

THE WORLD'S CELLULAR

IoT LEADER

A photograph of a man in a blue athletic jacket looking down at his smartwatch. The background is a bright, hazy outdoor setting with a sun flare effect on the right side.

ALT1250 Chipset - Product Brief

Altair's ALT1250 is the most integrated LTE CAT-M1 and NB1&2 chipset available. It supports 3GPP Releases 13 and 14 and enables cellular IoT features and performance at the price point of LPWA.

The ALT1250 integrates an LTE baseband processor, RF transceiver, PMU, memory, a GNSS and a cellular based location engine, MCU subsystem, as well as an IoT-optimized security framework. The ALT1250 features a hardware based integrated SIM (iUICC) and application layer security.

An ALT1250-based design requires only a few external components. This enables miniature module sizes of less than 100mm² with standard low-cost PCB technology.

The ALT1250 incorporates Altair's OneSKU™ RF technology which enables multiple LTE band combinations with a single hardware design.

The chipset features ultra-low power consumption in a variety of modes, including: 3GPP PSM and eDRX, enabling more than 15 years of battery life.

The ALT1250 chipset is designed to operate with rechargeable Li-ion and prime batteries.

The chipset includes the ALT1250 IC for baseband, RF, GNSS and security, and its companion RF Front End IC, the ALT1910.

The ALT1250 features a rich set of host, peripheral and sensor interfaces, making it ideal for integration in IoT devices including wearables, tracking devices, smart city management, utilities, digital signs, and many more.

Highlight Features

- CAT-M1 Release 13, 300 Kbps DL, 375 Kbps UL
- CAT-M1 Release 14, 600 Kbps DL, 1000 Kbps UL (Release 14 features available by software update)
- CAT-NB1 Release 13, 27 Kbps DL, 65 Kbps UL
- CAT-NB2 Release 14, 120 Kbps DL, 140 Kbps UL (Release 14 features available by software update)
- HFDD (Half Duplex FDD) and TDD
- 3GPP Release 13 features including eDRX, PSM, Enhanced Coverage (EC) modes A and B
- Integrated voice processing for VoLTE and Voice over the top applications
- Secure boot and a robust hardware-based security framework
- Carrier grade integrated SIM
- OneSKU™ frequency range 617 – 960 MHz and 1700 – 2200 MHz, optional support for 450 MHz bands 31, 72, 73. HD-FDD bands: 1, 2, 3, 4, 5, 8, 9, 10, 12, 13, 14, 17, 18, 19, 20, 25, 26, 27, 28, 66, 71, 85. TDD bands: 33, 34, 35, 36, 37, 39.
- GNSS technologies: Assisted GPS and GLONASS
- Cellular based location
- Interfaces include: UART (3), SPI, FS USB2.0, USIM(2) or eUICC, I2S/PCM audio, GPIOs, I2C, Auxiliary ADC and PWM
- WLCSP packaging for low cost and small size devices

Ordering Information

Part Number	Description
ALT1250TG	IoT Modem CAT-M1/NB, WLCSP package
ALT1250BZ	IoT Modem CAT-M1/NB, MCU with 128KB RAM, WLCSP package

