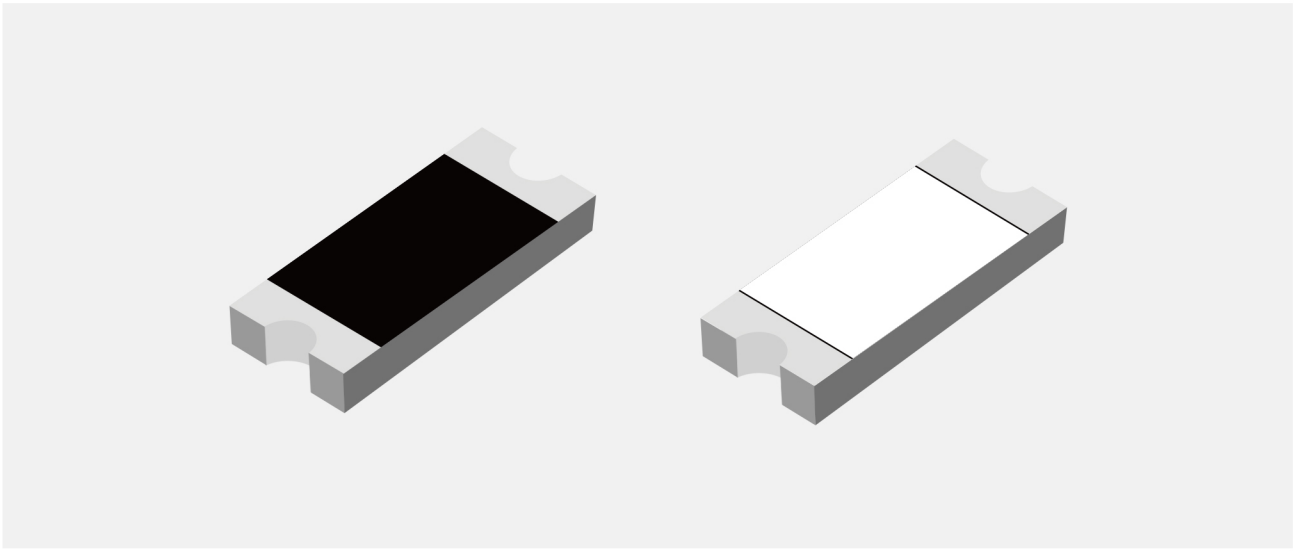
2.4G BLUETOOTH, WIFI

ZIGBEE CHIP ANTENNA

2450±50MHz

Dimensions : 5.0 x 2.0 x 1.0 mm

Clearance Area: 7.0 x 5.0 mm



RoHS COMPLIANT

Reach COMPLIANT

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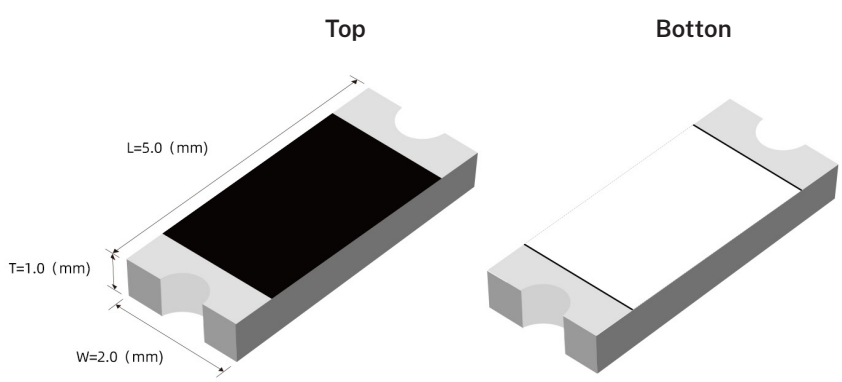
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1 FEATURES & BENEFITS

- 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



Items	Dimensions (mm)
Length	5.0±0.1
Width	2.0±0.1
Thickness	1.0±0.1

3 ORDER INFORMATION

Product Name	2.4G Bluetooth, WIFI, ZigBee Chip Antenna
Model	ADWH002
Dimensions	5.0 x 2.0 x 1.0 mm
Mounting	SMT
Packaging	Tape & Reel
MOQ	2500 pcs/reel

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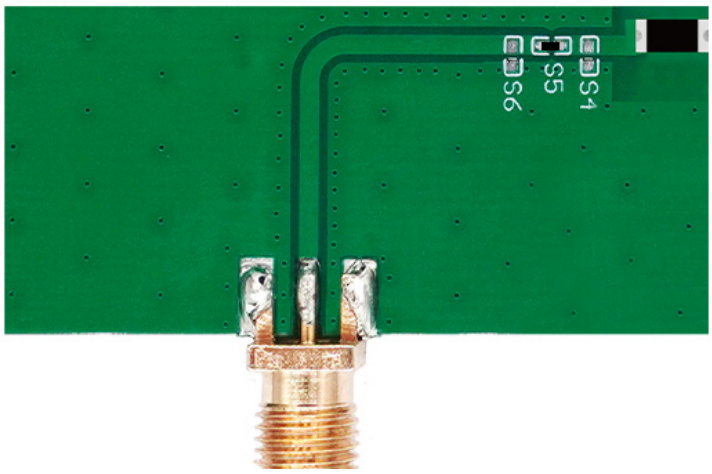
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4 REFERENCE GUIDE

Technical Features	2450±50 MHz
Band Width	>100 MHz
Input Impedance	50 Ω
Peak Gain	0.67 dBi
VSWR	<2
Operating Temperature	-40°C to +80°C
Power Capacity	3 W
Dimensions (L x W x H)	5.0 x 2.0 x 1.0 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: 5.0 x 7.0 mm

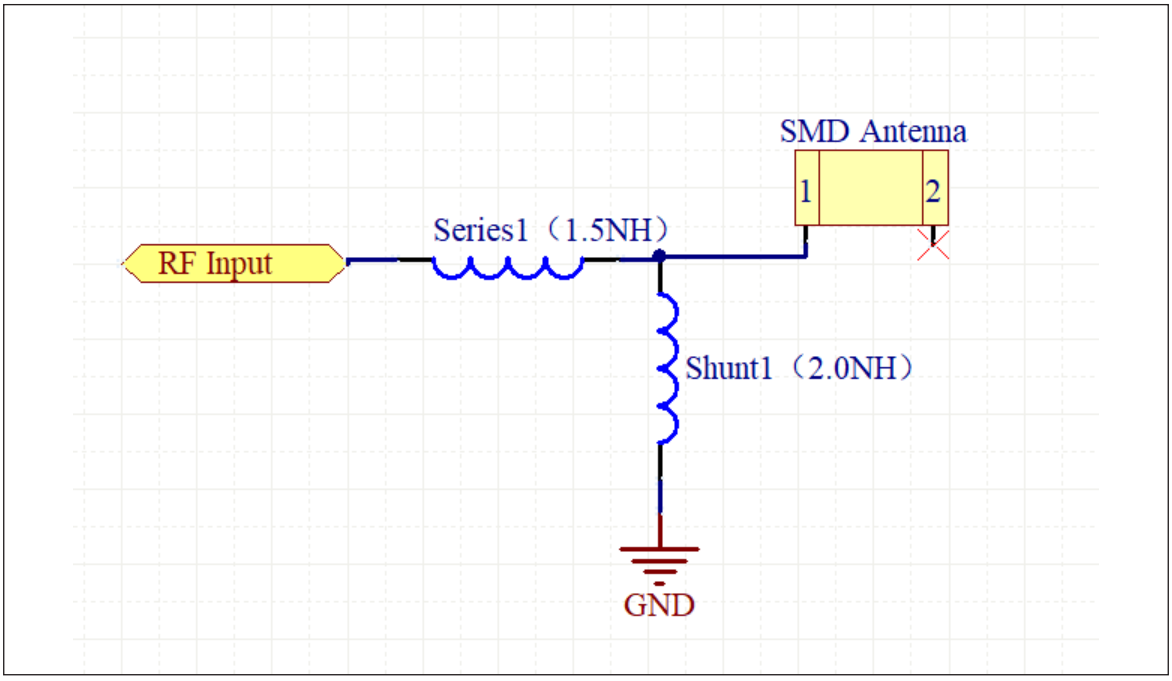


It's strongly recommended to place the antenna near the edge of the board. Maximum antenna performance is achieved by placing the antenna towards one of the corners of the PCB and with the feed point of the antenna as close to same corner of the PCB as possible.

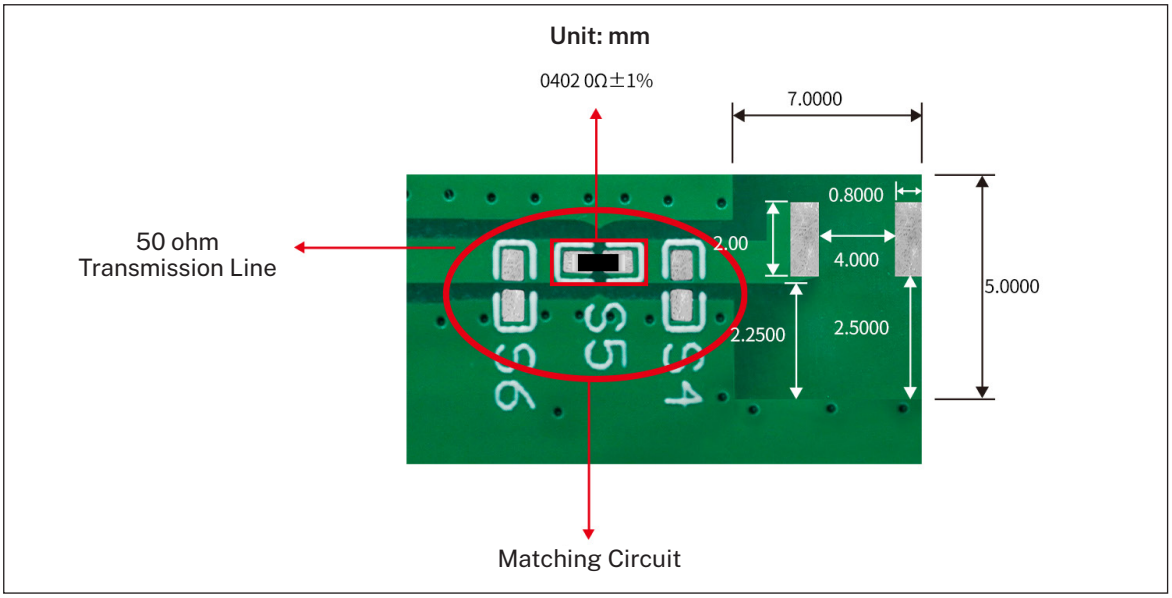
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6 MATCHING NETWORK



7 RECOMMENDED LAYOUT



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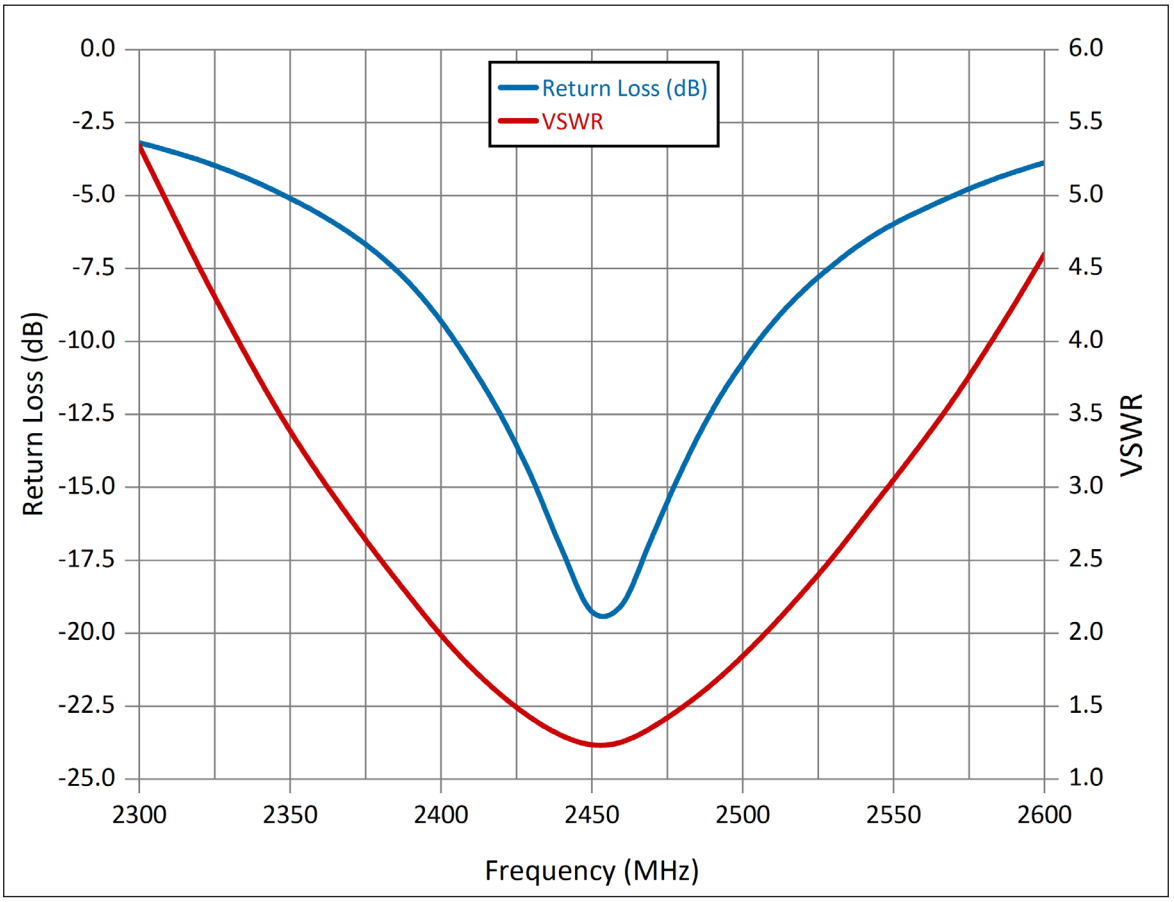
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8 ELECTRICAL PERFORMANCE

◎ **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.

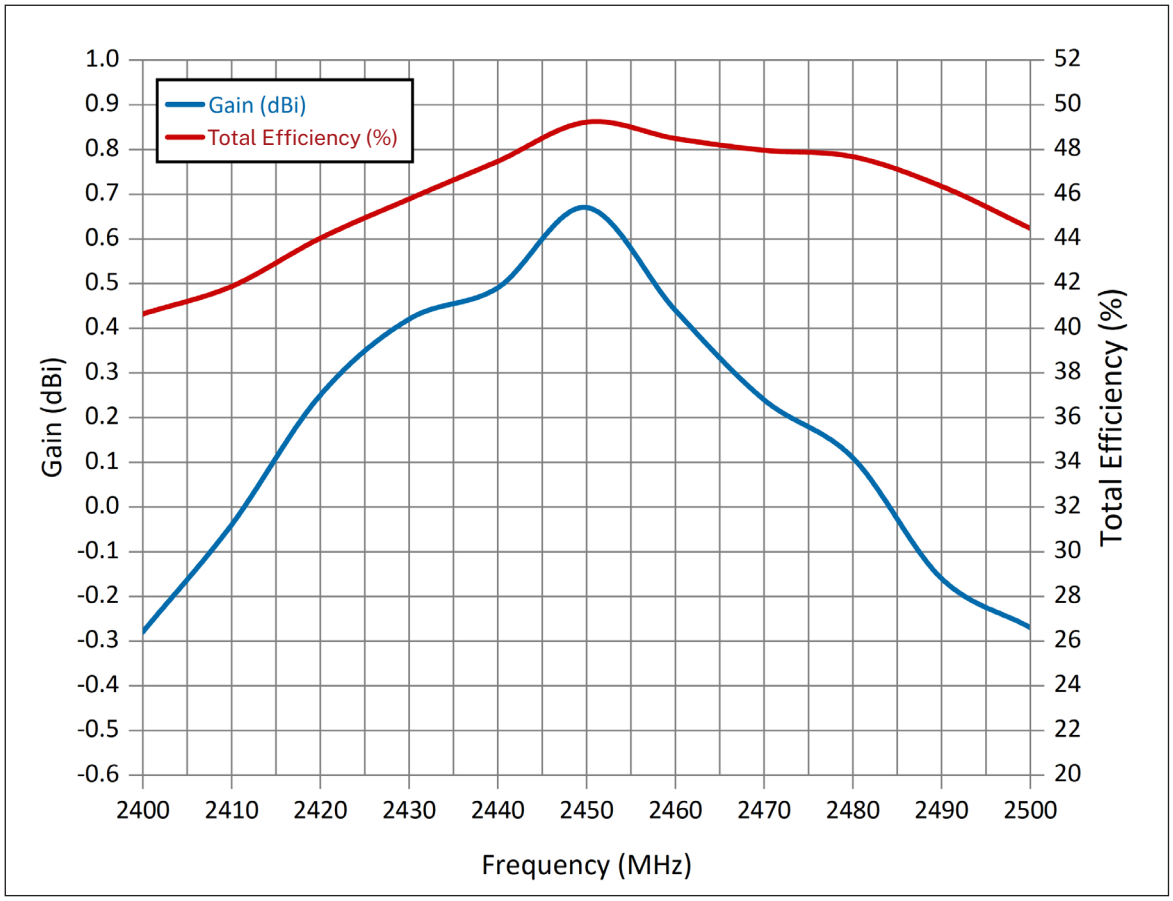
8.1 VSWR and Return Loss (dB)



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8.2 Gain (dBi) and Total Efficiency (%)

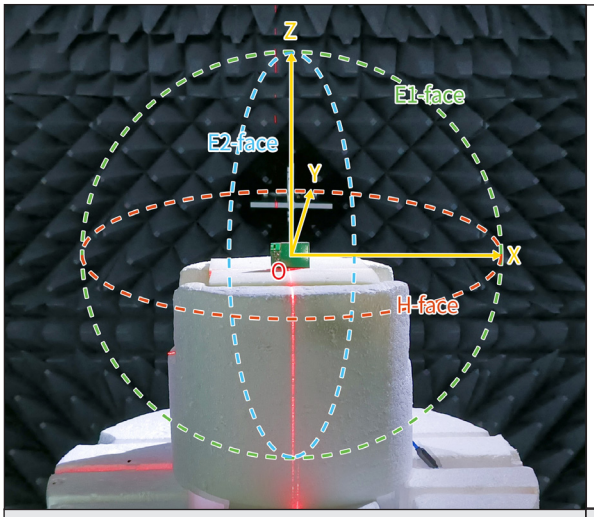


Frequency (MHz)	Gain (dBi)	Efficiency (%)
2400	-0.28	40.64
2410	-0.04	41.87
2420	0.25	44.02
2430	0.42	45.78
2440	0.49	47.46
2450	0.67	49.22
2460	0.44	48.49
2470	0.24	47.96
2480	0.11	47.67
2490	-0.16	46.35
2500	-0.27	44.47

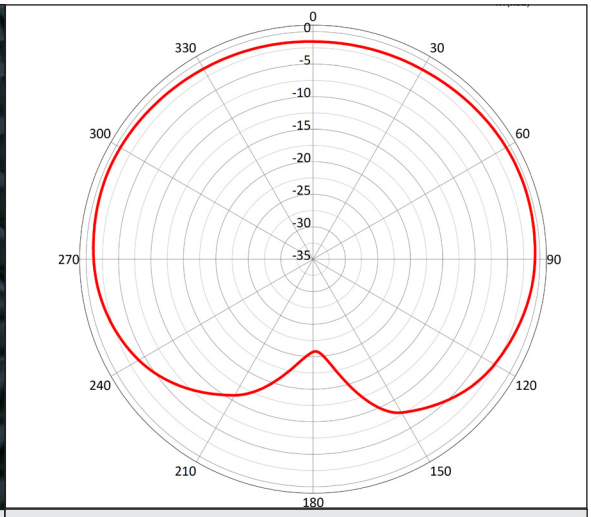
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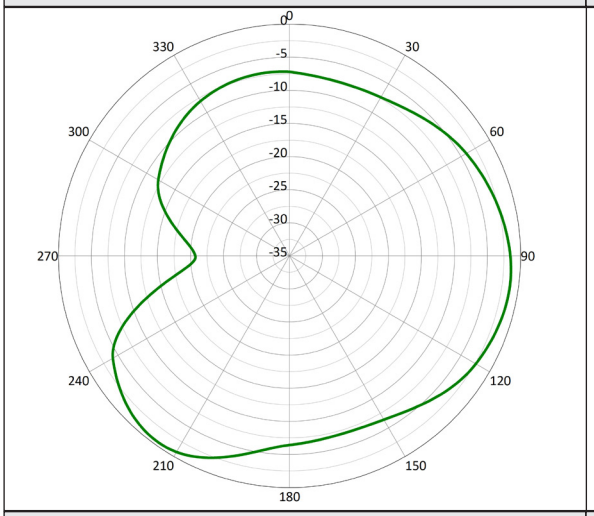
8.3 Radiation Patterns (2.4-2.5 GHz)



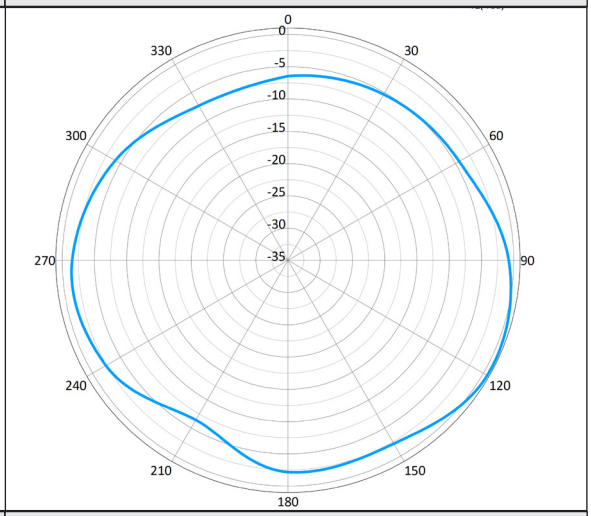
PCB board size: 65 mm x 40 mm x 1.0 mm



θ = 90° Plane XY at 2450 MHz, Gain 0.67 dBi



Φ = 0° Plane XZ at 2450 MHz, Gain 0.67 dBi



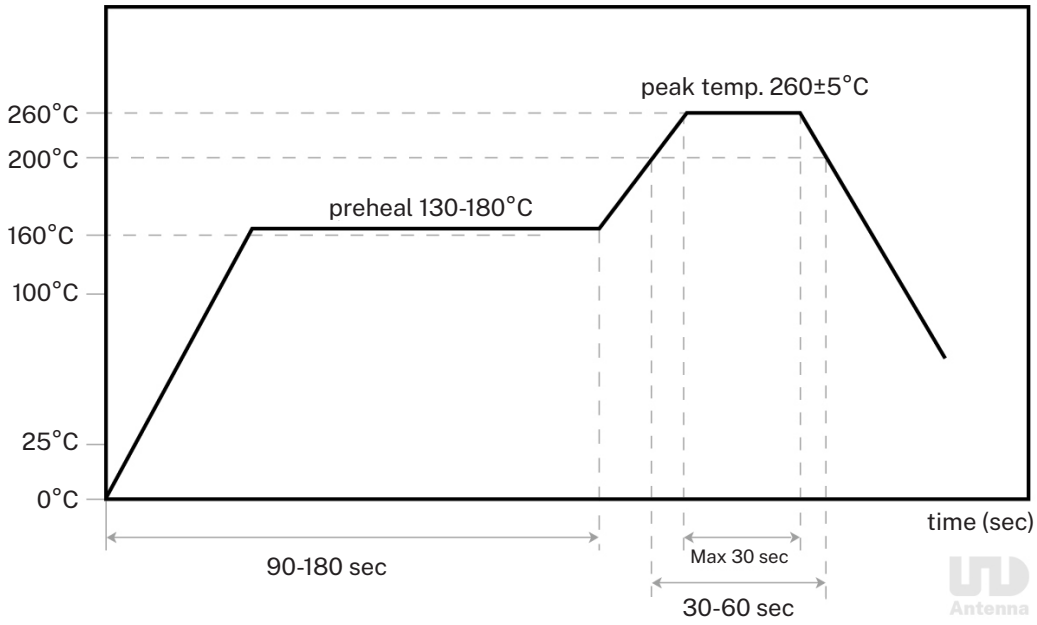
Φ = 90° Plane YZ at 2450 MHz, Gain 0.67 dBi

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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

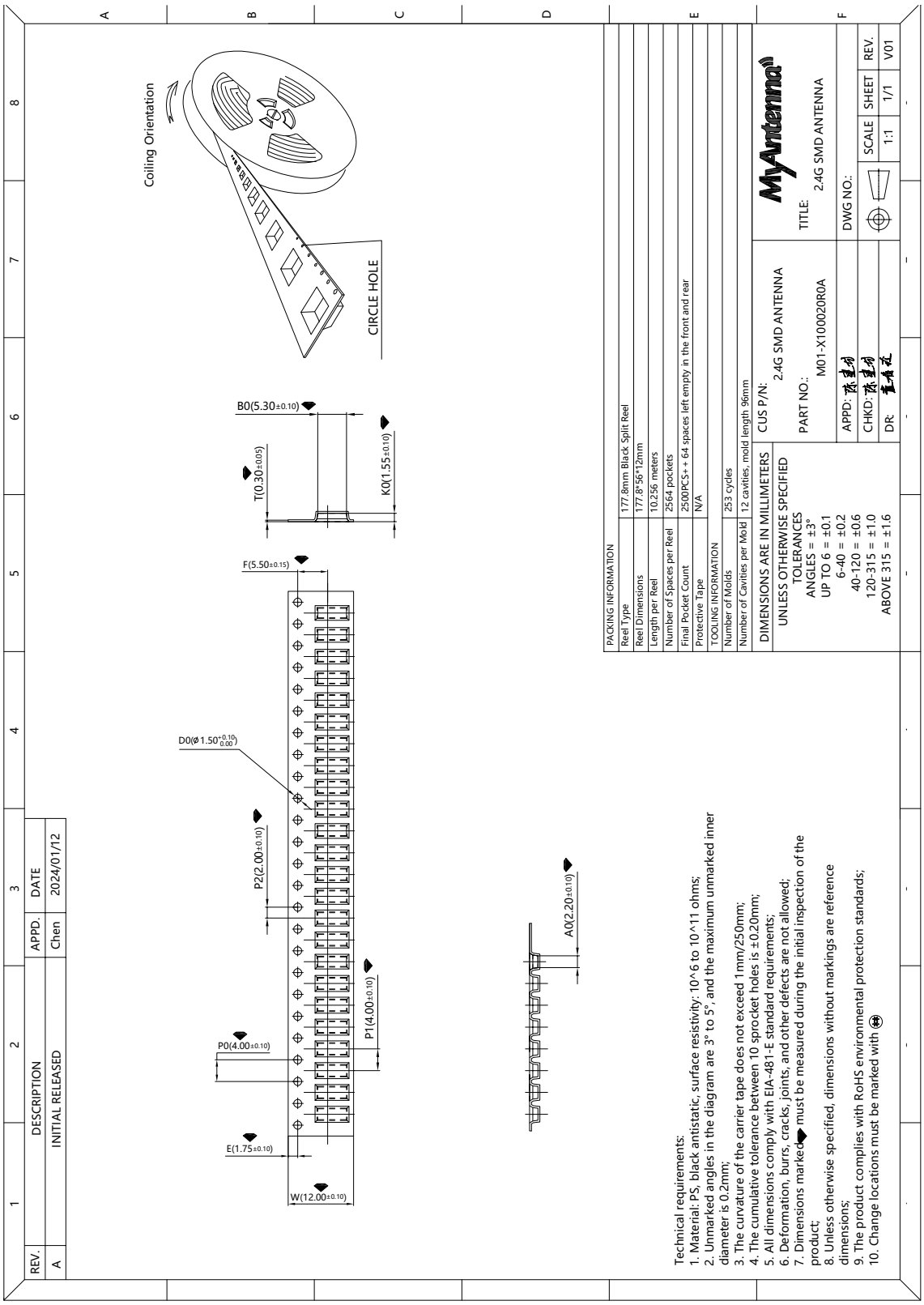
Temperature	-5°C to 40°C
Humidity	Less than 70% RH
Shelf life	18 months
Storage place	Away from corrosive gas and direct sunlight
Packaging	Reels should be stored in unopened sealed manufacturer's plastic packaging.

◎ **Note**
Storage of open reels of antennas is not recommended due to possible oxidation 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.

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10.2 Packagings and Dimensions (Unit: mm)



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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.	

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12 WELCOME ALL ANTENNA OEM/ODM PROJECTS

About ABOOSTY

- 10+ years in antenna R&D, production, and OEM/ODM
- House of Aboosty: 1M+ 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

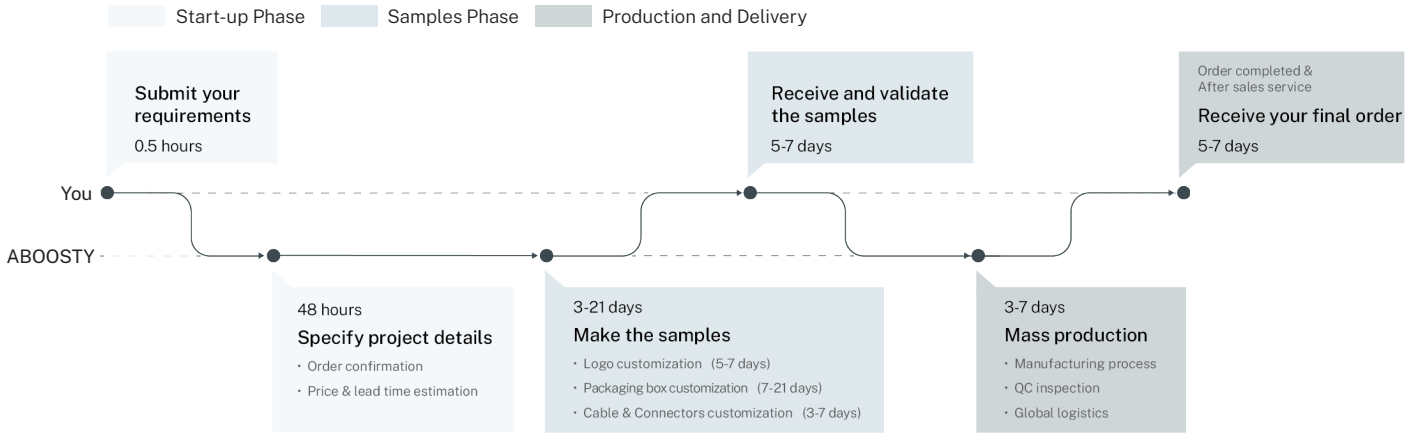
- Innovative and patented design solutions
- Full terminal devices anechoic chamber test
- Co-location with its custom
- Competitive price
- Strict inspection
- Prompt reply within 24h

What We Provide

OEM/ODM Services	
Light Customization	**Deep Customization**
· Logo · Packaging · Cables&Connectors	· In-depth tailoring for specific applications · Functional enhancements · Environmental adaptations · Vertical certifications · ...

Custom Process

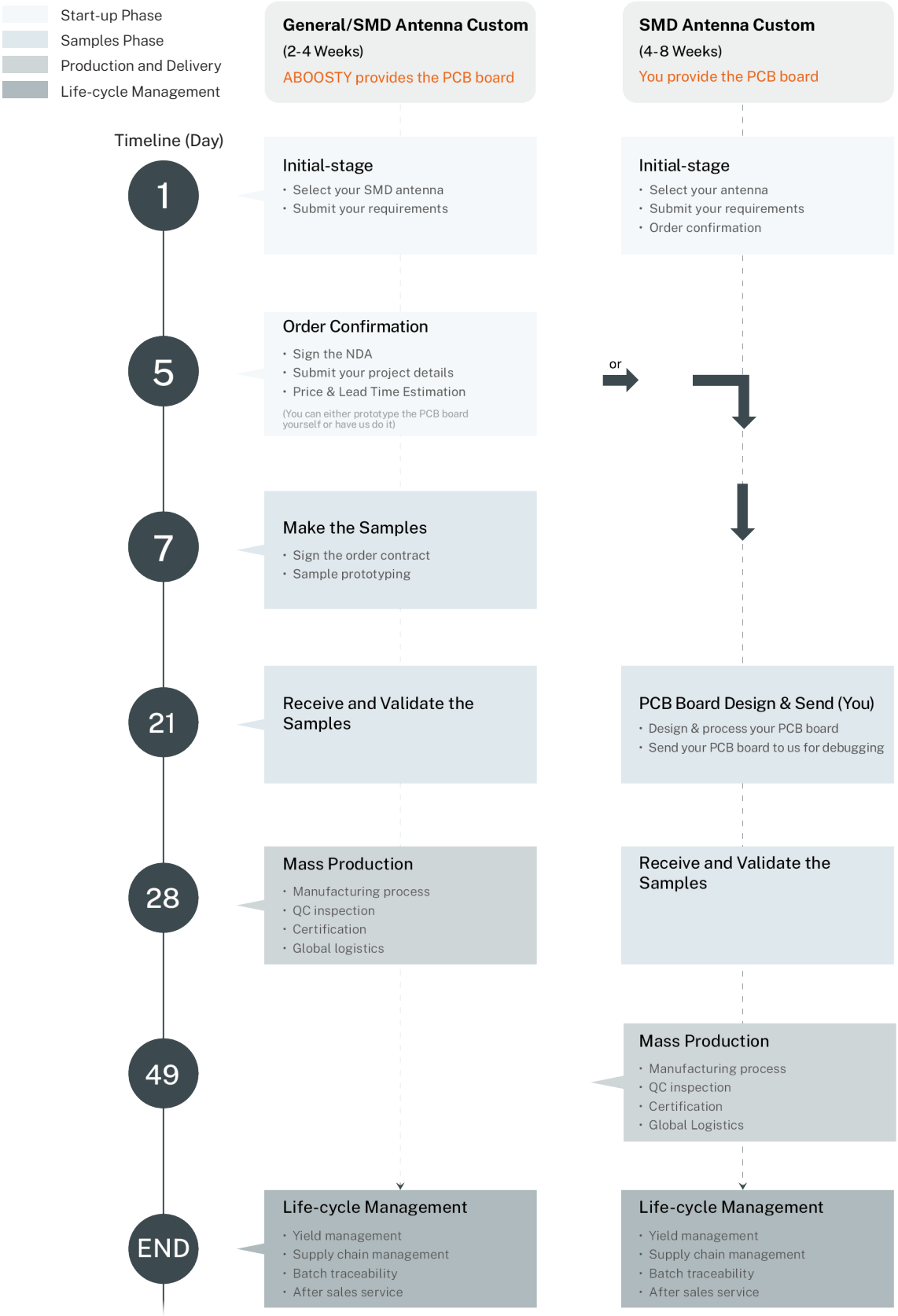
Light Customization Process



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Deep Customization Process



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