

Eragon 820 SOM | Development Kit



Featuring Qualcomm® Snapdragon™ 820 Processor

eragon
820



About eInfochips

eInfochips is an official licensee for the Qualcomm® Snapdragon™ 820 processor, a product of Qualcomm Technologies, Inc. (QTI), enabling us to have direct support from QTI for product design and development.

- **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

Snapdragon 820

The Snapdragon 820 processor features the new custom 64-bit quad-core Qualcomm® Kryo™ CPU that offers advanced processing capabilities and low power consumption. It features the Qualcomm(R) Adreno™ 530 GPU with OpenGL ES 3.1+ with Qualcomm® Hexagon™ 680 DSP for rich multimedia functionality. The processor offers multiple connectivity solutions including Wi-Fi (802.11ad and 802.11ac 2x2 MU-MIMO), Bluetooth 4.1 and GPS.

eInfochips Eragon 820 SoM

The ERAGON 820 SoM (EIC-Q820-200) is a cost effective, small form factor (53mmx25mm) module featuring the Snapdragon 820 processor aimed at kick-starting solutions requiring 4K video, wireless , connectivity, high-end graphics, power and battery efficiency, along with solid processing power. The SoM offers memory 4GB LPDDR4, 32GBUFS/16GB eMMC with major interfaces over edge connectors.

eInfochips also provides an 820 Development Kit (EIC-Q820-210) comprising of SoM and Carrier Board that enables rapid prototyping of designs/use cases. In addition, interface boards such as LCD, Camera, WiGig, PCIe based SATA are available as add-ons.

Domestic Robot

Toy/Prosumer Drones

Wearable

Security and Surveillance

Biometric Access Control Systems

POS Terminal

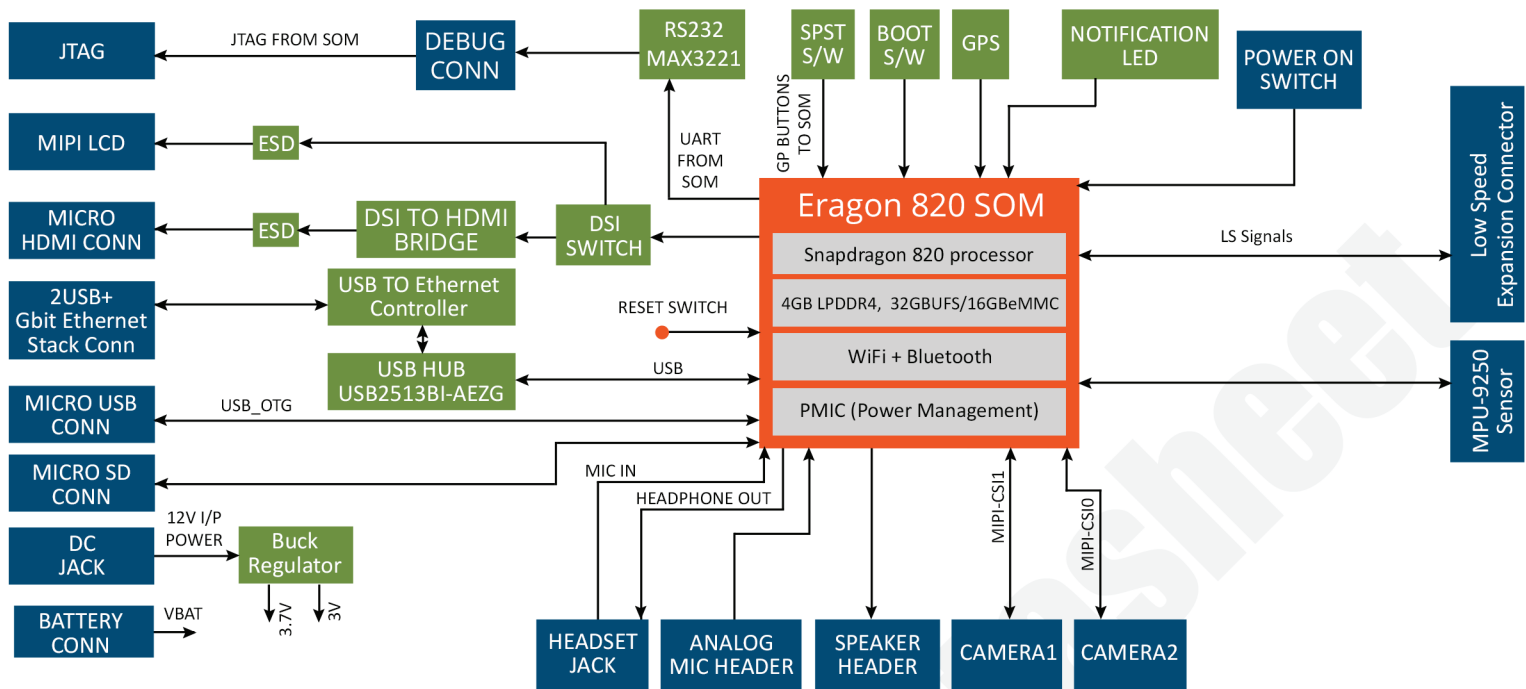
Home and Health Hub

Human-Machine Interface

Home Energy Management Systems

Portable Medical

Video Conferencing / IP Phone



Connectivity (QCA6174)

- Integrated WiFi – 802.11 a/b/g/n
- Bluetooth 4.1 + BLE Interface
- WGR7640 GPS/GNSS Gen8C (available on SoM pinout)

Audio

- WCD9335 Audio Codec
- 1x Headset
- 2x Stereo Speaker
- 1x Earpiece
- 6x Analog Mic, 3x Digital Mic
- 2x I2S Interface on header

USB

- 2x USB 2.0 host or 1x USB 3.0

Ethernet

- 1x 10/100/1000 Mbps Fast Ethernet with RJ45 connector

Camera

- 2x MIPI-CSI for Camera Support
- Upto 4 cameras can be supported (4:4:2:1 lanes).
- Maximum 2 cameras can stream concurrently
- 2x4-lane CSI (CSI0/1) (supports upto 21MP sensor)
- 1x2-lane CSI (CSI2) (supports upto 8 MP sensor)
- 1x 1-lane CSI (CSI2) (supports upto 2 MP sensor)

Display

- MIPI-DSI
- Two 4-lane DSI i.e. DSI0 and DSI1. Can also be used as Dual DSI (8-lane)
- 4K (3840x2400 or 4096x2160) @ 60FPS using Dual DSI
- 1920x1200 with single 4-lane DSI0/1
- Wireless Display – 3840x2160 @ 60FPS
- HDMI
 - Upto 4096x2160 @ 60 FPS

Video

- Encode
 - Supported formats: H.264 BP/MP/SP, MPEG-4 SP/ASP, H.263 P0, VP8, HEVC Main
 - 1x instance of 3840x2160 @ 30 FPS or 4096x2160 @ 24 FPS
 - 1x instance of 1080p @ 60 FPS
 - 2x instance of 720p @ 30 FPS
- Decode
 - Supported formats: H.264 BP/MP/SP, MPEG-4 SP/ASP, H.263 P0, VC1 SP/MP/AP, MPEG-2 MP, DivX 3.11/4/5/6, VP8, VP9, HEVC Main, HEVC Main10
 - 3840x2160 @ 60 FPS
 - 4096x2160 @ 60 FPS

Storage

- UFS 2.0 32GB.
- eMMC 5.1 (16 GB Optional)
- SD 3.0 (UHS-I)

Other

- Accelerometer, Gyrometer and Magnetometer
- JTAG
- Snapdragon Sensor Interface connector
 - 1x SPI, 1x UART, 2x MI2S
- Low Speed Expansion Connector
 - 1x SPI / UART / I2C / PCM, 2x I2S, 5x GPIO
- 4K HDMI In using two CSI 4 lane ports
- 1 PCIe slot for WiGig, 1 for PCIe based SATA
- Real Time Clock

System Software

- Android Lollipop 5.1.1
- Linux based on Debian 8.0
- Windows 10

Mechanical specification

- SOM - 53mmx25mm
- CARRIER - 110mmx85mm (Approx.)
- Weight
 - SOM Weight : ~15 gm (Approx.)
 - SOM + Carrier : ~65 gm (Approx.)

Temperature specification

- Industrial Extended Temperature 0 to 65

SOM: EIC-Q820-200

Development Kit: EIC-Q820-210

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