

Antenna Datasheet

Product OC: Y0KWS00A1CA

Version: 1.0

Date: 2023-06-09

Status: Preliminary

Product Name: ISM FPC Antenna

Key Features:

Frequency Band: 915–930 MHz

Dimensions: 120.2 * 25mm

Efficiency: Up to 70.0%

RoHS and REACH Compliant

Overview

Quectel provides a range of antenna products that support the ISM radio band. These antennas are mounted inside the device to minimize the interference of the devices' internal environment. With the antenna performance and This ensures a better efficiency, gain and omni-directional radiation, offering a superior user experience. Quectel also offers flexible installation with custom cable length and connector options.

Contents

Overview.....	2
Contents.....	3
1 Specification.....	4
1.1. Electrical.....	4
1.2. Mechanical, Environmental & Storage.....	5
2 Drawing	6
3 Detailed Performance	7
3.1. S-Parameter Test	7
3.1.1. VSWR.....	7
3.1.2. Return Loss	8
3.2. Radiation Performance Test.....	9
3.2.1. Efficiency	9
3.2.2. Average Gain	10
3.2.3. Peak Gain.....	11
3.2.4. 3D & 2D Radiation Pattern.....	12
Contact US	14
Legal Notices	15
Revision History	17

1 Specification

Test Condition: Free space

1.1. Electrical

Electrical	
Frequency Range	910-930MHz
Impedance	50 Ω
Polarization	Linear
Radiation Pattern	Omni-directional

Electrical - Detail												
Band	Band	B71	B12 /B13 /B28	Lora	N74 /N75 /N76	B1 /B2 /B3	B40	Wi-Fi 2G	B38 /B41	B42 /B48 /N77	N79	Wi-Fi 5G
SPEC	Freq. (MHz)	600– 700	700– 810	910– 930	1420– 1520	1700– 2170	2300– 2400	2400– 2500	2500– 2690	3300– 4200	4400– 5000	5150– 5850
Max. VSWR		-	-	2.0	-	-	-	-	-	-	-	-
Max. Return Loss (dB)		-	-	-9.8	-	-	-	-	-	-	-	-
AVG Eff. (%)		-	-	70.0	-	-	-	-	-	-	-	-
AVG Gain (dB)		-	-	-1.6	-	-	-	-	-	-	-	-
Max. Peak Gain (dBi)		-	-	1.4	-	-	-	-	-	-	-	-
VSWR						≤ 2.0						
Return Loss						≤ -9.8 dB						
Gain						≤ 1.5 dBi						

1.2. Mechanical, Environmental & Storage

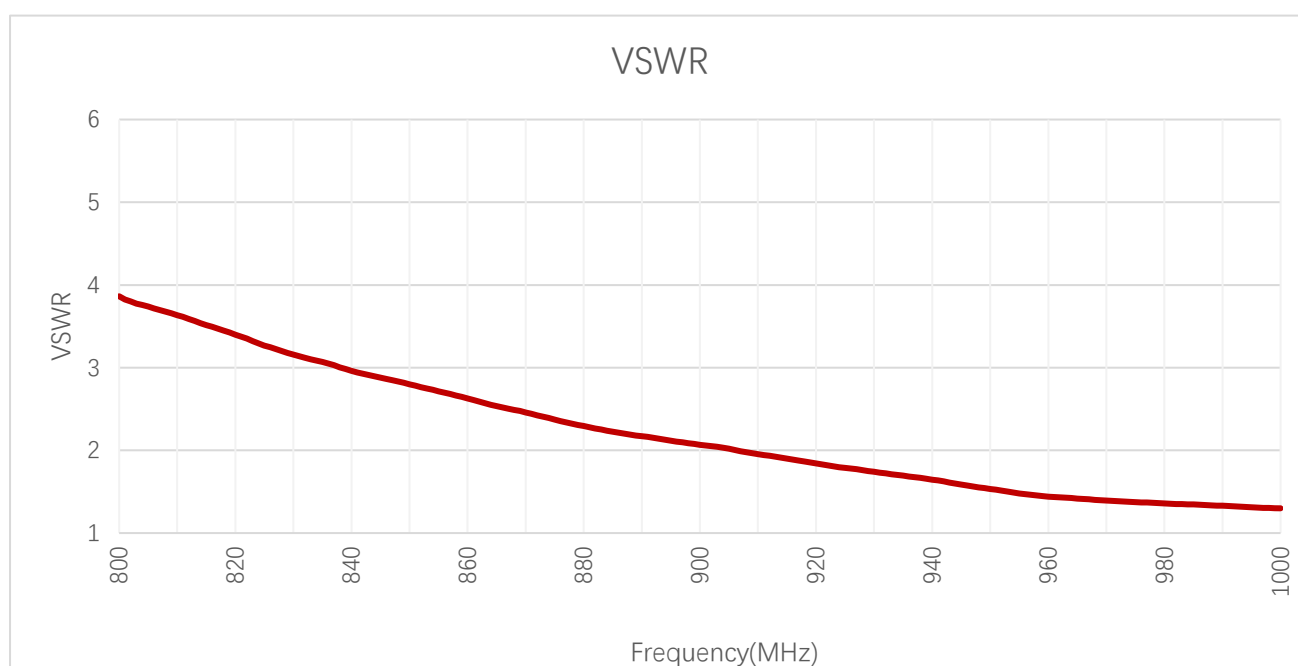
Mechanical	
Antenna Dimensions	120.2 * 25mm
Material & Color	FPC & Black
Cable Type & Color & Length	Φ1.37 & Black & 300mm
Connector Type	RP-SMA
Mounting Type	Adhesive
Weight	-
Environmental	
Operation Temperature	-40 °C to +85 °C
RoHS & REACH Compliant	Yes
Storage	
Storage Temperature	18 °C -27°C
Storage Humidity	30%-80%RH
Storage Place	Away from corrosive and direct sunlight.
Packaging	Antennas should be stored in unopened sealed manufacturer's plastic packaging.

2 Drawing

3 Detailed Performance

3.1. S-Parameter Test

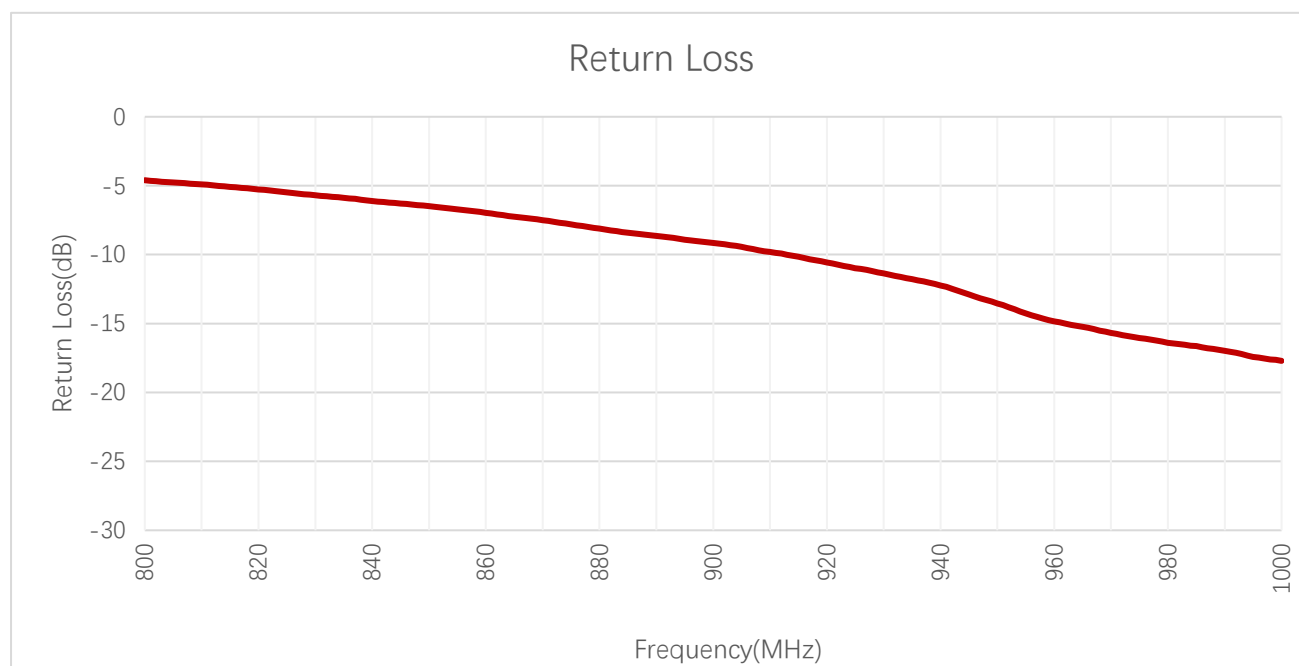
3.1.1. VSWR



VSWR

Frequency (MHz)	600	630	710	910	915	930	1440	1710	1740	1880
VSWR	-	-	-	2.0	1.9	1.7	-	-	-	-
Frequency (MHz)	1950	2140	2350	2450	2600	3600	4700	5000	5500	6000
VSWR	-	-	-	-	-	-	-	-	-	-

3.1.2. Return Loss

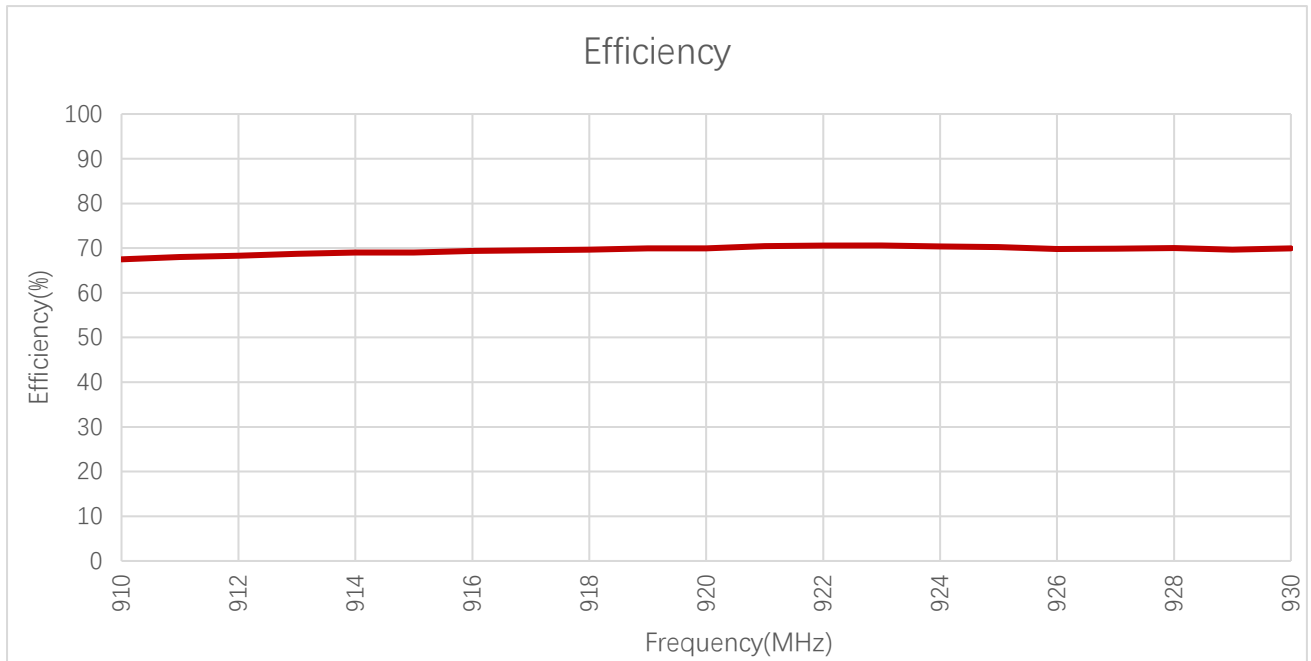


Return Loss (dB)

Frequency (MHz)	600	630	710	910	915	930	1440	1710	1740	1880
Return Loss (dB)	-	-	-	-9.8	-10.2	-11.4	-	-	-	-
Frequency (MHz)	1950	2140	2350	2450	2600	3600	4700	5000	5500	6000
Return Loss (dB)	-	-	-	-	-	-	-	-	-	-

3.2. Radiation Performance Test

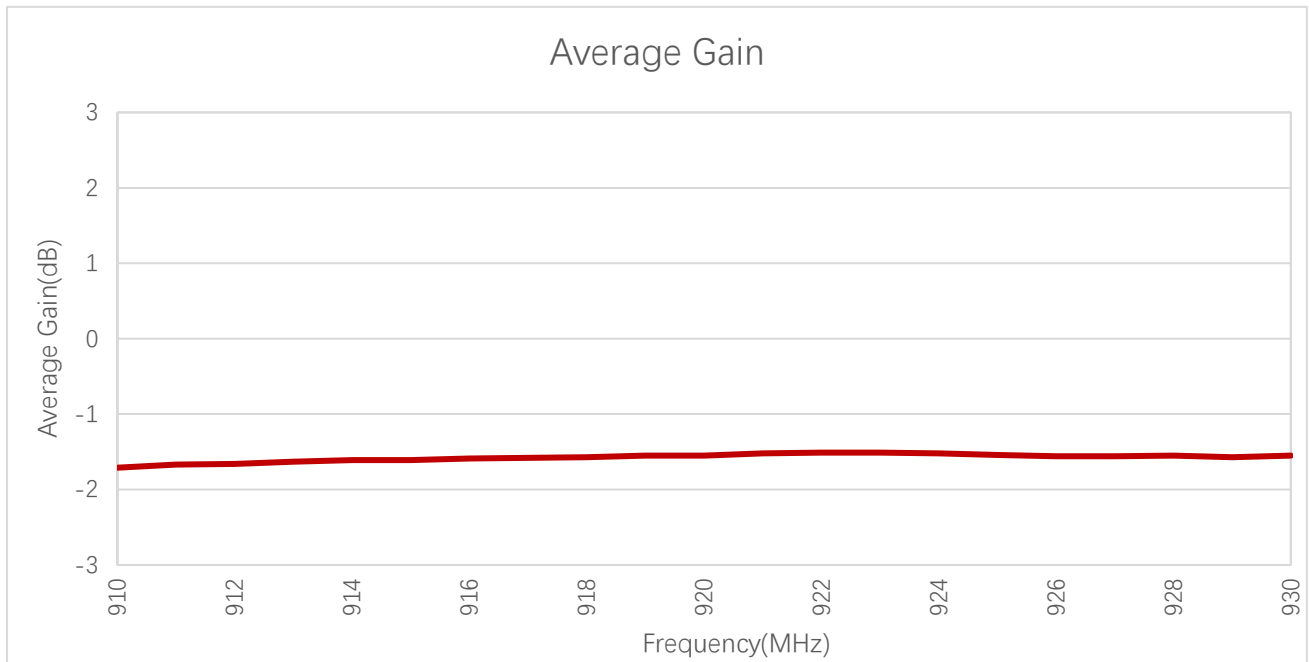
3.2.1. Efficiency



Efficiency (%)

Frequency (MHz)	600	630	710	910	915	930	1440	1710	1740	1880
Efficiency (%)	-	-	-	67.5	69.0	70.0	-	-	-	-
Frequency (MHz)	1950	2140	2350	2450	2600	3600	4700	5000	5500	6000
Efficiency (%)	-	-	-	-	-	-	-	-	-	-

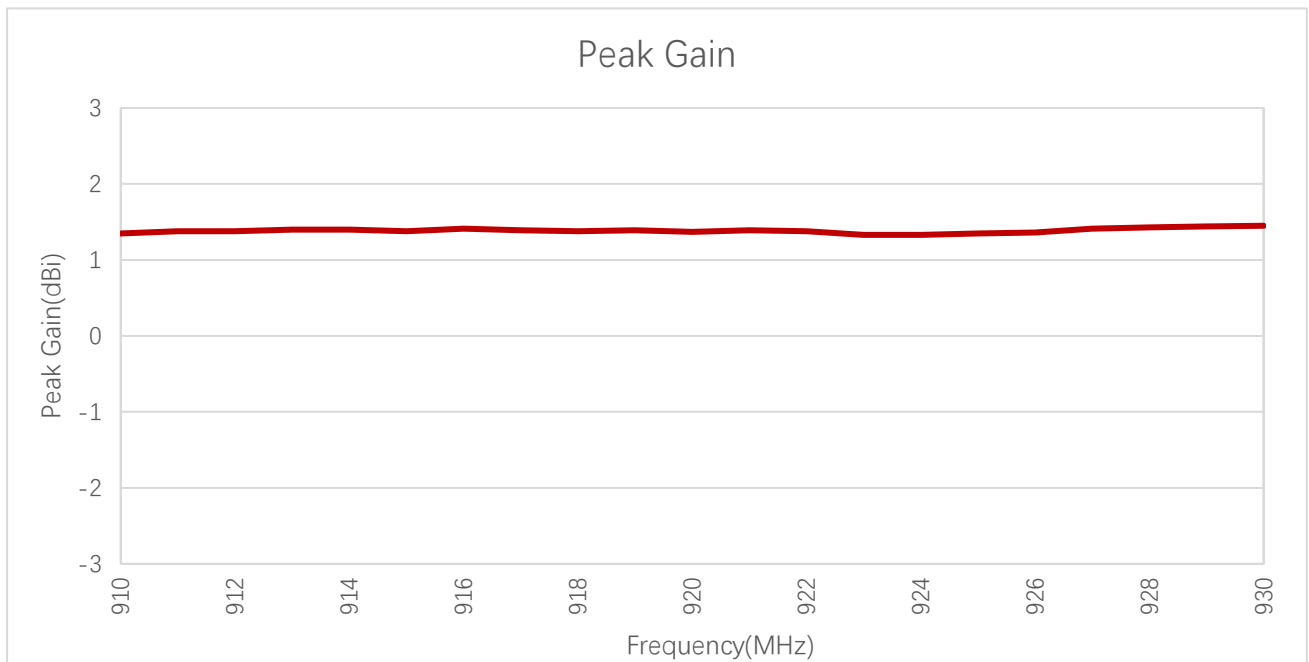
3.2.2. Average Gain



Average Gain (dB)

Frequency (MHz)	600	630	710	910	915	930	1440	1710	1740	1880
Average Gain (dB)	-	-	-	-1.7	-1.6	-1.6	-	-	-	-
Frequency (MHz)	1950	2140	2350	2450	2600	3600	4700	5000	5500	6000
Average Gain (dB)	-	-	-	-	-	-	-	-	-	-

3.2.3. Peak Gain

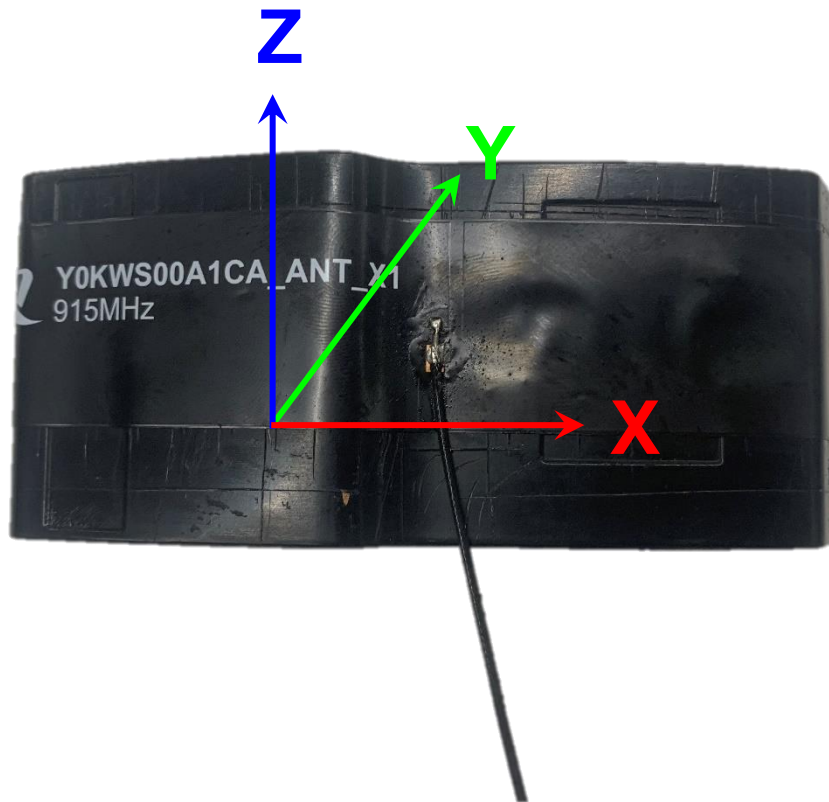


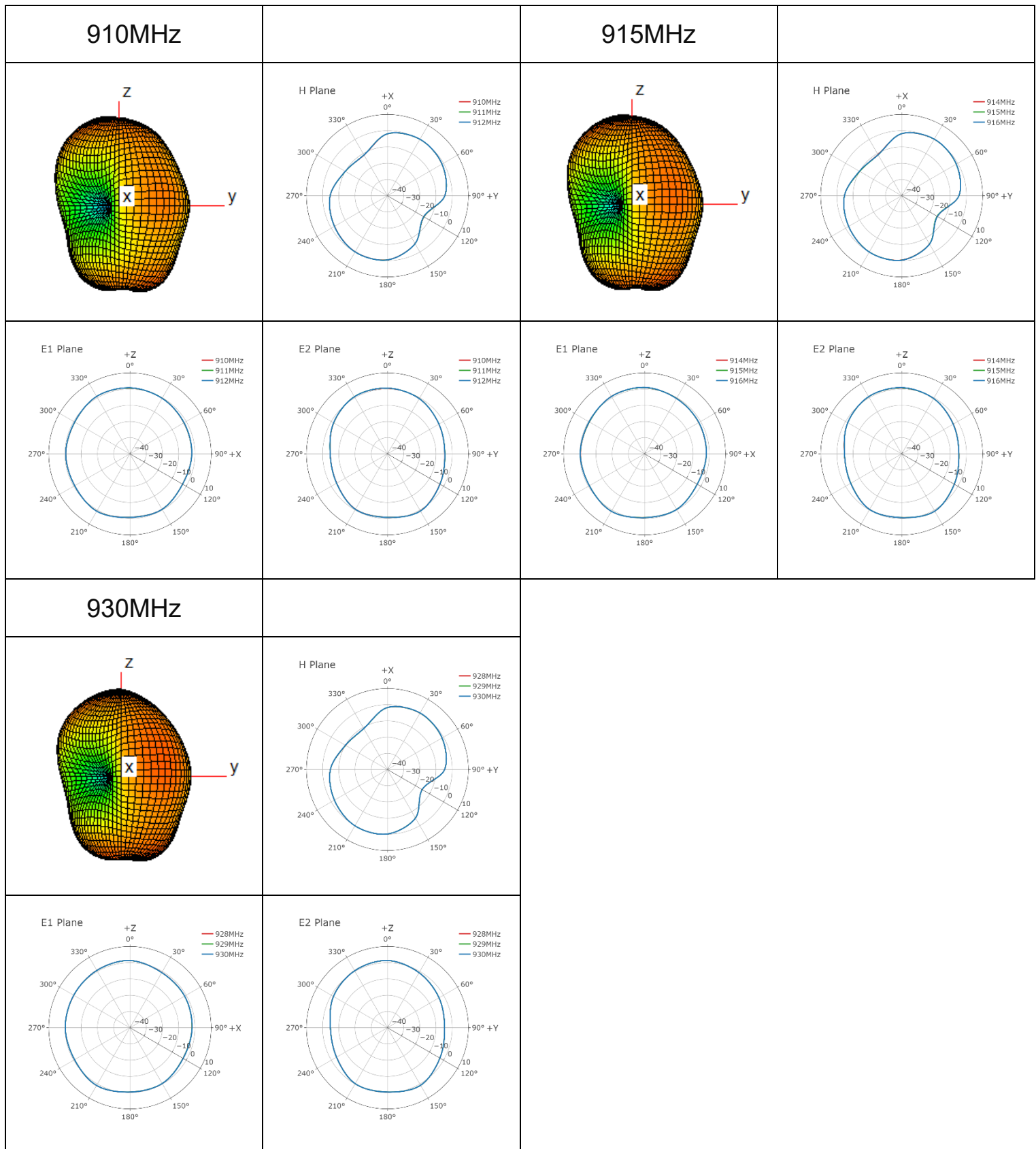
Peak Gain (dBi)

Frequency (MHz)	600	630	710	910	915	930	1440	1710	1740	1880
Peak Gain (dBi)	-	-	-	1.4	1.4	1.5	-	-	-	-
Frequency (MHz)	1950	2140	2350	2450	2600	3600	4700	5000	5500	6000
Peak Gain (dBi)	-	-	-	-	-	-	-	-	-	-

3.2.4. 3D & 2D Radiation Pattern

- Test Condition: Free space
- Test Chamber: HF-G-1





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:

Quectel Wireless Solutions Co., Ltd.

Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai 200233, China

Tel: +86 21 5108 6236

Email: info@quectel.com

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

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Revision History

Version	Date	Author	Note
-	2023-06-09	Aslan Chen Joye Wang David Liu Vinnie Liu	Creation of the document
1.0	2023-06-09	Aslan Chen Joye Wang David Liu Vinnie Liu	First official release



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