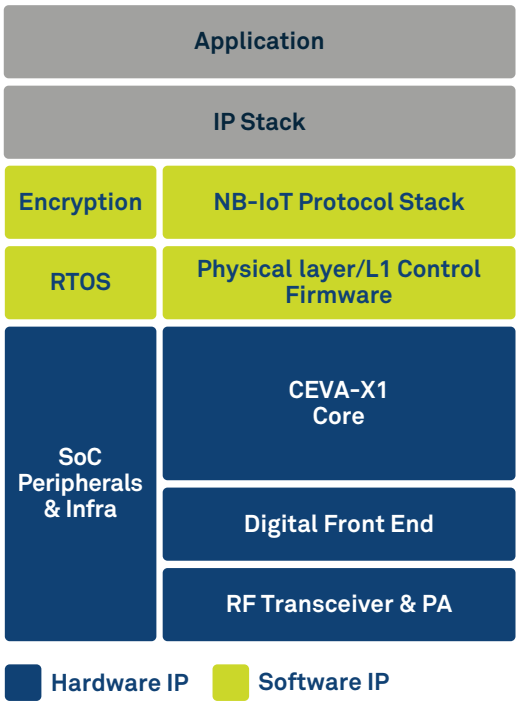
CEVA-Dragonfly NB2

Full eNB-IoT Release 14 IP solution with multi-constellation GNSS support for IoT devices

The CEVA-Dragonfly NB2 pre-integrates together a CEVA-X1 processor, an optimized RF, a baseband, and a protocol stack to offer a complete Release 14 Cat-NB2 modem IP solution that reduces time-to-market and lowers entry barriers.
The CEVA-Dragonfly NB2 is a fully software-configurable solution that can extend seamlessly with GNSS and sensor fusion functionality. It includes a reference silicon of the complete modem design, including an embedded CMOS RF transceiver, an advanced digital front-end, physical layer firmware, and a protocol stack (MAC, RLC, PDCP, RRC, and NAS).

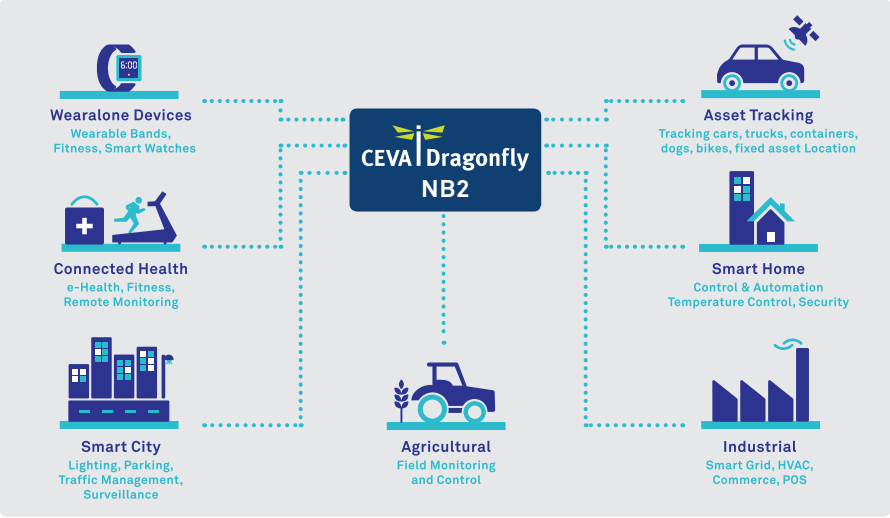
CEVA-Dragonfly NB2 Hardware and Software components



Key Benefits

- **Reduces time-to-market** with fully integrated reference silicon, that enables real-time, over the air, system and software development in parallel with SoC development
- **Single-processor, software-configurable solution** is guaranteed futureproof for eNB-IoT modem and GNSS receiver upgrades
- **Reduces total system cost** with single processor solution for baseband, protocol and application
- **Reduces power** for >10 years operation on a single AA battery using dedicated eNB-IoT and GNSS instructions
- **Software flexibility** enables multi-mode applications such as Cat-NB2 and GNSS on a single processor
- **Software based modems** ease development cycle, accelerate time-to-market, enable product differentiation
- **Ensures** >10 years of future-proofing with in-field over the air SW upgrades

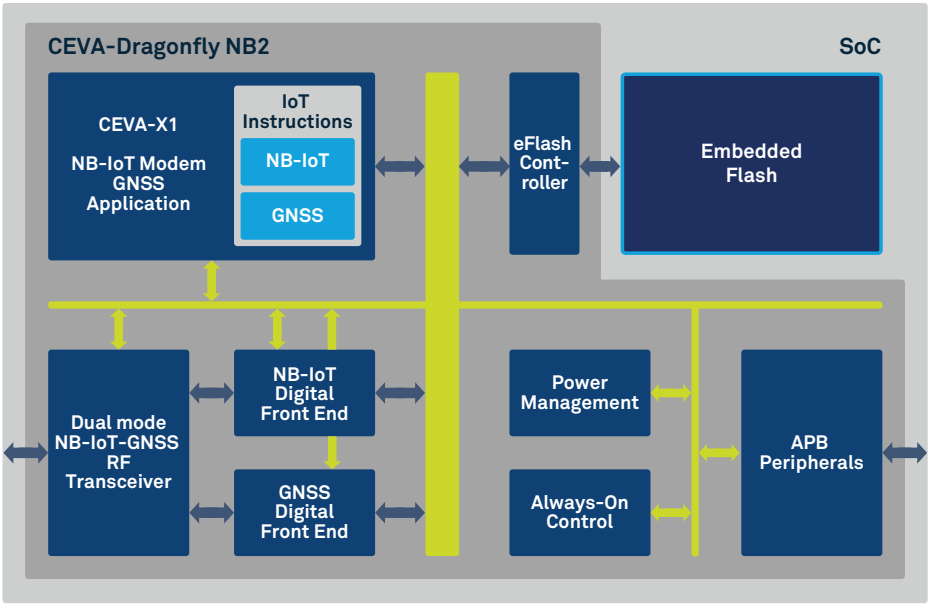
Target Markets



Main Features

- **Software components:**
  - eNB-IoT Release 14 UE protocol stack
  - eNB-IoT Release 14 L1 control and physical layer (PHY)
  - RTOS & drivers
- **Hardware components:**
  - NB-IoT and GNSS digital front-ends
  - CEVA-X1 processor with eNB-IoT and GNSS dedicated instructions
  - SoC Infrastructure and Peripherals
  - eNB-IoT RF transceiver: analog and RF embedded CMOS RF transceiver, LNA, PA, DC-DC, DCXO
  - Dual-mode eNB-IoT & GNSS RF transceiver supports GPS, Beidou, and Galileo constellations
  - Embedded Flash controller with program cache
  - Always-on controller ensures ultra-low power consumption in sleep mode
  - RF Transceiver power management unit

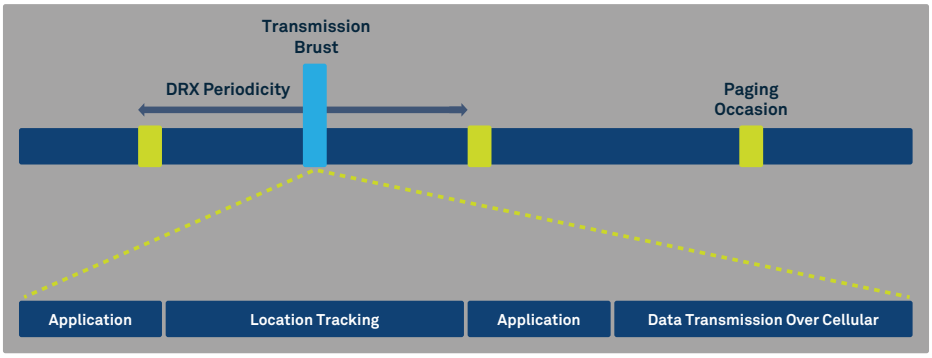
NB-IoT Single Chip Architecture



Multi-mode IoT Use Cases with eNB-IoT connectivity

- Asset or person tracking (children, elderly, dogs, cars, bikes, logistics)
- Geo-fencing when asset/person leaves a pre-defined virtual area
- Identification of fixed devices (smart meters, light and parking city sensors)
- Smart home hub bridging home meshed connectivity, (BLE, Zigbee/Thread) with eNB-IoT backhaul
- Sensor fusion for untethered activity trackers and wearables
- ClearVox, voice front-end software for Building and Home security use cases with broken glass detection and Voice commands for elderly and eHealth
- Optimized for CEVA-X1, ClearVox performs SW Voice Activity Detection, Multi-mic beamforming, Noise suppression, Always-on voice trigger, Voice commands and Sound sensing

Multi-mode Asset Tracker CEVA-X1 timing diagram



USA
1174 Castro Street
Suite 210
Mountain View
CA, 94040
Tel: +1 (650) 417 7900

Israel
2 Maskit Street
POBox 2068
Herzelia 46120
Tel: +972 9 961 3700

Ireland
2nd Floor
18/19 South William
Street, Dublin 2
Tel: +353 1 237 3900

France
RivieraWaves S.A.S
Les Bureaux Green Side 5, Bat 6
400, avenue Roumanille, 06410
Biot, Sophia Antipolis, France
Tel: +33 4 83 76 06 00

For more information: