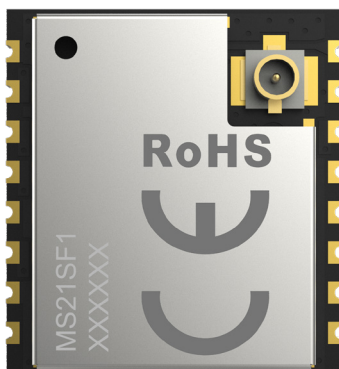


# LoRa Module

## MS21SF1



## Datasheet

V 1.0.0



# MS21SF1-LLCC68/SX1262

Low-power,ultra-long-range,Small and easy to operate,  
high-sensitivity

MS21SF1 module is based on Semtech's LoRa wireless half-duplex transceiver chip, LLCC68/SX1262, and supports global ISM frequencies. It is a low-power, ultra-long-range, small and easy-to-use SPI-interfaced LoRa® transceiver module, with a current of only 4.7mA in receive mode, and achieves a high +22dBm transmission power through the internal integrated high-efficiency power amplifier. Higher reception sensitivity down to -146dBm, compliance with the physical layer requirements of the LoRaWAN® standard specification, and support for LoRa® P2P (points-to-point ).Supporting customers in the rapid set-up of their private, long-range LoRa® networks.

## FEATURES



Non-MCU Control, external MCU is required to connect and control through SPI interface



Transmission Range up to 5KM



Programmable bit rates, with bit rates reaching up to 62.5 kbps for both LoRa and FSK modulation



Support SPI interface, can be connected directly to a variety of MCUs Application

## KEY PARAMETER

MS21SF1			
Chip Model	LLCC68/SX1262	Antenna	IPEX
Module size	16.4x15x3mm	GPIO	5
Receiving Sensitivity	-146dBm	Transmission Power	+22dBm
Current(TX)	118mA	Current(RX)	4.7mA

## APPLICATION



Smart city



smart medical care



Smart parking



Security warning equipment



Environmental sensor



Instrument and meter Smart meter

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## RELATED DOCUMENTS

- LLCC68\_Chip\_Datasheet  
[https://en.minewsemi.com/file/LLCC68\\_Chip\\_Datasheet\\_EN.pdf](https://en.minewsemi.com/file/LLCC68_Chip_Datasheet_EN.pdf)
- SX1261-2\_Chip\_Datasheet  
[https://en.minewsemi.com/file/SX1261-2\\_Chip\\_Datasheet\\_EN.pdf](https://en.minewsemi.com/file/SX1261-2_Chip_Datasheet_EN.pdf)
- MinewSemi\_Product\_Naming\_Reference\_Manual\_V1.0  
[https://en.minewsemi.com/file/MinewSemi\\_Product\\_Naming\\_Reference\\_Manual\\_EN.pdf](https://en.minewsemi.com/file/MinewSemi_Product_Naming_Reference_Manual_EN.pdf)
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