SparkX SAMD21 Pro RF 1W

SPX-14984 ROHS

This product was retired with the introduction of the new and improved Version 2 SAMD21 ProRF 1W. The new version can be powered with up to 15V out-of-the-box, is designed for a cleaner RF signature, and puts the flash memory on a separate SPI port in order to be compatible with Micro/CircuitPython. The silkscreen labels on the new version are a lot prettier, too!

LoRa stands for 'Long-Range,' referring to a modulation technique whose specialty is low power transmission of small data packets – perfect for Internet of Things applications. Using either point-to-point radio or LoRaWAN you can send data from a node in a remote location back to your base station to check in on sensors or track equipment. Communication is possible in the other direction as well to send commands or control actuators!

Like the LoRa®-enabled SparkX Pro RF this board is based on the Semtech SX1276 transceiver, but the module boasts a whopping 1W output power. All that extra oomph makes it possible to send small messages up to 9 miles using common rubber-duck type antennas.

In addition to more transmission power the SparkX SAMD21 ProRF 1W gets more computational power courtesy of the SAMD21 microcontroller running at 48 MHz. We used the additional GPIO pins to permanently enable LoRaWAN signals. This means more pins for you to connect to sensors and actuators, even when connecting to a LoRaWAN network like The Things Network.

Checkout the SAMD21 Mini/Dev Breakout Hookup Guide as a general starting point for the SAMD21 Pro RF 1W.
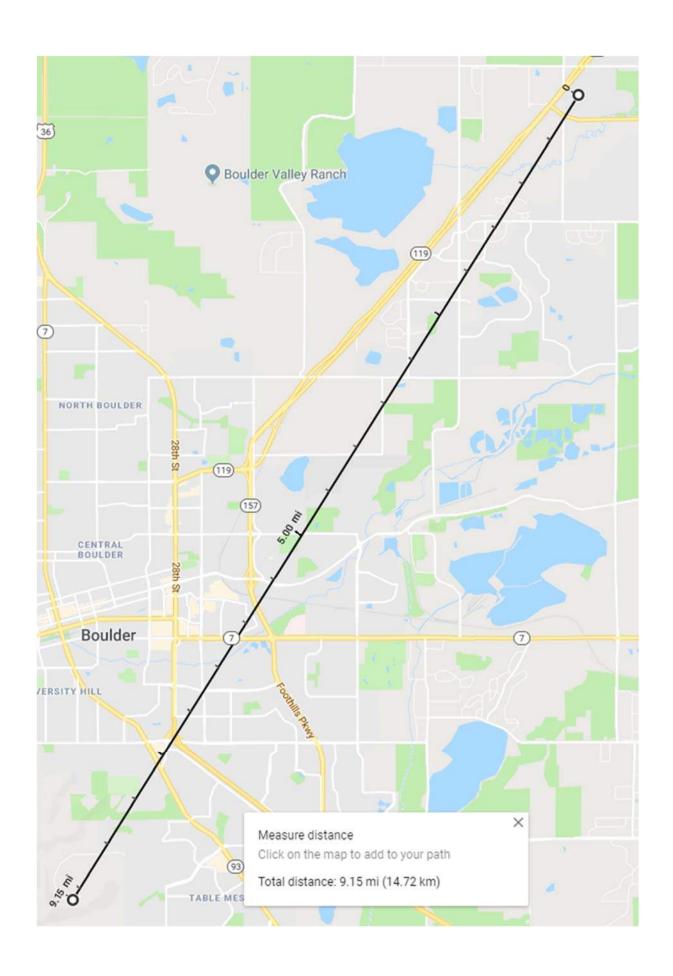
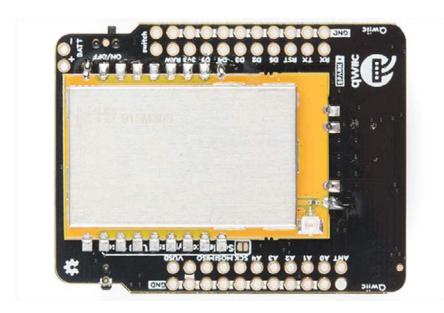To get you started we've included some basic P2P examples.

Experimental Product: SparkX products are rapidly produced to bring you the most cutting edge technology as it becomes available. These products are tested but come with no guarantees. Live technical support is not available for SparkX products. Head on over to our forum for support or to ask a question.

Battery Input Voltage The silkscreen label near the barrel jack states an input voltage range of 7-15V. Although this is correct for the regulator voltages over 7V will damage the battery charging IC. We recommend powering the board with a 5V source through the USB cable. If you must use a high voltage battery (over 7 V) please remove the charger IC or cut the VBATT trace as shown in this image.
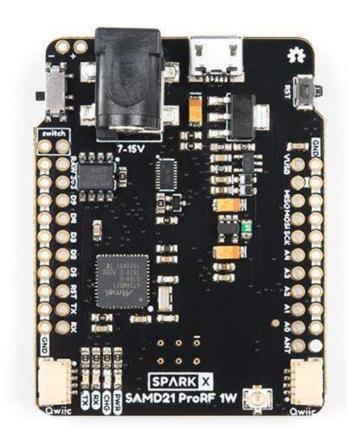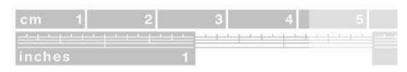
FEATURES

- Semtech SX1276 transceiver with 1W amplifier
- U.FL and PTH wire antenna connections
- Atmel SAMD21 microcontroller with Arduino bootloader
- 4MB flash on SPI lines
- 15 IO pins:
    - 1x SPI
    - 1x UART
    - 5x analog
    - 5x digital
- Qwiic enabled with 2 ports
- Onboard 5V and 3.3V regulators
- Barrel jack connector or PTH for battery input (up to 15V with white-wire fix)
- Battery power on/off switch
- USB connection for programming and serial output