

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

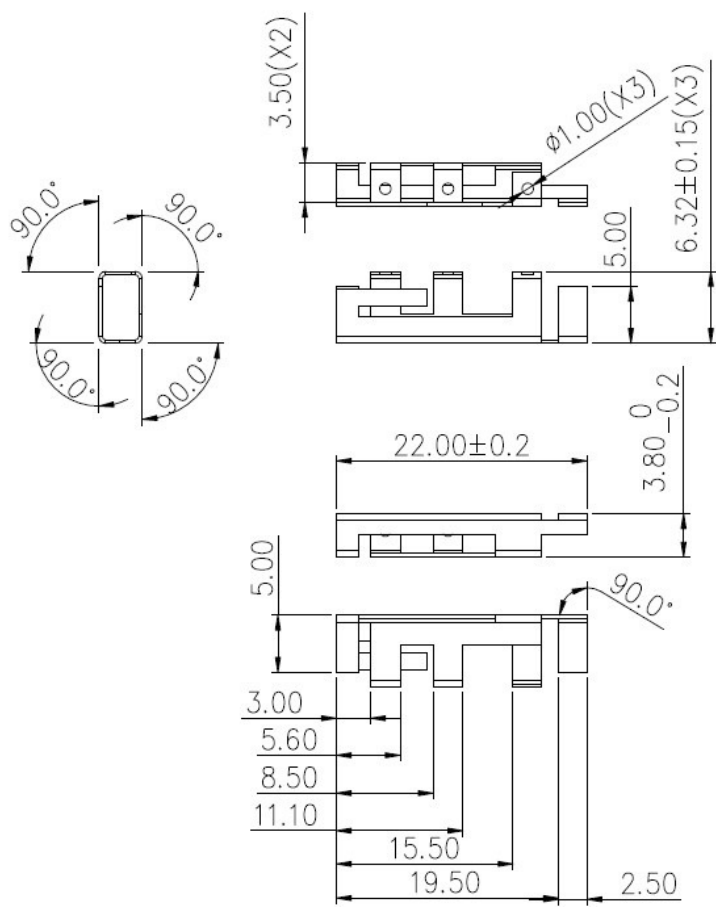
Mechanical Specifications

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

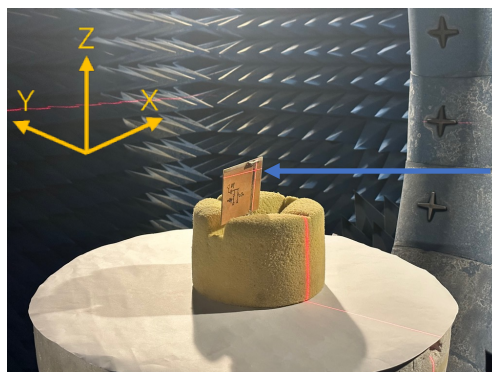
Environmental	
Temperature Range (°C)	-40 to 85
Humidity	Non-condensing 65°C 95% RH
RoHS Compliant	

Mechanical Drawing

Unit : mm

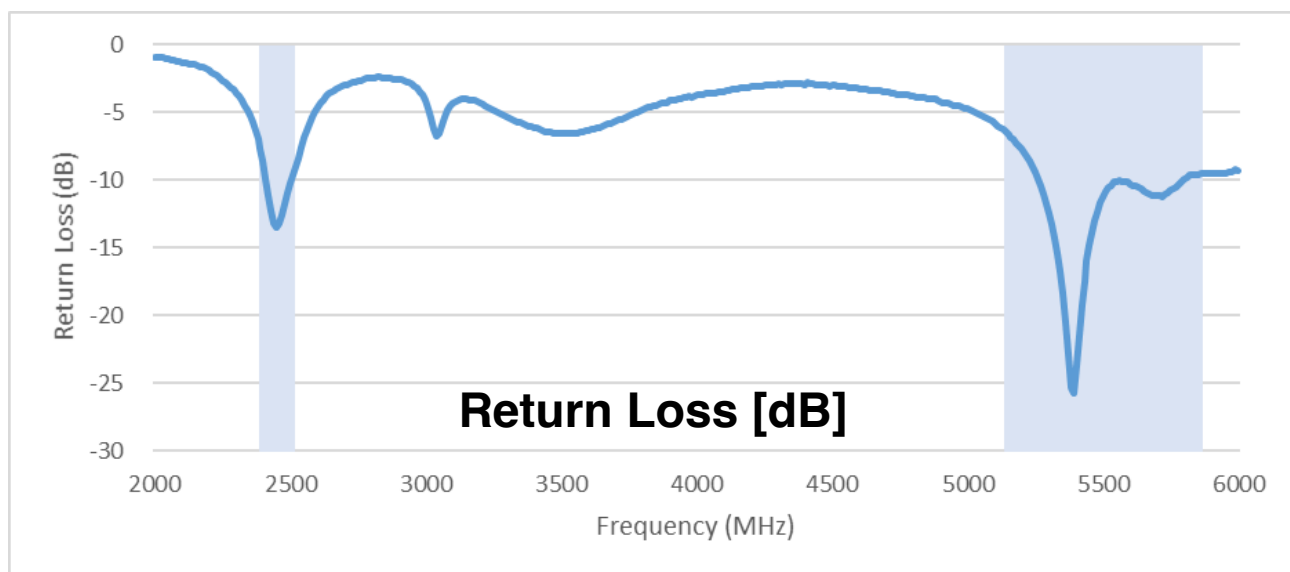


Charts In Free Space

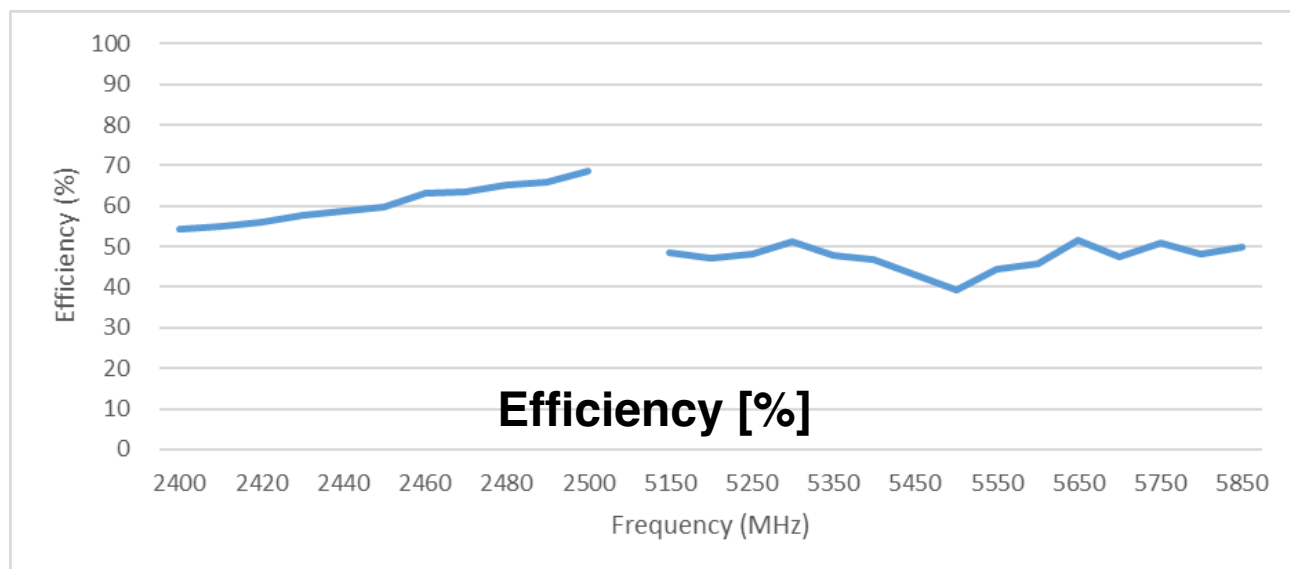


ST0211-10-N01-C

Test setup, measurement performed in 3D anechoic chamber.

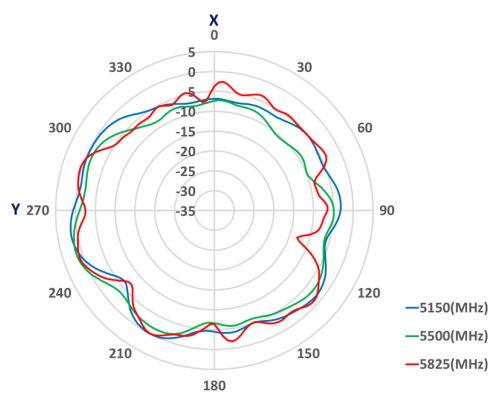
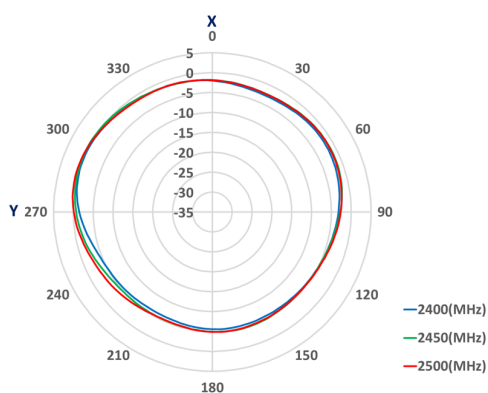


Blue background represents frequency response.

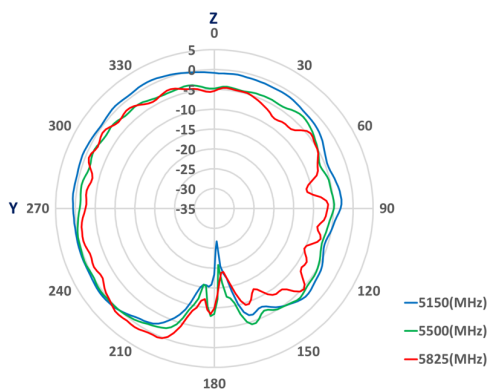
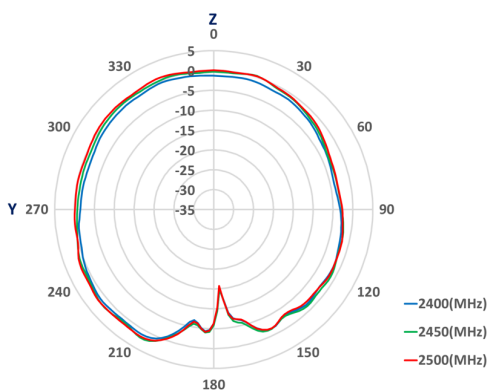


Radiation Pattern - Free Space

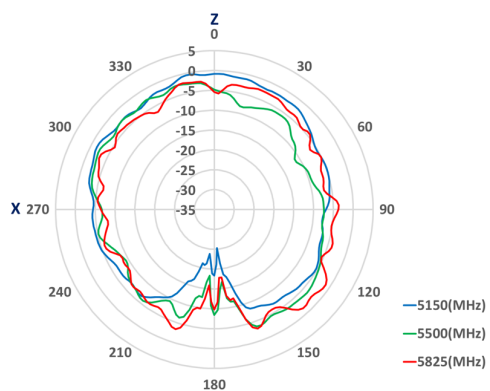
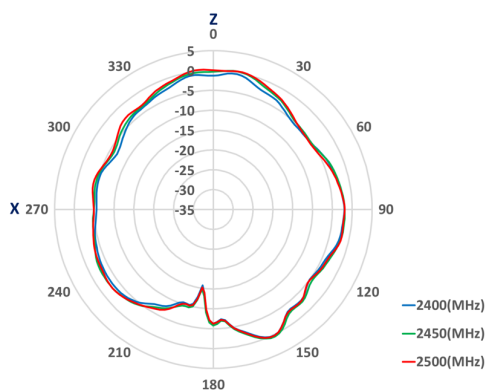
XY - Plane



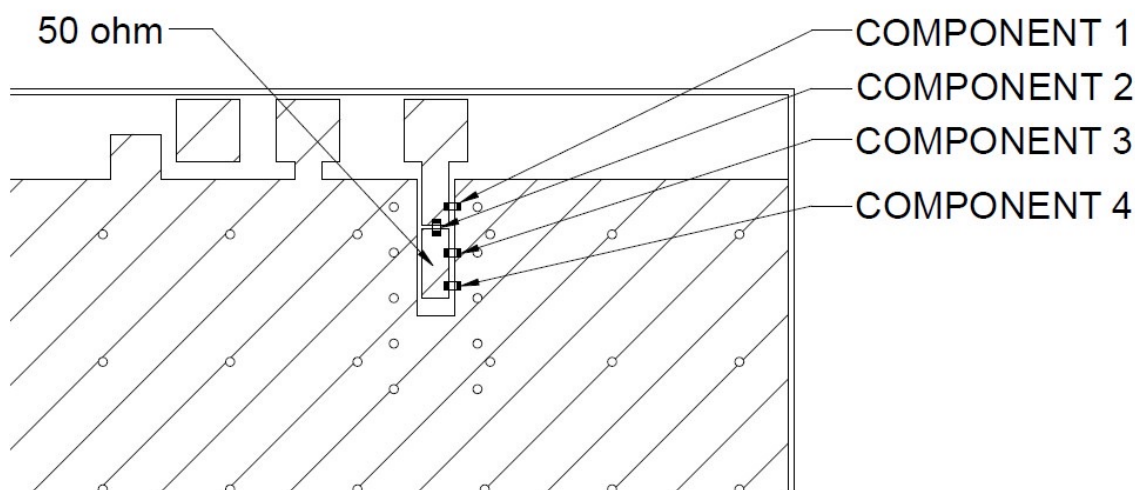
YZ - Plane



XZ - Plane



Matching Circuit Design



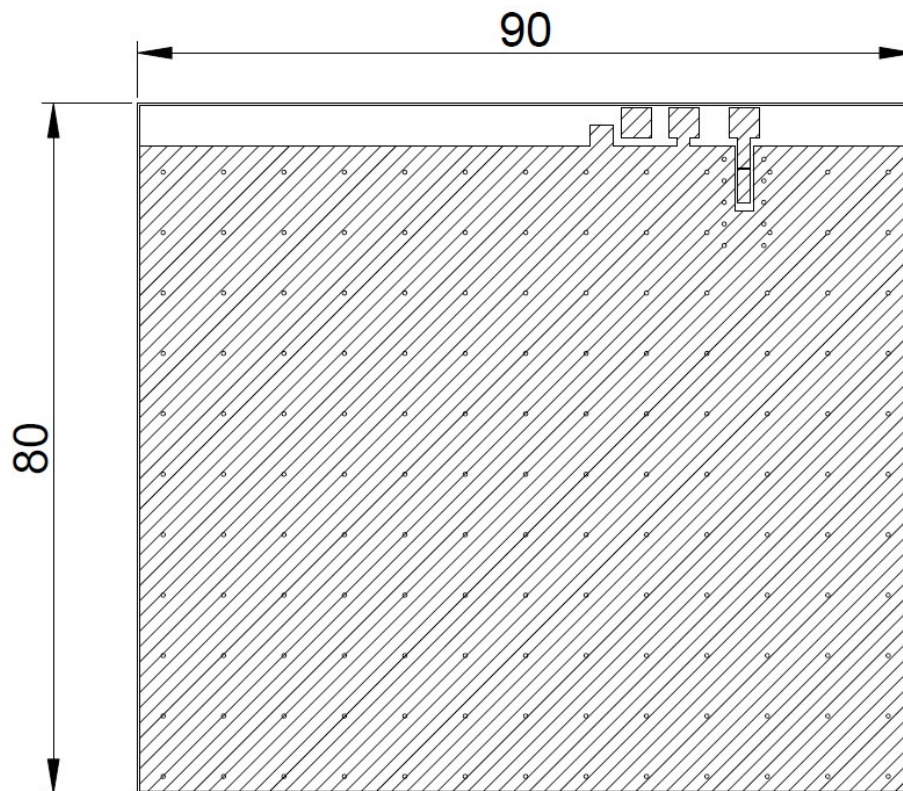
- * To make the antenna have this resonance must be matched with the matching circuit.
- * The matching component may be slightly different than that shown depending on the distance to the ground plane, the dielectric constant of the PCB, and PCB material thickness.

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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