

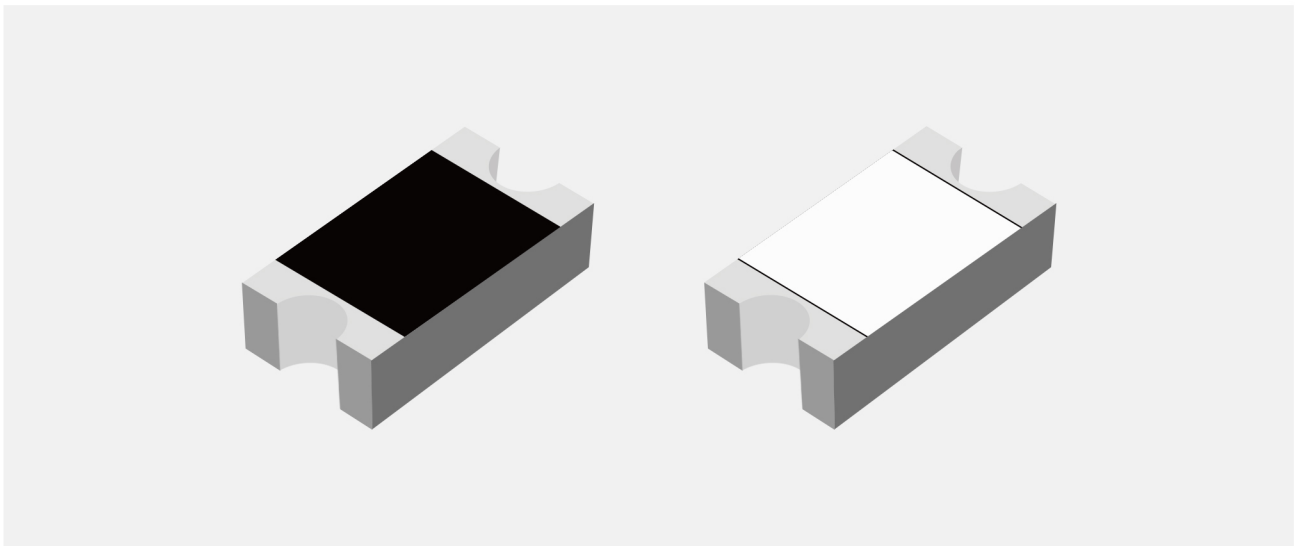
2.4G BLUETOOTH, WIFI

ZIGBEE CHIP ANTENNA

  2450±50MHz

Dimensions : 3.35 x 1.75 x 1.2 mm

Clearance Area: 5.2 x 5.0 mm



PN: M01-X100010ROA





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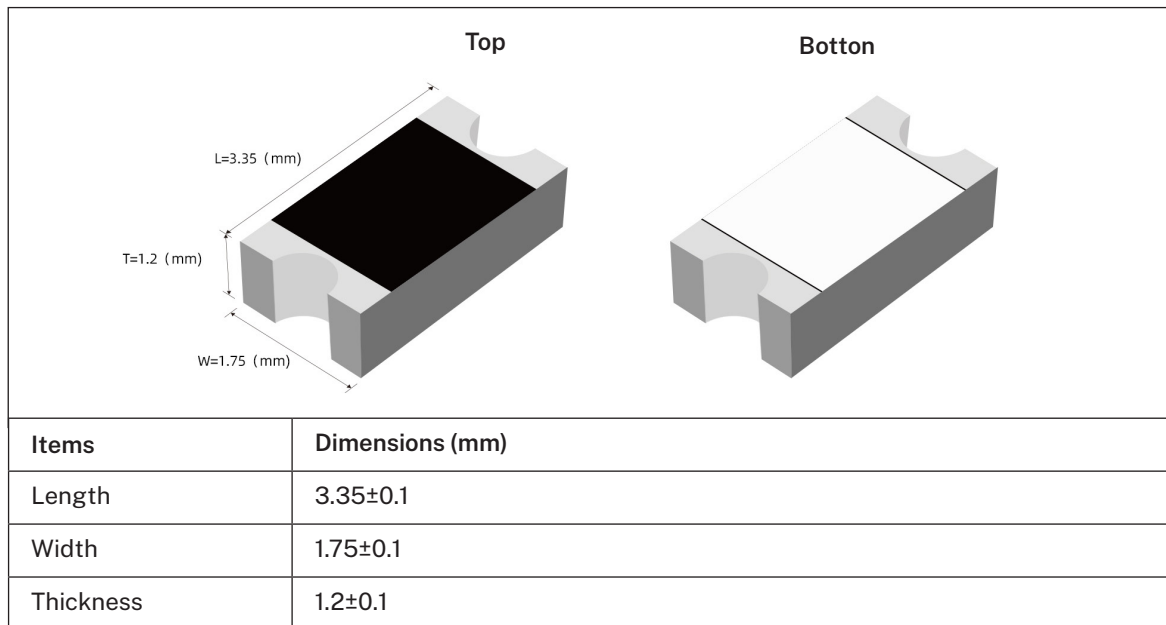


1 FEATURES & BENEFITS

- Low Profile
- Light Weight
- Easy to Integrate
- Intended for SMD Mounting
- Reduced Cost and Time-to-Market

2 APPLICATIONS

- Smartphones, tablets, laptops, and notebooks
- Smart home devices like home security systems
- Internet of Things (IoT), wearable devices, E-health devices
- Networking equipment like WiFi routers, WiFi extenders and repeaters
- Asset tracking, point of sale (POS) systems
- Automotive like V2X communication
- Smart city infrastructure like public WiFi hotspots, environmental monitoring



3 ORDER INFORMATION

Product Name	2.4G Bluetooth, WIFI, ZigBee Chip Antenna
Part Number	M01-X100010ROA
Dimensions	3.35 x 1.75 x 1.2 mm
Mounting	SMT
Packaging	Tape & Reel
MOQ	2500 pcs/reel

4 REFERENCE GUIDE

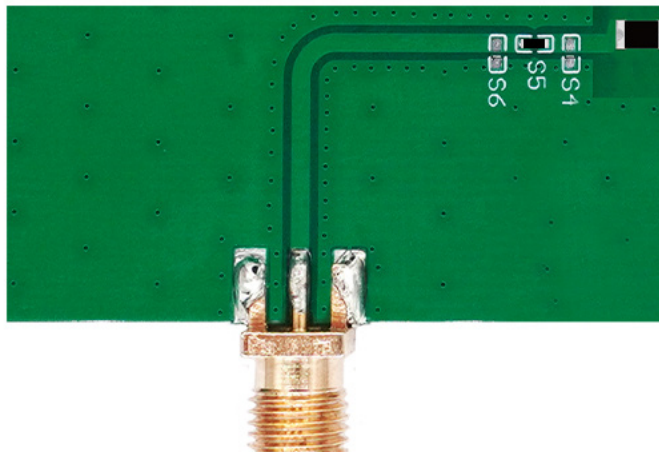
Technical Features	2450±50 MHz
Band Width	>100MHz
Input Impedance	50Ω
Peak Gain	0.87 dBi
VSWR	<2
Operating Temperature	-40°C to +85°C
Power Capacity	3W
Dimensions (L x W x H)	3.35 x 1.75 x 1.2 mm
All data were measured in free space and on a reference ground plane of 65 mm length, 40 mm width, and 1.0 mm thickness. Application data might vary.	

5 EVALUATION BOARD WITH THE ANTENNA

The evaluation board provides operation at 2450±50 MHz.

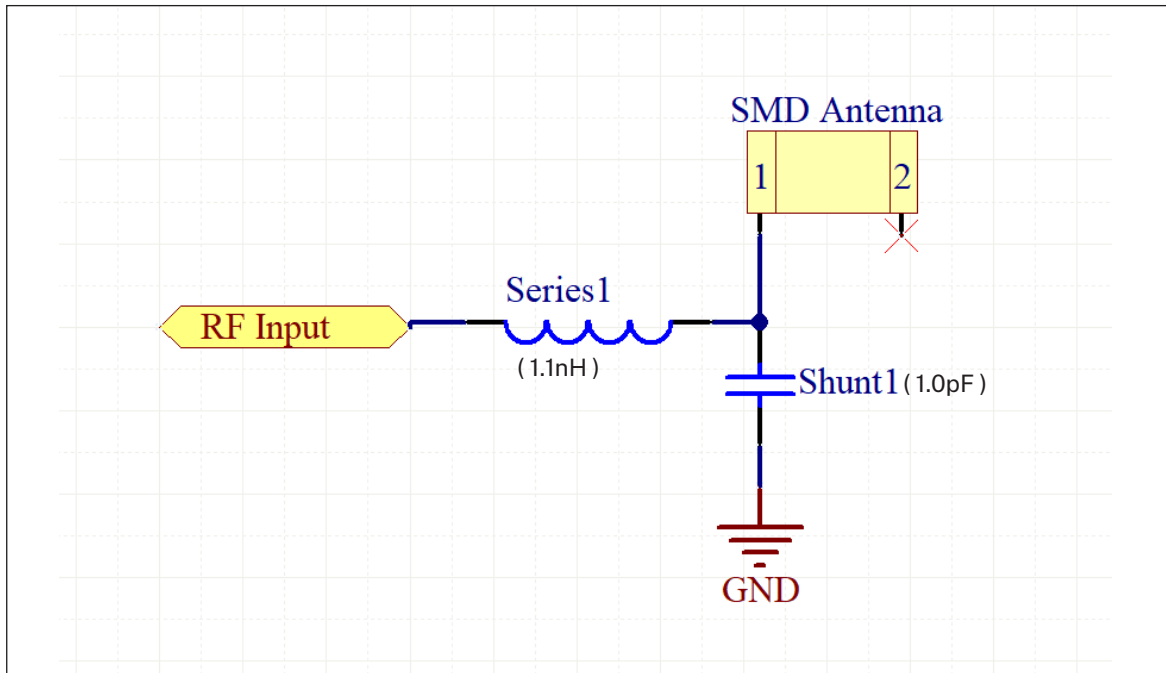
Evaluation Board dimension: 65 x 40 x 1.0 mm

Clearance Area: 5.2 x 5.0 mm

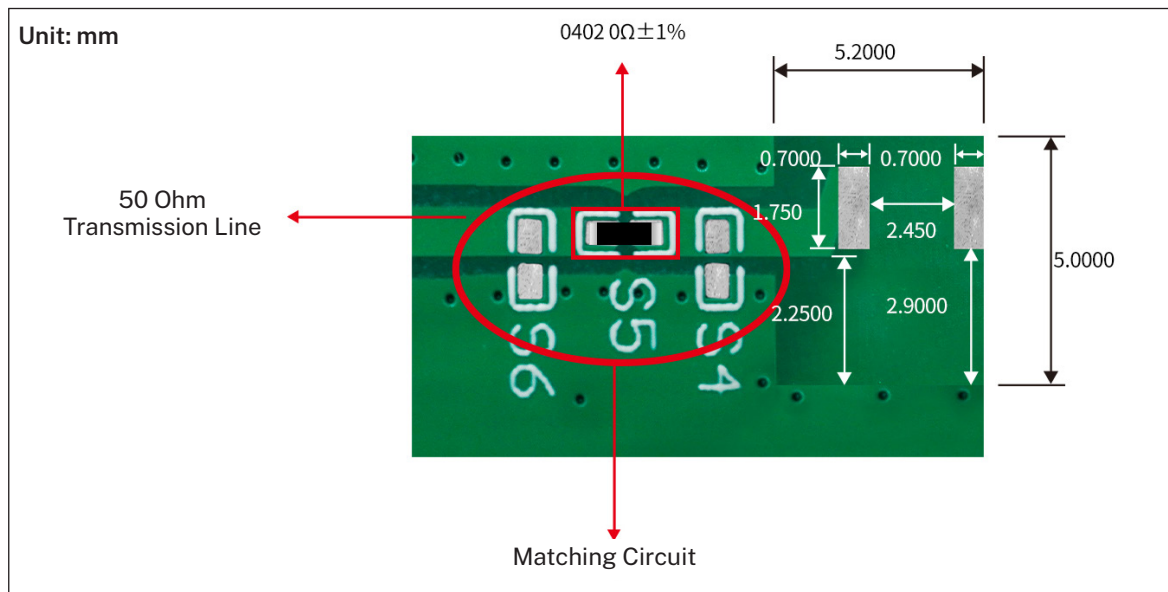


It's strongly recommended to place the antenna near the edge of the board. Maximum antenna performance is achieved by placing the antenna towards one of the corners of the PCB and with the feed point of the antenna as close to same corner of the PCB as possible.

6 MATCHING NETWORK



7 RECOMMENDED LAYOUT

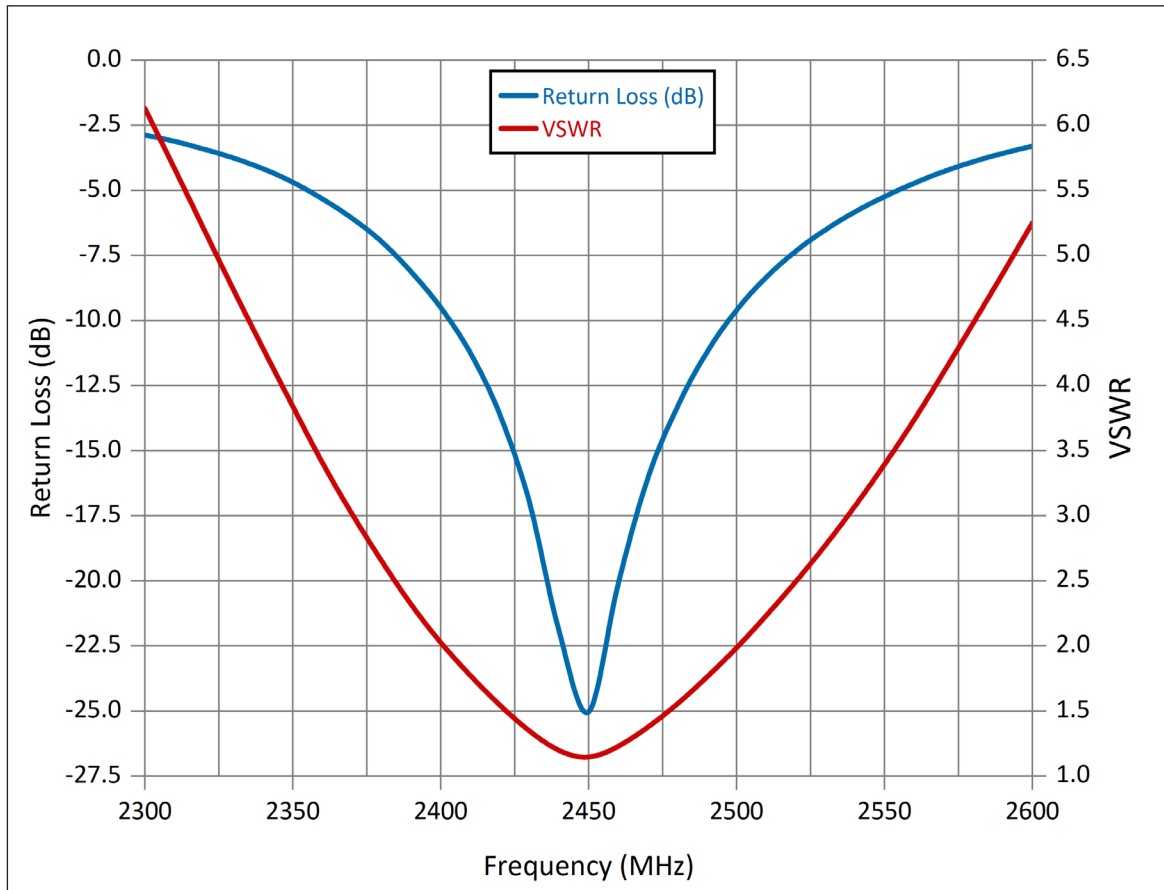


8 ELECTRICAL PERFORMANCE

© Note

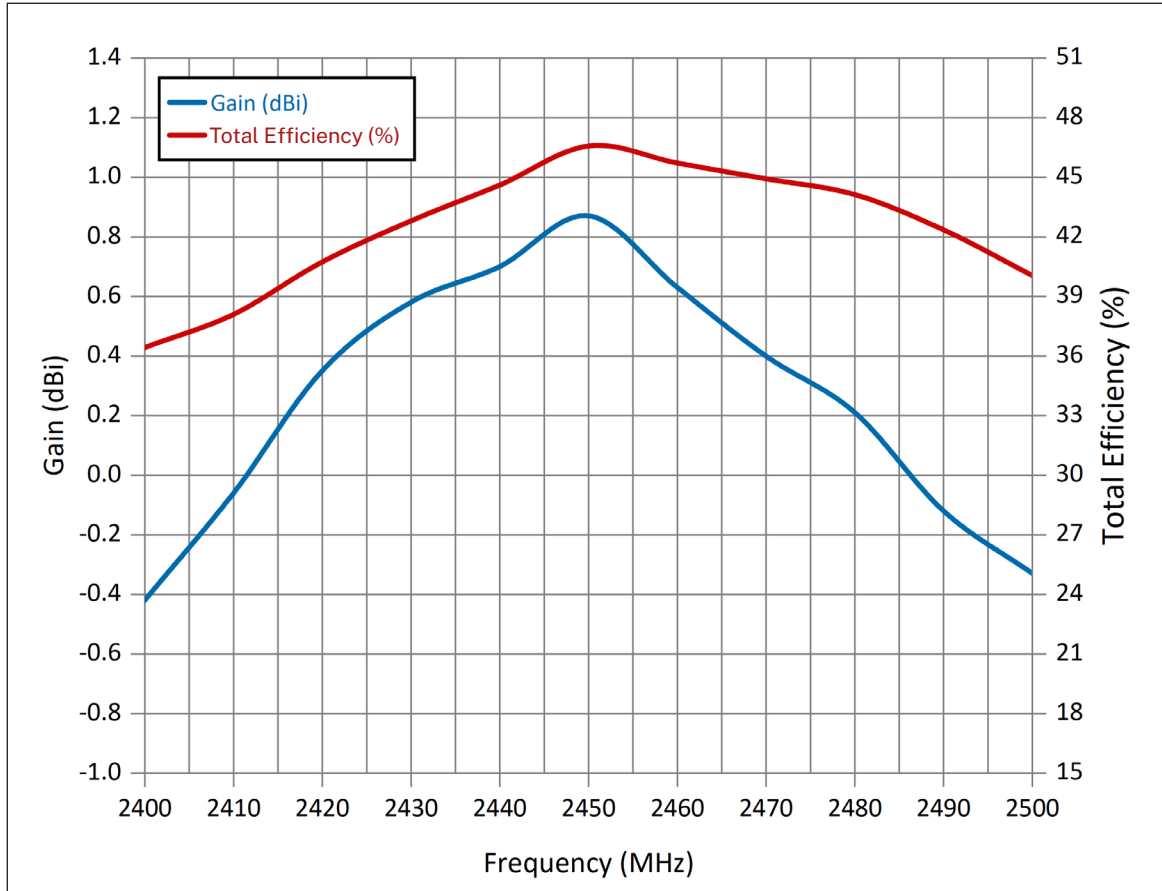
The data displayed in Chapter 8 were measured in free space and on a reference ground plane of 65 mm length, 40 mm width, and 1.0 mm thickness.

8.1 VSWR and Return Loss (dB)



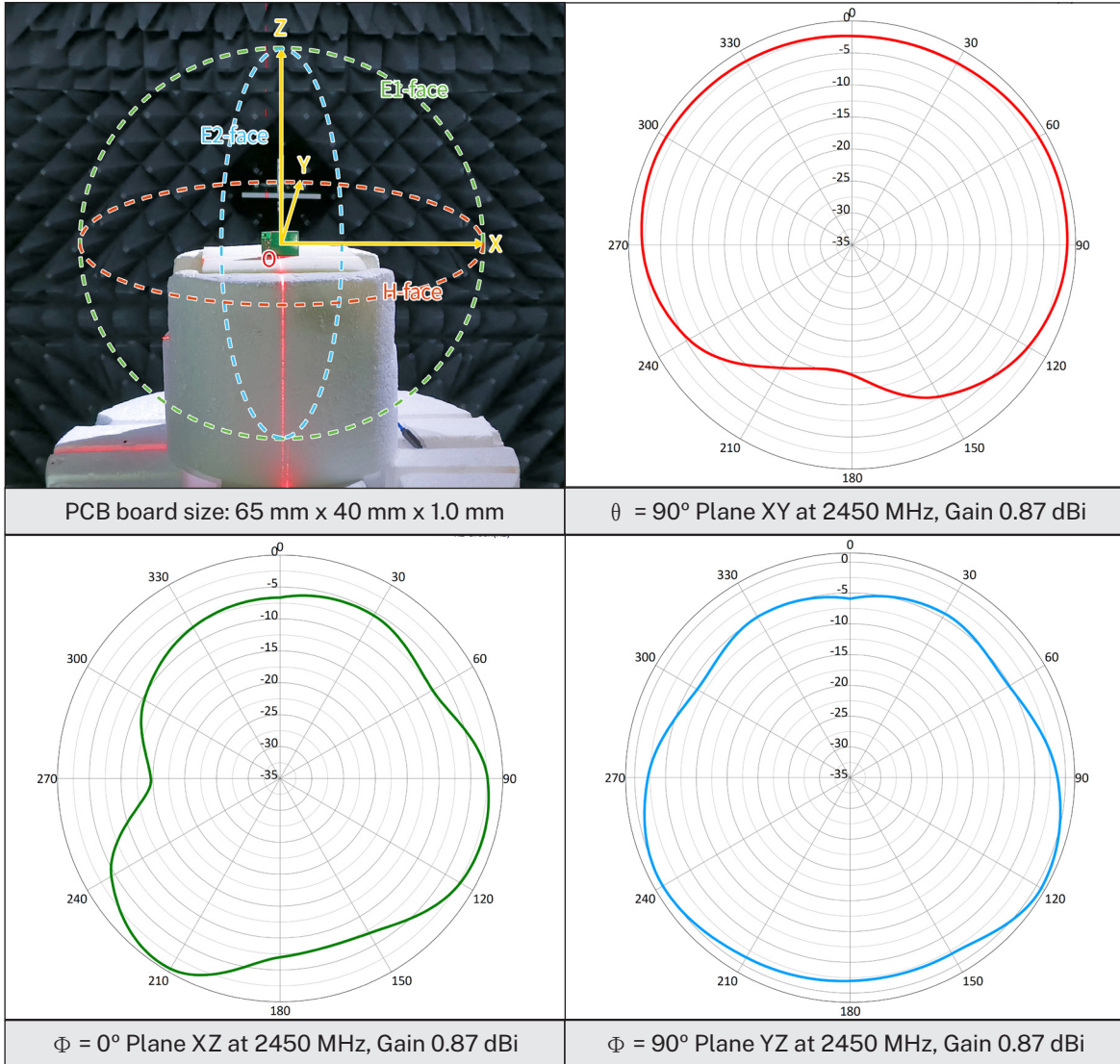


8.2 Gain (dBi) and Total Efficiency (%)



Frequency (MHz)	Gain (dBi)	Efficiency (%)
2400	-0.42	36.42
2410	-0.06	38.09
2420	0.35	40.73
2430	0.58	42.8
2440	0.7	44.6
2450	0.87	46.57
2460	0.63	45.71
2470	0.4	44.92
2480	0.21	44.12
2490	-0.12	42.35
2500	-0.33	40.05

8.3 Radiation Patterns (2.4-2.5 GHz)

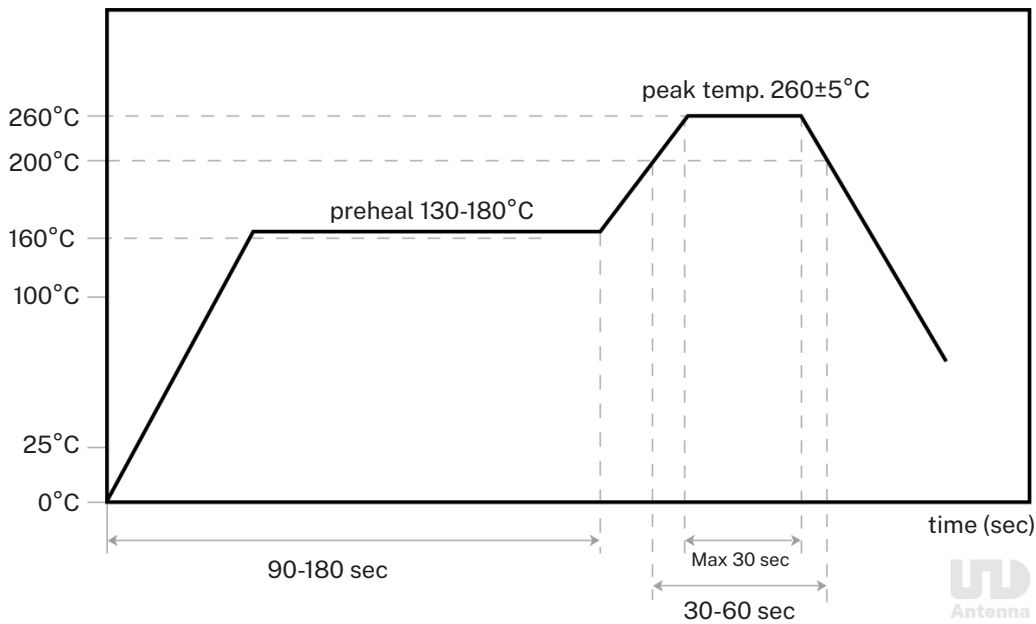


9 SOLDERING CONDITIONS

This antenna is suitable for lead free soldering.

The reflow duration should be adjusted to create good solder joints without raising the antenna temperature beyond the allowed maximum of 260°C.

The figure below shows the temperature profile for soldering.



10 PACKAGING

10.1 Optimal Storage Conditions for Packaged Reels

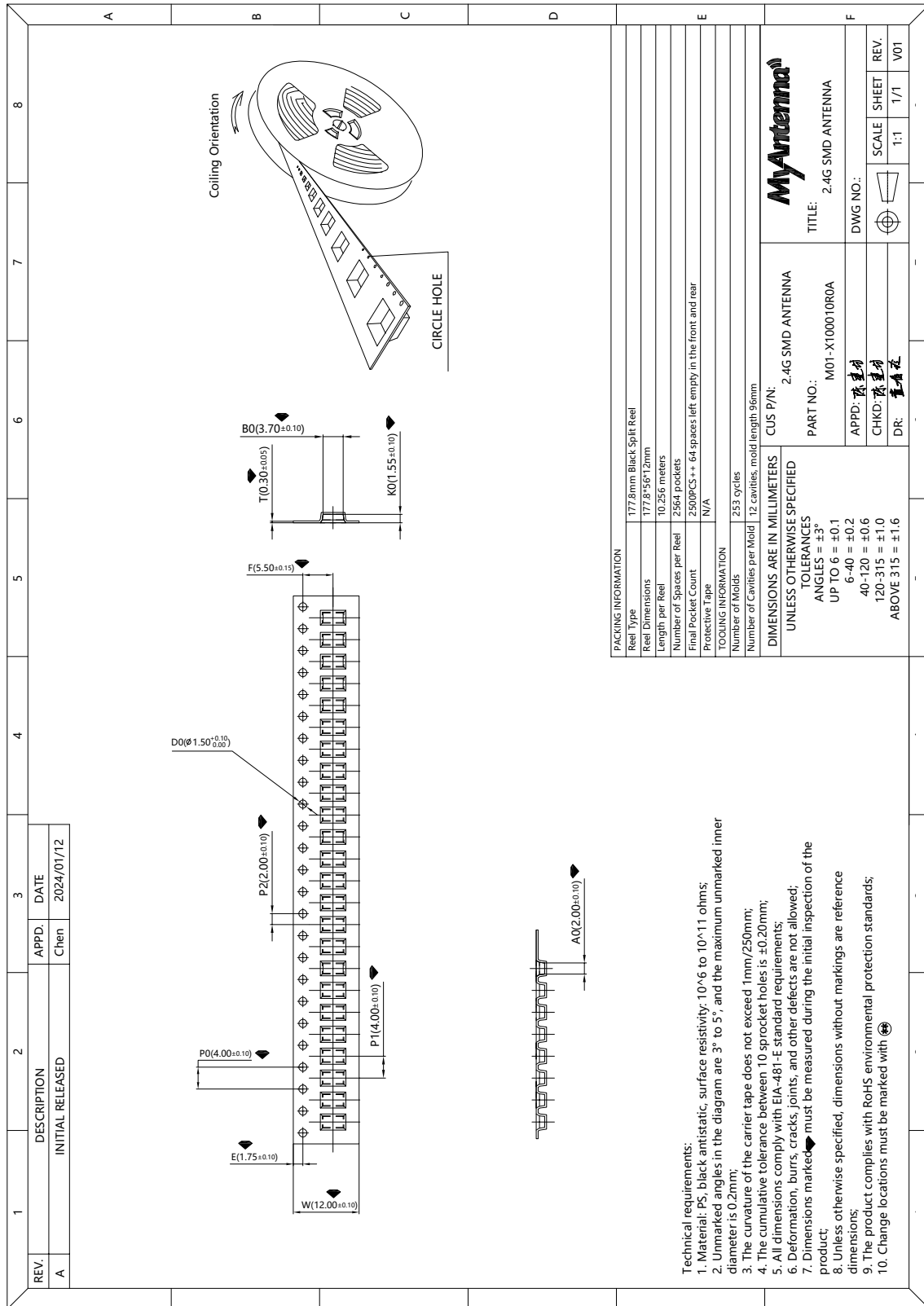
Temperature	-5°C to 40°C
Humidity	Less than 70% RH
Shelf life	18 months
Storage place	Away from corrosive gas and direct sunlight
Packaging	Reels should be stored in unopened sealed manufacturer's plastic packaging.

© **Note**

Storage of open reels of antennas is not recommended due to possible oxidization of pads on antennas. If short-term storage is necessary, then it is highly recommended that the bag containing the antenna reel is re-sealed and stored in like storage conditions as in the above table.



10.2 Packagings and Dimensions (Unit: mm)





11 ANTENNA CERTIFICATION

RoHS Approval	Compliant [2011/65/EU&2015/863]
REACH Approval	Conform or declared [(EC)1907/2006]
Hazardous material regulation conformance: A certificate of conformance is available upon request. Feel free to consult us for details.	

12 WELCOME ALL ANTENNA OEM/ODM PROJECTS

About ABOOSTY



10+ years in antenna R&D, production, and OEM/ODM



House of Aboosty: 1 M+ units annual output capacity



Factory directly competitive price



Industry-leading quality levels



Professional team-work & support



Quick price and lead time estimation

Why Choose ABOOSTY



Innovative and patented design solutions



Full terminal devices anechoic chamber test



Co-location with its custom



Competitive price



Strict inspection



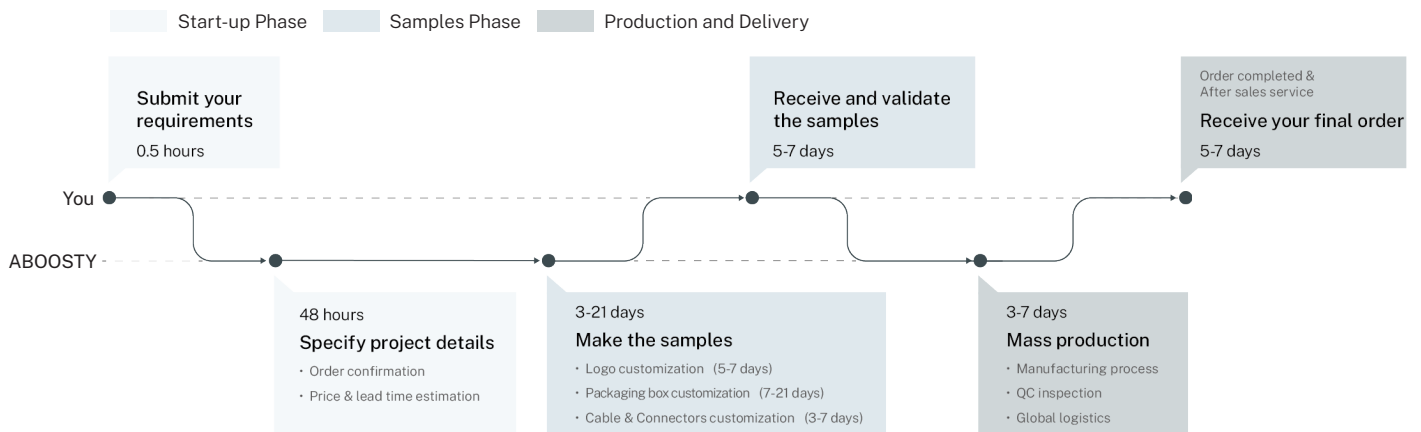
Prompt reply within 24h

What We Provide

OEM/ODM Services	
Light Customization	Deep Customization
<ul style="list-style-type: none"> • Logo • Packaging • Cables&Connectors 	<ul style="list-style-type: none"> • In-depth tailoring for specific applications • Functional enhancements • Environmental adaptations • Vertical certifications • ...

Custom Process

Light Customization Process



Deep Customization Process

- Start-up Phase
- Samples Phase
- Production and Delivery
- Life-cycle Management

Timeline (Day)

1

General/SMD Antenna Custom (2-4 Weeks)

ABOOSTY provides the PCB board

Initial-stage

- Select your SMD antenna
- Submit your requirements

5

Order Confirmation

- Sign the NDA
 - Submit your project details
 - Price & Lead Time Estimation
- (You can either prototype the PCB board yourself or have us do it)

7

Make the Samples

- Sign the order contract
- Sample prototyping

21

Receive and Validate the Samples

28

Mass Production

- Manufacturing process
- QC inspection
- Certification
- Global logistics

49

END

Life-cycle Management

- Yield management
- Supply chain management
- Batch traceability
- After sales service

SMD Antenna Custom (4-8 Weeks)

You provide the PCB board

Initial-stage

- Select your antenna
- Submit your requirements
- Order confirmation

or

PCB Board Design & Send (You)

- Design & process your PCB board
- Send your PCB board to us for debugging

Receive and Validate the Samples

Mass Production

- Manufacturing process
- QC inspection
- Certification
- Global Logistics

Life-cycle Management

- Yield management
- Supply chain management
- Batch traceability
- After sales service