



Data Sheet

Preliminary electrical specifications
Technical specifications are subject to change

JI, 2.400-2.485 GHz ISM Band Embedded Antenna

The JI from Ethertronics represents a new category of small form factor, embedded antenna for ISM band applications. The unique design represents a breakthrough in delivering high efficiency, isolation and selectivity.

The JI allows product designers to easily create highly integrated antenna systems. The superior isolation enables components to be placed in close proximity to the antenna without affecting performance thereby minimizing the product integration effort. A self-contained ground plane enables the antenna be mounted next to or on top of existing components or shields. This feature makes it an attractive choice for modifying existing product designs with minimal impact. The unique design shapes the near-field pattern in the nearby surrounding, maximizing antenna performance.

The high selectivity of J Series antennas enables system designers to reduce costs by removing filters. High selectivity gives better rejection of out-band signals. This extends network range, enhances mobility and improves voice and data quality indoors, in noisy environments and in fringe network coverage areas.

The JI antenna is ideally suited for wireless handheld and mobile devices, where performance, size and system costs are critical. The design and compact size are very manufacturable and are suited for high volume applications. Several semi-standard package profiles (mechanical dimensions) are available or can be modified to suit individual OEM requirements.

JI applications: Bluetooth, DECT, HomeRF, WiFi, WLAN, etc.

Technology Features and Benefits

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|-------------------------------|--|
| • High Integration | Enables small product enclosures |
| • Modular Design | Ability to target multi-applications |
| • High Selectivity | Lower overall system cost |
| • High Efficiency | Improved system performance and increased battery life |
| • Improved Isolation | Semi-standard design |
| • Flexible Impedance Matching | Simple integration |

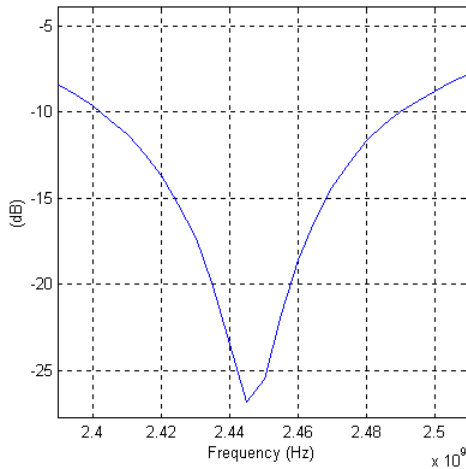
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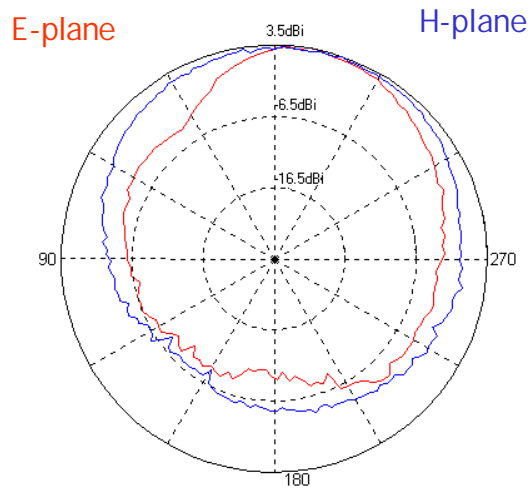
JI, 2.400-2.485 GHz Embedded Antenna Specifications

		Typical	Maximum	Minimum
Electrical	Low Frequency	2.395 GHz	2.460 GHz	<2.395 GHz
	High Frequency	2.490 GHz	>2.490 GHz	2.4856 GHz
	VSWR Match (unbound edge)	1.9 : 1	2.2 : 1	<1.9 : 1
	Feed Point Impedance	50 Ohms unbalanced (or other if required)		
	Selectivity (rejection)	20 dB	25 dB	15 dB
	Efficiency	80%	90%	70%
	Peak Gain	3.8 dBi	5.0 dBi	2.5 dBi
	Front to Back Ratio	5 dB	10 dB	3 dB
	Power Handling	1 Watt cw		
	Polarization	Linear		
	Shielding Ratio	10 to 1 (near field)		
Mechanical	Size	25.4 x 7.62 x 5.96 mm, other configurations are available		
	Mounting	Surface mount, 2 connection points + 1 feeding point		
	Weight	1-2 grams		
	Packaging	Tape and Reel		
Environmental	Operating Temp	-40 to +85C		
	Humidity	95% non condensing +30C to +60C		

Return Loss Characteristics



Antenna Radiation Pattern



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