868 MHz / 915 MHz / 2.45 GHz / 5.5 GHz PCB Antenna (ISM, IoT, RFID, Bluetooth, Wi-Fi, 5G NR, LTE)

General information

This small antenna is intended to be used within a plastic housing of a mobile device, a terminal or a router. On request, the antenna geometry can be optimized for customer's housing design or other requirements.

Typical applications

ISM, RFID, IoT (Sigfox, LoRa, NB-IoT), LP-WAN, Smart meters, Bluetooth, Wi-Fi 2.4/5 GHz, 5G NR, LTE

Electrical data

Antenna type	Embedded / internal PCB antenna							
5G bands	1, 2, 5, 7, 8, 25, 30, 34, 38 - 41, 46 - 48, 53, 65, 77 - 79, 81, 82, 84, 89, 90, 95, 97, 98							
4G bands	1, 2, 5 - 9, 19, 22, 23, 25, 30, 33 - 43, 46 - 49, 52, 53, 65, 69							
Other frequency bands	SRD860 (EU), ISM915 (US), ISM2400, Wi-Fi 5 GHz, ISM5800							
Frequency range [MHz]	824… 863	863... 902	902... 928	1749… 2620	1850... 2025	3300… 3800	4400… 5150	5150... 5925
Return loss [dB]	-5	-8	-16	-5	-10	-6	-8	-10
Peak gain [dBi]	1.7	1.7	1.8	3	3.1	3.9	4.3	4.5
Radiation efficiency [%]	83	84	85	69	70	90	95	95
Nominal input impedance [Ohm]	50							
Polarization	linear							
Radiation pattern	omnidirectional							
Maximum input power [W]	10							

Mechanical data

Antenna PCB dimensions [mm]	97 x 19 x 0.8
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]	160 [3)]
PCB material	FR4

Environmental data

Operating temperature [ºC]	-40…+85
Storage temperature [ºC]	-40…+85
Ambient relative humidity [%]	0…95
RoHS / REACH compliant	yes / yes

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 specified 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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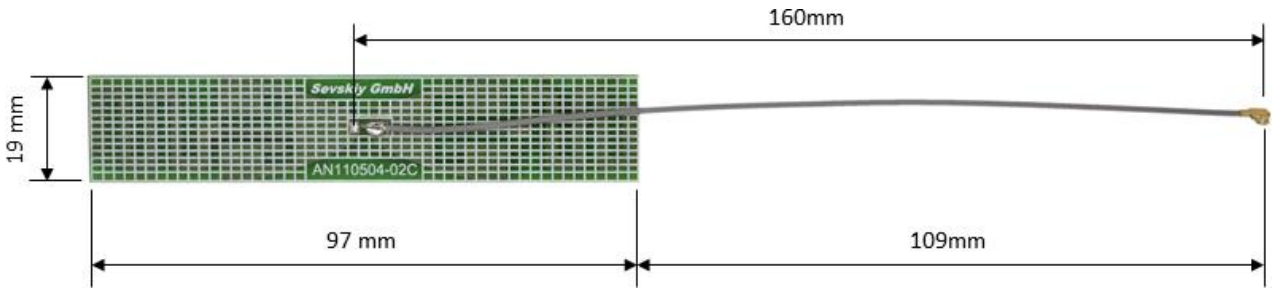
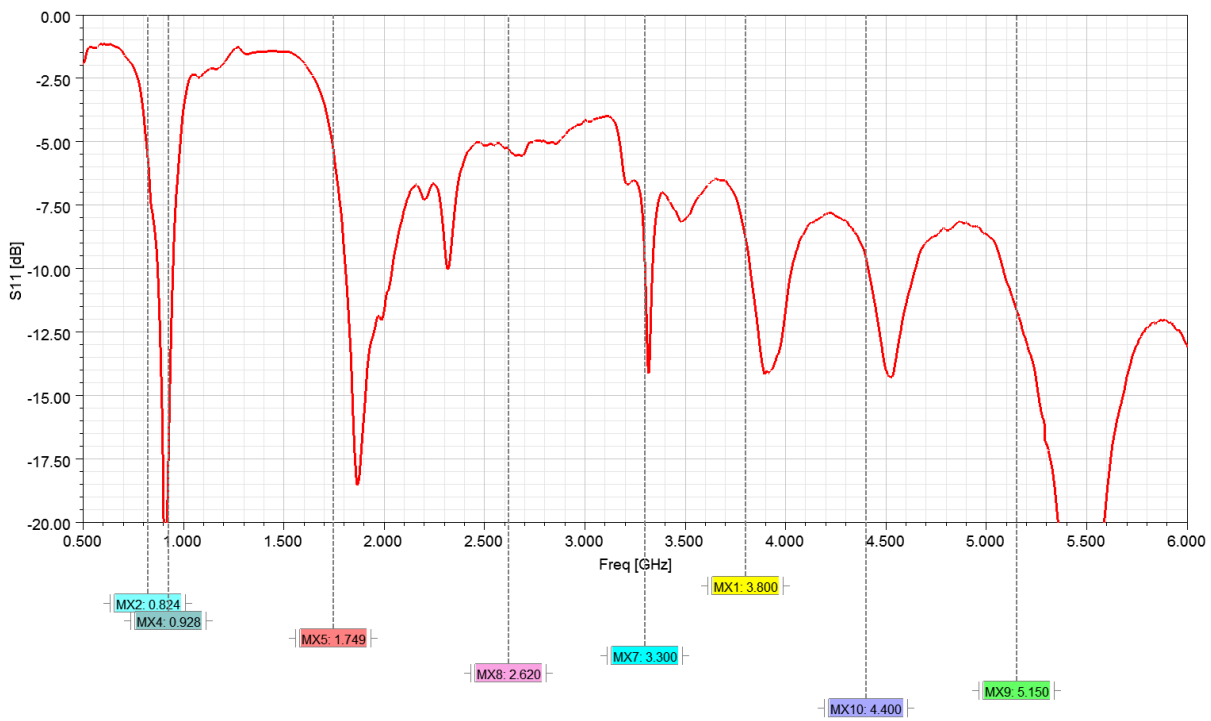
Product dimensions



Measured input impedance matching



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