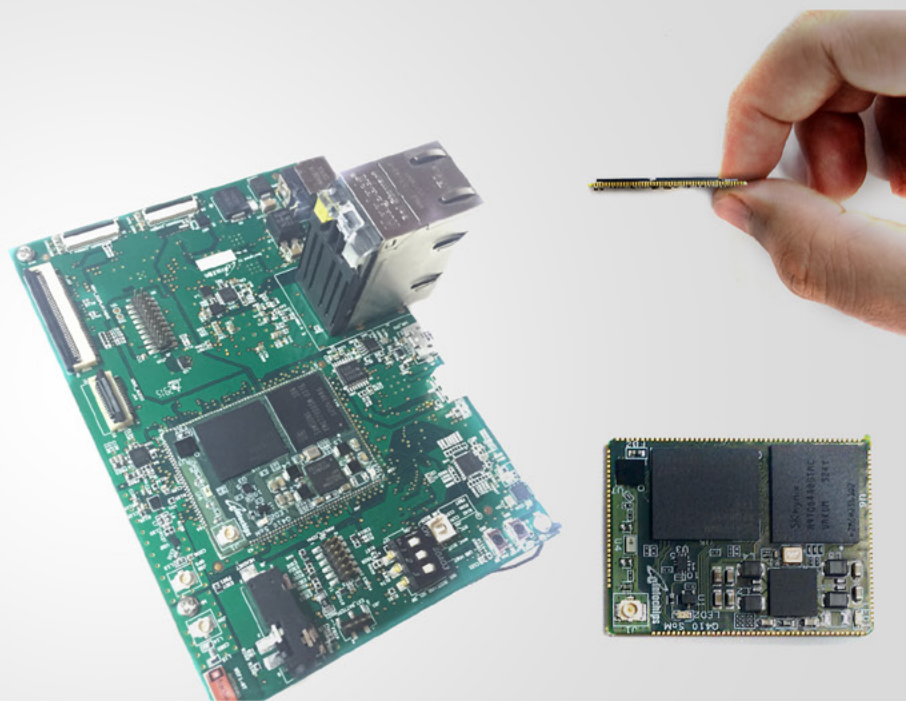# Eragon 410
SOM | Development Kit

eInfochips

Based on the Qualcomm® Snapdragon™ 410 Processor

Qualcomm® snapdragon™

eragon 410

Snapdragon Official Licensee

eInfochips is an official licensee for the Qualcomm® Snapdragon™ 410 processor, a product of Qualcomm Technologies, Inc. (QTI), enabling us to have direct support from QTI for product design and development. We also have access to proprietery technology and code components.

eInfochips Eragon 410 SoM

The Eragon 410 SoM is a cost effective, ultra-small form factor (35mm x 26mm) module based on the Snapdragon 410 processor, to kick-start solutions requiring low power connectivity and multimedia along with solid processing power. The SoM offers on-chip eMCP memory (1GB LPDDR3 + 4GB eMMC) with major interfaces over edge connectors.

eInfochips also provides state of the art connector less carrier board that interfaces SOM via edge castellation. This design provides an added cost and size benefit to avoid additional mechanical provisions for vibrations.

eInfochips Advantages

· **20 years** of experience in system design
· **1400+ professionals** for HW and SW design
· **30+ B$ corporations** as customers
· **10 design centres** in USA and India
· **500+ products** across applications
· **200+ designs** on Android and Linux
· **ISO 9001 and CMMi L3** compliant processes

eInfochips Design Services

With the experience of 500 product designs and comprehensive expertise on Qualcomm Snapdragon processors, eInfochips is an ideal partner for efficient and high performance designs. Our strong ecosystem for manufacturing can enable turnkey solutions with a single point engineering responsibility.

Snapdragon 410

Qualcomm Snapdragon 410 is based on a 64 bit quad-core ARM® Cortex® A53 for advanced computing. It comprises of Qualcomm® Adreno™ 306 GPU with support for advanced APIs, including OpenGL ES 3.0, OpenCL, DirectX, and content security along with Qualcomm® Quick Charge™ 2.0 technology for mobile solutions.

- Domestic Robot
- Toy/Prosumer Drones
- Wearable
- Security and Surveillance
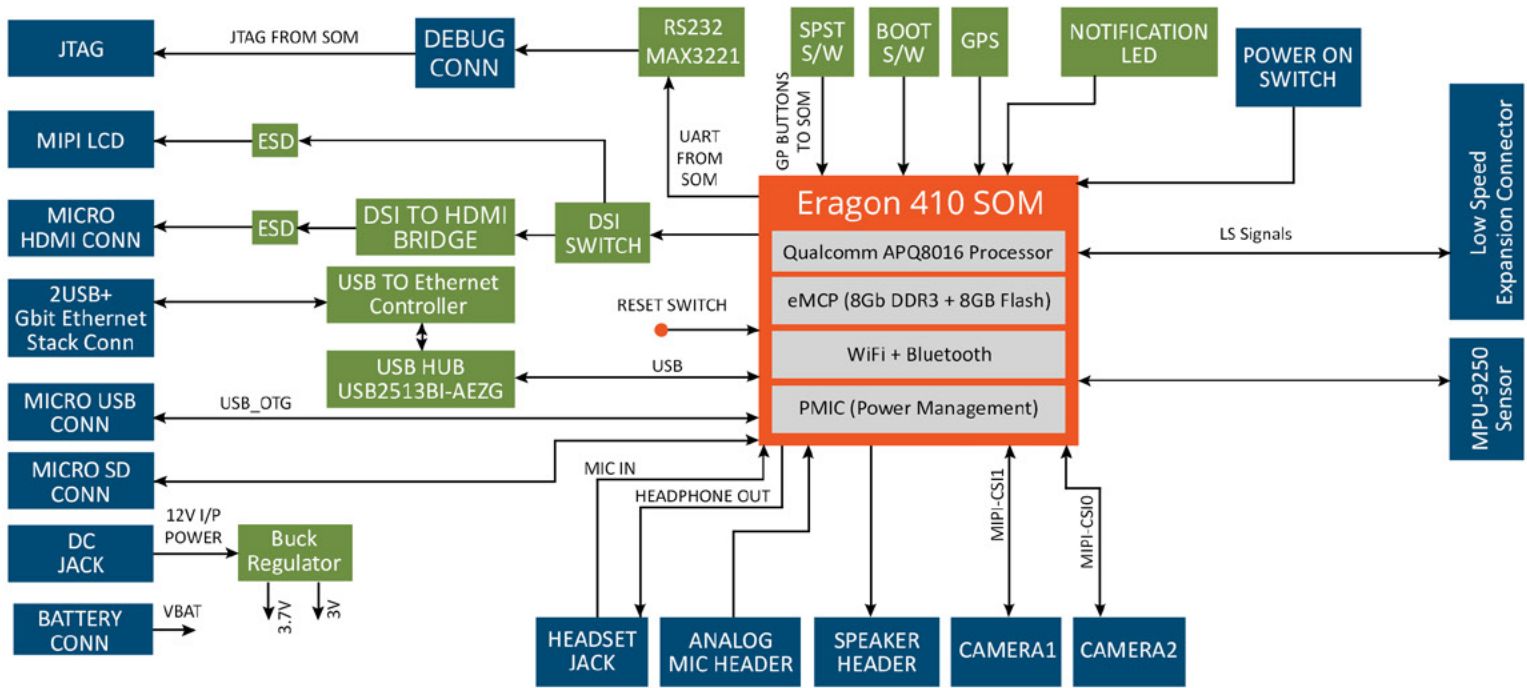- Biometric Access Control Systems
- POS Terminal
- Home and Health Hub
- Human-Machine Interface
- Home Energy Management Systems
- Portable Medical
- Video Conferencing / IP Phone

Block diagram:

- JTAG ← JTAG FROM SOM ← DEBUG CONN ← RS232 MAX3221
- SPST S/W, BOOT S/W, GPS, NOTIFICATION LED, POWER ON SWITCH
- GP BUTTONS TO SOM
- UART FROM SOM
- MIPI LCD ← ESD
- MICRO HDMI CONN ← ESD ← DSI TO HDMI BRIDGE ← DSI SWITCH
- 2USB+ Gbit Ethernet Stack Conn ← USB TO Ethernet Controller
- USB HUB USB2513BI-AEZG
- RESET SWITCH
- USB
- MICRO USB CONN ← USB_OTG
- MICRO SD CONN
- DC JACK — 12V I/P POWER → Buck Regulator (3.7V, 3V)
- BATTERY CONN — VBAT

Eragon 410 SOM
- Qualcomm APQ8016 Processor
- eMCP (8Gb DDR3 + 8GB Flash)
- WiFi + Bluetooth
- PMIC (Power Management)

- Low Speed Expansion Connector ← LS Signals
- MPU-9250 Sensor
- MIC IN
- HEADPHONE OUT
- MIPI-CSI1, MIPI-CSI0
- HEADSET JACK, ANALOG MIC HEADER, SPEAKER HEADER, CAMERA1, CAMERA2

Technical Specifications*

Connectivity (with WCN3620/WCN3660B)

- Integrated WiFi – 802.11 a/b/g/n
- Bluetooth 4.1 + BLE Interface
- GPS (available on SoM pinout)

Audio

- 2x Analog Audio In,
- 1x Mono speaker out, 1x Headset Analog MIC
- 2x I2S Interface

USB

- 2x USB2.0 host or 1x USB device (configurable through switch setting)

Ethernet

- 1x 10/100 Mbps Fast Ethernet (USB to Ethernet Bridge) with RJ45 connector

Storage

- microSD Connector – supports SDHC/SDXC

*Subject to change

Display

- MIPI-DSI
- HD (1280x720) 60 fps, 16/18/24 bpp RGB
- Wi-Fi Display – 720p 30 / 1080p 30
- Full HD + 720p external Wireless Display
- Video Encode
- 720p 30 fps (H.264 Baseline/MPEG-4)
- 30 fps 1080p (MPEG-4/H.264/VP8/H.263)
- WFD 720p @ 30 fps
- Video Decode: 30 fps 1080p(MPEG4/H.264/H.263/DivX/MPEG2/VC1/Soreson/VP8); WFD 1080p @ 30 fps
- HDMI (through ext. accessory – DSI to HDMI)

Camera

- MIPI-DSI
- 2x MIPI-CSI for Camera Support
- 1x 4-lane CSI(CSI0)(support upto 13 MP sensor)
- 1x 2-lane CSI(CSI1) (supports upto 8 MP sensor)
- I2C Control

System Software

- Android, Linux, Windows 10 (in future)

Other

- 9-Axis Accelerometer, Gyrometer and Magnetometer
- JTAG, UART, SPI, I2C, GPIO
- Low Speed Expansion Connector
- 2-wire Battery Connector

Mechanical specification

- SOM - 26 mm X 35 mm
- CARRIER - 72 mm X 100 mm

Temperature specification

- Extended Temperature Range -30° to 85° C.

Power supply input

- 12 V (3A) for the development kit

Ordering Information

- SoM : EIC-Q410-200
- Development kit : EIC-Q410-210

Eragon 410 datasheet Rev 1.0

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eInfochips is a Product Engineering Solutions company recognized for leadership by Gartner, Frost & Sullivan, NASSCOM and Zinnov. eInfochips has contributed to 500+ products for top global companies, with more than 10 million deployments across the world. The company is debt-free and profitable since inception in 1994.

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