

Not recommended for new designs. Replaced by PRO-OB-572.



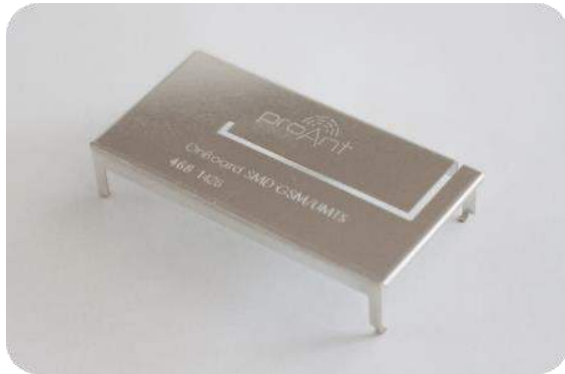
OnBoard™ SMD GSM/UMTS Datasheet

Rev 1.2
2019-09-25

General information

Not recommended for new designs. Replaced by PRO-OB-572

Small antenna for embedded products on the cellular GSM and UMTS (3G) bands.

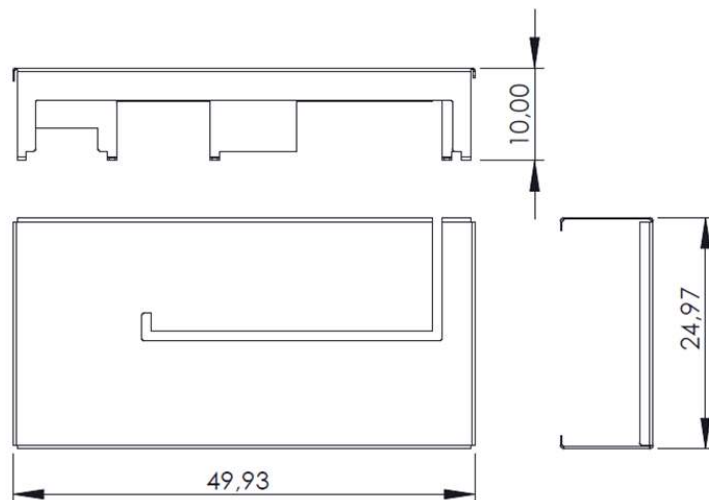


Technical data

Frequency	824 - 960, 1710 - 2170 MHz
Impedance	50 Ω
Return loss*	< -7.3 dB, 824 - 960 MHz < -6.2 dB, 1710 - 2170 MHz
Total efficiency*	> -2.4 dB (58%), 824 - 960 MHz > -2.2 dB (60%), 1710 - 2170 MHz
Gain*	Max 3.3 dBi, 824 - 960 MHz Max 4.9 dBi, 1710 - 2170 MHz
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

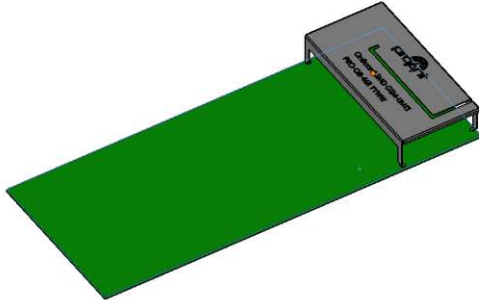


Antenna drawing. Above dimensions are given in millimeter.

**Measured on Proant evaluation board, PRO-EB-473.*

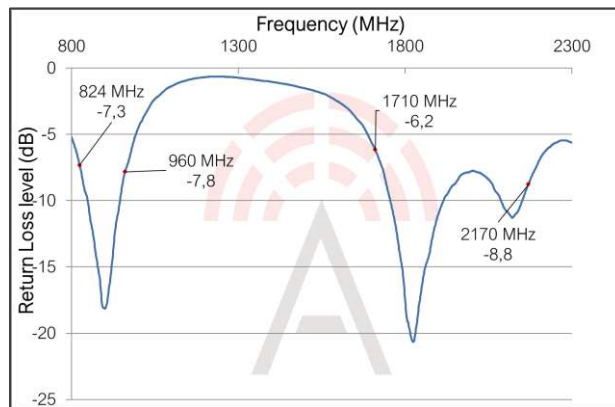
Electrical performance

Measurement setup

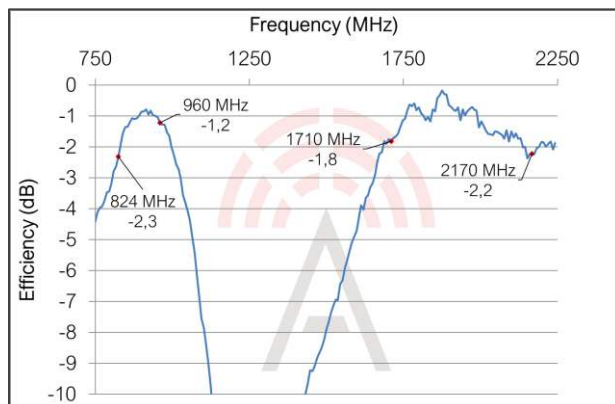


The antenna measurements were done with the OnBoard SMD GSM/UMTS evaluation board (PRO-EB-473, 120 x 52 mm) - measured in free space.

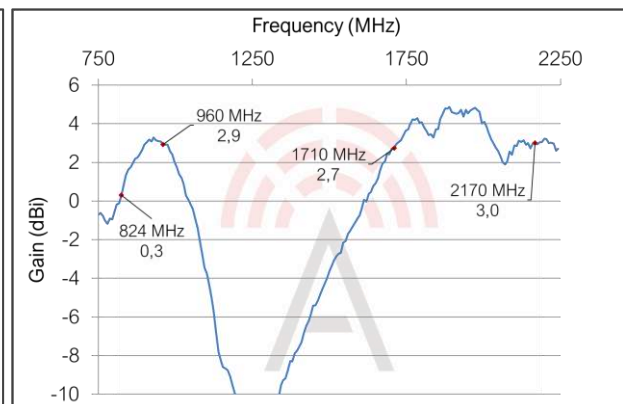
Return loss



Total radiation efficiency

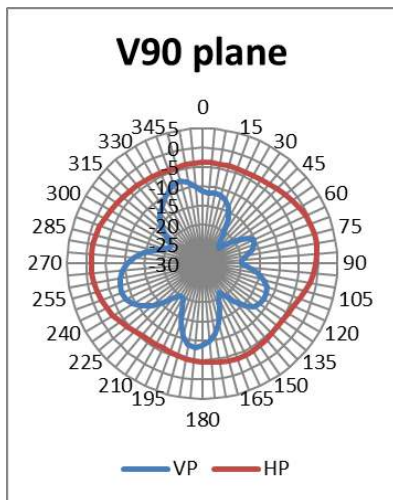
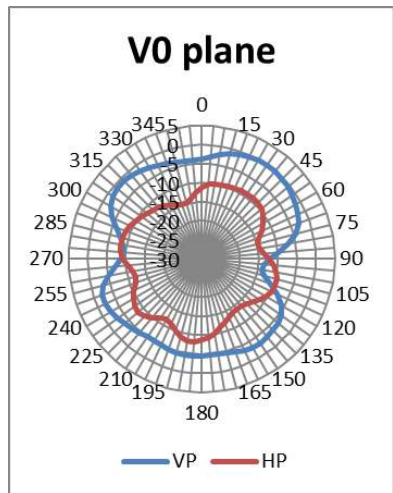
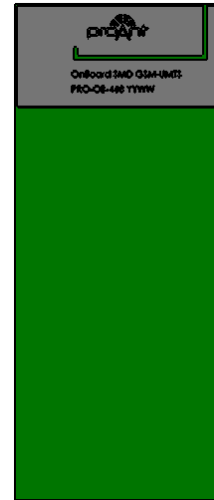
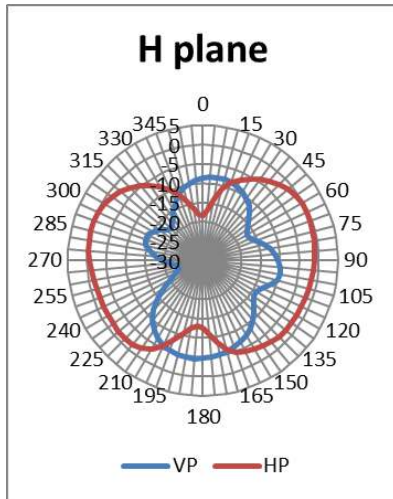


Maximum radiation gain



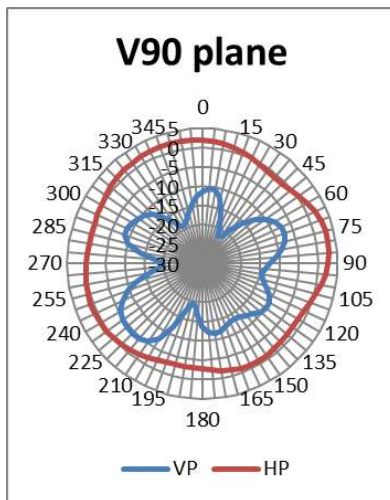
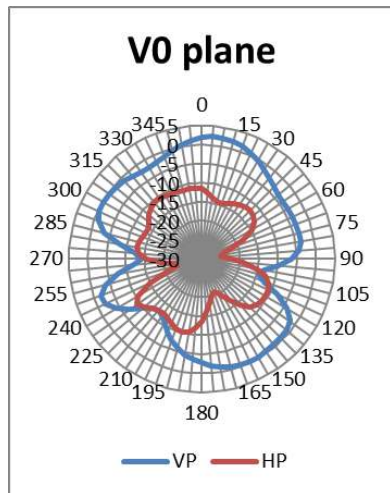
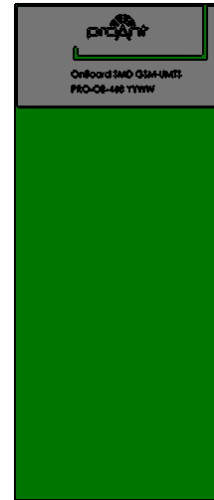
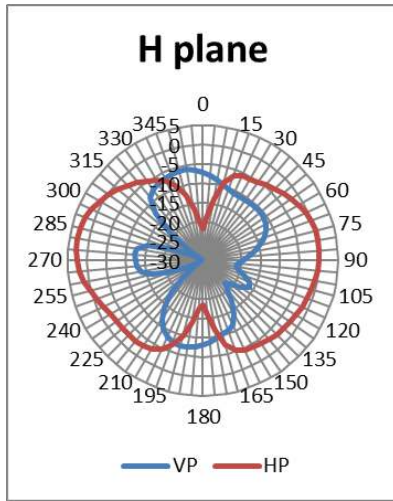
Radiation pattern, 824 MHz

Board rotation



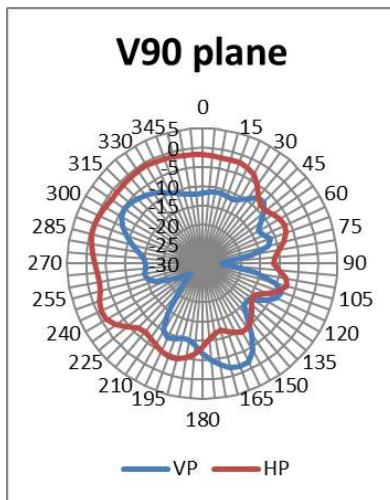
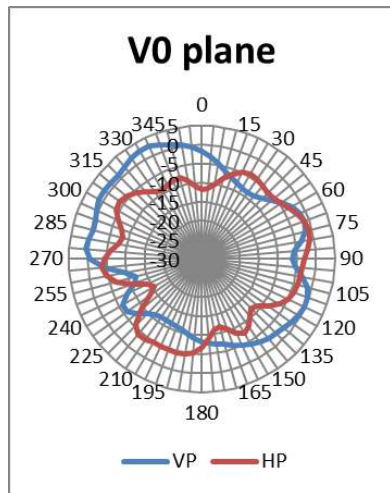
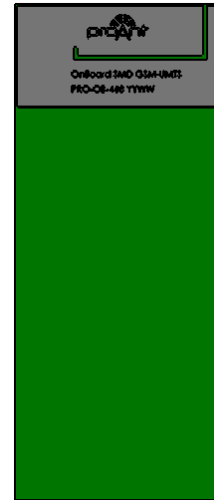
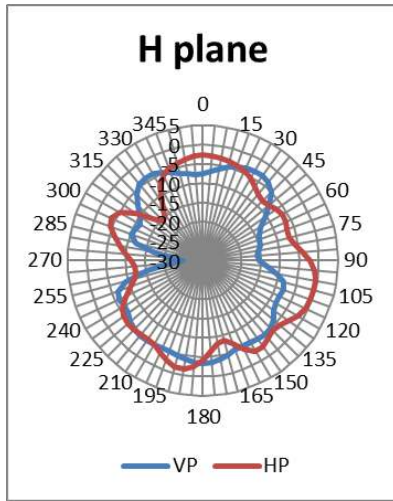
Radiation pattern, 960 MHz

Board rotation



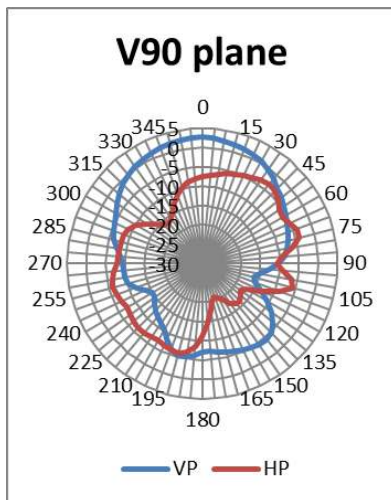
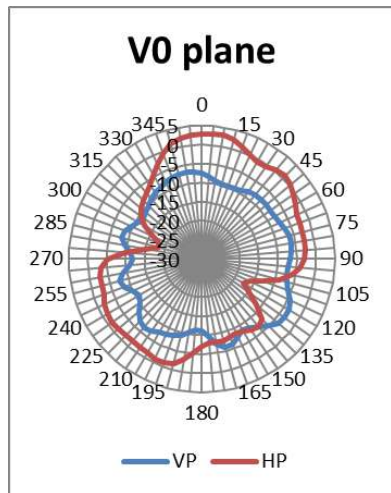
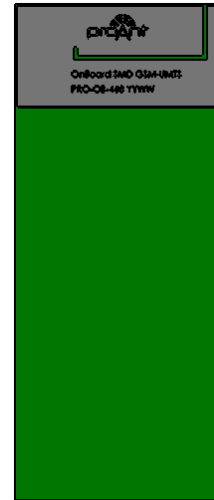
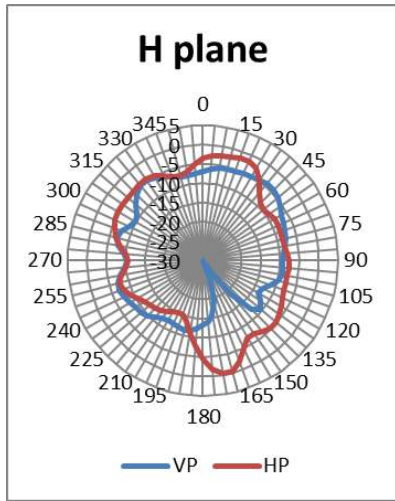
Radiation pattern, 1710 MHz

Board rotation



Radiation pattern, 2170 MHz

Board rotation



Intended applications

The antenna is optimized for pentaband operation in the GSM and UMTS systems, which is defined by several frequency bands. Some of the supported bands are:

GSM/GPRS/EDGE	GSM 850 (824 – 894 MHz)
	GSM 900 (880 – 960 MHz)
	GSM 1800 (1710 – 1880 MHz)
	GSM 1900 (1850 – 1990 MHz)
UMTS/LTE	Band 1 (1920 – 2170 MHz)
	Band 2 (1850 – 1990 MHz)
	Band 3 (1710 – 1880 MHz)
	Band 4 (1710 – 2155 MHz)
	Band 5 (824 – 894 MHz)
	Band 6 (830 – 883 MHz)
	Band 8 (880 – 960 MHz)

Ordering information

Part number	Part name	Details
PRO-OB-468	OnBoard SMD GSM/UMTS	Antenna for GSM/UMTS.
PRO-EB-473	Evaluation board, Onboard SMD GSM/UMTS	Evaluation board with PRO-OB-468 for GSM/UMTS 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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