



Antenna Datasheet

Product OC: YFCX001WWAH

Version: 1.1

Date: 2025-07-01

Status: Released

Product Name: 5G transparent Antenna

Key Features:

Frequency Band: 700–960 MHz, 1450–2690 MHz, 3300–6000 MHz

Dimensions: 118.2 mm × 42.7 mm

Efficiency: 700–960 MHz: 25 %–47 %

1450–6000 MHz: 40 %–70 %

Gain: 700–960 MHz: -2.8 dBi to -1 dBi

1450–6000 MHz :0.4 dBi–6 dBi

RoHS and REACH Compliant

Overview

YFCX001WWAH is a transparent antenna specifically designed by Quectel for 5G applications. It supports full-band coverage of 700–960 MHz, 1450–2690 MHz, and 3300–6000 MHz, meeting the requirements of multiple network environments. It is made of PET material, with dimensions of 118.2 mm × 42.7 mm and a weight of only 10 g. It has a very high transparency, and the transparency can reach over 85 %. It supports installation by adhesive backing or in the glass interlayer, combining both aesthetic appeal and concealment.

In terms of electrical performance, it has an impedance of 50 Ω , linear polarization, omnidirectional radiation, with a voltage standing wave ratio (VSWR) ≤ 3 , and a peak gain of up to 4 dBi. It demonstrates excellent efficiency: in the low frequency band (600–960 MHz), the efficiency is 25–47 %, and in the medium and high frequency bands (1450–6000 MHz), it reaches 40–70 %. Transmittance >85 %. It has strong environmental adaptability, with an operating temperature range from -40°C to +85°C and complies with the RoHS and REACH environmental protection standards.

It is applicable to scenarios such as vehicles, wearable devices (AR glasses, Mobile phone), architecture, smart agriculture, AI robots or mechanical dogs, POS machines, smart door locks, NFC, smart homes, wireless charging, etc.

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1 Specification

Test Condition: Free Space

1.1. Electrical

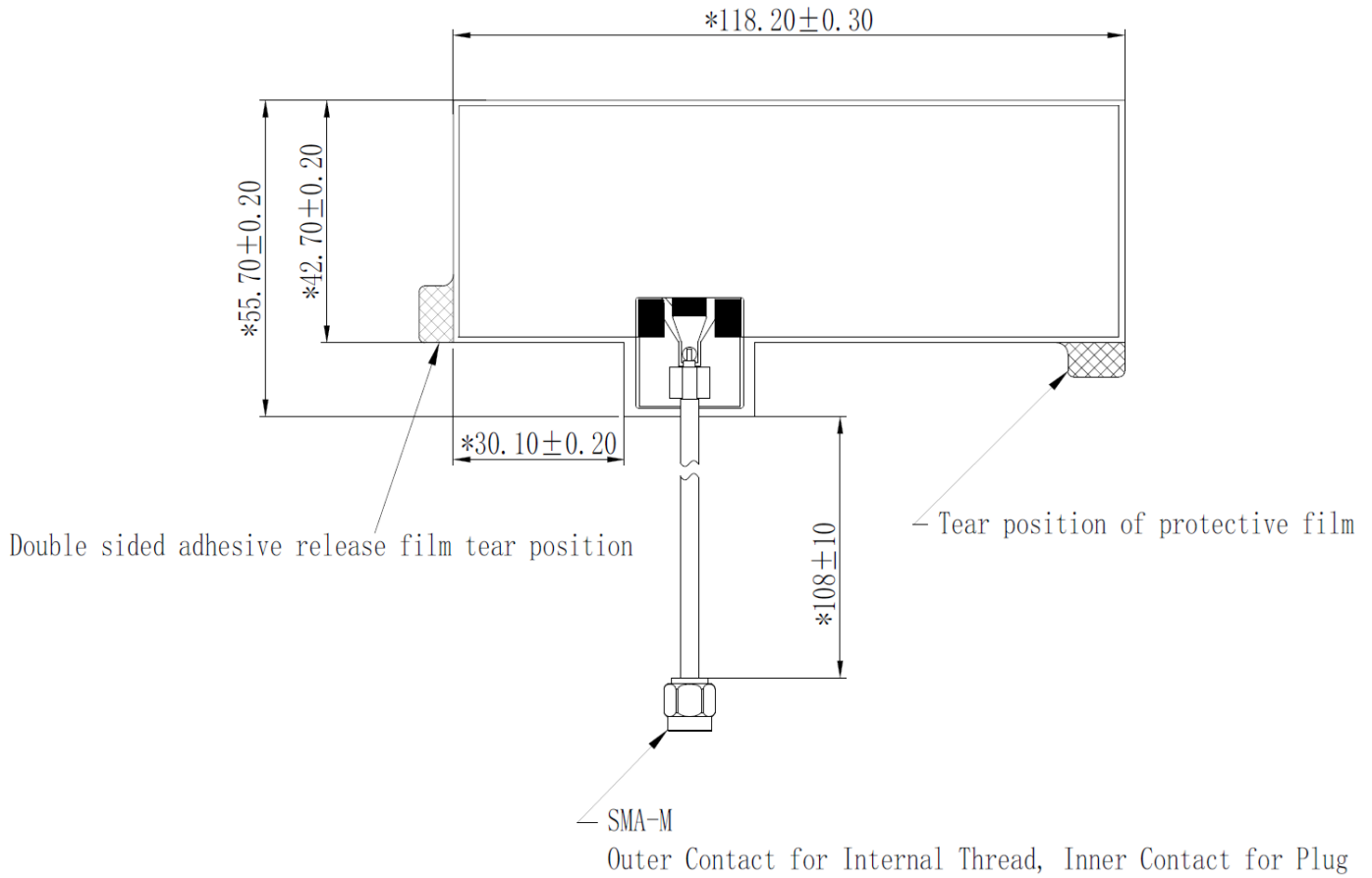
Electrical	
Frequency Range	700–960 MHz, 1450–2690 MHz, 3300–6000 MHz
Impedance	50 Ω
Polarization	Linear
Radiation Pattern	Omni-directional
VSWR	≤ 3
Peak Gain	4 dBi

1.2. Mechanical & Environmental

Mechanical	
Antenna Dimensions	118.2 mm × 42.7 mm
Material & Color	PET & transparent
Connector Type	SMA Male (It can be customized to meet customer requirements.)
Weight	Typ. 10 g
Mounting Type	Adhesive backing or glass interlayer
Environmental	
Operation Temperature	-40 °C to +85 °C
Storage Temperature	-40 °C to +85 °C

RoHS & REACH Compliant	Yes
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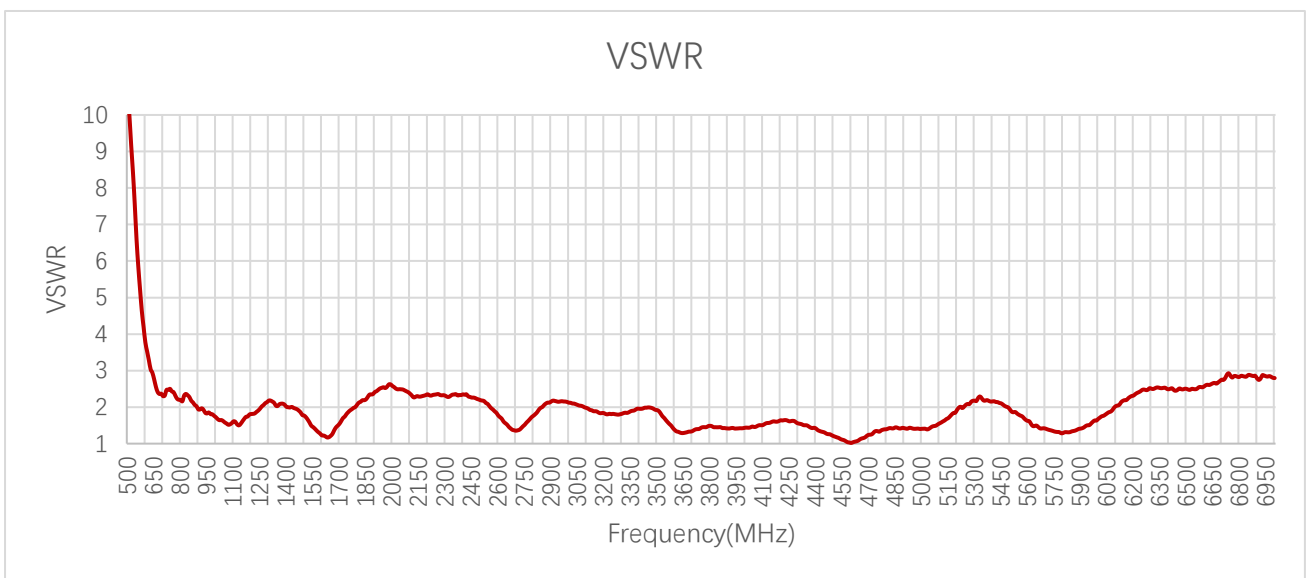
2 Drawing



3 Detailed Performance

3.1. S-Parameter Test

3.1.1. VSWR

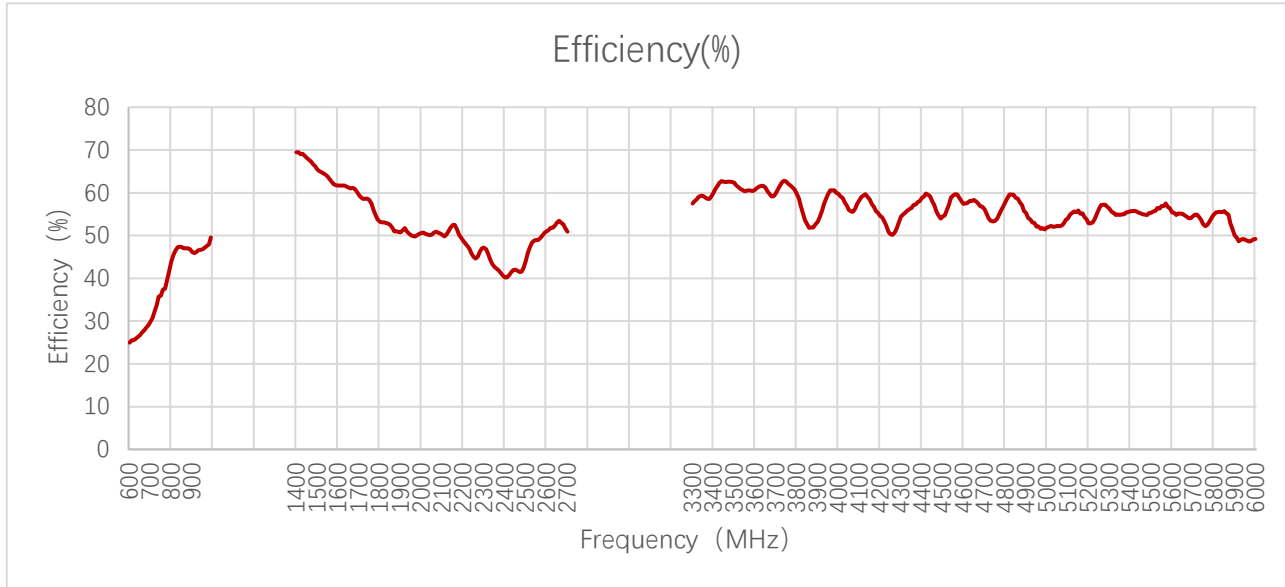


VSWR

Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
VSWR	-	-	2.3	2.4	1.9	1.9	2.0	1.6	1.8	2.3
Frequency (MHz)	1950	2140	2350	2450	2600	3300	4700	5000	5500	6000
VSWR	2.5	2.3	2.3	2.3	1.8	1.8	1.2	1.4	1.9	1.7

3.2. Radiation Performance Test

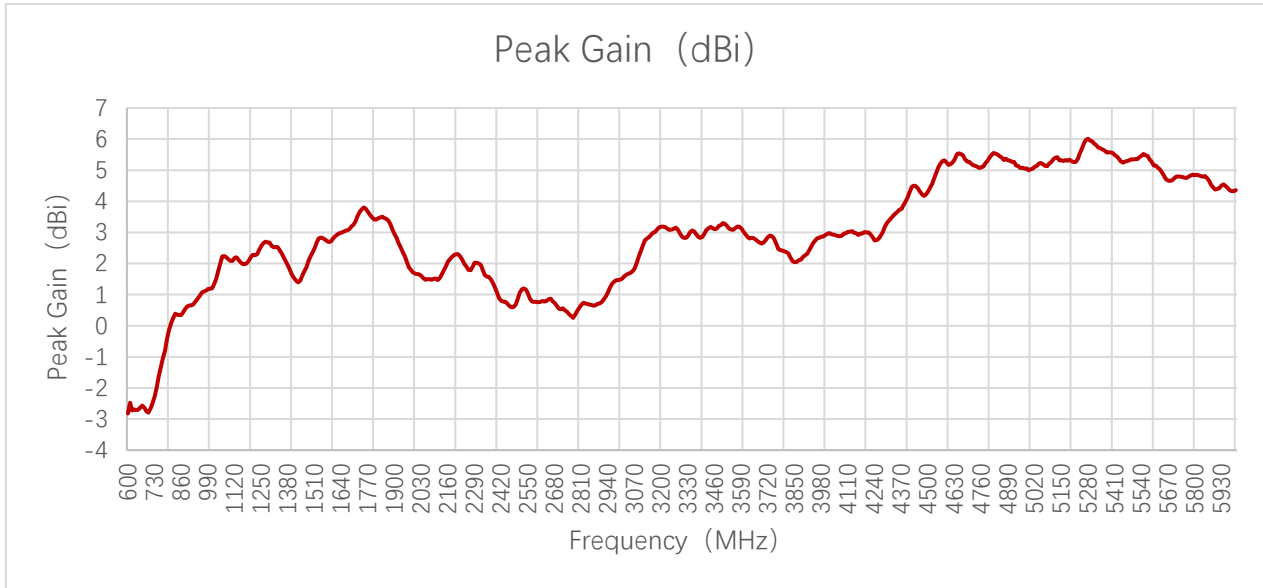
3.2.1. Efficiency



Efficiency (%)

Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
Efficiency (%)	-	-	30.78	47.21	46.23	47.17	68.63	58.89	58.64	51.01
Frequency (MHz)	1950	2140	2350	2450	2600	2690	3300	3800	4200	6000
Efficiency (%)	50.1	51.86	42.69	42.03	50.98	51.71	57.49	59.83	54.57	49.17

3.2.2. Peak Gain

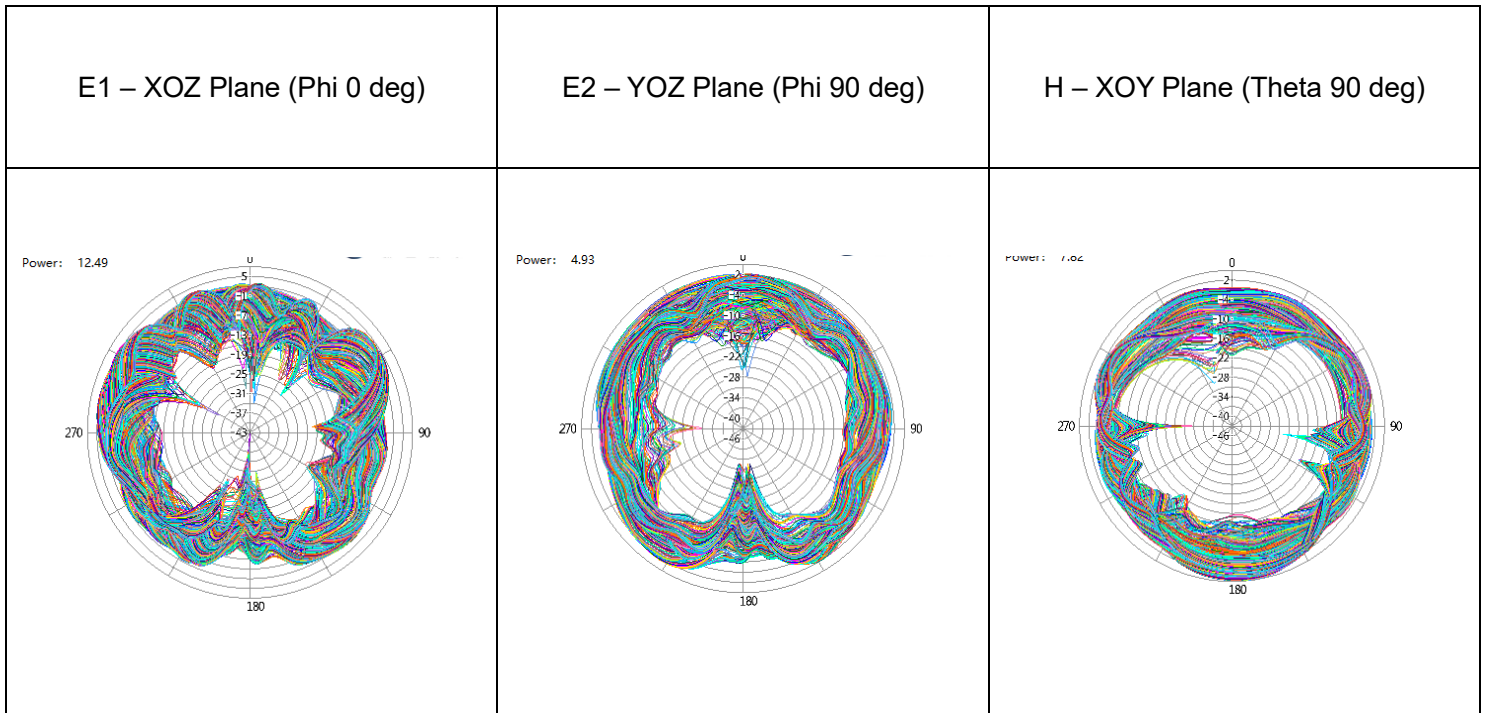
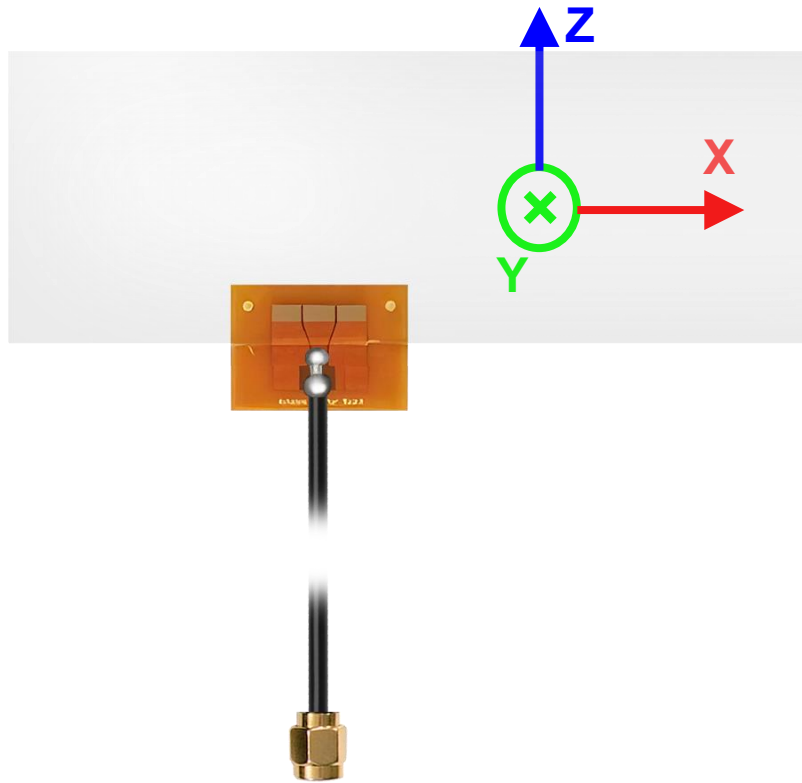


Peak Gain (dBi)

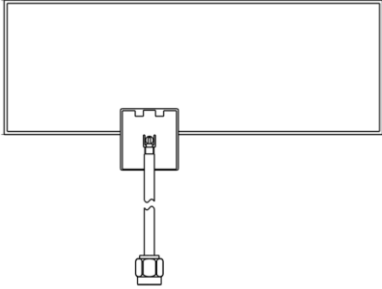
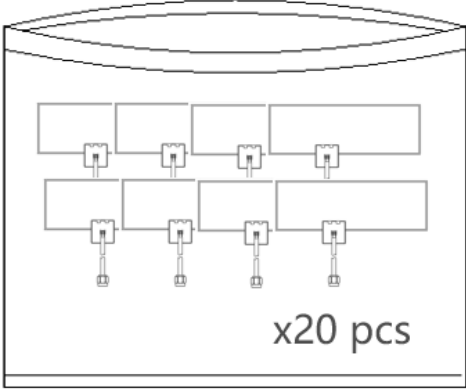
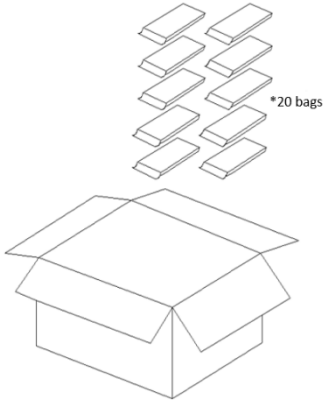
Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
Peak Gain (dBi)	-	-	-2.66	0.39	0.65	1.07	1.46	3.37	3.74	3.25
Frequency (MHz)	1950	2140	2350	2450	2600	2690	3300	3800	4200	6000
Peak Gain (dBi)	2.22	1.78	1.58	0.7	0.76	0.64	2.87	2.39	3	4.36

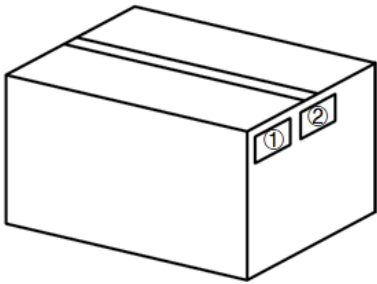
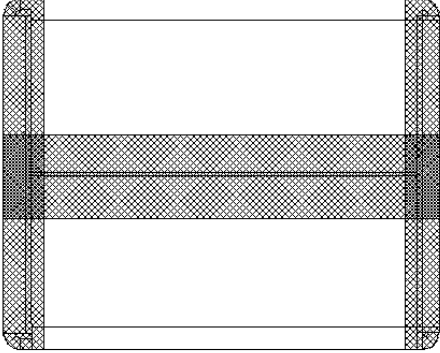
3.2.3. 2D Radiation Pattern

- Test Condition: Free Space
- Test Chamber: FS-G-1



4 Packaging

Step	Packaging Picture / 2D Picture	Description
1		Product drawing
2		20 pcs antenna products in a PE bag. (20 PCS Antennas / PE Bag)
3		(20 PE Bags / Carton Box) (400 PCS 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 x W x H = 300 x 250 x 200 mm</u>

4		<p>Position for Attaching Labels</p> <ul style="list-style-type: none"> ① Carton Label ② Quality Label
5		<p>Sealing Cartons H-shaped sealing cartons</p>
Note	<p>The initial packaging method described above is for reference only, and the final actual packaging method shall be subject to the actual shipping packaging.</p>	

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:

<http://www.quectel.com/support/sales.htm>.

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Revision History

Version	Date	Author	Note
-	2025-02-05	Alex HANG/ Will GU/ Riva REN/ Rainey LIAO	Creation of the document
1.0	2025-02-05	Alex HANG/ Will GU/ Riva REN/ Rainey LIAO	First official release
1.1	2025-07-01	Will GU/ Rainey LIAO	<ol style="list-style-type: none">1. Updated the overview.2. Added tearing position of the protective film in the drawing (Chapter 2).

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