

ANN-MS

active GPS antenna

Data Sheet

Abstract

The ANN active GPS antenna with integrated low-noise amplifier (LNA) is the perfect match to the u-blox GPS receivers.



48 x 40 x 13 mm

Document Information	
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Document status information	
Objective Specification	This document contains target values. Revised and supplementary data will be published later.
Advance Information	This document contains data based on early testing. Revised and supplementary data will be published later.
Preliminary	This document contains data from product verification. Revised and supplementary data may be published later.
Released	This document contains the final product specification.

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1 Functional description

1.1 Overview

The ANN-MS is a high performance Active Antenna that enables the full capabilities of u-blox GPS receivers. This compact and easy to use antenna is simple to integrate and can be operated at a supply voltage of 2.7 ... 6 V.

1.2 Benefits

- Easy to use
- Compact size
- High performance
- Fast and easy integration
- No antenna know-how necessary

1.3 Features

- Built-in low noise amplifier with 27 dB gain and 1.8 dB noise figure
- 5 m coaxial cable
- Magnetic base suitable for mounting on car roof
- Industrial temperature range: -40 ... +85°C
- Wide range of supply voltage: 2.7 ... 6 V

2 Mechanical specification

2.1 Dimensions

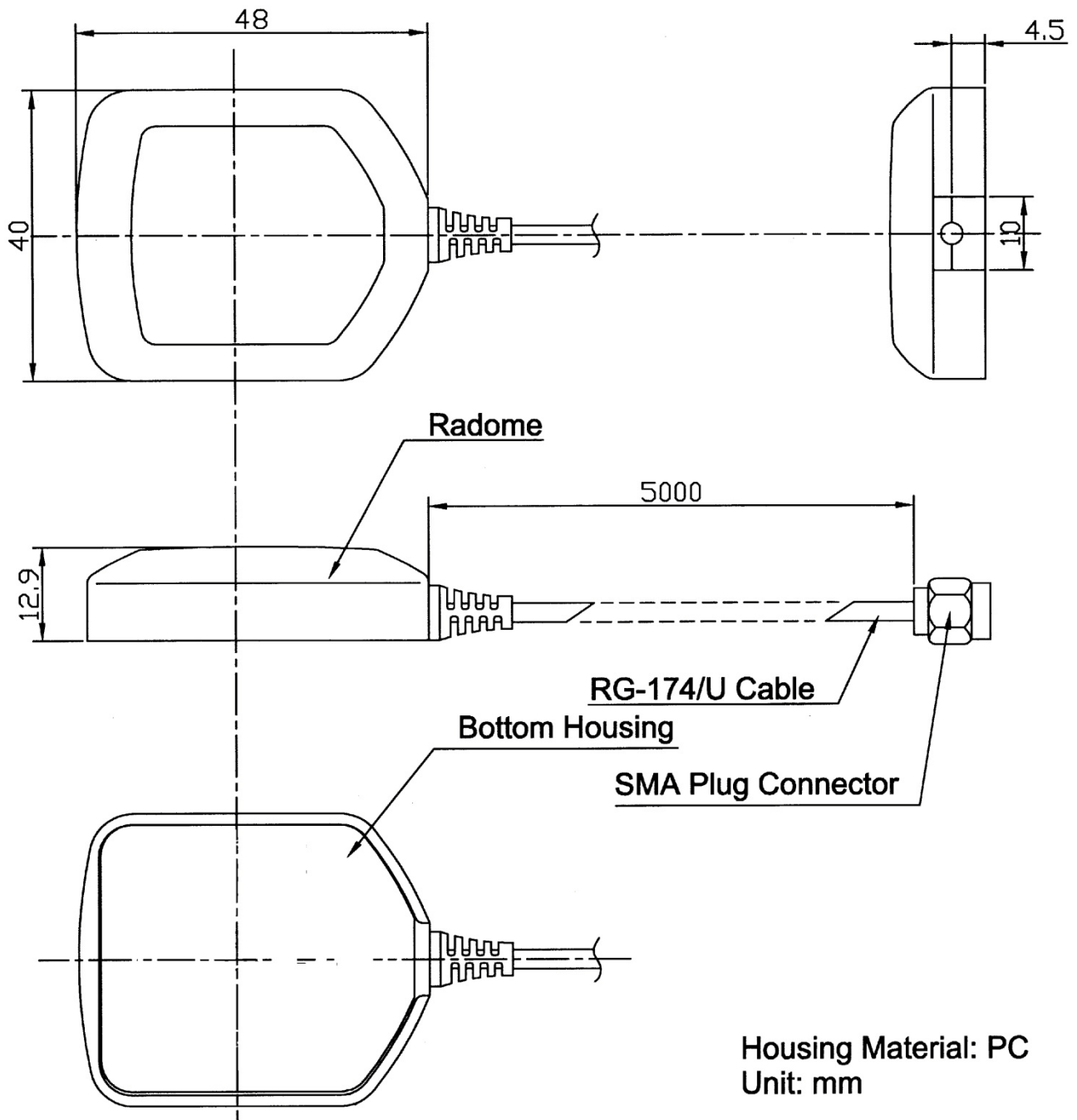


Figure 1: Mechanical outline

2.2 Mechanical data

Parameter	Specification
Weight	≤ 105 g
Size	48 x 40 x13 mm
Cable	5m RG174 standard
Connector	SMA, SMB, MCX, FAKRA
Mounting	Magnetic base
Housing Color	Black

Table 1: Mechanical specification

2.3 Connectors

	
ANN-MS-0: SMA	ANN-MS-1: SMB
	
ANN-MS-2: MCX	ANN-MS-3: FAKRA  Straight jack female, blue (RAL 5005), code C for GPS Telemetry and Navigation

Figure 2: Connectors

3 Electrical Specification

Parameter	Specification
Frequency	1575 ± 3 MHz
VSWR	max. 2
Bandwidth	min. 10 MHz
Impedance	50 Ω
Peak Gain	4 dBic min. (on 7cm x 7cm ground plane)
Gain Coverage	≥ -4dBic at -90° ≤ θ ≤ 90° (over 75% volume)
Power Handling	1 watt
Polarization	RHCP
Amplifier Gain	typ. 27 dB (without cable)
Noise Figure	typ. 1.8 dB
Output VSWR	max. 2.0
DC Voltage	2.7 to 6.0 V DC
DC Current	typ 8.5 mA, ± 4.5 mA

Table 2: Electrical Specification

4 Environmental Specification

Parameter	Specification
Operating Temperature	-40 °C ... +85 °C
Storage Temperature	-40 °C ... +85 °C
Vibration	Sine Sweep, 1G(0-P), 10-150-10Hz each axis
Humidity	95%~100% RH
IP Code (IP Protection Rating)	IP56: protected against dust and powerful water jets

Table 3: Environmental Specification

5 Ordering information

Ordering No.	Product
ANN-MS-0-005-0	Active Antenna, 5m cable, SMA connector Single units
ANN-MS-1-005-0	Active Antenna, 5m cable, SMB connector Single units
ANN-MS-2-005-0	Active Antenna, 5m cable, MCX connector Single units
ANN-MS-3-005-0	Active Antenna, 5m cable, FAKRA connector Single units

Table 4: Product Ordering Codes

Revision history

Revision	Date	Name	Status / Comments
-	4. Apr. 03	gzur	Initial Release
A	30. Oct. 03	gzur	New support address in Asia
B	02. Feb. 06	gzur	RoHS Statement, table 2 (wider supply voltage range, lower power consumption)
C	20. Jul 06	gzur	Section 2.3 and 5: New ANN-MS-3 with FAKRA connector
D	13. Dec. 07	tgri	Connectors, CI
D1	16. Jan 08	tgri	Connectors
D2	29 May 08	tgri	Electrical Specification
D3	16 Jan 09	tgri	IP Code
E	5 May 10	tgri	New CI, info FAKRA connector
E1	28 Oct. 10	tgri	Corrected voltage range in overview

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