

Product Number: AN2450-Z4075B81B80BL
Product Name: Antenna

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1. Revision History

| Revision | Date | Change Notification | Description |
|-----------------|-------------|----------------------------|--------------------|
| 1.0 | 2021.10.29 | | |
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2. Specification

| Sample Photo | |
|--|--|
|  | |
| A. Electrical Characteristics | |
| Frequency | 2400 ~ 2500 MHz 5150 ~ 5850 MHz |
| S.W.R. | <= 2.0 @ 2400 ~ 2500 MHz <= 2.5 @ 5150 ~ 5850 MHz |
| Antenna Gain | 1.0 dBi @ 2400 ~ 2500 MHz 1.0 dBi @ 5150 ~ 5850 MHz |
| Efficiency(%) | 75 % @ 2400~2500 MHz 75 % @ 5150~5850 MHz |
| Radiation Pattern | Omni-Directional |
| Max Input Power | >= 2 W |
| Polarization | Linear |
| Impedance | 50 Ohm |
| B. Material & Mechanical Characteristics | |
| Material of Radiator | CU |
| Material of Plastic | Body: FPC |
| Cable Type | OD0.81 |
| Connector Type | OP |
| C. Environmental | |
| Operation Temperature | - 40 °C ~ + 65 °C |
| Storage Temperature | - 40 °C ~ + 80 °C |
| Antenna Color Storage life | < 2 year |

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3. Characteristics and Reliability Test

| Test Items | | Test Condition and Procedure | Requirements |
|------------|----------------------|---|---|
| C1 | S.W.R. | Set DUT on Network Analyzer; make individual calibration to test | Directive DUT specification |
| C2 | Antenna Gain | Set DUT on Antenna Chamber; make individual calibration to test | Directive DUT specification |
| M1 | Vibration | GB / T2423 . 48-1997 Amplitude: 0.03 inch (1.5mm); Freq: 20 to 80 to 20 Hz 3 directions; 2 hours for each direction | 1. No Visual Damage 2. Frequency Tol.<= 5% |
| M2 | Random Drop | GB / T2423.8-1995 Height: 1.0 Meter; 3 directions; 1 time for each direction | 1. No parts separated 2. Frequency Tol.<= 5% |
| M3 | Solderability | GB 2423 . 28- 82 Solder iron: 260±5°C; Duration: 5 seconds | 1. Mounted on PCB 2. No Visual Damage |
| M4 | Terminal-Pull Test | Holding with individual specification; force applied to axis of terminal | 1. Directive DUT specification 2. Frequency Tol.<= 5% |
| M5 | Terminal-Torque Test | Holding with individual specification; applied clockwise and counterclockwise to the axis of terminal | 1. Directive DUT specification 2. Frequency Tol.<= 5% |
| M6 | Dimension | Inspection of dimension, color, material, package, surface process | Directive DUT specification |
| E1 | Salt Spray | GB / T 2423 . 17- 93 Temp: 35°C; RH: >= 95%; NaCl solution: >= 5%; Time: 24 hours | After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5% |
| E2 | Humidity | GB / T 2423 . 4 - 93 Temp: 80°C / 12 H; -40°C / 12H RH: >= 90%; Time: 24 hours | After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5% |
| E3 | Thermal Shock | GB / T 2423 . 22 - 87 1 Cycle: - 40°C (30 minutes) to + 80°C (30 minutes) Cycles: 24 | After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5% |
| E4 | Life (High Temp.) | GB /T 2423 . 2 - 89 Temp: 80°C; Time: 24 hours | After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5% |
| R1 | RoHS | With Reference to IEC 62321:2008 with flow chart | Directive RoHS 2011/65/EU |
| R2 | PFOS | With Reference to USA EPA 3540C:1996 by LC/MS | Directive RoHS 2006/122/EC |
| R3 | PFOA | With Reference to USA EPA 3540C:1996 by LC/MS | Directive RoHS 2006/122/EC |

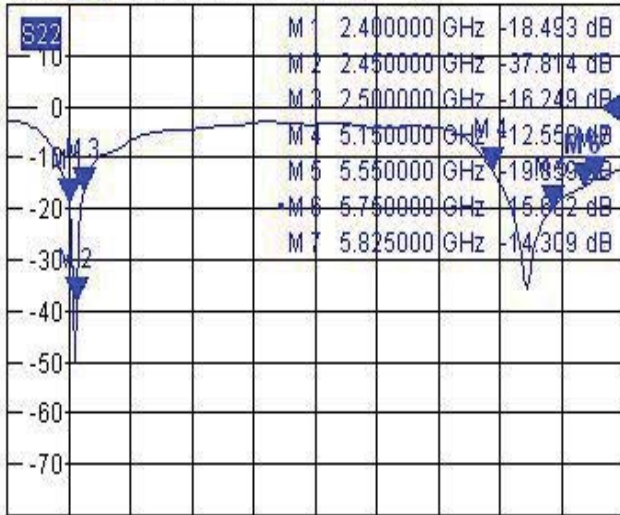
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4. Antenna - S Parameter Test Data

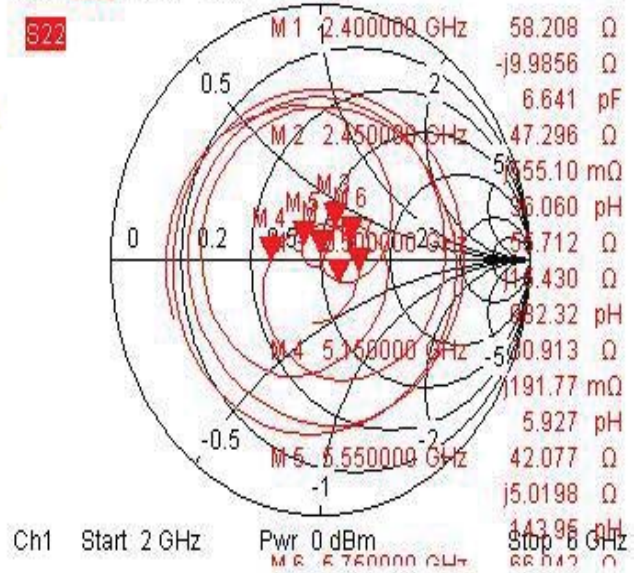


Trc1 S22 dB Mag 10 dB / Ref 0 dB Cal 1



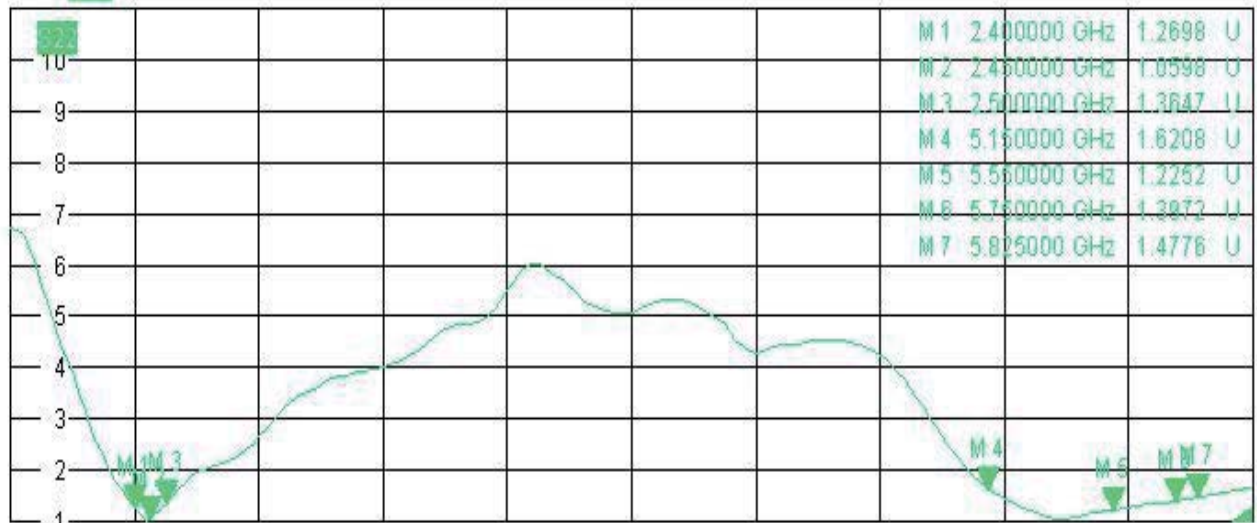
Ch1 Start 2 GHz Pwr 0 dBm Stop 6 GHz

Trc2 S22 Smith Ref 1 U Cal 2



Ch1 Start 2 GHz Pwr 0 dBm Stop 6 GHz

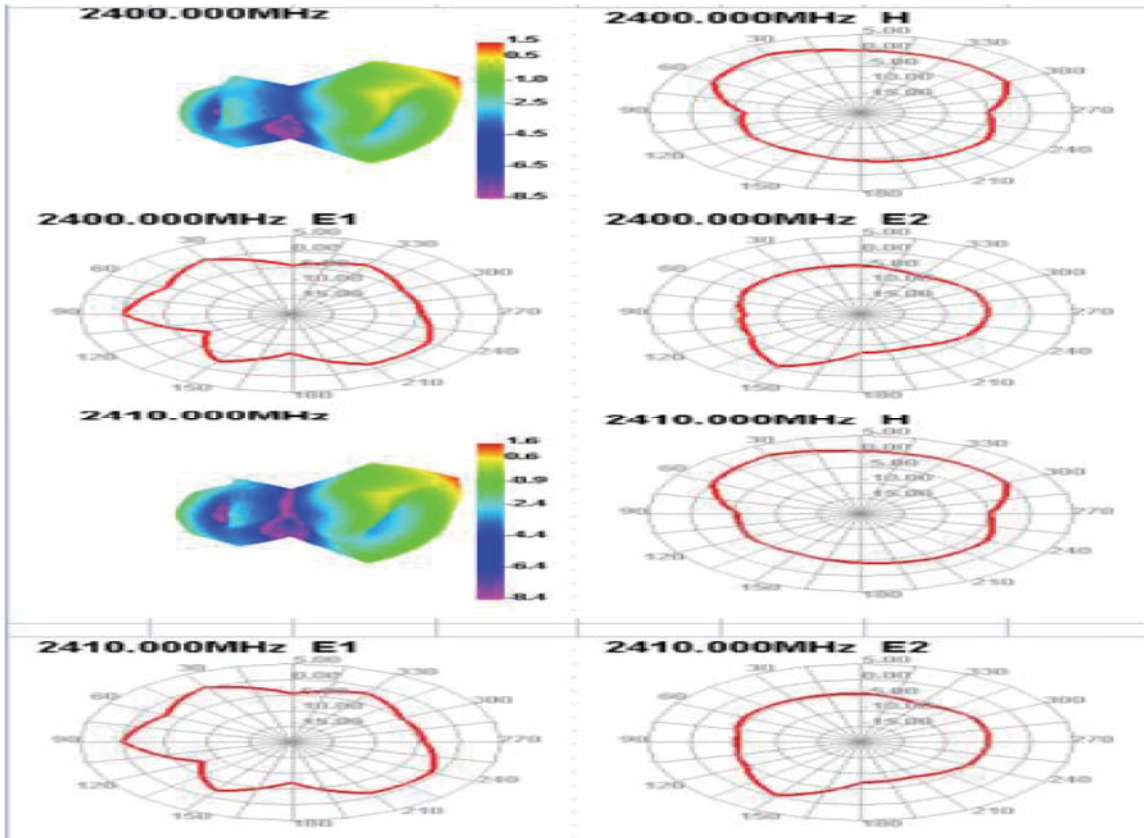
Trc3 S22 SWR 1 U / Ref 1 U Cal 3



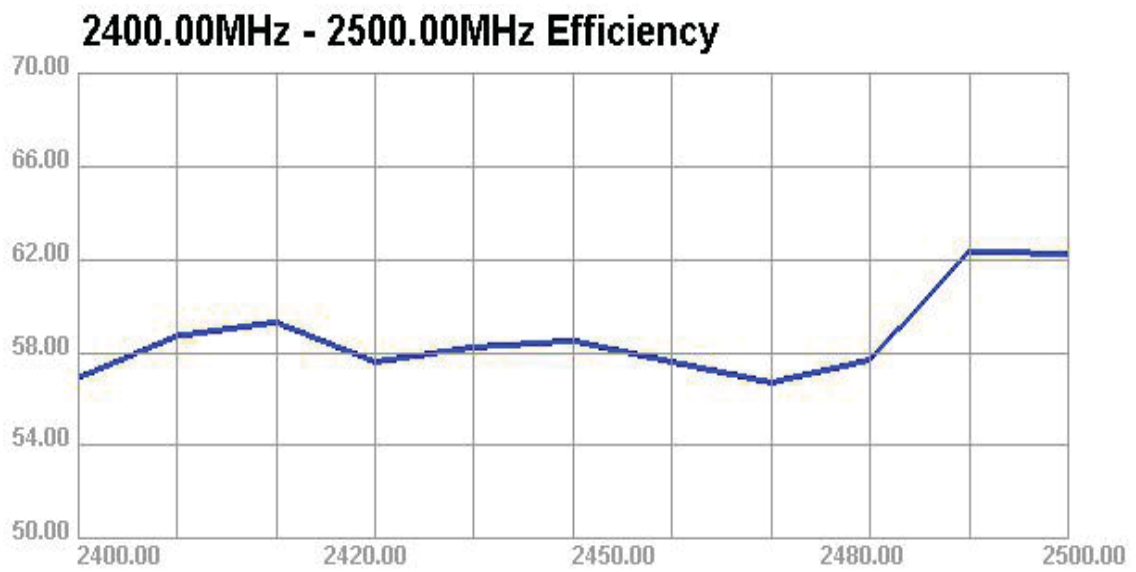
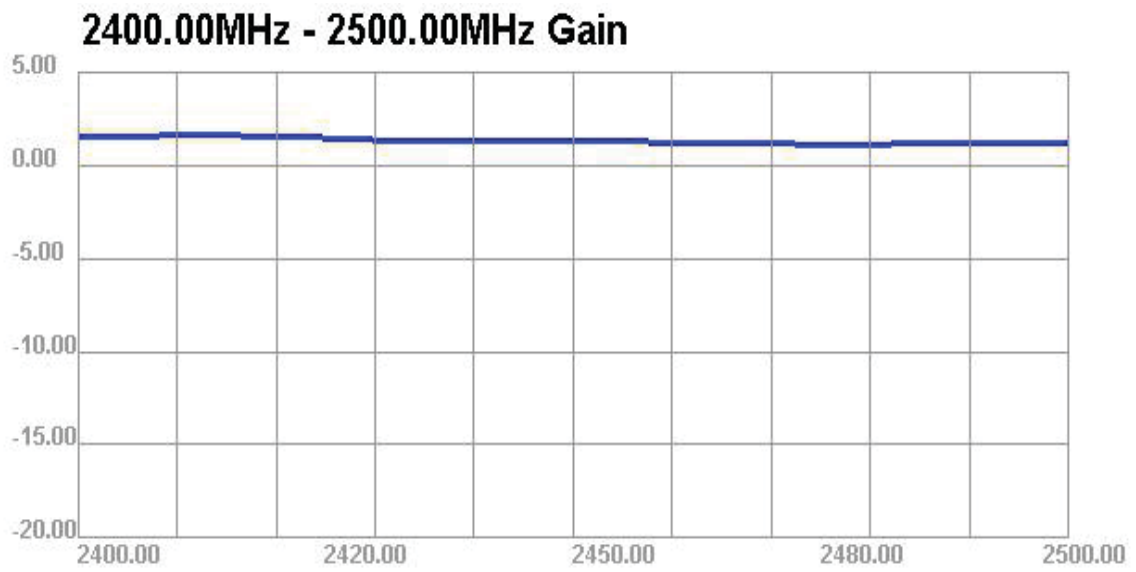
Ch1 Start 2 GHz Pwr 0 dBm Stop 6 GHz

5. Antenna - Radiation Pattern Test Data

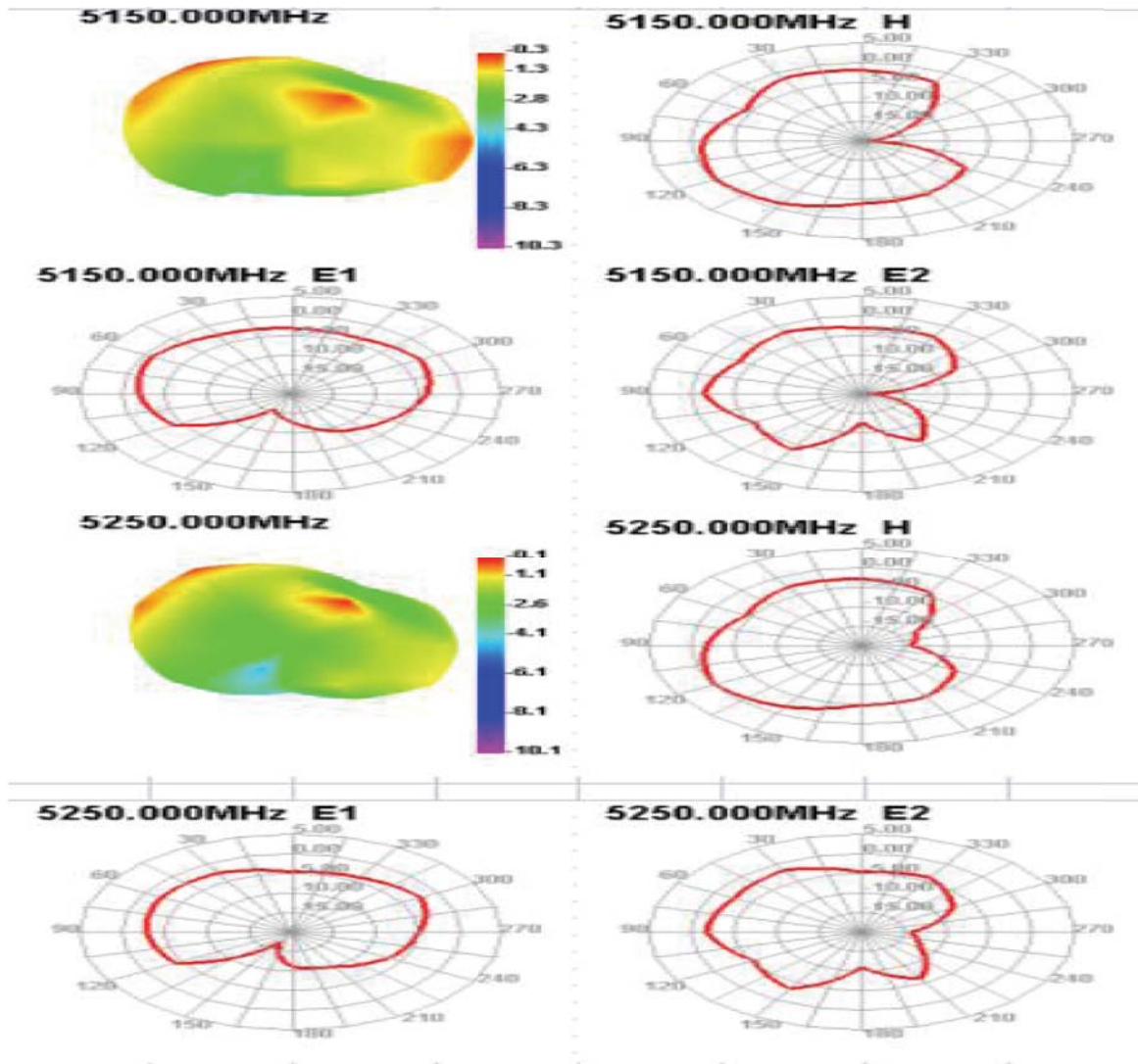
| Passive Test For WIFI2400 | | | | | | | | | | |
|---------------------------|----------|-----------|------------|------------|---------|----------|----------|----------|------------------|-----------------|
| Freq (MHz) | Effi (%) | Effi (dB) | Gain (dBi) | Gain (dBd) | UHS (%) | DHIS (%) | Max (dB) | Min (dB) | irectivity (dBi) | Beamwidth (3dB) |
| 2400 | 56.91 | -2.45 | 0.95 | -0.63 | 28.926 | 27.987 | 1.52 | -8.76 | 3.97 | 0 |
| 2410 | 58.72 | -2.31 | 1.00 | -0.55 | 29.226 | 29.495 | 1.6 | -7.95 | 3.91 | 0 |
| 2420 | 59.31 | -2.27 | 0.97 | -0.57 | 28.854 | 30.452 | 1.58 | -7.44 | 3.85 | 0 |
| 2430 | 57.61 | -2.4 | 0.67 | -0.79 | 27.399 | 30.208 | 1.36 | -7.44 | 3.75 | 60 |
| 2440 | 58.24 | -2.35 | 0.73 | -0.82 | 27.105 | 31.134 | 1.33 | -7.4 | 3.68 | 30 |
| 2450 | 58.51 | -2.33 | 0.72 | -0.83 | 26.686 | 31.821 | 1.32 | -7.59 | 3.65 | 60 |
| 2460 | 57.6 | -2.4 | 0.63 | -0.92 | 25.848 | 31.751 | 1.23 | -7.85 | 3.62 | 60 |
| 2470 | 56.72 | -2.46 | 0.55 | -1 | 25.101 | 31.618 | 1.15 | -7.85 | 3.61 | 60 |
| 2480 | 57.69 | -2.39 | 0.51 | -1.04 | 25.22 | 32.474 | 1.11 | -7.75 | 3.5 | 60 |
| 2490 | 62.37 | -2.05 | 0.65 | -0.9 | 26.902 | 35.47 | 1.25 | -7.43 | 3.3 | 60 |
| 2500 | 62.22 | -2.06 | 0.61 | -1 | 26.504 | 35.718 | 1.15 | -7.53 | 3.21 | 60 |



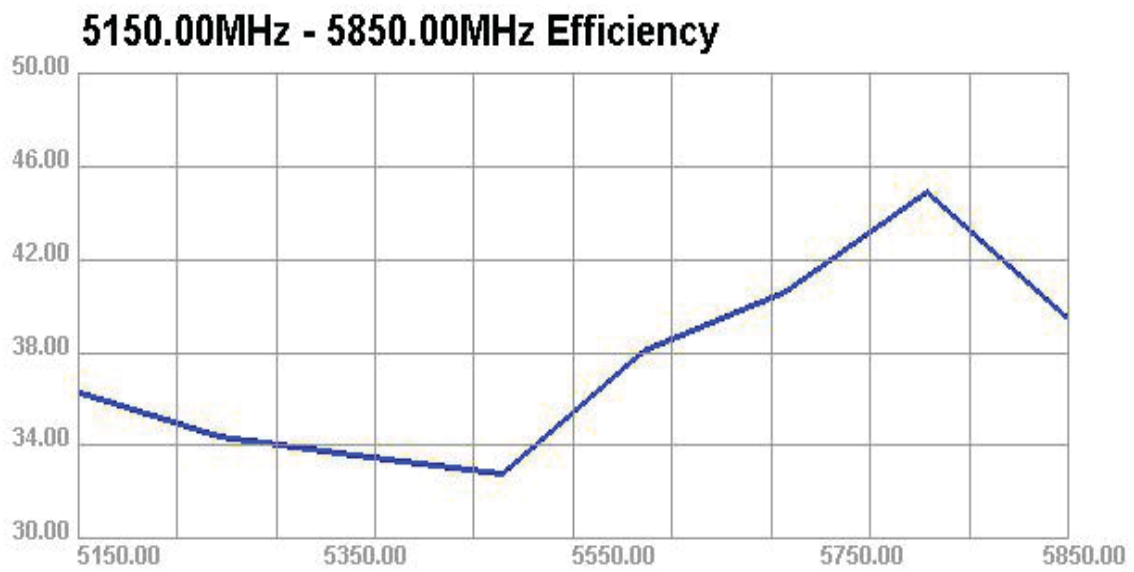
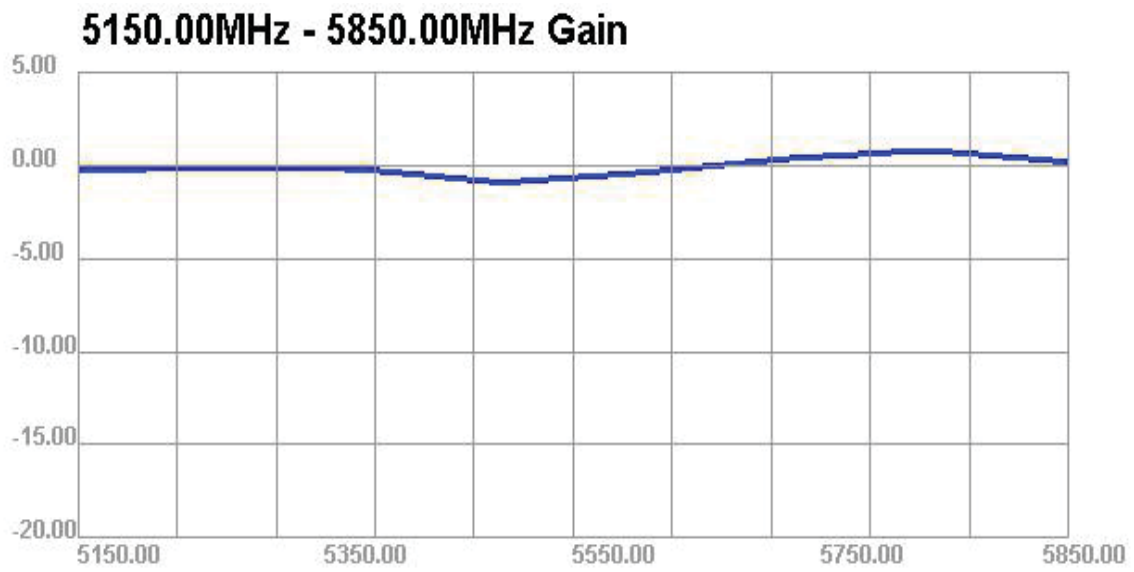
Product Number: AN2450-Z4075B81B80BL
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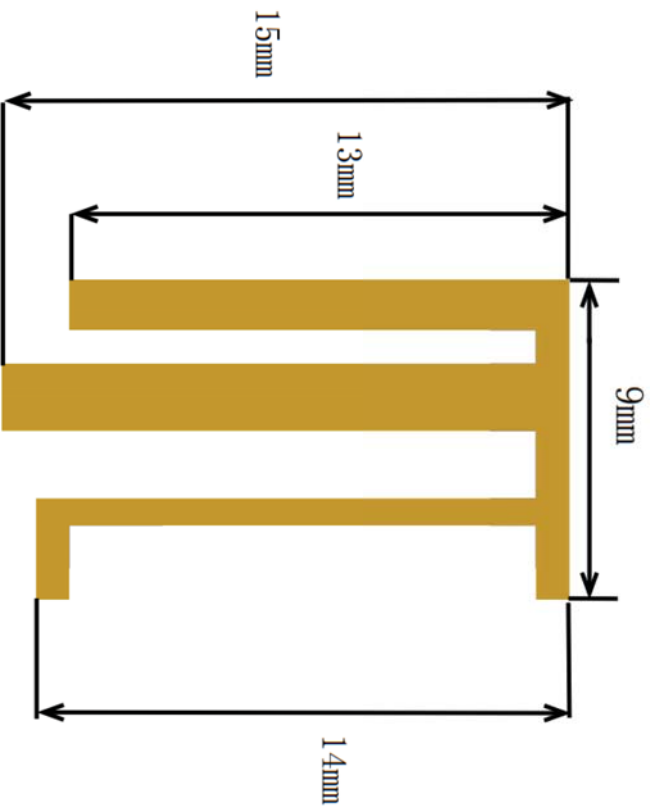
| Passive Test For WIFI-5G | | | | | | | | | | | |
|--------------------------|----------|-----------|------------|------------|---------|----------|----------|----------|------------------|-----------------|--|
| Freq (MHz) | Effi (%) | Effi (dB) | Gain (dBi) | Gain (dBd) | UHS (%) | DHIS (%) | Max (dB) | Min (dB) | irectivity (dBi) | Beamwidth (3dB) | |
| 5150 | 36.31 | -4.4 | -0.29 | -2.44 | 23.018 | 13.289 | -0.29 | -20.92 | 4.11 | 150 | |
| 5250 | 34.4 | -4.63 | -0.1 | -2.25 | 22.104 | 12.294 | -0.1 | -18.14 | 4.54 | 210 | |
| 5350 | 33.56 | -4.74 | -0.21 | -2.36 | 21.725 | 11.837 | -0.21 | -17.45 | 4.53 | 90 | |
| 5450 | 32.8 | -4.84 | -0.93 | -3.08 | 21.155 | 11.643 | -0.93 | -14.55 | 3.91 | 60 | |
| 5550 | 38.08 | -4.19 | -0.39 | -2.54 | 24.271 | 13.809 | -0.39 | -12.72 | 3.8 | 60 | |
| 5650 | 40.61 | -3.91 | 0.35 | -1.8 | 25.254 | 15.355 | 0.35 | -12.95 | 4.26 | 60 | |
| 5750 | 44.89 | -3.48 | 1.00 | -1.34 | 27.602 | 17.293 | 0.81 | -13.08 | 4.28 | 60 | |
| 5850 | 39.45 | -4.04 | 0.18 | -1.97 | 24.39 | 15.063 | 0.18 | -12.96 | 4.22 | 60 | |



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| NO. | NAME | SPECIFICATION | Q'TY |
|-----|---------|--------------------|------|
| 1 | Cable | L=80mm O.D.=0.81mm | 1 |
| 2 | ANTENNA | FPC | 1 |



NOTES:

1. Electrical:
 - 1.1 Impedance: 50 OHM
 - 1.2 Frequency: 2400~5800MHz
 - 1.3 Polarization :Vertical
 - 1.4 VSWR: ≤2.0
 - 1.5 Gain: 2dBi
2. Environmental:
 - 2.1 Storage Temperature Range: -30 TO +70°C.
 - 2.2 Operating Temperature Range: -30 TO +70°C.
3. All Materials Must Meet & Shall RofS Request.

Assembly Drawing

| | | | | | | | |
|--|--|----------------------|--|----------|----------------|------------|------------|
| Product No | | TC2450-24075A81B808L | | Designer | ZhangShengBing | Date | 2021-10-29 |
| Version | | A0 | | Auditor | | Date | |
| Change Mark | | A | | Confirm | | Date | |
| | | Change Num | | | | Proportion | 1 : 1 |
| | | | | | | Unit: | mm |
| | | | | Page | | 1/1 | |
| Dongguan tengchen Electronic Technology Co., Ltd | | | | | | | |