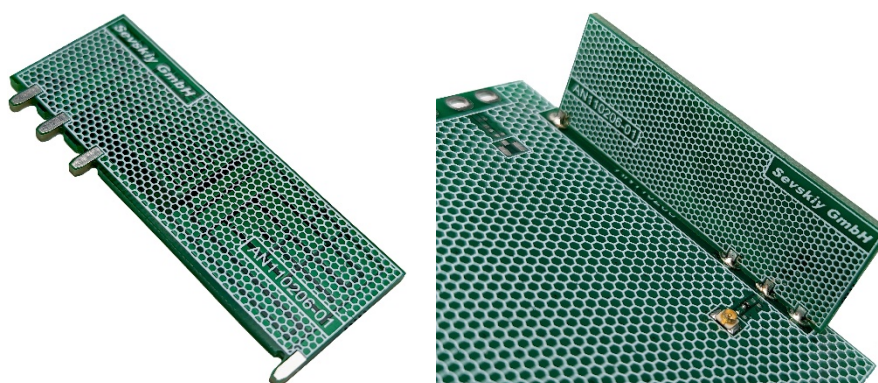


698...960 MHz / 1710...2700 MHz / 3500 MHz / 5500 MHz PCB Antenna (5G, LTE, Wi-Fi, IoT)



### General information

This wideband PCB antenna is designed for multi-band wireless operation, covering frequency bands from 700 MHz to 6000 MHz and supporting 5G, LTE, GSM, UMTS, Wi-Fi, and IoT technologies. Its extended frequency coverage enables seamless operation across cellular, sub-6 GHz 5G, and WLAN bands. This antenna is well suited for modern communication platforms such as mobile routers, gateways, customer premises equipment (CPE), and industrial wireless terminals. Thanks to its omnidirectional radiation pattern and linear polarization, it provides stable and uniform coverage in complex RF environments.

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, 46 - 48, 53, 65, 66, 70, 77 - 84, 86, 89, 90, 91u - 94u, 95, 97, 98 |             |             |             |
| 4G bands                       | 1 - 14, 17 - 20, 22 - 30, 33 - 44, 46 - 49, 52, 53, 65 - 70, 85                                                                    |             |             |             |
| Frequency range [MHz]          | 698...960                                                                                                                          | 1695...2700 | 3300...3800 | 4400...6000 |
| Return loss [dB] <sup>1)</sup> | -8                                                                                                                                 | -10         | -6          | -7          |
| Peak gain [dBi]                | 0.8                                                                                                                                | 3.5         | 3.4         | 3.7         |
| Radiation efficiency [%]       | 46                                                                                                                                 | 85          | 65          | 60          |
| 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.

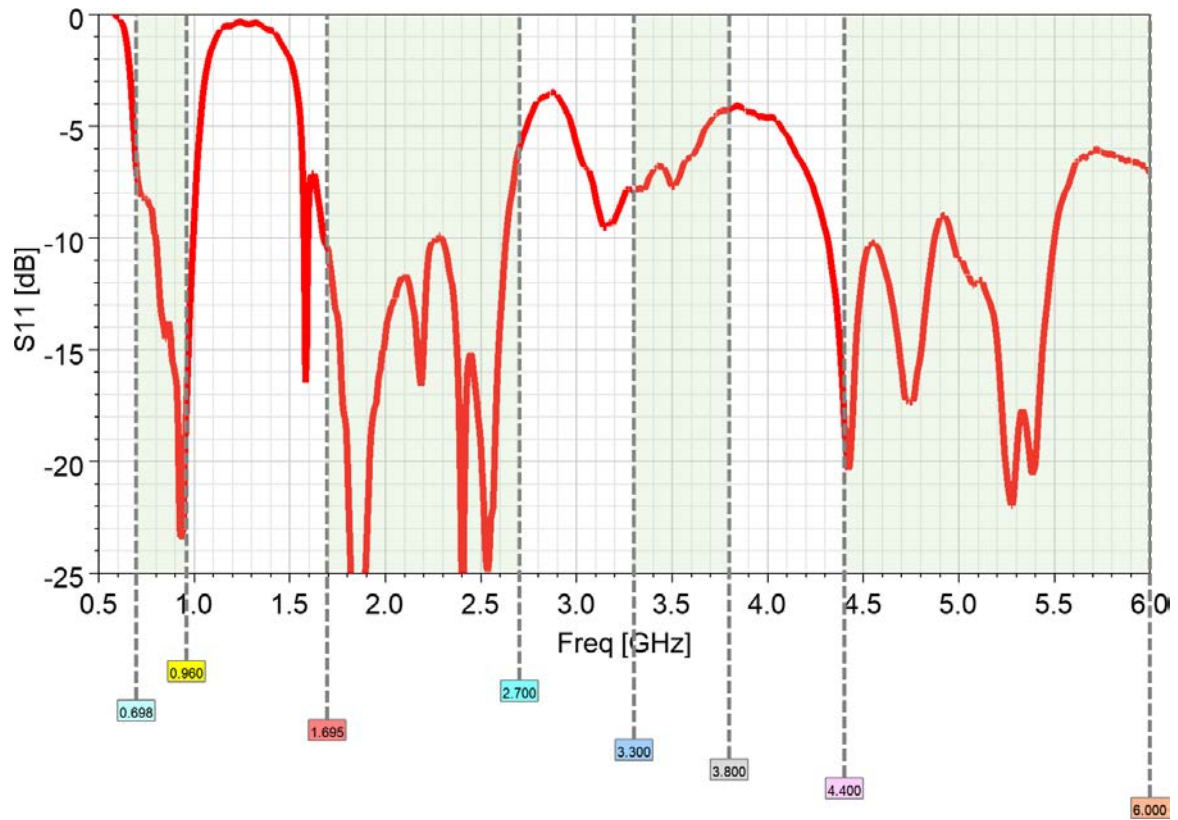
Other mechanical designs, materials or frequency bands are possible on request.

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

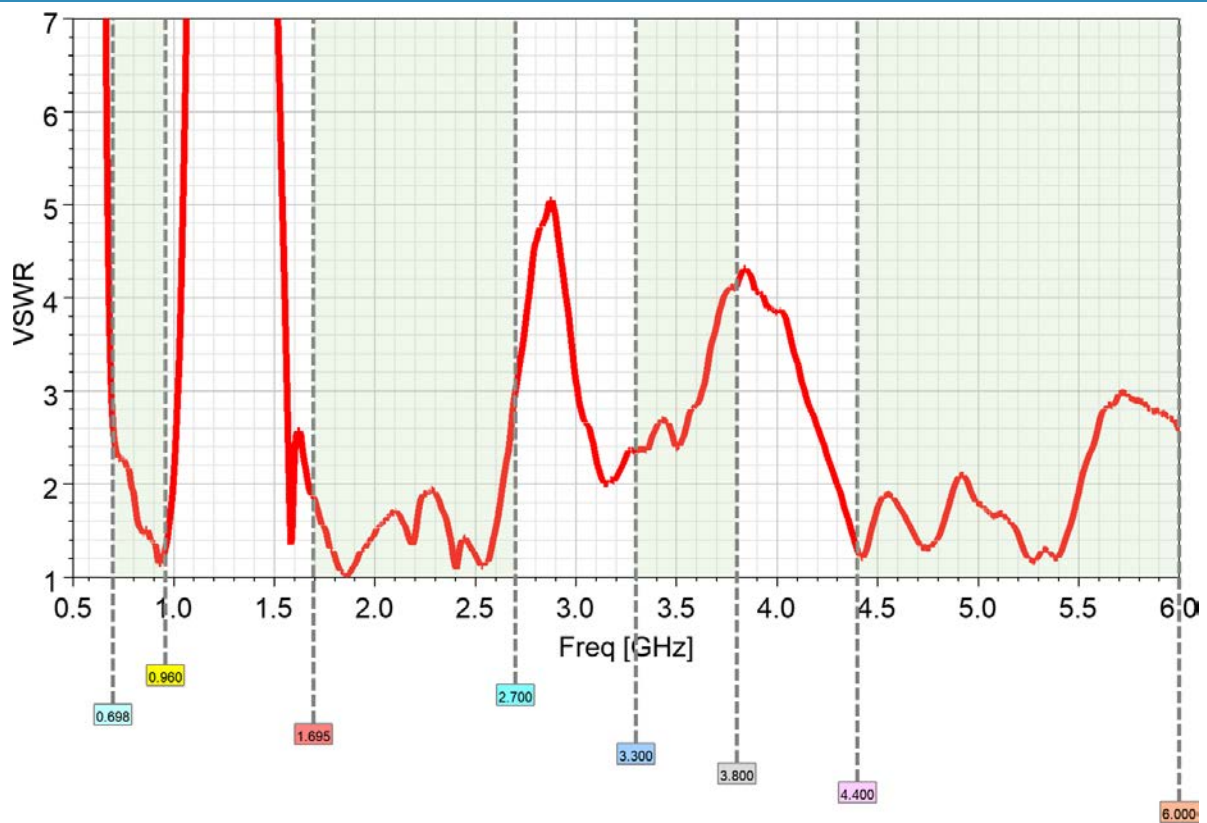
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698...960 MHz / 1710...2700 MHz / 3500 MHz / 5500 MHz PCB Antenna (5G, LTE, Wi-Fi, IoT)

Measured input impedance matching



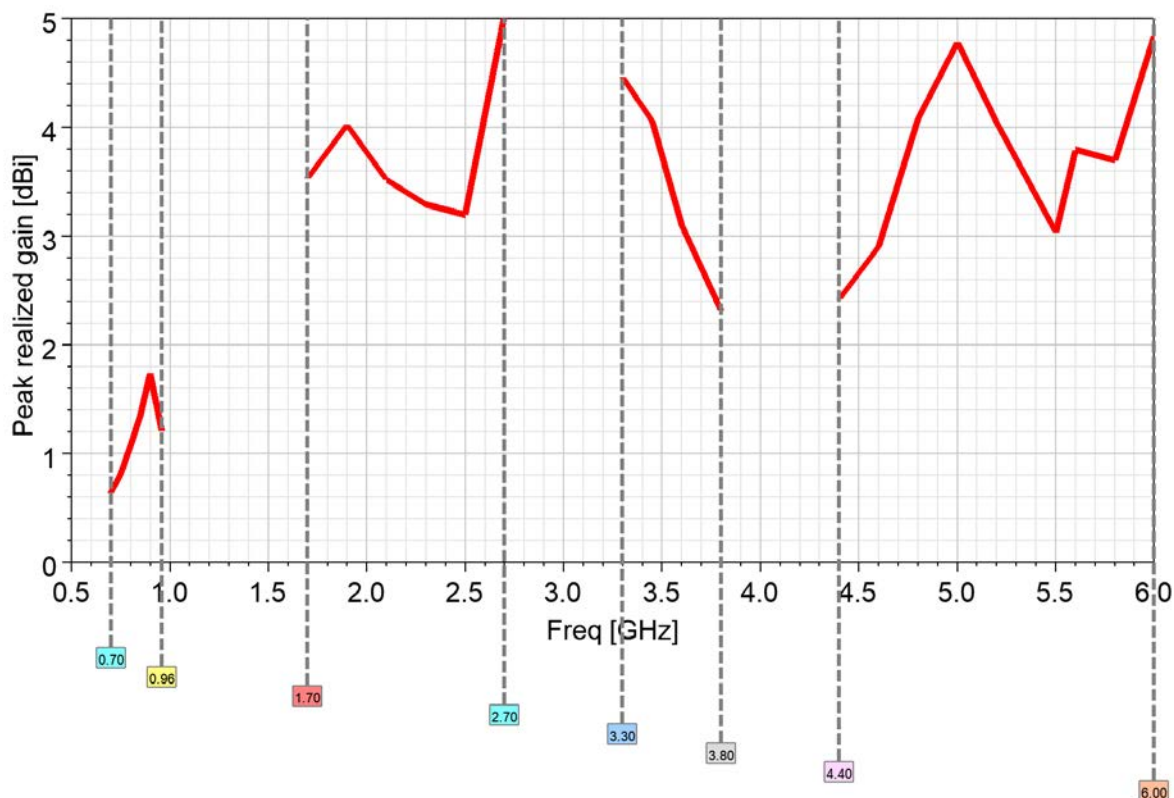
VSWR



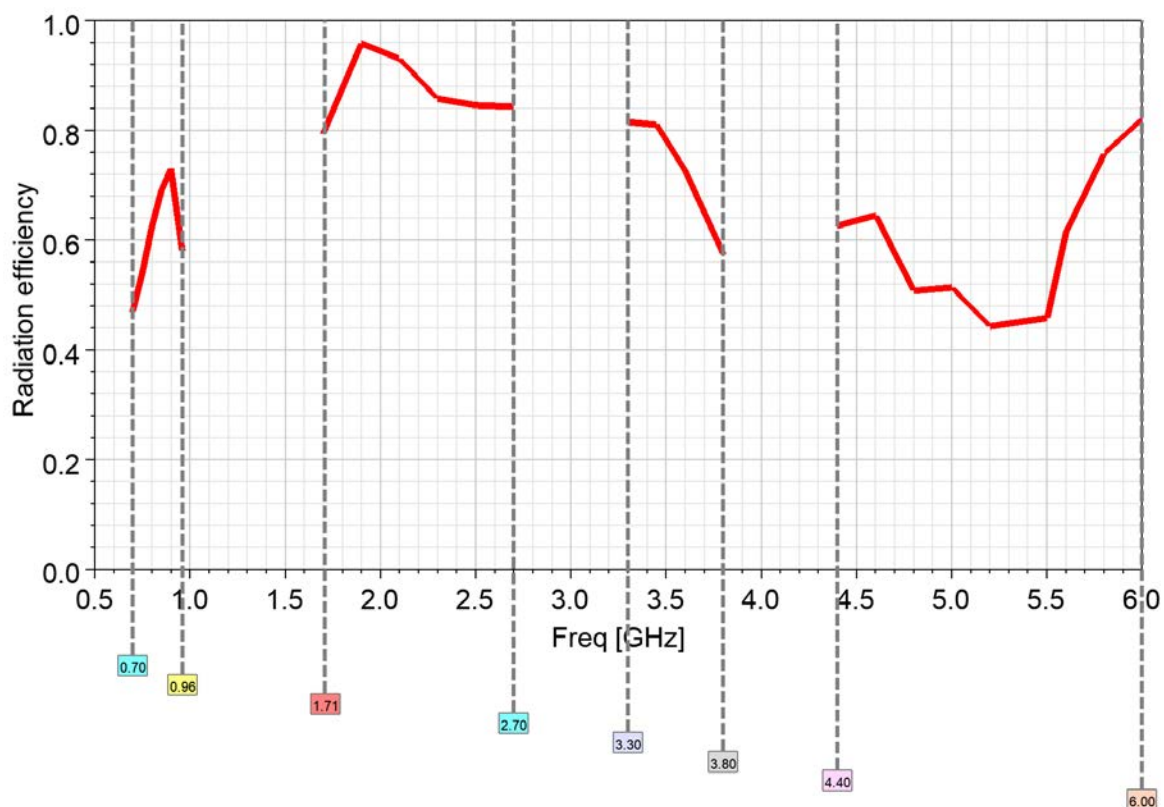
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Peak realized gain



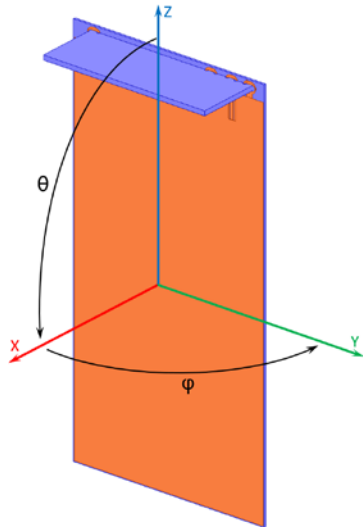
Radiation efficiency



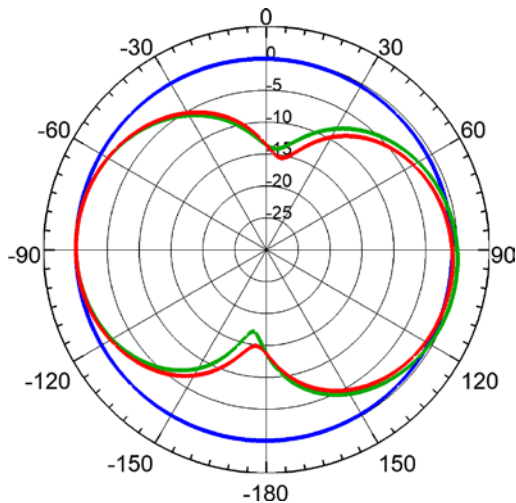
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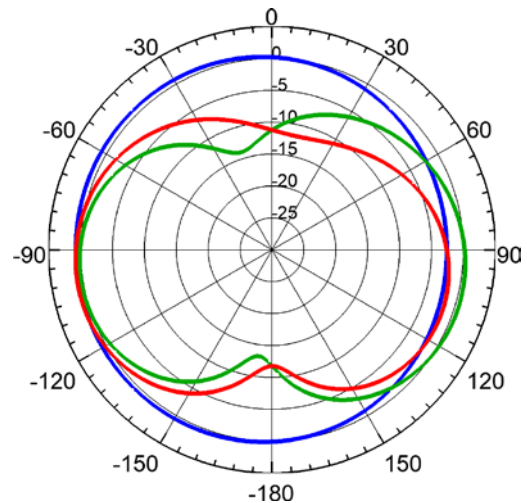
Radiation pattern



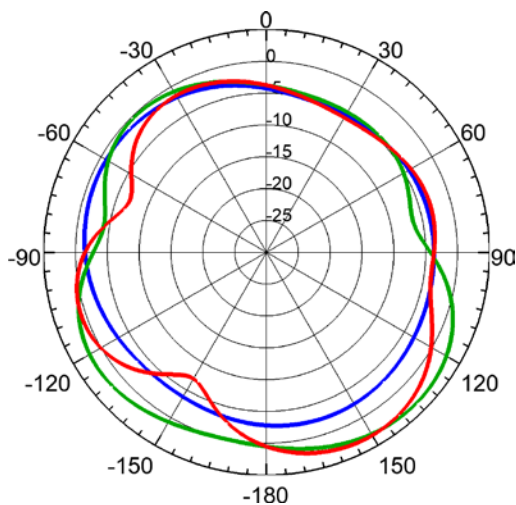
Total realized gain [dBi]  
Phi=0°, plane XZ, green curve  
Phi=90°, plane YZ, red curve  
Theta=90°, plane XY, blue curve



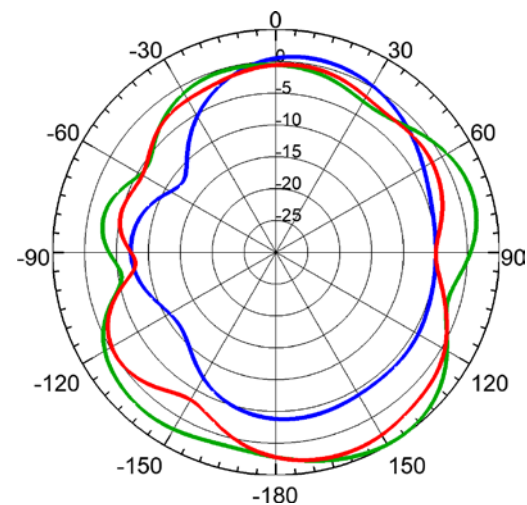
700 MHz



960 MHz



1700 MHz

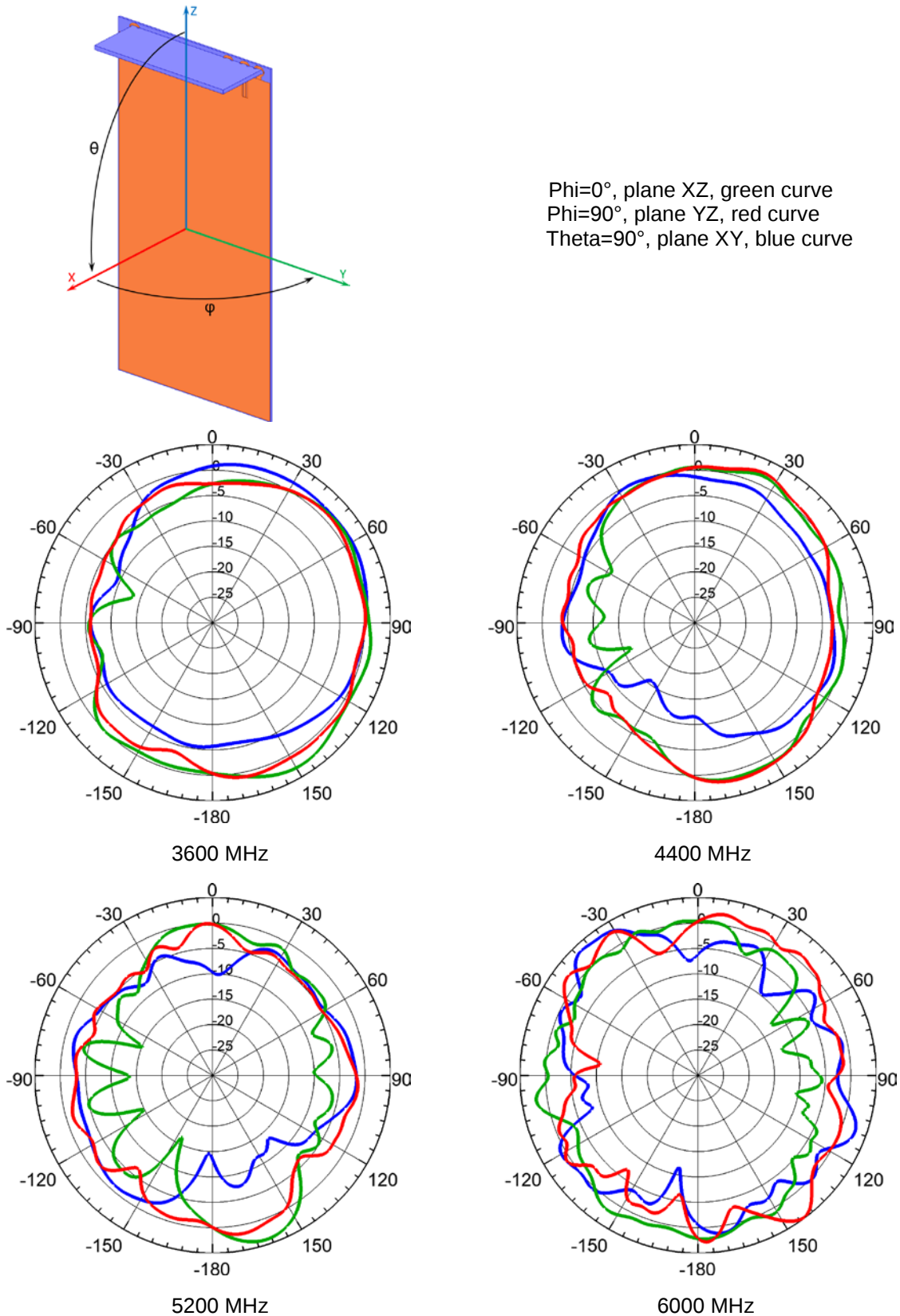


2700 MHz

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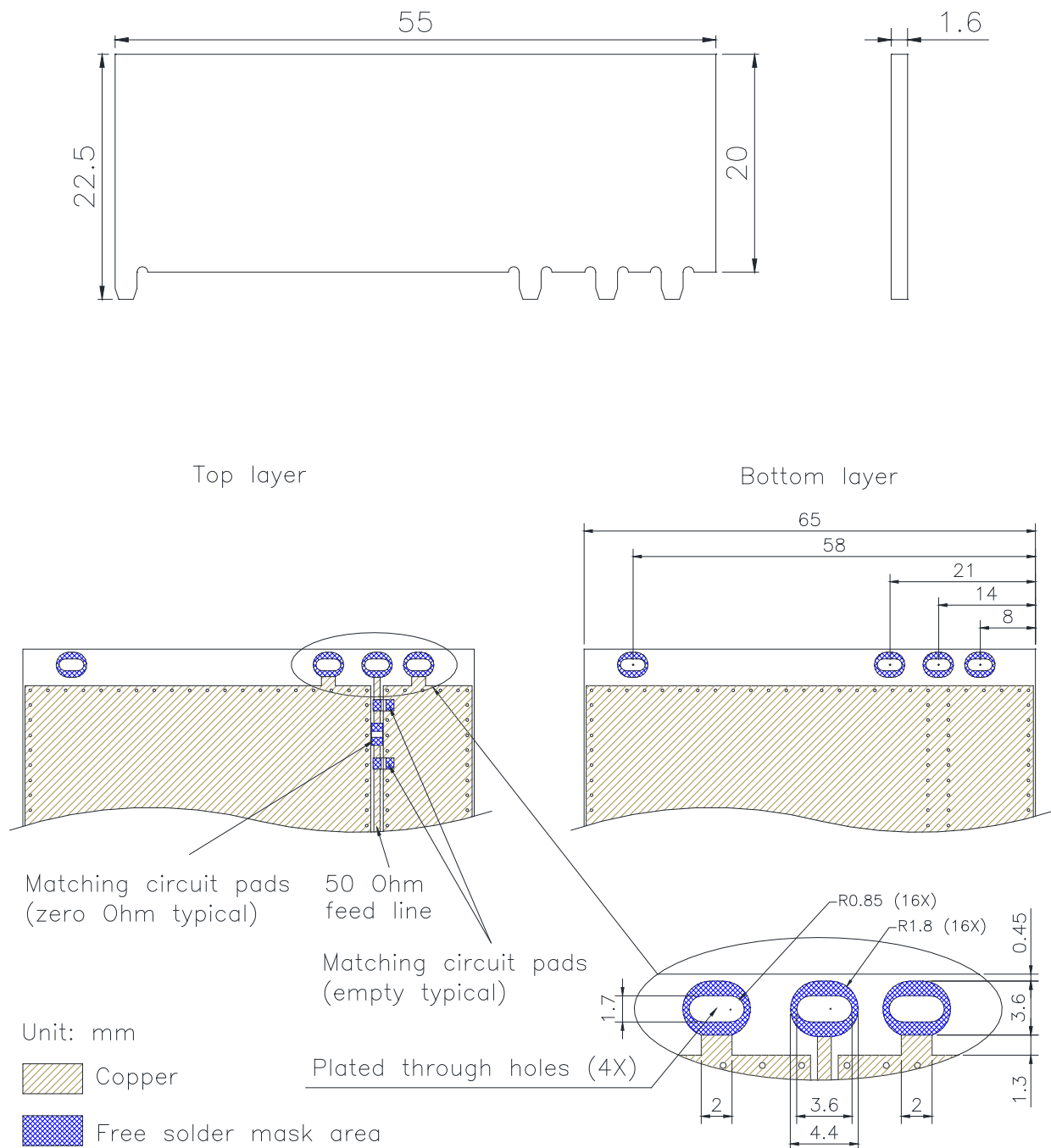
Radiation pattern (total realized gain, dBi)



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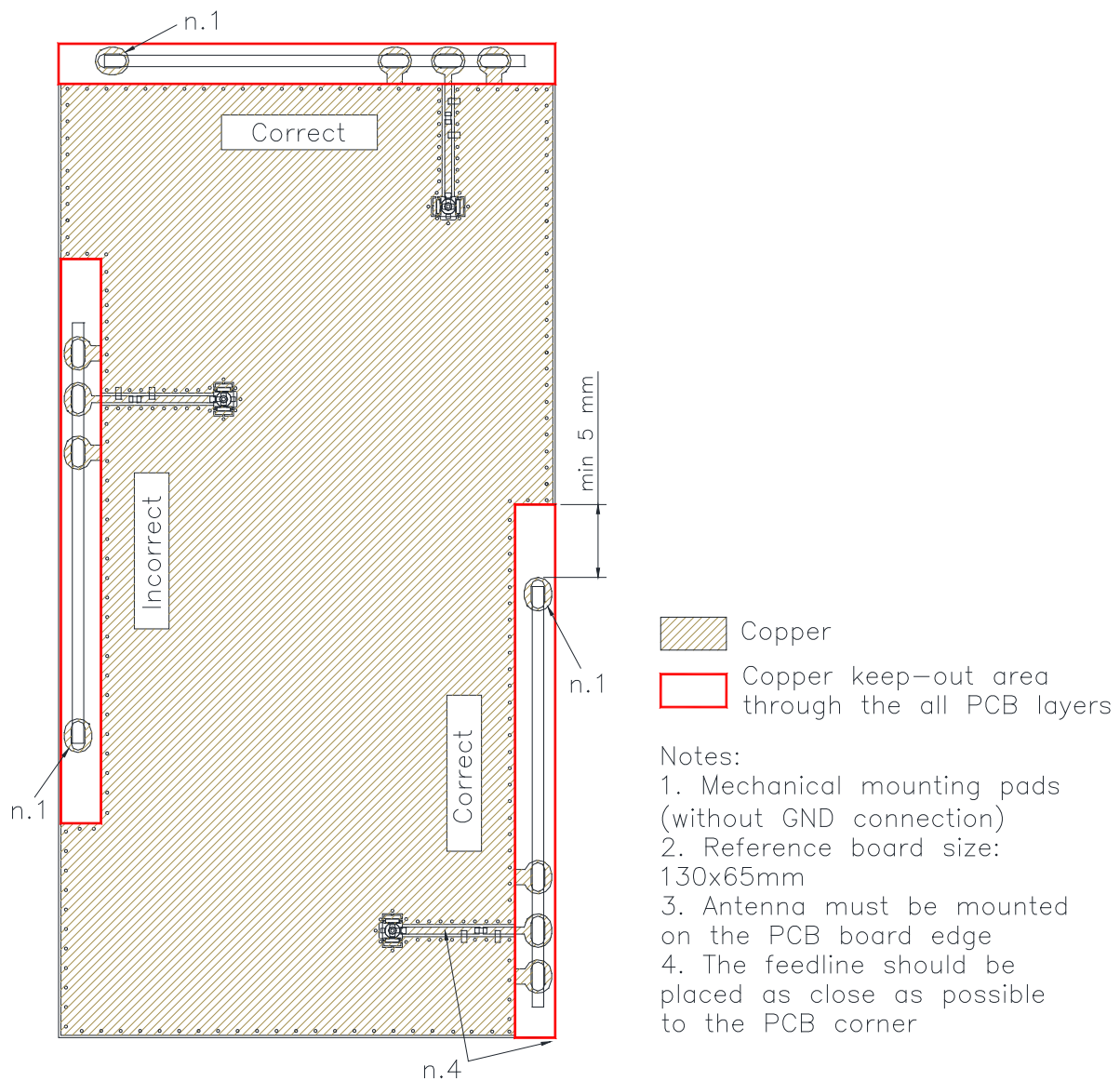
**Product dimensions and recommended layout**



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### Antenna placement



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