



GALTRONICS

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USA Facility

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Dual Band Wi-Fi Antenna

**02102140-07691-1,
02102140-07691-2,
02102140-07691-3,
02102140-07691-4**

Engineering Data Sheets

Galtronics Embedded Antenna

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Revision History (Required)

| Revisions | Date | Note |
|-----------|------------|---------------------|
| S1 | 1/21/2022 | Initial draft |
| S2 | 9/1/2022 | Add -3 & -4 PNs |
| S3 | 11/28/2022 | Simplified Figure 6 |
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Disclaimers

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1. Galtronics Dual Band Wi-Fi Antenna

The Galtronics antenna is a Dual Band Wi-Fi antenna that operates in 2400-2500 MHz and 5150-5825 MHz bands. It provides highly efficient radiation with good cost benefit. The antenna can be mounted on a customer device by double sided tape or designing pockets/clips to hold the antenna and connected to the radio through a U.FL connector.

2. Features

- Operates in 2400-2500 MHz and 5150-5825 MHz bands
- U.FL connector interface

3. Specifications and Interface

Table 1 Specifications and Interface

| | |
|---------------------------|--|
| Standard | Wi-Fi Dual-Band |
| Frequency Range | 2400-2500 MHz and 5150-5825 MHz |
| Peak Gain | 2.6dBi in 2500 MHz Band and 3.6dBi in 5150 MHz Band |
| VSWR | 1.7:1 |
| Feed Impedance | 50Ω |
| Power Handling | 30 dBm |
| Interface | U.FL |
| Antenna Dimensions | 33.6 mm x 15.6 mm x 0.6 mm (L x W x T) |
| 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

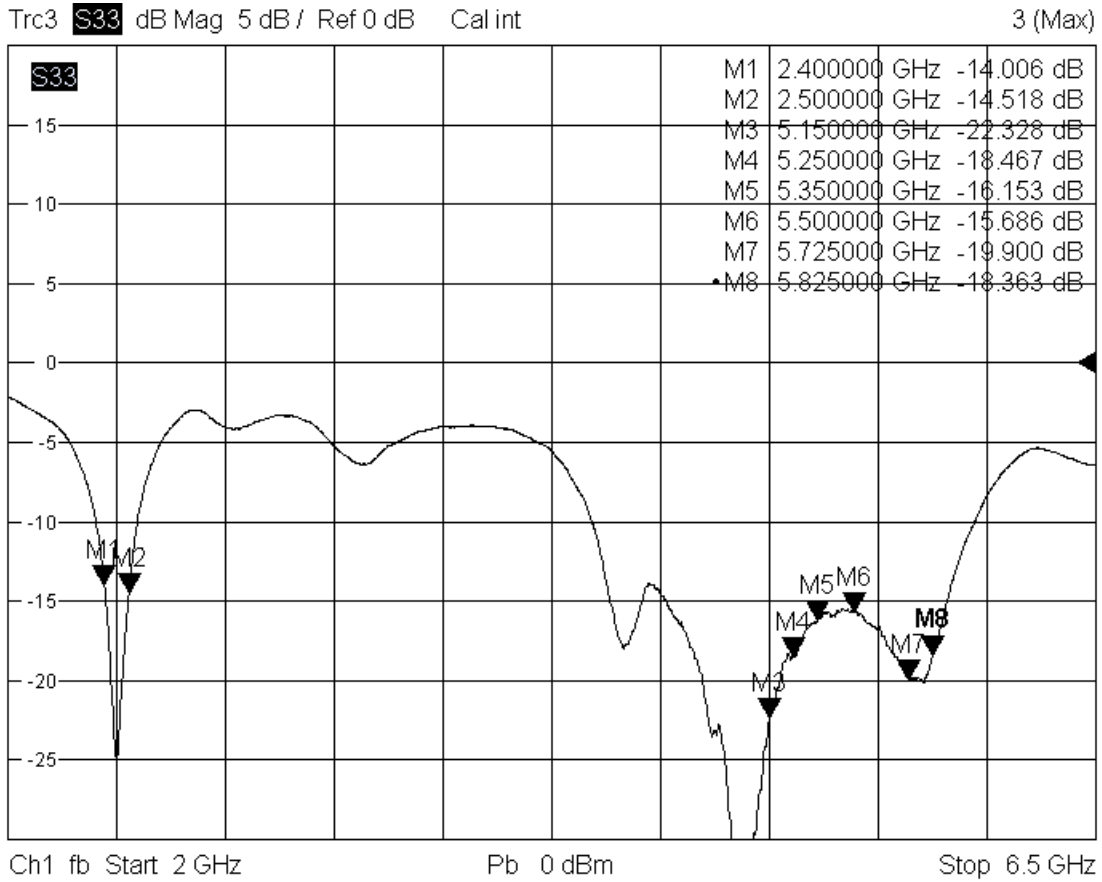


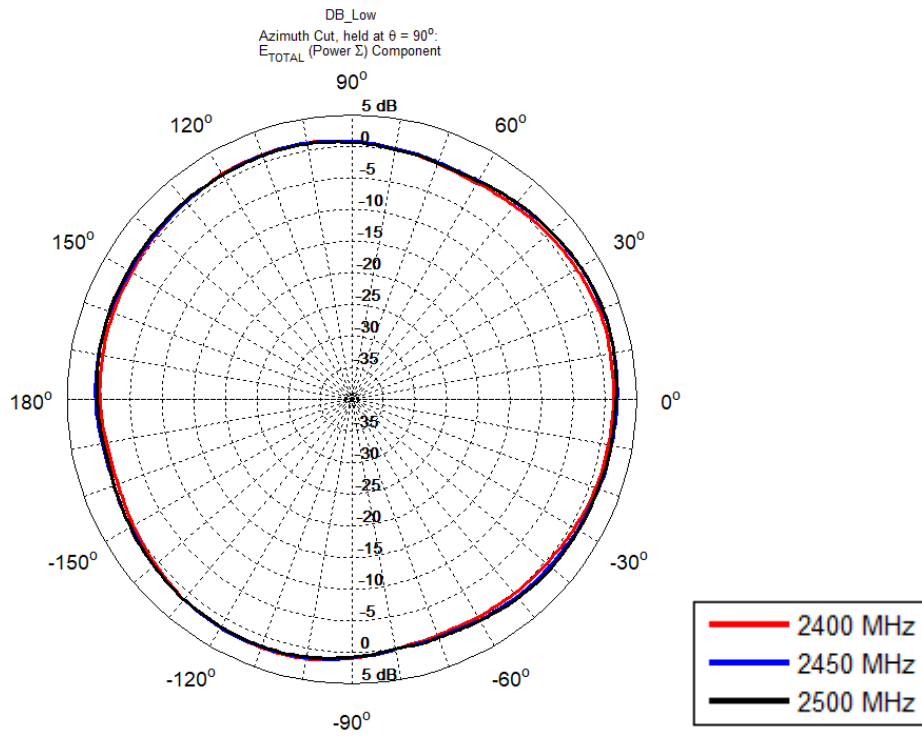
Figure 2 Return Loss

5. Gain, Directivity and Efficiency

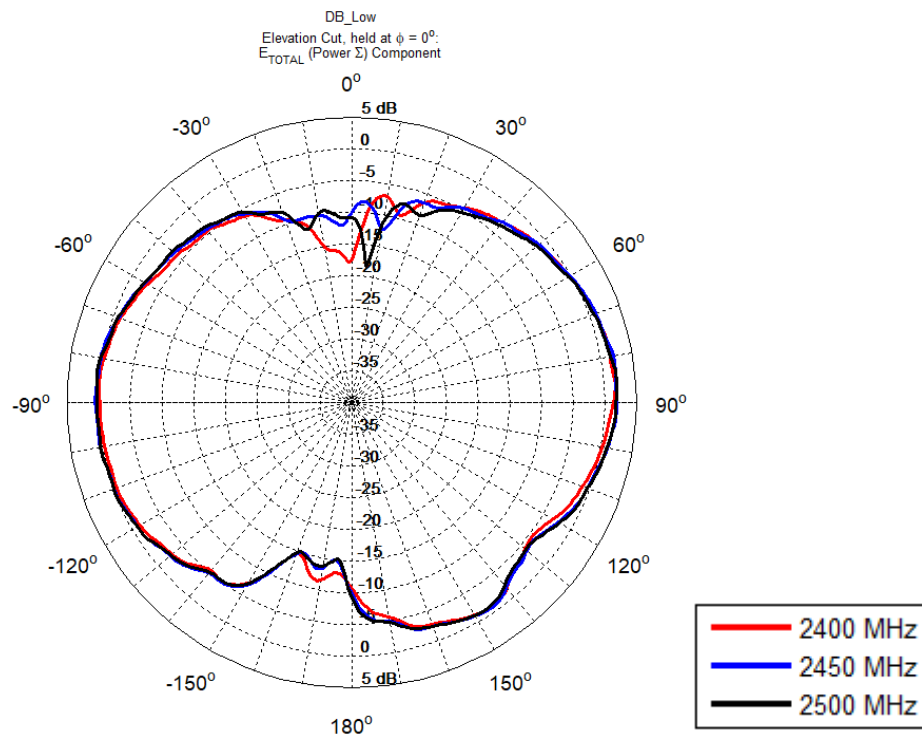
Table 2 Peak Gain, Directivity & Efficiency

| | Freq (MHz) | Peak Gain (dBi) | Directivity (dB) | Efficiency |
|----------------|----------------|-----------------|------------------|----------------|
| DB Low | 2400 | 2.198 | 3.442 | 75.09 % |
| | 2450 | 2.485 | 3.389 | 81.22 % |
| | 2500 | 2.626 | 3.594 | 80.01 % |
| | Average | | | 78.77 % |
| DB High | 5150 | 3.600 | 4.501 | 81.26 % |
| | 5250 | 3.535 | 4.364 | 82.63 % |
| | 5350 | 3.360 | 4.296 | 80.61 % |
| | 5500 | 3.323 | 4.179 | 82.11 % |
| | 5725 | 3.210 | 4.257 | 78.58 % |
| | 5825 | 3.333 | 4.299 | 80.05 % |
| | Average | | | 80.87 % |

7. Radiation Pattern

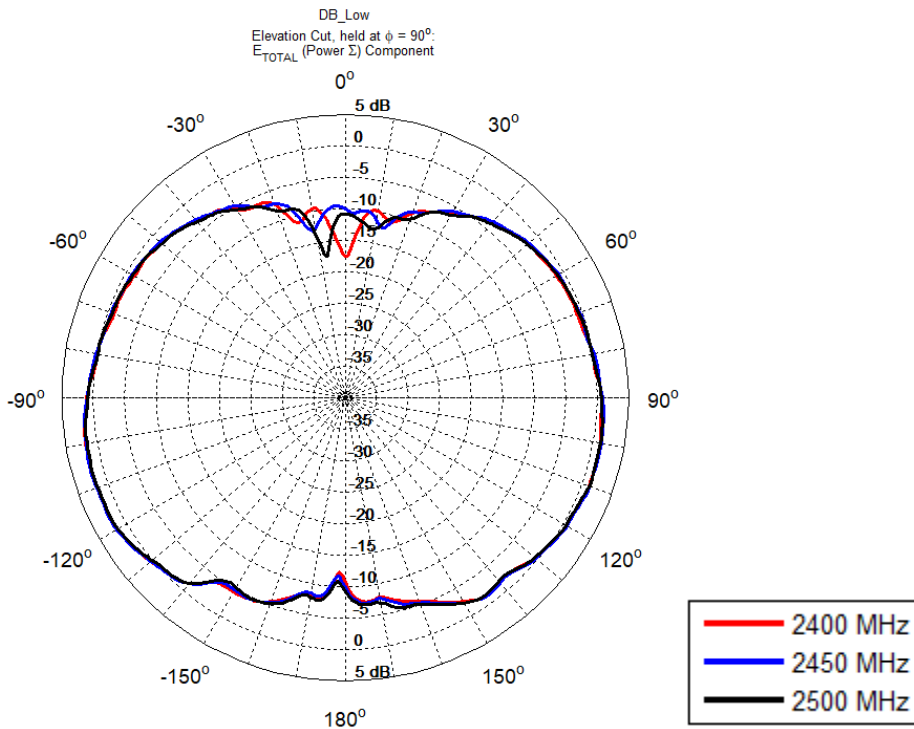


(A). Azimuth plane (XY plane) radiation pattern of 2.4 GHz band



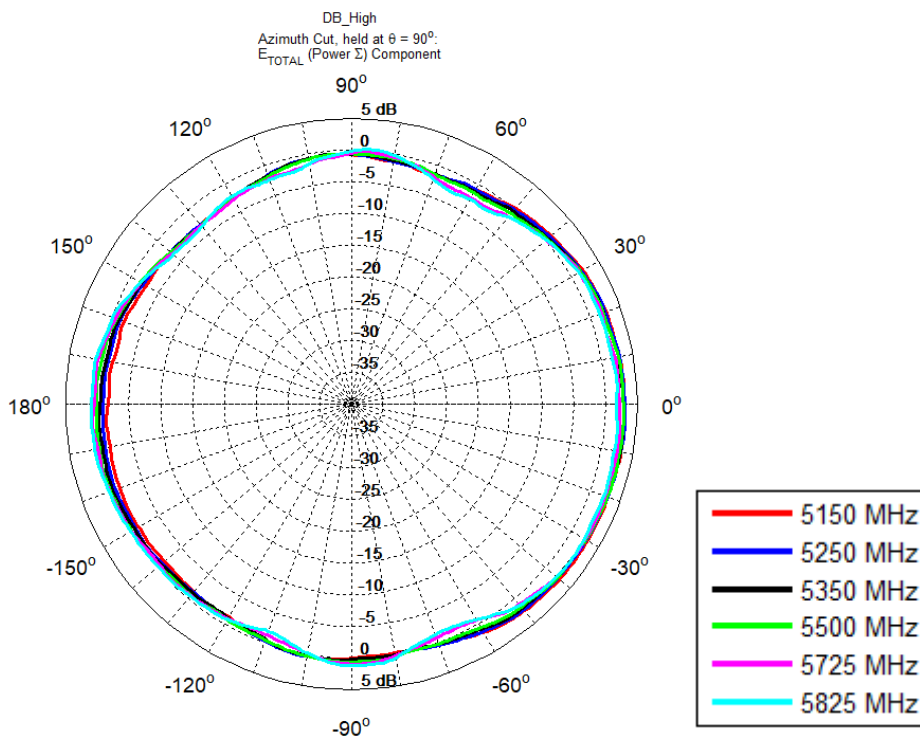
(B). Elevation 1 plane (XZ plane) radiation pattern of 2.4 GHz band

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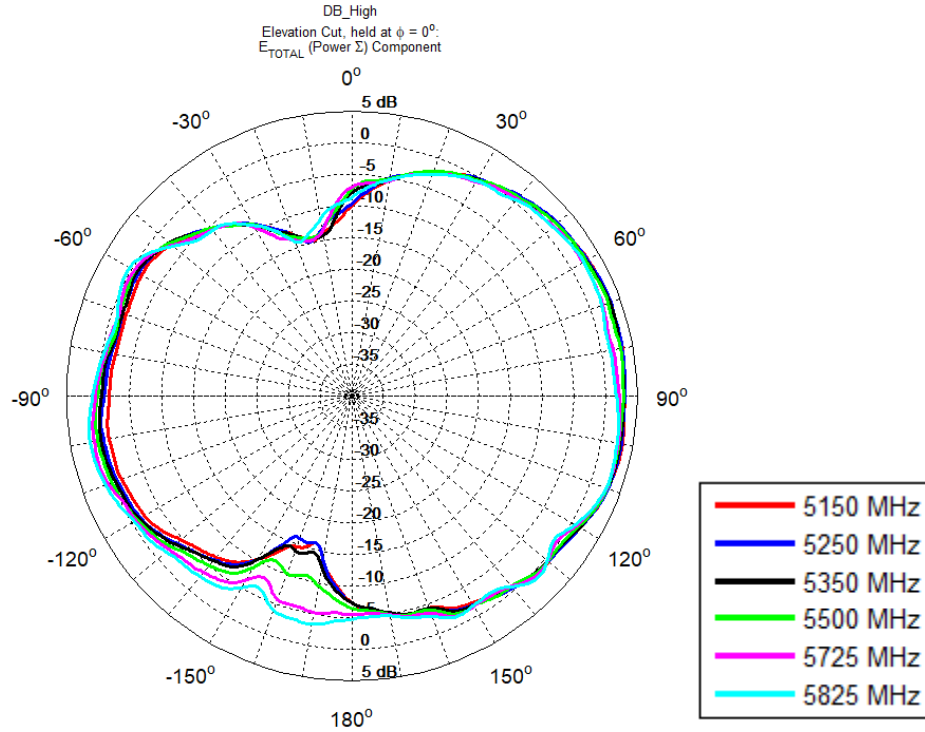
(C). Elevation 2 plane (YZ plane) radiation pattern of 2.4 GHz band

Figure 4 Radiation Patterns in 2.4 GHz Band

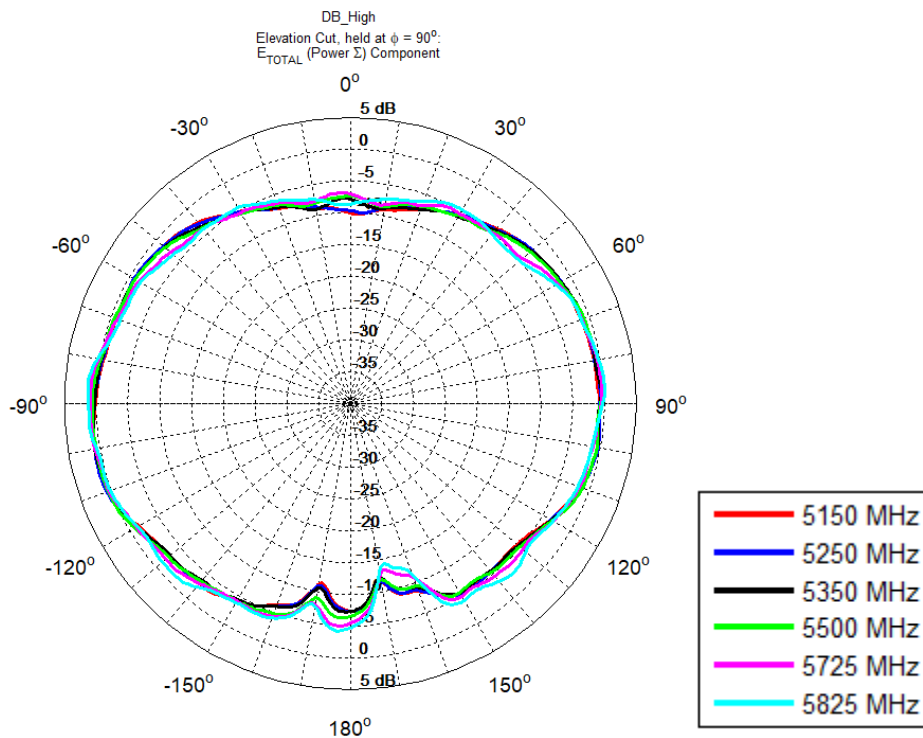


(A). Azimuth plane (XY plane) radiation pattern of 5GHz band

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(B). Elevation 1 plane (XZ plane) radiation pattern of 5GHz band



(C). Elevation 2 plane (YZ plane) radiation pattern of 5GHz band

Figure 5 Radiation Patterns in 5 GHz Band