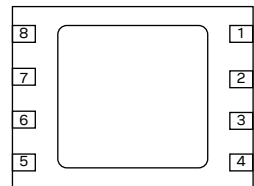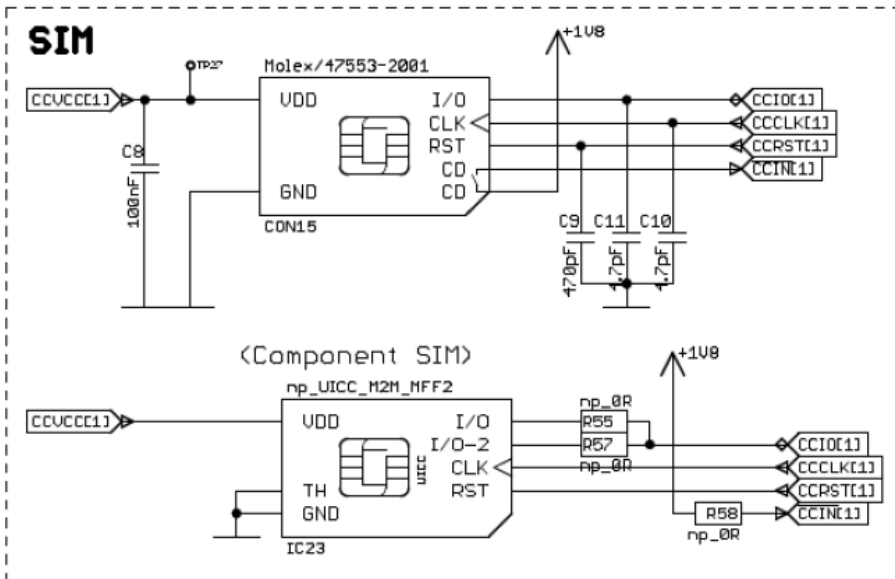Product summary

M2M Embedded SIM

Enable your device to connect from almost anywhere in the world

Unlock the power of MQTT Anywhere

- Seamless global roaming on 2G/3G/LTE networks
- Low cost, fixed price pay-as-you-go plans with no monthly contract or roaming fees
- Available in the standard eSIM form factor: MFF2

MFF2 (QFN8) format, 6 x 5 x 0.8 mm
(TS 102.671 standard format)

- Pin 1 = VSS
- Pin 3 = I/O
- Pin 6 = CLK
- Pin 7 = RST
- Pin 8 = VDD

Product description

The Thingstream M2M Embedded SIM is the key to enable your device to connect from almost anywhere in the world, and send and receive IoT messages using MQTT-SN, via the Thingstream Global Connectivity Platform.

In addition to the Thingstream M2M Embedded SIM, you'll need to integrate the Thingstream SDK with your application to enable your own devices to start working with Thingstream. You can download an appropriate build for your MCU from:

https://portal.thingstream.io/app/downloads

thingstream

Ready

M2M Embedded SIM

Chip features

CPU	ARM7TM SC100 16-32BIT RISC
Electrical characteristics	1.6 V, 3 V & 5 V operating supply voltage ranges
Operational temperature characteristics	-25 °C to +85 °C
Memory size for program & data	340k/440k flash available for OS & applications

NVRAM characteristics

Endurance cycles (min) @25°	Min 500 k read/write cycle
Data retention (min) @25°	25 years
Sector/bank erase time	1.5ms / 3ms
Page / write erase time	1.5ms / 0.4ms

Software features

Platform	Technology UICC Java Card Global platform	2G/3G/4G/LTE Release 8 2.2.1 2.1.1
Supported applications	Sim USim ISim	Release 4 Release 8 Release 8
OTA capabilities	Remote file management Remote applet management	Release 8 Release 8
Authentication algorithms	2G comp 128-1,2,3 2G gsm milenage 3G milenage	All applicable according to profile

Other features

Serial i/o interface	H/W UART for asynchronous half-duplex (conforms to ISO 7816-3)
Des/T-Des	Built-in hardware DES/T-DES Start and stop control
Parity / CRC calculator	Parity calculator for 8/16/32bit CRC-16/32 calculator
Timers	Two 16-Bit timers with 8 bit pre-scaler 20-Bit Watchdog Timer
16-bit random number generator	One 16-Bit R.N.G for security key generation Start/Stop control
Reset	Power-on reset External reset circuit

CPU

CS100 32-bit CPU core
Fully 16/32-bit RISC Architecture

Memory

32 kB ROM for boot loader
340 kB Flash for program & data
10 kB Static RAM
Memory Protection Unit

Flash write operations

Page(256 bytes) / Sector(4 kB) / Chip(340 kB) erase operation
Program with 4 bytes unit to maximum 128 bytes
0.4-3.2 msec for page erase time 1.5 msec for sector erase time 3.0 msec for chip erase time
Min. 500,000 erase/write cycles
Min. 25 years data retention at 25 °C

Data security

ROM code not visible due to implantation
256B for security (read only) & 256B OTP area
Reset operation is selective if abnormal condition is detected

Operating characteristics

Operating Voltage	1.62 v to 5.5 v
Operating External Frequency	1-10 MHz (class A/B), 1-7.5 MHz (class C)
Operating internal frequency	max 28 MHz
Operating Temperature	-25 °C to 85 °C

Product variants

M2M eSIM MFF2	MQTT Anywhere M2M eSIM - MFF2 format

Further information

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