

### Datasheet

## 2.4-2.5GHz & 5.15-5.85GHz

Embedded

### Features:

This dual Wi-Fi antenna is Metal Stamped with high efficiency and provide SMT method, easy-to use.

### Applications:

CPE – Router, Set-top boxes, Gateway  
IoT devices  
Wi-Fi 6 Mesh  
Smart Metering  
Robotics  
M2M, Industrial Devices



22.0 × 6.32 × 3.8 mm

### Stamping Antenna



## Electrical Specifications

### Antenna Characteristics

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

Frequency (GHz)	2.4~2.5	5.15~5.825
Return Loss (dB) @90mmx80mm GND	< -8	< -8
Peak Gain (dBi)	3.5	3.8
Average Gain (dB)	-2.2	-3.2
Efficiency (%)	61	47

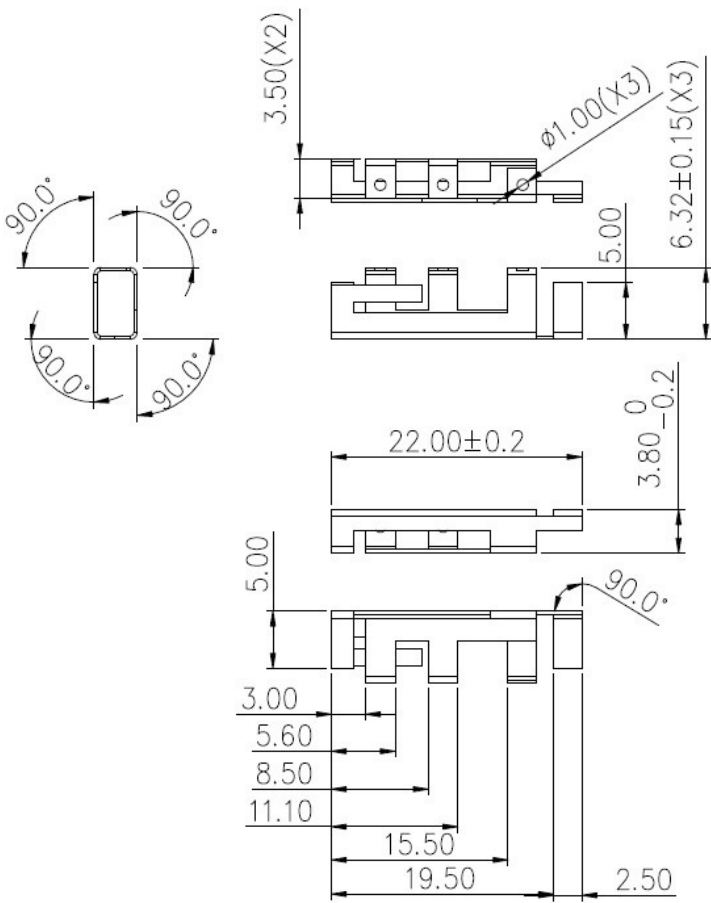
Mechanical Specifications

Mechanical	
Dimension (mm)	22.0 × 6.32 × 3.8
Material	SUS 304 1/2H
Weight (g)	0.46

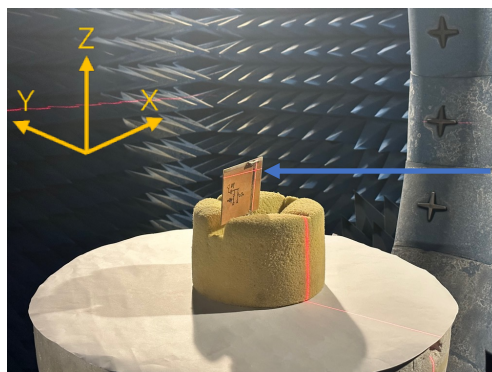
Environmental	
Temperature Range (°C)	-40 to 85
Humidity	Non-condensing 65°C 95% RH
RoHS Compliant	

Mechanical Drawing

Unit : mm

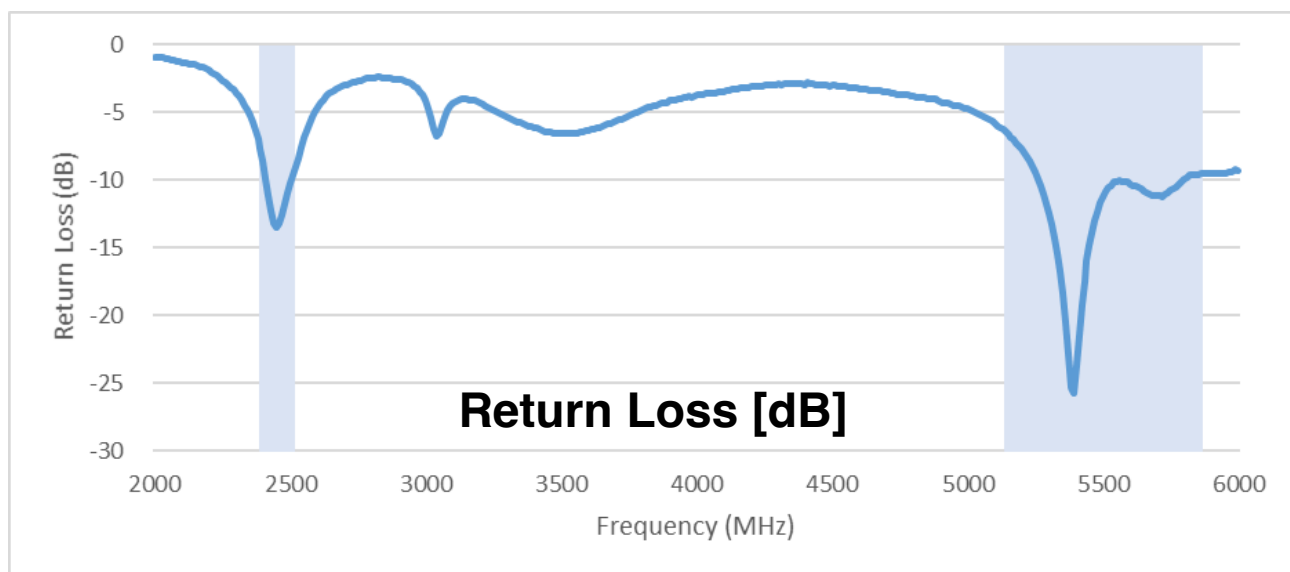


## Charts In Free Space

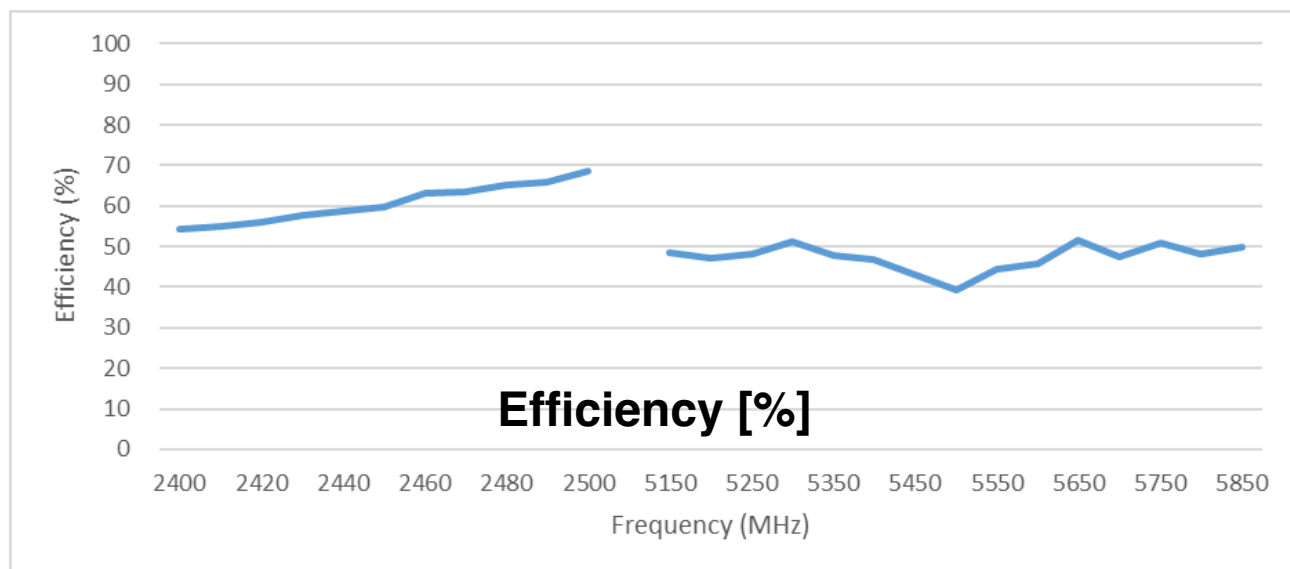


ST0211-10-N01-C

Test setup, measurement performed in 3D anechoic chamber.

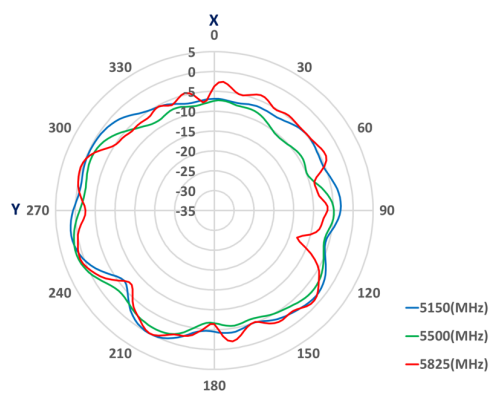
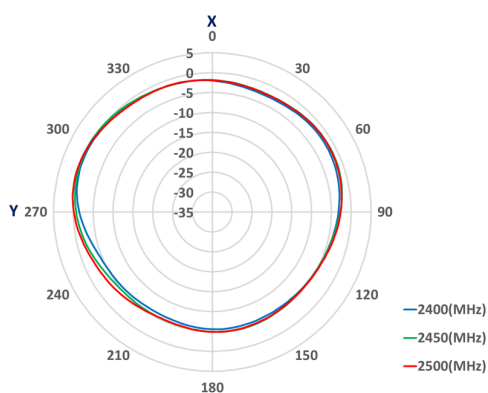


Blue background represents frequency response.

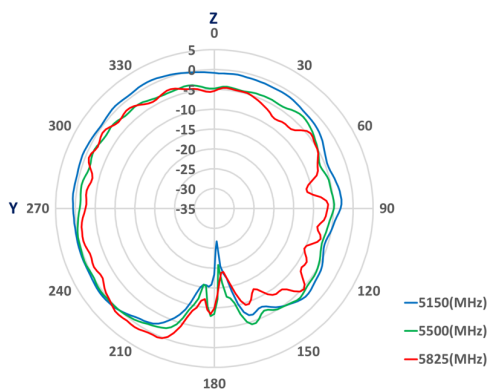
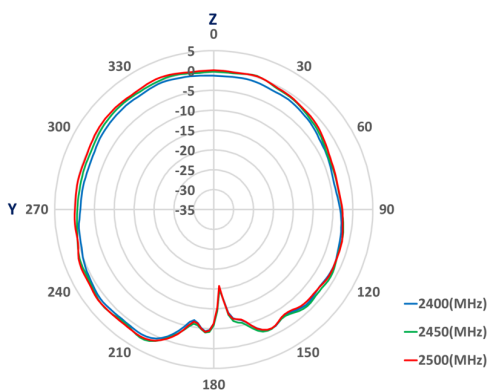


## Radiation Pattern - Free Space

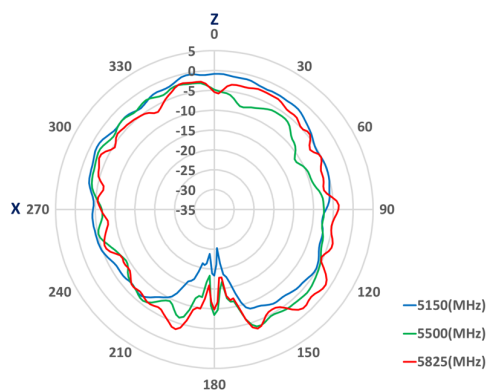
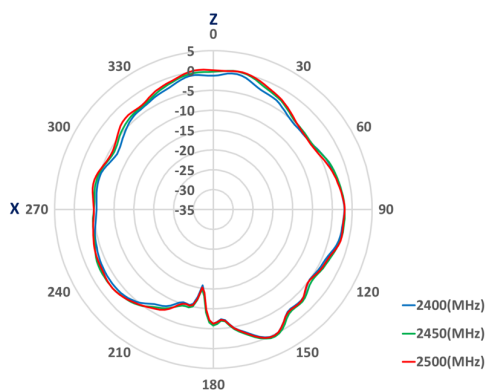
### XY - Plane



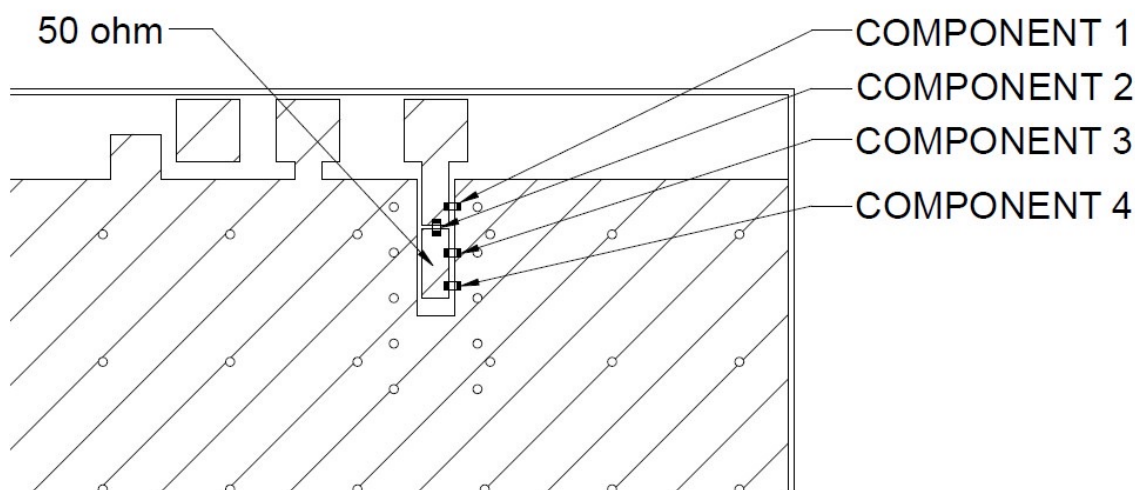
### YZ - Plane



### XZ - Plane



## Matching Circuit Design



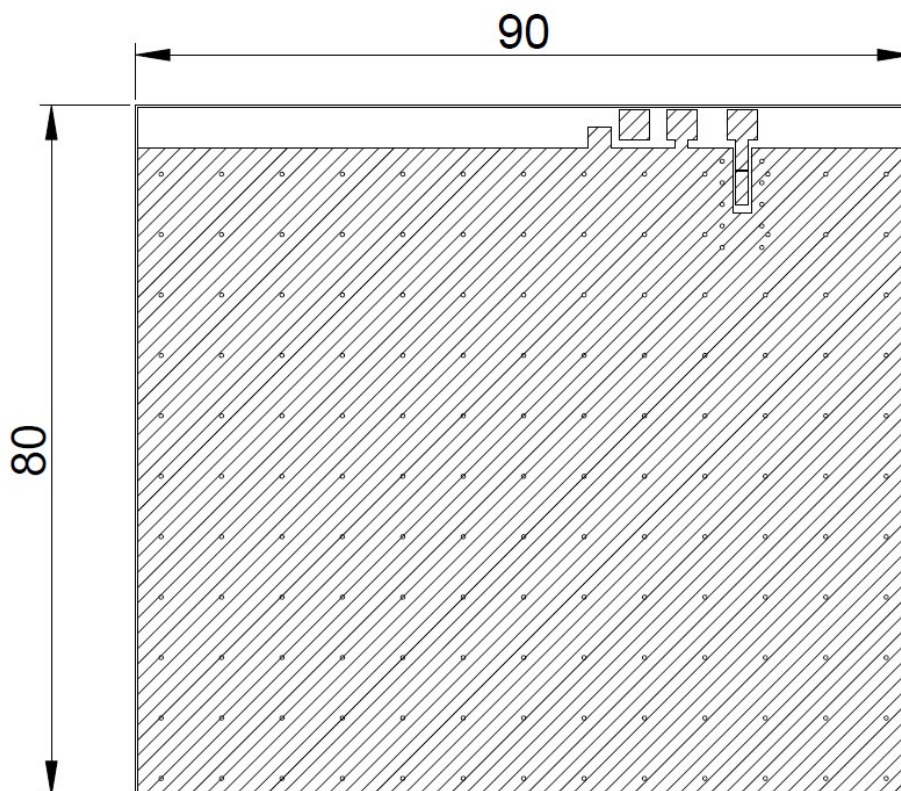
- \* To make the antenna have this resonance must be matched with the matching circuit.
- \* The matching component may be slightly different than that shown depending on the distance to the ground plane, the dielectric constant of the PCB, and PCB material thickness.

### Circuit Matching Components

Circuit Symbol	Size	Description
COMPONENT 1	0402	None
COMPONENT 2	0402	8 pF Capacitor
COMPONENT 3	0402	0.8 pF Capacitor
COMPONENT 4	0402	2.7 pF Capacitor

Evaluation Board

Unit : mm



Base Material : FR-4, T=1.6

Revisions				
Rev.	Description	Date	ECN	Approval
A	Initial Release	2023-09-28	ST0211-10-N01-C-RA00	ATC

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