

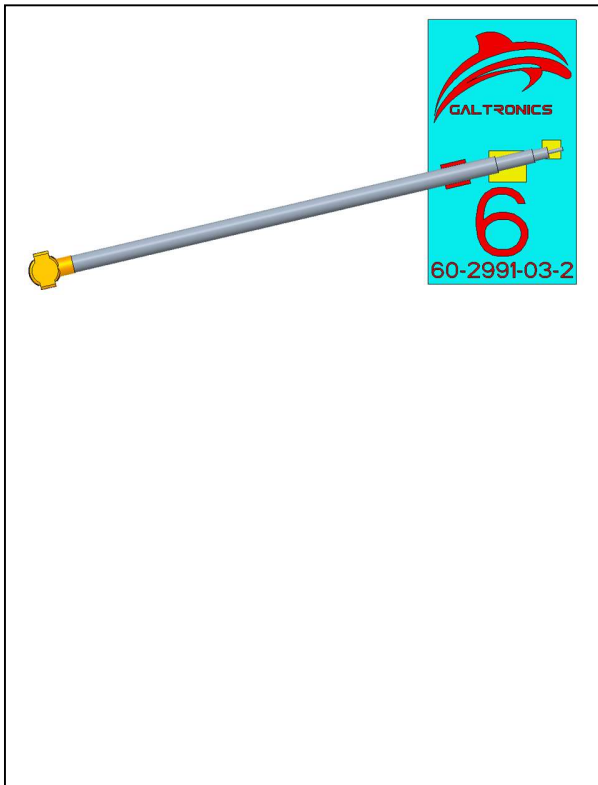


Figure 1 Galtronics 02102475-08050-1 Wi-Fi 6GHz Band Antenna

Wi-Fi 6GHz Band Antenna

02102475-08050-1

Engineering Data Sheets

Galtronics Embedded Antenna

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Revision History (Required)

Revisions	Date	Note
S1	Apr 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 Wi-Fi 6GHz Band Antenna

The Galtronics 02102475-08050-1 antenna is a balanced dipole type Wi-Fi 6GHz Antenna that operates in 5925-7125 MHz band. It provides high efficient radiation with good cost benefit. The antenna can be mounted on a customer device with double sided adhesive foam tape or antenna carrier and connected to the radio through a cable with U.FL connector.

2. Features

- Operates in 5925-7125MHz band
- Peak gain: 2.24 dBi in 6000 MHz band
- High efficiency
- U.FL connector interface
- Mounted by double sided adhesive foam tape or antenna carrier

3. Specifications and Interface

Standard	Wi-Fi 6GHz Band
Frequency Range	5925 – 7125 MHz
Peak Gain	2.24 dBi in 6000 MHz band
VSWR	2:1
Feed Impedance	50Ω
Power Handling	30 dBm
Interface	U.FL
Antenna Dimensions	21 x 11.8 x 0.64 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

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 185mm long cable (Cable Total Length is 195mm).



Figure 2 Return Loss

5. Gain, Directivity and Efficiency

Table 1. Peak Gain, Directivity and Efficiency

	Freq (MHz)	Peak Gain (dBi)	Antenna Directivity (dBi)	Terminal Efficiency (%)
6GHz	5925	2.07	3.71	68.53%
	6300	1.63	3.12	70.93%
	6500	2.24	3.61	72.96%
	6800	1.99	3.41	72.18%
	7125	2.10	3.55	71.57%
	Average			71.24%

6. Radiation Pattern

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

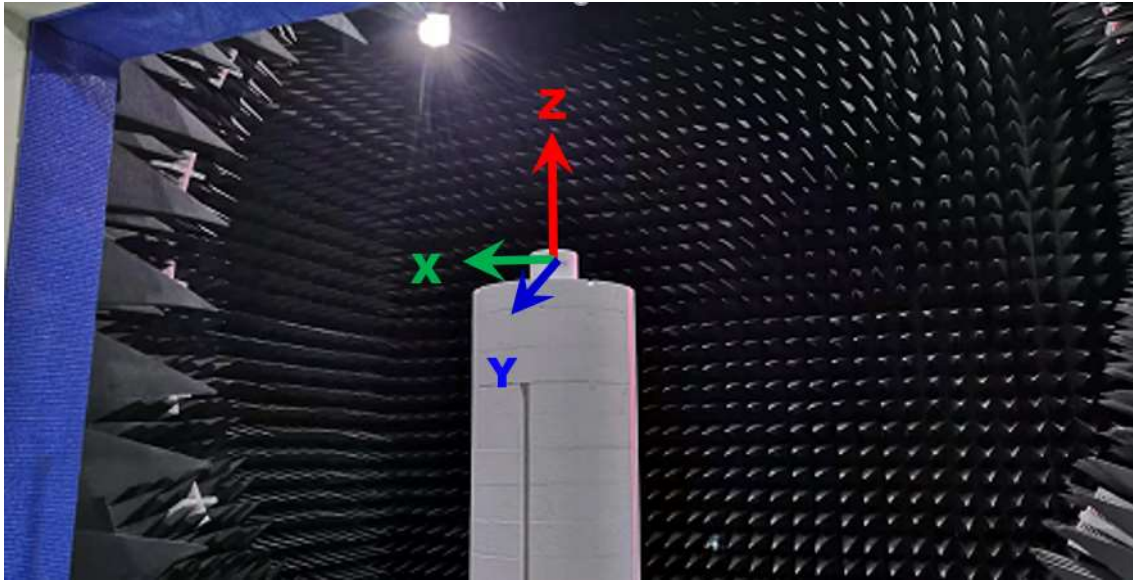
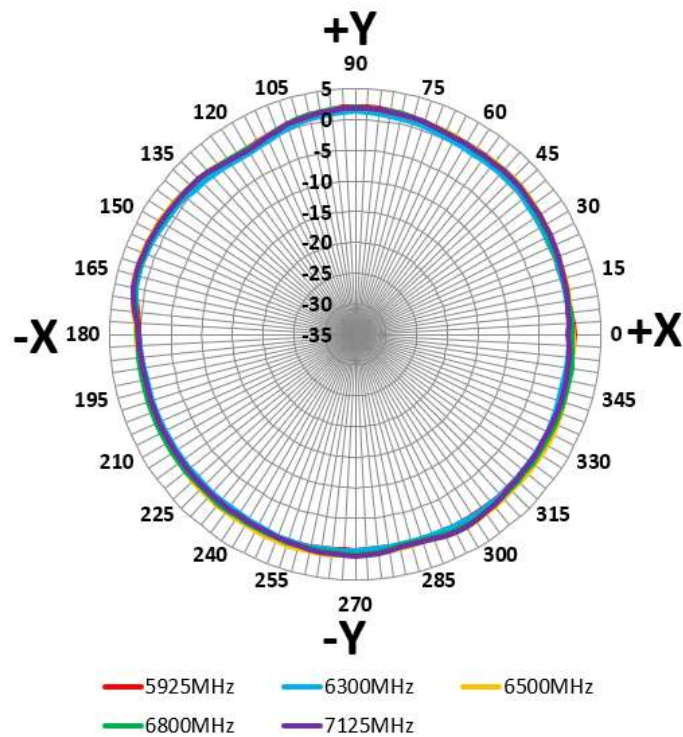


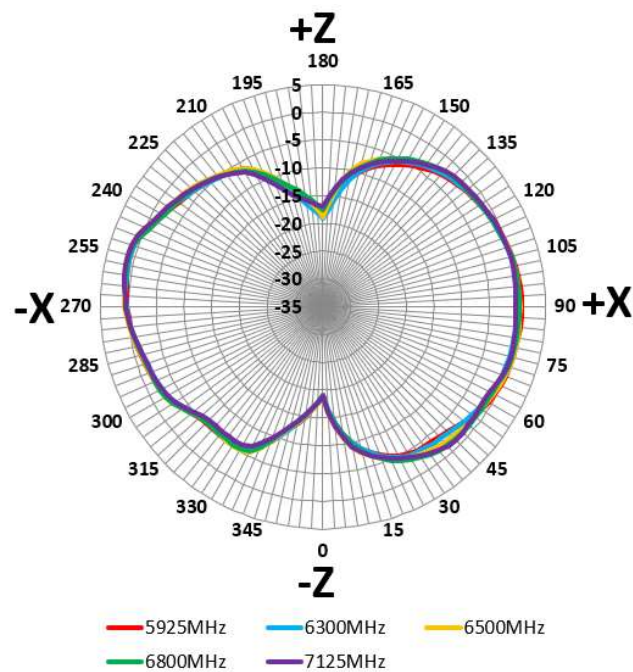
Figure 3 Measurement Orientation

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

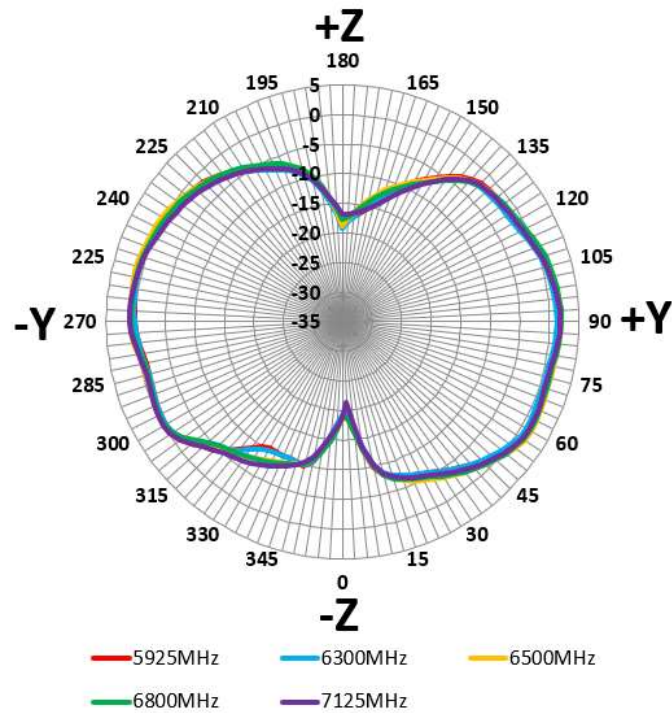


(A). Azimuth plane (XY plane) radiation pattern



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

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

Figure 4 Radiation Patterns of Wi-Fi 6GHz Antenna