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零件承认书

SPECIFICATION FOR APPROVAL

REV NO.	DATE	DESCRIPTION
S1	2024.6.7	First release
S2	2024.8.21	Add FA report、Final picture & Net weight 、Drop test report
S3	2025.4.25	Update Cover

P/N of GaltronicsP/N of Cybertan

02102140-08091C12365-21400013R

APPROVED BY	SIGNATURE	DATE
Engineering Manager		
Mechanical Engineer		
RF Engineer		
Quality Engineer		
Project Manager		
Customer Approval		

CONTENTS

1. Product performance..... 6

1.1 Describe 6

1.2 Features 6

1.3 Specifications and Interface 6

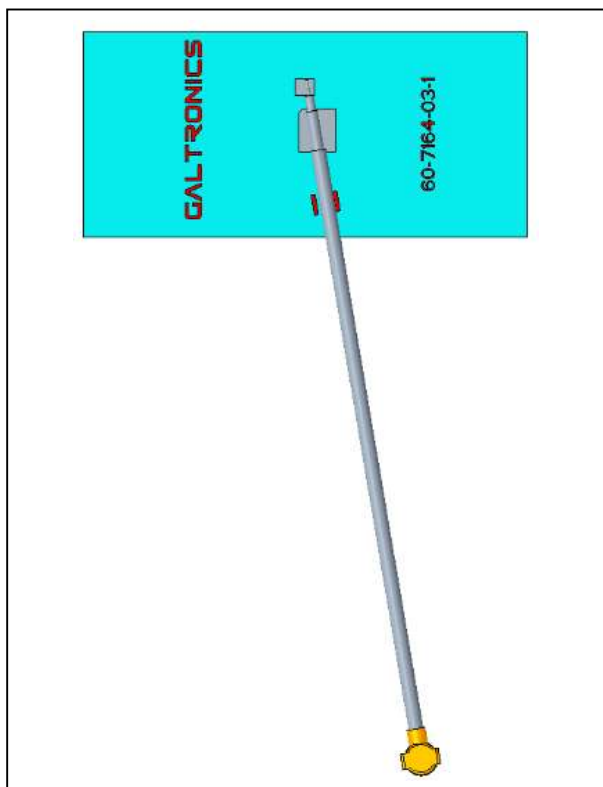
1.4 VSWR (Return Loss) 7

1.5 Peak Gain & Efficiency 7

1.6 Frequency Band & RF pattern 8

2. Production Specification..... 12

2.1 Drawing 12



*Figure 1 Galtronics 02102140-08091C1 Wi-Fi
Dual Band PCB Antenna*

Dual-Band Wi-Fi Antenna 02102140-08091C1

Engineering Data Sheets

Galtronics Embedded Antenna

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Revision History (Required)

Revisions	Date	Note
S1	Jun 4, 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.

Contents

1. Galtronics Dual Band Wi-Fi Antenna 4

2. Features 4

3. Specifications and Interface..... 4

4. Return Loss..... 5

5. Gain, Directivity and Efficiency..... 5

6. Radiation Pattern..... 6

Figures

Figure 1 Galtronics Wi-Fi Dual Band PCB Antenna 1

Figure 2 Return Loss 5

Figure 3 Measurement Coordinate System..... 6

Figure 4 Radiation Patterns..... 9

1. Galtronics Dual Band Wi-Fi Antenna

The Galtronics 02102140-08091C1 antenna is a Dual Band Wi-Fi Antenna that operates in 2400-2500 MHz and 5150-5850 MHz bands. It provides high efficient radiation with good cost benefit. The antenna can be mounted on a customer device with antenna carrier and connected to the radio through a U.FL connector.

2. Features

- Operates in 2400-2500 MHz and 5150-5850 MHz bands
- Peak gain: 2.19 dBi in 2400 MHz band and 3.70 dBi in 5000 MHz band.
- High efficiency
- U.FL connector interface
- Mounted by antenna carrier

3. Specifications and Interface

Standard	Wi-Fi Dual Band
Frequency Range	2400-2500 MHz and 5150-5850 MHz
Peak Gain	2.19 dBi in 2400 MHz band and 3.70 dBi in 5000 MHz band
VSWR	2:1
Feed Impedance	50Ω
Power Handling	30 dBm
Interface	U.FL
Antenna Dimensions	33.6 mm x 15.6 mm 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 33 mm long cable (Cable Total Length is 45mm).

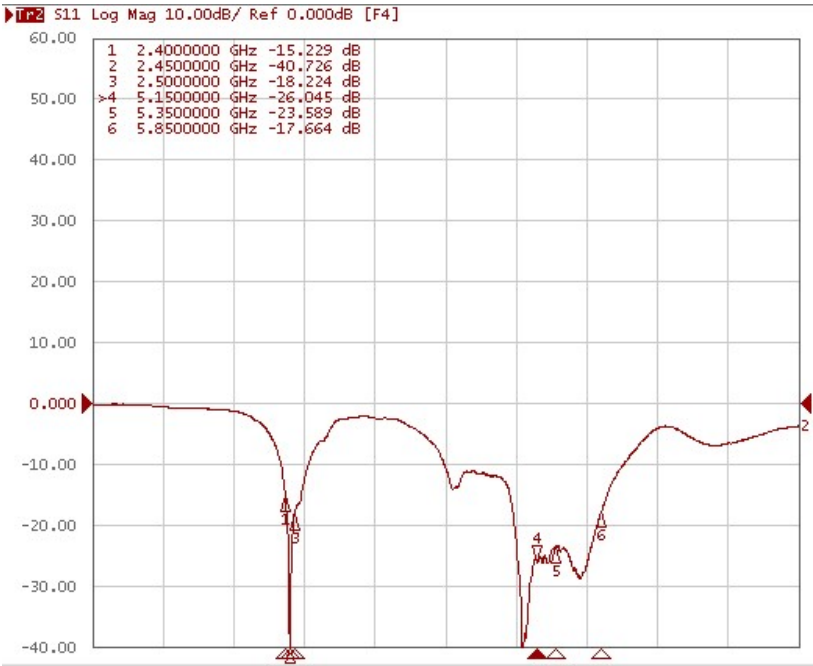


Figure 2 Return Loss

5. Gain, Directivity and Efficiency

Table 1Peak Gain, Directivity & Efficiency

Dual Band Wi-Fi Antenna	Frequency (MHz)	Peak Gain (dBi)	Antenna Directivity (dBi)	Terminal Efficiency (%)
	2400	1.80	3.40	69.25
	2450	2.12	3.42	74.08
	2500	2.19	3.47	74.44
	Average			72.59

Dual Band Wi-Fi Antenna	Frequency (MHz)	Peak Gain (dBi)	Antenna Directivity (dBi)	Terminal Efficiency (%)
	5150	3.40	4.63	75.52
	5350	3.45	4.96	70.69
	5550	3.70	4.94	75.15
	5750	3.35	4.51	76.66
	5850	3.40	4.80	72.37
	Average			74.08

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 ($\Phi=90^\circ$).

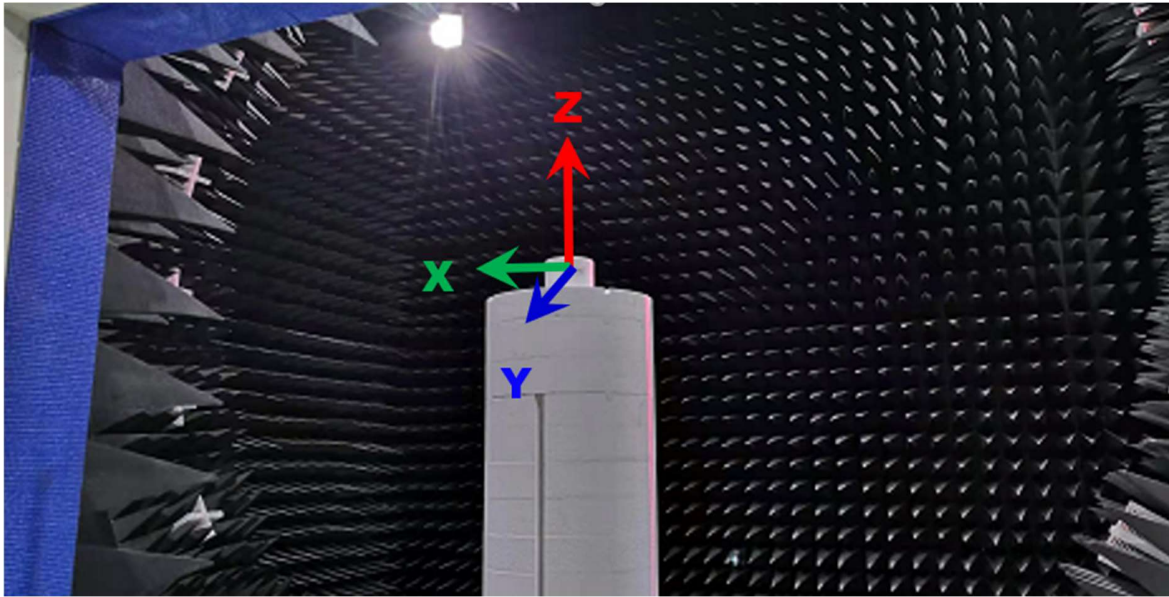
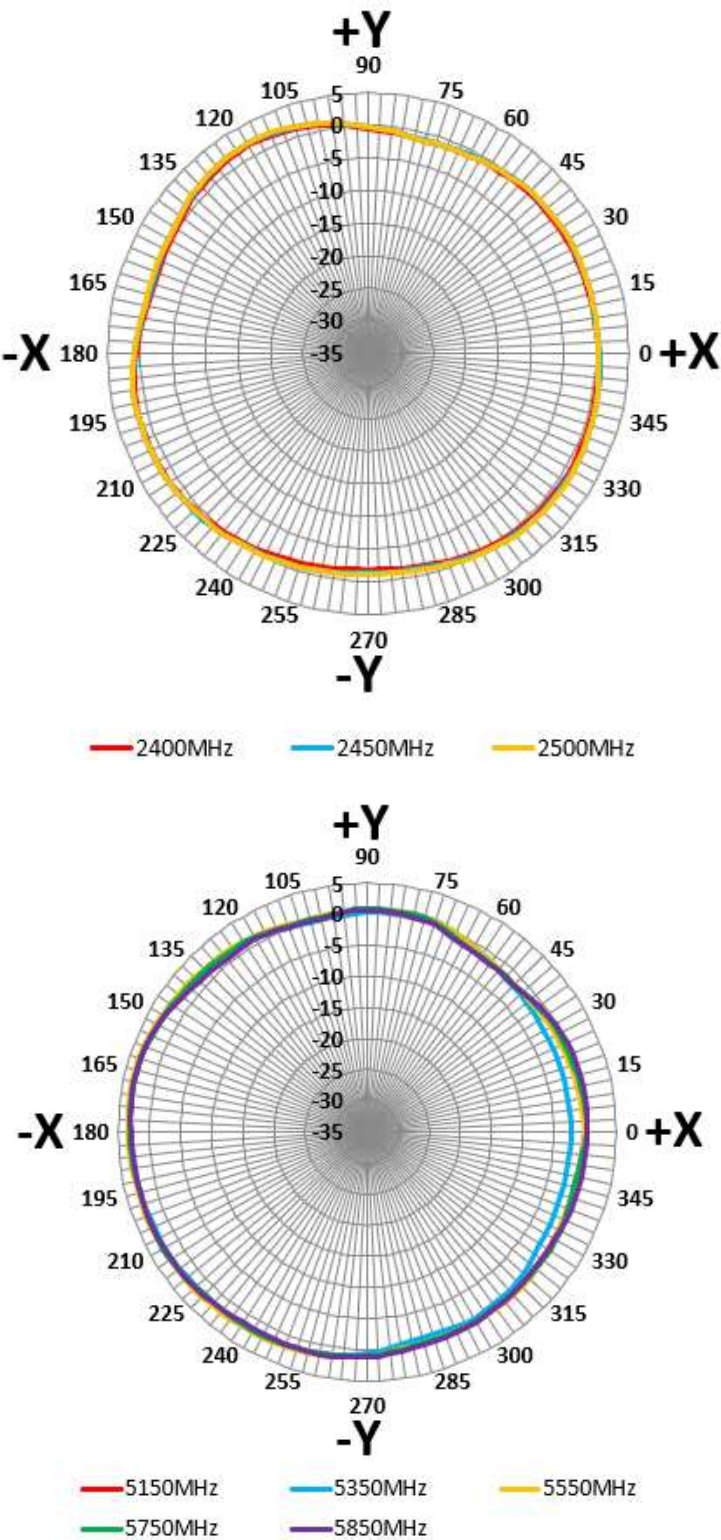


Figure 3 Measurement Orientation

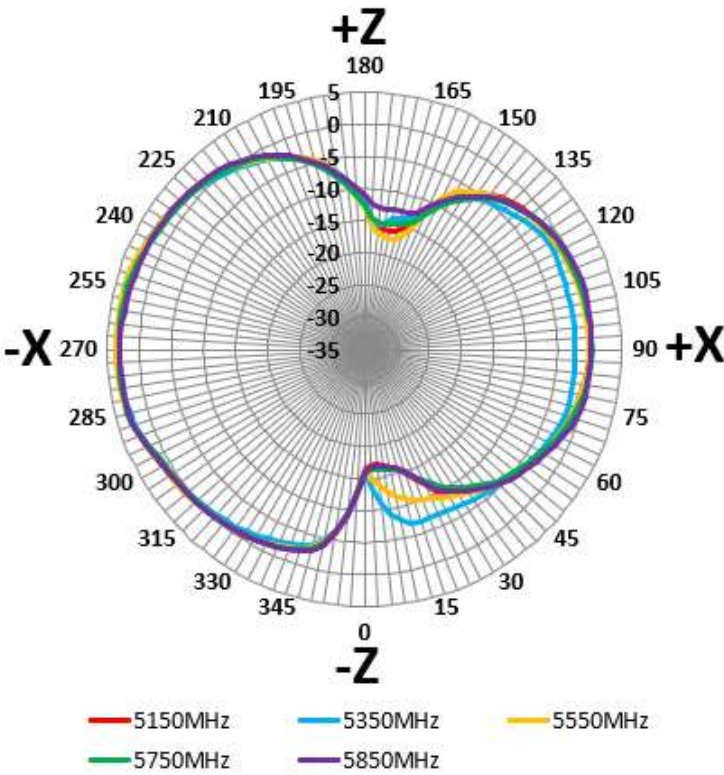
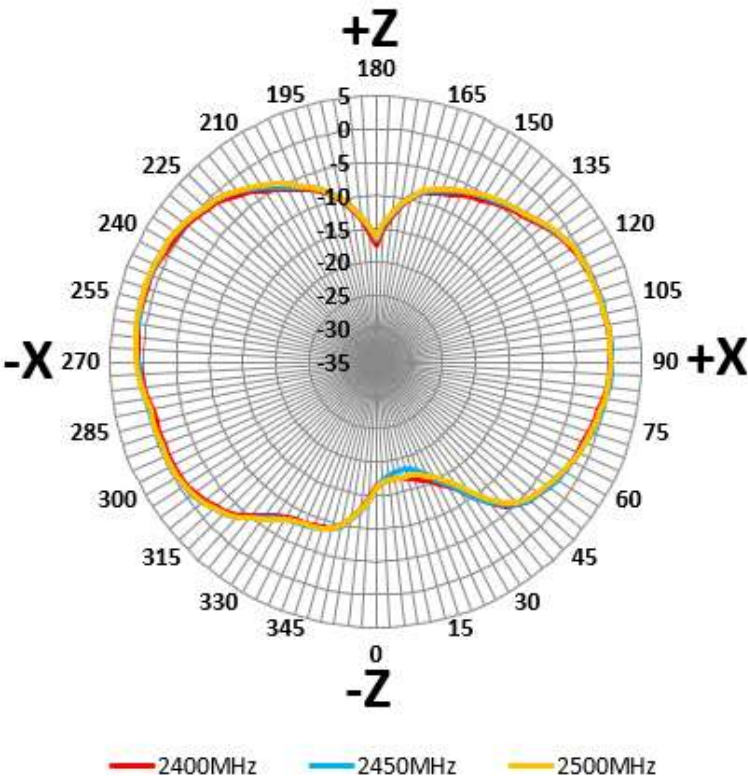
WE'RE MAKING WAVES

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



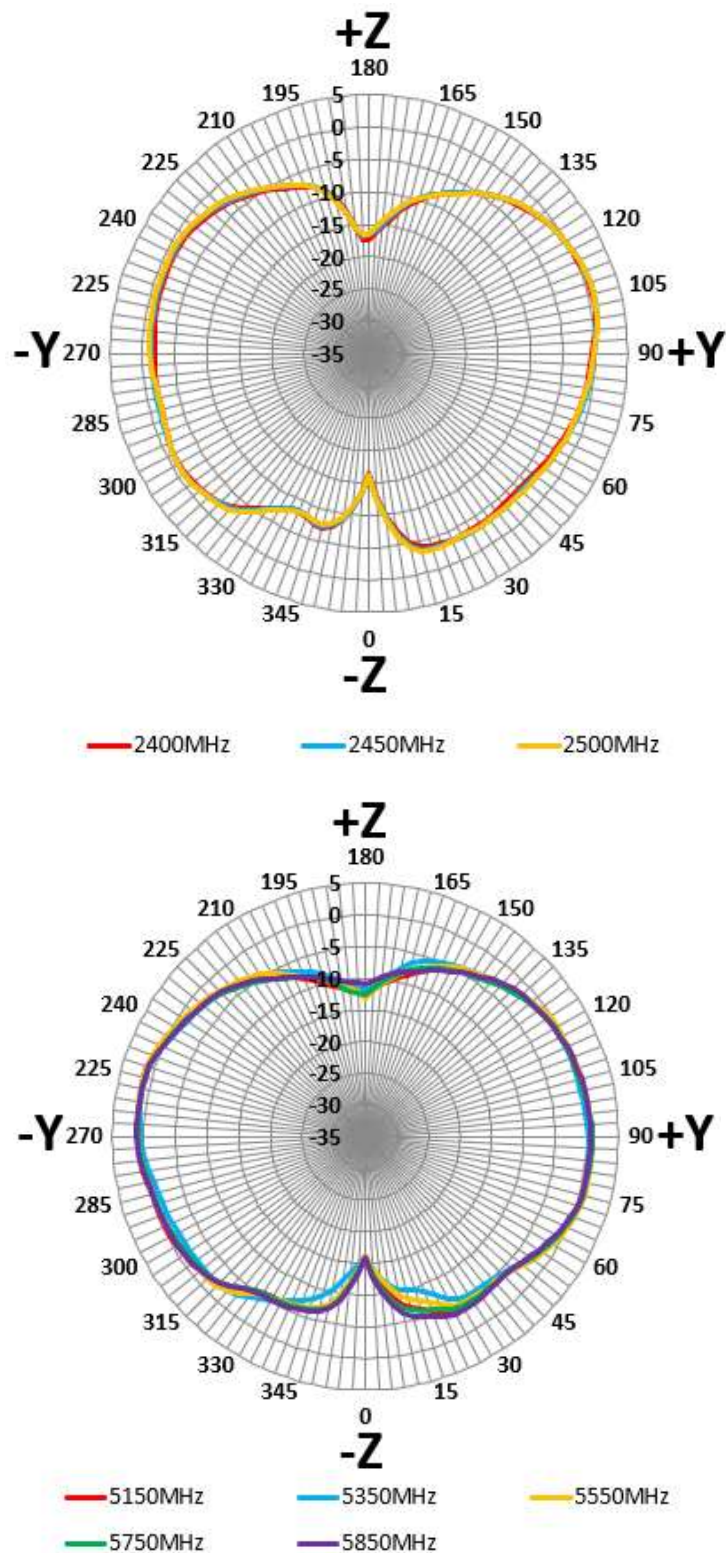
(A). Azimuth plane (XY plane) radiation pattern

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(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 Wi-Fi Dual Band.