

## Datasheet

## 0.69-0.96GHz & 1.7-4.2GHz Internal Antenna



95x15x0.20 mm

### FPC Antenna

### Features:

Flexible embedded and high performing full 4G LTE / 5G NR band antenna with OD1.37mm coaxial cable for indoor applications.

### Applications:

- CPE - Router, Set-top boxes & Gateway
- IoT devices
- 4G LTE & 5G NR Mesh
- Smart Metering
- Robotics



## Electrical Specifications

### Antenna Characteristics

Antenna Type	Radiation Pattern	Polarization	Max. Input Power	Impedance
FPC Antenna	Omni	Linear	1W	50Ω

Frequency (GHz)	0.698~0.96	1.71~2.17	2.3~2.69	3.3~4.2
Return Loss (dB)	< -6	< -6	< -6	< -6
Peak Gain (dBi)	3.1	4.4	4.7	2.7
Average Gain (dB)	-3.7	-3.3	-2.3	-2.0
Average Efficiency (%)	42	47	59	63

**Mechanical Specifications**

**Environmental**

Temperature Range (°C)

-40 to 85

Humidity

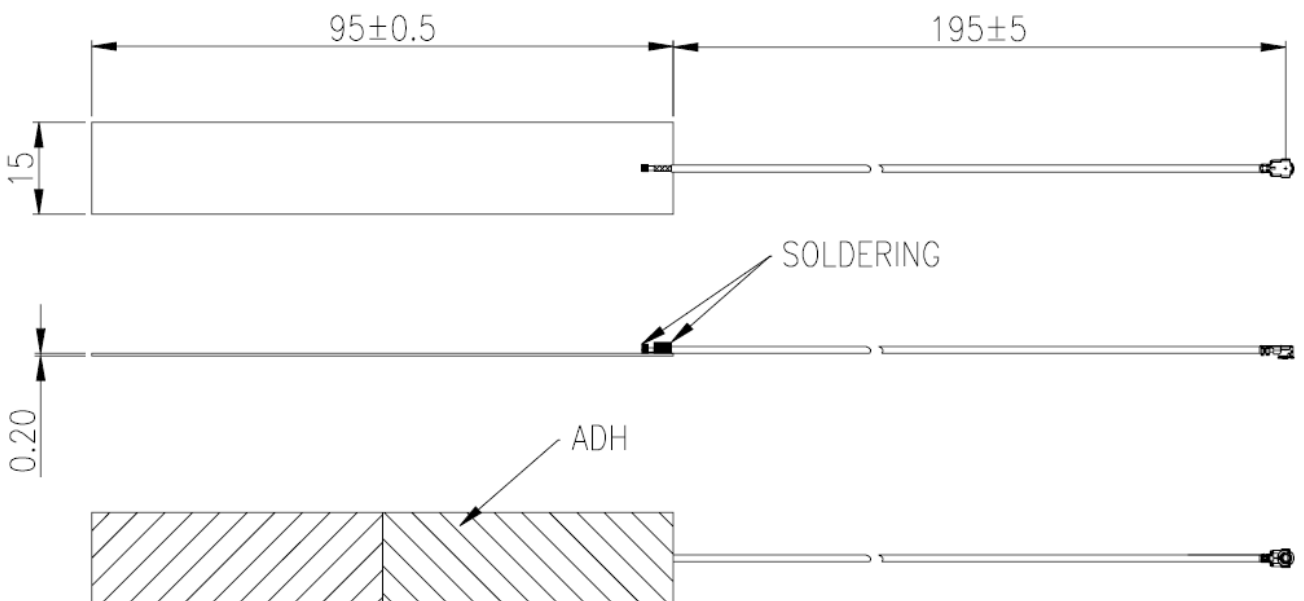
Non-condensing 65°C 95% RH

RoHS Compliant

Part Number	Dim. (mm)	Weight (g)	Conn. Type	Cable Type	Material	Adhesive
ST0412-20-001-A	95 × 15 × 0.2	1.55	I-PEX MHF 1	Ø 1.37	PI	3M 467

**Mechanical Drawing**

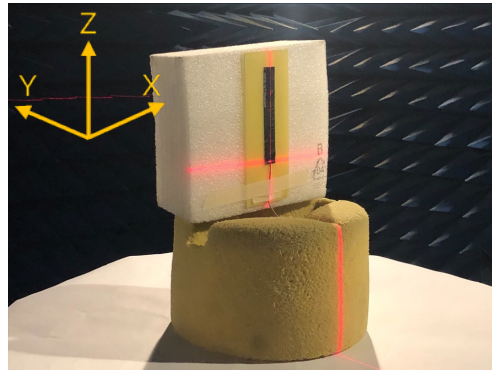
Unit : mm



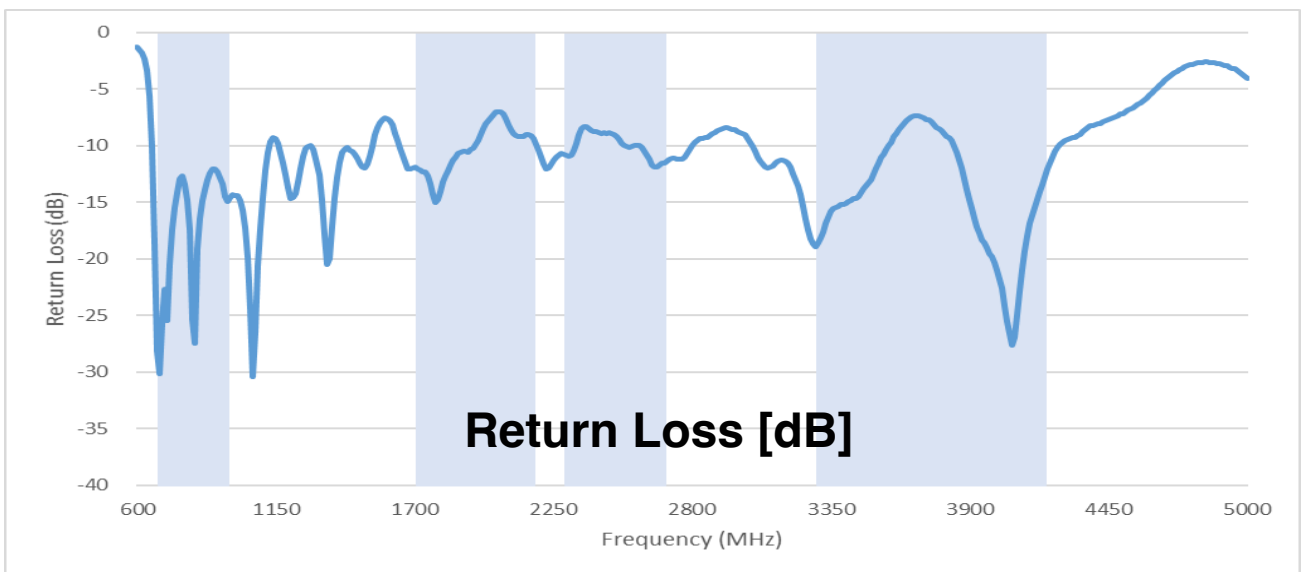
Cable options available

ST0412-20-001-A

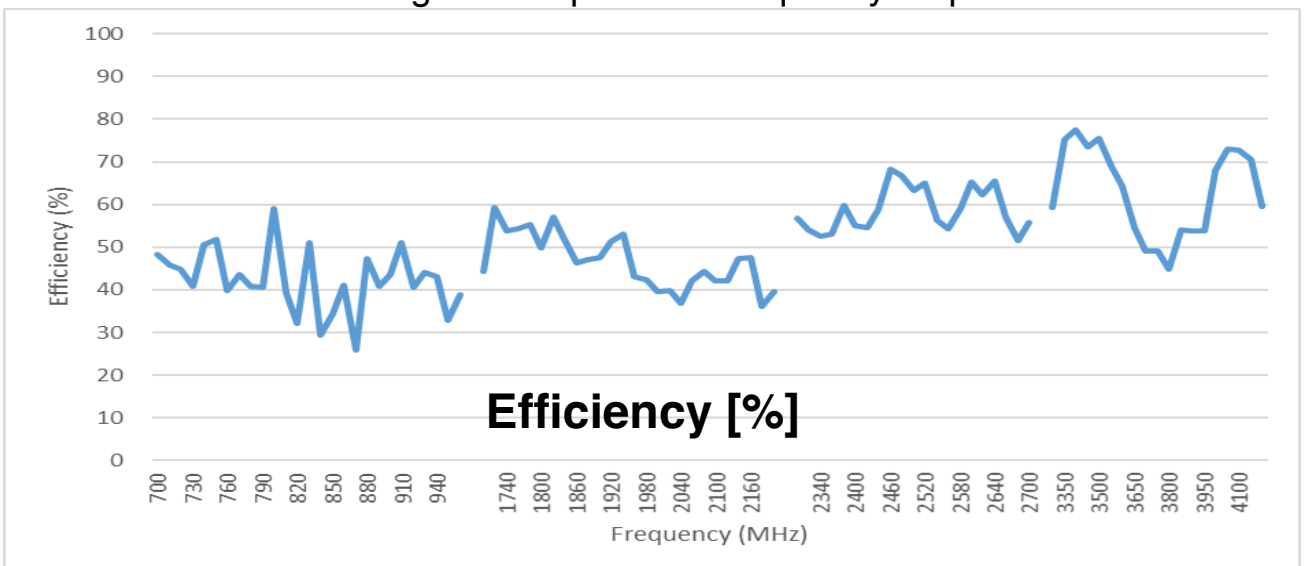
## Charts In Free Space



Test setup, measurement performed in 3D anechoic chamber.

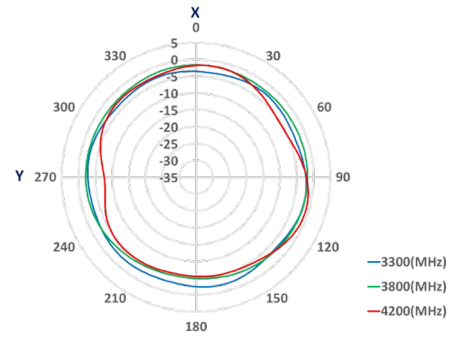
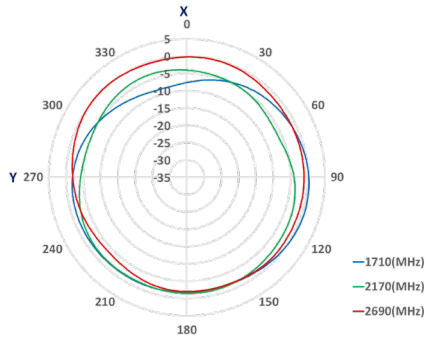
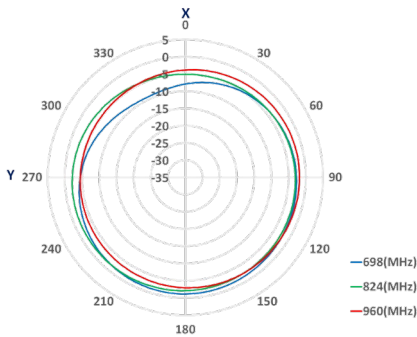


Blue background represents frequency response.

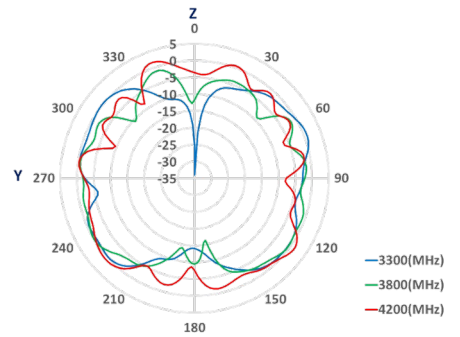
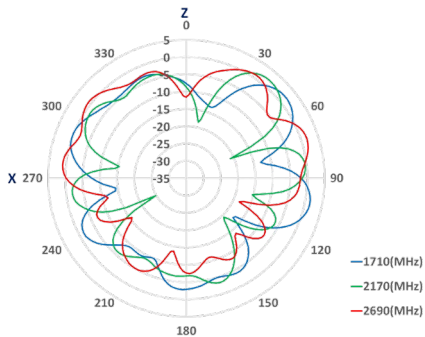
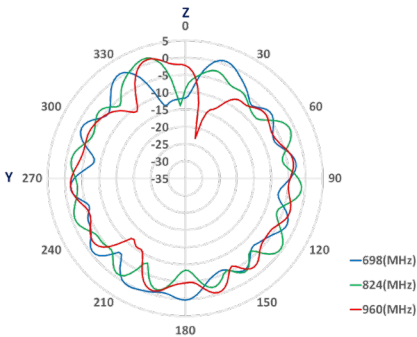


## Radiation Pattern - Free Space

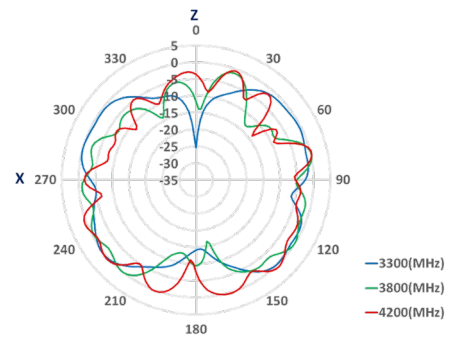
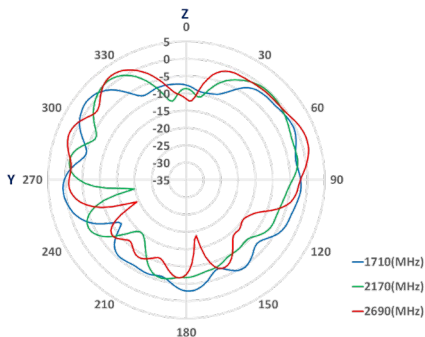
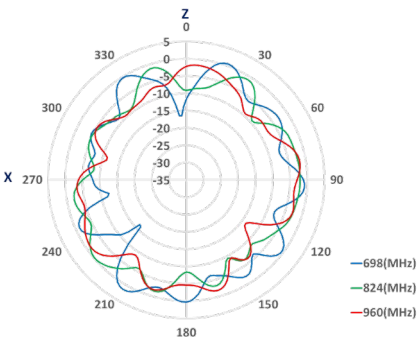
### XY - Plane



### YZ - Plane



### XZ - Plane



### Revisions

Rev	Description	Date	ECN	Approval
A	Initial Release	2022-10-25	ST0412-20-001-A-RA00	ATC
B	Additional info added. RF Performance update.	2023-01-02	ST0412-20-001-A-RB00	ATC

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