

NWA1250 Antenna Test Report

Released Date: 2026/04/24
Prepared By : Anton
Reviewed By :JH

04/24/2026

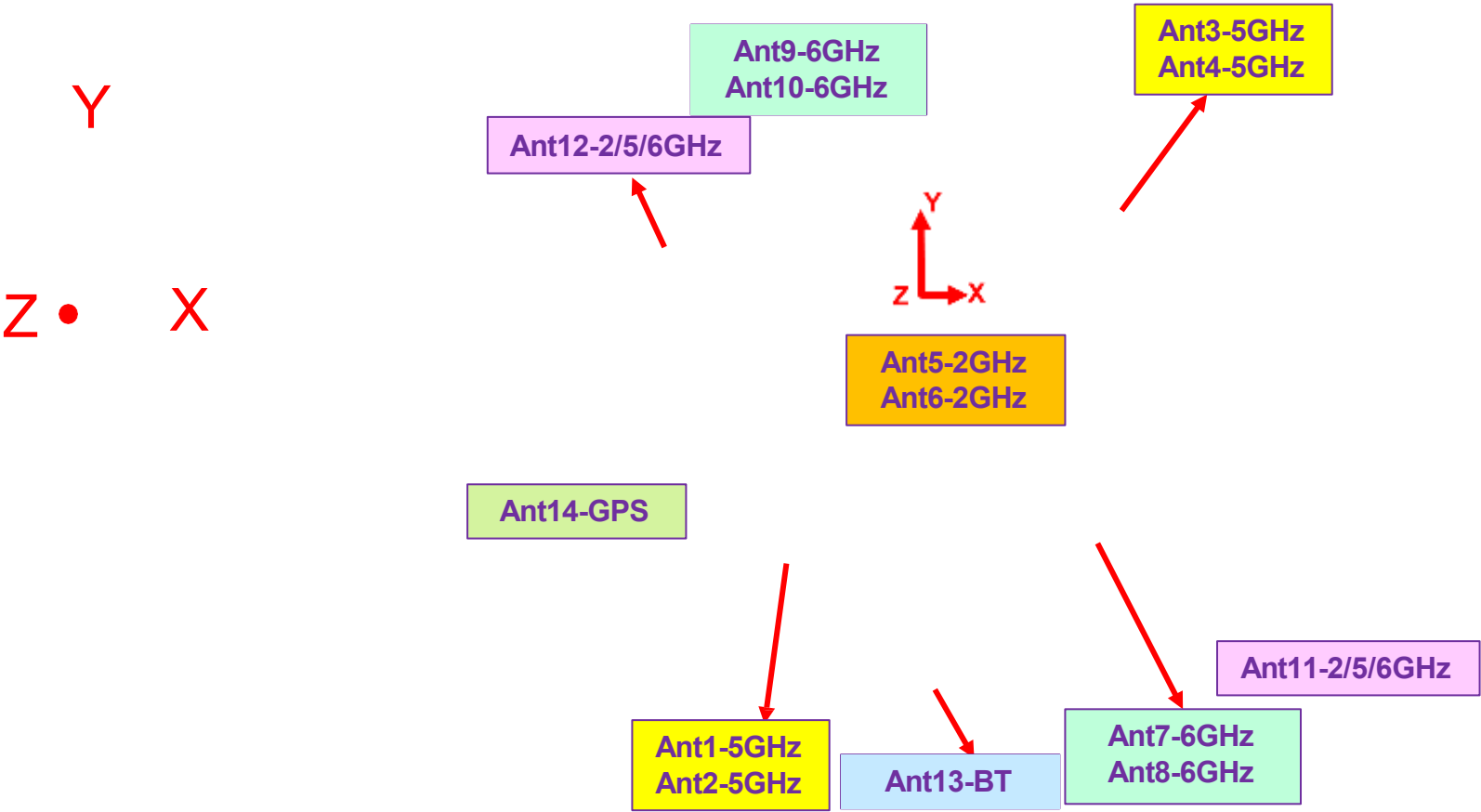
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Introduction

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- Test Result 2D/3D Radiation Pattern
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Antenna Placement



Rosetta	
Antenna	ANT Type
ANT1 (5GHz)	Patch
ANT2 (5GHz)	Patch
ANT3 (5GHz)	Patch
ANT4 (5GHz)	Patch
ANT5 (2GHz)	Patch
ANT6 (2GHz)	Patch
ANT7 (6GHz)	Patch
ANT8 (6GHz)	Patch
ANT9 (6GHz)	Patch
ANT10 (6GHz)	Patch
ANT11 (2/5/6GHz)	PIFA
ANT12 (2/5/6GHz)	PIFA
ANT13 (BT)	PIFA
ANT14 (GPS)	PIFA

Only Ant1~10 is directional antenna

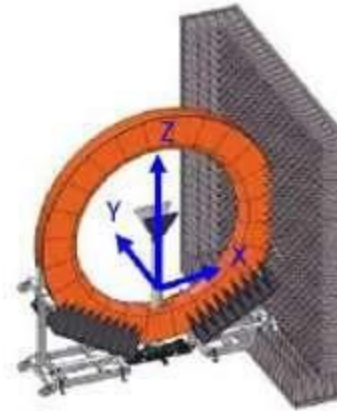
General Information

- Antenna Vendor : Wha-Yu
- Test Date: 20260402
- Test Engineer: (Cheng, Xiang-Ting)
- Measurement System: SATIMO SG24 Chamber
- Software Name: Wave Studio
- Software Version: 22.5.5

Test Setup for Radiation Pattern Measurement

Measurement

Chamber Information



SATIMO SG-24L Multi-Probe Antenna Measurement System

- Angle between probes: 15°
- Frequency range: 400 MHz – 9 GHz
- Chamber Room Size: 5m L x 5m W x 5m H



SATIMO SG-24

Antenna Measurement System Information

- Measurement System: SATIMO SG24 Chamber

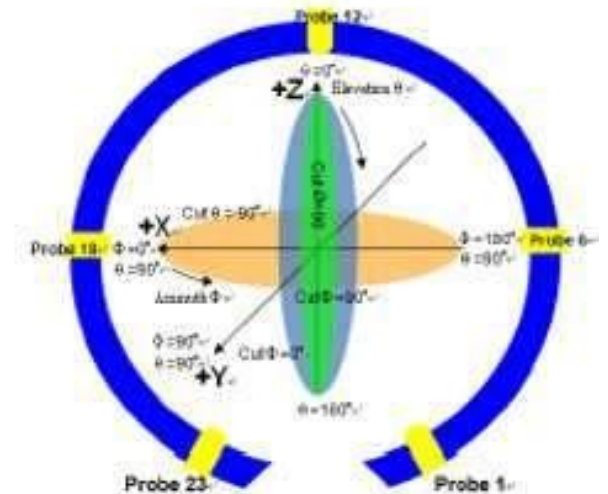
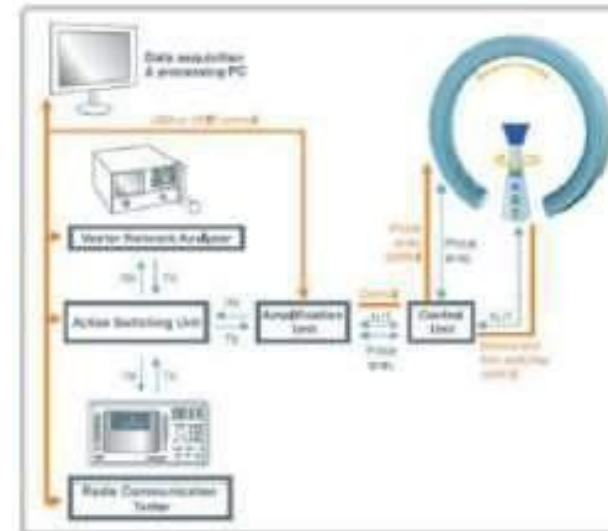
Measurement Setup:

- Pattern & Gain measurement:

1. Satimo chamber (SG24)
2. Satimo program (wave studio)
3. system overview :

- Test Item

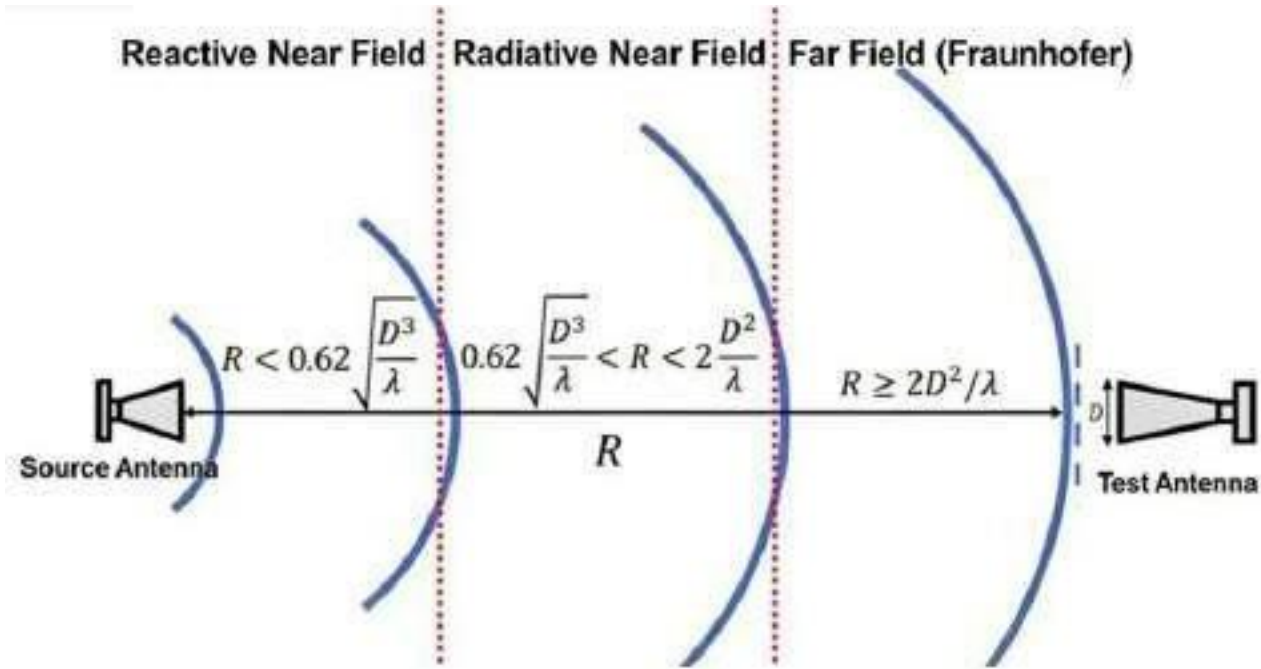
1. Antenna passive test 400MHz~6GHz



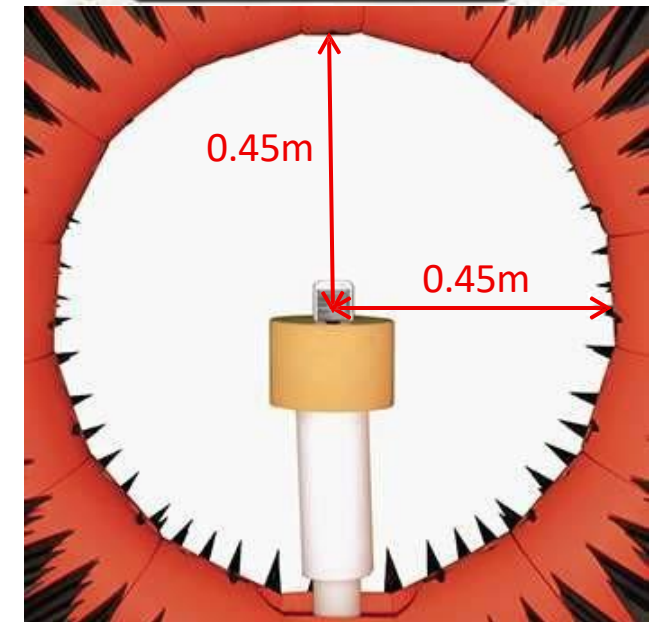
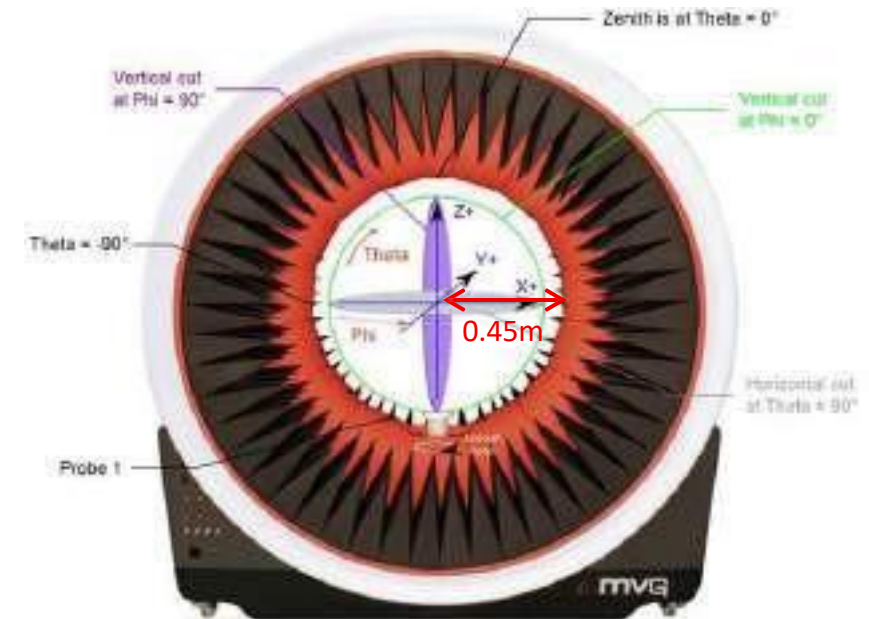
- Calibration Information

Description	Model No.	Serial No.	Calibrated Date	Calibrated Until
Chamber	Satimo SG24	MVG/HKG01486S	2025/06/03	2026/06/03
Network Analyzer	E5063A	MY54505011	2025/11/04	2026/11/04

Test Measurement System Far Field Information



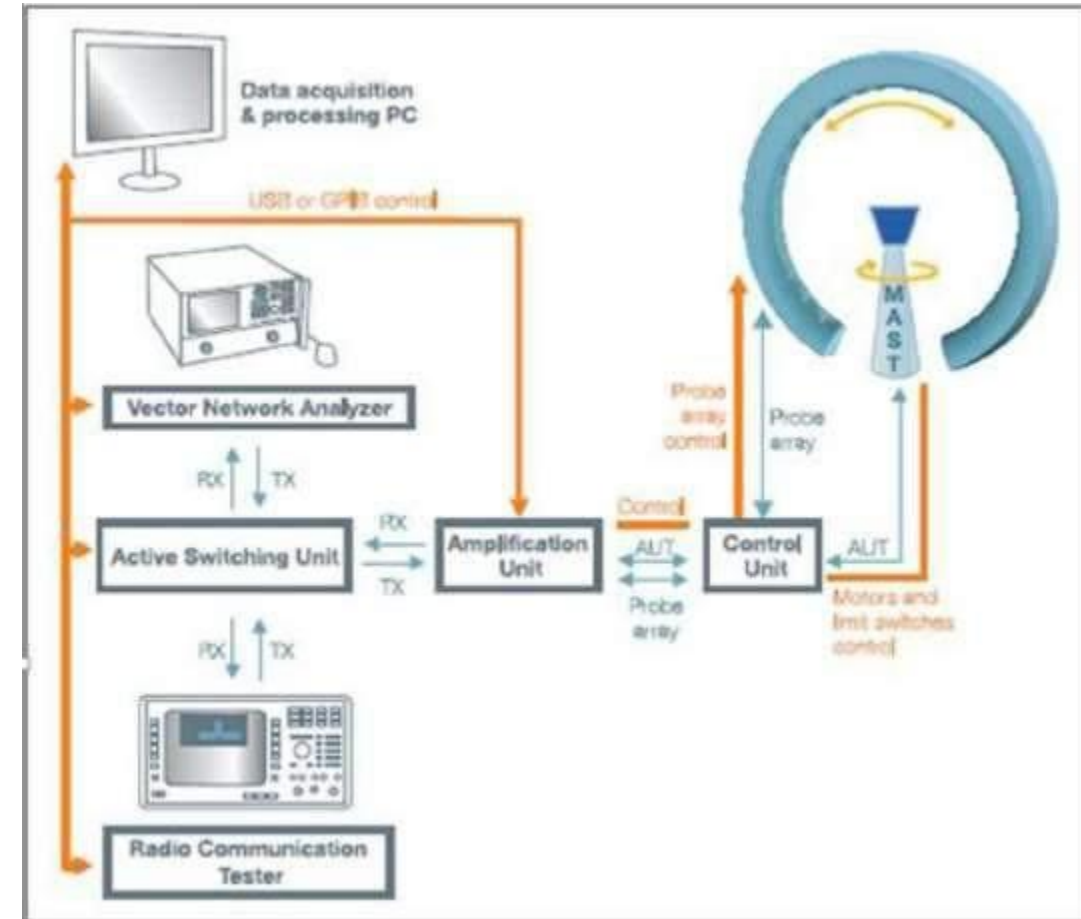
R: Far-field starting distance
 λ : operating wavelength ($\lambda=c/f$)
 D: Antenna Size



Frequency (MHz)	Near Field	Far Field	EUT to Measurement antenna distance
2500MHz	$R < 0.019m$	$R \geq 0.039m$	$R = 0.45m$
5895MHz	$R < 0.014m$	$R \geq 0.035m$	$R = 0.45m$
6550MHz	$R < 0.012m$	$R \geq 0.033m$	$R = 0.45m$

Test Procedure

1. Place the device to be tested on the fixture and align it with the center of the chamber.
2. Connect the antenna cable to the RF connector of the chamber.
3. Use the SW to configure parameters (antenna name, frequency points, measurement angles, antenna dimension), and then run the test SW (wave studio).
4. By phi from 0° to 360° and theta from 0° to 180° with a step size of 2 degrees, get the 3D data, including efficiency, peak gain, 2D and 3D radiation patterns.
5. This is far field test for antenna verification.
6. This is passive measurement, which means the device is off and not in any operating mode.



DUT Information

- DUT Operation Mode

Support Band	TX/RX	Operation Mode
2.4G	2TX/2RX	11b/11g/11n/11ac/11ax/11be
BT	1TX/1RX	BT 5.1
Tri-Band	2TX/2RX	11b/11g/11n/11ac/11ax/11be
5G	4TX/4RX	11a/11n/11ac/11ax/11be
6G	4TX/4RX	11a/11n/11ac/11ax/11be

DUT Information

- DUT Operation Mode

Band	Modulation Mode	CDD mode	Beamforming mode
2.4GHz	802.11b	Nss1	Not Support
	802.11g	Nss1	Not Support
	802.11n(HT20)	Nss1 / Nss2 / Nss3 / Nss4	Nss1 / Nss2 / Nss3 / Nss4
	802.11n(HT40)	Nss1 / Nss2 / Nss3 / Nss4	Nss1 / Nss2 / Nss3 / Nss4
	802.11n(VHT20)	Nss1 / Nss2 / Nss3 / Nss4	Nss1 / Nss2 / Nss3 / Nss4
	802.11n(VHT40)	Nss1 / Nss2 / Nss3 / Nss4	Nss1 / Nss2 / Nss3 / Nss4
	802.11ax(HE20)	Nss1 / Nss2 / Nss3 / Nss4	Nss1 / Nss2 / Nss3 / Nss4
	802.11ax(HE40)	Nss1 / Nss2 / Nss3 / Nss4	Nss1 / Nss2 / Nss3 / Nss4
5GHz	802.11a	Nss1	Not Support
	802.11n(HT20)	Nss1 / Nss2 / Nss3 / Nss4	Nss1 / Nss2 / Nss3 / Nss4
	802.11n(HT40)	Nss1 / Nss2 / Nss3 / Nss4	Nss1 / Nss2 / Nss3 / Nss4
	802.11ac(VHT20)	Nss1 / Nss2 / Nss3 / Nss4	Nss1 / Nss2 / Nss3 / Nss4
	802.11ac(VHT40)	Nss1 / Nss2 / Nss3 / Nss4	Nss1 / Nss2 / Nss3 / Nss4
	802.11ac(VHT80)	Nss1 / Nss2 / Nss3 / Nss4	Nss1 / Nss2 / Nss3 / Nss4
	802.11ac(VHT160)	Nss1 / Nss2 / Nss3 / Nss4	Nss1 / Nss2 / Nss3 / Nss4
	802.11ax(HE20)	Nss1 / Nss2 / Nss3 / Nss4	Nss1 / Nss2 / Nss3 / Nss4
	802.11ax(HE40)	Nss1 / Nss2 / Nss3 / Nss4	Nss1 / Nss2 / Nss3 / Nss4
	802.11ax(HE80)	Nss1 / Nss2 / Nss3 / Nss4	Nss1 / Nss2 / Nss3 / Nss4
	802.11ax(HE160)	Nss1 / Nss2 / Nss3 / Nss4	Nss1 / Nss2 / Nss3 / Nss4
	802.11be(EHT20)	Nss1 / Nss2 / Nss3 / Nss4	Nss1 / Nss2 / Nss3 / Nss4
	802.11be(EHT40)	Nss1 / Nss2 / Nss3 / Nss4	Nss1 / Nss2 / Nss3 / Nss4
	802.11be(EHT80)	Nss1 / Nss2 / Nss3 / Nss4	Nss1 / Nss2 / Nss3 / Nss4
	802.11be(EHT160)	Nss1 / Nss2 / Nss3 / Nss4	Nss1 / Nss2 / Nss3 / Nss4

DUT Information

- Antenna System information

Antenna NO.	RF Chain NO.	Brand	Model	Support Function	Antenna Type	Connector Type
5G1	0	Whayu	Whayu-5G1	5G	Patch	I-PEX
5G2	1	Whayu	Whayu-5G2	5G	Patch	I-PEX
5G3	2	Whayu	Whayu-5G3	5G	Patch	I-PEX
5G4	3	Whayu	Whayu-5G4	5G	Patch	I-PEX
2G5	0	Whayu	Whayu-2G5	2.4G	Patch	I-PEX
2G6	1	Whayu	Whayu-2G6	2.4G	Patch	I-PEX

DUT Information

- Antenna System information

Antenna NO.	RF Chain NO.	Brand	Model	Support Function	Antenna Type	Connector Type
6G7	0	Whayu	Whayu-6G7	6G	Patch	I-PEX
6G8	1	Whayu	Whayu-6G8	6G	Patch	I-PEX
6G9	2	Whayu	Whayu-6G9	6G	Patch	I-PEX
6G10	3	Whayu	Whayu-6G10	6G	Patch	I-PEX
TB11	0	Whayu	Whayu-TB11	2.4G+5G+6G	PIFA	I-PEX
TB12	1	Whayu	Whayu-TB12	2.4G+5G+6G	PIFA	I-PEX
BT13	0	Whayu	Whayu-BT13	2.4G	PIFA	I-PEX
GPS14	0	Whayu	Whayu-GPS14	L1/L5	PIFA	I-PEX

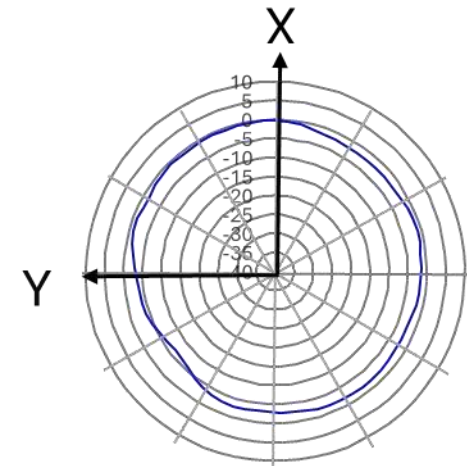
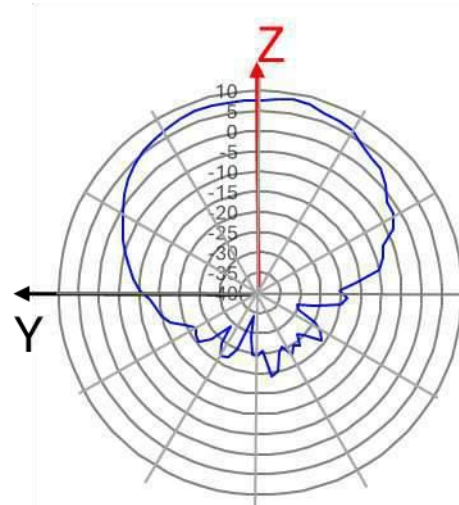
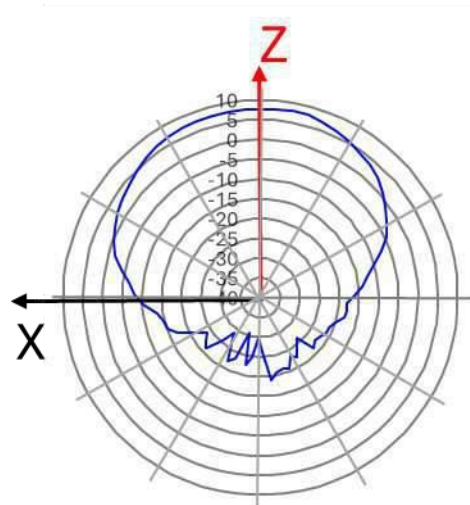
Set-up Photo

up(+Z)

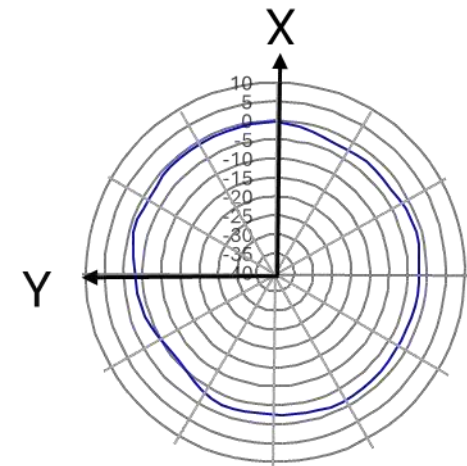
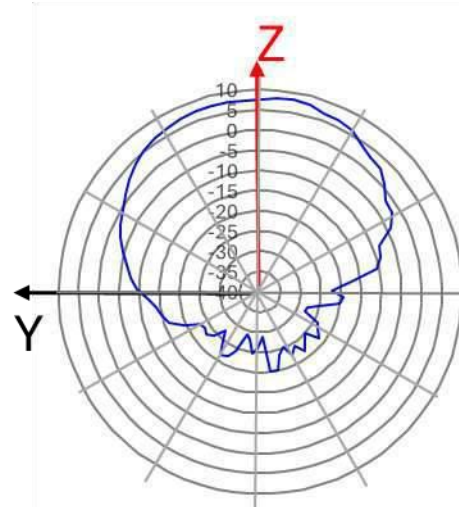
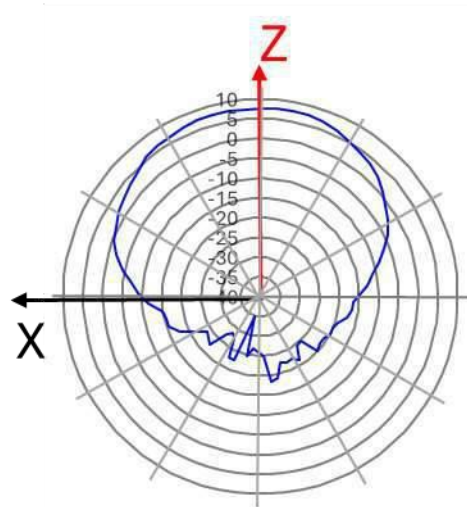
Front(+Y)

Right(+X)

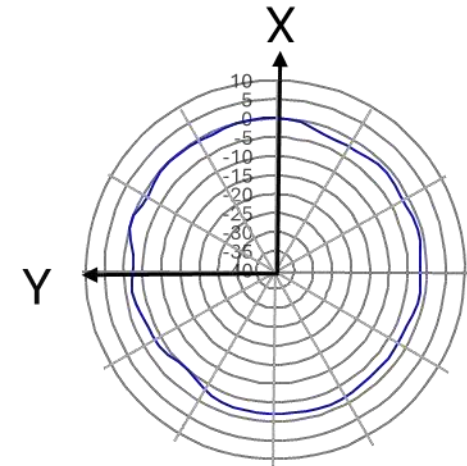
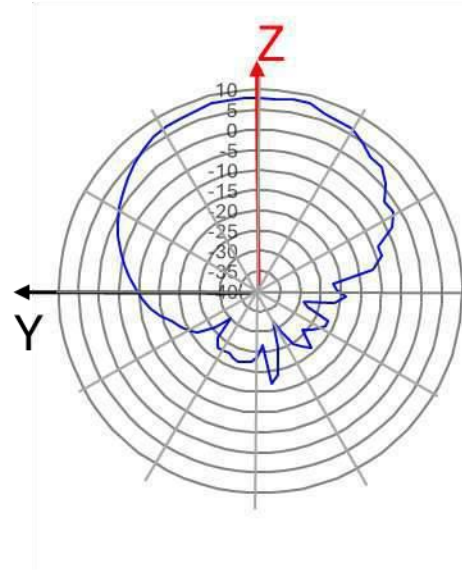
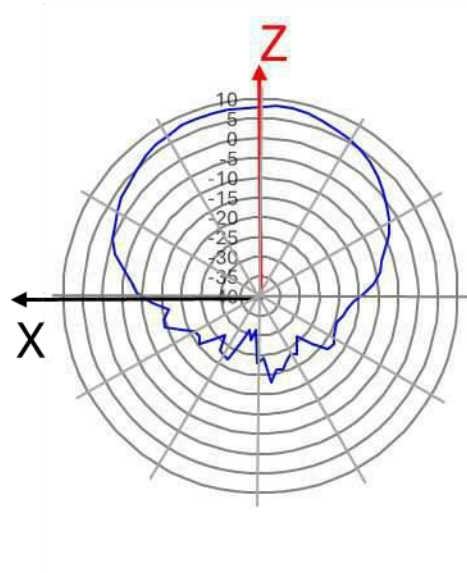
Radiation Patterns – ANT1 (5.15GHz)



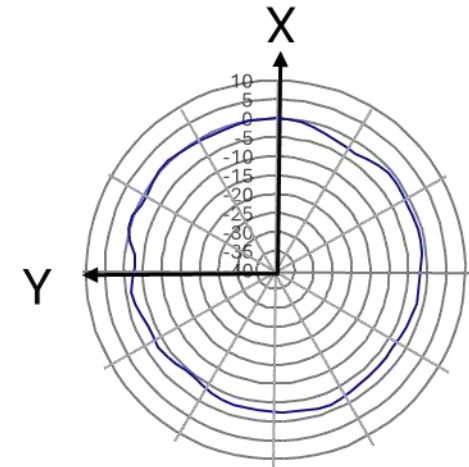
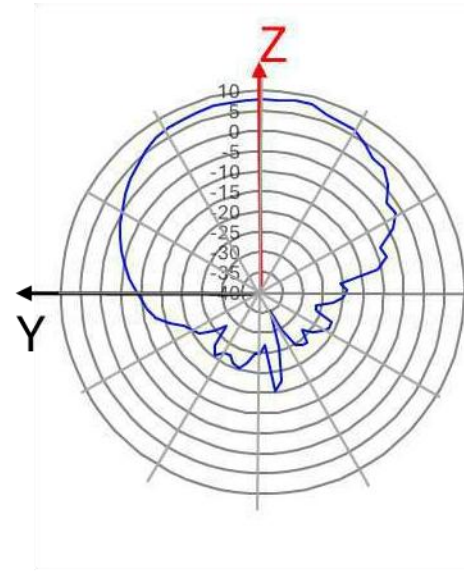
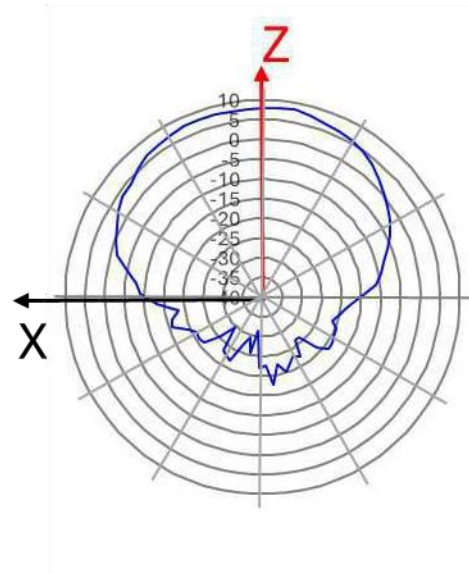
Radiation Patterns – ANT1 (5.20GHz)



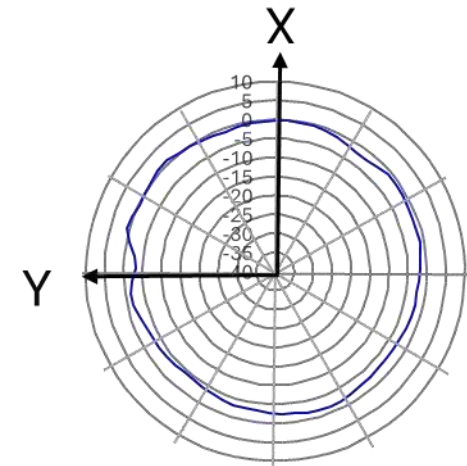
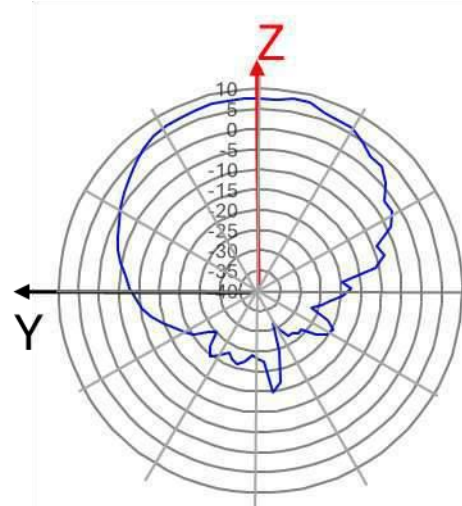
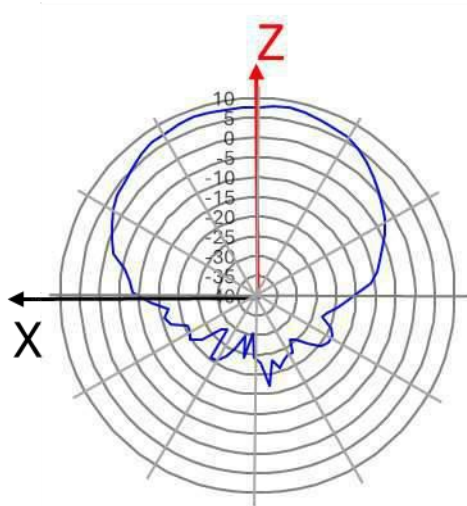
Radiation Patterns – ANT1 (5.25GHz)



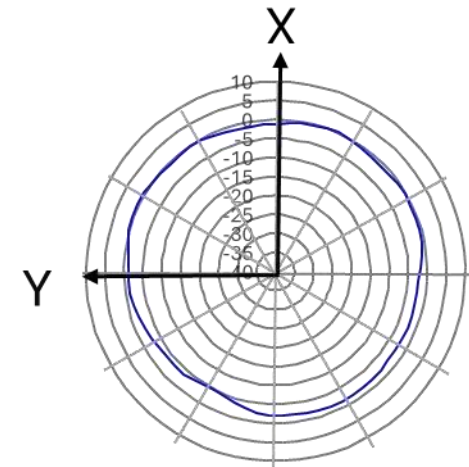
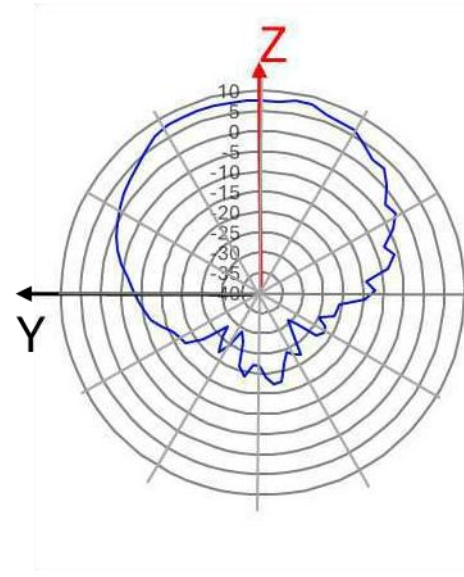
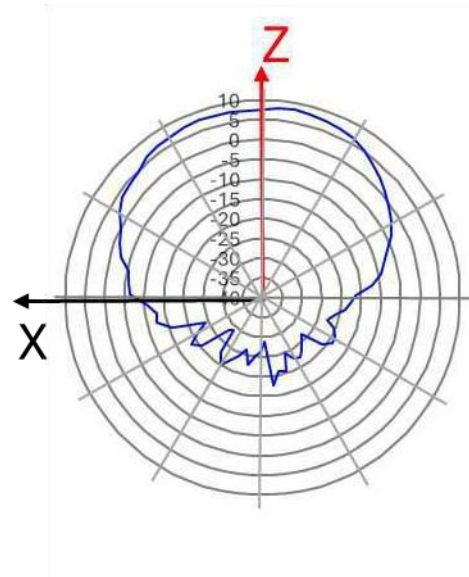
Radiation Patterns – ANT1 (5.3GHz)



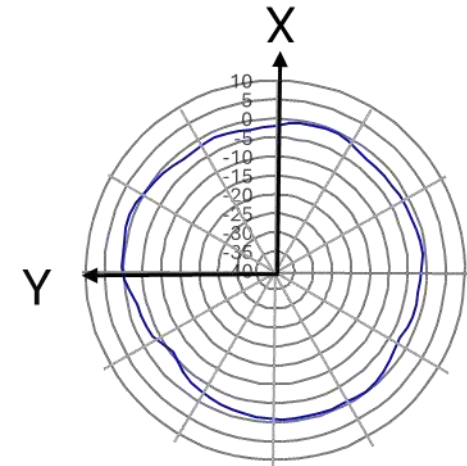
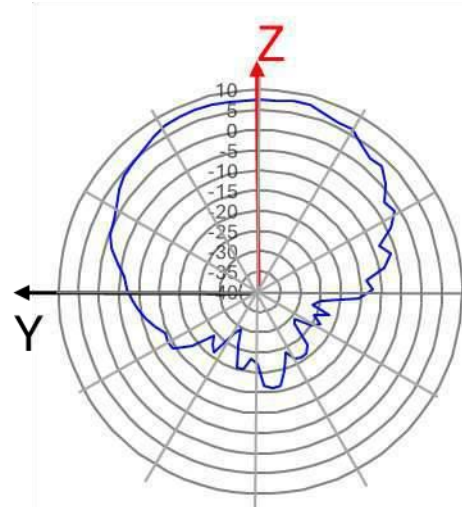
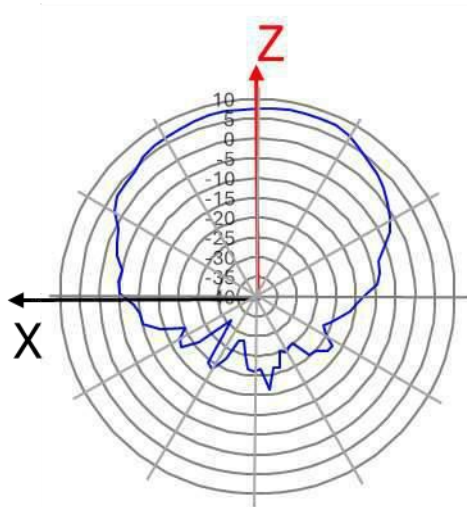
Radiation Patterns – ANT1 (5.35GHz)



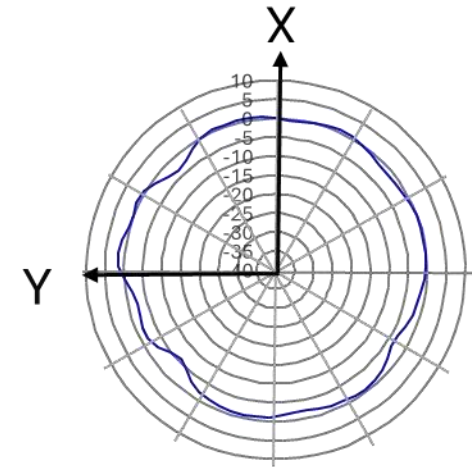
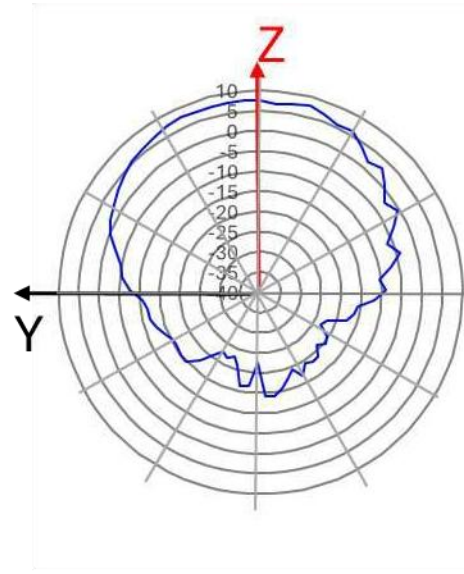
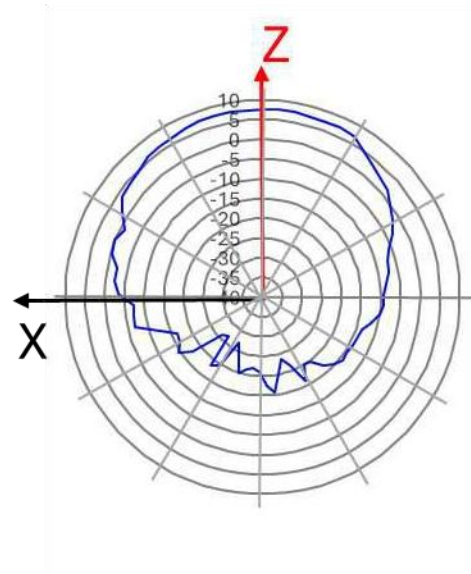
Radiation Patterns – ANT1 (5.47GHz)



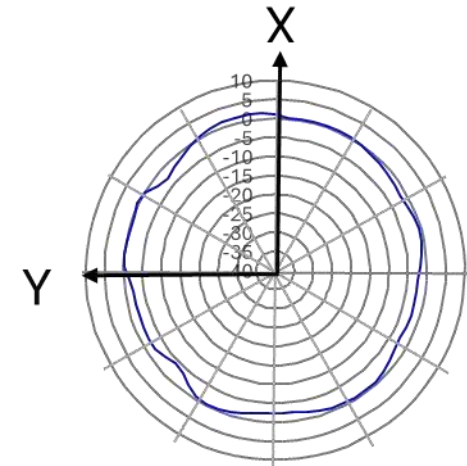
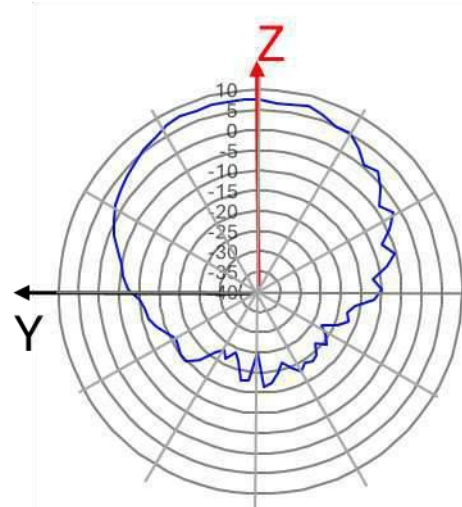
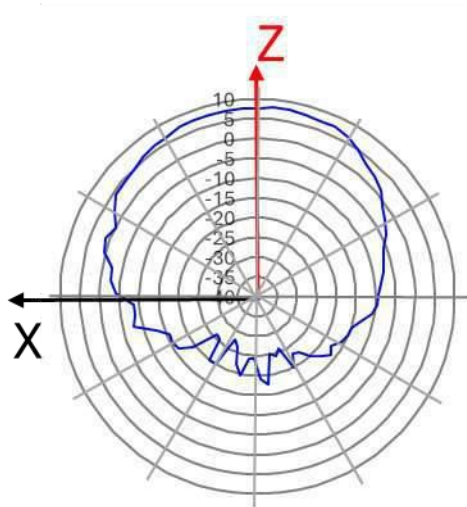
Radiation Patterns – ANT1 (5.6GHz)



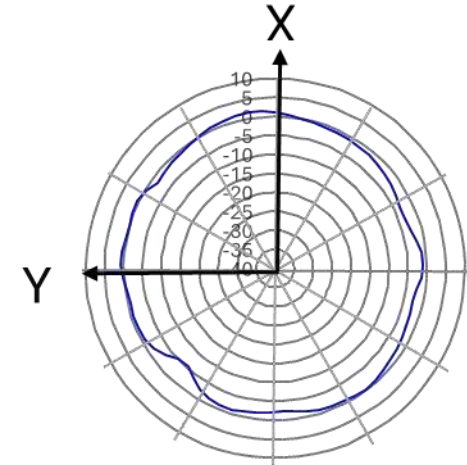
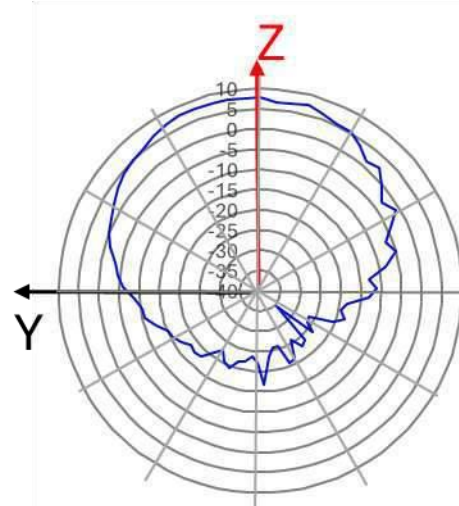
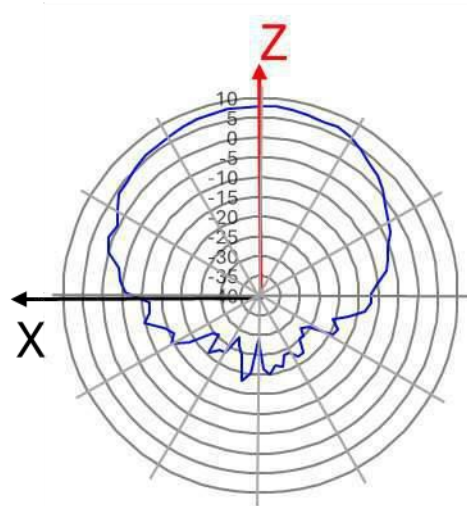
Radiation Patterns – ANT1 (5.725GHz)



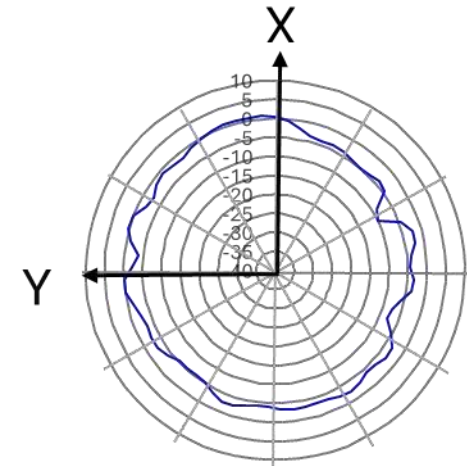
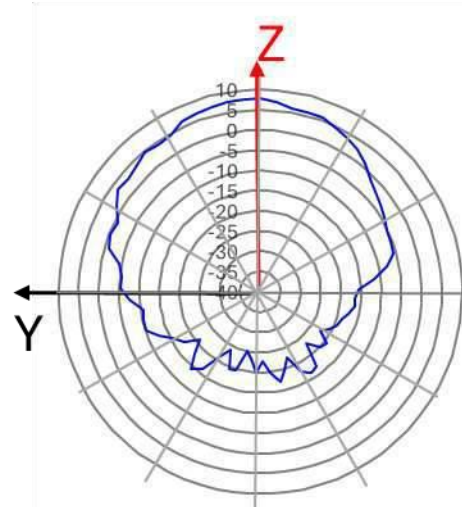
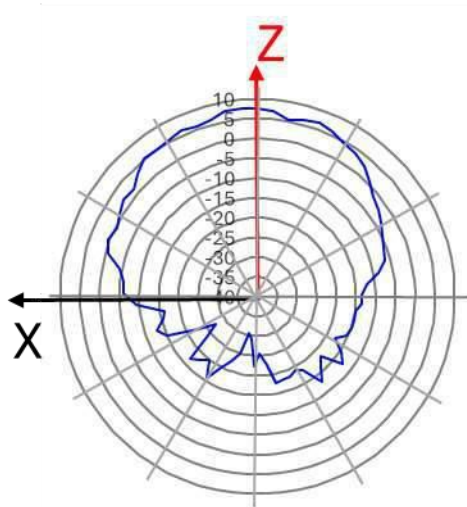
Radiation Patterns – ANT1 (5.785GHz)



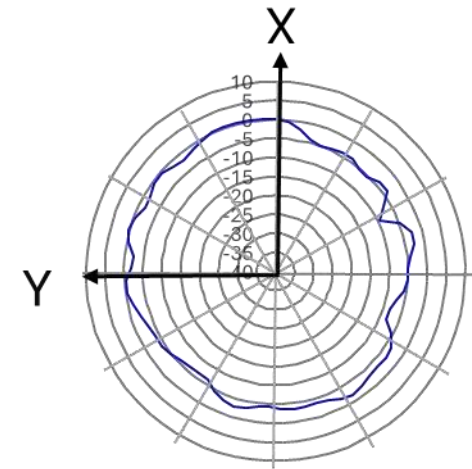
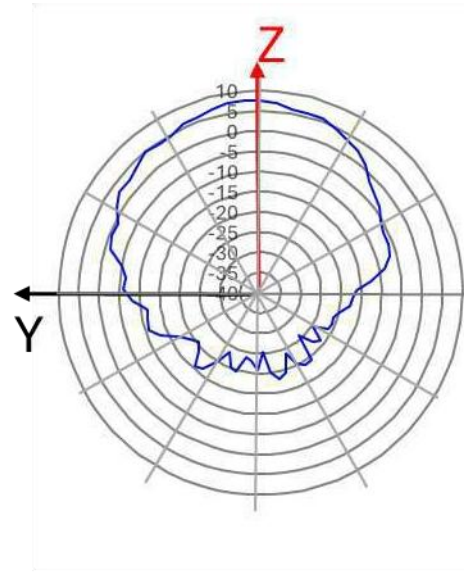
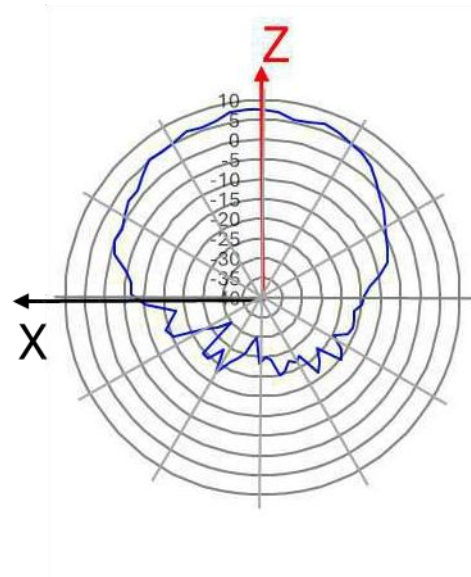
Radiation Patterns – ANT1 (5.85GHz)



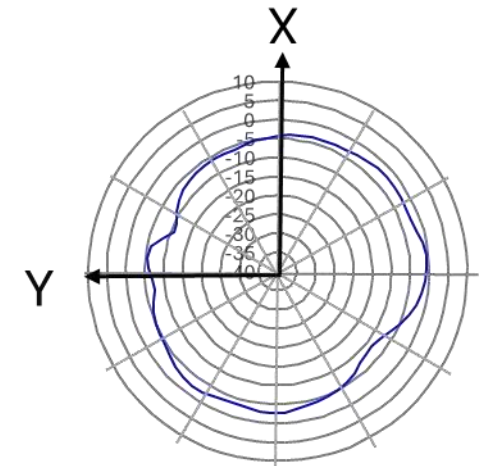
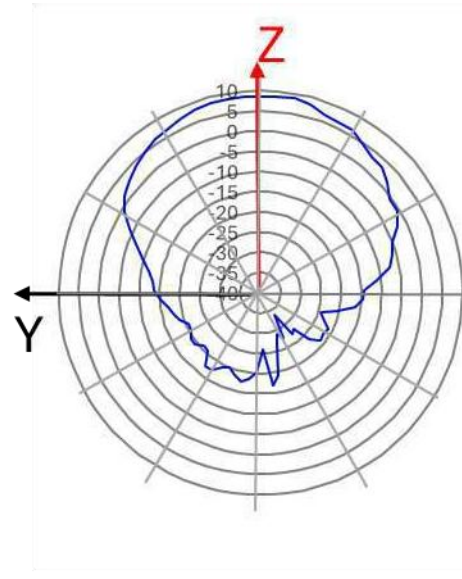
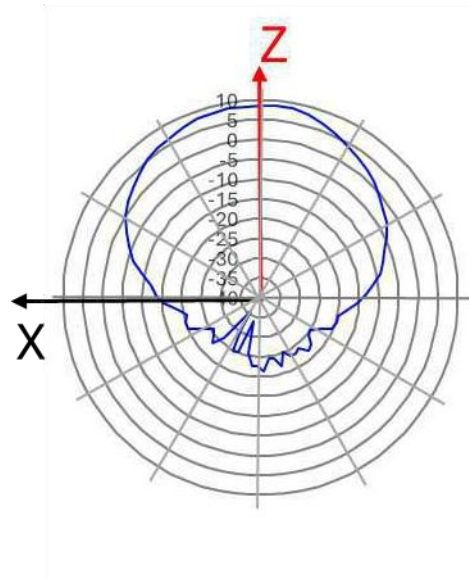
Radiation Patterns – ANT1 (5.865GHz)



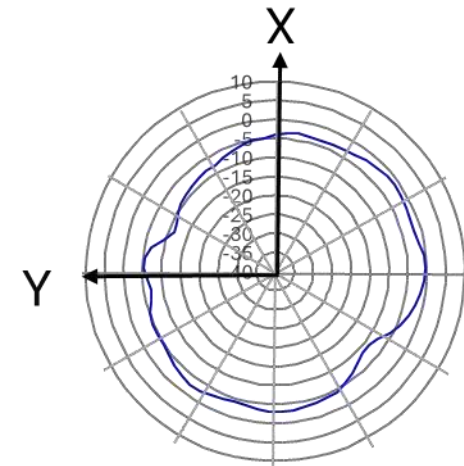
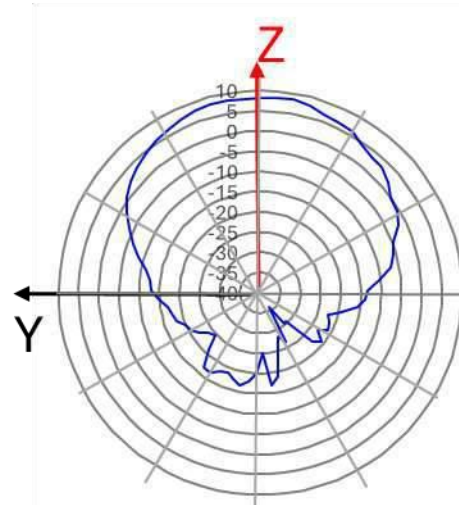
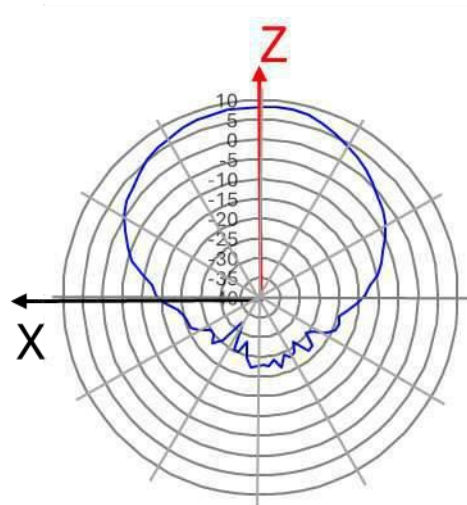
Radiation Patterns – ANT1 (5.895GHz)



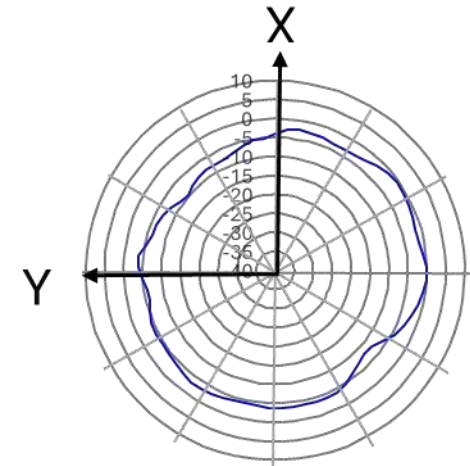
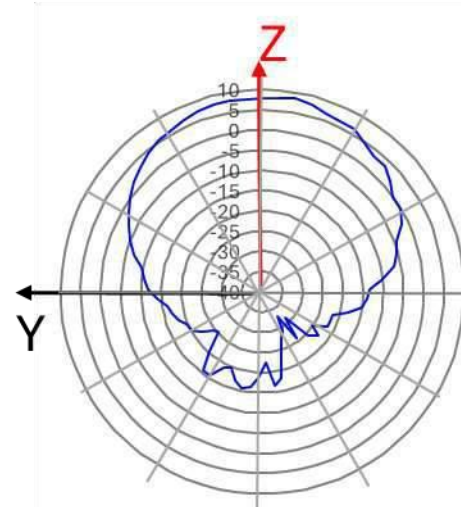
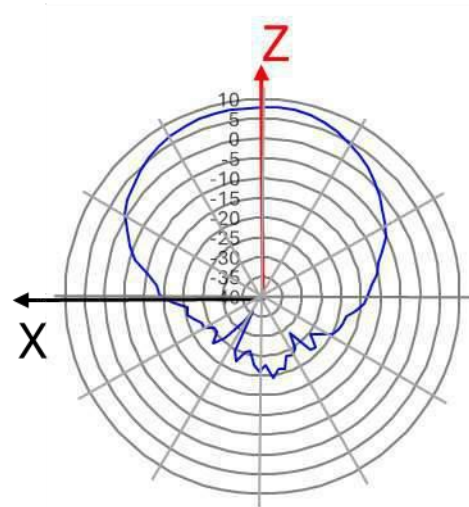
Radiation Patterns – ANT2 (5.15GHz)



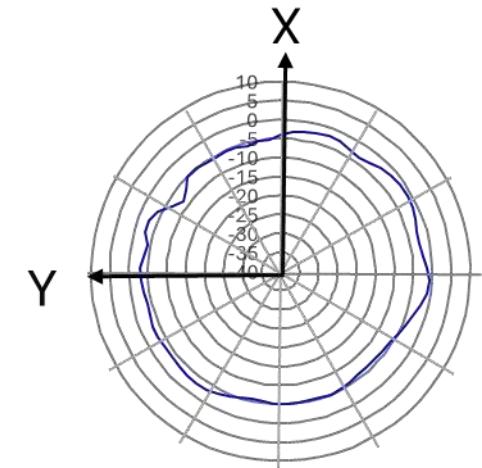
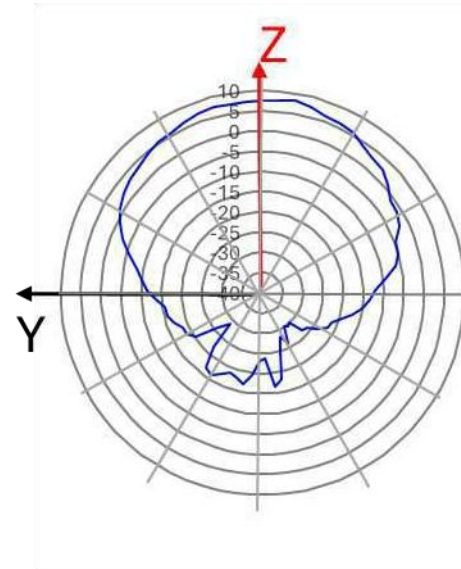
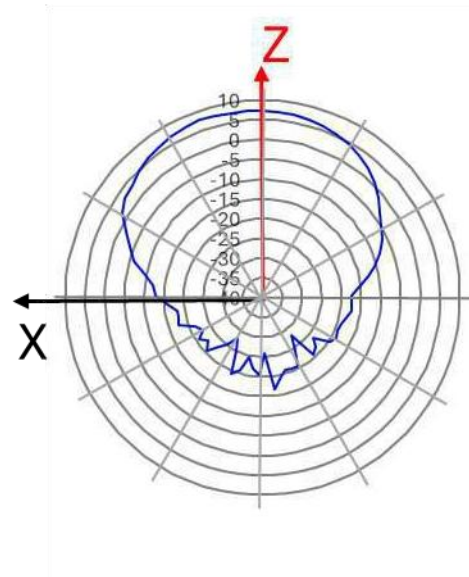
Radiation Patterns – ANT2 (5.20GHz)



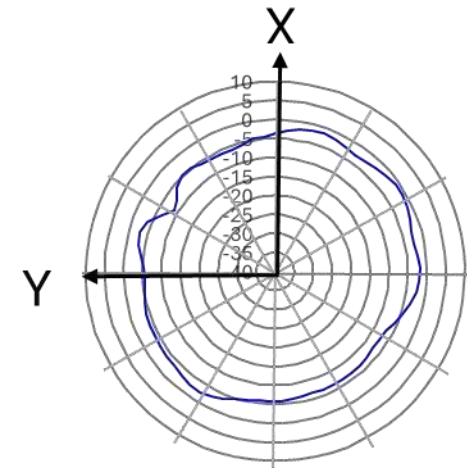
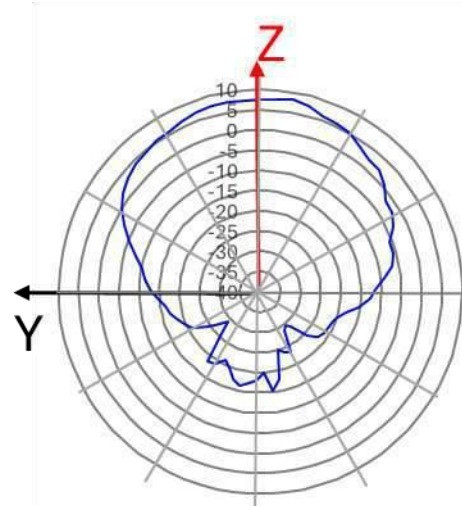
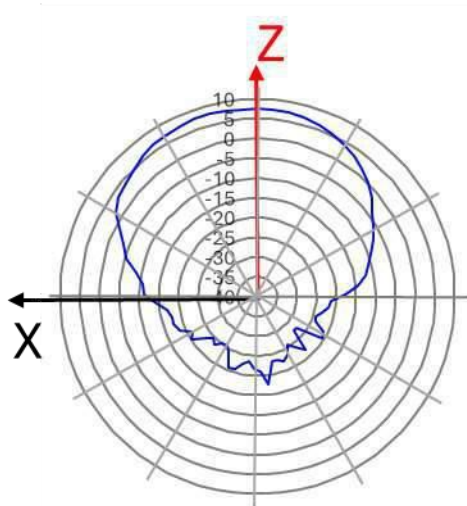
Radiation Patterns – ANT2 (5.25GHz)



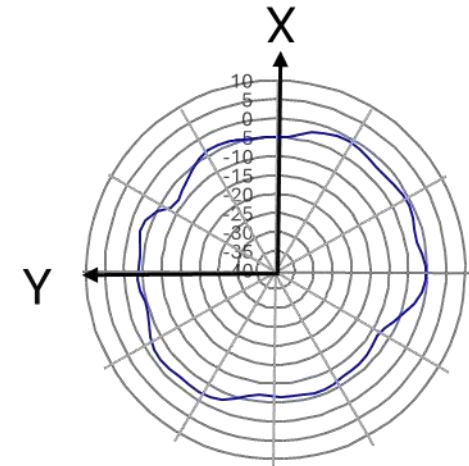
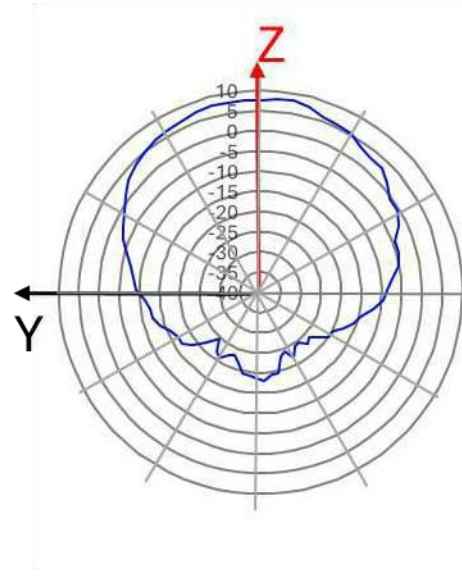
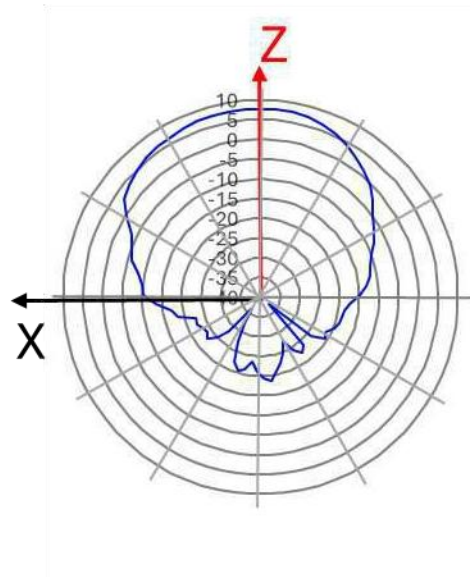
Radiation Patterns – ANT2 (5.3GHz)



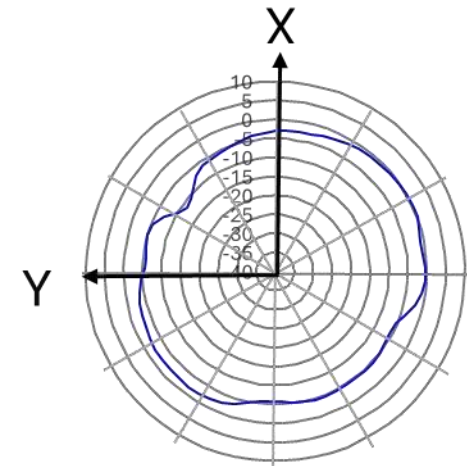
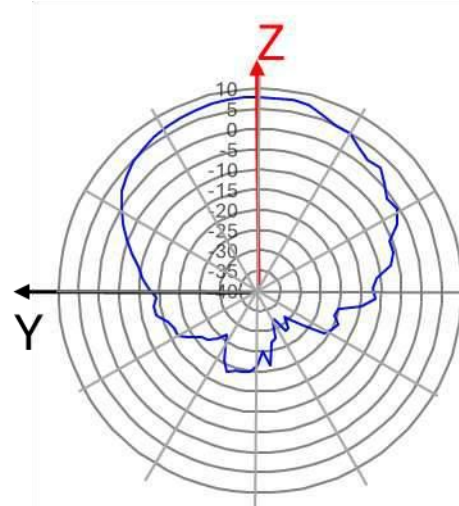
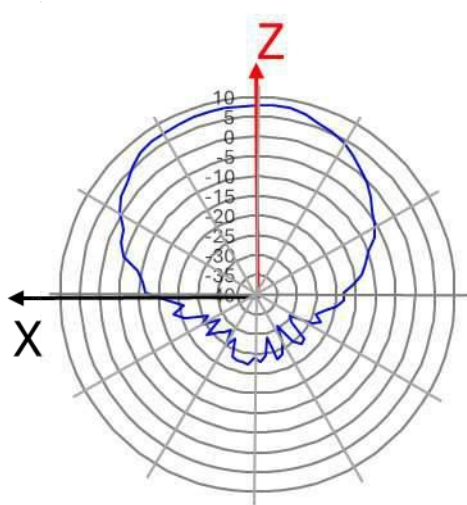
Radiation Patterns – ANT2 (5.35GHz)



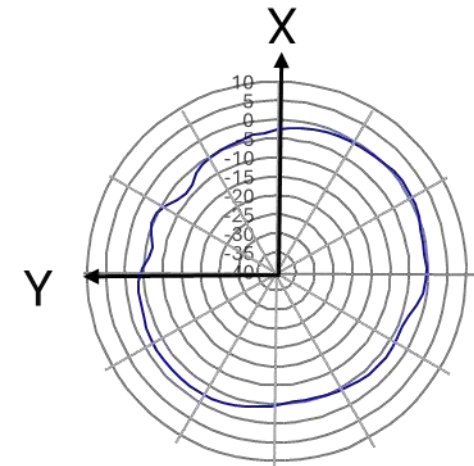
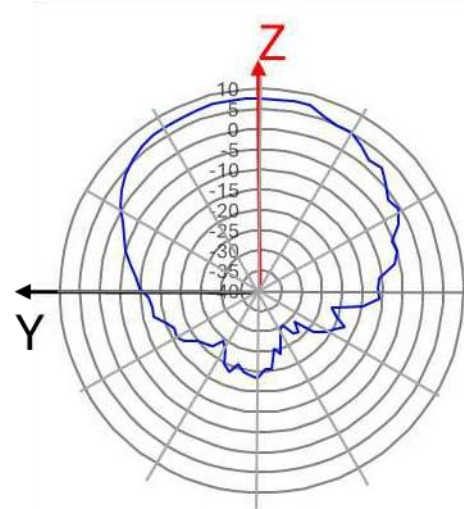
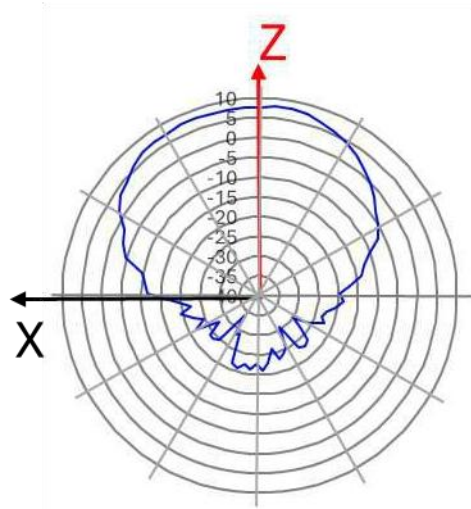
Radiation Patterns – ANT2 (5.47GHz)



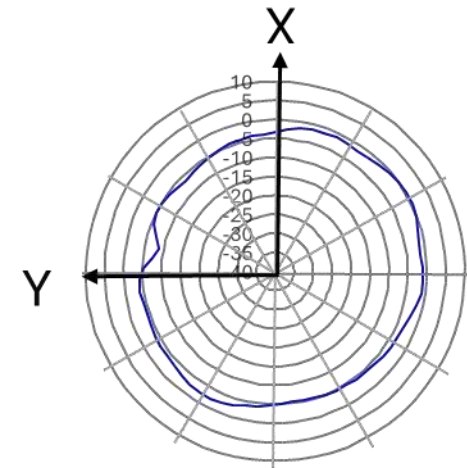
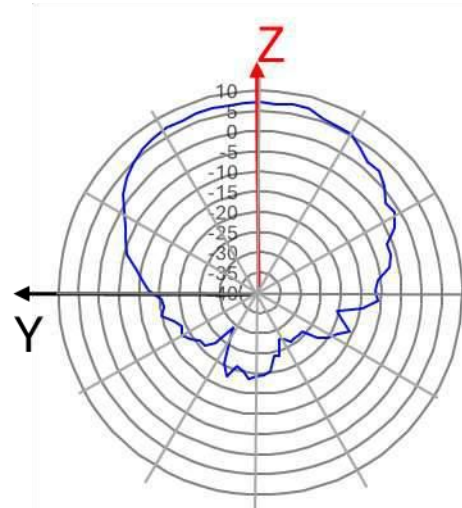
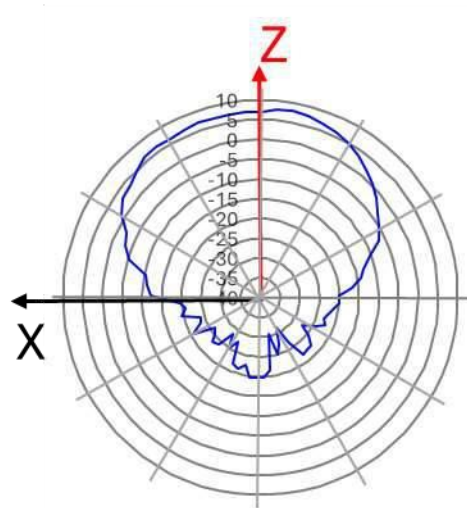
Radiation Patterns – ANT2 (5.6GHz)



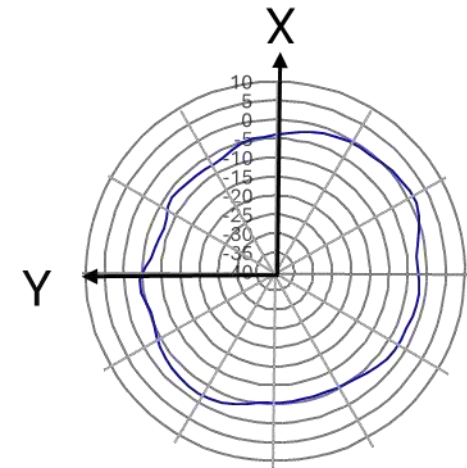
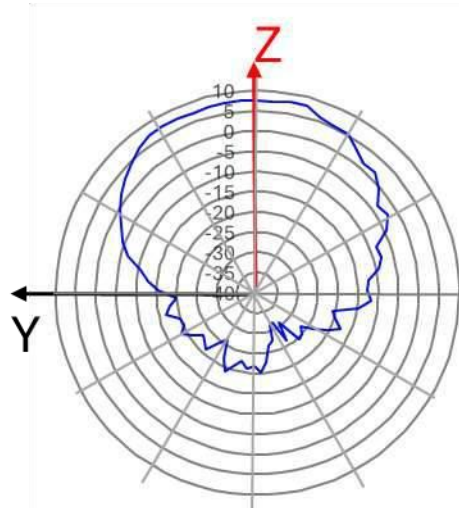
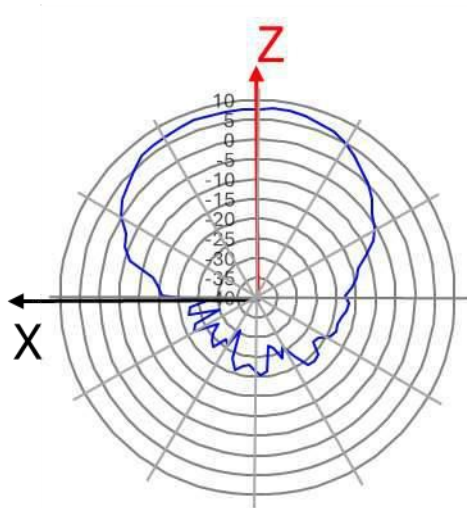
Radiation Patterns – ANT2 (5.725GHz)



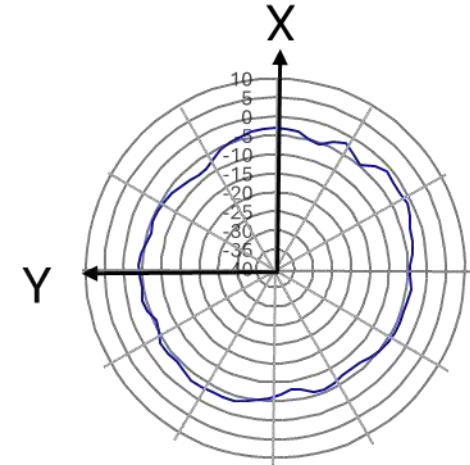
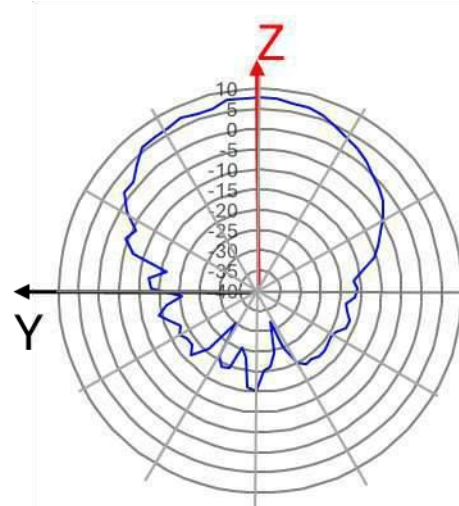
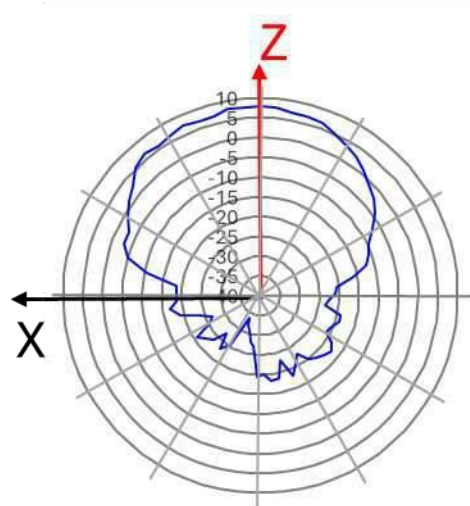
Radiation Patterns – ANT2 (5.785GHz)



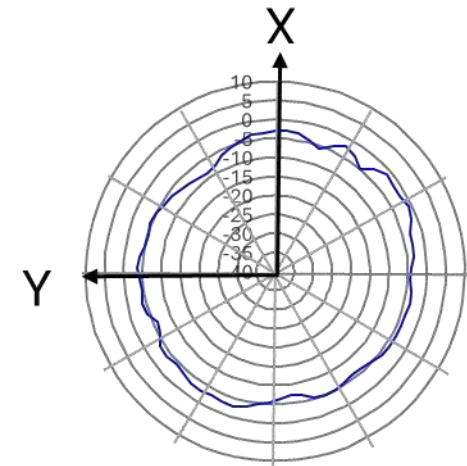
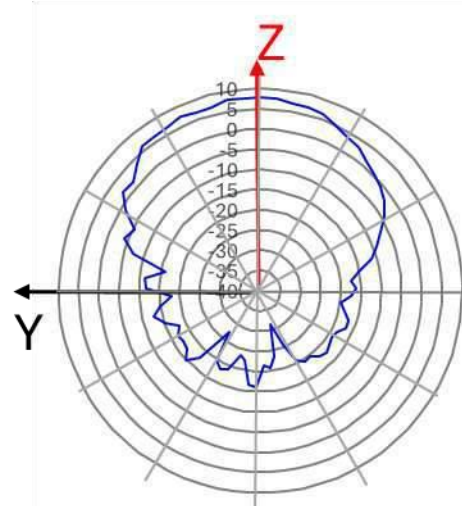
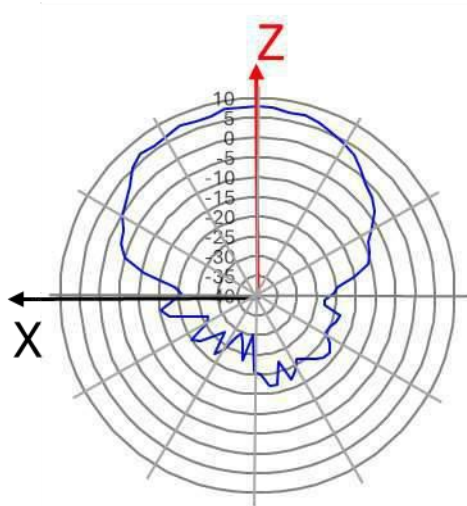
Radiation Patterns – ANT2 (5.85GHz)



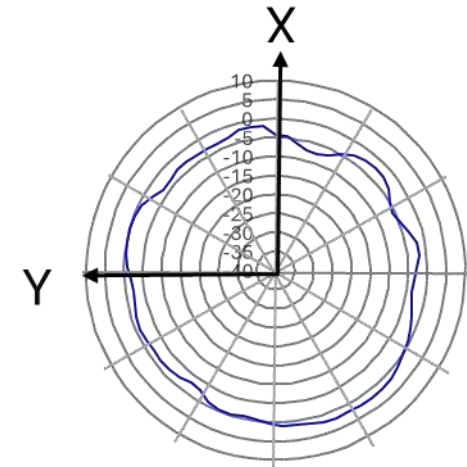
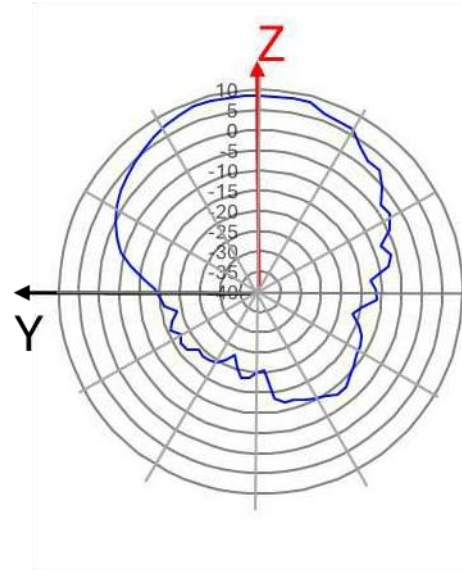
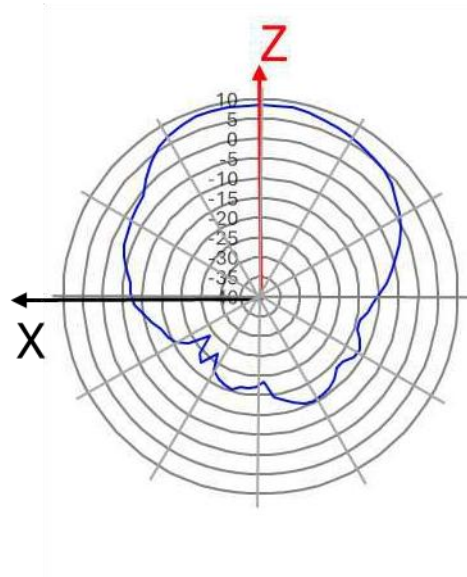
Radiation Patterns – ANT2 (5.865GHz)



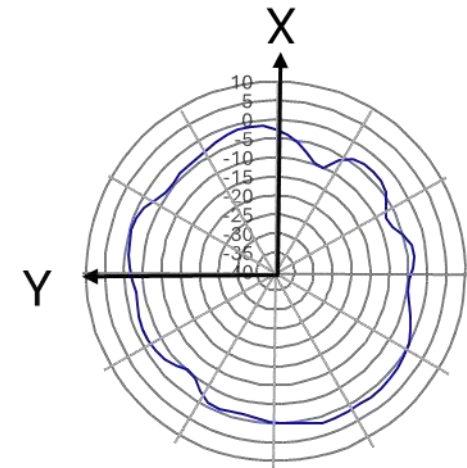
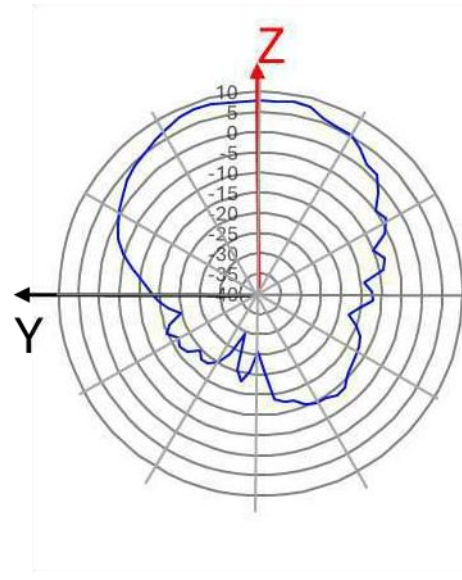
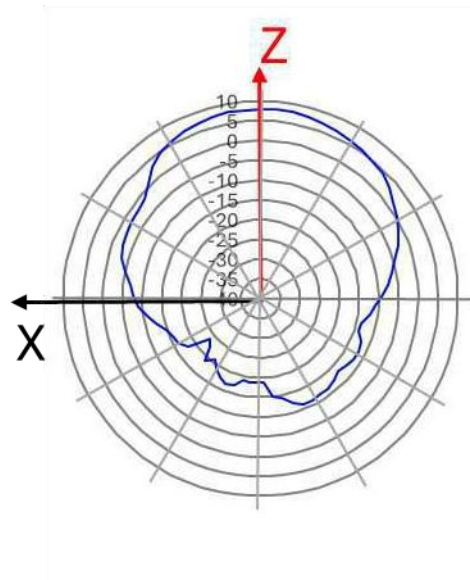
Radiation Patterns – ANT2 (5.895GHz)



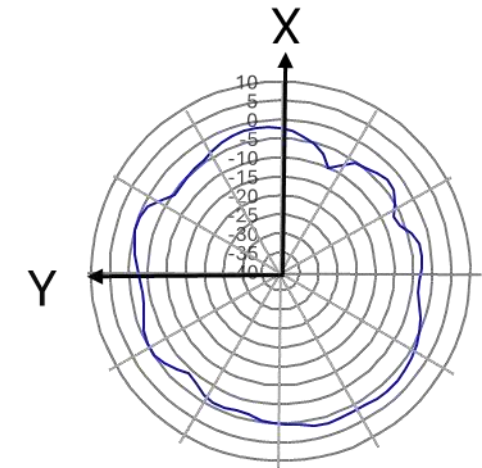
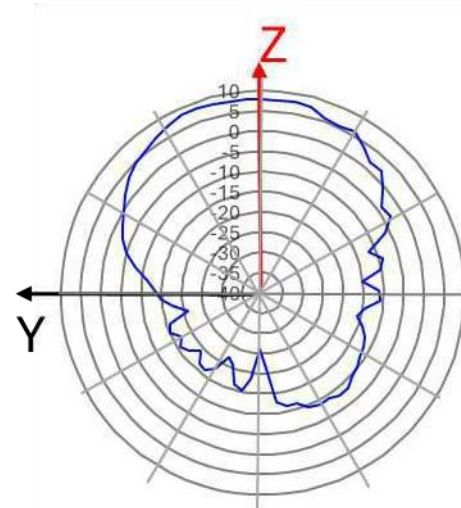
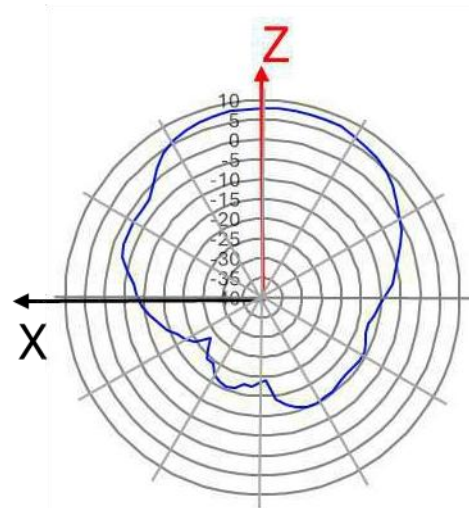
Radiation Patterns – ANT3 (5.15GHz)



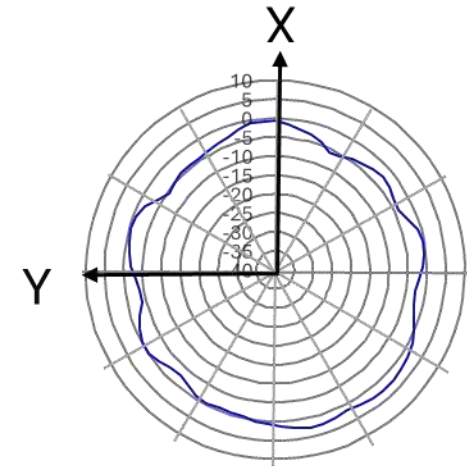
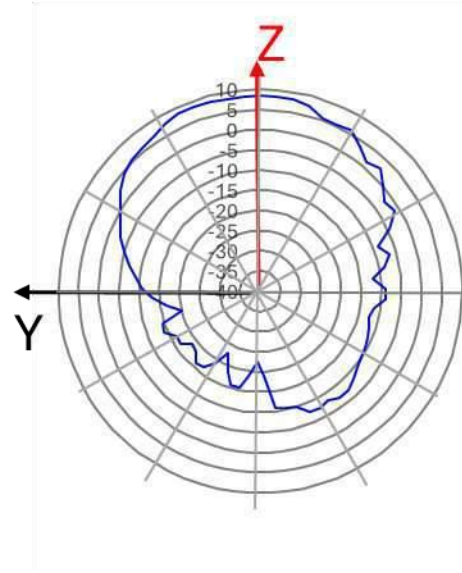
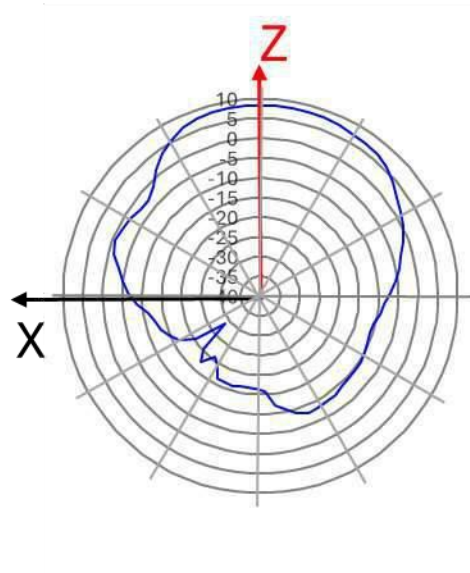
Radiation Patterns – ANT3 (5.20GHz)



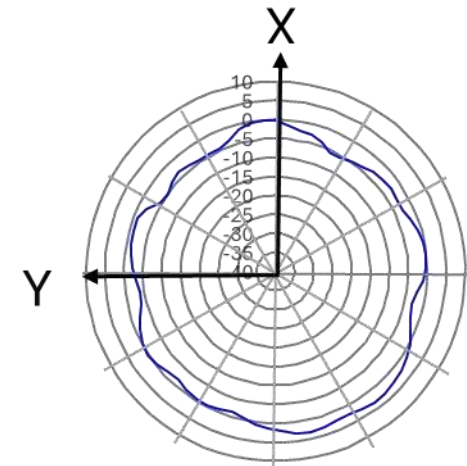
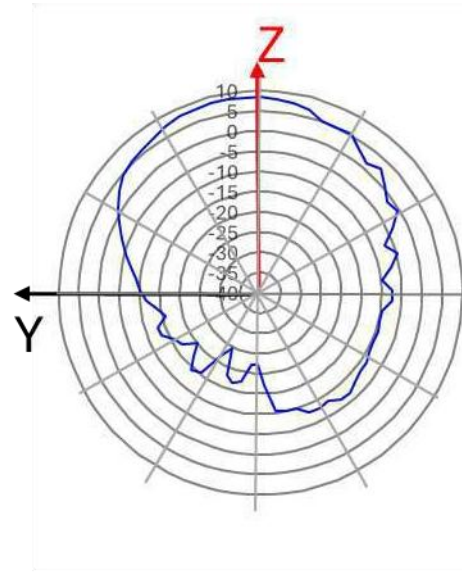
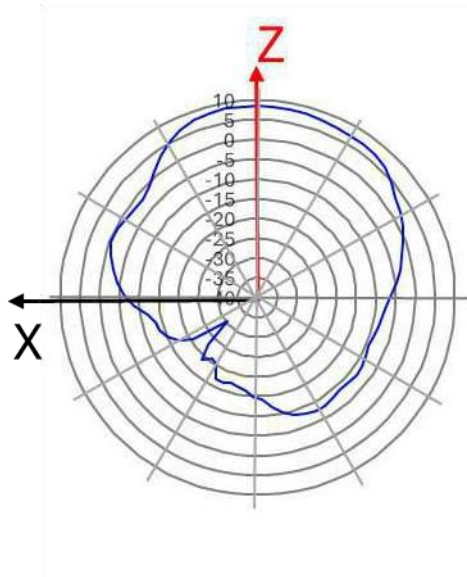
Radiation Patterns – ANT3 (5.25GHz)



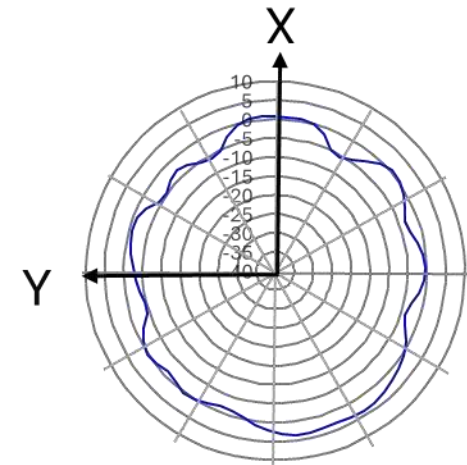
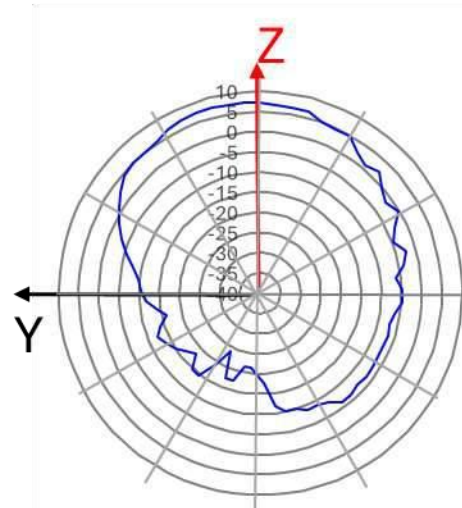
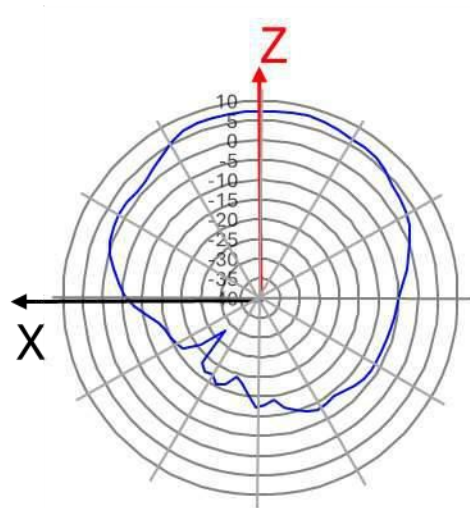
Radiation Patterns – ANT3 (5.3GHz)



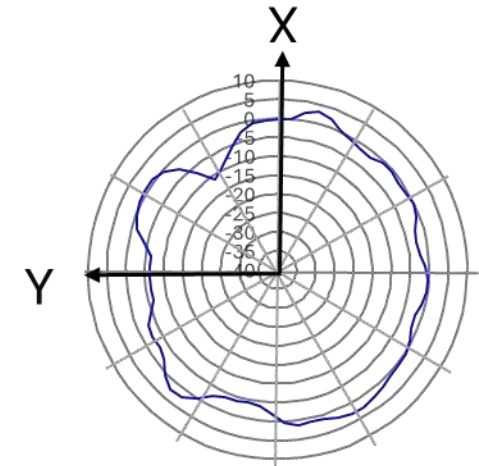
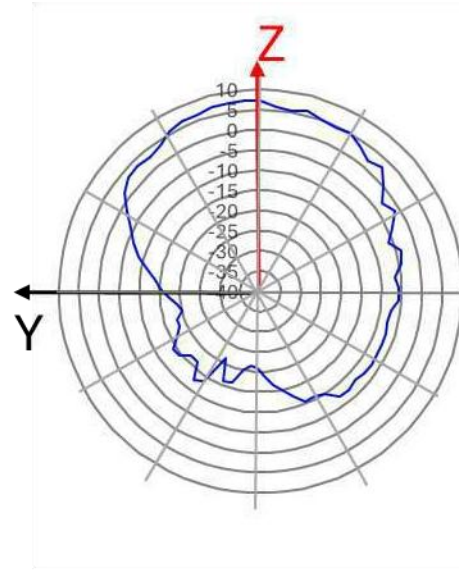
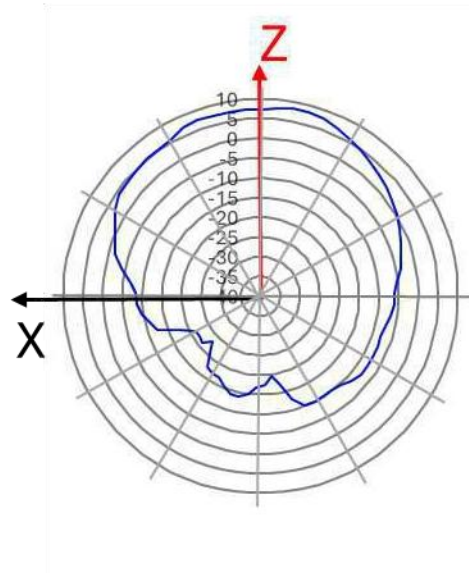
Radiation Patterns – ANT3 (5.35GHz)



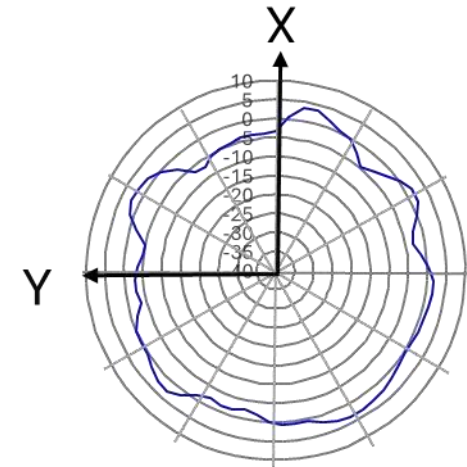
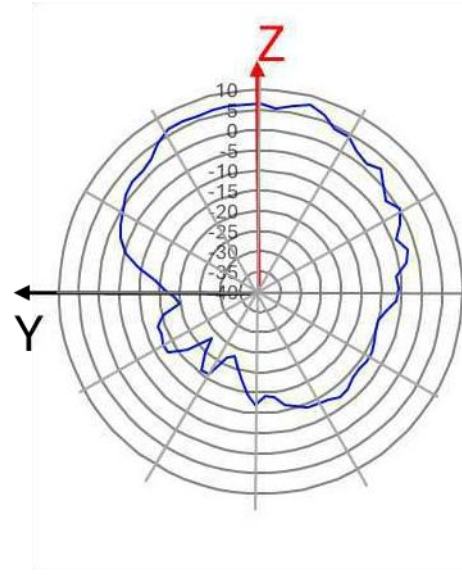
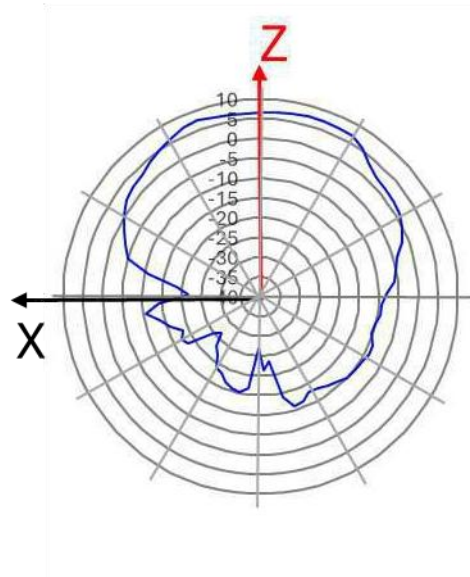
Radiation Patterns – ANT3 (5.47GHz)



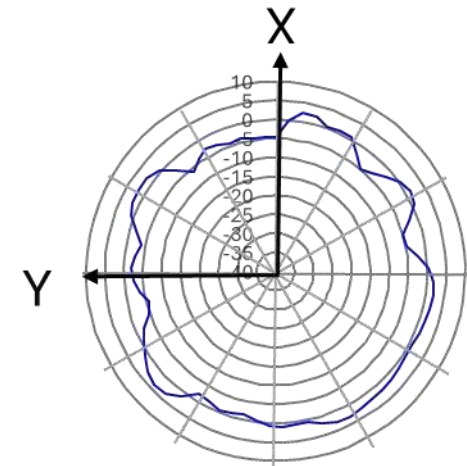
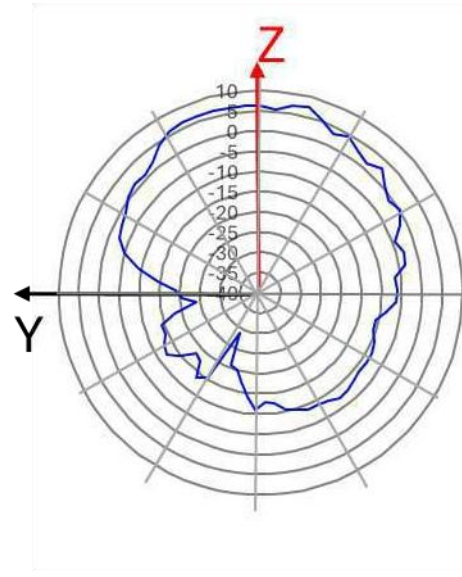
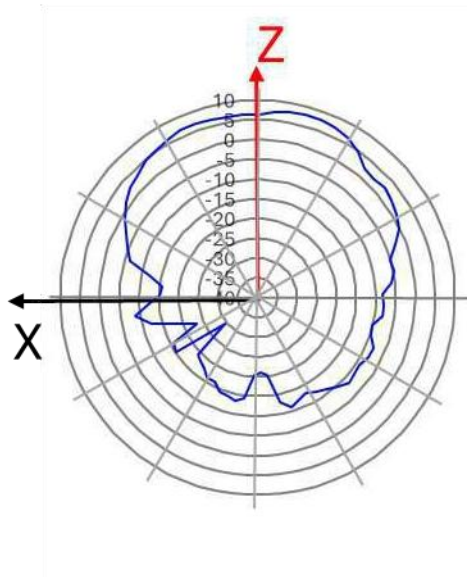
Radiation Patterns – ANT3 (5.6GHz)



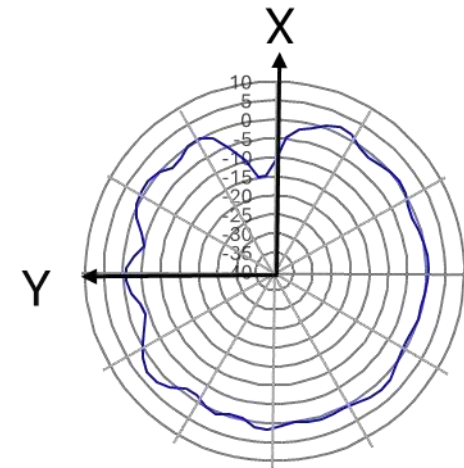
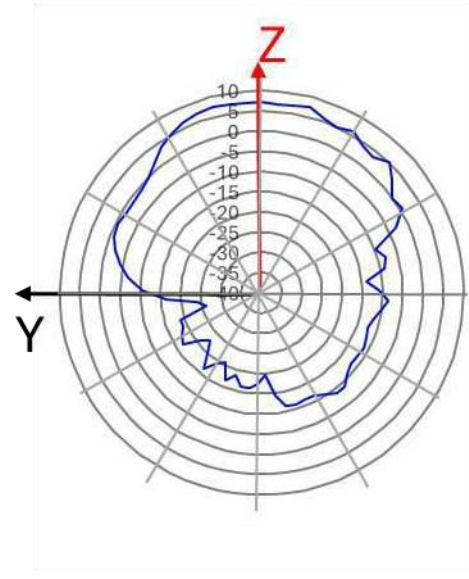
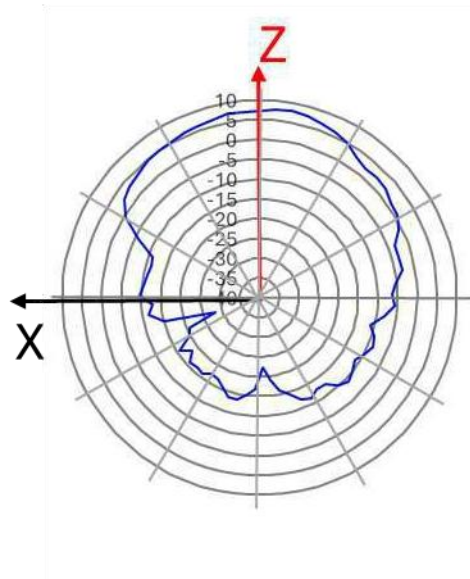
Radiation Patterns – ANT3 (5.725GHz)



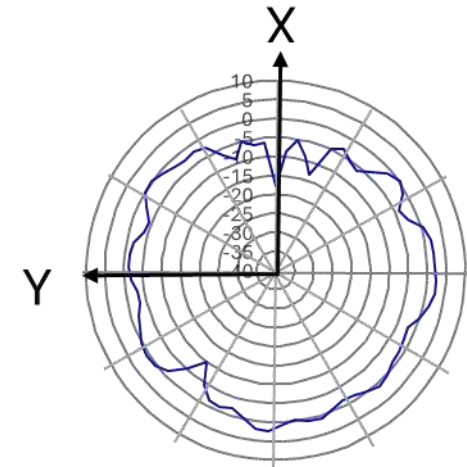
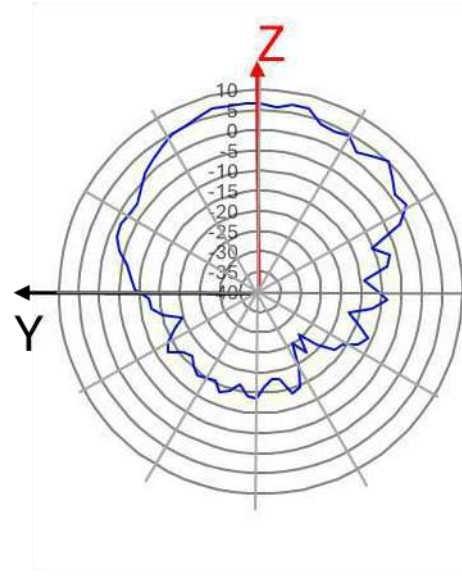
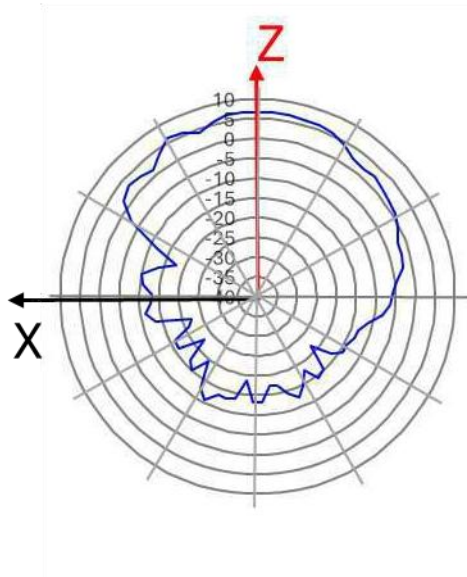
Radiation Patterns – ANT3 (5.785GHz)



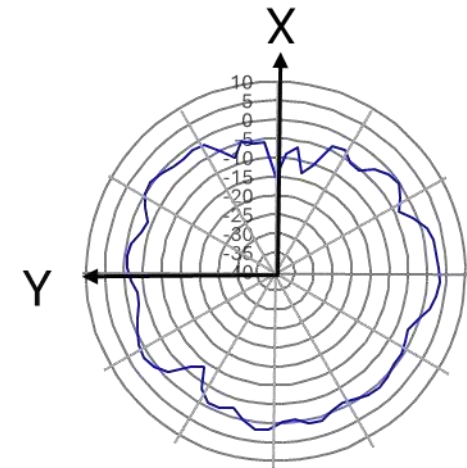
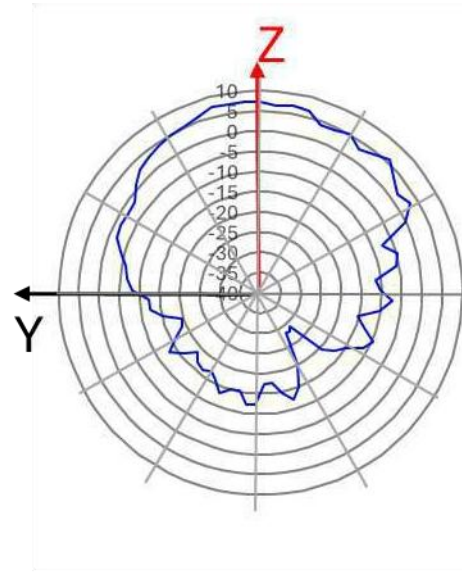
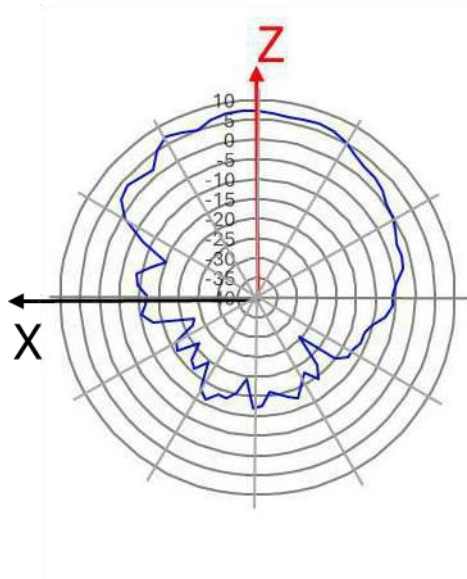
Radiation Patterns – ANT3 (5.85GHz)



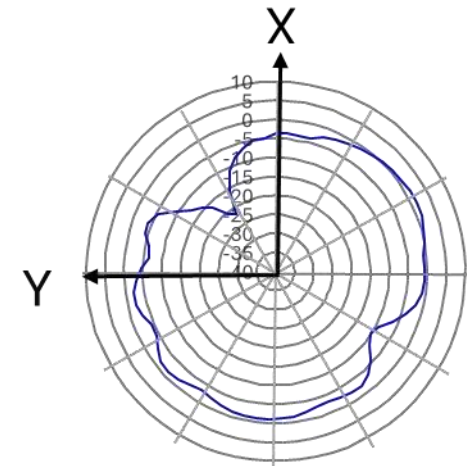
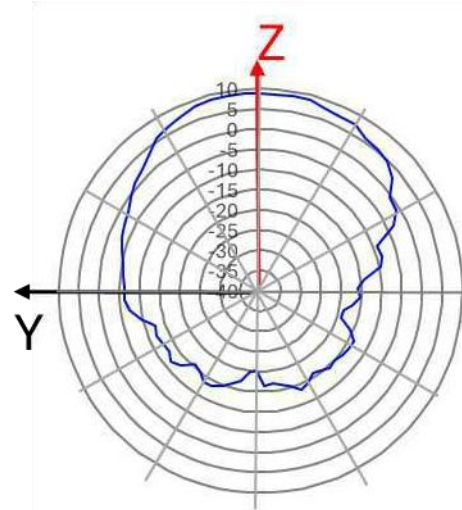
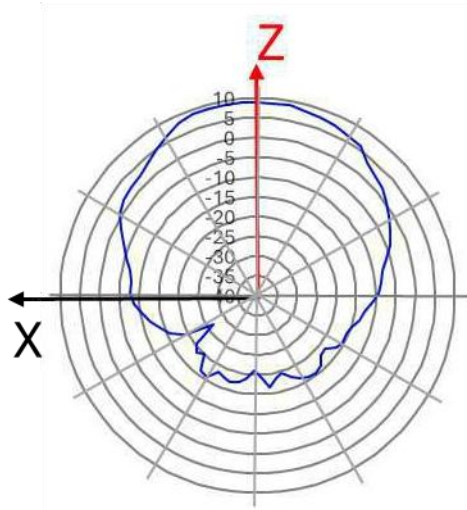
Radiation Patterns – ANT3 (5.865GHz)



Radiation Patterns – ANT3 (5.895GHz)



Radiation Patterns – ANT4 (5.15GHz)



Radiation Patterns – ANT4 (5.20GHz)

