

Eragon 865 Hardware Development Kit

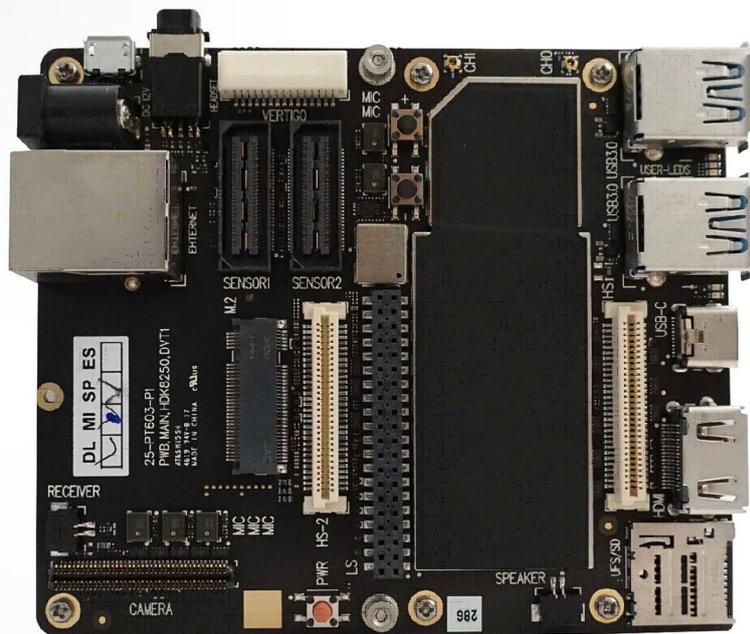


Based on the Qualcomm® SM8250 SoC Platform



Qualcomm®
snapdragon

eragon
865



Subject to change without prior notice

About eInfochips

eInfochips is product engineering services company offering technology consulting and product design services in multiple industry verticals like aerospace and defense, security and surveillance, medical and healthcare, industrial and home Automation, consumer electronics and more.

eInfochips, being a Qualcomm Snapdragon Technology Partner (STP), offers turnkey product designs on multiple Snapdragon and other SoCs of Qualcomm® and has enabled global customers with Qualcomm based product designs.

eInfochips Advantages

- **25+ years** of experience in system design
- **2300+ professionals** for HW and SW design
- **30+ B\$ corporations** as customers
- **7 design centres** in USA and India
- **500+ products** across applications
- **35+ product designs** on Qualcomm
- **15M+ product deployments** across globe
- **ISO 9001 and CMMi L3** compliant processes

eInfochips Eragon 865 HDK

Eragon 865 Hardware Development Kit (HDK) is based on SM8250/QCS8250 System on Chip (SOC) from Qualcomm®. It is based on 7nm FinFit geometry & delivers powerful computing for augmented reality, artificial intelligence & machine learning applications, with exceptional power and thermal efficiency. Snapdragon 865 incorporates four Kryo™ 585 Gold cores operating at 2.4GHz (three cores) & 2.8GHz (one core) and four Kryo™ 585 Silver cores operating at 1.8GHz. For AI acceleration, the SoC incorporates dedicated NPU230 and Hexagon 698 with quad hexagon vector processor (HVX) and Adreno 650 GPU.

Eragon 865 HDK enables OEMs and engineers to evaluate performance of Snapdragon 865 for their product designs and reduce time to market for their product designs.

AI and ML Applications

4K Camera

Medical Imaging

Augmented Reality

Virtual Reality

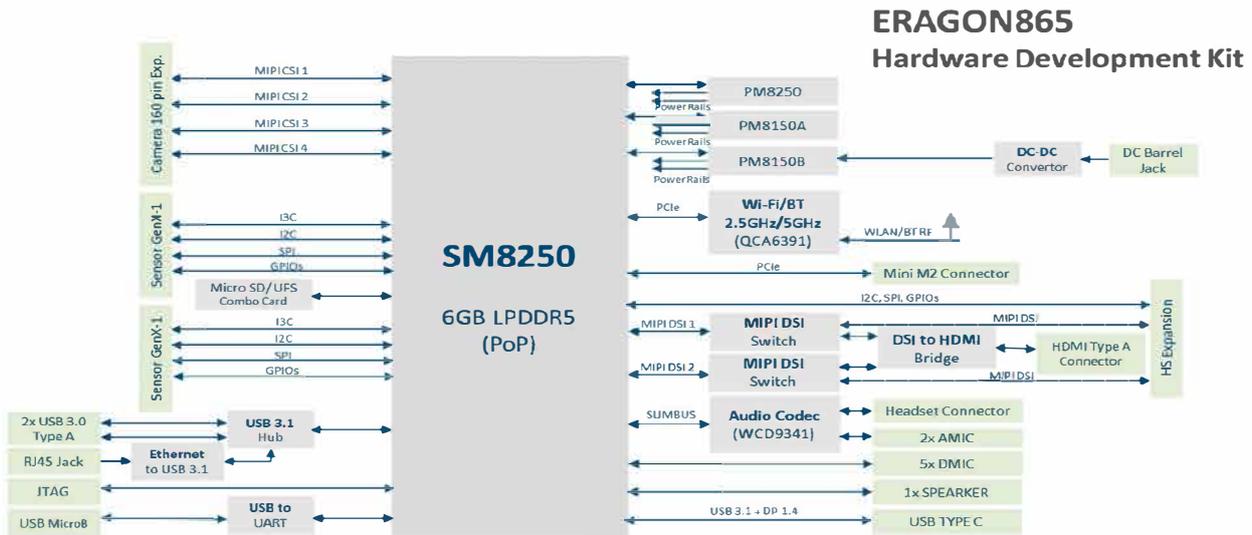
Machine Vision

Digital Signage

Video Conferencing
Systems

Robotics

High end Gaming



Datasheet Rev 1.0

Processor

- Qualcomm® Snapdragon™ 8250
- 64-Bit Octa-core Kryo™ 585
- Hexagon™ DSP with quad HVX
- Adreno™ 650 GPU
- Spectra™ 480 Dual 14-bit ISP

Memory / Storage

- 6GB LPDDR5 PoP Memory
- 128GB UFS 3.0

Connectivity

Wi-Fi:

- Qualcomm® Wi-Fi via QCA6391
802.11a/b/g/n/ac/ax 2.4/5.0 GHz
- Antenna - 2x on-board PCB WLAN antennas

Bluetooth:

- Support BT 5.0 + HS and backward compatible with BT 1.x, 2.x + EDR

USB

- 1x Type-C USB3.1
- 2x Type-A USB3.0 Host

Sensors

- Supported via external Sensor Card
- 2x 60-pin GENX connector

Camera

- 4x 4-Lane MIPI CSI DPHY
- 4x 3-Trio MIPI CSI CPHY
- 1x 160-pin Camera Connector for CSIO, CSI1, CSI2 and CSI3
- Dual Camera, ZSL, 30fps: 25 MP

Audio

- Audio Codec WCD9385
- 1x Headset headphone output
- 1x loud speaker output
- 1x Earpiece output
- 2x Analog MIC input
- 5x Digital MIC input

Display

- 2x 4-Lane MIPI DSI DPHY
- 2x 3-Trio MIPI DSI CPHY
- 2x 60-pin Display Connector
- HDMI 2.0 via MIPI DSI -> HDMI bridge, up to 4K60
- DisplayPort over USB3.1 Type-C

Video

Encode:

- H.265 Main 10, H.265 Main, H.264 High, and VP8 codecs
- Video encode up to 4K120 or 8K30

Decode:

- H.265 Main 10, H.265 Main, H.264 High, VP9 profile 2, VP8, and MPEG-2 codecs
- Video decode up to 4K240 or 8K60

Simultaneous Encode + Decode

- 4K 60D + 4K 30E

Others

- 1x mini PCIe interface
- 1x JTAG Interface for Debug
- Debug Serial UART console over USB Micro B
- SPI/I3C/I2C/UART/I2S/ and GPIOs via the 40-pin connector
- 1x Power LED
- 4x User LED
- 1x WLAN LED
- 1x BT LED

Operating System

- Android™ 10.0

Mechanical specification

- Main Board: 100 mm x 85 mm

Power specification

- Power supply input: 12V/5A input from 12V AC Power Adapter

Kit Contents

- Main Board
- 12V AC Power Adapter
- Setup Guide

Add-on Accessories

- Camera Add on Cards
- Display Card (Display Panel + Expansion Card)

Orderable Part Number

- Development Kit: EIC-Q865-210

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