

850...960 MHz / 2400...2700 MHz / 4400...6000 MHz PCB Antenna (5G, LTE, IoT, ISM, RFID, Wi-Fi)



General information

The AN110508-02C is a wideband internal PCB antenna intended for integration into advanced wireless equipment operating from 850 MHz up to 6 GHz.

The sub-GHz band ensures dependable long-range cellular connectivity, while the 2.4...2.7 GHz range supports LTE mid-bands, Wi-Fi, Bluetooth, and other ISM-based technologies. The 4.4...6 GHz band provides additional capacity for high-speed WLAN and modern broadband wireless systems. It is suitable for industrial routers, IoT gateways, smart infrastructure devices, video surveillance systems, EV charging stations, telematics platforms, and connected automation equipment requiring multi-standard wireless capability.

The antenna is fabricated on an FR-4 PCB and features a soldered micro-coaxial RF cable terminated with an I-PEX MHF1 / Hirose U.FL (UMCC) compatible connector, ensuring flexible and reliable integration with RF modules in space-constrained designs.

Electrical data

Antenna type	Embedded / internal PCB antenna		
5G bands	1, 2, 5, 8, 18, 25, 34, 39, 46, 47, 65, 81, 82, 84, 89, 95, 98		
4G bands	1, 2, 5, 6, 8, 18, 19, 25, 26, 33 - 37, 39, 46, 47, 65		
Other frequency bands	SRD860, ISM915, ISM2400, ISM5800, Wi-Fi 5 GHz		
Frequency range [MHz]	850...960	2400...2700	4400...6000
Return loss [dB]	-5	-6	-8
Peak gain [dBi]	0.4...0.8	1.3...2.6	2.8...4.7
Radiation efficiency [%]	54...80	60...80	68...85
Nominal input impedance [Ohm]	50		
Polarization	linear		
Radiation pattern	omnidirectional		
Maximum input power [W]	5		

Mechanical data

Antenna PCB dimensions [mm]	110 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.

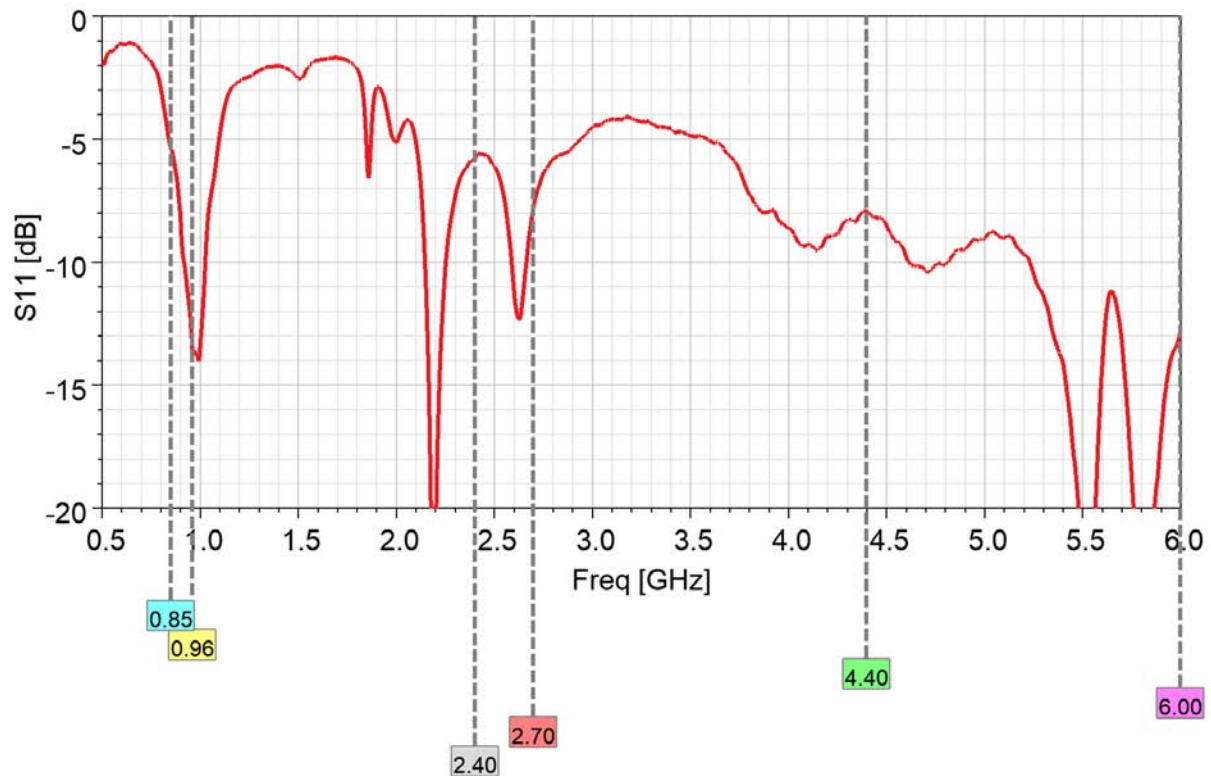
Further customization, electromagnetic simulations and measurements can be offered on request.

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

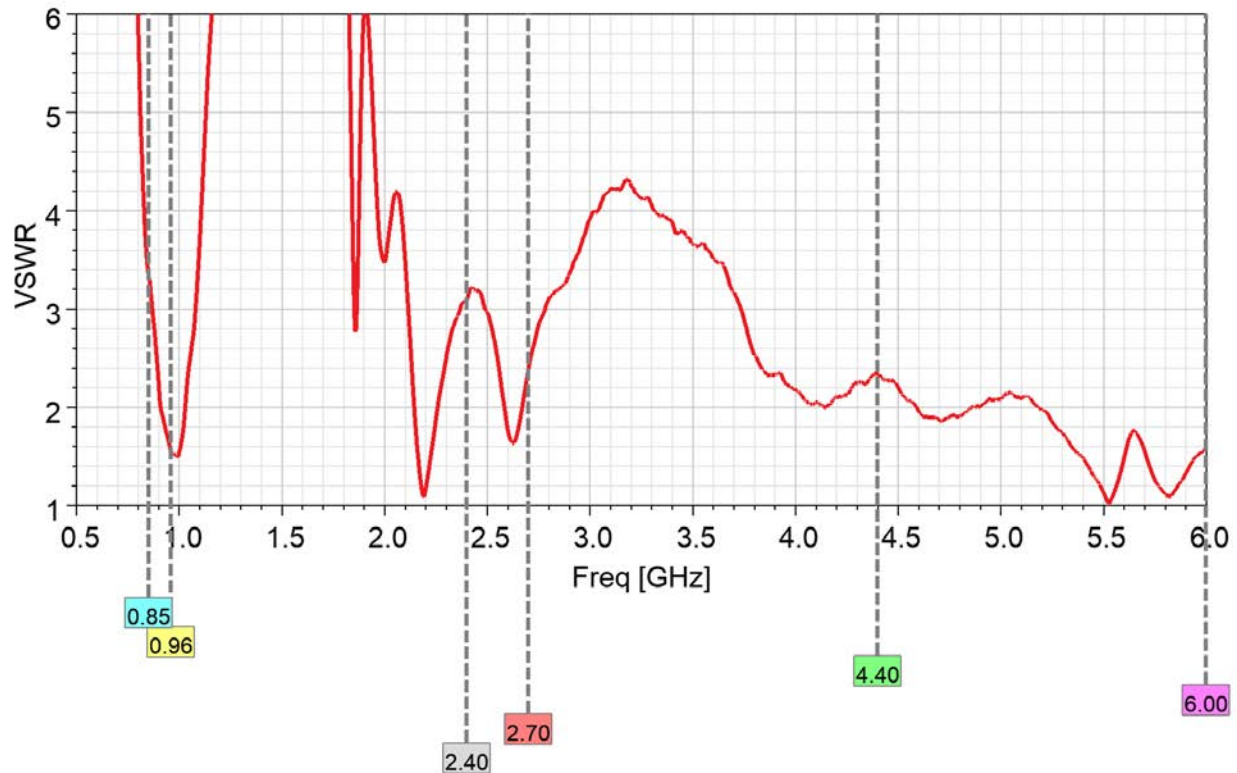
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Measured input impedance matching



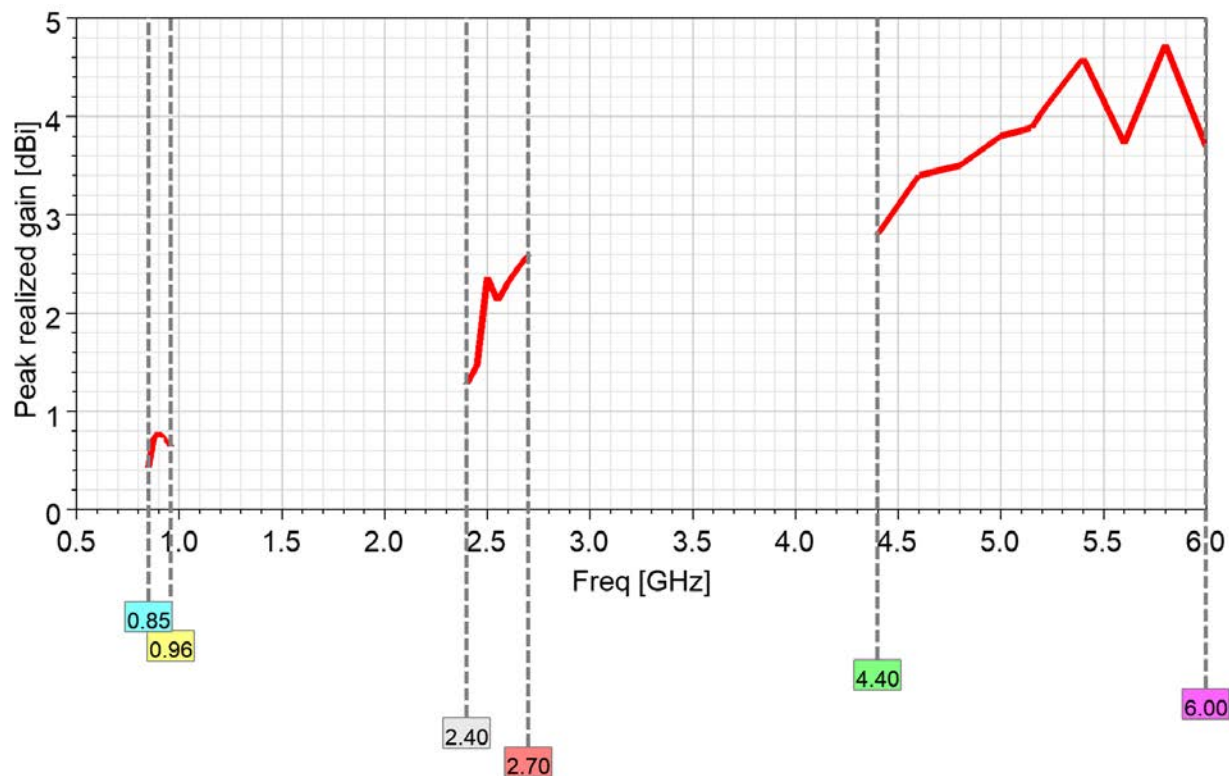
VSWR



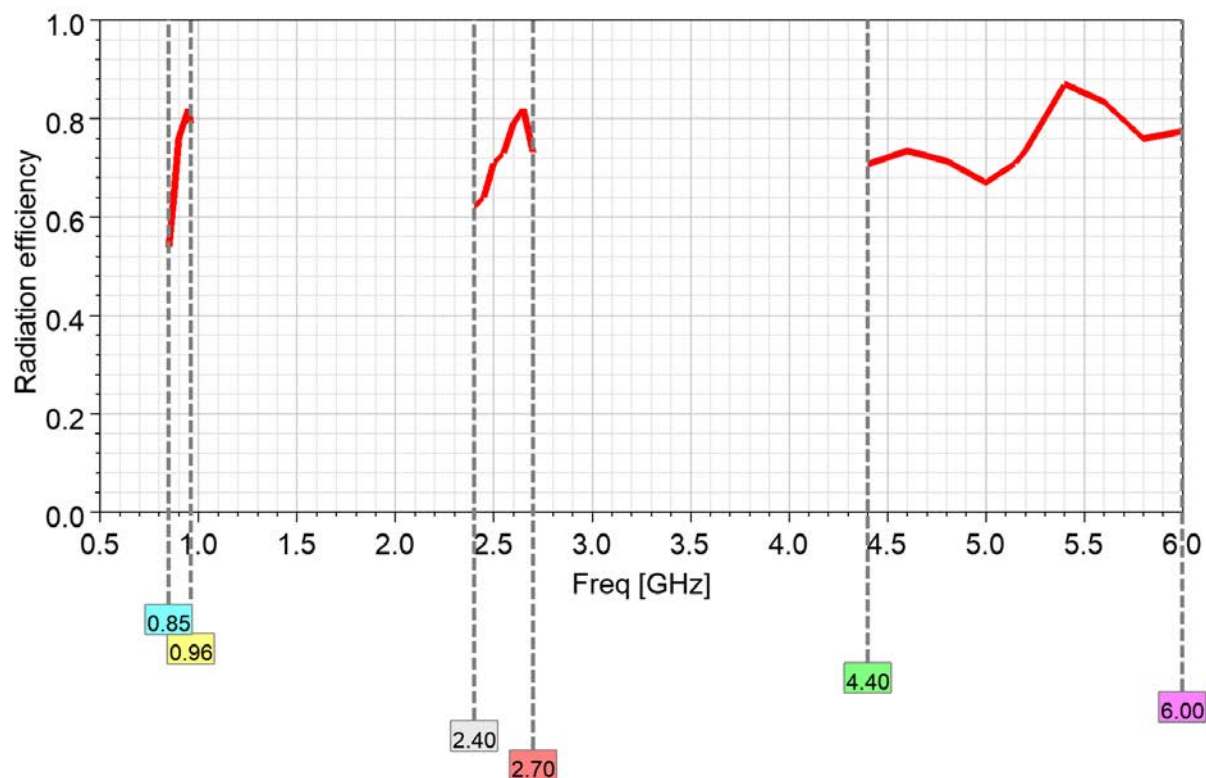
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Peak realized gain



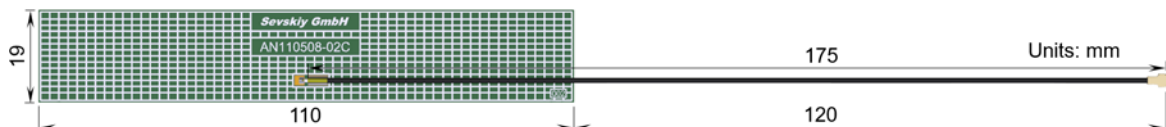
Radiation efficiency



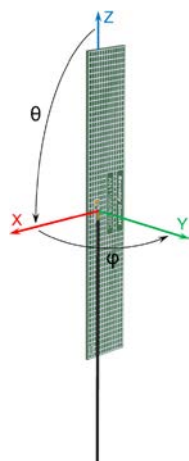
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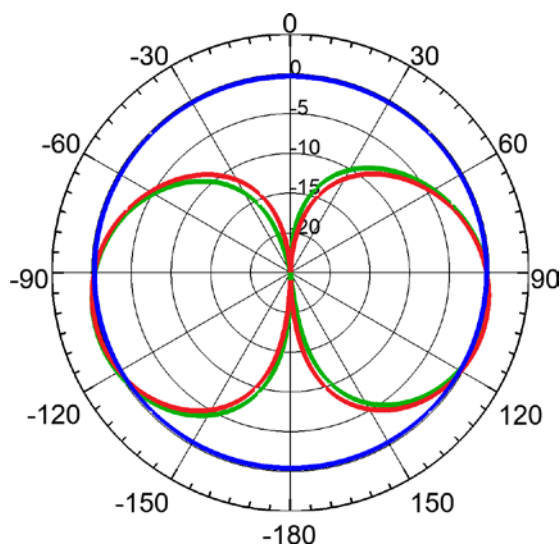
Product dimensions



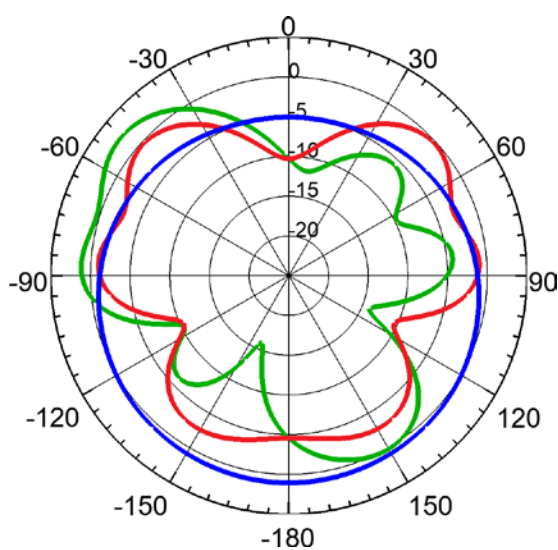
Radiation pattern



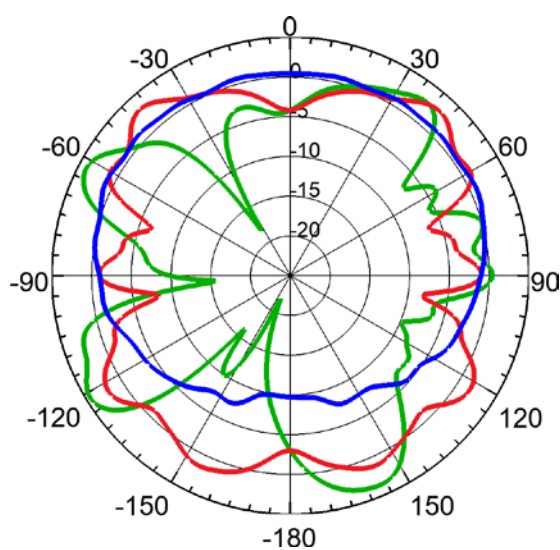
Total realized gain [dBi]
 Phi=0°, plane XZ, green curve
 Phi=90°, plane YZ, red curve
 Theta=90°, plane XY, blue curve



900 MHz



2500 MHz



5400 MHz

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