



Antenna Datasheet

Product OC: YFTN203WJAM

Version: 1.0

Date: 2026-04-27

Status: Released

Product Name: L-Band & S-Band NTN Antenna

Key Features:

Frequency Band:

L-Band: 1525–1559 MHz, 1626.5–1660.5 MHz

S-Band: 1980–2010 MHz, 2170–2200 MHz

Peak Gain: 5.4 dBi (Max)

Dimensions: Φ 81.24 mm $\times$ 31.5 mm

RoHS and REACH Compliant

Overview

The Quectel YFTN203WJAM is a high-performance L-band and S-band satellite antenna designed for reliable NTN (Non-Terrestrial Network) communication. With its compact form factor and robust design, the antenna is ideal for applications requiring stable satellite connectivity in challenging environments.

- **Key Features:**

- ✓ Dual-band support: L-band (1525–1559 MHz & 1626.5–1660.5 MHz)
S-band (1980–2010 MHz & 2170–2200 MHz)
- ✓ Peak gain: Up to 5.4 dBi
- ✓ Dimensions: Φ 81.24 mm × 31.5 mm
- ✓ Weight: 26.98 g (typical)
- ✓ Connector: MCX (50 Ω)
- ✓ Mounting options: Terminal mount (with customization options such as pin, surface, or magnetic mount)
- ✓ Environmental Resilience: Operating Temperature: -40 °C to +85 °C
Storage Temperature: -40 °C to +85 °C
RoHS and REACH compliant

- **Performance Highlights:**

- ✓ Omni-directional radiation pattern for consistent coverage
- ✓ High efficiency across L-band and S-band frequencies, with typical efficiency above 66 %
- ✓ Excellent return loss and VSWR performance ensuring reliable signal transmission

Quectel provides comprehensive antenna design support such as simulation, testing and manufacturing for custom antenna solutions to meet your specific application needs. We have regional R & D centers to offer quick response to meet your requirements. Please contact our sales & FAEs if you have any requests.

Contents

Overview	1
Contents	2
1 Specification	3
1.1. Electrical	3
1.2. Mechanical & Environmental	4
2 Drawing	5
3 Detailed Performance	6
3.1. S-Parameter Test	6
3.1.1. VSWR	6
3.1.2. Return Loss	7
3.2. Radiation Performance Test	8
3.2.1. Efficiency	8
3.2.2. Peak Gain	9
3.2.3. 3D & 2D Radiation Pattern	10
4 Packaging	12
Contact Us	14
Legal Notices	15
Revision History	17

1 Specification

Test Condition: Free Space

1.1. Electrical

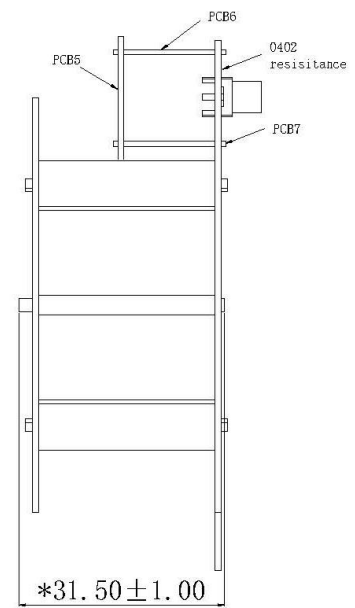
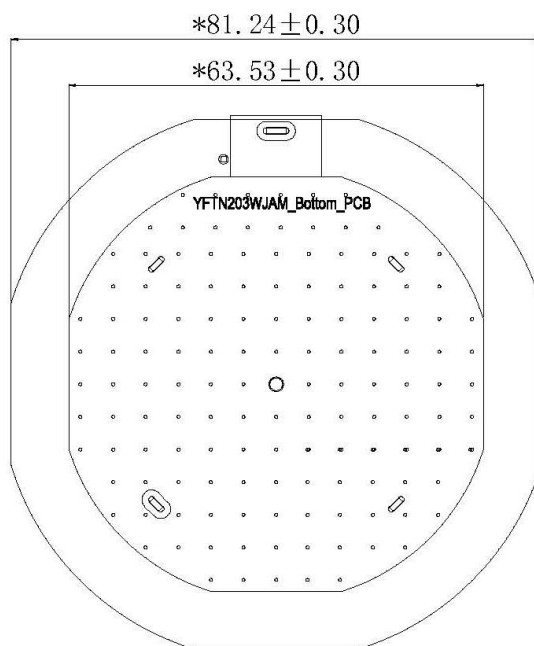
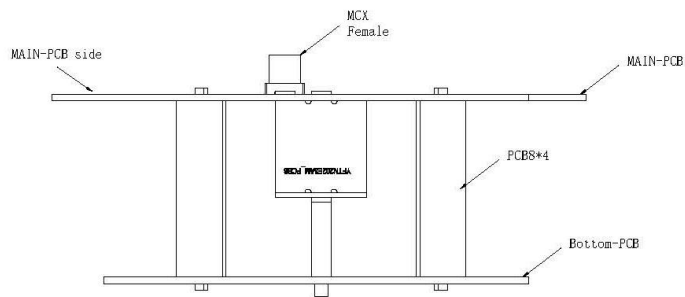
Electrical		
Frequency Range	L-Band	1525–1559 MHz, 1626.5–1660.5 MHz
	S-Band	1980–2010 MHz, 2170–2200 MHz
Impedance		50 Ω
Polarization		Linear
Radiation Pattern		Omni-directional

Band Frequency (MHz)	L-Band				S-Band RX			
	1520	1560	1520	1560	1520	1560	1520	1560
VSWR	2.1	1.9	1.7	1.6	1.3	1.3	1.7	1.8
Return Loss (dB)	-8.9	-10.4	-12.1	-13.2	-17.1	-17.0	-12.0	-10.9
Efficiency (%)	66.2	70.0	71.1	70.5	67.3	70.0	70.3	66.7
Peak Gain (dBi)	3.6	3.2	4.6	4.6	4.6	4.6	5.4	4.4

1.2. Mechanical & Environmental

Mechanical	
Antenna Dimensions	Φ 81.24 mm × 31.5 mm
Material & Color	PCB (Green) + metal pole
Connector Type	MCX (50Ω)
Mounting Type	Terminal
Weight	Typ. 26.98 g
Environmental	
Operation Temperature	-40 °C to +85 °C
Storage Temperature	-40 °C to +85 °C
RoHS & REACH Compliant	Yes

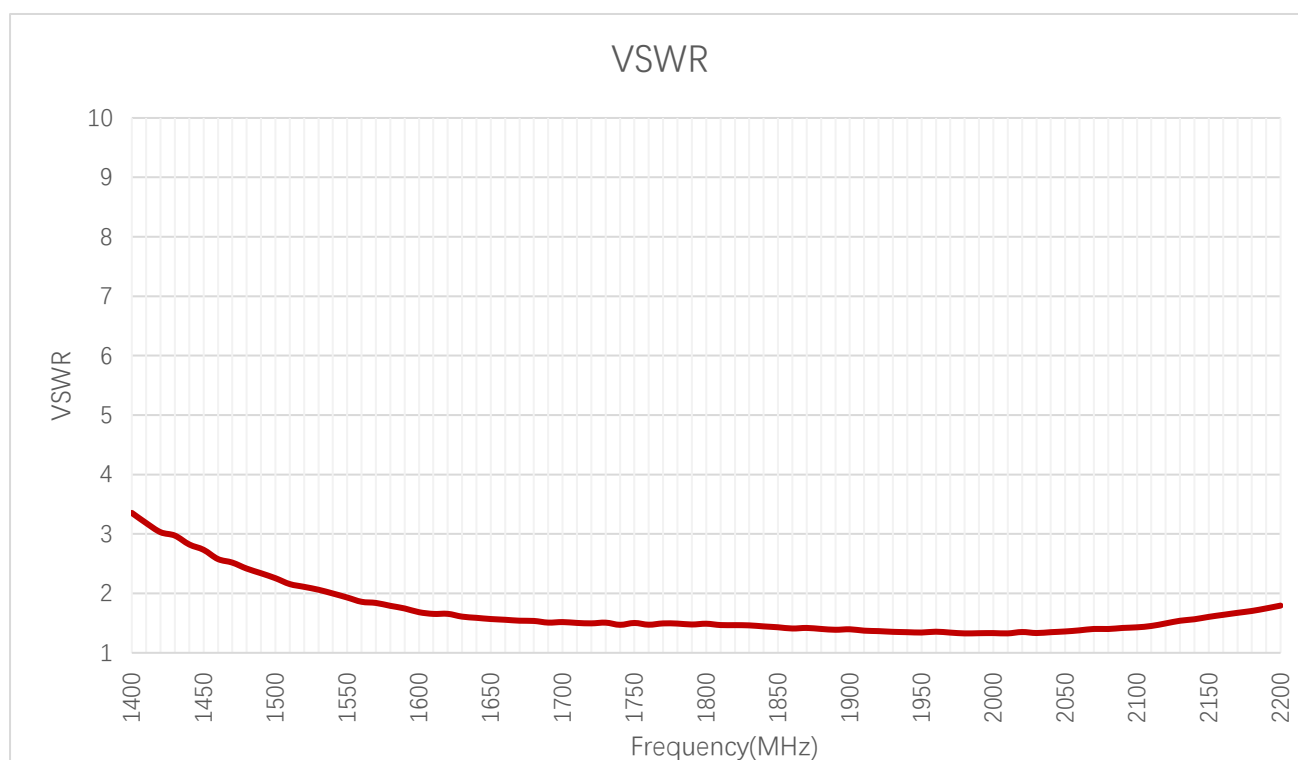
2 Drawing



3 Detailed Performance

3.1. S-Parameter Test

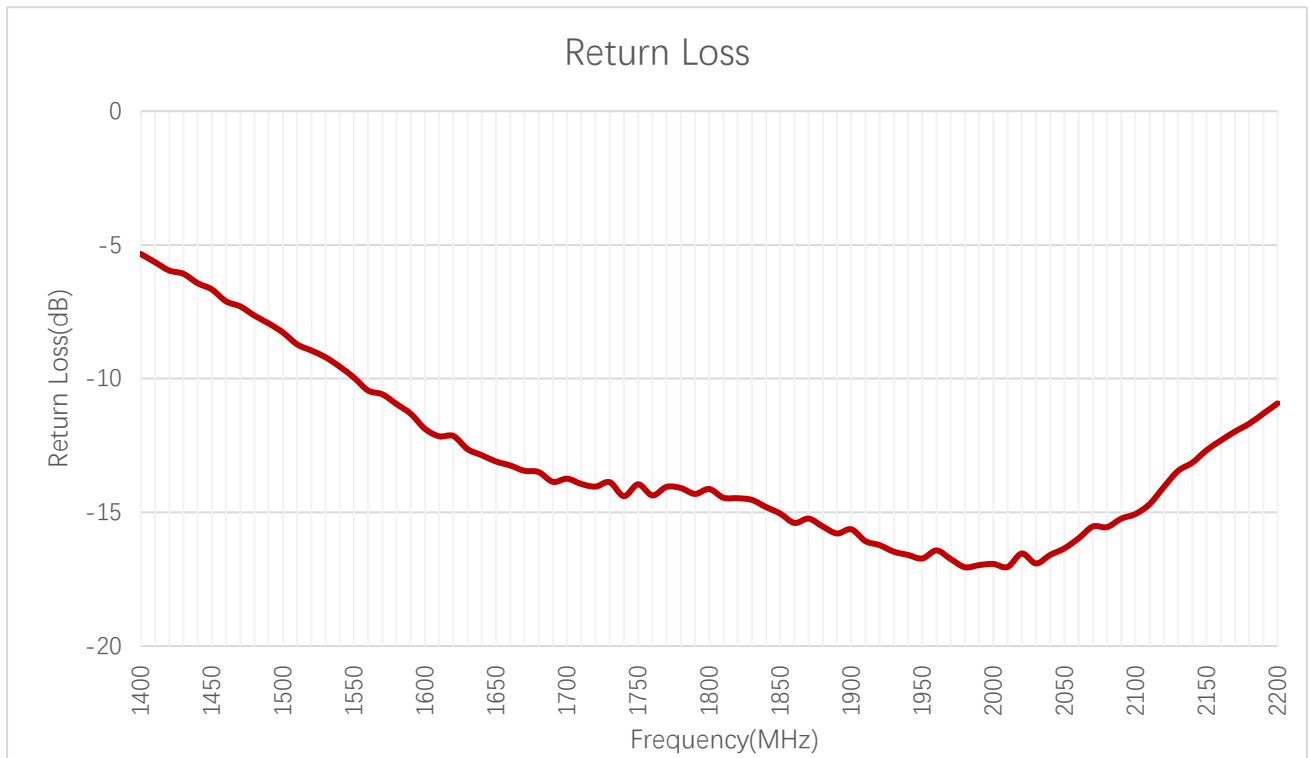
3.1.1. VSWR



VSWR

Frequency (MHz)	1520	1560	1620	1660	1980	2010	2170	2200
VSWR	2.1	1.9	1.7	1.6	1.3	1.3	1.7	1.8

3.1.2. Return Loss

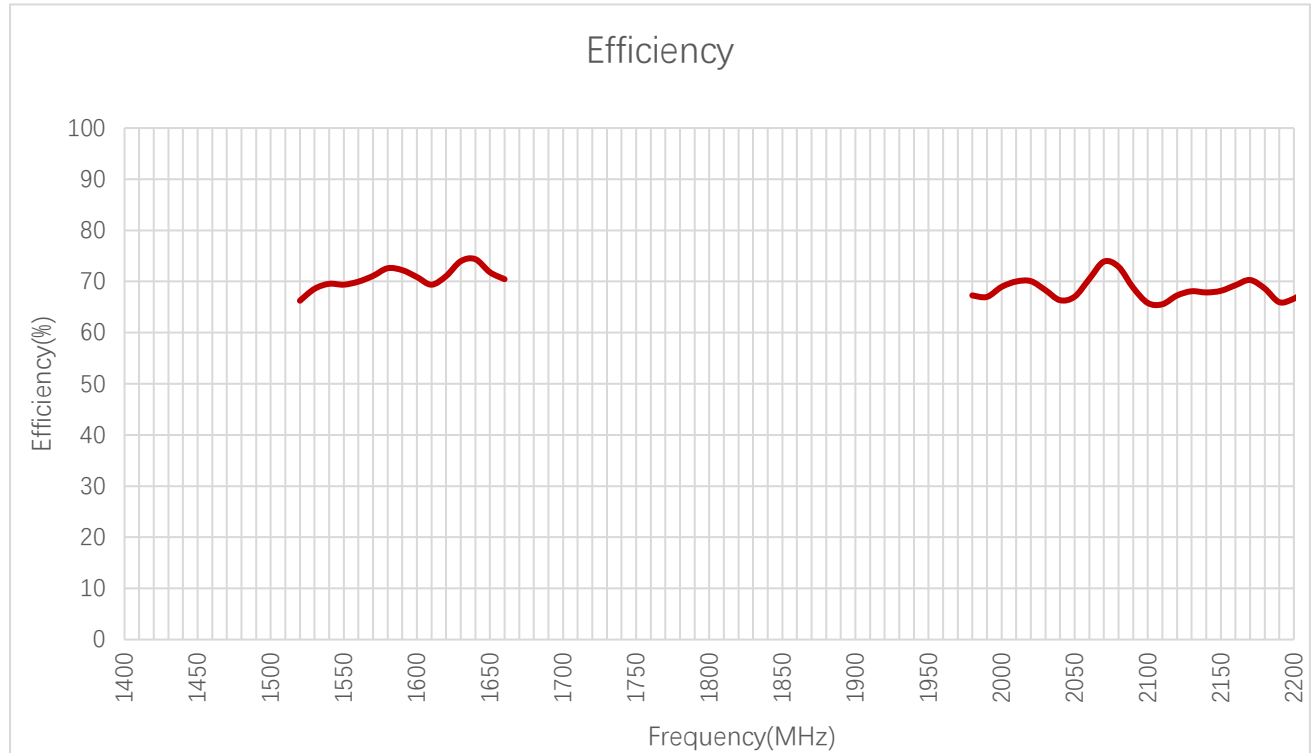


Return loss (dB)

Frequency (MHz)	1520	1560	1620	1660	1980	2010	2170	2200
Return loss (dB)	-8.9	-10.4	-12.1	-13.2	-17.1	-17.0	-12.0	-10.9

3.2. Radiation Performance Test

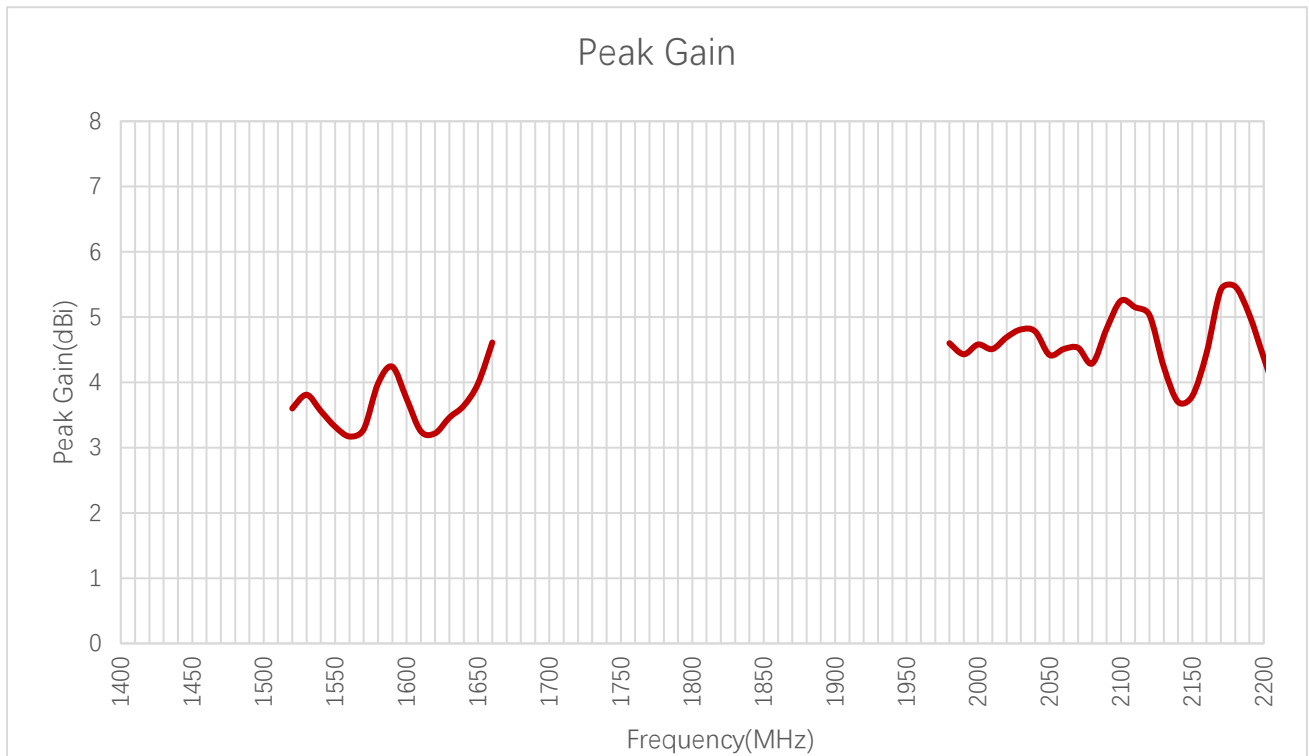
3.2.1. Efficiency



Efficiency (%)

Frequency (MHz)	1520	1560	1620	1660	1980	2010	2170	2200
Efficiency (%)	66.2	70.0	71.1	70.5	67.3	70.0	70.3	66.7

3.2.2. Peak Gain

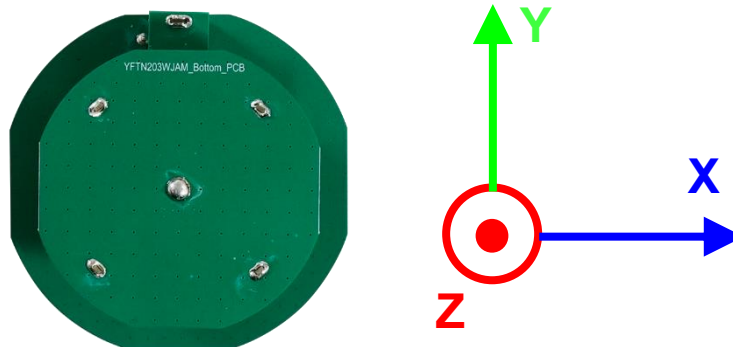


Peak Gain (dBi)

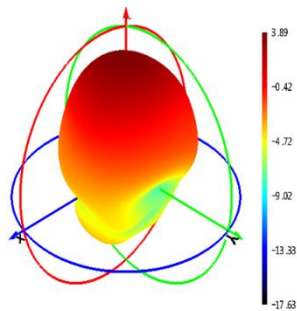
Frequency (MHz)	1520	1560	1620	1660	1980	2010	2170	2200
Peak Gain (dBi)	3.6	3.2	3.2	4.6	4.6	4.5	5.4	4.4

3.2.3. 3D & 2D Radiation Pattern

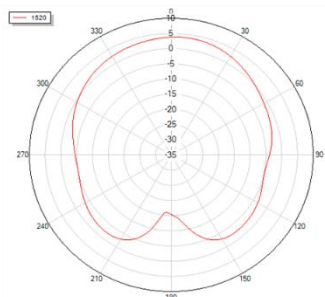
- Test Condition: Free Space
- Test Chamber: HF-S-1



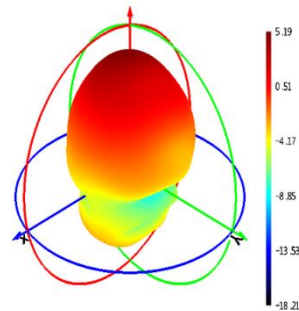
1520 MHz



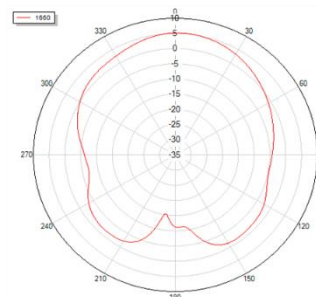
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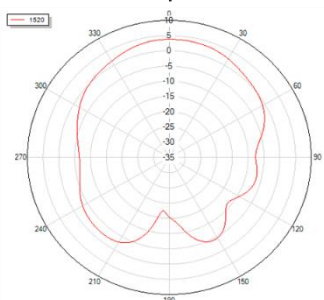
1660 MHz



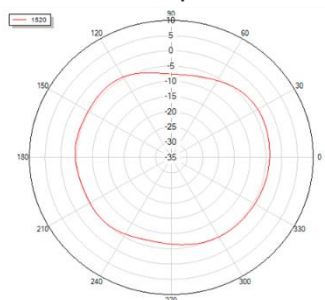
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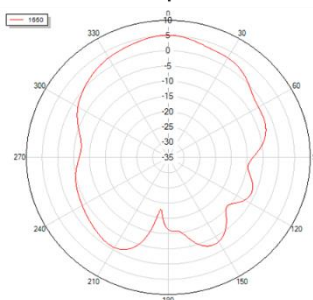
Phi=90 freq=1520MHz



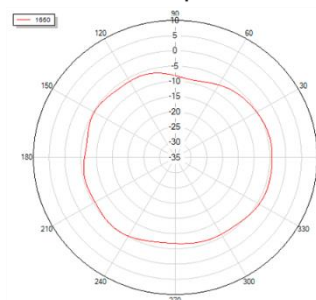
Theta=90 freq=1520MHz



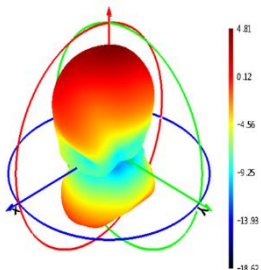
Phi=90 freq=1660MHz



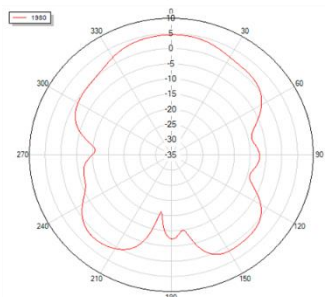
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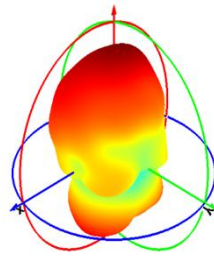
1980 MHz



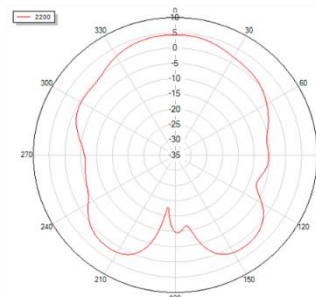
Phi=0 freq=1980MHz



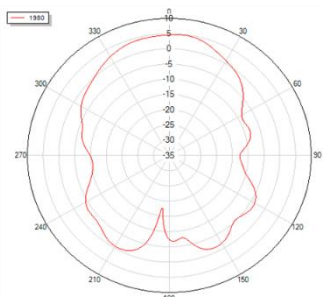
2200 MHz



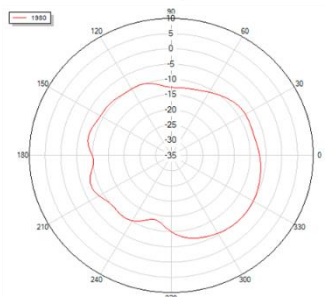
Phi=0 freq=2200MHz



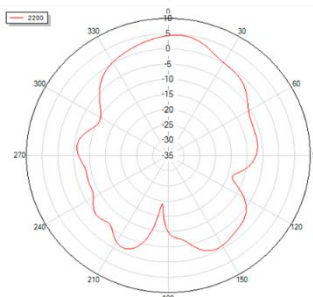
Phi=90 freq=1980MHz



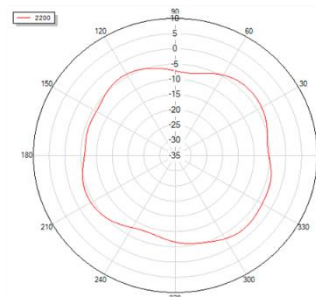
Theta=90 freq=1980MHz



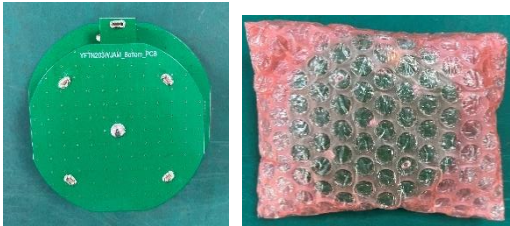
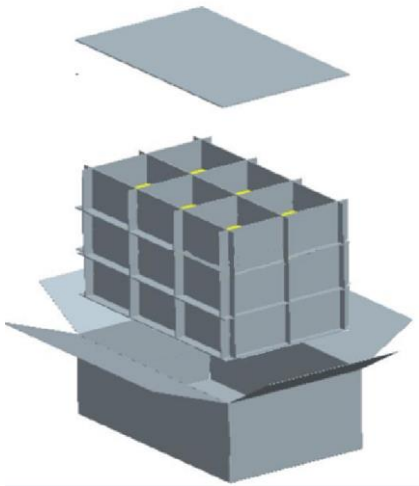
Phi=90 freq=2200MHz

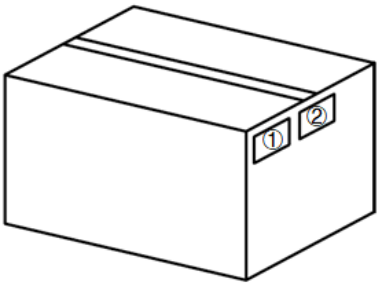
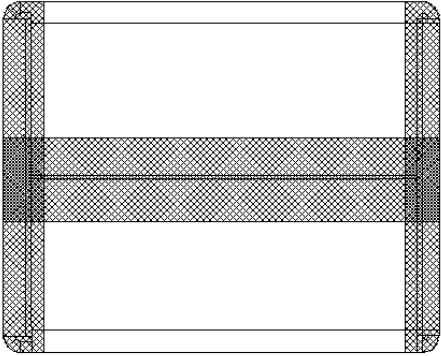


Theta=90 freq=2200MHz



4 Packaging

Step	Packaging Picture / 2D Picture	Description
1		Whole antenna product in a bubble bag. (1 Antenna / Bubble Bag)
2		Insert the products into the knife cards, with 2 products per cavity. Each card layer holds 12 products.
3		Put 3 layers of stack knife cards. (36 Antennas / Carton Box) Estimated quantity Products that cannot fill the entire carton box are packed in a suitable size carton box. <u>Carton Size:</u> <u>$L \times W \times H = 500 \times 340 \times 250 \text{ mm}$</u>

4		Position for Attaching Labels ① Carton Label ② Quality Label
5		Sealing Cartons H-shaped sealing cartons
Note	The initial packaging method described above is for reference only, and the final actual packaging method shall be subject to the actual shipping packaging.	

Contact Us

At Quectel, our aim is to provide timely and comprehensive services to our customers. If you require any assistance, please contact our headquarters:

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Or our local offices. For more information, please visit:

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Revision History

Version	Date	Author	Note
-	2026-04-27	Ryan Xun/ Bailey Zhang/ Kessie Geng/ Rainey Liao	Creation of the document
1.0	2026-04-27	Ryan Xun/ Bailey Zhang/ Kessie Geng/ Rainey Liao	First official release



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