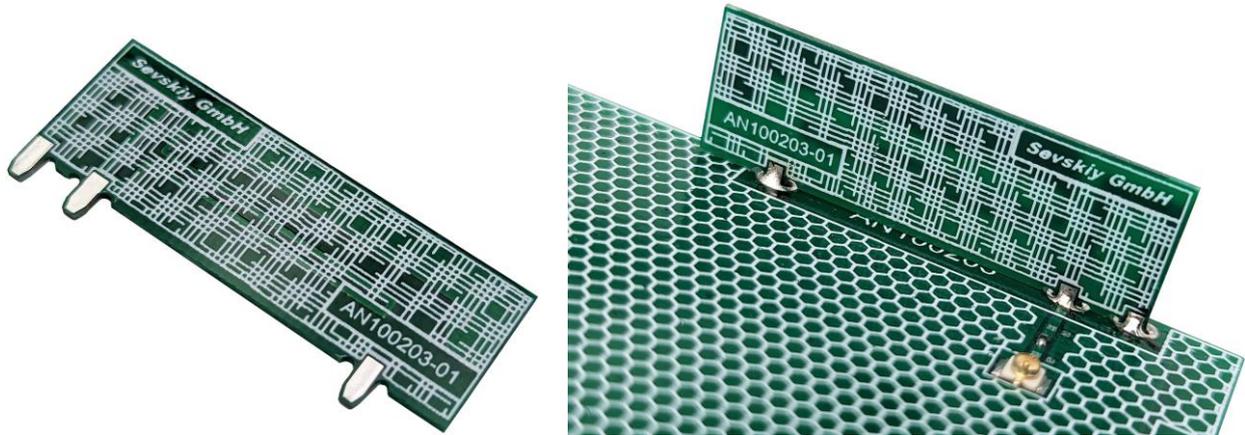


863 MHz / 924 MHz PCB Antenna (ISM, RFID, IoT, LP-WAN, Smart meters)



General information

This small antenna is intended to be soldered to the main PCB of a mobile device, a router or a gateway. On request, the antenna geometry can be optimized for customer's housing design and material properties.

Typical applications

ISM, RFID, IoT (Sigfox, LoRa), LP-WAN, Smart meters

Electrical data

Antenna type	Embedded / internal antenna soldered on the main PCB
Frequency band	SRD860 (EU), ISM915 (US)
Frequency range [MHz]	863...924
Return loss [dB] ¹⁾	-10
Peak gain [dBi]	1.6
Radiation efficiency [%]	72
Nominal input impedance [Ohm]	50
Polarization	linear
Radiation pattern	omnidirectional
Maximum input power [W]	5

Mechanical data

Antenna PCB dimensions [mm]	39 x 15.8 x 0.8
PCB material	FR4
Weight [g]	0.9

Environmental data

Operating temperature [°C]	-40...+85
Storage temperature [°C]	-40...+85
Ambient relative humidity [%]	0...95
RoHS / REACH compliant	yes / yes

Additional information

All electrical data have been obtained in free space on the reference board (not included) with the following dimensions: 120mm x 60mm x 0.8mm. Please note that the performance in the lower frequency bands is dependent on the ground plane length and may degrade in case of reducing the board size.

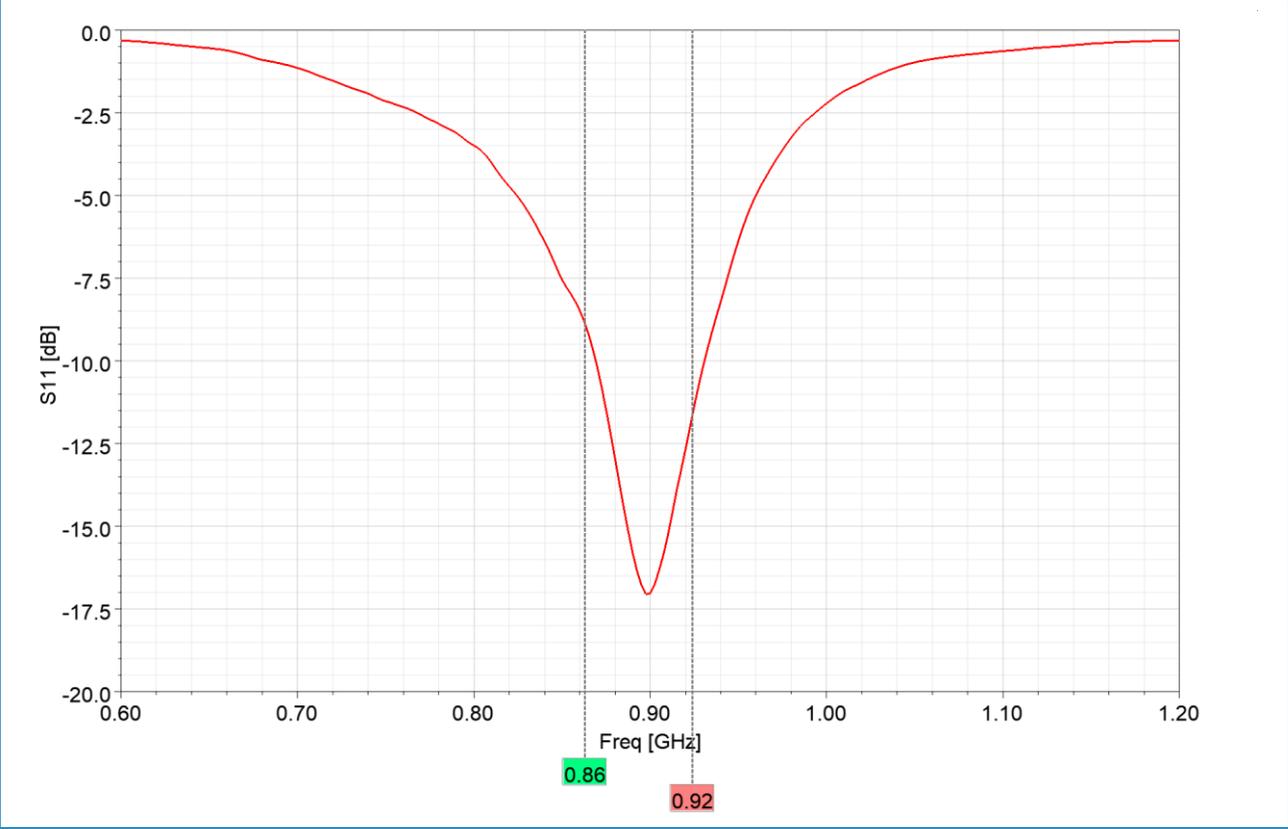
Other mechanical designs, materials or frequency bands are possible on request.

Further customization, electromagnetic simulations and measurements can be offered on request.

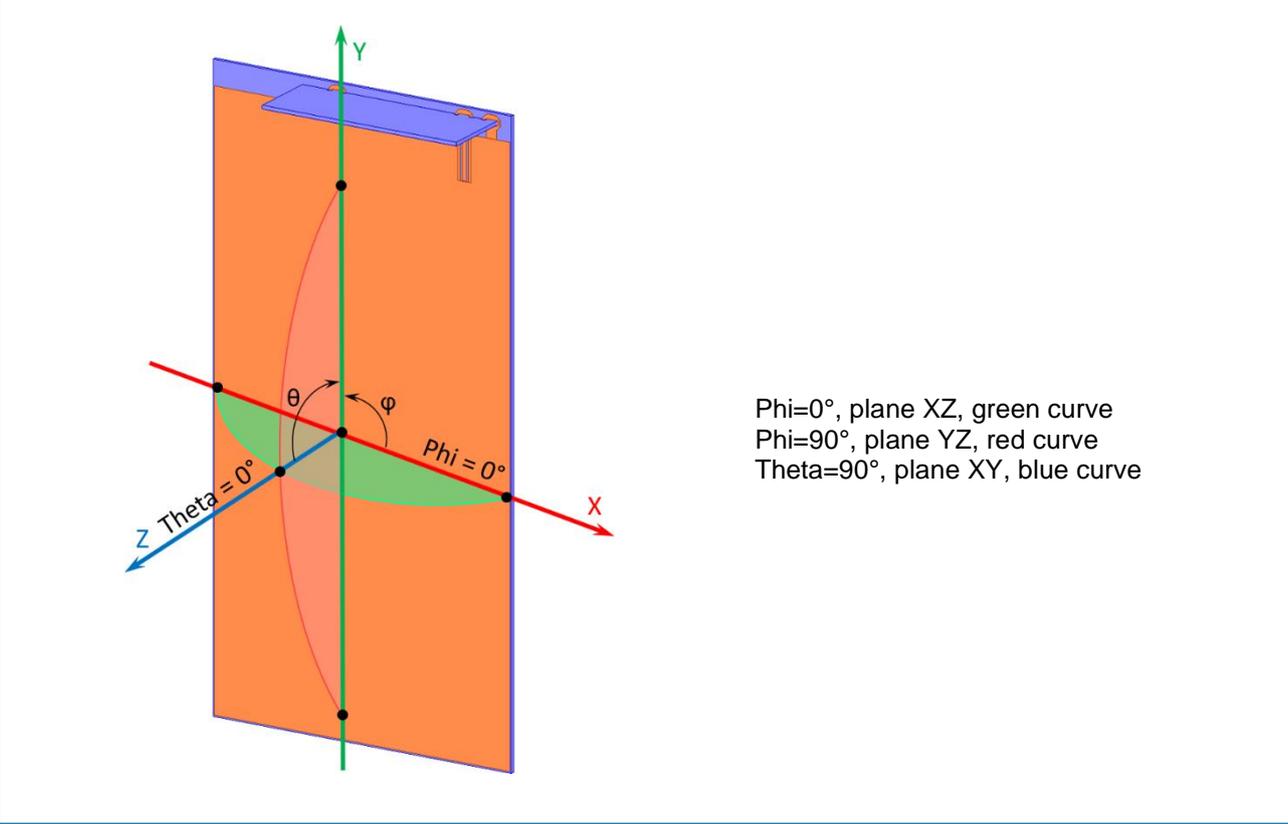
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863 MHz / 924 MHz PCB Antenna (ISM, RFID, IoT, LP-WAN, Smart meters)

Measured input impedance matching



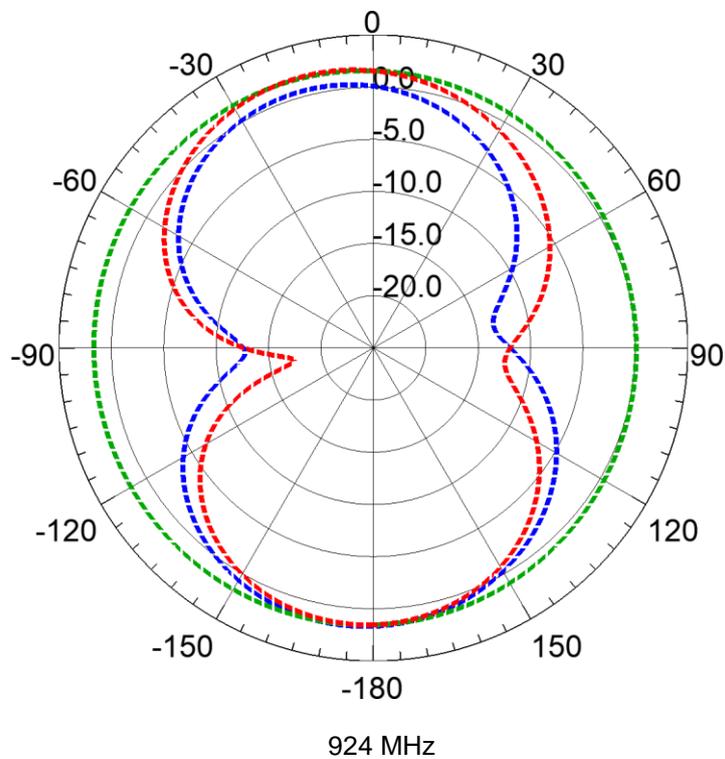
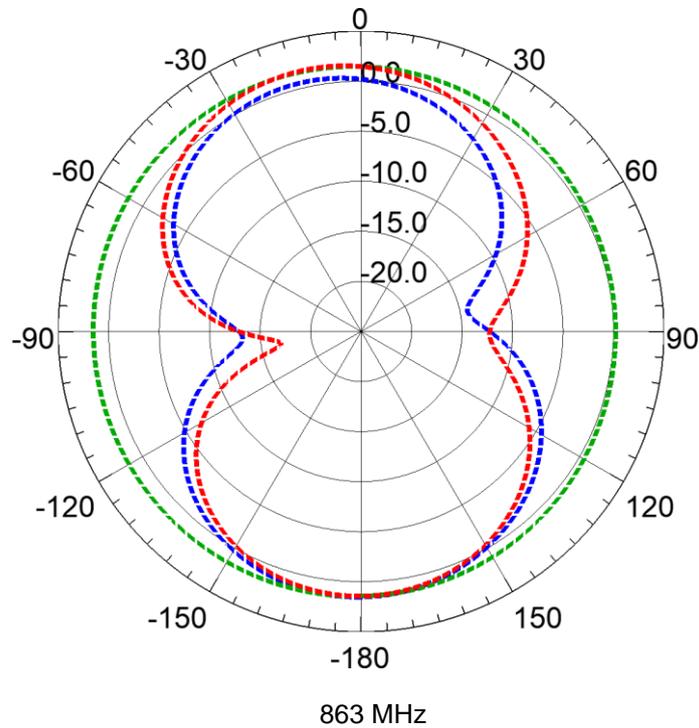
Coordinate system



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863 MHz / 924 MHz PCB Antenna (ISM, RFID, IoT, LP-WAN, Smart meters)

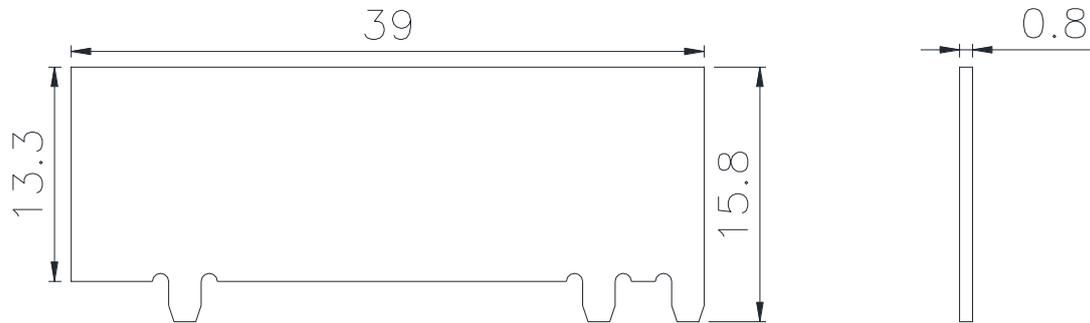
Radiation pattern (total realized gain, dBi)



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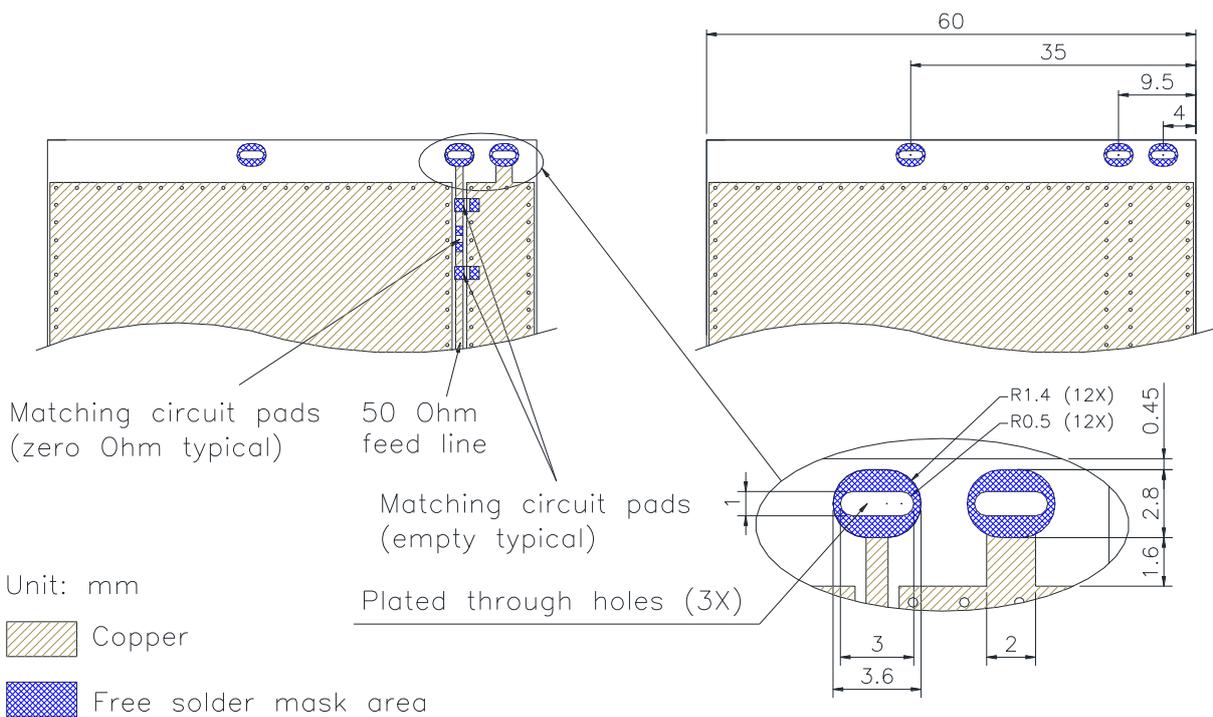
863 MHz / 924 MHz PCB Antenna (ISM, RFID, IoT, LP-WAN, Smart meters)

Product dimensions and recommended layout



Top layer

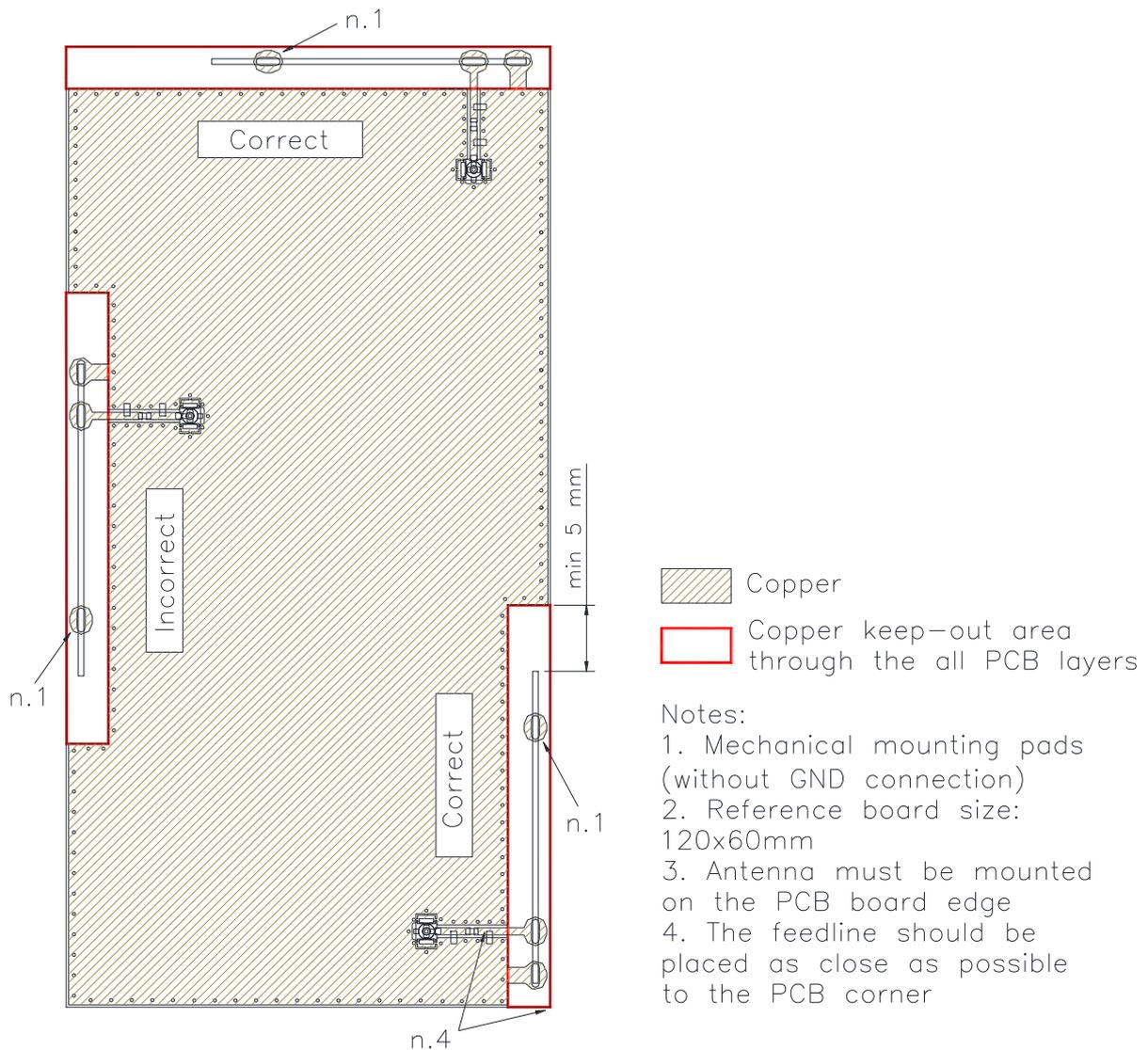
Bottom layer



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Antenna placement



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