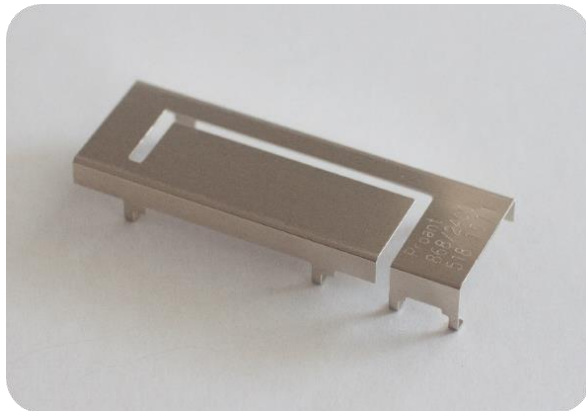


General information

The OnBoard SMD 868 + 2400 MHz antenna is a combination of small size, low cost and high performance. It is designed for embedded products on the 868 and 2400 MHz ISM bands, suitable for applications in 6LoWPAN and ZigBee etc.

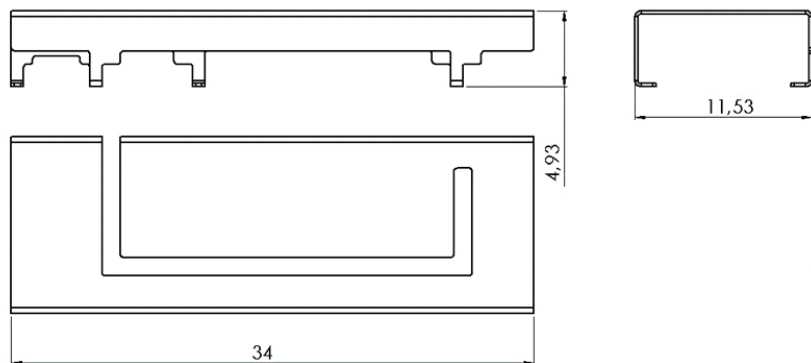


Technical data

Frequency	860 - 870, 2400 - 2500 MHz
Impedance	50 Ω
Return loss*	< -8.3 dB, 860 - 870 MHz < -4.3 dB, 2400 - 2500 MHz
Total efficiency*	> -3.1 dB (49%), 860 - 870 MHz > -3.7 dB (43%), 2400 - 2500 MHz
Gain*	Max 1 dBi, 860 - 870 MHz Max 3.8 dBi, 2400 - 2500 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

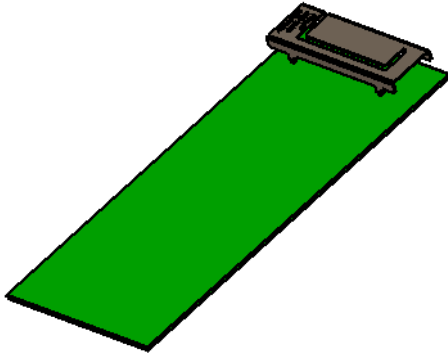


Antenna drawing. Above dimensions are given in millimeter.

*Measured on Proant evaluation board, PRO-EB-531.

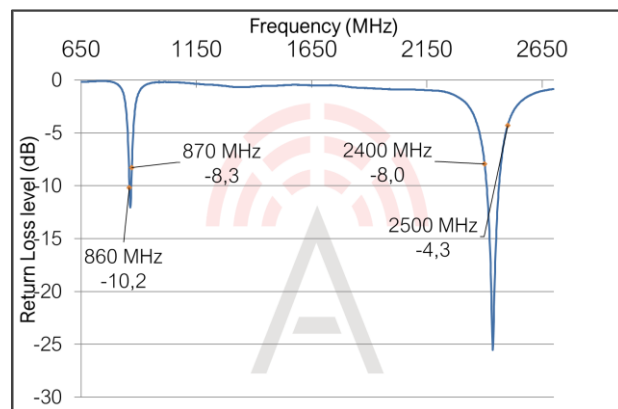
Electrical performance

Measurement setup

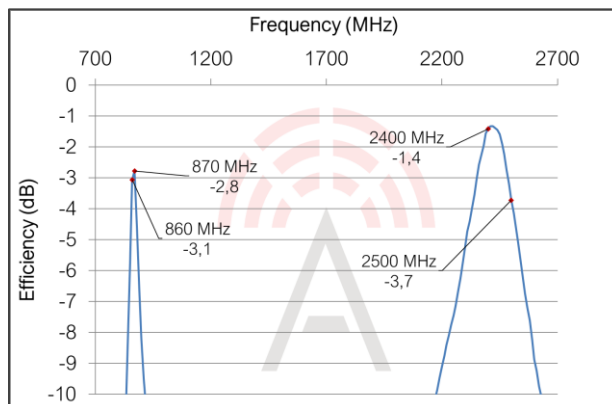


The antenna measurements were done with the OnBoard SMD 868 + 2400 evaluation board (PRO-EB-531, 95 x 38 mm) - measured in free space.

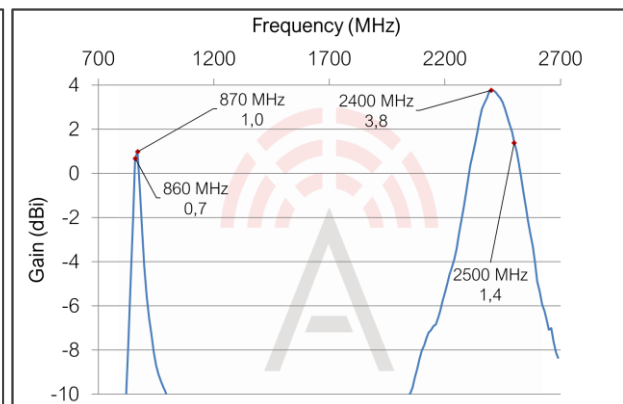
Return loss



Total radiation efficiency

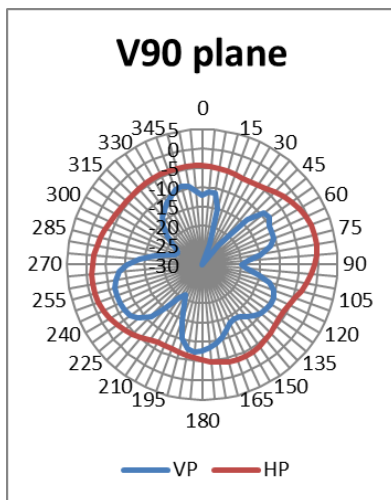
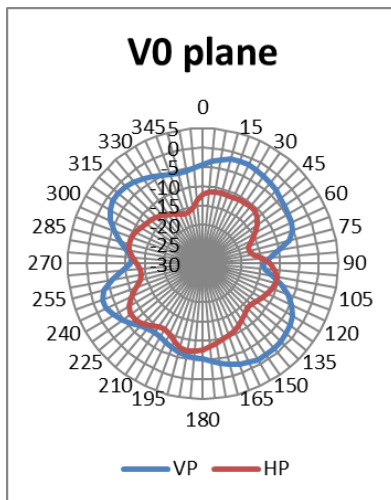
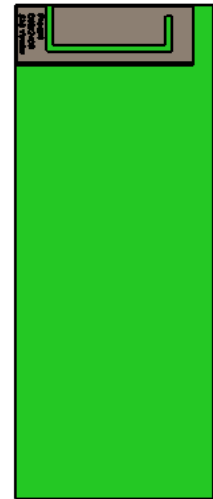
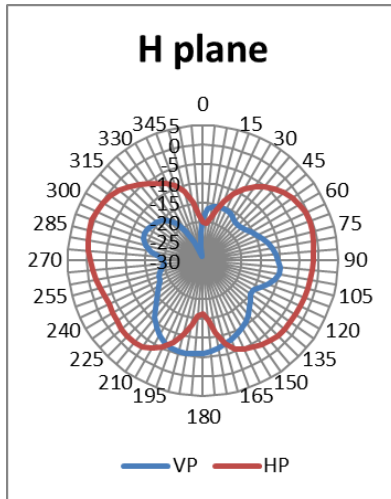


Maximum radiation gain



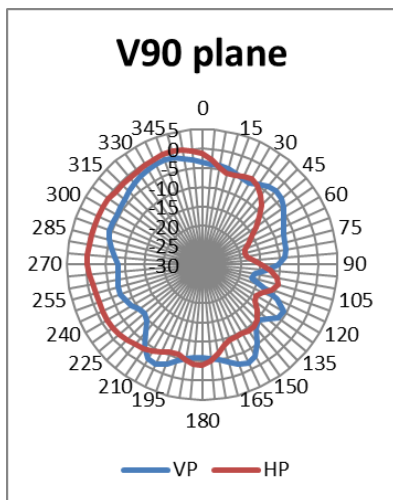
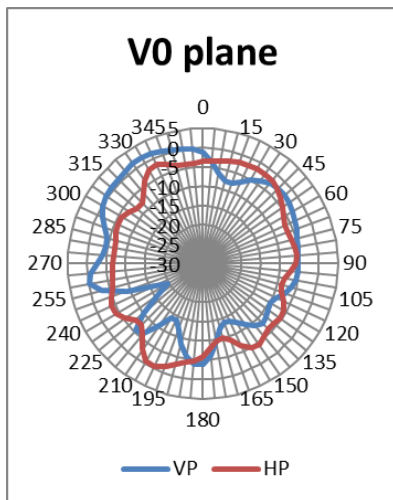
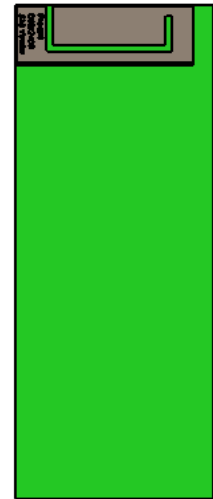
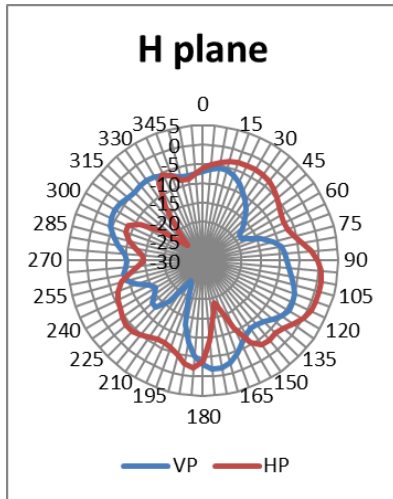
Radiation pattern, 868 MHz

Board rotation



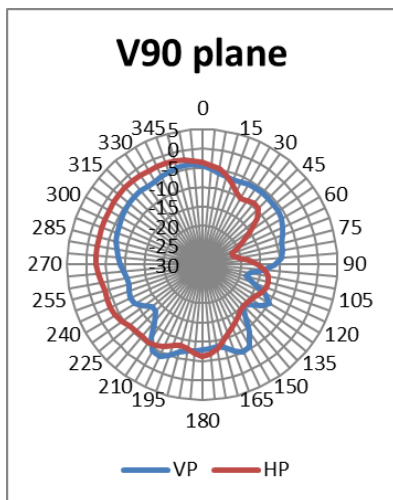
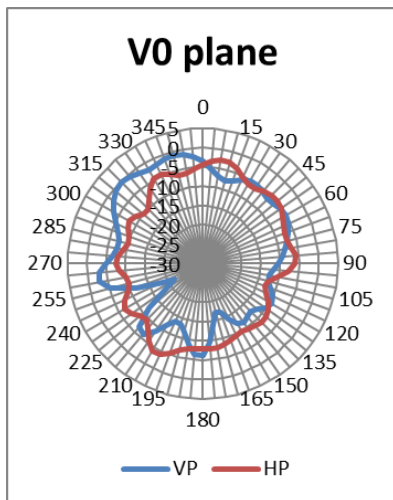
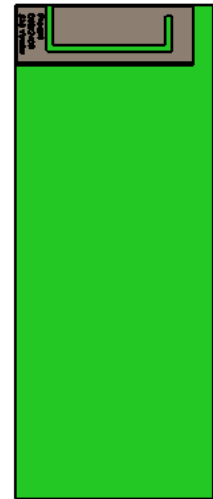
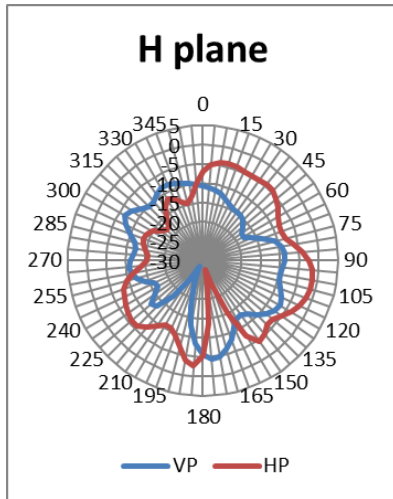
Radiation pattern, 2400 MHz

Board rotation



Radiation pattern, 2500 MHz

Board rotation



Intended applications

The antenna is optimized for the 868 and 2400 MHz bands, which is defined by several frequency bands. Some of the supported bands are:

6LoWPAN	IEEE 802.15.4	868 MHz + 2400 MHz
ZigBee	IEEE 802.15.4	868 MHz + 2400 MHz
Z-Wave		868 MHz
EnOcean	ISO/IEC 14543-3-1	868 MHz
Bluetooth	IEEE 802.15.1	2400 - 2483.5 MHz
WirelessHART	IEEE 802.15.4	2400 - 2483.5 MHz
WLAN/Wifi	IEEE 802.11 (b, g, n)	2400 - 2497 MHz

Ordering information

Part number	Part name	Details
PRO-OB-518	OnBoard SMD 868 + 2400 MHz	Antenna for 860 - 870 MHz and 2400 - 2500 MHz.
PRO-EB-531	Evaluation board, Onboard SMD 868 + 2400 MHz	Evaluation board with PRO-OB-518 for ISM 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

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