



Quectel Antenna Datasheet

Product OC: Y0QUE00ABBA

Version: 1.0

Date: 2023-12-19

Status: Preliminary

Product Name: 5G PCB Antenna

Key Features:

Frequency band: 746-894 MHz, 2496-2690 MHz

Peak efficiency: 84.63%

Dimensions: 142.3mm * 57.9mm * 1mm

RoHS and REACH Compliant

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1 Specification

Test Condition: Free Space

1.1. Electrical

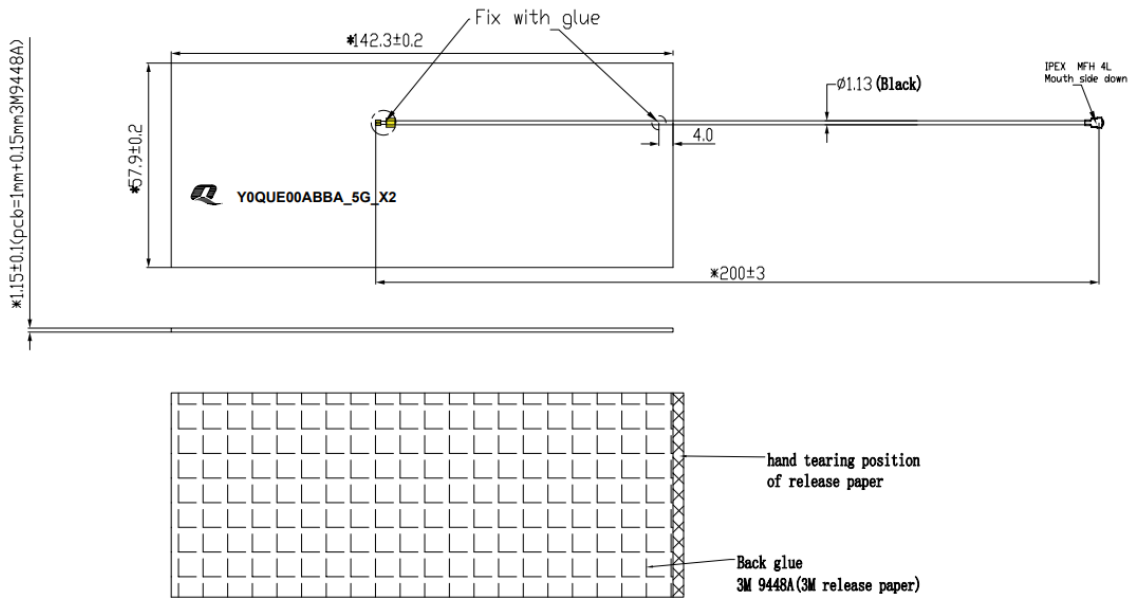
| Electrical | |
|-------------------|----------------------------|
| Frequency Range | 746-894 MHz, 2496-2690 MHz |
| Impedance | 50 Ω |
| Polarization | Linear |
| Radiation Pattern | Omni-directional |
| Antenna Type | PIFA |

1.2. Mechanical & Environmental

| Mechanical | |
|-----------------------------|-----------------------------|
| Antenna Dimensions | 142.3 * 57.9 * 1mm |
| Material & Color | PCB & Green |
| Cable Type & Color & Length | Φ 1.13 & Black & 200mm |
| Connector Type | IPEX MHF 4L |
| Mounting Type | Adhesive |
| Weight | Typ:21.7g |
| Environmental | |
| Operation Temperature | -40 °C to +85 °C |
| RoHS and REACH Compliant | Yes |

| Frequency Specification | 777-787 MHz | 788-798 MHz | 814-849 MHz | 2500-2570 MHz | 2570-2620 MHz | 2500-2690 MHz |
|-----------------------------|-----------------|----------------|----------------|------------------|------------------|------------------|
| Max. VSWR | 2.0 | 2.1 | 3.0 | 1.5 | 1.6 | 1.7 |
| AVG Eff. (%) | 77.8 | 80.3 | 77.7 | 72.1 | 67.6 | 69.2 |
| AVG Gain (dB) | -1.1 | -1.0 | -1.1 | -1.4 | -1.7 | -1.6 |
| Max. Peak Gain (dBi) | 3.28 | 3.25 | 3.32 | 3.16 | 3.07 | 3.16 |
| VSWR | ≤ 3.0 | | | | | |
| Peak Gain | ≤ 3.32 dBi | | | | | |

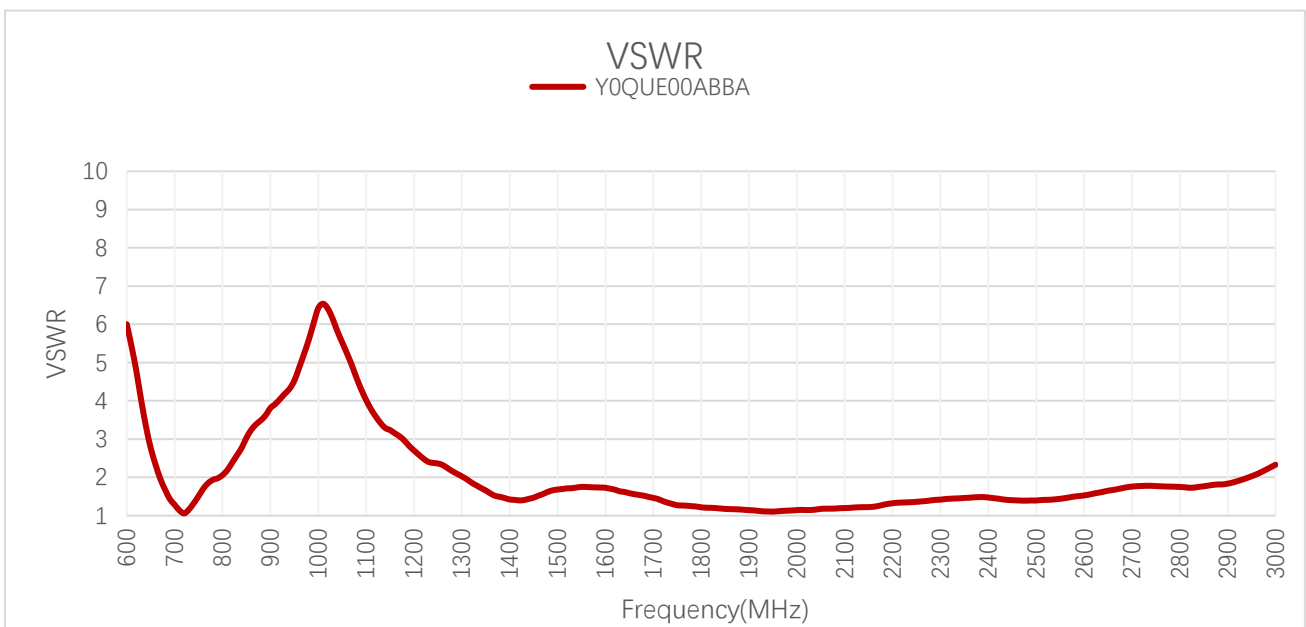
2 Drawing



3 Detailed Performance

3.1. S-Parameter Test

3.1.1. VSWR

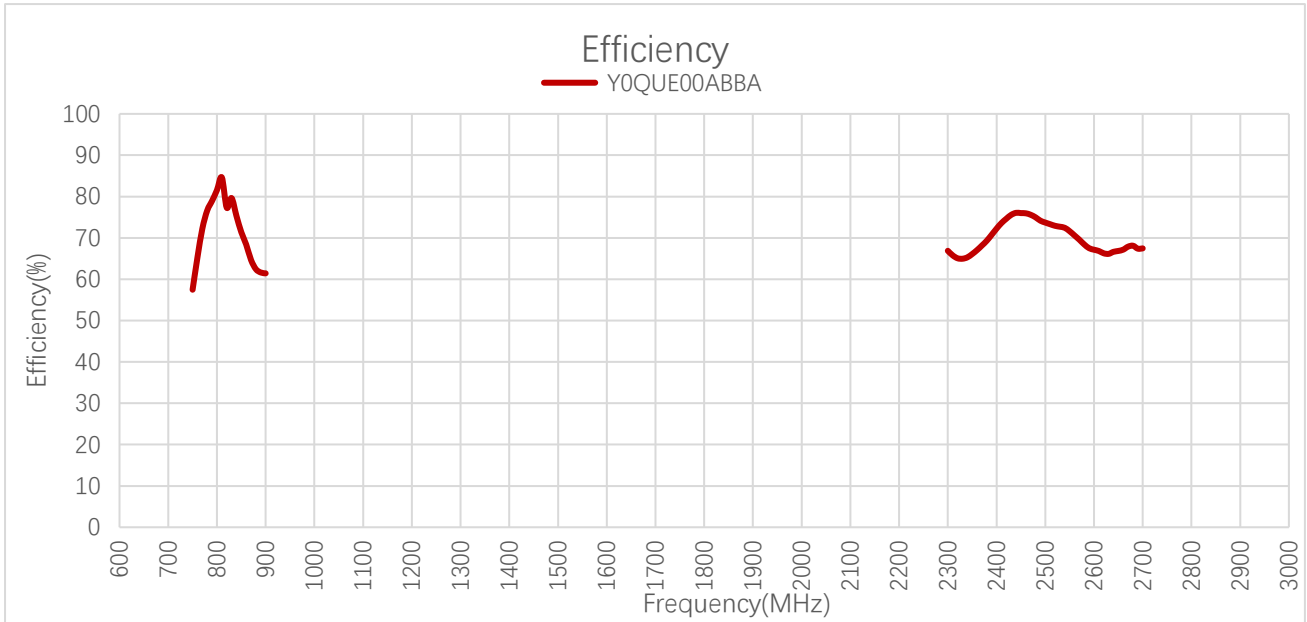


VSWR

| Frequency (MHz) | 780 | 790 | 800 | 830 | 850 | 2500 | 2550 | 2570 | 2690 |
|-----------------|-----|-----|-----|-----|-----|------|------|------|------|
| VSWR | 1.9 | 2.0 | 2.1 | 2.6 | 3.0 | 1.4 | 1.4 | 1.5 | 1.7 |

3.2. Radiation Performance Test

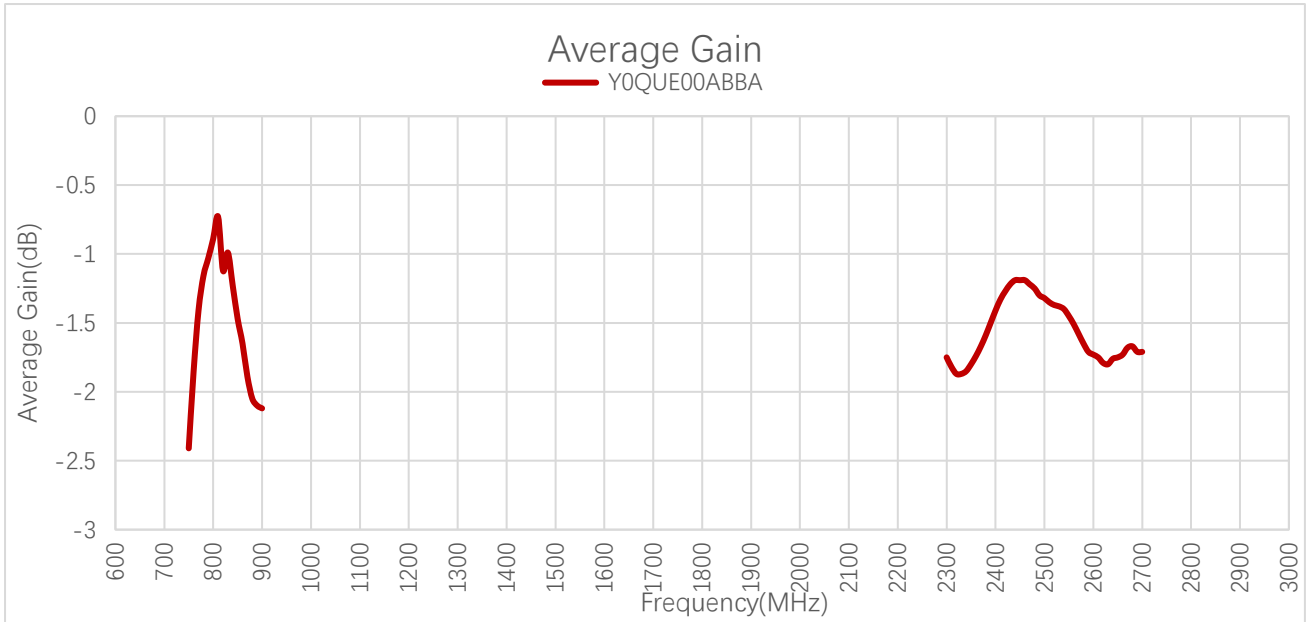
3.2.1. Efficiency



Efficiency (%)

| Frequency (MHz) | 780 | 790 | 800 | 830 | 850 | 2500 | 2550 | 2570 | 2690 |
|-----------------|------|------|------|------|------|------|------|------|------|
| Efficiency (%) | 76.6 | 79.0 | 81.6 | 79.6 | 71.4 | 73.7 | 71.6 | 69.6 | 67.4 |

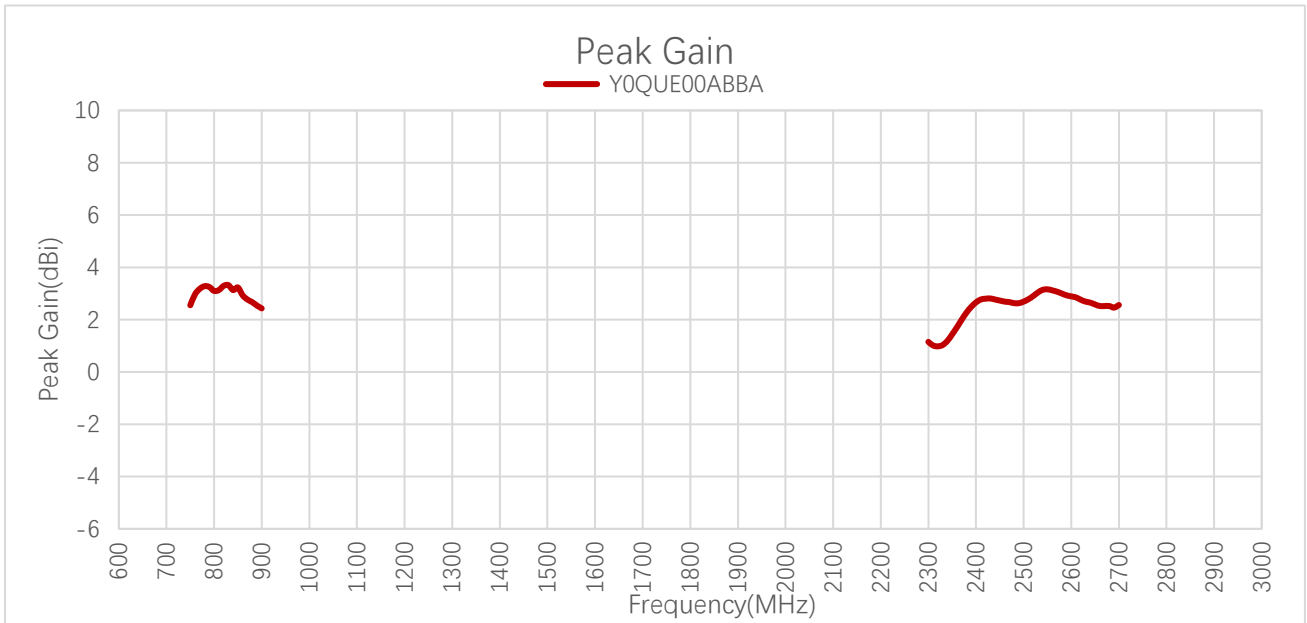
3.2.2. Average Gain



Average Gain (dB)

| Frequency (MHz) | 780 | 790 | 800 | 830 | 850 | 2500 | 2550 | 2570 | 2690 |
|-------------------|------|------|------|------|------|------|------|------|------|
| Average Gain (dB) | -1.2 | -1.0 | -0.9 | -1.0 | -1.5 | -1.3 | -1.5 | -1.6 | -1.7 |

3.2.3. Peak Gain



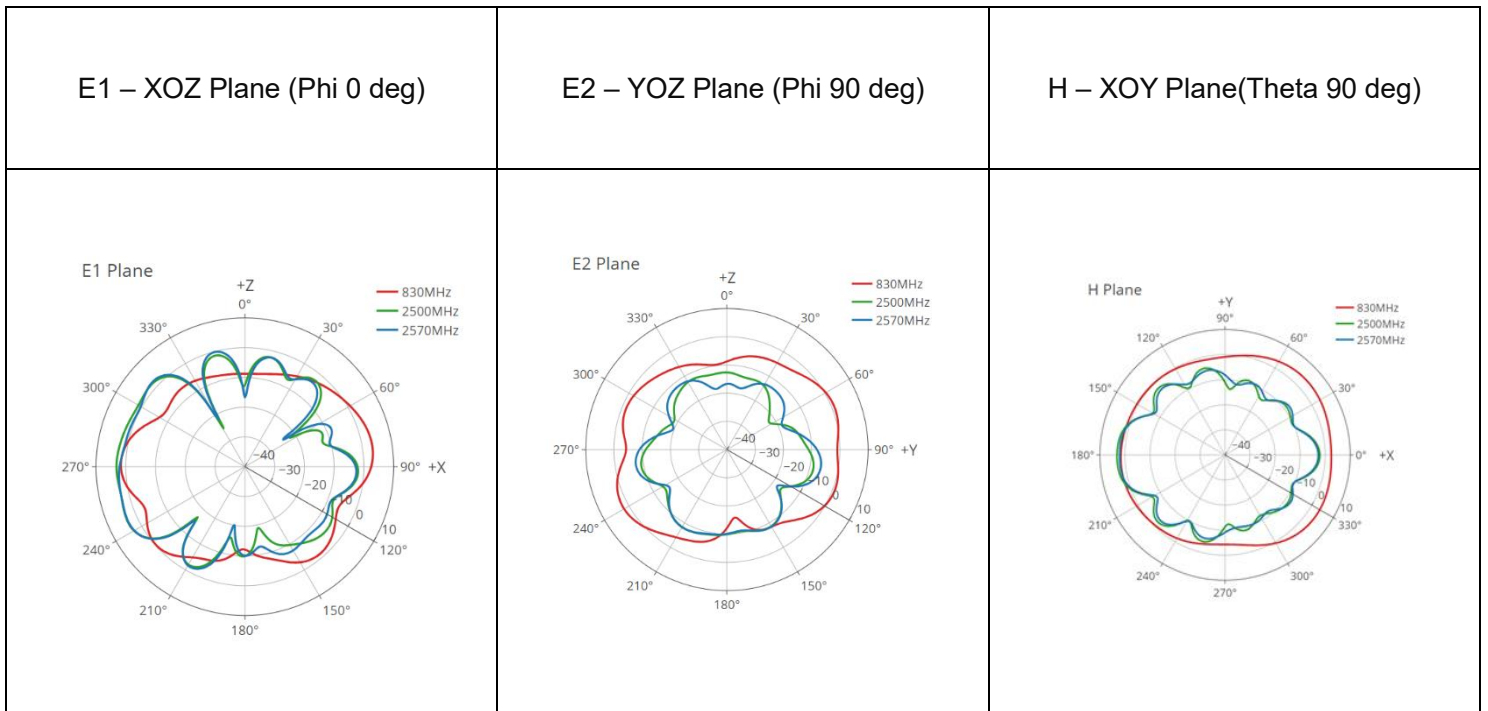
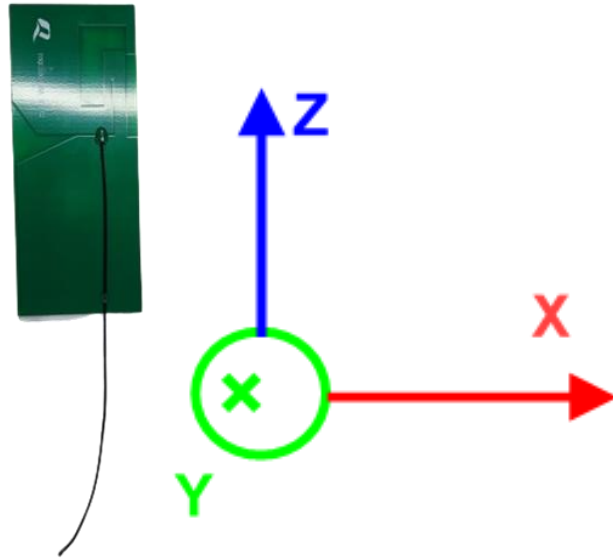
Peak Gain (dBi)

| Frequency (MHz) | 780 | 790 | 800 | 830 | 850 | 2500 | 2550 | 2570 | 2690 |
|-----------------|------|------|------|------|------|------|------|------|------|
| Peak Gain (dBi) | 3.28 | 3.25 | 3.10 | 3.32 | 3.23 | 2.69 | 3.16 | 3.07 | 2.46 |

3.2.4. 3D & 2D Radiation Pattern

3.2.4.1. Test Condition: Free Space

- Test Chamber: GL-S-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:

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Revision History

| Version | Date | Author | Note |
|---------|------------|--------------------|--------------------------|
| - | 2023-12-19 | Sly Liu/Lucky Feng | Creation of the document |
| 1.0 | 2023-12-19 | Sly Liu/Lucky Feng | First official release |

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