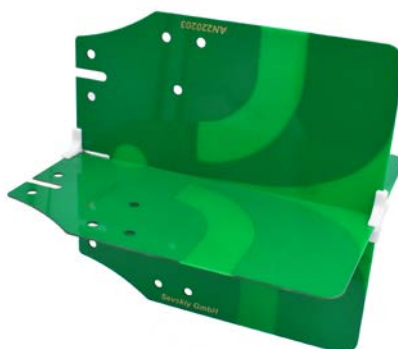


650...9000 MHz UWB dual-polarized Vivaldi antenna (5G, LTE, ISM, IoT, UMTS, GSM, UWB)



General information

The ultra-wideband dual-polarized Vivaldi antenna is designed for broadband operation over a wide frequency range and supports two orthogonal linear polarizations. This configuration enables improved polarization diversity, increased channel capacity, and enhanced link reliability in complex propagation environments.

Due to its wide bandwidth and dual-polarization capability, the antenna is suitable for a broad range of wireless communication systems, including UWB links, cellular networks (LTE and sub-6 GHz 5G), ISM and IoT systems, as well as broadband wireless access and measurement equipment. The antenna can be used in both single-input multiple-output (SIMO) and multiple-input multiple-output (MIMO) configurations.

Typical applications include laboratory and field measurements, spectrum monitoring, electromagnetic compatibility (EMC) testing, channel sounding, and antenna characterization. The dual-polarized design also makes the antenna well suited for positioning and localization systems, short-range and imaging radar systems, wireless sensing, and industrial monitoring applications. In addition, the antenna is applicable in research, prototyping, and development environments where polarization diversity and wide frequency coverage are required.

Electrical data

Antenna type	Dual-polarized Vivaldi antenna	
5G bands	1-3, 5, 7, 8, 12-14, 18, 20, 25, 26, 28-30, 34, 38-41, 46-48, 50, 51, 53, 65, 66, 70, 74-84, 86, 89-98	
4G bands	1-14, 17-30, 32-53, 65-71, 74-76	
Frequency range [MHz]	650...2000	2000...9000
Return loss [dB]	-10	-10
Peak gain [dBi]	4...7	7...8
Radiation efficiency [%]	80...90	50...80
Nominal input impedance [Ohm]	50	
Polarization	two orthogonal linear	
Radiation pattern	directional	
Maximum input power [W]	5	

Mechanical data

Antenna dimensions [mm]	180.6 x 180.6 x 180.6
Connector type	SMA Female
PCB material	FR4
Weight [g]	150

Additional information

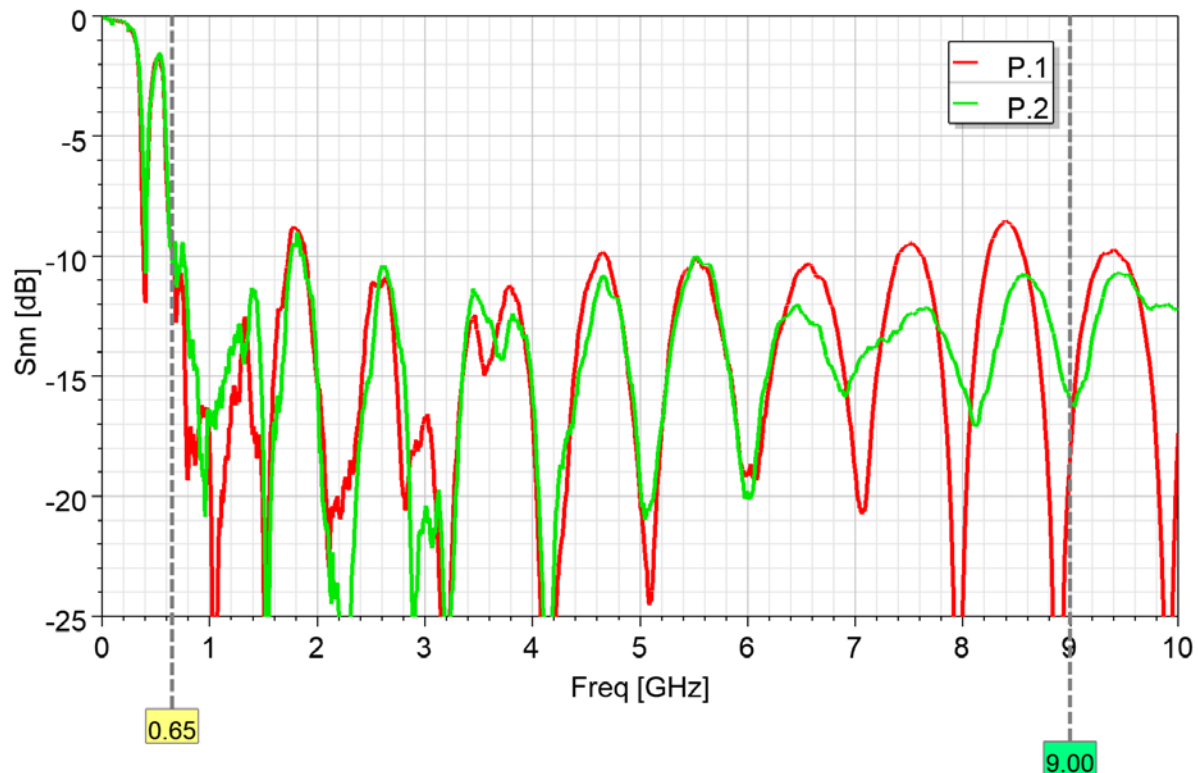
Other mechanical designs, materials or frequency bands are possible on request.

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

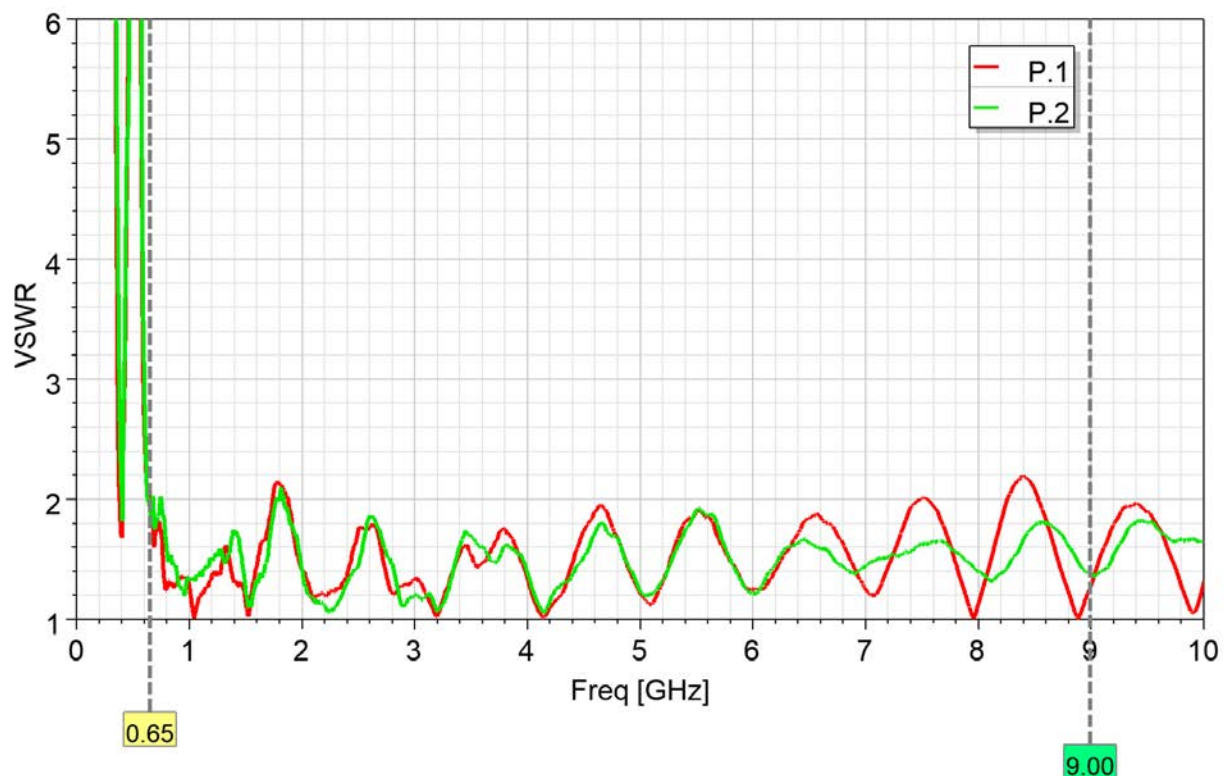
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Input impedance matching



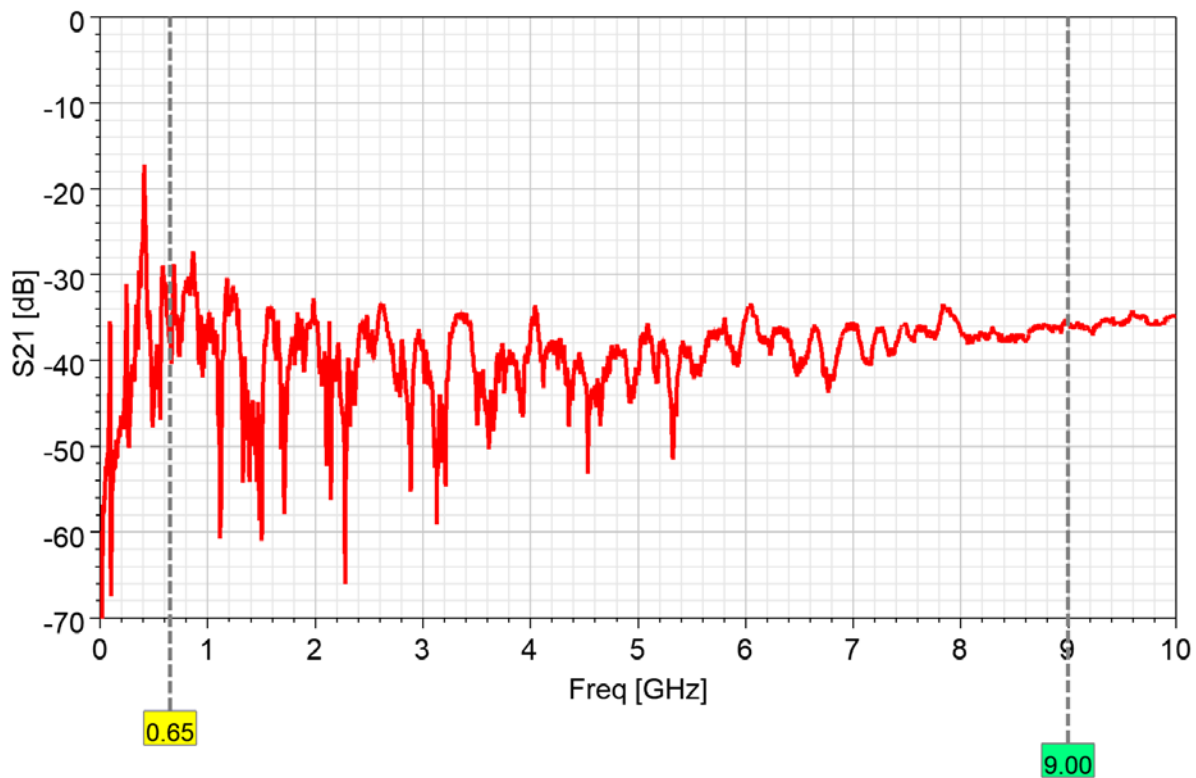
VSWR



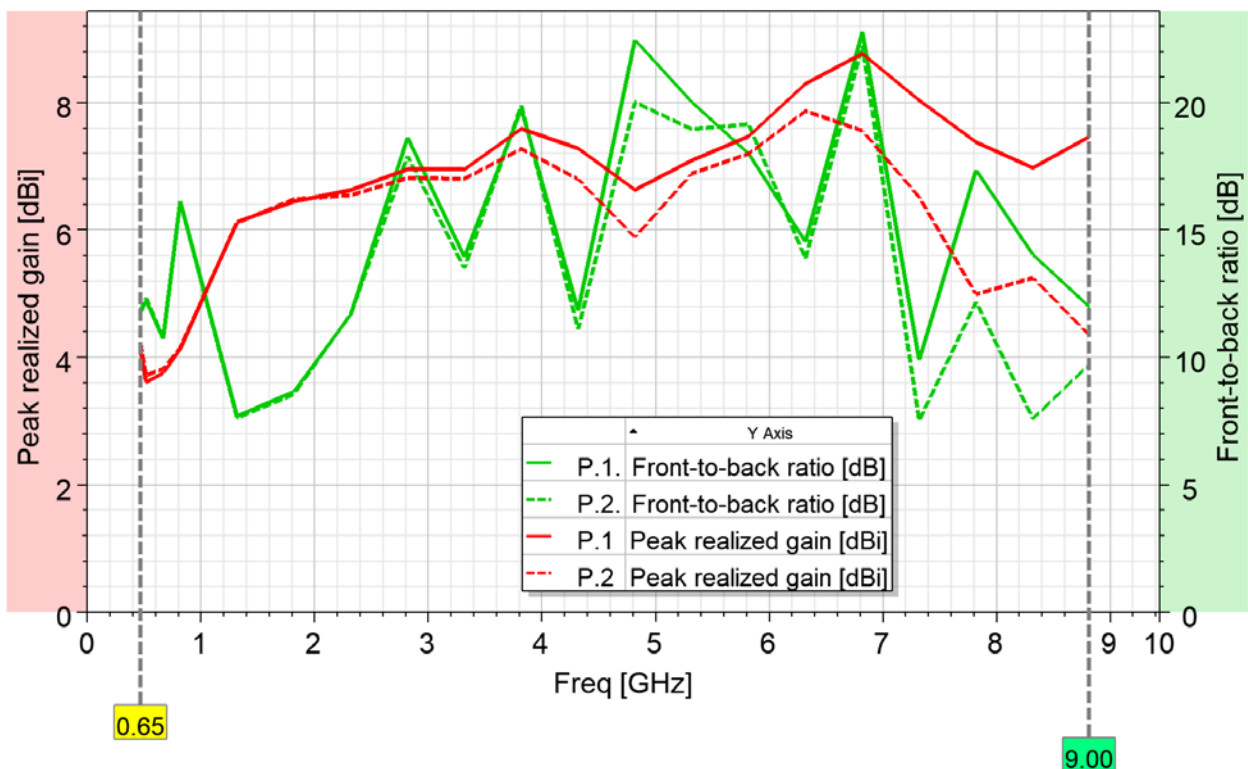
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Decoupling



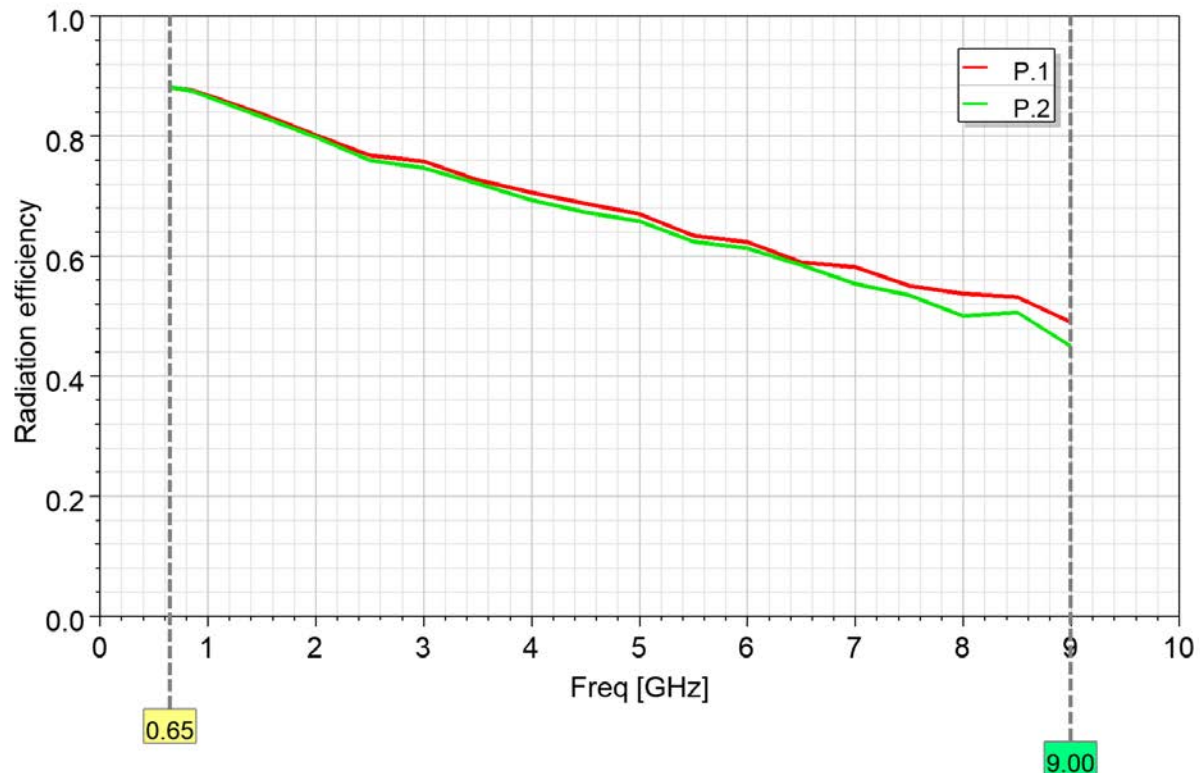
Peak realized gain and front-to-back ratio



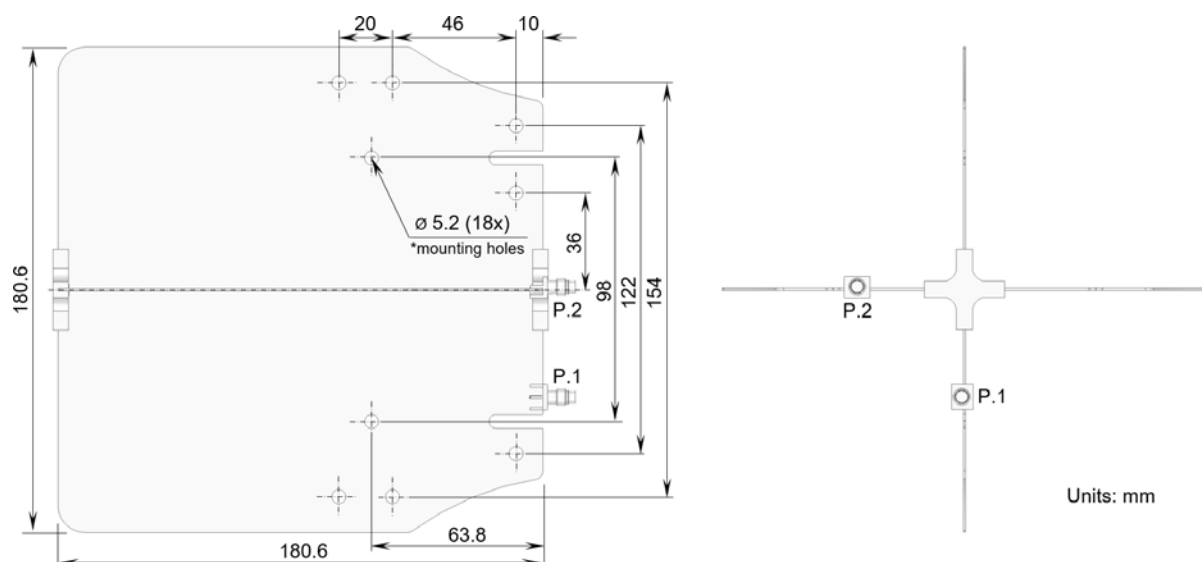
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650...9000 MHz UWB dual-polarized Vivaldi antenna (5G, LTE, ISM, IoT, UMTS, GSM, UWB)

Radiation efficiency



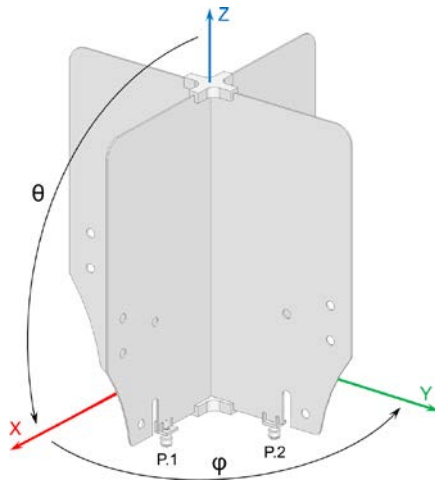
Product dimensions



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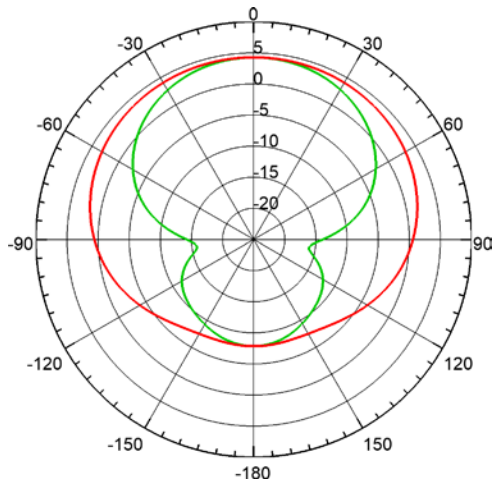
650...9000 MHz UWB dual-polarized Vivaldi antenna (5G, LTE, ISM, IoT, UMTS, GSM, UWB)

Radiation pattern

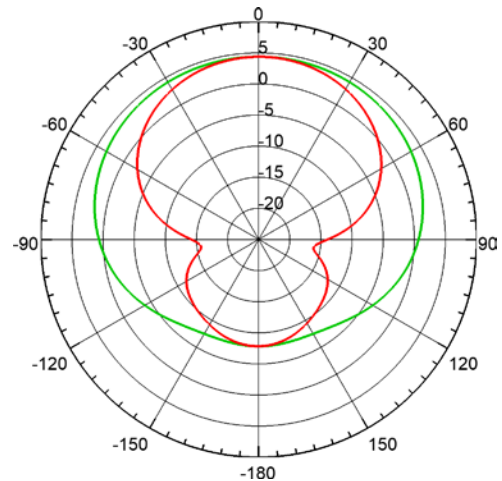


Total realized gain [dBi]
Phi=0°, plane XZ, green curve
Phi=90°, plane YZ, red curve

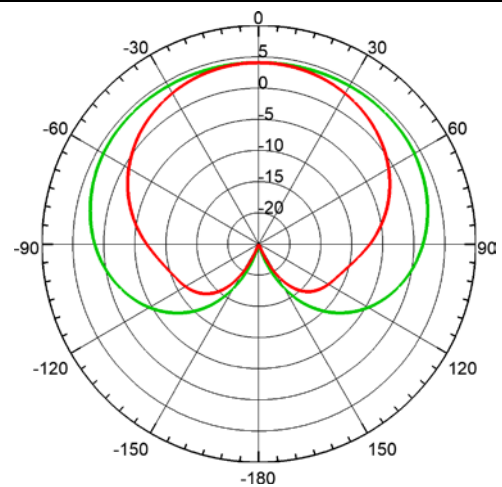
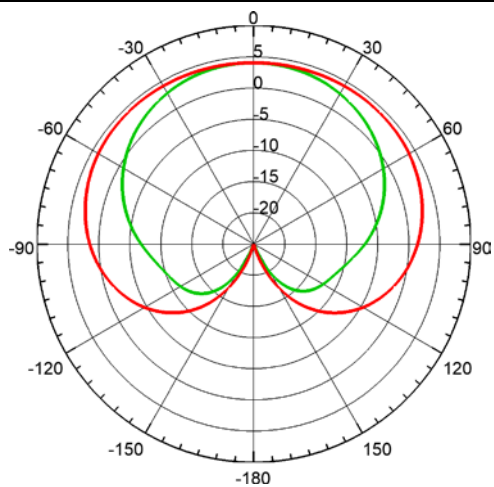
P.1



P.2



650 MHz



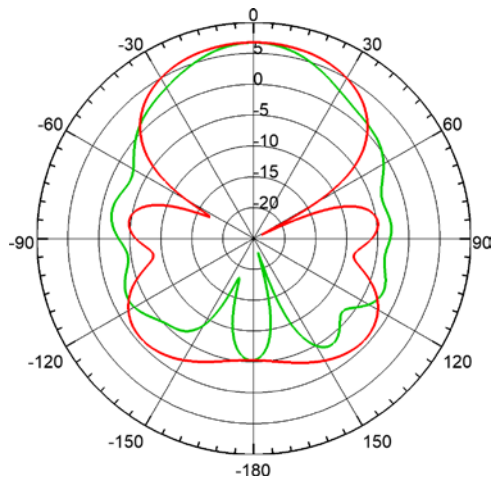
1000 MHz

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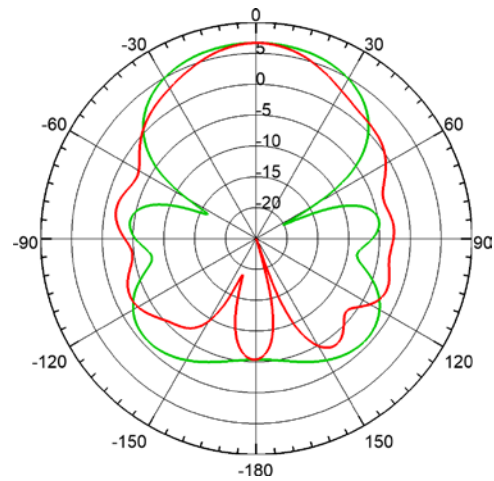
650...9000 MHz UWB dual-polarized Vivaldi antenna (5G, LTE, ISM, IoT, UMTS, GSM, UWB)

Radiation pattern

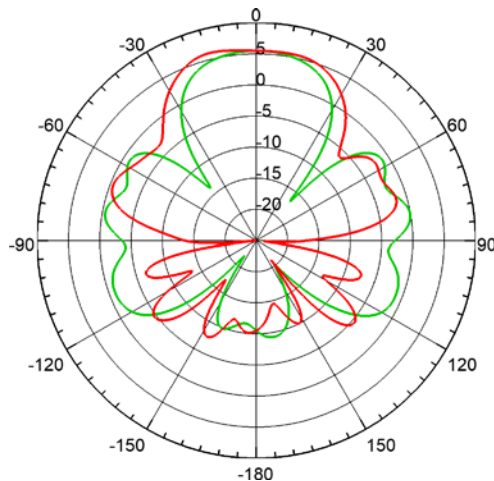
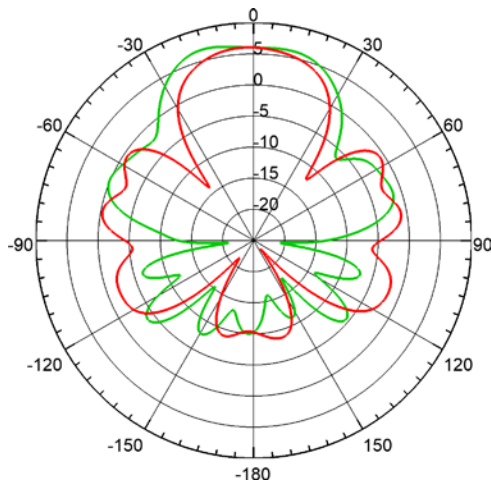
P.1



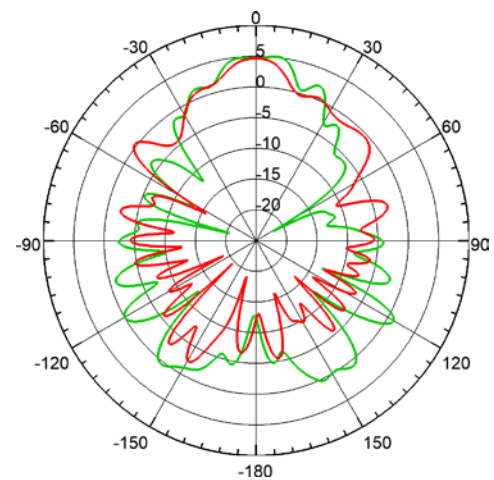
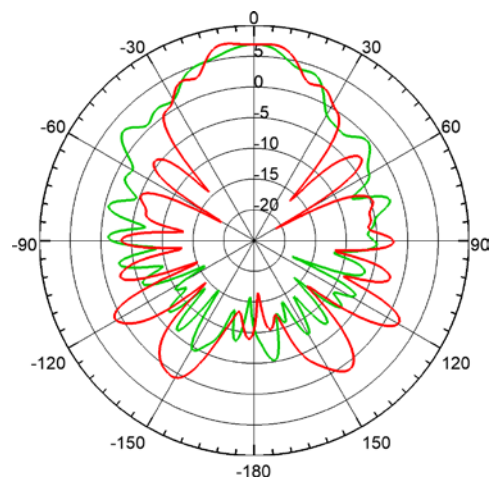
P.2



2500 MHz



5000 MHz



8000 MHz

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