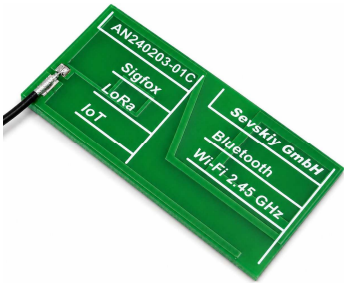
750…960 MHz / 2410…2485 MHz PCB Antenna (ISM, IoT, Bluetooth, Wi-Fi 2.4 GHz, 5G, LTE)



General information

The AN240203-01C is a compact wideband PCB antenna designed for integration into mobile devices, IoT platforms, industrial communication units, telemetry equipment, and wireless connectivity modules. Operating in the 750…960 MHz and 2400 MHz bands, the antenna supports a broad range of communication standards, including LTE, selected 5G NR bands, ISM 868/915 MHz, SRD860, ISM2400, Bluetooth, and Wi-Fi 2.4 GHz, ensuring reliable performance across multiple wireless applications.

Manufactured on an FR-4 substrate, the antenna features a micro-coaxial cable terminated with an I-PEX MHF1 / Hirose U.FL (UMCC) compatible connector that enables quick and secure integration into RF communication modules. Its linear polarization, omnidirectional radiation pattern, and high radiation efficiency make it suitable for ISM systems, RFID, LP-WAN networks, smart meters, asset tracking, industrial automation, wireless sensor nodes, Bluetooth peripherals, and WLAN applications.

Electrical data

Antenna type	Embedded / internal PCB antenna	
5G bands	5, 8, 13, 14, 18, 20, 26, 53, 81, 82, 89	
4G bands	5, 6, 8, 13, 14, 18 - 20, 26, 27, 53	
Other frequency bands	SRD860, ISM915, ISM2400	
Frequency range [MHz]	750…960	2410…2485
Return loss [dB]	-6	-15
Peak gain [dBi]	-1…1.7	4.5…5
Radiation efficiency [%]	65…90	75…85
Nominal input impedance [Ohm]	50	
Polarization	linear	
Radiation pattern	omnidirectional	
Maximum input power [W]	5	

Mechanical data

Antenna PCB dimensions [mm]	42 x 20 x 1
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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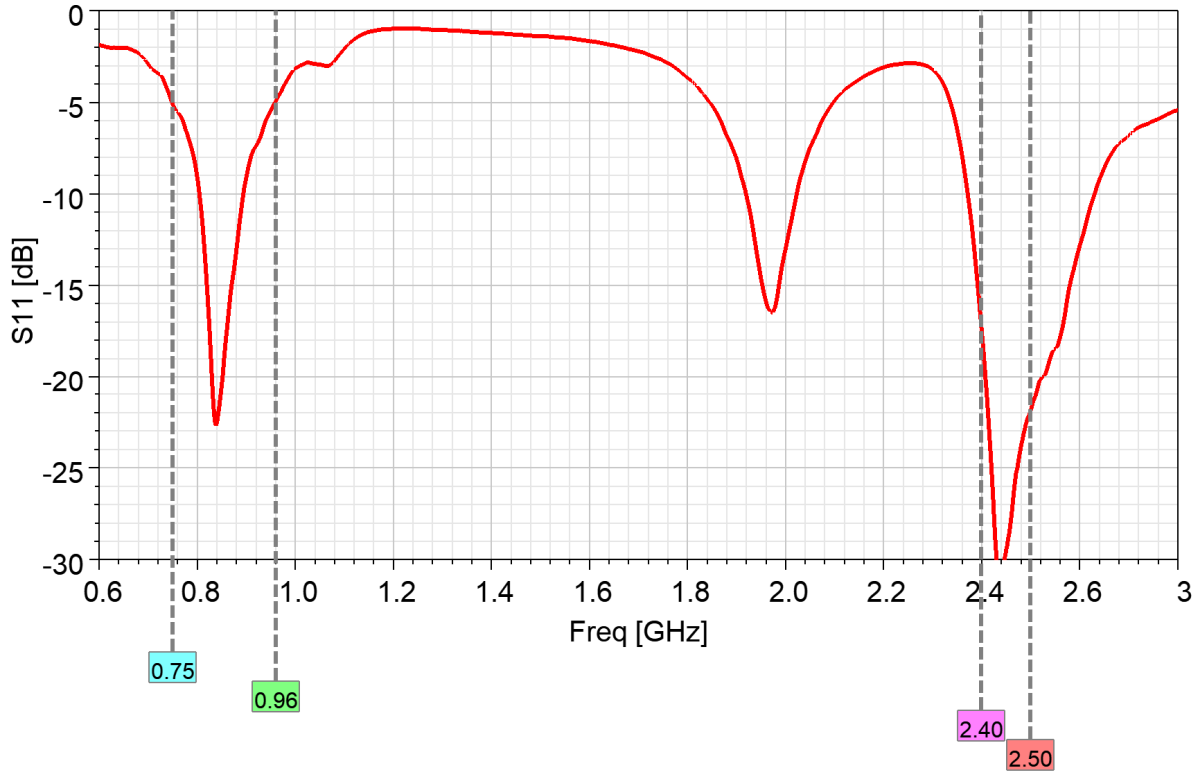
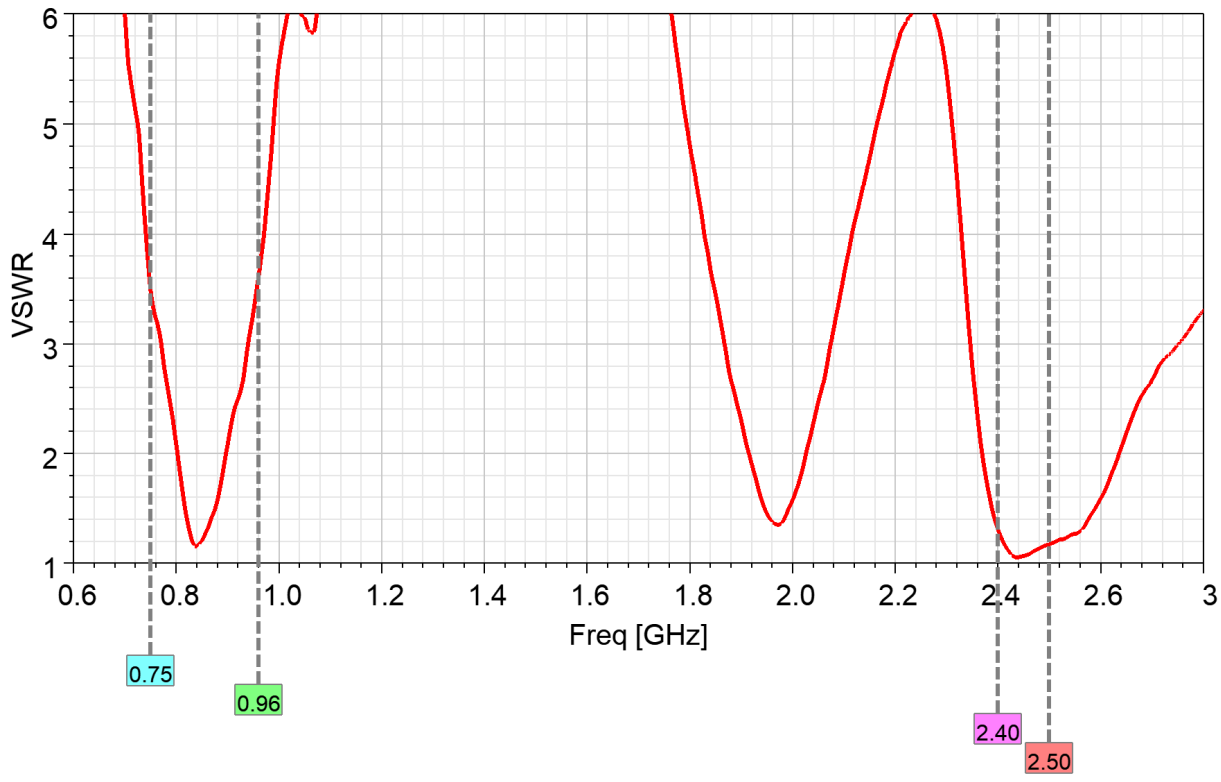
Measured input impedance matching



VSWR



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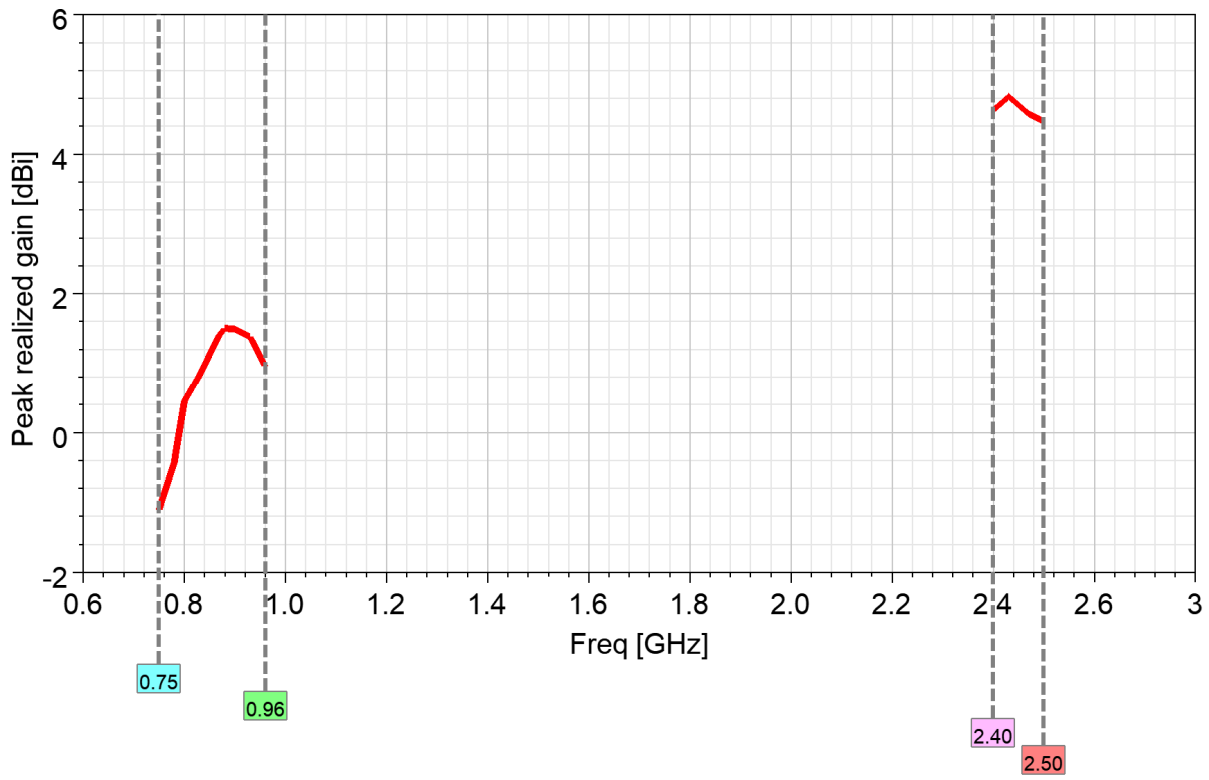
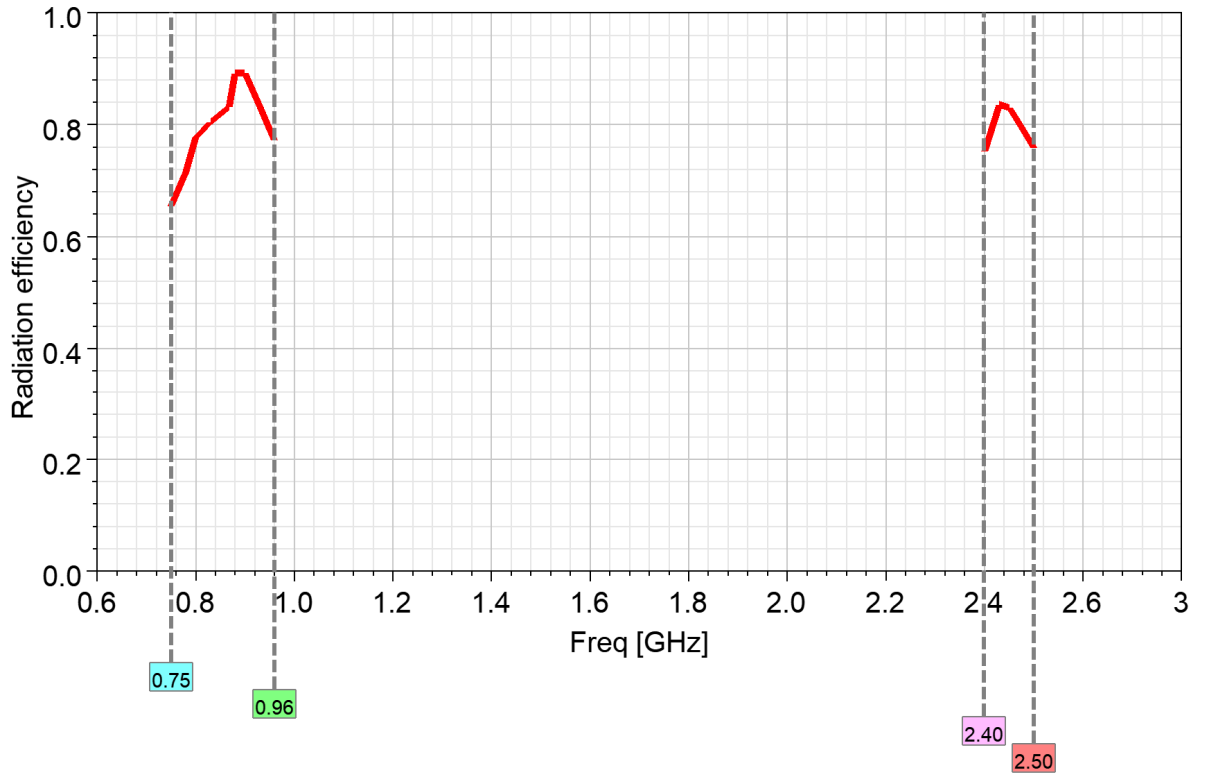
Peak realized gain



Radiation efficiency



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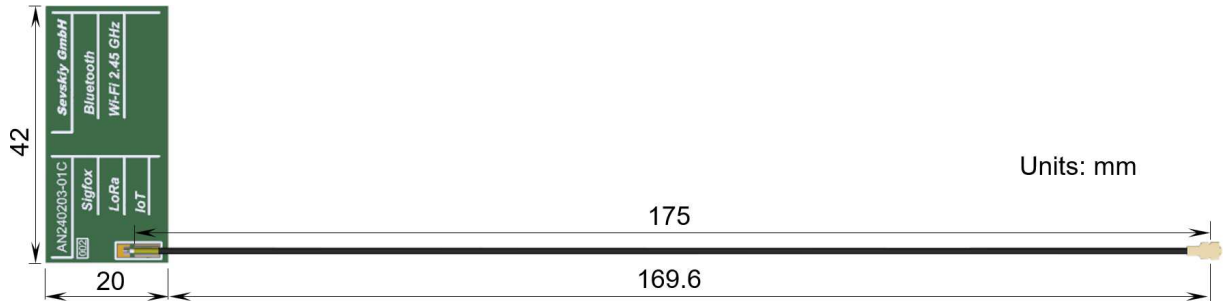
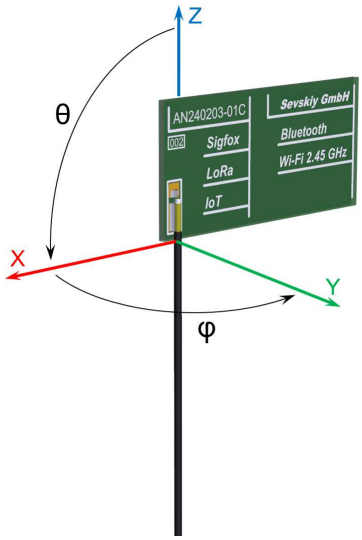
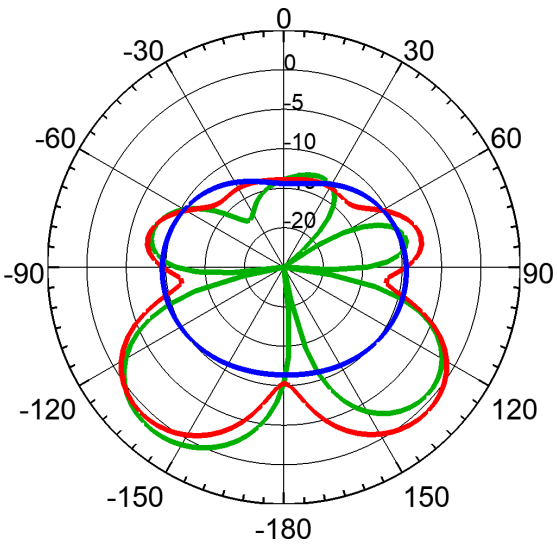
Product dimensions



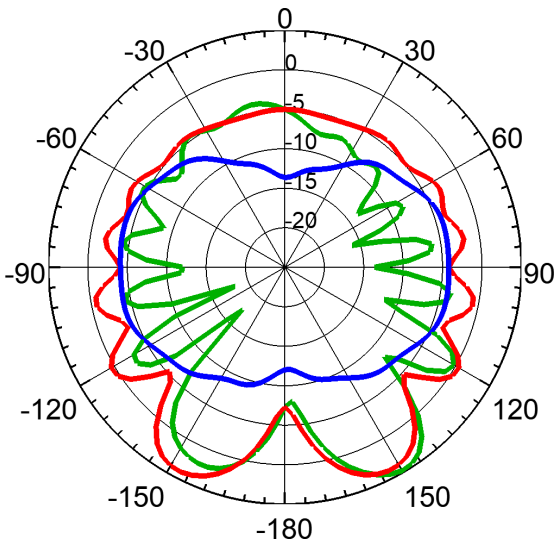
Radiation pattern



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



900 MHz



2470 MHz

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