



Antenna Specifications

| | | | |
|-------------------|----------------|-------------------|-----------------|
| CUSTOMER | | 杰科 | |
| CS P/N | | | |
| MATERIAL CODE | | <u>C-8</u> | |
| JS P/N | | <u>003-038-0A</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.

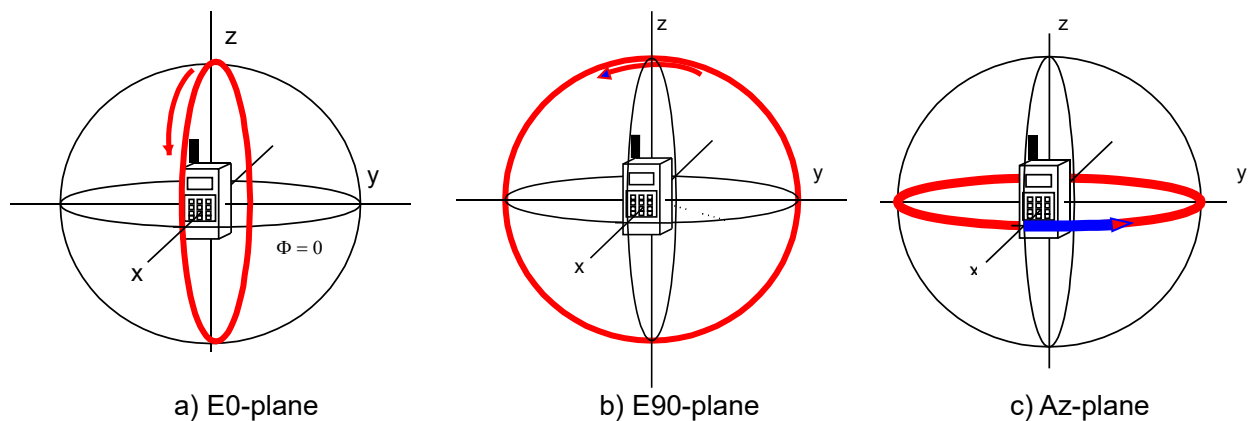


Figure 1-1 The coordinate system for the phone

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. | < - 2.5 @ 824 ~ 960MHz < - 3.0 @ 1710 ~ 2700MHz |
| Peak Gain | 0.87dBi @ 699 ~ 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 |



Antenna Specifications

Shenzhen JINGSONG Technology Co., LTD

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 |

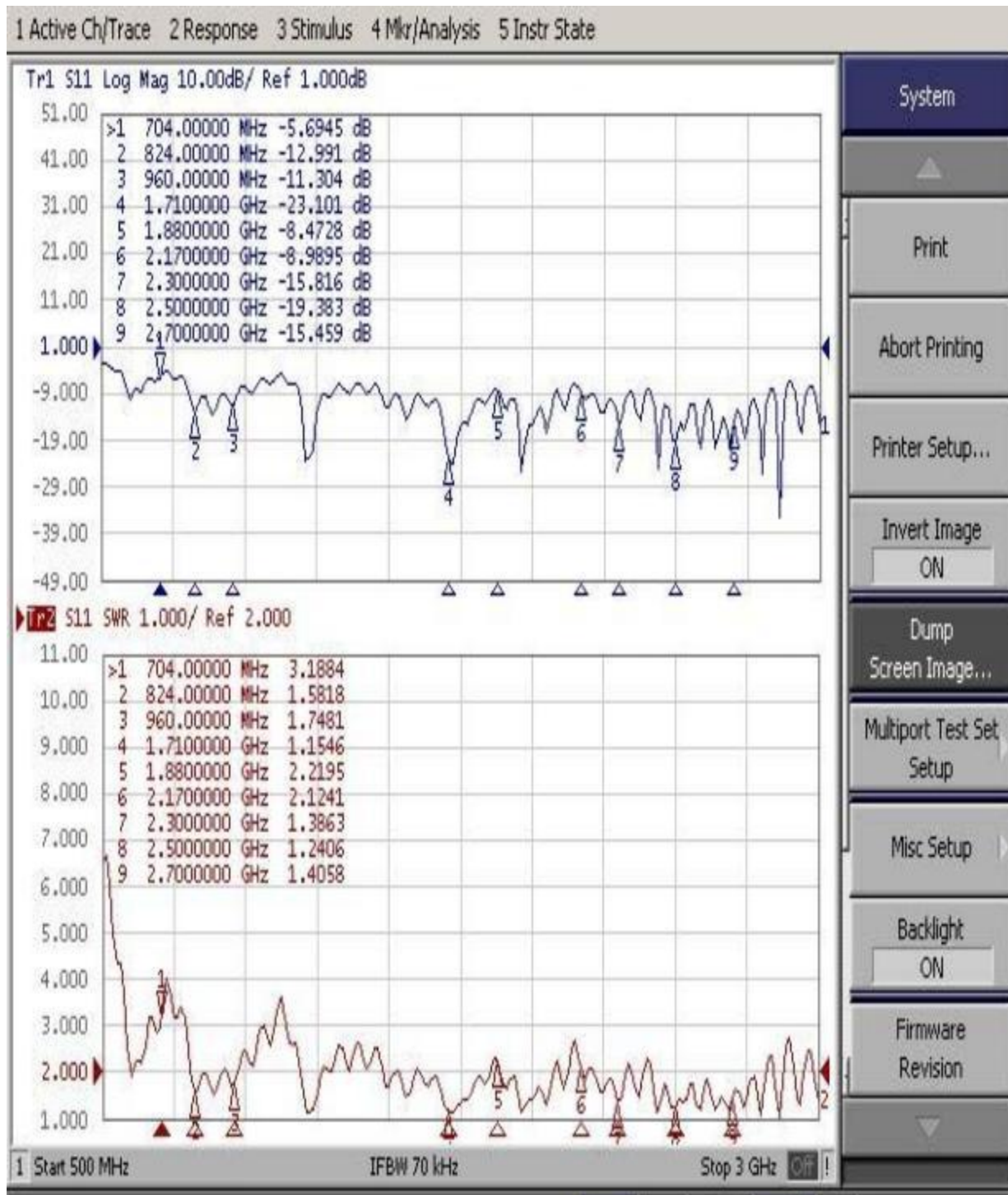
Add: 4 / F, South District, Building B, He Fuqin Industrial Park, Dalang Street Industrial Park Road, Longhua New District, Shenzhen City, Guangdong Province, P.R. China
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Antenna - S Parameter Test Data

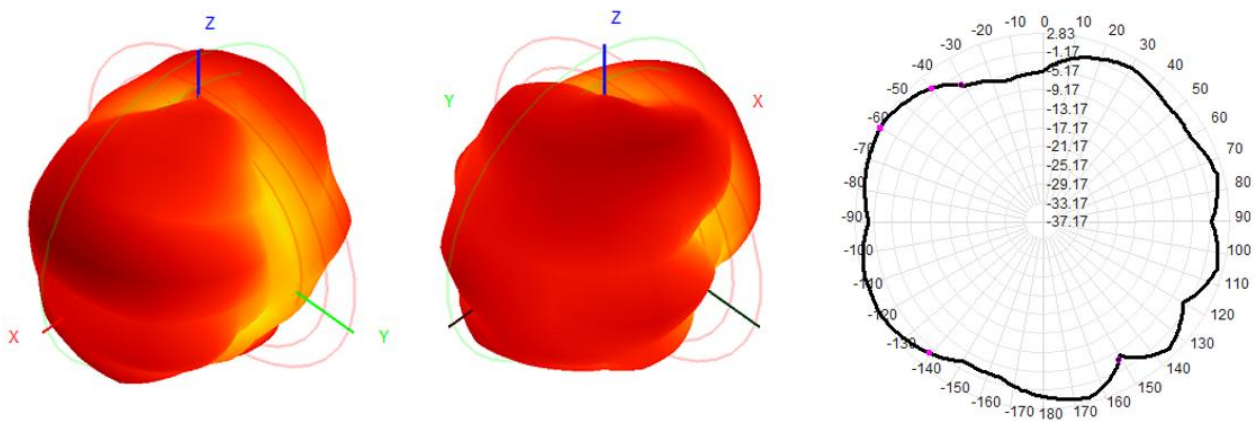


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Antenna - S Parameter Test Data

| 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





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3. 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 |