



GALTRONICS

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USA Facility

Galtronics USA, Inc.
8930 S. Beck Avenue Suite #103
Tempe, Arizona 85284-2891 USA
Tel: 1-480-496-5100
Fax: 1-480-598-2766

Balanced Bluetooth Antenna 02102073-07691

Engineering Data Sheets

Galtronics Embedded Antenna

8930 S. Beck Avenue Suite #103
Tempe, Arizona 85284-2891 USA
Tel: 1-480-496-5100
Fax: 1-480-598-2766

Revision History (Required)

| Revisions | Date | Note |
|-----------|------------|---------------|
| S1 | 1/21/2022 | Initial Draft |
| S2 | 11/29/2022 | Updated |
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Disclaimers

The document is proprietary, which may be changed without notice. Please communicate with Galtronics sale team to verify before finalizing your product design.

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1. Galtronics Bluetooth Balanced Antenna

The Galtronics antenna is a Balanced Bluetooth antenna that operates in 2400-2485 MHz band. It provides highly efficient radiation with good cost benefit.

2. Features

- Operates in 2400-2485 MHz bands
- U.FL connector interface

3. Specifications and Interface

Table 1 Specifications and Interface

| | |
|--------------------|--|
| Standard | Bluetooth |
| Frequency Range | 2400-2485 MHz |
| Peak Gain | 2.56 dBi |
| VSWR | 2:1 |
| Feed Impedance | 50Ω |
| Power Handling | 30dBm |
| Interface | U.FL |
| Antenna Dimensions | 33.6 mm x 10.31 mm x 0.8 mm |
| Temperature range | Operating: -20° C to +60° C (-4° F to +140° F) Storage: -20° C to +60° C (-4° F to +140° F) |
| Humidity Range | Operating: 10% to 85% non-condensing Storage: 5% to 90% non-condensing |

4. Return Loss

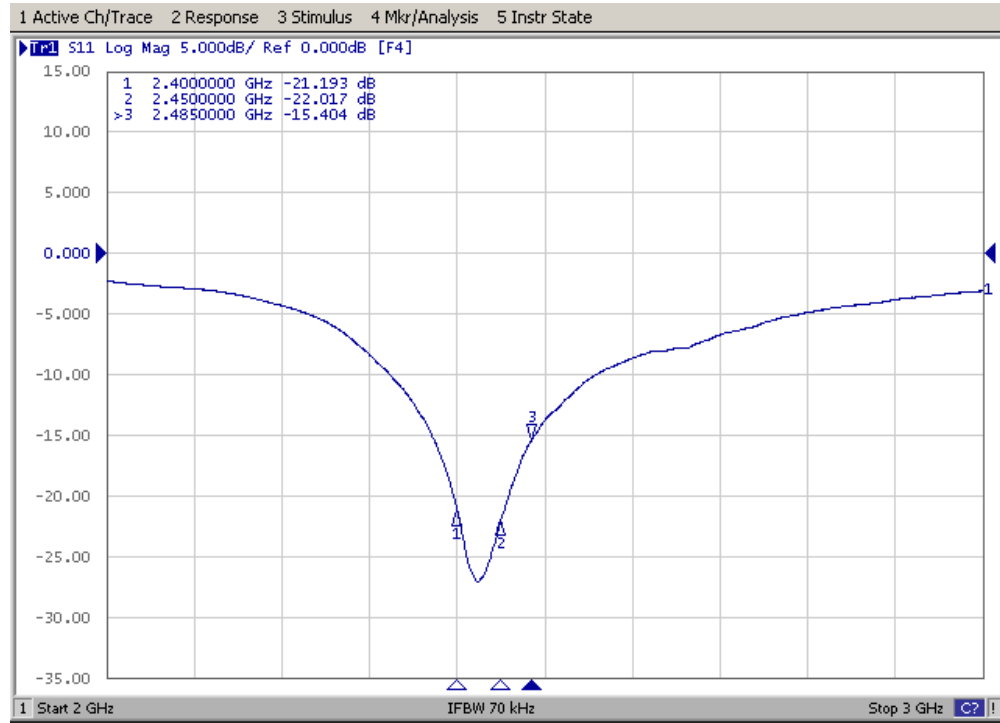


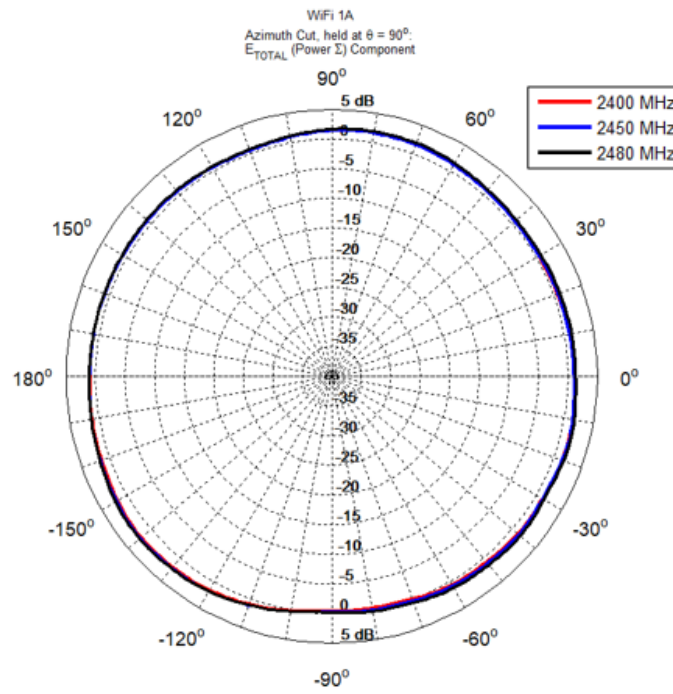
Figure 2 Return Loss

5. Peak Gain and Efficiency

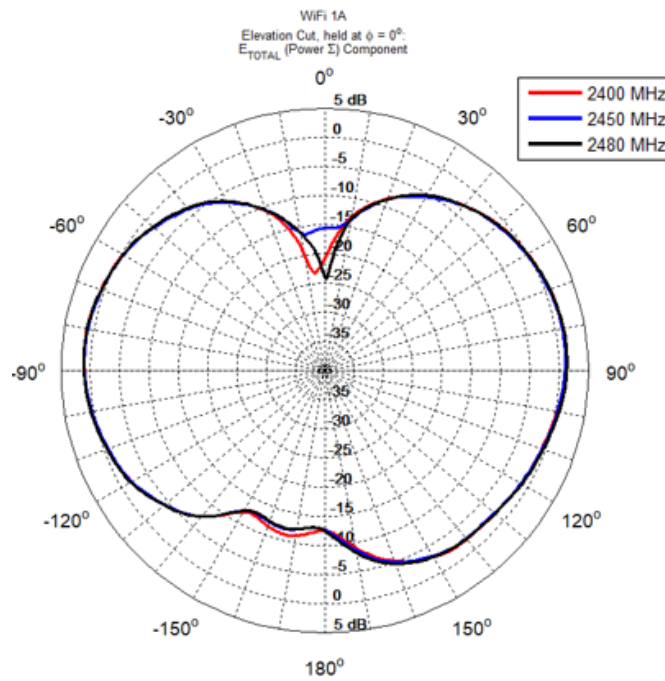
Table 2 Peak Gain, Directivity and Efficiency

| | Freq (MHz) | Peak Gain (dBi) | Directivity (dB) | Efficiency |
|-----------|----------------|-----------------|------------------|----------------|
| BT | 2400 | 2.264 | 3.180 | 80.97 % |
| | 2450 | 2.442 | 3.325 | 81.61 % |
| | 2480 | 2.562 | 3.284 | 84.68 % |
| | Average | | | 82.42 % |

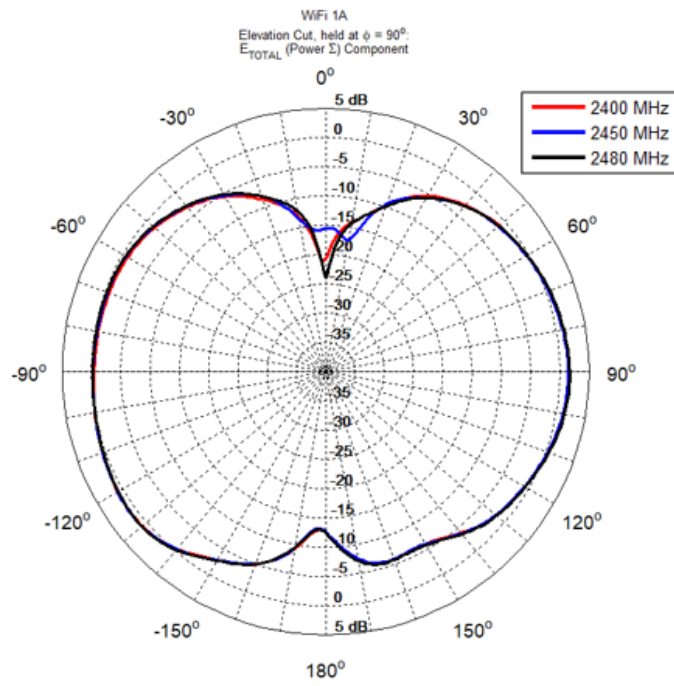
7. Radiation Pattern



(A). Azimuth plane (XY plane) radiation pattern of 2.4 GHz band



(B). Elevation 1 plane (XZ plane) radiation pattern of 2.4 GHz band



(C). Elevation 2 plane (YZ plane) radiation pattern of 2.4 GHz band

Figure 4 Radiation Patterns in 2.4 GHz Band