

Shenzhen Yunding Communication Electronics Co., Ltd.

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承認書
APPROVAL

客 户 : Guangdong Nanguang Photo&Video Systems Co., Ltd.

天 线 类 型 : FPC Antenna

料 号 :
PART NO.:

产 品 型 号 : Z99-FD001-2.4G-1.13-L100MM-IPEX-1
Model number:

日 期 : 2026-7-2
D A T E:

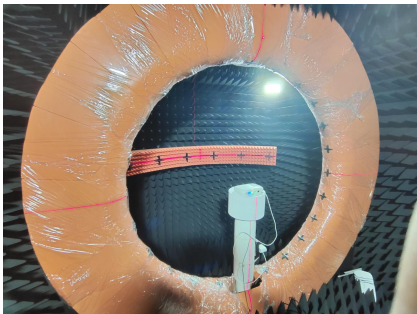
工 程 ENGINEERING DEPARTMENT	品 保 Q C DEPARTMENT	业 务 SALES DEPARTMENT

工 程 ENGINEERING DEPARTMENT	品 保 Q C DEPARTMENT	采 购 PURCHASING DEPARTMENT

Manufacturer:
Guangdong Nanguang Photo&Video Systems Co., Ltd.
Dongli Section, Highway 324, Chenghai, Shantou City, Guangdong Province, China

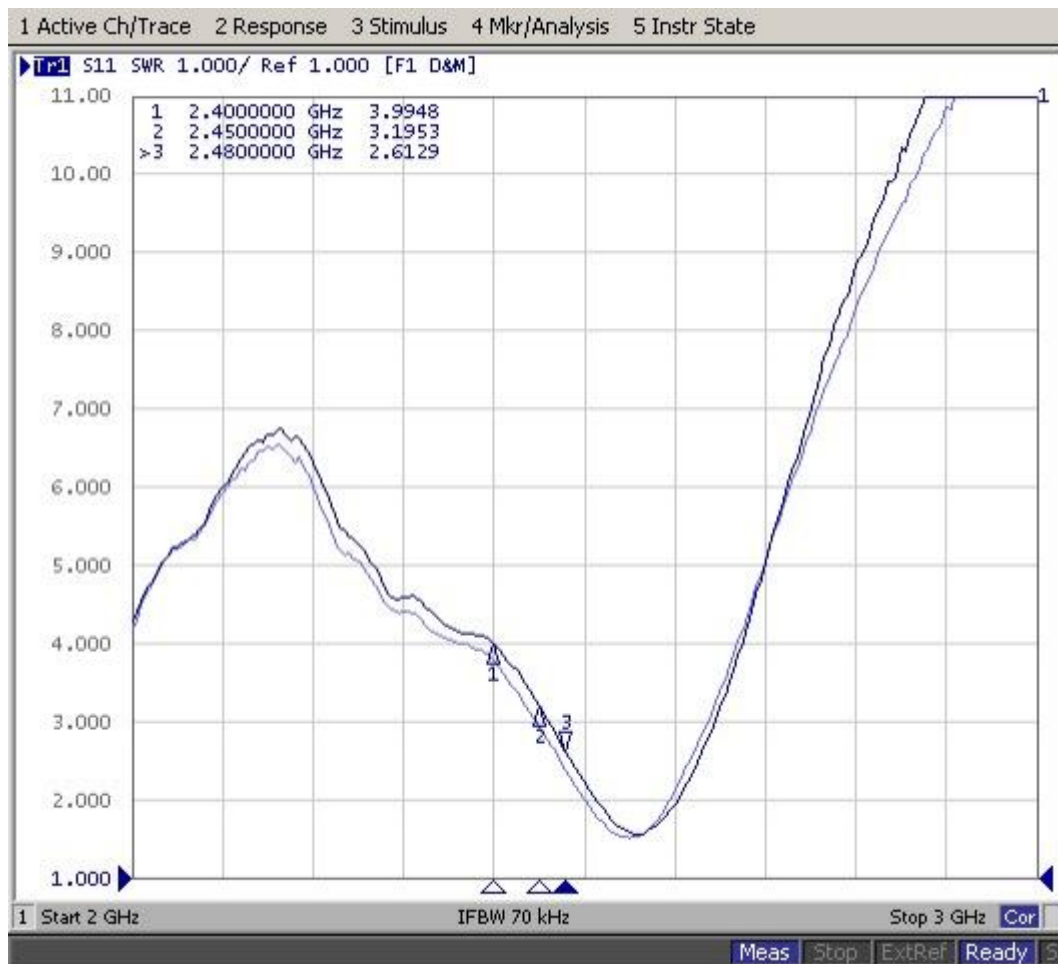
1. Test Items and Equipment

	Test Items	Equipment
1. S11 参数 (S-parameter)	1. 回波损耗 (Return Loss) 2. 电压驻波比 (VSWR)	网络分析仪: Agilent E5071B HP 8753D
2. 有源测试 (Active)	1. 发射功率 (TRP) 2. 接收灵敏度 (TIS)	1. 暗室: ETS 7x4x3 m (3D) Chamber ETS 5x3x3 m (3D) Chamber 2. 综合测试仪: Agilent 8960 E5515B ×2 StarPoint SP6011 Cmw500
3. 无源测试 (Passive)	1. 天线增益 (Gain) 2. 天线效率 (Efficiency)	1. 暗室: ETS 7x4x3 m (3D) Chamber ETS 5x3x3 m (3D) Chamber 2. 网络分析仪: Agilent E5071B HP 8753D



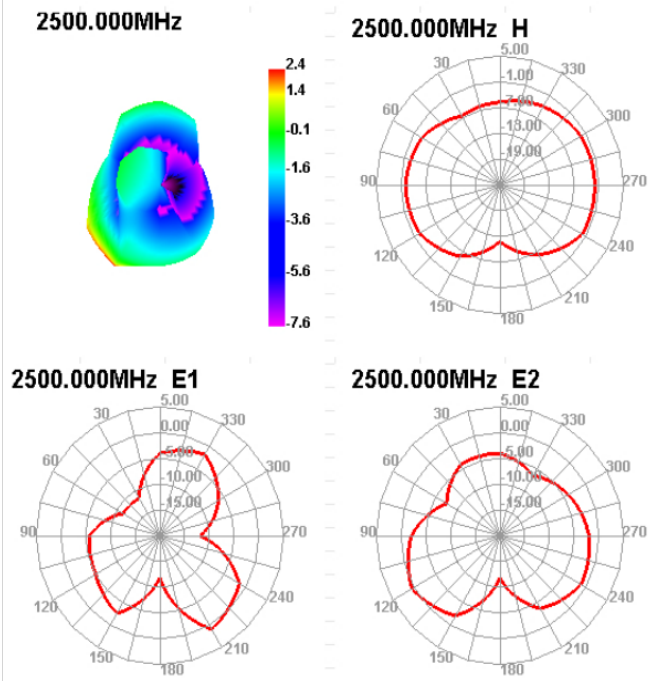
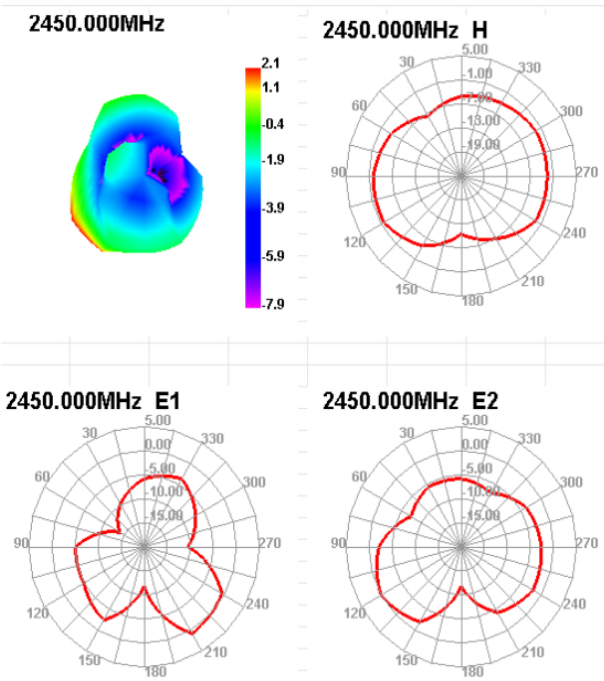
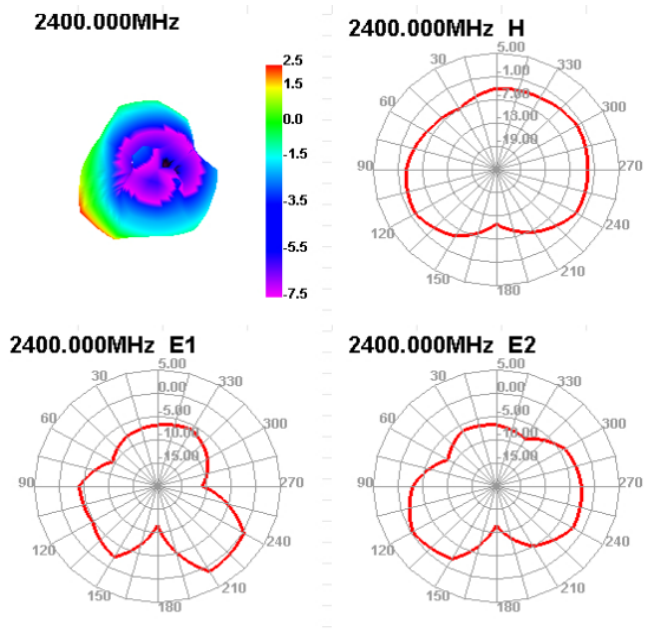
2. Antenna performance

SWR

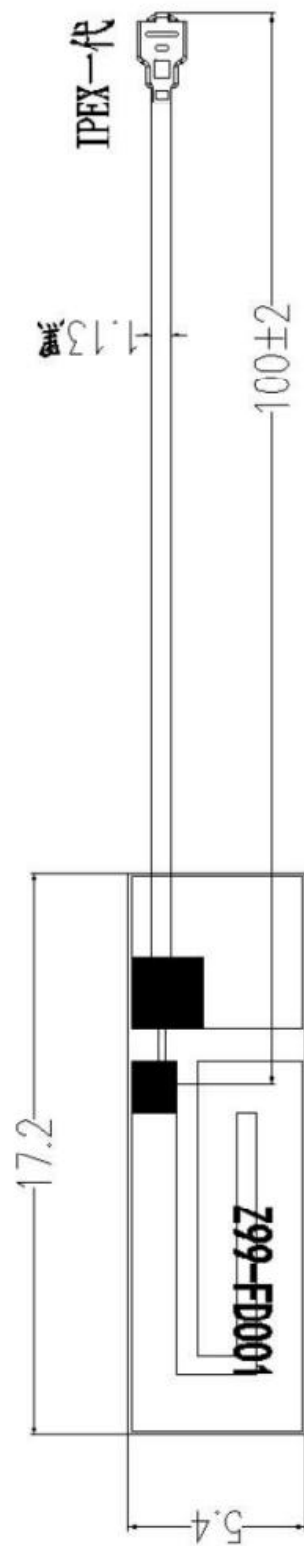


3. Antenna Efficiency and Gain

Passive Test For WIFI2.4		
Freq (MHz)	Effi (%)	Gain (dBi)
2400	45.04	2.52
2410	43.66	2.31
2420	42.53	2.14
2430	42.43	2.01
2440	44.16	2.07
2450	45.57	2.07
2460	47.62	2.27
2470	46.83	2.18
2480	48.2	2.36
2490	48.36	2.42
2500	47.86	2.39



4. Antenna Structure Diagram:



Electrical Technical Parameters

电 性 能 指 标		Electrical Specifications	
频率范围	2400~2500MHz	Frequency Range	2400~2500MHz
电压驻波比	≤4.0	VSWR	≤4.0
输入阻抗	50 Ω	Input Impedance	50 Ω
最大增益	2.52DBI	Maximum gain	2.52 DBI
最大输入功率	50W	Maximum Input Power	50W
机 械 指 标		Mechanical Specifications	
天线颜色	黑色	Antenna Color	BLACK
接口形式	IPEX 一代	Input connector	IPEX 1
天线线长	100mm	Cable length	100mm
工作温度	-40℃~+85℃	Working Temperature	-40℃~+85℃
工作湿度	20~80%	Working Humidity	20~80%