



上海杰盛康通信工程有限公司

Shanghai Jesoncom Communication Engineering Co., Ltd

Confidential

# 客户承认书

## SPECIFICATION FOR APPROVAL

CUSTOMER/PROJECT 客户/机型: C20PRO

CUSTOMER P.N./ 客户物料号:

PRODUCT NAME./ 物料名称: LTE

MODEL NO./ 物料型号: 5U072A

SPECIFICATION/ 物料规格:

ADD: No.358 Liuyuan RD., Baoshan Urban Industrial District., Shanghai, PR.China.

地址: 上海市宝山城市工业园区柳园路358号2号楼1楼

TEL: +86-21-66276925(26/29/35) - 615

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### 1 名词解释 /Noun explanation

|       |                                         |
|-------|-----------------------------------------|
| dBi   | Decibel relative isotropic antenna      |
| Tx    | Transmit frequency                      |
| Rx    | Receive frequency                       |
| TRP   | Total Radiated Power                    |
| TIS   | Total Isotropic Sensitivity             |
| VSWR  | Voltage Standing Wave Ratio             |
| GSM   | Global Service for Mobile communication |
| DCS   | Digital Communication System            |
| CDMA  | Code Division Multiple Access           |
| WCDMA | Wideband Code Division Multiple Access  |

### 2 测试设备 /Test equipment

矢量网络分析仪/ network analyzer

综合测试仪/ CMW 500

GTS 暗室/ GTS darkroom

### 3 适用频段/Working frequency band

将适用的频段用其他颜色标出/ The yellow Identification is the using band

| 制式 / band   | 上行 / uplink      | 下行 / uplink     |
|-------------|------------------|-----------------|
| GSM850      | 824MHz~849MHz    | 869MHz~894MHz   |
| GSM900      | 890MHz~915MHz    | 935MHz~960MHz   |
| DCS1800     | 1710MHz~1785MHz  | 1805MHz~1880MHz |
| PCS1900     | 1850MHz~1910MHz  | 1930MHz~1990MHz |
| CDMA800     | 825MHz~835MHz    | 870MHz~880 MHz  |
| CDMA2000    | 824MHz ~849MHz   | 869MHz ~894MHz  |
| WCDMA       | 824MHz~2170MHz   | 2110MHz~2170MHz |
| WIFI (2.4G) | 2400MHz~5850MHz  |                 |
| LTE         | 660MHz ~2690MHz  |                 |
| GPS         | 1560MHz ~1590MHz |                 |

## 4 基本测试项目/Test project

### 4.1 驻波比图/VSWR plot

### 4.2 史密斯阻抗图/Simth plot

### 4.3 辐射方向图/Radiation pattern

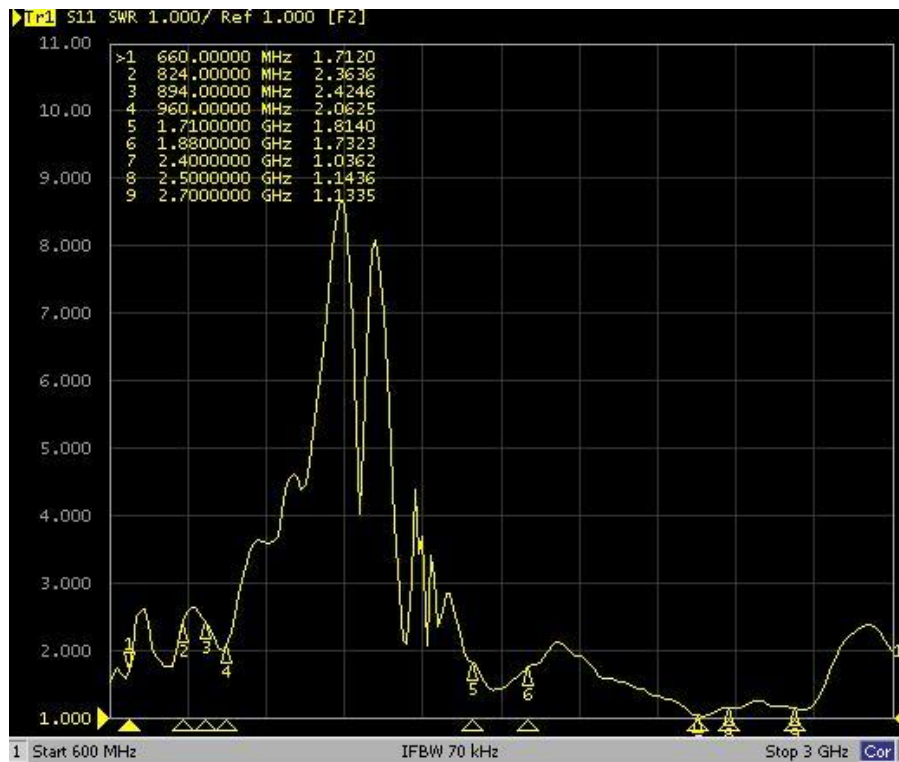
### 4.4 增益和效率/Gain & Efficiency

### 4.5 TRP&TIS

## 5 测试指标和数据图表/Antenna parameter

### 5.1 驻波比/VSWR

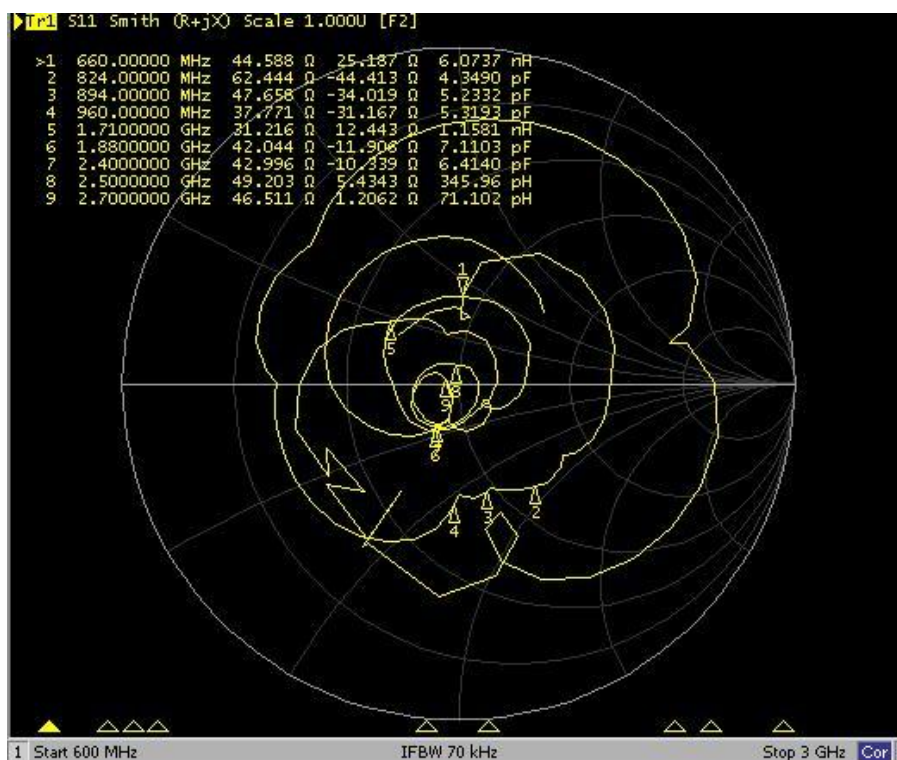
#### 5.1.1 驻波比图/VSWR plot



### 5.1.2 驻波比数据/VSWR data

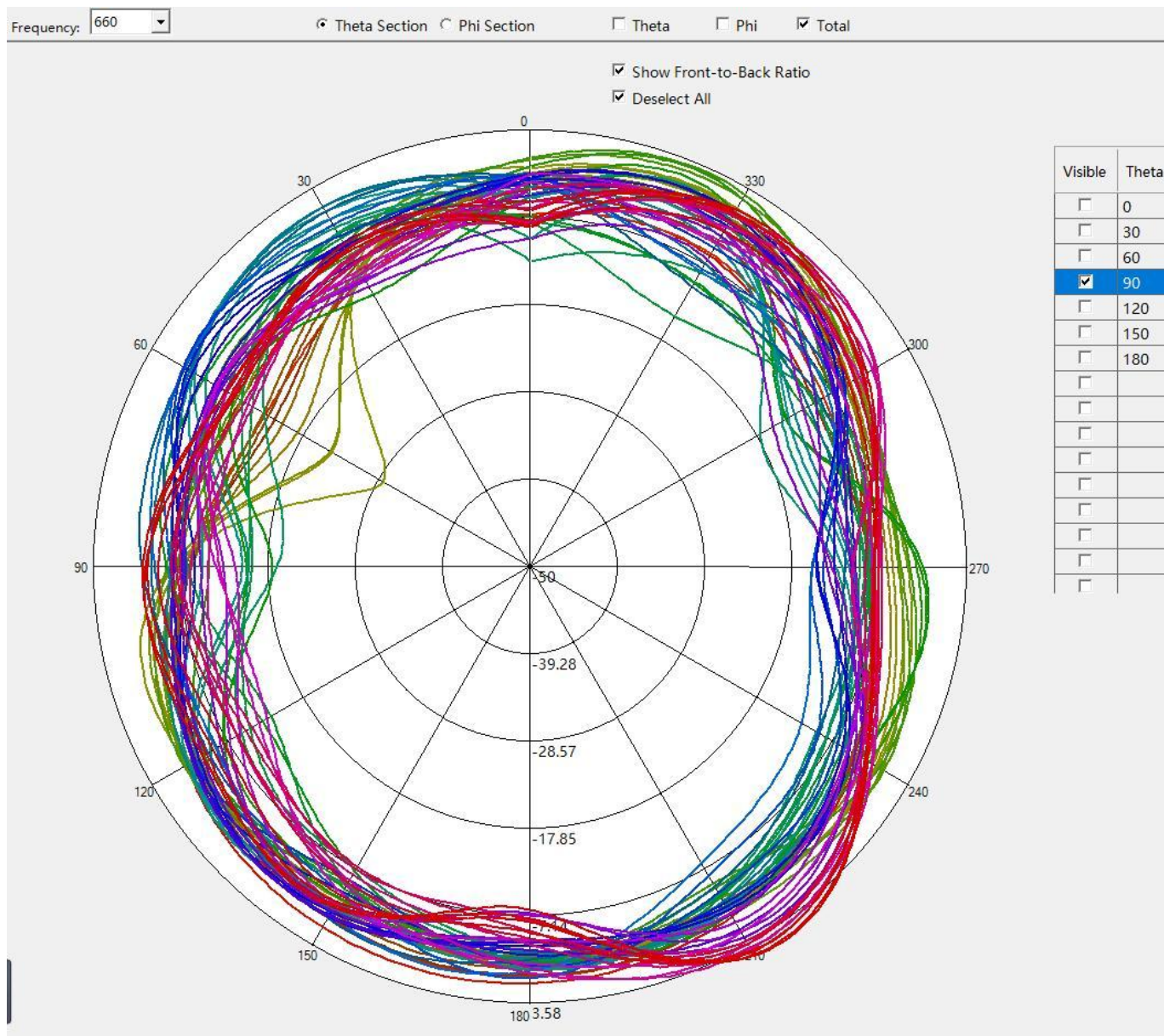
| Freq/MHz | 660 | 824 | 960 | 1710 | 1880 | 2400 | 2690 |
|----------|-----|-----|-----|------|------|------|------|
| VSWR     | 1.7 | 2.3 | 2.0 | 1.8  | 1.7  | 1.0  | 1.1  |

### 史密斯阻抗圆图/Smith impedance circle diagram



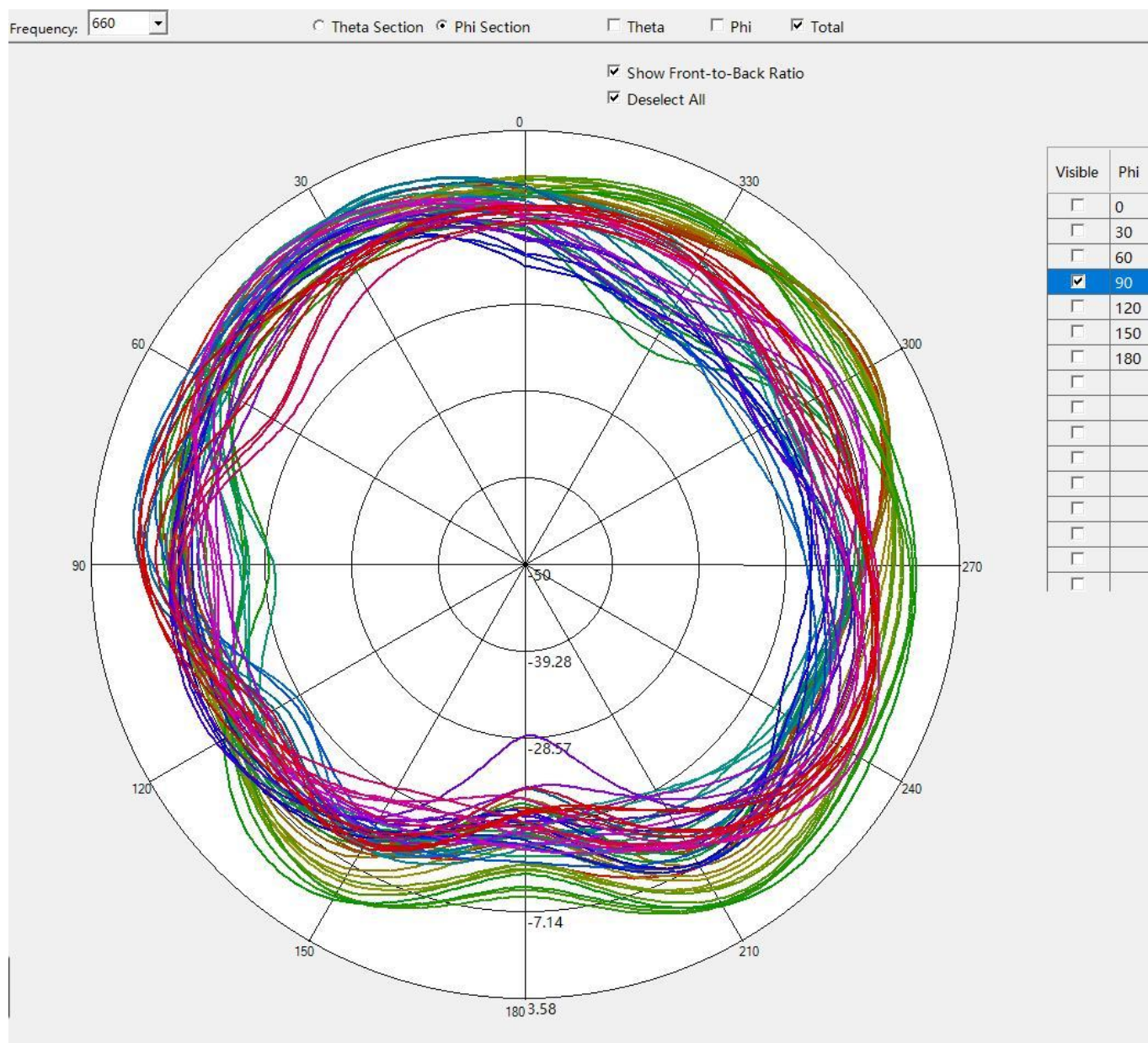
## 5.2 辐射方向图 /Radiation pattern

### 5.2.1 H-plane





## E2



### 5.4 增益和效率 /UGain & Efficiency

| Freq<br>(MHZ) | Eff (%) | GAIN  |  | Freq<br>(MHZ) | Eff (%) | GAIN |  | Freq<br>(MHZ) | Eff (%) | GAIN |
|---------------|---------|-------|--|---------------|---------|------|--|---------------|---------|------|
| 660           | 36.98   | 0.96  |  | 1710          | 48.52   | 2.75 |  | 2300          | 68.48   | 4.39 |
| 680           | 36.52   | 0.62  |  | 1750          | 46.23   | 2.85 |  | 2330          | 62.35   | 4.09 |
| 700           | 38.77   | 0.60  |  | 1790          | 43.03   | 2.00 |  | 2370          | 62.68   | 3.82 |
| 720           | 39.62   | 0.16  |  | 1830          | 41.59   | 1.55 |  | 2400          | 59.28   | 3.64 |
| 740           | 40.61   | 0.18  |  | 1870          | 40.23   | 1.46 |  | 2450          | 59.97   | 3.15 |
| 760           | 36.44   | 0.35  |  | 1900          | 43.28   | 1.82 |  | 2480          | 60.01   | 3.31 |
| 780           | 36.05   | -0.34 |  | 1930          | 50.15   | 3.20 |  | 2510          | 59.74   | 3.05 |
| 800           | 39.78   | 0.58  |  | 1960          | 50.36   | 4.37 |  | 2540          | 62.16   | 2.93 |
| 820           | 45.96   | 1.81  |  | 1990          | 60.43   | 3.90 |  | 2570          | 56.72   | 3.36 |
| 840           | 47.41   | 2.39  |  | 2100          | 63.44   | 3.48 |  | 2600          | 59.99   | 3.05 |
| 860           | 48.73   | 0.88  |  | 2130          | 69.18   | 4.77 |  | 2630          | 55.90   | 3.82 |
| 880           | 57.27   | 3.41  |  | 2160          | 72.13   | 5.14 |  | 2660          | 53.50   | 3.73 |
| 900           | 58.98   | 4.00  |  |               |         |      |  | 2690          | 50.78   | 3.08 |
| 920           | 54.04   | 3.49  |  |               |         |      |  |               |         |      |
| 940           | 47.75   | 1.97  |  |               |         |      |  |               |         |      |
| 960           | 50.98   | 1.52  |  |               |         |      |  |               |         |      |

## 6 环境处理建议/Environmental treatment suggestions

The environment doesn't need to be treated

## 7 阻抗匹配要求/Impedance matching

## 8 天线外形图/Antenna plan

