

# Development Platform iW-RainboW-G25D Snapdragon 820 Development Kit



The Snapdragon 820 SMARC Development Board incorporates SD820 APQ8096 SMARC SOM which is based on Qualcomm APQ8096 SOC targeted for powering next-generation devices offering many advantages including superior performance, low power consumption, and integrated connectivity. This platform can be used for quick prototyping of any high end applications in verticals like Automotive, Industrial & Medical. The board is highly packed with all necessary onboard connectors to validate complete Snapdragon 820 features.

**APPLICATIONS:** Augmented & Virtual Reality, 4K Digital Signage, Media streaming, Connected home & entertainment, High end wearables, Drones, Secure POS, Video analytics.

## iW-RainboW-G25D HIGHLIGHTS

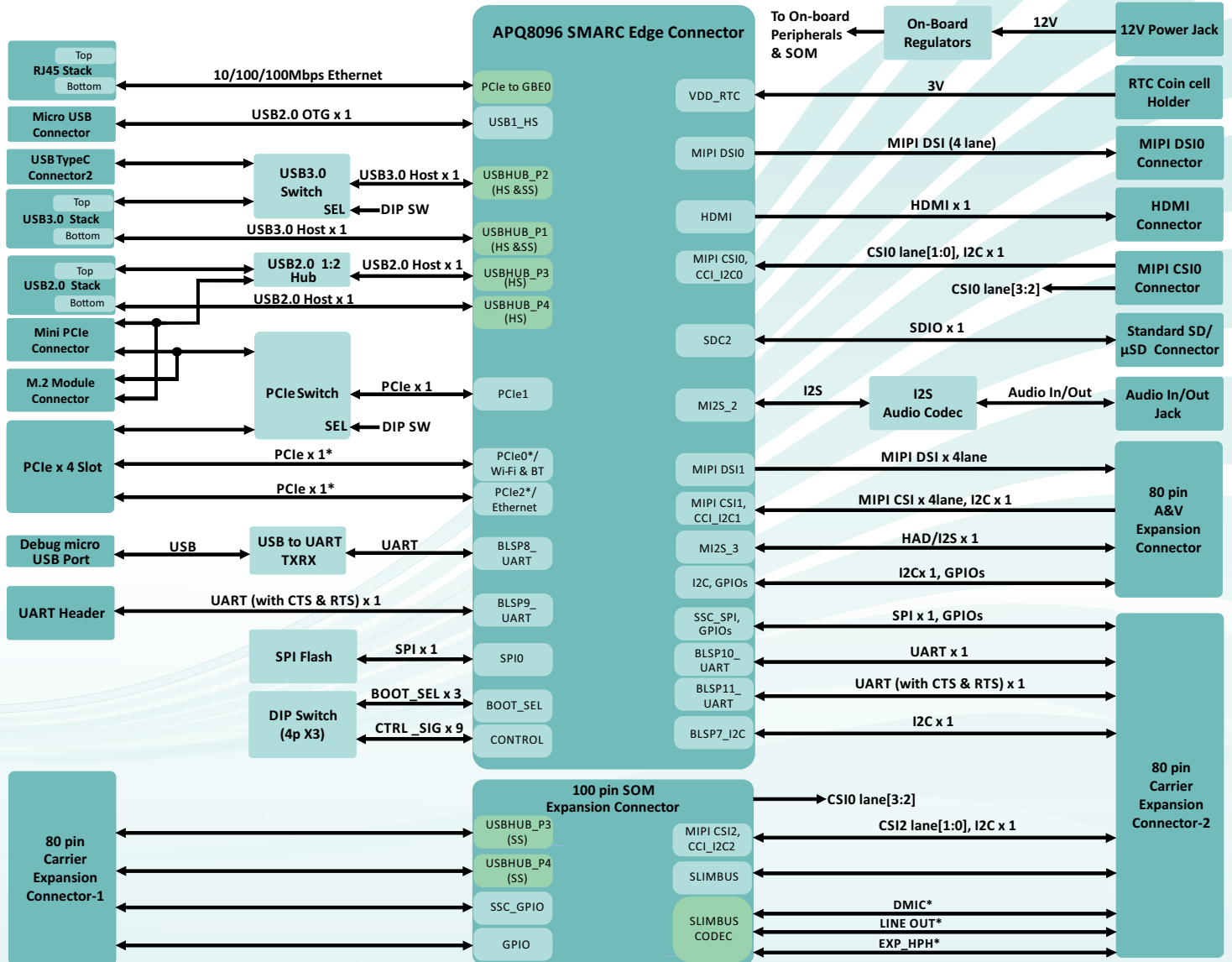
- 64-bit Quad Kryo Snapdragon 820 CPU
- Adreno 530 3D Graphics @624MHz
- Hexagon 680 DSP @ 825MHz
- H.265 4K60 decode, 4K30 encode
- 802.11ac Wi-Fi, BT 4.1 and GPS
- 5.5" HD AMOLED Display with CAP touch
- SMARC R2.0 compatible

## SPECIFICATIONS

<b>APQ8096 SMARC SOM:</b>	Standard SD slot - 1 Port
SD820 64-Bit Quad Kryo CPU (Without Modem)	HDMI Connector
3GB LPDDR4 RAM	5.5" HD AMOLED MIPI DSI display
32GB eMMC Flash	Capacitive Touch screen
Micro SD slot	8MP MIPI CSI Camera Connector
PCIe to Gigabit Ethernet + PHY	Full Function UART - 1 Port
802.11a/b/g/n/ac Wi-Fi + BT4.1 Low Energy (BLE)	RTC with backup battery
GPS/GNSS receiver	Debug MicroUSB Port
<b>SMARC Carrier Board:</b>	IO Expansion connectors
Gigabit Ethernet Jack - 1 Port	<b>Power Input:</b> 12V DC
PCIex1 slot/MiniPCIe Slot - 1 Port <sup>1,2</sup>	<b>OS:</b> Android Marshmallow or higher, Linux*
USB 3.0 Host TypeA Connector - 2 Ports	<b>Operating Temperature:</b> 0°C to +70°C
USB 2.0 Host TypeA Connector - 2 Ports	<b>Form Factor:</b>
USB 2.0 OTG MicroB Connector - 1 Port	120mmx120mm Nano ITX Size

Note1: PCIe interface to PCIe1 slot or MiniPCIe is selectable through control switch.  
Note2: USB 2.0 Host interface also available on MiniPCIe slot

# SMARC Development Board - Block Diagram



\*Optional items not included in the standard deliverables

## OS SUPPORT

Android Marshmallow or higher, Linux\*

## DELIVERABLES

SD820 SMARC Development Kit  
Hardware User Manuals

## OPTIONAL KITS/Modules

5.5" HD Display with CAP touch  
Camera Modules

## CUSTOM DEVELOPMENT

BSP Development/OS Porting  
Custom SOM/Carrier Development  
Custom Application/GUI Development  
Design Review and Support

iWave Systems Technologies, established in 1999, focuses on Product Engineering Services involving Embedded Hardware, Software & FPGA. The company designs and develops cutting edge products and solutions. iWave has been an innovator in the development of highly integrated, high performance, low power and low cost System On Modules and Development Platforms. iWave's expertise has brought out multiple SOMs based on ARM NXP, Intel Atom, Marvell and TI Processors.

iWave System has won the confidence of its customers over the years by being a reliable partner in developing innovative products. Our engineers combine outstanding System design experience to deliver Quality Solutions. iWave specializes across Industrial, Automotive and Medical domains. We support our customers by being time efficient, which in turn helps our customers accelerate time to market their products. iWave is a Windows embedded Silver partner and a winner of the Partner Excellence Award.

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## Ordering the Snapdragon 820 Kit

The Development Kit can be ordered online from the iWave Website  
<http://www.iwavesystems.com/webforms>

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