CEVA Dragonfly NB2 is a Full eNB-IoT Release 14 IP solution with multi-constellation GNSS support for IoT devices

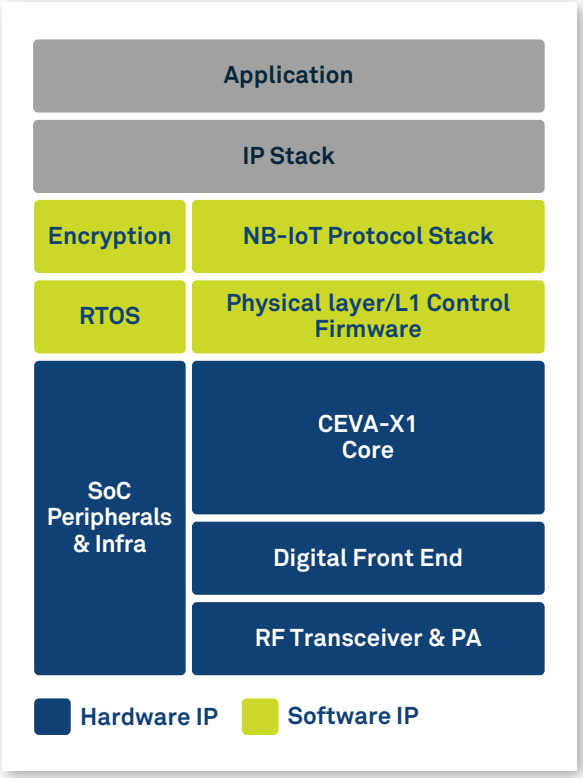
The CEVA-Dragonfly NB2 pre-integrates together a CEVA-X1 processor, an optimized RF, a baseband, and a protocol stack to offer a complete Release 14 Cat-NB2 modem IP solution that reduces time-to-market and lowers entry barriers.

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).

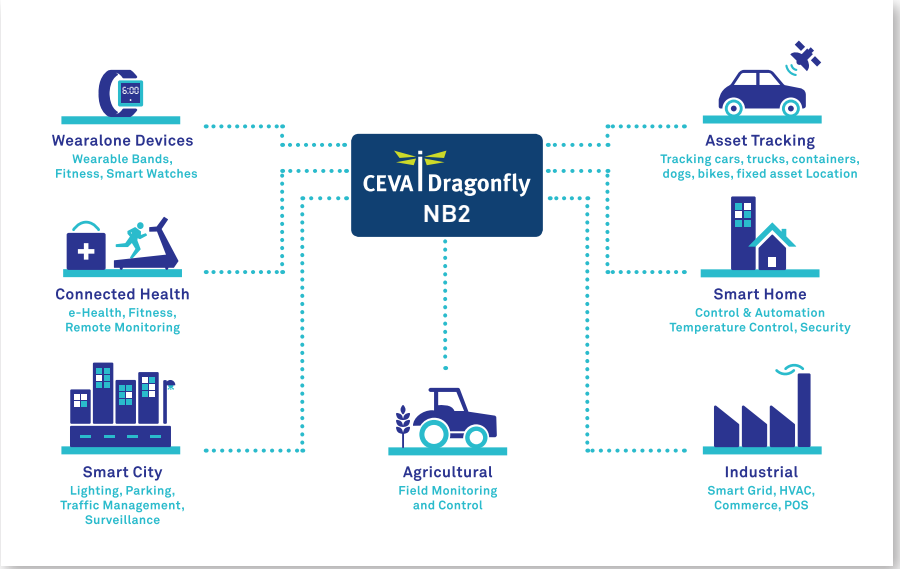
Key Benefits

- **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
- **Ensure** >10 years of future-proofing with in-field over the air upgrades

CEVA-Dragonfly NB2 Hardware and Software components



Target Markets



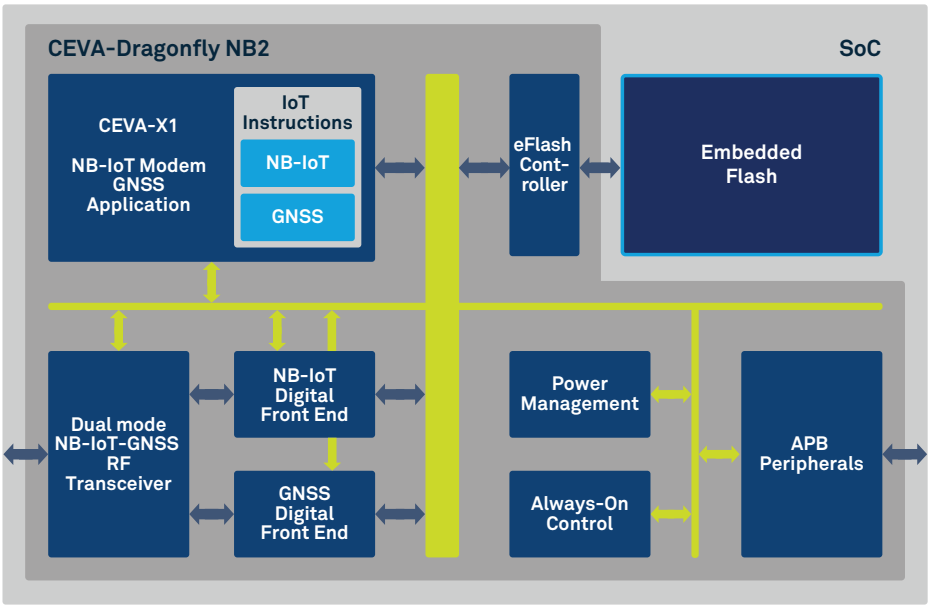
Main Features

- **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

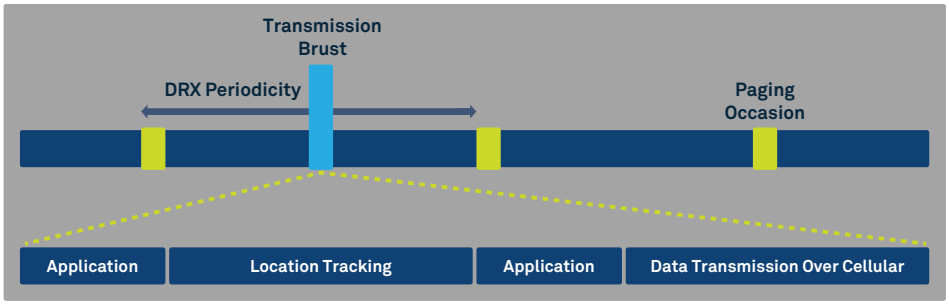
Multi-mode IoT Use Cases with eNB-IoT connectivity

- 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 between home meshed connectivity, (BLE, Zigbee/Thread) and eNB-IoT backahul
- Sensor fusion for untethered activity trackers and wearables
- ClearVox, voice front-end software for Building and Home security with broken glass detection and Voice commands for elderly and eHealth
- Performs SW Voice Activity Detection, Multi-mic beamforming, Noise suppression, Always-on voice trigger, Voice commands and Sound sensing

NB-IoT Single Chip Architecture



Multi-mode Asset Tracker CEVA-X1 timing diagram



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