



Tri-Band 900/1900 & GPS

## Surface Mount GPS Antenna (Pat.Pnd.) GSM/CDMA & GPS

- Mounts easily to roof, trunk or bulkhead
- High performance GPS with 26 dB active amplifier (dual 3.3 & 5 V)
- Secure & low profile less than 1" high (25 mm), mounts to 5/8" hole (16 mm)
- For GSM, CDMA, EV-DO & 1xRTT

This extremely versatile configuration provides a high level of integration for AVL/tracking applications. The Tri-Band antenna provides operation on Cellular and PCS bands along with GPS. The surface mount style antennas can be mounted to any vehicle, cargo container or trailer.

Models are available for GSM/CDMA, as well as other popular private networks. Separate cabling is provided for the GPS and 900/1900 MHz interface.

The design uses a 5/8" feed through (16 mm) for securing to the vehicle. Access to the underside of the body surface is required to complete the installation. For the GPS interface, the antennas are outfitted with 15 feet (4.5 meters) of RG-174 cable and choice of connector. The

connectors are typically male (plugs). The GSM/CDMA cable is 15 feet of RG-58 (4.5 meters). Please consult factory for special lengths or connectors.

GPS performance is 26 dB, with 5 dBi antenna gain. The GPS circuit has a low noise figure (2.0 dB max) with excellent filter characteristics. Power for the GPS amplifier (+3.3/5 VDC) and signal is applied through the same cabling directly to the GPS circuit.

The antennas are enclosed in a 4.5" D x 0.95" H weatherproof polycarbonate radome (114 mm x 24 mm), and supplied with all mounting hardware and sealing gasket. The standard color is white, but they can also be supplied in black.

### Antenna Model Configurator

SM- -

example - SM-U15-1A2C

#### Freq & GPS Voltage

Code	Description
U15	US GSM/CDMA & GPS
C15	ISM 915/US 1.9 GHz & GPS
E15	EU GSM/DCS-1800 & GPS
N15	Nextel trunking/US 1.9 GHz & GPS

Note: All models are dual voltage 3.3/5 VDC

#### Cellular Cable & Connector

Code	Description
1A	RG-58 & TNC
1B	RG-58 & MiniUHF
1C	RG-58 & SMA
1H	RG-58 & Fakra
1J	RG-58 & Rev Pol TNC
1L	RG-58 & SMC

#### GPS Cable & Connector

Code	Description
2C	RG-174 & SMA
2D	RG-174 & SMB
2E	RG-174 & MCX
2F	RG-174 & MMCX
2H	RG-174 & Fakra
2L	RG-174 & SMC

### Specifications

#### Frequency:

GPS	1575.42 +/- 2 MHz
GSM/CDMA	824-894 MHz/1850-1990 MHz
EU GSM	870-960 MHz/1710-1880 MHz
ISM 915	870 - 960 MHz
Nextel	806-870 MHz

#### Cellular / PCS Gain:

Unity

#### GPS Gain:

26 dB, 5 dBi Antenna

#### VSWR:

2:1 max over range

#### Noise Figure:

2.0 dB max, 1.7 dB typical

#### Operating Temp:

-40° to +85° C

#### Nominal Impedance:

50 ohms

#### Maximum Power:

10 Watts (800/900 MHz Band)

#### Amplifier Bias:

Dual 3.3 & 5 VDC +/- 10%

#### Current:

20 mA max, 10 mA typical

#### Cable:

GPS  
RG-174, 15 ft (4.5 meters)

Cellular/PCS  
RG-58, 15 ft (4.5 meters)

#### Case:

4.5"D x .95"H (114mm x 24 mm)

#### Case Material:

Acrylonitrile Styrene Acrylate, white radome standard, black optional

#### Stud Mounting:

5/8" dia x 18/32" long (16 mm x 14 mm) thread for 7/32" thick (5.3 mm) metal

#### Hardware:

Locknut and gasket included

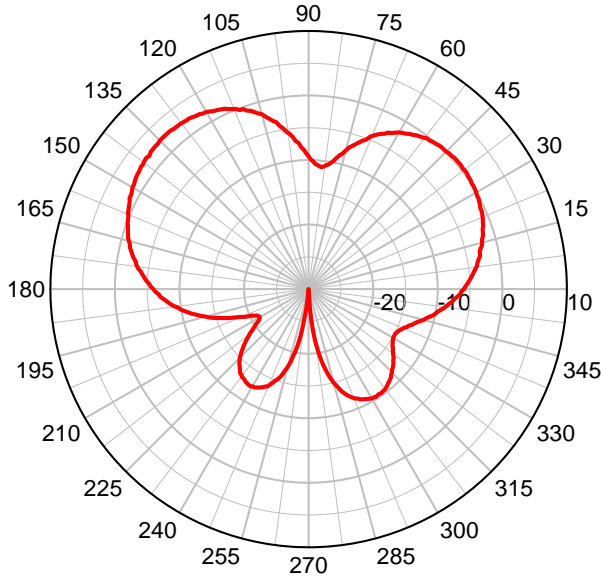
#### Connector:

See above, other configurations are available, consult factory.

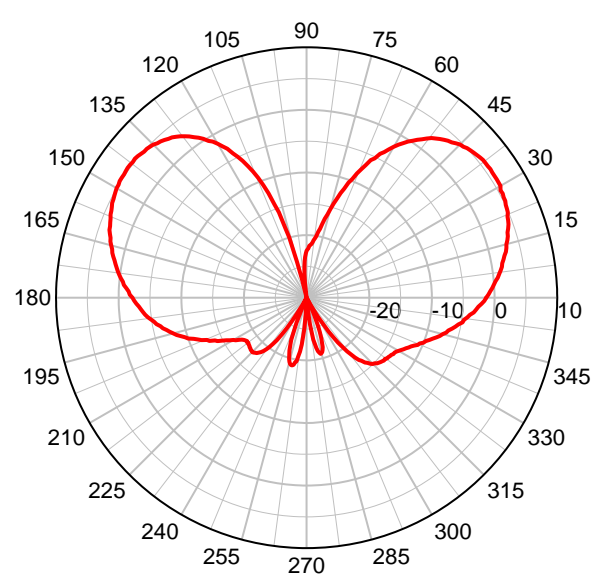
## SM-U15-XX2X

Surface Mount Tri-Band Antenna with GPS  
Unity Gain, US Cellular, PCS/GPRS  
(900/1900/1575 MHz)

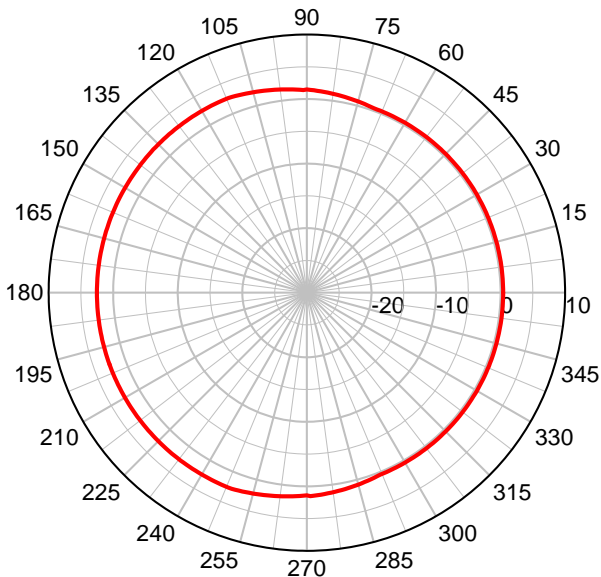
SM 900 Series – Elevation Plot



SM 1900 Series – Elevation Plot



SM 900 Series – Azimuth Plot



SM 1900 Series – Azimuth Plot

