

# THE WORLD'S CELLULAR IoT LEADER



## ALT1160 Chipset - Product Brief

Altair's ALT1160 is an LTE Cat-1 IoT chipset featuring downlink speeds of up to 10 Mbps and uplink speeds of up to 5 Mbps with extremely low power consumption.

The ALT1160 chipset includes the ALT1160 baseband chip and its companion RF-CMOS transceiver IC, the ALT6401.

The ALT1160 is highly integrated and includes an advanced PMU (Power Management Unit), integrated DDR memory, low power CPU subsystem with a robust security framework for customer developed applications, and additional elements. The ALT6401 includes a VCO, a PLL, a Loop Filter, a PA driver, LNAs and a PMU. The ALT6401's high integration enables the development of low cost devices with minimal external component count.

The ALT1160 is based on Altair's SDR (Software Defined Radio) architecture which offers OFDMA-related software based signal processing capabilities that significantly exceed traditional communications DSP cores at a fraction of the power.

The ALT1160 features a rich set of host, peripheral and sensor interfaces. This makes the ALT1160 ideal for integration in IoT devices including wearables, tracking devices, streaming audio, video surveillance cameras, smart home gateways, digital signs, utilities, industrial routers and drones.

The ALT1160 comes with a mature carrier-certified software, deployed in mass markets globally, and is supported by a wide manufacturing and test solutions ecosystem.

# Highlight Features

- 3GPP LTE CAT-1, 10 Mbps / 5 Mbps DL / UL speeds
- 3GPP Release 13 features including eDRX, PSM, Enhanced coverage and more
- Highly optimized IoT power consumption: Idle DRX <1 mA, 81.92 sec eDRX 60 uA, PSM floor <5 uA
- 2 x 20 MHz RX paths and 1 x 20 MHz TX path
- Integrated VoLTE, IMS, OTA-DM with HD voice functionality
- Secure boot architecture and a robust security framework
- LTE-FDD, TDD and HFDD (Half Duplex FDD)
- 450 MHz, 699-960 MHz and 1500-2700 MHz
- Altair proprietary Interference Cancellation (INCA™)
- Interfaces include: USB2.0, UART, SPI, I2S/PCM, Auxiliary PWM and ADC, Camera, USIM
- Flexible packaging, available in BGA and bumped-die (BGA package includes LPDDR for simpler board design)

## Ordering Information

Part Number	Description
ALT1160-C0	ALT1160 BGA 9x9mm, 0.5mm pitch
ALT1160B-C	ALT1160 Bumped die, 0.22mm pitch
ALT1160L-C0	ALT1160L BGA 9x9mm, 0.5mm pitch, optimized for eDRX ultra-low power
ALT6401-C1	ALT6401 BGA 6x6mm, 0.4mm pitch
ALT6401B-C	ALT6401 Bumped die, 0.2mm pitch

