

ANTBULK-XX-CT GPS ANTENNA

Functional Specification



Inventek Systems, LLC
239 Littleton Road, Suite 4D
Westford, Massachusetts 01886
978-392-2202

© 2008 Inventek Systems, LLC
239 Littleton Road, Suite 4D
Westford, Massachusetts 01886
978-392-2202
978-692-3502 (Fax)

Visit us at <http://www.inventeksys.com/>



Inventek Systems, LLC, reserves the right to make changes to its products, specifications and other information at any time without notice. Inventek Systems assumes no liability or responsibility for any claims or damages arising out of the use of this document, or from the use of products based on this document, including, but not limited to claims or damages based on infringement of patents, copyrights or other intellectual property rights. Inventek Systems makes no warranties, either express or implied with respect to the information and specifications contained in this document. Performance characteristics listed in this document do not constitute a warranty or guarantee of product performance.

Contents

Contents 3

Overview..... 4

Mechanical 5

Thermal..... 5

 Power 6

 Electrical Characteristics 6

LNA Characteristics..... 6

Far field amplitude excluding the LNA gain..... 7

Shipping 8

Ordering Information 9

Figure 1 ANTbulk Dimensions (Inches) 5

Table 1 Mechanical..... 5

Table 2 Antenna Temperature 5

Table 3 Power Requirements 6

Table 4 Filter out of Band 6

Table 5 Shipping specification 8

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

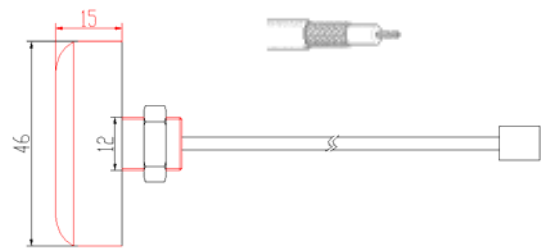


Figure 1 ANTbulk Dimensions (Inches)

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.v 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	$f_0 = 1575.42 \pm 3.00$ Mhz
Bandwidth	± 5 Mhz
Peak Gain	3.0 dBic based on 7x7 cm ground plane
Gain Coverage	> -4.0 dBic at -90° to $+90^\circ$ (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	f_0
7 db min	$f_0 \pm 20$ MHz
20 db min	$f_0 \pm 50$ MHz
30 db min	$f_0 \pm 100$ MHz

Table 4 Filer 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.

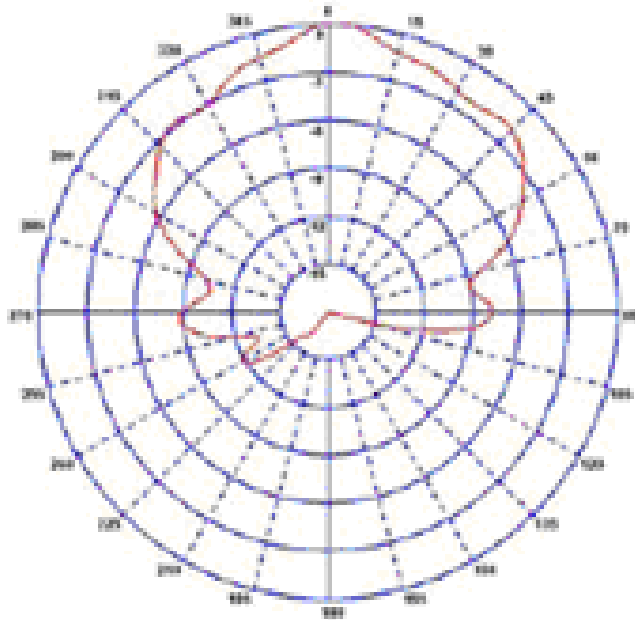
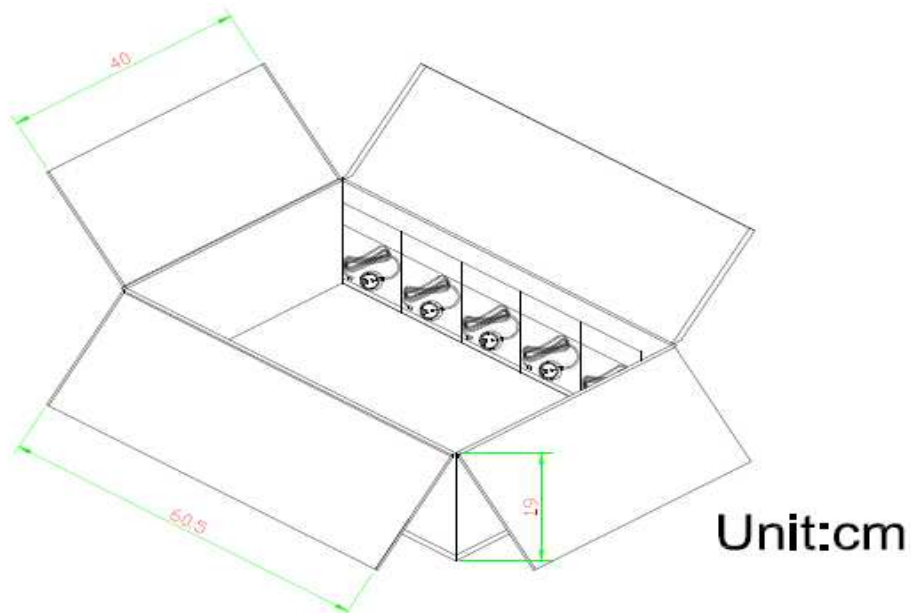




Figure 3 Radiation Pattern (Exclude LNA Gain) (90°)

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



605		400		
				200
 C/NO.	ITEM NO. QTY: PCS. N.W.: KGS. G.W.: KGS. GUFT:1.2	 C/NO.	ITEM NO. QTY: PCS. N.W.: KGS. G.W.: KGS. GUFT:1.2	190
				200

Tolerances: X=+/-10mm

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: ANTULK-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:

ANTULK-05-SMA- (5 meter cable with Male SMA)

Standard Parts:

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