



Embedded WiFi Antennas

Mobile Mark's range of embedded or internal antennas can be used by WiFi OEMs, systems integrators or contract manufacturers to improve the efficiency of the wireless units they are producing.

These embedded antennas have been installed in applications as diverse as body-worn clothing, handheld devices and smart meters.

The innovative designs and quality materials improve the wireless performance of all these devices.

The two embedded antenna models presented here cover WiFi frequencies. The EM-2400 Series covers the 2.4 GHz band (e.g. it can be used for 802.11b/g applications) and the EM-2400/5500 Series covers both the 2.4 & 5 GHz bands (it can be for all 802.11 applications, i.e. 802.11a/b/g/n/ac).

The dual-band EM-2400/5500 offers 2 dBi gain and is extremely compact, measuring 1.42" x .475" (36mm x 12mm). The antenna exhibits an omni-directional radiation pattern.

The single-band EM-2400 offers 5 dBi gain. It is round and slightly larger, measuring 2" (51 mm) in diameter. The EM-2400 exhibits a directional radiation pattern with a beamwidth of 80° azimuth (horizontal) and 80° elevation (vertical). The EM-2400 has a front-to-back ratio of 10 dB.

Embedded Antennas Internal WiFi Antenna Boards

- Off-the-shelf antenna models listed here; custom designs also available
- In-house design, prototyping and testing for quick turn-around
- Designed to be integrated/embedded into OEM designs
- Quality materials, innovative designs

Both board styles have a special coating to inhibit oxidation and maintain performance.

The EM Series are typically configured with 6-inches (152mm) of RG-174 cable and an SMA plug connector. They mount to the device with double sided tape.

The off-the-shelf designs presented here will typically meet performance requirements for most WiFi devices. But, if there is something unusual about the final setting or application, Mobile Mark can help with a custom designed antenna.

Mobile Mark has the experience to design just the right antenna for your device. We offer state of the art design capabilities, including 3-D simulations using design software. We also offer in-house prototype development for quick turn-around.

For further protection, the antenna boards can also be encased in a molded plastic body or a hard plastic case.

Model #	Description
EM-2400/5500-2C-6	Embedded Omni-directional
EM-2400-2C-6	Embedded Directional

Specifications			
Frequency:		Front-to-Back Ratio:	
EM-2400/5500	2.4-2.5 & 4.9-6.0 GHz	EM-2400	10 dB
EM-2400	2400-2485 MHz	Beamwidth:	
Gain:		EM-2400	80° Az 80° El
EM-2400/5500	2 dBi	Dimensions:	
EM-2400	5 dBi	EM-2400/5500	1.42" x .475" (36 mm x 12 mm)
VSWR:	2.5:1 max over all bands	EM-2400	2.0" diam. (5.1 cm)
Operating Temp:	-40° to +85° C	Cable/Connector:	6-inches (152 mm) RG-174 with SMA plug
Nominal Impedance:	50 ohms	Optional Cable/Connectors:	LMR-100 & RG-178
Maximum Power:		(Model Suffix will change)	U.FL & MMCX
EM-2400	5 Watts	Mounting:	Fixed double sided tape
EM-2400/5500	2 Watts		