

LoRa32u4II

Low power Atmega® 32u4 LoRa 868Mhz 915Mhz compact board with 3.7V LiPo cell management

Applications

- LoRa communication in EU and US bands
- Ultra low power applications
- LiPo cell powered applications
- Remote sensing & monitoring
- MCU and wireless development

Features

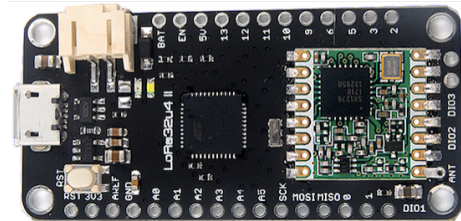
- Long range communication with LoRa protocol
- Ultra low consumption
- Onboard LiPo cell charging and management
- Arduino IDE compatibility

General specifications

- MCU : Atmega® 32u4 3.3V @ 8MHz
- ROM : 32K
- RAM : 2K
- Logic level : 3.3V

Power specifications

- Operating voltage : 3.3V – 5.0V
- JST PHR 2.0mm pitch battery connector
- Ultra low dropout 600mA 3.3V regulator
- Dedicated LiPo charge & control IC
- Transmit current : 128mA for 70mS
- Receive current without sleep : 14mA
- Current idle + listen : 11mA
- Current receive + sleep : 1mA
- Current super sleep : 300uA
- LiPo charge current :
 - 100mA (default setting)
 - 1000mA (max)
- Battery voltage monitoring channel



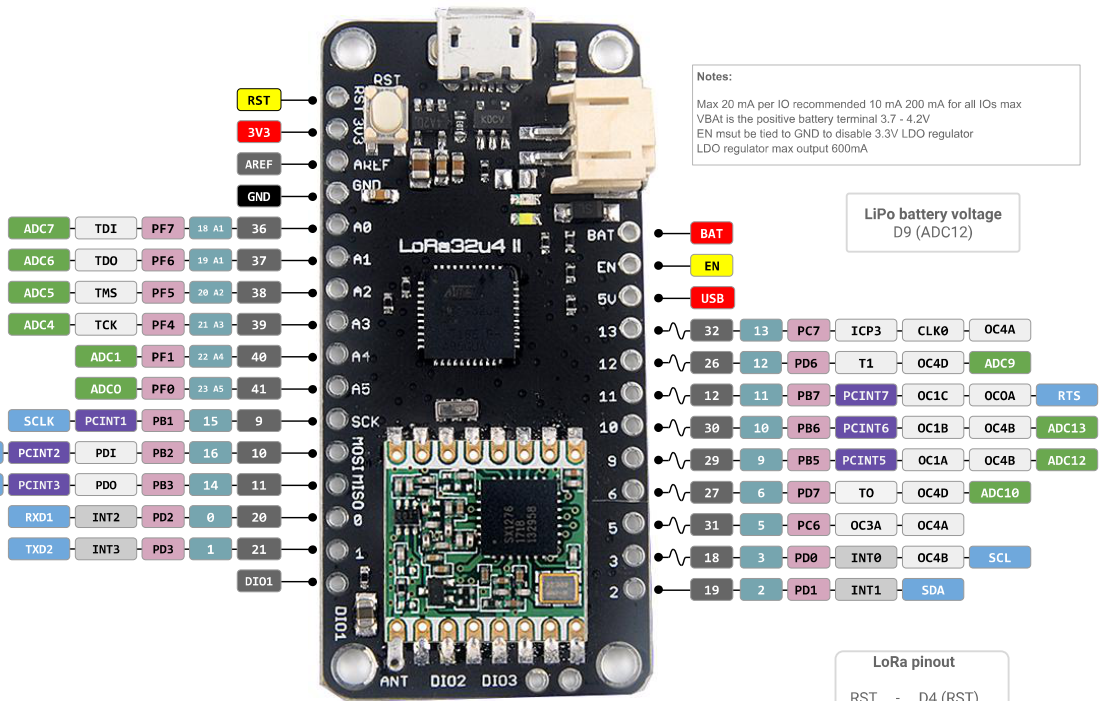
LoRa Specifications

- Chipset : Semtech® SX1276
- Antenna socket : uFL (IPEX)
- Pin hole allowing wire antenna usage
- Hardware SPI communication with MCU
- Transmitting power : +20dBm
- Receive sensitivity :
 - 139dBm LoRa 62.5Khz SF12 146bps
 - 136dBm LoRa 125Khz SF12 293bps
 - 118dBm LoRa 125Khz SF6 9380bps
 - 123dBm FSK 5Khz 1.2Kbps
 - 117dBm FSK 5Khz 4.8Kbps
 - 110dBm FSK 20Khz 38.4Kbps
- FIFO : 64 Bytes
- Data rate :
 - FSK 1.2K~300Kbps
 - LoRa 0.018K~37.5Kbps
- Modulations :
 - FSK,MSK,GFSK,GMSK,LoRa,OOK
- Operating frequency : 868MHz - 915MHz
- Digital RSSI function
- Automatic frequency correction
- Automatic gain control
- RF wake-up function
- Low voltage detection and temperature sensor
- Fast wakeup and frequency hopping
- Highly configurable data packet processing
- Antenna diversity and TX/RX switching control

Pinout diagram

LoRa32u4II

LoRa32u4II Pinout Diagram



Notes:
 Max 20 mA per IO recommended 10 mA 200 mA for all IOs max
 VBAT is the positive battery terminal 3.7 - 4.2V
 EN must be tied to GND to disable 3.3V LDO regulator
 LDO regulator max output 600mA

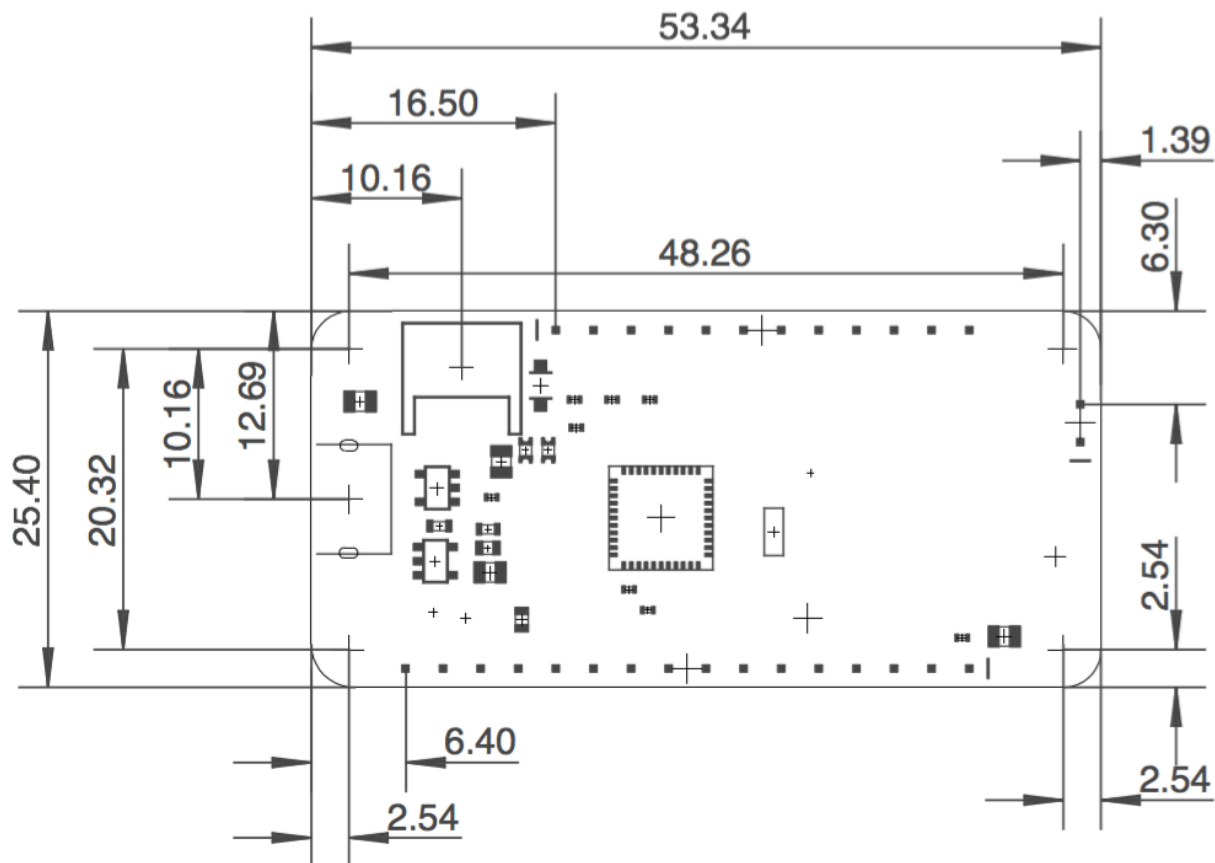
LiPo battery voltage
 D9 (ADC12)

 GND	 Int	 Analog Pin
 Power	 Port pin	PWM/1Wire/I2C
 Control	 Pin function	 Serial Pin
 Interrupt	 Arduino pin	 Physical Pin

LoRa pinout

RST	-	D4 (RST)
NSS	-	D8 (CS)
MOSI	-	D16(MOSI)
MISO	-	D14(MISO)
SCK	-	D15(SCK)
DIO0	-	D7 (IRQ)
DIO1	-	DIO1
DIO2	-	DIO2
DIO3	-	DIO3
DIO5	-	NC
DIO4	-	NC

Dimensions



Support, wholesale, customisation

Reach us by email contact@bsfrance.fr or phone +33 430 346 930 for questions, remarques, support, ,wholesale inquiry, custom version / variation or specific requests.