Eragon 820
SOM | Development Kit

Featuring Qualcomm® Snapdragon™ 820 Processor

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+ BS 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 (53mm x 25mm) 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, 32GB UFS/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/usage 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
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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Connectivity (QCA6174)
- WiFi + BT Antenna: 802.11ac 2X2 MU-MIMO
- 2.4GHz/5GHz WiFi & BT 4.1LE
- WGR7640 GPS/GNSS Gen8C
- Qualcomm® IZat™ Gen 8C GPS

Audio
- WCD9335 Audio Codec
- 1x Headset
- 2x Stereo Speaker
- 1x Earpiece
- 3x Analog Mic, 3x Digital Mic
- 2x Analog out
- HDMI audio 7.1

USB
- 1xUSB3.0 (Host/OTG), 1xUSB2.0 (Host)

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

Camera
- 3x 4-lane MIPI-CSI
- Upto 4 cameras can be supported (4:4:2:1 lanes). Maximum 2 cameras can stream concurrently
- Dual ISP supports upto 28MP

Display
- MIPI-DSI
- Two 4-lane DSI i.e. DS0 and DS1. Can also be used as Dual DSI (8-lane)
- 3840x2400 or 4096x2160 @ 60FPS using Dual DSI
- 1920x1200 with single 4-lane DS0/1
- Wireless Display – 3840x2160 @ 60FPS
- HDMI
- Upto 4096x2160 @ 60 FPS

Video
- Encode
  - Supported formats: H.265, 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.265, H.264 BP/MP/SP, MPEG-4 SP/ASP, H.263 P0, VC1 SP/MP/AP, MPEG-2 MP, DivX 3.11/4.6/6, VP8, VP9, HEVC Main, HEVC Main10
  - 3840x2160 @ 60 FPS
  - 4096x2160 @ 60 FPS

Memory/Storage
- Memory: 4GB LPDDR4 RAM (1866MHz )
- Storage: 32 Gb UFS 2.0 Flash 1-lane, gear 3, eMMC 5.1 16GB (optional)

Others
- Accelerometer, Gyroscope and Magnetometer
- Snapdragon Sensor Interface connector
- 1x SPI, 1x UART, 2X MI2S
- Low Speed Expansion Connector
- 1x SPI / UART / I2C / PCM, 5x GPIO
- 4K HDMI Input using two CSI 4 lane ports
- 1x PCIe v2.1 slot for WiGig/PCIe based SATA
- 16GB EEPROM, RGB LEDs, Real time clock, SLIMBUS

System Software
- Android 7 (Nougat)
- Linux Linaro 16.09
- Windows (Planned)

Mechanical specification
- Ambient Temperature Range: -35c to +80c
- SOM: EIC-Q820-200
- Development Kit: EIC-Q820-210