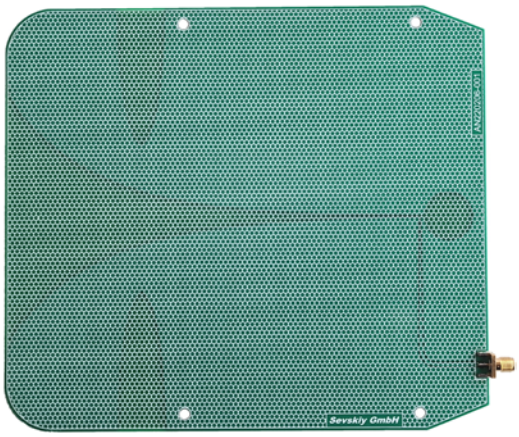
700…9000 MHz UWB Vivaldi antenna (5G, LTE, ISM, IoT, UMTS, GSM, UWB)



General information

The AN220206-001 is an ultra-wideband Vivaldi antenna designed for operation over a frequency range from 700 MHz to 9 GHz. The antenna provides stable impedance matching and consistent radiation characteristics across multiple octaves, making it suitable for a wide variety of wireless and measurement applications.

Covering both sub-GHz and microwave bands, the antenna supports numerous wireless standards and services, including LTE, GSM, UMTS, ISM-band systems, IoT connectivity, UWB communications, and sub-6 GHz 5G technologies. In addition, the wide operating bandwidth enables use in various radio systems, point-to-point broadband links, and experimental wideband communication platforms.

With linear polarization and a directional radiation pattern, the antenna offers enhanced link performance, improved spatial selectivity, and reduced susceptibility to interference. Typical applications include spectrum monitoring, laboratory measurements, EMC/EMI testing, wireless system characterization, remote sensing, and radar-related experiments. The planar FR-4 PCB design with an SMA connector allows straightforward integration into test setups, monitoring equipment, and compact RF systems.

Electrical data

Antenna type	UWB Vivaldi antenna	
Frequency range [MHz]	700...1500	1500…9000
Return loss [dB]	-6…-13	-10
Peak gain [dBi]	2…7	7...8
Radiation efficiency [%]	70…90	45…85
Nominal input impedance [Ohm]	50	
Polarization	linear	
Radiation pattern	directional	
Maximum input power [W]	5	

Mechanical data

Antenna dimensions [mm]	196 x 172.5 x 1.6
Connector type	SMA (female)
PCB material	FR4
Weight [g]	121

Additional information

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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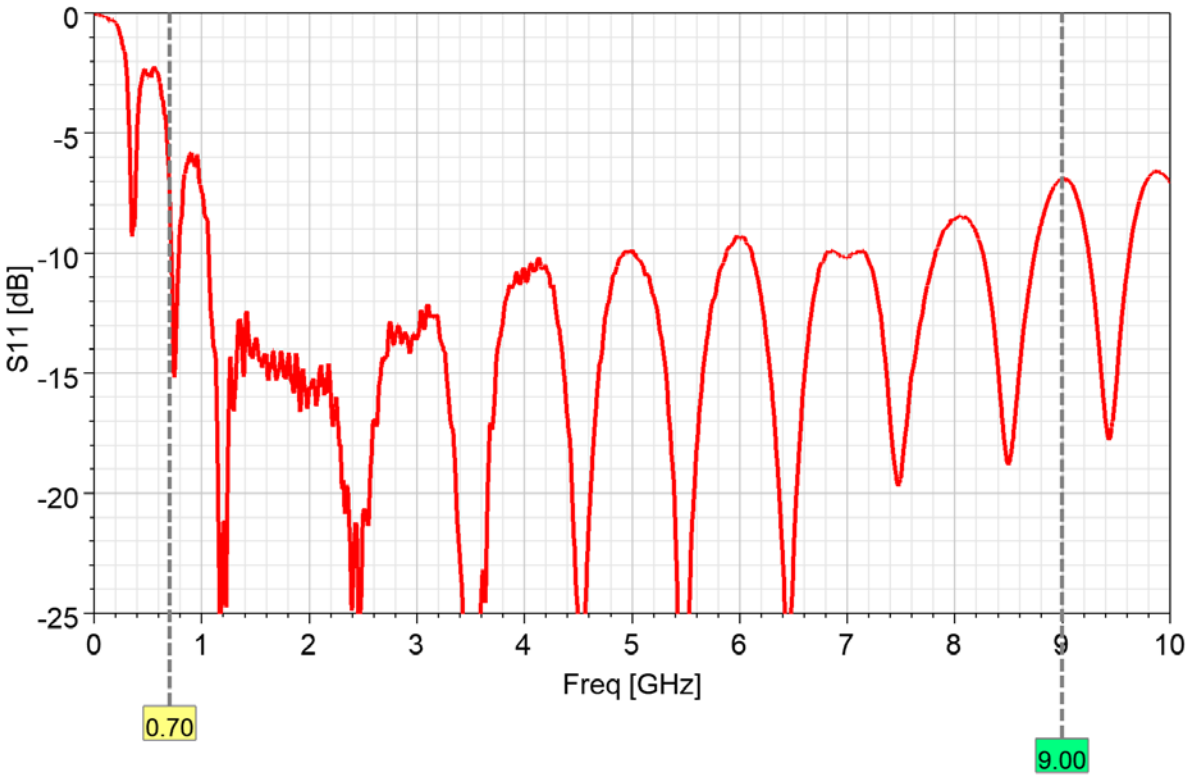
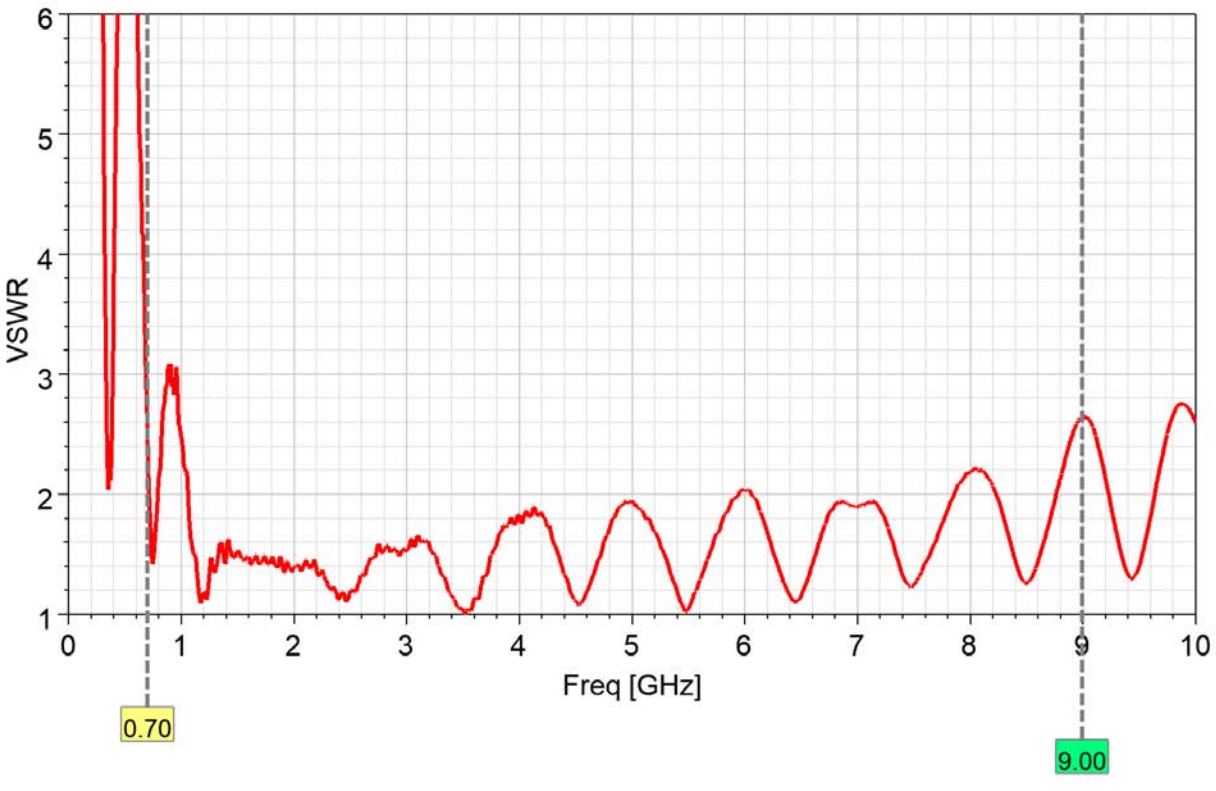
Measured input impedance matching



VSWR



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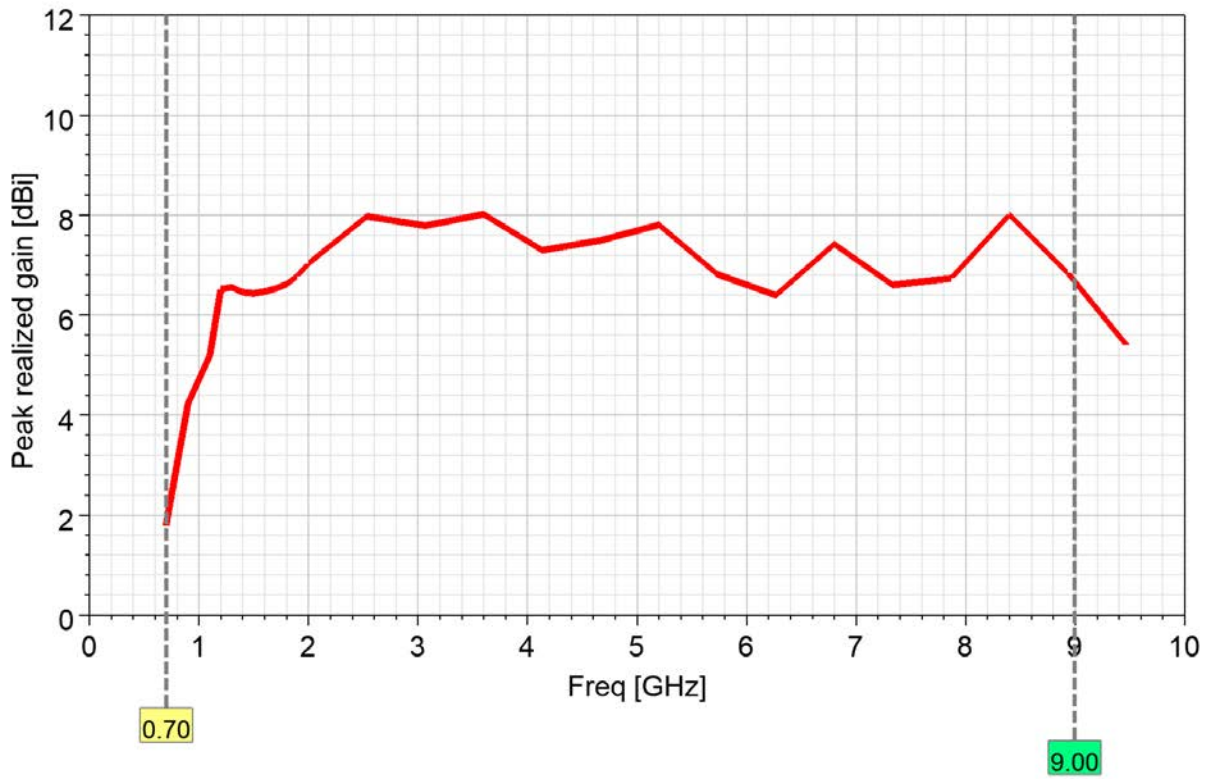
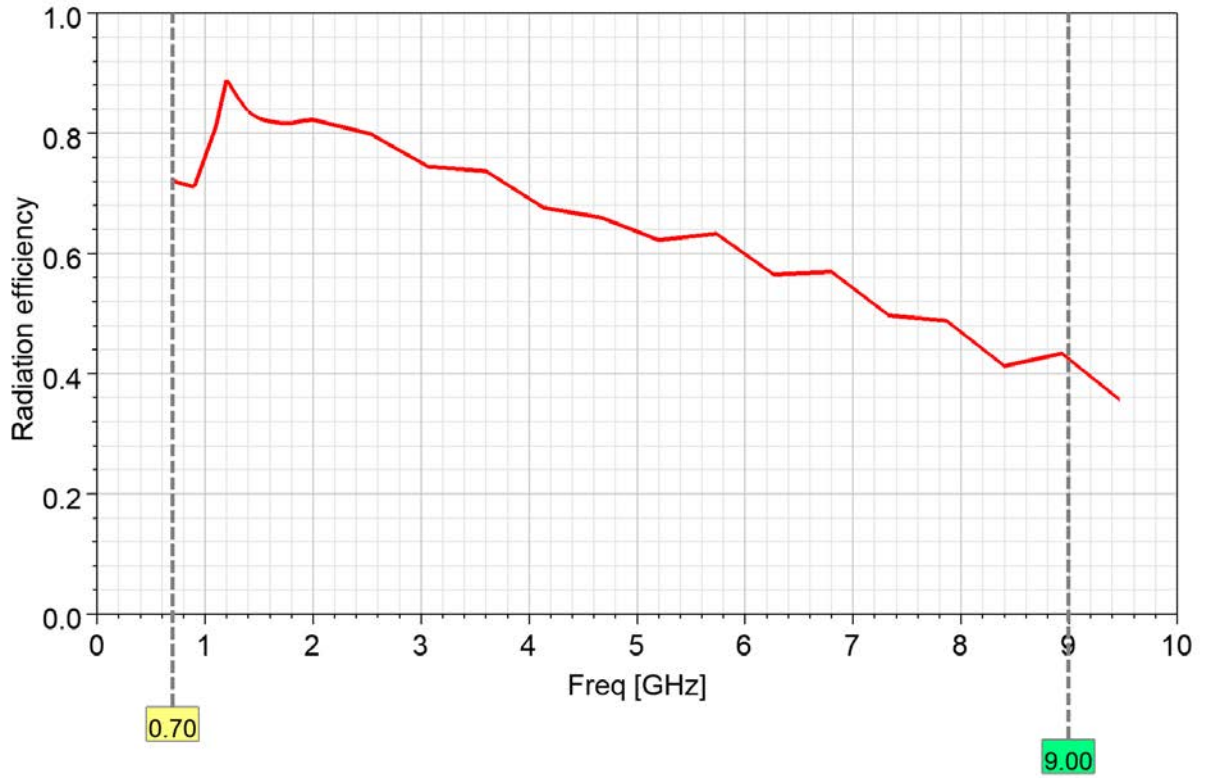
Peak realized gain



Radiation efficiency



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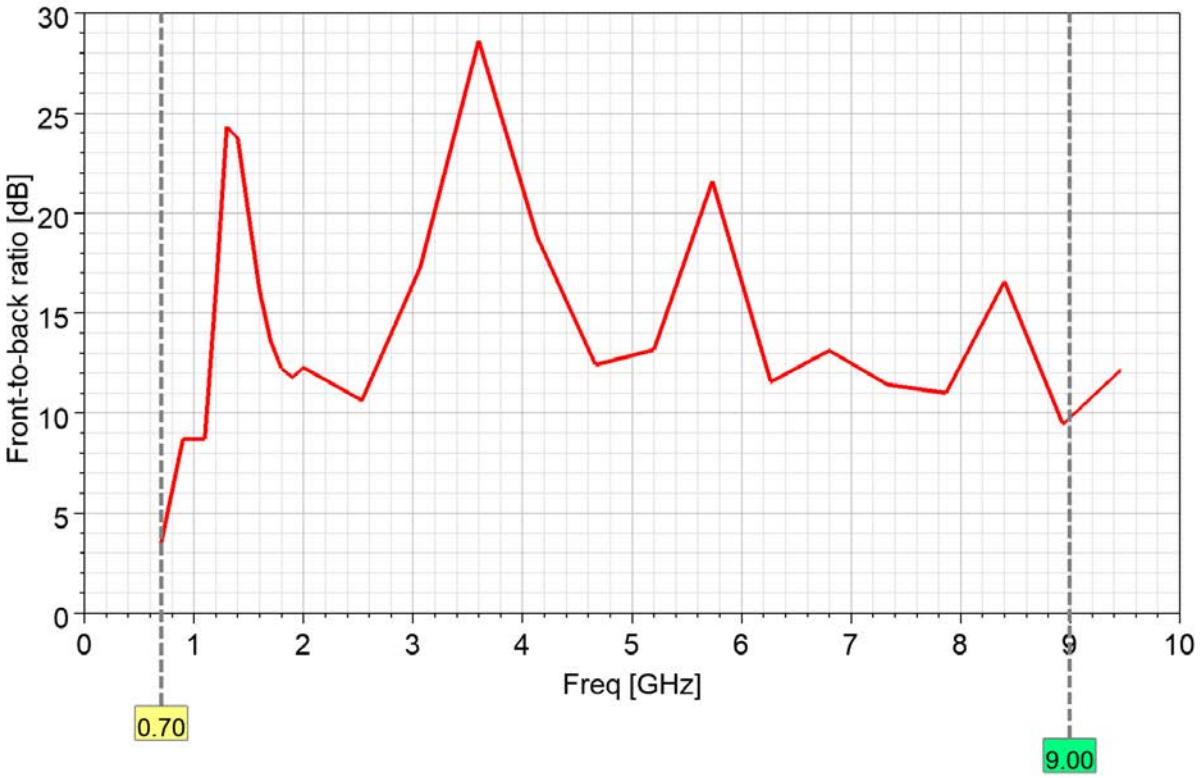
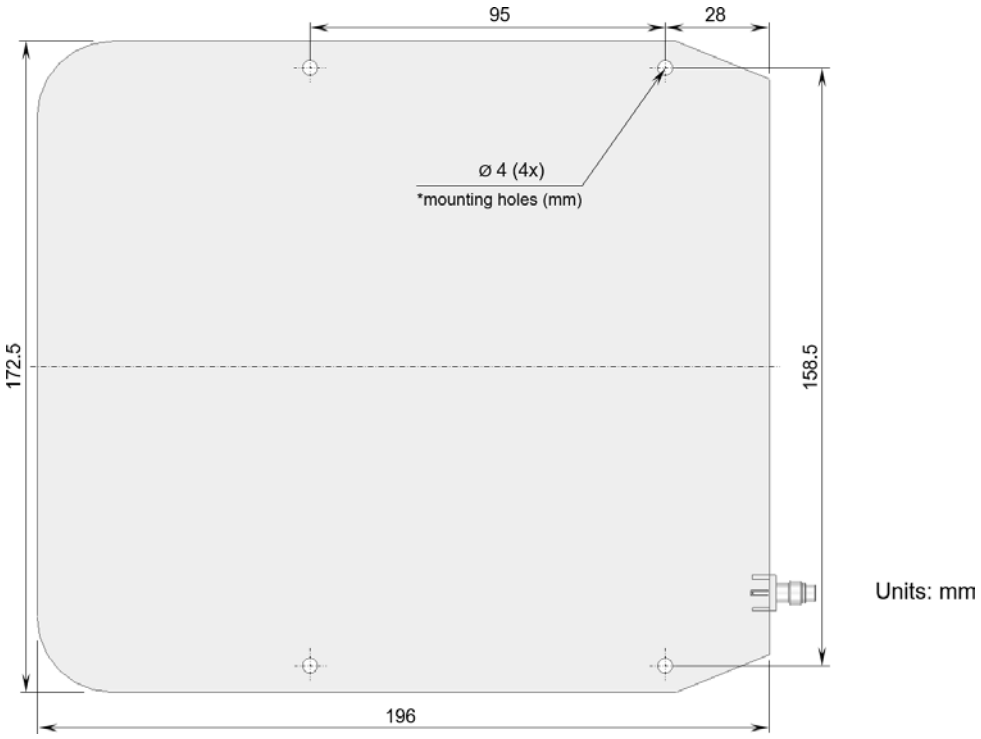
Front-to-back ratio



Product dimensions



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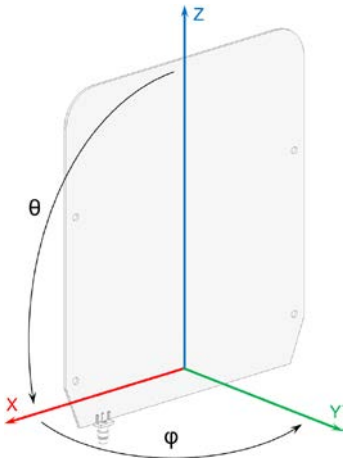
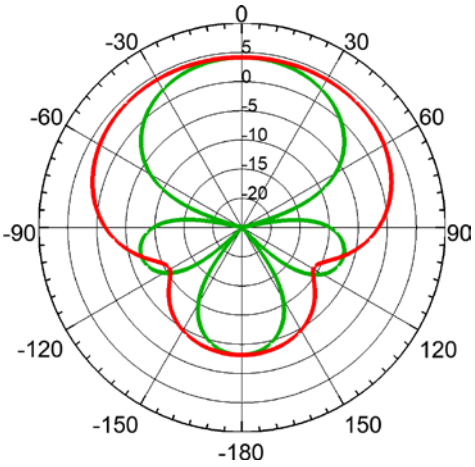
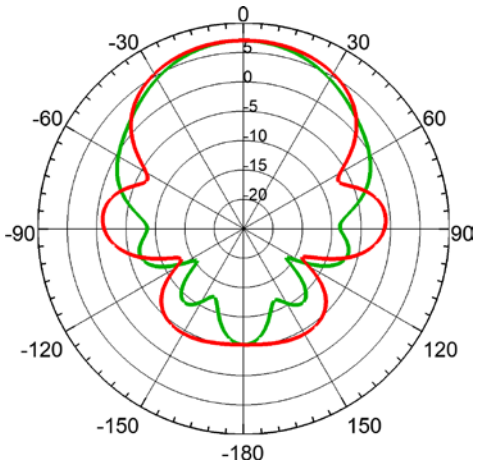
Radiation pattern



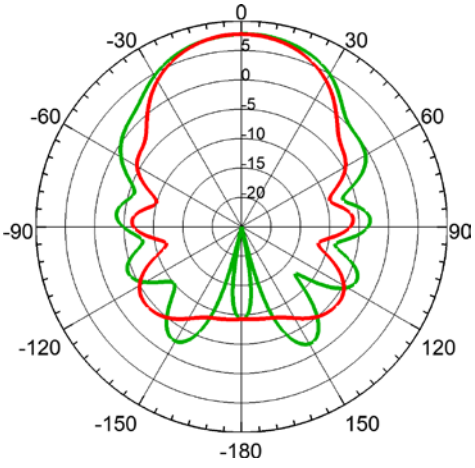
Total realized gain [dBi]
Phi=0°, plane XZ, green curve
Phi=90°, plane YZ, red curve



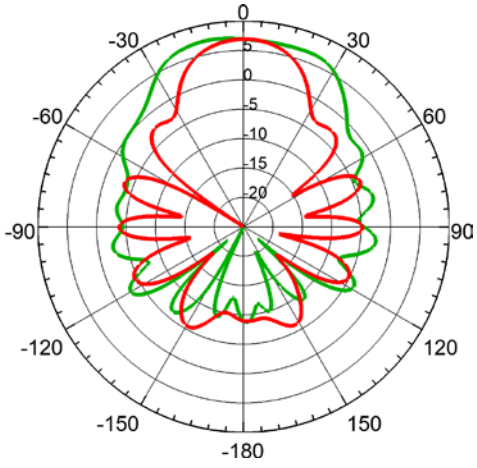
900 MHz



2000 MHz



3000 MHz



4000 MHz

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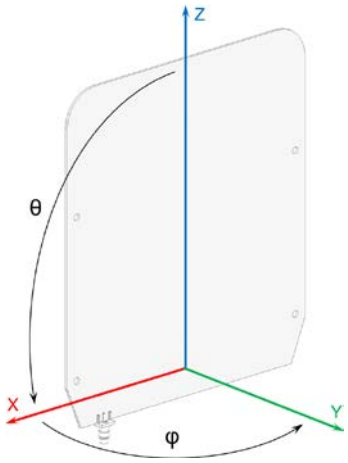
Radiation pattern



Total realized gain [dBi]
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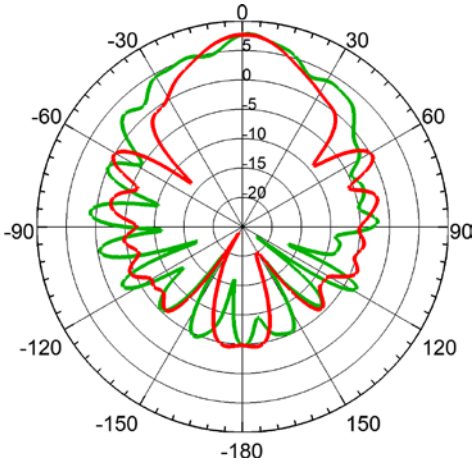
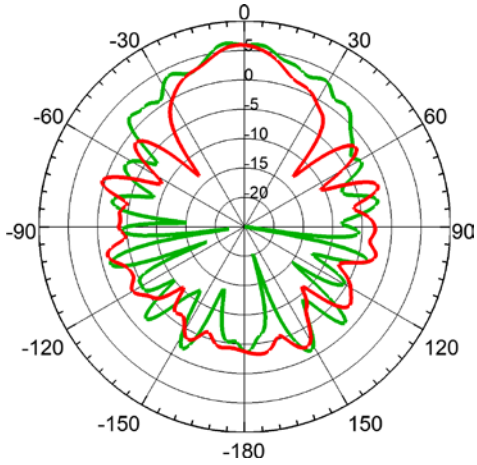
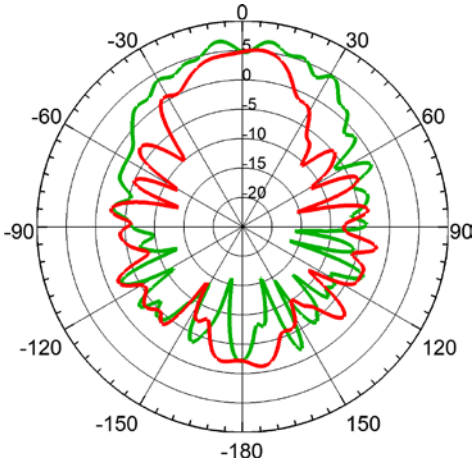


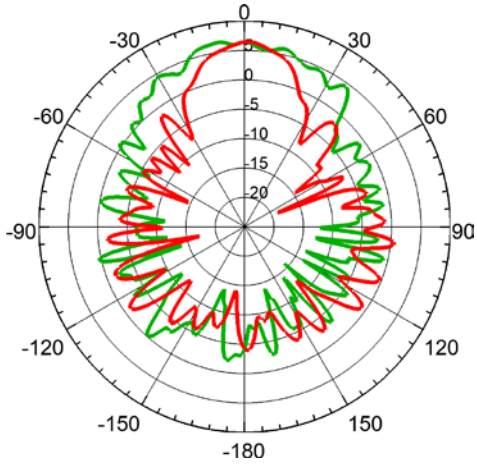
5000 MHz



6000 MHz



7000 MHz



8000 MHz

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