

# Antenna

# YF0023CA Datasheet

## Antenna Services

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# About the Document

## Revision History

Version	Date	Author	Note
-	2021-08-10	Toby WANG	Creation of the document
1.0	2021-08-10	Toby WANG	First official release
1.1	2021-11-30	Toby WANG	Updated the product description in Chapter 1.

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## 1 Product Description

Quectel Wi-Fi antenna covers 2.4 GHz, 5 GHz, and up to 7 GHz bands, fully satisfying customers' requirements for Wi-Fi 5, Wi-Fi 6, and Wi-Fi 6E. There are various antenna types, including built-in FPC antenna, ceramic patch antenna, and other external antennas of different shapes or sizes. The antenna performance meets the customers' demands for efficiency, gain, and radiation and ensures the superior experience of the customers' products in use.

We provide comprehensive antenna design support such as simulation, testing and manufacturing for custom antenna solutions to meet your specific application needs.

## 2 Product Features

- Cellular WIFI
- High efficiency
- Excellent performance



### 3 Product Specifications

#### Passive Electrical Specifications

Frequency Range	2400–2500 MHz, 4900–5850 MHz, 5925–7125 MHz
Input Impedence	50 Ω
Return Loss	≤ -8.8
Gain	≤ 7 dBi
Polarization Type	Linear

#### Mechanical Specifications

Antenna Size	37.80 mm × 7.50 mm
Casing	FPC
Connector Type	RF I Generation
Working Temperature	-20 °C to +85 °C
Radome Color	Black

## 4 Overall Performance

### 4.1. Test Environment

- ROHDE&SCHWARZ VNA Network Analyzer ZNB8 100 kHz – 8.5 GHz
- RayZone® 2800 Chamber 5G (FR1) SISO/MIMO, 600 MHz – 7.5 GHz



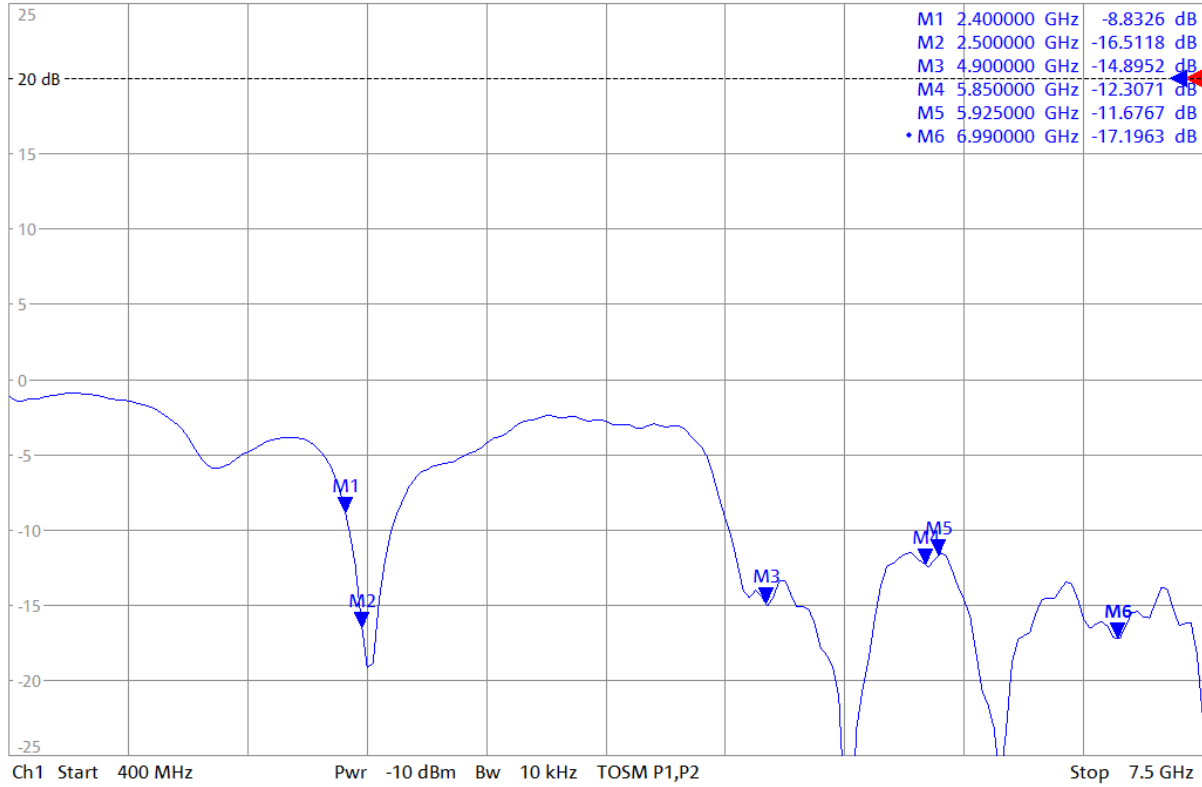


## 4.2. Return Loss

1/18/2021 1:30:25 AM  
1311.6010K44-103612-xz

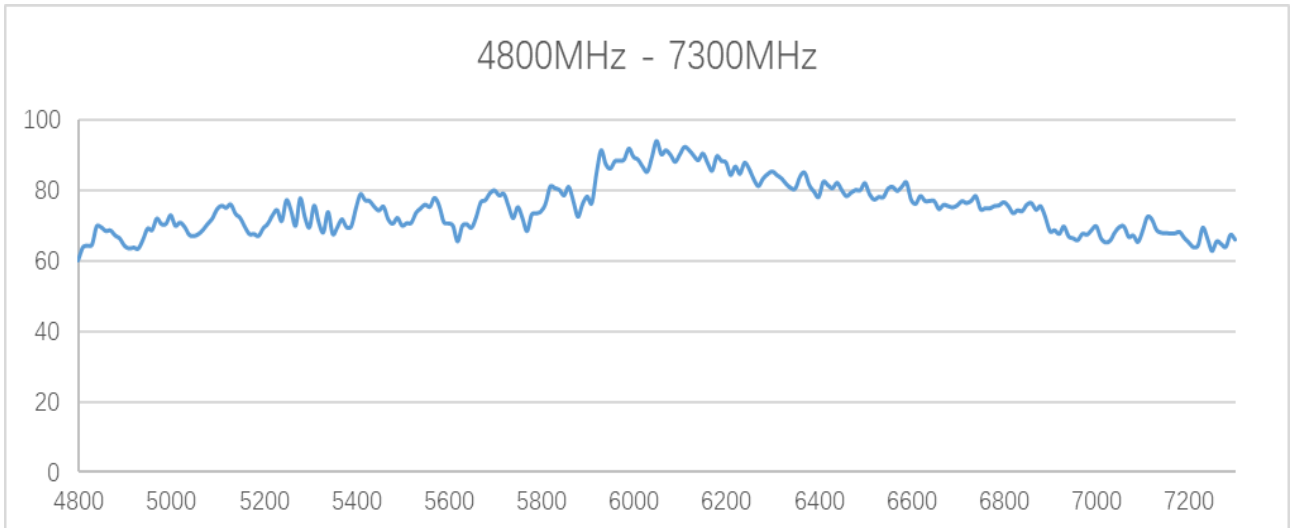
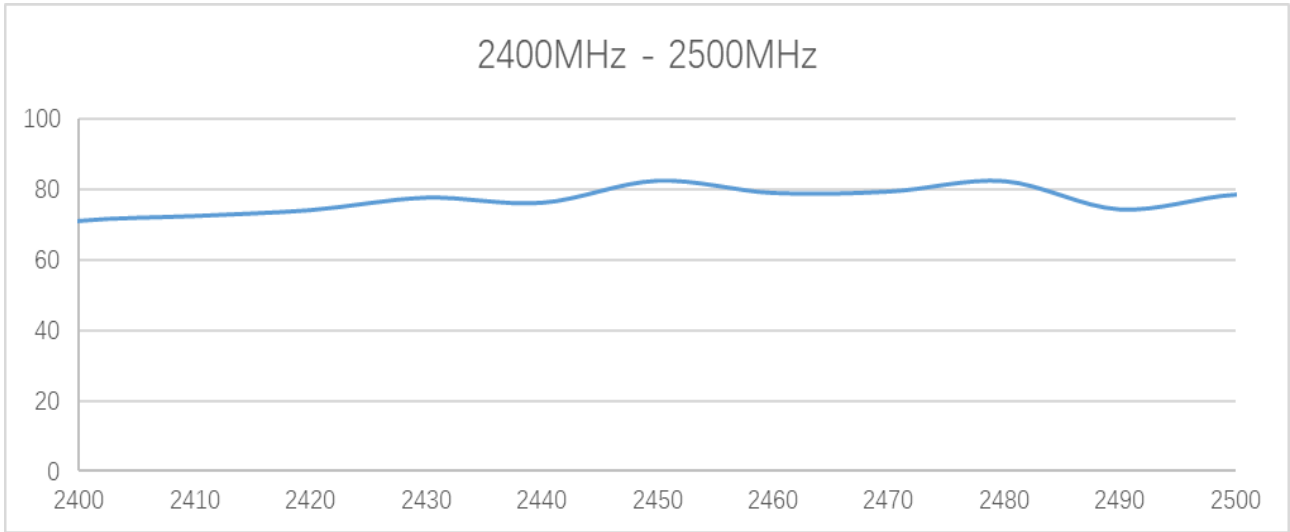
Trc1 — S11 dB Mag 5 dB/ Ref 20 dB Cal  
Mem2[Trc1] — S11 dB Mag 5 dB/ Ref 20 dB Invisible

1 ▾



<b>Frequency (MHz)</b>	2400	2500	4900	5850	5925	7125
<b>Return Loss (dB)</b>	-8.83	-16.51	-14.89	-12.31	-11.68	-17.19

### 4.3. Efficiency



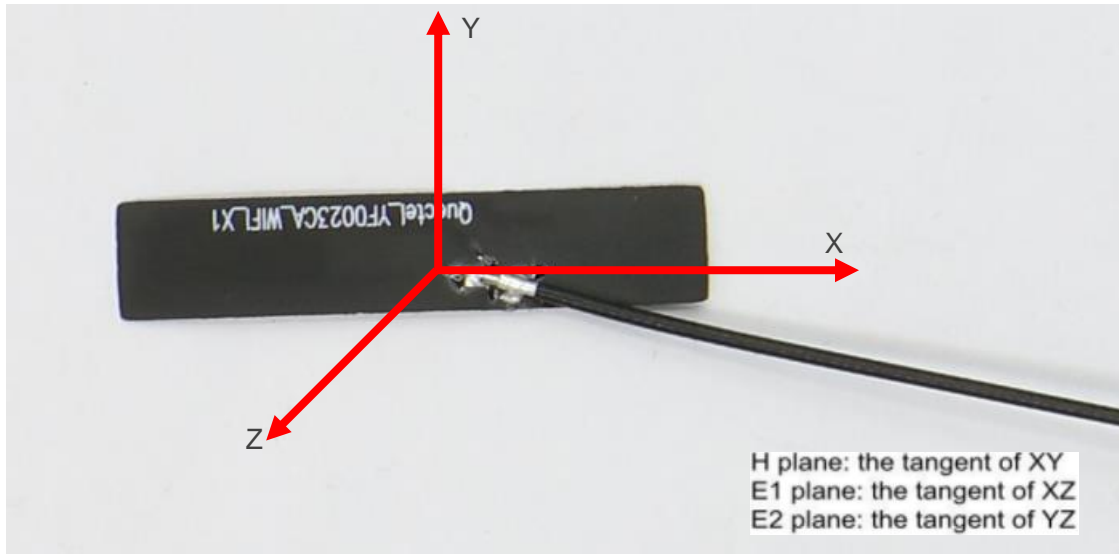
<b>Frequency (MHz)</b>	2400	2500	4900	5850	5925	7125
<b>Efficiency (%)</b>	71.07	78.50	64.37	78.58	84.73	70.82

### 4.4. Gain

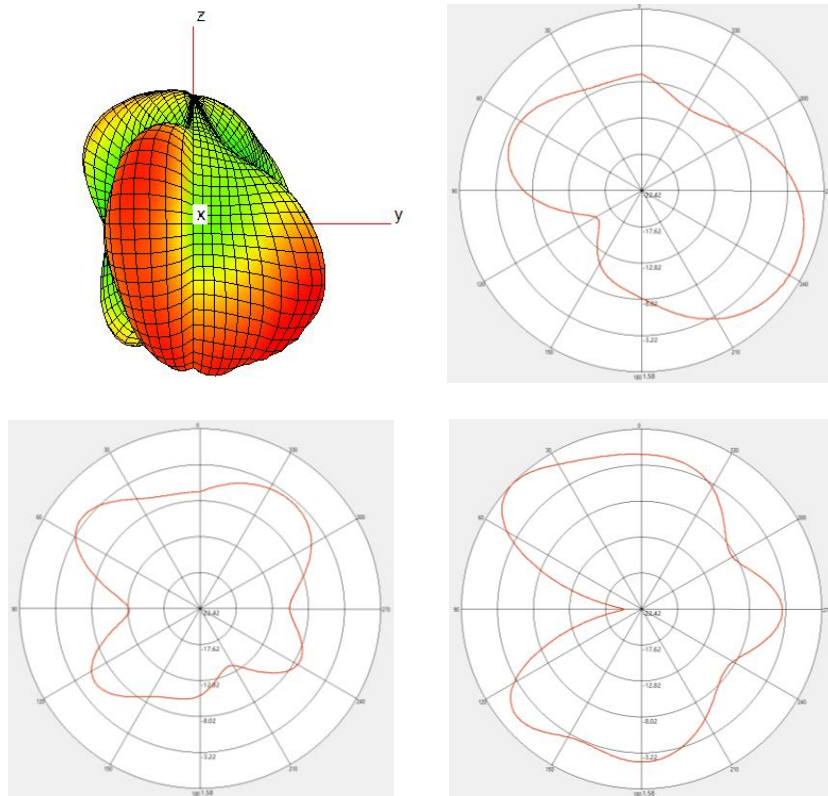


<b>Frequency (MHz)</b>	2400	2500	4900	5850	5925	7125
<b>Gain (dBi)</b>	2.12	2.62	2.03	4.38	4.78	6.62

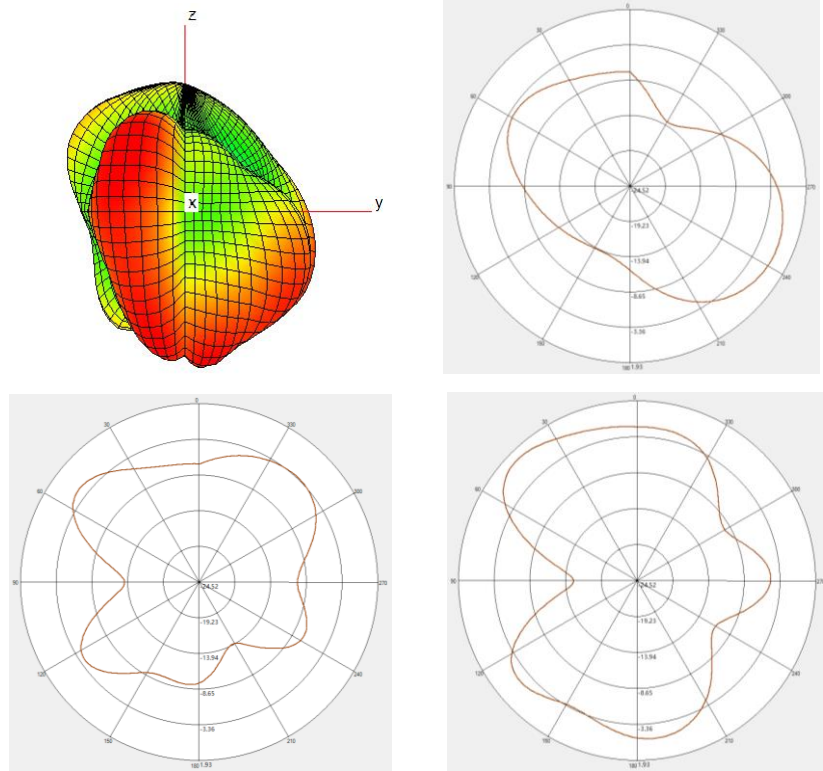
### 4.5. Radiation Pattern



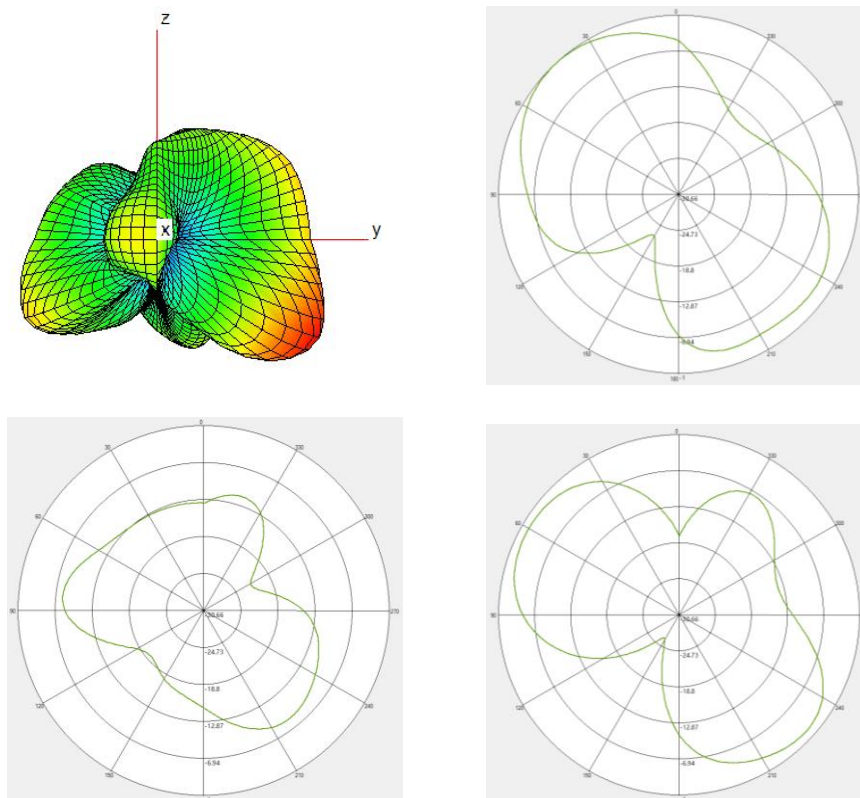
#### 4.5.1. 2400 MHz



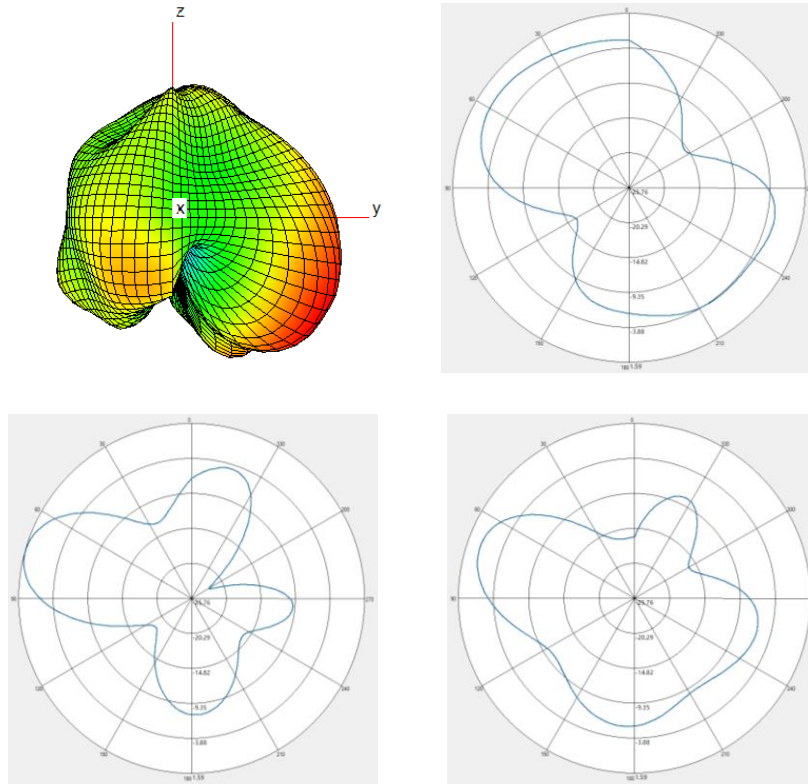
**4.5.2. 2500 MHz**



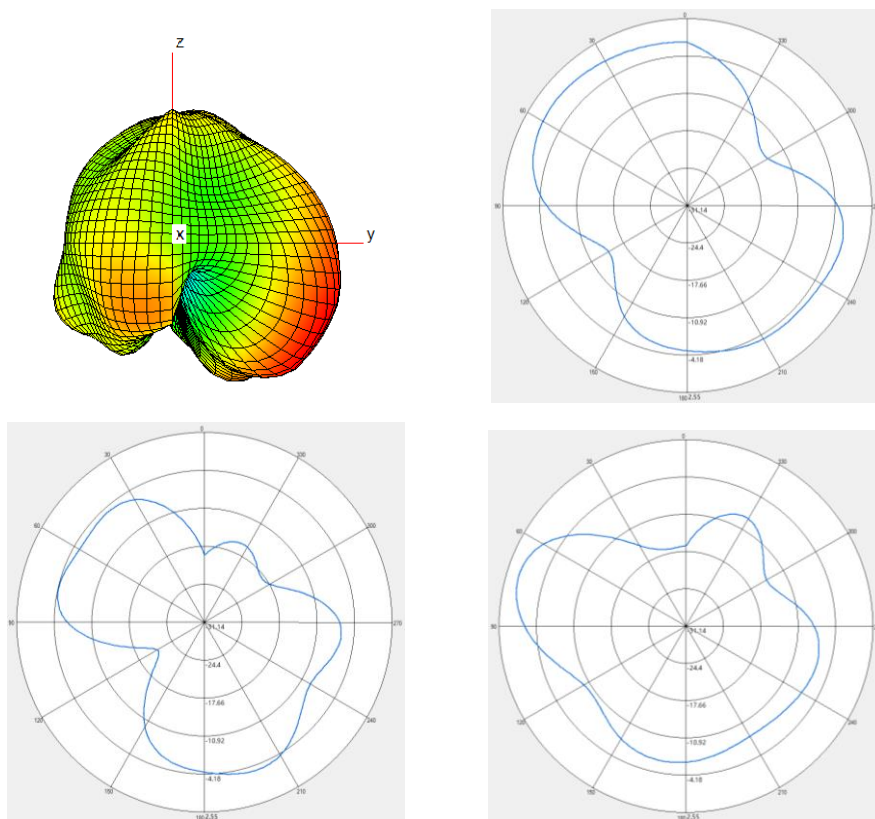
**4.5.3. 4900 MHz**



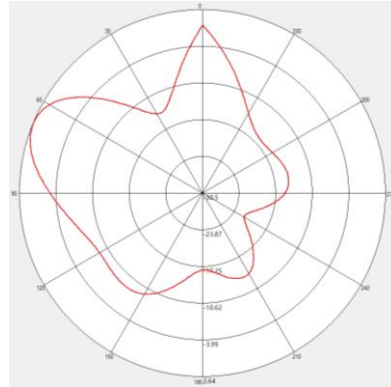
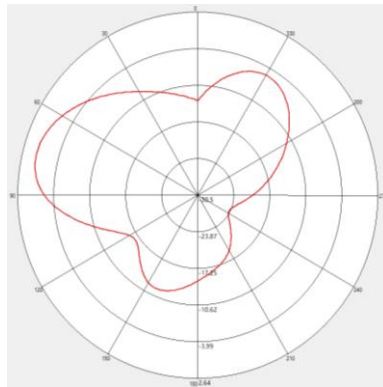
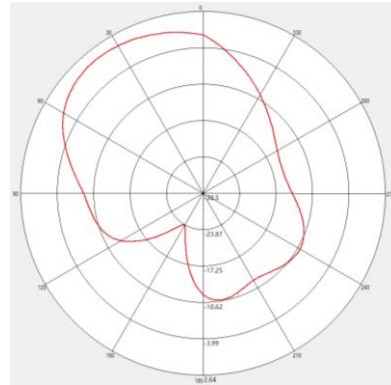
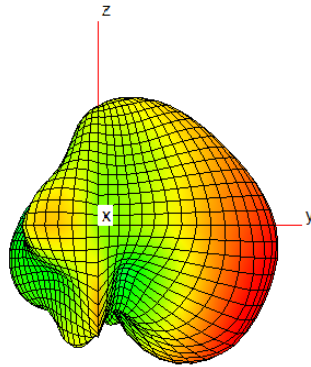
**4.5.4. 5850 MHz**



**4.5.5. 5925 MHz**



**4.5.6. 7125 MHz**



## 5 Product Size

