

Antenna Test Report

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Product model	E1-BT-WI FI
Product Name	FPC Antenna - 02
Model	E1
Sample submission time	2025-12-15
Customer Material Code	S.SJ-00-E10037

1.Specification

The report mainly provides the test data of the passive performance parameters of the E1 Wi-Fi BT antenna.

E1 WIFI、BT BT 2.4~2.485GHz WIFI 2.4~2.485GHz 5.1~5.9GHz

The antenna sample is shown in Figure (1).



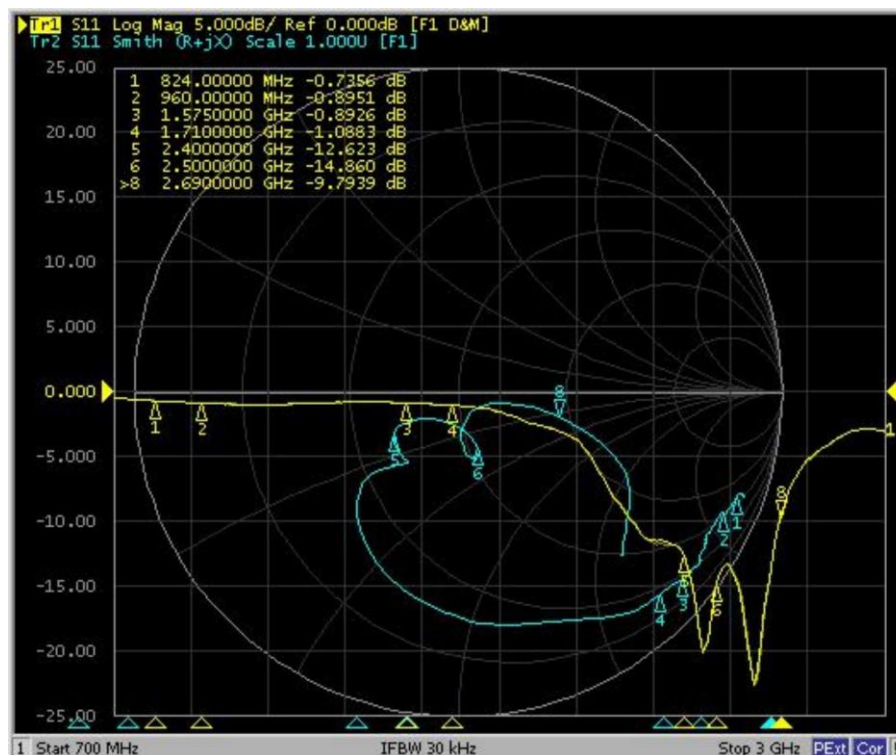
Figure (1)

1-2 Echo loss test data

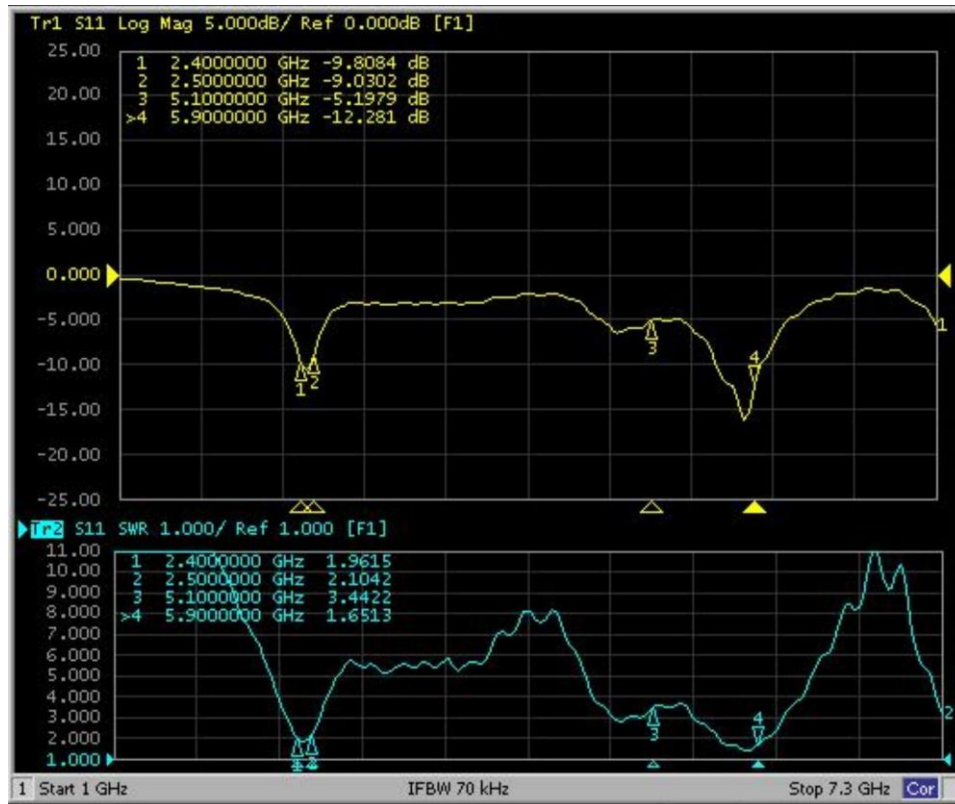
The table below shows the test data of the return loss of the edge frequency points of the BT Wi-Fi antenna's working frequency band.

Band	Return loss (dB)	
BT 2400~2500MHz	2400	2485
Free space RL	-12	-14
WIFI 2400~2500MHz	2400	2485
Free space RL	-9	-9

1-3 Echo loss image BT



1-4 Echo loss image WIFI



1-5 Passive efficiency BT

frequency 频率(MHz)	gain 增益(dBi)	efficiency 效率(dB)	efficiency 效率(%)
2400	1.39	-5.47	28.39
2410	1.81	-5.67	27.08
2420	1.42	-5.85	26.01
2430	1.57	-5.95	25.42
2440	1.49	-5.82	26.21
2450	1.1	-5.96	25.36
2460	1	-6.14	24.35
2470	1.21	-6.15	24.29
2480	1.06	-6.30	23.43
2490	0.88	-6.50	22.37
2500	1.02	-6.30	23.43

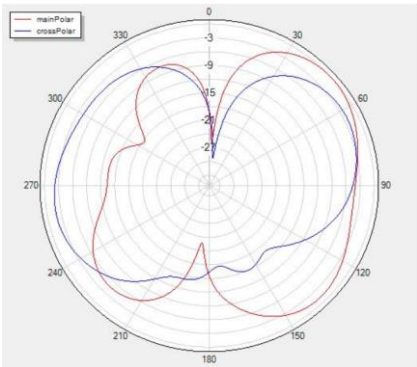
Passive efficiency WIFI

frequency 频率(MHz)	gain 增益(dBi)	efficiency 效率(dB)	efficiency 效率(%)
2400	-0.02	-5.90	25.72
2410	0.18	-5.42	28.73
2420	-0.11	-5.76	26.53
2430	0.49	-5.14	30.64
2440	0.6	-5.05	31.29
2450	0.25	-5.19	30.28
2460	0.25	-5.07	31.09
2470	0.72	-5.29	29.55
2480	0.92	-5.31	29.47
2490	0.49	-5.70	26.93
2500	0.96	-5.67	27.13

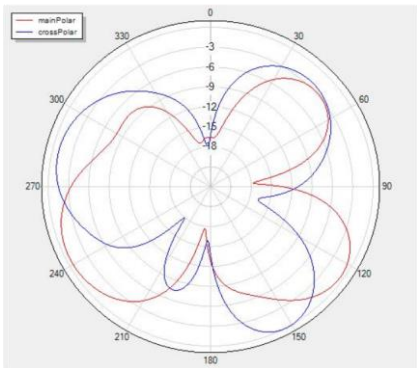
frequency 频率 (MHz)	gain 增益(dBi)	efficiency 效率(dB)	efficiency 效率(%)
5100	-5.88	-8.92	12.81
5150	-5.62	-8.70	13.49
5200	-5.25	-8.68	13.56
5250	-5.38	-8.42	14.39
5300	-5.11	-8.58	13.87
5350	-5.55	-8.51	14.1
5400	-5.54	-8.56	13.93
5450	-4.9	-8.10	15.5
5500	-5.23	-8.31	14.77
5550	-5.26	-8.35	14.62
5600	-5.94	-8.76	13.29
5650	-5.64	-8.61	13.77
5700	-5.97	-8.87	12.98
5750	-5.69	-8.78	13.24
5800	-6.59	-9.12	12.26
5850	-7.41	-9.24	11.92
5900	-8.35	-9.50	11.21

1-6 Directional pattern BT

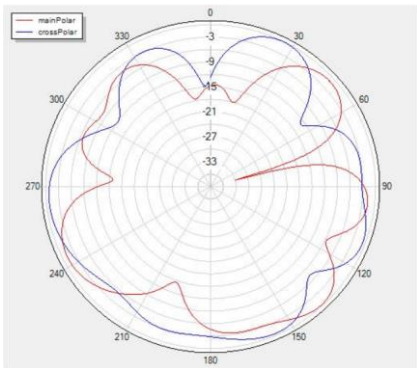
Phi=90 freq=2410MHz



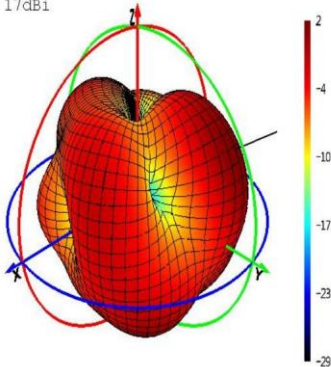
Phi=0 freq=2410MHz



Theta=90 freq=2410MHz

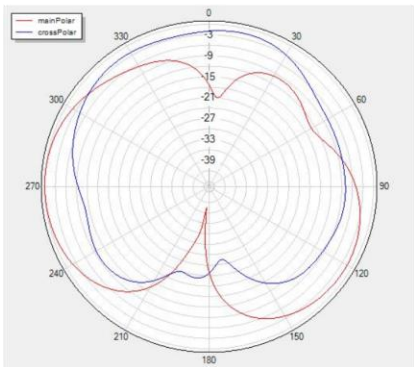


MAX:1.81dBi
MIN:-30.17dBi

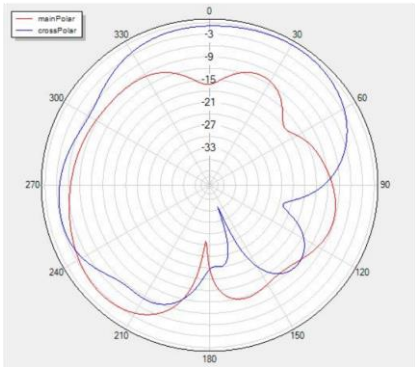


Directional pattern WIFI

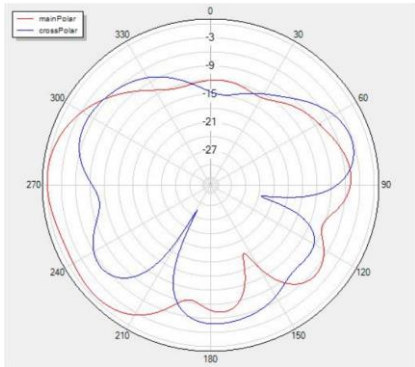
Phi=90 freq=2500MHz



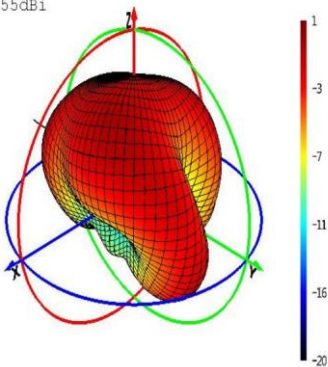
Phi=0 freq=2500MHz



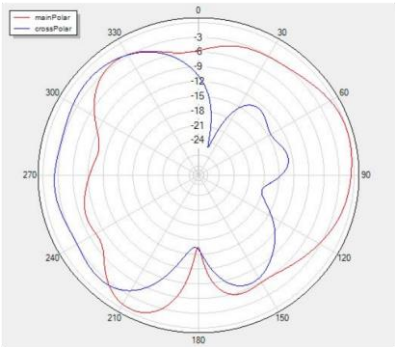
Theta=90 freq=2500MHz



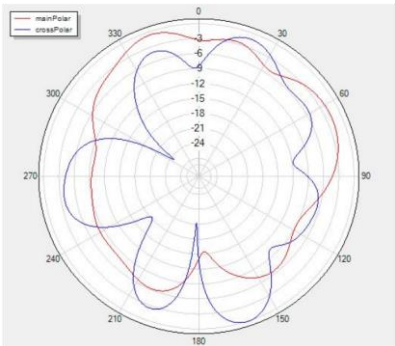
MAX:0.96dBi
MIN:-20.55dBi



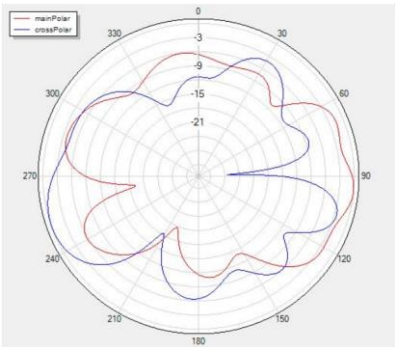
Phi=90 freq=5450MHz



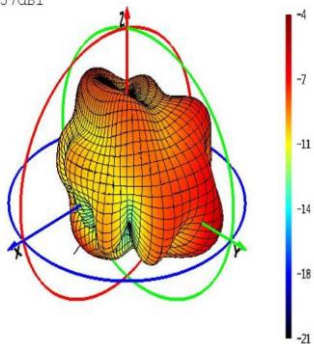
Phi=0 freq=5450MHz



Theta=90 freq=5450MHz



MAX: -4.9dBi
MIN: -22.57dBi



2.Structural drawing Unit (mm)

