

### Datasheet

**0.69~0.96GHz, 1.7~3.8GHz**  
External / In-building



**Stick Antenna**

### Features:

High performing 4G LTE antenna with SMA/RP-SMA connector for indoor applications

### Applications:

- CPE – Router, Set-top boxes, Gateway
- IoT devices
- 4G LTE Mesh
- Smart Metering
- Robotics



## Electrical Specifications

### Antenna Characteristics

Antenna Type	Radiation Pattern	Polarization	Max. Input Power	Impedance
Stick Antenna	Omni	Linear	10W	50Ω

## Free Space

Frequency (GHz)	Appearance status	0.69~0.96	1.72~2.17	2.3~2.69	3.3 – 3.8
Return Loss (dB)	Straight	< -3	< -3	< -3	< -4
	Bend	< -3	< -4	< -3	< -5
Gain, Peak / Average (dB)	Straight	1.9/ -6.7	3.4/ -5.2	1.8 / -4.6	4.7 / -1.2
	Bend	3.5 / -6.9	6.6 / -3.2	4.7/ -3.4	4.8 / -1.1
Efficiency / Average (%)	Straight	22	31	35	76
	Bend	21	48	46	78

## 300mm × 300mm Plane

Frequency (GHz)	Appearance status	0.69~0.96	1.72~2.17	2.3~2.69	3.3~3.8
Return Loss (dB)	Straight	< -1	< -9	< -7	< -7
	Bend	< -1	< -10	< -8	< -8
Gain, Peak / Average (dB)	Straight	3.6 / -2.2	4.1 / -1.2	4.7 / -1.7	3.5 / -2.7
	Bend	2.1 / -4.6	4.4 / -1.1	4.8 / -1.5	3.4 / -1.7
Efficiency / Average (%)	Straight	60	75	68	54
	Bend	34	78	71	67

**Mechanical Specifications**

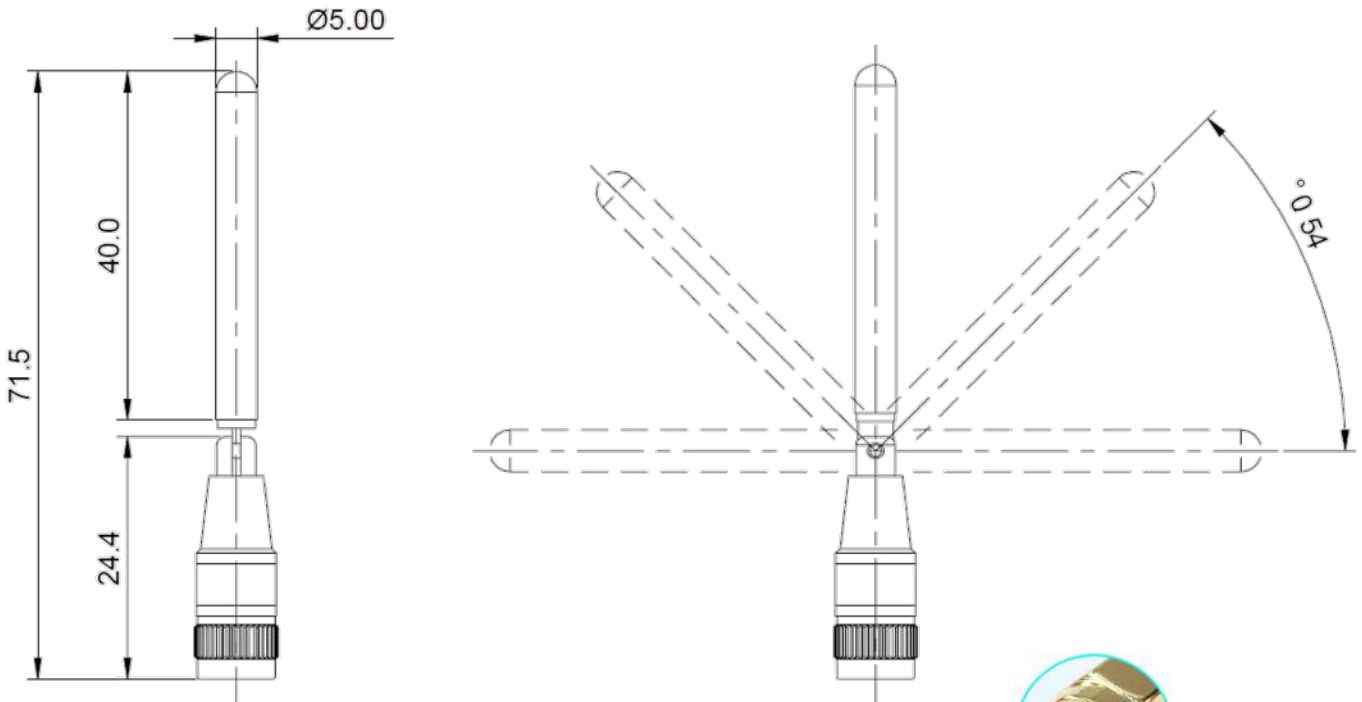
**Environmental**

Temperature Range (°C)	-40 to 85
Humidity	Non-condensing 65°C 95% RH

RoHS Compliant

Part Number	Length (mm)	Weight (g)	Connector Type	Radome
ST0457-20-001-A	71.5	8.33	SMA Plug	POM
ST0457-20-501-A	71.5	8.33	RP-SMA Plug	POM

**Mechanical Drawing**



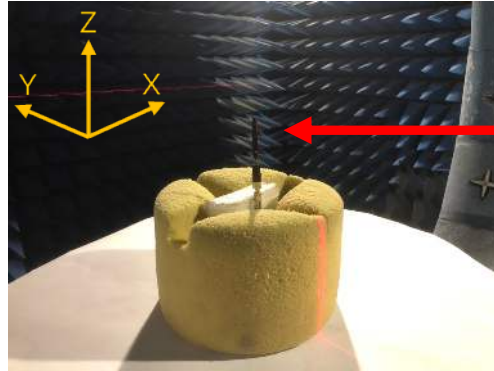
ST0457-20-001-A



ST0457-20-501-A

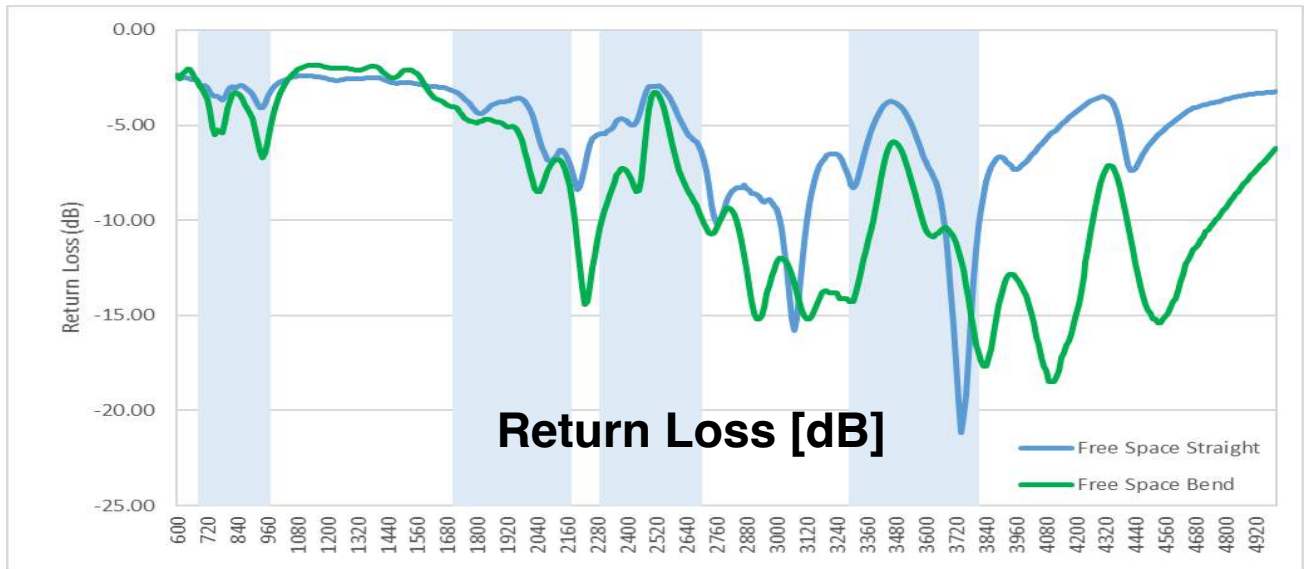


### Charts in Free Space

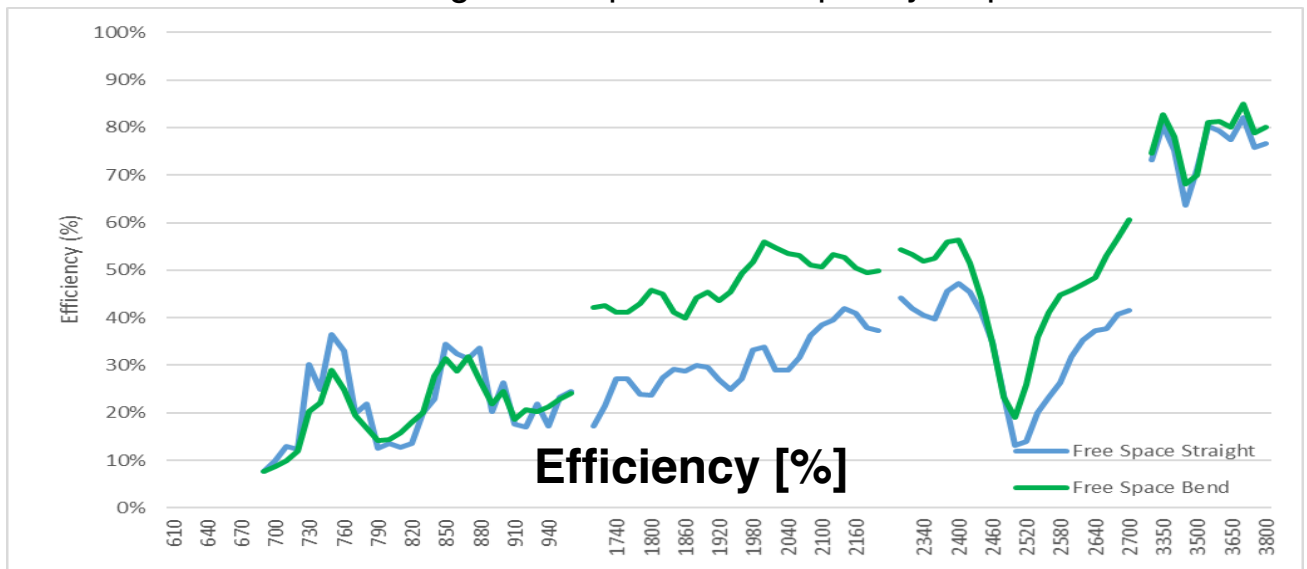


ST0457-20-001-A

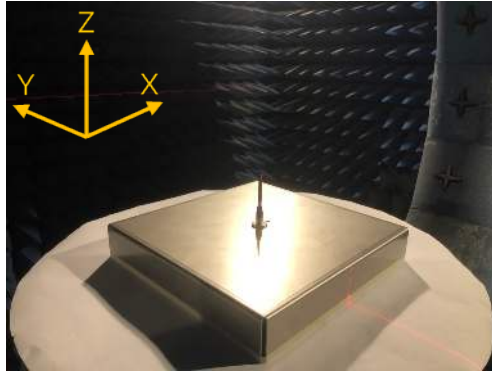
Test setup, measurement performed in 3D Anechoic Chamber



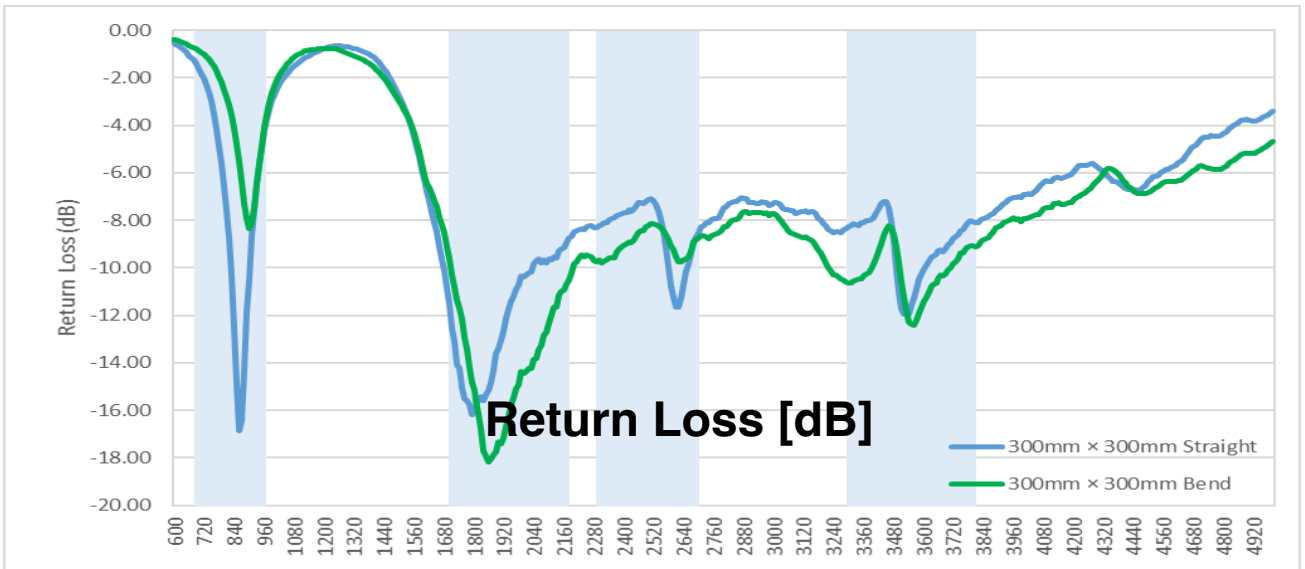
Blue background represents frequency response.



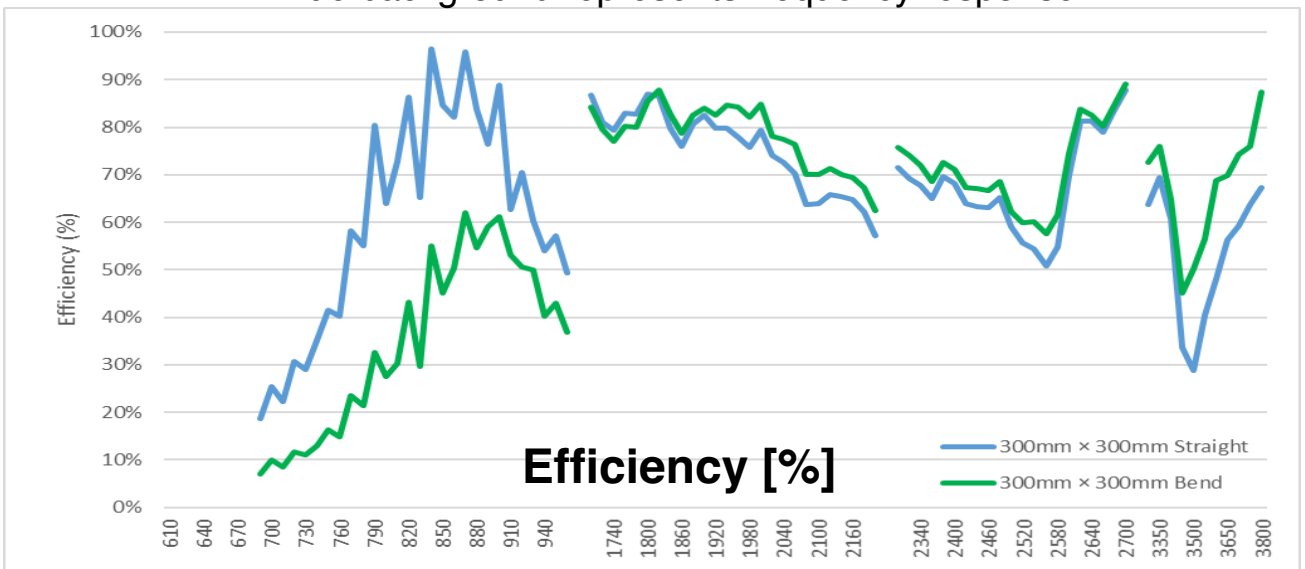
### Charts in 300mm x 300mm Plane



Test setup, measurement performed in 3D Anechoic Chamber

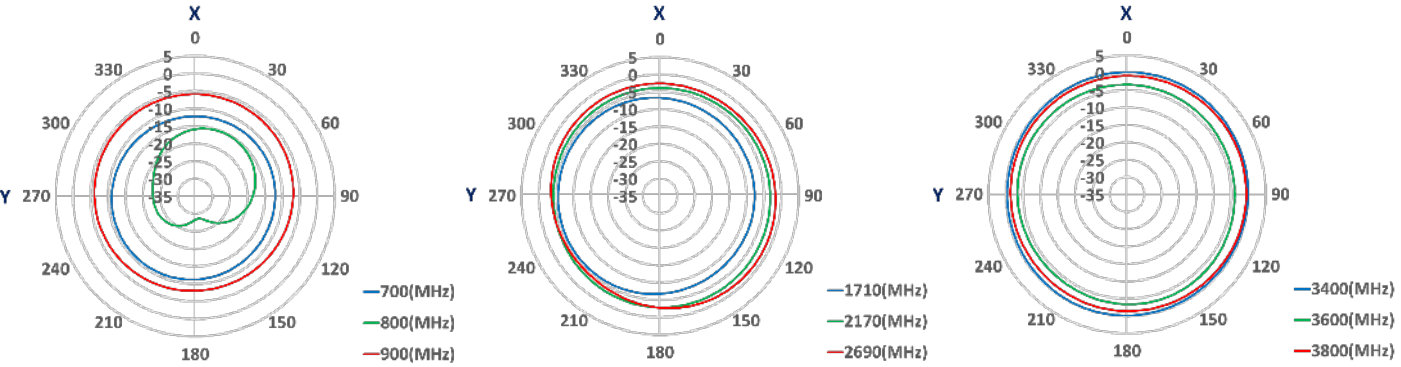


Blue background represents frequency response.

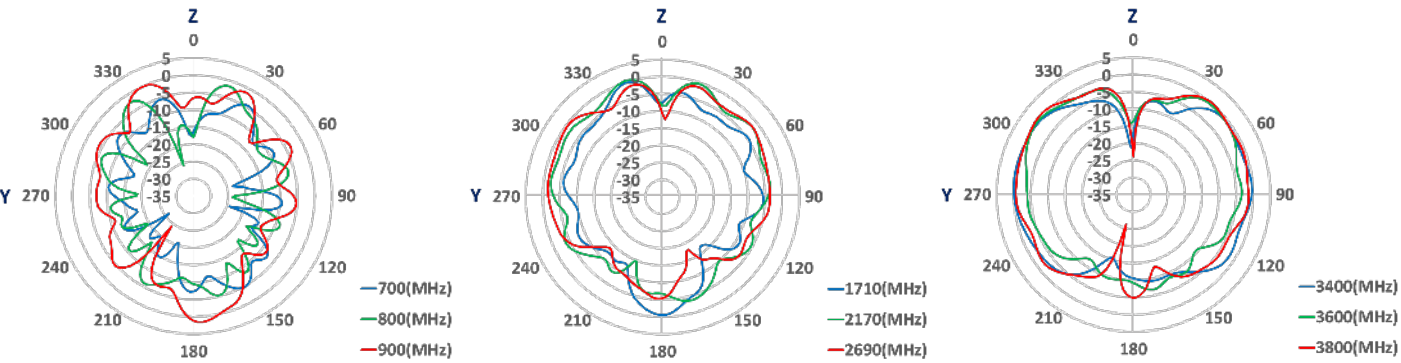


## Radiation Pattern - Free Space Straight

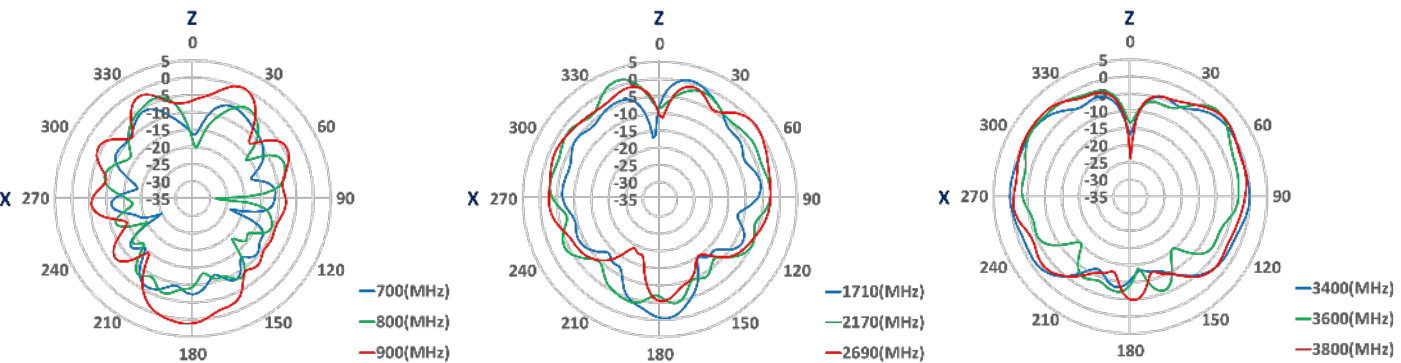
### XY - Plane



### YZ - Plane

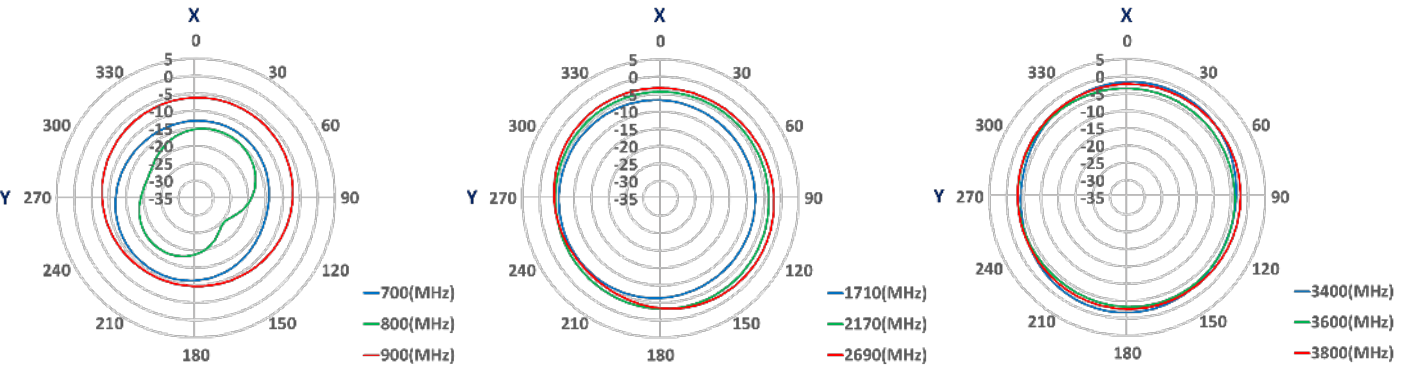


### XZ - Plane

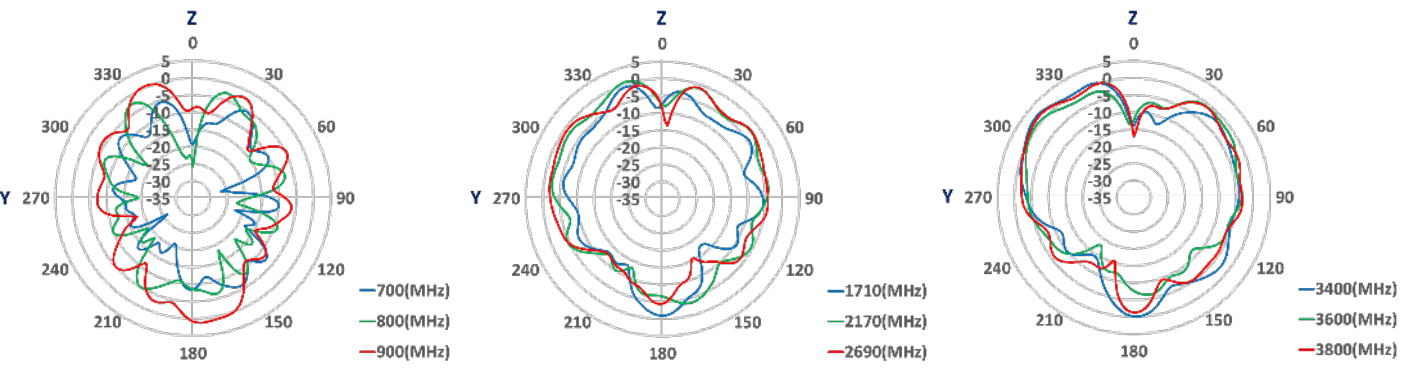


## Radiation Pattern - Free Space Bend

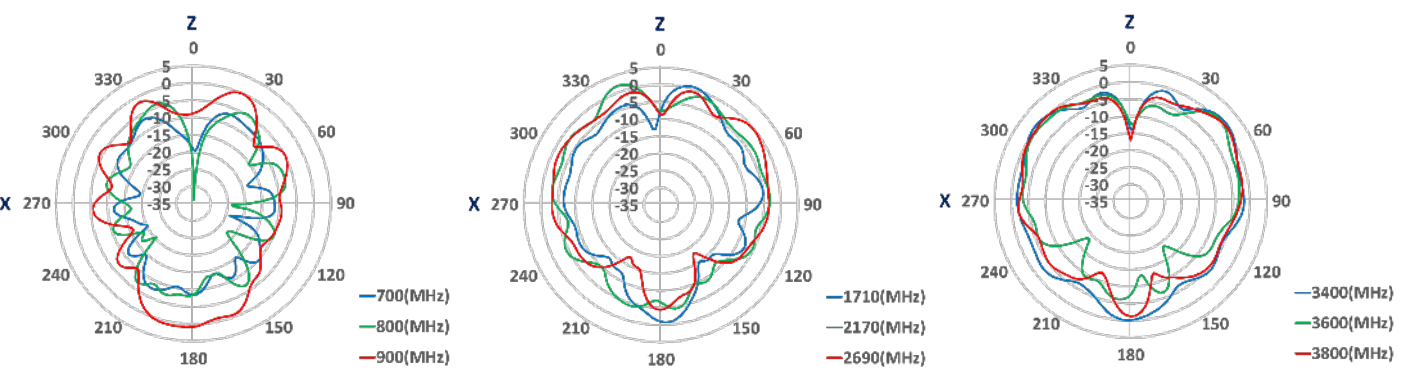
### XY - Pane



### YZ - Plane

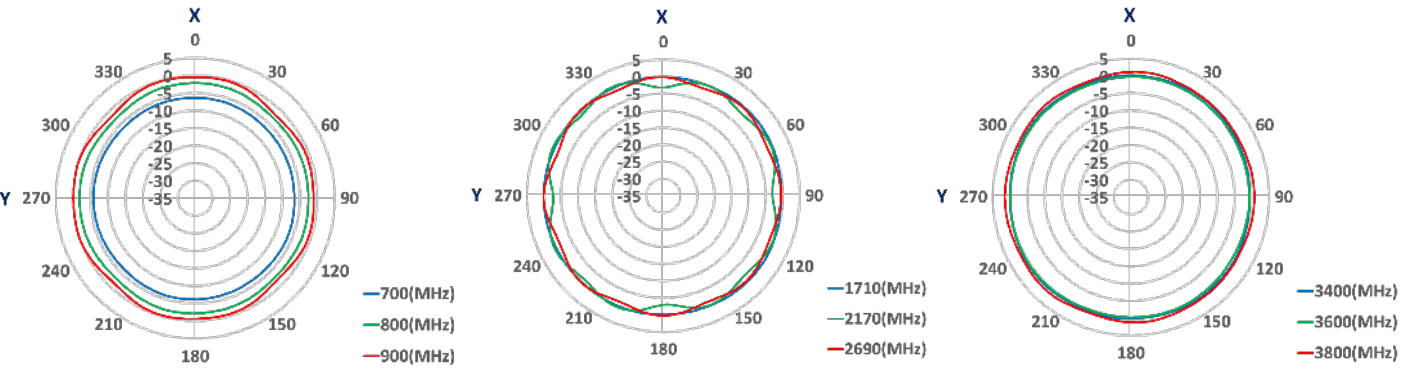


### XZ - Plane

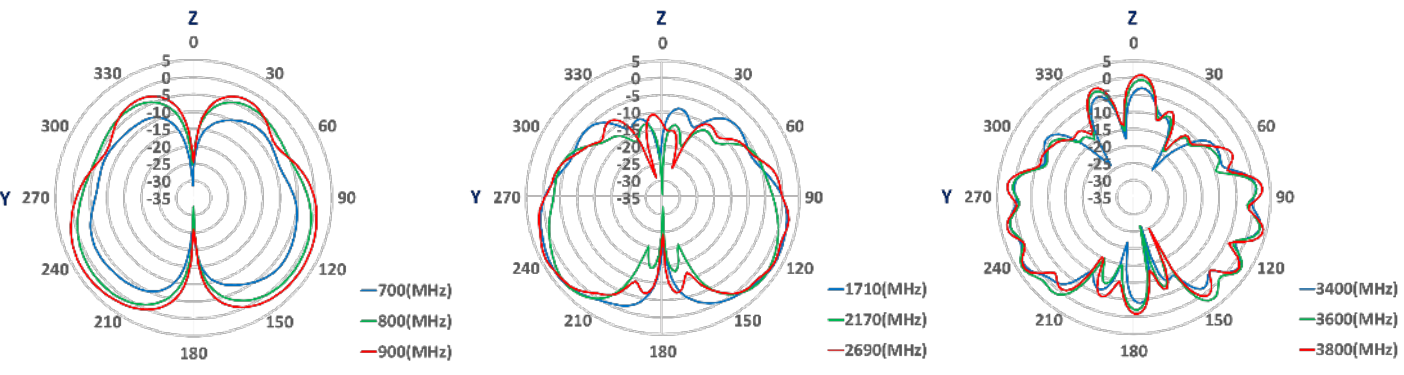


### Radiation Pattern - 300mm x 300mm Straight

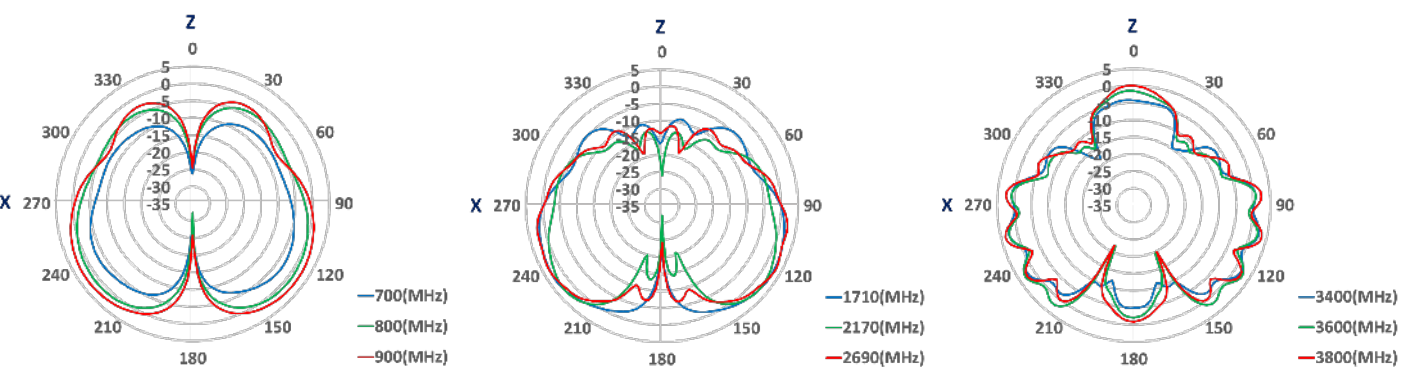
#### XY - Pane



#### YZ - Plane



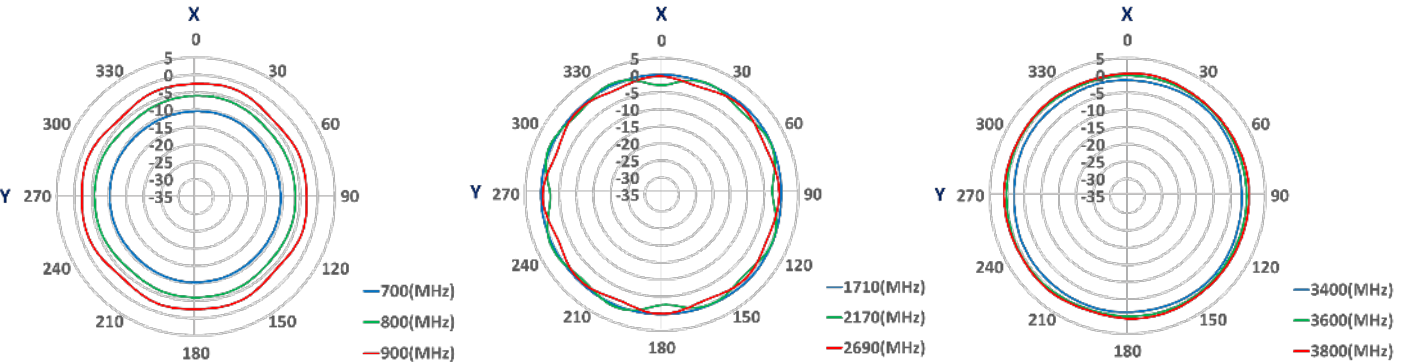
#### XZ - Plane



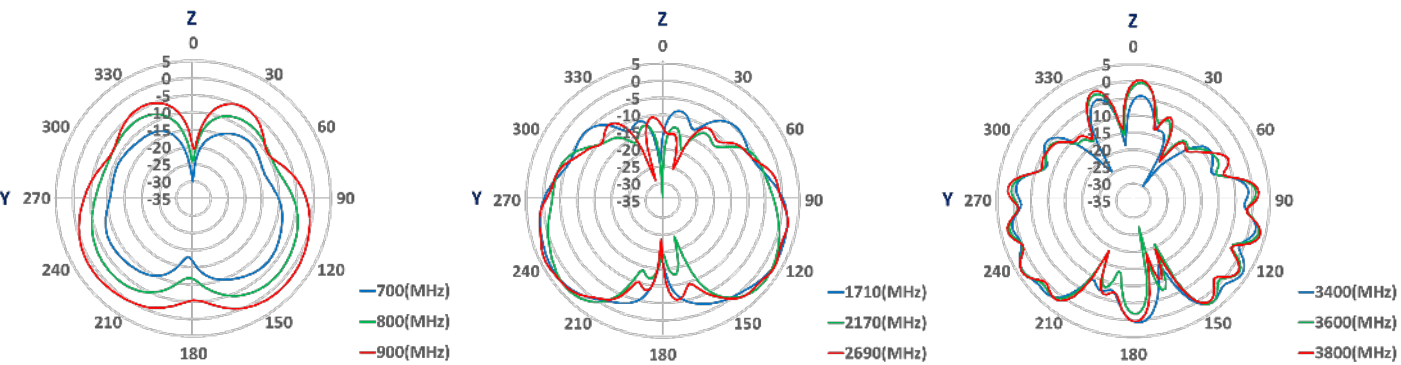


### Radiation Pattern - 300mm x 300mm Bend

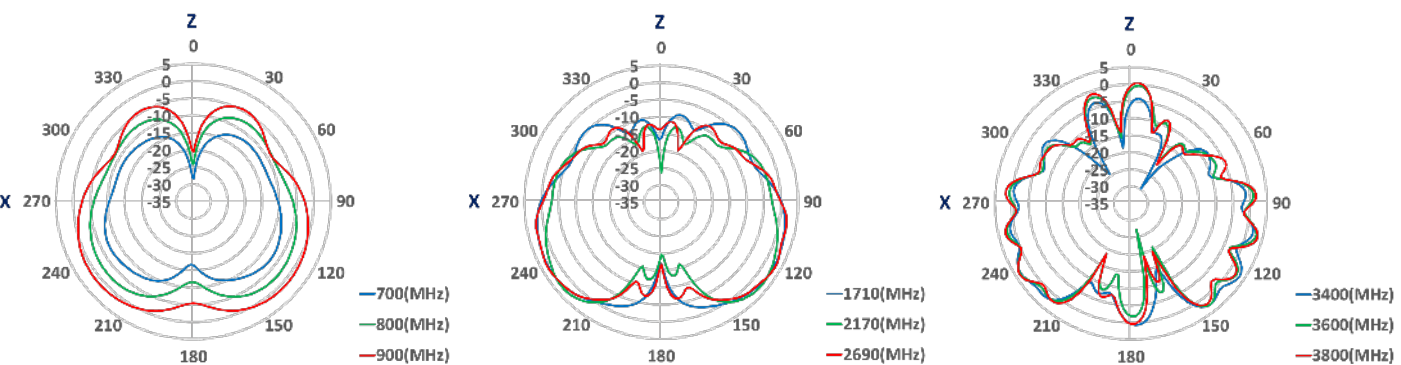
#### XY - Pane



#### YZ - Plane



#### XZ - Plane



Revisions

Rev	Description	Date	ECN	Approval
A	Initial Release	2022-10-25	ST0457-20-001-A-RA00	ATC
B	RF Performance update	2023-01-02	ST0457-20-001-A-RB00	ATC

NOTICE - These drawings, specifications, or other data ( 1) are, and remain the property of Amphenol corp. (2) must be returned upon request; and (3) are confidential and not to be disclosed to any person other than those to whom they are given by Amphenol Corp. the furnishing of these drawings, specifications, or other data by Amphenol Corp., or to any other person to anyone for any purpose is not to be regarded by implication or otherwise in any manner licensing, granting rights to permitting such holder or any other person to manufacture, use or sell any product, process or design, patented or otherwise, that may in any way be related to or disclosed by said drawings, specifications, or other data.