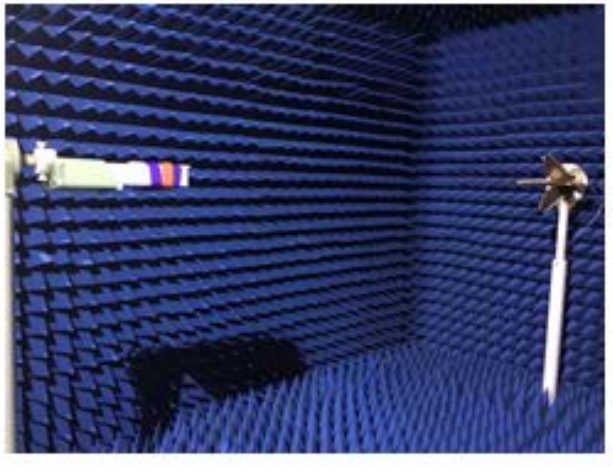
Shenzhen Qianmu Communication Technology Co.,Ltd.

Customer: CHITECH SHENZHEN TECHNOLOGY CO.,LTD
Model: F107W
Date: 2023.3.22
Version: A1
Radio Frequency: LIU CHU SHENG

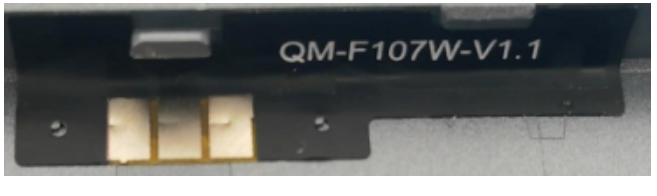
# Test Condition

| | Test Item | Equipment |
|---|---|---|
| 1. S（S-parameter） | 1. Return Loss）<br>2. （VSWR） | : Agilent E5071B<br>HP 8753D |
| 2.<br>（Active ） | 1. （TRP）<br>2. （TIS）<br>3.Frequency error<br>4.Screen extinction,Screen lighting | 1. ETS 7x4x3 m (3D) Chamber<br>ETS 5x3x3 m (3D) Chamber<br>2.Agilent 8960 E5515B ×2<br>StarPoint SP6011 |
| 3.<br>（Passive） | 1.Gain）<br>2. （Efficiency） | 1. ETS 7x4x3 m (3D) Chamber<br>ETS 5x3x3 m (3D) Chamber<br>2. Agilent E5071B<br>HP 8753D |



# Instruction

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Equipment | Ipad | | | | | | |
| Pattern | Straight plate | | | | | | |
| Antenna | Main antenna | radio frenquency | | antenna condition | antennaform | | |
| | three-in-one antenna | WIFI/BT | 2.4G-2.5G<br>5G-5.8G | Copper foil | PIFA | | |
| | | GPS | 1575.42Hz | | | | |
| | | | | | | | |




Antenna 31mm*10mm

# Active Test Data

| Antenna Condition | Copper foil | | |
|---|---|---|---|
| | WIFI2400~2500Mz 802.11b 11MBps | | |
| Channel | 1 | 6 | 11 |
| TRP | 9.67 | 9.52 | 8.66 |
| TIS | -79.16 | -80.61 | -78.42 |
| | WIFI5000~5800Mz 802.11a 54MBps | | |
| Channel | 36 | 161 | 165 |
| TRP | 9.21 | 8.08 | 8.62 |
| TIS | -67.18 | -67.19 | -67.38 |

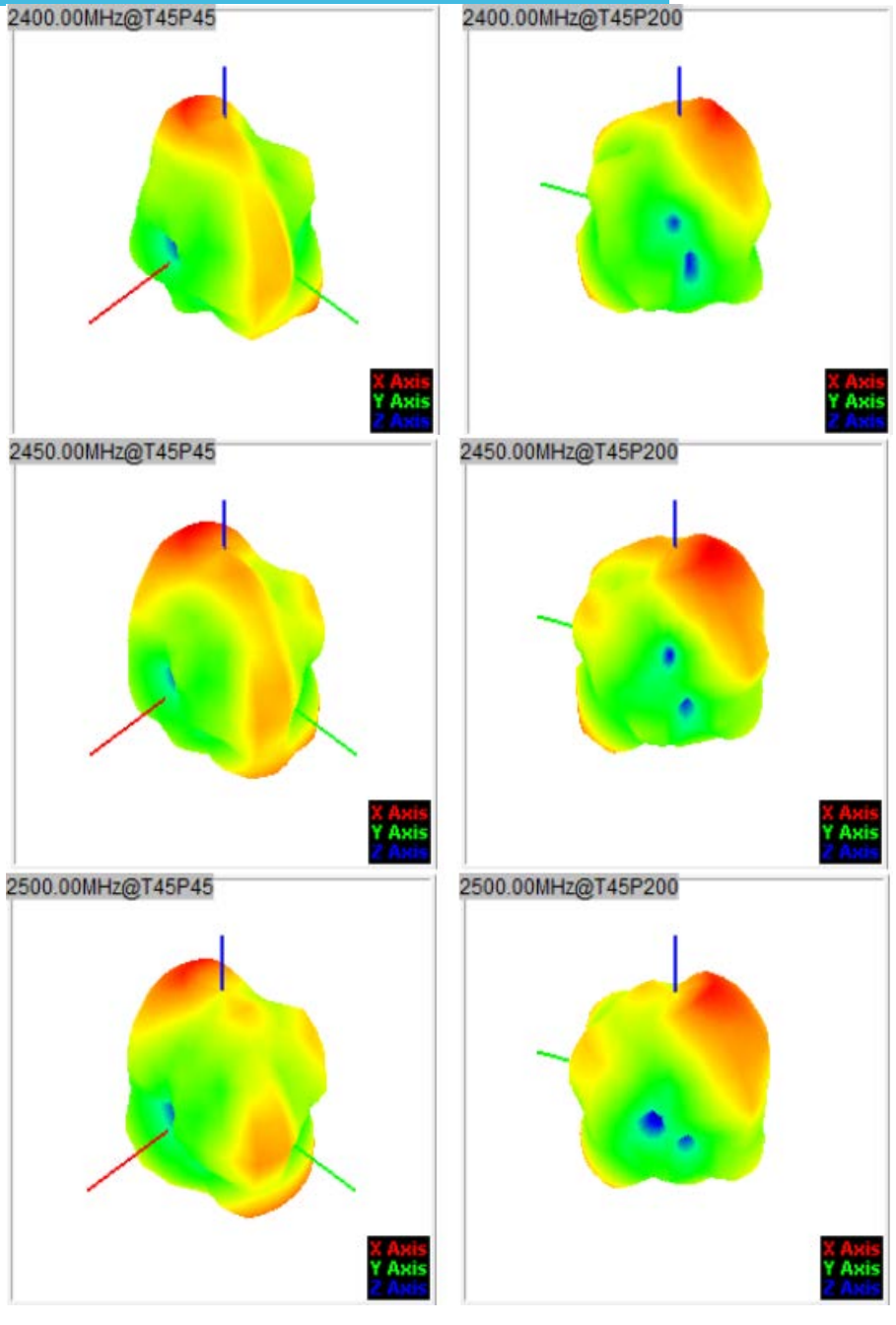
# Passive 2.4G test data

| Frequency ID | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Frequency (MHz) | 2400.0 | 2410.0 | 2420.0 | 2430.0 | 2440.0 | 2450.0 | 2460.0 | 2470.0 | 2480.0 | 2490.0 | 2500.0 |
| Point Values | | | | | | | | | | | |
| Ant. Port Input Pwr. (dBm) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tot. Rad. Pwr. (dBm) | -5.52 | -5.42 | -5.15 | -4.85 | -4.74 | -4.43 | -4.42 | -4.65 | -4.58 | -4.38 | -4.42 |
| Peak EIRP (dBm) | 1.88 | 1.94 | 2.13 | 2.29 | 2.29 | 2.46 | 2.17 | 1.69 | 1.68 | 1.88 | 1.78 |
| Directivity (dBi) | 7.41 | 7.36 | 7.28 | 7.14 | 7.03 | 6.89 | 6.59 | 6.34 | 6.26 | 6.26 | 6.20 |
| Efficiency (dB) | -5.52 | -5.42 | -5.15 | -4.85 | -4.74 | -4.43 | -4.42 | -4.65 | -4.58 | -4.38 | -4.42 |
| Efficiency (%) | 28.00 | 28.70 | 30.50 | 32.70 | 33.60 | 36.10 | 36.10 | 34.30 | 34.90 | 36.50 | 36.10 |
| Gain (dBi) | 1.88 | 1.94 | 2.13 | 2.29 | 2.29 | 2.46 | 2.17 | 1.69 | 1.68 | 1.88 | 1.78 |
| NHPRP ±Pi/4 (dBm) | -7.80 | -7.74 | -7.53 | -7.28 | -7.20 | -6.91 | -6.88 | -7.07 | -6.98 | -6.76 | -6.79 |
| NHPRP ±Pi/6 (dBm) | -9.80 | -9.80 | -9.65 | -9.45 | -9.43 | -9.16 | -9.15 | -9.34 | -9.26 | -9.05 | -9.07 |
| NHPRP ±Pi/8 (dBm) | -11.39 | -11.43 | -11.33 | -11.18 | -11.19 | -10.95 | -10.94 | -11.14 | -11.07 | -10.89 | -10.93 |
| Upper Hem. PRP (dBm) | -8.31 | -8.22 | -7.94 | -7.62 | -7.52 | -7.22 | -7.28 | -7.56 | -7.52 | -7.35 | -7.39 |
| Lower Hem. PRP (dBm) | -8.77 | -8.65 | -8.40 | -8.11 | -7.99 | -7.67 | -7.60 | -7.76 | -7.66 | -7.43 | -7.48 |
| Upper Hem. PRP (%) | 14.75 | 15.05 | 16.07 | 17.28 | 17.71 | 18.98 | 18.72 | 17.54 | 17.70 | 18.39 | 18.24 |
| Lower Hem. PRP (%) | 13.28 | 13.65 | 14.47 | 15.45 | 15.90 | 17.08 | 17.38 | 16.75 | 17.16 | 18.07 | 17.87 |

# Passive 5.8G test data

| Frequency ID | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Frequency (MHz) | 5150.0 | 5200.0 | 5250.0 | 5300.0 | 5350.0 | 5400.0 | 5450.0 | 5500.0 | 5550.0 | 5600.0 | 5650.0 | 5700.0 | 5750.0 | 5800.0 | 5850.0 |
| Point Values | | | | | | | | | | | | | | | |
| Ant. Port Input Pwr. (dBm) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Tot. Rad. Pwr. (dBm)** | **-5.55** | **-5.32** | **-5.56** | **-6.16** | **-6.31** | **-5.84** | **-6.20** | **-6.84** | **-6.46** | **-5.34** | **-5.22** | **-5.77** | **-5.55** | **-5.33** | **-5.18** |
| **Peak EIRP (dBm)** | **1.47** | **1.54** | **1.28** | **0.41** | **0.08** | **0.75** | **-0.17** | **-0.06** | **0.86** | **2.46** | **2.28** | **2.04** | **2.49** | **2.72** | **2.42** |
| Directivity (dBi) | 7.02 | 6.85 | 6.84 | 6.57 | 6.39 | 6.58 | 6.02 | 6.78 | 7.31 | 7.80 | 7.49 | 7.81 | 8.04 | 8.05 | 7.60 |
| **Efficiency (dB)** | **-5.55** | **-5.32** | **-5.56** | **-6.16** | **-6.31** | **-5.84** | **-6.20** | **-6.84** | **-6.46** | **-5.34** | **-5.22** | **-5.77** | **-5.55** | **-5.33** | **-5.18** |
| **Efficiency (%)** | **27.90** | **29.40** | **27.80** | **24.20** | **23.40** | **26.10** | **24.00** | **20.70** | **22.60** | **29.20** | **30.10** | **26.50** | **27.90** | **29.30** | **30.30** |
| Gain (dBi) | 1.47 | 1.54 | 1.28 | 0.41 | 0.08 | 0.75 | -0.17 | -0.06 | 0.86 | 2.46 | 2.28 | 2.04 | 2.49 | 2.72 | 2.42 |
| NHPRP ±Pi/4 (dBm) | -6.74 | -6.55 | -6.82 | -7.37 | -7.52 | -7.11 | -7.43 | -8.09 | -7.70 | -6.48 | -6.33 | -6.87 | -6.66 | -6.49 | -6.39 |
| NHPRP ±Pi/6 (dBm) | -8.31 | -8.17 | -8.50 | -9.01 | -9.17 | -8.81 | -9.04 | -9.69 | -9.31 | -8.01 | -7.83 | -8.31 | -8.04 | -7.85 | -7.76 |
| NHPRP ±Pi/8 (dBm) | -9.58 | -9.48 | -9.89 | -10.38 | -10.61 | -10.31 | -10.44 | -11.08 | -10.69 | -9.31 | -9.13 | -9.54 | -9.19 | -8.98 | -8.88 |
| Upper Hem. PRP (dBm) | -8.84 | -8.36 | -8.55 | -9.12 | -9.04 | -8.63 | -9.10 | -9.73 | -9.40 | -8.34 | -8.14 | -8.78 | -8.55 | -8.18 | -8.03 |
| Lower Hem. PRP (dBm) | -8.29 | -8.29 | -8.60 | -9.22 | -9.62 | -9.07 | -9.33 | -9.98 | -9.53 | -8.36 | -8.32 | -8.77 | -8.57 | -8.50 | -8.36 |
| Upper Hem. PRP (%) | 13.08 | 14.58 | 13.97 | 12.26 | 12.49 | 13.70 | 12.32 | 10.64 | 11.48 | 14.66 | 15.36 | 13.23 | 13.96 | 15.21 | 15.72 |
| Lower Hem. PRP (%) | 14.81 | 14.82 | 13.81 | 11.96 | 10.93 | 12.39 | 11.68 | 10.05 | 11.14 | 14.57 | 14.74 | 13.27 | 13.90 | 14.12 | 14.60 |

# 2.4G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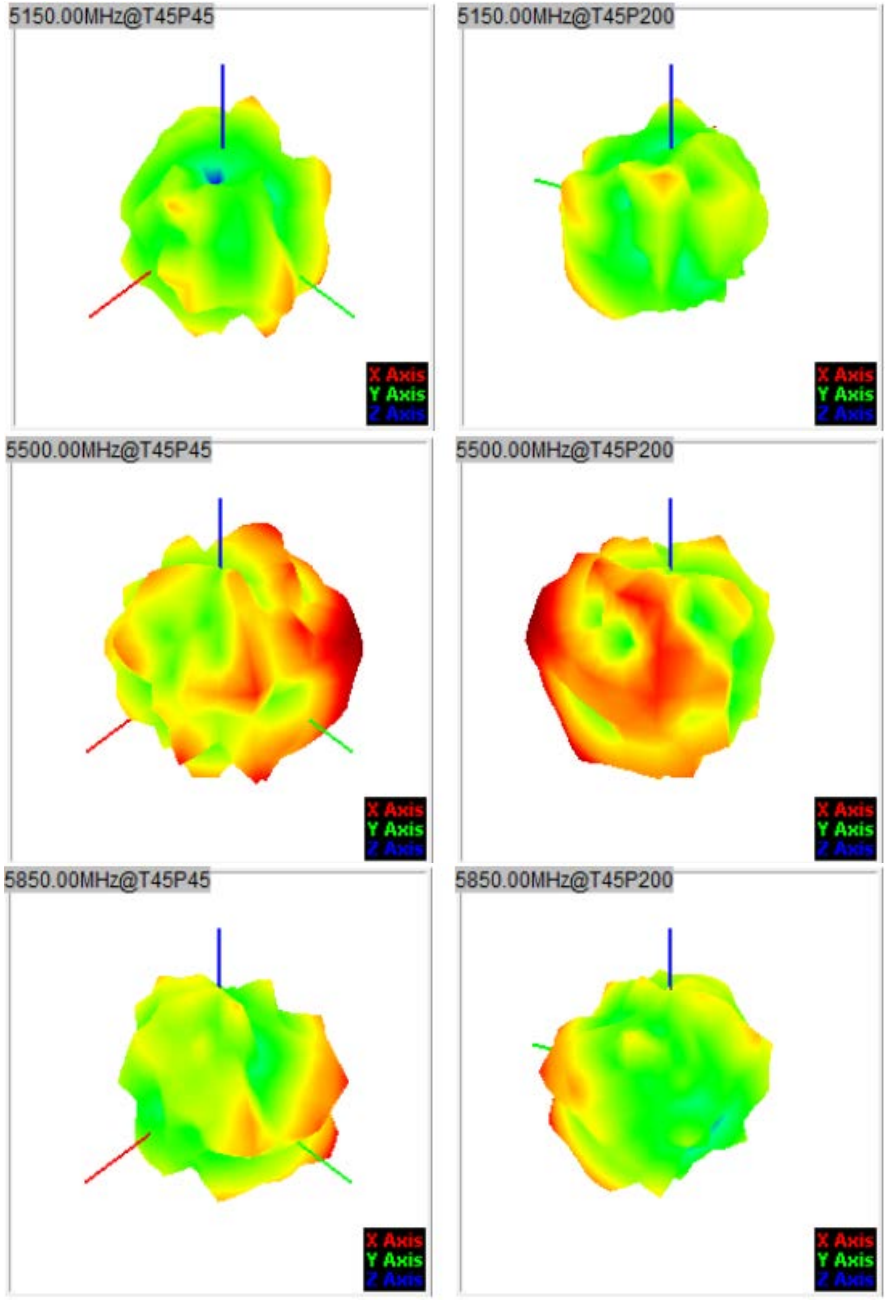
2450.00MHz@T45P200
2500.00MHz@T45P45
2500.00MHz@T45P200
X Axis
Y Axis
Z Axis

# 5.8G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X Axis
Y Axis
5150.00MHz@T45P200
X Axis
Y Axis
5500.00MHz@T45P45
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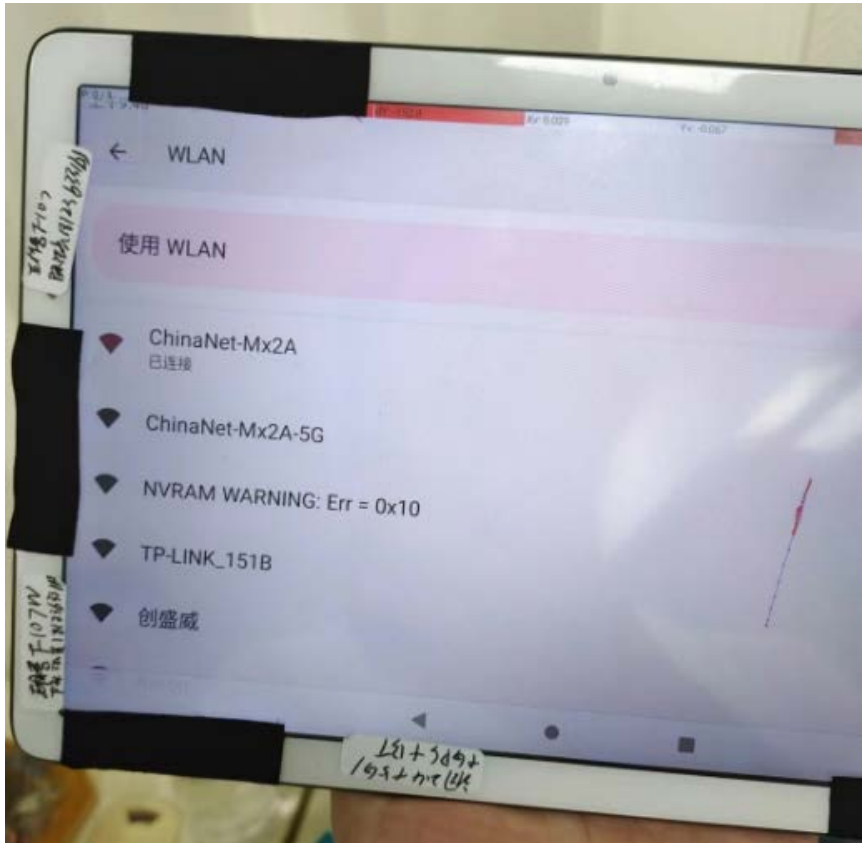
Y Axis
5500.00MHz@T45P200
X Axis
Y Axis
5850.00MHz@T45P45
X Axis
Y Axis
5850.00MHz@T45P200
X Axis
Y Axis

# WiFi/GPS


WLAN
使用 WLAN
ChinaNet-Mx2A
已连接
ChinaNet-Mx2A-5G
NVRAM WARNING: Err = 0x10
TP-LINK_151B
创盛威


定位状态
3D定位
精度(± m)
2
信噪比
99
50
30
20
10
00
可见
26
可用
19
32 31 28 35 34 28 39 30 42 20 32 18
14 17 03 30 06 01 128 19 07 21 12 13
0
17:36

THANKS!