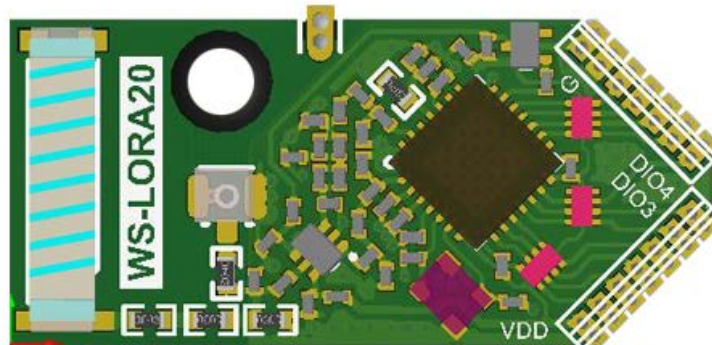

410~525MHz LoRa Transceiver Module



Version History

Version	Date	Changes
V1.0	November 07, 2017	1 st Edition

Key Features

- LoRa Modem 168dB maximum link budget
- +14dBm high efficiency PA
- High sensitivity: down to -148dBm
- Bullet-proof front end: IIP3 = -11dBm
- Low RX current of 9.9mA, 200nA register retention
- FSK, GFSK, MSK, GMSK, LoRa® and OOK modulation
- Preamble detection
- Packet engine up to 256bytes with CRC
- 20dBm -100mW constant RF output vs. V supply
- Programmable bit rate up to 300kbps
- Excellent blocking immunity
- Fully integrated synthesizer with a resolution of 61Hz
- Built-in bit synchronizer for clock recovery
- 127 dB Dynamic Range RSSI
- Automatic RF Sense and CAD with ultra-fast AFC
- Built-in temperature sensor and low battery indicator

Applications

- Automated Meter Reading
- Long range Irrigation Systems
- Wireless Alarm and Security Systems
- Home and Building Automation
- Industrial Monitoring and Control

Product Description

The transceivers feature the LoRa long range modem that provides ultra-long range spread spectrum communication and high interference immunity whilst minimizing current consumption.

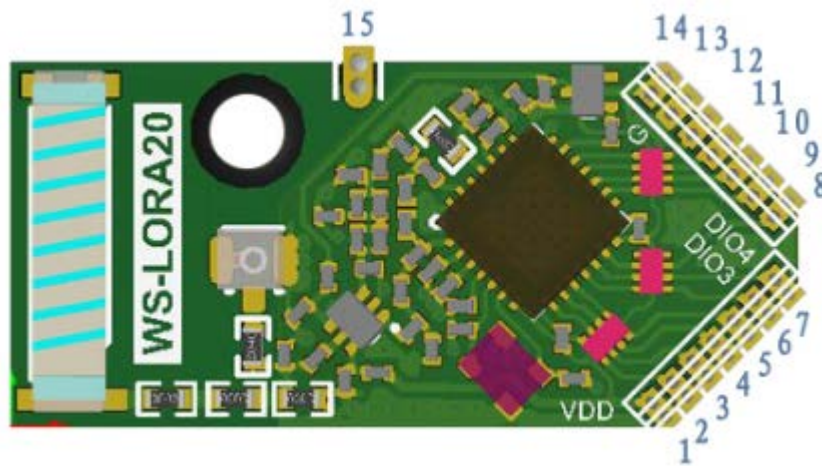
Lora can achieve a sensitivity of over -148dBm using a low cost crystal and bill of materials. The high sensitivity combined with the integrated +20dBm power amplifier yields industry leading link budget making it optimal for any application requiring range or robustness. LoRa also provides significant advantages in both blocking and selectivity over conventional modulation techniques, solving the traditional design compromise between range, interference immunity and energy consumption.

Hardware Specification

Conditions: VDD =VCC= 3V, VSS = 0V, TA = 25°C

Parameter	Description	Min	Type	Max	Unit
VDD	Supply Voltage Range	1.9	3.3	3.6 V	V
FREQ	Operating frequency	410		525	MHz
IDC_SL	Sleep mode power consumption		0.2	1	uA
IDC_ST	Standby mode power consumption		1.8	2	mA
IDC_TX	Transmit power consumption (7~20dBm)	20		120	mA
IDC_RX	Receive power consumption		12		mA

Pin Assignments

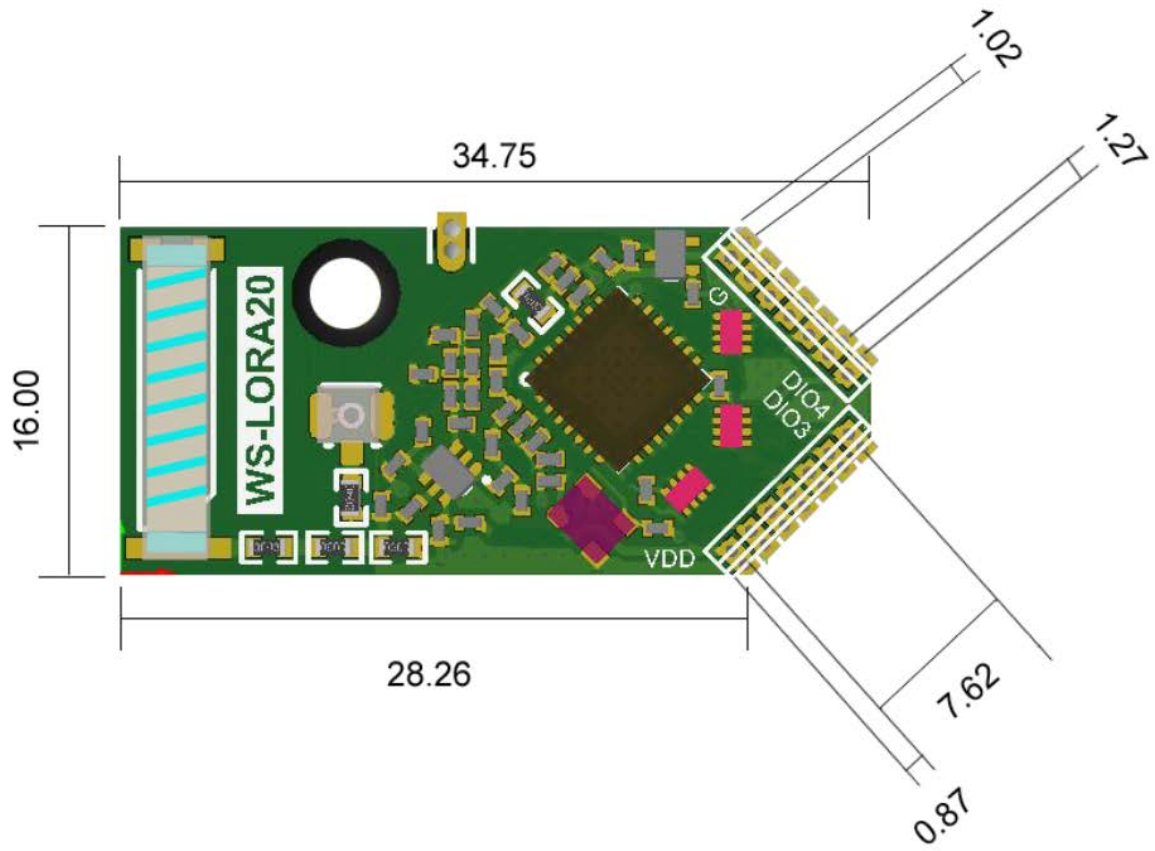


Pin Function

Pin	Name	I/O	Description
1	VDD	Power	Power Supply 1.9~3.6
2	NRESET	I/O	Reset trigger input
3	DIO0	I/O	Digital I/O, software configured
4	DIO1/DCLK	I/O	Digital I/O, software configured
5	DIO2/DATA	I/O	Digital I/O, software configured
6	DIO3	I/O	Digital I/O, software configured
7	DIO4	I/O	Digital I/O, software configured
8	DIO5	I/O	Digital I/O, software configured
9	SCK	I	SPI Clock input
10	MISO	O	SPI Data output
11	MOSI	I	SPI Data input
12	NSS	I	SPI Chip select input
13	GND	GND	Ground
14	VDD	Power	Power Supply 1.9~3.6
15	GND	GND	Ground

Dimension

unit : mm



WENSHING
Do Not Disturb