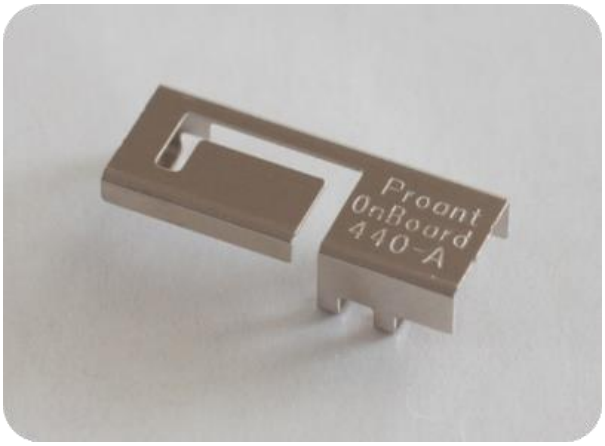
OnBoard™ SMD 2400
Datasheet

Rev 1.2
2019-09-25

General information

The OnBoard SMD 2400 antenna is a combination of small size, low cost and high performance, suitable for applications within the 2.4 GHz ISM band.



Technical data	
Frequency	2400 - 2500 MHz
Impedance	50 Ω
Return loss*	< -6.9 dB
Total efficiency*	> -1.9 dB (65%)
Gain*	Max 4.9 dBi
Dimensions (LxWxH)	13.75 x 5.23 x 3.53 mm (0.541 x 0.206 x 0.139 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

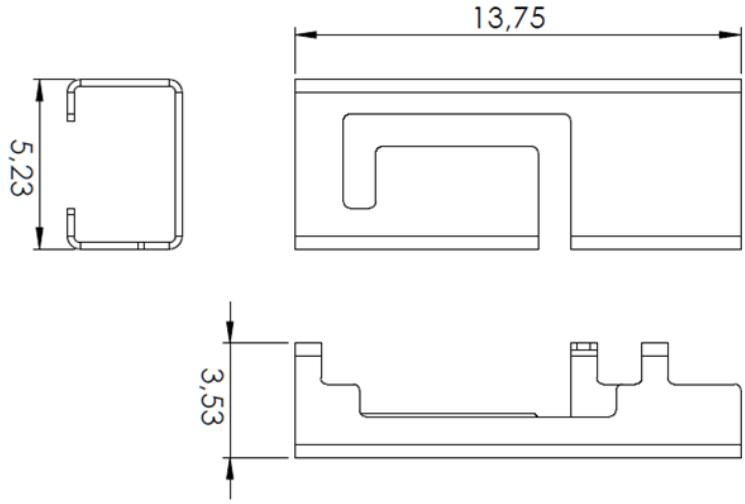
IoT-devices

M2M-commmunications

Telemetry

Automated meter reading

Alarms

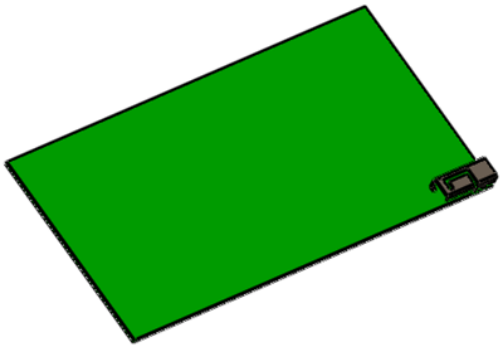


Antenna drawing. Above dimensions are given in millimeter.

**Measured on Proant evaluation board, PRO-EB-450*

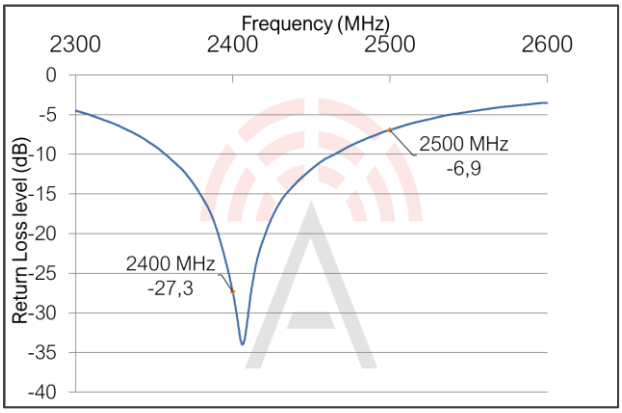
Electrical performance

Measurement setup

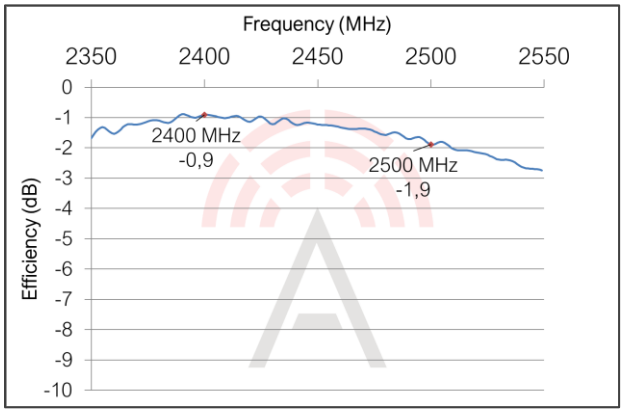


The antenna measurements were done with the OnBoard SMD 2400 evaluation board (PRO-EB-450, 100 x 50 mm) - measured in free space.

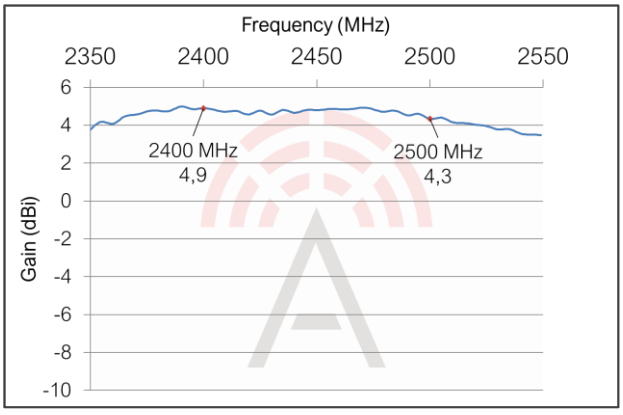
Return loss



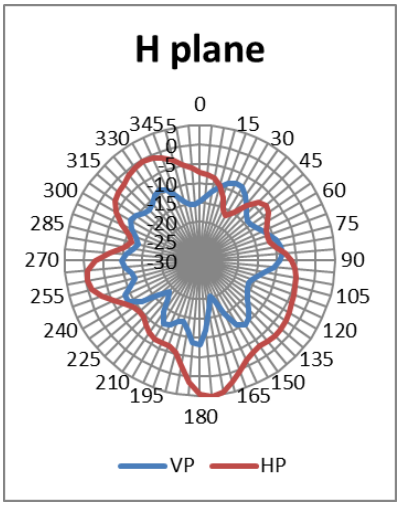
Total radiation efficiency

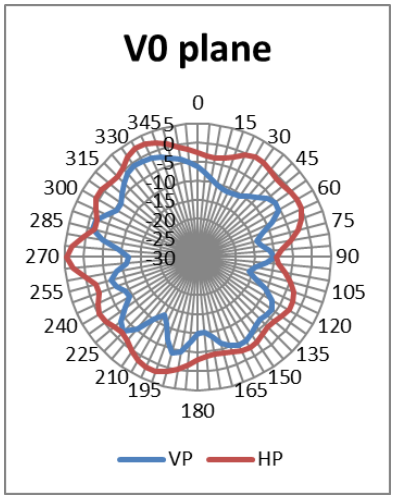


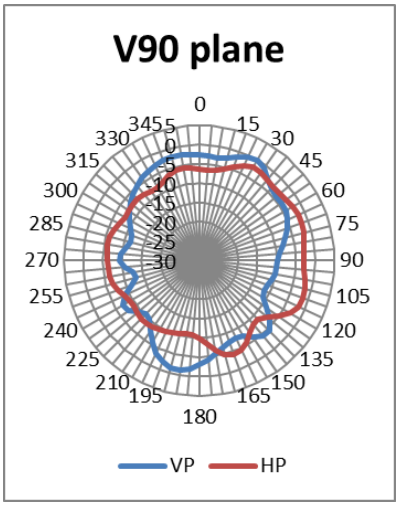
Maximum radiation gain



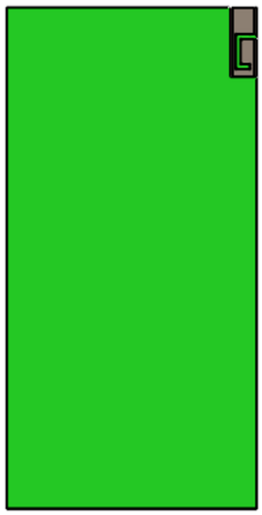
Radiation pattern, 2400 MHz



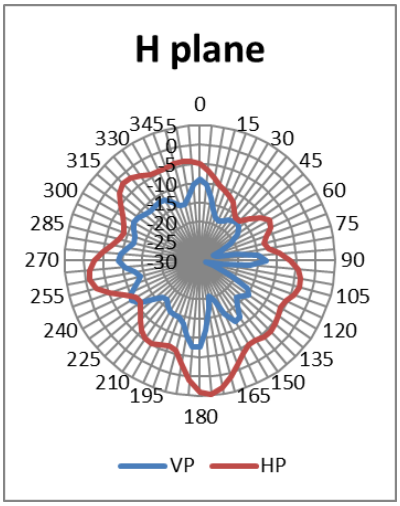




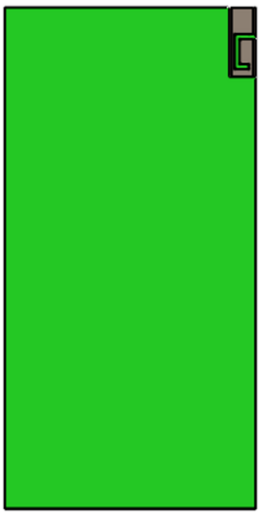
Board rotation

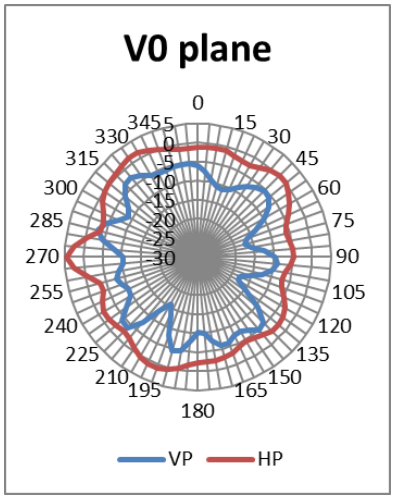


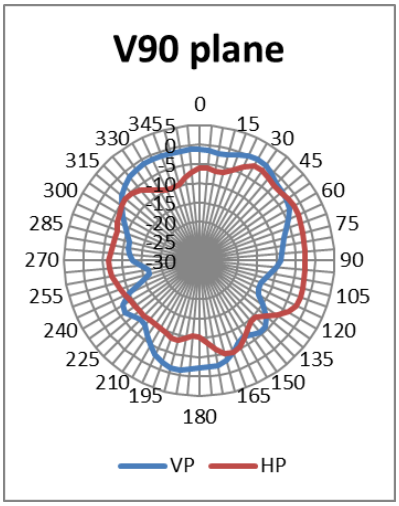
Radiation pattern, 2500 MHz



Board rotation







Intended applications

The antenna is optimized for the ISM band of 2.4 GHz, which is utilized by several protocols. Some of the applications are:

WLAN/Wifi	IEEE 802.11 (b, g, n)	2400 - 2497 MHz
Bluetooth	IEEE 802.15.1	2400 - 2483.5 MHz
ZigBee	IEEE 802.15.4	2400 - 2483.5 MHz
RFID	ISO/IEC 18000	2450 MHz
WirelessHART	IEEE 802.15.4	2400 - 2483.5 MHz

Ordering information

Part number	Part name	Details
PRO-OB-440	OnBoard SMD 2400	Antenna for 2.4 GHz ISM band.
PRO-EB-450	Evaluation board, Onboard SMD 2400	Evaluation board with PRO-OB-440 for WLAN/Wifi, Bluetooth, Zigbee, RFID, WirelessHART 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.

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