C027-C20/U20/G35

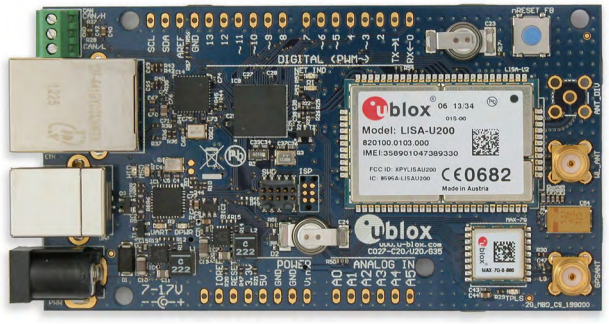
Application Board

mbed enabled Internet of Things (IoT) starter kit

WIRELESS

Highlights

- Application board for professional prototyping
- u-blox Wireless and GPS/GNSS enabled
- Powerful, user-programable Cortex-M3 microprocessor
- Compatible with a standard-based form factor with expansion board options
- Free online mbed compiler and libraries
- 22 GPIOs with SPI, I2C, UART, and I2S interfaces
- USB drag-n-drop programming



Product description

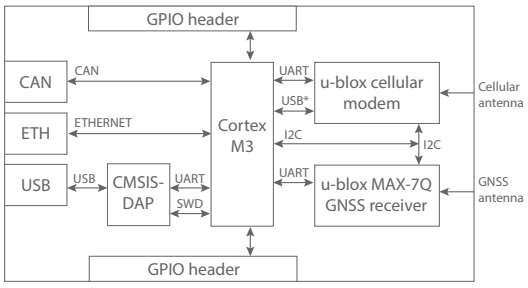
The C027 is a complete starter kit that allows quick prototyping of a variety of applications for the Internet of Things. The application board has a MAX-7Q GPS/GNSS receiver and a LISA or SARA cellular module, enabling straightforward development of location-aware, global communicating applications. The application board provides access to Ethernet and CAN interfaces and to a variety of HW interfaces (22 GPIOs with SPI, I2C, UART, I2S) through a standard-based header connector.

The board is powered by a Cortex-M3 microprocessor, which is fully supported by the mbed platform. The CPU has 512 KB FLASH, 64 KB RAM and runs at 96 MHz. The board provides simple USB drag-n-drop programming and CMSIS-DAP debug interface for the target microcontroller. The mbed platform provides free software libraries and online tools for professional rapid prototyping. The programming is done using a standard-based C/C++ SDK. The mbed compiler also supports full export to different toolchains, for projects that demand it as they go to production.

Application board includes

- Compact 53.325 x 96.525 mm mbed IoT starter kit
- External cellular antenna
- External active GNSS antenna

Block diagram



* Cellular modem USB connection not available on C027-G35-0.

Interfaces and electrical data

A standard-based header connector with 6 analog inputs, 9 PWM capable outputs, 22 GPIOs, 1 SPI, 1 I2C, 1 UART, 1 I2S

GNSS antenna	SMA connector for external GNSS antenna
Cellular antenna	SMA connector for external cellular antenna
Ethernet	RJ45 connector
CAN	screw terminal connector
SIM	mini SIM card holder
USB	mini USB with mbed Interface (CMSIS-DAP, serial port, mbed ISP)
Power supply	7-17 V power jack and header connector pins
IO voltage	3.3 V output, 5 V compatible input

Software

The mbed.org online compiler is all you need to write and compile embedded software. Create a program in your private workspace, then compile, download the binary to the mbed device. Hundreds of free reusable peripheral and module libraries are built on top of the SDK.

- Online build environment and support forum
- Support libraries
  - USB host stack
  - Wireless modem driver with USB
  - Embedded GPS driver stack
  - TCP/IP stack with standard sockets and examples

For further links, visit mbed.org/platforms/u-blox-C027.

Ordering Information

(Sold in sample quantities only)

C027-C20-0	mbed enabled IoT starter kit with LISA-C200 (CDMA/Sprint)
C027-C20-1	mbed enabled IoT starter kit with LISA-C200 (CDMA/Verizon)
C027-U20-0	mbed enabled IoT starter kit with LISA-U200 (W-CDMA)
C027-G35-0	mbed enabled IoT starter kit with SARA-G350 (GSM/GPRS)

All starter kits come with MAX-7Q GNSS receiver and antennas.

Contact us

For contact information, see www.u-blox.com/contact-us.

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