

# ANN-MS

## High performance active GPS antenna

### 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  $+85^{\circ}\text{C}$



ANN-MS:  
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 6 V.

### Patch antenna characteristics

|               |  |
|---------------|--|
| Frequency     | 1575 $\pm$ 3 MHz   |
| VSWR          | Max. 2   |
| Bandwidth     | Min. 10 MHz  |
| Impedance     | 50 $\Omega$  |
| Peak gain     | Min. 4 dBic<br>(over 7 x 7 cm ground plane)  |
| Gain coverage | $\geq -4$ dBic, at $-90^{\circ}\text{C} \leq \theta \leq +90^{\circ}\text{C}$<br>(over 75% volume) |
| Polarization  | RHCP (Right-handed circular polarization)  |

### Amplifier characteristics

|                    |                          |
|--------------------|--------------------------|
| Gain without cable | Typ. 27 dB               |
| Noise figure       | Max. 1.8 dB              |
| Output VWSR        | Max. 2.0                 |
| DC Voltage         | 2.7 V – 6 V              |
| DC Current         | typ 8.5 mA, $\pm$ 4.5 mA |

### Ordering information

|                |   |
|----------------|---|
| ANN-MS-0-005-0 | ANN active GPS antennas with 5m cable and SMA connector |
| ANN-MS-1-005-0 | ANN Active GPS Antenna 5m cable, SMB connector          |
| ANN-MS-2-005-0 | ANN Active GPS Antenna 5m cable, MCX connector          |
| ANN-MS-3-005-0 | ANN Active GPS Antenna 5m cable, FAKRA connector        |

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### Mechanical data

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

### Environmental data

|                       |   |
|-----------------------|---|
| Operating temperature | $-40^{\circ}\text{C}$ to $85^{\circ}\text{C}$     |
| Storage temperature   | $-50^{\circ}\text{C}$ to $85^{\circ}\text{C}$     |
| Humidity              | 40% ~ 95% RH                                      |
| Vibration             | Sine sweep 1G (0-Peak),<br>10–150–10 Hz each axis |

### CE approval

|                      |                    |
|----------------------|--------------------|
| Applicable Standards | ETSI EN 301 489-19 |
|----------------------|--------------------|

### Contact us

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