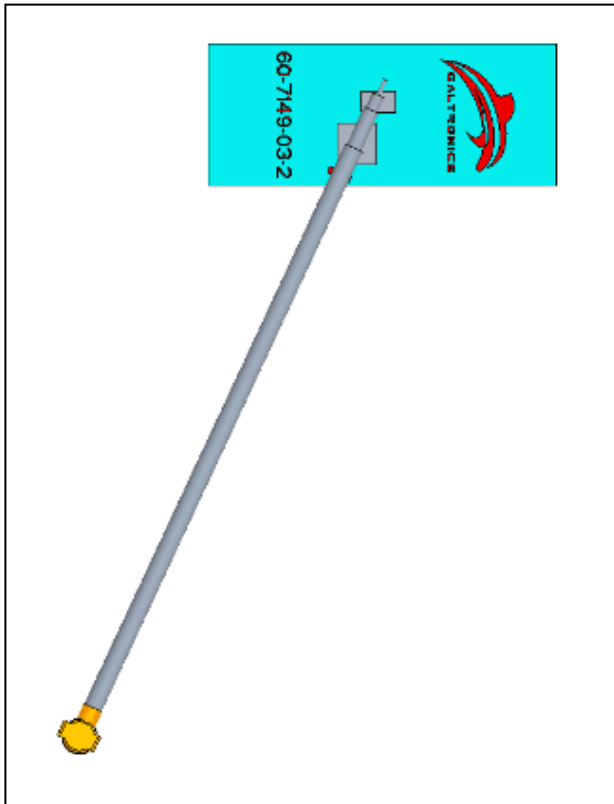




*Figure 1 Galtronics 02102073-08076 BT
2.4GHz Single Band PCB Antenna*

2.4GHz Single-Band BT Antenna 02102073-08076

Engineering Data Sheets

Galtronics Embedded Antenna

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Revision History (Required)

Revisions	Date	Note
S1	Jun 28, 2024	Initial draft

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 Dual Band Wi-Fi Antenna

The Galtronics 02102073-08076 antenna is a 2.4GHz Single Band BT Antenna that operates in 2400-2500 MHz band. It provides high efficient radiation with good cost benefit. The antenna can be mounted on a customer device by double sided adhesive foam tape and connected to the radio through a U. FL connector.

2. Features

- Operates in 2400-2500 MHz band
- Peak gain: 1.78 dBi in 2.4GHz band.
- High efficiency
- U.FL connector interface
- Mounted by double sided adhesive foam tape

3. Specifications and Interface

Standard	2.4GHz Single Band
Frequency Range	2400-2500 MHz
Peak Gain	1.78 dBi in 2.4GHz band
VSWR	2:1
Feed Impedance	50Ω
Power Handling	30 dBm
Interface	U.FL
Antenna Dimensions	10.2 mm x 25.2 mm x 0.84 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

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4. Return Loss

The antenna was tested with antenna mounted on a 100 x 100 x 2.3mm ABS evaluation board with 1.6mm thickness double-sided tape and a 40 mm length cable from edge. (Cable Total Length is 47mm).

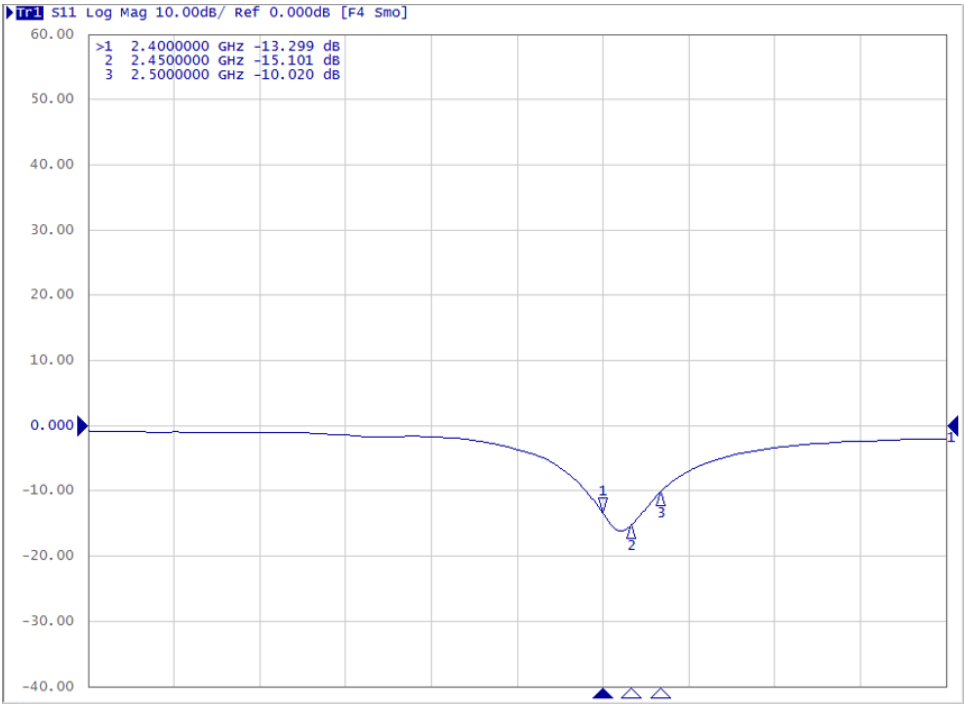


Figure 2 Return Loss

5. Gain, Directivity and Efficiency

Table 1 Peak Gain, Directivity & Efficiency

2.4GHz Single Band Antenna	Frequency (MHz)	Peak Gain (dBi)	Antenna Directivity (dBi)	Terminal Efficiency (%)
	2400	1.44	3.42	63.37
	2450	1.78	3.68	64.63
	2500	1.54	3.61	62.14
	Average			63.38

6. Radiation Pattern

Figure 3 shows the antenna measurement coordinate system in anechoic chamber. Azimuth plane is XY plane ($\Theta=90^\circ$), Elevation 1 plane is XZ plane ($\Phi=0^\circ$) and Elevation 2 plane is YZ plane ($\Phi=90^\circ$).

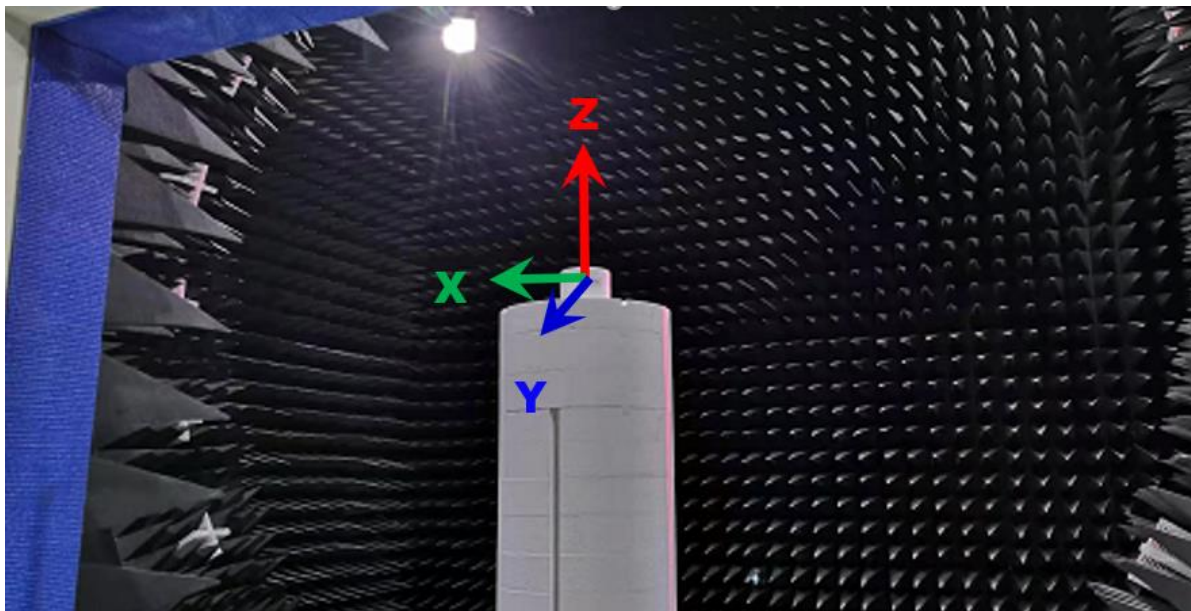
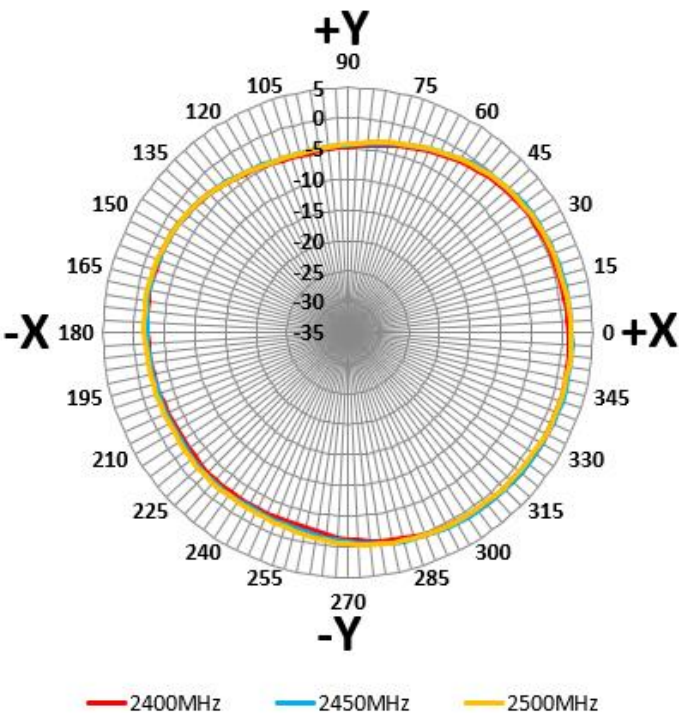


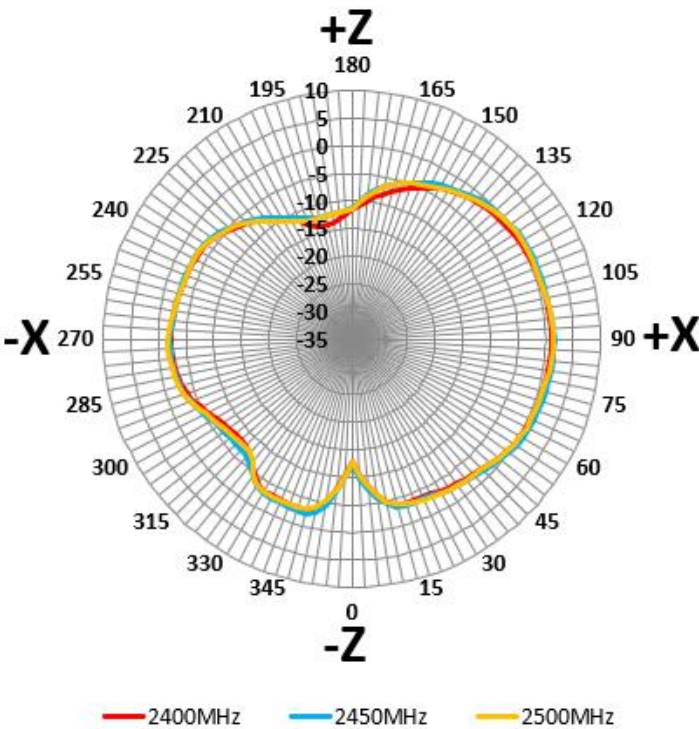
Figure 3 Measurement Orientation

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Figure 3 (A), (B) and (C) show the radiation pattern in three major planes.

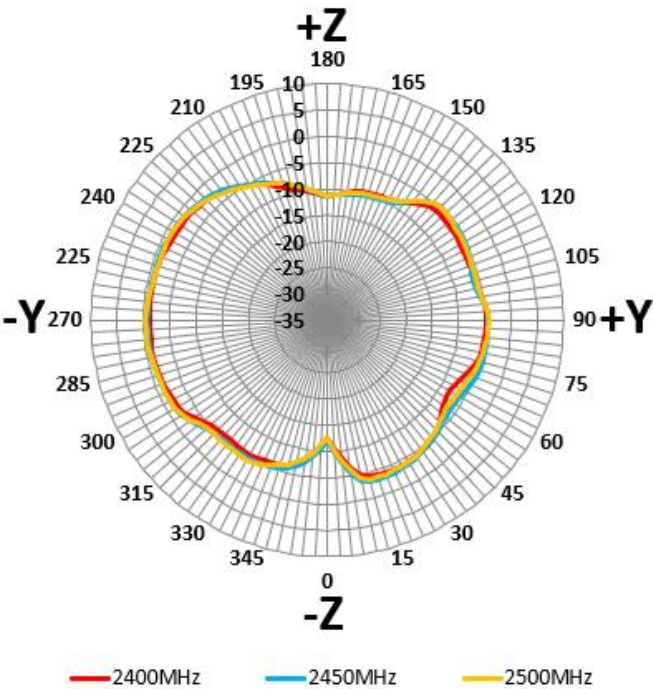


(A). Azimuth plane (XY plane) radiation pattern



(B). Elevation 1 plane (XZ plane) radiation pattern

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(C). Elevation 2 plane (YZ plane) radiation pattern

Figure 4 Radiation Patterns in 2.4GHz Single Band.