

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 Bend	< -3 < -3	< -3 < -4	< -3 < -3	< -4 < -5
Gain, Peak / Average (dB)	Straight Bend	1.9/ -6.7 3.5 / -6.9	3.4/ -5.2 6.6 / -3.2	1.8 / -4.6 4.7/ -3.4	4.7 / -1.2 4.8 / -1.1
Efficiency / Average (%)	Straight Bend	22 21	31 48	35 46	76 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 Bend	< -1 < -1	< -9 < -10	< -7 < -8	< -7 < -8
Gain, Peak / Average (dB)	Straight Bend	3.6 / -2.2 2.1 / -4.6	4.1 / -1.2 4.4 / -1.1	4.7 / -1.7 4.8 / -1.5	3.5 / -2.7 3.4 / -1.7
Efficiency / Average (%)	Straight Bend	60 34	75 78	68 71	54 67

Mechanical Specifications

Environmental

Temperature Range (°C)

-40 to 85

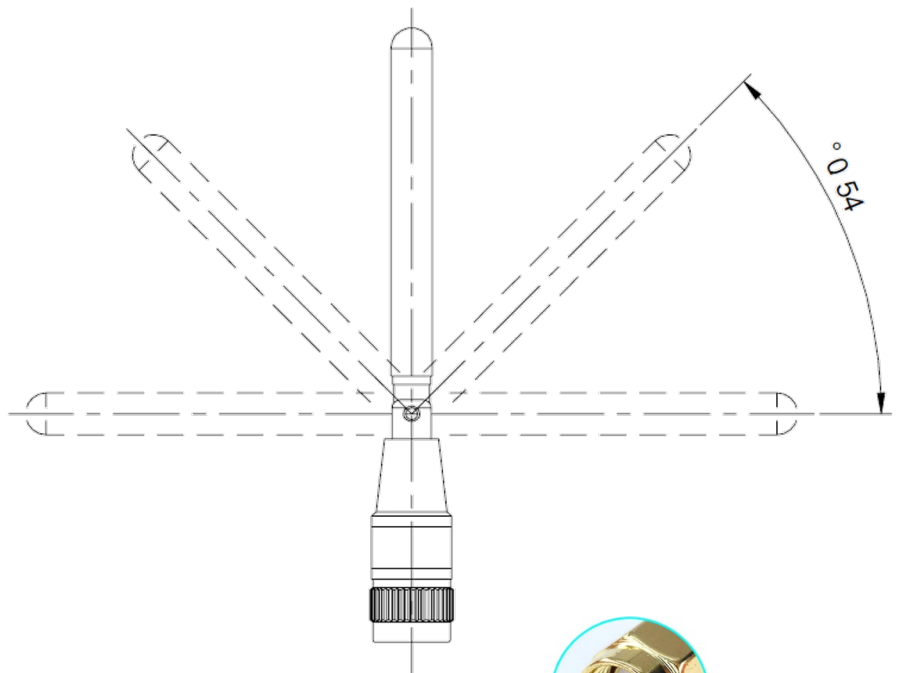
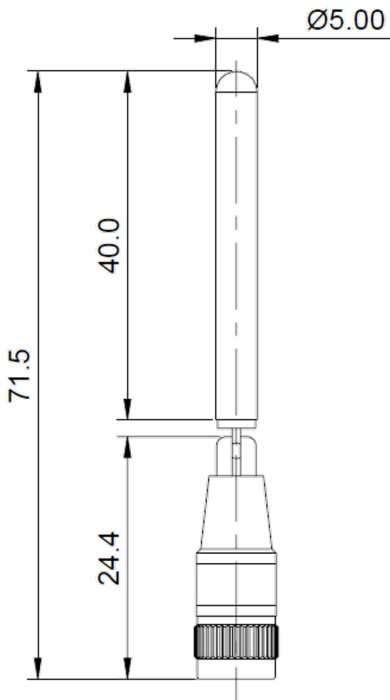
Humidity

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



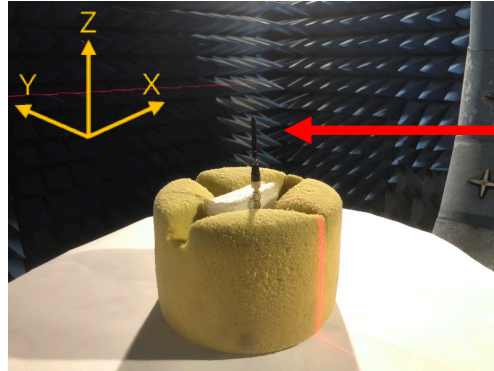
SMA Plug

ST0457-20-501-A



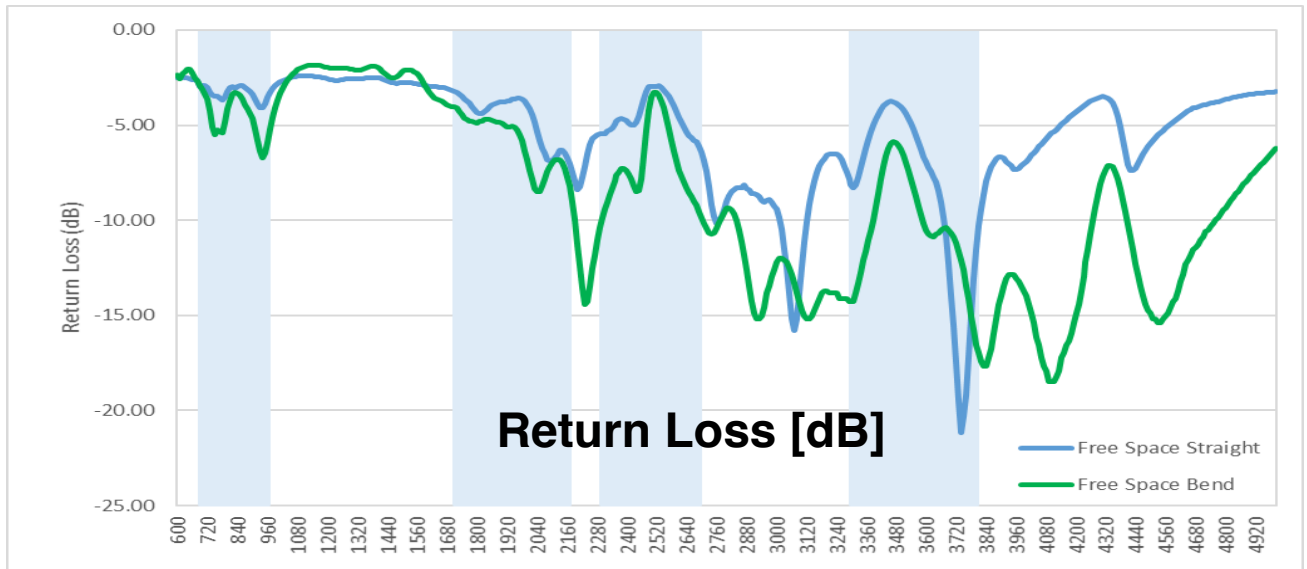
RP-SMA Plug

Charts in Free Space

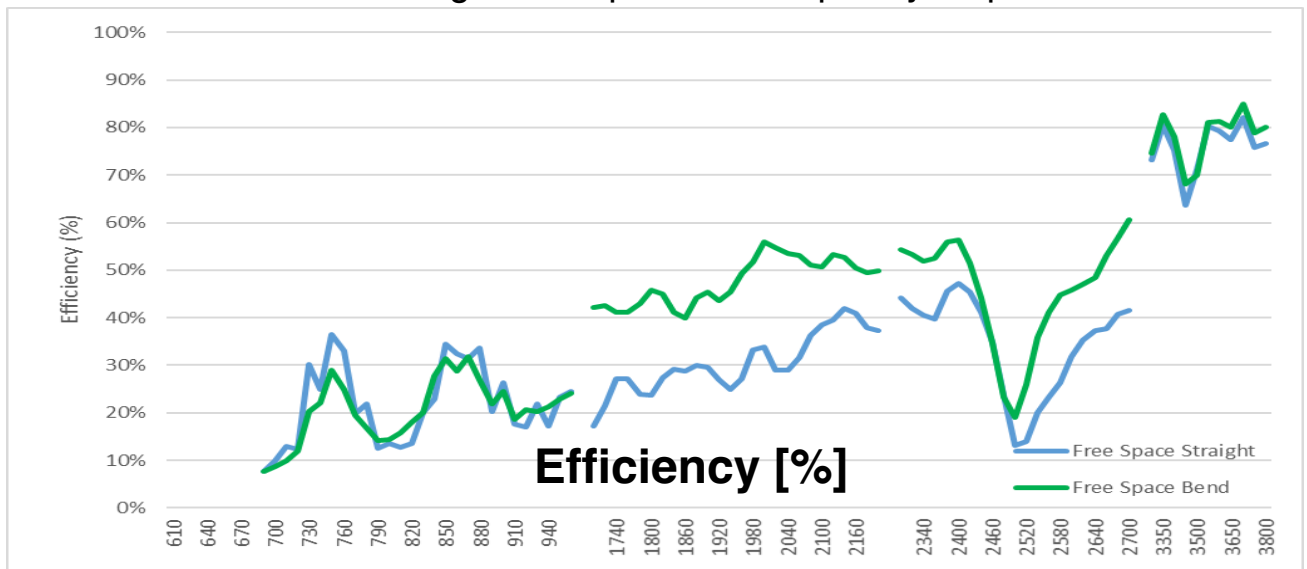


ST0457-20-001-A

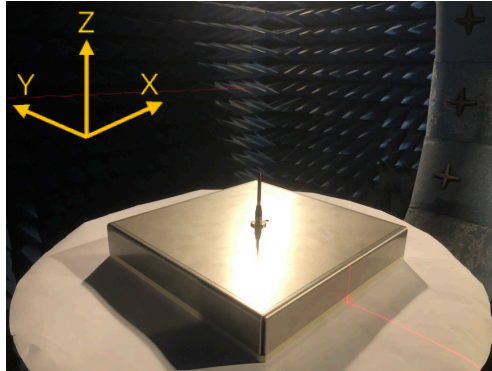
Test setup, measurement performed in 3D Anechoic Chamber



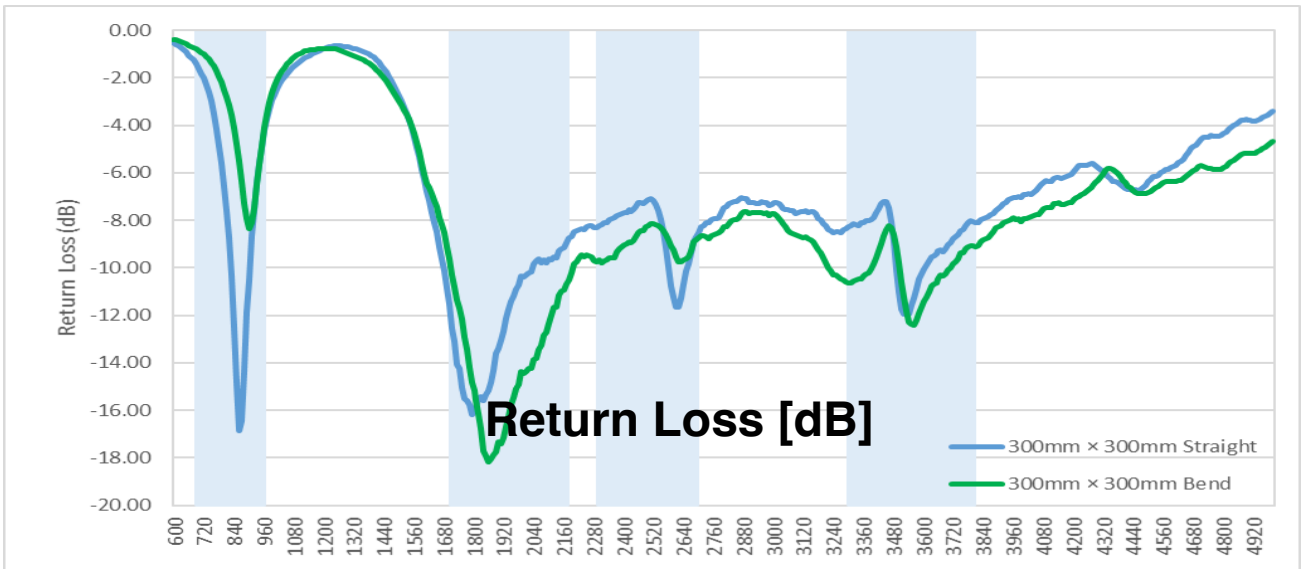
Blue background represents frequency response.



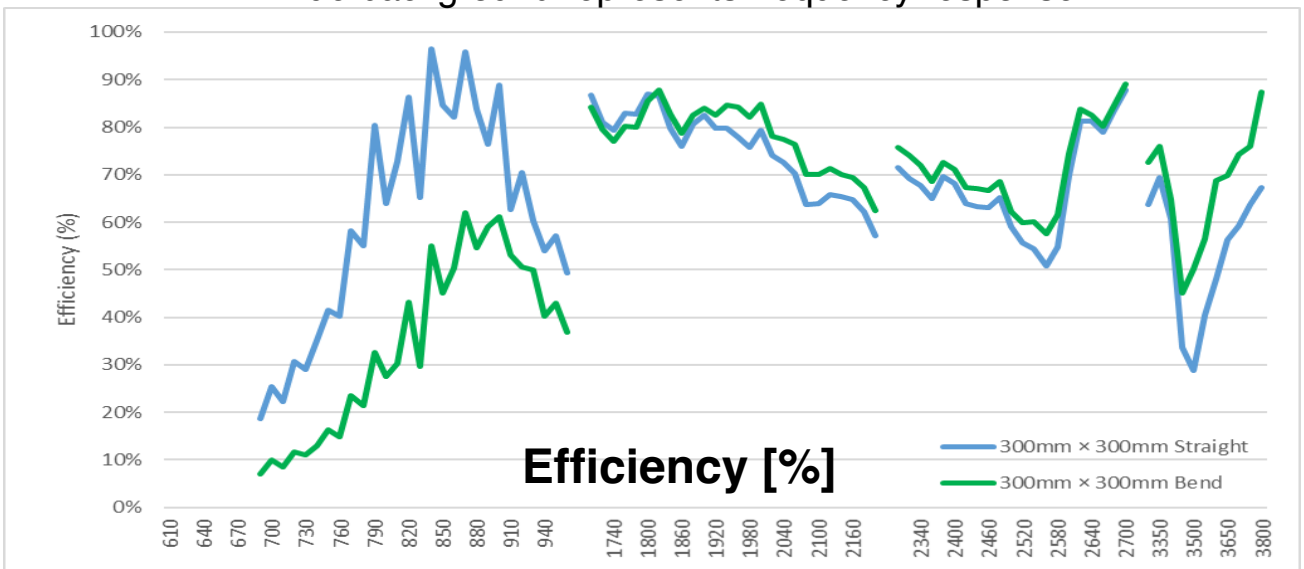
Charts in 300mm x 300mm Plane



Test setup, measurement performed in 3D Anechoic Chamber

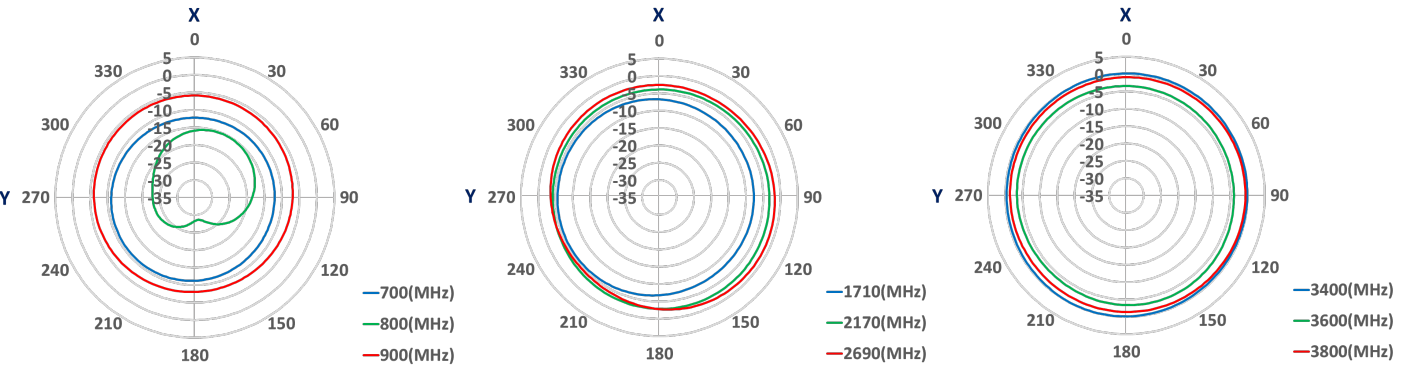


Blue background represents frequency response.

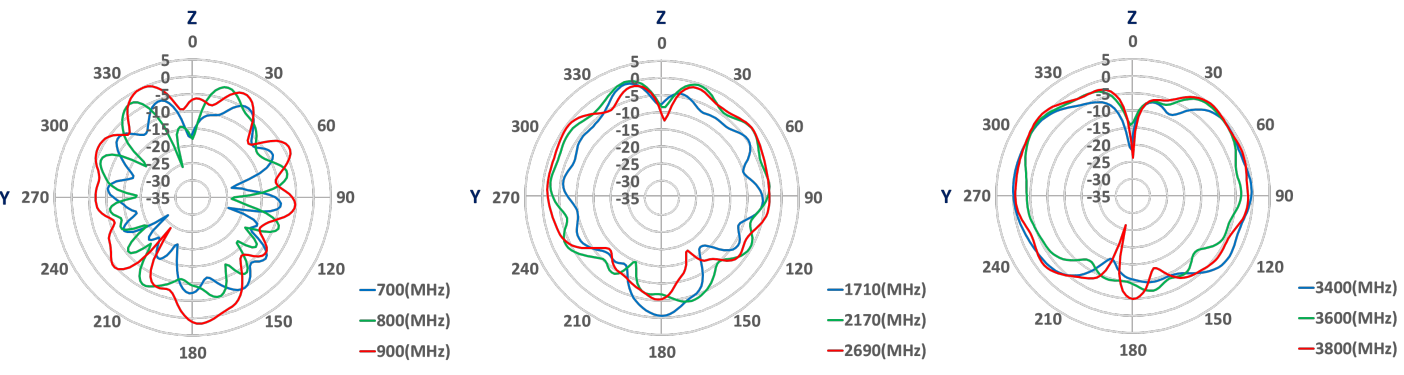


Radiation Pattern - Free Space Straight

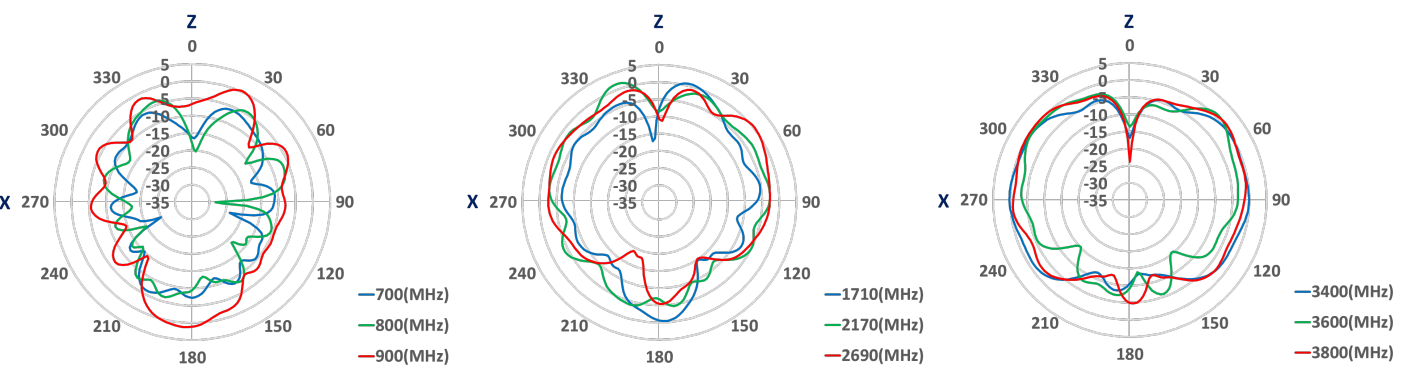
XY - Plane



YZ - Plane

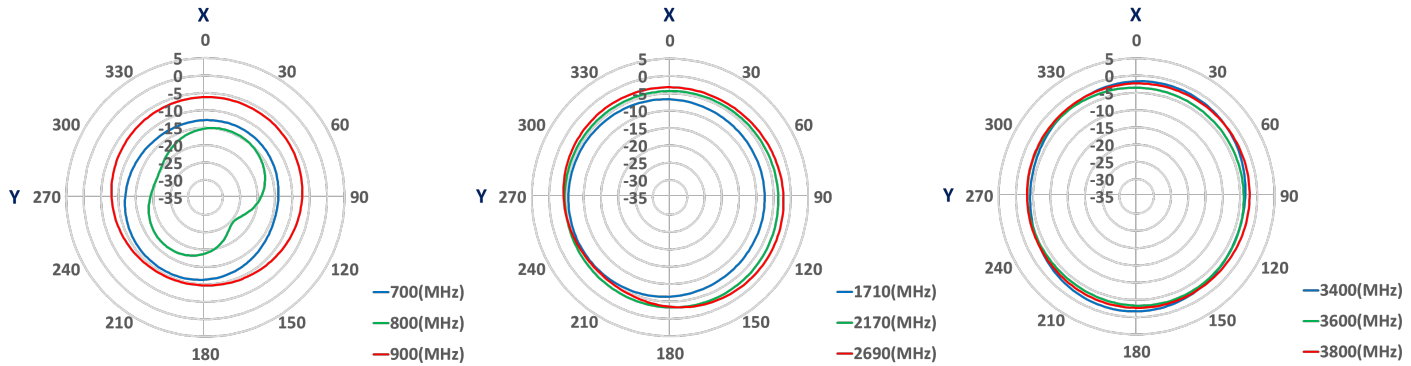


XZ - Plane

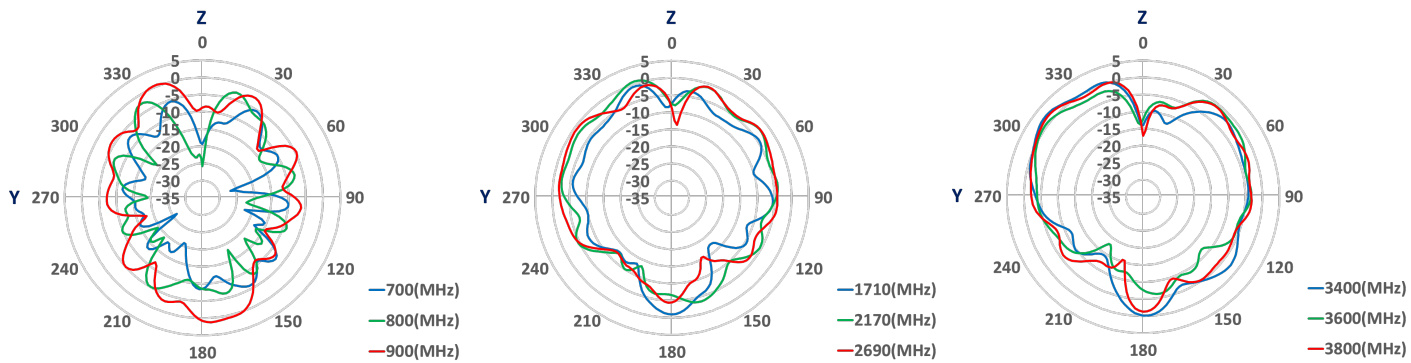


Radiation Pattern - Free Space Bend

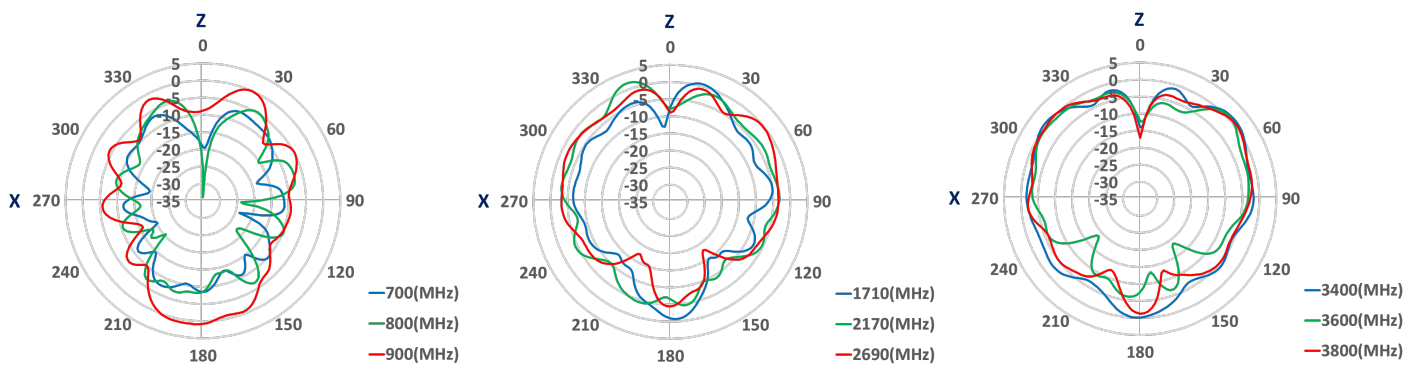
XY - Pane



YZ - Plane

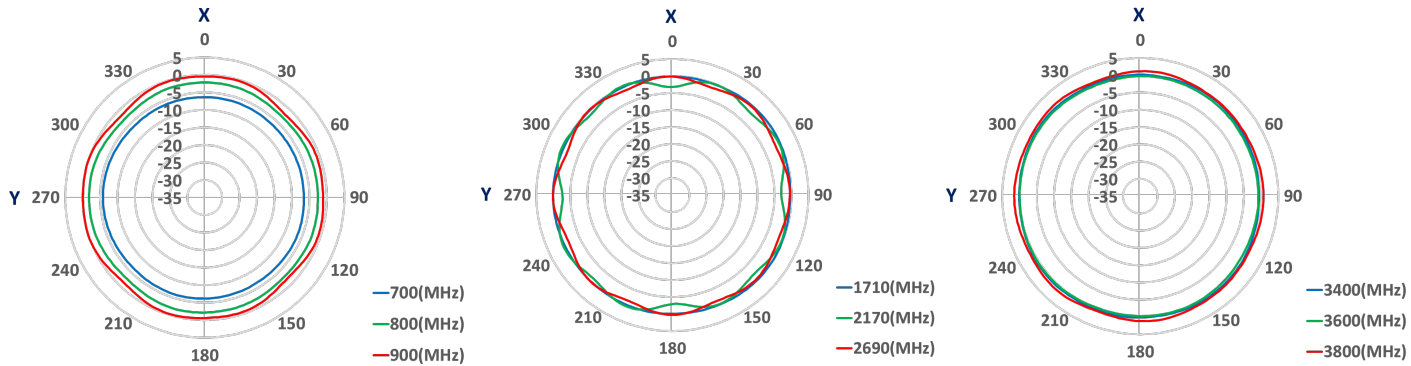


XZ - Plane

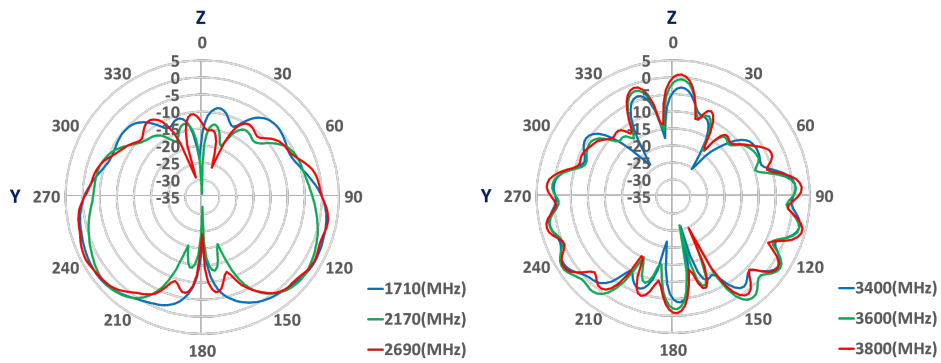


Radiation Pattern - 300mm x 300mm Straight

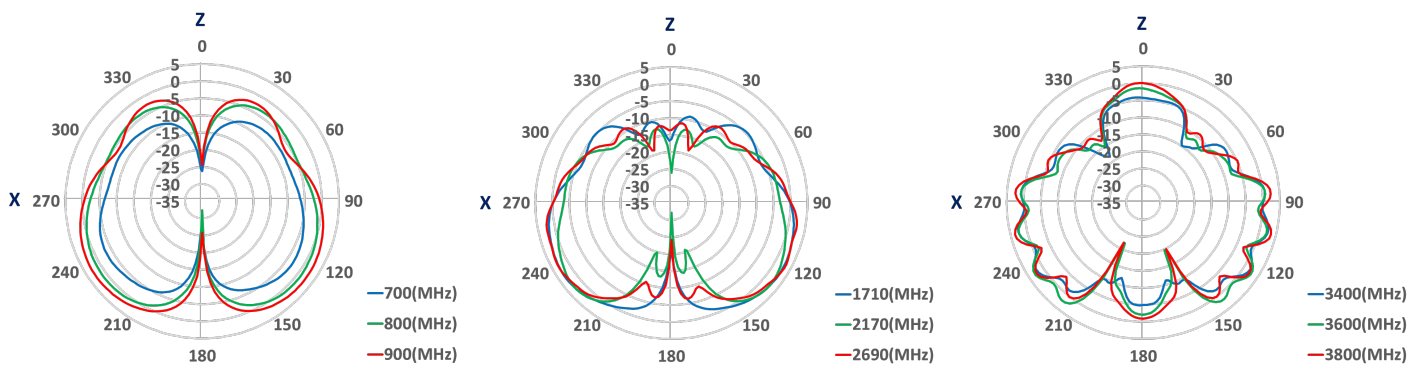
XY - Pane



YZ - Plane

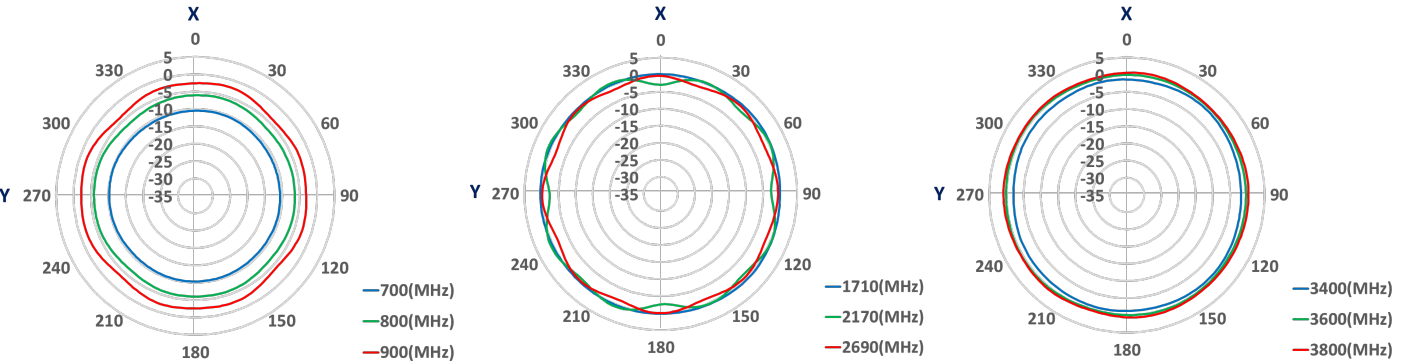


XZ - Plane

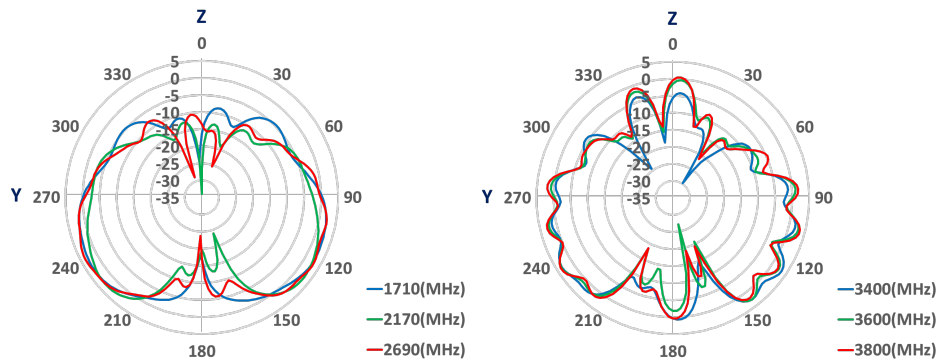


Radiation Pattern - 300mm x 300mm Bend

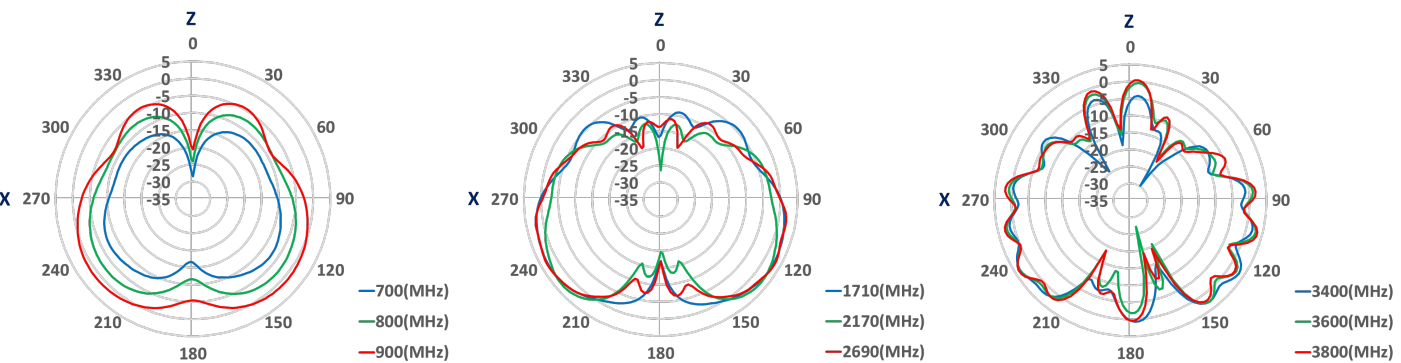
XY - Pane



YZ - Plane



XZ - Plane



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

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