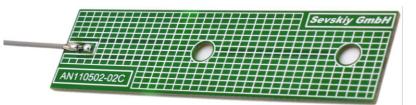
## AN110502-02C-160-MHF1

Rev. 003



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, 3, 5, 7, 8, 18, 20, 25, 26, 30, 34, 38, 39, 40, 41, 46, 47, 53, 65, 66, 70, 79, 80, 81, 82, 84, 86, 89, 90, 95, 97, 98					
4G bands	1 - 10, 18 - 20, 23 - 27, 30, 33 - 41, 46, 47, 53, 65, 66, 69, 70					
Other frequency bands	SRD860 (EU), ISM915 (US), GNSS, ISM2400, Wi-Fi 5 GHz, ISM5800					
Frequency range [MHz]	863870	870928	15592800	24002500	44005875	
Return loss [dB]	-20	-9	-9	-15	-5	
Peak gain [dBi]	-0.8	-0.6	2.2	1.9	3.4	
Radiation efficiency [%]	80	78	79	84	73	
Nominal input impedance [Ohm]	50					
Polarization	linear					
Radiation pattern	omnidirectional					
Maximum input power [W]	10					

Mechanical data				
Antenna PCB dimensions [mm]	70 x 19 x 0.8			
Connector type <sup>1)</sup>	IPEX MHF1 / Hirose U.FL (UMCC) compatible <sup>1)</sup>			
Cable type and thickness <sup>2)</sup> [mm]	micro coax 1.13 <sup>2)</sup>			
Cable length <sup>3)</sup> [mm]	160 <sup>3)</sup>			
PCB material	FR4			

Environmental data			
Operating temperature [°C]	-40+85		
Storage temperature [°C]	-40+85		
Ambient relative humidity [%]	095		
RoHS / REACH compliant	yes / yes		

## Additional information

<sup>1)</sup> Other connector types can be offered on request.

<sup>2)</sup> Following cable thicknesses can be used with MHF1 connector: 0.81 mm, 1.13 mm, 1.32 mm, 1.37 mm.
<sup>3)</sup> 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.

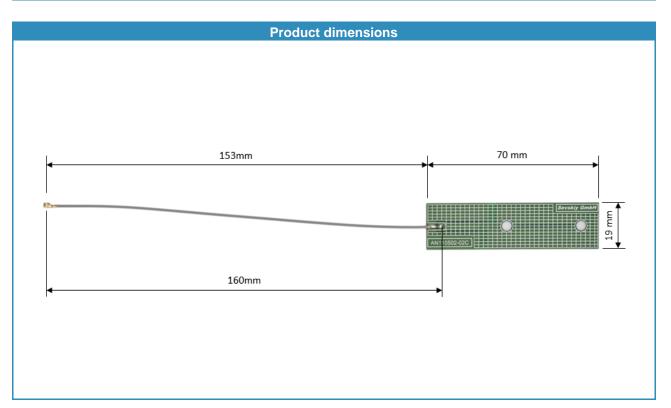
The antenna can be additionally equipped with adhesive tape and mounting holes.

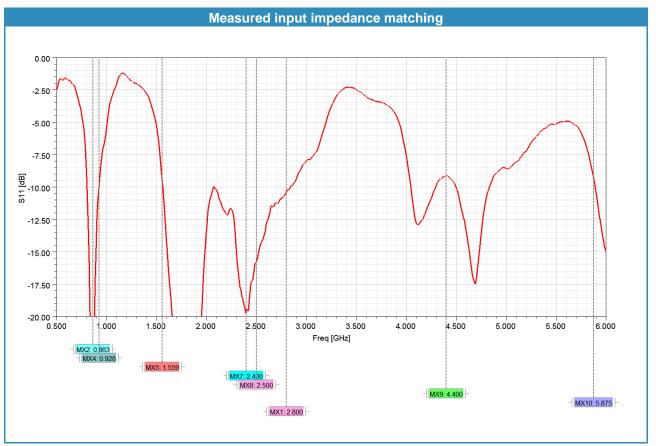
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