

ANN-MB2 antenna

All-band high precision GNSS antenna

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

- Robust L1/L2/L5/E6/B3/L active external GNSS antenna
- High performance all-band antenna for the mass-market
- Supports all major GNSS systems for maximum position availability
- Versatile mounting options to meet diverse installation needs
- Enables fast time-to-market



108.5 x 92.9 x 24.7 mm

Product description

The u-blox ANN-MB2 multi-band (L1/L2/L5/E6/B3/L) active GNSS antenna is designed to reduce time-to-market for modern wide-frequency, multi-constellation, high precision GNSS applications. These require centimeter-level accuracy and a reliable RTK positioning fix even in challenging environments. Its robust design, excellent price-to-performance ratio, and flexible mounting options make the ANN-MB2 an ideal choice for mass market applications requiring an all-band high precision GNSS antenna.

The ANN-MB2 is a perfect match to the u-blox all-band X20 high precision platform (e.g. ZED-X20P), and the u-blox F9 high precision products that support L1, L2, and L5 bands along with the L-band for RTK corrections (e.g. ZED-F9K, ZED-F9P, LEA-F9T, and ZED-F9T). With ANN-MB2, customers have a reliable, ready-to-use all-band antenna that streamlines evaluation, minimizes design efforts, and speeds up mass adoption.

Patch antenna characteristics¹

	L/L1 band	L5/L2/B3/E6 band
Frequency	1535 - 1602 MHz	1166 - 1285 MHz
Impedance	50 Ω	50 Ω
Peak gain (Zenith)	L: Typ. 5.4 dBic L1: Typ. 5.0 dBic	L5: Typ. 4.5 dBic L2: Typ. 5.0 dBic E6: Typ. 4.2 dBic
Efficiency	L: Typ. 64% L1: Typ. 56%	L5: Typ. 55% L2: Typ. 60% E6: Typ. 50%
Axial ratio (Zenith)	Typ. 0.5-1.3 dB	Typ. 1.9-2.9 dB
Polarization	RHCP	RHCP

¹ Measured on Ø12 cm ground plane.

Amplifier characteristics

	L/L1 band	L5/L2/B3/E6 band
Frequency	1535 - 1602 MHz	1166 - 1285 MHz
Gain without cable (at 5 V)	Typ. 31.0 ±3 dB	Typ. 31.5 ±3 dB
Noise figure (at 5 V)	Typ. 3 dB	Typ. 2.5 dB
Output VSWR	Typ. 2.0	Typ. 2.0
DC voltage	3.0 – 5.0 V	
DC current (at 5 V)	Typ. 15.0 mA	

Mechanical data

Weight	260 g (typ. including cable)
Size	108.5 x 92.9 x 24.7 mm
Cable	5 m RG174 standard
Connector	SMA
Mounting	Magnetic base, fixed installation option (screw)
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 temp.	-40 °C to +85 °C
Storage temp.	-40° C to +85 °C
Water proof	IP 67

Product variants

ANN-MB2-00	Multi-band (L1/L2/L5/E6/B3/L) active GNSS antenna, high precision, with 5-meter cable and SMA connector
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