



Antenna Specifications

CUSTOMER		杰科	
CS P/N			
MATERIAL CODE		<u>C-8</u>	
JS P/N		<u>003-038-0B</u>	
Checked by(RF)	Checked by(ME)	Checked by(QA)	Approval led by
Customer Approval			

1. General Description

This document provides the antenna specifications on electric, mechanic and reliability. The testing conditions and related pictures are also included.

1.1 Print Acceptance

Samples and Antenna Specifications are to be sent to customer. When they are approved, the approval form should be completed, signed, and sent back to JINGSONG before further mass production batches can be delivered.

1.2 Coordinate System

The coordinate system for the phone is defined as follows:

- Origin in center of gravity.
- Positive X axis is perpendicular to, and directed from, front plane.
- Positive Y axis is perpendicular to, and directed from, right side plane (as seen from front).
- Positive Z axis is perpendicular to, and directed from, top plane.

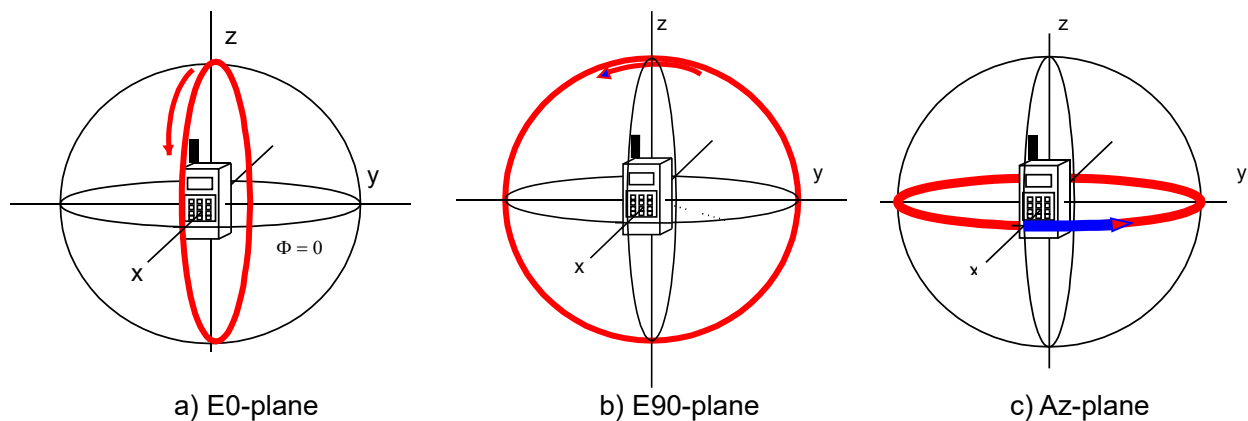
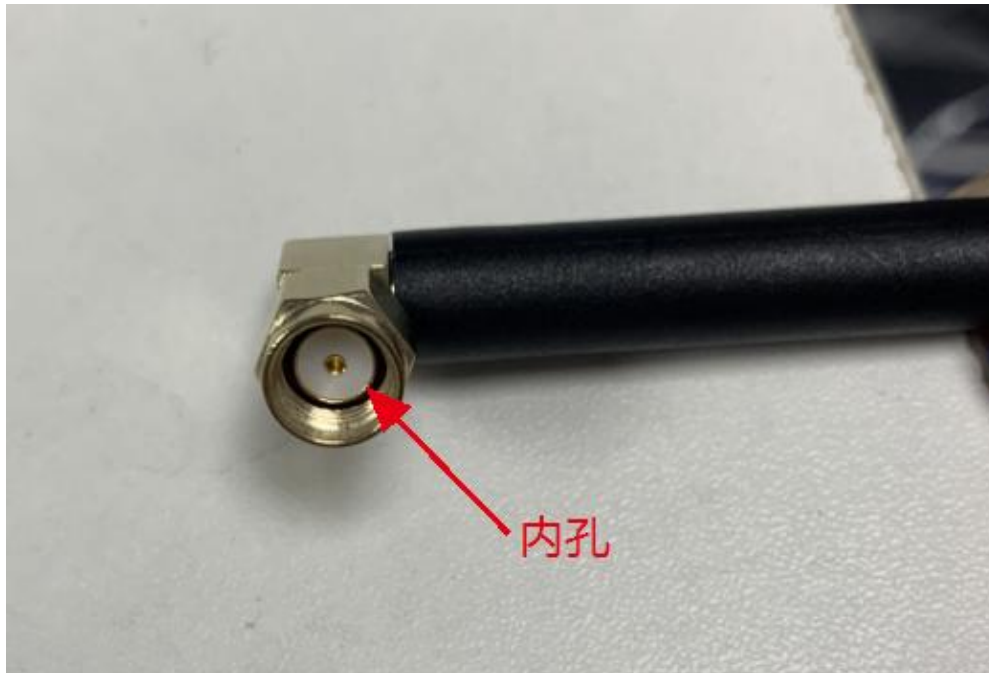


Figure 1-1 The coordinate system for the phone

2. Specifications

This report mainly provides the testing conditions of various electric and structural performance parameters for cell phone antenna ---- C-8 . Figure 2-1 shows the antenna designed by JS & The fixturing of C-8

2-1:



Specification

Sample Photo	
	
A.Electrical Characteristics	
Frequency	704 ~ 960MHz 1710 ~ 2700MHz
V.S.W.R.	>3.5 @ 704 ~ 960MHz >1.5 @ 1710 ~ 2700MHz
Peak Gain	0.87 dBi @ 704 ~ 960MHz 1.25 dBi @ 1710 ~ 2700MHz
Polarization	Linear
Impedance	50 Ohm
B.Material & Mechanical Characteristics	
Material of Radiator	Carbon Steel
Material of Plastic	ABS
Cable Type	RF1.13
Connector Type	IPEX Male
Connector Pull Test	> - 3 Kgf
C.Environmental	
Operation Temperature	- 40 °C ~ + 70 °C
Storage Temperature	- 40 °C ~ + 80 °C



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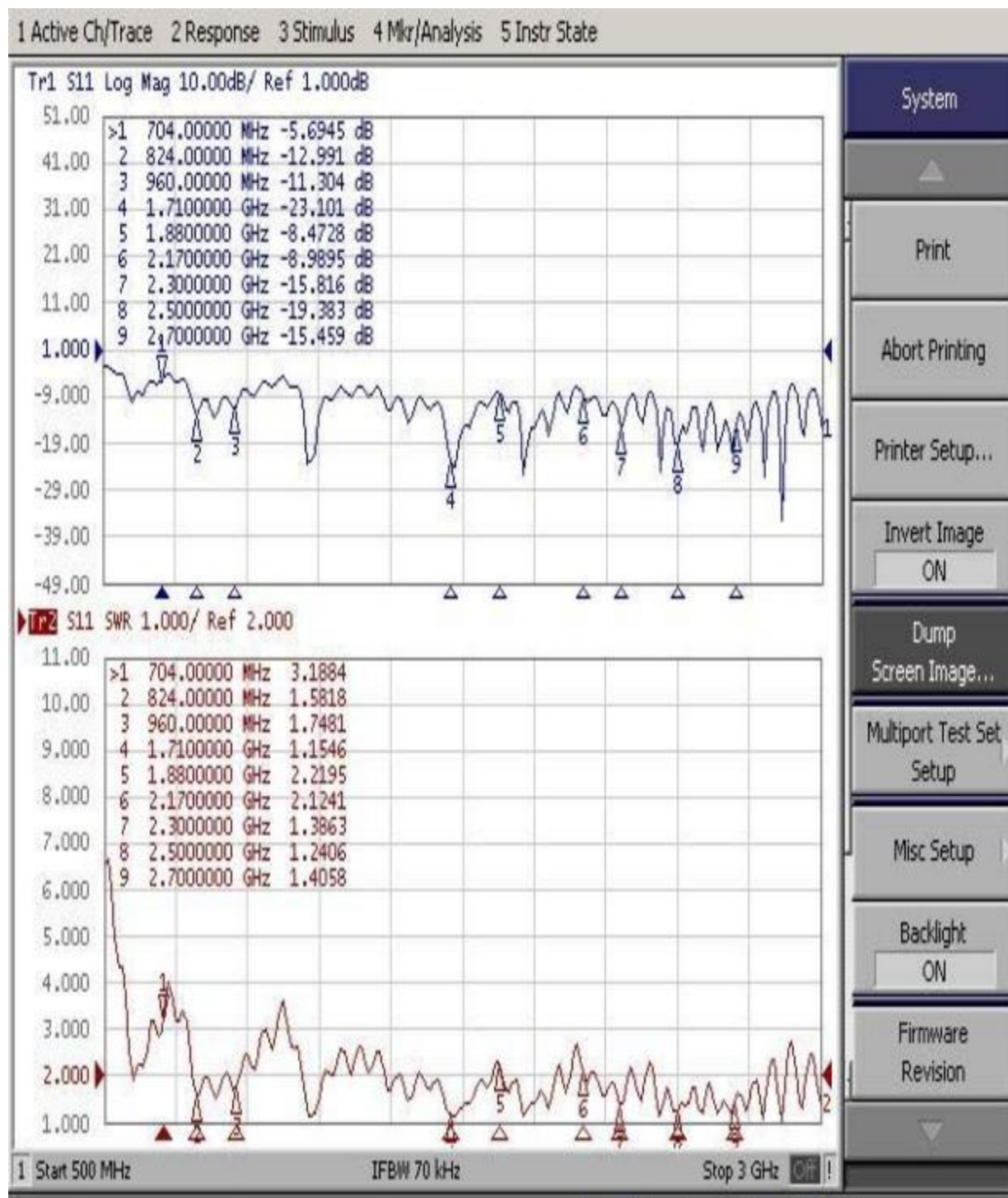
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Characteristics and Reliability Test

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 specification DUT 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 specification DUT 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. $\leq 5\%$ 無明顯外觀不良 ; 頻率偏移 $\leq 5\%$	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 specification DUT 2. Frequency Tol. $\leq 5\%$ 符合待測物規範 ; 頻率偏移 $\leq 5\%$	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 specification DUT 2. Frequency Tol. $\leq 5\%$ 符合待測物規範 ; 頻率偏移 $\leq 5\%$	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 specification DUT 2. Frequency Tol. $\leq 5\%$ 符合待測物規範 ; 頻率偏移 $\leq 5\%$	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 specification DUT 符合待測物規範	PASS
E2 Salt Spray 鹽霧	GB / T 2423.17-2008 Temp: 35°C; RH: $\geq 95\%$; NaCl solution: $\geq 5\%$; Time: 24H 溫度 35°C; 濕度 $\geq 95\%$; 鹽水濃度 $\geq 5\%$; 測試 24H	1. No Visual Damage 2. Frequency Tol. $\leq 5\%$ 無明顯外觀不良 ; 頻率偏移 $\leq 5\%$	PASS
E3 Temperature and Humidity Chamber 恒溫恒濕	GB / T 2423.3-2006 Temp: 80°C / 12 H; -40°C / 12H RH: $\geq 90\%$; Time: 24H 溫度 80°C 測試 12H 轉 -40°C 測試 12H; 濕度 $\geq 90\%$; 時間 24H	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. $\leq 5\%$ 恢復 2H 后, 無明顯外觀不良 ; 頻率偏移 $\leq 5\%$	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. $\leq 5\%$	PASS

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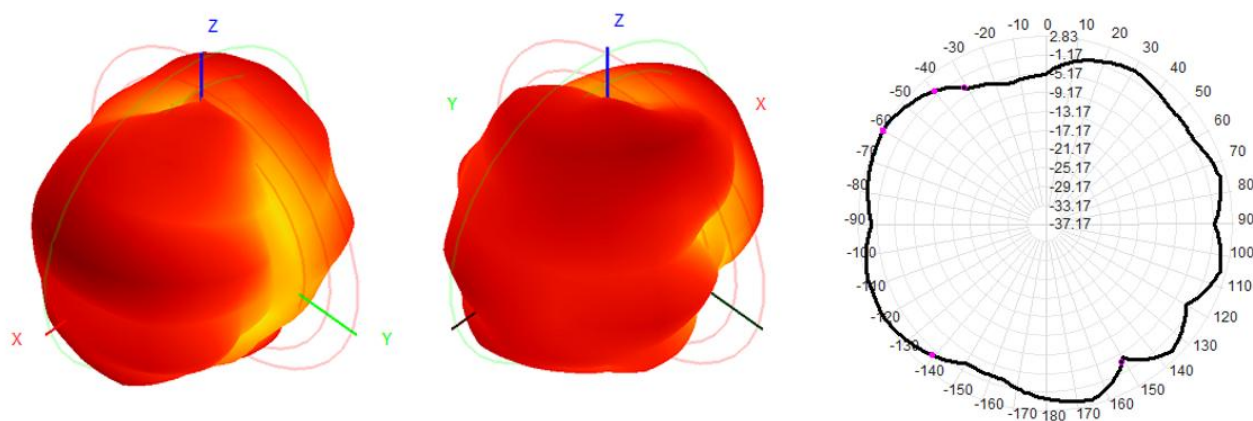
Antenna - S Parameter Test Data



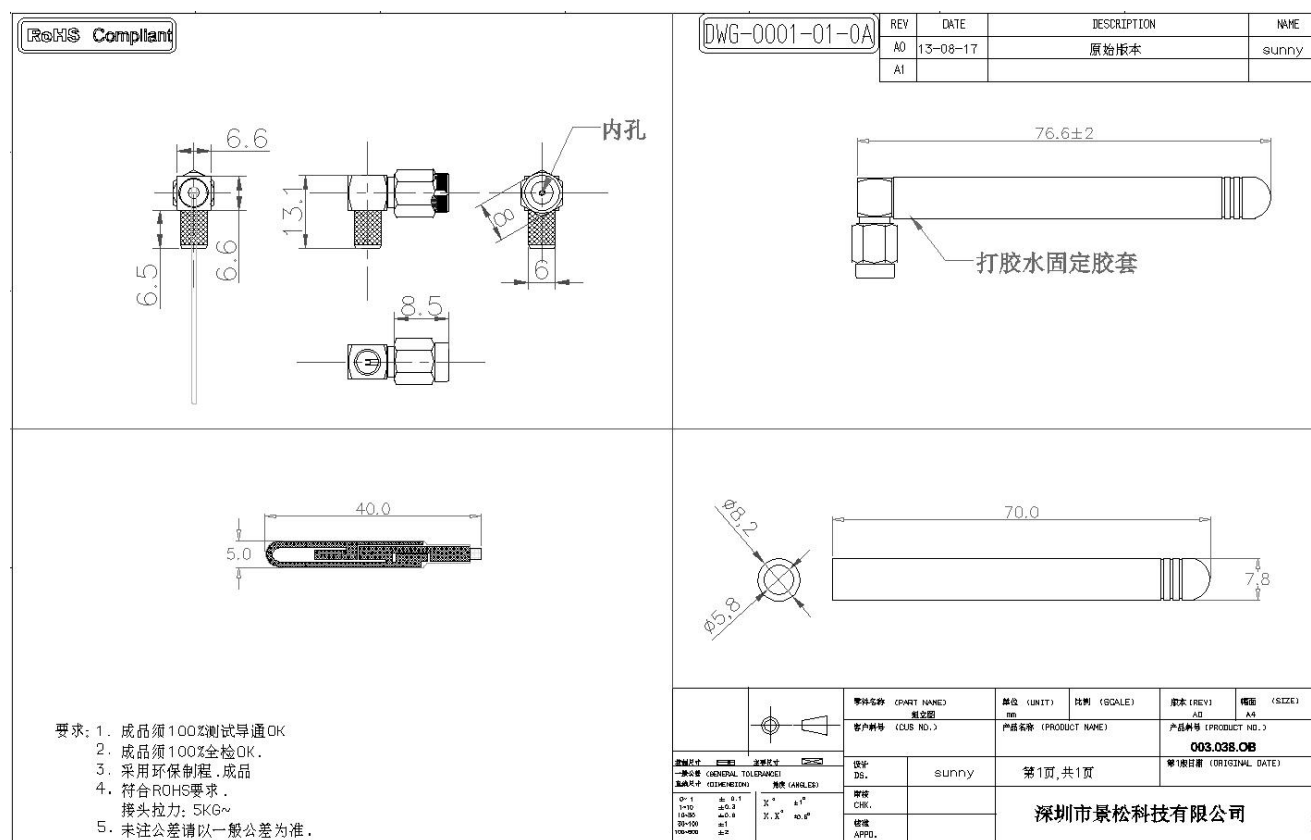
Antenna - S Parameter Test Data

Frequency	EFFICIENCY(%)	GAIN(DBI)
860	42.3	0.75
880	44.1	0.67
900	42.3	0.84
920	43.1	0.57
930	42.5	0.87
2400	54.6	1.12
2420	51.8	1.21
2440	54.6	1.25
2460	56.2	1.17
2480	53.2	1.03
2500	55.7	1.18

Antenna Apple chart



3. Specifications Drawings





Antenna Specifications

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4. 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