



Shenzhen Xingtong Wireless Technology Co., Ltd
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Antenna Specification

Project Name: JBDZ-F311

Product Name: JBDZ-F311-WiFi Antenna

Product Part Number: 06.01.TX002

 深圳市星通无线技术有限公司 Shenzhen Xingtong Wieress Technology Co., Ltd		Date	2025-01-06
		Version	A0
		File Number	XT-YF-004
Product Name	JBDZ-F311-WFI	Ver number	XT-APP-RA

1.产品结构（Product Constrution）

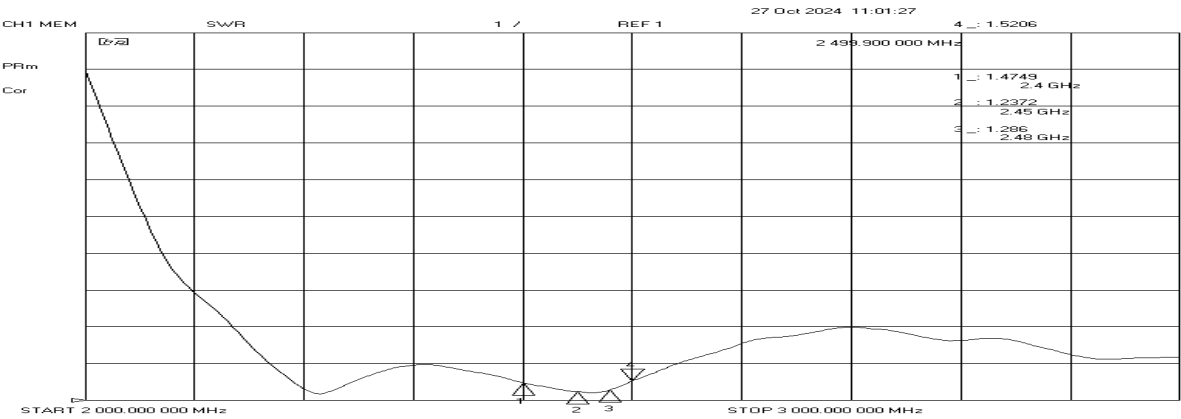
- 1. Antenna Material: FPC
- 2. Adhesive Tape Model: 3M9471
- 3. Antenna Size: 20.5*8.8 (Tolerance±0.5mm)
- 4. Product Description: FPC-2.4G single-frequency Wi-Fi antenna, coaxial line specification: 0.81 - 2mm IPEX, total length 55MM.

2.基本信息（ parameters）

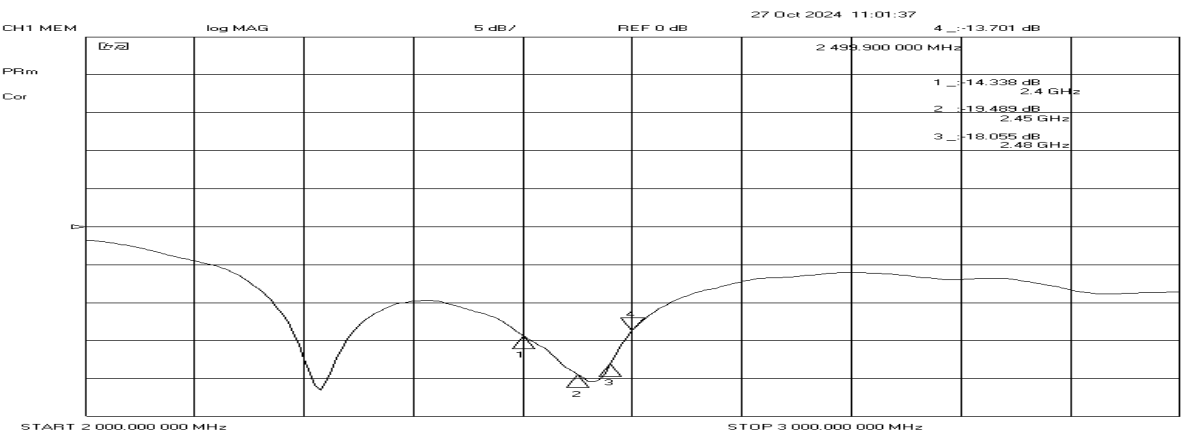
Usage scope: Customer-supplied machine
Antenna frequency: 2402 - 2484 MHz
Antenna voltage standing wave ratio: 2.4G < 1.52
Antenna average free space gain: 2.4G ≥ -0.32 dBi
Antenna impedance: 50Ω
Polarization mode: Horizontal/Vertical
Installation method: IPEX connection to the motherboard OUT
Packaging method: Using PE bag + packaging box

3.天线 S11 值 Antenna S11 value

3.1: Antenna VSWR



3.2: Antenna return loss value





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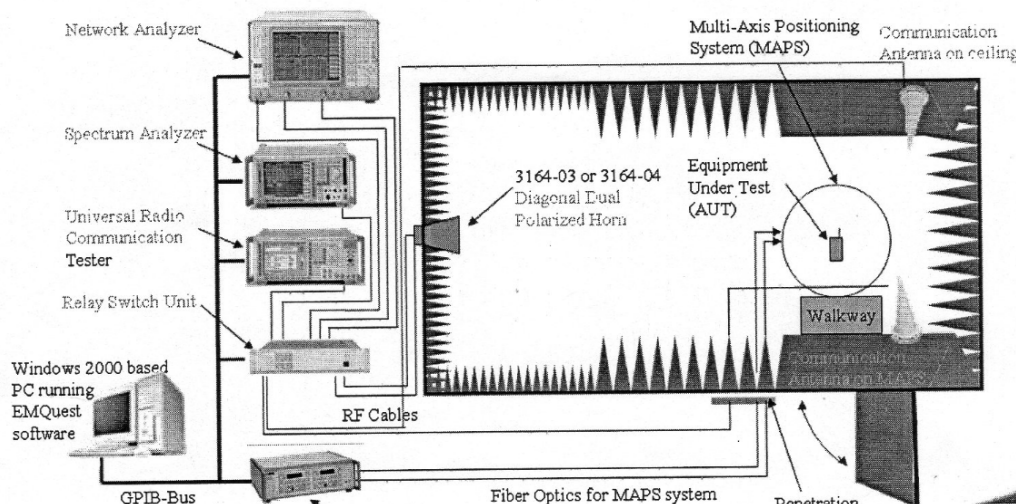
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4.天线(OTA)测试环境 Antenna (OTA) Testing Environment

- 4.1: Test environment and instruments: 3D microwave anechoic chamber, network analyzer, PC testing software, engineering samples, 10dB attenuator, etc.



- 4.2: Antenna efficiency/gain

Frequency ID	1	2	3	4	5	6	7	8	9	10	11
Frequency (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
Efficiency (dBi)	-6.18	-6.16	-5.99	-6.08	-6.47	-6.33	-6.63	-7.04	-6.78	-6.99	-7.02
Gain (dBi)	-0.02	0.00	0.09	-0.04	-0.53	-0.39	-0.76	-1.11	-1.01	-1.22	-1.33
Efficiency (%)	24.07	24.21	25.19	24.67	22.56	23.27	21.72	19.79	20.99	19.99	19.88
Directivity (dB)	6.16	6.16	6.08	6.04	5.93	5.94	5.87	5.93	5.77	5.77	5.68
Peak Gain Position (Theta)	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00
Peak Gain Position (Phi)	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
Efficiency ThetaPol (%)	13.58	13.54	14.02	13.69	12.33	12.50	11.57	10.61	11.22	10.57	10.44
Efficiency PhiPol (%)	10.49	10.67	11.16	10.98	10.23	10.77	10.15	9.18	9.76	9.42	9.44
Upper Hem. Efficiency (%)	9.69	9.85	10.41	10.37	9.64	10.13	9.56	8.76	9.30	8.81	8.63
Lower Hem. Efficiency (%)	14.39	14.36	14.78	14.30	12.92	13.14	12.16	11.03	11.69	11.18	11.25



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4.3: Antenna OTA-2.4G-3D

