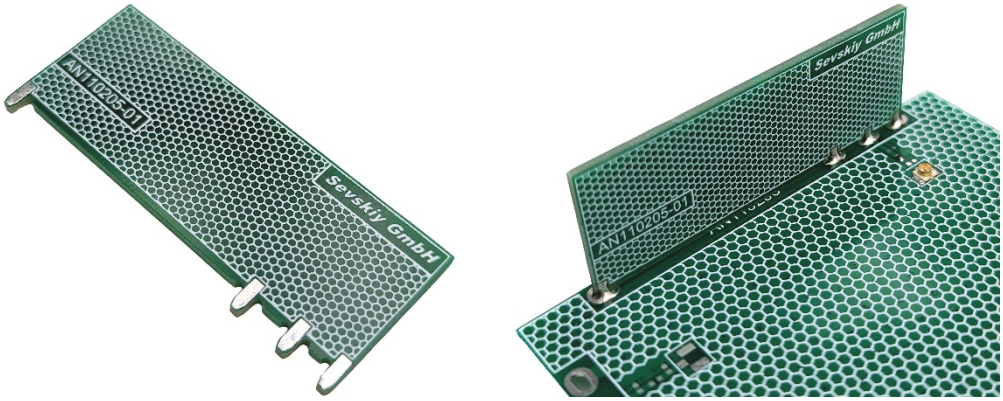
698…960 MHz / 1695…2700 MHz PCB Antenna (5G, LTE, Wi-Fi, IoT, GSM, WCDMA, UMTS)



General information

This compact PCB antenna is designed for wideband wireless operation covering 698…960 MHz and 1695…2700 MHz, enabling reliable connectivity across 5G, LTE/4G, GSM, UMTS, CDMA, WCDMA, Wi-Fi, and IoT networks. Its broad frequency coverage makes it well suited for multi-standard cellular and data communication platforms. The antenna is ideal for integration into mobile devices, routers, gateways, access points, and industrial communication equipment. It also supports applications such as smart infrastructure, telemetry, asset tracking, remote monitoring, and M2M systems.

The antenna is manufactured on a PCB and equipped with four contacts for vertical solder mounting along the edge of the device's primary circuit board. A corresponding footprint must be included to provide both mechanical stability and proper electrical connection. Once installed, the antenna stands perpendicular to the main board, ensuring reliable performance even in compact enclosures.

Electrical data

Antenna type	Embedded / internal antenna soldered on the main PCB	
5G bands	1 - 3, 5, 7, 8, 12 -14,18, 20, 25, 26, 28 - 30, 34, 38 - 41, 53, 65, 66, 70, 80 - 84, 86, 89, 90, 95, 97, 98	
4G bands	1 - 10, 12 -14, 17 - 20, 23, 25 - 30, 33 - 41, 44, 53, 65 - 70, 85	
Frequency range [MHz]	698...960	1695…2700
Return loss [dB] [1)]	-8	-10
Peak gain [dBi]	0.5…1.5	2.5…5
Radiation efficiency [%]	45…70	75...90
Nominal input impedance [Ohm]	50	
Polarization	linear	
Radiation pattern	omnidirectional	
Maximum input power [W]	5	

Mechanical data

Antenna PCB dimensions [mm]	55 x 22.5 x 1.6
PCB material	FR4
Weight [g]	4

Additional information

All electrical data have been obtained in free space on the reference board (not included) with the following dimensions:130mm x 65mm 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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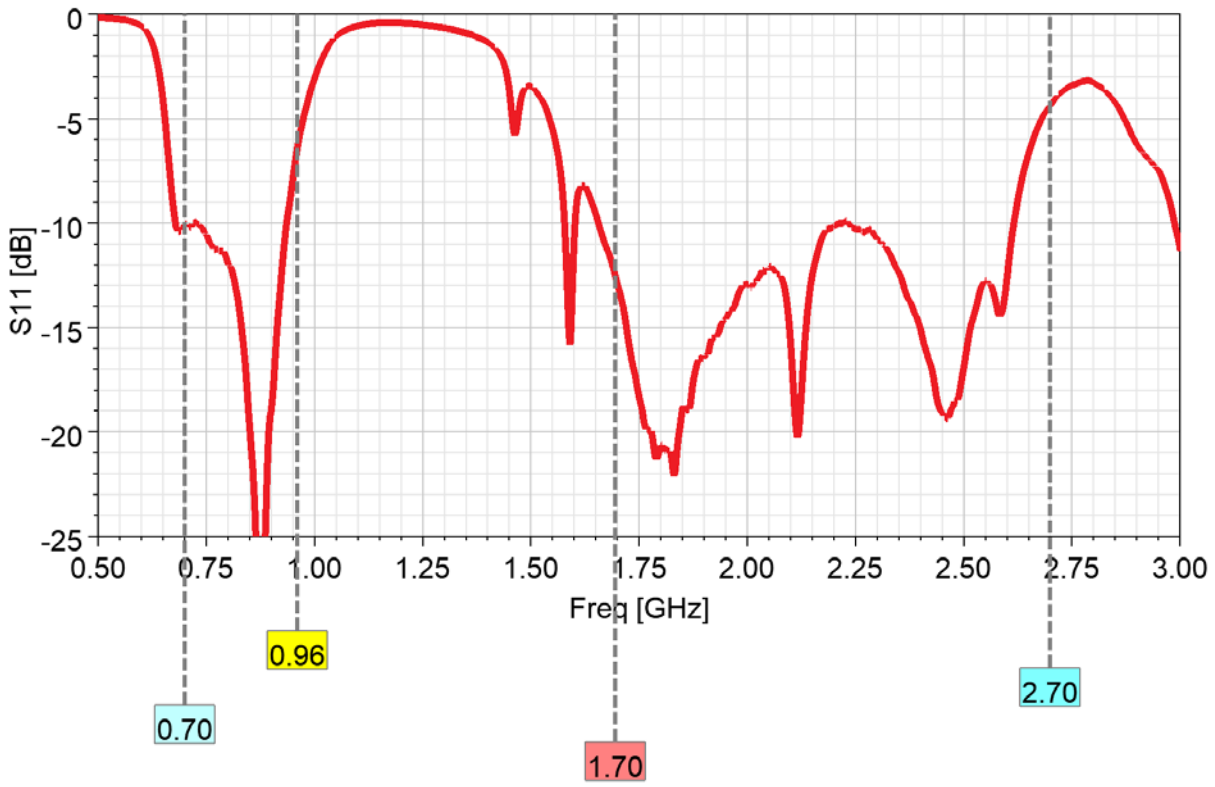
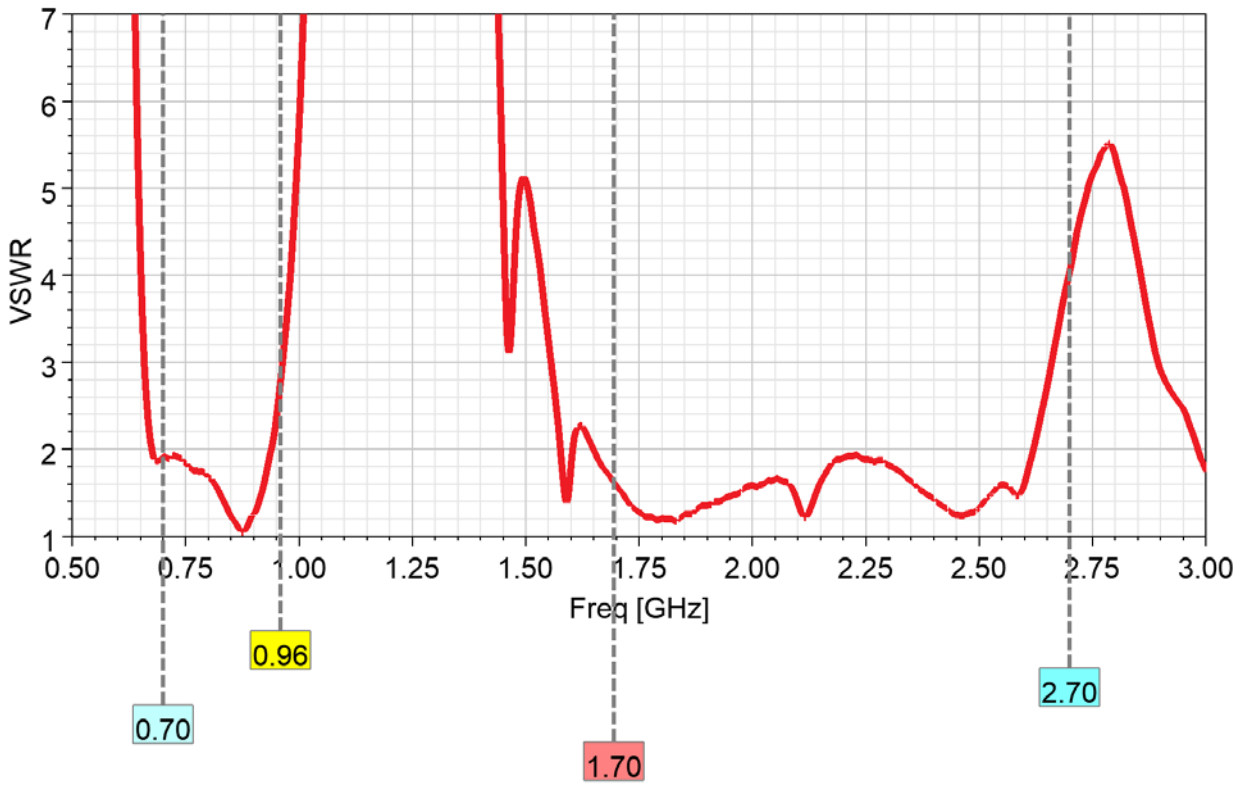
Measured input impedance matching



VSWR



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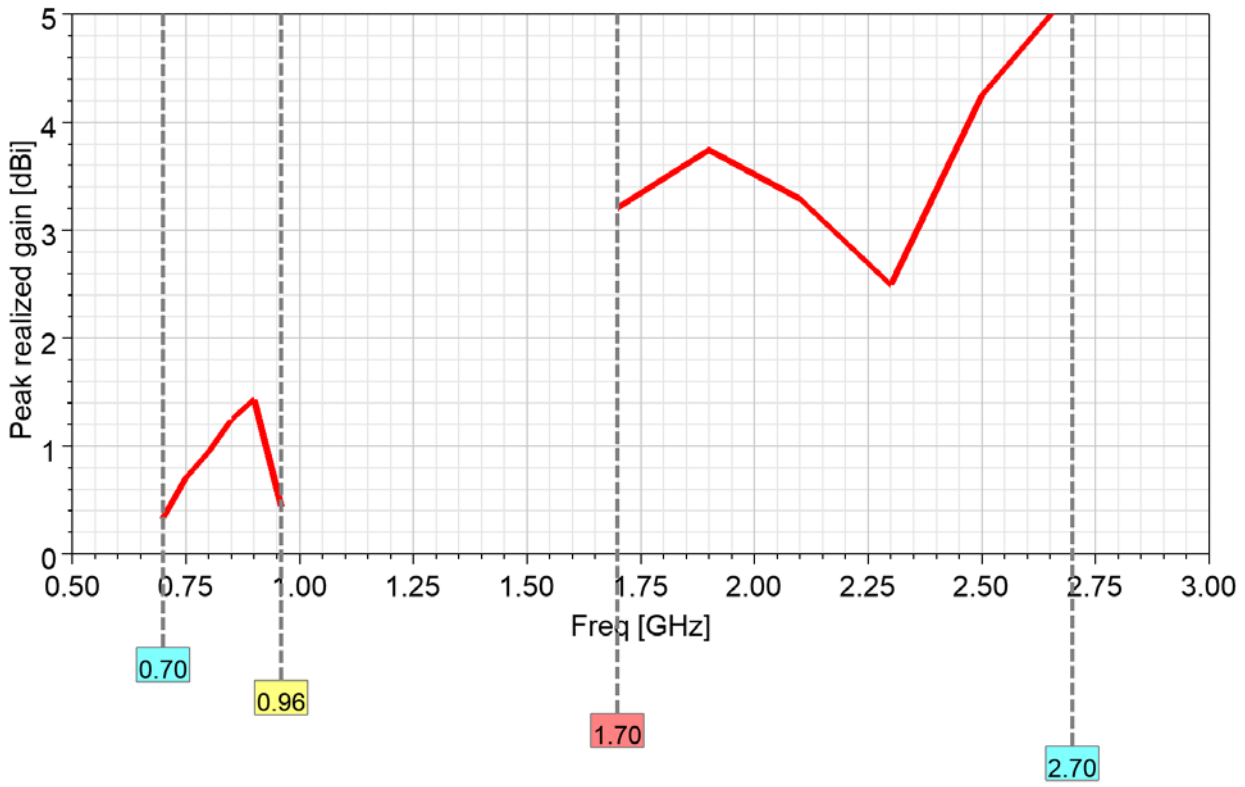
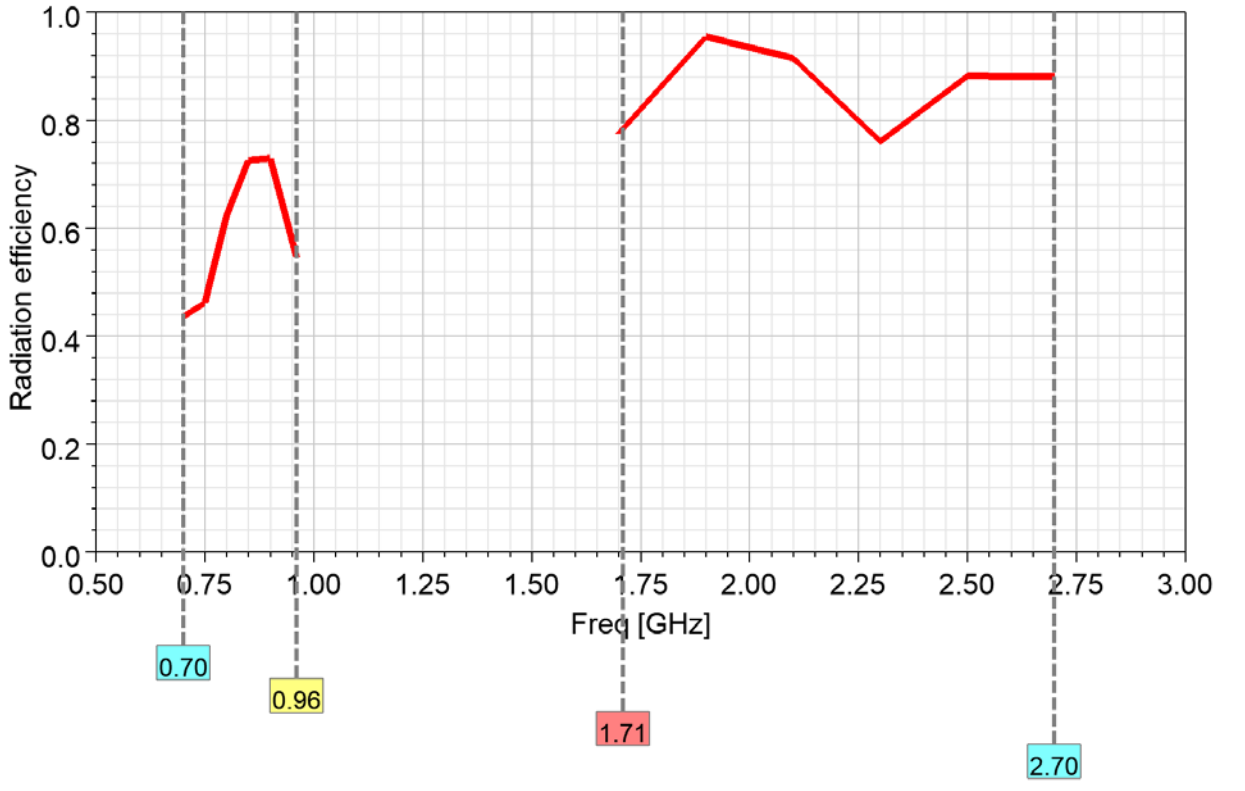
Peak realized gain



Radiation efficiency



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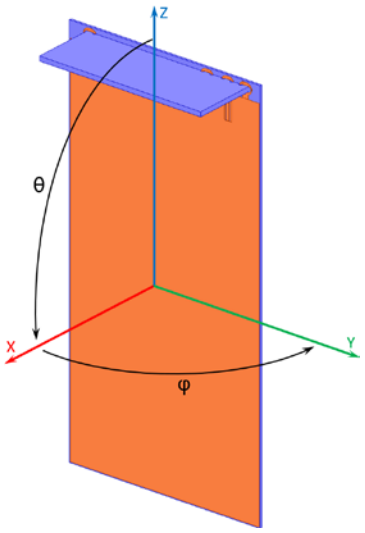
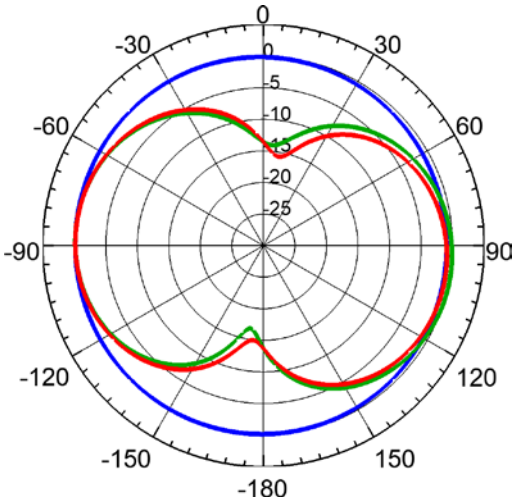
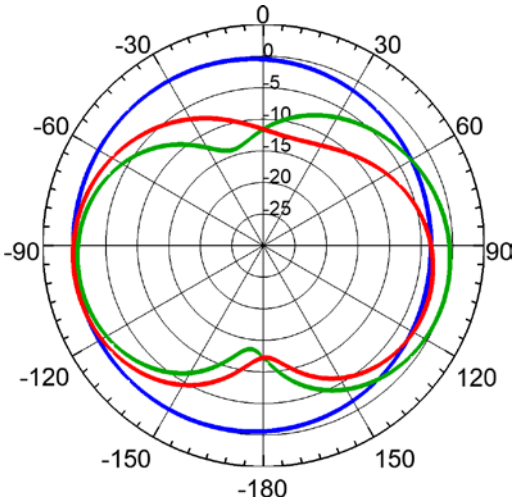
Radiation pattern



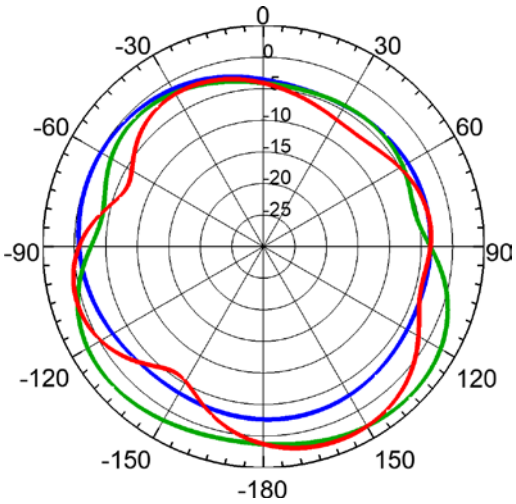
Total realized gain [dBi]
Phi=0°, plane XZ, green curve
Phi=90°, plane YZ, red curve
Theta=90°, plane XY, blue curve



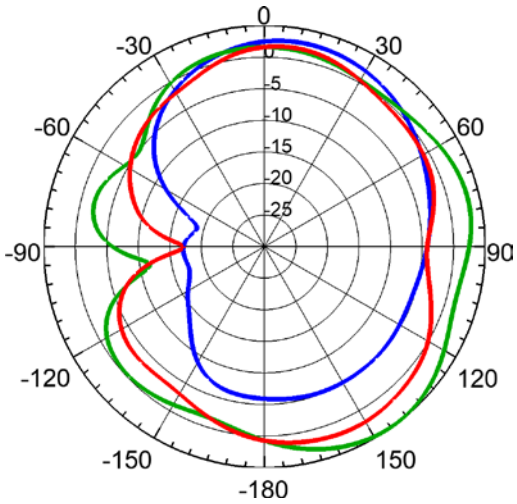
700 MHz



960 MHz



1700 MHz



2700 MHz

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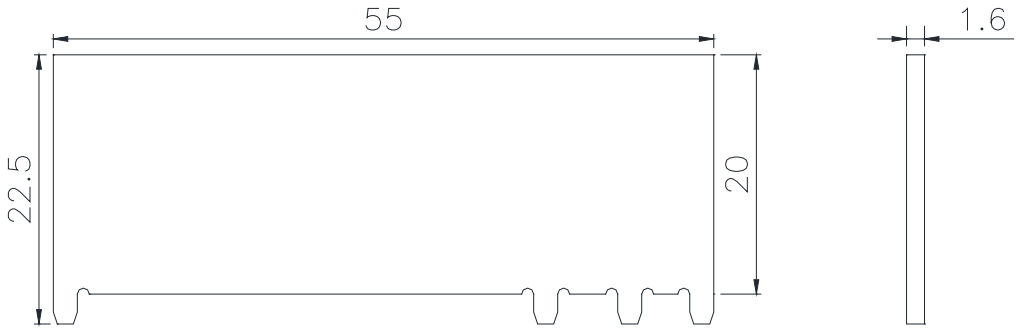
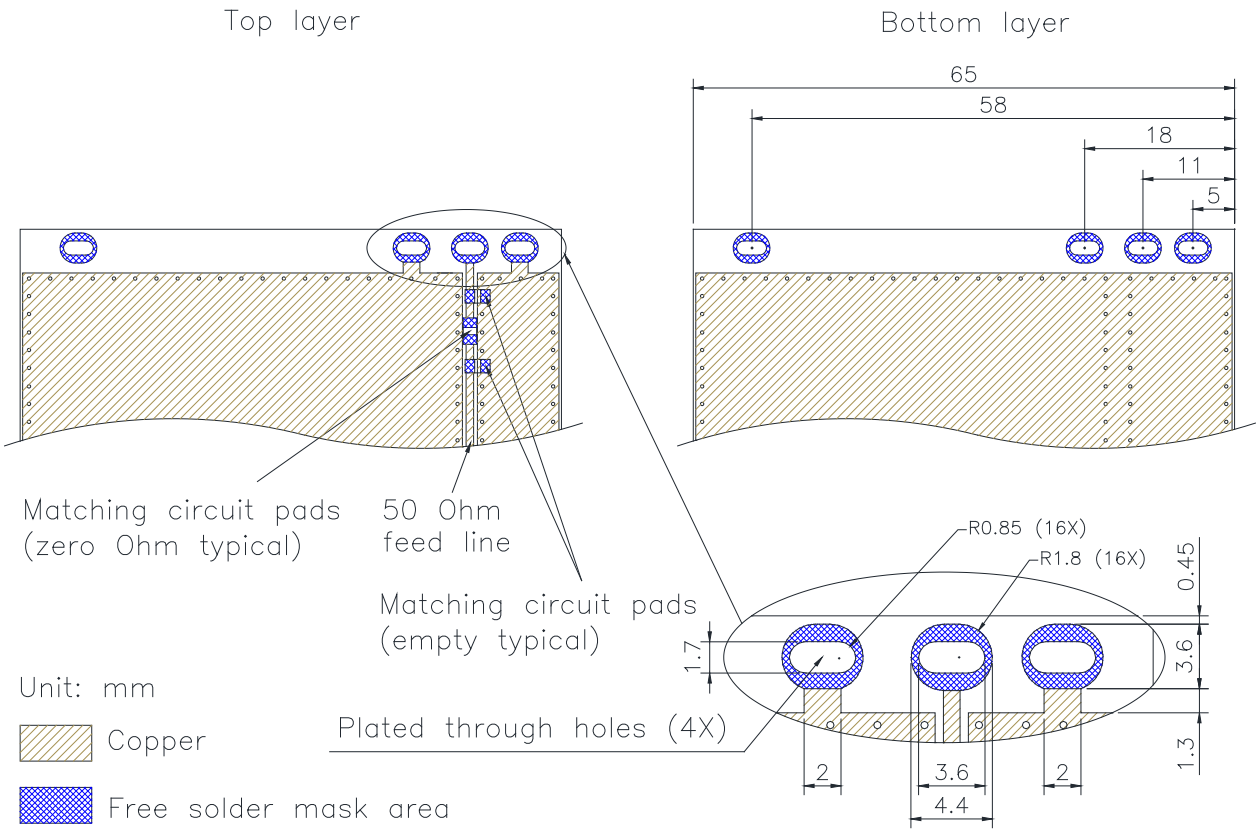
Product dimensions and recommended layout





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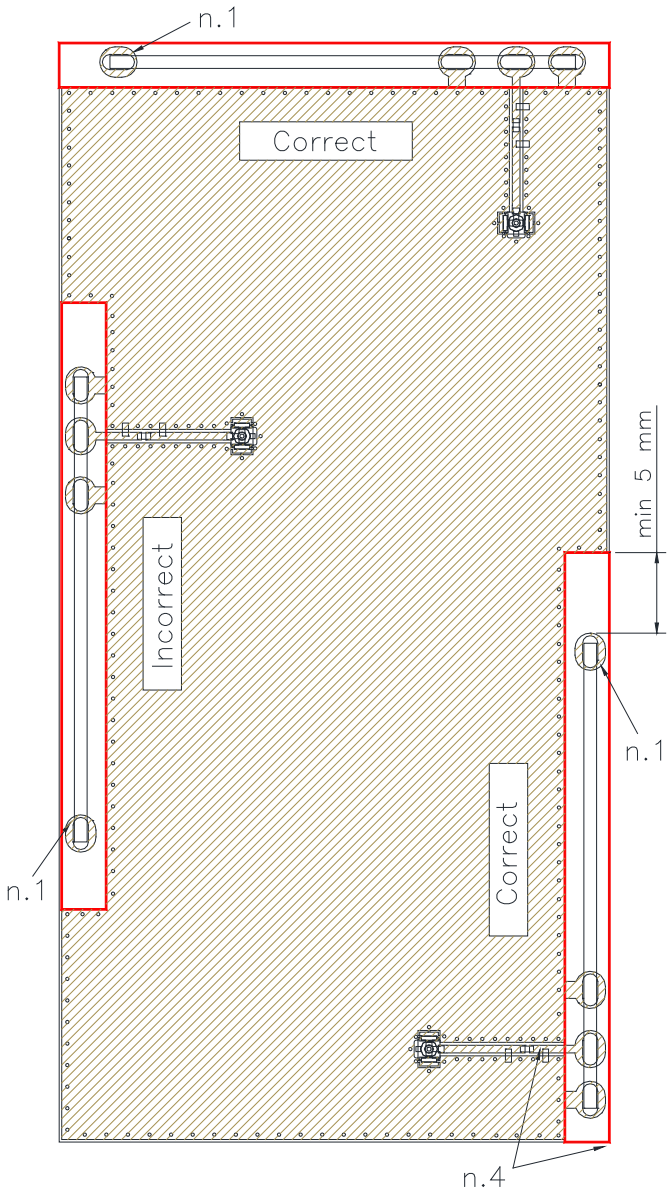
Antenna placement



Copper

Copper keep–out area through the all PCB layers

Notes:
1. Mechanical mounting pads (without GND connection)
2. Reference board size: 130x65mm
3. Antenna must be mounted on the PCB board edge
4. The feedline should be placed as close as possible to the PCB corner

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