

### 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

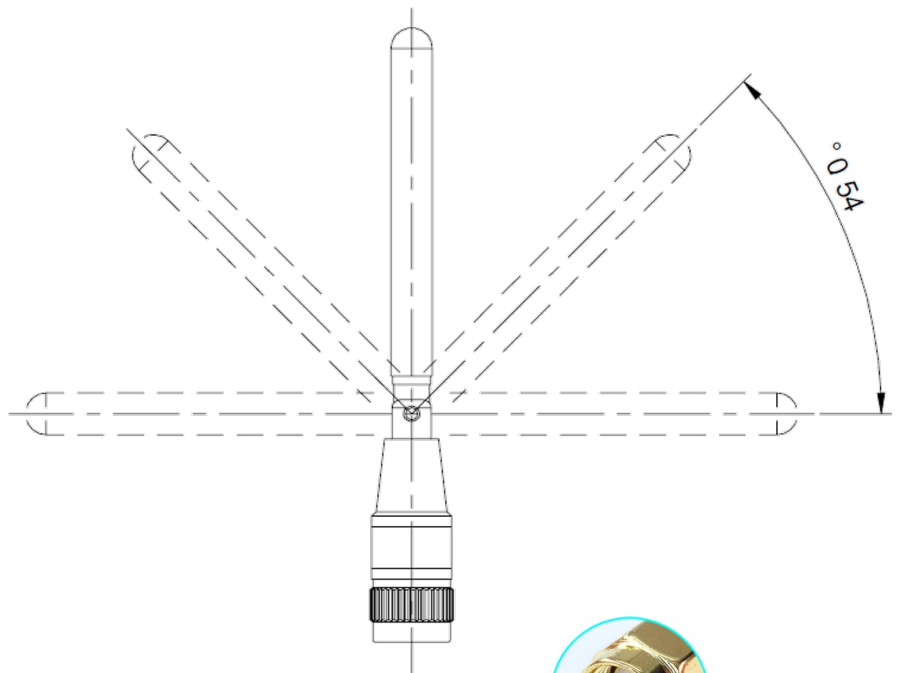
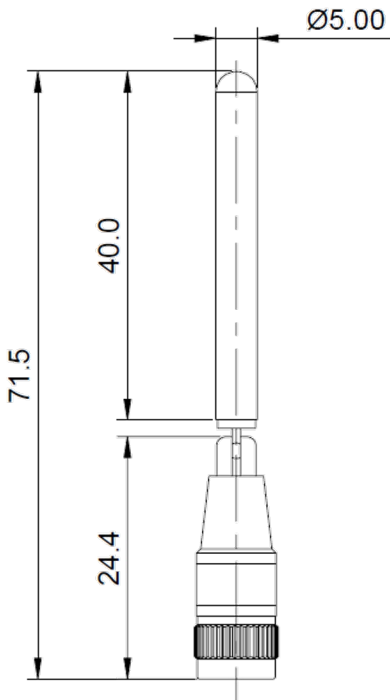
Humidity

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



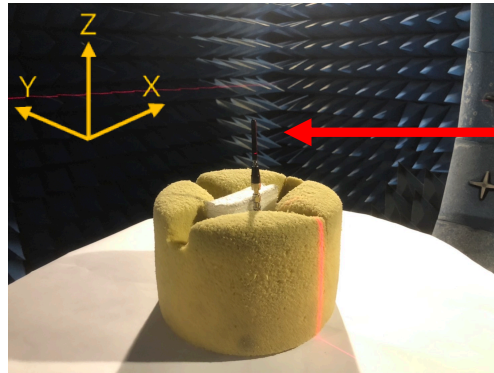
SMA Plug

ST0457-20-501-A



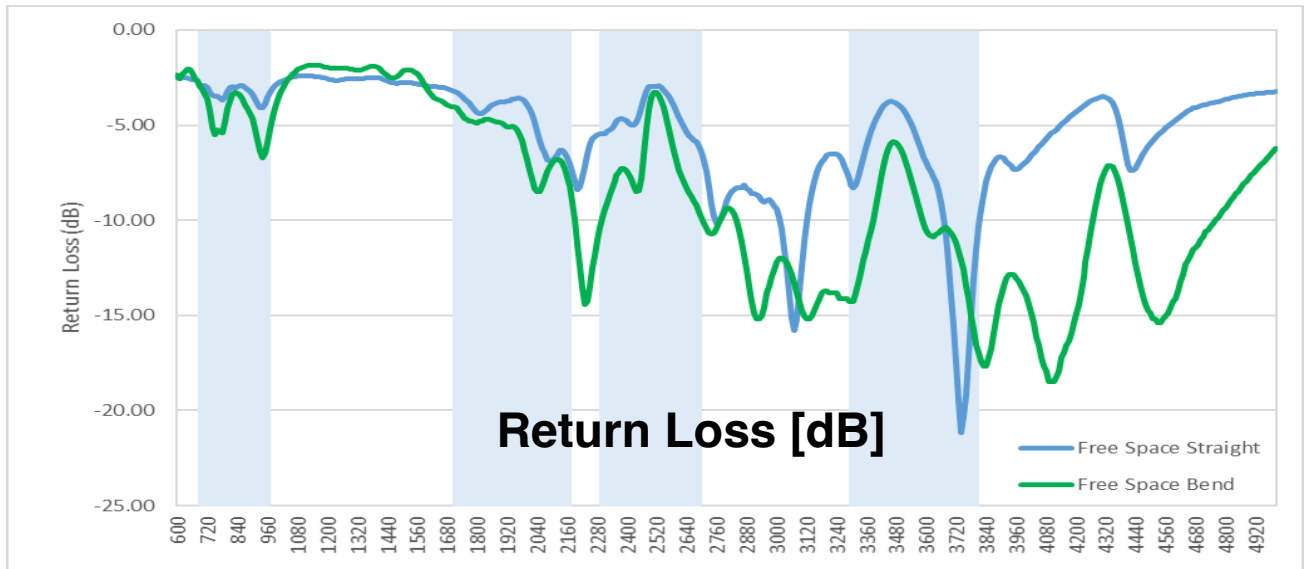
RP-SMA Plug

### Charts in Free Space

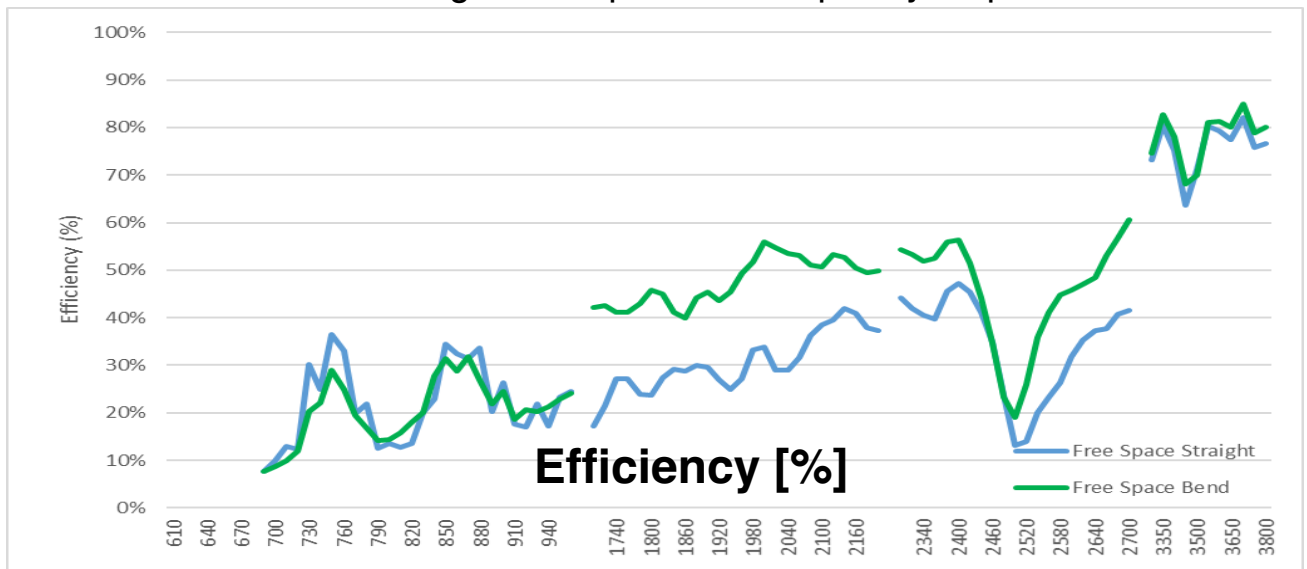


ST0457-20-001-A

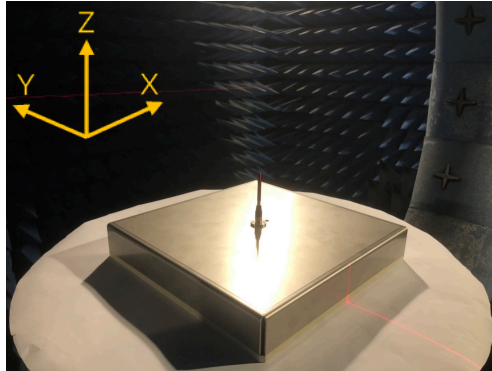
Test setup, measurement performed in 3D Anechoic Chamber



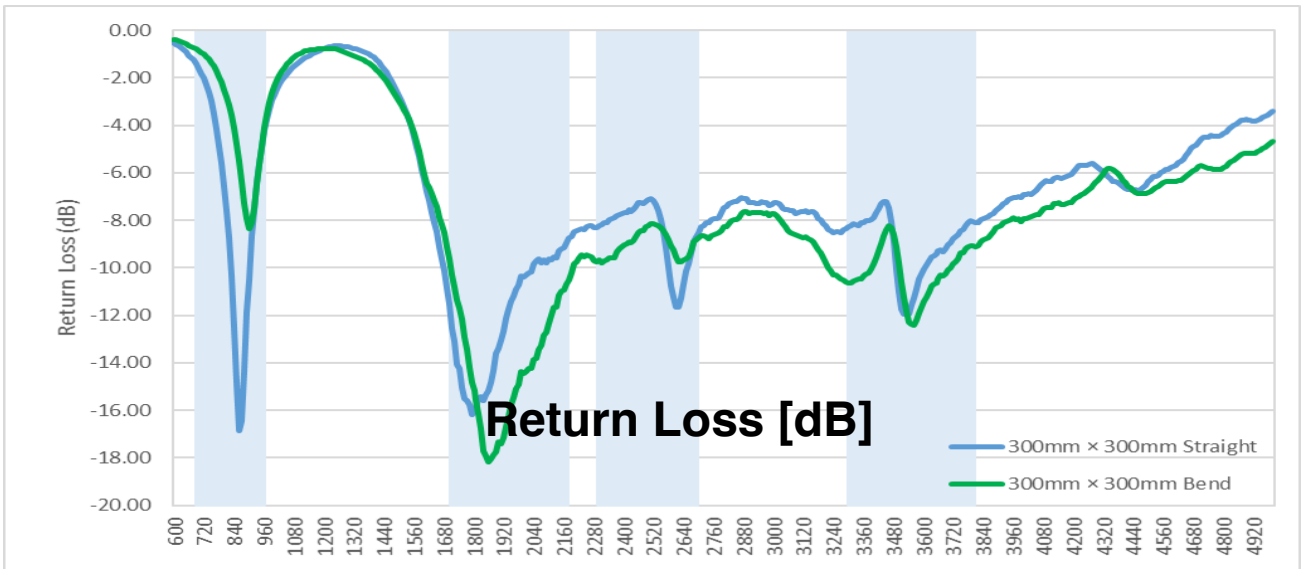
Blue background represents frequency response.



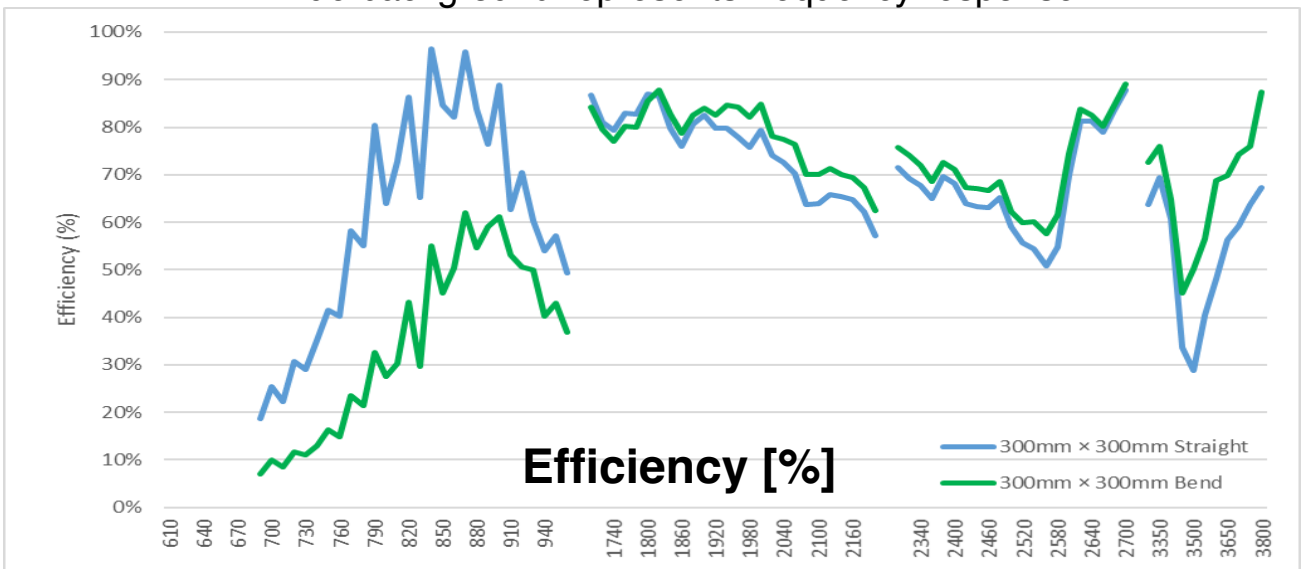
### Charts in 300mm x 300mm Plane



Test setup, measurement performed in 3D Anechoic Chamber

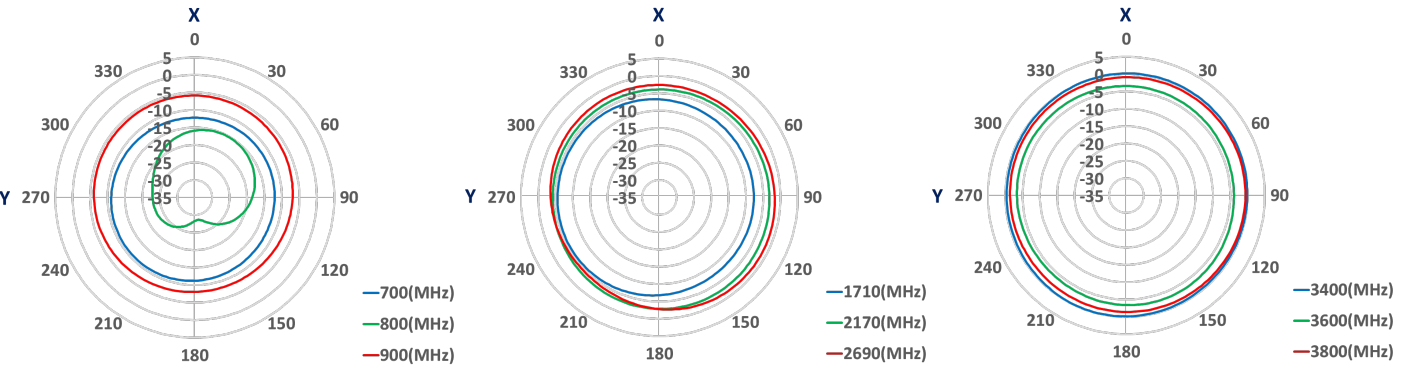


Blue background represents frequency response.

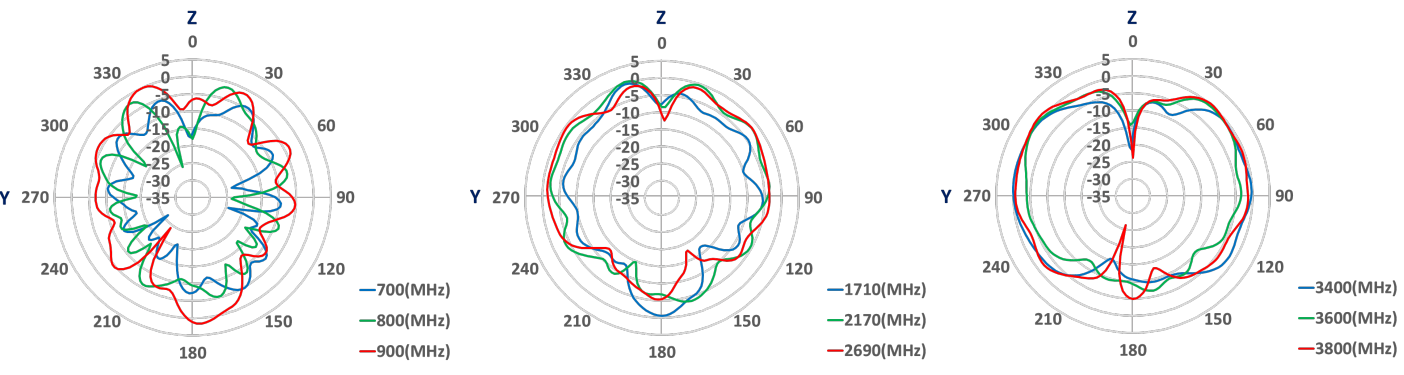


## Radiation Pattern - Free Space Straight

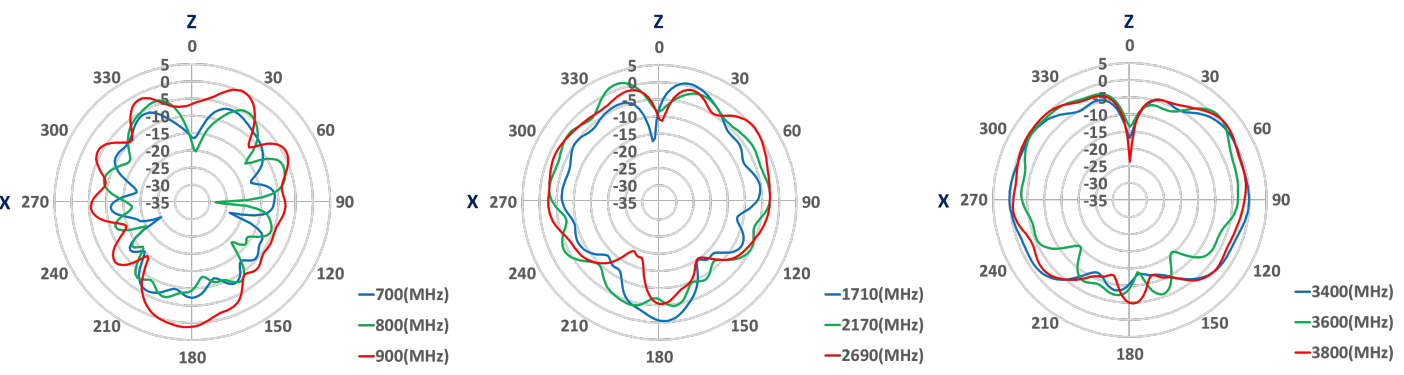
### XY - Plane



### YZ - Plane

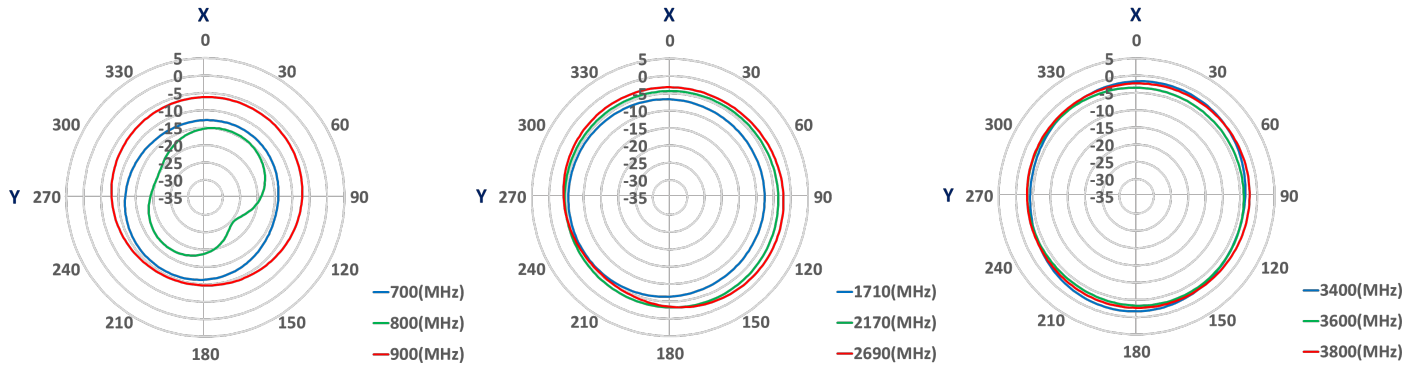


### XZ - Plane

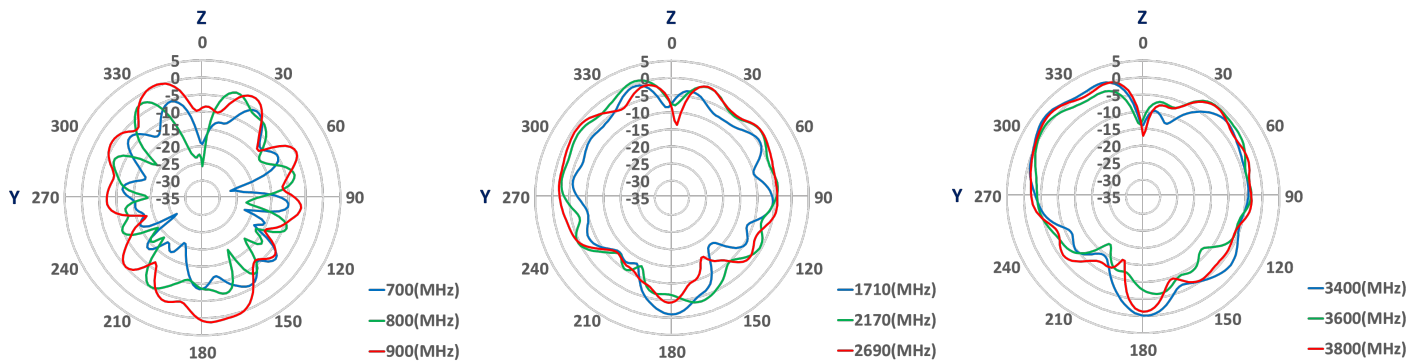


## Radiation Pattern - Free Space Bend

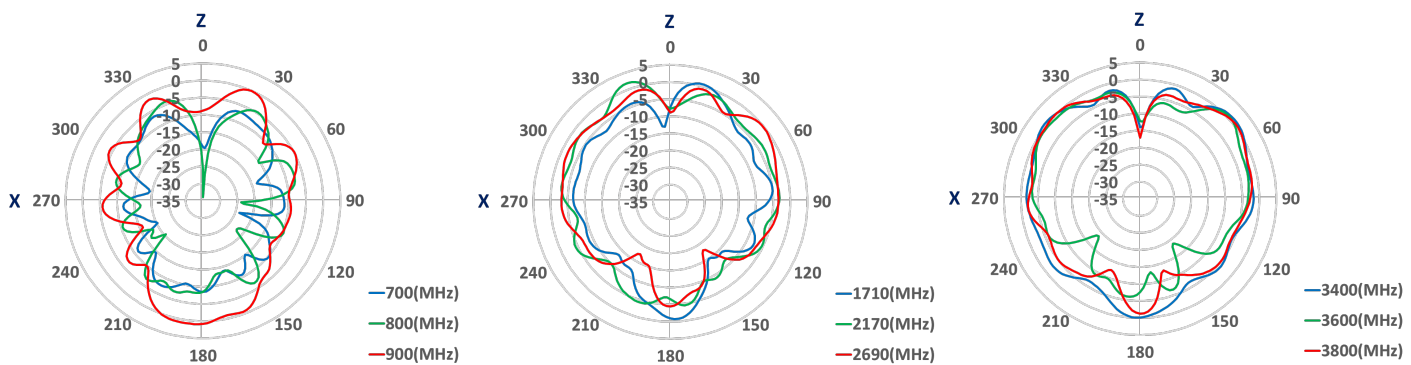
### XY - Pane



### YZ - Plane

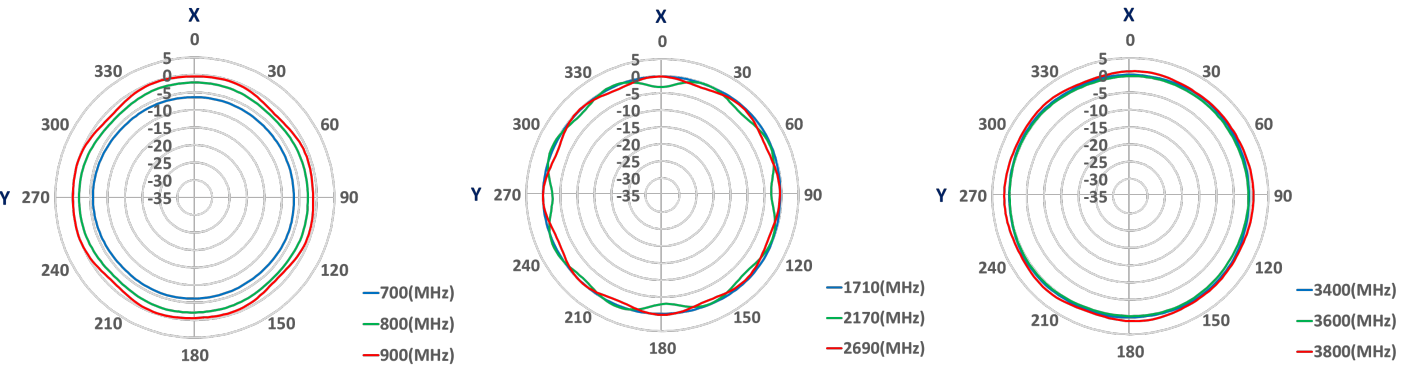


### XZ - Plane

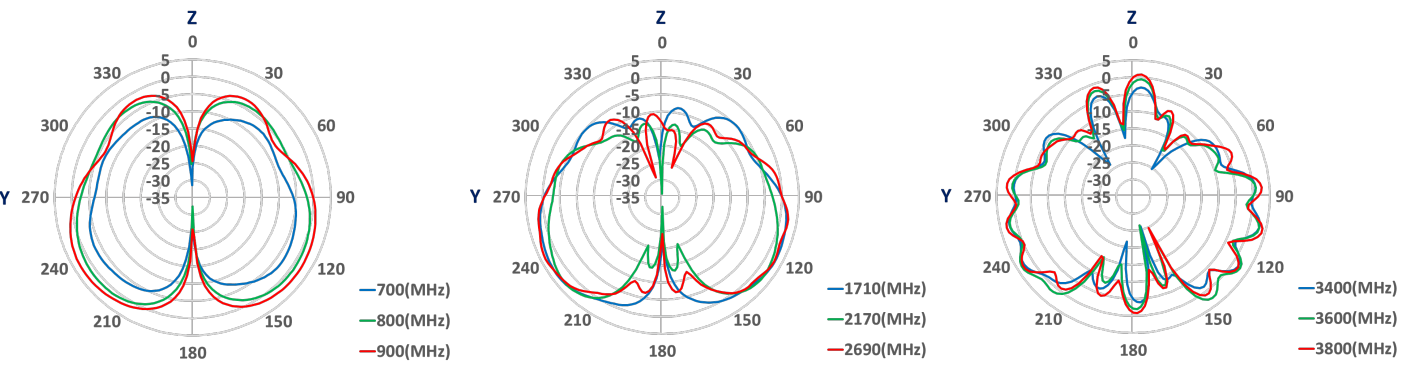


## Radiation Pattern - 300mm x 300mm Straight

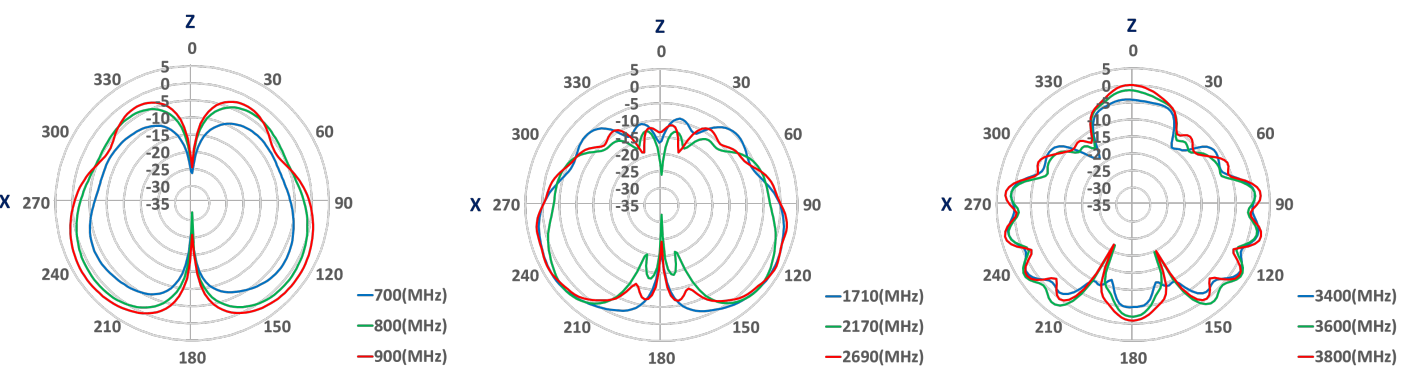
### XY - Pane



### YZ - Plane



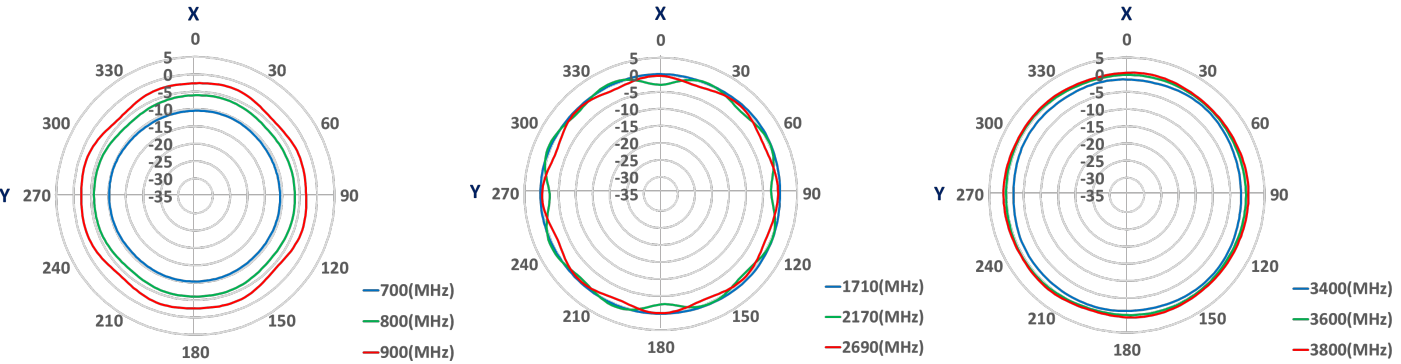
### XZ - Plane



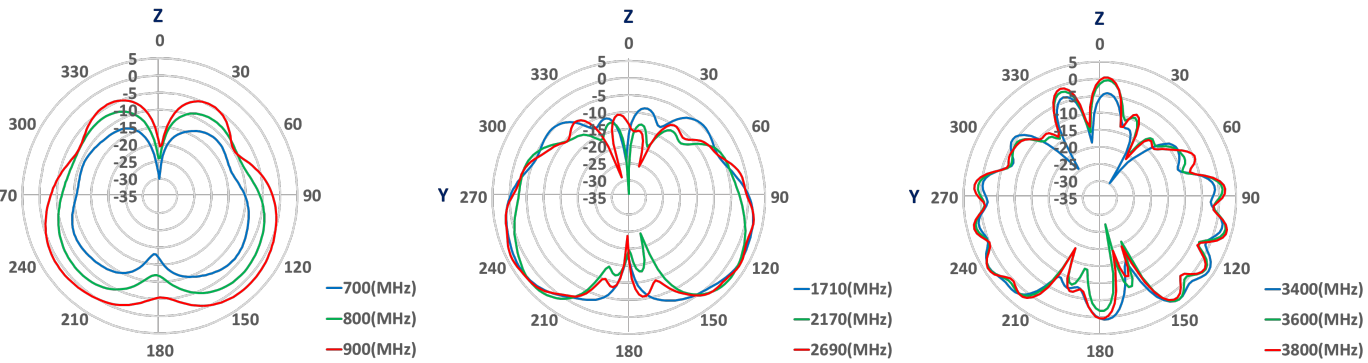


### Radiation Pattern - 300mm x 300mm Bend

#### XY - Pane



#### YZ - Plane



#### XZ - Plane

