2400…2500 MHz Circularly polarized patch antenna array (ISM, M2M, IoT, Wi-Fi 2.4 GHz)

General information

The AN240208-01A is a high-gain circularly polarized patch antenna array designed for operation in the 2.4 GHz ISM band. It provides directional radiation characteristics with stable RHCP polarization, making it well suited for reliable long-range wireless links and interference-resilient communication. The array supports IEEE 802.11 b/g/n Wi-Fi standards at 2.4 GHz and is optimized for point-to-point and point-to-multipoint systems.

Due to its high gain and controlled beam pattern, the antenna is ideal for outdoor Wi-Fi infrastructure, wireless bridges, backhaul links, and access points requiring extended coverage. Typical applications include industrial wireless networks, video surveillance systems, IoT and M2M communication hubs, smart city deployments, and private wireless networks. The antenna is also suitable for unmanned aerial vehicle (UAV) ground stations, telemetry links, and wireless monitoring systems where polarization robustness and directional coverage are critical.

Electrical data

Antenna type	Patch antenna array
Frequency bands	2.4 GHz ISM band
Frequency range [MHz]	2400…2500
Return loss [dB]	-15
Peak gain [dBi]	14…15
Radiation efficiency [%]	85
Nominal input impedance [Ohm]	50
Polarization	Circular (RHCP)
Radiation pattern	directional
Maximum input power [W]	5

Mechanical data

Antenna dimensions [mm]	200 x 200 x 5
Connector type [1)]	SMA Female [1)]
Material	PTFE Teflon, FR-4
Weight [g]	228

Additional information

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

Other designs, geometries or materials are possible on request.

Sevskiy GmbH, CEO: Dr. Sergey Sevskiy
Office: Schatzbogen 43, Munich, Germany

Tel.: +49 89 38-90-7229
Fax: +49 89 38-90-7230

E-Mail: sergey@sevskiy.de
Internet: www.sevskiy.com

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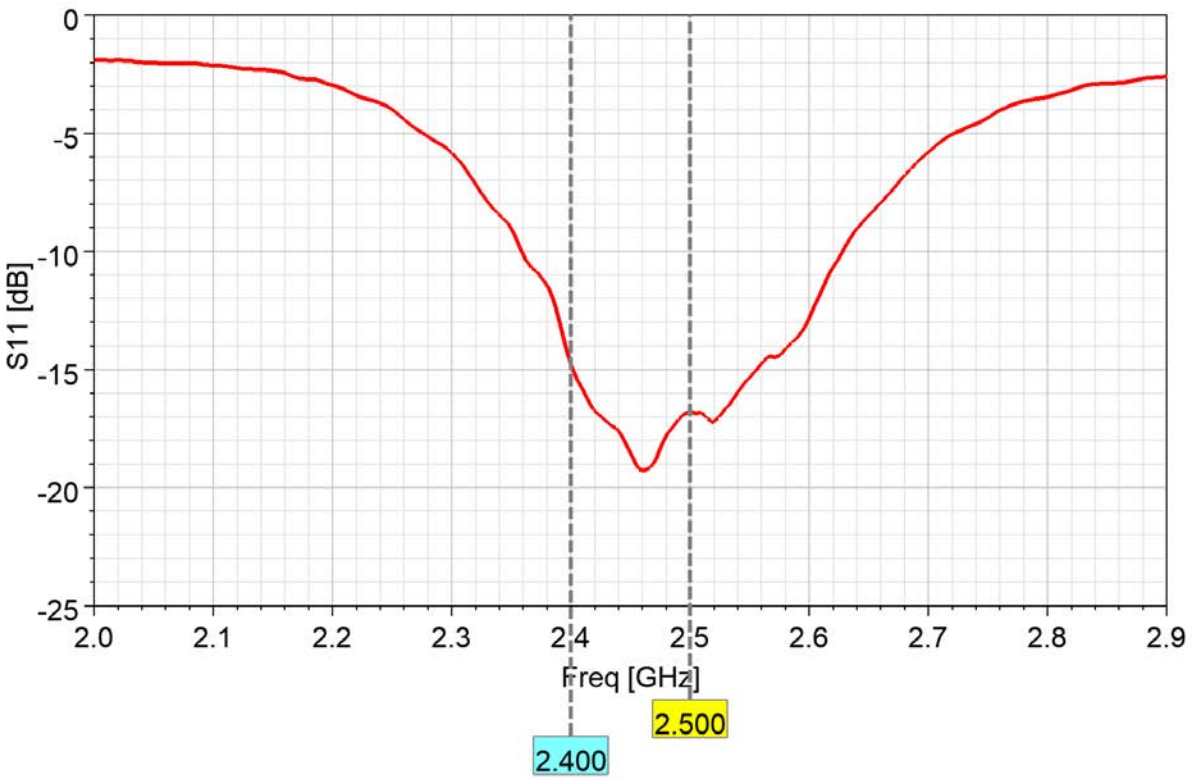
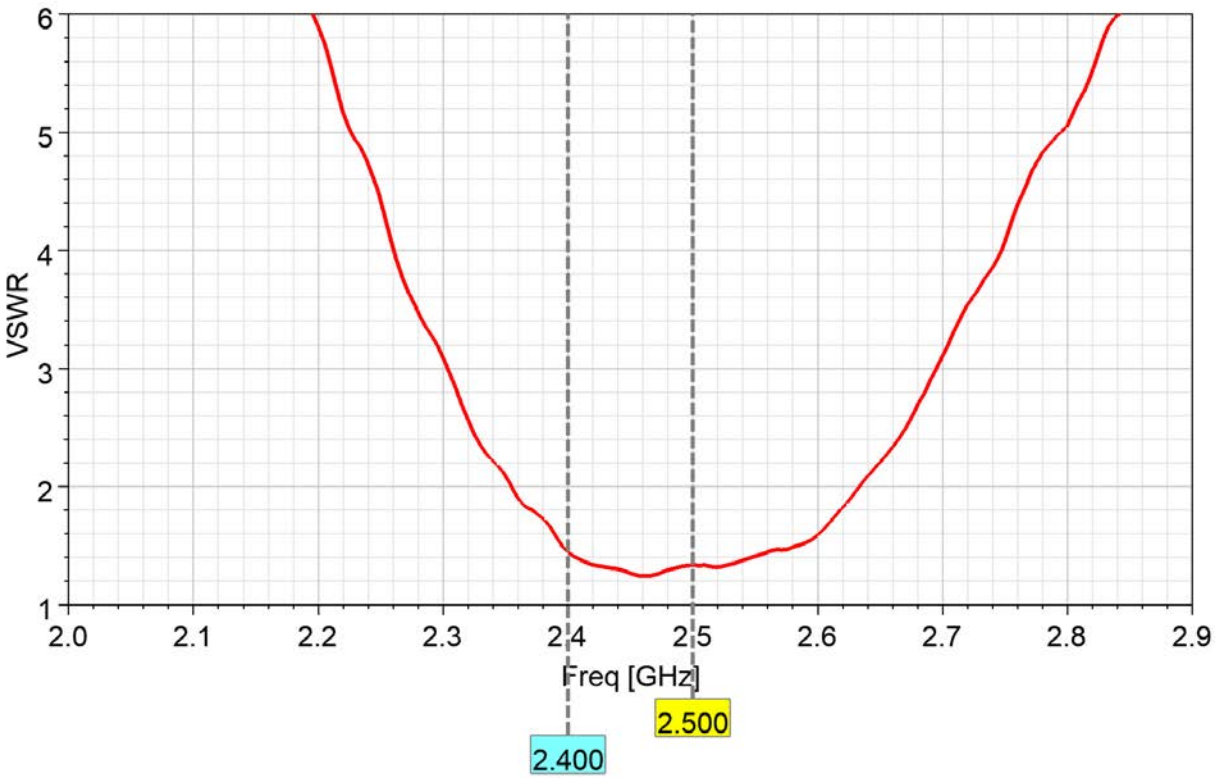
Measured input impedance matching



VSWR



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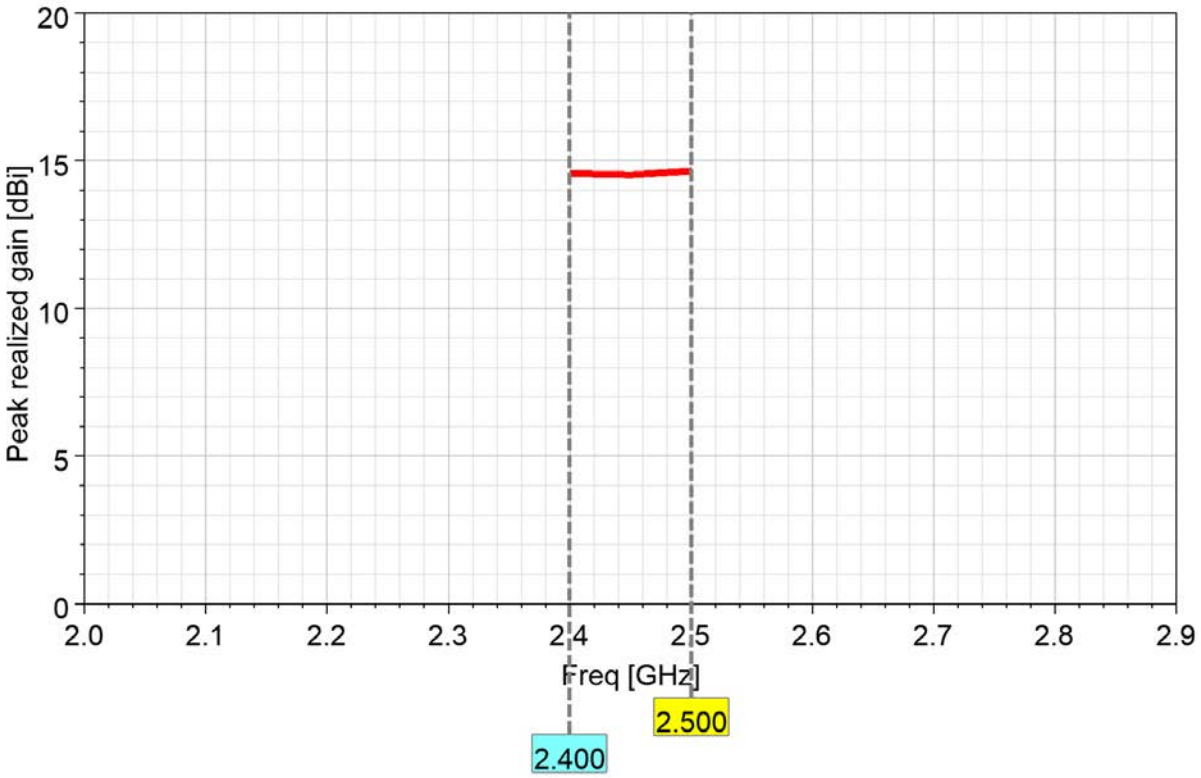
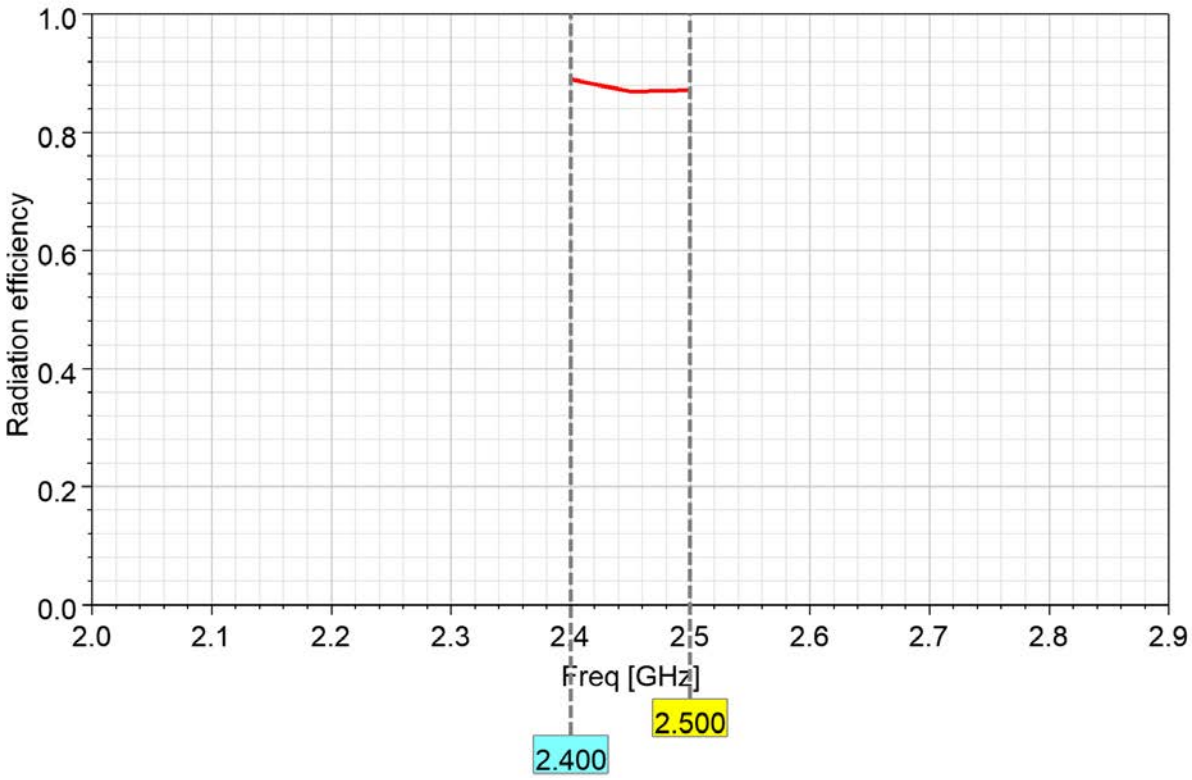
Peak realized gain



Radiation efficiency



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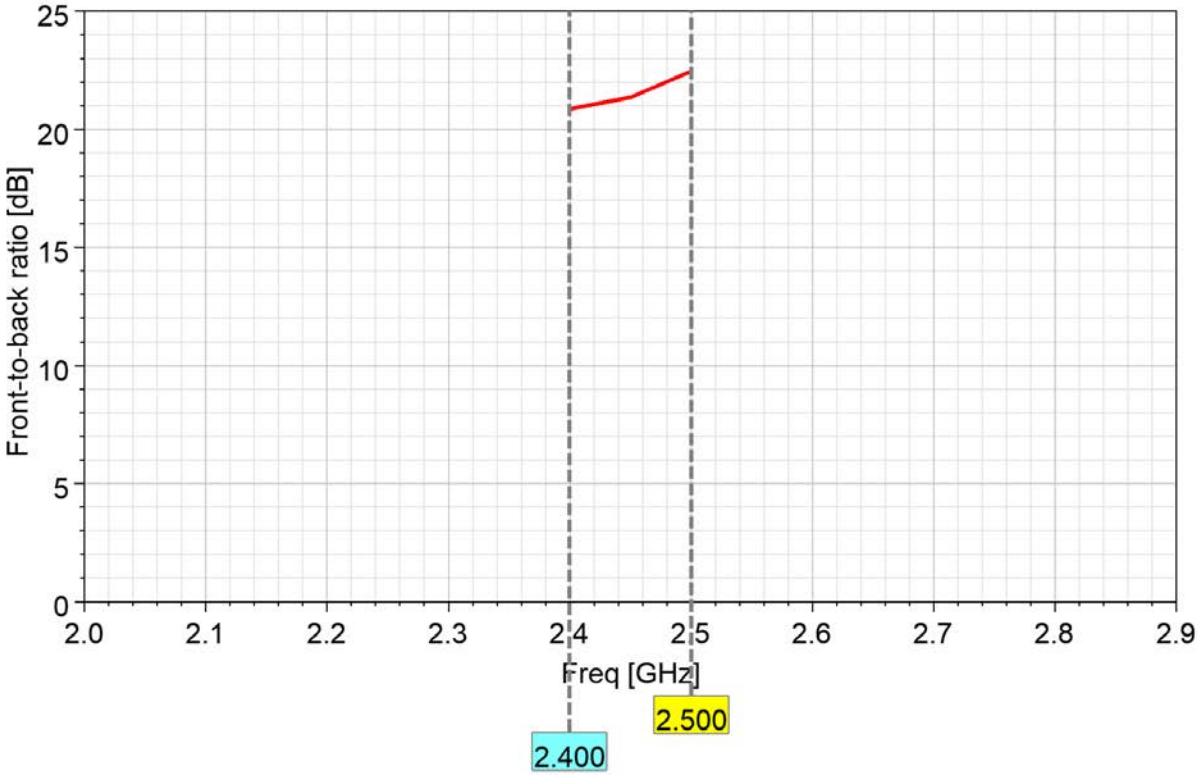
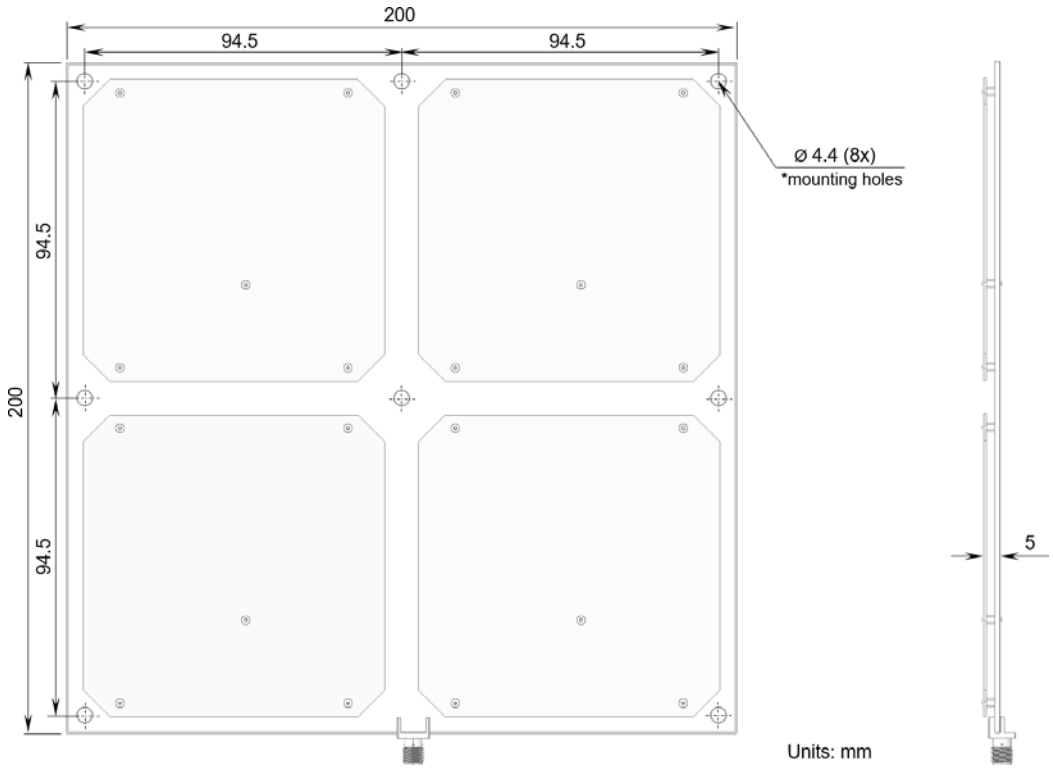
Front-to-back ratio



Product dimensions



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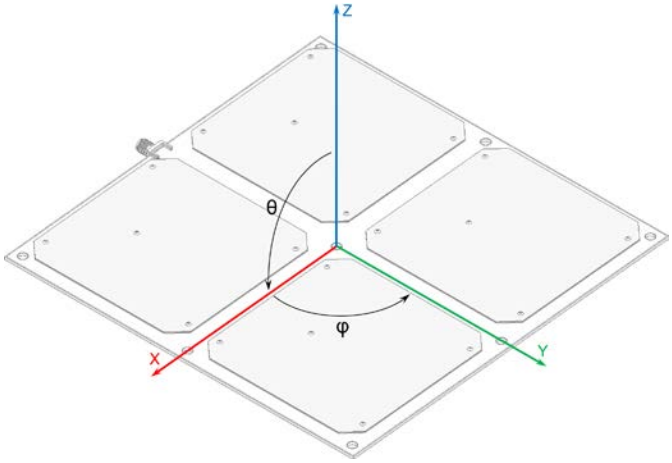
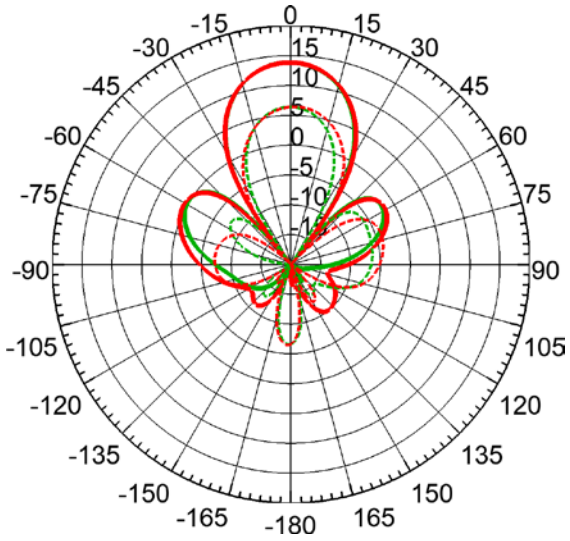
Radiation pattern

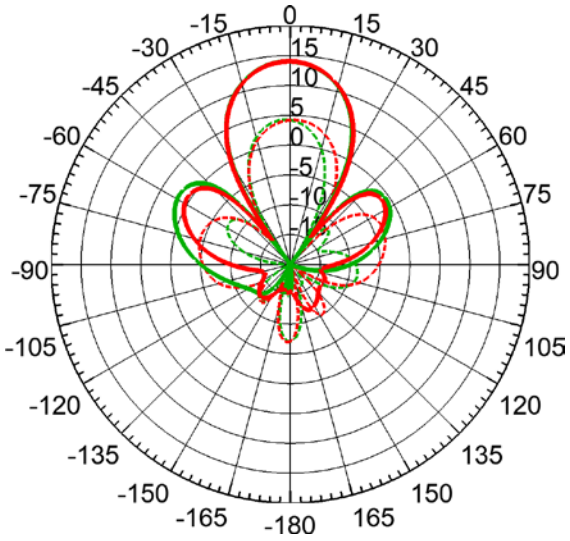


Total realized gain [dBi]
Phi=0°, plane XZ, green curve
Phi=90°, plane YZ, red curve

Solid curves – co-polarization RHCP
Dash curves – cross-polarization LHCP



2400 MHz



2500 MHz

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