

MPCI-8 (mini-PCI) Internal Antenna Module

The MPCI-8 model, part of the IMD Family of WLAN Internal Antennas, is a single element internal (embedded) antenna module for Worldwide WLAN applications. MPCI-8 supports 802.11a/b/g protocols throughout the world including the newly licensed 4.9 MHz Japanese spectrum. The MPCI-8 module is a complete solution consisting of one GS Isolated Magnetic Dipole™ (IMD) antenna with a high performance cable and connector. The IMD antenna's small size and high isolation properties make the MPCI-8 easy to integrate into notebooks and other mobile devices, while offering the ability to be used in a diversity configuration.

Ethertronics' proprietary and patented IMD antenna technology offers three distinct advantages over traditional internal antennas:

High Performance

- High efficiency
- Up to 50% higher signal strength than other internal antennas

High Isolation/Selectivity

- Minimal coupling between antennas (isolation of 20-40 dB)
- Ideal for diversity applications
- Reduced EMI with surrounding components
- Makes integration easy

Shaping Technology

- Controls and redirects the near-field electromagnetic distribution of the antenna's wave
- Optimizes antenna performance by improving signal strength and data quality inside buildings, in noisy environments and in fringe network coverage areas
- Less interaction with surrounding objects

The MPCI-8 module is ideally suited for manufacturers where performance, size and costs are critical. The design's low profile, small form factor and industry standard cabling/connectors are suited for high volume applications. Standard assemblies are available or the antenna can be configured to suit individual OEM requirements.

Advantages:

Worldwide WLAN Coverage

- Single internal antenna module covers worldwide WLAN frequency bands saving cost and valuable space
- Supports WLAN bands for today's standards allowing one configuration to support all markets

Spatial Diversity

- Individual MPCI-8 modules can be placed in close proximity to other IMD antennas with reduced risk of coupling from one to another

Better Performance

- Increased range/data throughput
- Improved sensitivity in low signal environments

Flexible Integration

- MPCI-8 module's high isolation offers consistent performance across multiple platforms and requires minimal space making placement easier
- Standard cables and connectors make for easy connection to MPCI cards

Worldwide Support

- Regional technical support and FAEs are available to help speed the integration process
- Manufacturing by Far East suppliers means quick turnaround and lower import costs

WLAN

WLAN Technologies: WiFi (802.11a/b/g)

Applications: Notebooks • Tablet PCs Portable Computers • Printers



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2.390-2.490/4.900-5.100 GHz/5.150-5.350/5.470-5.900 GHz Internal (Embedded) Antenna Specifications

Electrical Specifications:

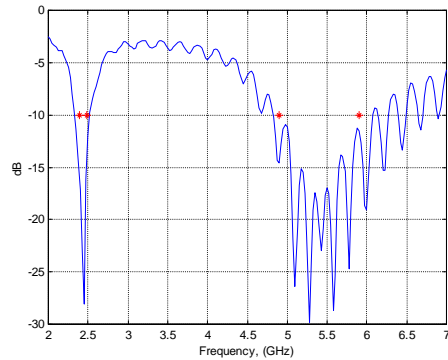
Typical Characteristics
(Free Space)

| Model: MPC1-8 Module | 2.390-2.490 GHz Band | 4.900-5.100 GHz Band | 5.150-5.350 GHz Band | 5.470-5.900 GHz Band |
|----------------------|--|----------------------|----------------------|----------------------|
| Peak Gain | 3 dBi | 3 dBi | 5 dBi | 5 dBi |
| Efficiency | 75 % | 65 % | 65 % | 65 % |
| VSWR Match | 2.1 : 1 | 2.1 : 1 | 2.1 : 1 | 2.1 : 1 |
| Front to Back Ratio | -2 dB | -10 dB | -10 dB | -10 dB |
| Feed Point Impedance | 50 ohms unbalanced (other if required) | | | |
| Power Handling | 2 Watt cw | | | |
| Polarization | Linear | | | |
| Shielding Ratio | 6 to 1 (near field) | | | |

Mechanical Specifications:

| | |
|-----------------|--|
| Size | 40 x 52 x 6 mm (Antenna, 37 x 4 x 5 mm) |
| Module Weight | 5 g |
| Packaging | Individually packaged |
| Cable/Connector | Hirose Electric Co., U.FL-LP-088 or equivalent |
| Cable Length | 450 mm standard (50-500 mm available when specified) |

Typical Return Loss:



Antenna Radiation Patterns:

Typical

