

# Data Sheet

Product : BT Antenna

Date: Feb 25, 2025

|                        |             |            |             |
|------------------------|-------------|------------|-------------|
| Customer Applied model |             |            |             |
| Customer               |             |            |             |
| Customer Part No.      |             |            |             |
| Product Description    | BT Antenna  |            |             |
| Supplier               | saixun      |            |             |
| Supplier Part No.      | SX-012-2208 |            |             |
| Customer               | By designed | By Checked | By Approval |
|                        |             |            |             |
|                        |             |            |             |

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Revision History

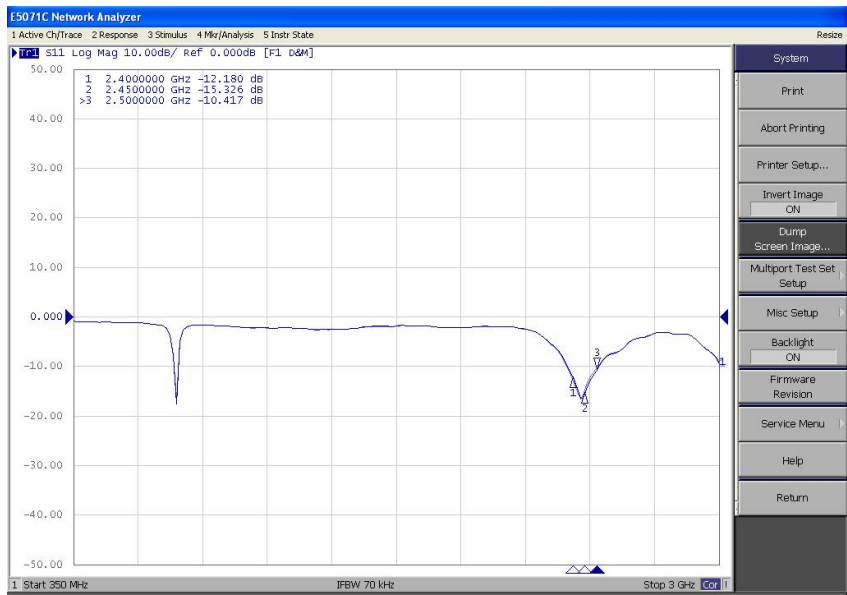
| Revision No. | Originator | Description of changes | Date of changes |
|--------------|------------|------------------------|-----------------|
| 1            | Yanhu Tuo  | First document         | Feb 25, 2025    |
| 2            |            |                        |                 |
| 3            |            |                        |                 |
| 4            |            |                        |                 |
| 5            |            |                        |                 |
| 6            |            |                        |                 |
| 7            |            |                        |                 |
| 8            |            |                        |                 |
| 9            |            |                        |                 |
| 10           |            |                        |                 |
| 11           |            |                        |                 |
| 12           |            |                        |                 |

## 1 General

| Electrical Properties   |                  |
|-------------------------|------------------|
| Frequency Band          | 2.4GHz           |
| Impedance               | 50 ohm           |
| VSWR                    | $\leq 2.0$       |
| Gain                    | $\leq 3.0$ dBi   |
| Radiation Pattern       | Omni-Directional |
| Polarization            | V/H              |
| Antenna Type            | LOOP             |
| Mechanical Properties   |                  |
| Antenna Dimension       | 50mm             |
| Connector Type          | IPEX I           |
| Connector push          | 1 kg             |
| Connector Torque force  | ---              |
| Cable Type              | RF 0.81          |
| Installation site       | Machine inside   |
| Environment Properties  |                  |
| Operational Temperature | -40°C ~ +85°C    |
| Storage temperature     | -30°C ~ +60°C    |

## 2 Test Data

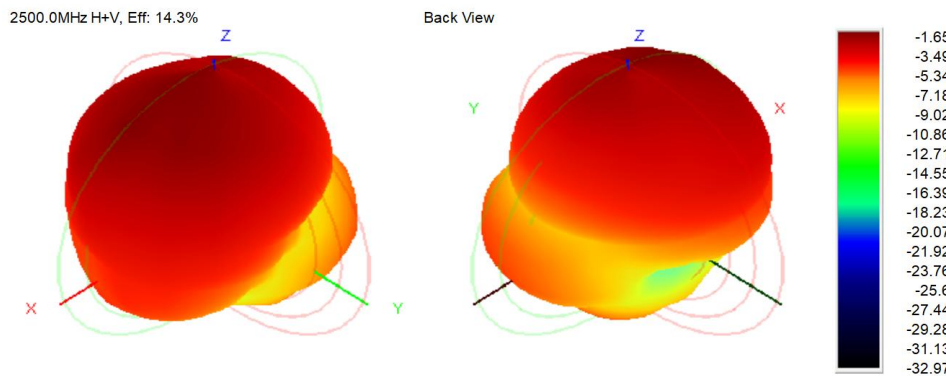
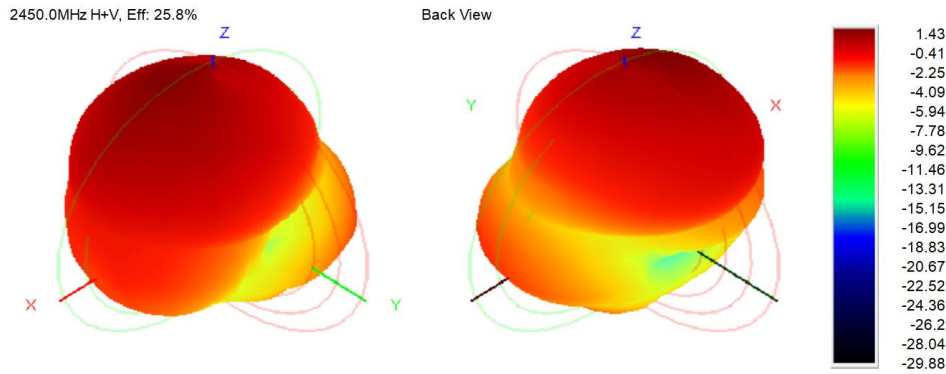
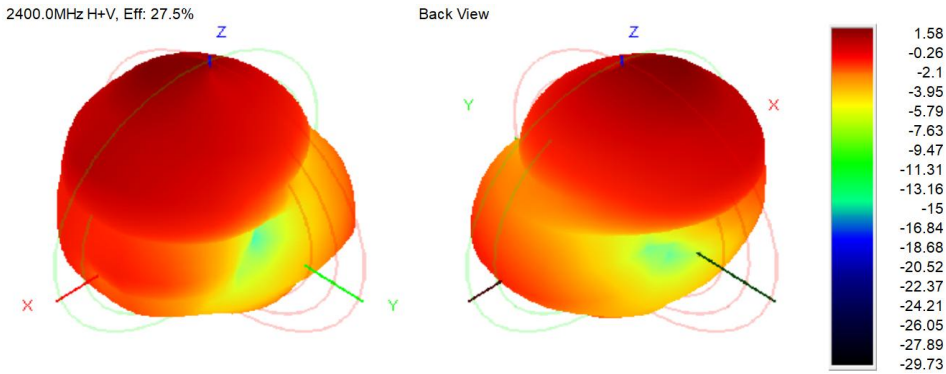
### 2.1 Network Data (Return loss)



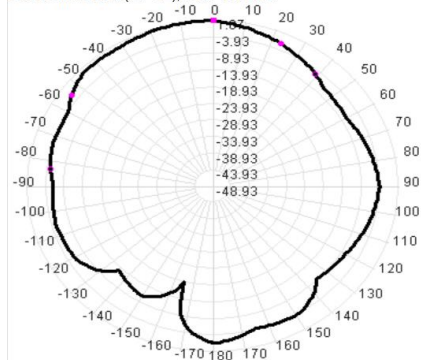
### 2.2 Gain and Efficiency

| Frequency ID     | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 11    |
|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Frequency (MHz)  | 2400  | 2410  | 2420  | 2430  | 2440  | 2450  | 2460  | 2470  | 2480  | 2490  | 2500  |
| Efficiency (dBi) | -5.61 | -5.32 | -5.26 | -5.37 | -5.52 | -5.88 | -6.62 | -7.27 | -7.79 | -8.10 | -8.44 |
| Gain (dBi)       | 1.58  | 1.95  | 2.09  | 2.04  | 1.90  | 1.43  | 0.55  | -0.19 | -0.74 | -1.24 | -1.65 |
| Efficiency (%)   | 27.47 | 29.40 | 29.79 | 29.07 | 28.08 | 25.82 | 21.76 | 18.76 | 16.64 | 15.50 | 14.33 |

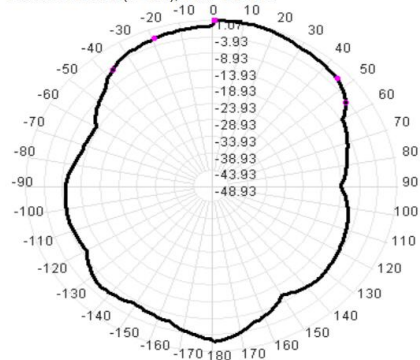
2.3 Radiation pattern



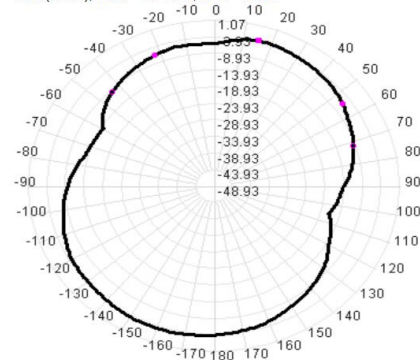
2400.0MHz Total(E1-XZ), Max= 0.93dBi



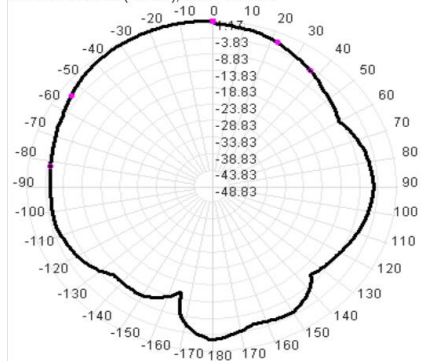
2400.0MHz Total(E2-YZ), Max= 1.07dBi



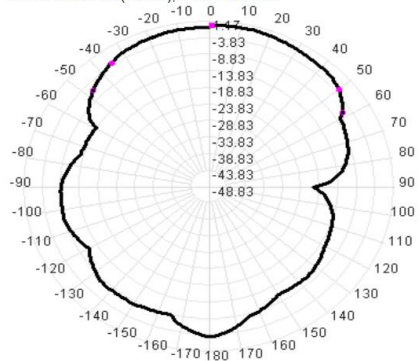
Total(H-XY), Max= -3.44dBi, CirD=13.69



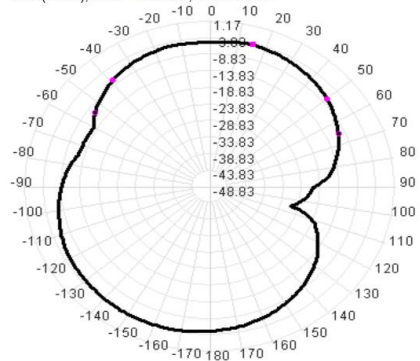
2450.0MHz Total(E1-XZ), Max= 1.17dBi



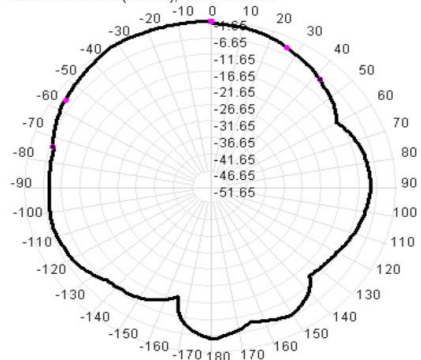
2450.0MHz Total(E2-YZ), Max= -0.08dBi



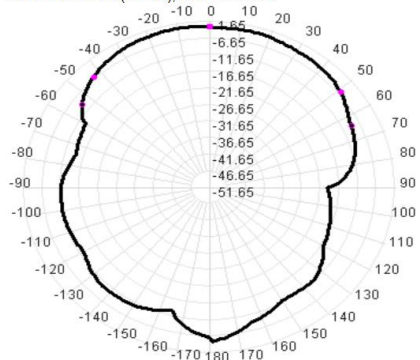
Total(H-XY), Max= -4.45dBi, CirD=21.78



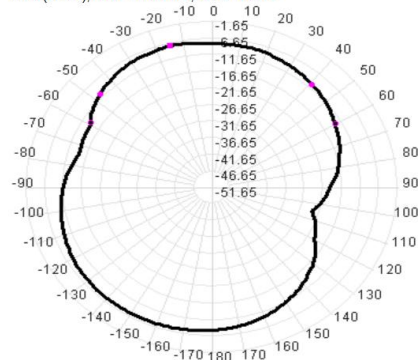
2500.0MHz Total(E1-XZ), Max= -1.65dBi



2500.0MHz Total(E2-YZ), Max= -3.18dBi



Total(H-XY), Max= -7.57dBi, CirD=16.42



3 Mechanical Drawings

| 工程设计变更记录/Engineering Design Change Record |  |     |     |              |  |                                        |  |  |  |
|-------------------------------------------|--|-----|-----|--------------|--|----------------------------------------|--|--|--|
| 日期/Date                                   |  | REV | ECR | 申请人Applicant |  | 变更内容与说明/Change Content and Description |  |  |  |
| 2025/02/25                                |  | A   |     |              |  | 首次正式发行/NEW Issuance                    |  |  |  |
|                                           |  |     |     |              |  |                                        |  |  |  |
|                                           |  |     |     |              |  |                                        |  |  |  |

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