

PRODUCT BRIEF

QNX SDK for Automotive Bluetooth Connectivity



Advancements in Bluetooth technology over the years have led to immense growth in Bluetooth and Bluetooth Low Energy (BLE) devices in a wide range of general embedded markets including medical, industrial, consumer electronics and automotive. With the growth of BLE devices, many embedded systems need to communicate with both low energy peripherals as well as traditional Bluetooth devices, over a range of different profiles.

Overview

The QNX® SDK for Automotive Bluetooth® Connectivity is a reliable and flexible software offering that is compliant with the Bluetooth Core Specification version 5.0, tailored to support a broad set of profiles and services required for automotive infotainment systems and other embedded markets. The software development kit (SDK) comes with a full-featured stack and a modular framework that manages all the interactions between the Bluetooth stack and various QNX operating system services, such as networking, audio, and video.

A flexible Bluetooth Smart Ready® stack – comprehensive offering, no vendor lock-in

Developers are faced with many considerations in selecting a Bluetooth host stack for their embedded platforms. These include choosing one that scales with changing requirements and can be easily ported to different hardware with minimal code changes.

The QNX SDK for Automotive Bluetooth Connectivity is a comprehensive, scalable solution that decouples the underlying stack, from the subsystem integration with OS services and the high-level user interface. By adding a level of abstraction between the stack and high level components QNX has simplified augmenting the solution to support new profiles, and further HMI development.

This Bluetooth SDK has been ported to ARM and x86 processor architectures on different SoCs, that run the QNX Neutrino OS. The software stack also supports the host controller interface (HCI) protocol for communication between host processor and Bluetooth radio module or chipset, making it easier to swap out processor or Bluetooth hardware.

Proven and certified intellectual property (IP), helps guarantee interoperability

The QNX SDK for Automotive Bluetooth Connectivity is compliant to the latest version of the Bluetooth Core Specification, version 5.0. Deploying a system with IP that is in lock-step with the latest

adopted standard helps guarantee maximum interoperability with existing in-field devices. A system built with a 5.0 compliant stack will be compatible with other 5.0 Bluetooth enabled devices, in addition to legacy devices.

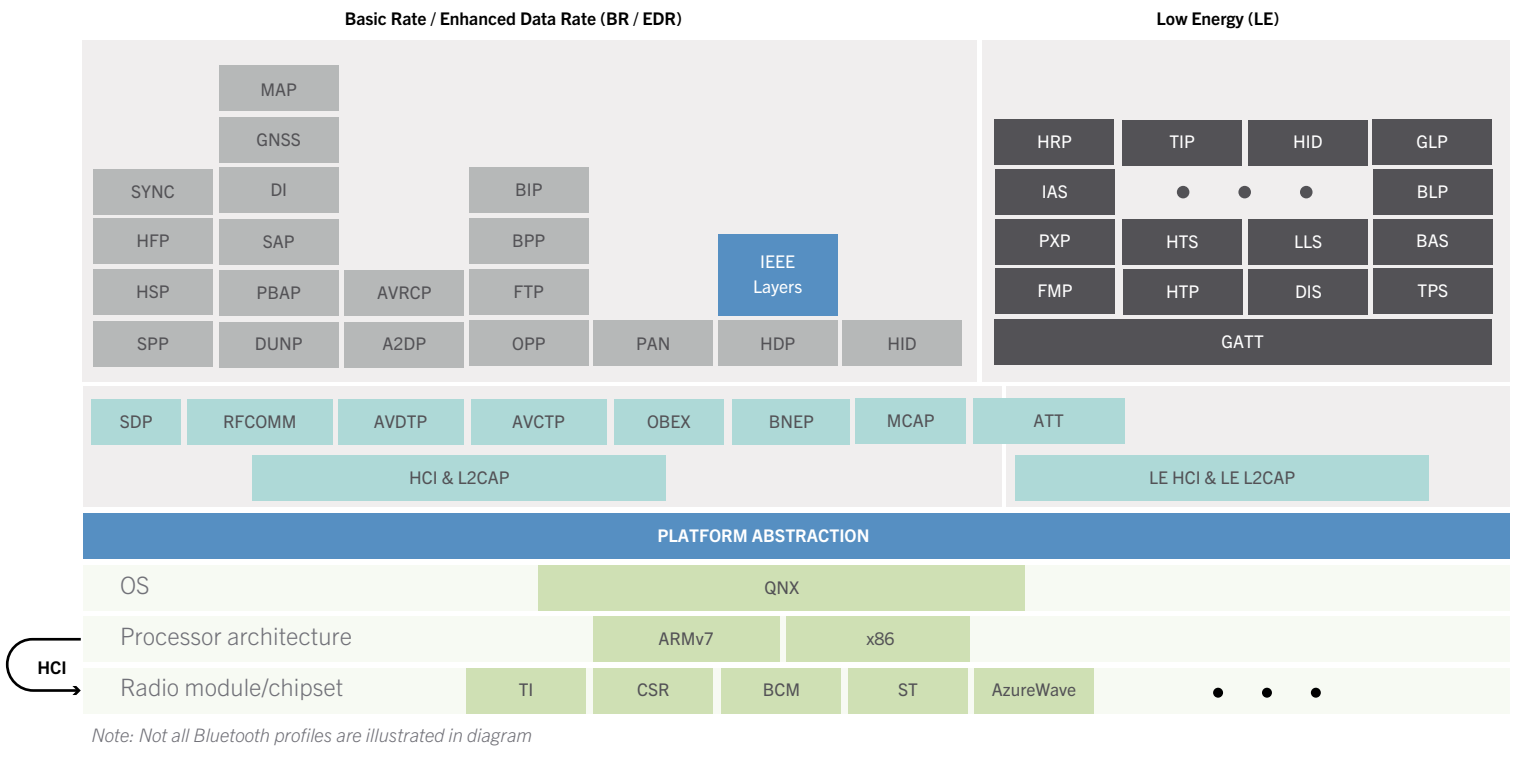
This software stack utilizes field proven Bluetooth IP from Mindtree, which has shipped in millions of systems worldwide over the last decade. The Bluetooth IP has been certified by the Bluetooth Special Interest Group (SIG). Pre-certification of these middleware components provides a much easier path for customers to achieve system certification.

Product and service offerings – reap the benefits of a single supplier

Choosing the QNX SDK for Automotive Bluetooth Connectivity eliminates the problems associated with interfacing with diverse components, in the software stack, that are typically obtained from multiple suppliers. Customers benefit from receiving an integrated solution from a single supplier comprising the operating system, Bluetooth stack protocols and profiles, and other pre-integrated infotainment components.

Furthermore, QNX offers services to dramatically streamline development cost, and reduce time to market risk. Tasks such as custom hardware ports, host controller interface (HCI) driver development, sub-system integration, interoperability testing, can be handled by QNX, so customers can focus on their areas of expertise. Having a dedicated supplier as a single point of contact to help customers solve tough integration and development issues can make all the difference in meeting start of production deadlines.

Architecture



QNX SDK for Automotive Bluetooth Connectivity

- Target system: QNX SDP 7.0
- Bluetooth Core Specification v4.2 and 5.0 with dual mode support for Basic Rate (BR) / Enhanced Data Rate (EDR) and Low Energy (LE)
- Profiles
 - Classic: PAN, SPP, HFP, MAP, BPAP, AVRCP, A2DP
 - LE: GATT
- Host Controller Interface (HCI) drivers
- Fully-integrated with the following QNX software via Bluetooth manager framework
 - QNX CAR Platform for Infotainment
 - QNX Acoustic Management Platform
 - QNX SDK for Smartphone Connectivity
 - QNX Speech Framework

Hardware Architectures Supported

- ARMv8
- x86-64

Qualifications/Certifications:

EtherMind Bluetooth Protocol Stack

Declaration ID: [D030241](#)

QDID: [90941](#)

Additional architecture support and Bluetooth profiles are available via BlackBerry QNX services team. Contact your sales associate for enquiries.

About BlackBerry QNX

BlackBerry QNX, is a leading supplier of safe, secure, and trusted operating systems, development tools, and professional services for connected embedded systems. Global leaders such as Ford, Audi, Cisco, General Electric, Lockheed Martin, and Siemens depend on BlackBerry QNX technologies for their next generation of secure vehicle software platforms, network routers, medical devices, industrial automation systems, security and defense systems, and other mission and/or life-critical applications. This includes full software lifecycle management via secure over the air software updates. Founded in 1980, BlackBerry QNX is headquartered in Ottawa, Canada, with its products distributed in over 100 countries worldwide.

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