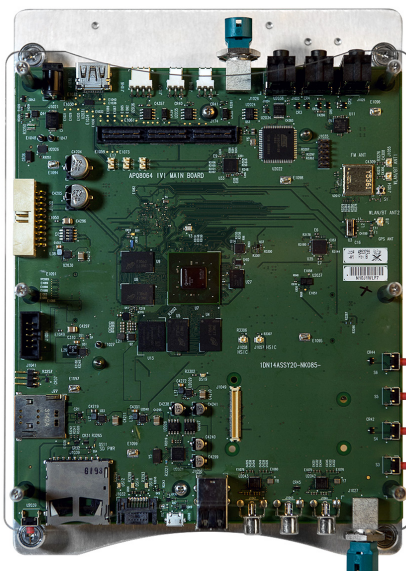# QUALCOMM® SNAPDRAGON™
AUTOMOTIVE DEVELOPMENT PLATFORM

The Qualcomm® Snapdragon™ Automotive Development Platform is designed to allow automakers, Tier-1 suppliers and developers to rapidly innovate, test and deploy next-generation connected infotainment applications and experiences.

INTEGRATED PLATFORM FOR INTEGRATED SOLUTIONS

The Snapdragon Automotive Development Platform offers the multiple integrated capabilities of the optimized Qualcomm Technologies production-grade solutions in an integrated single-board platform. With production quality, optimized software supporting BSPs, OSs, stacks and frameworks, infotainment system integrators can significantly reduce their software development time and risk and begin final production software qualification earlier.

+ Fully integrated and tested suite of Qualcomm Technologies and third party components

+ Available with support for Android and QNX operating systems, including comprehensive software suite up to the application layer

+ Complies with automotive requirements for fast boot of critical services, power and system optimized graphics, audio and video frameworks as well as simultaneous dual mode (STA, AP) support for 802.11ac Wi-Fi and automotive Bluetooth host profiles such as A2DP-SNK, AVRCP, HFP-HS, PBAP-PCE and MAP-MCE

+ Integrated support for vehicle telematics such as emergency assistance, safety and security, remote monitoring and diagnostics, and energy management

+ Commercial sampling anticipated to begin Q1 2014.

FEATURES

Qualcomm Snapdragon 602A Automotive-Grade Processor

+ 1.5GHz Quad-Core Krait™ CPU, Adreno™ 320 GPU for superior graphics, and embedded Hexagon™ QDSP6 DSP for efficient multimedia processing

+ Advanced Audio playback, Audio effects, Echo Cancellation/Noise Suppression, HD voice, Multi-format audio decoding, Video functions, 2D to 3D auto-conversion, Augmented reality processing

+ Multi-media Open Framework support for Graphics, Audio, Video, Camera including OpenGL, OpenCL, OpenMAX, V4L2, ALSA

+ The Snapdragon 602A has been specifically designed to meet stringent automotive industry standards including AEC-Q100 grade 3 and TS16949

Qualcomm® Gobi™ 9x15 Multimode 3G/4G LTE

+ Gobi 9x15 modem provides a 3G/4G + integrated GNSS solution for virtually ubiquitous multimode connectivity to cloud-based services, audio/video streaming and web browsing

+ Mature and proven 3G/4G LTE modem designed for wider bandwidth to support up to LTE CAT 3 (100 Mbps downlink) ideally suited for feature-rich connected infotainment system programs

+ Qualcomm Technologies' 2nd generation Category 3 LTE/3G modem capable of up to 100Mbps DL 50 Mbps UL

+ Supports FDD/TDD LTE, TD-SCDMA, 3G DC-HSPA+/HSPA, 3G CDMA EV-DOrB/rA, 3G CDMA 1x EDGE/GPRS/GSM

+ Integrated Cortex ARM A5 @ 550 MHz running Linux OS and QNX

+ Support for eCall, application processing for telematics services suite

Qualcomm VIVE™ Wi-Fi® and Bluetooth

+ Dual-band 802.11ac for high performance Wi-Fi® communication including Simultaneous Station, Access Point, and Point-to-Point operation

+ Supports Miracast™ wireless display, MirrorLink™ 1.2 wireless control, and Bluetooth Low Energy Profile 4.0 for seamless integration of vehicle/device applications and control

+ High-performance 2x2 MIMO design reduces signal loss, while shared antennas and advanced coexistence mitigate Wi-Fi/Bluetooth/LTE interference; support for 802.11p for DSRC and V2V safety applications

HARDWARE SPECIFICATIONS

OS Support

+ Android
+ QNX

Chipset

+ Snapdragon 602A processor
+ Gobi 9x15 3G/4G LTE multimode modem
+ PMM8920 power management
+ VIVE™ WCN3680 Wi-Fi, Bluetooth
+ IZat™ RGR7640 GNSS

Memory/Storage

+ 2GB DDR3L-1066
+ 32GB eMMC
+ 64MB SPI NOR flash
+ Expansion: SD card slot
+ 1 SATA connector

Wireless Connectivity, External

+ WWAN: 2G, 3G, 4G LTE
+ GNSS (GPS, GLONASS)
+ SIM card slot

Wireless Connectivity, In-Vehicle

+ Wi-Fi WLAN 802.11ac 5GHz high capacity high data rate, with 802.11 a/b/g/n 2.5GHz backward compatibility
+ Bluetooth 4.0

USB 2.0

+ 1 micro OTG
+ 3 host type-A

Camera Inputs

+ FPD-LINK II Input
+ NTSC composite input

Dual Display Outputs

+ LVDS/FPDLINK III
+ HDMI
+ Touch panel on main display

Audio Inputs

+ 1x2 line in
+ 1x2 microphone

Audio Outputs

+ 3x2 6 channel line output
+ Expansion connector with I2S and I2C

Sensors

+ Accelerometer
+ Compass

CAN/LIN, with Bus Connectors

+ CAN/LIN controller (Atmel AT90CAN128)
+ CAN transceiver (TI SN65HVD251-Q1)
+ LIN transceiver (Microchip MCP2004)

Antenna Connectors

+ 2 WWAN
+ 2 WLAN/Bluetooth
+ 1 GNSS
+ 1 FM

Hard Keys

+ Power button
+ Reset button
+ 4 software-definable buttons

Expansion Boards/B2B Connectors (Stuffing Options)

+ PCIe/USB network expansion board for Ethernet AVB and MOST150
+ Radio/audio expansion board for AM/FM/SXM

Size

+ Double DIN, suitable for in-vehicle testing

Power Input

+ 12VDC jack
+ Debugging: JTAG connectors

To learn more visit qualcomm.com/solutions/automotive

Qualcomm® snapdragon™