

LTE Cat M1/NB1 End Device (Type 1SE)

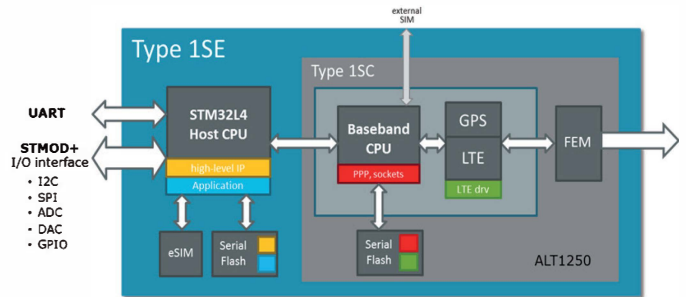
# Ultra-small cellular end device

## Smallest, highly integrated cellular end device

Certified End Device with antenna connection for ease of integration with several different types of applications.

### Features

- LTE Cat M1 – 23 dBm
- NB-IoT (NB1) Rel. 13 (Rel. 14 – SW Upgrade)
- STM32L462RE/Cortex M4 w/512KB Flash and 160 KB
- GNSS
- VoLTE
- Dimension: 15 x 17 x 1.7 mm (typ), 1.8 mm (max)
- Package: LGA
- SIM card: internal eSIM (WLCSP)
- Antenna configurations: U.FL antenna connection
- 3GPP eDRX and PSM modes
- Power Consumption: enables up to 10 year battery life
  - Hibernation current: 3 uA ESR
  - eDRX current: <25 uA @ 8 hyperframes
  - PSM current: dormant window configurable
- Operating temperature range: -40 °C to 85 °C
- OTA firmware upgrade
- Global Carrier Certifications: GCF and ptcrb



### Applications & Benefits

- Certified as a host device for ease of integration with several different types of applications
  - Quicker time to market (no additional carrier or regulatory certification)
  - Less development time and costs for developer/device manufacturer in need of LTE Cat M1/NB-IoT connectivity
  - Embedded eSIM included in certification
- Build/Develop applications with the use of ST's vast set of software modules
- Availability of ST's Community and Development Forums
- Secure boot architecture and a robust hardware-based security framework

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### Specifications

Part Number	LBAD0XX1SE
Connectivity	3GPP Release 13/Optimized for LTE Class 3 output power (+23 dBm)
Universal LTE (LB & MB)	Low-band: B5/B8/B12/B13/B14/B17/B18/B19/B20/B26/B28 Mid-band: B1/B2/B3/B4/B25/B39/B66 (AWS)
GNSS	GPS and Glonass
Voltage Input	3.3V
Antenna	Off board multi-band antenna
Dimension	15 mm x 17 mm x 1.7mm
Peripheral I/F	ADC, GPIOs, I2C, I2S, JTAG, PWM, SPI, UART
Operating Temp	-40° to 85° C