

# Product Summary

# ANN-MS series

## High performance active GPS antennas

### Highlights

- High performance active GPS antenna
- Low noise figure and high gain coverage
- Fast and easy integration
- No antenna know-how necessary
- Magnetic base suitable for mounting on car roof
- Industrial temperature range:  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$



48 x 40 x 13 mm, 5 m coaxial cable

### Product description

The high performance ANN-MS active GPS antenna with integrated low-noise amplifier (LNA) is the perfect match to u-blox GPS receivers where high sensitivity and optimum sky coverage are essential. ANN-MS offers the high performance to exploit the full capabilities of all u-blox GPS receivers, and can be operated at a supply voltage of 2.7 to 5.5 V.

### Patch antenna characteristics

Frequency	$1575 \pm 3\text{ MHz}$
VSWR	Max. 2.0
Bandwidth	Min. 20 MHz
Impedance	$50\ \Omega$
Peak gain	Min. 4 dBic (on 7 x 7 cm ground plane)
Gain coverage	$\geq -4\text{ dBic}$ , at $-90^{\circ} \leq \theta \leq +90^{\circ}$ (over 75% volume)
Polarization	RHCP (right-handed circular polarization)

### Amplifier characteristics

Gain without cable	Typ. 29 dB
Noise figure	Max. 0.9 dB
Output VSWR	Max. 2.0
DC voltage	2.7 V – 5.5 V
DC current	Typ 8.5 mA, $\pm 4.5\text{ mA}$

### Mechanical data

Weight	42 g (without cable)
Size	48 x 40 x 13 mm
Cable	5 m RG174 standard
Connectors (choice)	SMA, SMB, MCX
Mounting	Magnetic base
Housing color	Black

### Environmental data

Operating temperature	$-40^{\circ}\text{C}$ to $+85^{\circ}\text{C}$
Storage temperature	$-40^{\circ}\text{C}$ to $+85^{\circ}\text{C}$
Humidity	40 % ~ 95 % RH
Vibration	Sine sweep 1 G (0-Peak), 10–150–10 Hz each axis

### CE approval

Applicable standards	ETSI EN 301 489-19
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### Product variants

ANN-MS-0-005-0	Active GPS antenna with SMA connector
ANN-MS-1-005-0	Active GPS antenna with SMB connector
ANN-MS-2-005-0	Active GPS antenna with MCX connector

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### Further information

For contact information, see [www.u-blox.com/contact-us](http://www.u-blox.com/contact-us).

For more product details and ordering information, see the product data sheet.

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