ANTENNA TEST REPORT

Applicant	ORO Technology Co., Ltd. 3F., No. 29, Gongyequ 21st Rd., Nantun Dist., Taichung City 408, Taiwan
Brand	ORO
Manufacturer	ORO Technology Co., Ltd. 3F., No. 29, Gongyequ 21st Rd., Nantun Dist., Taichung City 408, Taiwan
Product Name	Monopole Antenna
Model Name	M02AN00011
Report No	4791738976
Received Date	2025/4/8
Test Period	2025/4/11
Issued Date	2025/4/30

Prepared By:

Cindy Hsin Date : 2025/4/30
Project Handler

Approved and Authorized By:

Eric Lee Date : 2025/4/30
Senior Laboratory Engineer

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Release Note

Rev.	Date	Revisions Contents	Revised By
Original	2025/4/30	Initial issue	-

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1. Description of Antenna

Ant. No.	Brand Name	Model Name	Ant. Type	Operation Mode
1	ORO	M02AN00011	Monopole	Bluetooth EDR

Note:

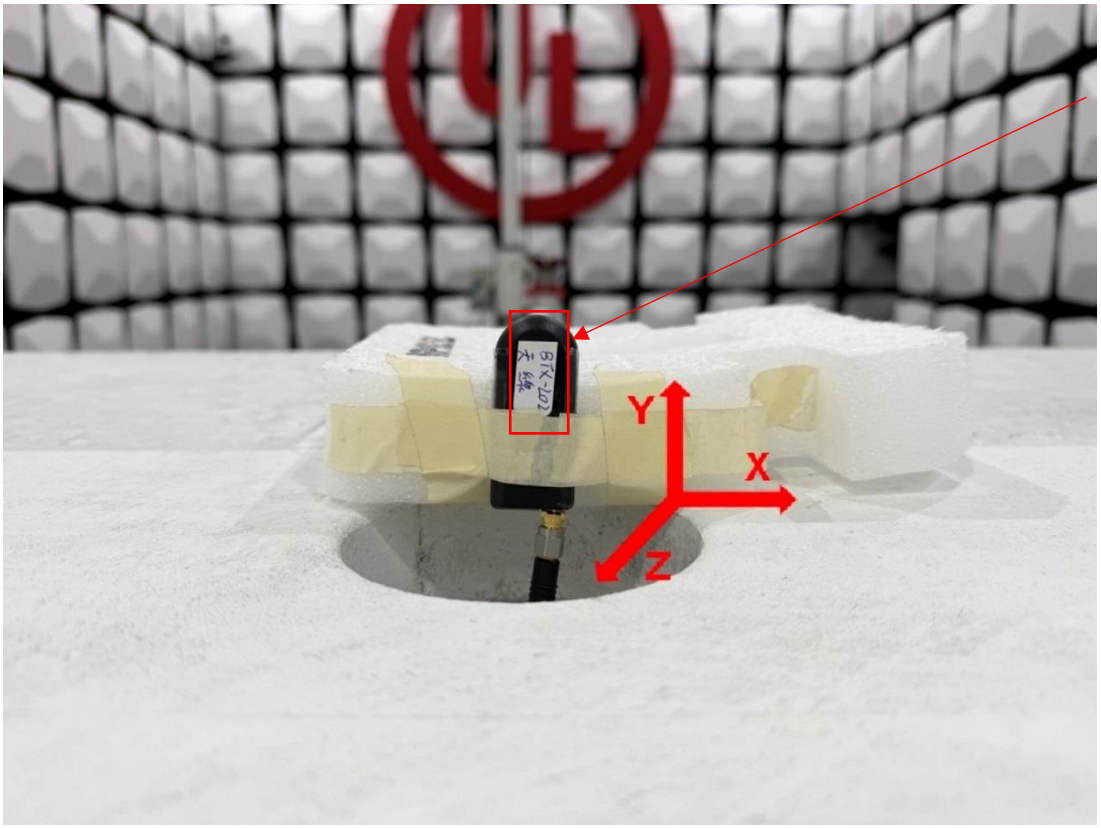
1. The above Antenna information is declared by manufacturer and for more detailed features description, please refer the manufacturer's or user's manual.

2. Test Frequency and Polarization

The tests frequency is declared by manufacturer.

Band (MHz)	Test Frequency (MHz)
2402-2480	2402, 2426, 2480

EUT Position and Polarization



3. Test Location and Address

Test Location	Underwriters Laboratories Taiwan Co., Ltd.,
Address	Building A, B and E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan
Description	All measurement facilities use to collect the measurement data are located at Building A, B and E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

4. Measuring Instrument List (Test Equipment)

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations and is traceable to recognized national standards.

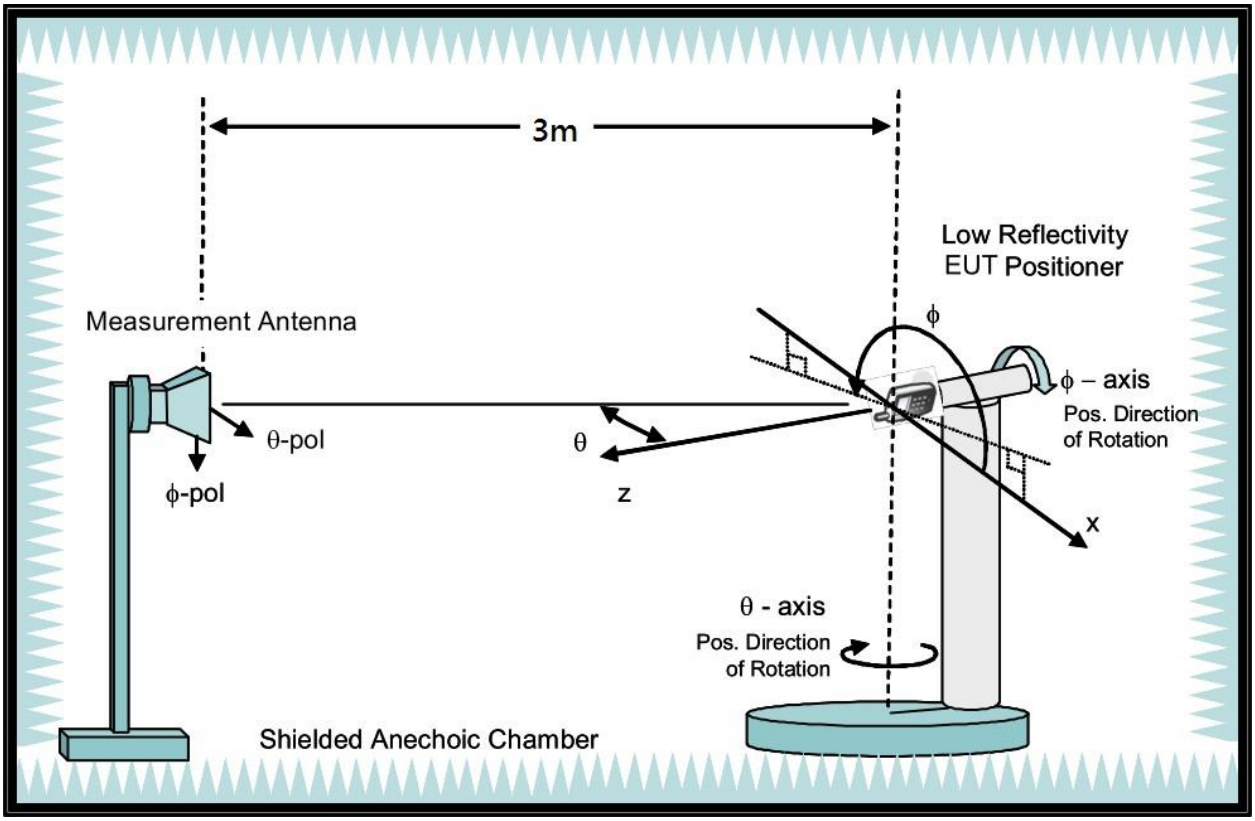
Test Equipment List					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Date**	**Expired Date**
Trilog-Broadband Antenna	Schwarzbeck	VULB 9163 & N-6-05	1059 & N0537	2025/1/20	2026/1/19
Signal Generator	Keysight	N5173B	MY53271122	2024/12/3	2025/12/2
Spectrum Analyzer	Keysight	N9010A	MY56070818	2025/3/12	2026/3/11
Cables	Hanyitek	K1K50-UP0264-K1K50-2500	170214-1 & 170214-2	2024/11/22	2025/11/21
Cables	Hanyitek	HPMC40KM90KF	CB038	2025/1/16	2026/1/15

UL Software

Software	Version
e3 (SG&SA used)	6.191211 (V6)

5. Test Connection Diagram and Condition

Test Facility	Test Site No.	Environmental Condition	Test Date	Tested by
Fully Anechoic Chamber	1277	22°C / 62%RH	2025/4/11	Jubo Shen



6. Test Procedure

1. Set the Calibration Antenna on multi-axis positioner and connect to signal generator for capture the correction factor.
2. Signal generator insertion normalize and calculate the standard antenna factor with spectrum analyzer.
3. Calibration Antenna change to the EUT's antenna.
4. The EUT is then stepped between 0 to 360 degrees along the theta axis.

7. Test Result

Maximum gain result refer below table:

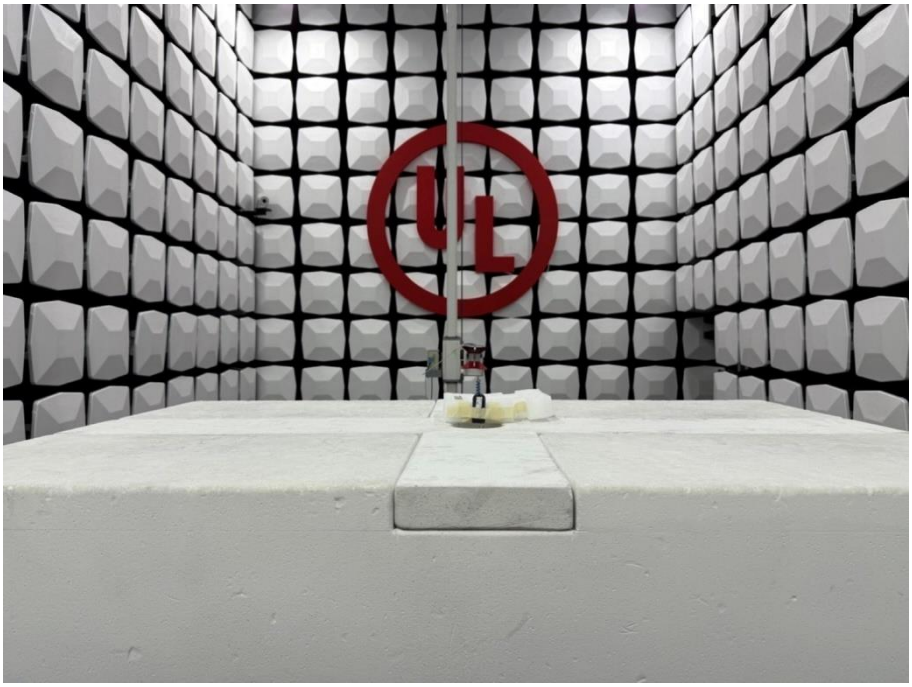
Polarization	Test Frequency (MHz)	X-Y Plane Gain (dBi)	X-Z Plane Gain (dBi)	Y-Z Plane Gain (dBi)
Vertical	2402 MHz	-11.61	-14.98	-9.65
Horizontal	2402 MHz	-12.09	-7.37	-8.69

Polarization	Test Frequency (MHz)	X-Y Plane Gain (dBi)	X-Z Plane Gain (dBi)	Y-Z Plane Gain (dBi)
Vertical	2426 MHz	-10.39	-15.56	-9.55
Horizontal	2426 MHz	-12.82	-7.25	-9.6

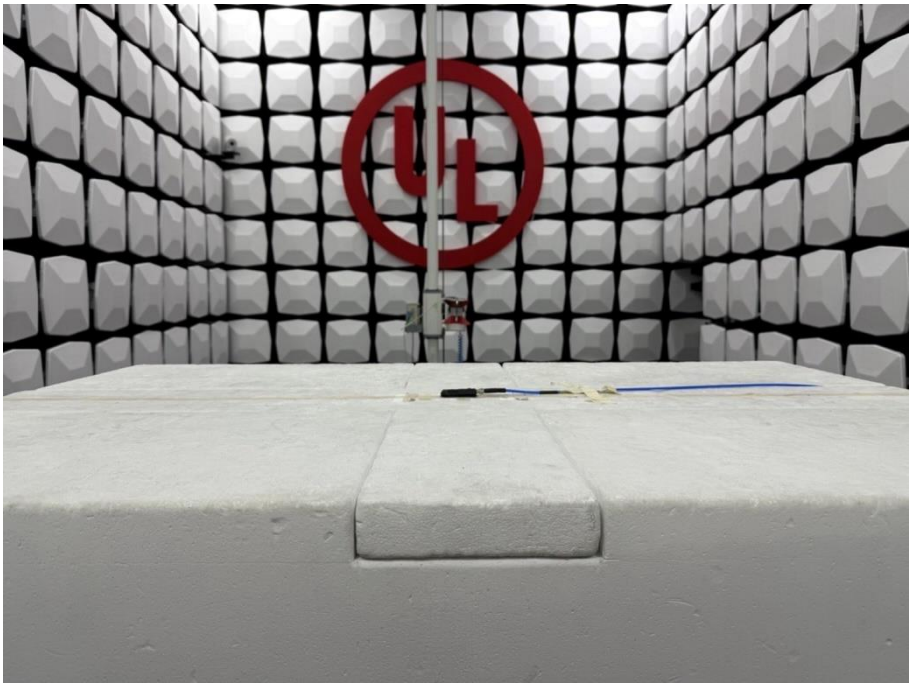
Polarization	Test Frequency (MHz)	X-Y Plane Gain (dBi)	X-Z Plane Gain (dBi)	Y-Z Plane Gain (dBi)
Vertical	2480 MHz	-12.57	-15.05	-9.26
Horizontal	2480 MHz	-12.59	-7.99	-8.66

Appendix I： Photographs of Test Configuration

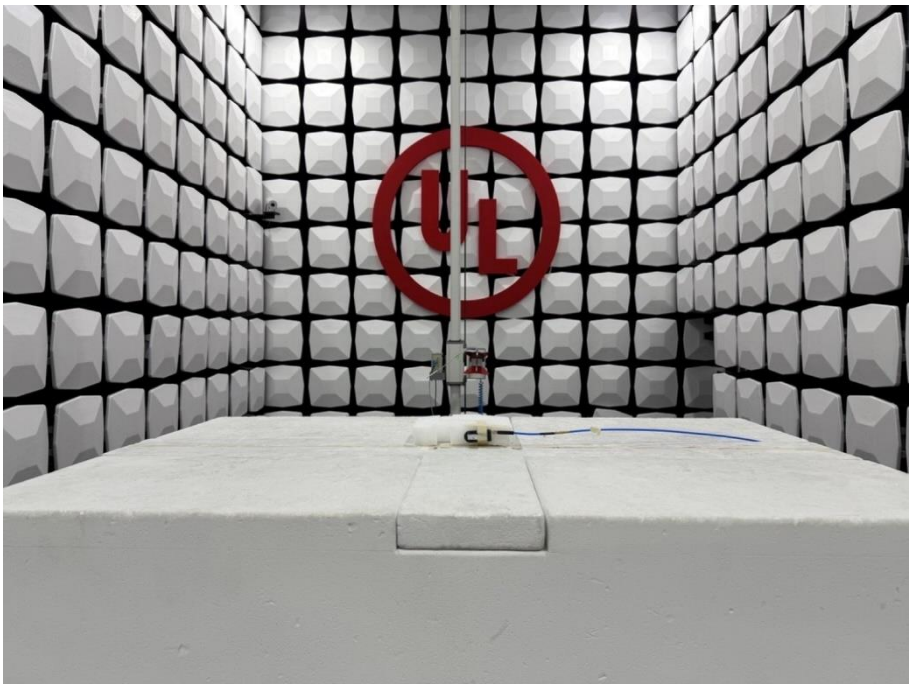
X-Y Plane



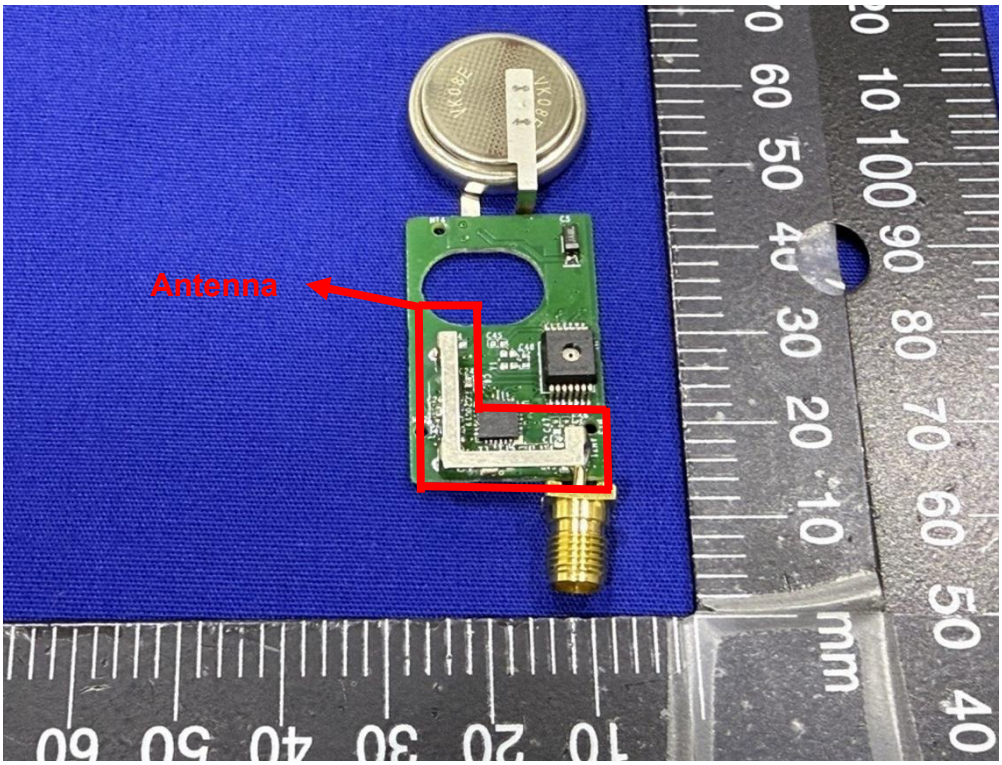
X-Z Plane



Y-Z Plane



Appendix II：Photographs of the Antenna Outview



Appendix III：Antenna Pattern

XY Mode :

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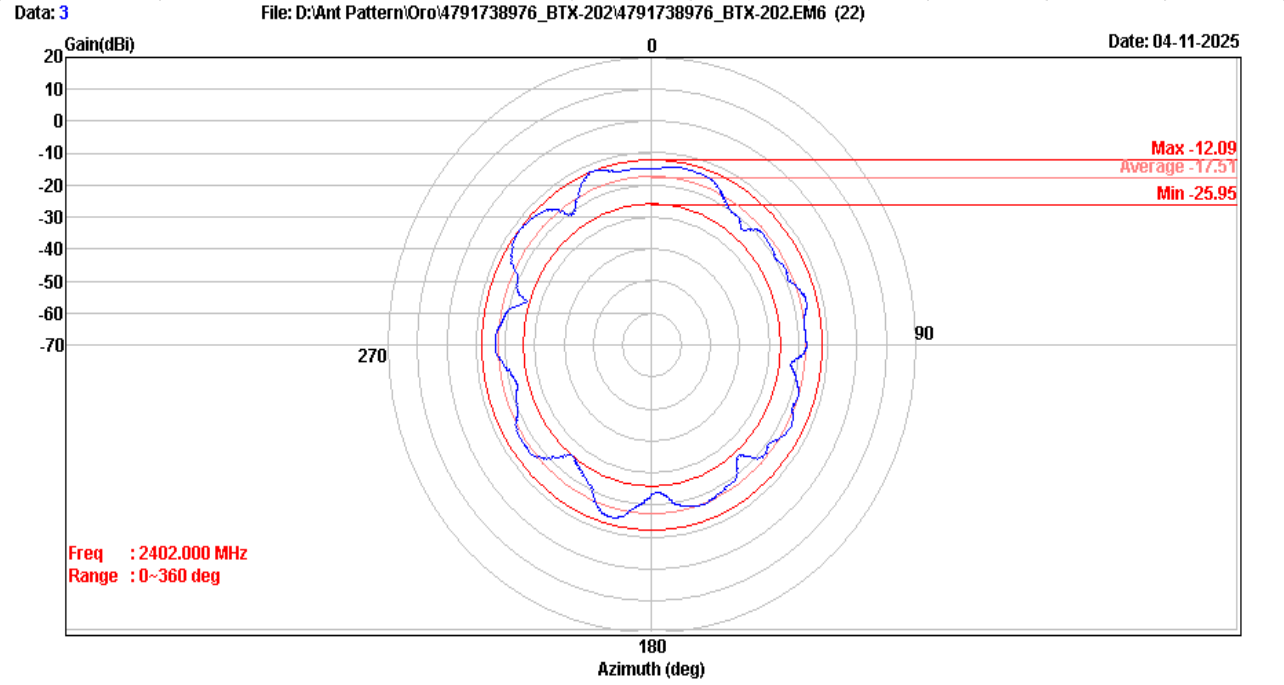

Site	1277 Chamber
Condition	HORIZONTAL
Model Name	BTX-202
Temp/Humi	22~26(C)/62~69%RH
Test Mode	XY_2402MHz
Tested by	Jubo
Note	
Note2	
Note3	Conducted Power 0 dBm
Note4	Gain(dBi) -> RSE Power - CSE Power

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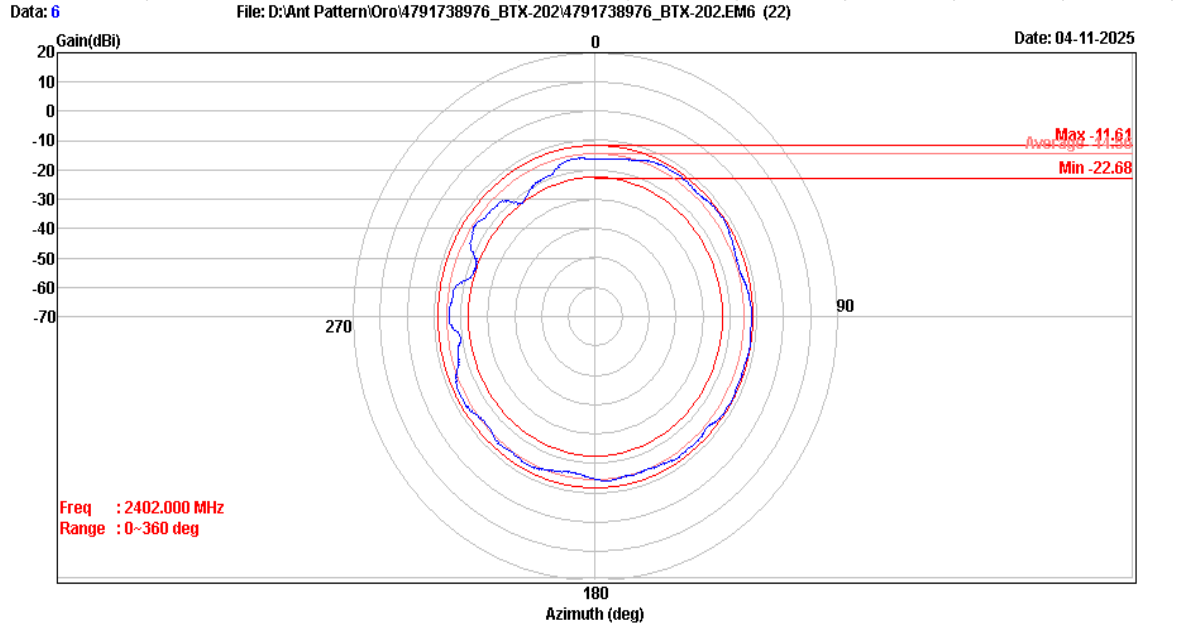

Site	1277 Chamber
Condition	VERTICAL
Model Name	BTX-202
Temp/Humi	22~26(C)/62~69%RH
Test Mode	XY_2402MHz
Tested by	Jubo
Note	
Note2	
Note3	Conducted Power 0 dBm
Note4	Gain(dBi) -> RSE Power - CSE Power

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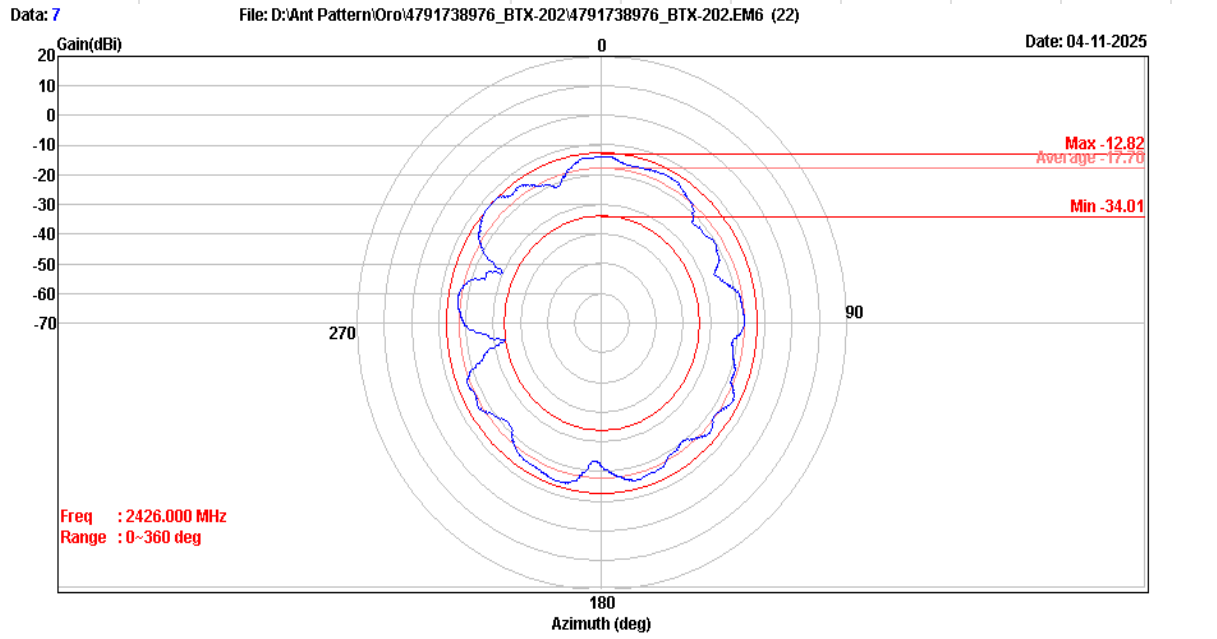
Time	14:56:55



Site	1277 Chamber
Condition	HORIZONTAL
Model Name	BTX-202
Temp/Humi	22~26(C)/62~69%RH
Test Mode	XY_2426MHz
Tested by	Jubo
Note	
Note2	
Note3	Conducted Power 0 dBm
Note4	Gain(dBi) -> RSE Power - CSE Power

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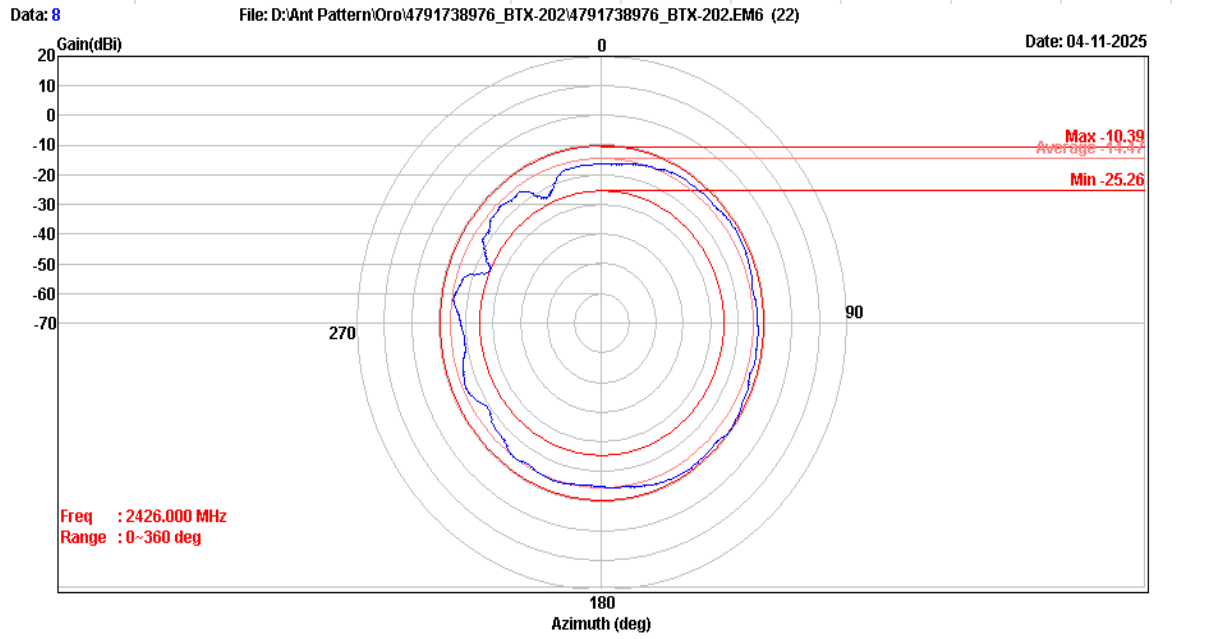

Site	1277 Chamber
Condition	VERTICAL
Model Name	BTX-202
Temp/Humi	22~26(C)/62~69%RH
Test Mode	XY_2426MHz
Tested by	Jubo
Note	
Note2	
Note3	Conducted Power 0 dBm
Note4	Gain(dBi) -> RSE Power - CSE Power

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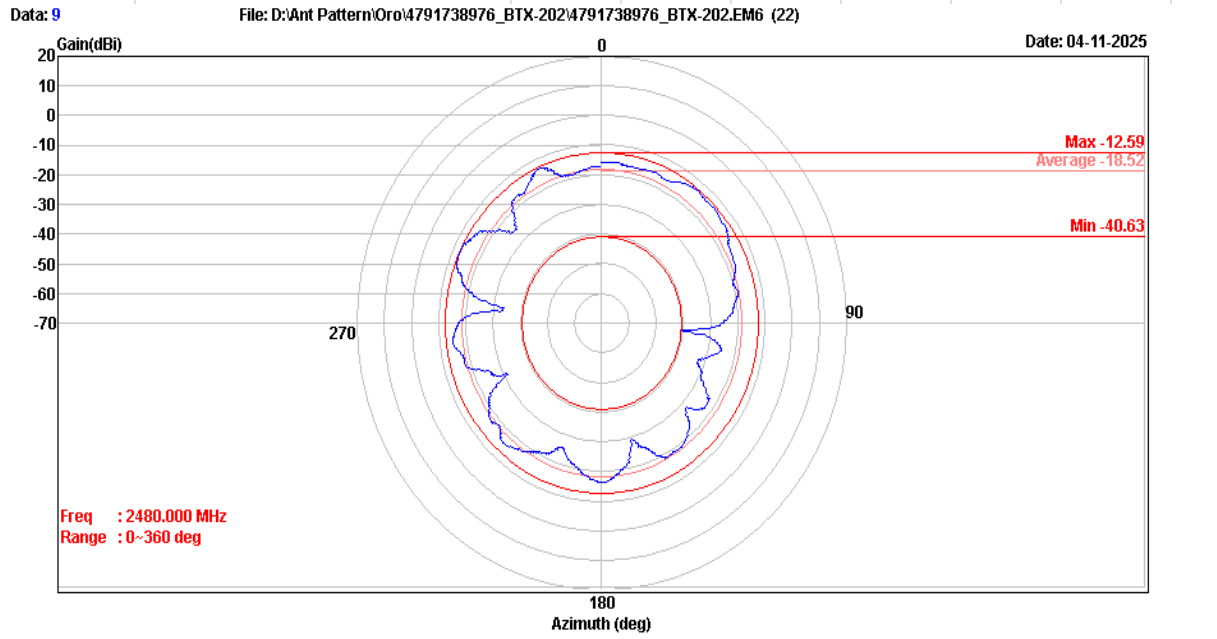

Site	1277 Chamber
Condition	HORIZONTAL
Model Name	BTX-202
Temp/Humi	22~26(C)/62~69%RH
Test Mode	XY_2480MHz
Tested by	Jubo
Note	
Note2	
Note3	Conducted Power 0 dBm
Note4	Gain(dBi) -> RSE Power - CSE Power

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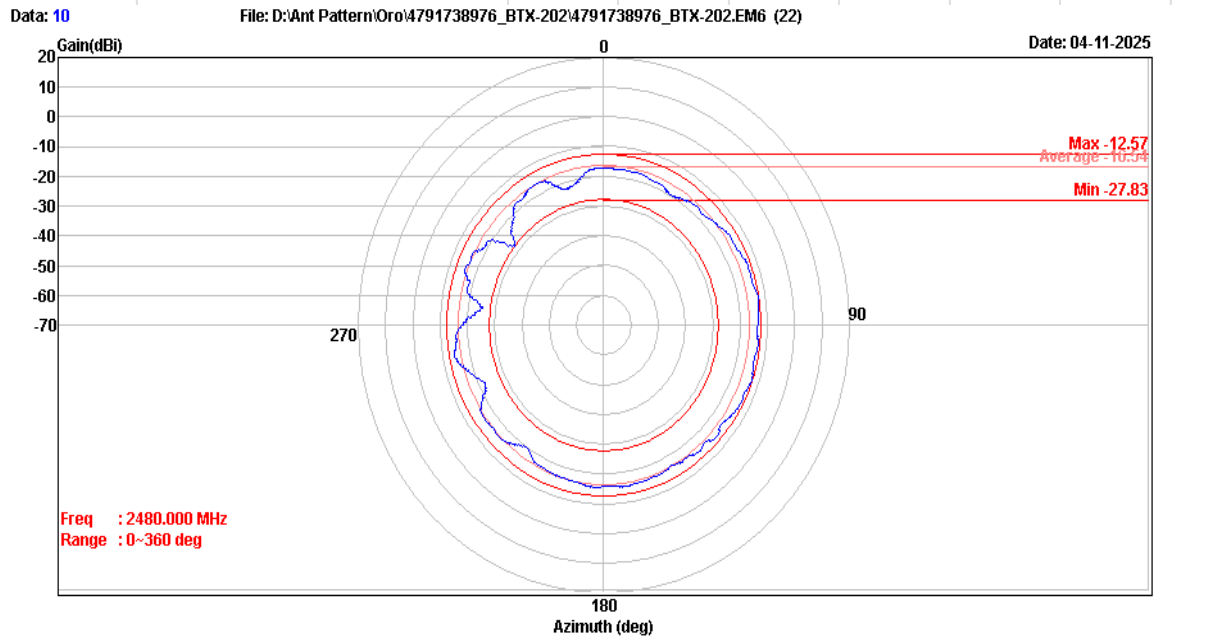

Site	1277 Chamber
Condition	VERTICAL
Model Name	BTX-202
Temp/Humi	22~26(C)/62~69%RH
Test Mode	XY_2480MHz
Tested by	Jubo
Note	
Note2	
Note3	Conducted Power 0 dBm
Note4	Gain(dBi) -> RSE Power - CSE Power

XZ Mode :

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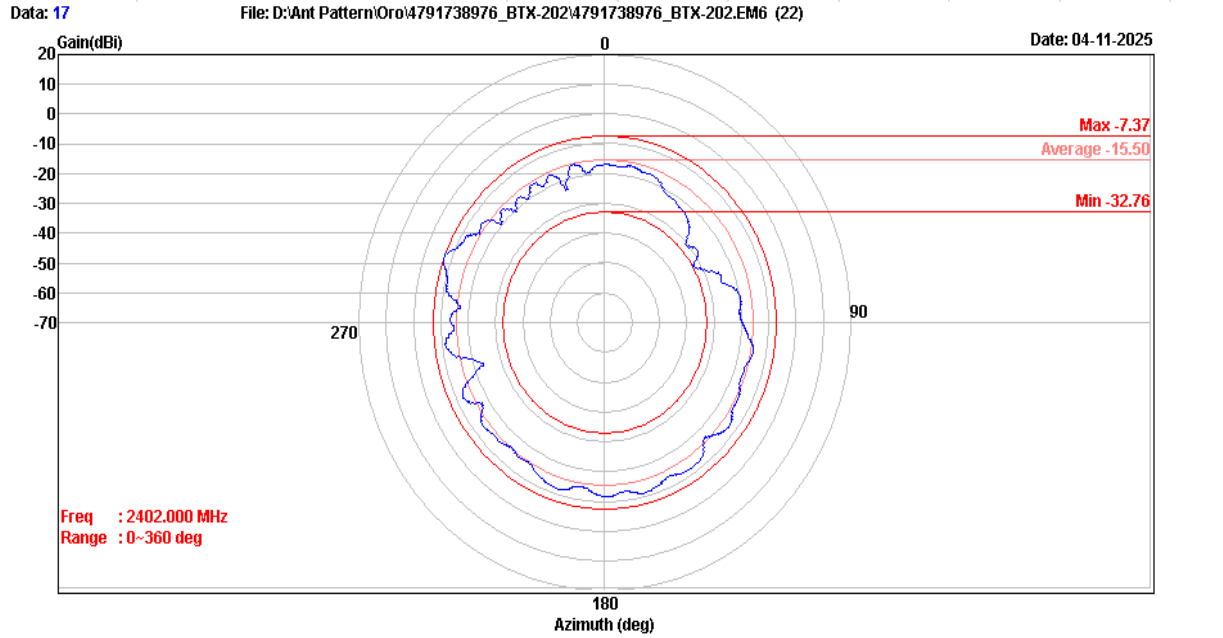

Site	1277 Chamber
Condition	HORIZONTAL
Model Name	BTX-202
Temp/Humi	22~26(C)/62~69%RH
Test Mode	XZ_2402MHz
Tested by	Jubo
Note	
Note2	
Note3	Conducted Power 0 dBm
Note4	Gain(dBi) -> RSE Power - CSE Power

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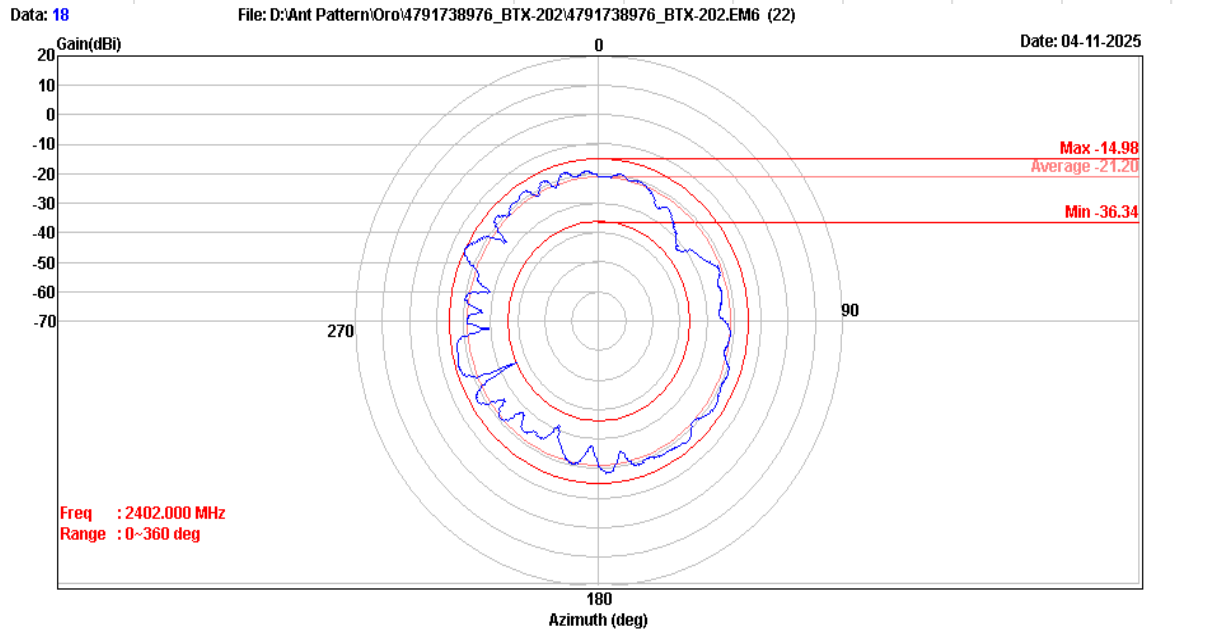

Site	1277 Chamber
Condition	VERTICAL
Model Name	BTX-202
Temp/Humi	22~26(C)/62~69%RH
Test Mode	XZ_2402MHz
Tested by	Jubo
Note	
Note2	
Note3	Conducted Power 0 dBm
Note4	Gain(dBi) -> RSE Power - CSE Power

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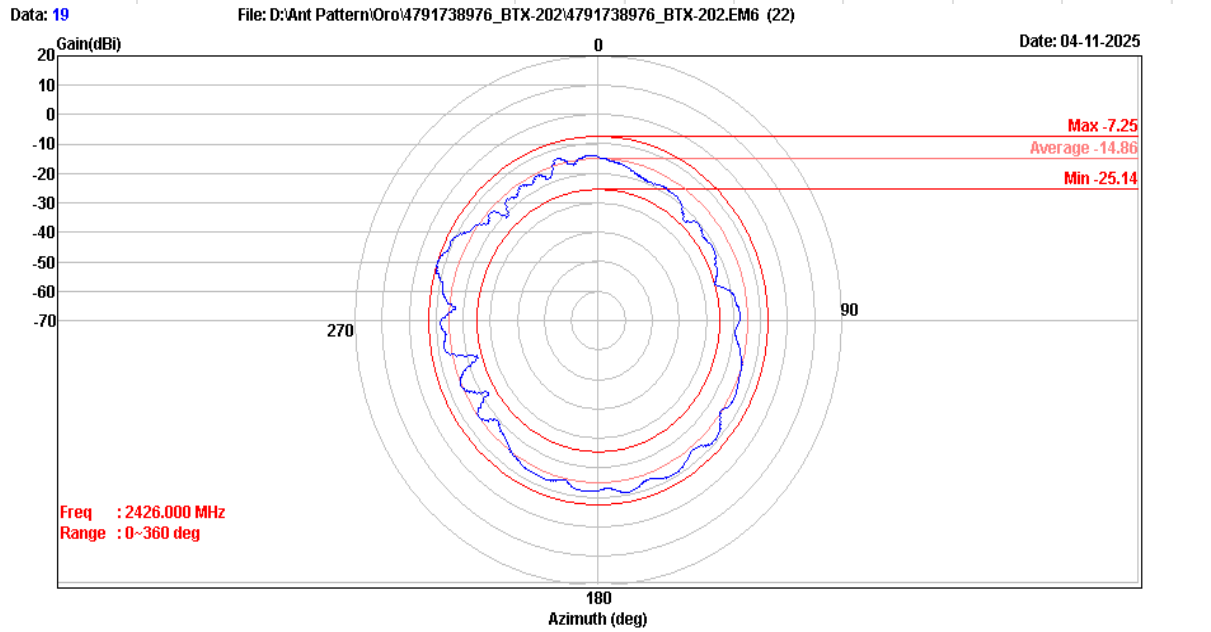

Site	1277 Chamber
Condition	HORIZONTAL
Model Name	BTX-202
Temp/Humi	22~26(C)/62~69%RH
Test Mode	XZ_2426MHz
Tested by	Jubo
Note	
Note2	
Note3	Conducted Power 0 dBm
Note4	Gain(dBi) -> RSE Power - CSE Power

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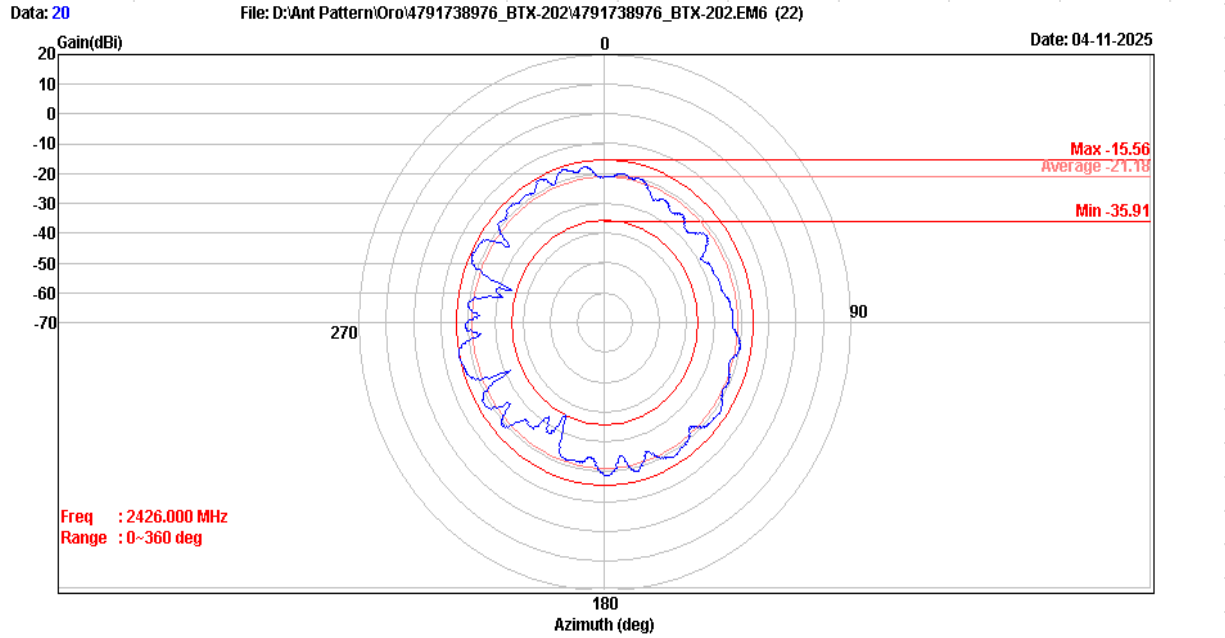
Time	15:33:23



Site	1277 Chamber
Condition	VERTICAL
Model Name	BTX-202
Temp/Humi	22~26(C)/62~69%RH
Test Mode	XZ_2426MHz
Tested by	Jubo
Note	
Note2	
Note3	Conducted Power 0 dBm
Note4	Gain(dBi) -> RSE Power - CSE Power

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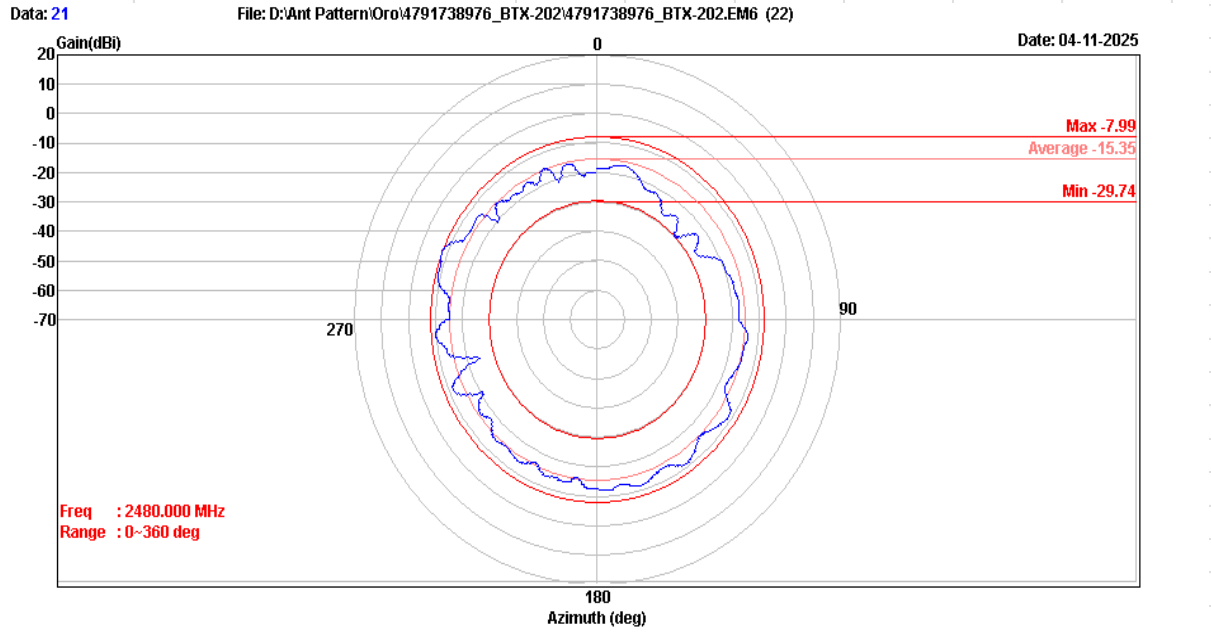

Site	1277 Chamber
Condition	HORIZONTAL
Model Name	BTX-202
Temp/Humi	22~26(C)/62~69%RH
Test Mode	XZ_2480MHz
Tested by	Jubo
Note	
Note2	
Note3	Conducted Power 0 dBm
Note4	Gain(dBi) -> RSE Power - CSE Power

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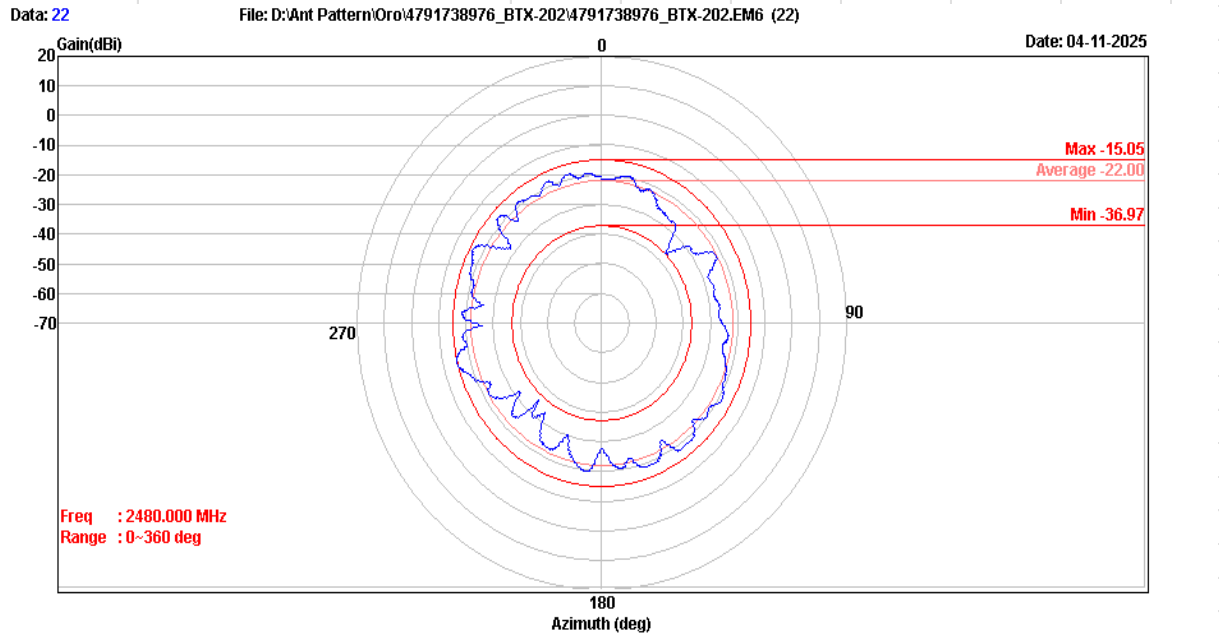

Site	1277 Chamber
Condition	VERTICAL
Model Name	BTX-202
Temp/Humi	22~26(C)/62~69%RH
Test Mode	XZ_2480MHz
Tested by	Jubo
Note	
Note2	
Note3	Conducted Power 0 dBm
Note4	Gain(dBi) -> RSE Power - CSE Power

YZ Mode :

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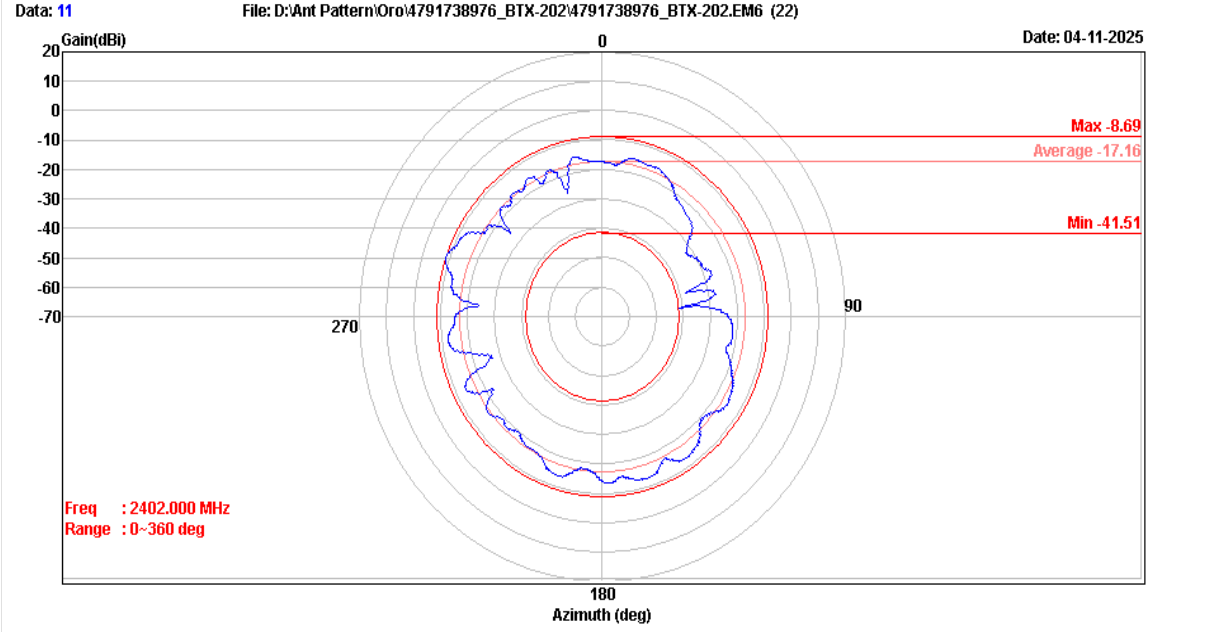

Site	1277 Chamber
Condition	HORIZONTAL
Model Name	BTX-202
Temp/Humi	22~26(C)/62~69%RH
Test Mode	YZ_2402MHz
Tested by	Jubo
Note	
Note2	
Note3	Conducted Power 0 dBm
Note4	Gain(dBi) -> RSE Power - CSE Power

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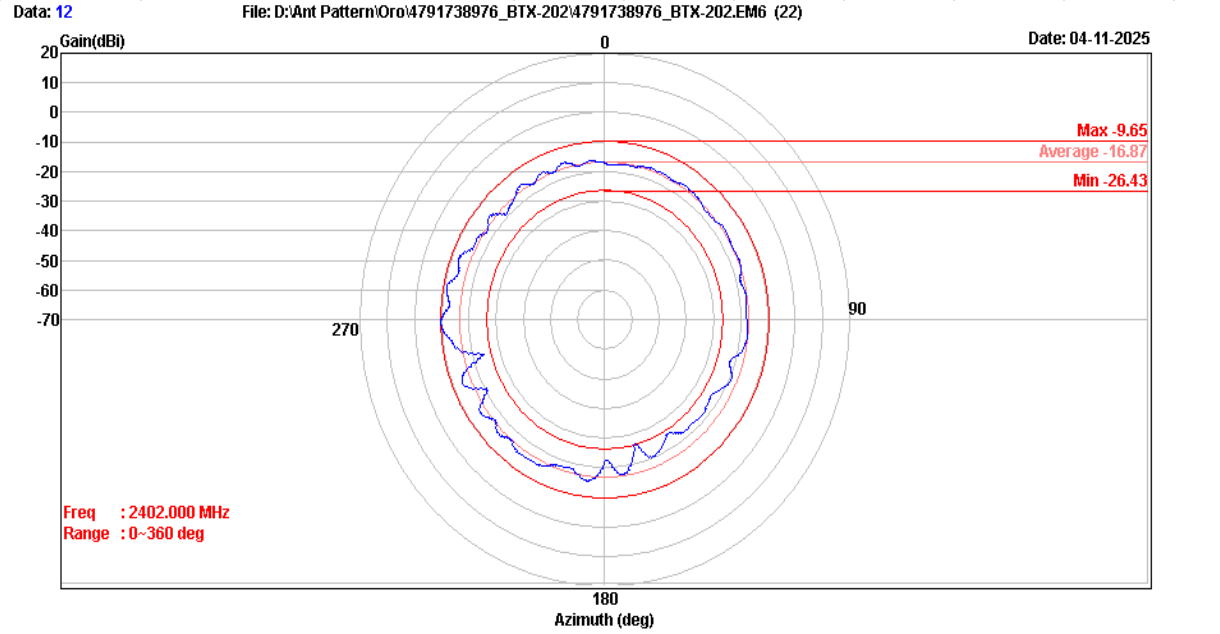

Site	1277 Chamber
Condition	VERTICAL
Model Name	BTX-202
Temp/Humi	22~26(C)/62~69%RH
Test Mode	YZ_2402MHz
Tested by	Jubo
Note	
Note2	
Note3	Conducted Power 0 dBm
Note4	Gain(dBi) -> RSE Power - CSE Power

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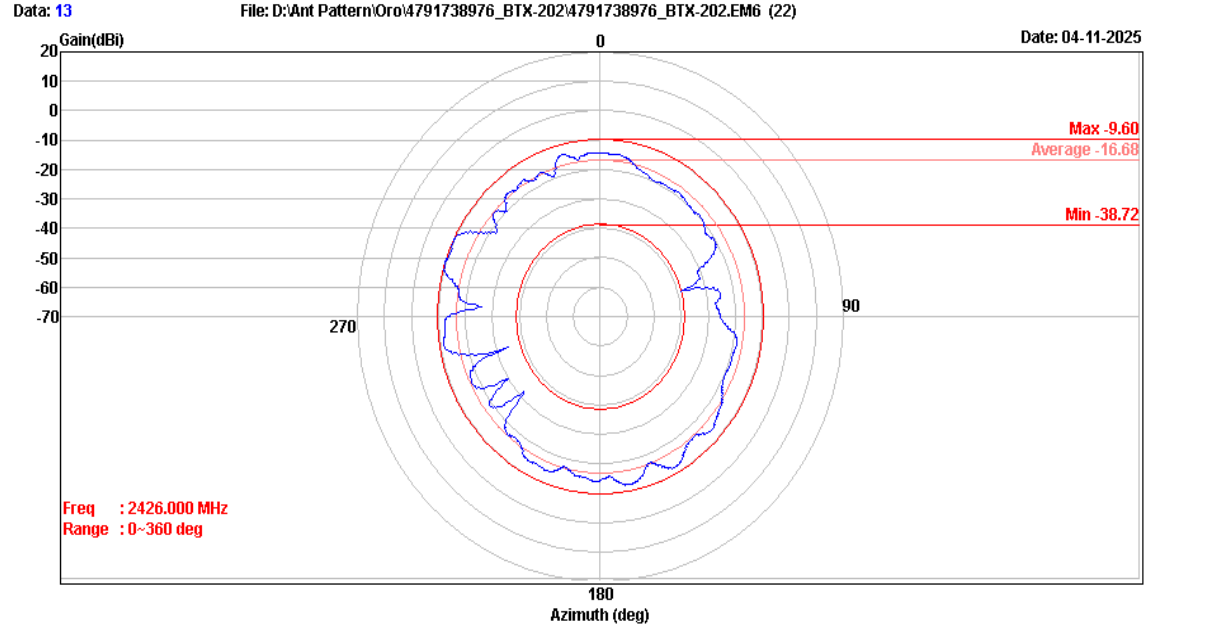

Site	1277 Chamber
Condition	HORIZONTAL
Model Name	BTX-202
Temp/Humi	22~26(C)/62~69%RH
Test Mode	YZ_2426MHz
Tested by	Jubo
Note	
Note2	
Note3	Conducted Power 0 dBm
Note4	Gain(dBi) -> RSE Power - CSE Power

Data	14
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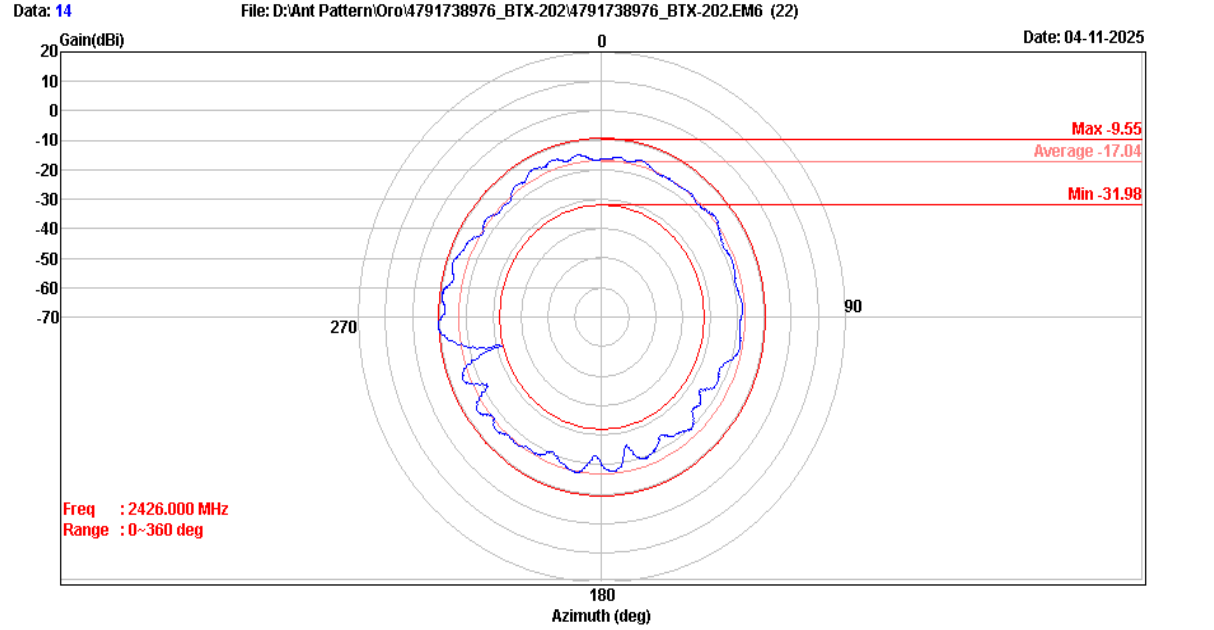
Time	15:18:53



Site	1277 Chamber
Condition	VERTICAL
Model Name	BTX-202
Temp/Humi	22~26(C)/62~69%RH
Test Mode	YZ_2426MHz
Tested by	Jubo
Note	
Note2	
Note3	Conducted Power 0 dBm
Note4	Gain(dBi) -> RSE Power - CSE Power

Data	14
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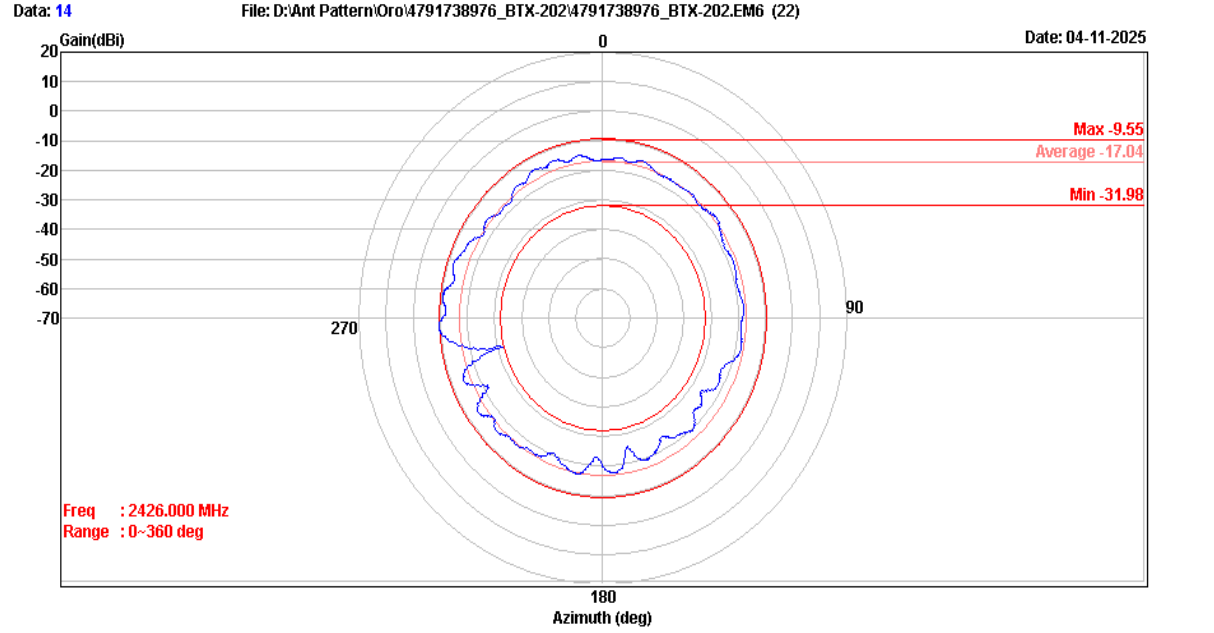
Date	2025/4/11
Time	15:18:53



Site	1277 Chamber
Condition	VERTICAL
Model Name	BTX-202
Temp/Humi	22~26(C)/62~69%RH
Test Mode	YZ_2426MHz
Tested by	Jubo
Note	
Note2	
Note3	Conducted Power 0 dBm
Note4	Gain(dBi) -> RSE Power - CSE Power

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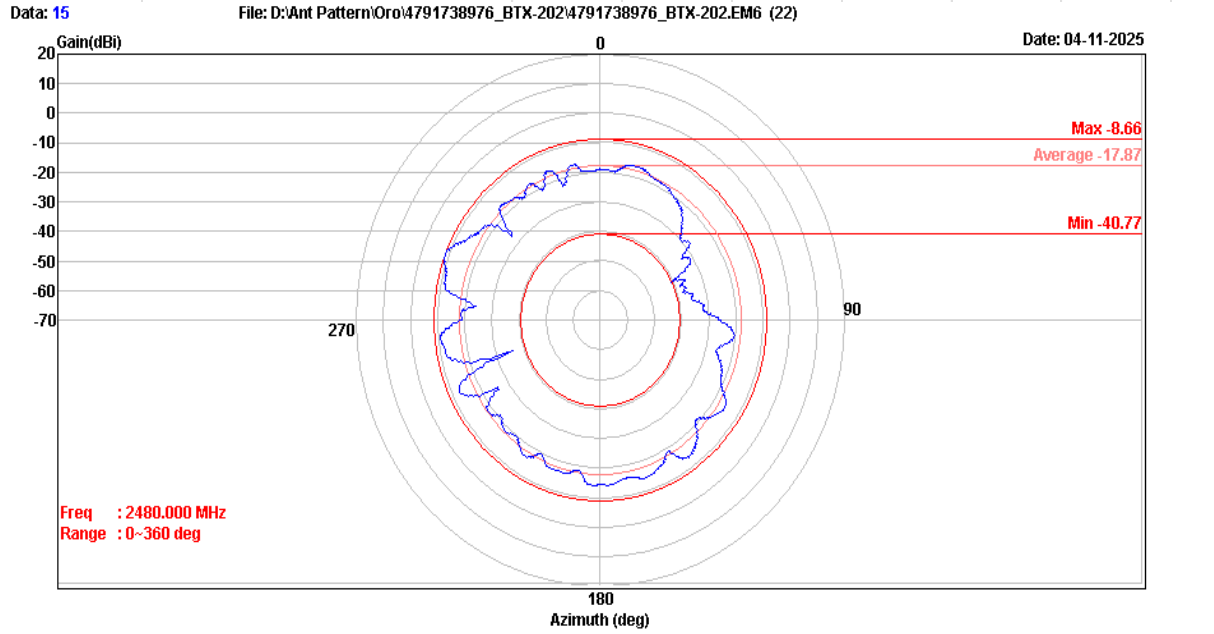

Site	1277 Chamber
Condition	HORIZONTAL
Model Name	BTX-202
Temp/Humi	22~26(C)/62~69%RH
Test Mode	YZ_2480MHz
Tested by	Jubo
Note	
Note2	
Note3	Conducted Power 0 dBm
Note4	Gain(dBi) -> RSE Power - CSE Power

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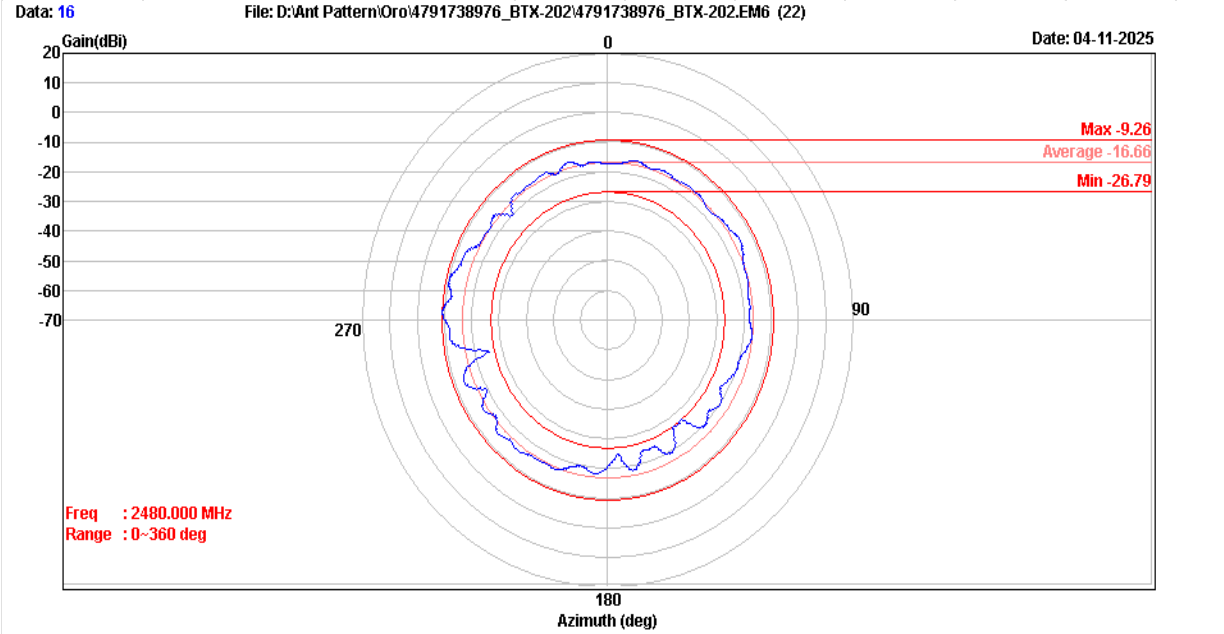

Site	1277 Chamber
Condition	VERTICAL
Model Name	BTX-202
Temp/Humi	22~26(C)/62~69%RH
Test Mode	YZ_2480MHz
Tested by	Jubo
Note	
Note2	
Note3	Conducted Power 0 dBm
Note4	Gain(dBi) -> RSE Power - CSE Power

END OF REPORT