ethertronics
AN AVX GROUP COMPANY

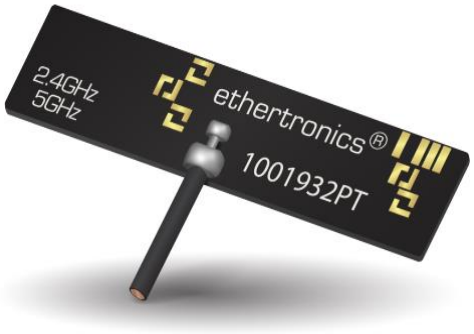
DATASHEET
Part No. 1001932PT
Product: PCB WiFi Tunable Embedded Antenna with Cable

Part No. 1001932PT

WLAN / BT / Zigbee Tunable Embedded PCB Antenna

2.4 GHz, 5 GHz

Supports: Wi-Fi applications, Agriculture, Automotive, Bluetooth, Zigbee, WLAN, Smart Home, Healthcare, Digital Signage



PCB WiFi Tunable Embedded Antenna with Cable

2.4 GHz; 5 GHz

KEY BENEFITS

Stay-in-Tune

Ethertronics antenna technology provides superior RF field containment, resulting in less interaction with surrounding components.

Quicker Time-to-Market

By optimizing antenna size, performance and emissions, customer and regulatory specifications are more easily met.

Reliability

Products are the latest RoHS version compliant.

APPLICATIONS

- Embedded design
- Cellular, Headsets, Tablets
- Gateway, Access Point
- Handheld
- Telematics
- Tracking
- Healthcare
- M2M, Industrial devices
- Smart Grid
- OBD-II

Ethertronics' WLAN antennas deliver on the key needs of device designers for higher functionality and performance in smaller/thinner designs. These innovative antennas provide compelling advantages for a 2.4 GHz and 5.0 GHz enabled devices.

Real-World Performance and Implementation

Antennas may look alike on the outside, but the important difference is inside. Other antennas may contain simple PIFA or monopole designs that interact with their surroundings, complicating layout or changing performance with use position. Ethertronics' antennas utilize patented Isolated Magnetic Dipole (IMD) technology to deliver a unique size and performance combination.

The 1001932PT is offered in many standard cable lengths ranging up to 200mm. Ordering part number guide is located at end of document for selection ease.

Electrical Specifications

Typical Performance using 100 mm cable tested on PC-ABS

Frequency	2.400 – 2.485 GHz	5.150 – 5.825 GHz
Peak Gain	2.5 dBi	4.4 dBi
Average Efficiency	60%	71%
VSWR Match	2.0 :1 max	
Feed Point Impedance	50 ohms unbalanced	
Polarization	Linear	
Power Handling	0.5 Watt CW	

Mechanical Specifications

Ordering Part #	1001932PT-AA10L0100
Dimensions (mm)	35.2 x 8.5 x 1.6
Weight (grams)	0.6
Cable/Connector (mm)	Length: 100, Diameter: 1.13, Color: Black; u.Fl compatible connector
Mounting	Adhesive on bottom side of antenna
Packaging	PE bags

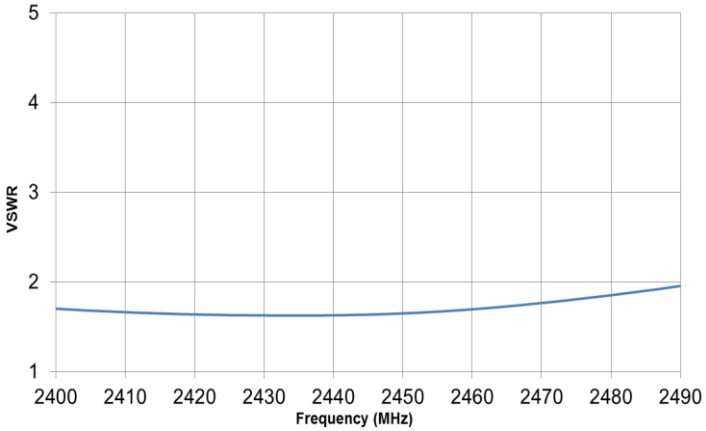
*Additional variations with different cable lengths, colors and connectors are available.

2.4 / 5 GHz Ethertronics' PCB Embedded Antenna Specifications
Ethertronics produces a wide variety of standard and custom antennas to meet user needs.

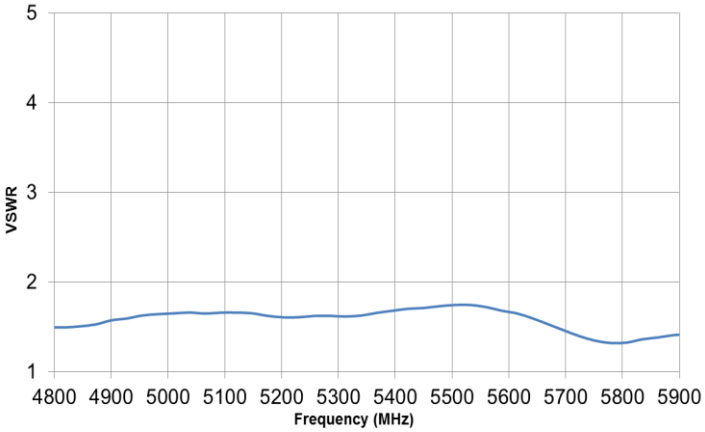
VSWR, Efficiency and Peak Gain Plots

Typical Performance using 100 mm cable tested on PC-ABS

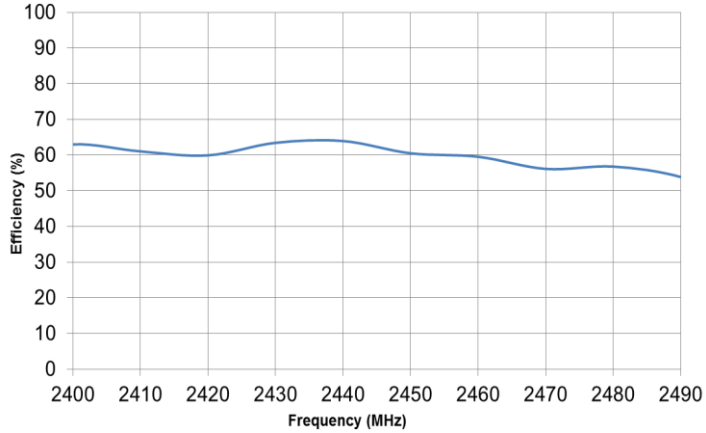
2.4 GHz VSWR



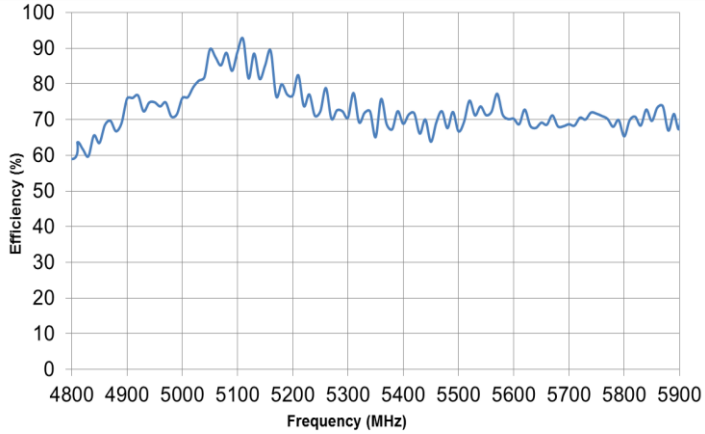
5 GHz VSWR



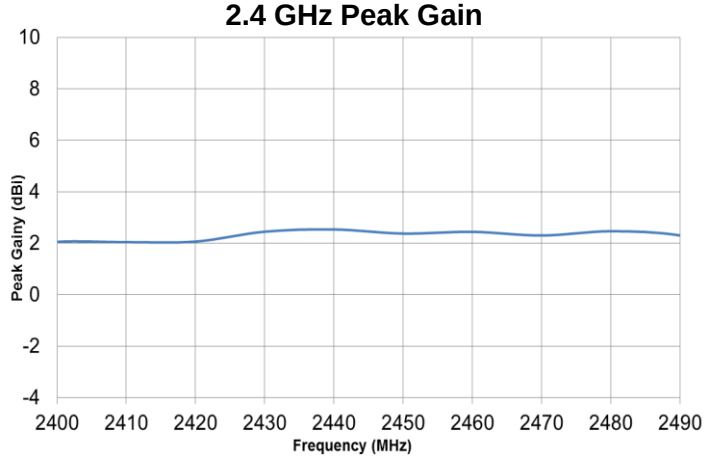
2.4 GHz Efficiency



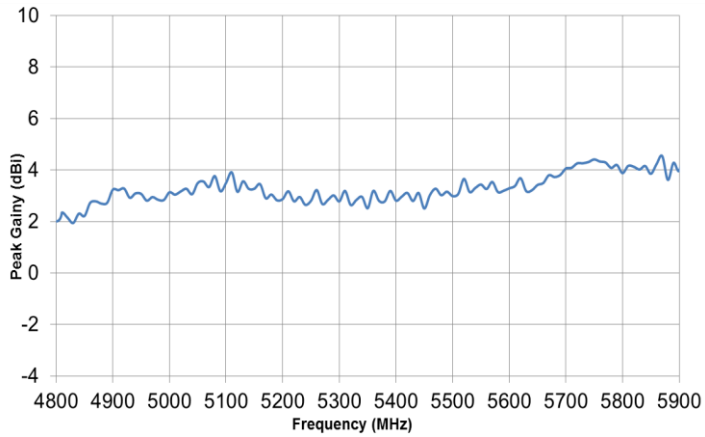
5 GHz Efficiency



2.4 GHz Peak Gain



5 GHz Peak Gain



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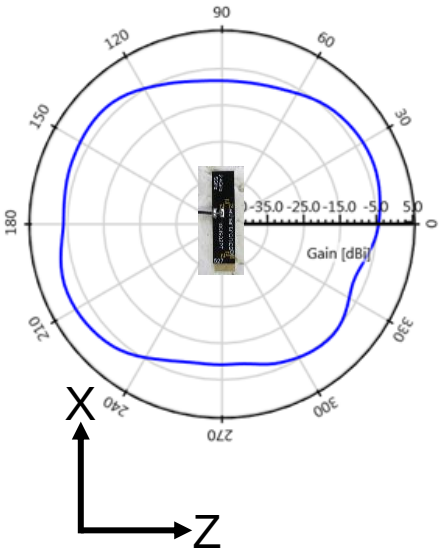
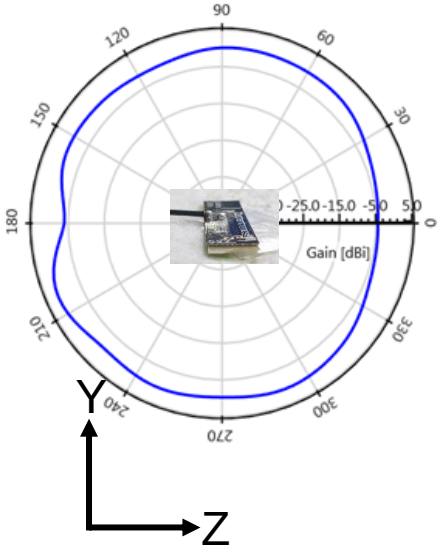
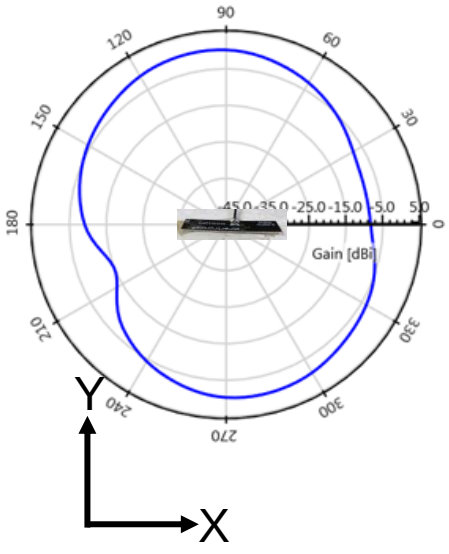
Antenna Radiation Patterns

Typical Performance using 100 mm cable tested on PC-ABS
Measured @ 2440, 5450 MHz

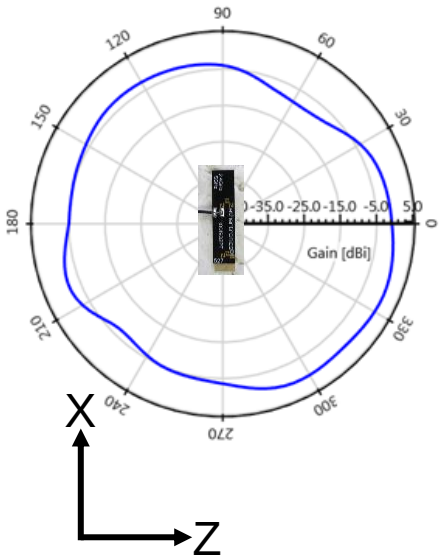
Measured at 2440 MHz

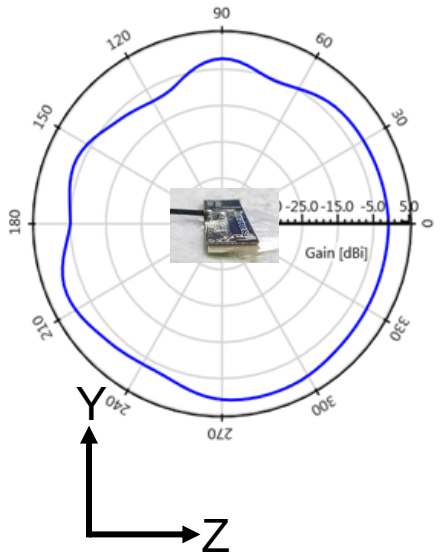


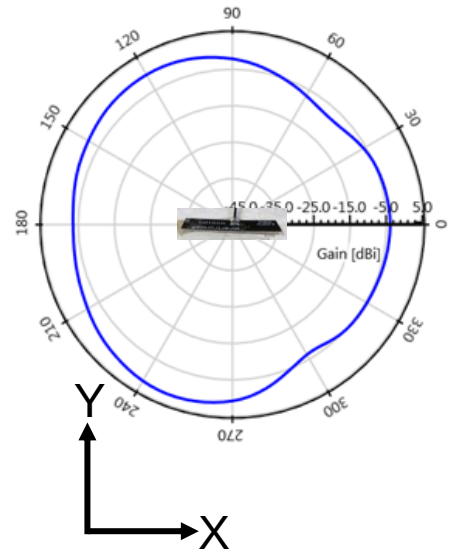




Measured at 5450 MHz







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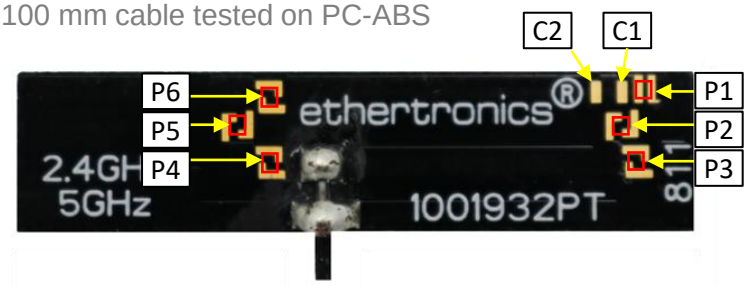
Antenna Tuning Options

Typical Performance using 100 mm cable tested on PC-ABS



*This antenna has unique features enabling limited range RF tuning by leaving P1 - P6 and C1 - C2 connected by "solder bridge" or disconnected with a "cut" to the trace. Refer to detailed tuning options below.

Ref: Baseline = Typical Performance using 100 mm cable tested on PC-ABS

Options for Tuning: "2.4GHz (Lower)"

MODE	T1	T2	T3	T4
PADS	Connect: P2	Connect: P1	Connect: P2+P3	Connect: P1+P3
Outcome: (Ref: Baseline)	~200 MHz shift low	~250 MHz shift low	~350 MHz shift low	~370 MHz shift low

Options for Tuning: "2.4GHz (Higher)"

MODE	C1	C2
PADS	Cut: C1	Cut: C2
Outcome: (Ref: Baseline)	~170 MHz shift high	~300 MHz shift high

Options for Tuning: "5GHz (Lower)"

MODE	T5	T6	T7	T8
PADS	Connect: P4	Connect: P4+P5	Connect: P6	Connect: P5+P6
Outcome: (Ref: Baseline)	~200 MHz shift low	~1500 MHz shift low	~500 MHz shift low	~1900 MHz shift low

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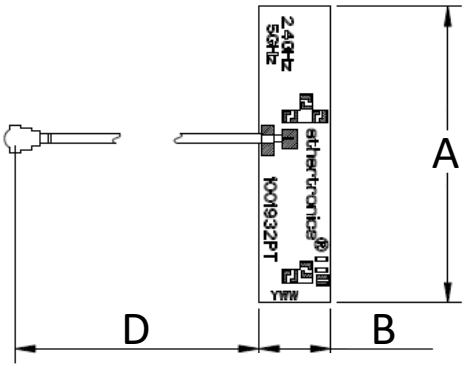
Mechanical Dimensions

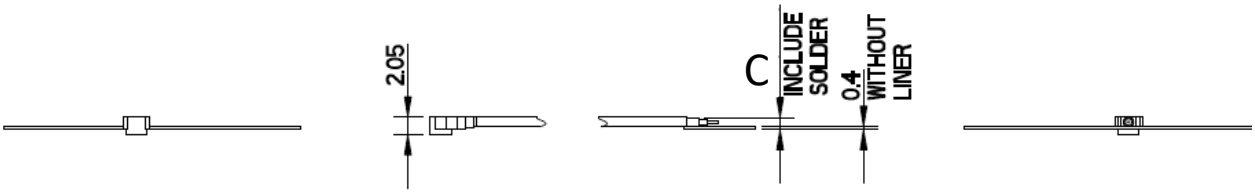
Typical antenna dimensions (mm)

Part Number	A (mm)	B (mm)	C (mm)	D (mm) Cable Length
1001932PT-AA10L0100	35.2 ± 0.3	8.5 ± 0.3	1.8 (max)	100 ± 3.0

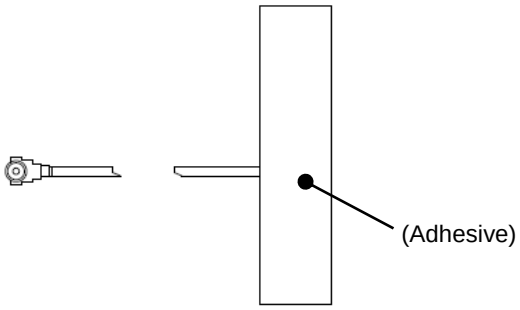
***Total Height "C" measures 1.8 mm includes the cable solder connection + PCB + adhesive thicknesses**



Top View



Side View



Bottom View

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Ordering Part Numbers

Typical antenna dimensions (mm)

Part Number	A (mm)	B (mm)	C (mm)	D (mm) Cable Length
1001932PT-AA10L0025	35.2 ± 0.3	8.5 ± 0.3	1.8 (max)	25 ± 3.0
1001932PT-AA10L0050	35.2 ± 0.3	8.5 ± 0.3	1.8 (max)	50 ± 3.0
1001932PT-AA10L0075	35.2 ± 0.3	8.5 ± 0.3	1.8 (max)	75 ± 3.0
1001932PT-AA10L0100	35.2 ± 0.3	8.5 ± 0.3	1.8 (max)	100 ± 3.0
1001932PT-AC10L0100	35.2 ± 0.3	8.5 ± 0.3	1.8 (max)	150 ± 4.0
1001932PT-AA10L0150	35.2 ± 0.3	8.5 ± 0.3	1.8 (max)	150 ± 4.0
1001932PT-AA10L0200	35.2 ± 0.3	8.5 ± 0.3	1.8 (max)	200 ± 4.0

***Total Height "C" measures 1.8 mm includes the cable solder connection + PCB + adhesive thicknesses (AA10L = MHF connector), (AC10L = MHF4L connector)**

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