



Product summary

ANN-MB3

L1/L2/L5 triple-band, high precision GNSS antenna

Easy-to-use, reliable triple-band antenna as part of u-blox high precision solution

- Robust L1, L2, L5 triple-band active GNSS antenna for mass-market applications
- Supports all major GNSS systems for maximum position availability
- Enables fast time to market
- Versatile mounting options to meet diverse installation needs



60.0 x 82.0 x 25.5 mm

Product description

The u-blox ANN-MB3 triple-band (L1/L2/L5) active GNSS antenna is designed to reduce time-to-market for modern multi-frequency, multi-constellation, high precision GNSS applications, which require centimeter-level accuracy and a reliable RTK positioning fix even in challenging environments.

ANN-MB3 integrates an additional notch filter (LTE B13) in L1 RF path, and provides the best possible out-of-band interference mitigation. The ANN-MB3 antenna is a perfect solution for the u-blox triple-band F20 high precision platform (e.g. ZED-F20P), and the u-blox F9 high precision products that support L1, L2 and L5 bands.

With ANN-MB3, customers have a reliable, compact, ready-to-use triple-band antenna that streamlines evaluation, minimizes design efforts, and speeds up mass adoption.

Patch antenna characteristics¹

| | L1 Band | L2/L5/E5 Band |
|----------------------|-------------------|--|
| Frequency | 1559 - 1606 MHz | 1166 - 1249 MHz |
| Impedance | 50 Ω | 50 Ω |
| Peak gain (Zenith) | Typ. 3.2 dBic | L2: Typ. 4.3 dBic L5: Typ. 3.8 dBic E5b: Typ. 5.5 dBic |
| Efficiency | Typ. 50% | L2: Typ. 62% L5: Typ. 50% E5b: Typ. 75% |
| Axial ratio (Zenith) | Typ. 1.0 - 2.5 dB | Typ. 1.0 - 2.5 dB |
| Polarization | RHCP | RHCP |

¹ Measured on \varnothing 12 cm ground plane

Amplifier characteristics¹

| | L1 Band | L2/L5/E5 Band |
|-----------------------------|-----------------|-----------------|
| Frequency | 1559 - 1606 MHz | 1166 - 1249 MHz |
| Gain without cable (at 5 V) | 30 \pm 3.0 dB | 31 \pm 3.0 dB |
| Noise figure (at 5 V) | Max. 3.0 dB | Max. 3.0 dB |
| Output VWSR | Max. 2.0 | Max. 2.0 |
| DC voltage | 3.0 – 5.0 V | |
| DC current (at 5 V) | Typ. 17.0 mA | |

Mechanical data

| | |
|---------------------|--|
| Weight | 175 g (typ. including cable) |
| Size | 60.0 x 82.0 x 25.5 mm |
| Cable | 5 m RG174 standard |
| Connectors (choice) | SMA |
| Mounting | Magnetic base, fixed installation option |
| Housing color | Black |

Certifications and approvals

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|-------------|--|
| CE approval | Based on Radio Equipment Directive (RED) 2014/53/EU and the Restriction of the use of certain Hazardous Substances Directive (RoHS) 2011/65/EU and 2015/863/EU |
|-------------|--|

Environmental data

| | |
|-----------------------|------------------|
| Operating temperature | –40 °C to +85 °C |
| Storage temperature | –40 °C to +85 °C |
| Water proof | IP 67 |

Product variants

| | |
|------------|---|
| ANN-MB3-00 | Multi-band (L1/L2/L5) active GNSS antenna, high precision, with 5 m cable and SMA connector |
|------------|---|

Further information

For contact information, see www.u-blox.com/contact-u-blox.

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