

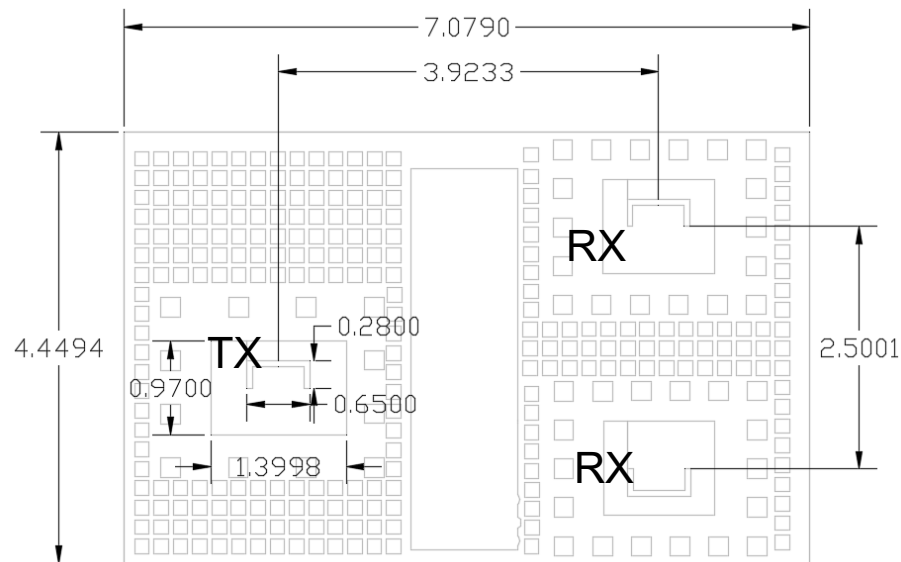
D60R12A

Antenna Measured Result

CHEMTRONICS HW dev team

2025. 09. 24

Antenna Dimension



AT60MF1T2RP32A

- Antenna Size (1TX & 2 RX) : 7.08 * 4.45
- Antenna Type : Patch type Antenna in package

Characteristics

Antenna Characteristics

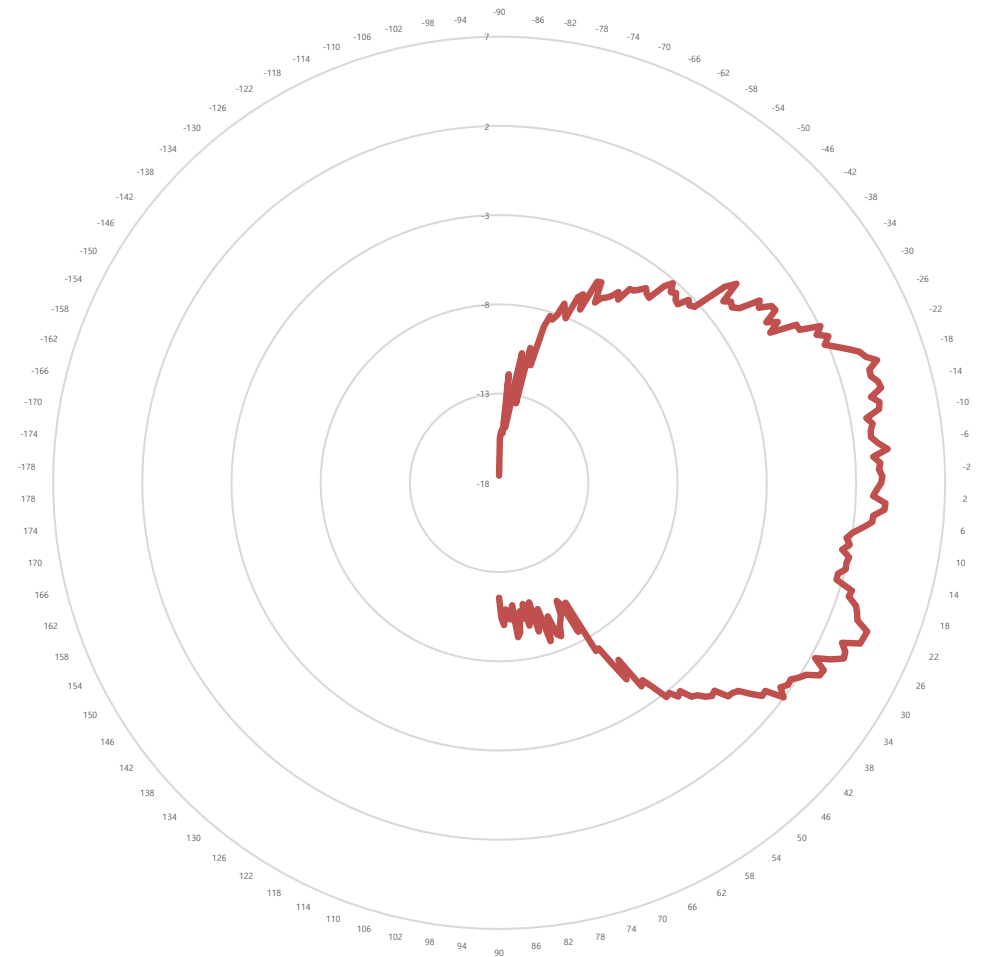
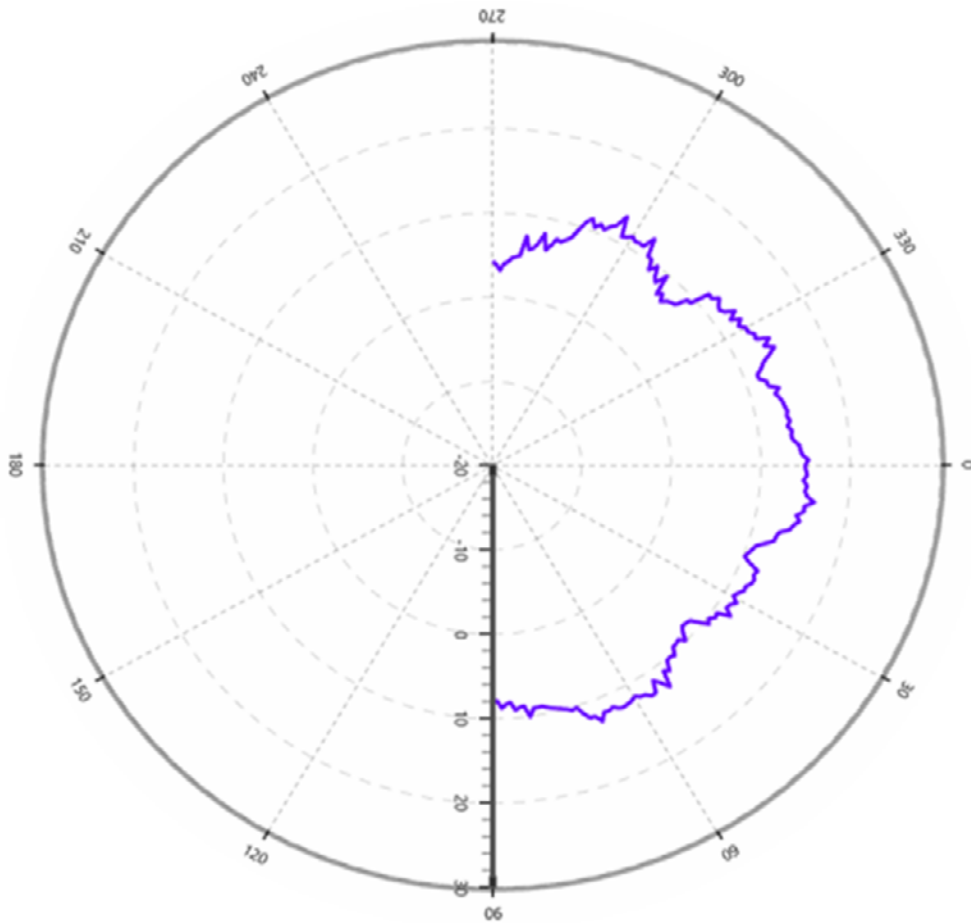
Parameter	Test Condition	Min.	Typ.	Max.	Units
Operating Frequency Range	@ BW = 210MHz	61.125		61.335	GHz
Transmitter Antenna Gain	@ Freq = 61.125GHz		5		dBi
Receiver Antenna Gain	@ Freq = 61.125GHz		4		dBi
TX-RX Isolation	@ Freq = 61.125GHz	31			dB

System Characteristics

Parameter	Condition	Min.	Typ.	Max.	Units
Frequency Range	Vtune = VCPOUTPLL	59		64	GHz
Transmit Output Power	Conductive		10		dBm
Spurious Emission < 40GHz	-			-40	dBm
Spurious Emission > 40GHz and < 57GHz	-			-55	dBm
Spurious Emission > 68GHz and < 78GHz	-			-30	dBm
Spurious Emission > 78GHz	-			-20	dBm

Module Antenna Gain Pattern #1

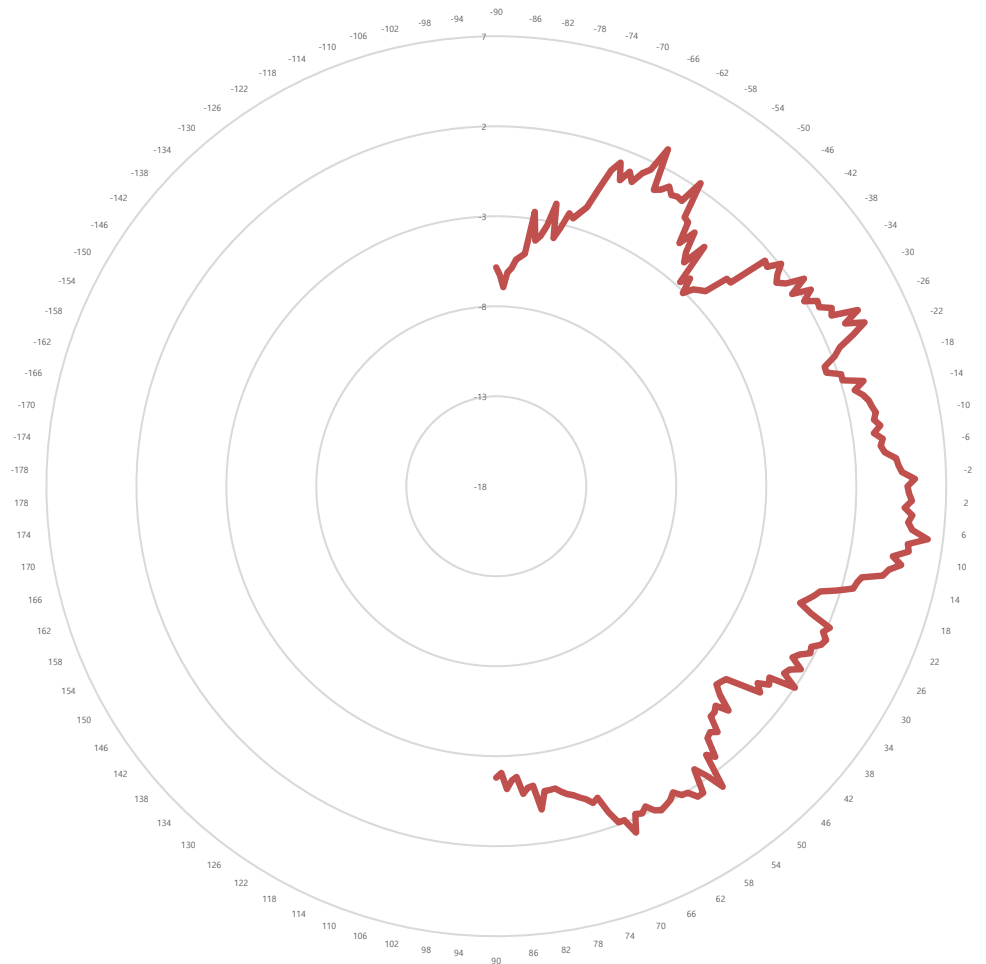
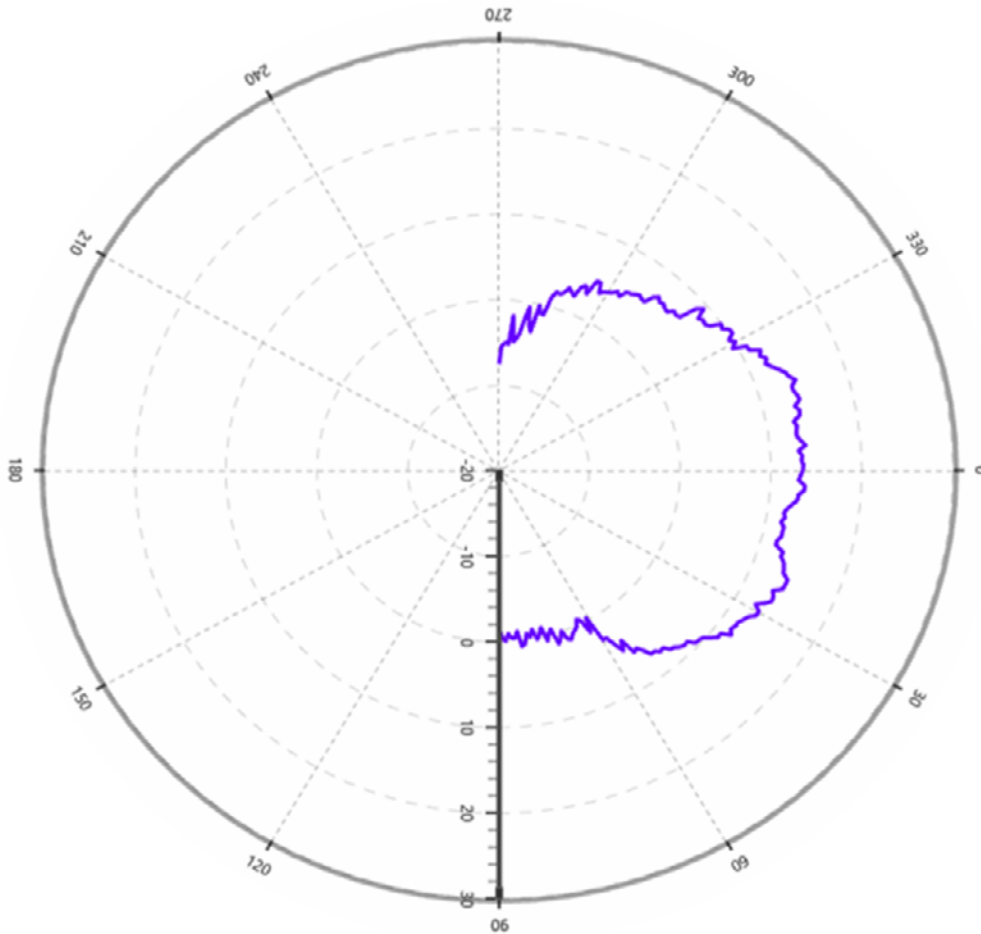
PCB in Azimuth orientation
Radar DUT patch horizontal



[DUT Gain - Transmit Output Power(10dB)]

Module Antenna Gain Pattern #2

PCB in Elevation orientation

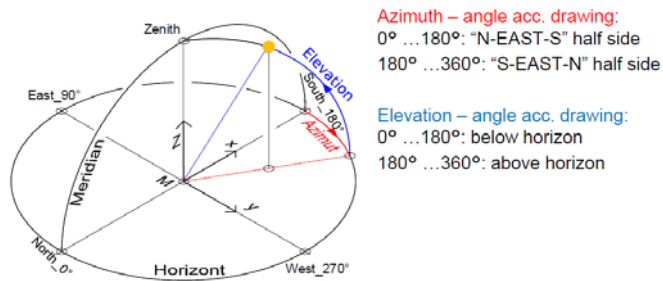


[DUT Gain - Transmit Output Power(10dB)]

Antenna pattern measurement Setup for Azimuth and Elevation

Antenna pattern measurement

- Measurement done on a 360° horizontal rotating table
- Test antenna in north/south direction, 3m apart of the DUT in south direction
- Measurement starts with DUT antenna looking into north direction
- Table rotates clockwise (mathematical negative) from north (12:00_0°) via east (03:00_90°) to south (06:00_180°), locking to Ant.– via west (09:00_270°) back to north (12:00_360°)



RADAR Module Test Environment

Model	AT60MF1T2RP32A
Measurement Location	82 Bencheo-ro, Yeonsu-gu, Incheon, IoT Technology Support Center, Songdo Center
Measurer	2024.07.31 (Chemtronics Jung Ji-Myung / Kim Jung-Young)
Antenna Gain Measurement Procedure	Cylindrical NF Probing , (Az) $\pm 90^\circ$ / (El) $\pm 60^\circ$
Antenna Type	AiP
Antenna Specification	Refer to above
Test Setup Photo	Refer to above
Antenna Gain Measurement Software	CG20202 ver 1.0.7
Measurement Equipment	R&S ZNA 67, Calibration date 2023.12.20
Radiation Pattern	Refer to above