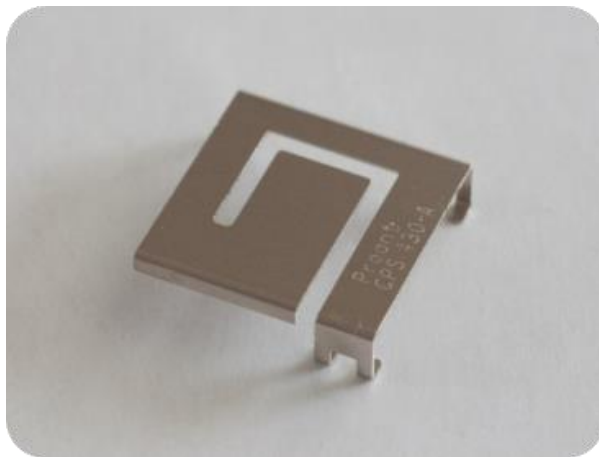


General information

Small antenna for embedded products on the GNSS frequency bands. The antenna provides omnidirectional radiation properties suitable for many applications with arbitrary sky angle.

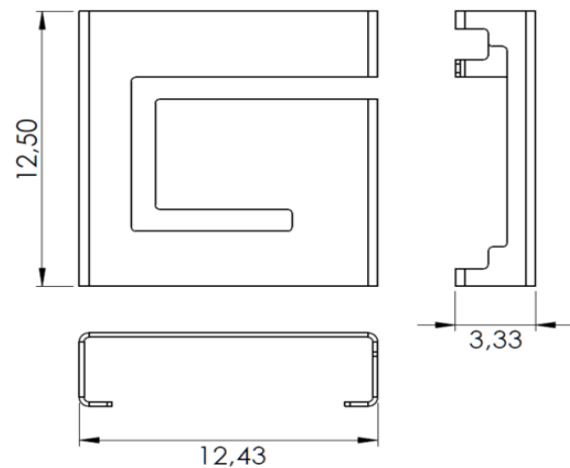


Technical data

Frequency	1560 - 1602 MHz
Impedance	50 Ω
Return loss*	< -8.4 dB
Total efficiency*	> -2.6 dB (55%)
Gain*	Max 0.7 dBi
Dimensions (LxWxH)	12.50 x 12.43 x 3.33 mm (0.492 x 0.489 x 0.131 in)
RoHS status	Compliant with EU directive 2011/65/EU and 2015/863
Shelf life	10 years
MSL	Level 1, unlimited
Mechanical resistance	Immunity to vibrations IEC/EN 60068-2-6, Fc test Immunity to shock IEC/EN 60068-2-27, Ea test

Applications

- IoT-devices
- M2M-communications
- Telemetry
- Automated meter reading
- Alarms
- Tracking devices

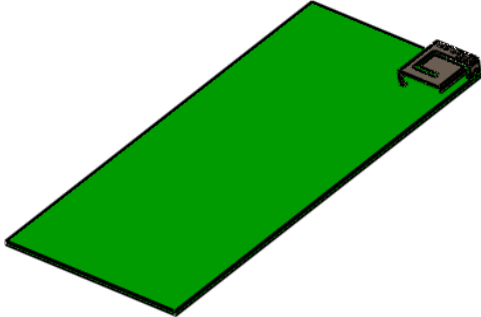


Antenna drawing. Above dimensions are given in millimeter.

*Measured on Proant evaluation board, PRO-EB-453. Values given within the 1575-1602 MHz frequency spectra.

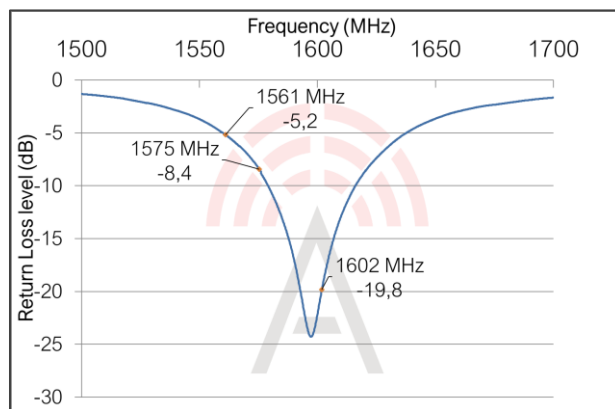
Electrical performance

Measurement setup

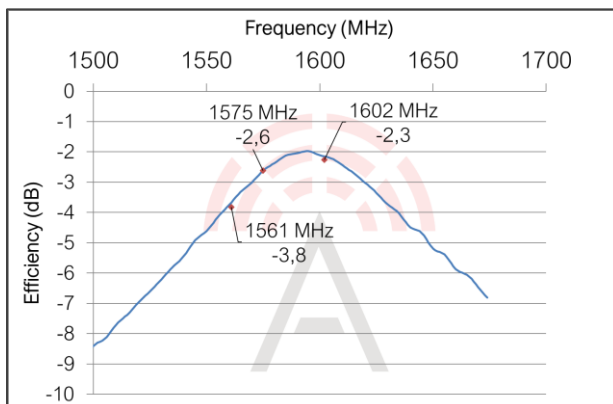


The antenna measurements were done with the OnBoard SMD GNSS evaluation board (PRO-EB-453, 100 x 50 mm) - measured in free space.

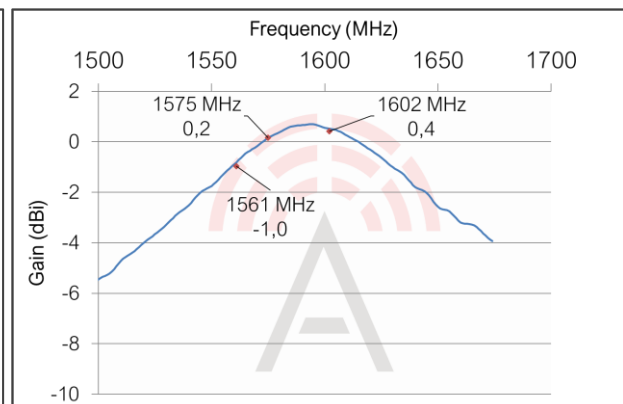
Return loss



Total radiation efficiency

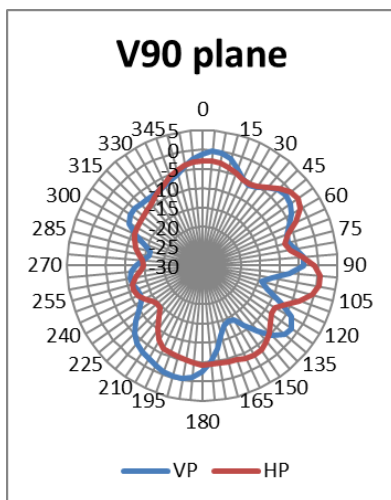
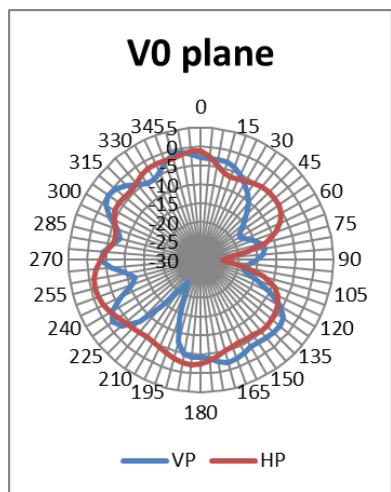
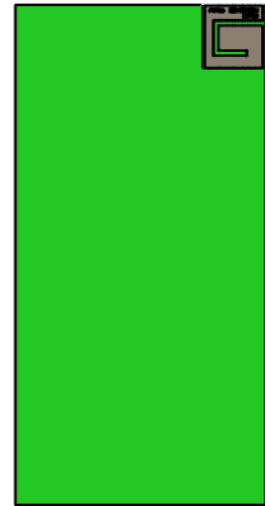
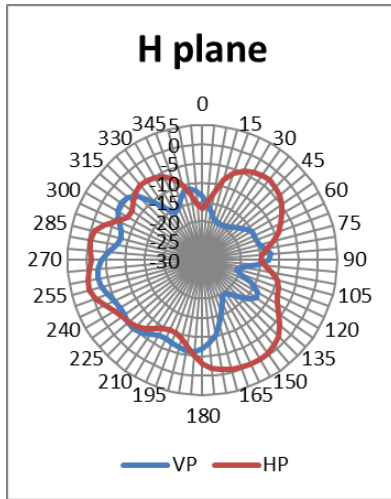


Maximum radiation gain



Radiation pattern, 1590 MHz

Board rotation



Intended applications

The antenna is optimized for the 1.5-1.6 GHz band, which is utilized by the GNSS systems, which is defined by several frequency bands. Some of the supported bands are:

GPS L1	1575.42 MHz
GLONASS L1	1602 MHz
BeiDou/COMPASS E1	1589.74 MHz
BeiDou/COMPASS E2	1561.10 MHz
Galileo E1	1575.42 MHz

Ordering information

Part number	Part name	Details
PRO-OB-430	OnBoard SMD GNSS	Antenna for GPS and GLONASS.
PRO-EB-453	Evaluation board, Onboard SMD GNSS	Evaluation board with PRO-OB-430 for GNSS applications.

For information on sales, delivery terms and conditions and prices, please visit the Proant website (www.proant.se) for a complete list of distributors.

Proant offers consultation with design-in of the OnBoard SMD antennas. Proant have all necessary capabilities for antenna design including anechoic chamber and prototype workshop. Please send your requests to info@proant.se.

Disclaimer

The information given in this application note shall in no event be regarded as a guarantee of conditions or characteristics. With respect to any examples or hints given herein, any typical values stated herein and/or any information regarding the application of the device, Proant AB hereby disclaims any and all warranties and liabilities of any kind, including without limitation, warranties of non-infringement of intellectual property rights of any third party.