

Antenna report

产品名称:

PRODUCT NAME

Digital Photo Frame

客户名称:

CUSTOMER NAME

Bozz Technology (Shenzhen) Co., Ltd

客户料号:

MATERIAL CODE

景松料号:

023-047-1A

深圳市景松科技有限公司

Shenzhen JINGSONG Technology Co., LTD

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1. Purpose

Standardize the specifications and testing methods of mobile communication terminal antenna products produced by Shenzhen Jingsong Technology Co., Ltd. to avoid errors caused by different testing conditions and methods.

2. Overview of product categories and models

2.1 Overview of Product Models

This report mainly outlines the electrical results of the antenna designed for the Digital Photo Frame project. This antenna is designed for the 2.4G/WIFI frequency band.

3. Basic parameters and experimental equipment description

3.1 Basic Parameters

Product electrical performance indicators	
Work frequency:	2400-2480MHz
VSWR	2400-2480 MHz: < 1.5
Gain	2400-2480 MHz: 1.5dBi ± 0.5dBi
Radiation efficiency	2400-2480 MHz: > 50%
impedance	50 ohm
Product Material Description	
FPC	coaxial cable
Product Environment Description	
operation temperature	- 30℃ ~ + 85 ℃
storage temperature	- 30℃ ~ + 85 ℃

3.2 test equipment

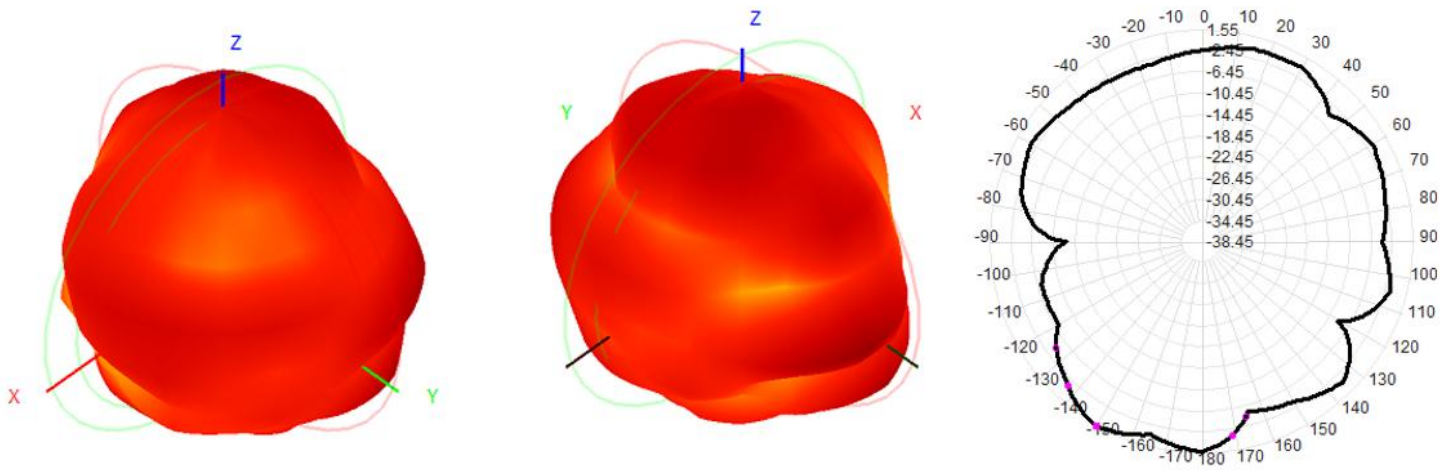
List	Testing project	Equipment
1. S Parameters	1.Return loss 2. VSWR at	Network analyzer: Agilent 8753ES
2. Coupling power test	1. Transmission power 2. Receiving sensitivity	Comprehensive tester: Agilent 8960 E5515C
3. Radiation pattern and gain	1. Radiation pattern 2. Antenna gain	1. Darkroom: 7x4x3 m (3D) 2. Network analyzer : Agilent 8753ES

4. Antenna test data

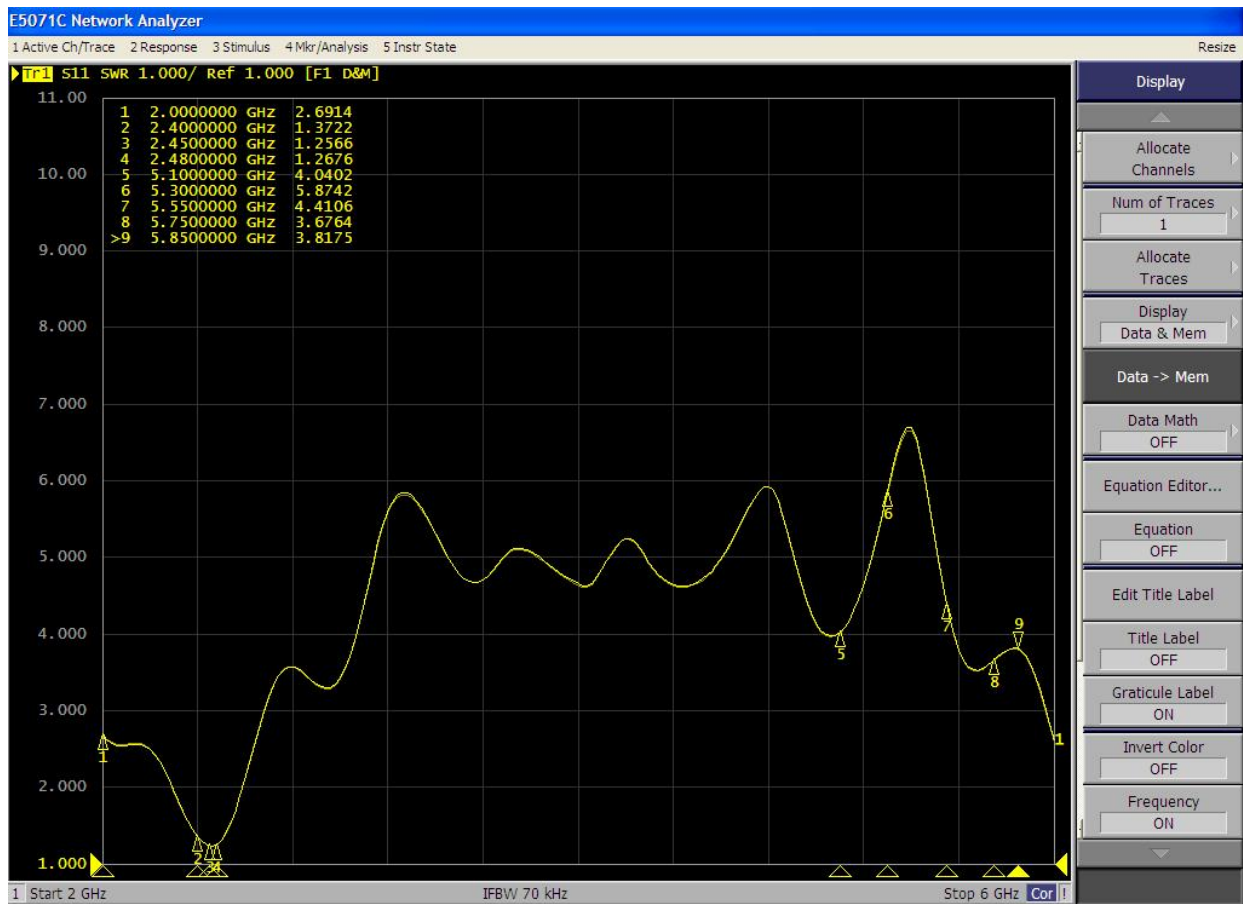
4.1 Wifi:2.4G

WIFI 测试数据:		
WIFI 2.4G		
Freq(MHz)	Efficiency (%)	Gain (dBi)
2400	45.6	1.53
2410	45.6	1.56
2420	44.5	1.46
2430	46.8	1.57
2440	45.3	1.43
2450	44.1	1.45
2460	46.2	1.57
2470	45.8	1.51
2480	45.6	1.53

5.1 antenna 3D image



6.1 standing-wave ratio



7.1 Assembly drawing

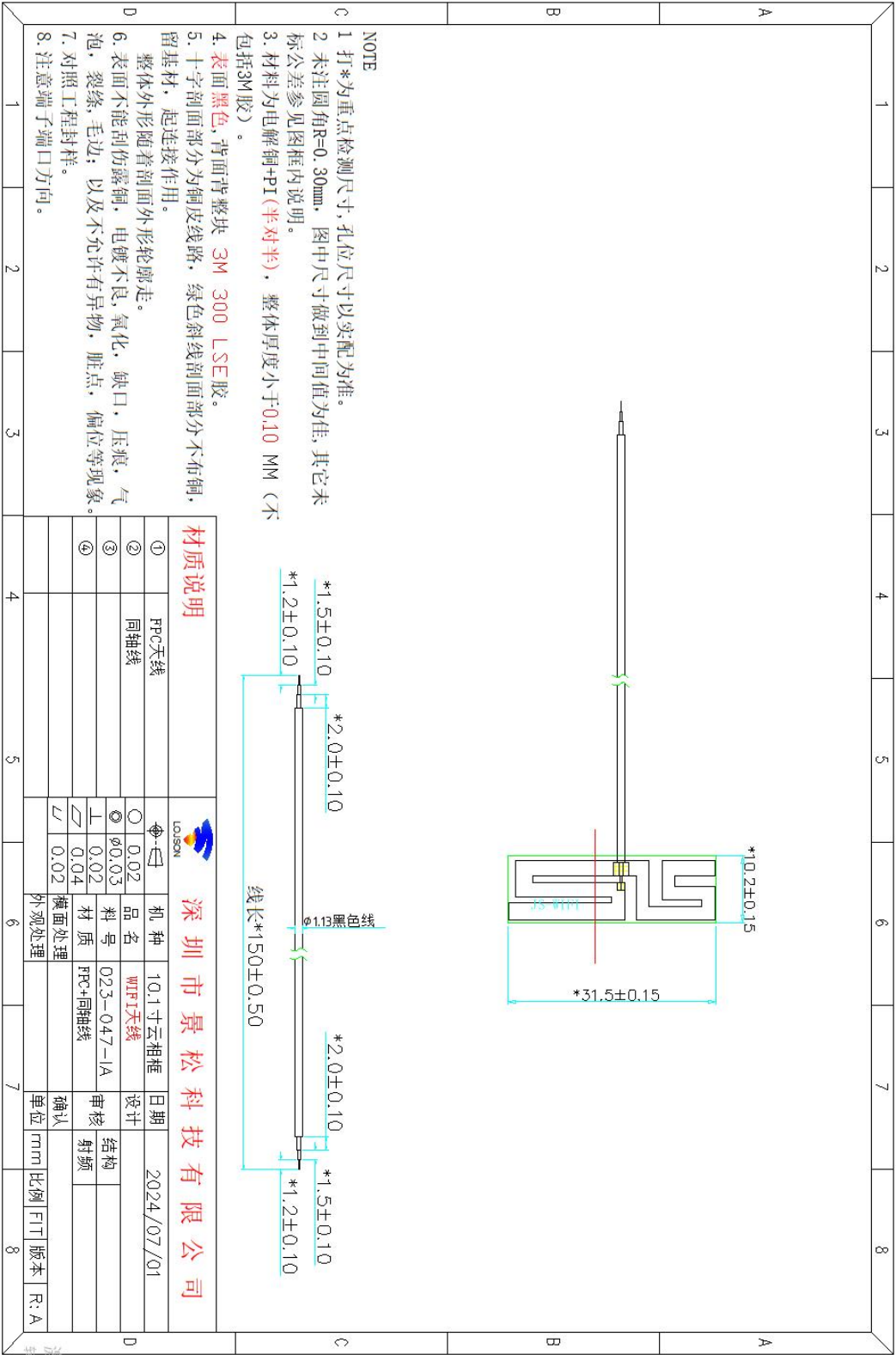


8.1 Active data

天线测试报告	802. 11B Antenna Performance Table			802. 11G Antenna Performance Table		
Channel	CH 1	CH 6	CH11	CH 1	CH 6	CH 11
Max Power (dBm)	17. 3	17. 5	17. 2	16. 5	17. 2	16. 4
TRP(dBm)	14. 5	14. 3	14. 8	13. 6	14. 5	13. 8
Sensitivity(dBm)	-86. 9	-86. 2	-86. 4	-75. 2	-72. 8	-75. 4
TIS(dBm)	-83. 6	-83. 5	-83. 4	-72. 3	-72. 8	-72. 1

天线测试报告	802. 11N Antenna Performance Table		
Channel	CH1	CH6	CH11
Max Power (dBm)	15. 3	14. 8	15. 2
TRP(dBm)	12. 6	11. 4	12. 8
Sensitivity(dBm)	-70. 3	-70. 4	-70. 8
TIS(dBm)	-67. 3	-67. 1	-67. 5

9.1 dimension



10.1 Environmental Characteristic

Test Item	Test description
1. Low Temperature	Temp.: -20 °C Time: 24 hours
2. High Temperature	Temp.: 80°C Time: 24 hours
3. Salt Fog	5±0.1% Nad salt fog PH Value: 6.5-7.2 Temp: 35±1°C Time:24 hours

11.1 可靠性测试报告 Characteristics and Reliability Test

Test Items 測試項目		Test Condition and Procedure 測試方法	Requirements 要求	Result 結果
C1	V.S.W.R. 電壓駐波比	Set DUT on Network Analyzer; make individual calibration to test 設置網路分析儀參數進行測試	Directive DUT specification 符合待測物規範	PASS
C3	Antenna Gain 天線增益	Set DUT on Antenna Chamber; make individual calibration to test 設置天線暗室參數進行測試	Directive DUT specification 符合待測物規範	PASS
M1	Vibration 震動	GB / T2423.48-2008 Amplitude: 0.03 inch (1.5mm); Freq: 20 to 80 to 20 Hz 3 directions; 2 hours for each direction 振幅 1.5mm; 頻率 20~80~20Hz; 3 個方向各 2H	1. No Visual Damage 2. Frequency Tol. ≤5% 無明顯外觀不良 ; 頻率偏移 ≤ 5%	PASS
M4	Pull Test 拉力	Holding with individual specification; force applied to axis of Connector . 單獨定義產品端子拉力	1. Directive DUT specification 2. Frequency Tol. ≤5% 符合待測物規範 ; 頻率偏移 ≤ 5%	PASS
M5	Magnetic force 磁力	The separate definition of retention product magnetic surface magnets and adsorption on the iron 單獨定義產品磁鐵表面磁力及吸附鐵板上 保持力	1. Directive DUT specification 2. Frequency Tol. ≤ 5% 符合待測物規範 ; 頻率偏移 ≤5%	PASS
M6	Sway test 搖擺測試	Holding with individual specification; the swing joint and wire, wire and plastic body test. 單獨定義接頭與線材、線材與塑膠本體的搖擺測試 .	1. Directive DUT specification 2. Frequency Tol. ≤ 5% 符合待測物規範 ; 頻率偏移 ≤5%	PASS
M7	Dimension 尺寸	Inspection of dimension, color, material, package, surface process. 檢查尺寸 , 顏色, 材料, 包裝, 表面處理	Directive DUT specification 符合待測物規範	PASS
E2	Salt Spray 鹽霧	GB / T 2423.17-2008 Temp: 35°C; RH: ≥ 95%; NaCl solution: ≥ 5%; Time: 24H 溫度 35°C; 濕度 ≥95%; 鹽水濃度 ≥5% ; 測試 24H	1. No Visual Damage 2. Frequency Tol. ≤5% 無明顯外觀不良 ; 頻率偏移 ≤ 5%	PASS
E3	Temperature and Humidity Chamber 恒溫恒濕	GB / T 2423.3-2006 Temp: 80°C / 12 H; -40°C / 12H RH: ≥ 90%; Time: 24H 溫度 80°C 測試 12H 轉 -40°C 測試 12H; 濕度 ≥ 90% ; 時間 24H	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. ≤5% 恢復 2H 后, 無明顯外觀不良 ; 頻率偏移 ≤5%	PASS
E4	Thermal Shock 冷熱衝擊	GB / T 2423.22 - 2008 - 40°C (30 minutes) to + 80° C (30 minutes); Cycles: 24	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. ≤5%	PASS