

Specification Approval Sheet

| Vender Name | Shenzhen i-Top Technology Co., Ltd |
|--------------|--|
| Address | Room 605, Building 2 Gaoxinqi Industrail Park 2,Longchang Road,Bao'an District, Shenzhen City,China |
| Project Name | 2501 |
| Part Name | 2501-L |
| Part Number | 2501-L-V2.0 |
| Part Version | V2.0 |
| Part Spec. | |

| | □ Halogen- | free tec | hnical standar | d | | | |
|---------------------------|-------------|-------------|----------------|------------|--|-------------|--|
| Vender Confirm (Stamp) | Prepared by | Prepared by | | Checked by | | Approved by | |
| | | | | | | | |
| Customer Approved (Stamp) | Sourcing | | DQ | RD | | Approved by | |
| | | | | | | | |

The materials meet the following environmental requirements:

□Banned and Monitored Substances Control Standard(Latest Edition)



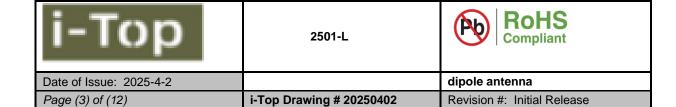
2501-L



Date of Issue: 2025-4-2 dipole antenna

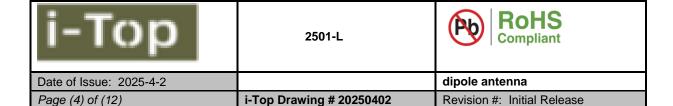
Page (2) of (12) i-Top Drawing # 20250402 Revision #: Initial Release

| Number | Effective date | Change record |
|--------|----------------|-----------------|
| V2 | 2025-04-02 | Initial release |
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— The basic parameters:

| A. Electrical Characteristics | | | | |
|--|-------------------|--|--|--|
| Frequency | 2400MHZ~2500MHZ | | | |
| | | | | |
| | | | | |
| VSWR | < 2.5 | | | |
| Avg Efficiency | >10% | | | |
| Impedance | 50 ± 25 Ohm | | | |
| Polarization | Linear | | | |
| Peak Gain | 2.4G:-2.22dBi | | | |
| | | | | |
| B. Material & Mechanical Characteristics | | | | |
| Material of Radiator | FPC black | | | |
| Cable Type | / | | | |
| Connector Type | / | | | |
| Dimension | 1 | | | |
| | | | | |
| | | | | |
| | | | | |
| C. Environmental | | | | |
| Operation Temperature | - 20 °C ~+ 60 °C | | | |
| Storage Temperature | - 30 °C ~ + 70 °C | | | |
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Those specifications were specially defined for <u>2501-L</u> model.

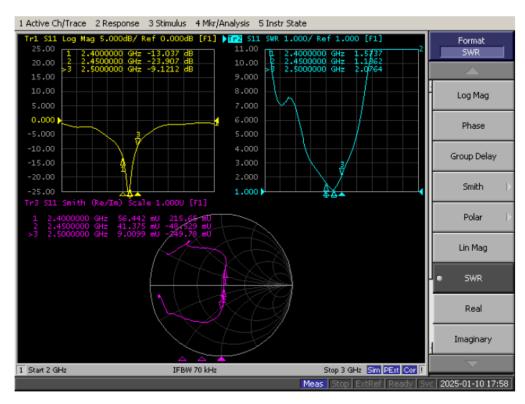
三、VSWR

1 Measuring Method

- $1.A~50\Omega$ coaxial cable is connected to the antenna. Then this cable is connected to a network analyzer to measure the VSWR
- 2. Keeping this jig away from metal at least 20cm

2 Measurement frequency points and VSWR value

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2501-L



Date of Issue: 2025-4-2 dipole antenna

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四、Anechoic chamber

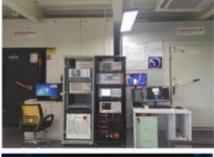
Introduction:

Microwave darkroom and no reflection chamber, absorbing short wave darkroom dark room. Microwave darkroom by electromagnetic shielding room, filtering and isolation, grounding device, the ventilation duct, indoor distribution system, monitoring system, ceiling wave material part. It is based on the wave absorbing material as the lining of the shield room, it can absorb the most of the electromagnetic energy into the six wall is a better simulation of the free space conditions.

The main working principle of microwave anechoic chamber is according to the electromagnetic wave in the medium from the low magnetic guide magnetic direction of propagation rules, absorbing materials to guide the electromagnetic wave using high permeability, through resonance, a substantial absorption of electromagnetic wave radiation energy, by coupling the electromagnetic energy into heat energy.

main performance

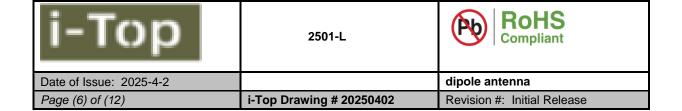
Frequency range:400MHz ~ 6GHz ceiling reflected wave loss materials: 400MHz ~ 6GHz is equal to or more than 15dB (microwave absorbing material by composite wave absorbing materials, namely tapered containing carbon sponge suction wave material paste in ferrite)





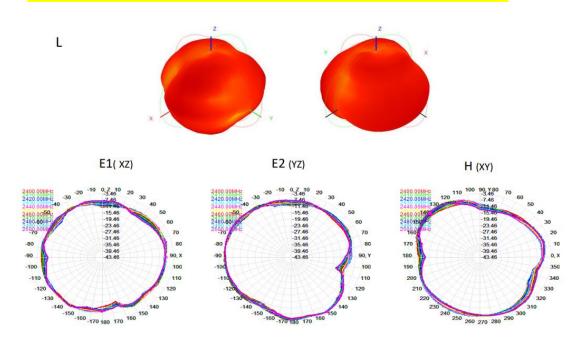






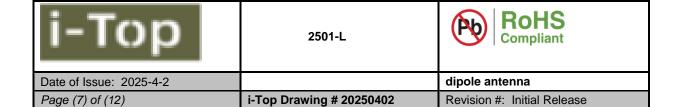
五、Gain table of Antenna

Passive field pattern diagram-L

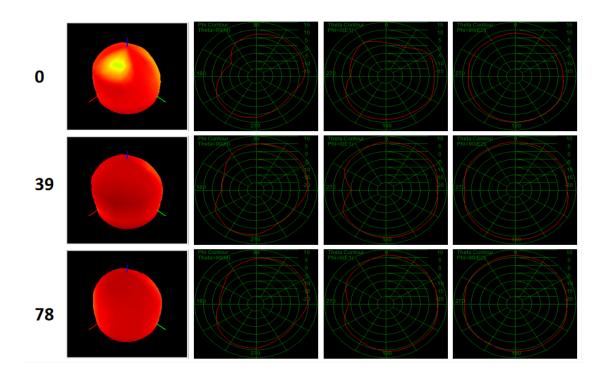


Passive efficiency gain-L

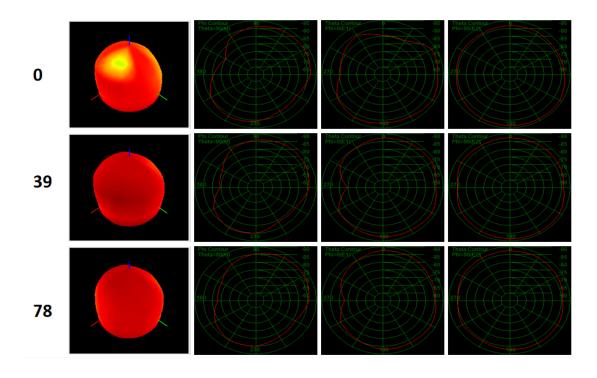
| L | | | | |
|---------------|---------|------------|--|--|
| Freq (MHz) | Effi(%) | Gain (dBi) | | |
| 2400 | 15. 37 | -3. 47 | | |
| 2410 | 16. 13 | -3. 27 | | |
| 2420 | 16. 68 | -3. 28 | | |
| 2430 | 17. 44 | -2. 99 | | |
| 2440 | 17. 88 | -2. 69 | | |
| 2450 | 18. 18 | -2. 41 | | |
| 2460 | 18. 37 | -2. 24 | | |
| 2470 | 18. 18 | -2. 22 | | |
| 2480 | 17. 88 | -2. 22 | | |
| 2490 | 17.64 | -2. 33 | | |
| 2500 | 17. 57 | -2. 49 | | |

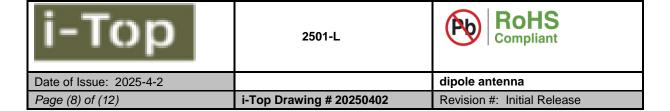


Active free space field pattern diagram -L -TRP

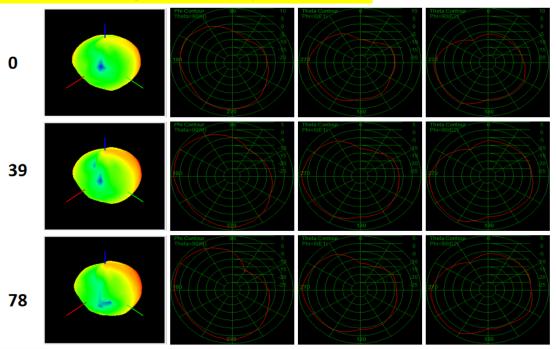


Active free space field pattern diagram-L -TIS

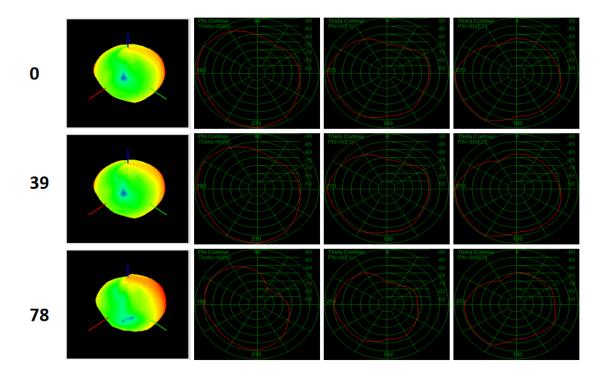


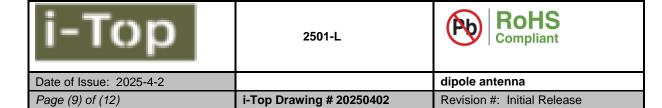


Source field pattern diagram -L -TRP



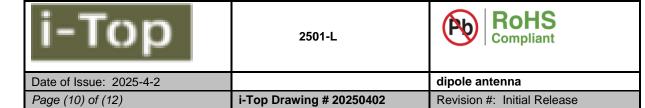
Source field pattern diagram-L -TIS





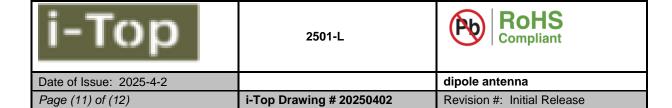
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| L | | | | | | |
|------------|-----------|-----------|------------------|-----------|-----------|--|
| Free space | | | Head model space | | | |
| BAND | TRP (dBm) | TIS (dBm) | BAND | TRP (dBm) | TIS (dBm) | |
| 0 | 7.11 | -91.03 | 0 | 0.81 | -84.54 | |
| 39 | 5.04 | -86.22 | 39 | -0.98 | -80.62 | |
| 78 | 4.41 | -85.5 | 78 | -1.44 | -80.23 | |

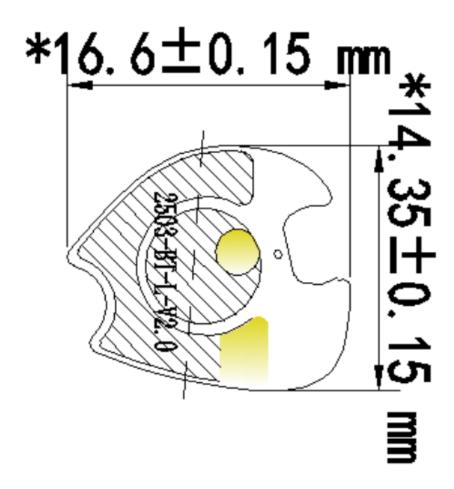


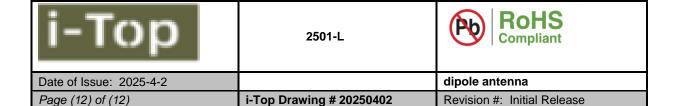
六、Machine Picture:





七、Antenna Dimensions、





八、ROHS:

Antenna NZ. 01. 0000317 meets RoHS requirements.

九、 Product packaging instructions:

A. packing should meet the moisture proof, vibration, pressure and mildew proof, etc.

B. the smallest packing unit logo must have the manufacturer trademarks, product model, name, code and quantity.

C. in the attached packing list, certificate of approval, and the factory inspection report.