



# Antenna Part Specification

|                       |                                                                                               |
|-----------------------|-----------------------------------------------------------------------------------------------|
| Customer name:        | Cosonic Intelligent Technologies Co., Ltd.                                                    |
| Project name:         | CE-2228B(T20)                                                                                 |
| Material category:    | L-BT Antenna                                                                                  |
| Antenna type:         | monopole                                                                                      |
| Version:              | V1.0                                                                                          |
| Date:                 | 2025.03.14                                                                                    |
| Manufacturer:         | Shenzhen Cicent Communication Technology Co., Ltd.                                            |
| Manufacturer Address: | 505-506 ,ABlock,Donglian Building,Chuangye 2 road,Baoan District,Shenzhen,Guangdong,P.R china |



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| Change record            |                   |                 |         |
|--------------------------|-------------------|-----------------|---------|
| Compile /<br>change date | Reason for change | Changed content | Version |
| 2025. 03. 14             | First edition     | First edition   | V1. 0   |
|                          |                   |                 |         |
|                          |                   |                 |         |



I: The report of passive data



Agilent E5071C

S11 parameter:





Left ear antenna efficiency and gain (free):

| Frequency (MHz) | Gain (dBi) | efficiency (dB ) | efficiency (%) |
|-----------------|------------|------------------|----------------|
| 2400            | -7.9       | -11.4            | 7.3            |
| 2410            | -7.1       | -10.4            | 9.2            |
| 2420            | -6.6       | -9.6             | 11.1           |
| 2430            | -6.2       | -8.8             | 13.2           |
| 2440            | -5.6       | -7.7             | 17.0           |
| 2450            | -4.8       | -6.9             | 20.3           |
| 2460            | -3.8       | -6.0             | 25.1           |
| 2470            | -3.6       | -6.1             | 24.7           |
| 2480            | -3.6       | -6.4             | 23.0           |
| AVG             | -5.5       | -8.1             | 16.8           |

2400~2480MHz

Peak Gain:-3.6dBi    Min Gain: -7.9dBi    Avg Gain: -5.5dBi

Left ear antenna efficiency and gain (headform):

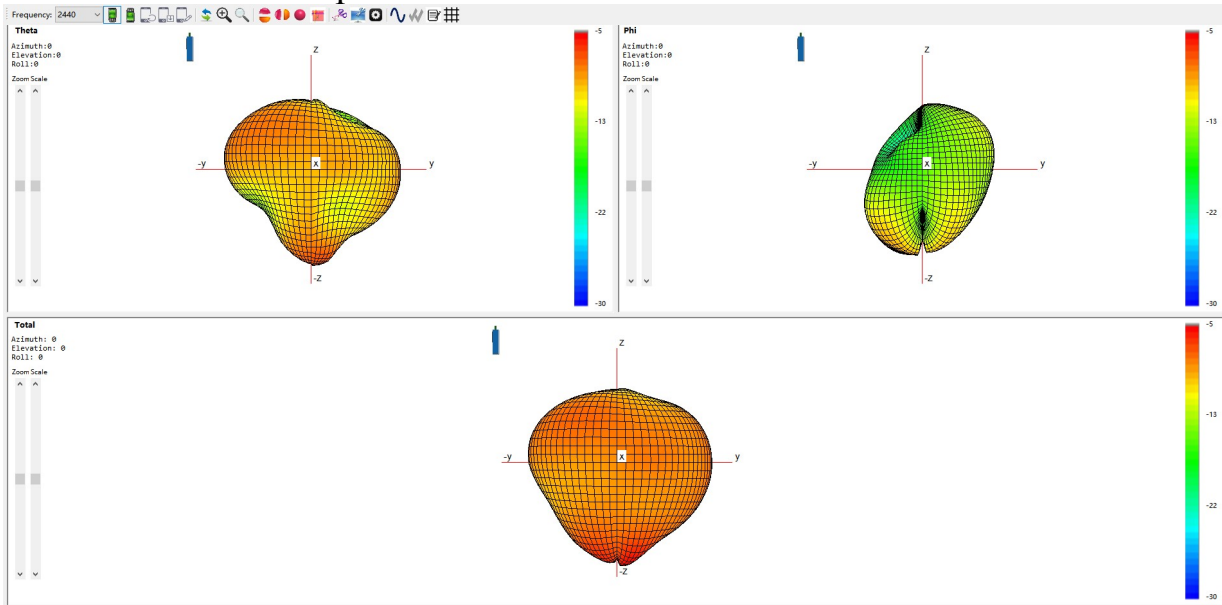
| Frequency (MHz) | Gain (dBi) | efficiency (dB ) | efficiency (%) |
|-----------------|------------|------------------|----------------|
| 2400            | -8.2       | -14.0            | 4.0            |
| 2410            | -7.1       | -13.3            | 4.7            |
| 2420            | -6.5       | -12.6            | 5.5            |
| 2430            | -6.0       | -11.9            | 6.4            |
| 2440            | -5.6       | -11.2            | 7.6            |
| 2450            | -5.5       | -10.8            | 8.4            |
| 2460            | -5.7       | -10.8            | 8.2            |
| 2470            | -6.3       | -11.5            | 7.1            |
| 2480            | -6.8       | -12.1            | 6.2            |
| AVG             | -6.4       | -12.0            | 6.5            |

2400~2480MHz

Peak Gain:-5.5dBi    Min Gain:-8.2dBi    Avg Gain:-6.4dBi

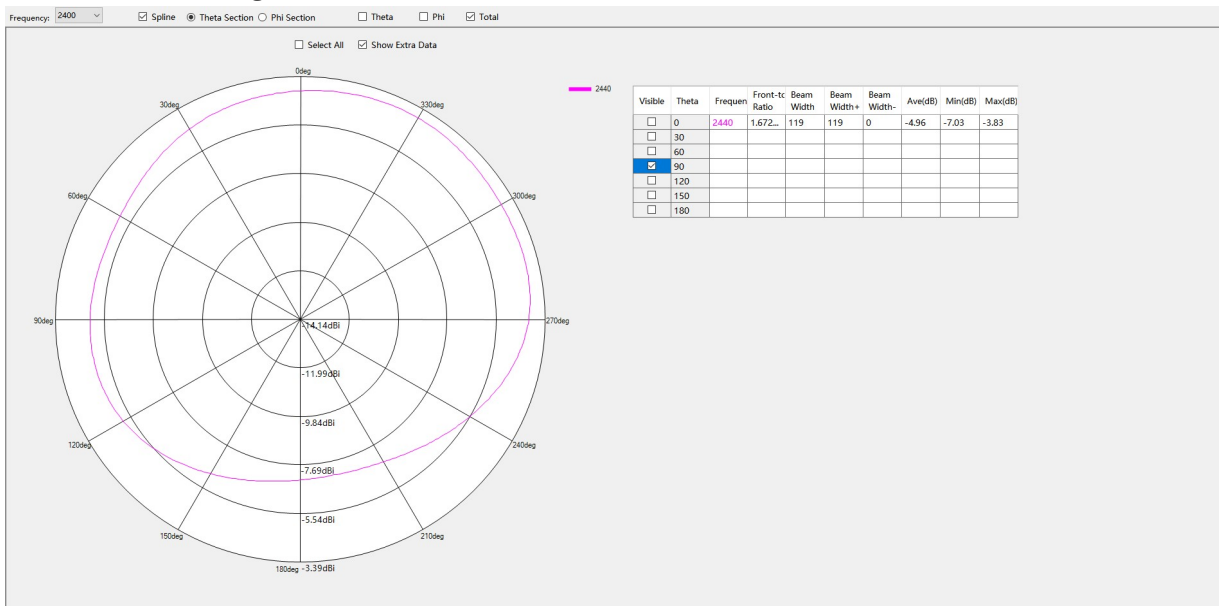


### 3D Antenna radiation pattern:



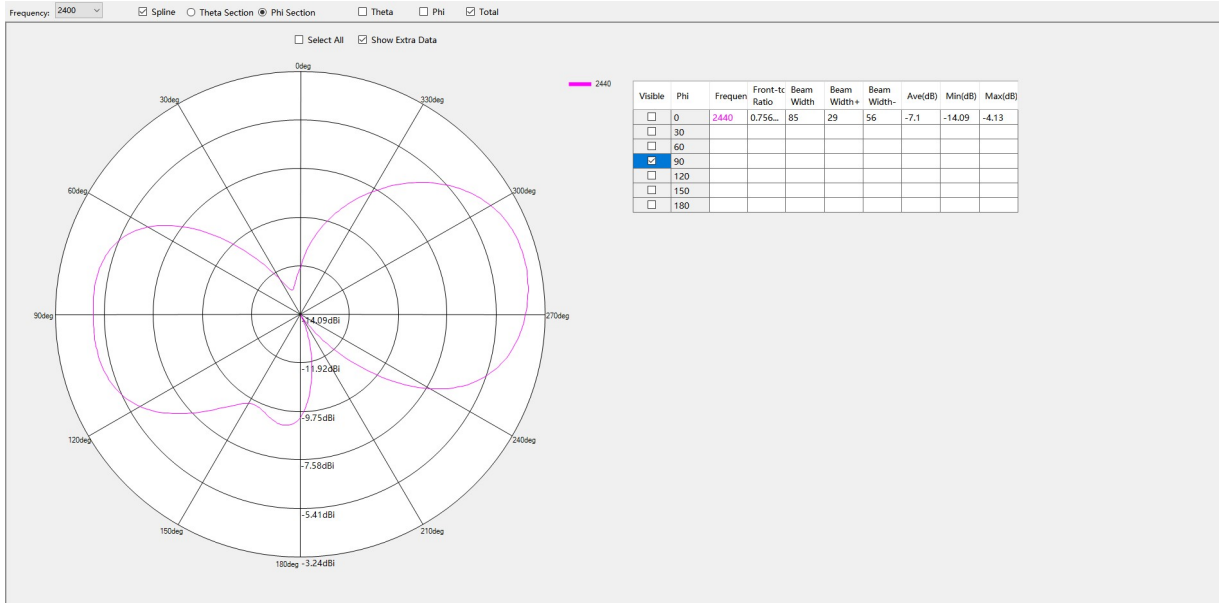
### Antenna radiation pattern:

Theta=90.00deg

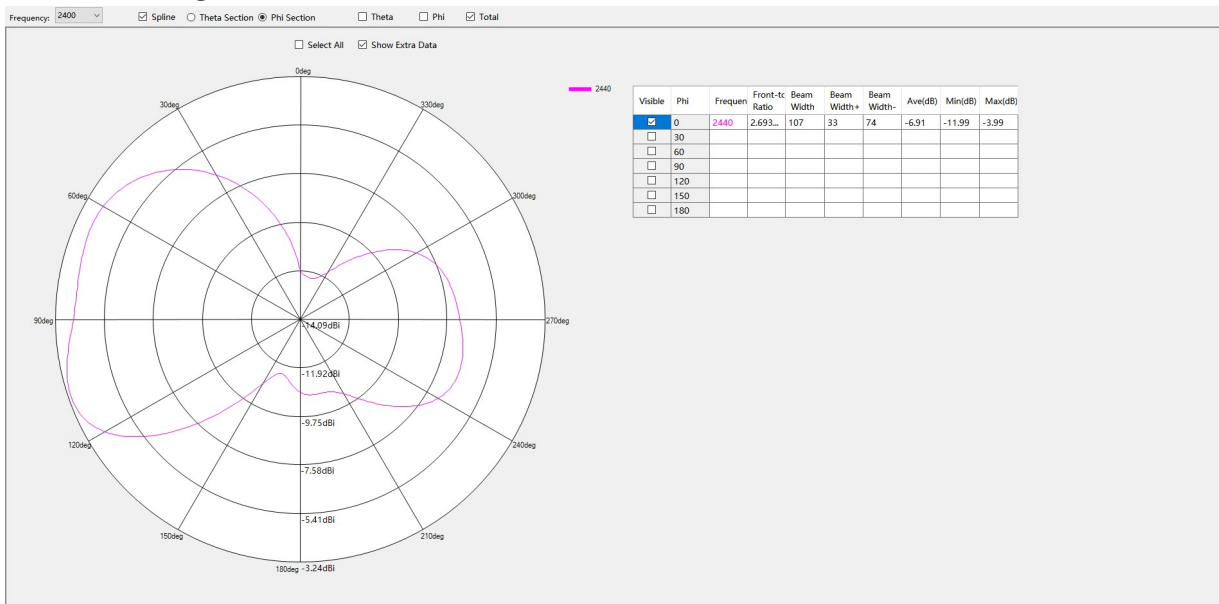




Phi=90.00deg



Phi=0.00deg





II: Antenna active test data

| 50:1B:6A:EA:4C:51 |         | free |       | headform |       |
|-------------------|---------|------|-------|----------|-------|
| 1#                | Channel | TRP  | TIS   | TRP      | TIS   |
| L                 | CH 0    | 1.2  | -87.2 | 1.1      | -86.4 |
|                   | CH 39   | 6.3  | -92.2 | 3.0      | -87.8 |
|                   | CH 78   | 8.1  | -92.4 | 2.5      | -86.6 |
|                   | AVG     | 5.2  | -90.6 | 2.2      | -86.9 |



OTA Standard Chamber

#### IV: Structure file

