

ANTBULK-XX-CT GPS ANTENNA

Functional Specification



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Overview

Inventek's GPS antennas, part number, ANTBULK-XX-CT is designed to work with a variety of GPS receivers. The active antenna can be used in a variety of applications including automotive with an impedance of 50 ohms. The antenna is Bulk head mounted and has padded adhesive on the bottom.

The antenna, P/N ANTBULK-XX-CT lets you integrate GPS functionality into your product quickly and easily. It's suitable for a wide range of applications, including the most compact:

- Hand-held personal positioning and navigation
- External PDAs, Pocket PCs and other hand-held computers
- Fleet management
- Marine
- Aviation
- Asset tracking
- Automatic vehicle location

The ANTBULK-XX-CT world class performance suits it to navigating urban canyons, as well as wide-open spaces. Being lead-free, it complies with the European Union's RoHS (Restriction of Hazardous Substances) directive. The antenna is also available with custom cable, RG316 TFE Teflon and is Flame test compliant.

Mechanical

Table 1 summarizes the dimensions of the Antenna.

Parameter	Value
Circular	46.35 ± 0.3 mm
Width	15 ± 0.3 mm
Color	Black (rubber tape on bottom)
Ohms	50
Bolt Length	15mm
RG174	Standard Cable material – Black
RG136 cable	TFE Teflon (Insulated) Jacket Brown FEP (Custom orders)

Table 1 Mechanical

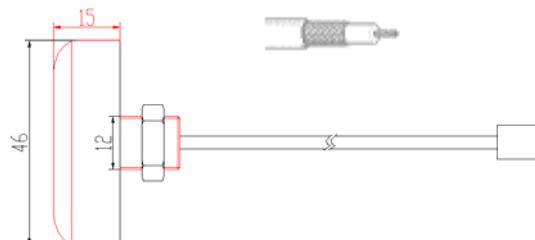


Figure 1 ANT BULK Dimensions (Inches)

Thermal

Name	
Temperature range	40 to +90 °C
Waterproof	100% (Mounted)

Table 2 Antenna Temperature

Power

Table 3 summarizes the Antenna's power requirements.

Parameter	Value
VCC	3.0–5.5 V dc
Continuous tracking	10 ma @ 3 Volts

Table 3 Power Requirements

You can reduce power consumption by turning on the antenna and only when needed to acquire a fix.

Electrical Characteristics

Patch	Value
Center Frequency	$f_0 = 1575.42 \pm 3.00 \text{ MHz}$
Bandwidth	$\pm 5 \text{ MHz}$
Peak Gain	3.0 dBic based on 7x7 cm ground plane
Gain Coverage	>-4.0 dBic at -90 < 0, +90 degrees (75% volume)
Polarization	R.H.C.P
Axial Ratio	1.0 dB Typical

LNA Characteristics

LNA	Value
Gain	28dB @ 3volts
Noise figure	1.5 dB Typical (@ 3 volts 1.35dB)
VSWR	< 2.0 max

Saw Filter Out of Band	fo
7 db min	$f_0 \pm 20 \text{ MHz}$
20 db min	$f_0 \pm 50 \text{ MHz}$
30 db min	$f_0 \pm 100 \text{ MHz}$

Table 4 Filter out of Band

Far field amplitude excluding the LNA gain

Here is an example of Radiation Pattern (Exclude LNA Gain) (90°) Far field amplitude excluding the LNA gain.

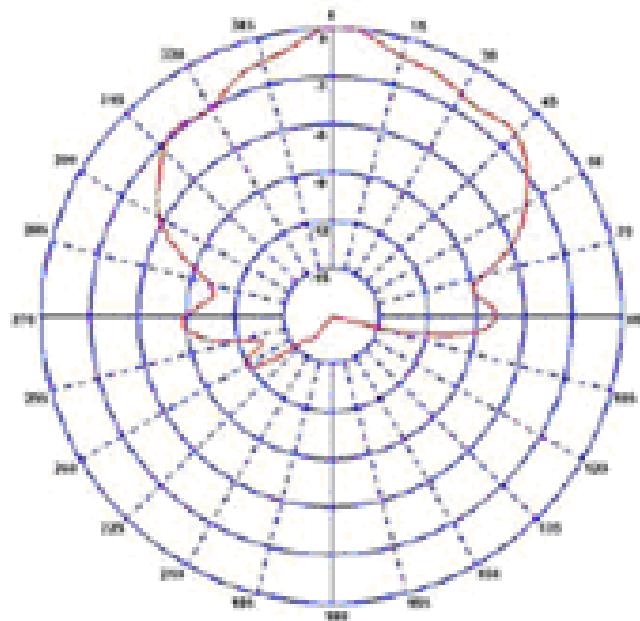
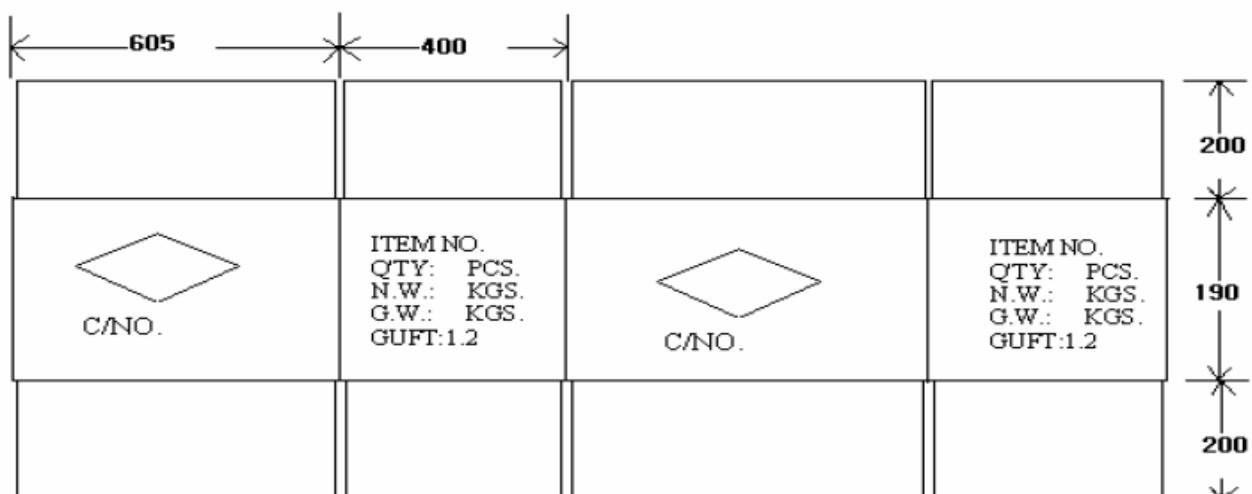
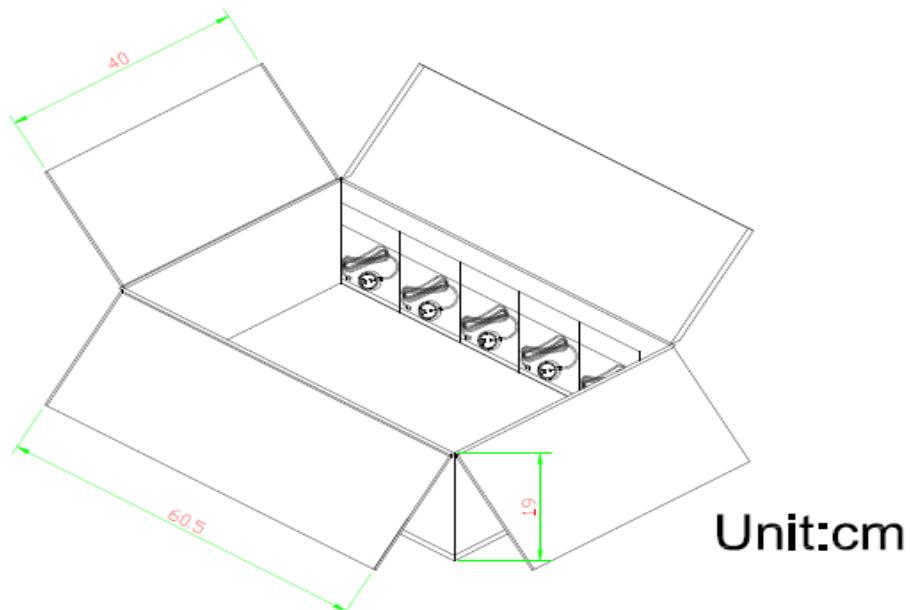


Figure 3 [Radiation Pattern \(Exclude LNA Gain\) \(90°\)](#)

Shipping

- Each antenna is individually packaged in Plastic bags
- All bags are sealed, impulse sealer
- 100 units per box
- All material and components are ROHS compliance



Tolerances: $\pm 10\text{mm}$

unit: mm

Table 5 Shipping specification

Ordering Information

The Antenna is RoHS-compliant and you can custom configure the cable length, type and connector type. Min orders are required for custom builds. Please specify the corresponding part number when ordering.

Build a part number:

The following ordering configurations are available by order:

P/N: ANT BULK-XX-CT

(XX) = Cable length 05: 5 Meters, 10: 10 Meters, xx: Custom length in meters

(CT) = Connector Types

00 : No connector

SMA: SMA plug (Male) (standard)

xxx: Custom connector

Ordering Part number sequence example:

ANT BULK-05-SMA- (5 meter cable with Male SMA)

Standard Parts:

Part No.	Antenna Type	Connector Type	Cable Length	Cable Type
ANT BULK-05-SMA	Active Bulkhead	Male SMA	5 Meter	RG174(Standard)
ANT BULK-0.2-MMCX- RG316	Active Bulkhead	Male MCX	200mm	RG316 (Custom)
ANT BULK-05-MMCX- RG316	Active Bulkhead	Male MCX	5 mm	RG316 (Custom)