

6.1-8.5GHZ UWB

ONBOARD SMD STAMPED METAL ANTENNA

 6100-8500 MHz

Dimensions: 12.0 x 10.46 x 3.0 mm

Clearance Area: 45.0 x 15.7 mm



Model: ADUM002
PN: M01-X01210U231





Table of Contents

1 FEATURES & BENEFITS	1
2 APPLICATIONS	1
3 ORDER INFORMATION	1
4 REFERENCE GUIDE.....	2
5 EVALUATION BOARD WITH ANTENNA	2
6 MATCHING NETWORK	3
7 RECOMMENDED FOOTPRINT AND LAYOUT.....	4
8 ELECTRICAL PERFORMANCE.....	5
8.1 VSWR, Return Loss(S11, S22) and Isolation(S21).....	5
8.2 Gain and Total Efficiency	6
8.3 2D and 3D Radiation Patterns (6100-6900 MHz)	8
8.4 2D and 3D Radiation Patterns (7100-8500 MHz)	10
9 SOLDERING CONDITIONS	12
10 PACKAGING	12
10.1 Optimal Storage Conditions for Packaged Reels	12
10.2 Packagings and Dimensions (Unit: mm).....	13
11 ANTENNA CERTIFICATION	14
WELCOME ALL ANTENNA OEM/ODM PROJECTS	15

www.aboosty.com

The materials provided herein, which are intended for illustration purposes only, are believed to be reliable and correct. However, no responsibility is further assumed for inaccuracies or incompleteness, and all such information shall be entirely at the user's risk. All information is subject to change without prior notice.

Copyright © 2024 ShenZhen MyAntenna RF Technology Co., Ltd. All Rights Reserved.

Aboosty™ is owned by Shenzhen MyAntenna RF Technology Co., Ltd. (often abbreviated as MyAntenna).



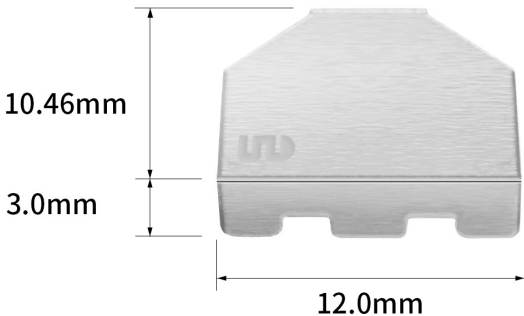
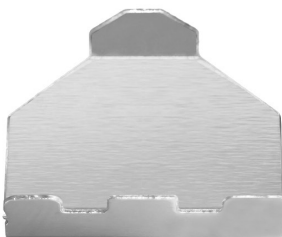


1 FEATURES & BENEFITS

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

2 APPLICATIONS

- Wireless Routers and Modems
- Internet of Things (IoT) Devices, M2M
- Indoor Location Tracking and Positioning
- Consumer Tracking
- Smart Metering
- Virtual Reality (VR) and Augmented Reality (AR)

Top  Bottom 	
Items	Dimensions (mm)
Length	12.0±0.1
Width	10.46±0.1
Thickness	3.0±0.1

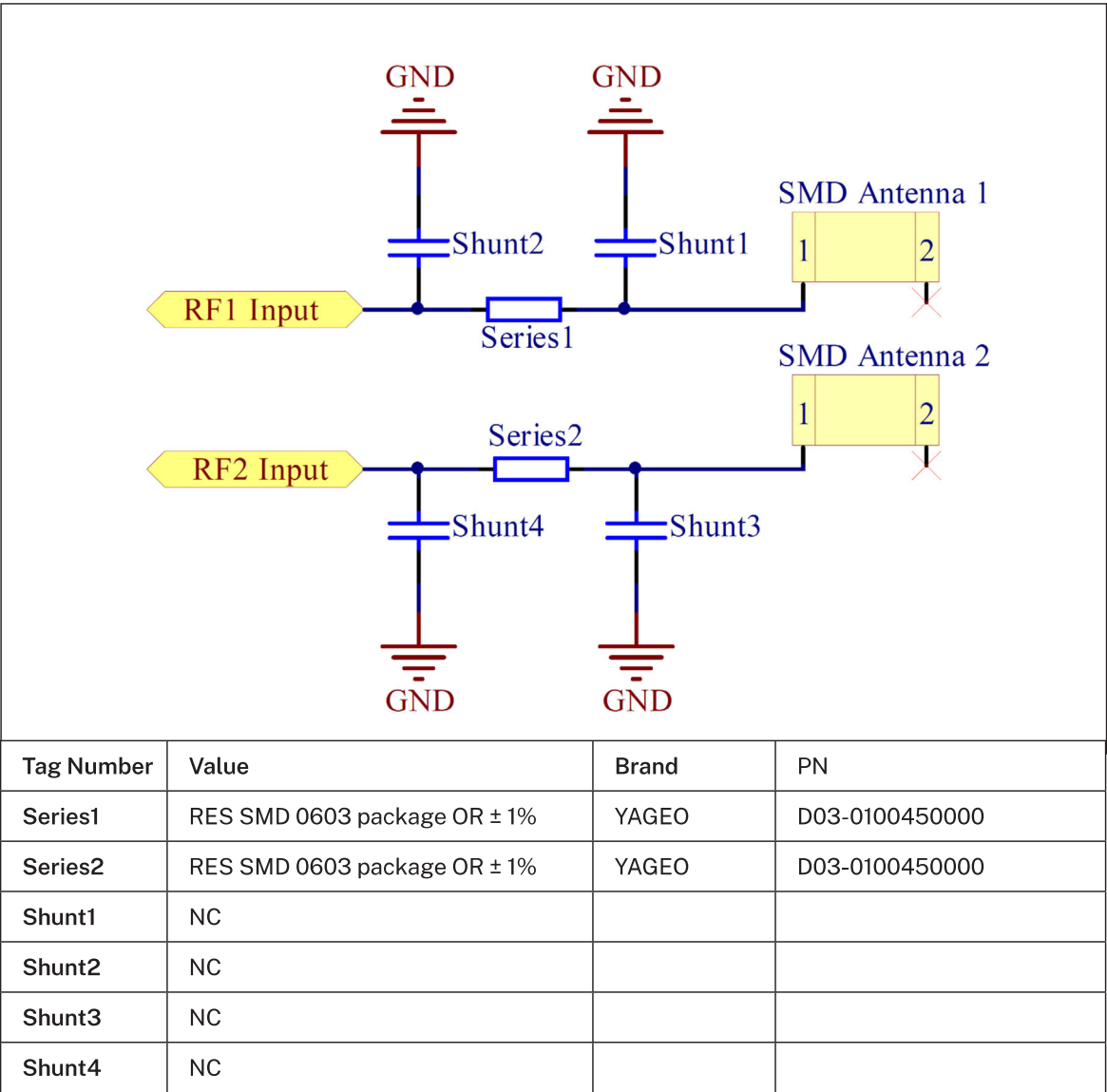
3 ORDER INFORMATION

Product Name	6.1-8.5GHz UWB OnBoard SMD Stamped Metal Antenna
Model	ADUM002
Part Number	M01-X01210U231
Dimensions	12.0 x 10.46 x 3.0 mm
Weight	0.35 g
Mounting	SMT
Packaging	Tape & Reel
MOQ	1200 pcs/reel

Antenna	Antenna-Left (ANT 1)	Antenna-Right (ANT 2)
Technical Features (MHz)	6100-8500	6100-8500
Max VSWR	2.29:1	2.53:1
Max Efficiency	88.43%	92.17%
Peak Gain	Up to 4.49 dBi (Typ)	Up to 5.64 dBi (Typ)
Max Return Loss	-7.90 dB	-8.71 dB
Max Input Power	2 Watts CW	
Polarization	Linear	
Input Impedance	50 Ω	
Operating Temperature	-40°C to +80°C	
Relative Humidity	10 to 70%	
Dimensions (L x W x H)	12.0 x 10.46 x 3.0 mm	
All data were measured in free space and on a reference wground plane of 45 mm length, 35 mm width, and 1.0 mm thickness. Application data might vary.		

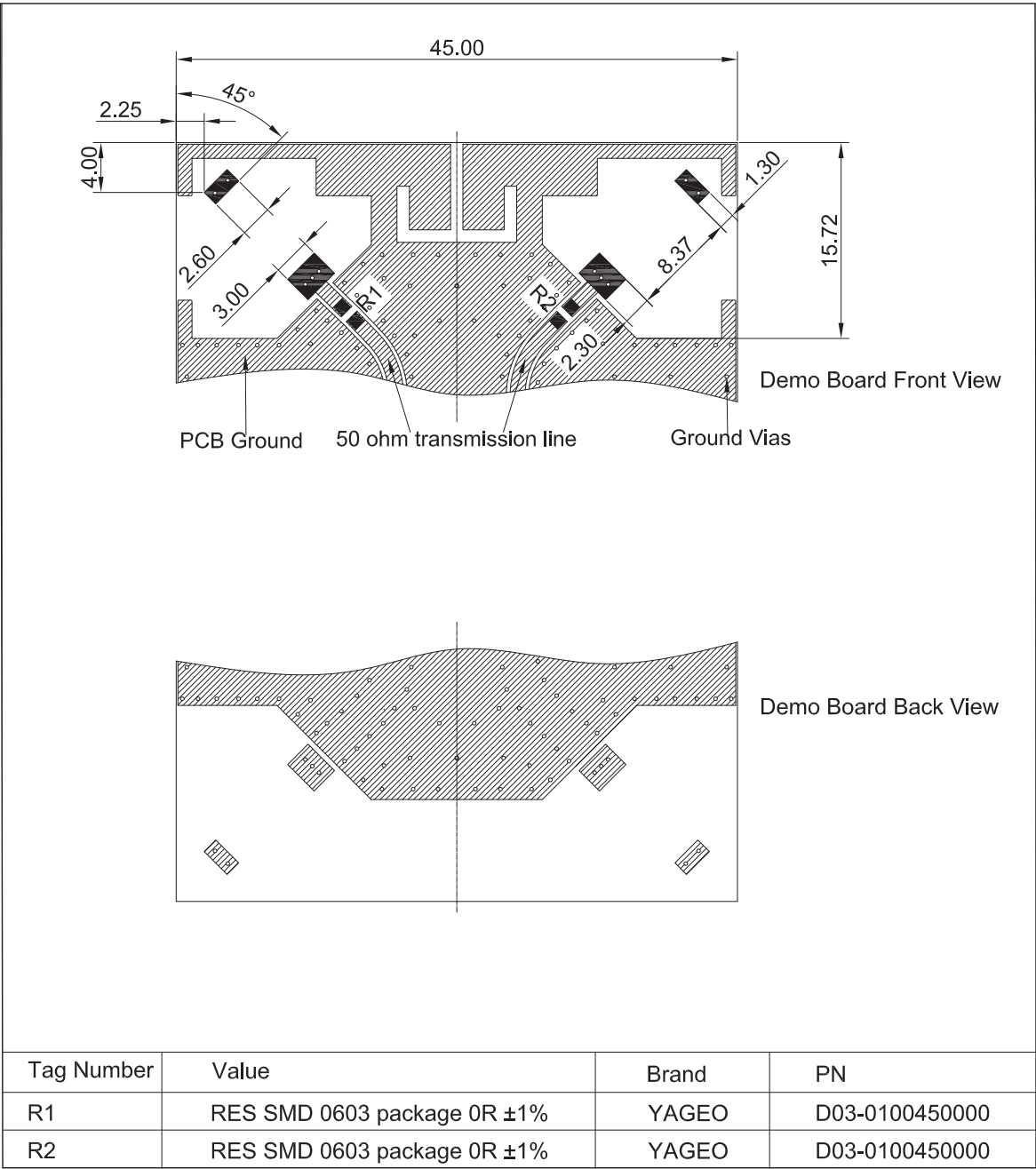


6 MATCHING NETWORK





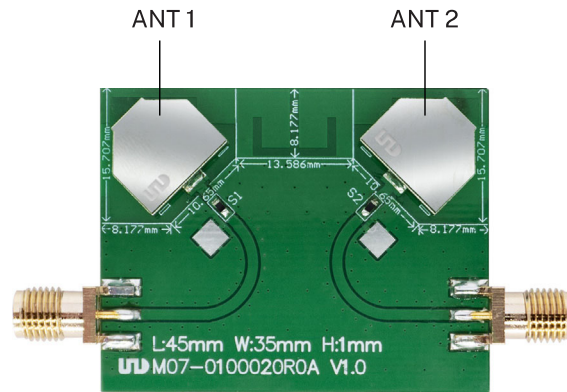
7 RECOMMENDED FOOTPRINT AND LAYOUT



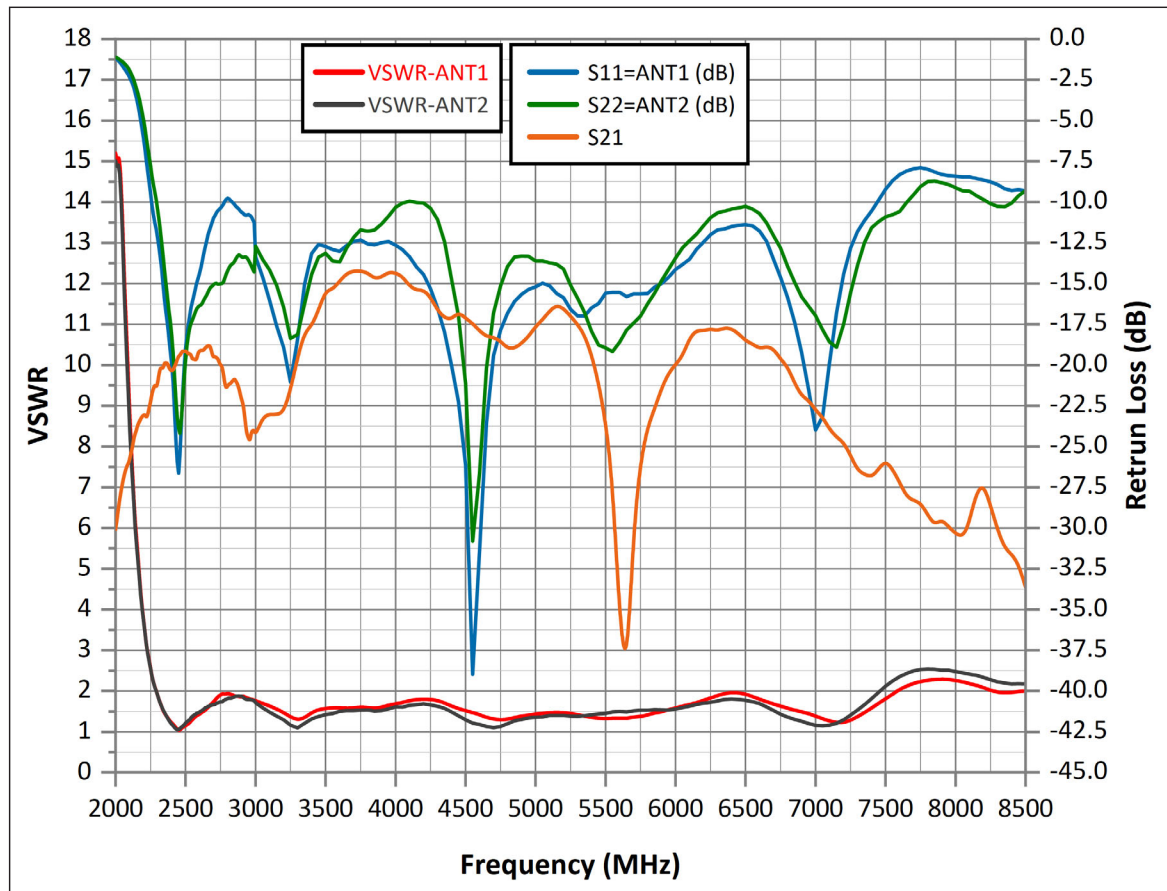
8 ELECTRICAL PERFORMANCE

© Note

All data displayed in Chapter 8 were measured in free space and on a reference ground plane of 45 mm length, 35 mm width, and 1.0 mm thickness.

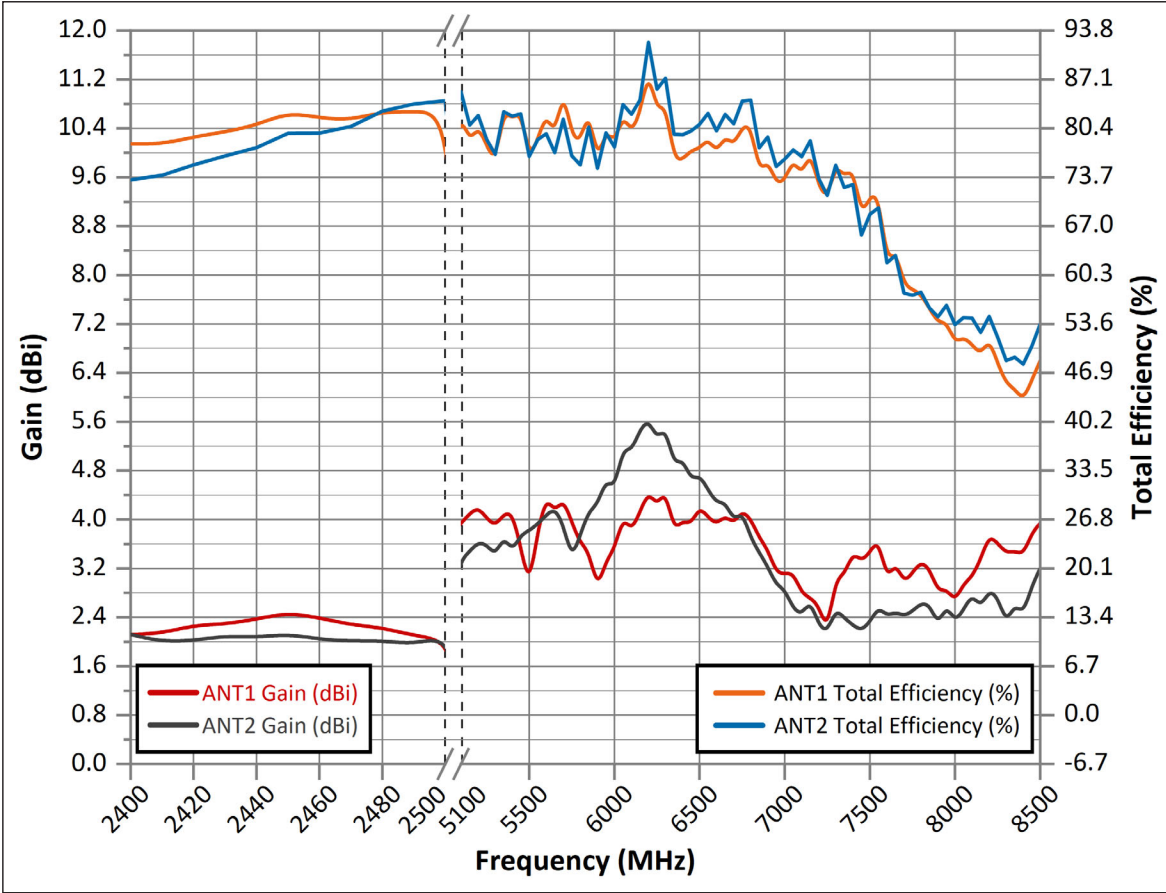


8.1 VSWR, Return Loss(S11, S22) and Isolation(S21)





8.2 Gain and Total Efficiency

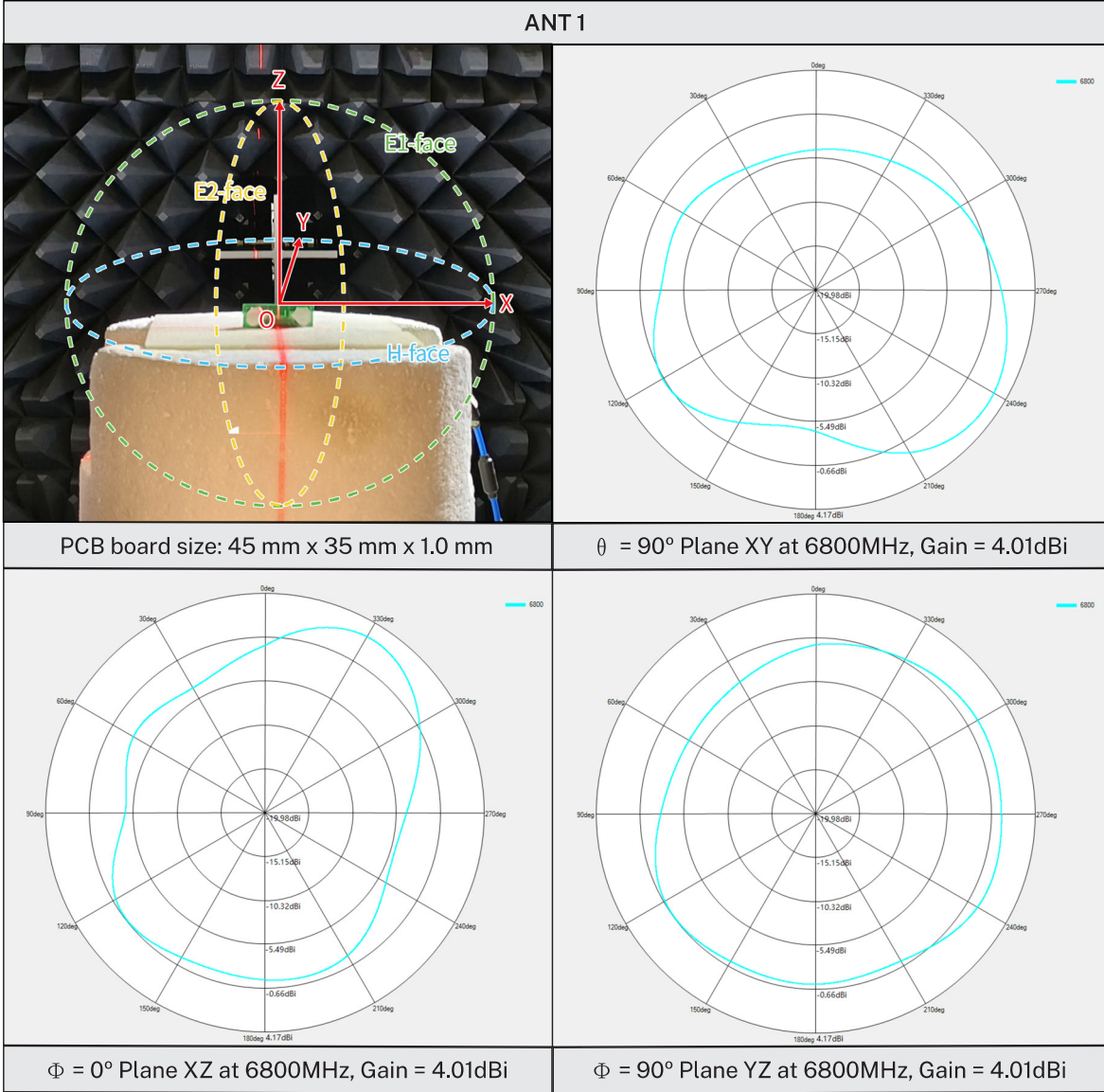


Freq (MHz)	Gain (dBi)	Efficiency (%)	Freq (MHz)	Gain (dBi)	Efficiency (%)
5100	3.94	82.21	6900	3.51	76.09
5300	3.89	75.65	7100	2.79	73.9
5500	2.89	76.31	7300	3.04	75.54
5700	4.34	85.81	7500	3.47	71.16
5900	2.85	75.76	7700	2.96	58.95
6100	3.81	79.77	7900	2.82	53.78
6300	4.49	83.84	8100	3.06	50.8
6500	4.21	77.63	8300	3.45	45.45
6700	3.93	78.05	8500	3.94	48.55

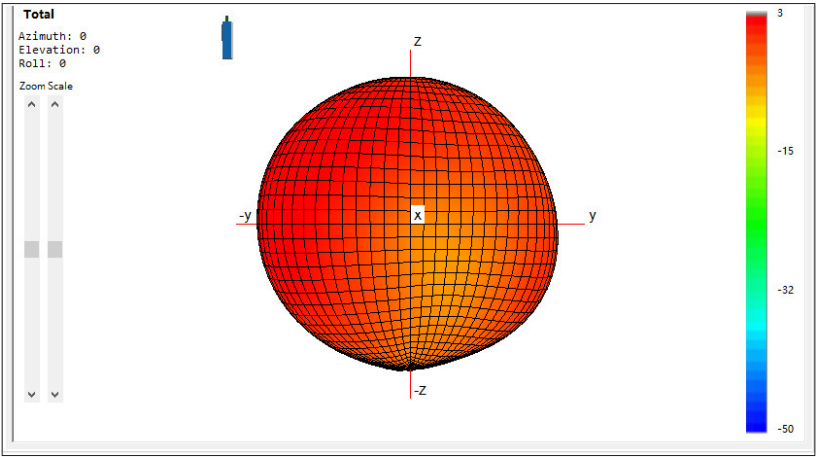


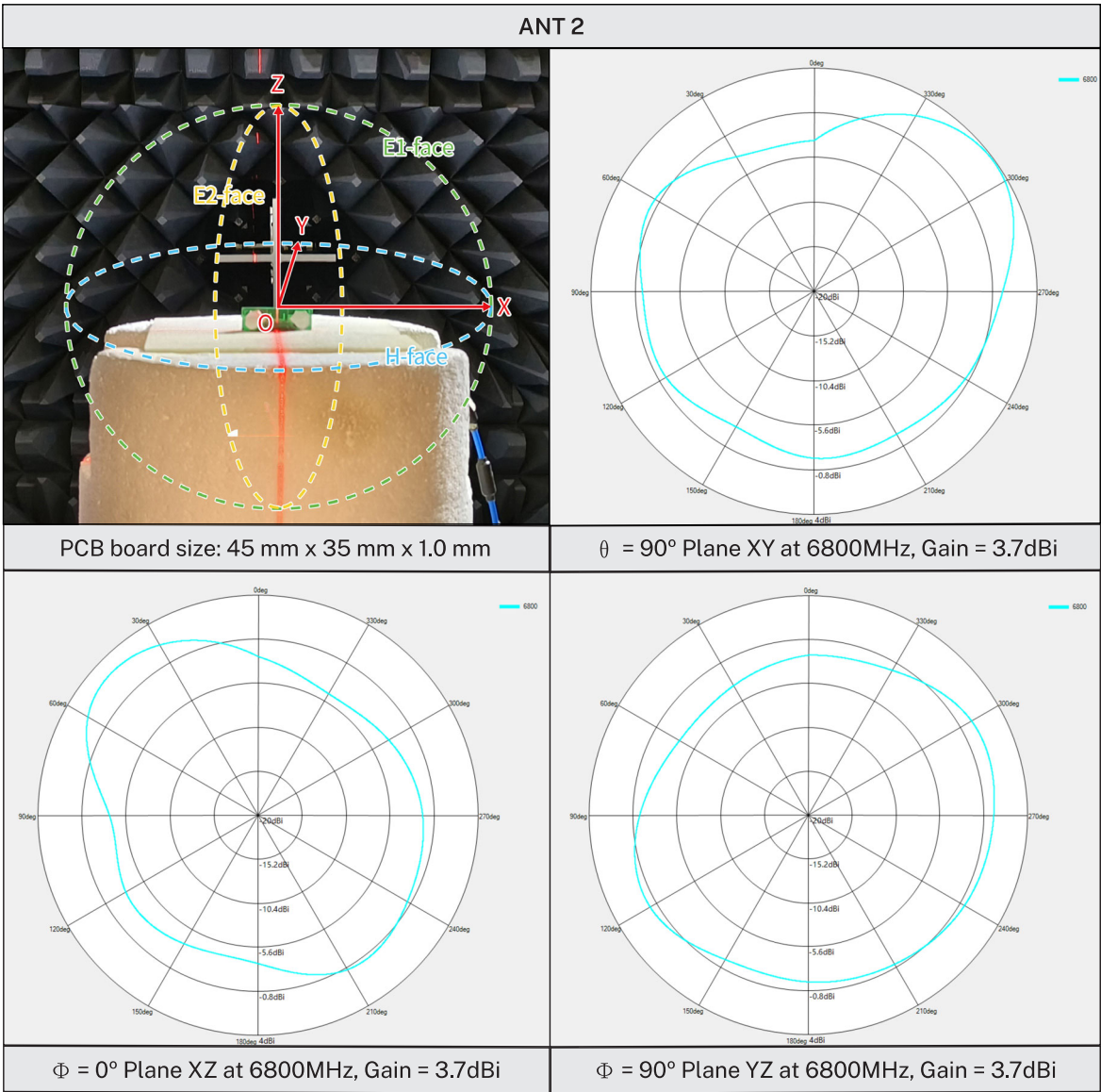
ANT 2 Data					
Freq (MHz)	Gain (dBi)	Efficiency (%)	Freq (MHz)	Gain (dBi)	Efficiency (%)
5100	3.34	85.42	6900	3.23	79.21
5300	3.41	76.84	7100	2.44	76.55
5500	3.82	76.56	7300	2.54	75.35
5700	3.92	81.66	7500	2.33	68.64
5900	4.24	74.95	7700	2.42	57.84
6100	5.12	82.33	7900	2.27	54.57
6300	5.51	87.26	8100	2.78	54.42
6500	4.73	80.94	8300	2.3	48.59
6700	3.98	81.04	8500	3.2	53.58

8.3 2D and 3D Radiation Patterns (6100-6900 MHz)

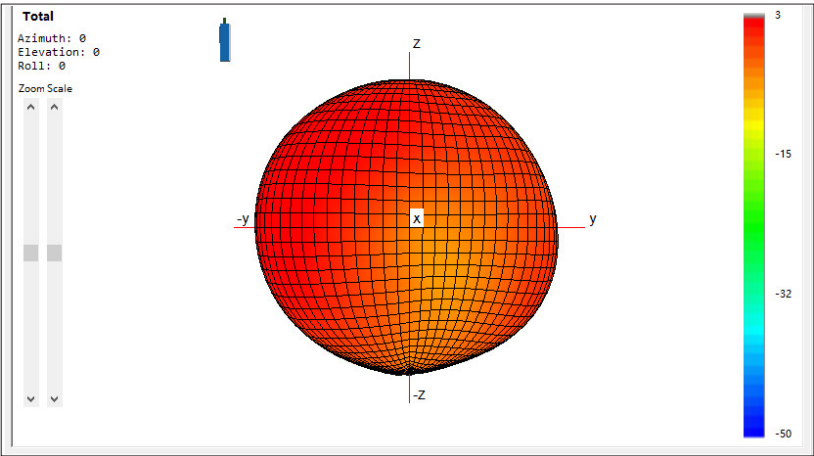


ANT 1 3D radiation patterns
@ 6800 MHz

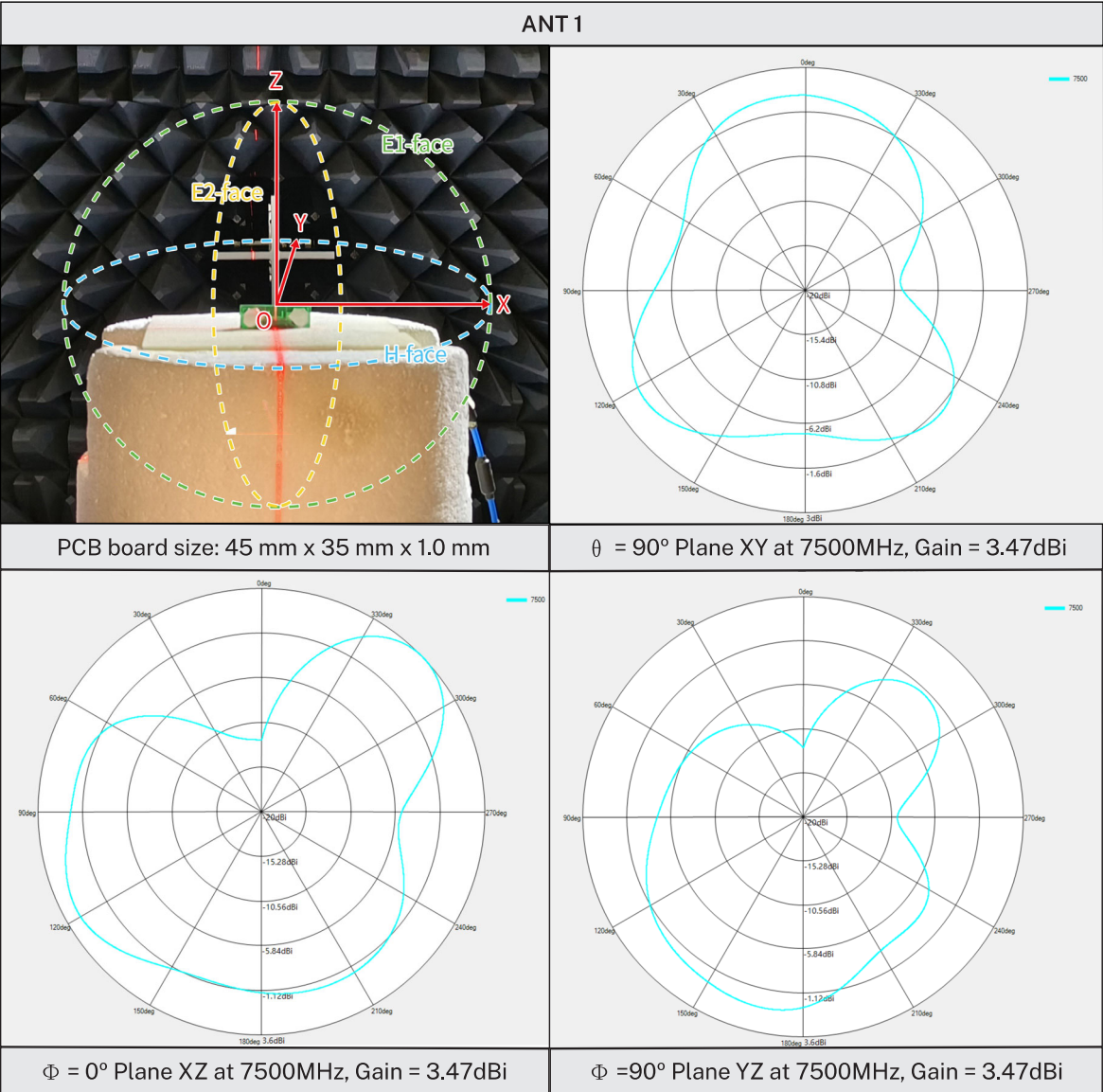




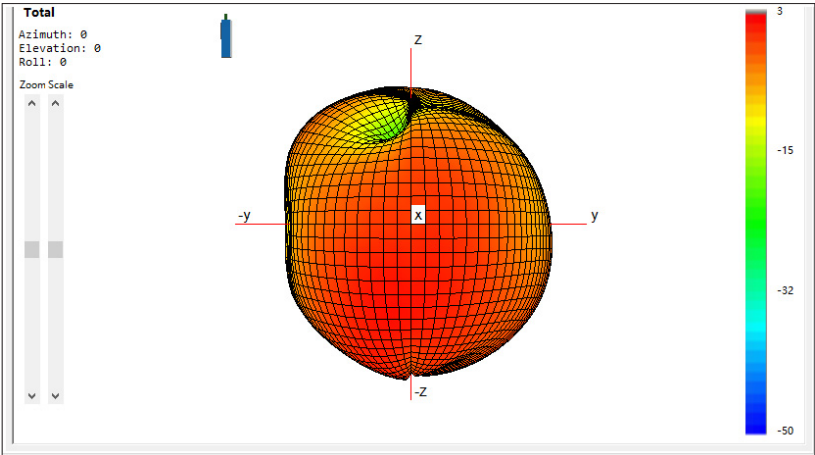
ANT 2 3D radiation patterns
@ 6800 MHz

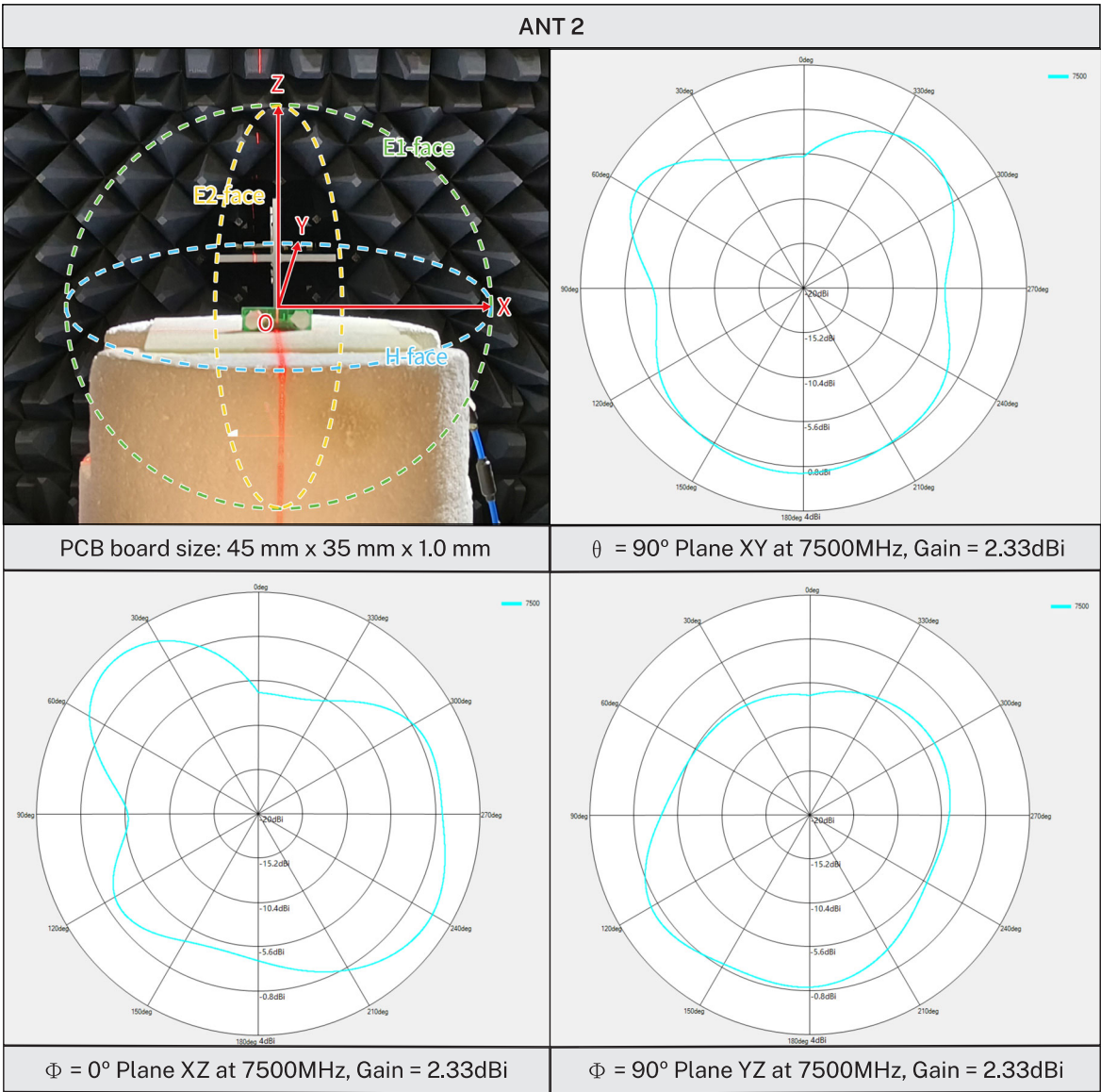


8.4 2D and 3D Radiation Patterns (7100-8500 MHz)

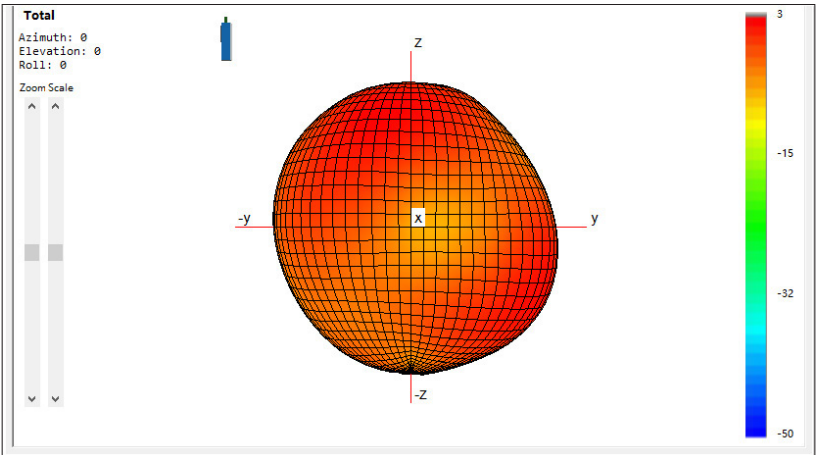


ANT 1 3D radiation patterns
@ 7500 MHz





ANT 2 3D radiation patterns
@ 7500 MHz

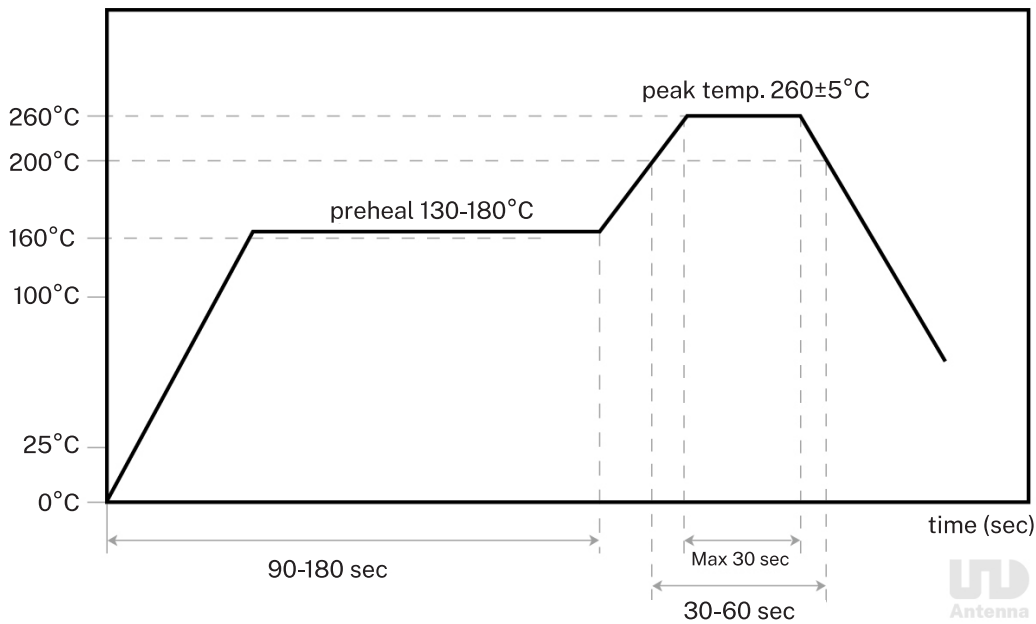


9 SOLDERING CONDITIONS

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.

REV. DESCRIPTION APPD. DATE

A INITIAL RELEASED Chen 02/02/2024

Technical requirements:

1. Material: PS, black, antistatic, surface resistivity: 10^6 to 10^{11} ohms;
2. Unmarked angles in the diagram are 3° to 5° , and the maximum unmarked inner diameter is 0.2mm;
3. The curvature of the carrier tape does not exceed 1mm/250mm;
4. The cumulative tolerance between 10 sprocket holes is ± 0.20 mm;
5. All dimensions comply with EIA-481-E standard requirements;
6. Deformation, burns, cracks, joints, and other defects are not allowed;
7. Dimensions marked $\blacklozenge$ must be measured during the initial inspection of the product;
8. Unless otherwise specified, dimensions without markings are reference dimensions;
9. The product complies with RoHS environmental protection standards;
10. Change locations must be marked with $\oplus$

Diagram showing dimensions and features:

- W(24.00 $\pm$ 0.10)
- E1(7.5 $\pm$ 0.10)
- PQ(4.00 $\pm$ 0.10)
- P2(2.00 $\pm$ 0.10)
- D0(1.50 $\pm$ 0.10) $\frac{D0(1.50\pm0.10)}{D0(1.50\pm0.10)}$
- F1(1.50 $\pm$ 0.10)
- T0(3 $\pm$ 0.05)
- B0(12.70 $\pm$ 0.10)
- K0(3.40 $\pm$ 0.10)
- A0(11.17 $\pm$ 0.10)
- P1(16.00 $\pm$ 0.10)
- CIRCLE HOLE
- Coiling Orientation

Packing Information:

PACKING INFORMATION	
Reel Type	330mm Black Split Reel
Reel Dimensions	330*100*24mm
Length per Reel	19352 meters
Number of Spaces per Reel	1222 pockets
Final Pocket Count	1200PCS+22 spaces left empty in the front and rear
Protective Tape	N/A

Tooling Information:

TOOLING INFORMATION	
Number of Molds	253 cycles
Number of Cavities per Mold	12 cavities, mold length 96mm

Dimensions are in millimeters

UNLESS OTHERWISE SPECIFIED

PART NO.: M01-X01210U231

CUS P/N: Tm2 UW8

ANGLES = $\pm 3^\circ$

UP TO 6 = ± 0.1

6-40 = ± 0.2

40-120 = ± 0.6

120-315 = ± 1.0

ABOVE 315 = ± 1.6

TITLE: Tm2

ABOOSTY

DWG NO.: SCALE 1:1

APPD: 陈建功

CHKD: 陈建功

DR: 董建强

SHEET 1/1

REV. V01



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.	

Aboosty™ is owned by Shenzhen MyAntenna RF Technology Co., Ltd. (often abbreviated as MyAntenna).

WELCOME ALL ANTENNA OEM/ODM PROJECTS

Why Choose ABOOSTY



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



MES system supported factory; 50M+ units annual output capacity



Factory directly competitive price



Quick price and lead time estimate



Innovative and patented design solutions



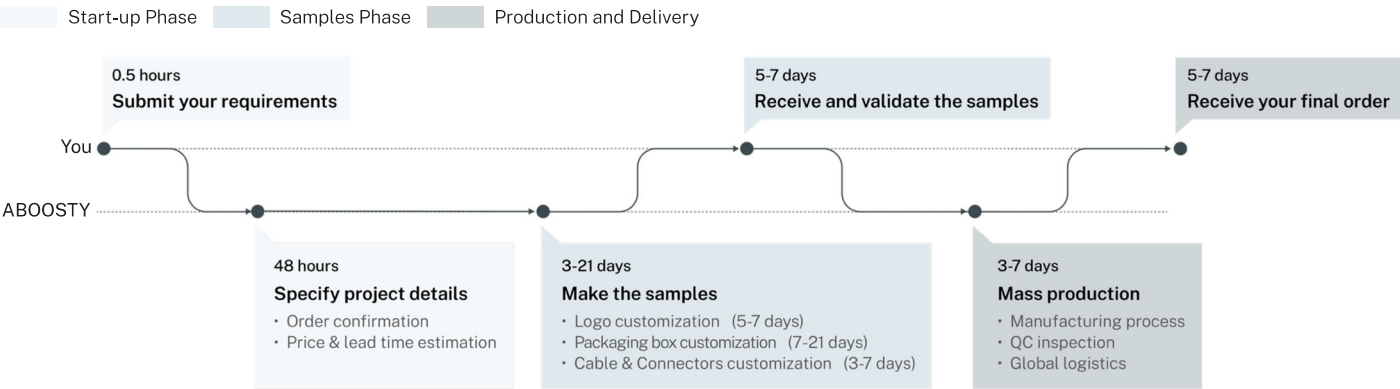
Professional team support & prompt reply within 24h

What We Provide

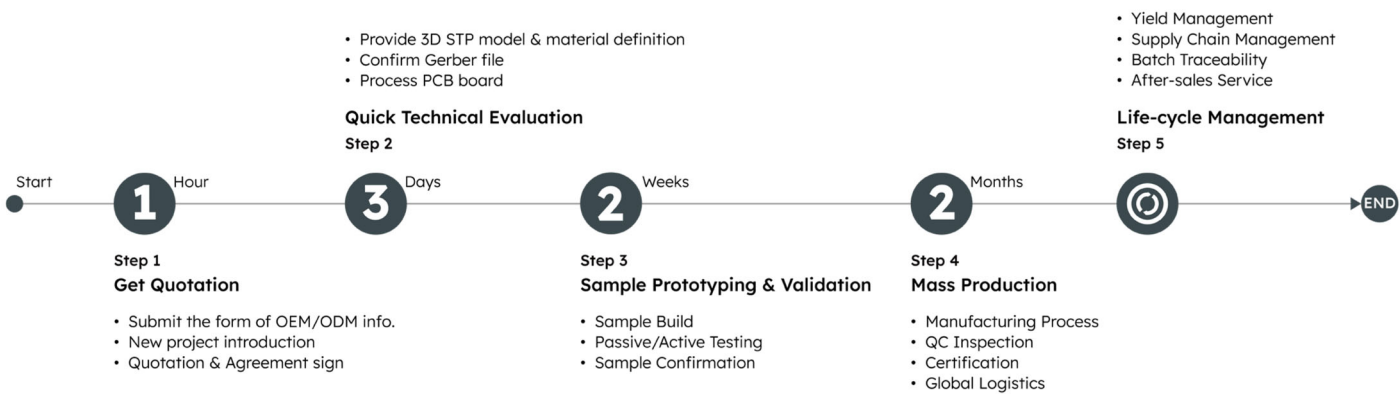
OEM/ODM Services	Light Customization	Deep Customization
	• Logo • Packaging • Cables&Connectors	• In-depth tailoring for specific applications • Functional enhancements • Environmental adaptations • Vertical certifications • ...

Custom Process

Light Customization Process



Deep Customization Process



Note: You can let us handle the PCB prototyping or do it yourself. Choosing self-prototyping may add 2 to 5 weeks to the timeline.

Boost Your Signal
with Our Antennas

ABOOSTY

A Globally Leading Manufacturer and Supplier of
Multi-band Combination Antennas

Contact us:

✉ support@aboosty.com

☎ +86-13924678201

Visit us:

🌐 www.aboosty.com

Search to follow us or to get technical support.



@Aboosty



Aboosty Antenna



Or click here to reach us directly.



微信扫一扫以获取技术支持
Scan with WeChat App



微信扫一扫关注公众号
Scan with WeChat App