

SparkFun LTE CAT M1/NB-IoT Shield - SARA-R4 (with Hologram SIM Card)

CEL-15087

★★★★☆ 3

DESCRIPTION

INCLUDES

DOCUMENTS

The SparkFun LTE CAT M1/NB-IoT Shield with **Hologram SIM Card** equips your Arduino or Arduino-compatible microcontroller with access to data networks across the globe without needing to provide your own subscriber identity module. This shield adds wireless, high-bandwidth cellular functionality to your IoT project while maintaining low power consumption and a small footprint. The SparkFun LTE CAT M1/NB-IoT Shield is based off the Arduino R3's footprint that allows you to easily incorporate it with favorite Arduino-based device.

At the heart of the LTE Cat M1/NB-IoT shield is a u-blox SARA-R410M-02B LTE Cat M1/NB-IoT modem. Cat M1 (Category M1) and NB-IoT (Narrowband IoT) are both Low Power Wide Area Network (LPWAN) technologies that are designed to provide cellular communication to small IoT devices. They operate on LTE network bands just like most smartphones, and should be supported by most cellular network carriers. The u-blox SARA-R4 module communicates over a UART via a simple AT command set. We've provided a library to help you get started with everything from sending SMS text messages to communicating with servers over a TCP/IP connection. Additionally, both the module and library support an I²C GPS interface via a Qwiic connector, so you can plug in a u-blox GPS module and start remotely tracking your project.

Each SparkFun LTE CAT M1/NB-IoT Shield also includes a ceramic, Molex 1462000001 SMD antenna. The antenna has a gain of 3.8dBi around 1.7GHz to 2.7GHz. However, if you would prefer to use an external antenna, we have provided a U.FL connector that can be utilized by simply slicing through a jumper with a hobby knife.

Please be aware that you will need to supply and solder on your own headers before attaching it to your Arduino based device. Also, if you already have your own SIM, we also offer [this shield without a card included](#).

Note: Be sure to check the [Hardware Overview](#) section in the Hookup Guide for compatible GPS modules. The onboard Qwiic connector is only designed to support u-blox-based GPS modules. It does not support any other GPS modules or sensors. We are continuing to add more modules so be sure to check back every so often to find out more!

GET STARTED WITH THE SPARKFUN LTE CAT M1/NB-IOT SHIELD GUIDE

Tags

ANTENNA ARDUINO CAT M1 CELLULAR GPS HOLOGRAM I2C IOT LTE
NB-IOT QWIIC SARA-R4 SHIELD SIM CARD SPARKFUN ORIGINAL UART
U-BLOX U.FL WIRELESS

SparkFun LTE CAT M1/NB-IoT Shield - SARA-R4 (with Hologram SIM Card) Product Help and Resources

TUTORIALS

VIDEOS

SKILLS NEEDED



LTE Cat M1/NB-IoT Shield Hookup Guide

NOVEMBER 20, 2018

The SparkFun LTE CAT M1/NB-IoT Shield equips your Arduino or Arduino-compatible microcontroller with access to data networks across the globe. This shield adds wireless, high-bandwidth cellular functionality to your IoT project!



Three Quick Tips About Using U.FL

DECEMBER 28, 2018

Quick tips regarding how to connect, protect, and disconnect U.FL connectors.

COMMENTS 7

REVIEWS ★★☆☆☆ 3

Customer Reviews

★★★☆☆ 2.7 out of 5

Based on 3 ratings:

5 star	<div></div>	1
4 star	<div></div>	0
3 star	<div></div>	0
2 star	<div></div>	1
1 star	<div></div>	1

Currently viewing all customer reviews.

0 of 1 found this helpful:

★★★★★ Works with AT&T's IoT Platform

about a year ago by **Member #239681** ✓ verified purchaser

SIM card must be obtained here: <https://marketplace.att.com/products?tags=connectivity>

I selected the LTE-M US plan for my project. The Register Operator example Arduino script works, setting network operator to MNO_ATT and APN to m2m.com.attz

This connects to the AT&T IoT cloud, for more information look here: <https://m2x.att.com>

- I am an AT&T Employee: this is a personal review

★★★☆☆ Can't send data or text messages

about 8 months ago by **Member #40349** ✓ verified purchaser

I can get the LTE shield to receive messages from the Hologram cloud (Hologram Dashboard) but cannot send outgoing messages - either to Hologram or to a cell phone via SMS. The latter may be due to issues with Verizon and not the shield, but the former seems to be a different issue. Other purchasers appear to be having similar problems. I've posted details on this on the Sparkfun forum at <https://forum.sparkfun.com/viewtopic.php?f=115&t=50640&p=207355&hilit=LTE#p207355> At this point, I've run out of ideas to try after spending several days trying to get things to work. Hopefully I can get some help on the forum and will have reason upgrade my rating of "bad".

★☆☆☆☆ total waste of money

about 8 months ago by **c17470** ✓ verified purchaser

I bought it to do text messaging. would not work.

👤 CF replied on October 2, 2019:

Hi c17470.

You do need to enable text messaging on your Hologram account before you can send a text and I believe to do that Hologram requires an additional fee to send text (SMS) messages. Check your Hologram account for details on how to add texting to your SIM card.




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