

Antenna Test Result



ACCTON

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Revised History

REV.	Date	Revised Record	Prepared by
V01	06/06/2022	Antenna test result for DVT Sample	UNA
V02	07/22/2022	Antenna test result for Tool Sample	UNA

Antenna Summary

Measured Results						
Antenna Passband	2.4 / 5GHz Dual Band ANT 1	2.4 / 5GHz Dual Band ANT 2	2.4 / 5GHz Dual Band ANT 3 (WIFI 5G/ BLE ANT)	5GHz Single Band ANT 4	Requirement	Result
Frequency Range	2400-2483.5MHz 5150-5850MHz	2400-2483.5MHz 5150-5850MHz	2400-2483.5MHz 5150-5850MHz	5150-5850MHz	Standard	Meet
Return Loss	<-10.13 dB	<-10.81 dB	<-12.17 dB	<-10.61 dB	<-10	Meet
Peak Gain	5.53 dBi@2.4GHz 6.9 dBi @5GHz	5.74 dBi @2.4GHz 6.87dBi @5GHz	5.13 dBi @2.4GHz 6.25 dBi @5GHz	6.21dBi @5GHz	> 5dBi (2.4GHz) > 6 dBi (5GHz)	Meet
Isolation	≥ 23.95 dB@ 2.4GHz ≥ 26.69 dB@ 5GHz				>20dB	Meet
Azimuth Patterns	Null <-10				Null<-10	Meet

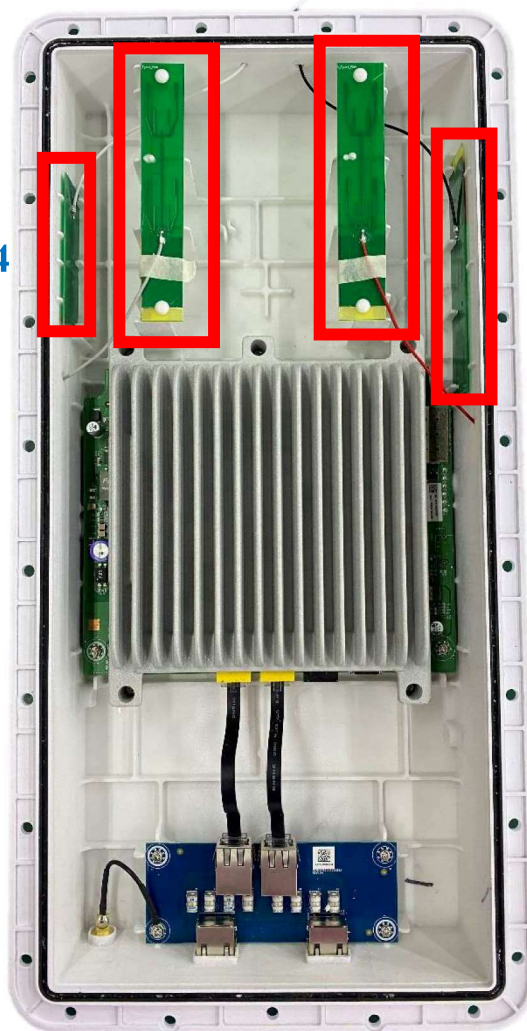
Antenna Location

2.4 / 5GHz Dual Band ANT 1

2.4 / 5GHz Dual Band ANT 2

5GHz Single Band ANT 4

2.4 / 5GHz Dual Band ANT 3
(WIFI 5G / BLE ANT)



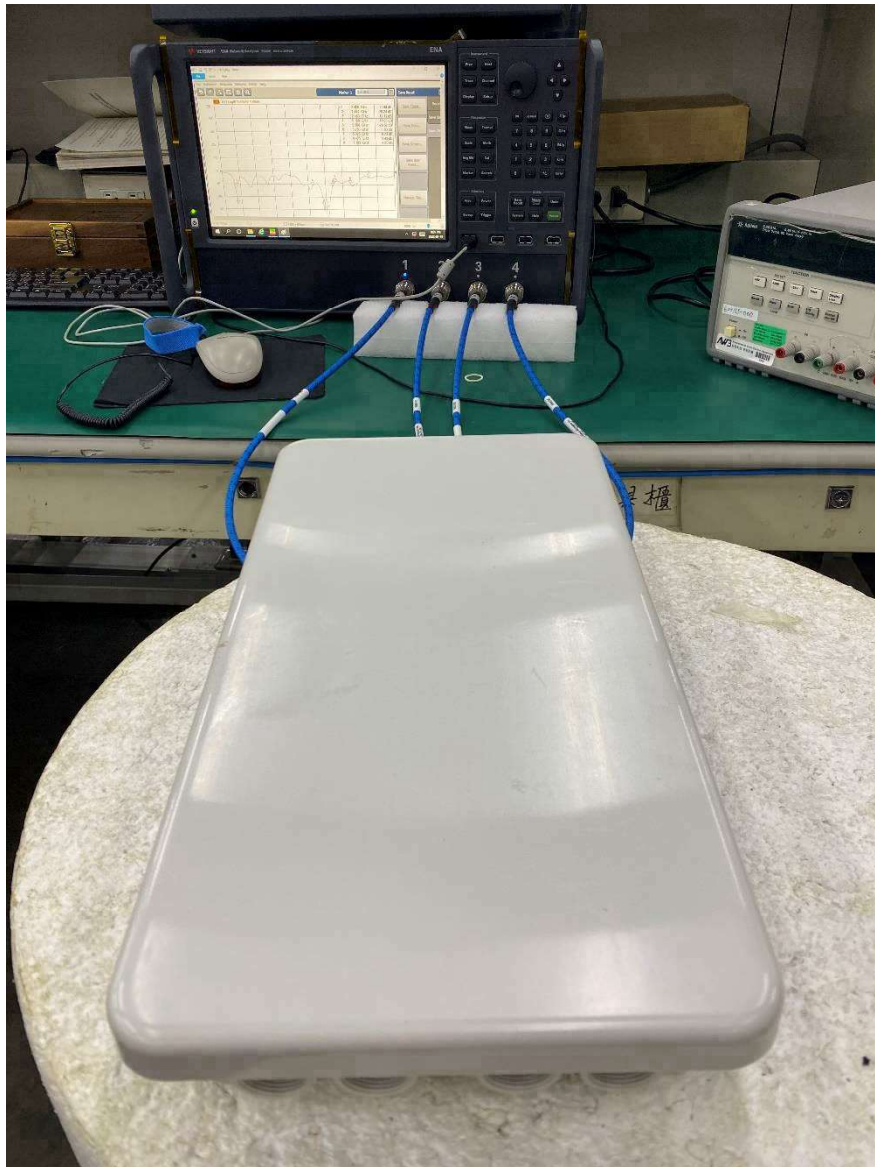
Antenna Description

Company name	Address
ACCTON Technology Corporation	No.1, Creation Road3, Hsinchu Science Park, Hsinchu 30077,Taiwan, R.O.C

Antenna mode	Antenna	Type	Cable (mm)	Cable color
120G00000256A	2.4 / 5GHz Dual Band ANT 1	PCB	105	Gary
120G00000257A	2.4 / 5GHz Dual Band ANT 2		130	Red
120G00000258A	2.4 / 5GHz Dual Band ANT 3		170	Black
120G00000259A	5GHz Single Band ANT 4		245	White

Experimental Return Loss & Isolation

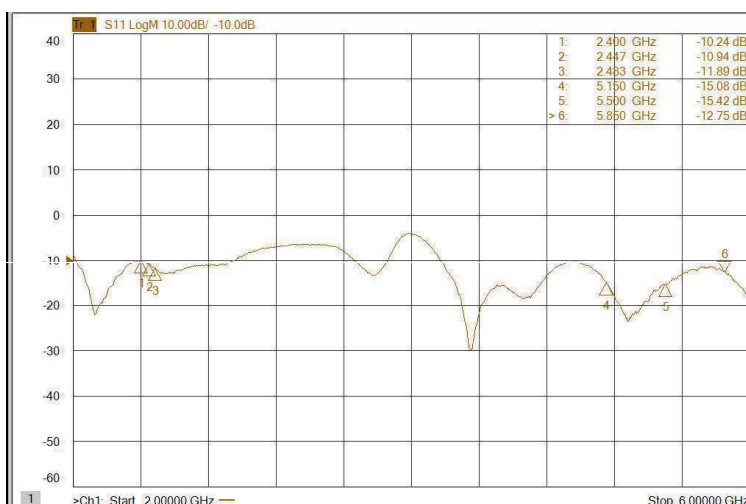
Use Keysight network analyzer (E5080B) for measurement



Return Loss

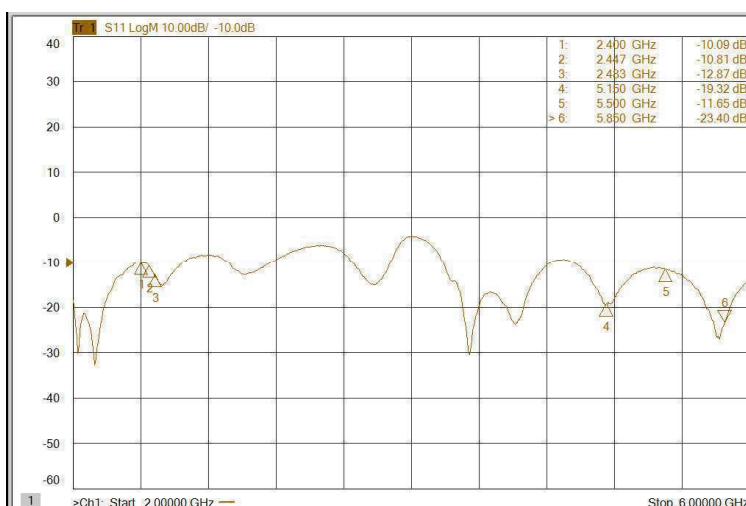
2.4 / 5GHz Dual Band ANT 1

Freq. (MHz)	2412	2447	2483.5	5150	5500	5825
Return Loss (-dB)	10.13	10.94	11.89	15.08	15.42	12.75



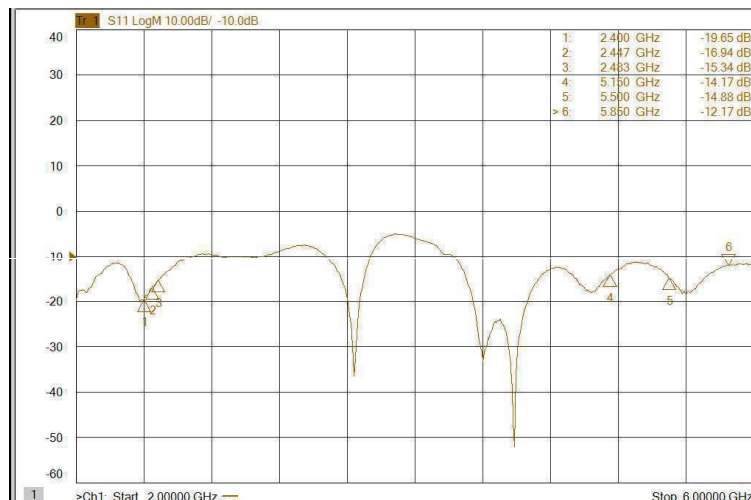
2.4 / 5GHz Dual Band ANT 2

Freq. (MHz)	2412	2447	2483.5	5150	5500	5825
Return Loss (-dB)	14.98	10.81	13.68	18.47	11.7	24.18



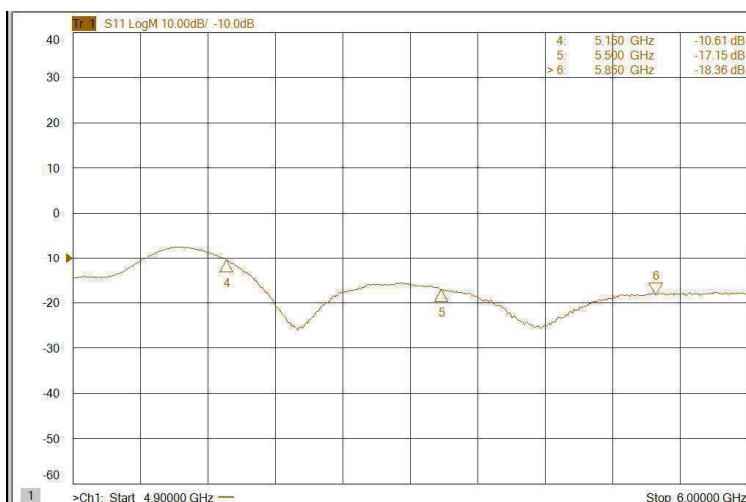
2.4 / 5GHz Dual Band ANT 3 (WIFI 5G/ BLE ANT)

Freq. (MHz)	2400	2447	2483.5	5150	5500	5825
Return Loss (-dB)	19.65	16.94	15.34	14.17	14.88	12.17



5GHz Single Band ANT 4

Freq. (MHz)	5150	5500	5825
Return Loss (-dB)	10.61	17.15	18.36



Isolation

All Antennas Isolation

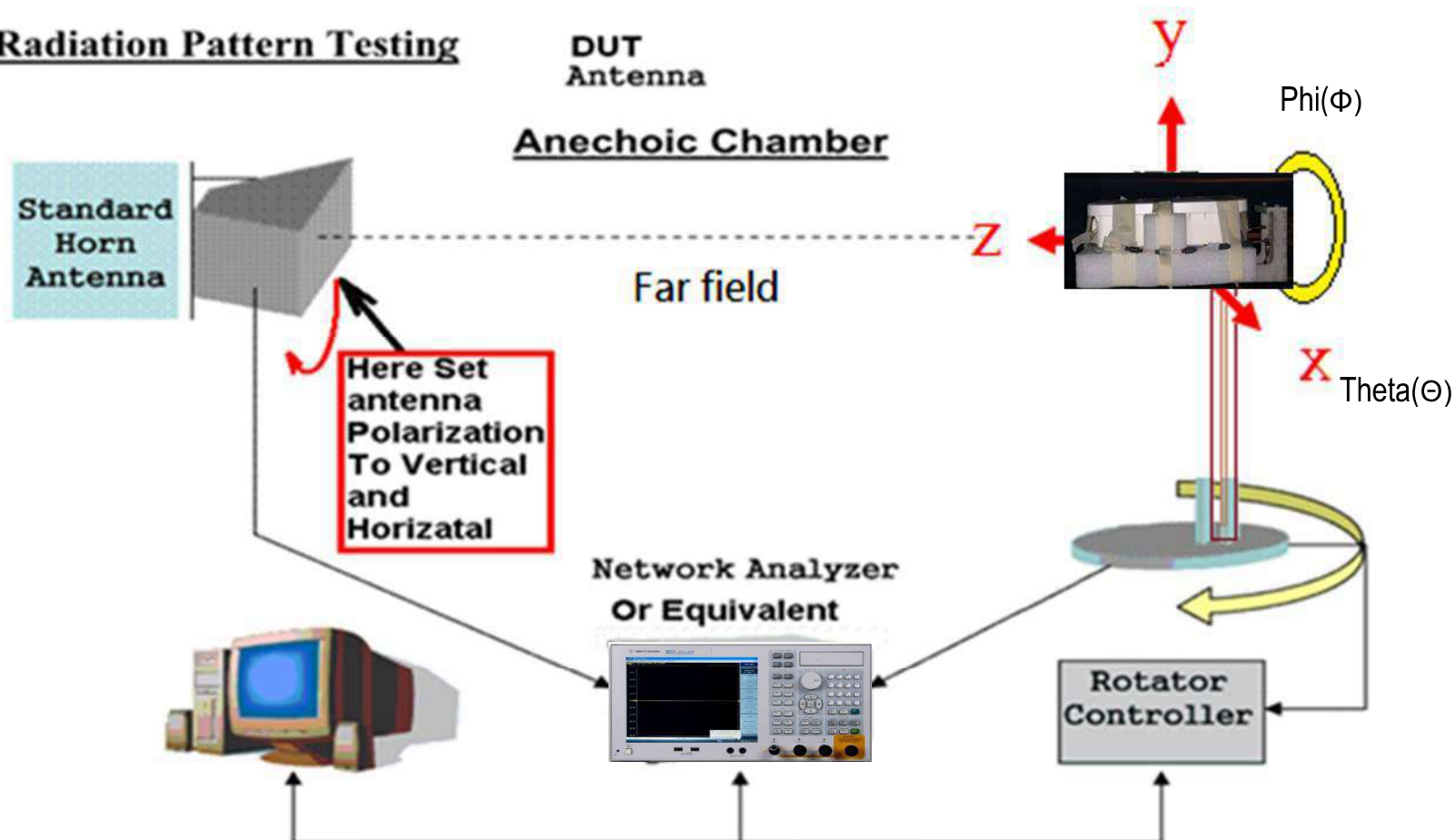
Isolation (-dB) / Freq. (MHz)	2400	2447	2483.5	5150	5500	5825
2.4 / 5GHz Dual Band ANT 1 to 2.4 / 5GHz Dual Band ANT 2	23.97	34.43	34.13	34.11	33.17	38.51
2.4 / 5GHz Dual Band ANT 1 to 2.4 / 5GHz Dual Band ANT 3	29.24	34.16	32.38	41.04	41.97	41.25
2.4 / 5GHz Dual Band ANT 1 to 5GHz Single Band ANT 4	31.78	30.22	28.47	28.98	26.69	33.82
2.4 / 5GHz Dual Band ANT 2 to 2.4 / 5GHz Dual Band ANT 3	27.59	39.56	25.09	33.16	33.75	38.42
2.4 / 5GHz Dual Band ANT 2 to 5GHz Single Band ANT 4	49.45	53.96	41.10	60.43	34.25	35.08
2.4 / 5GHz Dual Band ANT 3 to 5GHz Single Band ANT 4	60.31	43.34	56.91	40.80	37.71	38.17

Experimental Setup & Coordinate System

Chamber name: ETS AMS-8500 Rectangular CTIA-Compliant Test Lab

Describe	Manufacturer	Model Number	Serial Number	Cal.Date	Cal. Due Date
Network Analyzer	Agilent	E5071B	MY42402996	Dec.-2024	Dec.-2026

Radiation Pattern Testing



Efficiency & Gain

2.4 / 5GHz Dual Band ANT 1						
Frequency (MHz)	2400	2447	2483.5	5150	5500	5850
Efficiency (%)	60.48	72.2	69.88	78.5	70.15	75.77
Peak Gain (dBi)	5.23	5.53	5.4	6.88	6.29	6.90

2.4 / 5GHz Dual Band ANT 2						
Frequency (MHz)	2400	2447	2483.5	5150	5500	5850
Efficiency (%)	66.17	70.92	68.1	64.9	69.7	78.8
Peak Gain (dBi)	5.17	5.74	5.65	6.09	6.58	6.87

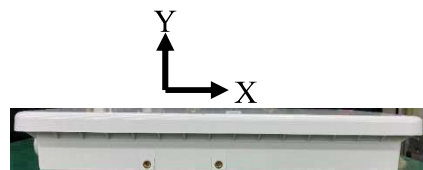
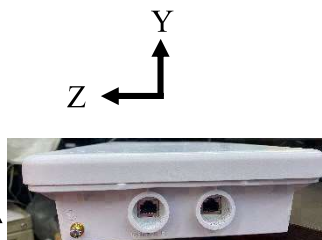
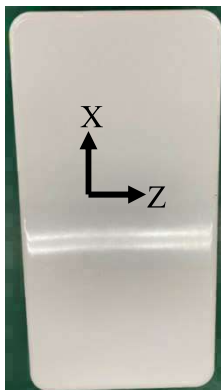
2.4 / 5GHz Dual Band ANT 3 (WIFI 5G/ BLE ANT)						
Frequency (MHz)	2400	2447	2483.5	5150	5500	5850
Efficiency (%)	70.84	62.34	68.4	70.65	64.0	67.7
Peak Gain (dBi)	5.13	4.63	4.62	6.03	5.63	6.25

5GHz Single Band ANT 4			
Frequency (MHz)	5150	5500	5850
Efficiency (%)	57.25	64	66.58
Peak Gain (dBi)	5.48	6.21	5.75

Test Date : 2022/07

2D Radiation Pattern

2.4 / 5GHz Dual Band ANT 1-3

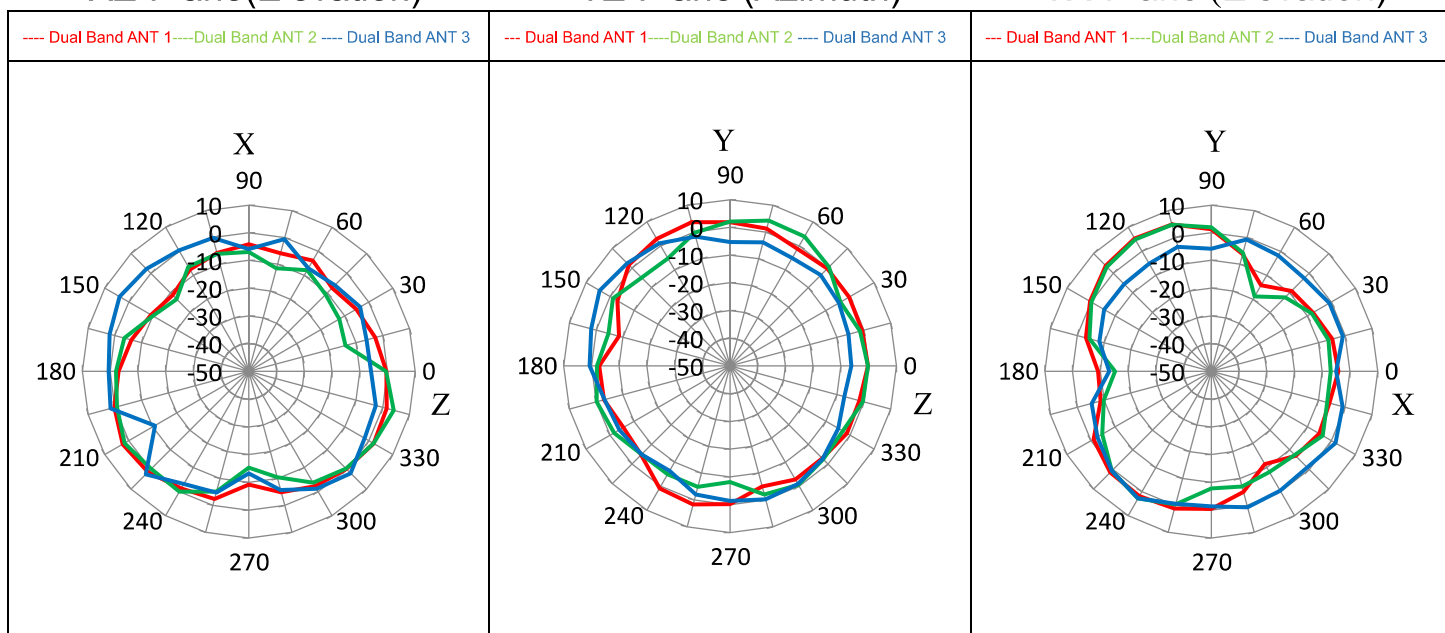


2447MHz

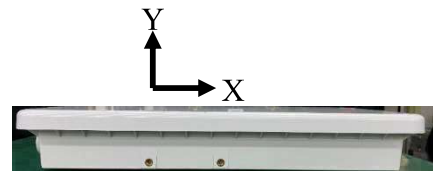
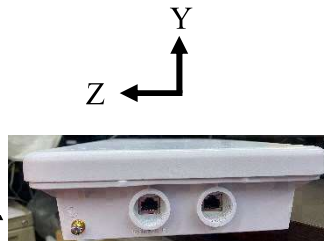
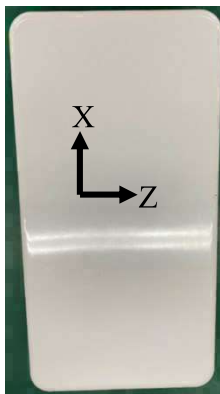
XZ-Plane(Elevation)

YZ-Plane (Azimuth)

YX-Plane (Elevation)



2.4 / 5GHz Dual Band ANT 1-3

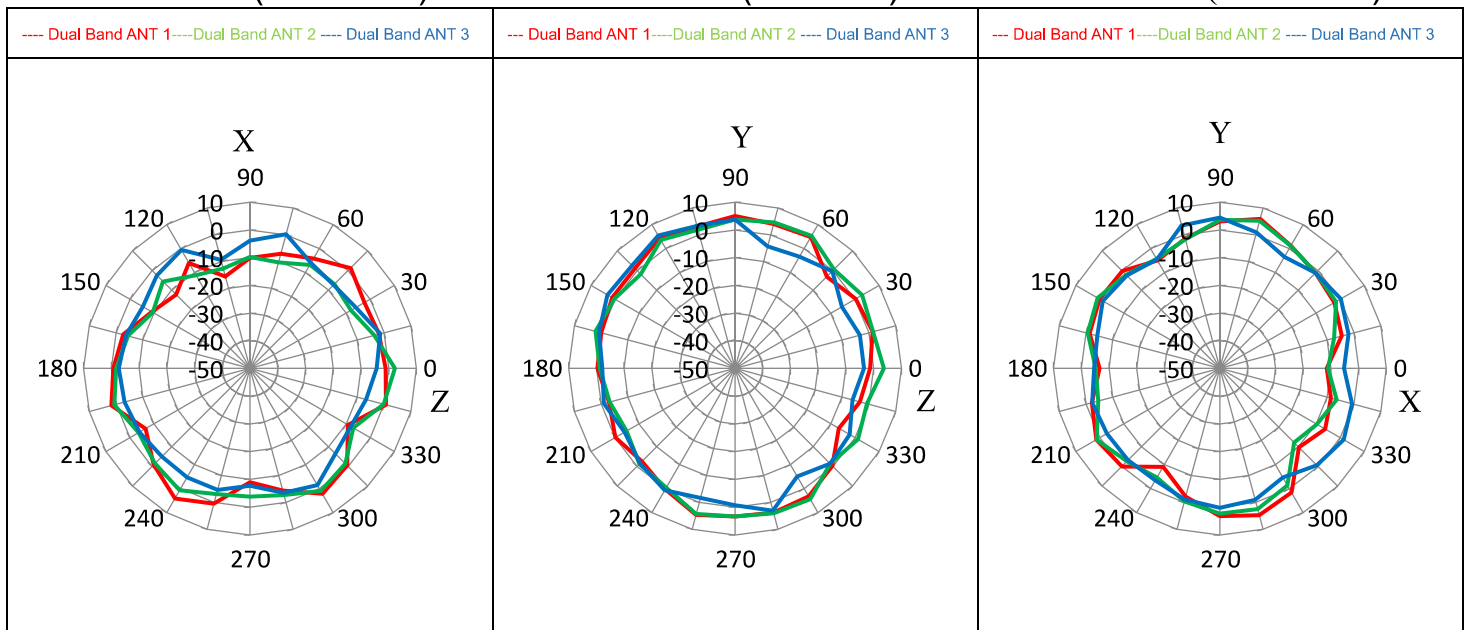


5500MHz

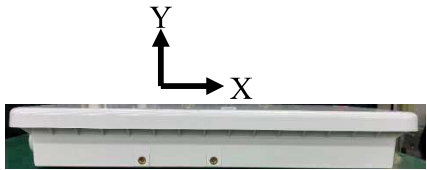
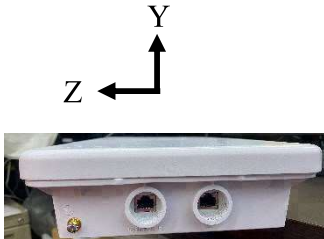
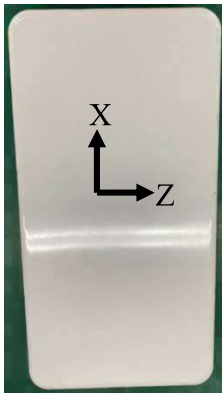
XZ-Plane(Elevation)

YZ-Plane (Azimuth)

YX-Plane (Elevation)



5GHz Single Band ANT 4

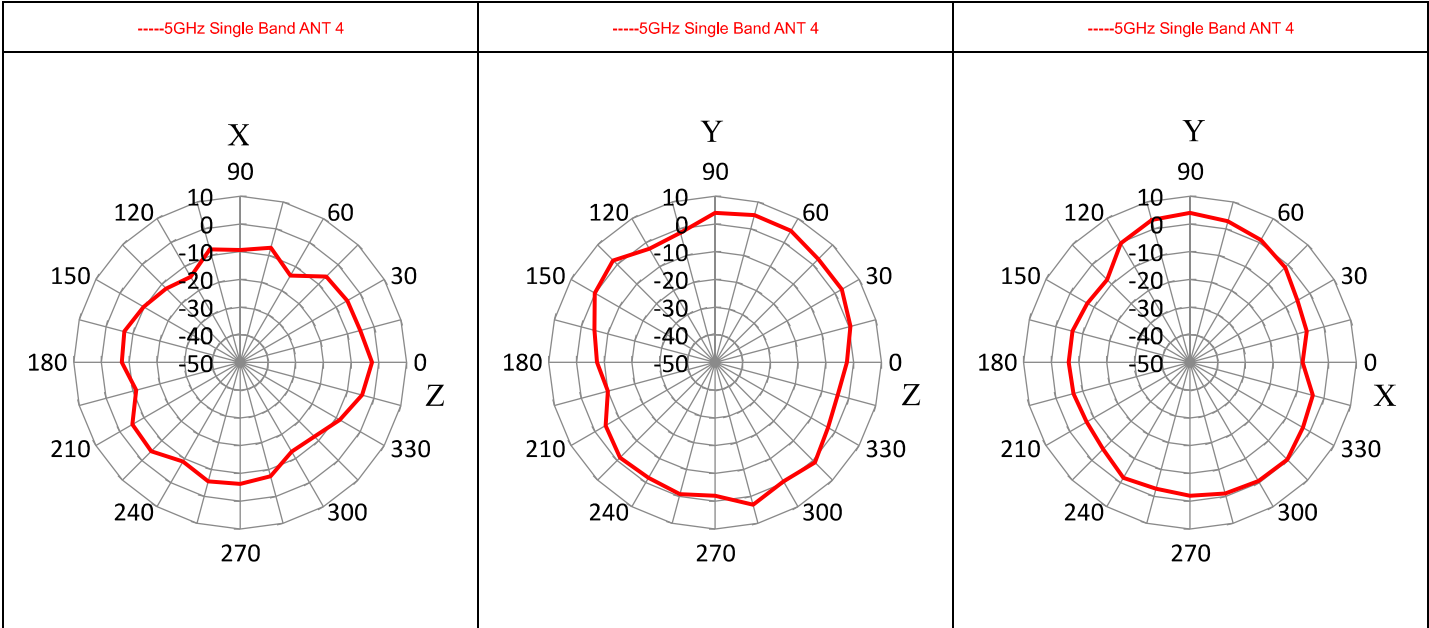


5500 MHz

XZ-Plane(Elevation)

YZ-Plane (Azimuth)

YX-Plane (Elevation)



Test Date : 2022/07