

Product summary

ANN-MB3

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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 Ø12 cm ground plane

Amplifier characteristics¹

	L1 Band	L2/L5/E5 Band
Frequency	1559 - 1606 MHz	1166 - 1249 MHz
Gain without cable	30 ± 3.0 dB (at 5 V)	31 ± 3.0 dB
Noise figure	Max. 3.0 dB (at 5 V)	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

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
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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
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Further information

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

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