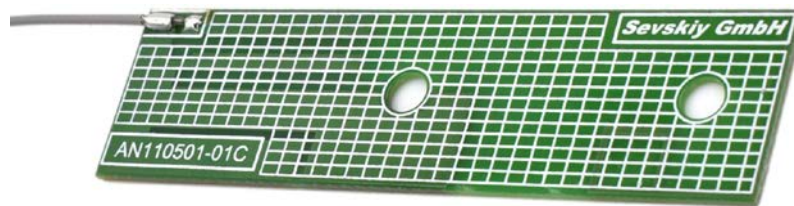


750...960 MHz / 1710...2170 MHz PCB Antenna (5G, LTE, IoT, WCDMA, UMTS)



General information

The AN110501-01C is a compact embedded PCB antenna designed for internal integration into wireless devices operating in the 750...960 MHz and 1710...2170 MHz frequency ranges. These bands cover major LTE and UMTS cellular allocations, as well as GSM networks, making the antenna suitable for reliable voice and data connectivity in global deployments.

With omnidirectional radiation characteristics and linear polarization, the antenna ensures stable performance in compact and enclosed installations. Typical applications include smart meters, alarm panels, POS terminals, industrial controllers, telematics units, remote monitoring equipment, and IoT gateways requiring dependable cellular connectivity.

The antenna is manufactured on an FR-4 substrate and is supplied with a soldered micro-coaxial RF cable terminated with an I-PEX MHF1 / Hirose U.FL (UMCC) compatible connector for convenient connection to cellular RF modules.

Electrical data

| | | |
|-------------------------------|--|-------------|
| Antenna type | Embedded / internal PCB antenna | |
| 5G bands | 1 - 3, 5, 8, 13, 14, 18, 20, 25, 26, 34, 39, 65, 66, 70, 80 - 82, 84, 86, 89, 90, 95, 98 | |
| 4G bands | 1 - 6, 8 - 10, 13, 14, 18 - 20, 23, 25 - 27, 33 - 37, 39, 65 - 67, 70 | |
| Frequency range [MHz] | 750...960 | 1710...2170 |
| Return loss [dB] | -5 | -10 |
| Peak gain [dBi] | -0.5...1.5 | 2...3 |
| Radiation efficiency [%] | 65...90 | 70...80 |
| Nominal input impedance [Ohm] | 50 | |
| Polarization | linear | |
| Radiation pattern | omnidirectional | |
| Maximum input power [W] | 5 | |

Mechanical data

| | |
|---|---|
| Antenna PCB dimensions [mm] | 70 x 19 x 0.8 |
| Connector type ¹⁾ | IPEX MHF1 / Hirose U.FL (UMCC) compatible ¹⁾ |
| Cable type and thickness ²⁾ [mm] | micro coax 1.13 ²⁾ |
| Cable length ³⁾ [mm] | 175 ³⁾ |
| PCB material | FR4 |

Additional information

¹⁾ Other connector types can be offered on request.

²⁾ Following cable thicknesses can be used with MHF1 connector: 0.81 mm, 1.13 mm, 1.32 mm, 1.37 mm.

³⁾ Other cable lengths can be provided.

Antenna performance was measured using the recommended cable length in free space.

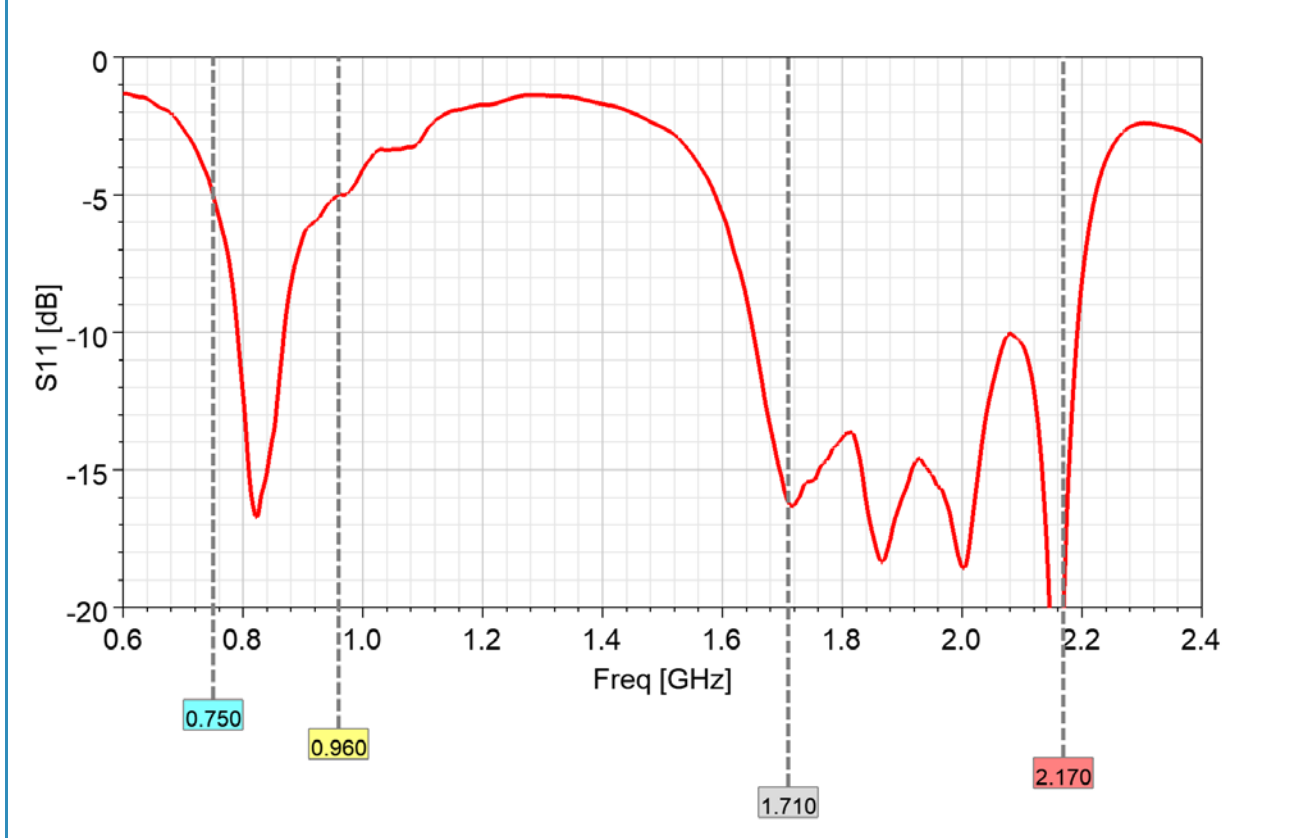
Further customization, electromagnetic simulations and measurements can be offered on request.

The antenna can be additionally equipped with adhesive tape and mounting holes.

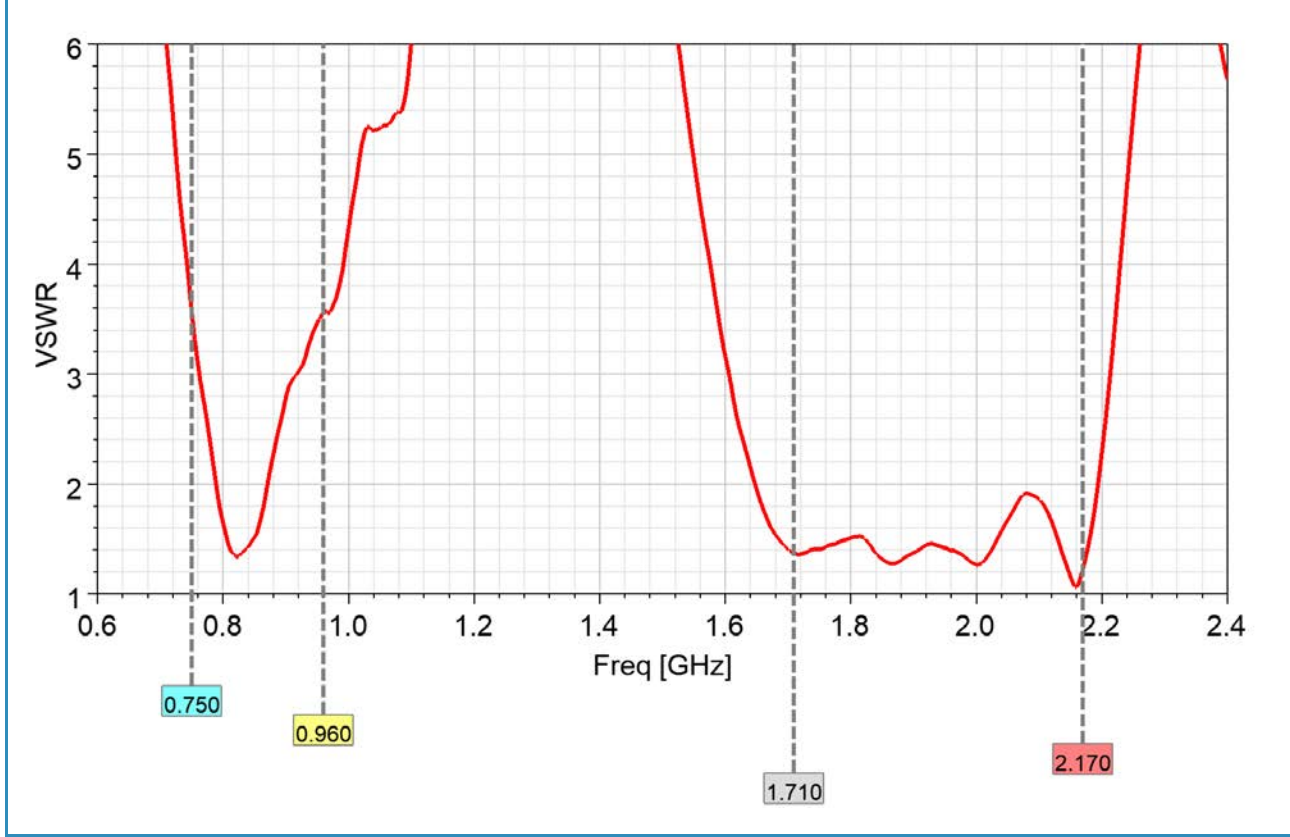
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750...960 MHz / 1710...2170 MHz PCB Antenna (5G, LTE, IoT, WCDMA, UMTS)

Measured input impedance matching



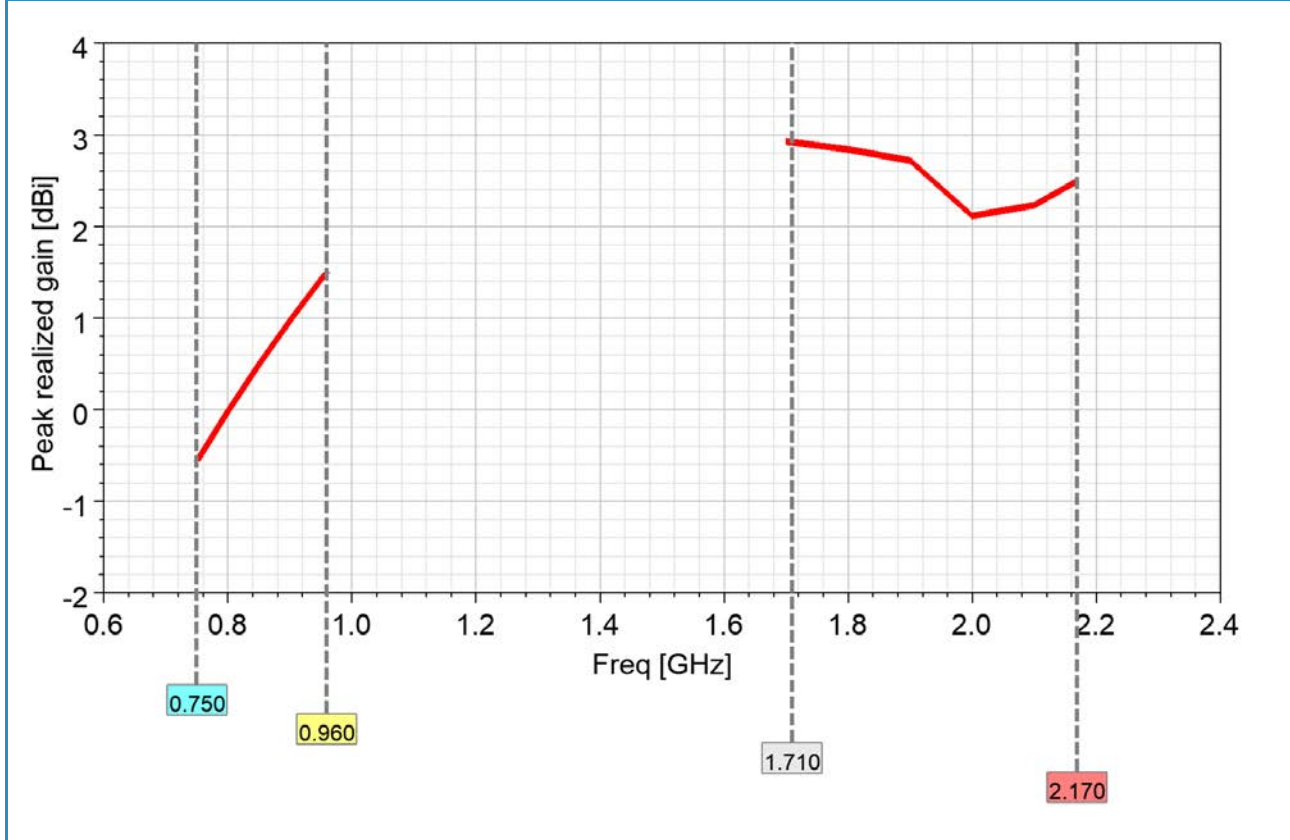
VSWR



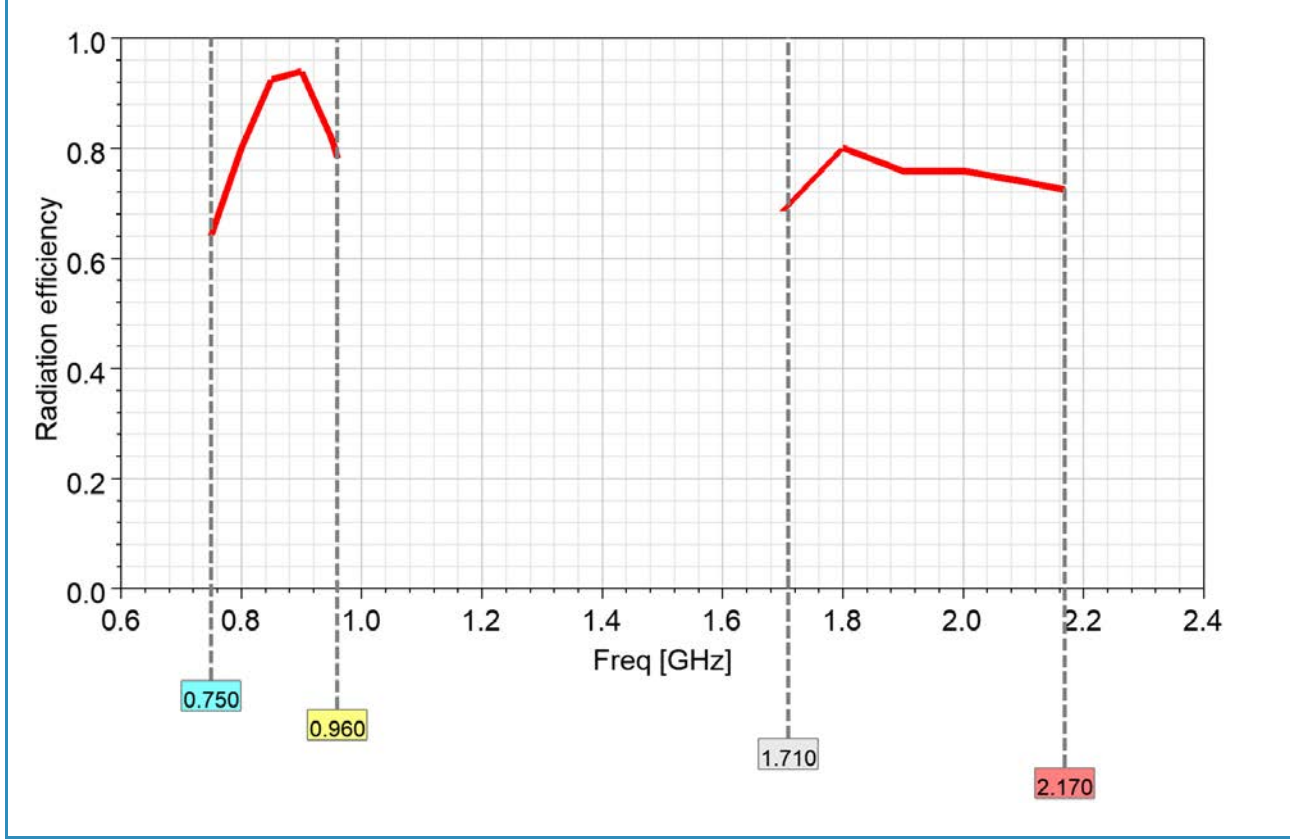
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Peak realized gain



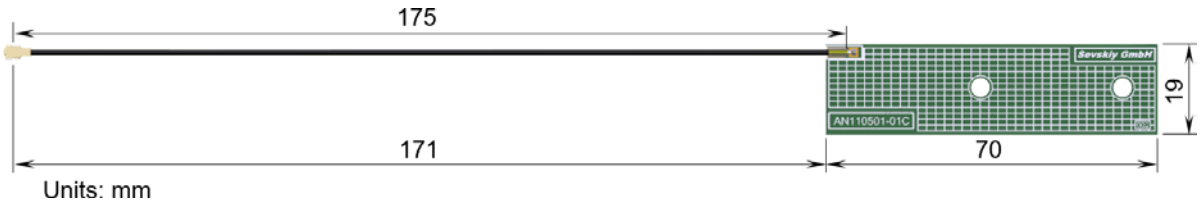
Radiation efficiency



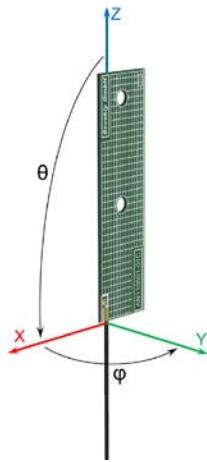
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750...960 MHz / 1710...2170 MHz PCB Antenna (5G, LTE, IoT, WCDMA, UMTS)

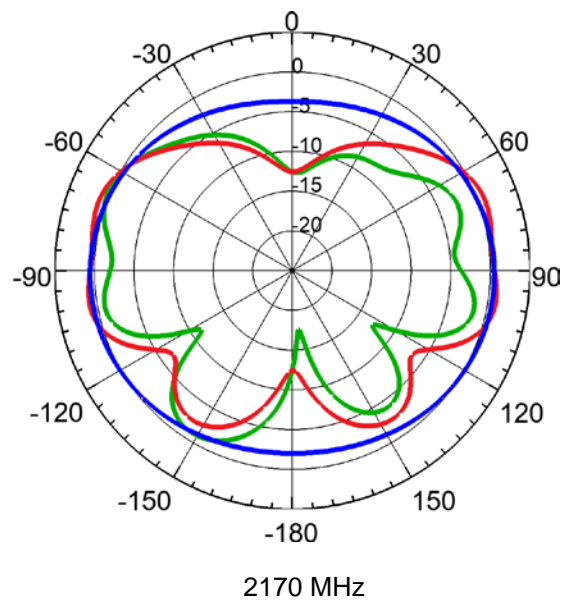
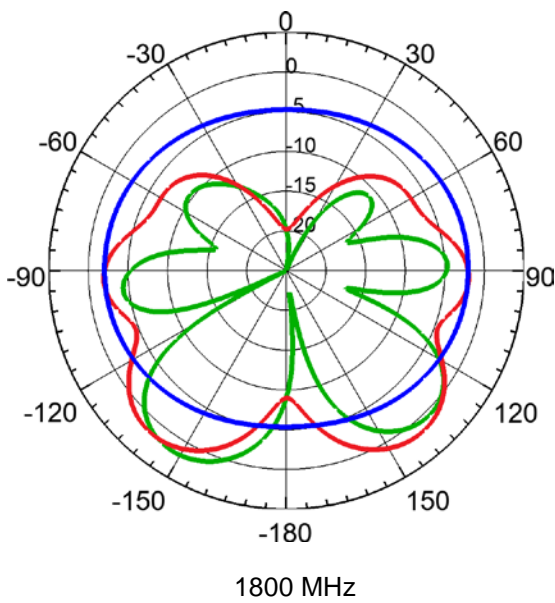
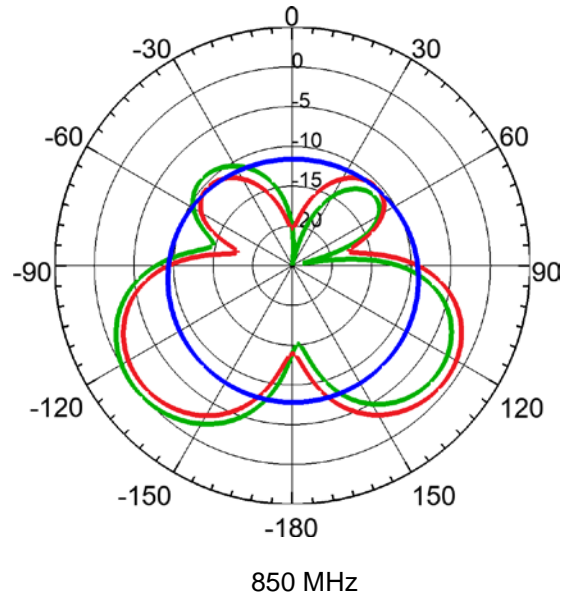
Product dimensions



Radiation pattern



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



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