



**Embedded
Antennas**

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

Our antennas have been used in applications as diverse as smart meters and vending machines.

These three board-only embedded antennas are offered for cellular frequencies. Two of the antennas are tuned for networks in particular geographic areas and the third offers broadband coverage.

The EM-900/1900 Series covers the traditional US cellular bands of 850 & 1900 MHz including both GSM and GSM-A devices. The EM-925/1800 Series is tuned to cover the traditional European GSM bands of 925 & 1800 MHz.

For applications requiring wider bandwidth coverage, Mobile Mark offers the EM-UMB Series which covers 824-960 & 1500-2200 MHz. This antenna covers both the US and European bands, and it also covers the UMTS band at 1.7 & 2.1 GHz.

The EM-900/1900 and EM-925/1800 boards offer unity gain with an omni-directional radiation pattern. The broadband EM-UMB offers 2 dBi gain.

Embedded Antennas Internal Cellular Antennas

- Off-the-shelf antenna models listed; 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

The off-the-shelf designs presented here will typically meet performance requirements for traditional GSM/CDMA Cellular devices.

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.

The boards have a special coating to inhibit oxidation and maintain performance.

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

| Model # | Description |
|---|-----------------------------|
| EM-UMB-2C-6 | Embedded Broadband Cellular |
| EM-900/1900-2C-6 | Embedded Dualband Cellular |
| EM-925/1800-2C-6 | Embedded Dualband Cellular |
| Other cable and connector combinations are available. | |

Specifications

| | | | |
|--------------------|-----------------------------|----------------------------|--|
| Frequency: | | Dimensions: | |
| EM-UMB | 824-960 & 1500-2200 MHz | EU-UMB | 4.5" x 1.17" (114mm x 30mm) |
| EM-900/1900 | 824-894 MHz & 1850-1900 MHz | EM-900/1900 | 3.2" x .95" (81mm x 24mm) |
| EM-925/1800 | 870-960 MHz & 1710-1880 MHz | EM-925/1800 | 3.2" x .95" (81mm x 24mm) |
| Gain: | | Cable/Connector: | 6-inches (152 mm) RG-174 with SMA plug |
| EM-UMB | 2 dBi | | |
| EM-900/1900 | Unity | Optional Cable/Connectors: | LMR-100 & RG-178 |
| EM-925/1800 | Unity | (Model Suffix will change) | U.FL & MMCX |
| VSWR: | 2.5:1 max over all bands | Mounting: | Fixed double sided tape |
| Operating Temp: | -40° to +85° C | | |
| Nominal Impedance: | 50 ohms | | |
| Maximum Power: | 5 watts | | |