

PRODUCT OVERVIEW

Athen Lite is a fully IoT board for industrial applications, set to be a platform for commercial deployments. It's ideal for applications that require one or two sensors, such as smart-tracking or smart-metering.

It allows connecting multiple sensors at a time of the most common protocols.

Athen Lite integrates a communication module that enables the use of Cellular IoT Networks (LTE-M and NB-IoT). Cellular and GPS antennas are already embedded.

KEY FEATURES



Reduce time to market



Ready to scale



Years of autonomy



Easy sensor to cloud



Adapt any sensor



Code & libraries

LTE-M

A network with extended coverage that allows deploying complex solutions with long battery life and connectivity in real time.

Technical specifications

Bandwidth: 1.08MHz
Data rate (UL/DL): 375/300kbps
Transmit power: 20dBm or 23dBm
Battery life: >10 years

NB-IoT

A network designed to allow efficient communication and long battery life in massively distributed devices.

Technical specifications

Bandwidth: 180 KHz
Data rate (UL/DL): 65/27kbps
Transmit power: 20dBm or 23dBm
Battery life: >10 years

BUSINESS CASES

LOGISTICS

Take control over your assets, get deeper insights and optimize your operations.

AGRICULTURE

Keep tracked the key variables for decision-making over your fields, to assure quality and improve efficiency.

HEALTH CARE

Get real-time health monitoring to keep patients safe and healthy, enhance operations and drive a better overall experience.

INDUSTRY 4.0

Optimize the use of resources and increase productivity.

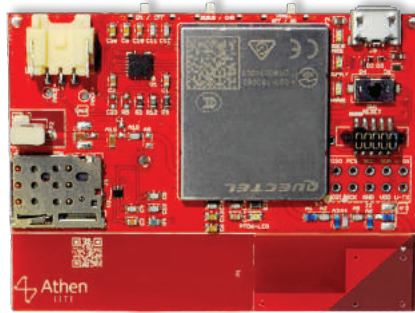
SMART CITIES

Improve quality of life through innovative solutions that can make our cities safer and more sustainable and livable.

BETTER WORLD

It's time to contribute with something that could change the world forever.

Lite Board



General

Dimensions (5.5cm x 6.2cm x 1.9cm)
 Operating Temperature Range (-25°C ~ 85°C)
 with USB wall adapter supply

Hardware

Operating Voltage 3.3v
 Microcontroller ARM Cortex-M0+
 Max Clock Speed 48 MHz
 Ports (Analog, Digital, GPIO)
 On-Board Temperature Monitoring
 Digital/analog communication interfaces: UART,
 LPUART, I2C, ADC, SPI, GPIO's
 Low-Leakage Wakeup Unit Interrupt
 General-purpose embedded LED

Software

MCUXpresso Programming IDE
 SWD Programming Interface
 Code & libraries

Consumption

Micro USB Battery Charger (Li-Ion)
 Battery Level Indicator & Charge Status
 Solar Panel Ready

Standards

3GPP E-UTRA Release13
 3GPP TS27.007, 3GPP TS27.005
 Enhanced AT Commands through MicroUSB

Antennas

Embedded GPS Antenna
 Embedded Cellular IoT Antenna
 IPEX GPS Antenna Ready (active & pasive)
 IPEX Cellular Antenna Ready

Supported SIM's

Nano SIM Slot
 Only Pre-configured eSIM's:
 eSIM Ready

Bands Supported

LTE-M / NB-IoT:
 LTE FDD:
 B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20
 /B26/B28
 LTE TDD: B39, (for LTE-M only)
 EGPRS: 850/900/1800/1900 MHz

Consumption (typical)

LTE - M
 Power Saving Mode: 10.4uA
 Standby State: 1.99mA @DRX=1.28s
 LTE NB-IoT
 Power Saving Mode: 9.8uA
 Standby State: 2.77mA @e-I-DRX=20.48s

SMS

Point-to-point MO and MT
 SMS Cell Broadcast
 Test and PDU Mode

Data

LTE-M1: Max. 375 Kbps (DL), Max. 375 Kbps (UL)
 CatNB-IoT: Max. 32 Kbps (DL), Max. 70Kbps (UL)
 GPRS: Max. 107 Kbps (DL), Max. 85.6 Kbps (UL)
 EDGE: Max. 296 Kbps (DL), Max. 236.8 Kbps (UL)

GNSS

GPS, GLONASS, BeiDou/Compass, Galileo, QZSS

Interfaces

I2C BUS, SPI BUS, 1 UART, 1 LPUART, 1ADC
 Using coupling board:
 SDI-12, Modbus RTU, RS485, RS232

Protocols

PPP/TCP/UDP/SSL/TLS/FTP(S)/HTTP(S)/MQTT

Coupling Stages

Additional coupling stages are offered to adapt the following protocols:
 Modbus RTU_RS-485, RS-485, RS-232, SDI-12, 4-20mA, I2C, UART, ADC, GPIOs, Analog input (1/0, voltaje, current & resistor), OpAmp

Programmer



- Athen Programmer is a board dedicated to program the different boards from the Athen family
- Debug different Athen boards with SWD

Battery



- Li-Ion / LiPo rechargeable battery
- Capacity: 1,850 mAh
- Ask for other battery options

Micro USB cable



- Cable for charging and data transfer