

# High Gain Surface Mount

## GPS Antennas (Pat.Pnd.)

### Dual Band Cellular/GPS or SMR/GPS

- Available for Body/Surface Mount applications
- High performance dual band operates on Cellular with 26 dB active GPS gain
- High gain 5 dBi and medium gain 3 dBi models operate on 800/900 MHz bands
- Ground plane independent; performs equally well on fiberglass or metal



SM3 Dual Band



Mirror Mount



New Trunk Lid Mount



SMF Dual Band with Flex whip

These higher gain models extend Mobile Mark's existing GPS products by offering increased 900 MHz performance without the need for a groundplane. Operating in GPS as well as cellular, this product can be mounted to a vehicle's surface or any bulkhead through a 3/4" (19 mm) hole.

The antenna provides completely independent dual band operation. These designs provide either a collinear 14 1/2" whip (37 cm); or a lower profile whip. The SMF whip is a flexible rubber duck style. The whips can even be interchanged without effecting GPS sensitivity.

GPS performance is 26 dB, with 5 dBi antenna gain. The GPS circuitry has a low noise figure (2.0 dB max) with excellent filter characteristics. No interaction occurs between the bands. Power for the GPS amplifier (3.3 VDC or 5 VDC) and signal is applied through the same cabling directly to the GPS circuit.

The antennas are outfitted with 15 feet (4.5 meters) of RG-174 cable and SMB plug (or SMA) connectors for the GPS interface. The standard cellular/900 band

cable is 15 feet (4.5 meters) of RG-58 with a TNC connector. Other connectors and configurations are available upon request.

The antennas are enclosed in a weatherproof polycarbonate radome. Everything needed for installation is included.

#### Model Numbers

Model	Description
SMF-900/1575	3 dBi Cellular/CDPD & GPS
SMF-837/1575	3 dBi Lowband SMR & GPS
SMF-925/1575	3 dBi Highband SMR/EU GSM & GPS
SM3-900/1575	5 dBi Cellular/CDPD & GPS
SM3-837/1575	5 dBi Lowband SMR & GPS
SM3-925/1575	5 dBi Highband SMR/EU GSM & GPS
SM-MM	Mirror Mount option for SMF/SM3
SM-TM	Trunk Lid Mount option for SMF/SM3

Please specify connectors at time of order. Note: All models are dual voltage 3.3/5 VDC.

#### Specifications

##### Frequency:

Cellular	824-894 MHz
Lowband SMR	806-870 MHz
Highband SMR	870-960 MHz
GPS	1575.42 +/- 2 MHz

##### Cellular/SMR Gain:

See above

##### GPS Gain:

27 dB Amplifier, 5 dBi Antenna

##### VSWR:

2:1 max over range

##### Noise Figure:

2.0 dB max, 1.7 dB typical

##### Operating Temp:

-30° to +80° C

##### Nominal Impedance:

50 ohms

##### Maximum Power:

10 Watts for 800/900 MHz

##### Amplifier Bias:

Dual 3.3/5 VDC +/-10%

##### Current:

20 mA max, 10 mA typical

##### Cable:

GPS	RG-174, 15 feet (4.5 meters)
Cellular/SMR	RG-58, 15 feet (4.5 meters)

##### Case Material:

Polycarbonate

##### Dimensions:

14 1/2" height (37 cm) on SM3  
6" Flex whip (15 cm) on SMF  
Base alone is 1" H x 2 5/8" D  
(25 mm x 67 mm)

##### Stud Mounting:

3/4" dia.(19mm), 1/2"long (13mm)  
mounts to 3/16" surface (4.7 mm)

##### Cellular Whip:

304 SS or Flex Speedo

##### Cable Attachment:

Integral to device, bottom exit

##### Connector:

TNC Cellular/SMR, SMB or SMA on GPS. Consult factory for other configurations.