

SPECIFICATION

- Part No. : **MA741.B.BI.001**
- Product Name : Pantheon Antenna 2in1 MA.741
LTE Cellular 4G/3G 2*2 MIMO
Screw-Mount (Permanent Mount)
- Feature : **2 x LTE Cellular (2G/3G/4G) Antennas (MIMO)**
Works for LTE/GSM/GPRS/CDMA/UMTS/HSPA
698~960MHz, 1710~2170MHz, 2300~2700MHz
IP67 Waterproof
High Efficiency / Peak Gain Outdoor Antenna
3M CFD-200 SMA(M)
RoHS Compliant



1. Introduction

The MA741 Pantheon LTE 4G MIMO 2*2 antenna is an omnidirectional, heavy-duty, fully IP67 waterproof external M2M antenna for use in telematics, transportation, and remote monitoring applications. It includes two LTE MIMO antennas with the highest efficiency and peak gain possible. This is necessary for today's high speed data uplink and downlink systems in applications such as real time video, for maximum throughput and highest signal-to-noise ratio.

The antenna elements operate at all common 2G, 3G, and 4G LTE bands worldwide 698-960MHz, 1710-2170MHz, 2300~2700MHz.

The housing is an extremely robust IP67 direct mount antenna package with excellent isolation (10dB+). The antenna has its own ground-plane and can radiate on any mounting environment like metal or plastic without affecting performance. For cable length requests above 5 metres contact Taoglas for advice about suitability for application.

The connectors and cable length are customizable. The enclosure is also available in White, MA741.W.B.BI.001.

2. Specification Table

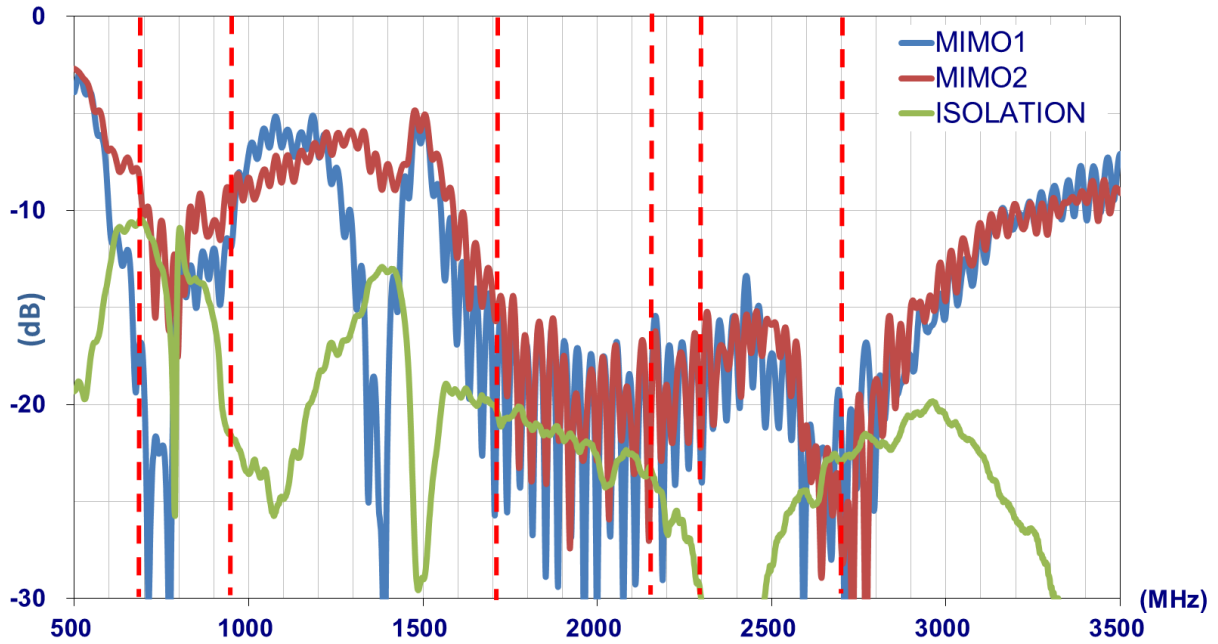
2G/3G/4G MIMO1									
	XIII, 17 (NA)	XX (EU)	V (NA)	VIII (EU)	III (EU)	II (NA)	IV (NA)	I (EU)	VII (EU)
Frequency	698-803	791-862	824-894	880-960	1710-1880	1850-1990	1710-2155	1920-2170	2500-2690
Peak Gain	4.16	2.47	2.47	2.58	1.54	2.31	2.31	2.24	3.01
Efficiency	62.41	58.02	61.74	58.56	55.45	63.19	59.89	63.93	56.19
Average Gain	-2.08	-2.39	-2.10	-2.34	-2.56	-2.00	-2.24	-1.95	-2.51
Return Loss	<-6								
Polarization	Vertical								
Impedance	50								
2G/3G/4G MIMO2									
	XIII, 17 (NA)	XX (EU)	V (NA)	VIII (EU)	III (EU)	II (NA)	IV (NA)	I (EU)	VII (EU)
Frequency	698-803	791-862	824-894	880-960	1710-1880	1850-1990	1710-2155	1920-2170	2500-2690
Peak Gain	2.95	2.13	2.08	2.01	2.02	2.58	2.58	2.58	3.40
Efficiency	61.03	56.79	58.01	52.35	55.11	63.06	59.74	64.13	58.27
Average Gain	-2.17	-2.47	-2.37	-2.82	-2.59	-2.01	-2.25	-1.93	-2.35
Return Loss	<-6								
Polarization	Vertical								
Impedance	50								
MECHANICAL									
Antenna Dimensions	Height 85.7mm x Diameter 145.6mm								
Casing	Wonderloy PC-540 PC/ABS Alloy								
Waterproof	IP67								
Weight	1.16kg/1pcs								
Recommended Torque for Mounting	49N·m								
Max Torque for Mounting	58.8N·m								
2G/3G/4G MIMO 1	3M CFD-200 SMA(M)								
2G/3G/4G MIMO 2	3M CFD-200 SMA(M)								
ENVIRONMENTAL									
Operation Temperature	-40°C to 85°C								
Storage Temperature	-40°C to 85°C								
Humidity	Non-condensing 65°C 95% RH								

* All measurements were conducted with 3M CFD200 cable

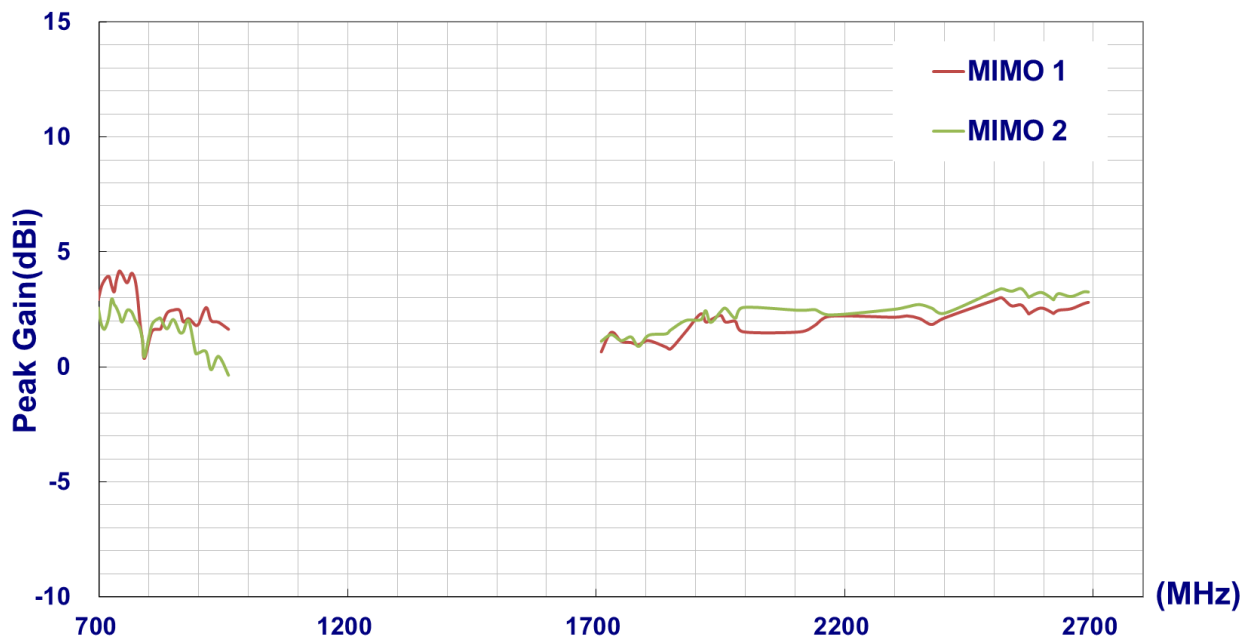
3. LTE MIMO

3.1. LTE MIMO 1 and LTE MIMO 2 Specification

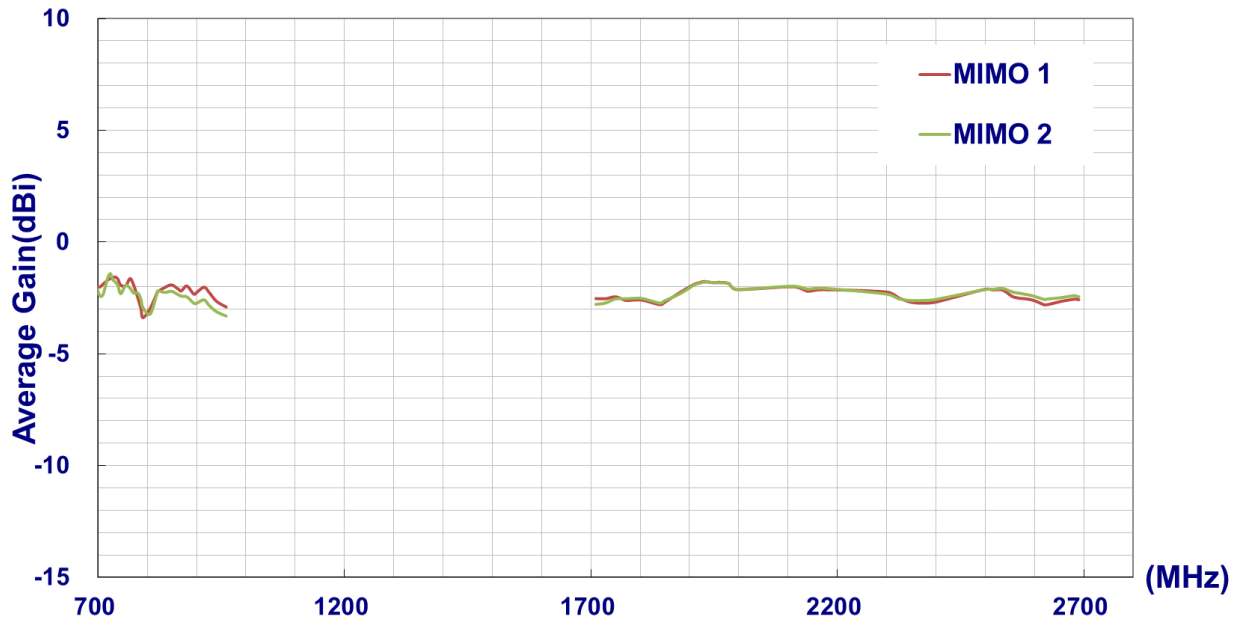
3.1.1. Return Loss and Isolation



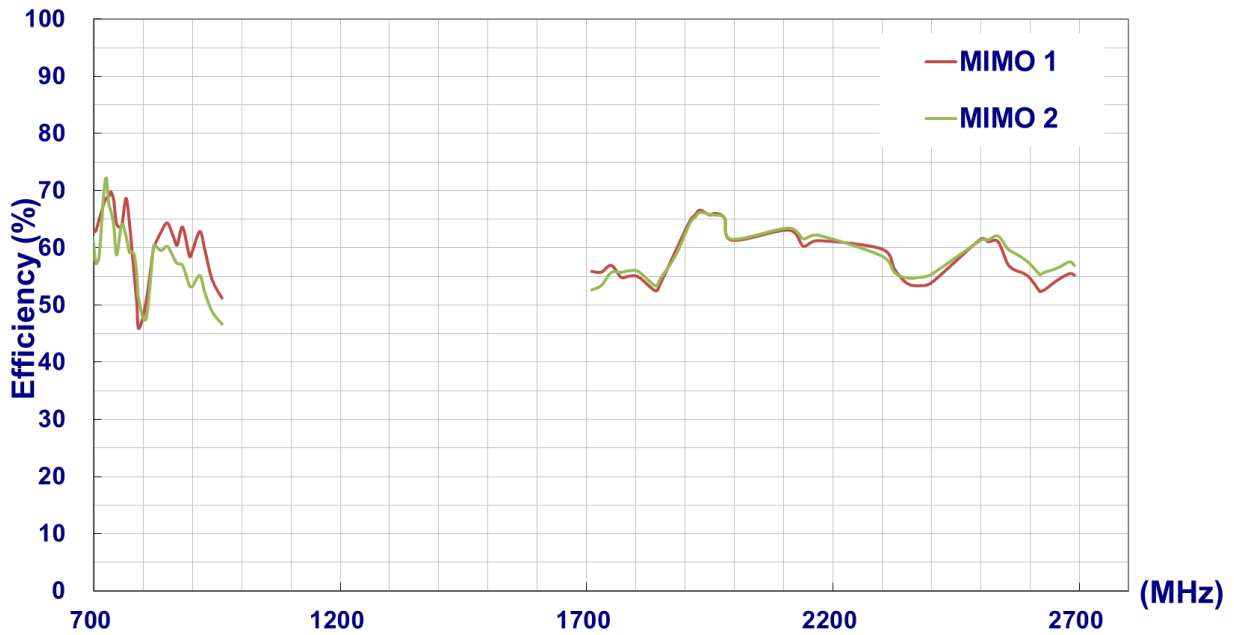
3.1.2. Peak Gain



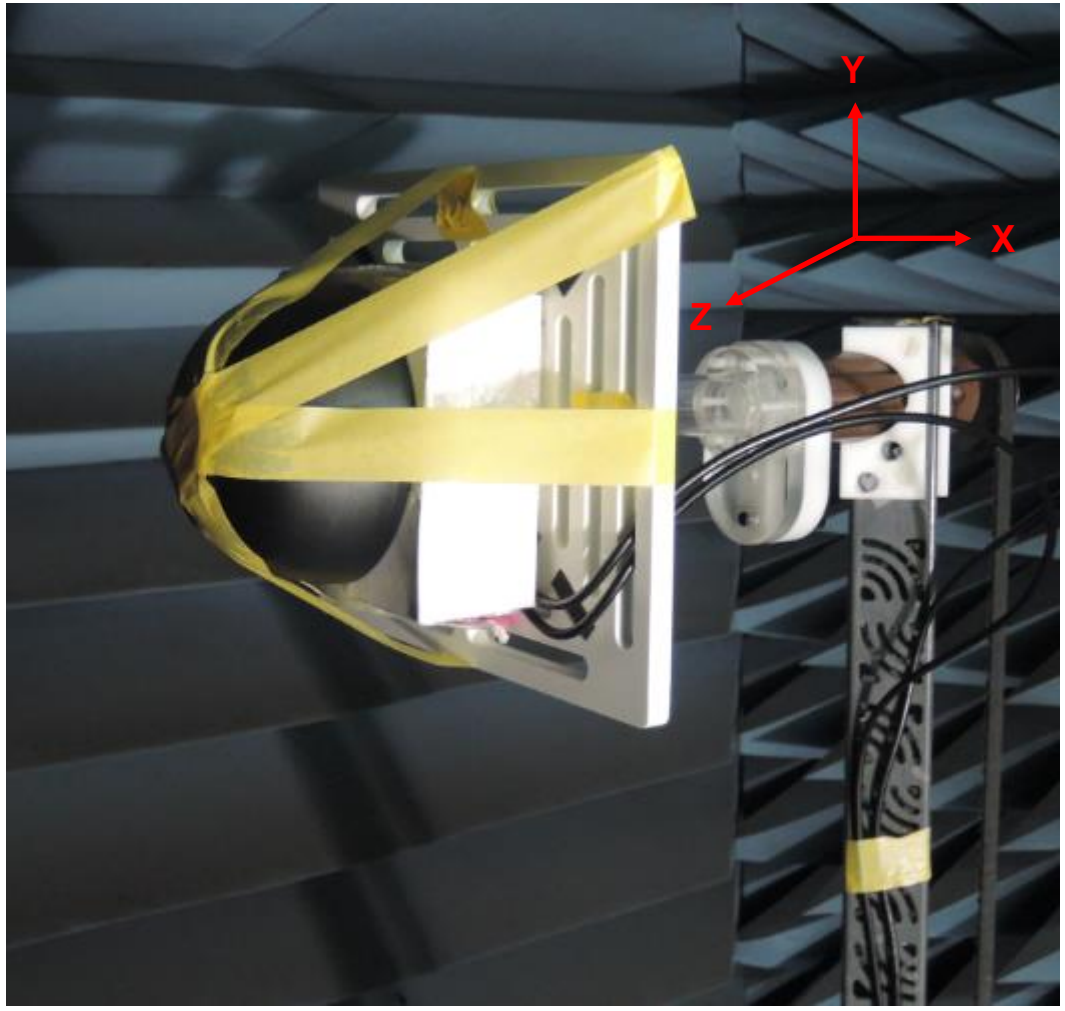
3.1.3. Average Gain



3.1.4. Efficiency

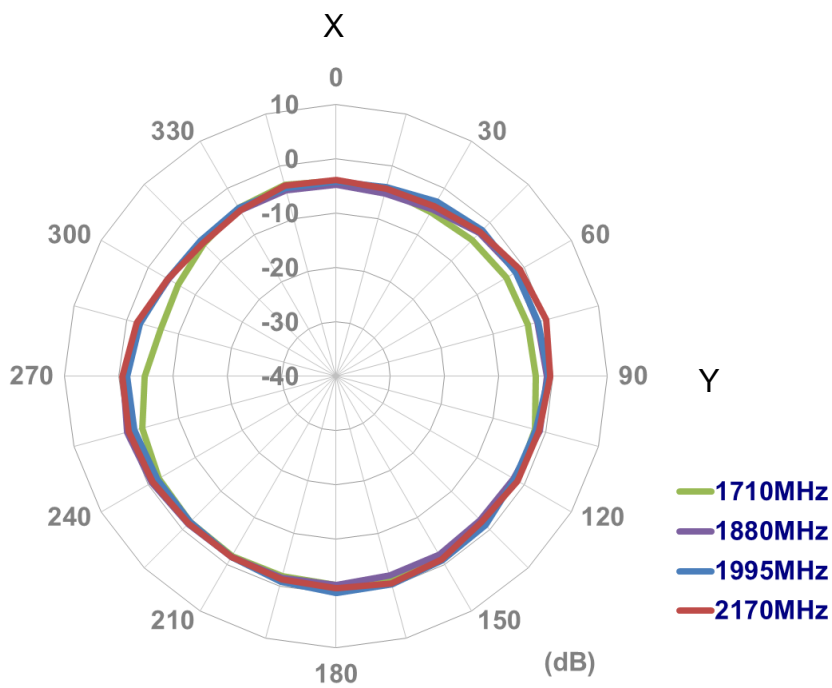
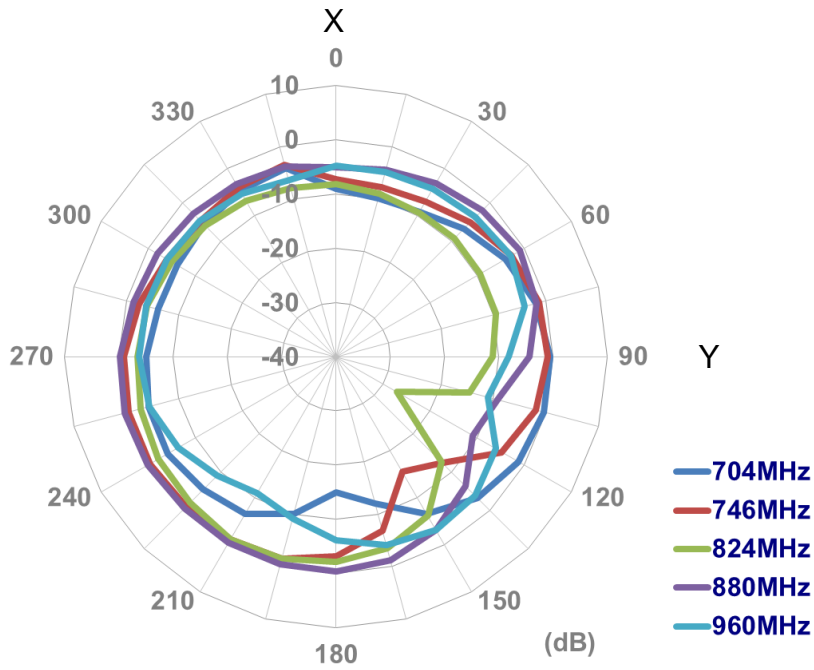


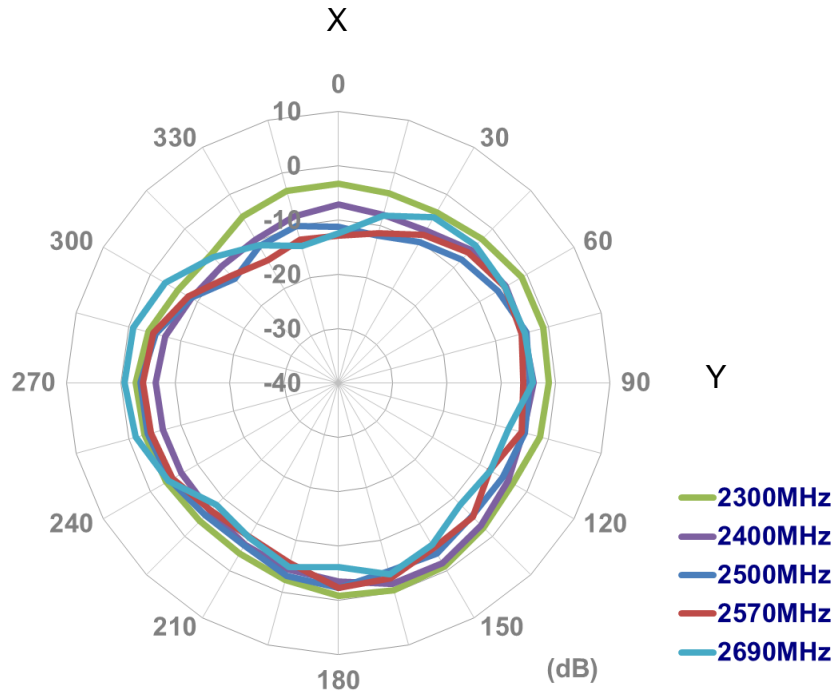
3.2 Radiation Patterns



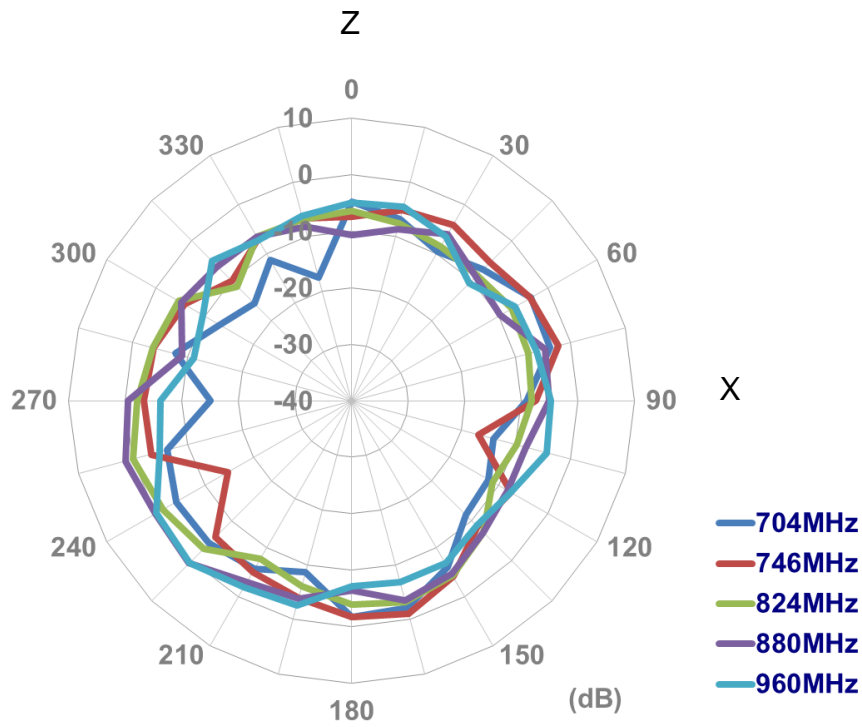
3.2.1 LTE MIMO 1 Radiation Pattern

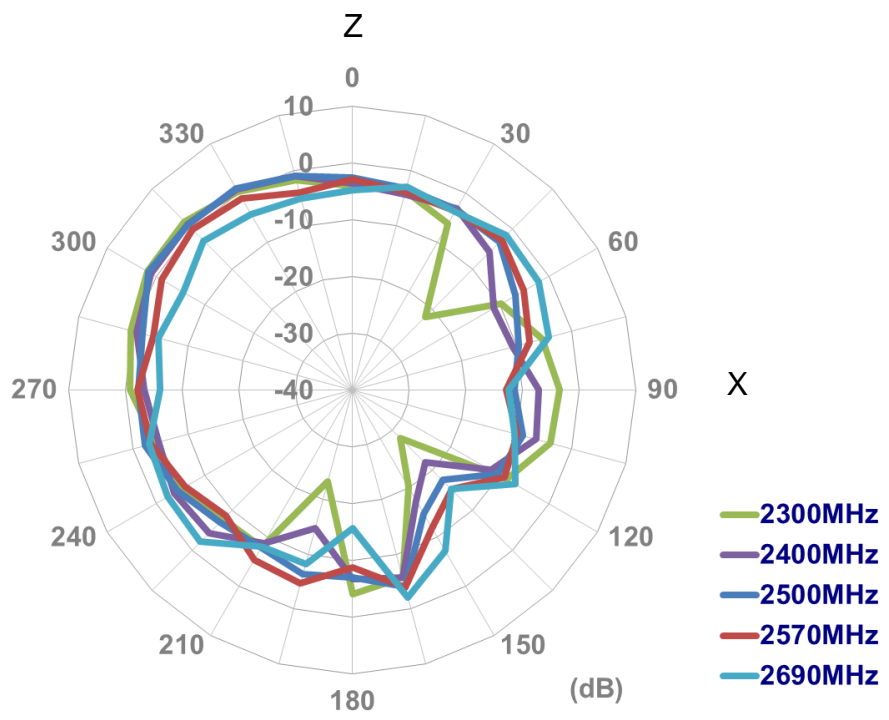
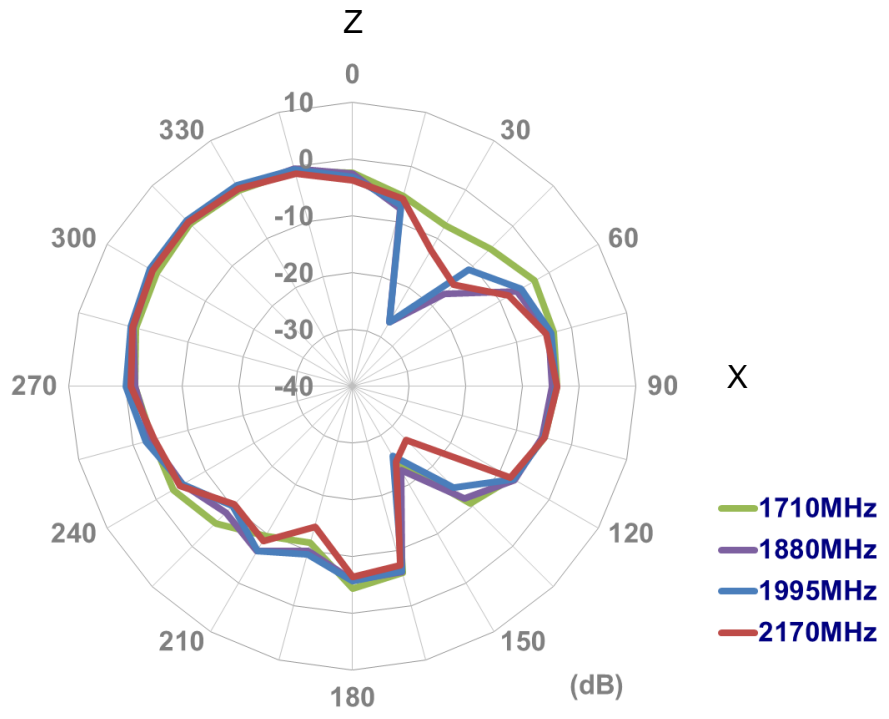
XY plane



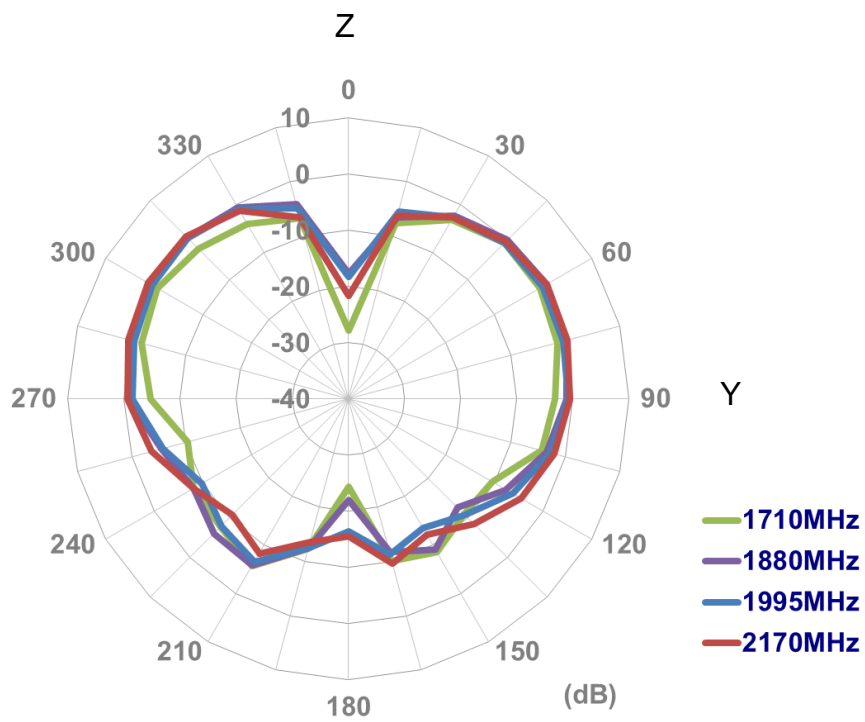
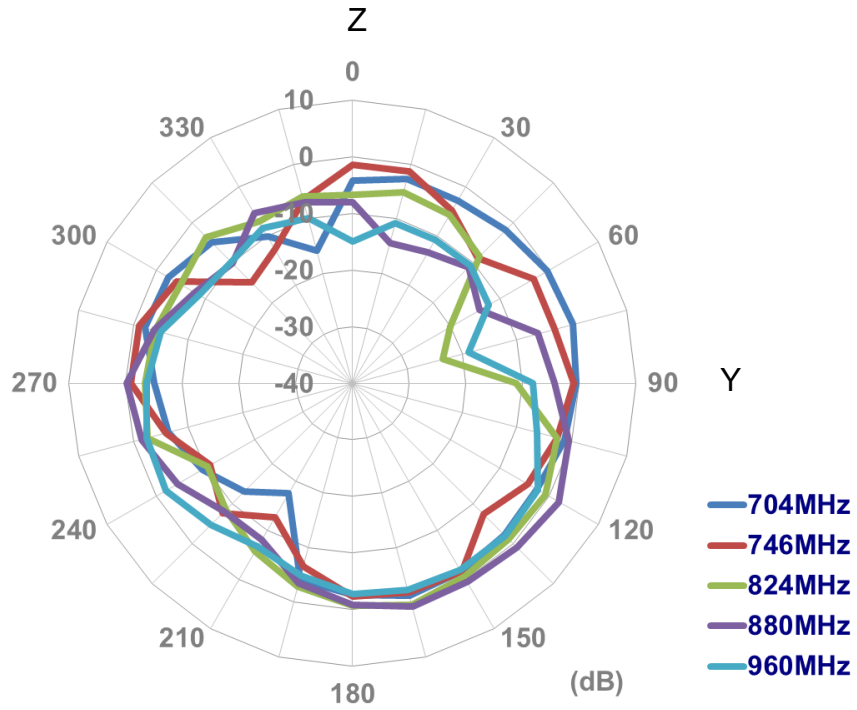


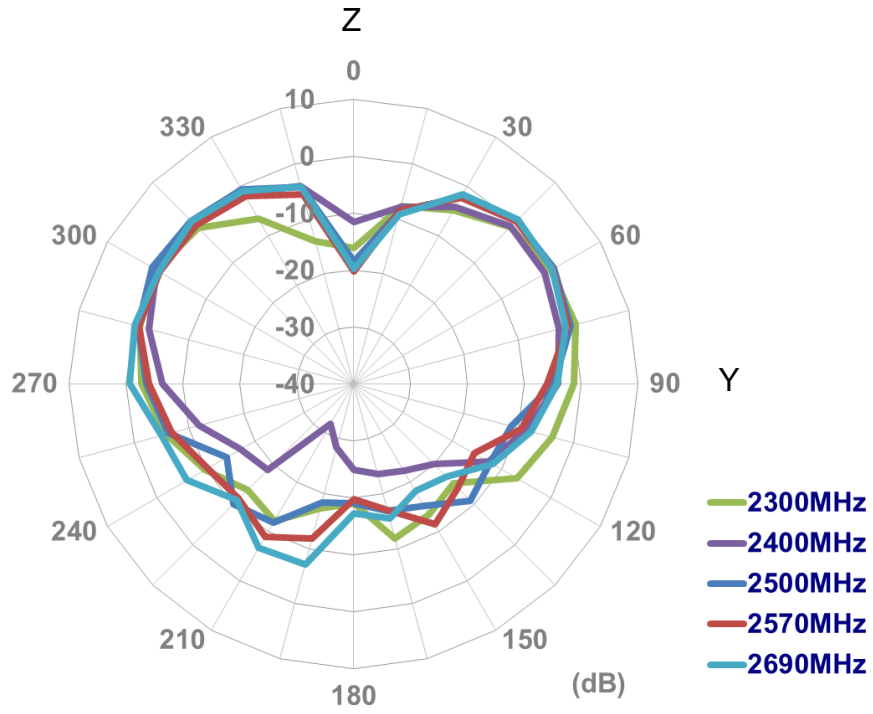
XZ plane





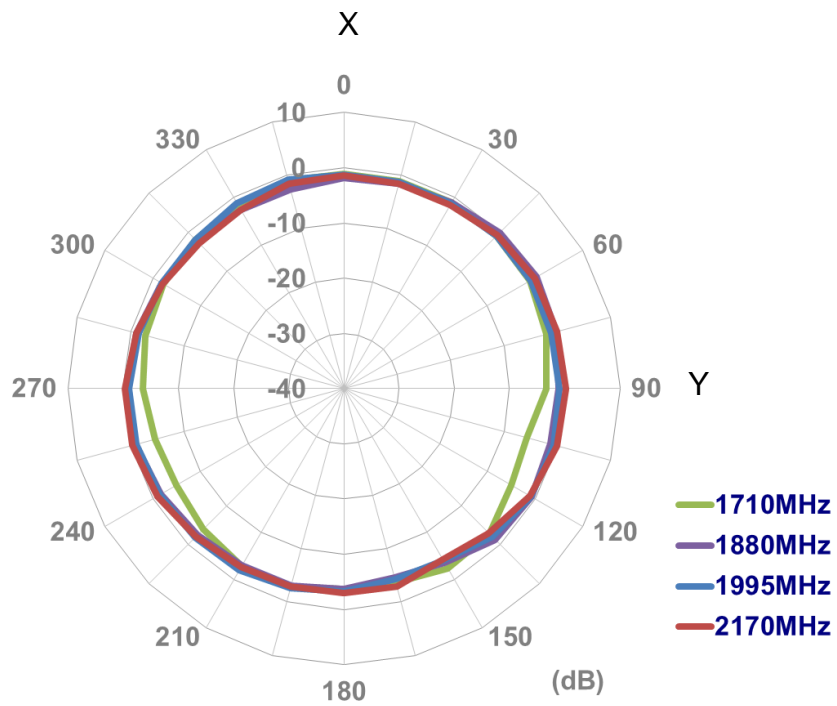
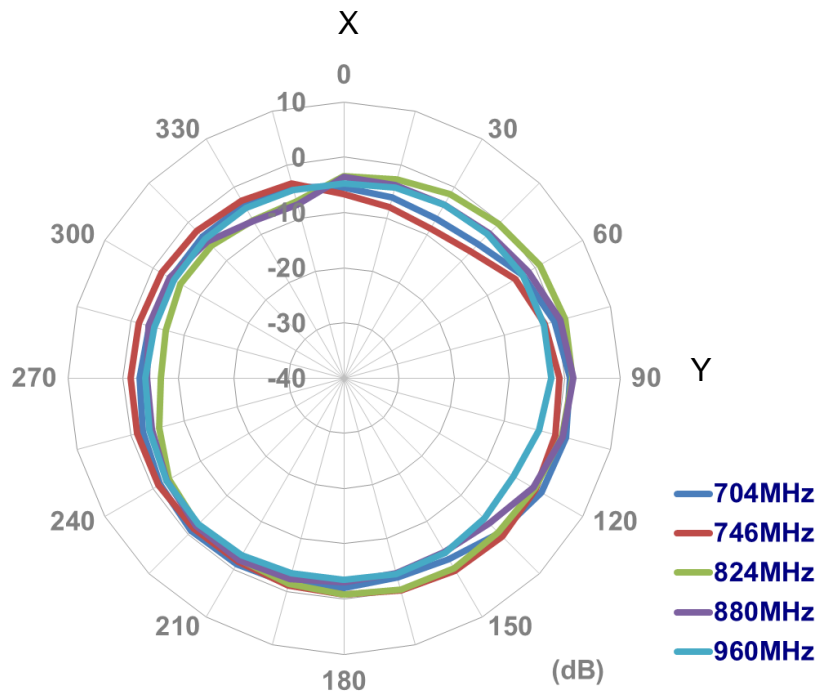
YZ plane

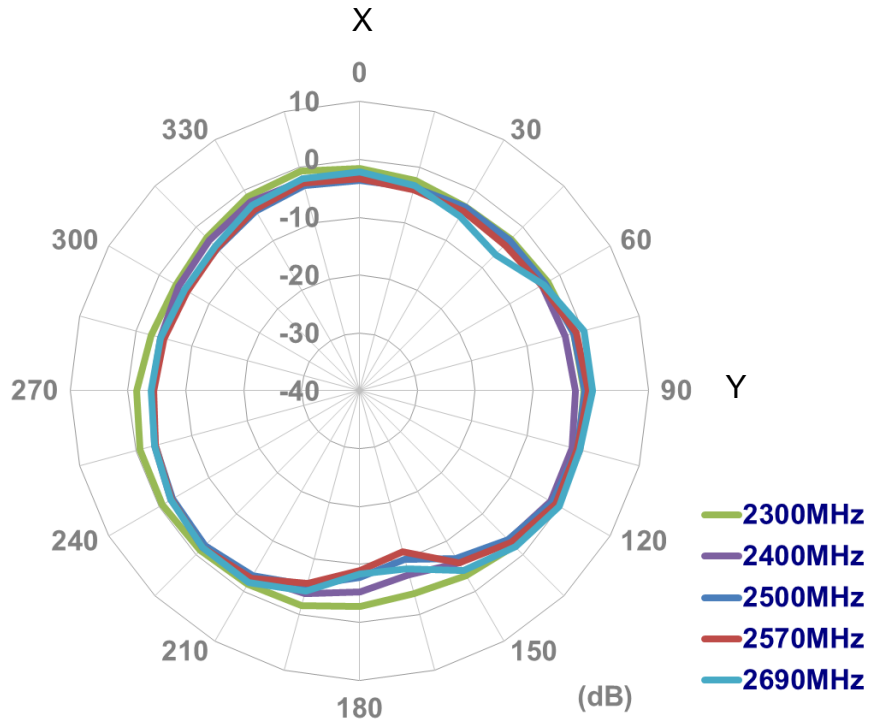




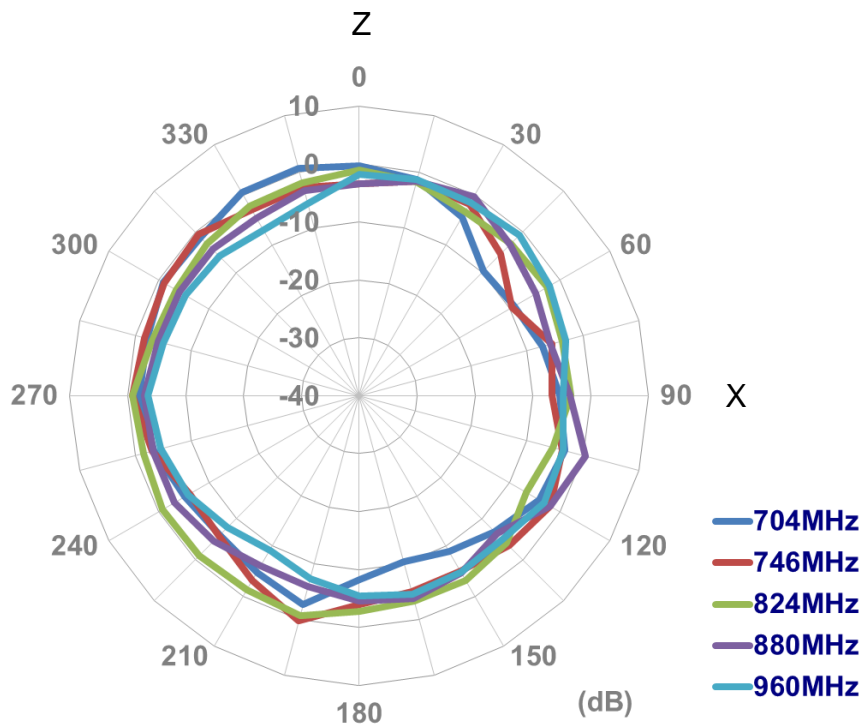
3.2.2 LTE MIMO 2 Radiation Pattern

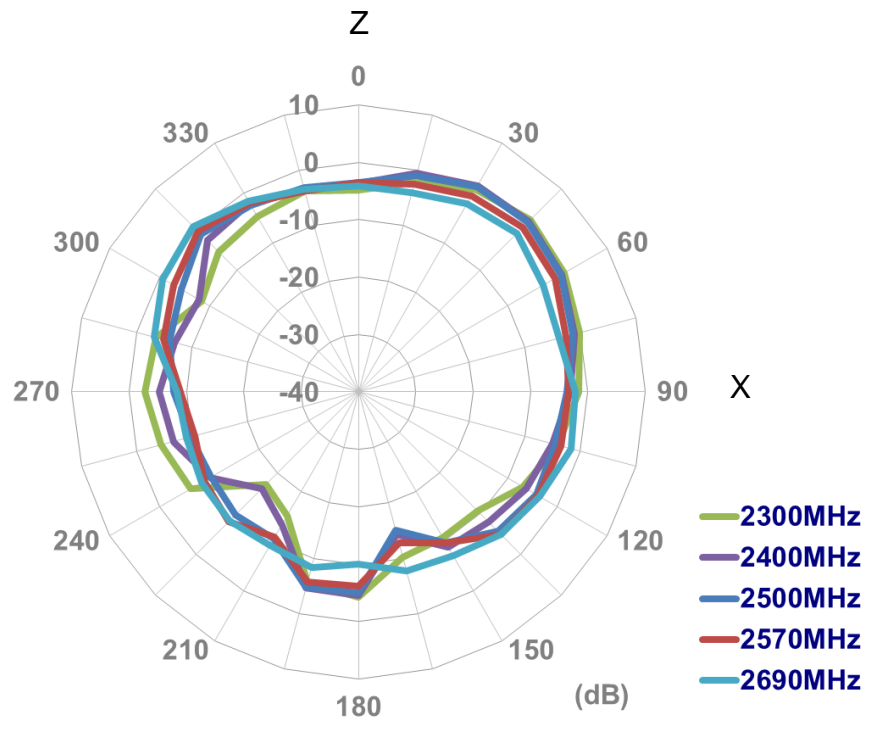
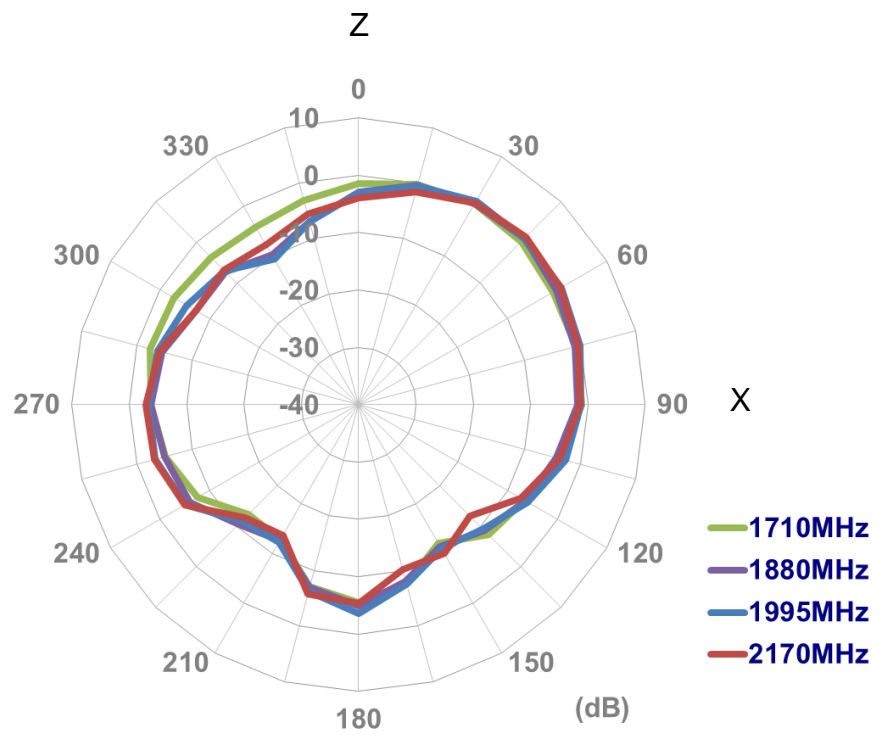
XY plane



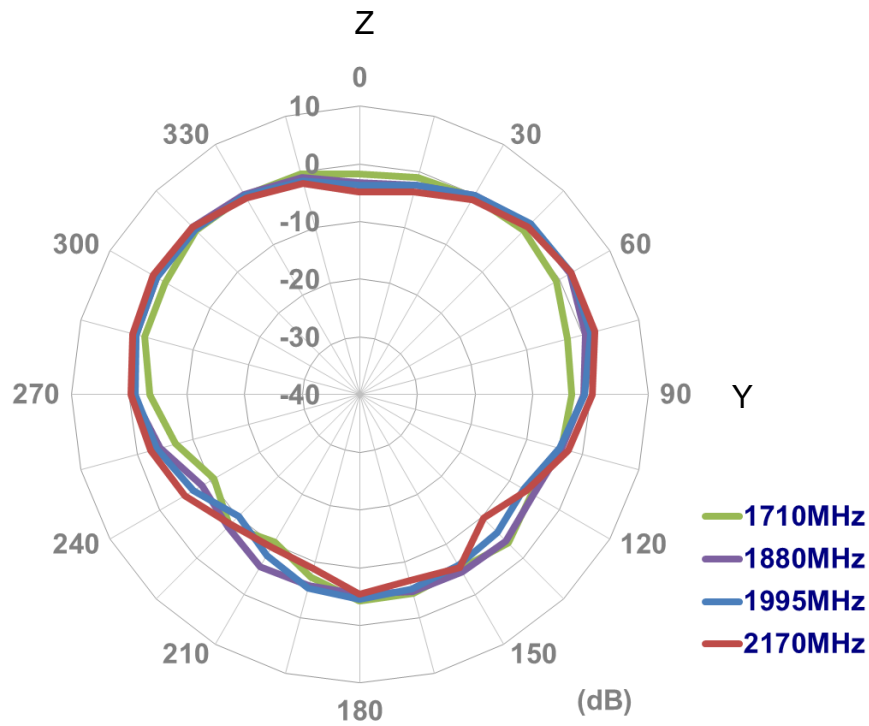
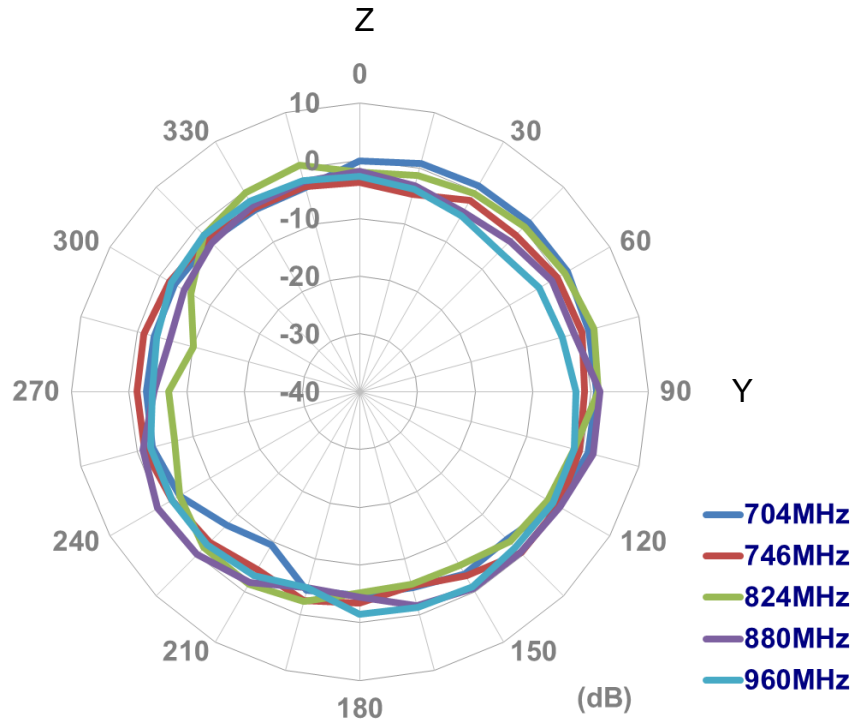


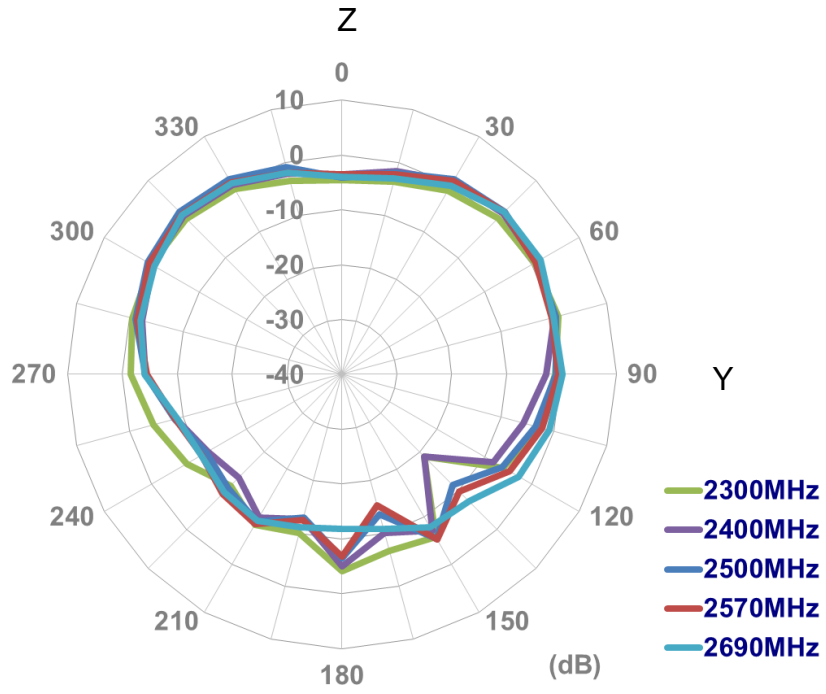
XZ plane



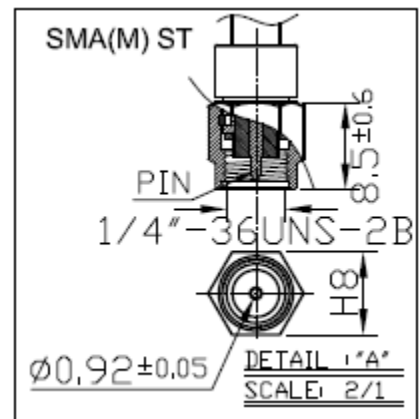
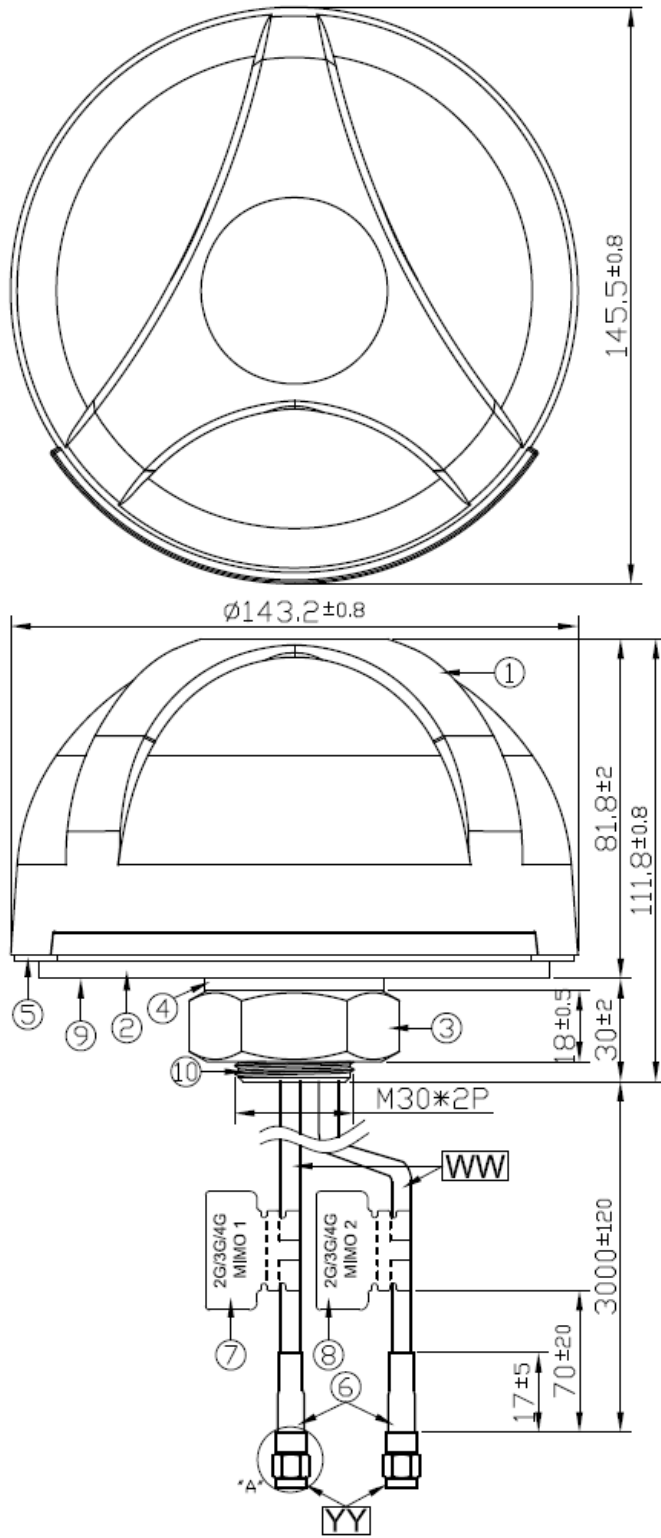


YZ plane





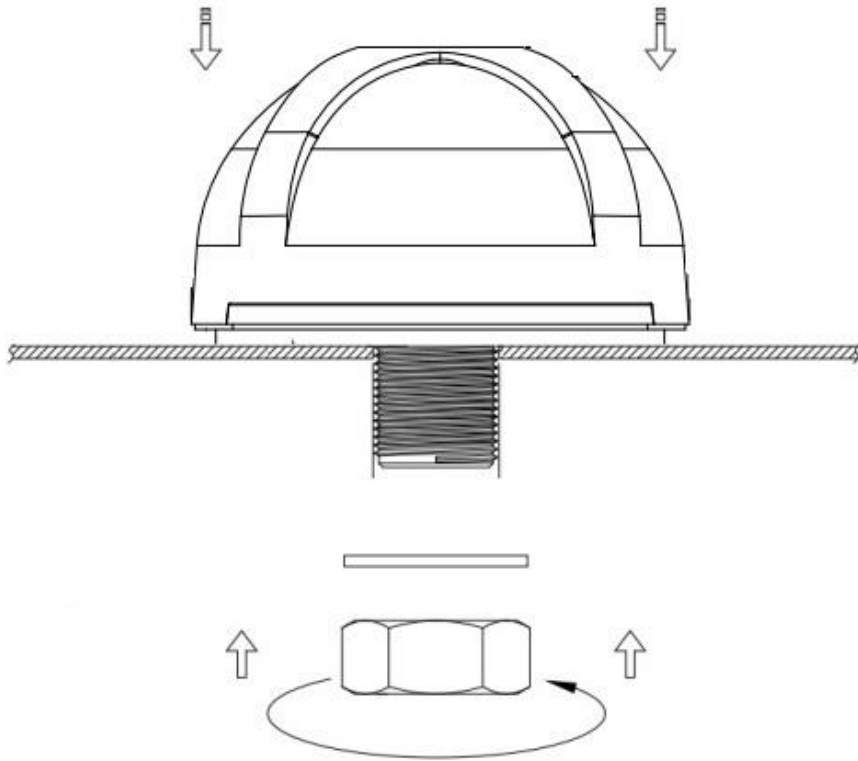
4. Drawing



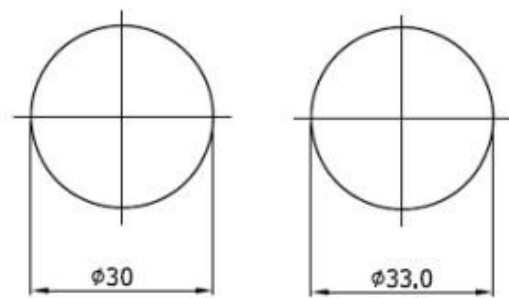
	Name	Material	Finish	QTY
1	Housing	PC 540	Black	1
2	Closed Cell Foam	CR 4305	Black	1
3	M30 Nut	Steel AISI 1215	Ni Plated	1
4	Washer	Steel AISI 1215	Ni Plated	1
5	Waterproof Gasket	Silicon Rubber	Black	1
6	Heat Shrink Tube	PE	Black	1
7	2G/3G/4G MIMO1 Label	Coated Paper	Gray	1
8	2G/3G/4G MIMO2 Label	Coated Paper	White	1
9	3M Double Adhesive	3M 9448 HK	White Liner	1
10	M30x 2 Thread 32L	Zinc Alloy	Ni Plated	1

	Name	Spec	Finish	QTY
WW	Cable Type	CFD200	Black	2
YY	Connector Type	SMA(M) ST	Gold	2

5. Installation



Recommended Torque for Mounting 49 N·m
 Maximum Torque for Mounting 58.8 N·m



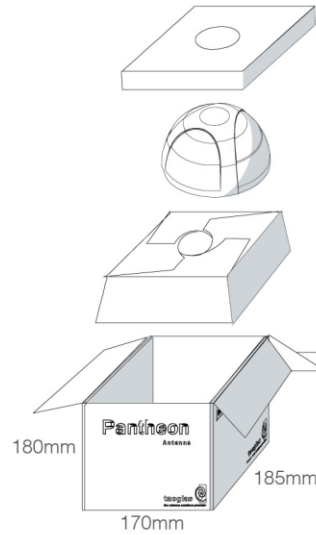
**Thread
 Diameter**

**Recommended
 Mounting Hole**

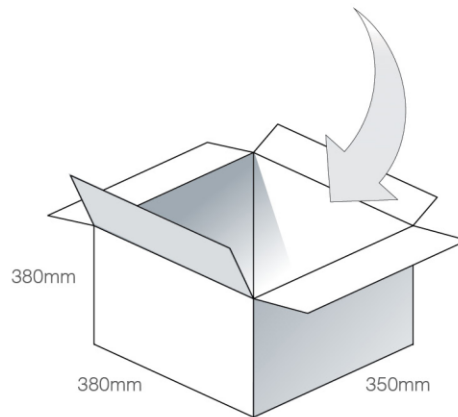
Unit: mm

6. Packaging

1 MA741.B.BI.001 per box
 Box Dimensions - 185*170*180 mm
 Total Weight - 1.26Kg



8 boxes per carton
 Carton Dimensions - 380*350*380mm
 Total Weight - 11Kg



Pallet Dimensions 1100*1100*1290mm
 24 Cartons per pallet
 6 Cartons per layer
 4 Layers

