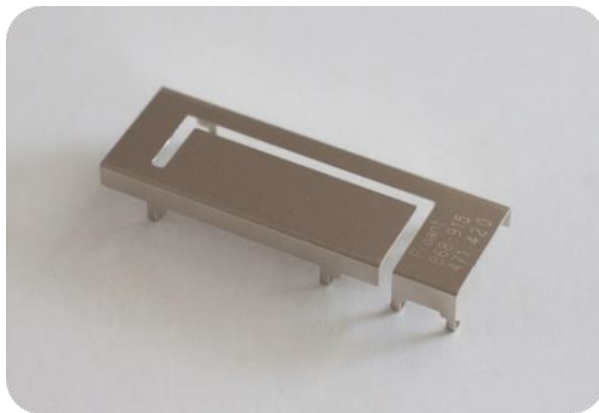


General information

Small antenna for embedded products on the 868 or 915 MHz ISM band. The antenna is a combination of small size, low cost and high performance.

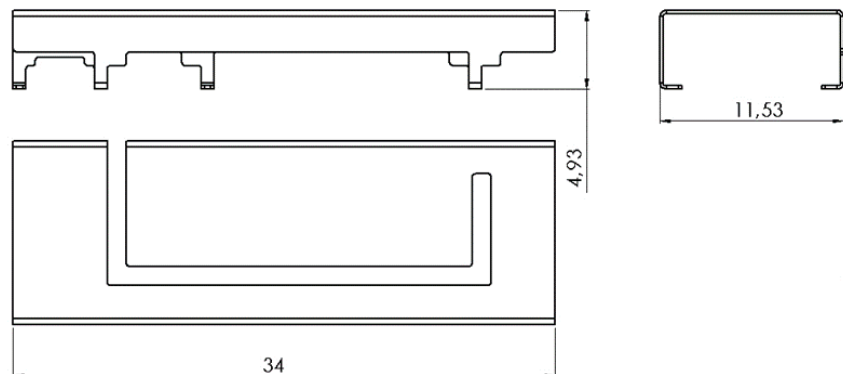


Technical data

Frequency	860 - 870 or 902 - 928 MHz
Impedance	50 Ω
Return loss*	< -9.9 dB, 860 - 870 MHz < -6.6 dB, 902 - 928 MHz
Total efficiency*	> -2.0 dB (63%), 860 - 870 MHz > -3.0 dB (50%), 902 - 928 MHz
Gain*	Max 1.7 dBi, 860 - 870 MHz Max 2.4 dBi, 902 - 928 MHz
Dimensions (LxWxH)	34.00 x 11.53 x 4.93 mm (1.339 x 0.454 x 0.194 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

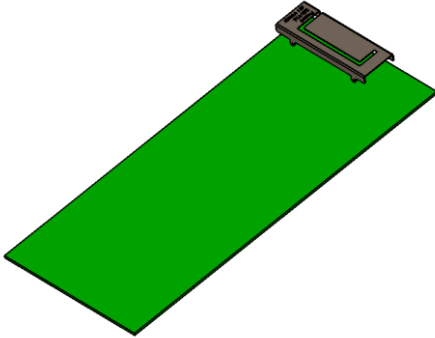


Antenna drawing. Above dimensions are given in millimeter.

*Measured on Proant evaluation board, PRO-EB-472 (860 - 870 MHz) and PRO-EB-476 (902 - 928 MHz).

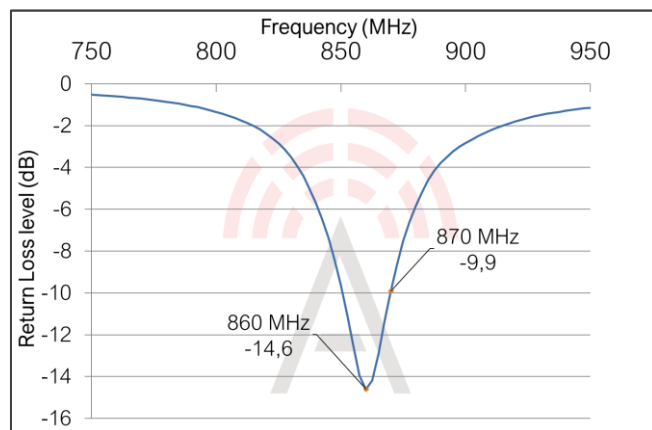
Electrical performance, 868 MHz

Measurement setup

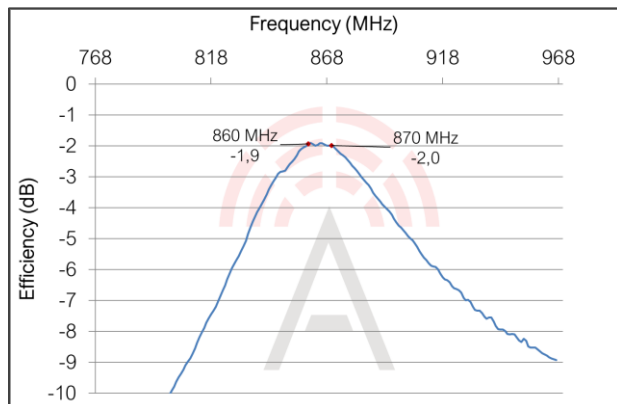


The antenna measurements were done with the OnBoard SMD 868 MHz evaluation board (PRO-EB-472, 120 x 50 mm) - measured in free space.

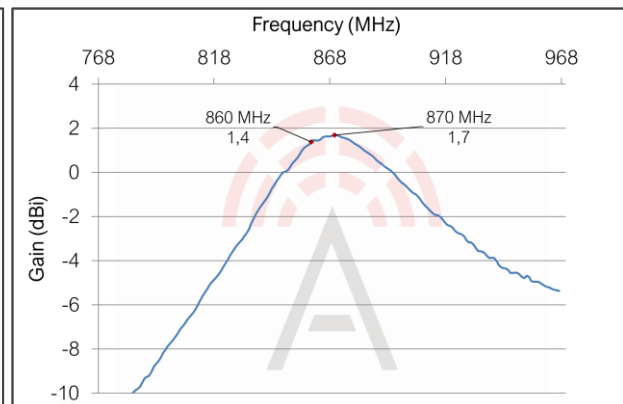
Return loss



Total radiation efficiency

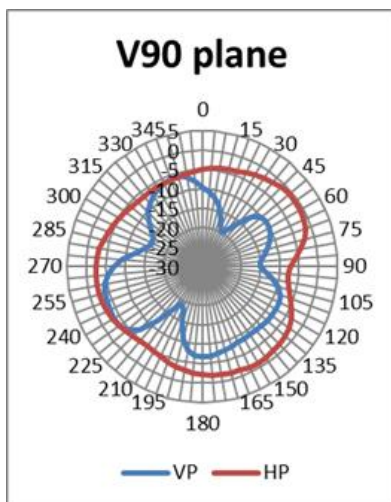
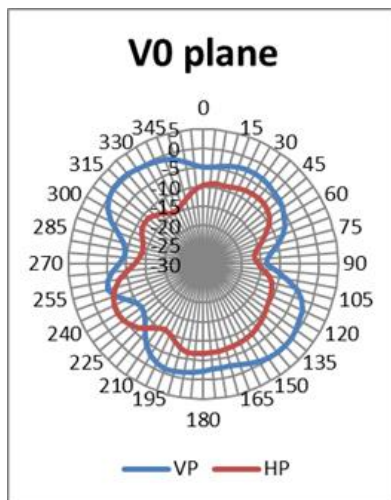
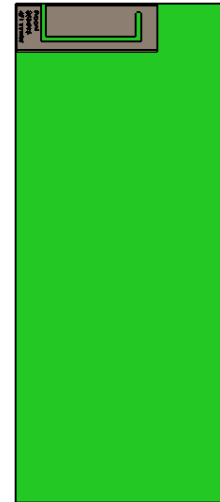
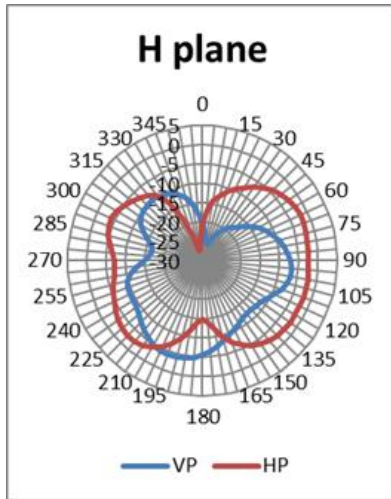


Maximum radiation gain



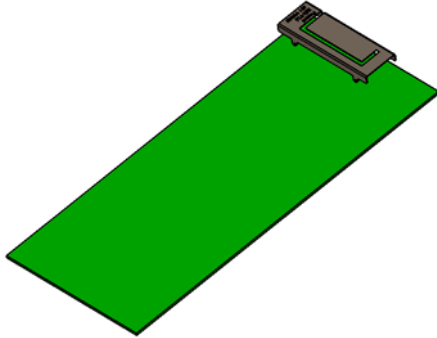
Radiation pattern, 868 MHz

Board rotation



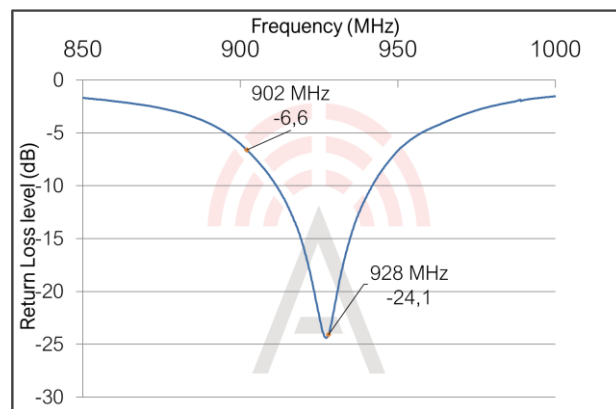
Electrical performance, 915 MHz

Measurement setup

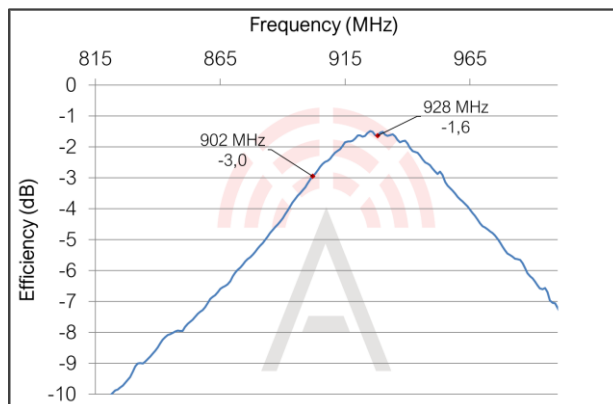


The antenna measurements were done with the OnBoard SMD 915 MHz evaluation board (PRO-EB-476, 120 x 50 mm) - measured in free space.

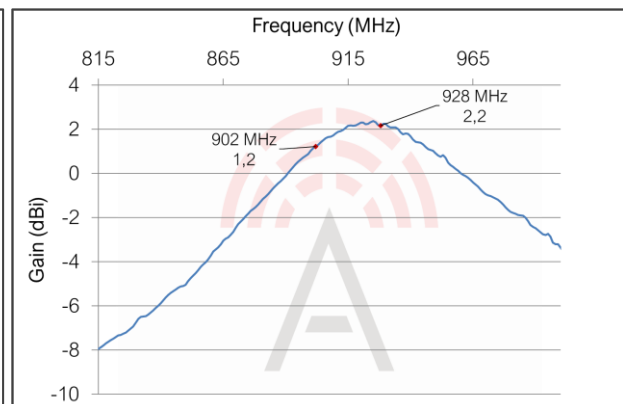
Return loss



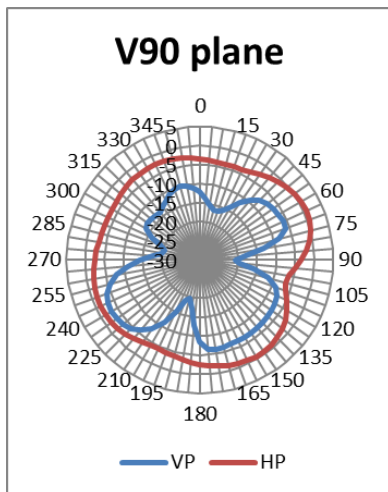
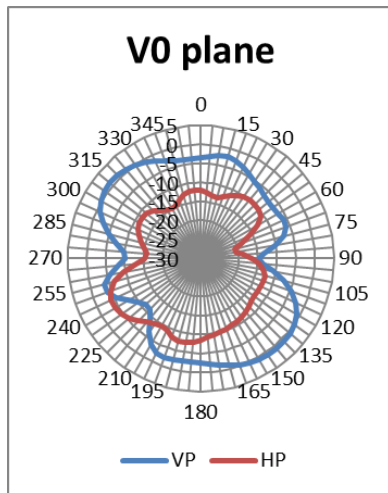
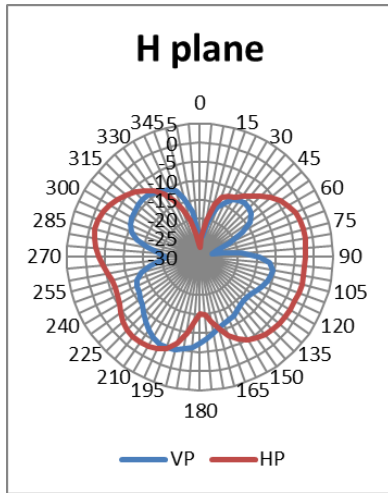
Total radiation efficiency



Maximum radiation gain



Radiation pattern, 915 MHz



Board rotation



Intended applications

The antenna is optimized for the 860 - 870 MHz or the 902 - 928 MHz license free bands. Some of the supported bands are:

ZigBee	IEEE 802.15.4	868.0 - 868.6 MHz 902 - 928 MHz
Z-Wave		868 MHz 900 - 921 MHz
EnOcean	ISO/IEC 14543-3-10	868 MHz 902 - 928 MHz
Sigfox		868 MHz
Wireless M-Bus	EN 13757-4:2013 mode S EN 13757-4:2013 mode T EN 13757-4:2013 mode R2 EN 13757-4:2013 mode C	868.0-868.6 MHz 868.0-869.2 MHz 868.0-868.6 MHz 868.7-869.65 MHz
LoRa	EU US AU IN	863 - 870 MHz 902 - 928 MHz 915 - 928 MHz 865 - 867 MHz

Ordering information

Part number	Part name	Details
PRO-OB-471	OnBoard SMD 868/915 MHz	Antenna for 860 - 870 MHz or 902 - 928 MHz.
PRO-EB-472	Evaluation board, OnBoard SMD 868/915 MHz	Evaluation board with PRO-OB-471, operation in 860 - 870 MHz.
PRO-EB-476	Evaluation board, OnBoard SMD 868/915 MHz	Evaluation board with PRO-OB-471, operation in 902 - 928 MHz.

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

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