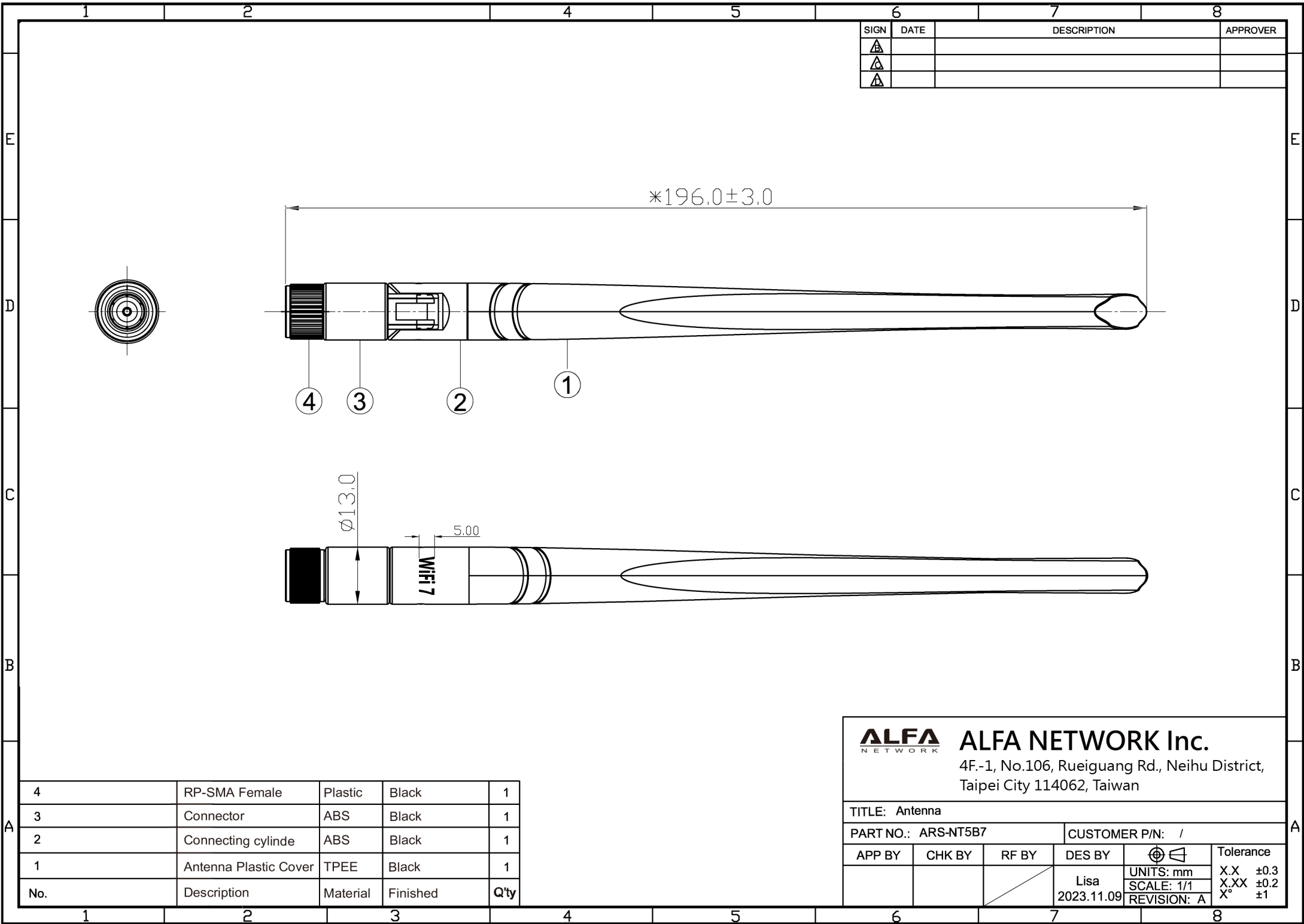




| SIGN | DATE | DESCRIPTION | APPROVER |
|------|------|-------------|----------|
| △    |      |             |          |
| △    |      |             |          |
| △    |      |             |          |

|     |                       |          |          |      |
|-----|-----------------------|----------|----------|------|
| 4   | RP-SMA Female         | Plastic  | Black    | 1    |
| 3   | Connector             | ABS      | Black    | 1    |
| 2   | Connecting cylinde    | ABS      | Black    | 1    |
| 1   | Antenna Plastic Cover | TPEE     | Black    | 1    |
| No. | Description           | Material | Finished | Q'ty |



ALFA NETWORK Inc.

4F.-1, No.106, Rueiguang Rd., Neihs District,  
Taipei City 114062, Taiwan

TITLE: Antenna

PART NO.: ARS-NT5B7

CUSTOMER P/N: /

| APP BY | CHK BY | RF BY | DES BY     |             | Tolerance |
|--------|--------|-------|------------|-------------|-----------|
|        |        |       | Lisa       | UNITS: mm   | X.X ±0.3  |
|        |        |       | 2023.11.09 | SCALE: 1/1  | X.XX ±0.2 |
|        |        |       |            | REVISION: A | X° ±1     |

Product Number:ARS-NT5B7  
Product Name: WIFI 7 Antenna

## 1. Specification

|                                                                                    |                                                                                                                |
|------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| Sample Photo                                                                       |                                                                                                                |
|  |                                                                                                                |
| A. Electrical Characteristics                                                      |                                                                                                                |
| Frequency                                                                          | 2400 ~ 2500 MHz<br>5150 ~ 5850 MHz<br>5925 ~ 7125 MHz                                                          |
| V.S.W.R.                                                                           | $\leq 2.0$ @ 2400 ~ 2500 MHz<br>$\leq 2.5$ @ 5150 ~ 5850 MHz<br>$\leq 2.5$ @ 6500 MHz<br>$\leq 2.5$ @ 7125 MHz |
| Efficiency                                                                         | ~75%                                                                                                           |
| Polarization                                                                       | Linear                                                                                                         |
| Impedance                                                                          | 50 Ohm                                                                                                         |
| B. Material & Mechanical Characteristics                                           |                                                                                                                |
| Material of Radiator                                                               | CU                                                                                                             |
| Material of Plastic                                                                | TPEE / ABS                                                                                                     |
| Cable Type                                                                         | RG178                                                                                                          |
| Connector Type                                                                     | SMA Male Reverse                                                                                               |
| C. Environmental                                                                   |                                                                                                                |
| Operation Temperature                                                              | - 40 °C ~ + 70 °C                                                                                              |
| Storage Temperature                                                                | - 40 °C ~ + 80 °C                                                                                              |

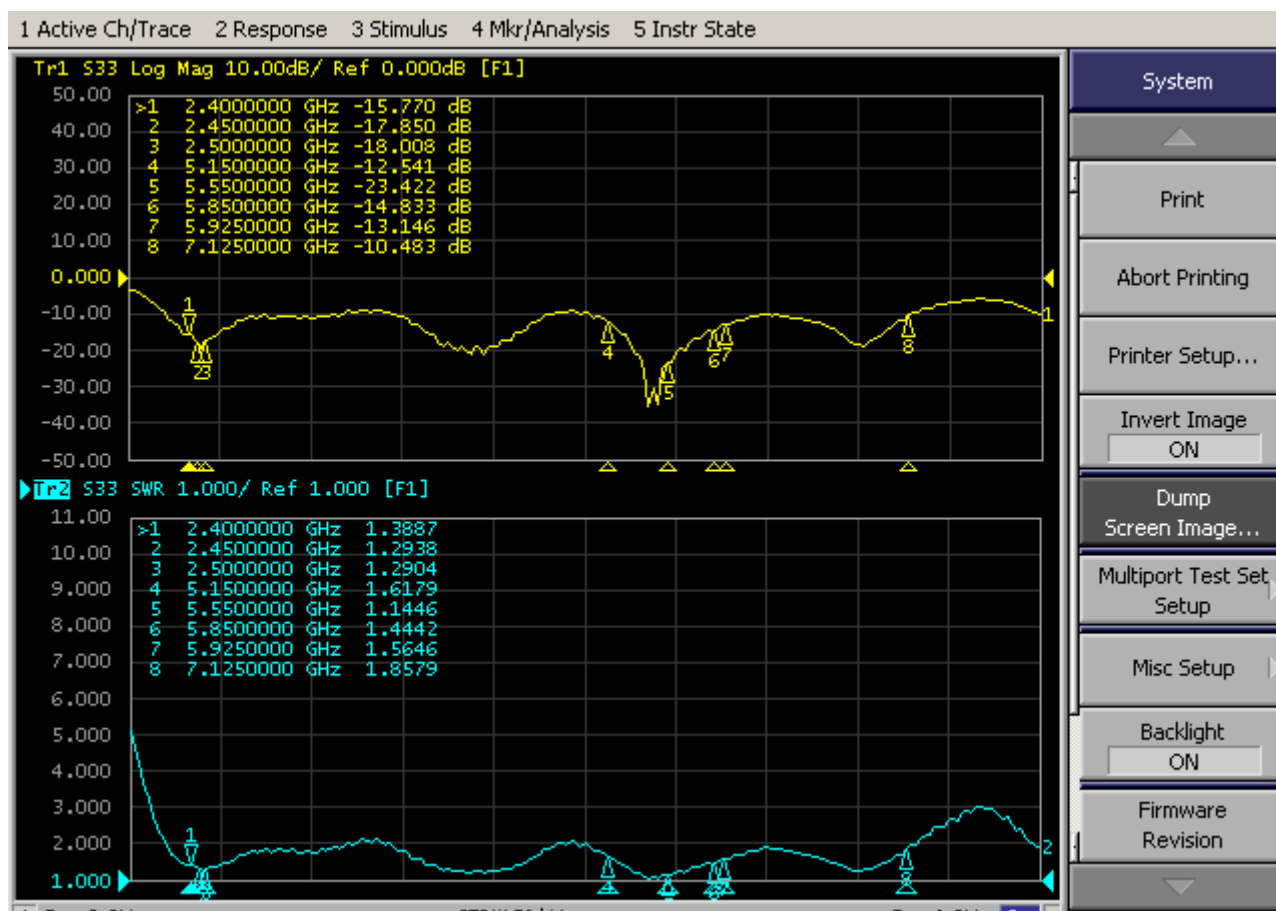
Product Number: ARS-NT5B7  
Product Name: WIFI 7 Antenna

### 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<br>Amplitude: 0.03 inch (1.5mm); Freq: 20 to 80 to 20 Hz<br>3 directions; 2 hours for each direction | 1. No Visual Damage<br>2. Frequency Tol.<= 5%                           |
| M2         | Random Drop          | GB / T2423.8-1995<br>Height: 1.0 Meter;<br>3 directions; 1 time for each direction                                        | 1. No parts separated<br>2. Frequency Tol.<= 5%                         |
| M3         | Solderability        | GB 2423 . 28- 82<br>Solder iron: 260±5°C; Duration: 5 seconds                                                             | 1. Mounted on PCB<br>2. No Visual Damage                                |
| M4         | Terminal-Pull Test   | Holding with individual specification; force applied to axis of terminal                                                  | 1. Directive DUT specification<br>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<br>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<br>Temp: 35°C; RH: >= 95%; NaCl solution: >= 5%;<br>Time: 24 hours                                   | After 2 Hours Recovery<br>1. No Visual Damage<br>2. Frequency Tol.<= 5% |
| E2         | Humidity             | GB / T 2423 . 4 - 93<br>Temp: 80°C / 12 H; -40°C / 12H RH: >= 90%;<br>Time: 24 hours                                      | After 2 Hours Recovery<br>1. No Visual Damage<br>2. Frequency Tol.<= 5% |
| E3         | Thermal Shock        | GB / T 2423 . 22 - 87<br>1 Cycle: - 40°C (30 minutes) to + 80°C (30 minutes)<br>Cycles: 24                                | After 2 Hours Recovery<br>1. No Visual Damage<br>2. Frequency Tol.<= 5% |
| E4         | Life (High Temp.)    | GB /T 2423 . 2 - 89<br>Temp: 80°C; Time: 24 hours                                                                         | After 2 Hours Recovery<br>1. No Visual Damage<br>2. Frequency Tol.<= 5% |
| R1         | RoHS                 | With Reference to IEC 62321:2008 with flow chart                                                                          | Directive RoHS 2015/863/EU                                              |

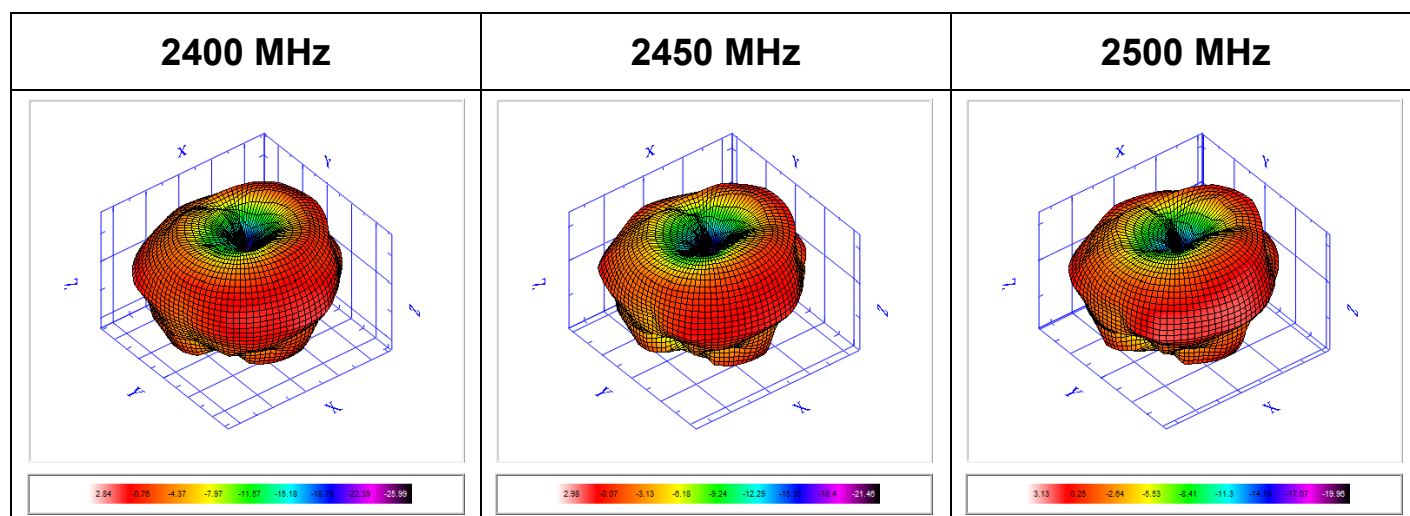
Product Number: ARS-NT5B7  
Product Name: WIFI 7 Antenna

#### 4 Antenna - S Parameter Test Data

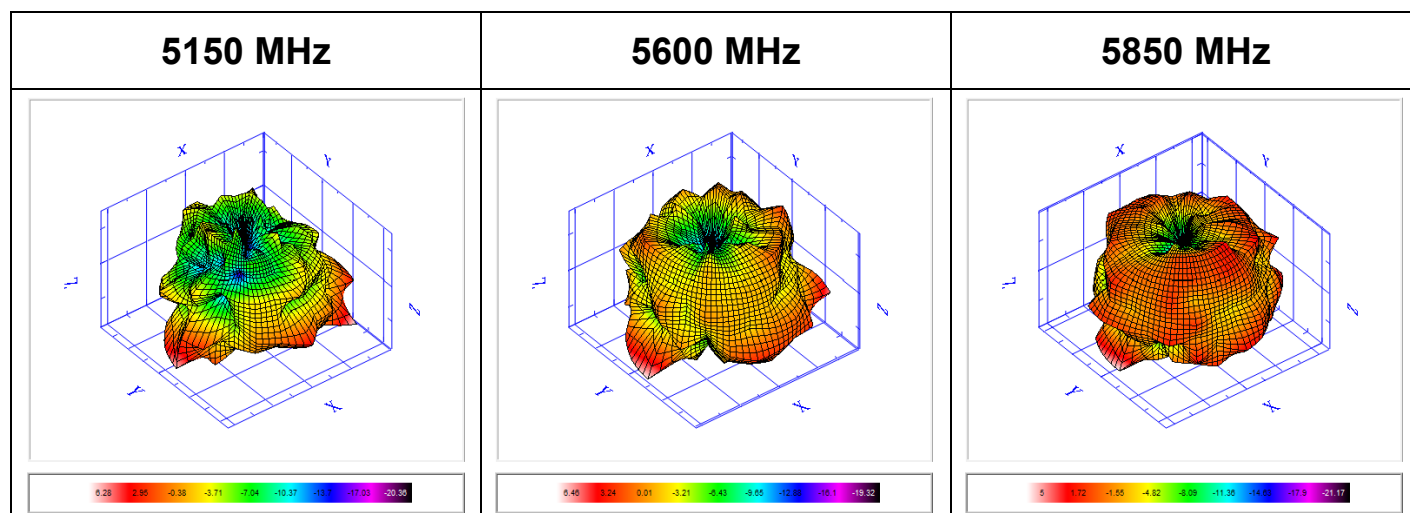


**Product Number:ARS-NT5B7**  
**Product Name: WIFI 7 Antenna**

## 5 Antenna - Radiation Pattern Test Data

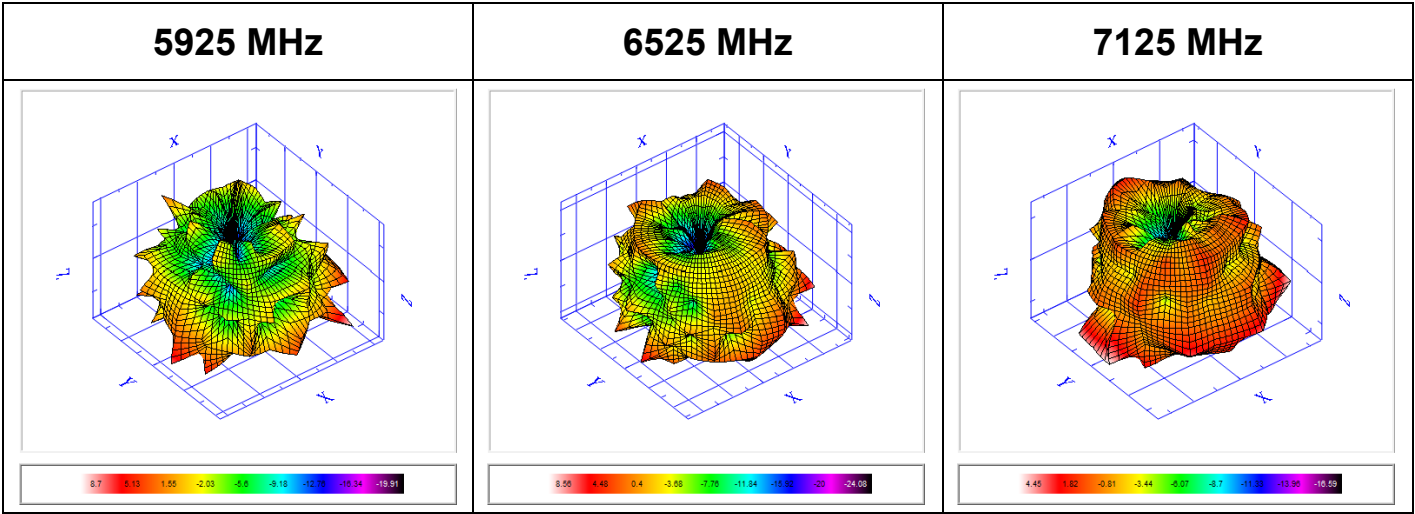


|                   |       |       |       |       |       |       |       |       |       |       |       |
|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Frequency         | 2400  | 2410  | 2420  | 2430  | 2440  | 2450  | 2460  | 2470  | 2480  | 2490  | 2500  |
| Peak Gain (dBi)   | 2.84  | 2.74  | 2.83  | 2.82  | 2.6   | 2.98  | 2.56  | 2.67  | 2.46  | 2.53  | 3.13  |
| Efficiency (%)    | 59.7  | 61.57 | 60.69 | 61.07 | 55.19 | 62.17 | 58.49 | 61.98 | 65.22 | 61.76 | 68.08 |
| Average Gain (dB) | -2.24 | -2.11 | -2.17 | -2.14 | -2.58 | -2.06 | -2.33 | -2.08 | -1.86 | -2.09 | -1.67 |



|                   |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Frequency         | 5150  | 5180  | 5250  | 5350  | 5470  | 5580  | 5600  | 5700  | 5725  | 5745  | 5785  | 5800  | 5850  |
| Peak Gain (dBi)   | 5.00  | 4.98  | 5.00  | 4.01  | 4.25  | 4.38  | 4.98  | 4.87  | 4.92  | 4.96  | 4.51  | 4.01  | 4.85  |
| Efficiency (%)    | 44.21 | 35.45 | 45.1  | 54.36 | 64.25 | 72.83 | 69.47 | 75.27 | 66.81 | 78.64 | 77.74 | 70.33 | 77.78 |
| Average Gain (dB) | -3.54 | -4.5  | -3.46 | -2.65 | -1.92 | -1.38 | -1.58 | -1.23 | -1.75 | -1.04 | -1.09 | -1.53 | -1.09 |

Product Number:ARS-NT5B7  
Product Name: WIFI 7 Antenna



|                   |       |       |       |       |       |       |
|-------------------|-------|-------|-------|-------|-------|-------|
| Frequency         | 5925  | 6125  | 6325  | 6525  | 6825  | 7125  |
| Peak Gain (dBi)   | 8.7   | 8.04  | 7.38  | 8.56  | 4.88  | 4.45  |
| Efficiency (%)    | 65.1  | 77.08 | 76.7  | 89.36 | 55.67 | 73.07 |
| Average Gain (dB) | -1.86 | -1.13 | -1.15 | -0.49 | -2.54 | -1.36 |