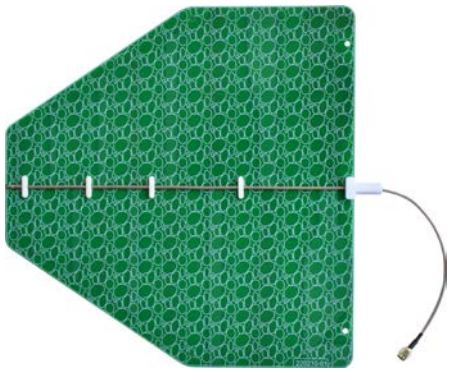
370…1000 MHz Planar wideband log-periodic antenna (ISM, RFID, IoT, LoRa, Smart meters)



General information

The AN220208-01C is a planar wideband log-periodic PCB antenna designed to operate in the 370…1000 MHz frequency range. It provides stable impedance matching and consistent radiation characteristics across the entire operating band, making it suitable for a wide range of sub-GHz wireless communication and monitoring applications.

This frequency coverage supports numerous wireless standards and services, including ISM and SRD bands, RFID systems, LoRa and other LPWAN technologies, proprietary sub-GHz IoT networks, telemetry, as well as public and private narrowband radio systems. The antenna can also be used for VHF/UHF monitoring, spectrum analysis, and experimental sub-GHz communication platforms.

With linear polarization and a directional radiation pattern, the antenna offers improved link budget, enhanced interference rejection, and controlled coverage, which is essential for reliable operation in dense RF environments. Typical applications include smart meters, industrial IoT gateways, remote sensing nodes, wireless data collection systems, spectrum monitoring equipment, laboratory measurements, and field test setups.

Electrical data	
Antenna type	PCB log-periodic antenna
5G bands	5, 8, 12 - 14, 18, 20, 26, 28, 29, 71, 81 - 83, 89
4G bands	5, 6, 8, 12 - 14, 17 - 20, 26 - 29, 31, 44, 67, 68, 71 - 73, 85 - 88
Frequency range [MHz]	370...1000
Return loss [dB]	-10
Peak gain [dBi]	4.5…5.5
Radiation efficiency [%]	75…80
Nominal input impedance [Ohm]	50
Polarization	linear
Radiation pattern	directional
Maximum input power [W]	5

Mechanical data	
Antenna dimensions [mm]	287 x 296 x 1.6
Connector type [1)]	SMA male
Cable type and thickness [mm]	RG316, 2.5
Weight [g]	240

Additional information

[1)] Other connector types can be offered on request.

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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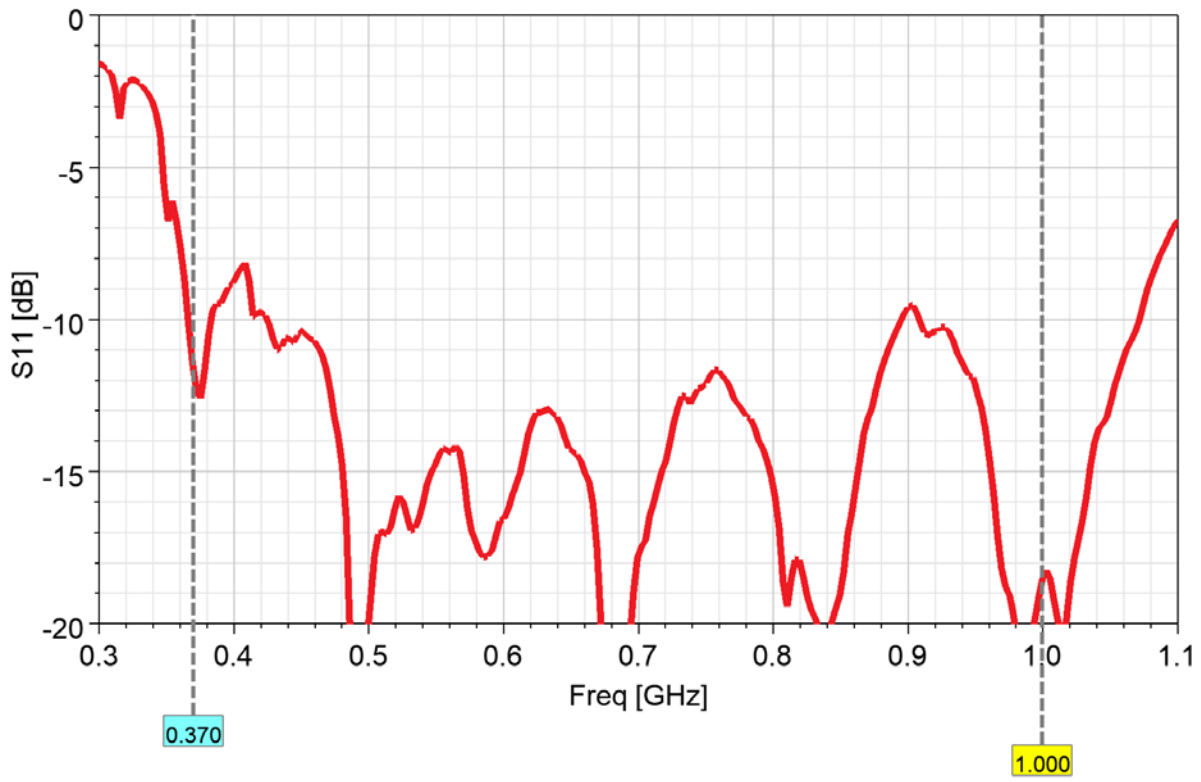
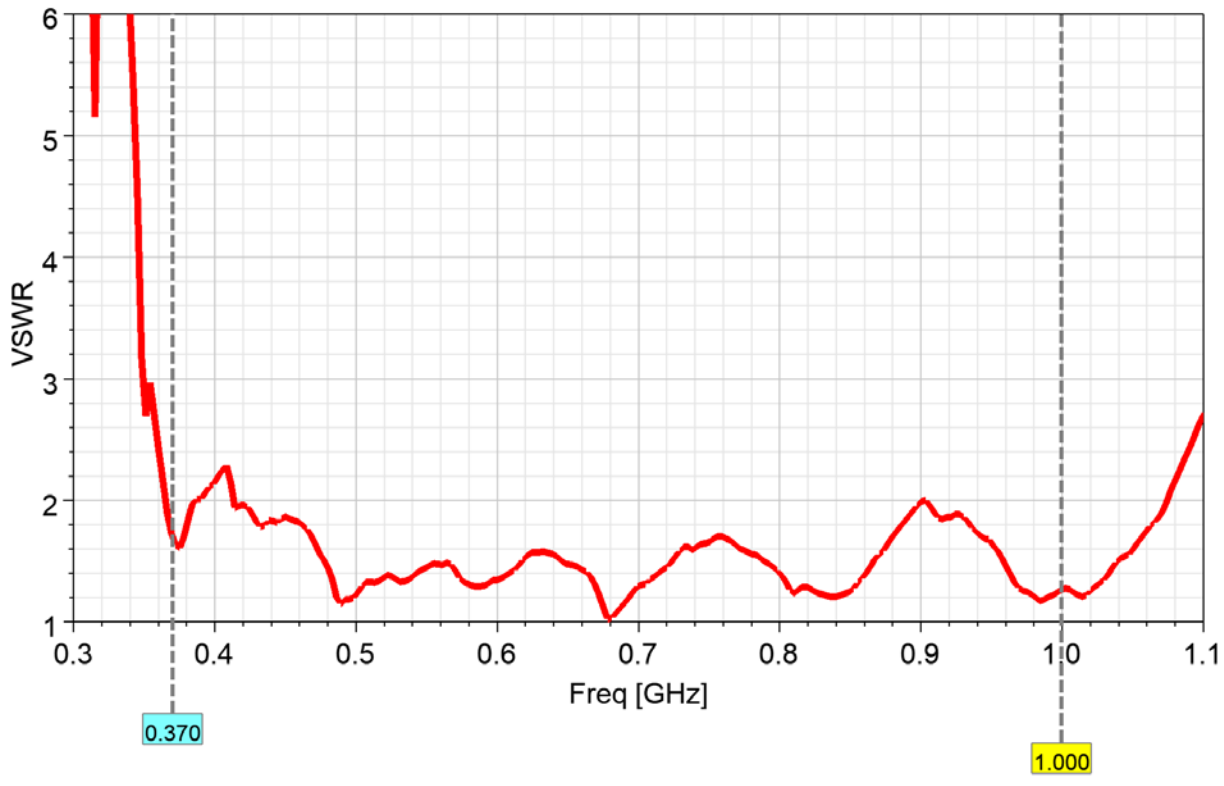
Measured input impedance matching



VSWR



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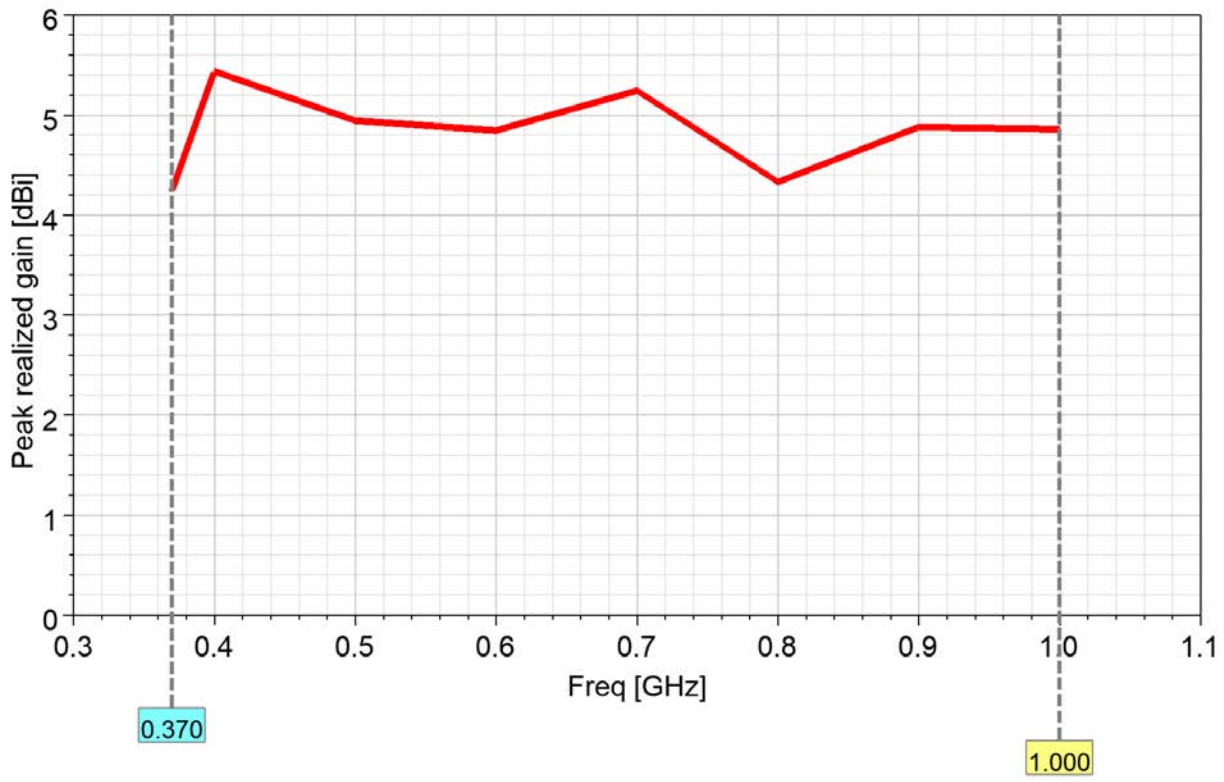
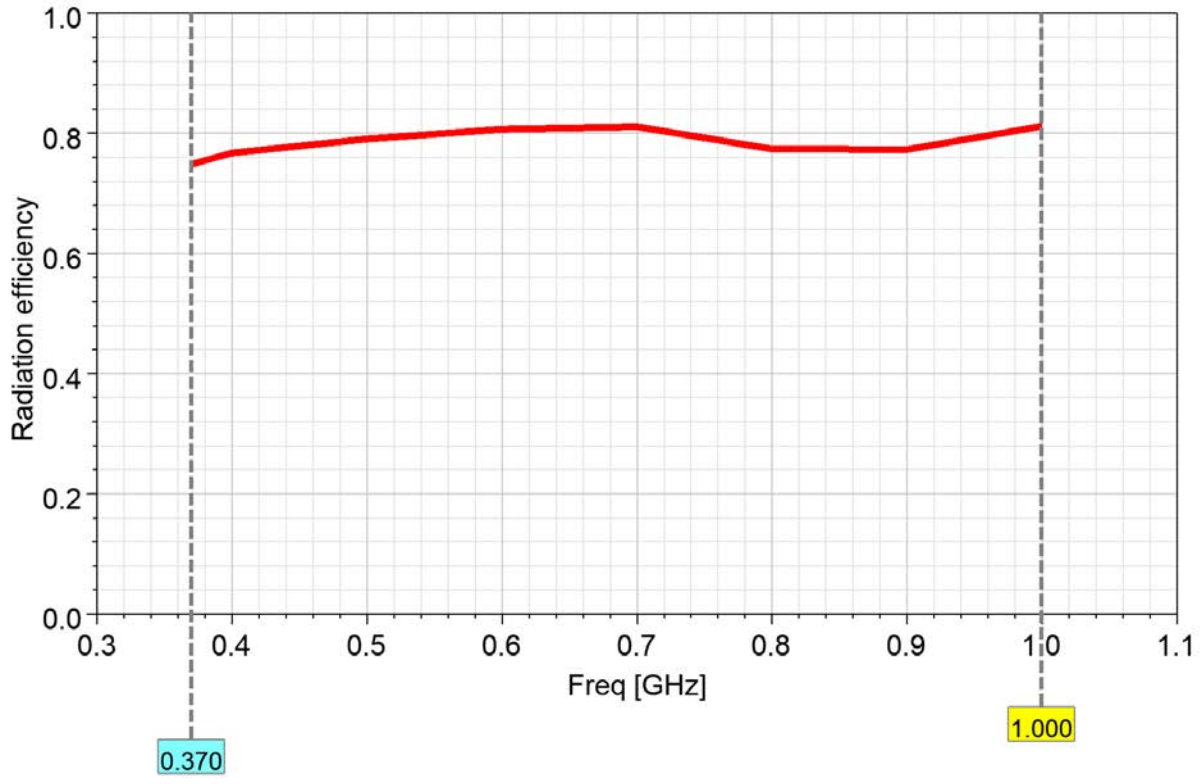
Peak realized gain



Radiation efficiency



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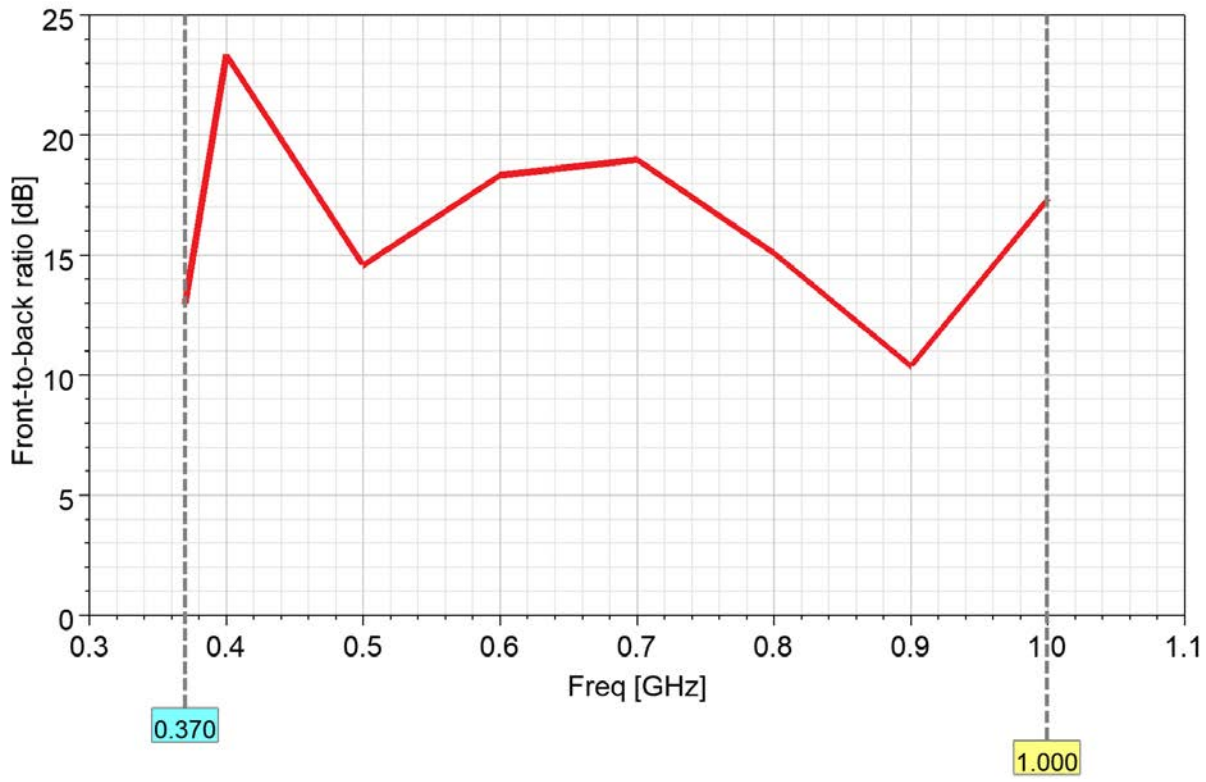
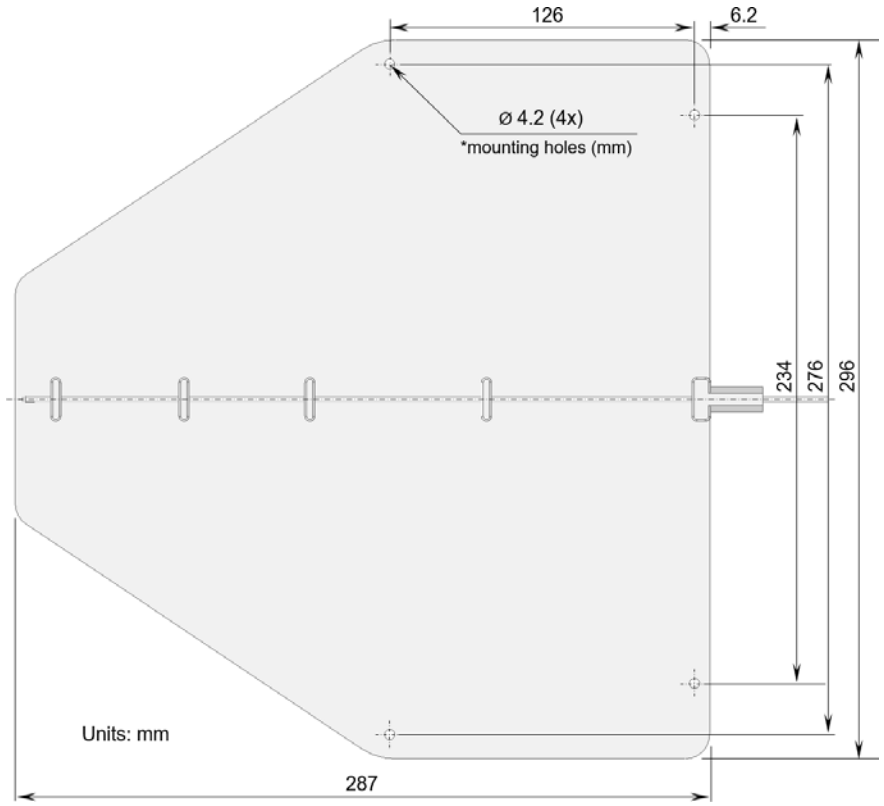
Front-to-back ratio



Product dimensions



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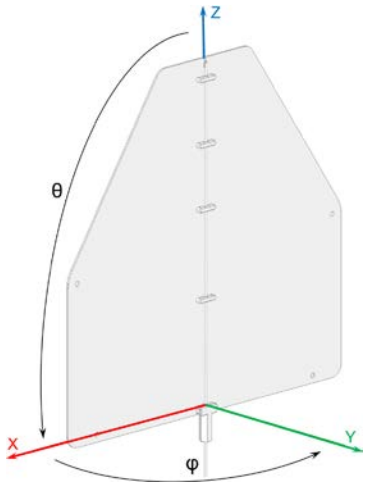
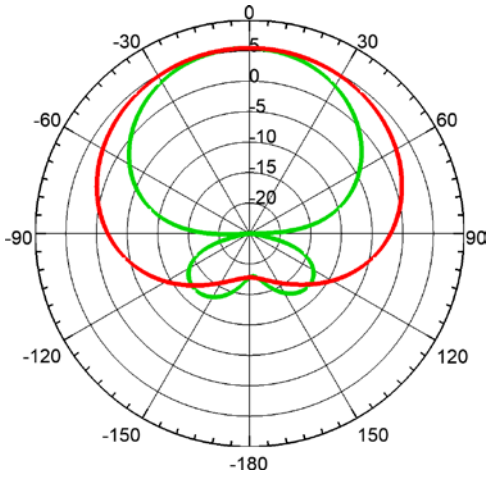
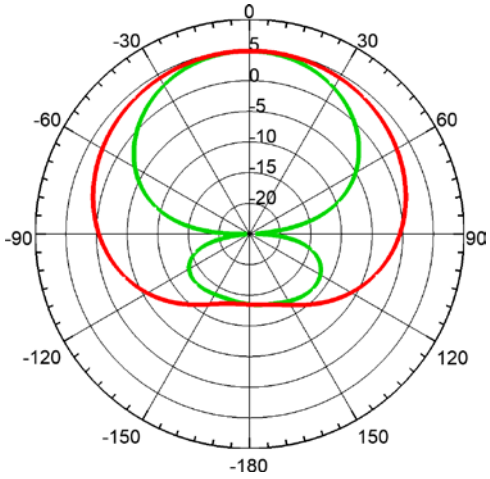
Radiation pattern



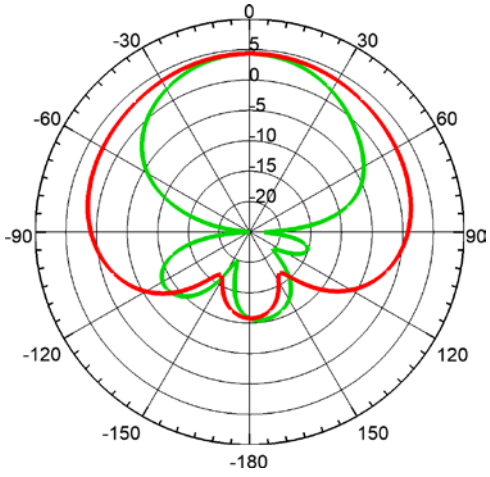
Total realized gain [dBi]
Phi=0°, plane XZ, green curve
Phi=90°, plane YZ, red curve



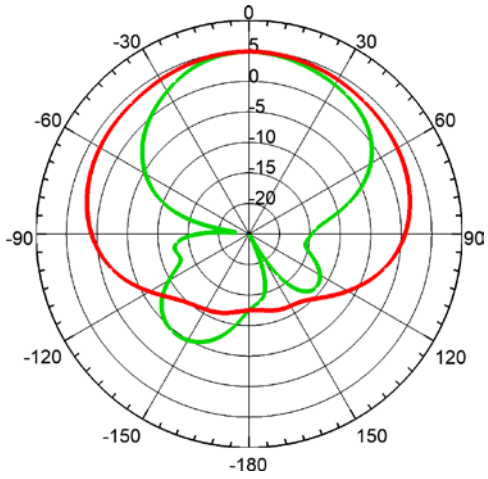
400 MHz



600 MHz



800 MHz



1000 MHz

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