830 MHz / 930 MHz PCB Antenna (ISM, IoT, Sigfox, LoRa)
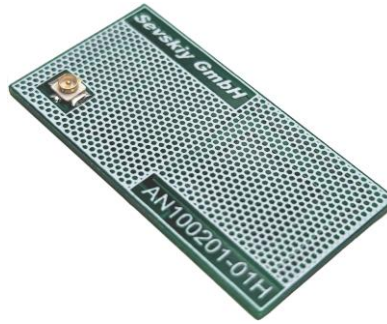

General information

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), LP-WAN, Smart meters

Electrical data

Antenna type	Embedded / internal PCB antenna		
Frequency band	SRD860 (EU), ISM915 (US)		
Frequency range [MHz]	830...870	870…915	915…930
Return loss [dB]	-12	-11	-12
Peak gain [dBi]	1.1	1.2	1.2
Radiation efficiency [%]	72	68	69
Nominal input impedance [Ohm]	50		
Polarization	linear		
Radiation pattern	omnidirectional		
Maximum input power [W]	10		

Mechanical data

Antenna PCB dimensions [mm]	35.1 x 18.5 x 1
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]	180 [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] Recommended length. Cable is not included, but can be customized and provided separately.

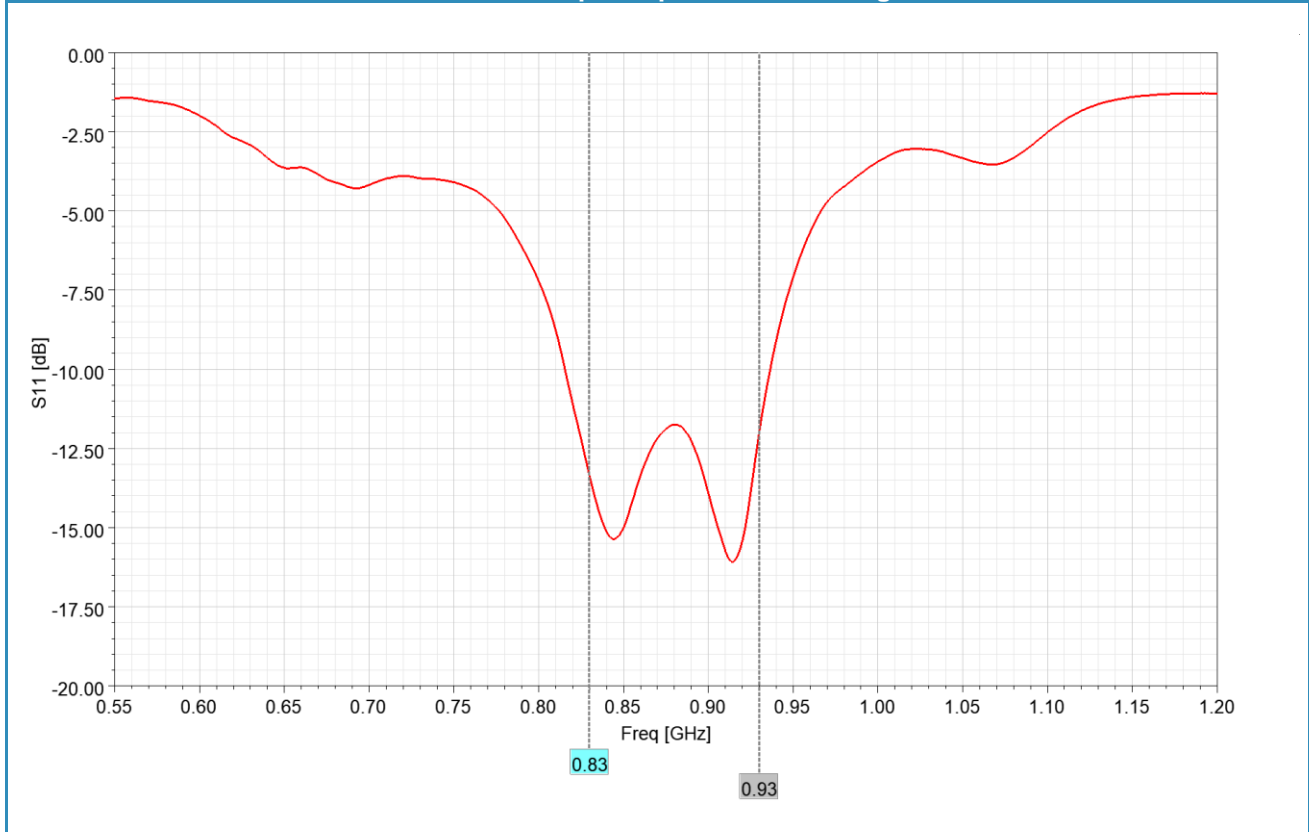Antenna performance was measured using the recommended cable length in free space.

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

The antenna can be additionally equipped with adhesive tape and mounting holes.

TECHNICAL
DATA SHEET

AN100201-01H
Rev. 001

Sevskiy ®
RF & Antenna Development

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Measured input impedance matching