

Antenna Datasheet

Product OC: Y0YRX00A1DA

Version: 1.0

Date: 2023-11-23

Status: Preliminary

Product Name: BT

Key Features:

Frequency Band: 2400-2500 MHz

Dimensions: 20*14 mm

Efficiency: Up to 42.7%

RoHS and REACH Compliant

Overview

Quectel Wi-Fi 2.4G antenna covers 2.4 ~2.5GHz bands, fully satisfying customers' requirements for Wi-Fi/Zigbee/BT antennas. There are various antenna types, including built-in FPC/PCB 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.

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1 Specification

Test Condition: Assembled in test device

1.1. Electrical

Electrical	
Frequency Range	2400-2500 MHz
Impedance	50 Ω
Polarization	Linear
Radiation Pattern	Omni-directional

Electrical - Detail												
SPEC	Band	B71	B12 /B13 /B28	B5 /B8 /B26	N74 /N75 /N76	B1 /B2 /B3	B40	Wi-Fi/BT 2G	B38 /B41	B42 /B48 /N77	N79	Wi-Fi 5G
	Freq. (MHz)	600– 700	700– 810	820– 960	1420– 1520	1700– 2170	2300– 2400	2400– 2500	2500– 2690	3300– 4200	4400– 5000	5150– 5850
Max. VSWR		-	-	-	-	-	-	2.4	-	-	-	-
Max. Return Loss (dB)		-	-	-	-	-	-	-7.9	-	-	-	-
AVG Eff. (%)		-	-	-	-	-	-	40.3	-	-	-	-
AVG AVG Gain (dB)		-	-	-	-	-	-	-4.0	-	-	-	-
Max. Peak Gain (dBi)		-	-	-	-	-	-	2.2	-	-	-	-
VSWR						≤ 2.4						
Return Loss						≤ -7.9 dB						
Peak Gain						≤ 2.2 dBi						

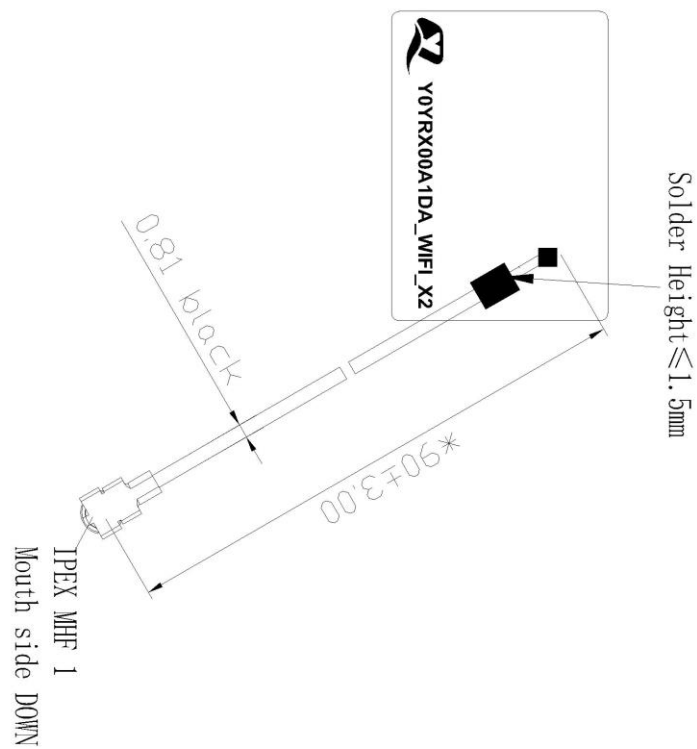
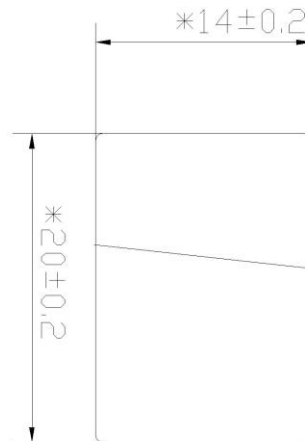
1.2. Mechanical & Environmental

Mechanical	
Antenna Dimensions	20* 14 mm
Material & Color	FPC & Black
Cable Type & Color & Length	Φ0.81 & Black & 90mm
Connector Type	IPEX MHF 1
Mounting Type	Adhesive
Weight	Typ. 0.34g
Environmental	
Operation Temperature	-40 °C to +85 °C
Storage Temperature	-40 °C to +85 °C
RoHS & REACH Compliant	Yes

1.3. Antenna Assembly



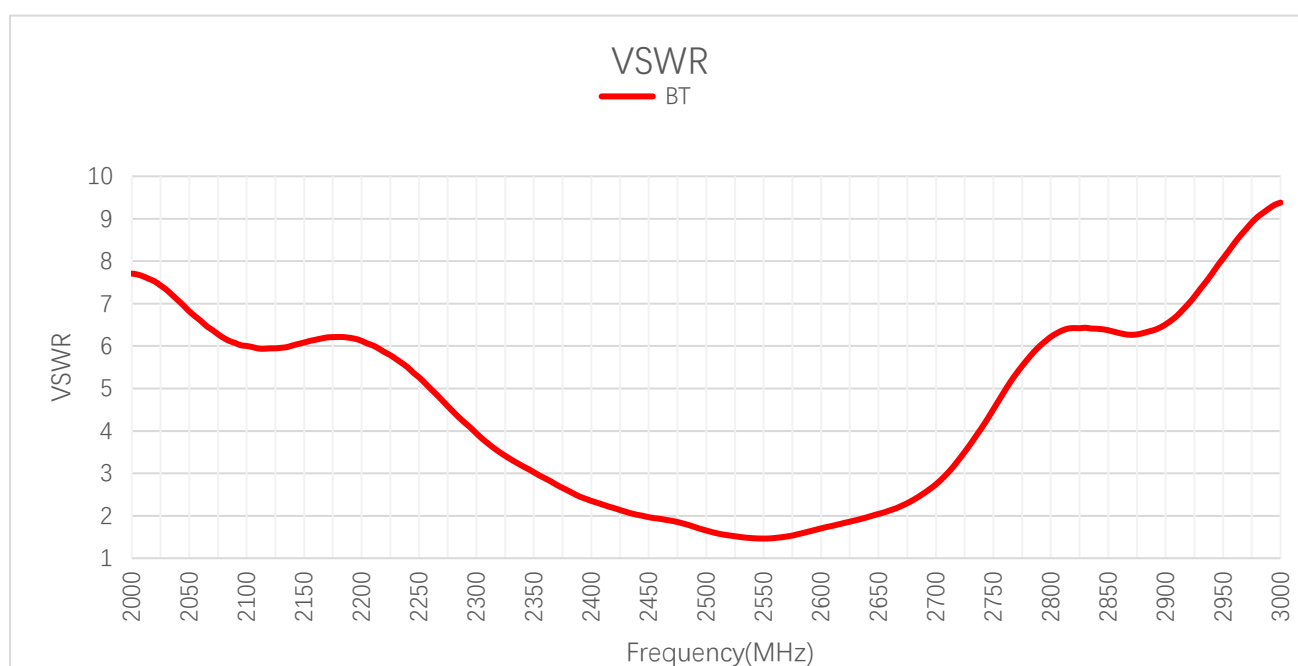
2 Drawing



3 Detailed Performance

3.1. S-Parameter Test

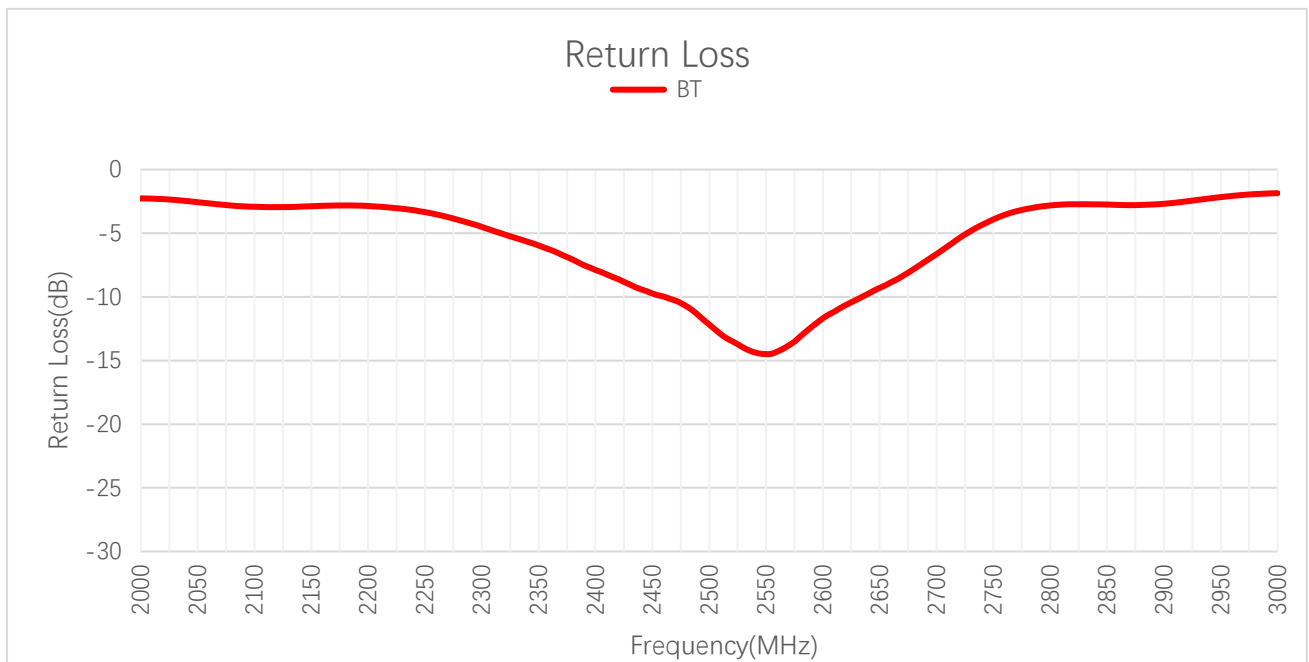
3.1.1. VSWR



VSWR

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
VSWR	2.4	2.0	1.7	-	-	-	-	-	-	-

3.1.2. Return Loss

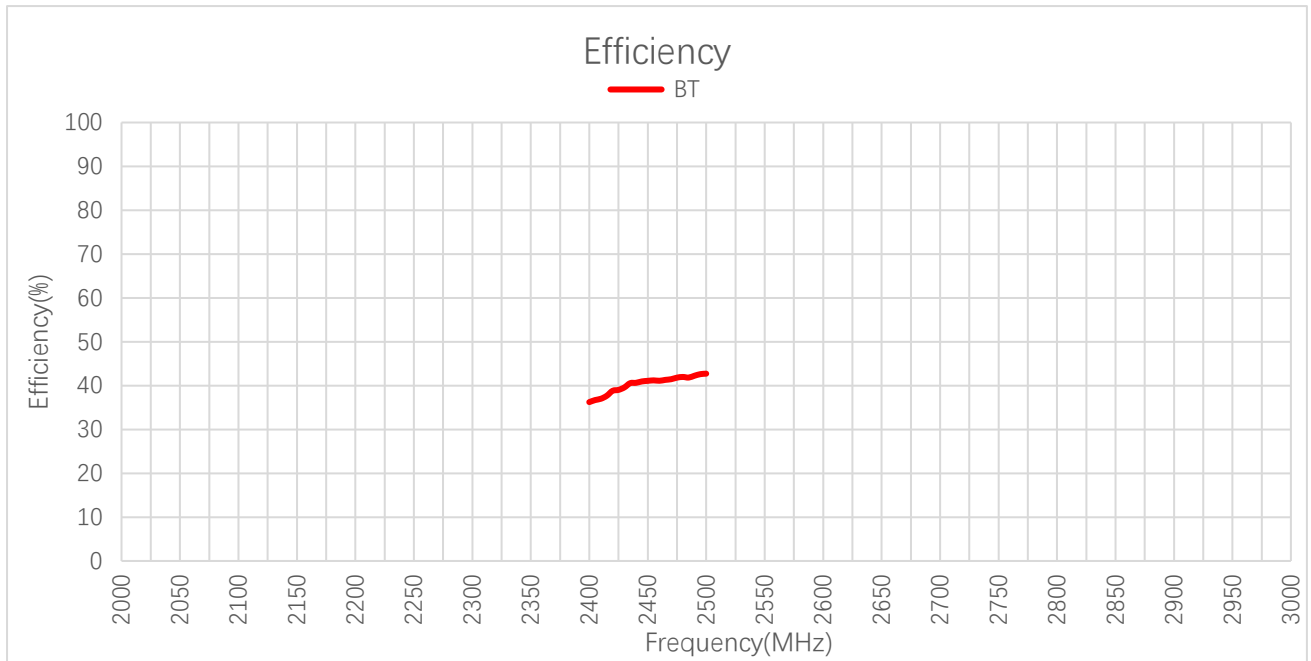


Return Loss (dB)

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Return Loss (dB)	-7.9	-9.7	-12.2	-	-	-	-	-	-	-

3.2. Radiation Performance Test

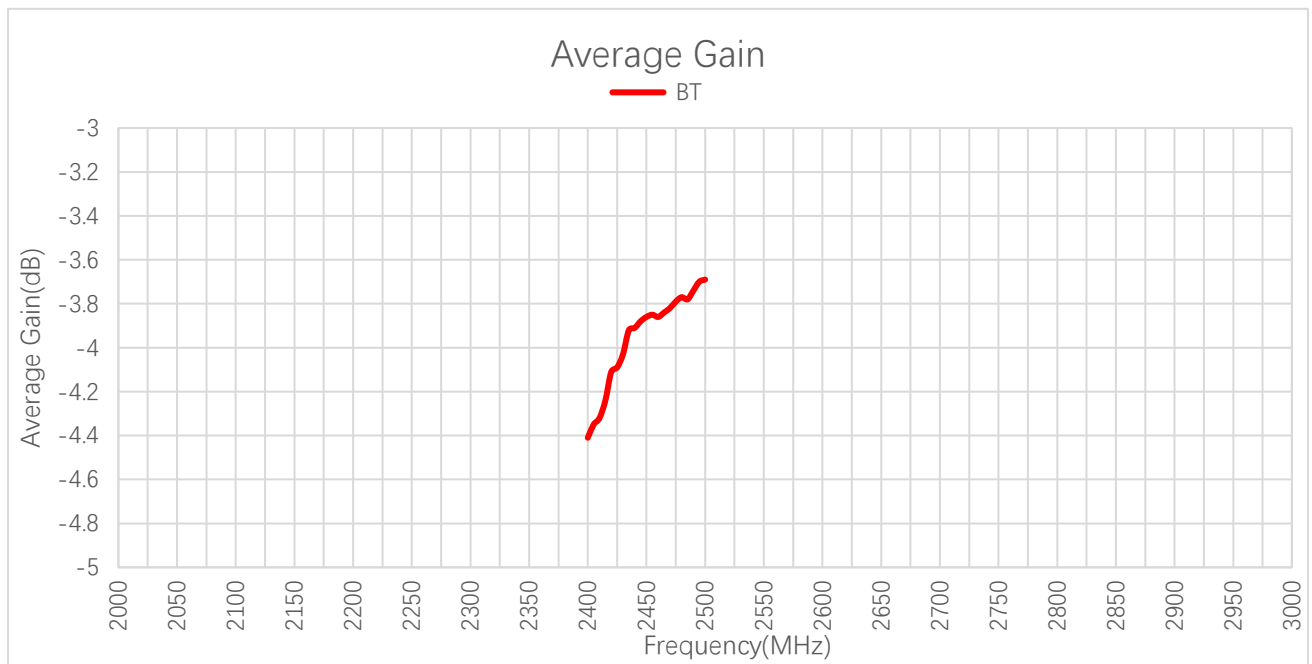
3.2.1. Efficiency



Efficiency (%)

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Efficiency (%)	36.2	41.1	42.7	-	-	-	-	-	-	-

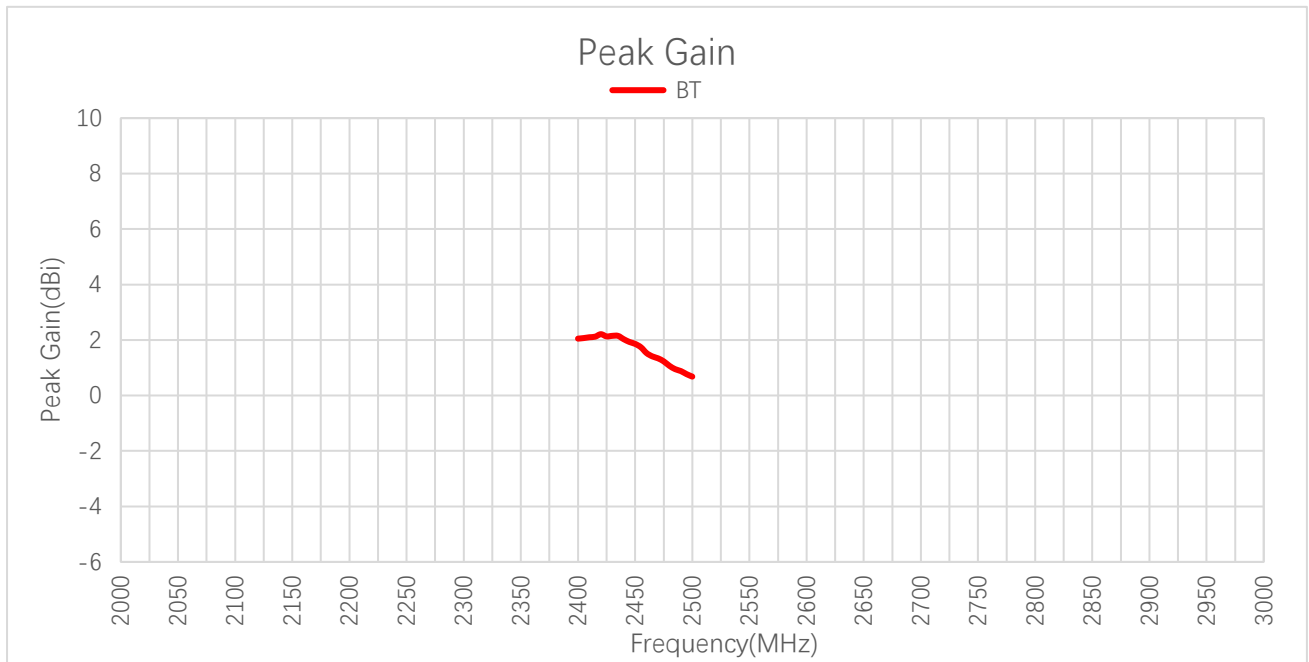
3.2.2. Average Gain



Average Gain (dB)

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Average Gain (dB)	-4.4	-3.9	-3.7	-	-	-	-	-	-	-

3.2.3. Peak Gain



Peak Gain (dBi)

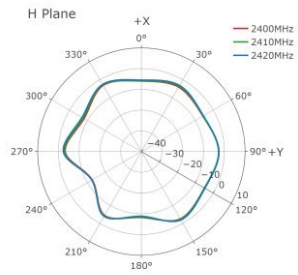
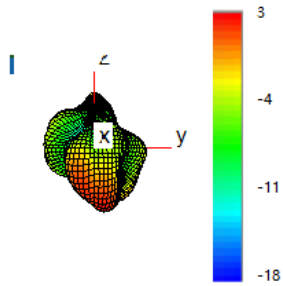
Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Peak Gain (dBi)	2.1	1.9	0.7	-	-	-	-	-	-	-

3.2.4. 3D & 2D Radiation Pattern

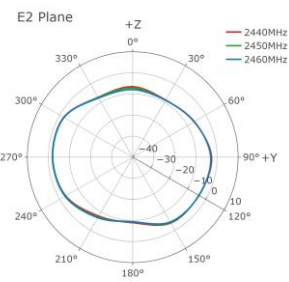
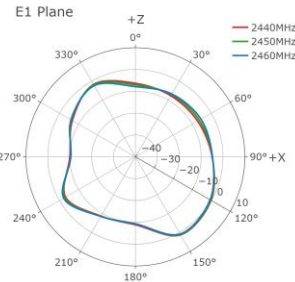
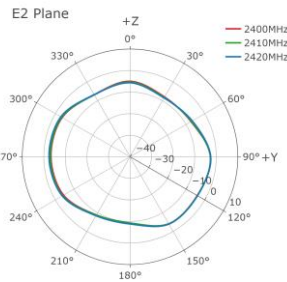
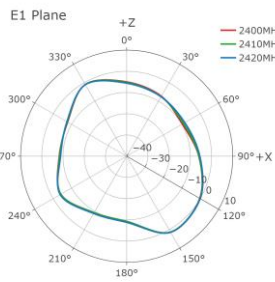
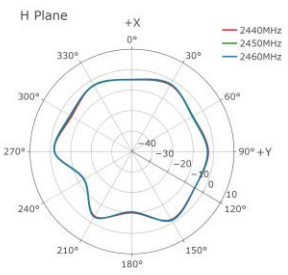
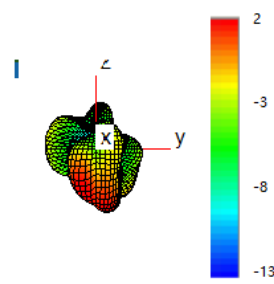
- Test Condition: Assembled in test device
- Test Chamber: HF-G-1



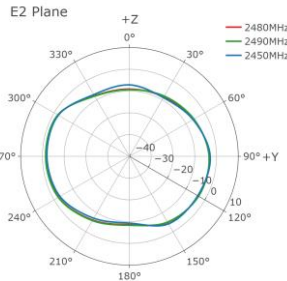
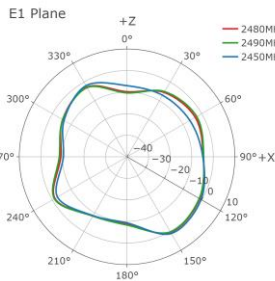
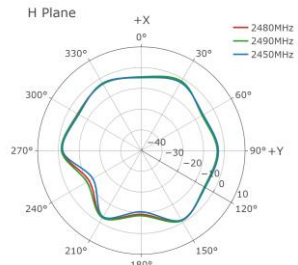
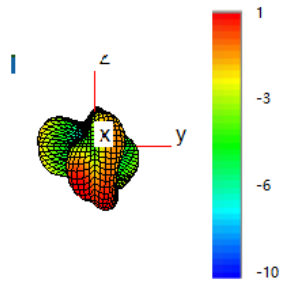
2400MHz



2450MHz



2500MHz



4 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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Revision History

Version	Date	Author	Note
-	2023-11-23	Raoul RAO Joye WANG David LIU Vinnie LIU	Creation of the document
1.0	2023-11-23	Raoul RAO Joye WANG David LIU Vinnie LIU	First official release



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