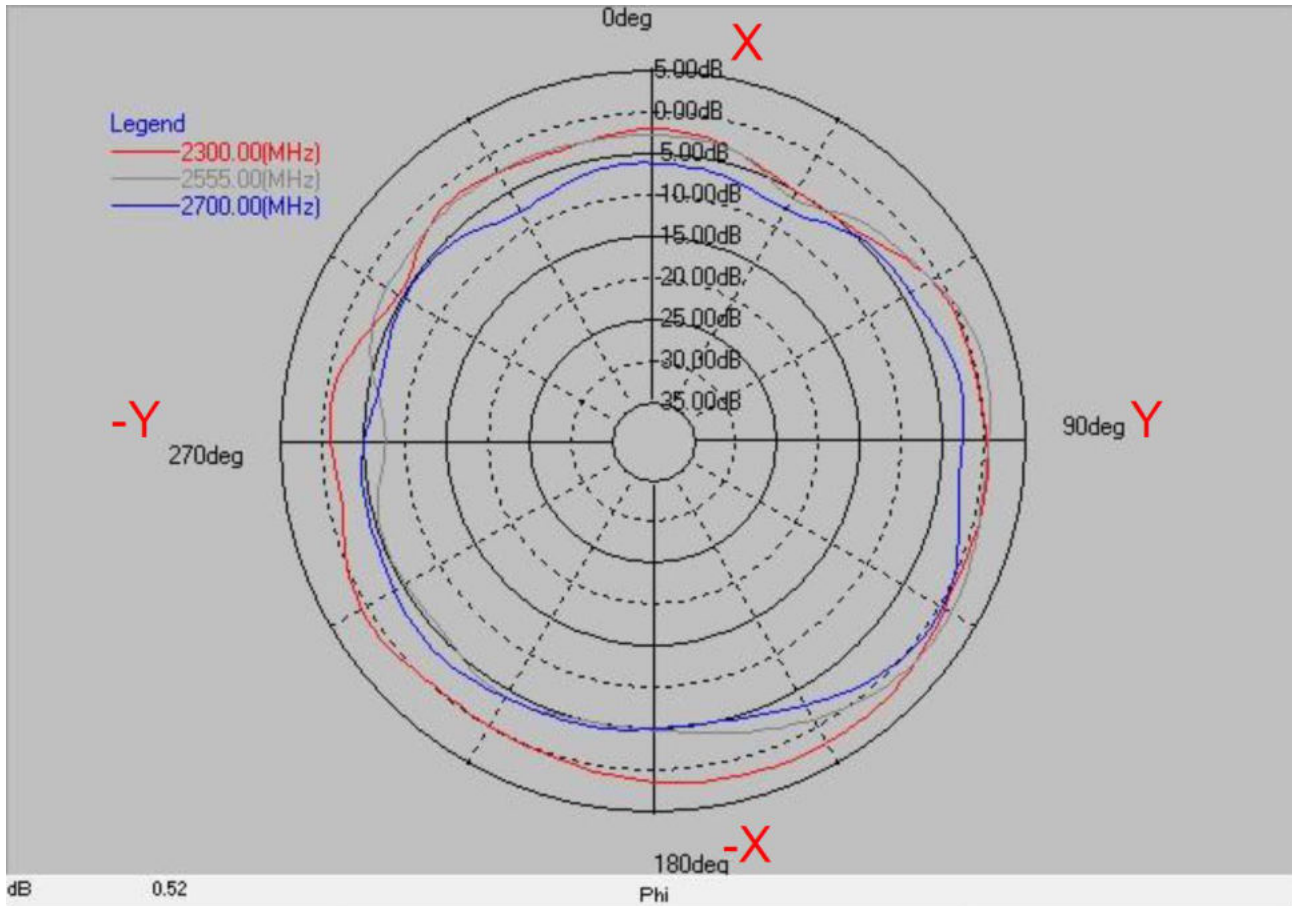
2D Gain Pattern Antenna_ZY Cut(Phi=90)



Layer	Max value	Min value	Average
2300(MHz)	1.35 dB	-9.24 dB	-2.42 dB
2555(MHz)	2.52 dB	-19.18 dB	-2.78 dB
2700(MHz)	1.57 dB	-15.53 dB	-3.10 dB



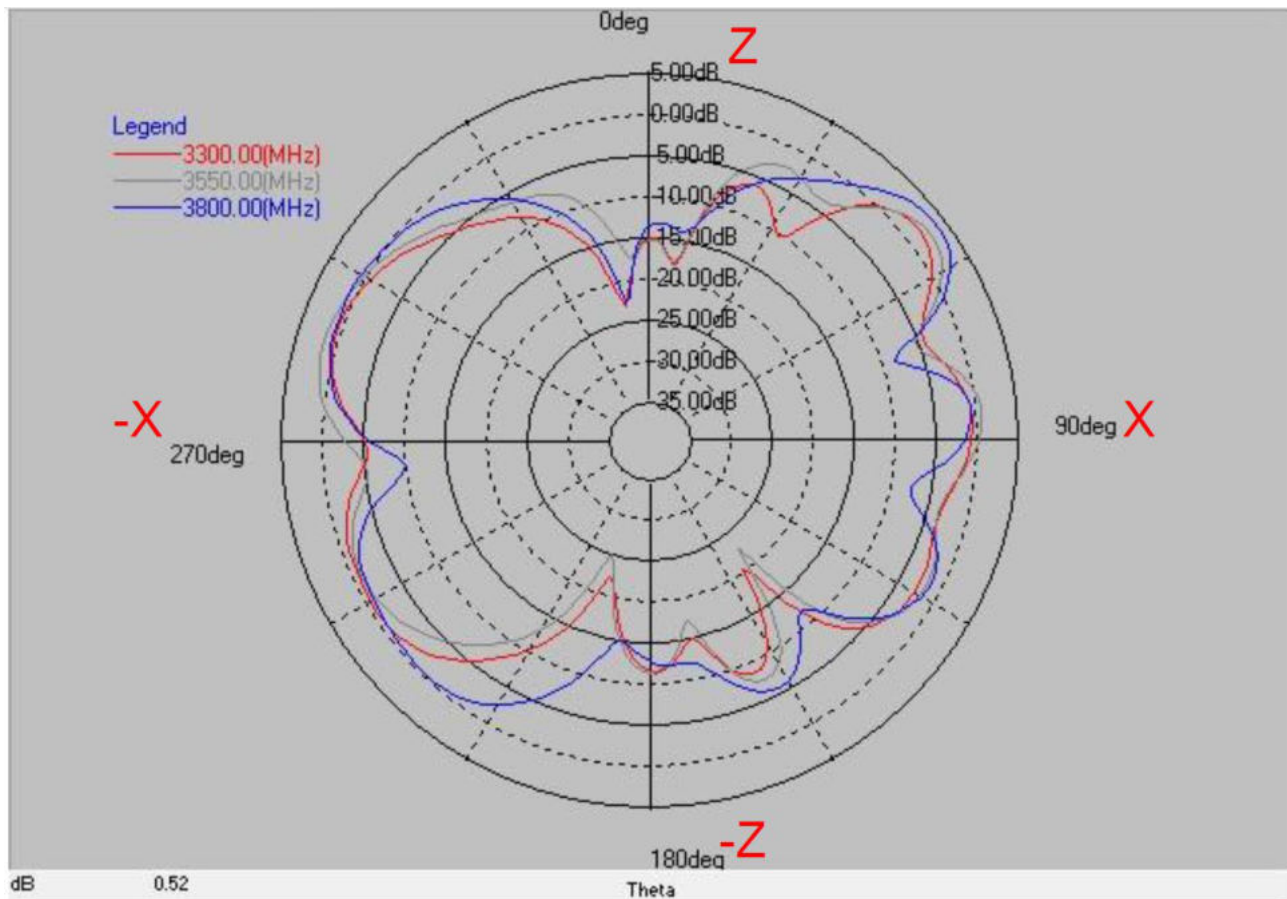
2D Gain Pattern_Antenna_XY Cut(Theta=90)



Layer	Max value	Min value	Average
2300(MHz)	2.14 dB	-5.33 dB	-0.51 dB
2555(MHz)	1.73 dB	-7.64 dB	-2.15 dB
2700(MHz)	0.52 dB	-7.98 dB	-3.95 dB

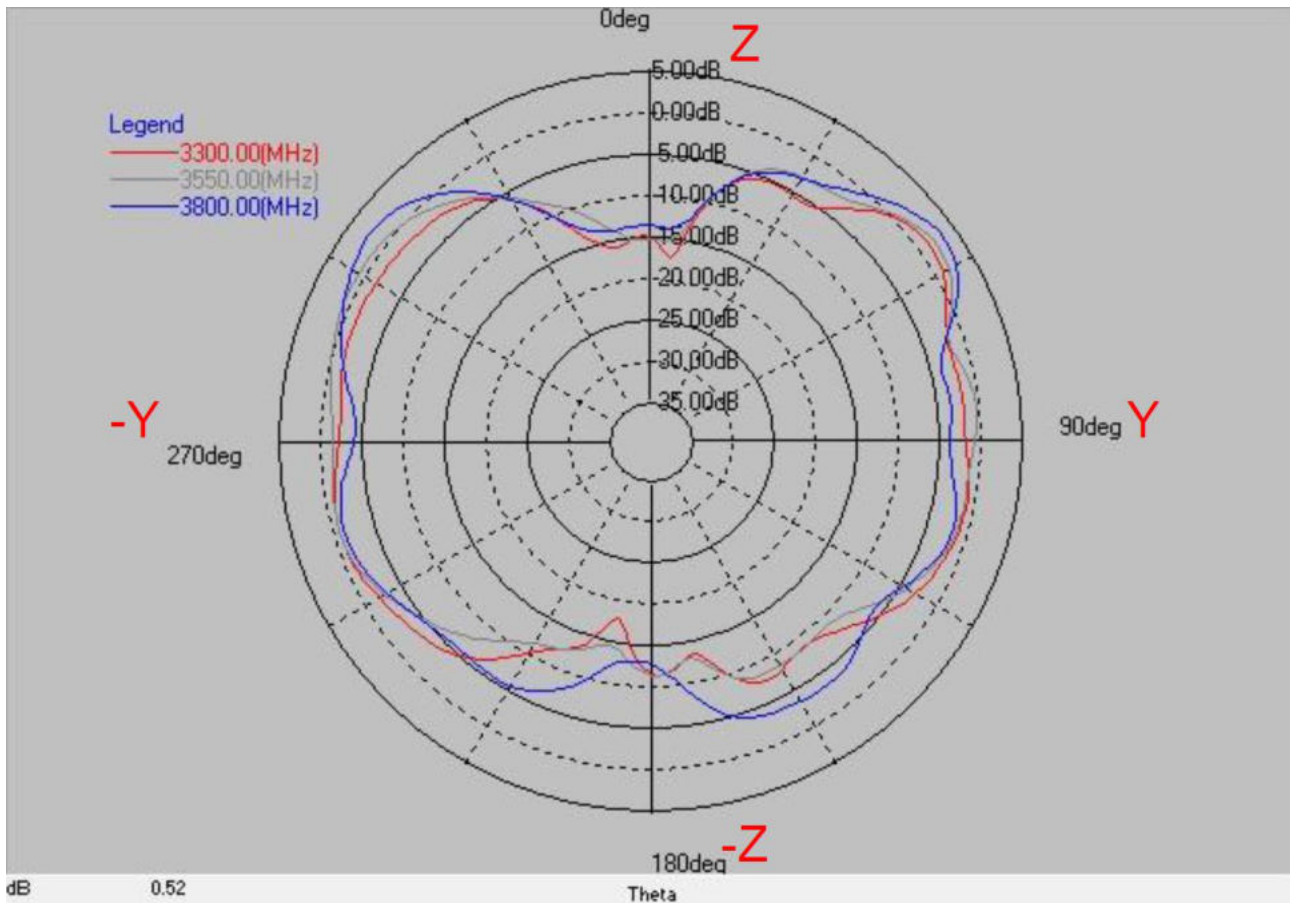


2D Gain Pattern_Antenna_ZX Cut(Phi=0)



Layer	Max value	Min value	Average
3300(MHz)	1.85 dB	-23.31 dB	-3.84 dB
3550(MHz)	2.62 dB	-25.25 dB	-3.22 dB
3800(MHz)	3.96 dB	-22.87 dB	-2.76 dB

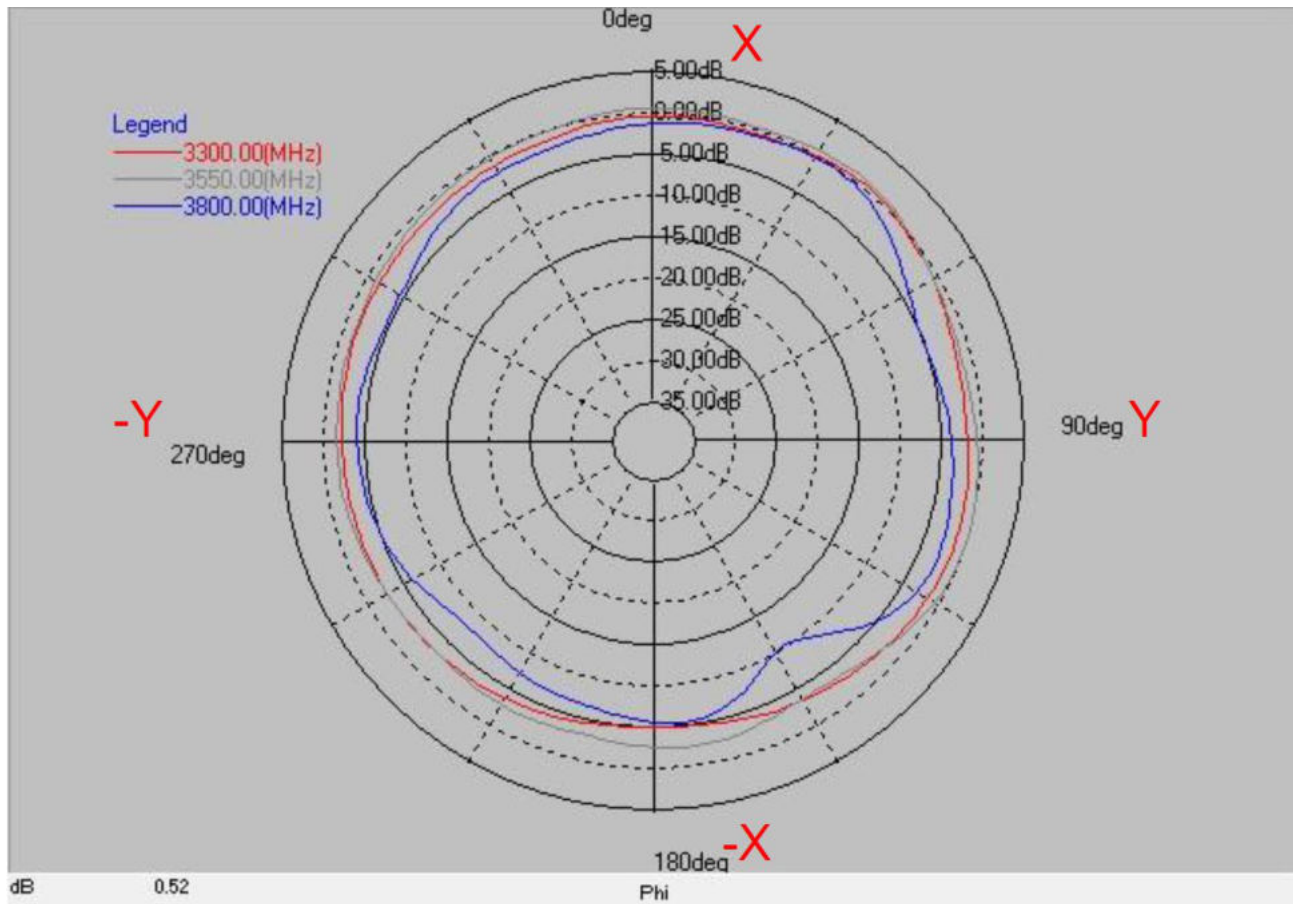
2D Gain Pattern_Antenna_ZY Cut(Phi=90)



Layer	Max value	Min value	Average
3300(MHz)	1.34 dB	-18.19 dB	-3.68 dB
3550(MHz)	2.11 dB	-15.65 dB	-3.06 dB
3800(MHz)	3.26 dB	-14.15 dB	-2.72 dB



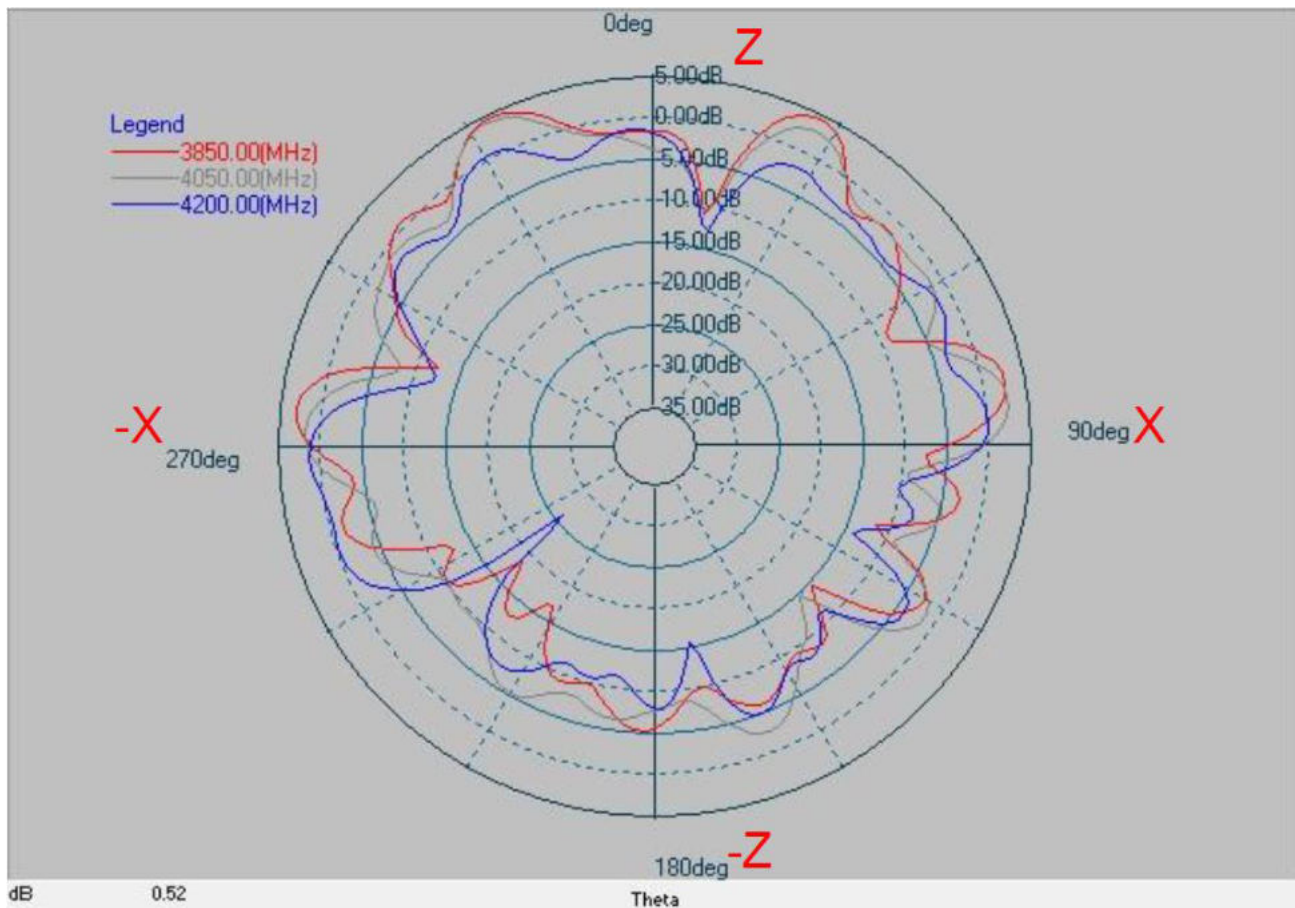
2D Gain Pattern_Antenna_XY Cut(Theta=90)



Layer	Max value	Min value	Average
3300(MHz)	0.32 dB	-5.20 dB	-1.91 dB
3550(MHz)	0.84 dB	-3.76 dB	-1.17 dB
3800(MHz)	-0.29 dB	-10.46 dB	-3.80 dB

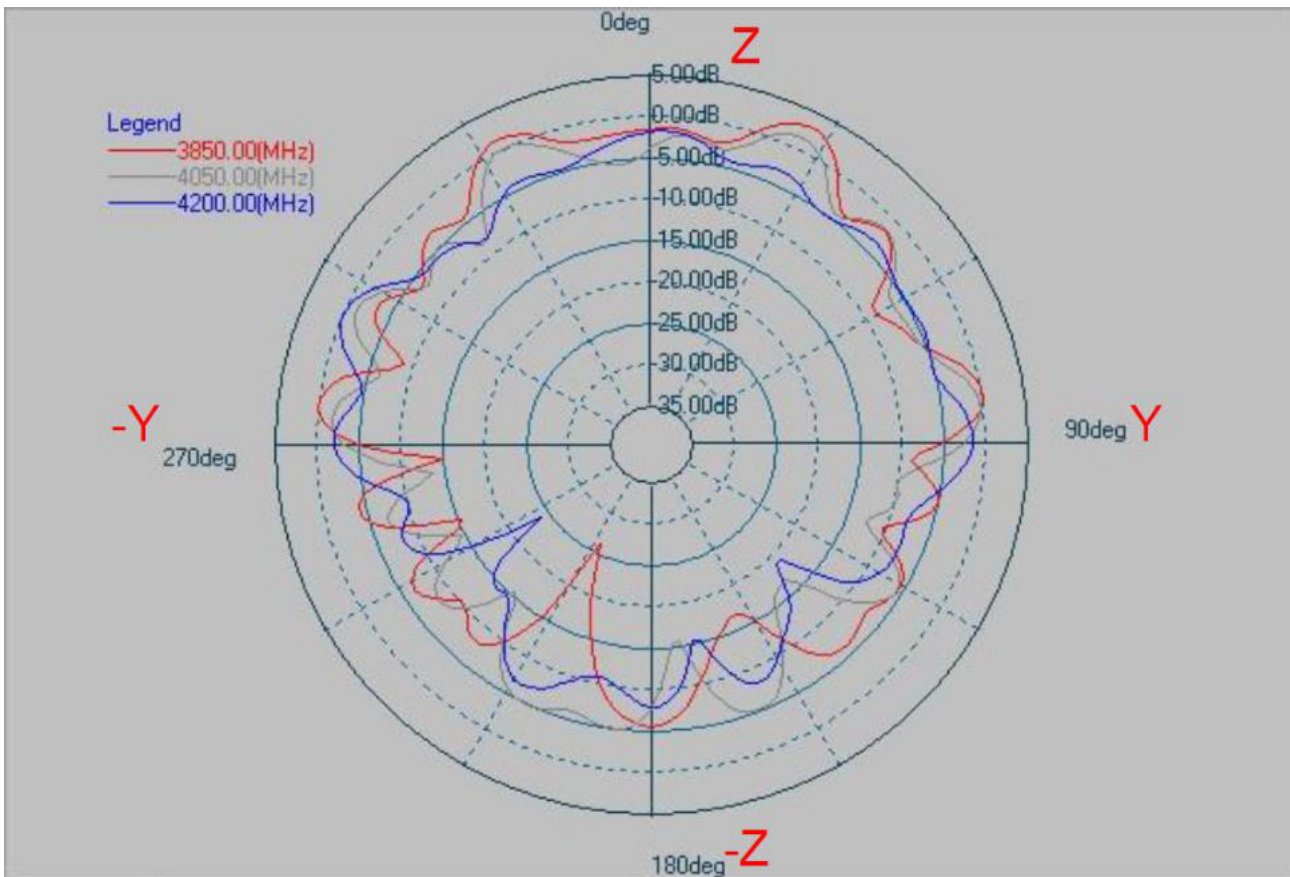


2D Gain Pattern Antenna ZX Cut($\Phi=0$)



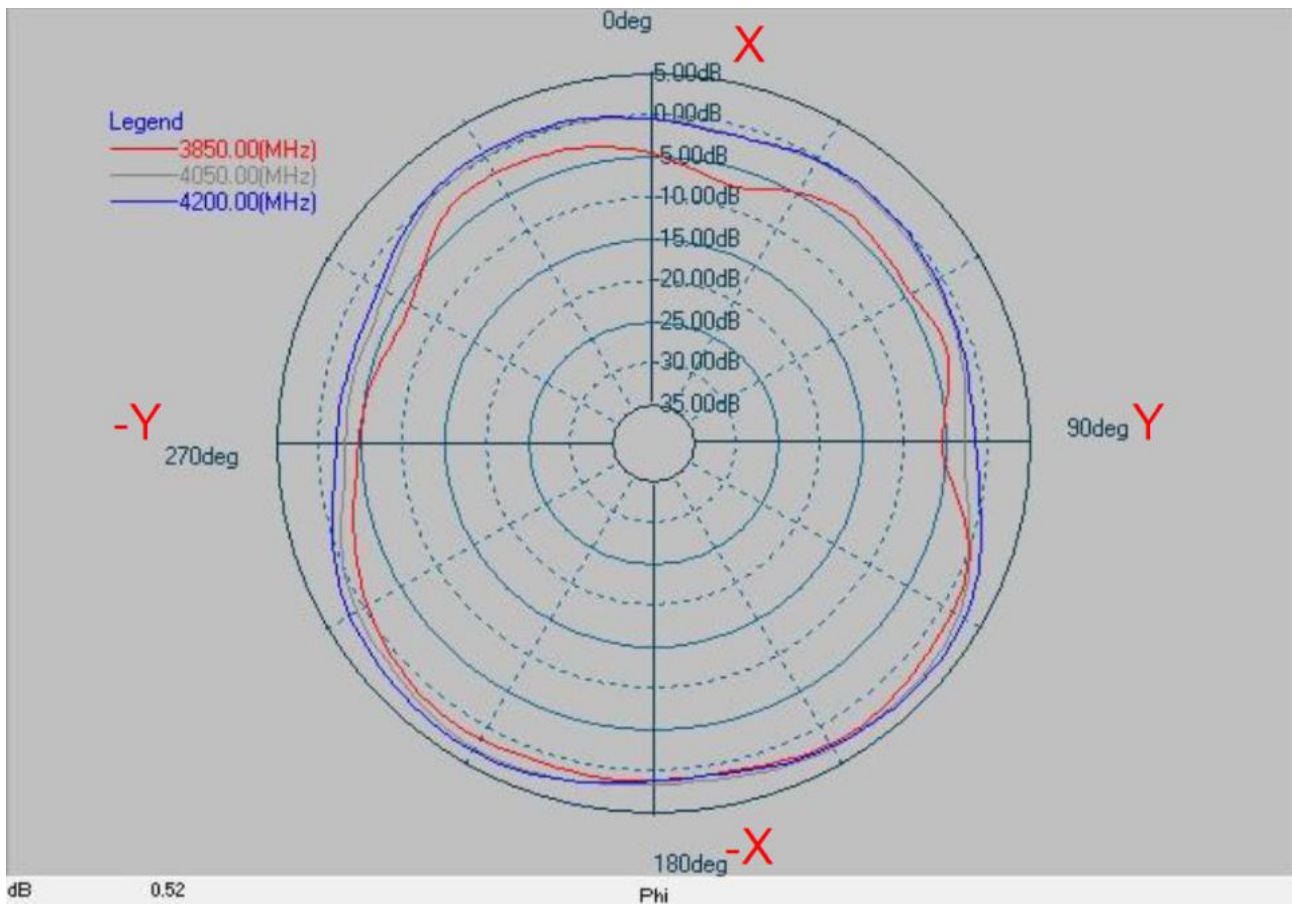
Layer	Max value	Min value	Average
3850(MHz)	4.27 dB	-18.75 dB	-2.21 dB
4050(MHz)	3.81 dB	-14.67 dB	-2.40 dB
4200(MHz)	1.22 dB	-26.16 dB	-4.01 dB

2D Gain Pattern _ Antenna _ ZY Cut(Phi=90)



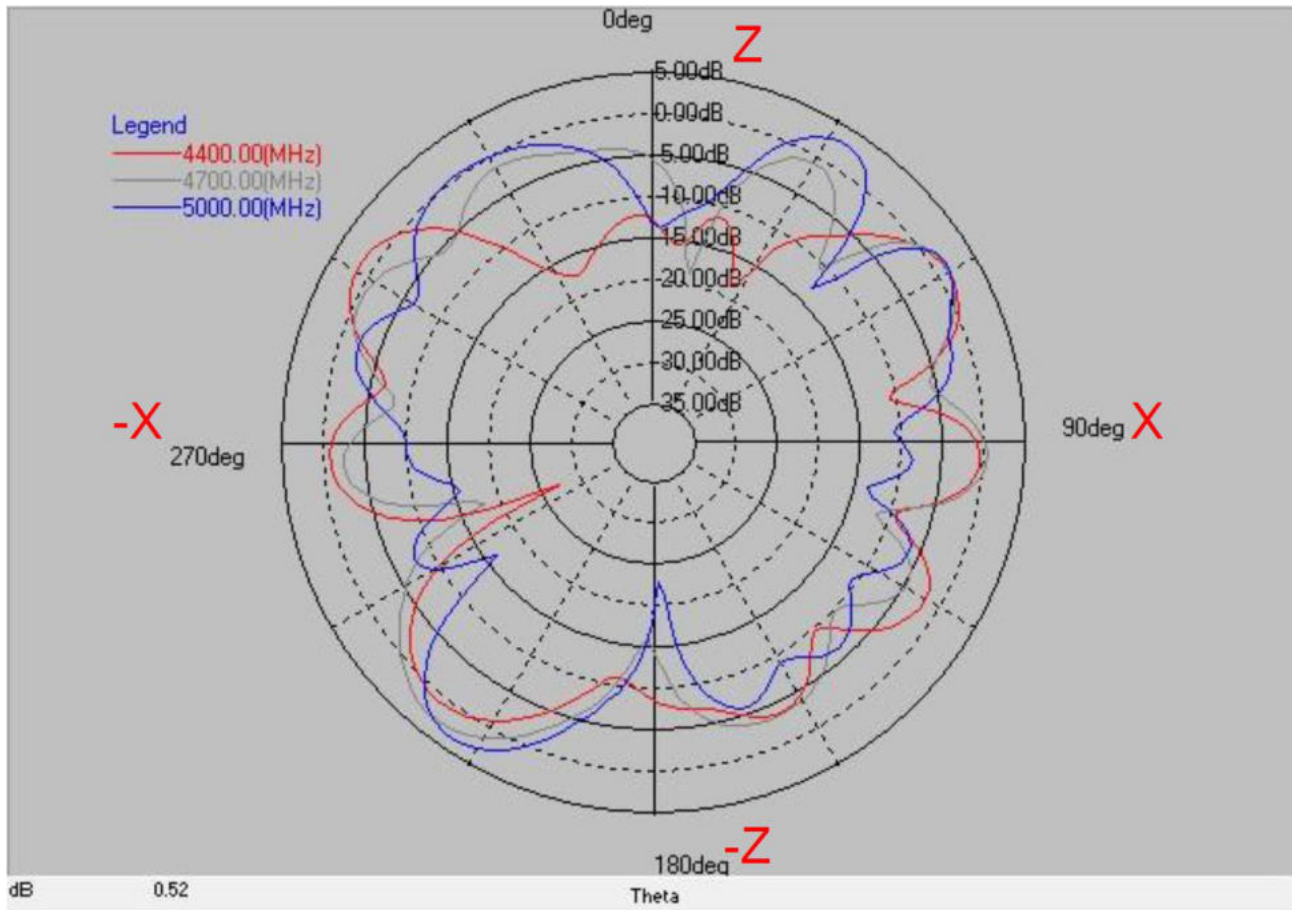
Layer	Max value	Min value	Average
3850(MHz)	2.89 dB	-26.38 dB	-3.98 dB
4050(MHz)	1.30 dB	-16.95 dB	-4.69 dB
4200(MHz)	-0.12 dB	-24.05 dB	-5.48 dB

2D Gain Pattern_Antenna_XY Cut(Theta=90)



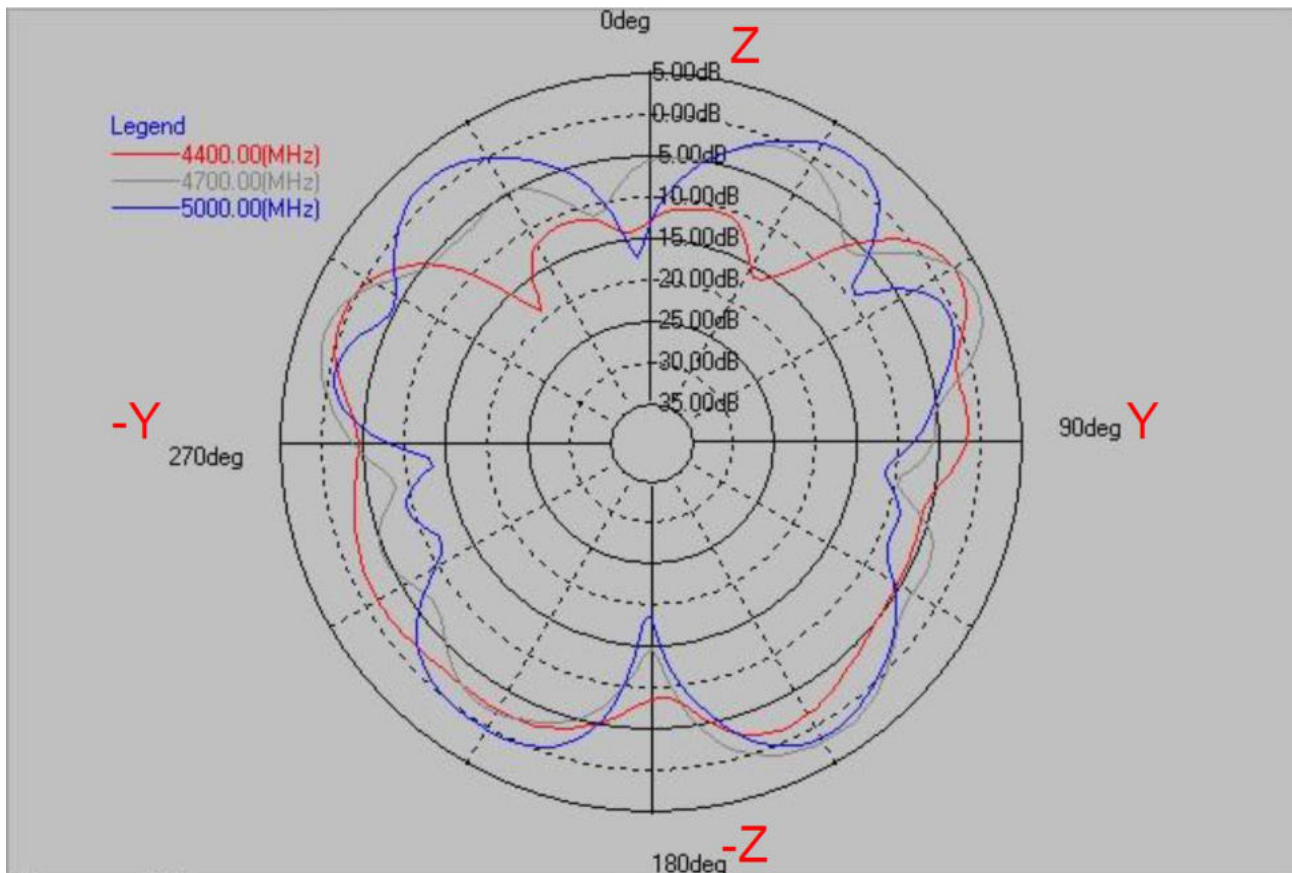
Layer	Max value	Min value	Average
3850(MHz)	2.46 dB	-7.50 dB	-1.25 dB
4050(MHz)	2.90 dB	-3.61 dB	0.30 dB
4200(MHz)	3.32 dB	-2.69 dB	0.72 dB

2D Gain Pattern_Antenna_ZX Cut(Phi=0)



Layer	Max value	Min value	Average
4400(MHz)	1.61 dB	-27.46 dB	-3.82 dB
4700(MHz)	2.66 dB	-19.22 dB	-3.08 dB
5000(MHz)	3.33 dB	-22.98 dB	-3.23 dB

2D Gain Pattern_Antenna_ZY Cut(Phi=90)



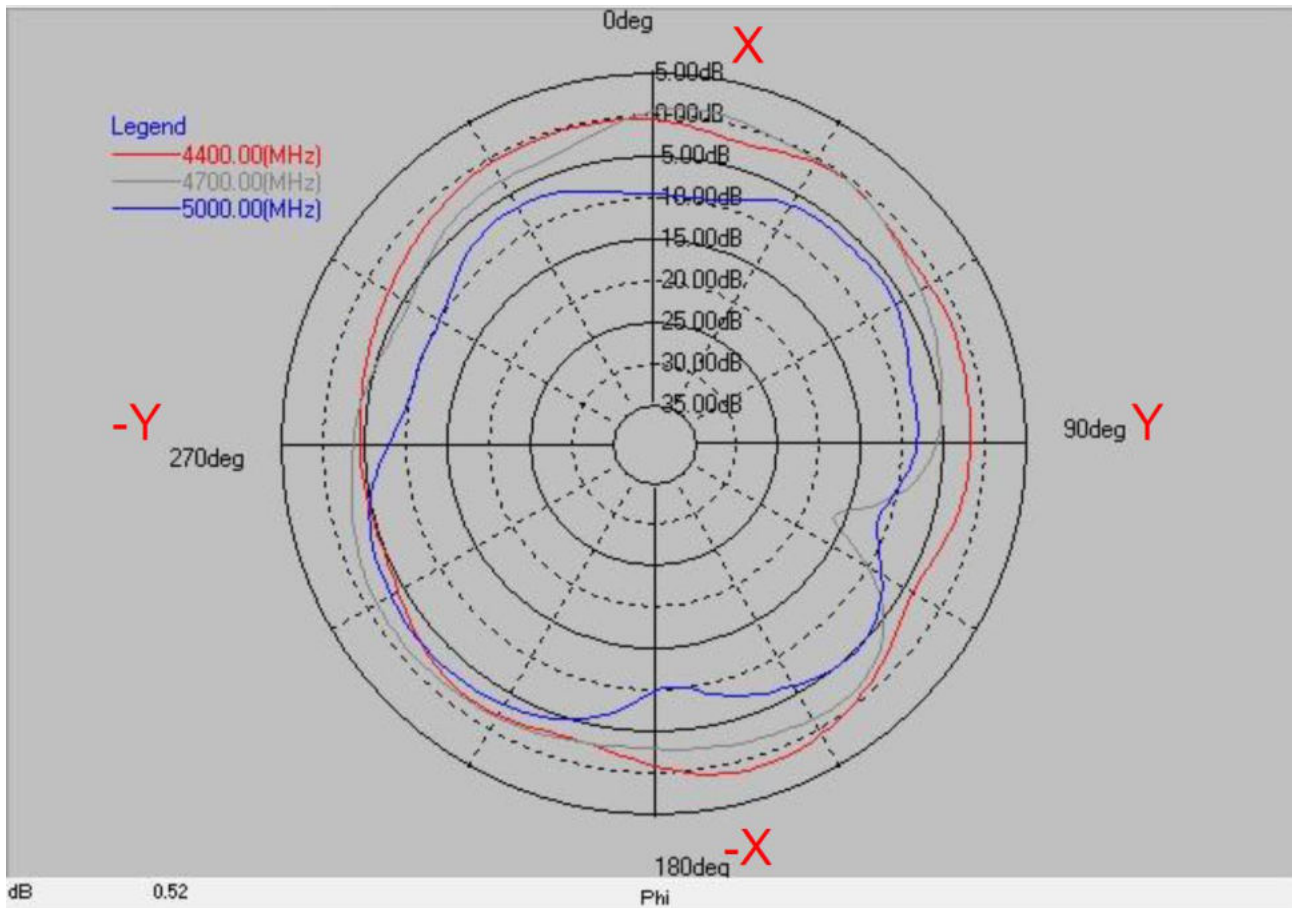
dB 0.52

Theta

Layer	Max value	Min value	Average
4400(MHz)	2.43 dB	-19.21 dB	-3.51 dB
4700(MHz)	3.44 dB	-15.02 dB	-2.41 dB
5000(MHz)	2.29 dB	-18.92 dB	-2.47 dB



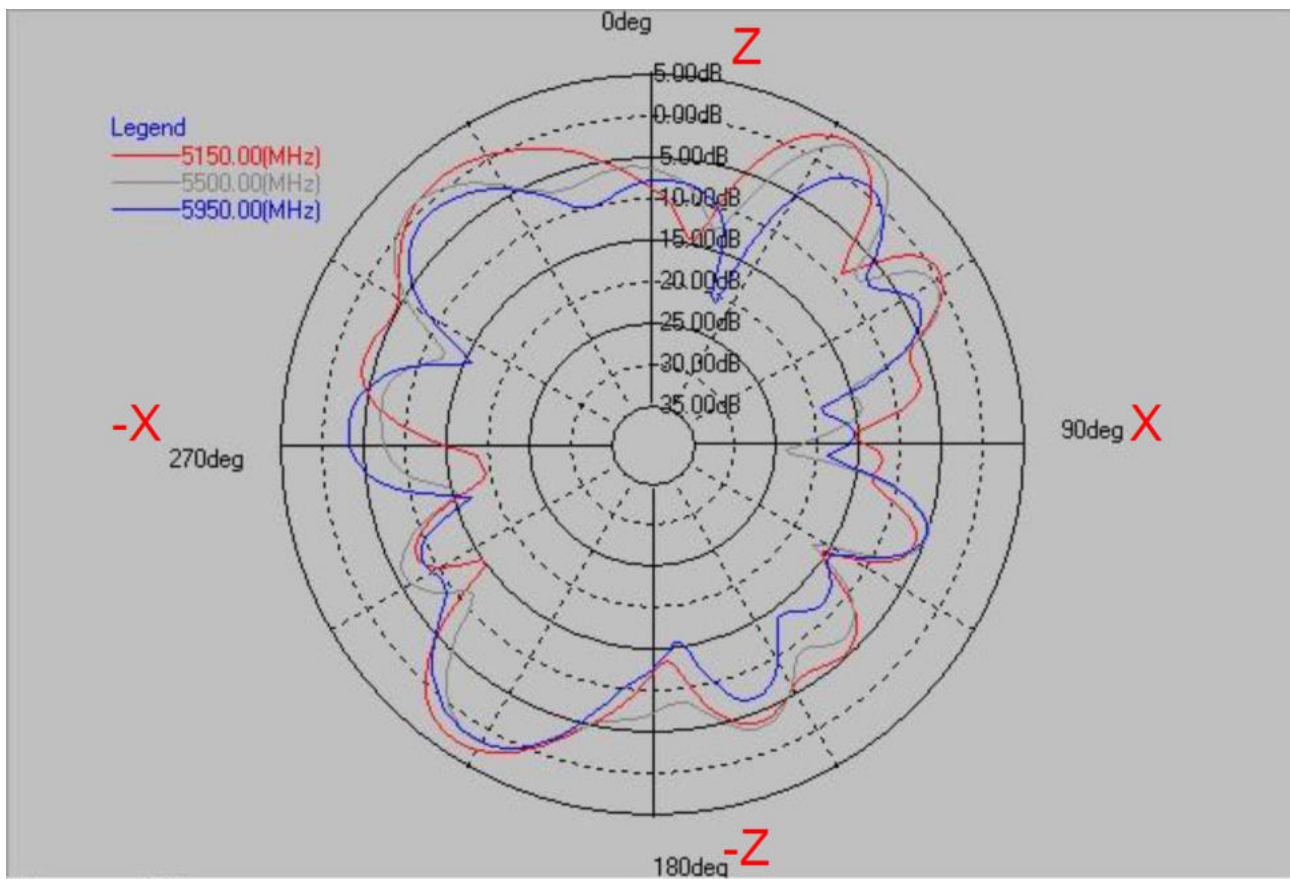
2D Gain Pattern_Antenna_XY Cut(Theta=90)



Layer	Max value	Min value	Average
4400(MHz)	1.12 dB	-4.85 dB	-1.73 dB
4700(MHz)	0.73 dB	-16.52 dB	-2.60 dB
5000(MHz)	-2.92 dB	-11.27 dB	-6.64 dB



2D Gain Pattern_Antenna_ZX Cut(Phi=0)



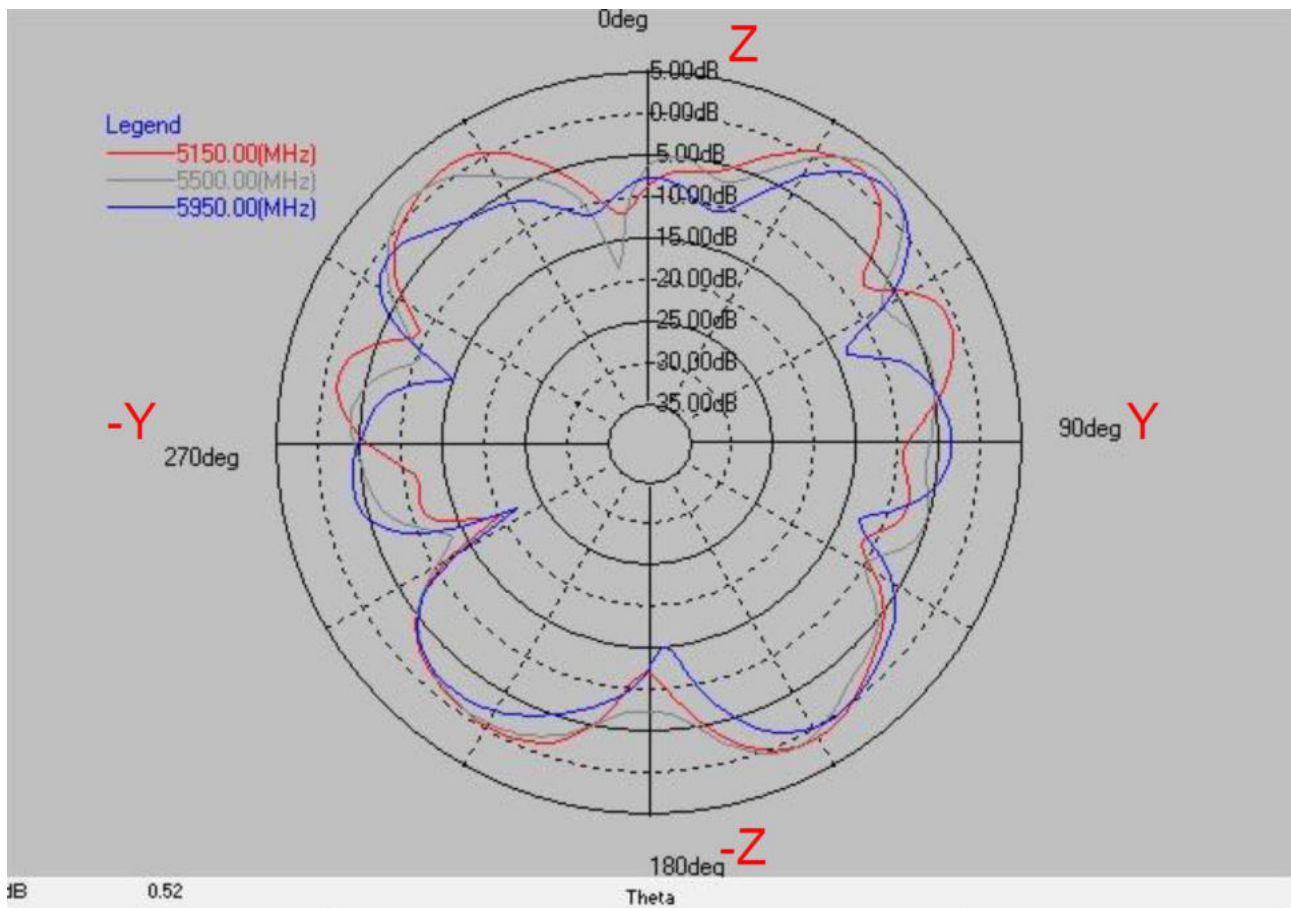
dB 0.52

Theta

Layer	Max value	Min value	Average
5150(MHz)	3.67 dB	-19.42 dB	-3.12 dB
5500(MHz)	3.93 dB	-23.76 dB	-3.94 dB
5950(MHz)	1.63 dB	-21.10 dB	-5.30 dB



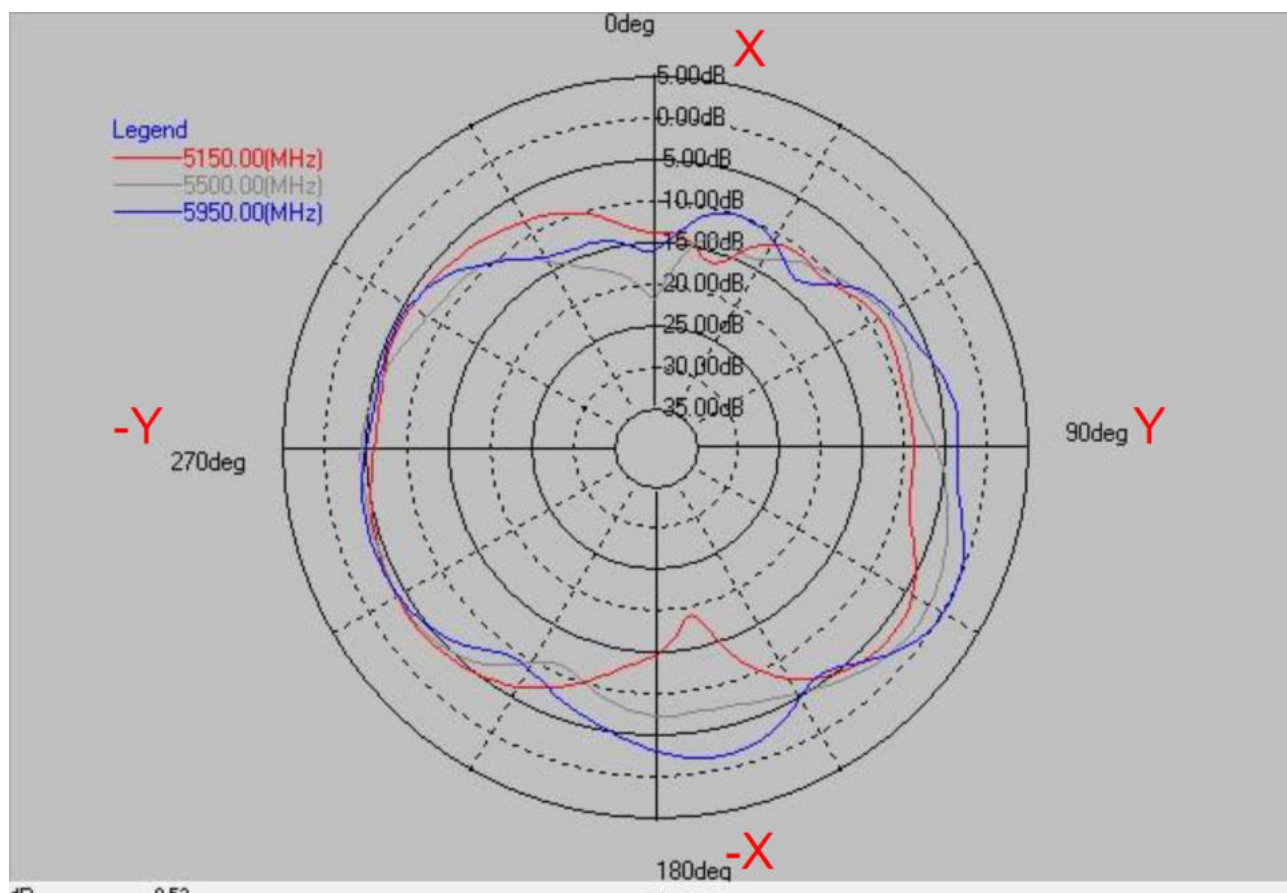
2D Gain Pattern_Antenna_ZY Cut(Phi=90)



Layer	Max value	Min value	Average
5150(MHz)	1.76 dB	-19.74 dB	-2.98 dB
5500(MHz)	3.08 dB	-18.72 dB	-3.12 dB
5950(MHz)	2.14 dB	-22.25 dB	-4.29 dB

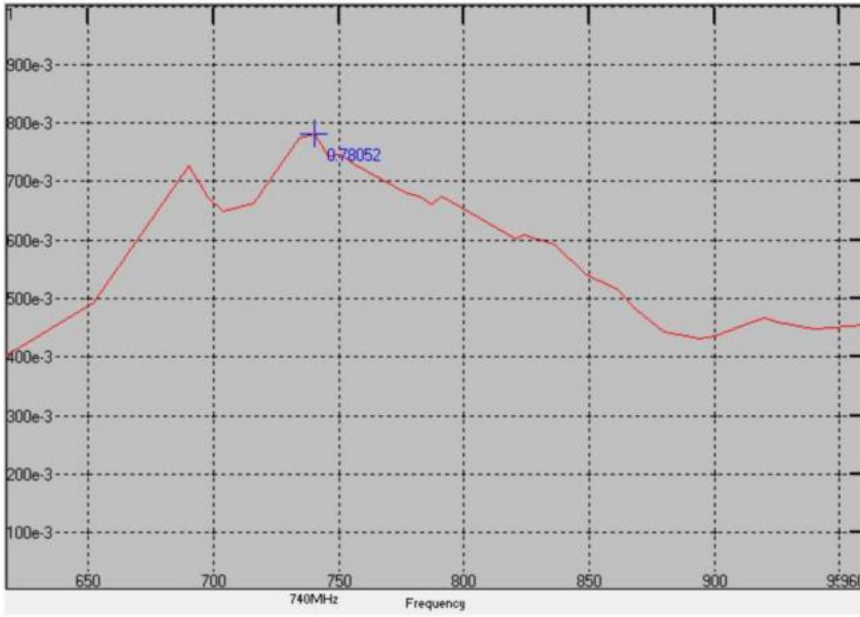


2D Gain Pattern Antenna XY Cut(Theta=90)

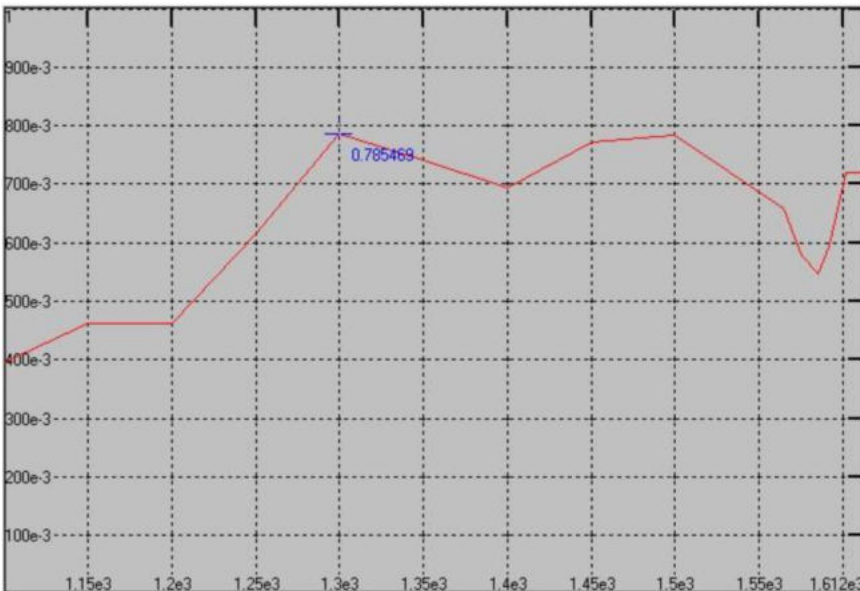


Layer	Max value	Min value	Average
5150(MHz)	-3.39 dB	-19.23 dB	-7.40 dB
5500(MHz)	-1.73 dB	-22.02 dB	-6.61 dB
5950(MHz)	0.23 dB	-16.33 dB	-5.15 dB

3D Efficiency_Antenna



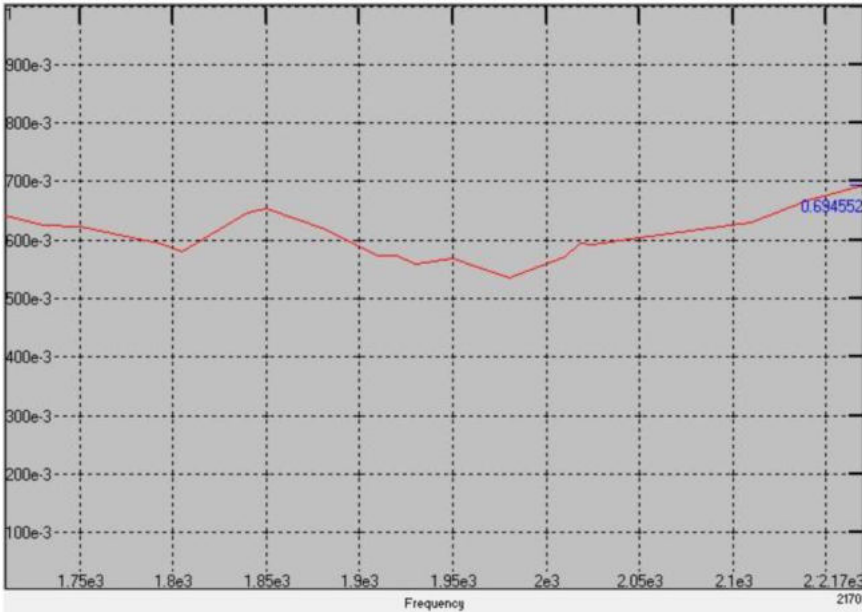
Frequency(MHz)	Efficiency
617	40%
690	73%
710	66%
716	66%
740	78%
756	73%
791	67%
824	61%
836	59%
869	48%
880	44%
894	43%
915	46%
920	47%
925	46%
940	45%
960	45%



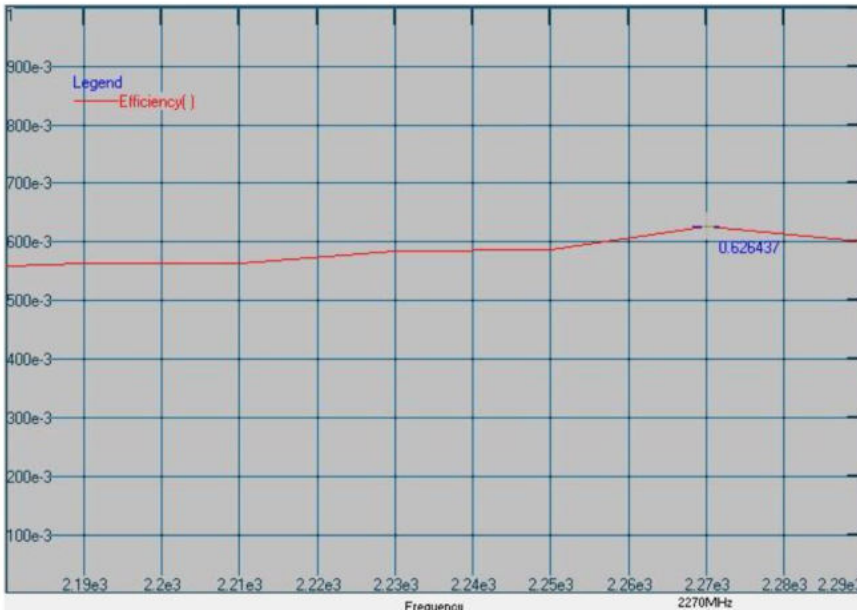
Frequency(MHz)	Efficiency
1100	40%
1150	46%
1200	46%
1250	62%
1300	79%
1350	74%
1400	69%
1450	77%
1500	78%
1565	66%
1575	58%
1585	55%
1592	59%
1602	72%
1612	72%



3D Efficiency_Antenna



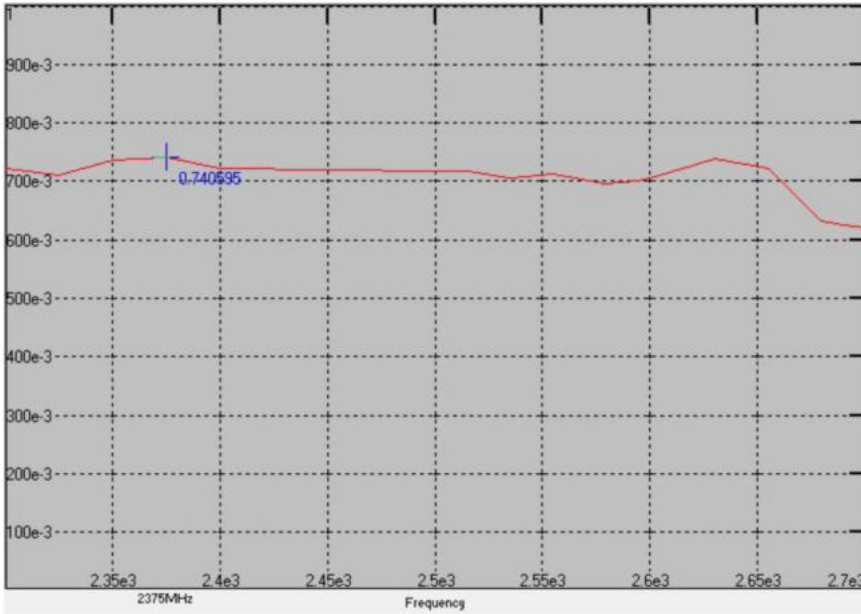
Frequency(MHz)	Efficiency
1710	64%
1750	62%
1785	60%
1805	58%
1840	65%
1880	62%
1910	57%
1930	56%
1950	57%
1980	54%
1990	55%
2010	57%
2025	59%
2050	60%
2110	63%
2140	67%
2170	69%



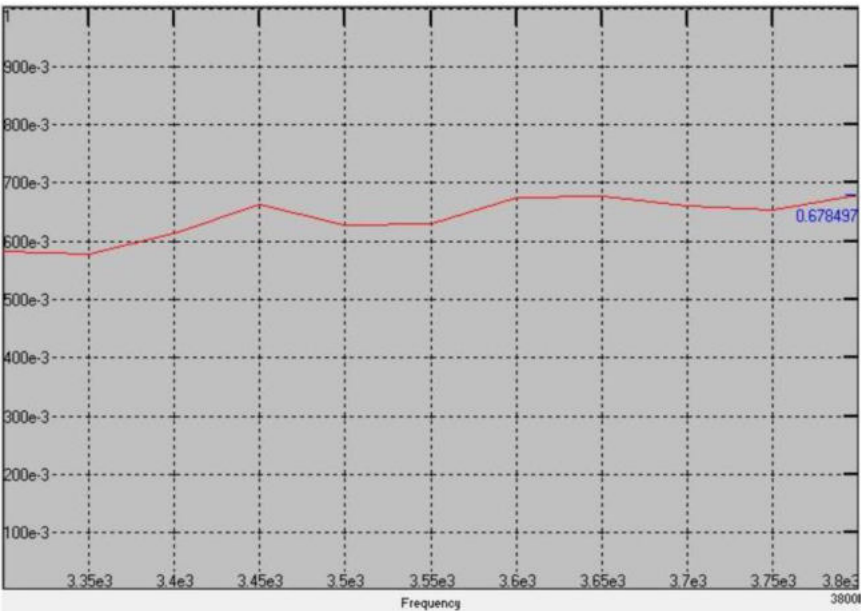
Frequency(MHz)	Efficiency
2190	56%
2210	56%
2230	59%
2250	59%
2270	63%
2290	60%



3D Efficiency_Antenna



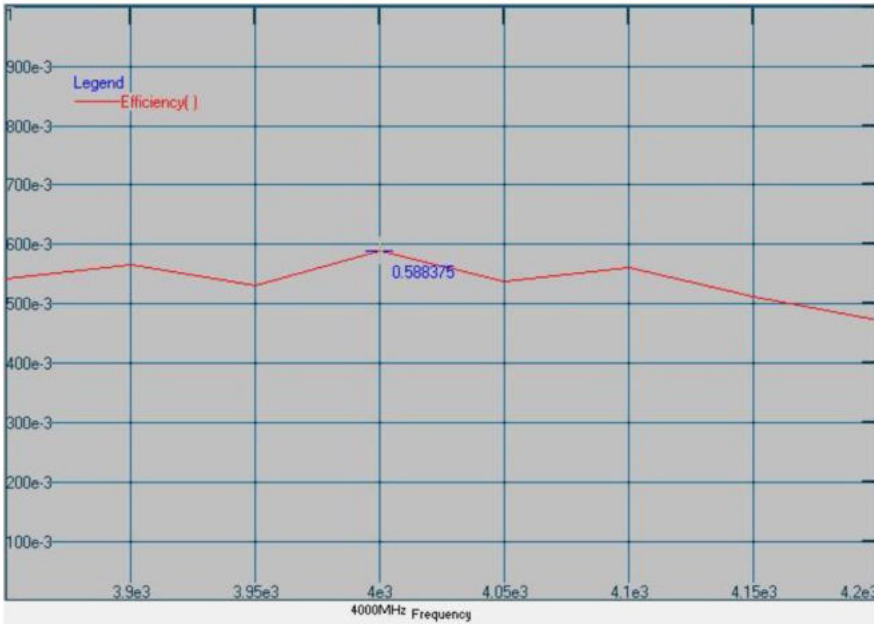
Frequency(MHz)	Efficiency
2300	72%
2325	71%
2350	74%
2375	74%
2400	72%
2500	72%
2515	72%
2535	71%
2555	71%
2579	70%
2595	70%
2620	73%
2630	74%
2655	72%
2680	63%
2690	62%
2700	62%



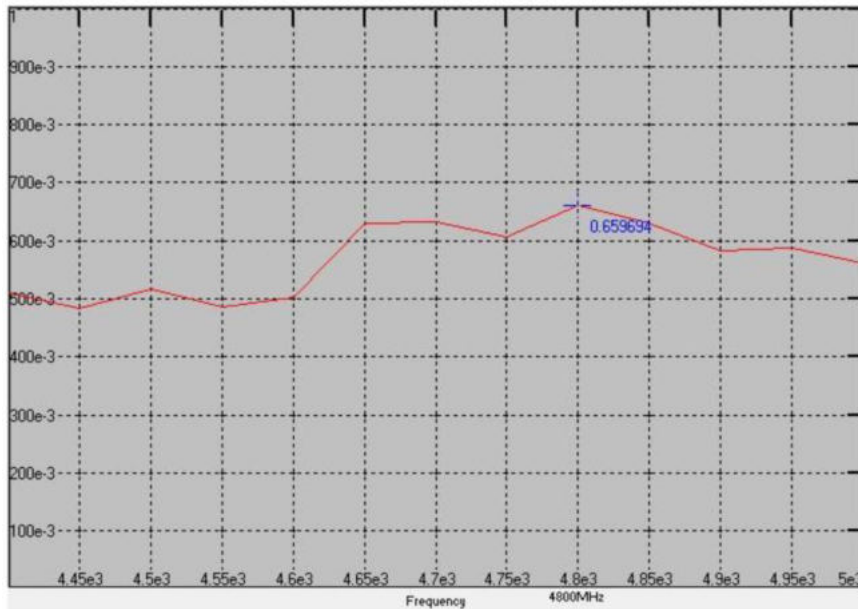
Frequency(MHz)	Efficiency
3300	58%
3350	58%
3400	61%
3450	66%
3500	63%
3550	63%
3600	68%
3650	68%
3700	66%
3750	65%
3800	68%



3D Efficiency_Antenna



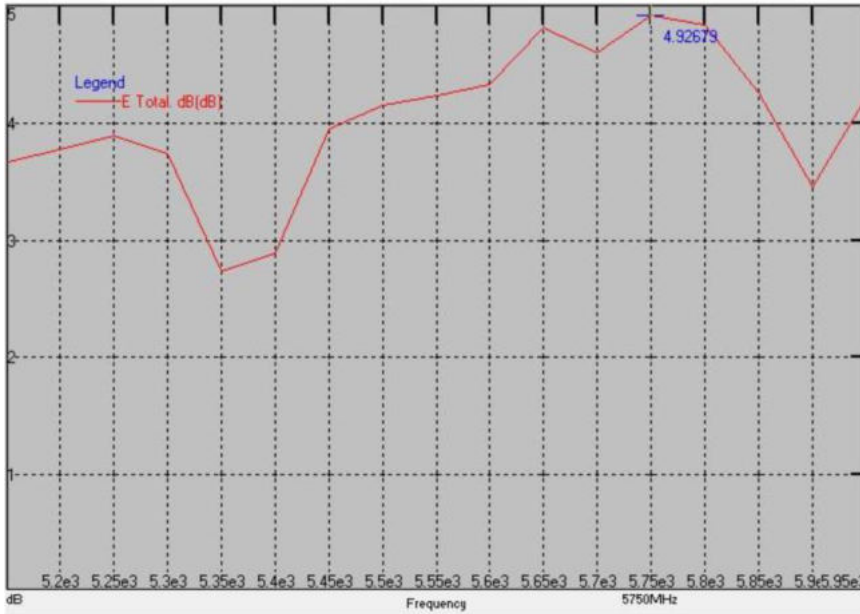
Frequency(MHz)	Efficiency
3850	54%
3900	57%
3950	53%
4000	59%
4050	54%
4100	56%
4150	51%
4200	47%



Frequency(MHz)	Efficiency
4400	51%
4450	48%
4500	52%
4550	49%
4600	50%
4650	63%
4700	63%
4750	61%
4800	66%
4850	63%
4900	58%
4950	59%
5000	56%



3D Efficiency_Antenna



Frequency(MHz)	Efficiency
5150	51%
5200	54%
5250	49%
5300	51%
5350	40%
5400	51%
5450	67%
5500	65%
5550	69%
5600	71%
5650	66%
5700	63%
5750	71%
5800	64%
5850	60%
5900	51%
5950	52%

