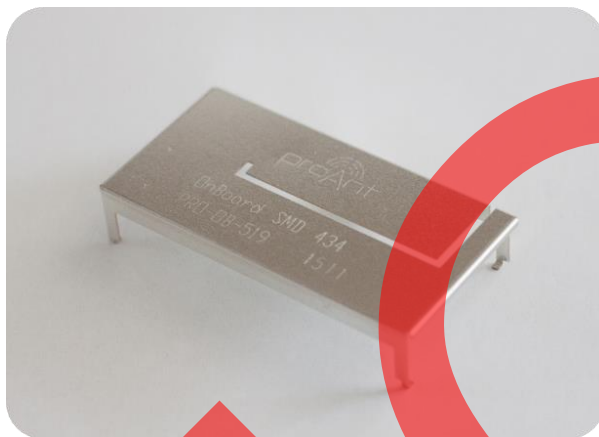


## General information

The OnBoard SMD 434 antenna is a combination of small size, low cost and high performance, suitable for applications within the 434 MHz ISM band (ISO/IEC 18000).

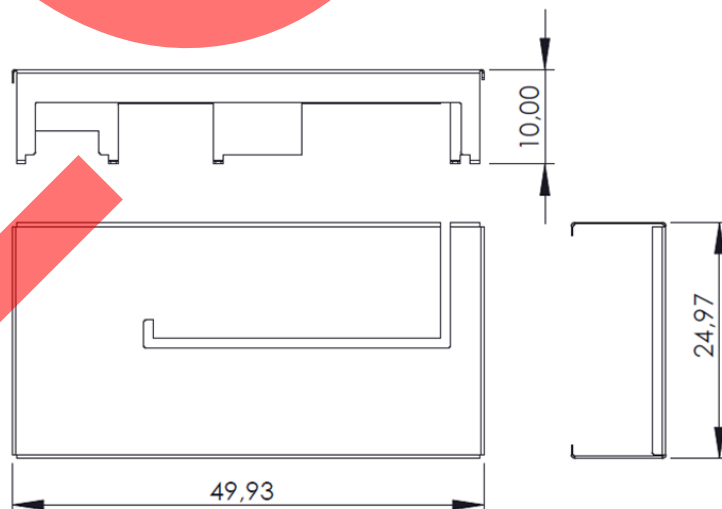


### Technical data

Frequency	434 MHz
Impedance	50 Ω
Return loss*	< -9.1 dB
Total efficiency*	> -5.2 dB (30%)
Gain*	Max -2.8 dBi
Dimensions (LxWxH)	49.93 x 24.97 x 10.00 mm (1.966 x 0.983 x 0.394 in)
RoHS status	Compliant with EU directive 2011/65/EU and 2015/863
Shelf life	10 years
MSL	Level 1, unlimited

### Applications

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

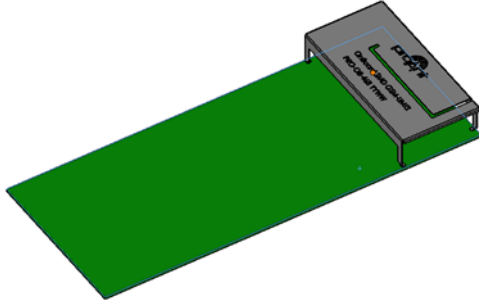


*Antenna drawing. Above dimensions are given in millimeter.*

\*Measured on Proant evaluation board, PRO-EB-533

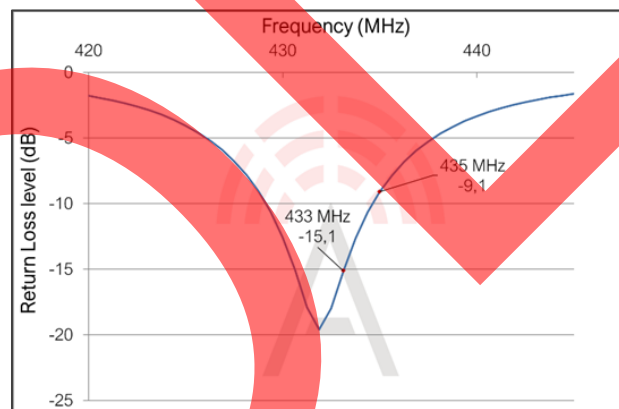
## Electrical performance

### Measurement setup

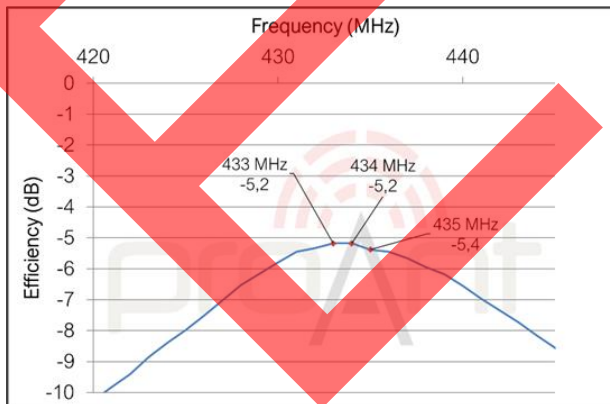


The antenna measurements were done with the OnBoard SMD 434 evaluation board (PRO-EB-533, 120 x 52 mm) - measured in free space.

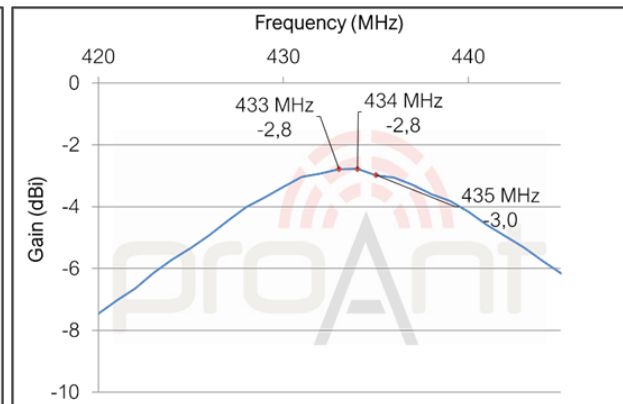
### Return loss



### Total radiation efficiency

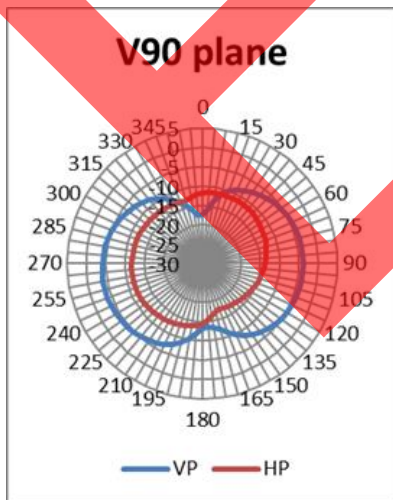
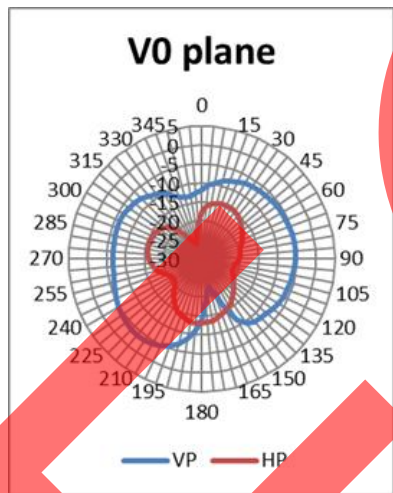
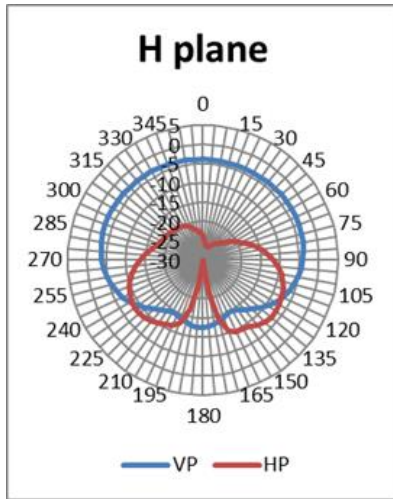


### Maximum radiation gain



### Radiation pattern, 434 MHz

Board rotation



## Intended applications

The antenna is optimized for the 434 MHz band, which is utilized by several protocols. Some of the applications are:

LoRa		434 MHz
RFID	ISO/IEC 18000	433 MHz
Wireless M-Bus	EN 13757-4:2013 mode F	433.05-434.79 MHz

## Ordering information

Part number	Part name	Details
PRO-OB-519	OnBoard SMD 434	Antenna for 434 MHz ISM band.
PRO-EB-533	Evaluation board, Onboard SMD 434	Evaluation board with PRO-OB-533 for LoRa and RFID applications.

For information on sales, delivery terms and conditions and prices, please visit the Proant website ([www.proant.se](http://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](mailto: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.