

QNX[®] LICENSE GUIDE

Version 2.20

Includes:
QNX Acoustics for Engine Sound Enhancement v1.0

(See **Publication History** for version details)

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Section 1

Introduction

1. Introduction

This License Guide describes the contents, license model for, and corresponding licensing attributes of the QNX Software Development Platform version 6.6.0, the QNX SDK for Apps and Media version 1.0, the QNX CAR Platform for Infotainment version 2.1, and the QNX Acoustics Products (any one or more, the “QNX Product Portfolio”). The QNX[®] Momentics[®] Tool Suite and the QNX[®] Neutrino[®] RTOS Runtime Components are initially delivered together and are collectively known as the “QNX Software Development Platform” or “QNX SDP”. This License Guide is also designed to present the third party licensing considerations that apply to the QNX Product Portfolio. All capitalized terms used but not defined in this License Guide have the respective meanings ascribed to them in the QNX Developer Licenses (as defined below).

QNX Developer Licenses

Any one or more of the QNX Product Portfolio products are licensed to you by QNX Software Systems Limited (“QSS”) under one of three QNX developer licenses, copies of which are provided in the installation media for each of the QNX Product Portfolio products and which have also been published at the URL below (collectively the “QNX Developer Licenses” or the “QDLs”), which include the following:

- (1) the QNX Commercial Software License Agreement (“CSLA”), for commercial developers;
- (2) the QNX Partner Software License Agreement (“PSLA”), for members of the QNX eco-system; and
- (3) the QNX Evaluation, Non-Commercial & Academic End User License Agreement (“NCEULA”), for non-commercial developers, including evaluators, students and academic faculty members.

Please refer to <http://licensing.qnx.com/document-archive/> for these and previous-release versions of the QDLs.

Navigating the License Guide

This License Guide is broken down into separate tables for each QNX Product Portfolio product type, with each table containing a series of columns and rows used to link the applicable attributes to the named component parts. Section 5 describes the development packages, Section 6 describes re-distributable Runtime Components (as defined in the QDLs) and the QNX Acoustics Products. The Runtime Components are broken out into their own section to highlight which components are redistributable and how they are grouped for royalty purposes. Note that general export information is provided at the end of this License Guide, along with contact particulars for more specific export questions.

What Applies to you?

The QNX SDP includes everything you need from QSS to build and maintain a basic QNX Neutrino RTOS-based embedded system (see Section 3 for more details). The optional QNX SDK for Apps and Media contains the tools you need to develop embedded systems with complex HMIs. It includes a full HTML5 application environment, a browser and multimedia support for video, audio and mobile device connectivity. The QNX CAR Platform for Infotainment builds on the capabilities of the QNX SDP and QNX SDK for Apps and Media to support the development of automotive infotainment systems. In addition to QNX software, the QNX CAR Platform for Infotainment integrates a variety of 3rd party automotive software components including navigation, voice recognition and mobile device interfaces. As described in detail later in this document, these 3rd party components are available

under the QDLs for evaluation but not for commercial development or distribution. The QNX Acoustics Products provide modular solutions for building voice communication systems with clarity and quality.

Section 2 of this License Guide provides a component view of the QNX Product Portfolio. You will select a number of Runtime Components to ship in your target system. They will include components of the QNX Core OS Runtime and QNX Screen Runtime from the QNX Software Development Platform. Depending on what you are building, they may also include components of the HTML5 browser and engine, HTML5 application environment, device connectivity, media playback and media management technologies from the QNX SDK for Apps and Media, as well as components of the QNX CAR Infotainment Core technologies from the QNX CAR Platform for Infotainment. This will be illustrated in block diagrams following Section 2.

The Runtime Components associated with the products described above represent a repackaging of previous generation QNX products. For those familiar with the makeup of previous-release Runtime Components, the following table provides a mapping of the new to the old (QNX 6.5.x to QNX CAR 2.0 RR and QNX Aviage Multimedia v1.2x) versions.

Current Runtime Component	Found in Product (Current Release)	Corresponding Runtime Component in Previous Product Releases	Found in Product (Previous Release)
QNX Core OS Runtime	QNX SDP	QNX Neutrino Core	QNX SDP 6.5
QNX Screen Runtime	QNX SDP	Included as part of QNX CAR Infotainment Core runtime	QNX CAR 2.0 RR
QNX HTML5 Engine	QNX SDK for Apps & Media	QNX CAR HTML5 Engine Technology	QNX CAR 2.0 RR
QNX HTML5 Application Development	QNX SDK for Apps & Media	QNX CAR HTML5 Application Environment	QNX CAR 2.0 RR
QNX Multimedia Playback	QNX SDK for Apps & Media	Included as part of both QNX CAR Infotainment core runtime and QNX Aviage Multimedia Core runtime	QNX CAR 2.0 RR and QNX Aviage Multimedia 1.2.x

Current Runtime Component	Found in Product (Current Release)	Corresponding Runtime Component in Previous Product Releases	Found in Product (Previous Release)
QNX Multimedia Management	QNX SDK for Apps & Media	Included as part of both QNX CAR Infotainment core runtime and QNX Aviage Multimedia Core runtime	QNX CAR 2.0 RR and QNX Aviage Multimedia 1.2.x
QNX Multimedia Device Connectivity	QNX SDK for Apps & Media	Included as part of both QNX CAR Infotainment core runtime and QNX Aviage Multimedia Core runtime	QNX CAR 2.0 RR and QNX Aviage Multimedia 1.2.x
QNX CAR Infotainment Core	QNX CAR Platform for Infotainment	QNX CAR Infotainment Core	QNX CAR 2.0 RR

As a result of this re-bundling, and your pre-existing QDL Update rights, you may get access to technologies that were formerly available for development only at extra cost under QNX Middleware licenses. In such cases, you should keep in mind that Runtime Component royalty obligations for distributing Target Systems are based on the definition of Runtime Components for the Runtime Configuration originally defined in your distribution license. That license may allow you to update your Runtime Components to later releases, but those update rights do not include: (i) free access to unlicensed Runtime Components, or (ii) an entitlement to adopt any new features that were originally offered only in separate royalty bearing Runtime Components in the release originally defined in your distribution license (even if they are now bundled into a single QNX Runtime Component that includes parts of your original Runtime Configuration) if the new Runtime Component has a greater list price than the original Runtime Component that you want to update. Please contact licensing@qnx.com if you have any questions on your update rights.

After installing your QNX SDP, you will be entitled to download board support packages (“BSPs”) as further defined in Sections 2.3 and 6. BSPs help you get the QNX Neutrino RTOS and your applications running on specific evaluation boards, allowing you to target your platform of choice for building your Target System.

Third Party Software

Like all other embedded technology providers, QSS includes a number of third party software contributions in its products. Examples include our Eclipse-based Momentics Integrated Development Environment, our GNU-based compiler, linker & debugger tools, our NetBSD-based TCP/IP stack, various standard development and runtime utilities, third party reference applications for the automotive market, Javascript frameworks and a host of drivers that incorporate third party code supplied by vendors of the hardware for which they were written. Third party license terms are a fact of life in any embedded development project. Before adopting QNX Tools or Runtime Components, your developers can review this License Guide and the corresponding version of the Third Party License Terms List (“TPLTL”, a copy of which is included in the QNX SDP installation media or is available at <http://licensing.qnx.com/document-archive/>) to determine the applicable open source license terms or special considerations that apply to the QNX Product Portfolio products they plan to use. The TPLTL contains the full text of all relevant open source licenses, along with tables listing those that apply to specific binary files of the Runtime Components.

Except for published source code files that are expressly identified by QSS as open source software, none of the QNX Product Portfolio components are open source software. To the extent permitted by applicable open source license(s), any licenses identified in the License Guide/Third Party License Terms List or other references identifying applicable open source license terms only apply to the original open source code used by QSS or its licensors and not to any pre-existing code modified using, or combined with, such open source code, or any new interests in derivative works created from such open source code. These other software elements are licensed to you under the terms and conditions of your QNX Developer License.

Relevant Open Source Licenses

To identify the open source license terms for a particular configuration of Runtime Components that you intend to use in your Target System, you start by (1) gathering the legal identification codes (“Legal ID Codes”) and/or QNX technology categories from the End User Licenses column of this License Guide for the applicable technologies. From there, you can (2) look-up the specific open source license terms for the relevant Legal ID Codes (e.g., “BSD-4C:70” or “UL:61”) in the main body of the TPLTL. For QNX technology categories (e.g. “Neutrino Core OS”) you go to the File Mapping tables (as defined and that are included in the TPLTL). This lists all of the Legal ID Codes that apply to the referenced QNX technology categories, which can then be cross-referenced to the specific open source license terms in the main body of the TPLTL as described above. Note that in addition to Legal ID Codes for Runtime Components, you will also need to take into account Legal ID Codes for any static link libraries used by your developers to create their own executable files. As noted on page 35 below, these are ELF files ending in an “.a” extension. They are found in the QNX Momentics Tool Suite section of this License Guide, as they are only redistributed as an integral part of the larger work that they are used to create. They have also been included in the File Mapping tables for ease of reference.

You can also use the File Mapping tables to isolate the open source license terms that apply to one or more particular binary files (e.g., to identify the Legal ID Codes that apply to the subset of Runtime Component files that you intend to ship). The File Mapping tables are generated from a database tool (“File Mapping database”) that QSS uses to map Legal ID Codes to binary files that have been built using the applicable source code files, libraries and header files. The File Mapping tables address all Runtime Component sections of this License Guide and applicable components (including static link libraries) of Section 4 (QNX Development Packages). Please contact licensing@qnx.com for any updates to the File Mapping tables, or if it would be helpful for you to have the File Mapping tables in a different format (e.g., in an Excel file).

If a Legal ID Code is referred to generically in the License Guide as one of the families of open source licenses listed in the TPLTL (for example, “BSD-3C” or “UL” without any specific notice numbers), then refer to the File Mapping table for the specific references, or contact licensing@qnx.com for further assistance. Please note that the naming of Legal ID Codes was revised in version 2.14 of the License Guide in order to simplify the presentation of TPLTL content. Contact licensing@qnx.com if you would like a mapping of the pre-v2.14 Legal ID Codes to those used in this License Guide.

If your developers have downloaded other code from Foundry27™ or the myQNX download center, or if you have included Priority Support Patch updates or custom engineering deliverables from QSS, then to be complete you must also check for additional restrictions or licensing considerations identified at Foundry27 or in the source code you were provided with. Custom reports for these types of files may also be available from our File Mapping database. Contact licensing@qnx.com for more information.

Of course, any third party and open source license restrictions relating to code your developers have developed or that you have sourced from other licensors will need to be taken into account.

Source code for all copyleft-licensed software is available by contacting licensing@qnx.com. QSS does not sub-license open source software to you. Instead, you have your own direct license from the original licensor. Any terms of your QDL that extend to such software, and that differ from the terms of the applicable open source license(s), are offered to you by QSS alone.

Distribution

A license to distribute Runtime Components is available from QSS as part of the QNX Commercial Software License Agreement (See Schedule C). Custom OEM License Agreements are also available from QSS. For more information see <http://licensing.qnx.com/oem-distribution/> or contact licensing@qnx.com.

Section 2

QNX Products Overview

2. QNX Products Overview

This section of the License Guide provides an overview of the following QNX products:

- QNX Software Development Platform
- QNX SDK for Apps and Media
- QNX CAR Platform for Infotainment
- QNX Acoustics Products
- QNX Board Support Packages

The QNX Software Development Platform, QNX SDK for Apps and Media and QNX CAR Platform for Infotainment products are related in that they have dependencies on each other. As illustrated below, the QNX SDK for Apps and Media is dependent on the QNX Neutrino RTOS contained in the QNX SDP. The QNX CAR Platform for Infotainment is dependent on both the QNX SDP and the SDK for Apps and Media.



The QNX Acoustics Products provide acoustic echo cancellation and noise removal and may be used on QNX based systems as well as on other operating system targets and even directly on DSPs in some cases. The products in this family are as follows:

- QNX Acoustics for Voice
- QNX Aviage Acoustic Processing Core
- QNX Acoustics SDK for Active Noise Control

2.1 QNX Software Development Platform

The QNX Software Development Platform is the foundational product in the QNX Product Portfolio. The product provides both the tool and the runtime components required to build an embedded product with a simple or no user interface.

2.1.1 QNX Momentics Tool Suite

This is your toolbox. The included Integrated Development Environment (IDE) task-oriented interface helps you quickly set up your project, choose your programming language, choose a target processor, compile your code, connect to your target, transfer your application to your target, run it, debug it, profile it and fine-tune it. If you prefer an old school approach, you can use command-line tools to do your development.

The QNX Momentics IDE is a cross-platform environment based on Eclipse. It contains standard components that a developer would expect to see, such as the GNU C/C++ Development Tool, as well as QSS's implementation of many design and debugging tools, including various profilers and analyzers to inspect and improve the behavior and performance of Target Systems.

2.1.2 QNX Neutrino RTOS

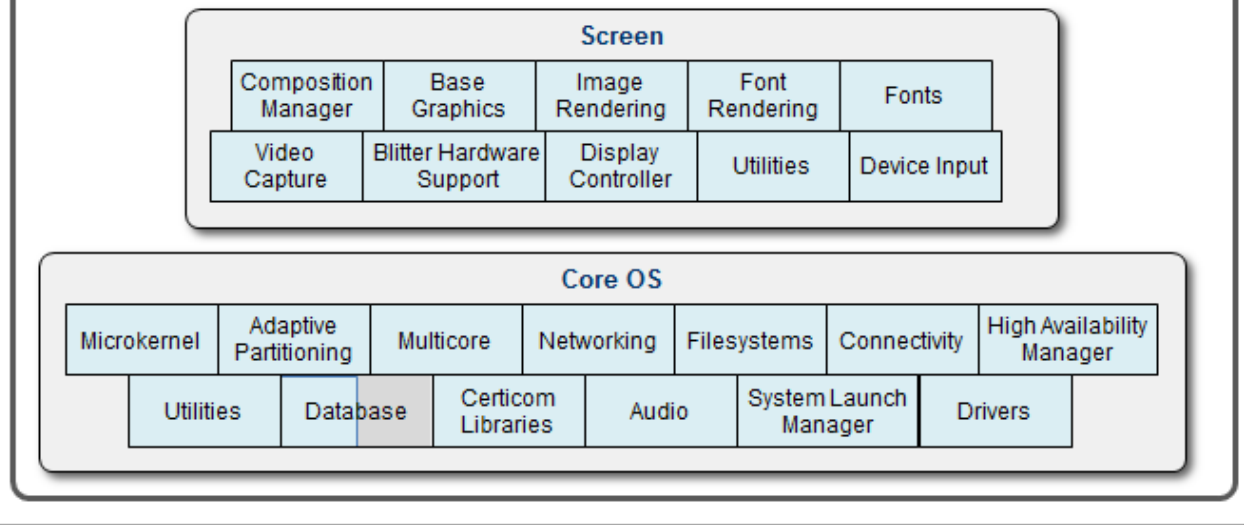
The QNX Neutrino RTOS is a full-feature OS that can be used by designers to create their embedded system by developing the system software based on the RTOS and generating a target that includes QNX Neutrino RTOS Runtime Components.

For systems without a user interface, you will select a number of these components to ship in your Target System. They include the Neutrino Core OS, adaptive partitioning, multi-core support, utilities, networking, file systems, high availability manager, and connectivity.

By embedding components from the QNX Screen Runtime, you can create systems with a simple user interface using your own third party graphics solutions such as Qt, StoryBoard and EB Guide, which are all supported by QNX Screen Runtime.

QNX Software Development Platform (Runtime Components)

QNX Neutrino RTOS



Legend

A - QSS Licensed/
Sublicensed Code

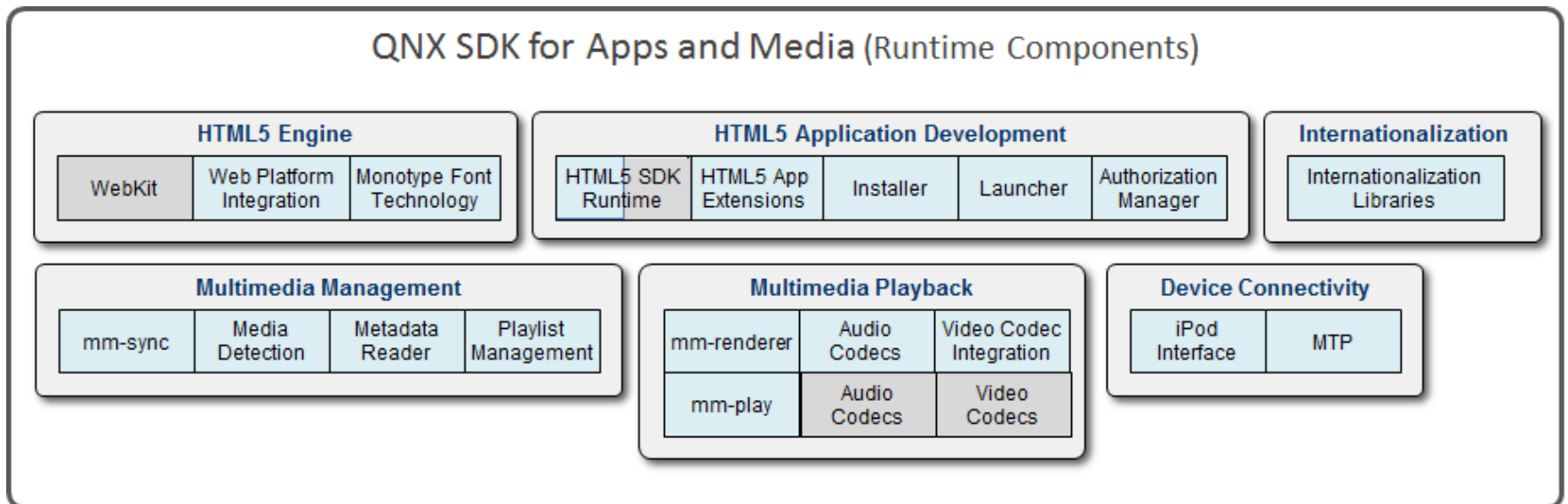
B - 3rd Party
Licensed Code

Please see Section 3.2 (Engagement Models and Licensing Considerations) below for an explanation of these terms.

2.2 QNX Middleware

2.2.1 QNX SDK for Apps and Media

The QNX SDK for Apps and Media is a middleware product to be used with the QNX SDP. It provides the environment for building compelling user interfaces and media centric applications. The following figure provides an overview of the components in the QNX SDK for Apps and Media.



Legend

A - QSS Licensed/
Sublicensed Code

B - 3rd Party
Licensed Code

Please see Section 3.2 (Engagement Models and Licensing Considerations) below for an explanation of these terms.

2.2.1.1 Multimedia components

The multimedia components include support for: (i) media management, such as media detection and media sync, playlist management and metadata reader; (ii) media playback for audio and video; and (iii) mobile device connectivity, specifically for iPod Interface and MTP.

2.2.1.2 HTML5 components

The HTML5 components provide an HTML5 web browser and an application management framework for complex web-based user interfaces and applications.

The QNX HTML5 Engine is based on the WebKit open standard and is HTML5 conformant. It also contains QNX platform integration elements.

The HTML5 Application Development environment consists of HTML5 SDK Runtime, HTML5 Application Extensions and components to manage HTML5 applications (Authorization Manager, Launcher and Installer). The HTML5 SDK Runtime provides a set of interfaces and utilities that are referenced by QNX or 3rd Party Reference Applications. The HTML5 Application Extensions provide an interface layer that enables QNX and 3rd Party Reference Applications to interact with lower-level QNX subsystems such as Composition Manager and PPS (in the QNX SDP). The Authorization Manager, Launcher and Installer components provide designers the ability to launch and control applications and provide QNX and 3rd Party Reference Applications with secure access control to lower-level subsystems.

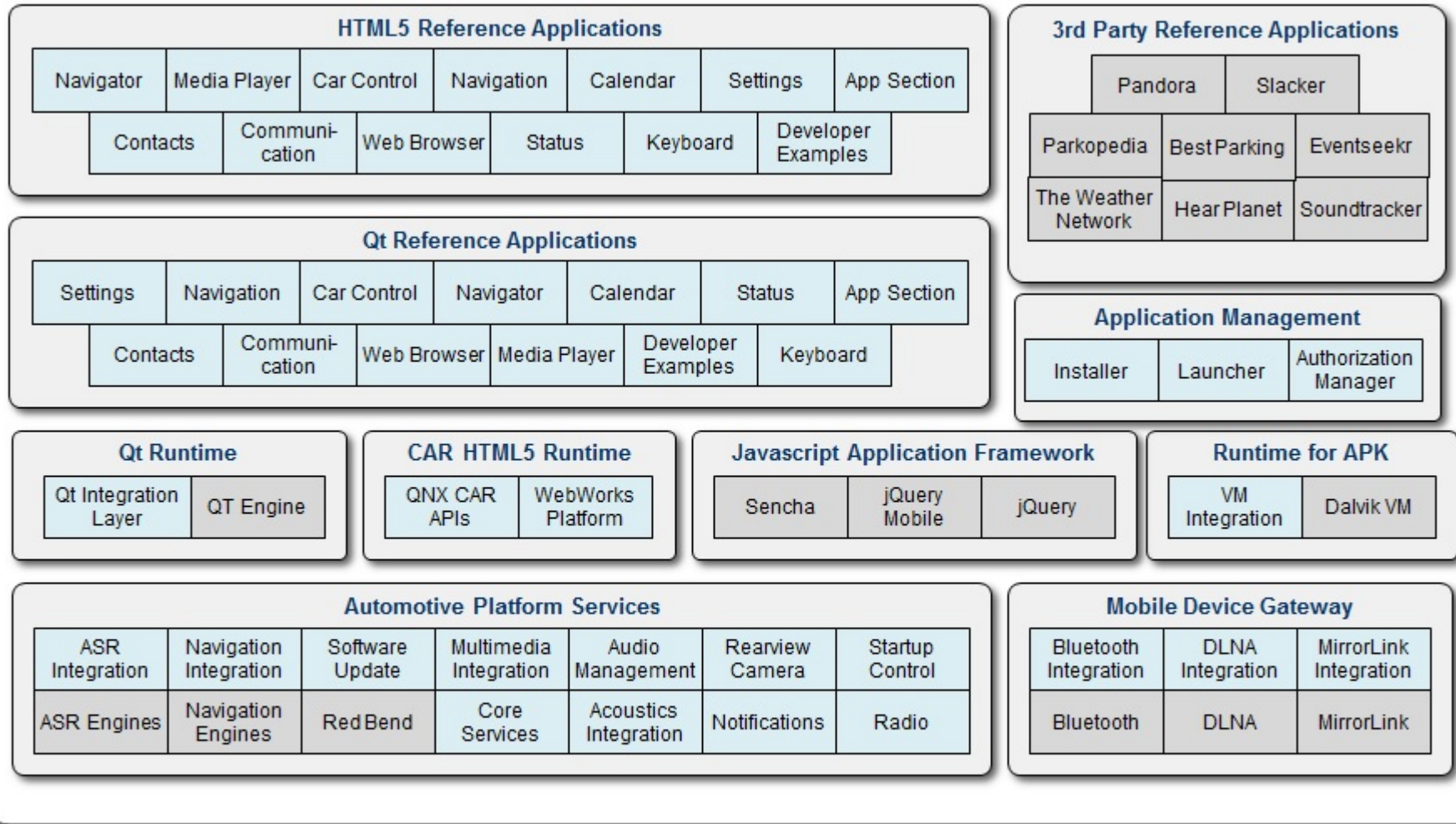
The Internationalization component provides the ability to handle user input and output with Unicode characters.

2.2.2 QNX CAR Platform for Infotainment

QNX CAR Platform for Infotainment comprises a number of components that can be used in combination to build final infotainment products. It is to be used with both the QNX SDP and the QNX SDK for Apps and Media. You can select components based on the features and hardware platform that you intend to use. Since QSS implements these components using a variety of QSS proprietary, open source and third party proprietary technologies, the software licensing and delivery arrangements can vary by component, which is described in detail below.

The following figure provides an overview of the QNX CAR Platform for Infotainment subsystems and components.

QNX CAR Platform for Infotainment



Legend

A - QSS Licensed / Sublicensed Code

B - 3 rd Party Licensed Code

Please see Section 3.2 (Engagement Models and Licensing Considerations) below for an explanation of these terms.

The QNX CAR Platform for Infotainment is partitioned into the following high level subsystems:

- **QNX HTML5 Reference Applications** – These applications provide the user interface for the QNX CAR Platform for Infotainment platform. They may also reference web APIs for content and services (for example, the Media Player Application references Pandora APIs and the Navigator Application makes use of Accuweather web content). These applications have been primarily authored by QSS.
- **Qt Reference Applications** – These are similar to QNX HTML5 Reference Applications, but they have been implemented using Qt technology instead of HTML5.
- **3rd Party Reference Applications** – These applications are provided by 3rd parties for use with the QNX CAR Platform for Infotainment, but only for evaluation purposes. They are made available as part of the QNX CAR Platform for Infotainment reference image (under your QDL terms) and/or from QSS's App Portal (under the 3rd party's license terms). See Section 3.2 for more information on licensing 3rd Party Reference Applications and other 3rd Party Licensed Code.
- **JavaScript Application Frameworks** – These provide user interface controls and utilities used by QNX HTML5 Reference Applications and 3rd Party Reference Applications. The JavaScript Application Frameworks contains open source and proprietary software primarily authored by 3rd parties.
- **Automotive Platform Services** – This subsystem provides automotive infotainment features such as a media player (multimedia), automatic speech recognition (ASR) and navigation components. This software contains QSS authored software as well as open source and proprietary 3rd party authored components.
- **Mobile Device Gateway** – These components provide interfaces to mobile devices such as smart phones and portable media players. This software contains both QSS authored software and proprietary and open source 3rd party authored components.
- **Acoustic Integration** – This component is used to integrate the QNX acoustic processing technology into the QNX CAR Platform for Infotainment. This provides the necessary audio routing required for acoustic echo cancellation and noise reduction for hands free phone support. This contains QSS authored software.
- **Qt Runtime** – This subsystem contains the open source Qt libraries as well as QSS authored code that provides interfaces to the Automotive Platform Services subsystem.
- **Runtime for APK** – This component provides a QNX port of the Dalvik virtual machine (VM) to run Dalvik compatible applications. This contains a QSS authored VM Integration Layer and a 3rd party authored Dalvik VM.
- **CAR HTML5 Runtime** – This provides Javascript APIs to the underlying Automotive Platform Services. This contains primarily QSS authored code.

As indicated above, the QNX CAR Platform for Infotainment contains several 3rd party components. There are a number of associated licensing considerations. An overview of these is provided in Section 3.2 below.

2.2.3 QNX Acoustics Products

2.2.3.1 QNX Acoustics for Voice

QNX Acoustics for Voice 3.0 is the successor to the QNX Aviage Acoustic Processing Kit 2.0. The QNX Acoustics for Voice product is a set of advanced, modular libraries of algorithms specifically designed to provide acoustic echo cancellation and noise reduction to improve voice clarity in a noisy automotive cabin environment. This noise is created by road surfaces, construction, engines, wind, rain and other vehicles. QNX Acoustics for Voice improves the clarity, quality and accuracy of voice communication and enhances the performance of in-car, hands free communication and speech recognition systems, thereby reducing driver distractions.

The offering includes a set of libraries - standard and premium.

- ❖ Standard library supports both narrowband and wideband audio bandwidth (at 8 kHz and 16kHz sample rates, respectively)
- ❖ Premium library includes all the standard library functionality, and extends the capabilities to include higher speech bandwidth (24 kHz sample rate). This technology is required to satisfy smartphone connectivity protocols for telephony, VOIP services and cloud-based speech recognizers.

2.2.3.2 QNX Aviage Acoustic Processing Core

The QNX Aviage Acoustic Processing Core product provides a lower cost, feature-reduced acoustic echo cancellation and noise reduction offering for automotive hands free systems. This product is aimed at cost sensitive applications that will tolerate a lower quality solution at a lower price point (as compared to the QNX Acoustics for Voice).

2.2.3.3 QNX Acoustics SDK for Active Noise Control

The QNX Acoustics SDK for Active Noise Control provides a technology used in automotive to reduce unwanted low frequency noise inside the cabin of a vehicle that originates from the engine. The low frequency noise is a negative side effect caused when introducing advanced engine technologies, such as variable displacement, and torque converter lock-up, and from tuning engines to run at a lower RPM.

The QNX Acoustics SDK for Active Noise Control uses the principle of destructive interference. Adaptive algorithms analyze the background noise, and generate a phase shifted (or inverted) signal of the original signal. This technology relies on microphones to detect the noise, and speakers to create a cancelling effect.

2.2.3.4 QNX Acoustics for Engine Sound Enhancement

While advanced engine designs are being employed by automakers to improve fuel economy, they are impacting the sound character inside the vehicle. The QNX Acoustics for Engine Sound Enhancement provides software technology for use by automotive OEMs and Tier 1 suppliers to intentionally design and control the sounds relating to the engine and drive train of a vehicle, as heard by the driver and passengers.

QNX Acoustics for Engine Sound Enhancement includes a design tool that allows the relationship between the synthesized engine sound and real-time vehicle input data such as RPM to be defined graphically. The tool exports an engine sound profile that is used by the Engine Sound Enhancement Runtime Library to perform real-time synthesis and allow for playback over the vehicle speakers.

2.3 Board Support Packages

QNX provides board support packages (“BSPs”, comprising initial program load (“IPL”), startup and drivers – various parts of which may be available from QSS or its hardware partners in binary form for supported processors and peripherals or, alternatively which may be developed from scratch or derived from QSS- or partner-supplied sample source code and/or your own pre-existing code. BSPs are further defined in Section 6 and/or at the applicable Foundry27 or myQNX download site) for a variety of embedded microprocessor boards. BSPs provide the basic hardware abstraction layer to allow higher level applications to control the embedded devices such as serial ports, network ports and graphics processors.

Except as expressly noted below in Section 6, at the download site(s) or in the associated source code, QNX BSPs bundled in the QNX SDP or downloaded from Foundry27 and/or myQNX may be used by QNX SDP licensees under the terms of their QDLs, and may be distributed under the terms of their QNX distribution licenses, at no incremental charge.

Whenever possible, BSP files are made available in source code and are licensed under the Apache License, Version 2.0 (“Apache 2”). Some BSPs contain third party confidential information and/or proprietary code which prohibits such licensing.

Any BSP component provided only in binary form, or that is only available from a private Foundry27 Project or as a restricted myQNX download, is: (i) restricted to use solely in association with the QNX Neutrino RTOS and the particular hardware product for which the BSP component has been made available, and (ii) contains confidential information of QSS or its licensor(s).

Section 3

Licensing Overview

3. Licensing Overview

3.1 Background

The QNX Neutrino RTOS is a general purpose real-time operating system. Its microkernel architecture provides an extensible operating system framework based on the foundational components of the kernel, system libraries and frameworks. Additional operating system services are implemented by plugging in other software modules (e.g., networking, file systems, etc.). These modules are licensed as part of the base QNX Neutrino RTOS runtime components. When modified or configured to operate on target hardware, the QNX Neutrino RTOS provides a microkernel operating system with advanced memory protection, distributed processing, symmetric multiprocessing, a dynamically upgradeable architecture, and real-time performance.

Other more specialized QNX Middleware products are made available by QSS as separately licensed products.

Developers use the QNX Momentics Tool Suite to modify and configure Runtime Components (as defined in the QDLs) and to develop applications to run on the QNX Neutrino RTOS. The QNX Momentics Tool Suite includes compilers, debuggers, libraries, header files, utilities, sample source code, test suites, performance optimization tools, etc., within an integrated development environment based on the open Eclipse IDE framework. The QNX Middleware products may also come with supplementary development tool components.

The QNX Momentics Tool Suite and QNX Neutrino RTOS components are initially delivered together and are licensed either on a named-user or floating-license basis for development purposes (see your QDL and Development License Certificates). QNX Middleware products are usually delivered separately and may have a different licensing model. For example, QNX Acoustics Products are licensed for development purposes on a Project basis (see Schedule B (QNX Middleware Addendum) of your QDL for further details on QNX Middleware licensing). Development licenses for each component of the QNX Product Portfolio are available on either a perpetual (paid-up license) or time limited (subscription) basis, except as noted in Schedule B of your QDL (e.g., the QNX CAR Platform for Infotainment is licensed for development purposes solely on a subscription basis and generally only for QNX-based automotive development projects). These and other important details about your license rights in the Software are specified in the "Development License Certificate(s)" that QSS sent you when you purchased your Software license(s). Development License Certificates are important documents because they define and authenticate your rights under your license. Please contact licensing@qnx.com if you have lost or misplaced yours.

QNX Neutrino RTOS developers typically use their QNX Tools and a subset of the Runtime Components to build an embedded computing system or device ("Target System", as defined in your QDL) by:

- (a) developing the necessary code to make the QNX Neutrino RTOS operational on the Target System hardware (i.e., a board support package) and
- (b) integrating Runtime Component object code programs, libraries and utilities with files the developers have generated using their QNX Momentics Tool Suite in order to define the system's operational constraints, to tailor its functionality and, if equipped with a graphical user interface, to create its appearance, in order to meet the Target System's design requirements.

Ultimately you will choose a subset of Runtime Components ("Runtime Configuration") to include in your Target System. Over the Target System's life cycle, QNX Neutrino RTOS developers may elect to upgrade hardware platforms (requiring a repetition of step (a) above) and/or update software components (e.g., by adopting Updates (as defined in your QDL), or by introducing new Runtime Components) in order to enhance the Target System's reliability, performance and functionality. So, it is quite possible that your Target System's Runtime Components will change over time.

Your QNX Development License allows you to commercially develop Target Systems using the QNX Product Portfolio components you have licensed from QSS, as described in your Development License Certificate(s). It may also be used to create and distribute copies of your Runtime Configuration in or for your Target System (see Schedule C of your QDL), provided that Runtime License Certificates are available for all Runtime Components in your Runtime Configuration. You can invoke these optional distribution terms and conditions by purchasing the appropriate Runtime License Certificates from QSS, or from an authorized QNX distributor. Schedule C does not apply unless and until you purchase Runtime License Certificates from QSS, or an authorized QNX distributor. Each Runtime License Certificate expressly authorizes the creation of a specified number of copies of a specified Runtime Configuration in or for Target Systems and distribution in accordance with the terms of your license. Additional Runtime License Certificates can be purchased as required. Contact an authorized QNX sales representative for more information (see <http://www.qnx.com/company/contact/>).

The next section provides important information to ensure you have obtained all license rights for the technologies you want to use in your Target System. Please contact licensing@qnx.com if you have any questions or require any assistance.

3.2 Engagement Models & Licensing Considerations

The QNX Product Portfolio integrates a variety of QSS proprietary, open source and third party technologies in order to deliver a broad range of capabilities to embedded developers. In order to develop and ship devices that offer such functionality it is necessary to understand the various technology and content stakeholders and how to obtain the requisite intellectual property license rights. This can be a complicated picture. It will depend on a number of factors, including the hardware platform to be used, the device's desired capabilities, its intended use(s) and the markets in which the device is to be manufactured, distributed and sold.

This License Guide provides an explanation of the license rights being offered by QSS, as well as other third party licensing considerations that QSS is aware of that may impact the development of QNX Product Portfolio-based embedded devices. **None of this information should be construed as legal advice. You must consult your own legal advisor to determine and satisfy your own licensing obligations.** Please note that no attempt has been made to identify any content licensing considerations that may need to be taken into account.

To simplify the explanation, QSS has broken the licensing of the QNX Product Portfolio technologies down into the following 2 types of engagement models. You will notice that we have used colour coding in our diagrams and tables to help identify the applicable model.

A. QSS Licensed or Sublicensed Code – QSS licenses all of its intellectual property rights embodied in QSS Licensed Code and QSS Sublicensed Code under QSS’s standard development and distribution license agreements described at the beginning of this License Guide. Most of the QNX Product Portfolio is made up of QSS-authored software and is licensed to you as “QSS Licensed Code”. Certain components of the QNX Product Portfolio contain primarily proprietary 3rd party code that has been modified or supplemented by QSS and is sublicensed to you as “QSS Sublicensed Code” (together with QSS Licensed Code, the “QSS Licensed or Sublicensed Code”). QSS Licensed or Sublicensed Code may also include elements of open source software, may embody confidential 3rd party specifications, and may embody or enable patented functionality or proprietary off-board services. As a result, depending on the QNX Product Portfolio components chosen, there may be other licensing considerations to be taken into account (e.g., to obtain requisite patent license rights – as in the case of the QSS authored AAC Codec; to obtain the right to use confidential specifications embodied in the QSS code – as in the case of the QSS authored Apple iPod Interface). Deviations from QSS standard license terms that relate to QSS Licensed or Sublicensed Code are identified in the tables below or in the applicable License Guide Details sections of this document. Other 3rd party licensing considerations known to QSS are further described in the Licensing Considerations Matrices below, but these Matrices should not be assumed to be a comprehensive list or to constitute legal advice. You must consult your own legal advisor to determine and satisfy your own licensing obligations.

B. 3rd Party Licensed Code - These are other components of the QNX Product Portfolio that contain primarily 3rd party code delivered by QSS, which may have been modified or supplemented by QSS. They fall into three main categories, namely:

- (i) 3rd Party Reference Applications - See Section 2 (QNX Products Overview) for more details on this 3rd Party Licensed Code. 3rd Party Reference Applications are **not** delivered in the packages you received to install the Commercially Released components of the QNX Product Portfolio you have licensed. Some are provided on a reference image you may optionally download from myQNX to evaluate third party technologies. Updates to the reference image may be available from either myQNX or Foundry27 download sites. Additional 3rd Party Reference Applications may be downloaded from the QNX App Portal under separate evaluation licenses.
- (ii) 3rd party proprietary components - 3rd party proprietary components are generally provided as elements of board support packages, or as part of optional hardware-specific packages. See Section 6.3 for more details.
- (iii) 3rd party open source components - 3rd party open source components are provided either as part of the QNX commercially released products you have licensed (e.g., GNU Compiler Collection, Eclipse Platform, WebKit, Qt technology) or as an element of a separately downloadable package (e.g. the Dalvik VM associated with the Runtime for APK). They are licensed as 3rd Party Licensed Code because these components are entirely based on unmodified open source software code bases that QSS ports and builds for use with the QNX Product Portfolio.

Any QSS IP rights, or sub-licensable rights, in 3rd Party Licensed Code are licensed/sublicensed by QSS under the standard QSS license agreements. However, unlike QSS Sublicensed Code, 3rd Party Licensed Code must be licensed for commercial development and distribution directly from another technology supplier. For example, while QSS delivers a QNX version of the Microsoft WMA9 Media Player software codec, you must first obtain a WMA9 license directly from Microsoft. Evaluation-only components represent another example (as in the case of 3rd Party Reference Applications). You need to get your own direct license if you want to use evaluation-only components for any commercial development, external demos or for distribution. In another example, QSS may deliver QNX versions of open source technologies, such as Qt, jQuery or the Runtime for APK, which are based primarily on open source code distributions. These open source technologies are licensed to you directly under the

applicable pass-through open source license terms. Any QSS intellectual property rights in 3rd Party Licensed Code (if any) are licensed under the standard QSS license agreement terms and conditions.

The following Licensing Considerations Matrices summarize the QNX software licensing dependencies, license engagement model, primary technology stakeholder, product delivery method and licensing fulfillment considerations for each impacted QNX Product Portfolio component.

3.2.1 QNX Software Development Platform – Licensing Considerations Matrix

Subsystem	Component	Engage-ment Model	Primary Owner of Technology	Product Delivered By	Additional Licensing Considerations
GNU Tools	GNU Compiler Collection (GCC) C++ Library and Utilities	B	Various	QSS, as an integral part of the QNX Momentics Tool Suite.	<p>The GNU Compiler Collection (GCC), the GNU C++ Library and GNU Utilities are development tools produced by the GNU Project.</p> <p>GNU Tools have been adopted as the standard compiler C++ system library and development utilities by most modern UNIX-like computer operating systems, including QNX, Linux and the BSD family.</p> <p>The Free Software Foundation (FSF) distributes GNU Tools under the GNU General Public License (GPL) (version 2 and version 3, as modified by the GCC Runtime Exception) and the GNU Lesser General Public License (LGPL) (version 2.1).</p>
Momentics IDE	Eclipse Platform and Eclipse CDT	B	Various	QSS, as an integral part of the QNX Momentics Tool Suite.	<p>The Eclipse Platform is an integrated development environment (IDE) that provides an integration of development tool components using a common user interface. The QNX Tools also use the Eclipse CDT for C/C++ development environment.</p> <p>The Eclipse open source project began as an IBM initiative in 2001. Eclipse software is distributed primarily under the terms of the Eclipse Public License.</p>

3.2.2 QNX SDK for Apps and Media – Licensing Considerations Matrix

The QNX SDK for Apps and Media is a middleware product to be used with the QNX SDP (above).

Subsystem	Component	Engage-ment Model	Primary Owner of Technology	Product Delivered by	Additional Licensing Considerations
HTML5 SDK	Application Packager	B	Various	QSS, as an integral part of the QNX SDK for Apps and Media	<p>This is a tool that combines HTML5, Javascript, CSS and other related application resources into a .bar file for deployment on a system that contains the QNX SDK for Apps and Media or QNX CAR Platform for Infotainment.</p> <p>The Application Packager is licensed primarily under the Apache License Version 2.0.</p>
	Cordova framework	B	Various	QSS, as an integral part of the QNX SDK for Apps and Media	<p>Apache Cordova is a platform for building native mobile applications using HTML, CSS and Javascript. It includes the Cordova framework. Apache Cordova is a top level project within the Apache Software Foundation.</p> <p>The Cordova framework is licensed primarily under the Apache License Version 2.0.</p>
Device Connectivity	iPod Interface	A	QSS	QSS, as a separate package from myQNX	<p>QSS licenses its Apple iPod Interface module rights under its standard development and distribution license agreements.</p> <p>Apple licenses their iPod interface technology (upon which the Apple iPod Interface module is based) directly to customers.</p> <p>QSS may not deliver its Apple iPod Interface module until customers provide proof of their own Made for iPod License Agreement.</p> <p>Please note that QSS may be required to identify customers and their projects to Apple.</p>
	All Device Connectivity Subsystems	A B	Various	N/A	<p>Certain third parties claim patent rights in connecting portable media devices into other sound systems (e.g., such as in an automobile infotainment system). Third party patent licenses may be required to make, import, use or sell products featuring such capabilities. QSS does not supply such license rights.</p>

Subsystem	Component	Engagement Model	Primary Owner of Technology	Product Delivered by	Additional Licensing Considerations
Multimedia Playback	Video Codecs	B	Various	QSS, as a separate package (TI or Freescale) available at myQNX	<p>QSS may deliver various video codecs and related integration components supplied by the corresponding reference board vendor (e.g., TI, Freescale – see Section 2.3 and Section 6.3 for more details). These components are only licensed for an internal time-limited evaluation of 90 days, unless expressly provided otherwise by QSS in writing. Any additional license rights must be obtained from the reference board vendor. Contact QSS at licensing@qnx.com for additional contact information.</p> <p>Certain third parties claim patent rights in video codec technology (including but not limited to some who are not currently active in enforcing their rights) and patent licenses may be required to make, import, use or sell products featuring such capabilities. QSS does not supply such license rights.</p>
	Multimedia (WMA9 Codec)	B	Microsoft This product includes technology owned by Microsoft Corporation and cannot be used or distributed without a license from Microsoft Licensing, GP.	QSS, as a separate package available at myQNX	<p>Microsoft licenses their WMA9 technology directly to customers. QSS licenses its interests in the QNX version (the Multimedia Software Codec for WMA9) under its standard development and distribution license agreements.</p> <p>QSS may not deliver its Multimedia Software Codec for WMA9 module until customers provide proof of their own Windows Media Format Component Distribution Agreement or Windows Media Components Interim Product Agreement.</p> <p>Please note that QSS may be required to identify customers and their projects to Microsoft.</p>
	Multimedia (MP3 Codec)	A	Floating Point (Xing)	QSS, as an integral part of the QNX SDK for Apps and Media	<p>Certain third parties claim patent rights in the MP3 codec technology (including but not limited to some who are not currently active in enforcing their rights) and patent licenses may be required to make, import, use or sell products featuring such capabilities. QSS does not supply such license rights.</p>
	Multimedia (AAC Codec)	A	QSS	QSS, as an integral part of the QNX SDK for Apps and Media	<p>Certain third parties claim patent rights in the AAC Codec technology and patent licenses may be required to make, import, use or sell products featuring such capabilities. QSS does not supply such license rights.</p>

Subsystem	Component	Engagement Model	Primary Owner of Technology	Product Delivered by	Additional Licensing Considerations
HTML5 Engine	WebKit	B	Various	QSS, as an integral part of the QNX SDK for Apps and Media	WebKit is an open source web browser engine. It powers Apple's Safari web browser and Google's Chrome web browser. WebKit is licensed primarily under the GNU Lesser General Public License (see Section 6.2.1 for more details).
HMTL5 Application Development	HTML5 SDK Runtime	B	Various	QSS, as an integral part of the QNX SDK for Apps and Media	The HMTL5 SDK Runtime includes the Cordova framework. Apache Cordova is a top level project within the Apache Software Foundation. The Cordova framework is licensed primarily under the Apache License Version 2.0.

3.2.3 QNX CAR Platform for Infotainment – Licensing Considerations Matrix

The QNX CAR Platform for Infotainment is a middleware product to be used with both the QNX SDP and the QNX SDK for Apps and Media (above).

Subsystem	Component	Engagement Model	Primary Owner of Technology	Product Delivered by	Additional Licensing Considerations
Host Tools	Qt host environment	B	Various	QSS, as an integral part of the QNX CAR Platform for Infotainment and as a separate package available at myQNX	Qt Open Source Edition is licensed primarily under the GNU Lesser General Public License (LGPL) (version 2.1).
CAR HTML5 Runtime	WebWorks Platform	B	Various	QSS, as an integral part of the QNX CAR Platform for Infotainment	WebWorks Platform includes Javascript APIs and code to build HMTL5 application and extension for WebWorks style applications. This is provided for compatibility with the QNX CAR application platform 2.0. WebWorks Platform is licensed under various open source licenses (see Section 5.2.2 for more details).

Subsystem	Component	Engagement Model	Primary Owner of Technology	Product Delivered by	Additional Licensing Considerations
3rd Party Reference Applications	Best Parking	B	Parking Edge, LLC	QSS, in reference image available at myQNX	This component is only licensed for an internal time-limited evaluation of 90 days, unless expressly extended by QSS in writing. Any additional license rights must be obtained from Parking Edge, LLC . Contact QSS at licensing@qnx.com for additional contact information.
	Pandora	B	Pandora Media Inc.	QSS, in reference image available at myQNX	This component is only licensed for an internal time-limited evaluation of 90 days, unless expressly extended by QSS in writing. It contains Pandora code for accessing Pandora's off-board Internet Radio streaming service, which is only available in the United States. QSS licenses all of its rights in this component to you under its standard development and distribution license agreements. You will also require additional license rights from Pandora Media, Inc. to access and use their service (even for evaluation), which is presented in the form of a click-through agreement when you first attempt to access their service. Contact QSS at licensing@qnx.com for additional contact information.
	Slacker	B	Slacker, Inc.	QSS, in reference image available at myQNX	This component is only licensed for an internal time-limited evaluation of 90 days, unless expressly extended by QSS in writing. Any additional license rights must be obtained from Slacker, Inc. Contact QSS at licensing@qnx.com for additional contact information.
	The Weather Network	B	Pelmorex Media, Inc.	QSS, in reference image available at myQNX	This component is only licensed for an internal time-limited evaluation of 90 days, unless expressly extended by QSS in writing. Any additional license rights must be obtained from Pelmorex Media, Inc. Contact QSS at licensing@qnx.com for additional contact information.
	Parkopedia	B	Parkopedia Limited	QSS, in reference image available at myQNX	This component is only licensed for an internal time-limited evaluation of 90 days, unless expressly extended by QSS in writing. It contains Parkopedia code for accessing Parkopedia's off-board parking database. Any additional license rights must be obtained from Parkopedia Limited . Contact QSS at licensing@qnx.com for additional contact information.
	HearPlanet	B	HearPlanet, Inc.	QSS, in reference image available at myQNX	This component is only licensed for an internal time-limited evaluation of 90 days, unless expressly extended by QSS in writing. It contains Hear Planet code for accessing HearPlanet's internet audio streaming service. Any additional license rights must be obtained from HearPlanet, Inc. Contact QSS at licensing@qnx.com for additional contact information.

Subsystem	Component	Engagement Model	Primary Owner of Technology	Product Delivered by	Additional Licensing Considerations
	Eventseekr	B	Wcities.com, Inc.	QSS, in reference image available at myQNX	This component is only licensed for an internal time-limited evaluation of 90 days, unless expressly extended by QSS in writing. It contains Wcities code for accessing Eventseekr's off-board event database. Any additional license rights must be obtained from Wcities.com, Inc. Contact QSS at licensing@qnx.com for additional contact information.
	Soundtracker	B	South Ventures USA, Inc. dba Soundtracker	QSS, in reference image available at myQNX	This component is only licensed for an internal time-limited evaluation of 90 days, unless expressly extended by QSS in writing. It contains Soundtracker code for accessing Soundtracker's internet music streaming service. Any additional license rights must be obtained from South Ventures USA, Inc. dba Soundtracker . Contact QSS at licensing@qnx.com for additional contact information.
Javascript Application Frameworks	Sencha	B	Sencha, Inc.	QSS, as an integral part of the QNX CAR Platform for Infotainment and in the reference image available at myQNX	<p>This component is used by QNX and/or 3rd Party Reference Applications. The Sencha Touch framework is used in QNX sample applications. It is only licensed for an internal time-limited evaluation of 90 days, unless expressly extended by QSS in writing. Any additional license rights must be obtained from Sencha, Inc.</p> <p>Sencha offers a variety of license models for prototyping and distribution. The Sencha Touch licensing options can be found at: http://www.sencha.com/products/touch/license/</p> <p>Contact QSS at licensing@qnx.com for additional contact information.</p>
	JQuery	B	Various	QSS, as an integral part of the QNX CAR Platform for Infotainment and in the reference image available at myQNX	jQuery is a cross-platform JavaScript library designed to simplify HTML programming. jQuery is licensed primarily under the open source MIT license.
	JQuery Mobile	B	Various	QSS, as an integral part of the QNX CAR Platform for	jQuery Mobile is a JavaScript library for creating mobile web applications. jQuery Mobile works on all popular smartphones and tablets. jQuery Mobile is licensed primarily under the open source MIT license.

Subsystem	Component	Engagement Model	Primary Owner of Technology	Product Delivered by	Additional Licensing Considerations
				Infotainment and in the reference image available at myQNX	
Mobile Device Gateway	DLNA	B	PacketVideo Corporation	QSS, as a separate package and in the reference image, both available at myQNX	This component is only licensed for an internal time-limited evaluation of 90 days, unless expressly extended by QSS in writing. Any additional license rights must be obtained from PacketVideo Corporation . Contact QSS at licensing@qnx.com for additional contact information.
	MirrorLink	B	RealVNC Limited	QSS, as a separate package and in the reference image, both available at myQNX	This component is only licensed for an internal time-limited evaluation of 90 days, unless expressly extended by QSS in writing. Any additional license rights must be obtained from Real VNC Limited . Contact QSS at licensing@qnx.com for additional contact information.
	Bluetooth Middleware (Bluetooth Stack)	B	iAnywhere Solutions, Inc. (now OpenSynergy)	QSS, as a separate package and in the reference image, both available at myQNX	This component is only licensed for an internal time-limited evaluation of 90 days, unless expressly extended by QSS in writing. Any additional license rights must be obtained from OpenSynergy . Contact QSS at licensing@qnx.com for additional contact information.
	Bluetooth Middleware (BlueGO)	B	Cybercom AB	QSS, as a separate package and in the reference image, both available at myQNX	This component is only licensed for an internal time-limited evaluation of 90 days, unless expressly extended by QSS in writing. Any additional license rights must be obtained from Cybercom AB . Contact QSS at licensing@qnx.com for additional contact information.
	All Mobile Device Gateway Subsystems	A B	Various	N/A	Certain third parties claim patent rights in connecting portable media devices into other sound systems (e.g., such as in an automobile). Third party patent licenses may be required to make, import, use or sell products featuring such capabilities. QSS does

Subsystem	Component	Engagement Model	Primary Owner of Technology	Product Delivered by	Additional Licensing Considerations
					not supply such license rights.
Automotive Services	Navigation Engines	B	Elektrobit Automotive GmbH	QSS, as a separate package and in the reference image, both available at myQNX	A Navigation Engine is available from Elektrobit. This component is only licensed for internal time-limited evaluation of 90 days, unless expressly extended by QSS in writing. Any additional license rights must be obtained from Elektrobit Automotive GmbH . Contact licensing@gnx.com for additional contact information.
	Software Update	B	Red Bend Ltd.	QSS, as a separate package and in the reference image, both available at myQNX	This component is only licensed for an internal time-limited evaluation of 90 days, unless expressly extended by QSS in writing. It includes Red Bend image upgrade code. QSS licenses all of its rights in this component to you under its standard development and distribution license agreements. You will also require additional license rights from RedBend Ltd. Contact licensing@gnx.com for additional contact information.
	Nuance Vocon Hybrid ASR Engine	B	Nuance Communications, Inc.	QSS, as a separate package and in the reference image, both available at myQNX	The QNX CAR Reference Implementation contains Nuance code for accessing Nuance's voice-recognition service for an internal, time-limited evaluation of 90 days, unless expressly extended by QSS in writing. QSS licenses all of its rights in this component to you under its standard development and distribution license agreements. You will need to request a license key directly from Nuance Communications, Inc. to access and use the service (even for evaluation). To request a license key, you must email your contact information (your name, company name, address, email, phone) and request to NuanceAutoQNX@Nuance.com .
Sample Audio & Video Content		B	Various	QSS, in reference image available at myQNX	Except for any content licensed under the Creative Commons Public License, any sample audio and/or video content provided is only licensed for an internal evaluation, which may be time-limited. It must not be altered, copied or used in any other manner or for any other purpose. Contact QSS at licensing@gnx.com if you have any questions.
Runtime for APK	Dalvik Virtual Machine	B	Various	QSS, as a separate package and in the reference image, both available at myQNX	The Dalvik Virtual Machine is primarily licensed under the Apache License 2.0. Certain third parties claim patent rights in a number of technologies implemented in the Dalvik Virtual Machine. Oracle America, Inc. also claims copyright in certain Dalvik VM APIs. QSS does not supply such patent or copyright license rights.

Subsystem	Component	Engagement Model	Primary Owner of Technology	Product Delivered by	Additional Licensing Considerations
	VM Integration	A	QSS	QSS, as a separate package available at myQNX	Certain third parties claim patent rights in a number of technologies implemented in the Dalvik Virtual Machine. Oracle America, Inc. also claims copyright in certain Dalvik VM APIs. QSS does not supply such patent or copyright license rights.
Qt Runtime and Qt Reference Applications	Qt5	B	Various	QSS, as an integral part of the QNX CAR Platform for Infotainment	Qt is a cross-platform application framework that is widely used for developing graphical user interface software. Qt is licensed under the GNU Lesser General Public License (LGPL) (version 2.1).

3.2.4 QNX Acoustics Products – Licensing Considerations Matrix

Subsystem	Component	Engagement Model	Primary Owner of Technology	Product Delivered by	Additional Licensing Considerations
QNX Acoustics for Engine Sound Enhancement ESE Designer Tool	Sample audio files	B	Pole Position Production AB	QSS, as an integral part of the QNX Acoustics for Engine Sound Enhancement	This component is only licensed for an internal time-limited evaluation of 90 days, as an example engine sound profile, unless expressly extended by QSS in writing. Any additional license rights must be obtained from Pole Position Production AB. Contact QSS at licensing@qnx.com for additional contact information.

3.2.5 Board Support Packages - Licensing Considerations Matrix

See Section 6.3 for Licensing Consideration details for Board Support Packages and other hardware-specific 3rd Party Licensed Code.

Section 4

License Guide Details – Interpretation of Column References

4. License Guide Details - Interpretation of Column References

Important Note: The information provided in any row of a product or component description applies to all of its constituent sub-components, unless otherwise expressly stated in the rows for specific sub-components.

Column	Content Description
Version	Indicates the version number of the referenced product.
Part Number(s)	Indicates the QSS part number for the referenced product.
Code Provided	Indicates the form of software code provided. "Source" indicates that "source code is included", rather than "comprehensive source code for every element of the product is included". "Object" means code in binary form.
Support Provided	Indicates the level of support available for the referenced components. "Full" means support by QSS under its Standard, Priority and Custom Support Plans or other QSS enhanced support agreements. "Custom" means QSS will provide support, but only under the terms of its Custom Support Plan or other QSS enhanced support agreements. "Limited" means there are additional limits to the support provided by QSS under any Custom Support Plan or other QSS enhanced support agreements, indicated as follows: "Limited (Source)" means QSS will only provide support for the unmodified version of the source code, "Limited (3rd Party)" means QSS relies on third parties for support and therefore our ability to provide support will be limited to what those third parties have committed to provide, and "Limited (Integration)" means QSS will support issues relating to integration of a third party component with QNX but does not provide support for the integrated component itself. "Unsupported" means QSS does not provide support for the referenced component(s).
Type of Software	These terms are used in the QDLs and other QSS license agreements in risk allocation provisions relating to the associated technologies. "Type I Software" (also known as "Core Software") indicates Commercially Released Software, other than Type II or Type III Software (see your QDL for definitions of "Commercially Released Software"). It typically includes QSS proprietary code and may include some third party proprietary and open source code elements. "Type II Software" (also known as "Collateral Software") indicates Commercially Released Runtime Components identified as "Type II". It may include third party proprietary and some open source code elements. "Type III Software" or "As Is Code" (also known as "As Is Software") indicates Software that is licensed, or sublicensed by QSS strictly on an "as is" basis. It typically includes primarily Experimental, third party proprietary and/or open source code elements.
Engagement Model	See Section 3.2 for a detailed explanation of Engagement Models.
End User Licenses	Indicates the end user license terms or where to find such terms, including any flow-through terms referenced in the corresponding Third Party License Terms List ("TPLTL") which is published at http://licensing.qnx.com/document-archive/ .

Section 5

License Guide Details – Development Components

5. License Guide Details – Development Components

5.1 QNX Momentics Tool Suite

5.1.1 Command Line Tools

The QNX Momentics Tool Suite is comprised of development tools and software development kits that are not redistributable, except as expressly provided under the corresponding QNX Neutrino RTOS Runtime Component descriptions in Section 6. In particular, libraries are provided in several different forms. Each type has a different set of redistribution rules, as follows:

Static archives: portions of these libraries are incorporated directly into executables during linking. Like header files, they may only be redistributed as part of the larger work that they are used to create. These are ELF files ending in an “.a” extension.

Dynamic (shared) libraries: these libraries are loaded independently at runtime, as needed by executables, in a process that automatically occurs when the application is run. These libraries are redistributable, subject to proper licensing of the corresponding module(s) described in the QNX Neutrino RTOS Runtime Component tables. These are ELF files ending in a “.so” extension. Shared libraries are usually found in a directory named “lib”.

Dynamic link libraries (a.k.a. plug-ins): these libraries are loaded on demand under control of the application itself. These libraries are also redistributable under the same terms as dynamic libraries. These are ELF files ending in a “.so” or “dll” extension. Dynamic link libraries are usually found in a directory named “dll”.

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engagement Model	End User Licenses
6.6.0	910552 (perpetual license) 910595 (subscription license) 910556 (floating perpetual license) 910596 (floating subscription license)	Set of development tools, associated configuration files (e.g., header files for APIs), static libraries and documentation for creating applications for the QNX Neutrino RTOS.	Object , except as noted below	Full , except as noted below	Type I , except as noted below	A , except as noted below	QSS ODL , except as noted below for Legal ID codes listed and/or referenced in the indicated sections of the TPLTL.

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engagement Model	End User Licenses
		A. GNU Tools:			Type II	B	GPL, LGPL - see individual files for copyright notice(s) and specific GPL version that applies.
		A1. <u>GNU Compiler Collection (GCC)</u> : Set of development tools, associated configuration files and static libraries for compiling applications for QNX Neutrino RTOS.			Type II	B	BSD-4C: 70
		A2. <u>GNU binutils</u> : Assembler (gas), Linker (ld) – Tools for manipulation of binary (executable, object) files in development environments.			Type II	B	
		B. GNU Debugger: GNU debugger (GDB) with remote debugging capability			Type II	B	GPL – see individual files for copyright notice(s) and specific GPL version that applies.
		B1. <u>Utilities</u> : Tools used with GDB			Type II	B	
		C. Systems libraries and headers					
		C1. <u>QNX system library for OS API</u>					See the QNX Neutrino RTOS – Neutrino Core OS section in the File Mapping table in the TPLTL.
		C2. <u>Device driver interface</u> : headers and libraries for use with device drivers					LGPL - lib/asound only BSD-3C: 176 – lib/asound only
		C3. <u>QNX/Dinkum C library</u>					See the QNX Neutrino RTOS – Neutrino Core OS section in the File Mapping table in the TPLTL.

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engagement Model	End User Licenses
		C4. <u>Dinkum C++ library</u> and abridged library (template support)					See the QNX Neutrino RTOS – Neutrino Core OS section in the File Mapping table in the TPLTL.
		C5. <u>Dinkum Embedded C++ library</u> and abridged library (template support)					See the QNX Neutrino RTOS – Neutrino Core OS section in the File Mapping table in the TPLTL.
		C6. <u>Networking library</u>					See the QNX Neutrino RTOS - Networking section in the File Mapping table in the TPLTL.
		C7. <u>Compression libraries</u>			Type II		See the QNX Neutrino RTOS – Neutrino Core OS section in the File Mapping table in the TPLTL.
		C8. <u>XML library</u>					See the QNX Neutrino RTOS – Neutrino Core OS section in the File Mapping table in the TPLTL.
		C9. <u>Encryption libraries</u>					See the QNX Neutrino RTOS - Networking section in the File Mapping table in the TPLTL. Contact QSS at licensing@qnx.com for details on specific encryption-enabling utilities.

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engagement Model	End User Licenses
		C10. <u>GNU C++ legacy library</u> : GNU libstdc ++ library from previous versions of the QNX Neutrino RTOS, for compatibility			Type III	B	See QNX Neutrino RTOS – Neutrino Core OS section in the File Mapping table in the TPLTL.
		D. Utilities: Command line development tools for object files and executable file manipulation, and utilities tools primarily provided for development purposes.					
		D1. <u>SDK utilities</u> : Tools used for creating applications and boot images					
		D2. <u>QNX development utilities</u> : developer productivity tools					BSD-2C: 59 BSD-4C: 14 UL: 61, 62 ZLIB: 3 BSD-3C BSD-4C BSD-EY GPL ISC LGPL MD MIT UL ZLIB For specific TPLTL references, contact licensing@qnx.com .
		D3. <u>Runtime utilities</u> (See the QNX Neutrino RTOS Runtime Component tables)					
		D4. <u>GNU development utilities</u> : version control and other development services			Type II	B	GPL, LGPL For specific TPLTL references, contact licensing@qnx.com .

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engagement Model	End User Licenses
		D5. <u>GNU development utilities</u> : used in development for data transfer			Type II	B	GPL For specific TPLTL references, contact licensing@qnx.com .
		D6. <u>GNU development utilities</u> : optional/convenience development tools			Type III	B	GPL UL For specific TPLTL references, contact licensing@qnx.com .
		E. Cross-Hosted Development: Provides support for QNX Neutrino RTOS development under current Microsoft Windows or Linux (various distributions) operating systems.					
		E1. <u>Windows host environment</u> : Operating environment for development tools					
		F. Processor Support: Provides support for developing QNX Neutrino RTOS applications targeting a variety of processor architectures (32 bit MMU).					
		G. Embedding Tools: Provides support for creating boot images for embedded devices, based on single-board computers or custom board designs. Adds features for reduced memory footprint on the target device.					
		G1. <u>Target system development utilities</u>					BSD-3C:8
		G2. <u>Utilities</u> (mkifs, mkefs, mkimage, mkrec, dumpifs)					MD UL ZLIB For specific TPLTL references, contact licensing@qnx.com

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engagement Model	End User Licenses
		<p>H. Flash File Systems: Resilient file system support for flash media, including support for decompression and compression tools. Resilient to failure, support for NAND or NOR, allows use of POSIX file system modules with flash media (devb-nand). Flash file system support is not required for embedded images (IFS).</p>	Object and Source	Full (Object), Limited (Source)			
		H1. <u>FFS6 for NOR flash</u>					See the QNX Neutrino RTOS – FileSystems section in the File Mapping table in the TPLTL.
		H2. <u>FFSv3</u> : NOR flash file system with added resilience features.					See the QNX Neutrino RTOS – FileSystems section in the File Mapping table in the TPLTL.
		H3. <u>ETFS</u> : Resilient transactional file system for flash media.					See the QNX Neutrino RTOS – FileSystems section in the File Mapping table in the TPLTL.
		H4. <u>Inflator tool</u> : on-the-fly decompressor.					UL For specific TPLTL references, contact licensing@qnx.com .
		H5. <u>Deflator tool</u> : off-line compression utility.					
		<p>I. High Availability Technology: Source code to the QNX critical process monitor (HAM) and guardian, for tailoring to specific OEM use. Supersedes HA Customization Kit. Pre-compiled runtime binaries are included with a Development Seat for the QNX Software Development Platform.</p>	Object and Source	Full (Object), Limited (Source)			See the High Availability Manager section in the File Mapping table in the TPLTL.

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engagement Model	End User Licenses
		I1. <u>Development components and documentation</u> required to write a critical process monitor for managing service/application availability					
		I2. <u>Headers and libraries</u>					
		I3. <u>Documentation</u>					
		J. Adaptive Partitioning Technology: development component					See the QNX Neutrino RTOS – Neutrino Core OS section in the File Mapping table in the TPLTL.
		K. Multi-Core Technology: development component					See the QNX Neutrino RTOS – Neutrino Core OS section in the File Mapping table in the TPLTL.
		L. Instant Device Activation Technology: Enable instant device activation and device control before the QNX kernel has booted. This technology includes additional source code to startup routines as well as sample code illustrating use.	Source	Limited (Source)			See the QNX Neutrino RTOS – Neutrino Core OS section in the File Mapping table in the TPLTL.
		L1. <u>Source Code</u>					
		L1.1 Source development components required to implement Instant Device Activation (aka 'Minidriver') on all supported target CPUs. This includes header files and startup source code.					
		L1.2 Documentation					

5.1.2 QNX Momentics Integrated Development Environment

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engagement Model	End User Licenses
6.6.0	See 3.1	The QNX Momentics Integrated Development Environment (IDE) provides a cross-platform, integrated development environment. The IDE provides development life cycle tools for QNX Neutrino RTOS applications, as well as the ability to “plug in” third party tools in an integrated manner.	Object	Full , except as noted below	Type I , except as noted below	A , except as noted below	QSS QDL , except as noted below for Legal ID codes listed and/or referenced in indicated sections of the TPLTL.
		A. Eclipse Platform: Platform for creation of integrated development environments			Type II	B	See note in the Description column re 3 rd party contributions in Eclipse See also NOTE: 11
		B. Eclipse CDT: Platform for creation of C/C++ integrated development environments			Type II	B	See note in the Description column re 3 rd party contributions in Eclipse See also NOTE: 11
		Information about 3rd party contributions (and their license terms) for the Eclipse IDE may be referenced from the IDE as follows: “Help -> About QNX Momentics IDE -> Plug-In Details”, select each plug-in then “More Info”.					
		C. QNX Momentics IDE Components					
		C1. <u>QNX project management</u> : Provides Eclipse project integration to QNX projects					
		C2. <u>QNX debugger integration</u> : Provides Eclipse/CDT debugger integration with QNX gdb debugger (remote via tcp/ip and serial)					

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engagement Model	End User Licenses
		C3. <u>Remote target management</u> : Provides qconn connectivity to the IDE tools					
		C4. <u>Remote target system information tool</u> : Provides System/Process/Thread information from a running target					
		C5. <u>Application profiler</u> : For both real-time and post-mortem analysis					
		C6. <u>Code coverage tool</u> : For both real-time and post-mortem analysis					
		C7. <u>System Profiler</u> : Visualization tool for viewing instrumented kernel log files					
		C8. <u>Memory analysis tool</u> : Visualization tool for viewing allocation/de-allocation patterns from a running process, including leak detection and memory overflow/underflow detection					BSD-O: 6
		C8.1. Derby Database engine					APACHE For specific TPLTL references, contact licensing@qnx.com .
		C8.2 HSQL Database engine					BSD-3C: 180
		D. Target Agent : target resource request broker					BSD-4C: 74
		E. Java Virtual Machine					
		E1. <u>Sun JVM</u> : for hosting Eclipse IDE		Un-supported	Type II	B	NOTE: 12 UL: 273

5.2 QNX Middleware (Development Components)

5.2.1 QNX SDK for Apps and Media

The QNX SDK for Apps and Media is made available to licensees through a variety of delivery methods. The following table describes the development components associated with the QNX SDK for Apps and Media.

The QNX Software Development Platform is a prerequisite for the QNX SDK for Apps and Media. To develop software with the QNX SDK for Apps and Media, the QNX SDP must be installed on the host computer.

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engage-ment Model	End User Licenses
1.0	910599	The HTML5 SDK provides a set of tools and APIs to create HTML5 applications for target systems that make use of the QNX SDK for Apps and Media.	Object , except as noted below	Full , except as noted below	Type I , except as noted below	A , except as noted below	QSS QDL , except as noted below for Legal ID codes listed and/or referenced in indicated sections of the TPLTL. See the Tools License Details section in the TPLTL.
		<p>A. QNX CAR APIs</p> <p>These APIs provide Javascript interfaces for the QNX CAR Platform for Infotainment. These are packaged as Cordova framework extensions. The following APIs are provided:</p> <ul style="list-style-type: none"> Audio Mixer HVAC MediaPlayer Navigation Profile Radio Sensors Theme Zone Message Phone 	Source (JavaScript, HTML, CSS) and Object	Limited (Source)			

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engage-ment Model	End User Licenses
		Settings					
		B. Application packager: Tool to bundle HTML5, Javascript and CSS files into a .bar file.		Custom			See the Tools License Details section in the TPLTL.
		C. Cordova framework	Source (JavaScript, HTML, CSS) Source is not to be modified.	Limited (Source)	Type II	B	See the Tools License Details section in the TPLTL.

5.2.2 QNX CAR Platform for Infotainment

The QNX CAR Platform for Infotainment is made available to licensees through a variety of delivery methods as outlined in Section 2.4.1. The following table describes the development components associated with QNX CAR.

The QNX Software Development Platform and the QNX SDK for Apps and Media products are both prerequisites for the QNX CAR Platform for Infotainment. To develop software for the QNX CAR Platform for Infotainment, both prerequisite products must be installed on the host computer.

Licensees of QNX CAR Platform for Infotainment are entitled to use the QNX Aviage Acoustic processing technology, as described in Section 6.2.3, for development purposes under their QNX CAR Platform for Infotainment license. Separate QNX Runtime Component part numbers, and associated runtime royalty fees, apply to any distribution of QNX Aviage Acoustics processing technology Runtime Components (see Runtime Component part numbers in Section 6.2.3).

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engagement Model	End User Licenses
2.1	910588 (subscription)	The QNX CAR Platform for Infotainment provides a set of tools, APIs and build utilities that can be used to create infotainment systems.	Object, except as noted below	Custom, except as noted below	Type I, except as noted below	A, except as noted below	QSS QDL, except as noted below for Legal ID codes listed and/or referenced in indicated sections of the TPLTL. See the Tools License Details section in the TPLTL.
		<p>A. QNX CAR Reference Applications</p> <p>These Applications provide the user interface for the QNX CAR Platform for Infotainment. These applications may also reference web APIs for content and services (for example, the Media Player Application references Pandora APIs and Navigator Application makes use of Accuweather web content). These Applications have been primarily authored by QSS.</p>	Source (JavaScript, HTML, CSS)	Limited (Source)			

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engagement Model	End User Licenses
		<p>These applications depend upon the HTML5 Application Development component.</p> <ul style="list-style-type: none"> • Calendar • Car Control • Communication • Contacts • Keyboard • Media Player • Navigation • Navigator • Settings • Status • Weather • Web Browser • Media Player (JavaScript user interface only) 					
		<p>B. WebWorks Platform: WebWorks Platform JavaScript APIs and code for:</p> <ul style="list-style-type: none"> • WebViews • Security • Native Extensions 	<p>Source (JavaScript, HTML, CSS)</p> <p>Source is not to be modified</p>		Type II		See the Tools License Details section in the TPLTL.
		<p>C. Application packager for APK: Tool to convert .apk files into .bar files.</p>					See the Tools License Details section in the TPLTL.
		<p>D. Build Scripts: The QNX CAR reference image build scripts provide a set of tools that are used to re-create images to be loaded onto embedded hardware platforms.</p>	<p>Source (Shell script)</p>	<p>Limited (Source)</p>			
		D1. <u>mksysimage</u> image					

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engagement Model	End User Licenses
		<u>build script</u> : _QNX build tool to create bootable QNX CAR reference board disk images					
		E. Qt host environment: Qt components needed to build a QNX CAR image containing Qt applications			Type III	B	See the Tools License Details section in the TPLTL.
		E1. <u>Qt header files</u> : The .h files needed to compile Qt applications	Source (C/C++)		Type III	B	
		E2. <u>qmake utility</u> : Build tool to create Qt applications for targets running the QNX Neutrino RTOS			Type III	B	
		F. Javascript Application Frameworks These provide user interface controls and utilities used by HTML5 Reference Applications and 3 rd Party Reference Applications.	Source (JavaScript)	Un-Supported	Type III	B	See the Tools License Details section in the TPLTL.
		F1. JQuery	Source (JavaScript)	Un-Supported	Type III	B	
		F2. JQuery Mobile	Source (JavaScript)	Un-Supported	Type III	B	

5.2.3 QNX Acoustics Products

Please refer to Section 6.2.3, QNX Acoustics Products (Runtime Components), for a description of any development components of QNX Acoustics Products.

Section 6

License Guide Details – Runtime Components

6. License Guide Details – Runtime Components

The following tables identify QNX Neutrino RTOS Runtime Component technologies that are delivered as part of the QNX Software Development Platform or as part of the QNX Middleware.

All Runtime Components are royalty bearing when distributed. Separate distribution licenses are required, as explained in Section 3.1 (Background). Contact an authorized QSS sales representative for more information on Runtime Components.

6.1 QNX Neutrino RTOS

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engagement Model	End User Licenses
6.6.0	010490	<p>QNX Core OS Runtime</p> <p>Provides stand-alone base level operating system for embedded devices without a graphic user interface. Includes the kernel, core facilities (libraries, services) and common OS services frameworks. In the case of hardware-specific components, third party code is provided to you only for use in association with the hardware the component was intended to target, as indicated in associated Documentation.</p>	Object, except as noted below	Full, except as noted below	Type I, except as noted below	A, except as noted below	QSS QDL, except as noted below for Legal ID codes listed and/or referenced in indicated sections of the TPLTL.
		<p>A. Kernel and libraries: Provides fundamental IPC, scheduling and process management services.</p> <p>A1. <u>Kernel</u>:</p> <p>A1.1 Microkernel A1.2 Process Manager A1.3 Instrumented kernel</p> <p>A2. <u>Libraries</u> A2.1 QNX system</p>			Type I, (except for section A2.6, compression libraries – Type II)		Refer to the QNX Neutrino RTOS – Neutrino Core OS section of the File Mapping table in the TPLTL.

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engagement Model	End User Licenses
		<p>library for OS API</p> <p>A2.2 QNX/Dinkum C library</p> <p>A2.3 Dinkum C++ library and abridged library (template support)</p> <p>A2.4 Dinkum Embedded C++ library and abridged library (template support)</p> <p>A2.5 Python libraries</p> <p>A2.6 Compression libraries</p> <p>A2.7 XML libraries</p> <p>A2.8 Encryption libraries</p> <p>A2.9 Instant device activation</p> <p>A3. <u>Frameworks</u>: Frameworks for extending the services of the OS. Individual frameworks providing customizable support for specific categories of services.</p> <p>A3.1 Resource Manager framework</p> <p>A3.2 PPS framework</p> <p>A3.3 Power Management framework</p>					
		<p>B. Networking</p> <p>B1. TCP/IP (io-pkt), v4 and v6</p> <p>B2. PPP client and server</p> <p>B3. DHCP client</p> <p>B4. Remote file systems (NFS, CIFS etc.)</p>					Refer to the QNX Neutrino RTOS - Networking section of the File Mapping table in the TPLTL.

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engagement Model	End User Licenses
		B5. SSH suite B6. QNet B7. IPSec B8. Utilities (telnet, ftp, inet etc.) B9. USBDNET N.B. QSS does not offer any RNDIS patent licenses or related intellectual property infringement indemnification.					
		C. Connectivity					Refer to the QNX Neutrino RTOS – Connectivity section of the File Mapping table in the TPLTL.
		C1. WiFi chipset support					See Section 6.3 for more details.
		C1.1 core WiFi drivers for WiFi chipsets N.B. QSS does not offer any WiFi or mobile device connectivity patent licenses or related intellectual property infringement indemnification.		Un-supported	Type III	B	No 3rd party patent licenses provided.
		C1.2 WiFi driver adaptation layer		Custom			
		C2. USB					
		D. Filesystems	Object and Source	Full (Object), Limited (Source)			Refer to the QNX Neutrino RTOS - Filesystems section of the File Mapping table in the TPLTL.
		D1. <u>Flash file systems</u> D1.1 Embedded filesystems D1.2 NAND D1.3 FFS6 for NOR flash D1.4 Standalone RAM					

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engagement Model	End User Licenses
		<p>file system</p> <p>D1.5 Compress/Decompress utilities</p> <p>D2. <u>Mass storage file systems</u>: File systems for mass storage devices, particularly either rotating media (platter, CD, etc.) or USB mass storage class.</p> <p>D2.1 Block-based file system (io-blk)</p> <p>D2.2 Power-safe file system (fs-qnx6)</p> <p>D2.3 Support for various formats (QNX4, EXT2, FAT12, FAT16, FAT32, NTFS, HFS+)</p> <p>N.B. QSS does not offer any Microsoft FAT or ex-FAT patent licenses or related intellectual property infringement indemnification.</p>					No 3rd party patent licenses provided.
		E. High Availability Manager	Object and Source	Full (Object), Limited (Source)			Refer to the QNX Neutrino RTOS – High Availability Manager section of the File Mapping table in the TPLTL.
		<p>F. Adaptive Partitioning: Includes all libraries and utilities for the adaptive partitioning scheduler for all processors.</p> <p>F.1 APS libraries</p> <p>F.2 APS utilities</p>					Refer to the Adaptive Partitioning section of the File Mapping table in the TPLTL.
		G. Multicore Technology:					Refer to the

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engagement Model	End User Licenses
		transparent thread scheduling across processors for multi-core (SMP) processors.					Multicore Technology section of the File Mapping table in the TPLTL.
		H. Utilities: POSIX command line environment, all POSIX utilities, including shells, file and text manipulation and other utilities. H.1 POSIX utilities H.2 QNX utilities H.3 3 rd party utilities			Type I (except for bzip – Type III)		Refer to the QNX Neutrino RTOS - Utilities section of the File Mapping table in the TPLTL.
		I. Database: qdb I.1 Database Integration					Refer to Database section of the File Mapping table in the TPLTL.
		I.2 SQLite			Type II	B	
		J. io-audio					
		K. Certicom binaries: Certicom encryption technology used for the encrypted file systems		Limited (3 rd party)			Refer to the QNX Neutrino RTOS - Certicom section of the File Mapping table in the TPLTL.
6.6.0	010491	QNX Screen Runtime These components provide display sharing and graphics technologies.	Object, except as noted below	Full, except as noted below	Type I, except as noted below	A, except as noted below	OSS QDL, except as noted below for Legal ID codes listed and/or referenced in indicated sections of the TPLTL.
		A. Composition manager Allows a user to mix different UI technologies via a layered graphics engine.					Refer to the UI Core – Base Graphics section of the File Mapping table in the TPLTL.
		B. Font rendering engine FreeType font engine		Limited (3 rd Party)	Type III	B	Refer to the UI Core – Base Graphics section of the File Mapping table in the

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engagement Model	End User Licenses
							TPLTL.
		C. Fonts Bitstream fonts			Type II		Refer to the UI Core – Base Graphics section of the File Mapping table in the TPLTL.
		D. GPU acceleration Graphics drivers (including Imagination and Vivante GPU software)		Limited (3 rd party)	Type III		See Section 6.3 for more details.
		E. Blitter hardware support (SoC specific, board independent)		Limited (3 rd party)	Type III		See Section 6.3 for more details.
		E1. BB2D Blitsville support		Unsupported	Type III	B	Refer to the Blitter Hardware Support section of the File Mapping table in the TPLTL. See Section 6.3 for more details.
		F. Device Input Supports touch screen (if present), keyboard and mouse					

6.2 QNX Middleware Runtime Components

6.2.1 SDK for Apps and Media

The QNX SDK for Apps and Media Runtime Components are dependent on the QNX Neutrino RTOS Runtime Components (above).

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engagement Model	End User Licenses
1.0	070225	HTML5 Engine Runtime This component provides a WebKit (open source) based browser engine and QSS authored platform integration software.	Object , except as noted below	Full , except as noted below	Type I , except as noted below.	A , except as noted below.	QSS QDL , except as noted below for Legal ID codes listed and/or referenced in indicated sections of the TPLTL.
		A. WebKit Open source components ported to the QNX Neutrino RTOS A1. WebKit Embedding APIs A2. JavaScriptCore A3. WebCore A4. Inspector A5. WebKit Template Framework		Custom	Type II	B	Refer to the WebKit section of the File Mapping table in the TPLTL.
		B. Web Platform Integration Contains QSS authored code for integrating the WebKit components described above in A. This includes: B1. POSIX OS services for file systems, networking, timers, threading, date/time services and others B2. Graphics and window management integration B3. Image rendering and font support B4. Web Launcher application B5. Input methods B6. Hardware accelerated graphics rendering B7. Software graphics rendering					Refer to the HTML5 Engine - Web Platform Integration section of the File Mapping table in the TPLTL.

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engagement Model	End User Licenses
		B8. Backing store					
		<p>C. Monotype Technology</p> <p>C1. iType font engine C2. Monotype fonts</p> <p>Note: Additional Runtime Component distribution royalties may apply to Runtime Configurations that contain the Monotype technology and more than one display. If your Target System contains more than one display, you must contact QSS at licensing@qnx.com to determine the applicable royalty for the HTML5 Engine Runtime.</p>		Limited (3 rd party)	Type II		
1.0	010494	HTML5 Application Development Runtime	Source, except as noted below	Full, except as noted below	Type I, except as noted below	A, except as noted below	QSS QDL, except as noted below for Legal ID codes listed and/or referenced in indicated sections of the TPLTL.
		<p>A. HTML5 SDK Runtime:</p> <p>A1. This is a set of QNX CAR APIs and supporting Javascript code.</p>	Source (HTML5, Javascript, CSS)				
		A2. Cordova framework	Source (HTML5, Javascript, CSS)	Limited (3 rd party)	Type II	B	Refer to the HTML5 SDK Runtime section of the File Mapping table in the TPLTL.
		<p>B. HTML5 Application Extensions: these components provide an interface layer that enables QNX and 3rd Party Reference Applications to interact with lower-layer QNX subsystems. This is all QSS-authored code.</p>	Object				
		Plugins for native platform access.					

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engagement Model	End User Licenses
		The following extensions are available: B1. PPS extension B2. SQL extension B3. Composition Manager extension					
		C. Application Management: this subsystem provides the ability to launch and control applications and provides QNX and 3rd Party Reference Applications with secure access control to lower layer subsystems.	Object				
		C1. Auth Mgr C2. Launcher					Refer to the Application Management section of the File Mapping table in the TPLTL.
		C3. Installer	Source (Shell script)	Limited (Source)			Refer to the Application Management section of the File Mapping table in the TPLTL.
1.0	010495	Multimedia Playback Runtime	Object	Full , except as noted below.	Type I , except as noted below	A , except as noted below.	QSS QDL , except as noted below for Legal ID codes listed and/or referenced in indicated sections of the TPLTL.
		A. Multimedia core services: A1. mm-render A2. mm-play					
		B. Audio Codecs					
		B1. QNX multimedia codec for Microsoft WMA9 N.B. QSS does not offer any codec patent licenses or related intellectual property infringement indemnification.			Type III	B	Refer to the Multimedia section of the File Mapping table in the TPLTL. No 3rd party licenses provided.
		B2. QNX multimedia code for AAC B3. QNX multimedia codec for			Type II		

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engagement Model	End User Licenses
		MP3 (Xing – Floating Point) N.B. QSS does not offer any codec patent licenses or related intellectual property infringement indemnification.					No 3rd party patent licenses provided.
		C. Video Codec Integration					
		C1. Video Codec Integration Software to integrate QNX multimedia with video accelerator software from 3 rd parties.					
		C2. Freescale codecs and related integration parts for video playback N.B. QSS does not offer any codec patent licenses or related intellectual property infringement indemnification.		Limited (3rd Party)	Type III	B	Only licensed for 90 day evaluation purposes, see Sections 3.2 and 6.3. No 3rd party patent licenses provided.
		C3. Texas Instruments codecs and integration parts for video playback N.B. QSS does not offer any codec patent licenses or related intellectual property infringement indemnification.		Limited (3rd Party)	Type III	B	Only licensed for 90 day evaluation purposes, see Sections 3.2 and 6.3. No 3rd party patent licenses provided.
1.0	010496	Multimedia Management Runtime	Object	Full	Type I	A	QSS QDL , except as noted below for Legal ID codes listed and/or referenced in indicated sections of the TPLTL.
		A. mm-sync B. Media detection C. Metadata reader D. Playlist management					Refer to the Multimedia section of the File Mapping table in the TPLTL.

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engagement Model	End User Licenses
1.0	010497	<p>Multimedia Device Connectivity Runtime</p> <p>These components provide interfaces to mobile devices such as smart phones and portable media players.</p>	Object	Full	Type I	A	QSS QDL, except as noted below for Legal ID codes listed and/or referenced in indicated sections of the TPLTL.
		<p>A. QNX interface for iPod</p> <p>N.B. QSS does not offer any mobile device connectivity patent licenses or related intellectual property infringement indemnification</p>					<p>Refer to the Device Connectivity section of the File Mapping table in the TPLTL.</p> <p>No 3rd party licenses provided.</p>
		<p>B. MTP Interface</p> <p>N.B. QSS does not offer any mobile device connectivity patent licenses or related intellectual property infringement indemnification</p>					<p>Refer to the Device Connectivity section of the File Mapping table in the TPLTL.</p> <p>No 3rd party patent licenses provided.</p>

6.2.2 QNX CAR Platform for Infotainment

The QNX CAR Platform for Infotainment depends upon the Runtime Components of both the QNX Neutrino RTOS and the QNX SDK for Apps and Media (above). The Runtime Components associated with QNX CAR Platform for Infotainment are described in the table beginning on page 63. That table describes **only the incremental** QNX CAR technologies that are included in each runtime package – i.e., runtime components from the QNX Software Development Platform and QNX SDK for Apps and Media are covered in the applicable Runtime Component sections above.

QNX CAR Platform for Infotainment combines a number of its foundational Runtime Components, along with QNX CAR technology, into a larger package for convenience. The table immediately below summarizes the runtime package associated with the QNX CAR Platform for Infotainment.

The table uses the following terms:

- **Runtime Package and Part:** The part name and number assigned by QSS to the package.
- **Runtime components and CAR technologies:** This is a description of the Runtime Components included in the indicated Runtime Package.
- **Binaries included with:** This is a description of the package within which the indicated Runtime Components are delivered.
 - QNX Software Development Platform 6.6 (QNX SDP)
 - QNX SDK for Apps and Media 1.0 (Apps and Media)
 - QNX CAR Platform for Infotainment 2.1 (QNX CAR)
 - MyQNX Download Center

Runtime Package and Part Number	Runtime Components and CAR technologies	Binaries included with:
QNX CAR Infotainment Core runtime package v2.1.x (070226)	QNX Core OS Runtime (010490)	QNX SDP
	QNX Screen Runtime (010491)	QNX SDP
	Multimedia Playback Runtime (010495)	Apps and Media
	Multimedia Management Runtime (010496)	Apps and Media
	Multimedia Device Connectivity Runtime (010497)	Apps and Media
	Qt application environment and core libraries	QNX CAR
	Automotive Services	QNX CAR
	Mobile Device Gateway	QNX CAR
	HTML5 applications and Javascript frameworks	QNX CAR

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engagement Model	End User Licenses
2.1	070226	<p>QNX CAR Infotainment Core Runtime</p> <p>The QNX CAR Infotainment Core Runtime includes all components defined in Section 6.2.2. This component description includes all of the additional technologies that are distributed as part of the QNX CAR Platform for Infotainment. Specifically, this includes:</p> <ul style="list-style-type: none"> A. HTML5 Reference Applications and supporting Javascript Framework B. Qt Reference Applications and supporting Qt Runtime C. Automotive Platform Services, and D. Mobile Device Gateway <p>It does not include the Runtime for APK, which is a separate Runtime Component (see below).</p>	Object, except as noted below	Custom, except as noted below	Type I, except as noted below.	A, except as noted below	QSS ODL, except as noted below for Legal ID codes listed and/or referenced in indicated sections of the TPLTL.
		A. HTML5 Reference Applications and supporting Javascript Framework					
		<p>A1. HTML5 Reference Applications</p> <p>These reference applications are provided as examples that can be used to create an HTML5 HMI for the QNX CAR Platform for infotainment. These applications may also reference web APIs for content and services (for example, the Media Player Application references Pandora</p>	Source				

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engagement Model	End User Licenses
		<p>APIs and Navigator Application makes use of Accuweather web content). These Applications have been primarily authored by QSS and should not be confused with 3rd Party Reference Applications described in Section 3.2.</p> <p>These are:</p> <ul style="list-style-type: none"> A1.1 App Section A1.2 Calendar A1.3 Car Control A1.4 Communication A1.5 Contacts A1.6 Media Player A1.7 Navigation A1.8 Navigator A1.9 Settings A1.10 Status A1.11 Keyboard A1.12 Developer Example A1.13 Web Browser A1.14 Keyboard 					
		<p>Developer Examples are:</p> <ul style="list-style-type: none"> A1.15 Tunnel Tilt A1.16 Peaks and Valleys 	Source (JavaScript, HTML, CSS, WebGL)	Un-supported			See the QNX Reference Applications Licenses section of the TPLTL.
		<p>A2. Javascript Application Frameworks These provide user interface controls and utilities used by HTML5 Reference Applications and 3rd Party Reference Applications.</p>	Source (JavaScript)	Un-Supported	Type III	B	See the Javascript Application Frameworks Runtime Licenses section of the TPLTL.
		A2.1 JQuery	Source (JavaScript)	Un-Supported	Type III	B	
		A2.2 JQuery Mobile	Source (JavaScript)	Un-Supported	Type III	B	
		<p>B1. Qt Reference Applications: These reference applications are provided as examples that can be</p>					

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engagement Model	End User Licenses
		<p>used to create a Qt HMI for the QNX CAR Platform for Infotainment. These applications may also reference web APIs for content and services (for example, the Media Player Application references Pandora APIs and Navigator Application makes use of Accuweather web content). These Applications have been primarily authored by OSS and should not be confused with 3rd Party Reference Applications described in Section 3.2.</p> <ul style="list-style-type: none"> B1.1 App Section B1.2 Calendar B1.3 Car Control B1.4 Communication B1.5 Contacts B1.6 Media Player B1.7 Navigation B1.8 Navigator B1.9 Settings B1.10 Status B1.11 Keyboard B1.12 Developer Example B1.13 Web Browser 					
		B2. Qt Runtime			Type III	B	Refer to the Qt Technology section of the File Mapping table in the TPLTL.
		B2.1 Qt5 Integration Layer					
		<p>C. Automotive Platform Services</p> <p>This subsystem provides automotive infotainment features such as a media player (multimedia), automatic speech recognition (ASR) and navigation components.</p>					

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engagement Model	End User Licenses
		C1. Automotive Services – Multimedia QNX CAR Multimedia Integration C1.1 mm-detect C1.2 artwork-client C1.3 mm-control C1.4 mm-player					Refer to the Automotive Services - Multimedia Integration section of the File Mapping table in the TPLTL.
		C2. Automotive Services – ASR Integration C2.1 ASR Integration					Refer to the Automotive Services - ASR Integration section of the File Mapping table in the TPLTL.
		C3. Automotive Services – Radio C3.1 Radio		Un-supported	Type III	B	Refer to the Automotive Services - Radio section of the File Mapping table in the TPLTL. See Section 6.3 for more details.
		C4. Automotive Services – Navigation Integration C4.1 Navigation Integration					Refer to the Automotive Services – Navigation Integration section of the File Mapping table in the TPLTL.
		C5. Software Update C5.1 Software Update Integration					
		C6. Startup Control C6.1 Boot Manager					
		D. Mobile Device Gateway					
		D1. Integration components for RealVNC implementation of Mirrorlink D2. Integration components for CyberCom and iAnywhere (now OpenSynergy)					Refer to the Mobile Device Gateway – MirrorLink Integration, Mobile Device Gateway – Bluetooth Integration and Mobile Device Gateway – DLNA Integration

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engagement Model	End User Licenses
		<p>implementation of Bluetooth</p> <p>D3. Integration components for PacketVideo implementation of DLNA</p> <p>See section 3.2 for additional details.</p> <p>N.B. QSS does not offer any mobile device connectivity patent licenses or related intellectual property infringement indemnification</p>					<p>sections of the File Mapping table in the TPLTL.</p> <p>No 3rd party patent licenses provided.</p>
		<p>E. Application Management: this subsystem provides the ability to launch and control applications and provides QNX and 3rd Party Reference Applications with secure access control to lower layer subsystems.</p>	Object				
		<p>E1. Auth Mgr</p> <p>E2. Launcher</p>					Refer to the Application Management section of the File Mapping table in the TPLTL.
		E3. Installer	Source (Shell script)	Limited (Source)			Refer to the Application Management section of the File Mapping table in the TPLTL.
2.1	010499	<u>A. Runtime for APK Application Environment</u>	Object, except as noted below	Custom,	Type III, except as noted below	B, except as noted below	QSS ODL , except as noted below for Legal ID codes listed and/or referenced in indicated sections of the TPLTL.
		<p>A1.1 VM integration</p> <p>N.B. Certain third parties claim patent rights in a</p>			Type I	A	Refer to the VM Integration section of the File Mapping table in the TPLTL.

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engagement Model	End User Licenses
		<p>number of technologies implemented in the Dalvik Virtual Machine. Oracle America, Inc. also claims copyright in certain Dalvik VM APIs.</p> <p>QSS does not offer any such patent or copyright licenses or related intellectual property infringement indemnification.</p>					No 3rd party licenses provided.
		<p>A1.2 Dalvik VM</p> <p>Certain third parties claim patent rights in a number of technologies implemented in the Dalvik Virtual Machine. Oracle America, Inc. also claims copyright in certain Dalvik VM APIs.</p> <p>QSS does not offer any such patent or copyright licenses or related intellectual property infringement indemnification.</p>			Type III		<p>The Dalvik VM is primarily licensed directly to you under the Apache 2.0 license.</p> <p>No 3rd party licenses provided.</p>

6.2.3 QNX Acoustics Products

QNX Acoustics Products include a portfolio of middleware products that help you develop voice and sound solutions. The Acoustics Products provide a set of software libraries that can run on the QNX Neutrino RTOS or other operating systems. The products work in conjunction with the QNX Momentics Tool Suite.

In addition to the QDL, these products may be subject to supplemental QSS licensing terms, as indicated in the relevant product tables. Your signature may be required as evidence of acceptance of these supplemental licensing terms.

6.2.3.1 QNX Acoustics for Voice v3.0

(includes both development tool and runtime components – binary form versions of the libraries may be distributed, only pursuant to a QSS distribution agreement. See Sections 1 and 3.1 for more details.)

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engage-ment Model	End User Licenses
3.0	910628 (development) 010504 (runtime for a QNX Neutrino RTOS based target system) 010506 (runtime for a non-QNX Neutrino RTOS based target system)	STANDARD EDITION Acoustic echo cancellation, noise reduction and signal processing software library for automotive hands-free voice telephony applications. Floating-point and fixed-point versions included. The following hardware architectures are supported: <ul style="list-style-type: none"> • ARM Cortex A9/A15 (Floating-point) • ARM Cortex A8 (Fixed-point) 	Object	Custom	Type I	A	QSS QDL (Another agreement may apply if used in a system that is based on a non-QNX Neutrino RTOS)
		A. Acoustic Processing Library Functionality <ul style="list-style-type: none"> A1. One and Two Channel Acoustic Echo Cancellation featuring QNX High Efficiency technology A2. Dynamic Noise Reduction A3. Dynamic Noise 					

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engage-ment Model	End User Licenses
		Shaping A4. Low Frequency Reconstruction A5. Automatic Delay Compensation A6. Automatic Gain Control A7. Send Parametric Equalization A8. Dynamic EQ A9. Intelligent Voice Optimization A10. High Frequency Encoding A11. Wind Buffet Suppression A12. Send Dynamic Limiter A13. Diagnostic module A14. Dual channel complex mixer A15. Off-Axis Rejection A16. Receive Parametric Equalization A17. Receive Noise Compensation A18. Receive Automatic Gain Control A19. Receive Dynamic Level Control A20. Receive Bandwidth Extension A21. Receive Dynamic Limiter A22. Wideband Telephony Support A23. Receive Electrical Noise Suppression A24. Send Dynamic Parametric Equalization A25. Support for narrowband (8 kHz sample rate) and wideband (16 kHz					

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engage-ment Model	End User Licenses
		sample rate).					
		B. Acoustic Processing Tuning Tool B1. Remote Control Server library (RCS) B2. QWALive graphical control tool					
		C. Documentation, including sample code					
3.0	910628 (development) 010505 (runtime for QNX Neutrino RTOS based target system) 010507 (runtime for a non-QNX RTOS based target system)	PREMIUM EDITION Same description as for the Standard Edition above, except for A25 which is replaced with the following. A25. Support for narrowband (8 kHz sample rate), wideband (16 kHz sample rate) and wideband plus (24 kHz sample rate).	Object	Custom	Type I	A	QSS QDL (Another agreement may apply if used in a system that is based on a non-QNX Neutrino RTOS)

6.2.3.2 QNX Aviage Acoustic Processing Core 1.0

(includes both development tool and runtime components - only the libraries may be distributed in binary form, pursuant to a QSS distribution agreement. See Sections 1 and 3.1 for more details.)

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engagement Model	End User Licenses
1.0	910549 (development) 010465 (runtime)	Acoustic echo cancellation & noise reduction package for in-car hands-free speech applications. Floating-point and fixed-point versions included. The following hardware architectures are supported: <ul style="list-style-type: none"> ARM Cortex-A8, ARM Cortex A9 (Floating point and fixed point versions of AAP Core 1.0 Library) ARM9 (armle) (Fixed point version of the AAP Core 1.0 library) 	Object	Custom	Type I	A	QSS ODL (Another agreement may apply if not used in a QNX Neutrino RTOS-based system)
		A. Acoustic Processing Library <ul style="list-style-type: none"> A1 Single-channel Acoustic Echo Cancellation and Noise Reduction A2 Automatic Gain Control A3 Send Parametric Equalization A4 Send Dynamic Limiter A5 Diagnostic module A6 Binary configuration files creation using QWALive graphical control tool A7 Receive Parametric 					

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engagement Model	End User Licenses
		A8 Equalization Receive Automatic Gain Control A9 Receive Dynamic Limiter A10 Wideband Telephony Support					
		B. Acoustics Processing Tuning Tool B1. QWALive graphical control tool					
		C. Documentation, including sample code					

6.2.3.3 QNX Acoustics SDK for Active Noise Control 1.0

(includes both development tool and runtime components - only the libraries may be distributed in binary form, pursuant to a QSS distribution agreement. See Sections 1 and 3.1 for more details.)

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engagement Model	End User Licenses
1.0	910576 (development) 010466 (runtime)	Acoustic active noise control for reducing low-frequency engine tones or "boom" The following hardware architectures are supported: Intel x64 (Microsoft Windows 7 SP1; floating-point and fixed-point versions of Acoustics ANC Library) Analog Devices' SHARC ADSP 21xxx family (floating point version of Acoustics ANC)	Object	Custom	Type I	A	QSS QDL (Another agreement may apply if not used in a QNX Neutrino RTOS-based system – e.g., the Acoustic Commercial Software License Agreement)

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engage-ment Model	End User Licenses
		Library) Microsoft Windows 7 SP1 running on a compatible Intel x64 based PC (as it refers to running file-based testing of the Acoustics ANC Library) is the "Reference Platform" if this product is licensed under a QDL, and is the "Testing Platform" if this product is licensed under another agreement.					
		A. Acoustics ANC Library A1. Supports 1-6 microphones inputs A2. Supports 1-6 loudspeaker outputs A3. Supports tachometer input or RPM input A4. Supports 8kHz and 48kHz sample rate audio signals A5. Calibration module A6. Supports binary configuration files					
		B. Documentation, including sample code					

6.2.3.4 QNX Acoustics SDK for Engine Sound Enhancement 1.0

(includes only development tool components - the ESE runtime components are supplied as a custom engineering deliverable and may be distributed in binary form only, pursuant to a QSS distribution agreement. See Sections 1 and 3.1 for more details.)

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engagement Model	End User Licenses
1.0	<p>910640 (development for QNX-OS based target systems)</p> <p>910646 (development for non-QNX based target systems)</p>	<p>A. ESE Designer Tool An interactive software tool chain that enables engine sound profiles to be defined and interactively auditioned in a desktop workstation audio studio environment.</p> <p>Microsoft Windows desktop PC running Windows OS (32-bit or 64-bit) is the "Reference Platform".</p> <p>The ESE Design Tool has the following functionalities</p> <ul style="list-style-type: none"> A1. Allows relationship between synthesized engine sound and input parameters to be defined graphically A2. Generates configuration file (Engine Sound Profile) to be used by the QNX ESE Runtime Library. A3. Allows playback of recordings mixed appropriately with synthesized sound interactively by input parameters. A4. Synthesis is performed by a Windows implementation of the ESE Runtime Library. A5. Synchronously records audio at listening position(s) and input parameters 	Object	Custom	Type I	A	<p>QSS QDL, except as noted below for Legal ID codes listed and/or referenced in indicated sections of the TPLTL.</p> <p>(Another agreement may apply if not used in a QNX Neutrino RTOS-based system – e.g., the Acoustic Commercial Software License Agreement)</p>

Version Number	Part Number(s)	Description	Code Provided	Support Provided	Type of Software	Engagement Model	End User Licenses
		<p>B. 3rd Party Reference Applications</p> <p>Note: These reference applications provide third party sample engine sound profiles. They are included only for evaluation purposes.</p>			Type III	B	Note: Only licensed for a 90 day evaluation, see section 3.2.4
		<p>C. ESE Runtime Library</p> <p>Note: The ESE Runtime Library component and associated API documentation are supplied as custom engineering deliverables ported to and tested for a specific hardware and software environment.</p> <p>For reference, the functionality of the ESE Runtime Library is as follows:</p> <ul style="list-style-type: none"> B1. Real-time synthesis of engine sounds from parameters supplied to the library via the ESE Runtime Library API. B2. Output channels: 1 B3. Parameter Inputs (minimum set) <ul style="list-style-type: none"> B3.1 RPM (pulse train tachometer or numerical) B3.2 Cylinder mode (optional) B3.3 Throttle position or engine load B3.4 Vehicle Speed B3.5 Additional real-time parameters as defined by the specific ESE Engine Sound Profile. 				A	MIT:511

6.3 QNX Board Support Packages

6.3.1 General BSP Information

These details are applicable to all BSPs supplied by QSS for all of the Boards listed in Section 6.3.2:

Description	Code Provided	Support Provided	Type of Software	Engagement Model	End User Licenses
<p>Each Board Support Package (“BSP”) described below includes an optional IPL, startup program and device drivers (typically including block, Ethernet, I2C, I2S, USB, graphics (WFD display controller), sound and WiFi driver integration components) for many of the peripherals on the chip and/or the board which need to be supported.</p> <p>BSP code is delivered as an integral part of the QNX SDP and both Updates and other BSPs are made available for download at Foundry27.</p>	<p>Source and Object</p>	<p>Full</p>	<p>Type I</p>	<p>A</p>	<p>QSS QDL Please contact licensing@qnx.com for open source license details.</p>

6.3.2 License Considerations for BSPs and related 3rd Party Licensed Code

BSPs for the following Boards are considered “Reference Platforms” for the purpose of the QDLs for the Runtime Components indicated.

Board Description	Supported QNX Product Portfolio Runtime Components			Licensing Considerations for Additional Hardware-specific 3 rd Party Licensed Code				
	QNX SDP v6.6.0	QNX SDK for Apps and Media v1.0	QNX CAR Platform for Infotainment v2.1	Description of 3 rd Party Component	Support Provided	Type of Software	Engagement Model (see Section 3.2 above)	Product Delivered By
Texas Instruments OMAP 4430 (Panda) Board and the TI OMAP 4460 (Panda ES) board	X	X		Imagination graphics GPU software, including PVR2D Blitter support	Limited (3 rd Party)	Type III	A	QSS, as an integral part of QNX SDP
	X	X		TI wireless driver core	Limited (3 rd Party)	Type III	A	QSS, in separate TI package available at myQNX
Texas Instruments Jacinto 5 (J5) DM814x EVM	X			Imagination graphics GPU software, including PVR2D Blitter support	Limited (3 rd Party)	Type III	A	QSS, as an integral part of QNX SDP
	X			TI wireless driver core	Limited (3 rd Party)	Type III	A	QSS, in separate TI package available at myQNX
Texas Instruments Jacinto 5 Eco (J5 Eco) EVM	X	X	X	Imagination graphics GPU software, includes optional PVR2D Blitter support	Limited (3 rd Party)	Type III	A	QSS, as an integral part of QNX SDP and in the applicable reference image available at myQNX
	X	X		BB2D Bltville support	Unsup-ported	Type III	B	QSS, as an integral part of QNX SDP

Board Description	Supported QNX Product Portfolio Runtime Components			Licensing Considerations for Additional Hardware-specific 3 rd Party Licensed Code				
	QNX SDP v6.6.0	QNX SDK for Apps and Media v1.0	QNX CAR Platform for Infotainment v2.1	Description of 3 rd Party Component	Support Provided	Type of Software	Engagement Model (see Section 3.2 above)	Product Delivered By
	X			AM/FM/HD radio tuner	Unsup-ported	Type III	B (provided for 90 day evaluation, otherwise licensed by TI)	QSS, in separate TI package available at myQNX
	X	X	X	TI wireless driver core	Limited (3 rd Party)	Type III	A	QSS, in separate TI package and in the applicable reference image available at myQNX
Texas Instruments AM335x EVM	X			Imagination graphics GPU software, including PVR2D Blitter support	Limited (3 rd Party)	Type III	A	QSS, as an integral part of QNX SDP
	X			TI wireless driver core	Limited (3 rd Party)	Type III	A	QSS, in separate TI package available at myQNX
Texas Instruments AM335x Beaglebone/ Beaglebone Black	X (only for Beagle bone Black)			Imagination graphics GPU software, including PVR2D Blitter support (only for Beaglebone Black)	Limited (3 rd Party)	Type III	A	QSS, as an integral part of QNX SDP
	X			TI wireless driver core	Limited (3 rd Party)	Type III	A	QSS, in separate TI package available at myQNX
Texas Instruments OMAP5432 uEVM	X	X	X	Imagination graphics GPU software, including PVR2D Blitter support	Limited (3 rd Party)	Type III	A	QSS, as an integral part of QNX SDP and in the applicable reference image available at

Board Description	Supported QNX Product Portfolio Runtime Components			Licensing Considerations for Additional Hardware-specific 3 rd Party Licensed Code				
	QNX SDP v6.6.0	QNX SDK for Apps and Media v1.0	QNX CAR Platform for Infotainment v2.1	Description of 3 rd Party Component	Support Provided	Type of Software	Engagement Model (see Section 3.2 above)	Product Delivered By
								myQNX
	X	X	X	Vivante GC320 Blitter support	Limited (3 rd Party)	Type III	A	QSS, as an integral part of QNX SDP and in the applicable reference image available at myQNX
		X	X	Ducati codecs and framework (firmware) and Syslink integration component	Unsup-ported	Type III	B (provided for 90 day evaluation, otherwise licensed by TI)	QSS, in separate TI package and in the applicable reference image available at myQNX
	X	X	X	TI wireless driver core	Limited (3 rd Party)	Type III	A	QSS, in separate TI package and in the applicable reference image available at myQNX
Freescale i.MX6Q Sabre Lite	X	X	X	Vivante graphics GPU software, including GC320 Blitter support	Limited (3 rd Party)	Type III	A	QSS, as an integral part of QNX SDP and in the applicable reference image available at myQNX
		X	X	Video codecs, including libvpuapi	Unsup-ported	Type III	B (provided for 90 day evaluation, otherwise licensed by Freescale)	QSS, in separate Freescale package and in the applicable reference image available at myQNX

Board Description	Supported QNX Product Portfolio Runtime Components			Licensing Considerations for Additional Hardware-specific 3 rd Party Licensed Code				
	QNX SDP v6.6.0	QNX SDK for Apps and Media v1.0	QNX CAR Platform for Infotainment v2.1	Description of 3 rd Party Component	Support Provided	Type of Software	Engagement Model (see Section 3.2 above)	Product Delivered By
Freescal e i.MX6 SabreARD	X			Vivante graphics GPU software, including GC320 Blitter support	Limited (3 rd Party)	Type III	A	QSS, as an integral part of QNX SDP

Section 7

Export/Import Information

7. Export/Import Information

The export and import of the QNX Product Portfolio may be regulated by some governments due to the Software's encryption capabilities. The QNX Product Portfolio may not be exported, imported, used, transferred or re-exported except in compliance with the applicable laws and regulations of the relevant government authorities. Without limitation to the foregoing, the QNX Product Portfolio may not be used in the development, production, handling, maintenance, storage, detection, identification or dissemination of chemical, biological or nuclear weapons or their missile delivery systems, or materials or equipment that could be used in such weapons or their missile delivery systems, or resold or exported to anyone or any entity involved in such activity.

For additional information, please contact licensing@qnx.com.

Publication History

2.0	September 12, 2007	QNX Development Suite v6.3.2
2.1	November 29, 2007	QNX Aviage HMI Player for Adobe Flash Lite 3
2.2	December 3, 2007	QNX Multimedia Suite
2.3	January 18, 2008	QNX Aviage Acoustic Processing Kit
2.4	March 24, 2008	Patch for Printing Framework for QNX Neutrino RTOS Runtime
2.5	July 3, 2008	QNX Aviage HMI Player for Adobe Flash Lite 3 Version 1.1 and update of Section 4.1, F4
2.6	June 27, 2008	QNX Aviage Acoustic Processing Kit v1.2
2.7	October 30, 2008	QNX Software Development Platform v6.4.0
2.8	November 6, 2008	QNX Multimedia Suite v1.1
2.9	January 22, 2009	QNX Aviage Acoustic Processing Kit v1.3
2.10	March 27, 2009	QNX Aviage HMI Suite v2.0
2.11	May 8, 2009	QNX Software Development Platform v6.4.1 and QNX Multimedia Suite v1.2
2.12	June 9, 2010	QNX Software Development Platform v6.5
2.13	July 15, 2011	QNX Aviage Acoustic Processing Kit v2.0
2.14	June 22, 2012	QNX Neutrino Real Time Operating System v6.5 Service Pack 1
2.15	November 30, 2012	QNX CAR 2 Software Development Platform and application platform
2.16	February 7, 2013	QNX Aviage Acoustic Processing Core v1.0
2.17	July 23, 2013	QNX Acoustics SDK for Active Noise Control v1.0
2.18	January 31, 2014	QNX Software Development Platform v6.6.0, QNX SDK for Apps and Media v1.0 and QNX CAR Platform for Infotainment v2.1
2.19	August 7, 2014	QNX Acoustics for Voice v3.0
2.20	September 24, 2014	QNX Acoustics for Engine Sound Enhancement v1.0