

Antenna Datasheet

Product OC: FCM365X

Version: 1.0

Date: 2026-01-29

Status: Preliminary

Product Name: Wi-Fi & BT Antenna

Key Features:

Frequency band: 2400–2500 MHz, 5150–5850 MHz

Peak efficiency: 61.1 %

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1 Specification

Test Condition: Assembled in test device

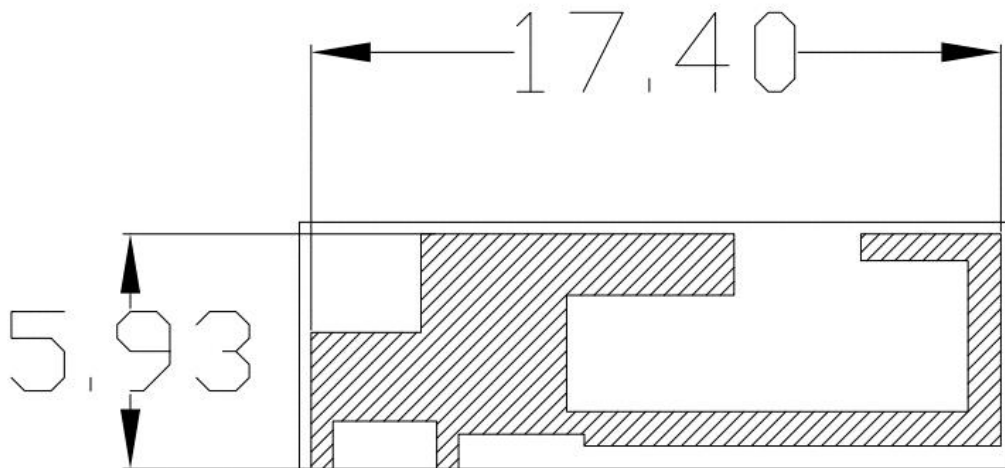
1.1. Electrical

Electrical	
Frequency Range	2400–2500 MHz, 5150–5850 MHz
Impedance	50 Ω
Polarization	Linear
Radiation Pattern	Omni-directional

Specification	Band	Band	Wi-Fi 2G	Wi-Fi 5G	Wi-Fi 6G
		Freq. (MHz)	2400–2500	5150–5850	5925–7125
Max. VSWR			6.6	2.5	-
Max. Return Loss (dB)			-2.6	-7.3	-
AVG Eff. (%)			39.8	53.9	-
AVG. AVG Gain (dB)			-4.1	-2.7	-
Max. Peak Gain (dBi)			1.0	3.0	-
VSWR			≤ 6.6		
Return Loss			≤ -2.6 dB		
Peak Gain			≤ 3.0 dBi		

2 Drawing

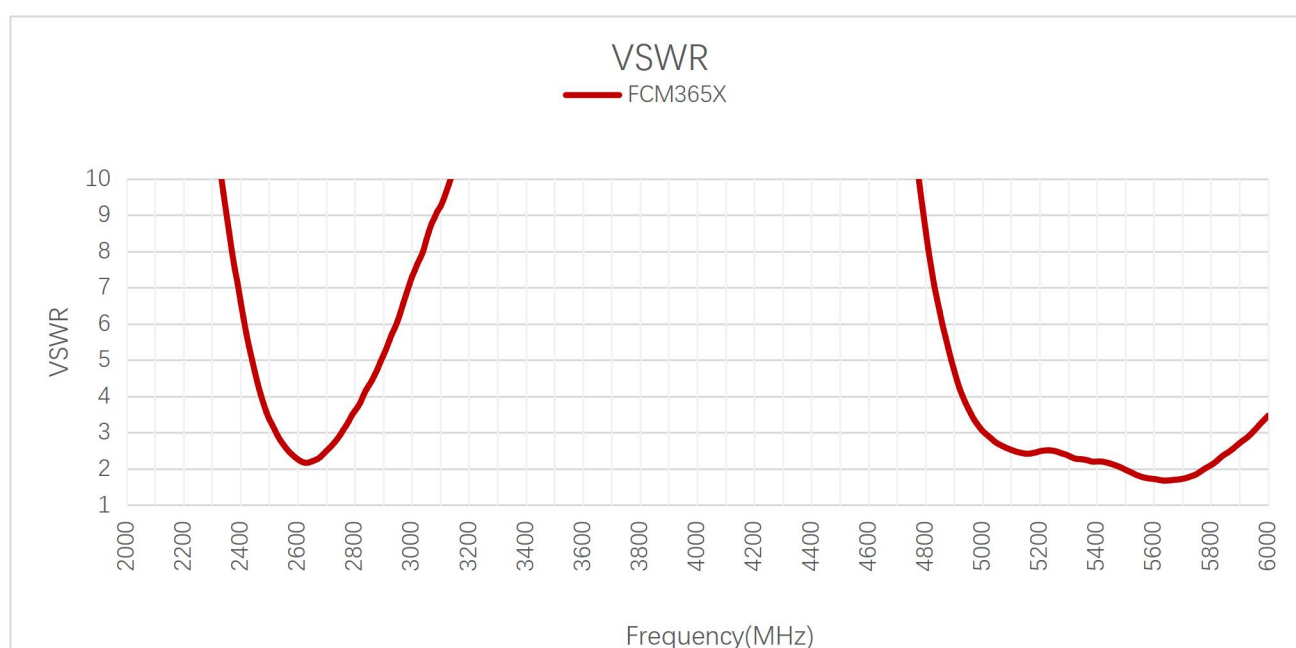
Unit: mm



3 Detailed Performance

3.1. S-Parameter Test

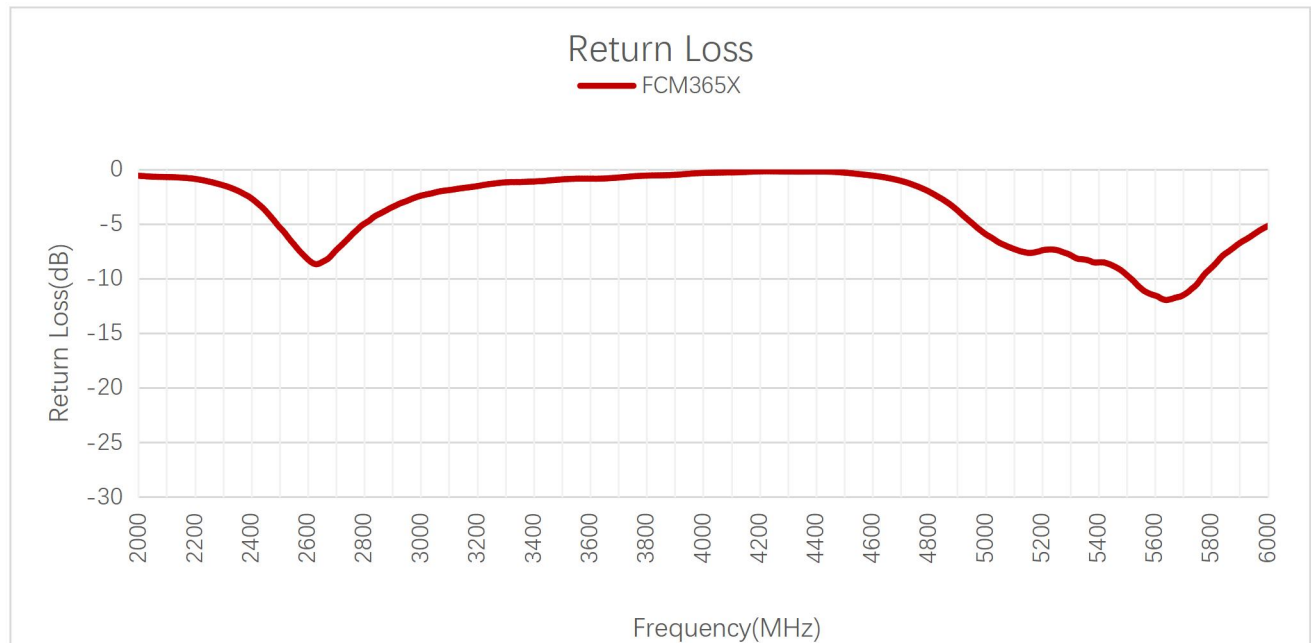
3.1.1. VSWR



VSWR

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
VSWR	6.6	4.7	3.4	2.4	2.0	2.4	-	-	-	-

3.1.2. Return Loss

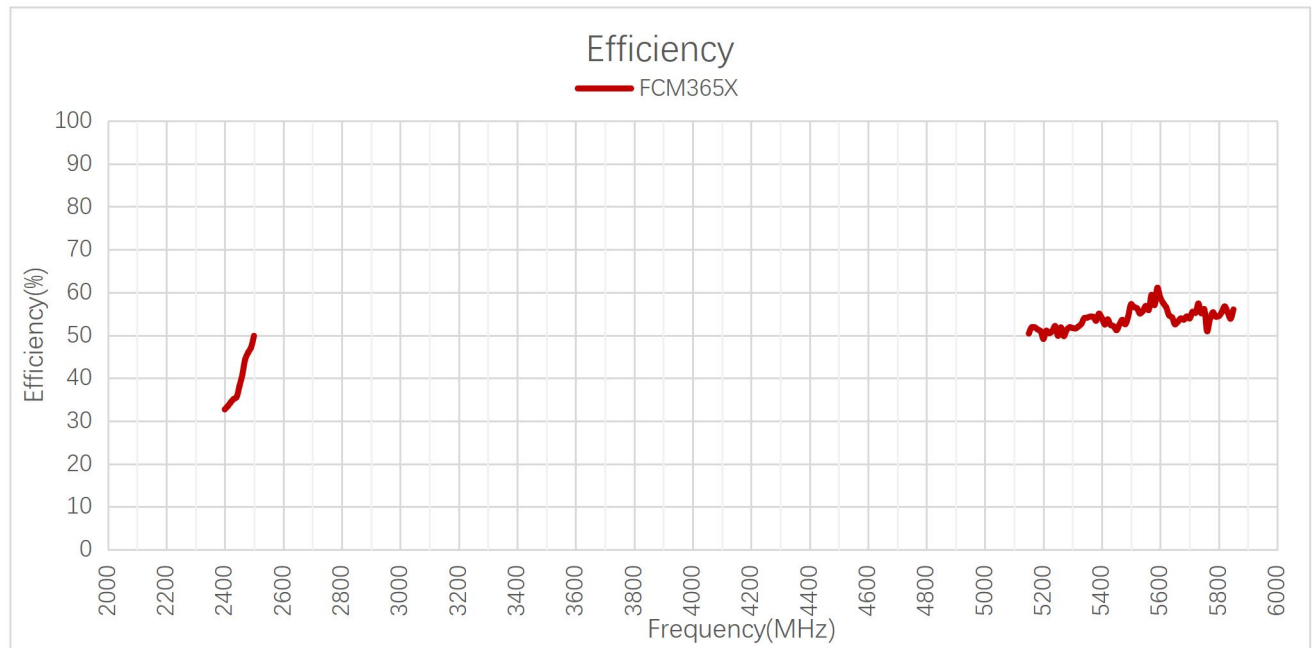


Return Loss (dB)

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Return Loss (dB)	-2.6	-3.8	-5.3	-7.6	-9.7	-7.7	-	-	-	-

3.2. Radiation Performance Test

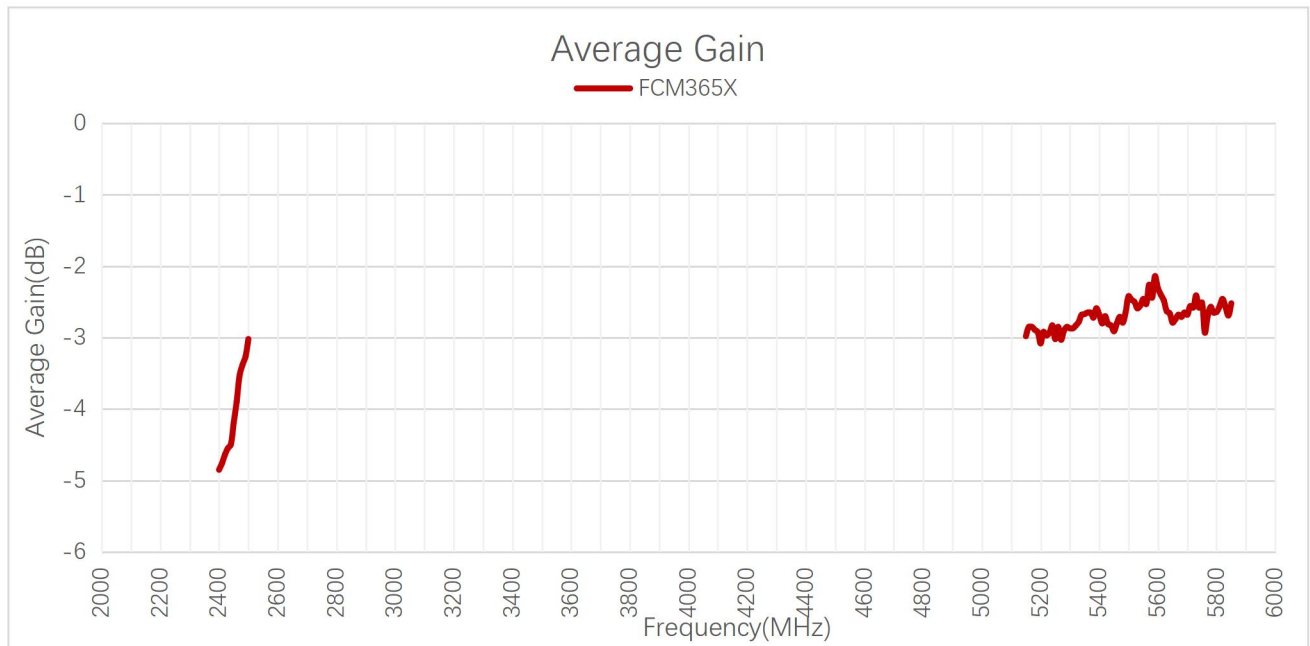
3.2.1. Efficiency



Efficiency (%)

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Efficiency (%)	32.7	38.1	49.9	50.4	57.3	56.0	-	-	-	-

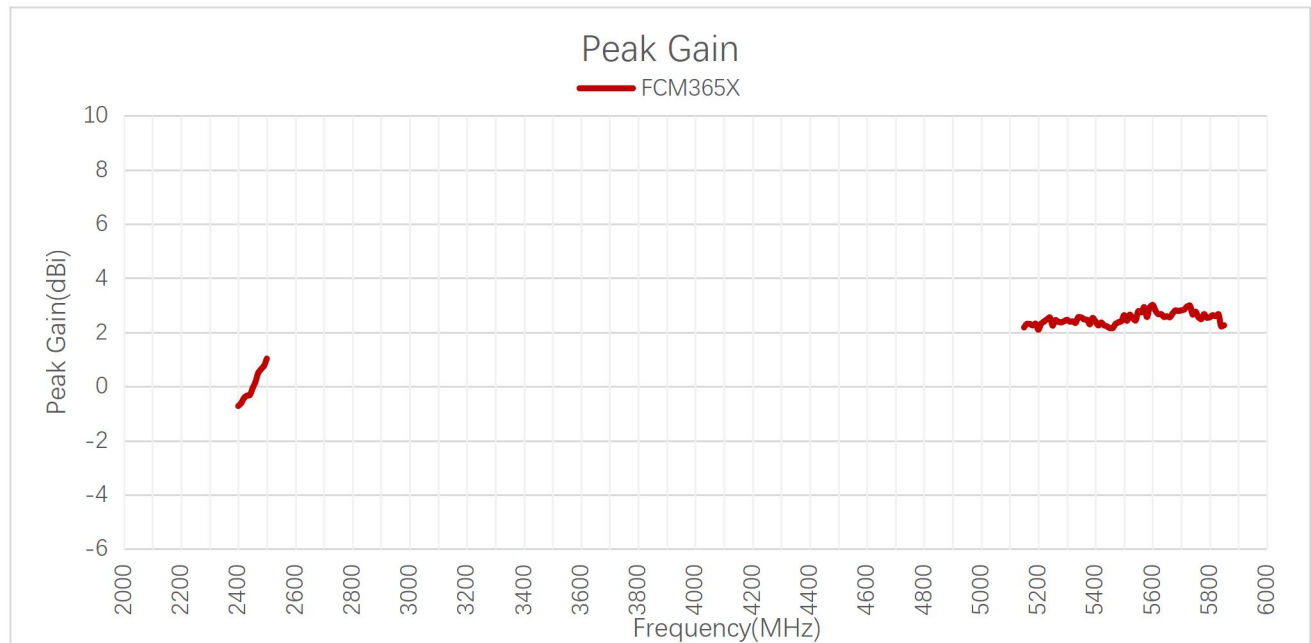
3.2.2. Average Gain



Average Gain (dB)

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Average Gain (dB)	-4.9	-4.2	-3.0	-3.0	-2.4	-2.5	-	-	-	-

3.2.3. Peak Gain



Frequency (MHz)	2400	2450	2460	2500	5150	5155	5250	5260	5350
Peak Gain (dBi)	-0.7	-0.1	0.2	1.0	2.2	2.1	2.3	2.5	2.6
Frequency (MHz)	5470	5480	5725	5820	5850	5925	6325	6725	6915
Peak Gain (dBi)	2.3	2.4	3.0	2.6	2.3	-	-	-	-

3.2.4. OTA Test Data

- Test Condition: Assembled in test device

Test Mode: 802.11/G 6Mbps/54Mbps

Band	Channel	TRP(dBm)	TIS(dBm)
Wi-Fi/11G(2.4G)	2412/1	14.77	-68.95
	2437/6	15.39	-67.85
	2462/11	16.43	-70.59

Test Mode: 802.11/B 1Mbps/11Mbps

Band	Channel	TRP(dBm)	TIS(dBm)
Wi-Fi/11B(2.4G)	2412/1	14.33	-82.21
	2437/6	14.71	-81.98
	2462/11	15.95	-82.93

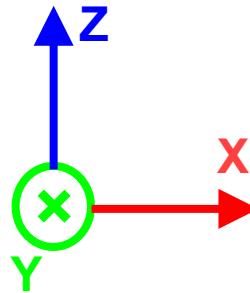
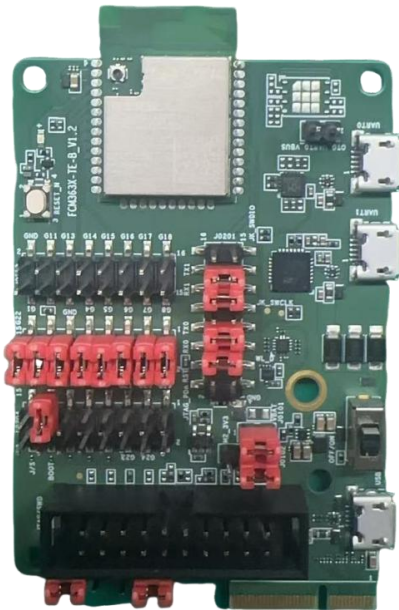
Test Mode: 802.11/A 6Mbps/54Mbps

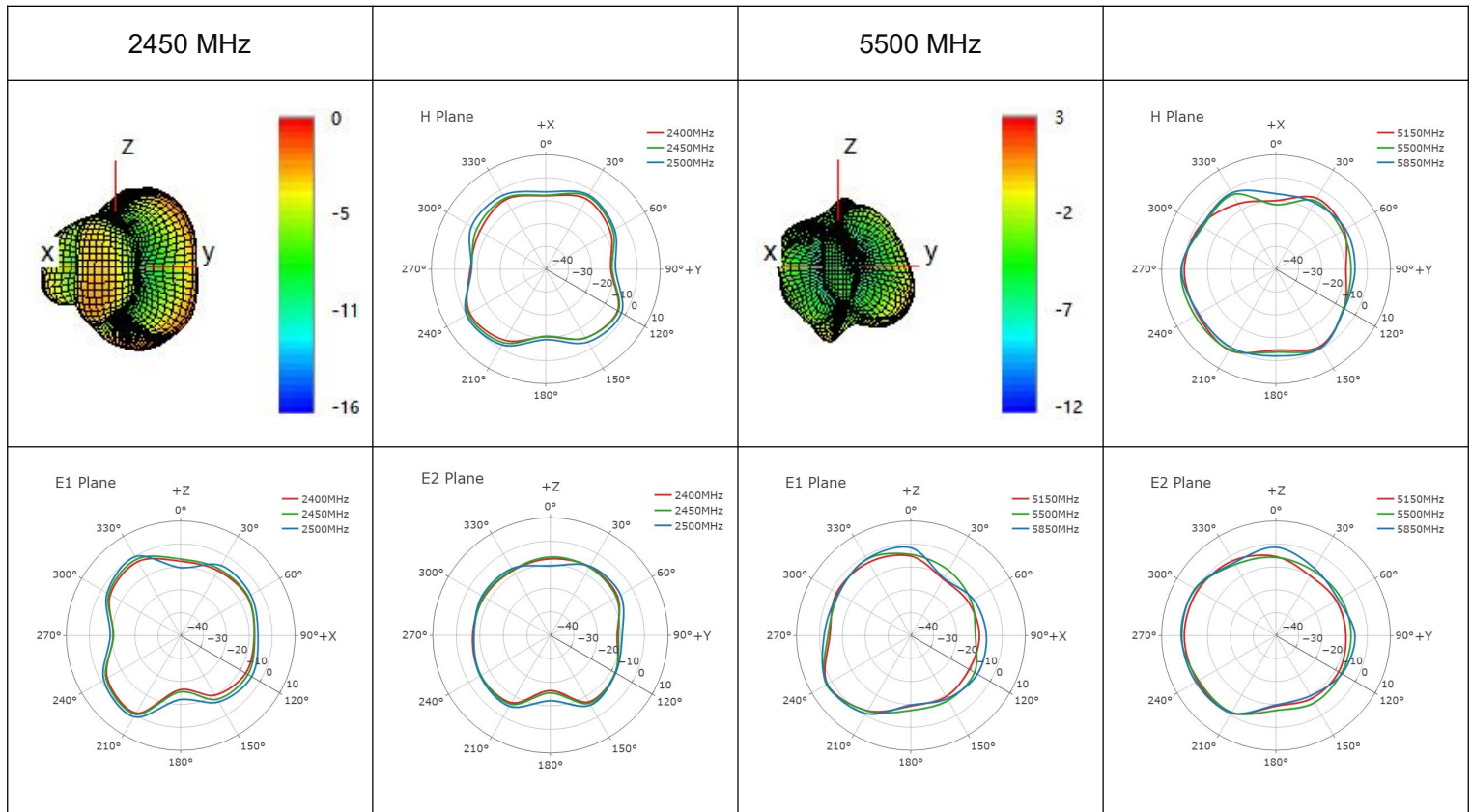
Band	Channel	TRP(dBm)	TIS(dBm)
Wi-Fi/11A(5G)	2412/1	20.11	-74.26
	2437/6	19.24	-71.96
	2462/11	20.35	-72.65

3.2.5. 3D & 2D Radiation Pattern

3.2.5.1. Test Condition: Free Space

- Test Chamber: GL-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:

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

<https://www.quectel.com/contact/>.

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Revision History

Version	Date	Author	Note
-	2026-01-28	Jacob Mo/	Creation of the document
1.0	2026-01-28	Jacob Mo/	First official release



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