



QNX CAR™2 LICENSE GUIDE

Version 2.15

(see [Publication History](#) for version details)

Table of Contents

1. [Introduction](#)
2. [Interpretation of Column References](#)
3. [QNX Momentics Tool Suite](#)
 - 3.1 [Base QNX Momentics Tool Suite](#)
 - 3.2 [QNX Momentics Integrated Development Environment \(IDE\)](#)
 - 3.3 [HTML5 SDK for QNX CAR](#)
 - 3.4 [QNX CAR Reference Image Build Scripts](#)
4. [QNX Runtime Components](#)
 - 4.1 [QNX Neutrino RTOS](#)
5. [QNX Middleware Products](#)
 - 5.1 [QNX CAR application platform](#)
 - 5.1.1 [Introduction & Software Packaging Overview](#)
 - 5.1.2 [QNX CAR application platform Packaging Details](#)
 - 5.1.3 [Engagement Models & Licensing Considerations](#)
 - 5.1.4 [QNX Runtime Component details](#)
 - 5.2 [QNX Aviage Acoustic Processing Kit 2.0](#)
6. [QNX Board Support Packages](#)
7. [Export/Import Information](#)

1. Introduction

This License Guide describes the contents and corresponding licensing attributes of the first QNX CAR™ 2 version of the QNX^R Momentics^R Tool Suite, the QNX Runtime Components, and the QNX Middleware Products (the entire collection of QNX products is referred to as the QNX Product Portfolio). It is also designed to present, in a convenient manner, the third party licensing considerations that apply to the QNX Product Portfolio.

The QNX Momentics Tool Suite and the QNX Neutrino® RTOS Runtime Components (collectively, the “QNX Software Development Platform” or “SDP”) and the optional QNX Middleware Products are licensed to you by QNX Software Systems Limited (“QSS”) under one of three QNX developer licenses, copies of which were provided with the QNX Product Portfolio and which have also been published at the respective URL below as of the date of release of the first QNX CAR 2 version of the QNX Product Portfolio (collectively the “QNX Developer Licenses” or the “QDLs”): (1) the QNX Commercial Software License Agreement (“CSLA”), for commercial developers – see <http://licensing.qnx.com/csla/>; (2) the QNX Partner & Consultant Software License Agreement (“PSLA”), for members of the QNX ecosystem – see <http://licensing.qnx.com/psla/>; and (3) the QNX Evaluation, Non-Commercial & Academic End User License Agreement (“NCEULA”), for non-commercial developers, including evaluators, hobbyists, students and academic faculty members – see <http://licensing.qnx.com/nceula/>. If the first QNX CAR 2 version is no longer the most current release of this QNX Product Portfolio then you will find your QDL posted at: <http://licensing.qnx.com/document-archive/>.

This License Guide is broken down into separate tables for each QNX Product Portfolio product type, with each table containing a series of columns used to link the applicable attributes to the relevant components. Section 3 describes tools, section 4 describes redistributable QNX Runtime Components (as defined in the QDLs) and section 5 describes optional middleware (which is a combination of tools and QNX Runtime Components). Some of the QNX Runtime Components come bundled in binary form with the QNX Software Development Platform. Except for the optional QNX Middleware Products, the QNX 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.

The QNX Product Portfolio includes everything you need from QSS to build and maintain QNX Neutrino RTOS-based infotainment systems.

Major components included within the QNX Software Development Platform are:

- 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.
- QNX Runtime Components: You will select a number of these components to ship in your target system. They include the kernel, system libraries, adaptive partitioning, multi-core support, utilities, TCP/IP networking (v4 and v6), network security, file systems, instrumentation, high availability framework, instant device activation and supporting BSPs and device drivers.

After installing your QNX Software Development Platform, you will be entitled to download additional Board Support Packages (BSPs) from Foundry27 and from the myQNX download center.

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. They are provided in binary form and, except where restricted by our third party licensors, also in source code form. Developers usually modify these components to make them work with or optimize their performance on their custom hardware platforms.

Other specialized components are separately available, depending on the form of your QNX Development License.

- QNX Middleware Products: These are kits that augment the base QNX Runtime Components with specialized, value-added technologies. They are packaged separately and licensed on a "Project" basis for the QNX-based systems you build. QNX middleware products are not considered part of the QNX Software Development Platform but are optional "add-on" components.

Like all other operating system technology providers in the embedded marketplace, QSS includes a number of third party software contributions in its products. Examples include our Eclipse-based Integrated Development Environment, our GNU-based compiler, linker & debugger tools, our NetBSD-based TCP/IP stack, various standard development and runtime utilities, and a host of drivers that incorporate third party code supplied by the 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 QNX 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 usually included in the QNX Software Development Platform installation media but for the initial release of QNX CAR 2 is only available at <http://licensing.qnx.com/document-archive/> or directly from QSS at licensing@qnx.com) to determine the applicable open source license terms or special considerations that apply to the QNX products they plan to use. The TPLTL contains the full text of the open source licenses.

Except for published source code files that are expressly identified by QSS as open source software, the Software IS NOT OPEN SOURCE. To the extent permitted by applicable open source license(s), any License Guide/Third Party Terms List or other references identifying applicable open source license terms for the Software apply only to the original open source code used by or for 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.

To identify the open source license terms for a particular configuration of QNX Runtime Components that you intend to use in your target system, you start by gathering the legal identification codes (Legal ID Codes) and/or QNX technology categories from the End-User Licenses column of this License Guide. From there, you can 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 table that has been 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.

You can use the File Mapping table to identify 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 Module files that you intend to ship). The File Mapping table is generated from a database tool that QSS uses to map Legal ID Codes to binary files that have been built using the applicable source code files and libraries. Currently, the File Mapping table addresses all QNX Runtime Component (i.e., QNX Runtime Components and QNX Middleware Products) sections of this License Guide and certain components (including static link libraries) of section 3 (the QNX Momentics Tools Suite). Please contact licensing@qnx.com for any updates to the File Mapping table, or if it would be helpful for you to have the File Mapping table in a different format (e.g., Excel).

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 there 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 engineers have developed or that you have sourced from other licensors will need to be taken into account.

Notwithstanding any fees paid by you for a QNX Software Development Platform license under the CSLA, no license fees are payable for any components identified in this License Guide as licensed under the GPL or LGPL, and source code for all of this GPL/LGPL software is available for free download at <ftp://ftp.qnx.com/usr/free>. If you have any difficulty locating or accessing this source code, email licensing@qnx.com and we will send you a copy for a nominal charge (i.e., the cost of performing the source packaging and distribution). QSS is not allowed to sub-license GPL or LGPL software to you. Instead, you are deemed to have your own direct license from the original licensee, as follows. Any terms of the CSLA that differ from the terms of these licenses are offered to you by QSS alone.

- (1) The GNU development tools and certain other utilities noted in this License Guide are licensed to you under the GNU General Public License – Version 2, or Version 3, copies of which have been reproduced in the Third Party License Terms List.
- (2) Certain libraries (e.g., GNU C++) noted in this License Guide are licensed to you under the terms of the GNU Lesser General Public License – Version 2.0 and Version 2.1, copies of which have been reproduced in the Third Party License Terms List. To meet its obligations under the GNU LGPL, QSS only dynamically links to such libraries.

You are not authorized to: (a) statically link any part of the QNX Product Portfolio software licensed under any QDL to any code licensed under the LGPL, or (b) statically or dynamically link any part of the of the QNX Product Portfolio software licensed under any QDL to any code licensed under the GPL, or (c) otherwise use any GPL or LGPL licensed code with other parts of the QNX Product Portfolio software in a manner that would require redistribution of such software under any version of either of those licenses.

A license to distribute QNX Runtime Components that you want to embed in your product is now available from QSS as part of the QNX Commercial Software License Agreement (See Schedule C) or in a custom OEM License Agreement. For more information see <http://licensing.qnx.com/oem-distribution/>).

2. 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	Indicates the form of software code provided. References to " Source " indicate that "source code is included", rather than "comprehensive source code for every elements of the product is included". " Object " means code in binary form or that is otherwise directly executable by a computer after processing or linking but without compilation or assembly (i.e., including HTML, JavaScript and CSS code).
Type	<p>(i) "Type I Software" (also known as "Core Software") indicates Commercially Released Software or Commercial Release-Candidate Software, other than Type II or Type III Software (see your QDL for definitions of "Commercially Released Software" and "Commercial Release-Candidate Software"). It typically includes primarily QSS proprietary code, but may include significant third party proprietary and/or open source code elements that are core to the QNX Product Portfolio.</p> <p>(ii) "Type II Software" (also known as "Collateral Software") indicates Software that includes significant Experimental, third party proprietary and/or open source code elements. Type II Software may be licensed by QSS under alternative, or sublicensed by QSS under amended, license terms.</p> <p>(iii) "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. Type III Software may be licensed by QSS under alternative, or sublicensed by QSS under amended, license terms.</p>
Support	Indicates the level of support provided for the referenced products. " Full " means full support by QSS under its Standard, Priority and Custom Support Plans. " Custom " means QSS will provide full support, but only under the terms of its Priority and Custom Support Plans. " Limited " means there are additional limits imposed on QSS's support – " Limited (Source) " means the limits relate to support of source code you have been provided with and may have modified, " Limited (3rd Party) " means the limits relate to QSS reliance on third parties for support, 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).
End-User Licenses	Indicates the end user license terms or where to find such terms, including any flow-through terms referenced in the consolidated Third Party License Terms List ("TPLTL") which is published at http://licensing.qnx.com/document-archive/ .

* Copies of the QSS QDLs and the TPLTL may also be obtained directly from QNX Software Systems Limited.

3. QNX Momentics Tool Suite

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 4. In particular, libraries are provided in several different forms. Each type has different 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 an “.so” or “dll” extension. Dynamic link libraries are usually found in a directory named “dll”.

3.1 Base QNX Momentics Tool Suite

Version Number	Part Number(s)	Description	Code Provided	Type of Software	Support Provided	End-User Licenses
QNX CAR 2	910454 (perpetual license) 910457 (subscription license) 910461 (floating perpetual license) 910474 (floating subscription license)	Complete 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	Type I , except as noted	Full , except as noted	QSS QDL , except as noted below for Legal ID codes listed and/or referenced in the indicated sections of the TPLTL.
		A. GNU Tools				GPL, LGPL - see individual files for copyright notice(s) and specific GPL version that applies.
		A1. <u>GNU Compiler Collection (GCC)</u> :				BSD-4C:70

Version Number	Part Number(s)	Description	Code Provided	Type of Software	Support Provided	End-User Licenses
		Complete set of development tools, associated configuration files and static libraries for compiling applications for QNX Neutrino RTOS.				
		A2. <u>GNU binutils</u> : Assembler (gas), Linker (ld) – Tools for manipulation of binary (executable, object) files in development environments.				
		B. GNU Debugger : GNU debugger (GDB) with remote debugging capability				GPL – see individual files for copyright notice(s) and specific GPL version that applies.
		B1. <u>Utilities</u> : Tools used with GDB				
		C. Systems libraries and headers				
		C1. <u>QNX system library for OS API</u>				See the Neutrino Core OS section in the File Mapping table.
		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 Neutrino Core OS section in the File Mapping table.
		C4. <u>Dinkum C++ library</u> and abridged library (template support)				See the Neutrino Core OS section in the File Mapping table.
		C5. <u>Dinkum Embedded C++ library</u> and abridged library (template support)				See the Neutrino Core OS section in the File Mapping table.
		C6. <u>Networking library</u>				See the Networking Technology section in the File Mapping table.
		C7. <u>Compression libraries</u>		Type II		See the Neutrino

Version Number	Part Number(s)	Description	Code Provided	Type of Software	Support Provided	End-User Licenses
						Core OS section in the File Mapping table.
		C8. <u>XML library</u>				See the Neutrino Core OS section in the File Mapping table.
		C9. <u>Encryption libraries</u>				See the Networking Technology section in the File Mapping table. Contact QSS at licensing@qnx.com for details on specific encryption-enabling utilities.
		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-3C:177 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)				

Version Number	Part Number(s)	Description	Code Provided	Type of Software	Support Provided	End-User Licenses
		D4. <u>GNU Development Utilities</u> : version control and other development services				GPL, LGPL For specific TPLTL references, contact licensing@qnx.com .
		D5. <u>GNU Development Utilities</u> : used in development for data transfer				GPL For specific TPLTL references, contact licensing@qnx.com .
		D6. <u>GNU Development Utilities</u> : optional/convenience development tools				GPL UL For specific TPLTL references, contact licensing@qnx.com .
		E. Cross-Hosted Development: Provides complete support for QNX Neutrino RTOS development under either Windows NT (including Windows Vista, XP, Windows 2000) or Linux (various distributions) operating systems.				
		E1. <u>Windows host environment</u> : Operating environment for development tools				
		F. Processor Support: Provides complete support for developing QNX Neutrino RTOS applications targeting a variety of processor architectures (32 bit MMU).				
		G. Embedding Tools: Provides complete 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:179
		G2. <u>Utilities</u> (mkifs, mkefs, mkimage, mkrec, dumpifs)				MD UL ZLIB For specific TPLTL references, contact licensing@qnx.com .
		H. Flash File Systems: Resilient file system support for flash media, including support for	Object and Source		Full (Object),	QSS QDL, except as noted below for

Version Number	Part Number(s)	Description	Code Provided	Type of Software	Support Provided	End-User Licenses
		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).			Limited (Source)	Legal ID codes listed and/or referenced in the indicated sections of the TPLTL.
		H1. <u>FFS6 for NOR flash</u>				See the Embedding/Flash section in the File Mapping table.
		H2. <u>FFSv3</u> : NOR flash file system with added resilience features.				See the Embedding/Flash section in the File Mapping table.
		H3. <u>ETFS</u> : Resilient transactional file system for flash media.				See the Embedding/Flash section in the File Mapping table.
		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.				
		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.	Object and Source		Full (Object), Limited (Source)	QSS QDL, except as noted below for Legal ID codes listed and/or referenced in indicated sections of the File Mapping table of the TPLTL.
		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>				See the High Availability section in the File Mapping table.
		I3. <u>Documentation</u>				

Version Number	Part Number(s)	Description	Code Provided	Type of Software	Support Provided	End-User Licenses
		J. Adaptive Partitioning Technology: development component				
		K. Multi-Core Technology: development component				
		L. Instant Device Activation Technology: Enable instant device activation and device control before QNX kernel has booted. This technology includes additional source code to startup routines as well as sample code illustrating use. CPU targets in 1.0.0 version include PPC, ARM and SH4.	Source		Limited (Source)	
		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				

3.2 QNX Momentics Integrated Development Environment (IDE - included in the QNX Momentics Tool Suite)

Version Number	Part Number(s)	Description	Code Provided	Type of Software	Support Provided	End-User Licenses
QNX CAR 2	See 3.1	QNX Momentics Integrated Development Environment (IDE) provides a cross-platform, integrated development environment. The IDE provides complete development life cycle tools for QNX Momentics RTOS applications, as well as the ability to “plug in” third party tools in an integrated manner.	Object	Type I	Full	QSS QDL, except as noted below for Legal ID codes listed and/or referenced in indicated sections of the TPLTL. Licensed on a Licensed Seat or Floating Licensed Seat basis.
		A. Eclipse Platform: Platform for creation of integrated development environments				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				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)				
		C3. <u>System builder</u> : Provides an editor for				

Version Number	Part Number(s)	Description	Code Provided	Type of Software	Support Provided	End-User Licenses
		building QNX Neutrino RTOS boot images and filesystems				
		C4. <u>Remote target management</u> : Provides qconn connectivity to the IDE tools				
		C5. <u>Remote target system information tool</u> : Provides System/Process/Thread information from a running target				
		C6. <u>Application profiler</u> : For both real-time and post-mortem analysis				
		C7. <u>Code coverage tool</u> : For both real-time and post-mortem analysis				
		C8. <u>System Profiler</u> : Visualization tool for viewing instrumented kernel log files				
		C9. <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-V:85
		C9.1. Derby Database engine				APACHE For specific TPLTL references, contact licensing@qnx.com .
		C9.2 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				NOTE:12

3.3 HTML5 SDK for QNX CAR

The HTML5 SDK for QNX CAR consists of development tools and software development kits made available through the QNX CAR 2 project at Foundry 27.

Version Number	Part Number(s)	Description	Code Provided	Type of Software	Support Provided	End-User Licenses
QNX CAR 2	Available on Foundry 27 Part numbers not applicable	A. The HTML5 SDK for QNX CAR provides a set of tools and APIs to create HTML5 applications for the QNX CAR application platform.	Source (JavaScript, HTML, CSS)	Type III	Limited (Source)	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.
		A1. Ripple Emulator Chromium extension				
		A2. QNX CAR Reference Applications These Applications provide the user interface for the QNX CAR application platform. 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. <ul style="list-style-type: none"> • Calendar • Car Control • Communication • Contacts • Keyboard • Media Player • Navigation • Navigator • Settings • Status • Theme Reference • Weather • Web Browser • Media Player (JavaScript user interface only) 				

Version Number	Part Number(s)	Description	Code Provided	Type of Software	Support Provided	End-User Licenses
		<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 I	Custom	<p>QSS QDL, except as noted below for Legal ID codes listed and/or referenced in indicated sections of the TPLTL.</p> <p>See the Tools License Details section in the TPLTL.</p>
		<p>C. Application packager: Tool to bundle HTML5, Javascript and CSS files into a QNX CAR HTML5 application</p>	<p>Object and Source (JavaScript only)</p> <p>Source is not to be modified.</p>	Type II	Custom	<p>QSS QDL, except as noted below for Legal ID codes listed and/or referenced in indicated sections of the TPLTL.</p> <p>See the Tools License Details section in the TPLTL.</p>

3.4 QNX CAR reference image build scripts

The QNX CAR reference image build scripts are used to build the QNX CAR reference image. These are available through the QNX CAR 2 project in Foundry 27.

Version Number	Part Number(s)	Description	Code Provided	Type of Software	Support Provided	End-User Licenses
QNX CAR 2	Available on Foundry 27 Part numbers not applicable	A. 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.	Source (Shell script)	Type I	Limited (Source)	QSS QDL, except as noted below for Legal ID codes listed and/or referenced in indicated sections of the TPLTL.
		A1. <u>mktar image build script</u> : QNX build tool to create QNX CAR 2 Reference Board image				

4. QNX Runtime Components

The following tables identify QNX Neutrino RTOS Runtime Component technologies that are bundled for development purposes as part of the QNX Software Development Platform.

Contact an authorized QNX sales representative for runtime distribution license information.

4.1 QNX Neutrino RTOS

Version Number	Part Number(s)	Description	Code Provided	Type of Software	Support Provided	End-User Licenses
QNX CAR 2	910512 (development – perpetual license) 910515 (development – subscription) 910516 (development – floating perpetual) 910517 (development – floating subscription) 070214 (runtime)	QNX Neutrino RTOS This provides the base level operating system. This consists of QSS authored software, QSS sub-licensed software and open source software.	Object	Type I, except as noted below	Custom	QSS QDL , except as noted below for Legal ID codes listed and/or referenced in indicated sections of the TPLTL. Runtime royalty bearing.
		A. Neutrino Core OS: A1. <u>Kernel</u> : Provides fundamental IPC, scheduling and process management services. A1.1 Microkernel A1.2 Process Manager A1.3 Instrumented kernel				Refer to the QNX Neutrino RTOS - Core OS section of the File Mapping table in the TPLTL.

Version Number	Part Number(s)	Description	Code Provided	Type of Software	Support Provided	End-User Licenses
		<p>A2. <u>Libraries</u></p> <p>A2.1 QNX system 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>A4. <u>Networking</u></p> <p>A4.1 TCP/IP (io-pkt), v4 and v6</p> <p>A4.2 PPP client and server</p> <p>A4.3 DHCP client</p> <p>A4.4 Remote file systems (NFS, CIFS etc.)</p> <p>A4.5 SSH suite</p> <p>A4.6 QNet</p> <p>A4.7 IPsec</p> <p>A4.8 Utilities (telnet, ftp, inet etc.)</p>				Refer the QNX Neutrino RTOS - Networking section of the File Mapping table in the TPLTL.
		<p>A5. <u>Connectivity</u></p> <p>A5.1 Wifi</p> <p>A5.2 USB</p> <p>N.B. QSS does not offer any wifi patent licenses or related intellectual property infringement indemnification.</p>				Refer to the QNX Neutrino RTOS - Connectivity section of the File Mapping table in the TPLTL. No 3rd party patent licenses provided.
		<p>A6. <u>File systems</u></p> <p>A6.1 Flash file systems</p> <p>A6.1.1 Embedded file systems</p> <p>A6.1.2 NAND</p> <p>A6.1.3 FFS6 for NOR flash</p> <p>A6.1.4 Standalone RAM file system</p>				Refer to the QNX Neutrino RTOS - Filesystems section of the File Mapping table in the TPLTL.

Version Number	Part Number(s)	Description	Code Provided	Type of Software	Support Provided	End-User Licenses
		<p>A6.1.5 Compress/Decompress utilities</p> <p>A6.2 Mass storage file systems: File systems for mass storage devices, particularly either rotating media (platter, CD, etc.) or USB mass storage class.</p> <p>A6.2.1 Block-based file system (io-blk)</p> <p>A6.2.2 Power-safe file system (fs-qnx6)</p> <p>A6.2.3 Support for various formats (QNX4, EXT2, FAT12, FAT16, FAT32, NTFS, HFS+)</p> <p>N.B. QSS does not offer any Microsoft FAT/ex-FAT patent licenses or related intellectual property infringement indemnification.</p>				No 3rd party patent licenses provided.
		A7. <u>High Availability manager</u>				Refer to the QNX Neutrino RTOS – High Availability Manager section of the File Mapping table in the TPLTL.
		<p>A8. <u>Adaptive partitioning</u>: Includes all libraries and utilities for the adaptive partitioning scheduler for all processors.</p> <p>A8.1 APS libraries</p> <p>A8.2 APS utilities</p>				Refer to the QNX Neutrino RTOS – Adaptive Partitioning section of the File Mapping table in the TPLTL.
		A9. <u>Multi-core technology</u> : transparent thread scheduling across processors for multi-core (SMP) processors.				Refer to the QNX Neutrino RTOS - Multicore section of the File Mapping table in the TPLTL.
		<p>A10. <u>Utilities</u>: POSIX command line environment, all POSIX utilities, including shells, file and text manipulation and other utilities.</p> <p>A10.1 POSIX utilities</p> <p>A10.2 QNX utilities</p> <p>A10.3 3rd party utilities</p>				Refer to the QNX Neutrino RTOS - Utilities section of the File Mapping table in the TPLTL.
		<p>B. UI Core</p> <p>These components provide display sharing and graphics technologies.</p>				
		B1. <u>Composition manager</u>				Refer to the UI

Version Number	Part Number(s)	Description	Code Provided	Type of Software	Support Provided	End-User Licenses
						Core section of the File Mapping table in the TPLTL.
		B2. <u>Font rendering engine</u>				Refer to the UI Core section of the File Mapping table in the TPLTL.
		B3. <u>Fonts</u>				Refer to the UI Core section of the File Mapping table in the TPLTL.
		B4. <u>Input methods</u>				
		B5. <u>Asian language input methods</u> N.B. QSS does not offer any patent licenses or related intellectual property infringement indemnification for Asian language input methods.				No 3rd party patent licenses provided.

5. QNX Middleware Products

QNX Aviage is a portfolio of middleware products that help customers develop applications quickly. The Aviage product line provides a set of software building blocks that work in conjunction with the QNX Neutrino RTOS and the QNX Momentics Development 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.

5.1 QNX CAR application platform (includes both development tool and runtime components)

This section of the License Guide is broken down into the following four parts:

Introduction & Software Packaging Overview: This section illustrates how the various components of the QNX CAR application platform get used together.

QNX CAR application platform Packaging Details: This section indicates the technologies included in QNX Runtime Component part numbers as well as the delivery method for obtaining these technologies.

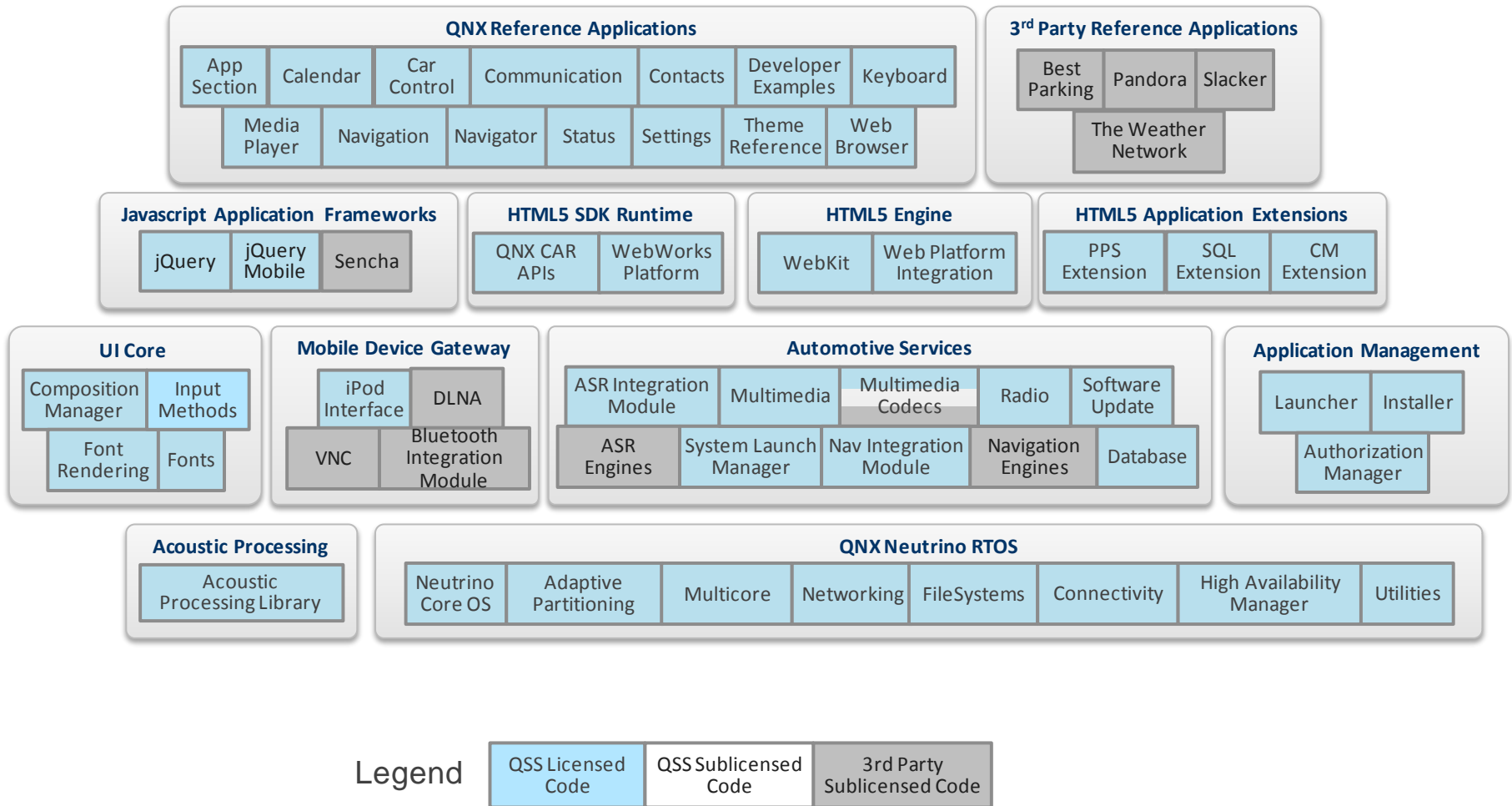
Engagement Models & Licensing Considerations: This matrix presents information to help you navigate the various third party licensing considerations that will impact your product's commercial development, distribution, or both.

QNX Runtime Component Details: Lastly, the Runtime Component Details provides the core License Guide information that you will now be familiar with, from having reviewed other parts of this document for information on other QNX technologies.

5.1.1 Introduction & Software Packaging Overview

QNX CAR comprises a number of components that can be used in combination to build a final infotainment product. Customers can select components based on the features and hardware platform they 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.

The following figure provides an overview of the QNX CAR application platform subsystems and components.



The QNX CAR application platform is partitioned into the following high level subsystems:

- **QNX Reference Applications** – These Applications provide the user interface for the QNX CAR application platform. 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.
- **3rd Party Reference Applications** – Similar to QNX Reference Applications but these Applications have been primarily authored by 3rd parties.
- **JavaScript Application Frameworks** – These provide user interface controls and utilities used by QNX Reference Applications and 3rd Party Reference Applications. The JavaScript Application Frameworks contains open source and proprietary software primarily authored by 3rd parties.
- **HTML5 SDK Runtime** – These components provide a set of interfaces and utilities that are referenced by the QNX and 3rd Party Reference Applications. The HTML5 SDK Runtime contains QSS authored software, 3rd party software utilities and frameworks and open source software frameworks.
- **HTML5 Engine** – This subsystem provides a WebKit (open source) based browser engine and QSS authored platform integration software.
- **HTML5 Application Extensions** – These components provide an interface layer that enables QNX and 3rd Party Reference Applications to interact with lower-layer QNX CAR subsystems. This subsystem primarily contains QSS authored software.
- **Application Management** – This QNX CAR 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. This consists of primarily of QSS authored software.
- **Automotive Services** – This subsystem provides automotive infotainment features such as a media player (multimedia), automatic speech recognition (ASR) and navigation components. This software primarily contains QSS authored software and 3rd party components.
- **Mobile Device Gateway** – These components provide interfaces to mobile devices such as smart phones and portable media players. This contains primarily QSS and 3rd party authored software.
- **UI Core** – These components provide display sharing and graphics technologies.
- **Acoustic Processing** – This QNX CAR subsystem provides acoustic echo cancellation and noise reduction for hands free phone support. This contains primarily QSS authored software. Please refer to Section 5.2 “QNX Aviage Acoustic Processing Kit 2.0” for a full description of this software.
- **QNX Neutrino RTOS** – This provides the base level operating system. This consists of QSS authored software, QSS sub-licensed software and open source software. Please refer to Section 4.1 “QNX Neutrino Core Runtime Component” for a full description of this software.

5.1.2 QNX CAR application platform Packaging Details

The QNX CAR application platform is made available to licensees through a variety of delivery methods. The following table summarizes the main packages associated with QNX CAR, the associated part numbers and the delivery method. QSS may change the delivery method and packaging details in the future; however, the view described below is accurate as of the first release date for QNX CAR 2. The table uses the following terms:

- **Part:** The part name and number assigned by QSS.
- **Type:** Either Runtime or Development.
- **Dependency:** Some runtime parts are optional and depend upon others.
- **Subsystems:** Software subsystems as described above.
- **Delivery Method:** Describes the ways software is made available to the licensee. Subsystems that have prerequisite/additional licensing requirements, as further described below, are indicated with a grey background.

Part	Type	Subsystems	Delivery Method		
			QNX CAR SDP	Foundry 27	QNX CAR 2 reference board image
QNX CAR Infotainment Core (070214)	Runtime	QNX Neutrino RTOS	Yes	No	Yes
		Application Management	Yes	No	Yes
		Automotive Services	Yes	No	Yes
		Mobile Device Gateway	Yes	No	Yes
		UI Core	Yes	No	Yes
		Board Support Packages	No	Yes	Yes
HTML5 Engine (010452)	Runtime	HTML5 Engine	Yes	No	Yes
QNX CAR HTML5 Application Environment (070215)	Runtime	HTML5 Application Extensions	No	Yes	Yes
		HTML5 SDK Runtime	No	Yes	Yes
		JavaScript Application Frameworks	No	Yes	Yes
		QNX Reference Applications	No	Yes	Yes

Part	Type	Subsystems	Delivery Method		
			QNX CAR SDP	Foundry 27	QNX CAR 2 reference board image
		3 rd Party Reference Applications	No	Yes	Yes
Acoustic Processing (010424)	Runtime	Acoustic Processing	Yes	No	Yes
QNX CAR development platform (910512, 910515, 910516, or 910517)	Development	Not applicable	QNX CAR development platform is available for download from the QNX download center or as physical media	No	Not applicable
HTML5 SDK for QNX CAR (no part number)	Development	Not applicable	No	Yes	Not applicable
Build tools and scripts (no part number)	Development	Not applicable	No	Yes	Not applicable

5.1.3 Engagement Models & Licensing Considerations

The QNX CAR application platform integrates a variety of QSS proprietary, open source and third party technologies in order to deliver a broad range of infotainment 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 CAR application platform-based embedded devices.

None of this information should be construed as legal advice. Customers must consult their own legal advisors to determine and satisfy their 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 QNX CAR application platform subsystems and components down into the following 3 types of engagement models (see corresponding color-coding in Section 5.1.1 (Introduction & Software Packaging Overview), Section 5.1.2 (QNX CAR application platform packaging overview) and in the table below:

1. **QSS Licensed Code** – QSS licenses all of its intellectual property rights embodied in QSS Licensed Code under QSS's standard development and distribution license agreements described at the beginning of this License Guide. Special amendments may be required in order to obtain some QNX Middleware components. Most of the QNX CAR application platform is made up of QSS-authored software and is licensed as QSS Licensed Code; however, QSS Licensed code may also include elements of open source software, may embody confidential 3rd party specifications or minor code contributions, and may embody or enable patented or functionality or proprietary off-board services. As a result, depending on the QNX CAR application platform 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; or, to obtain the right to use confidential specifications embodied in the QSS code – as in the case of the QSS authored Apple iPod Interface; or, to register for off-board services – as in the case of Pandora Internet Radio). The 3rd party licensing considerations known to QSS are further described in the Licensing Considerations Matrix below, but this Matrix should not be assumed to be a comprehensive list or to constitute legal advice. Customers must consult their own legal advisors to determine and satisfy their own licensing obligations.

2. **QSS Sublicensed Code** – Some components of the QNX Aviage Multimedia Suite contain primarily proprietary 3rd party code that has been licensed by QSS, which has been modified or supplemented by QSS to make it suitable for use in the QNX CAR application platform. To the extent permitted by its 3rd party licenses, QSS sub-licenses its intellectual property license rights to this type of software to QNX CAR application platform customers as part of the standard QSS license agreements described above. Any deviations from QSS standard license terms are identified in the tables below and/or in a special supplement to QSS’s distribution license agreement terms. As with QSS Licensed Code, any QSS owned intellectual property rights in QSS Sublicensed Code are also licensed by QSS under the standard QSS license agreement terms and conditions. Also like the QSS Licensed Code, there may also be additional licensing considerations to be taken into account. Those known to QSS are described in the Licensing Considerations Matrix below. As noted above, the Matrix should not be assumed to be a comprehensive list or to constitute legal advice. Customers must consult their own legal advisors to determine and satisfy their own licensing obligations.

3. **3rd Party Licensed Code** – These are other components of the QNX CAR application platform that contain primarily 3rd party code licensed by QSS, which may have been modified or supplemented by QSS to make them suitable for use in the QNX CAR application platform. 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, in whole or in part, directly from another technology supplier. For example, while QSS delivers a QNX version of the Microsoft WMA9 Media Player software codec, customers must first obtain a WMA9 license directly from Microsoft. Evaluation-only components represent another example (as in the case of 3rd Party Reference Applications). Evaluation-only components are only provided for evaluation purposes on Reference Boards supplied by QSS. Customers need to get their own direct license if they want to use evaluation-only components for any commercial development, external demos or for distribution.

The following Licensing Considerations Matrix summarizes the QNX software licensing dependencies, license engagement model, primary technology stakeholder, and licensing fulfillment considerations for each QNX CAR application platform component. Most of the QNX CAR application platform consists of QSS Licensed Code (#1 above). For the sake of brevity, the Licensing Consideration Matrix contains only those subsystems and components where QSS is aware of additional license considerations.

Also refer to the QNX CAR application platform – Component Details below for the usual detailed License Guide information, including End User License particulars.

Subsystem	Component	Engage-ment Model	Primary Owner of Technology	Product Delivered by	Additional Licensing Considerations
3rd Party Reference Applications	Best Parking	3	Parking Edge, LLC	QSS	This component is only licensed for an internal time-limited evaluation on a reference board supplied by QSS. Any additional license rights must be obtained from Parking Edge, LLC . Contact QSS at licensing@gnx.com for additional contact information.
	Pandora	3	Pandora Media, Inc.	QSS	This component is only licensed for an internal time-limited evaluation on a reference board supplied by QSS. It contains Pandora code for accessing Pandora’s off-board Internet Radio streaming service, which is only available in the United States. QNX 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@gnx.com for additional contact information.
	Slacker	3	Slacker, Inc.	QSS	This component is only licensed for an internal time-limited evaluation on a reference board supplied by QSS. Any additional license rights must be obtained from Slacker, Inc. Contact QSS at licensing@gnx.com for additional contact information.
	The Weather Network	3	Pelmorex Media, Inc.	QSS	This component is only licensed for an internal time-limited evaluation on a reference board supplied by QSS. Any additional license rights must be obtained from Pelmorex Media, Inc. Contact QSS at licensing@gnx.com for additional contact information.

Subsystem	Component	Engage-ment Model	Primary Owner of Technology	Product Delivered by	Additional Licensing Considerations
JavaScript Application Frameworks	Sencha	3	Sencha, Inc.	QSS	<p>This component is used by QNX and/or 3rd Party Sample Applications. The Sencha Touch framework is used in QNX sample applications. It is only licensed for an internal time-limited evaluation on a reference board supplied by QSS. 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>
Mobile Device Gateway	iPod Interface	1	QSS	QSS (separate package & delivery)	<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 (see https://developer.apple.com/programs/mfi/).</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>
	DLNA	3	PacketVideo Corporation	QSS	<p>This component is only licensed for an internal time-limited evaluation on a reference board supplied by QSS. Any additional license rights must be obtained from PacketVideo Corporation. Contact QSS at licensing@qnx.com for additional contact information.</p>
	VNC	3	RealVNC Limited	QSS	<p>This component is only licensed for an internal time-limited evaluation on a reference board supplied by QSS. Any additional license rights must be obtained from Real VNC Limited. Contact QSS at licensing@qnx.com for additional contact information.</p>
	Bluetooth Middleware (Bluetooth Stack)	3	iAnywhere Solutions, Inc.	QSS	<p>This component is only licensed for an internal time-limited evaluation on a reference board supplied by QSS. Any additional license rights must be obtained from iAnywhere Solutions, Inc.. Contact QSS at licensing@qnx.com for additional contact information.</p>
	Bluetooth Middleware (BlueGO)	3	Cybercom AB	QSS	<p>This component is only licensed for an internal time-limited evaluation on a reference board supplied by QSS. Any additional license rights must be obtained from Cybercom AB. Contact QSS at licensing@qnx.com for additional contact information.</p>
	All Subsystems	1	Various	QSS	<p>Certain third parties claim patent rights in connecting portable media devices into other sound systems (e.g., such as in an automobile).</p>
		2			

Subsystem	Component	Engage-ment Model	Primary Owner of Technology	Product Delivered by	Additional Licensing Considerations
		3			Third party patent licenses may be required to make, import, use or sell products featuring such capabilities.
Automotive Services	ASR Engine	3	QSS	QSS	This component is only licensed for an internal time-limited evaluation on a reference board supplied by QSS. It contains Vlingo code for silence detection and to send voice requests to Vlingo's off-board voice engine. QNX 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 Vlingo Corporation to use this component. Contact QSS at licensing@qnx.com for additional contact information.
	Navigation Engines	3	QSS	QSS	Different Navigation Engines are available from Electobit, TCS and Telenav. These components are only licensed for internal time-limited evaluation on a reference board supplied by QSS. Any additional license rights must be obtained from Elektrobit Automotive GmbH , Telecommunications Systems Inc. (TCS) , or TeleNav Inc. respectively. Contact licensing@qnx.com for additional contact information.
	Software Update	1	QSS	QSS	This component is only licensed for an internal time-limited evaluation on a reference board supplied by QSS. It includes Red Bend image upgrade code. QNX 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@qnx.com for additional contact information.
	Multimedia (Audio and Video Codecs)	3	Various	QSS	QSS may deliver for use on QSS-supplied reference boards various audio and video codecs supplied by the corresponding reference board vendor (e.g., TI, Freescale). These components are only licensed for an internal time-limited evaluation on the specific reference board for which they were supplied. Any additional license rights must be obtained from the reference board vendor. Contact QSS at licensing@qnx.com for additional contact information. Certain third parties claim patent rights in audio and 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.
	Multimedia (WMA9 Codec)	3	Microsoft This product includes technology owned by	QSS (separate package & delivery)	Microsoft licenses their WMA9 technology directly to customers (see http://wmlicense.smdisp.net/wmcomponents/). QSS licenses its Multimedia Software Codec for WMA9 rights under its standard development and distribution license agreements.

Subsystem	Component	Engage-ment Model	Primary Owner of Technology	Product Delivered by	Additional Licensing Considerations
			Microsoft Corporation and cannot be used or distributed without a license from Microsoft Licensing, GP.		<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)	2	Fixed Point (Fraunhofer) Floating Point (Xing)	QSS (separate package & delivery for Fixed Point)	<p>QSS may not deliver its Fixed Point MP3 codec until customers provide proof of license from Thomson Licensing (SAS). Please note that QSS may be required to identify customers and their projects to Thomson.</p> <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.</p>
	Multimedia (AAC Codec)	1	QSS	QSS (separate package & delivery)	<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.</p>
Sample Audio & Video Content		3	Various	QSS	<p>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, on a reference board supplied by QSS. It must not be altered, copied or used in any other manner or for any other purpose. Contact QSS at licensing@qnx.com if you have any question.</p>

5.1.4 QNX Runtime Component Details

The following table provides the details for the QNX CAR application platform components. These details are presented in 4 sections that represent the corresponding QNX Runtime Component parts (see QNX Runtime Components in section 5.1.2 for more details):

Version Number	Part Number(s)	Description	Code Provided	Type of Software	Support Provided	End-User Licenses
QNX CAR 2	910514 (development) 070215 (runtime)	5.1.4.1 HTML5 Application Environment Parts	Source (JavaScript, HTML, CSS), except as noted below	Type III, except as noted below	Limited (Source), except as noted below	QSS QDL, except as noted below for Legal ID codes listed and/or referenced in indicated sections of the TPLTL. Licensed on a Project basis for commercial development. Runtime royalty bearing.
		<p>A. QNX Reference Applications These Applications provide the user interface for the QNX CAR application platform. 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> <ul style="list-style-type: none"> A1. App Section A2. Calendar A3. Car Control A4. Communication A5. Contacts A6. Keyboard A7. Media Player A8. Navigation A9. Navigator A10. Settings A11. Status A12. Theme Reference 				

Version Number	Part Number(s)	Description	Code Provided	Type of Software	Support Provided	End-User Licenses
		A13. Weather A14. Web Browser A15. Media Player (JavaScript user interface only)				
		A16. Tunnel Tilt A17. Peaks and Valleys	SOURCE (JavaScript, HTML, CSS, WebGL)		Unsupported	See the QNX Reference Applications Licenses section of the TPLTL.
		B. HTML5 SDK Runtime These components provide a set of interfaces and utilities that are referenced by the QNX and 3rd Party Reference Applications. The HTML5 SDK Runtime contains QSS authored software, 3rd party software utilities and frameworks and open source software frameworks.		Type I		
		<u>QNX CAR APIs:</u> B1. CarControl B2. HVAC B3. Navigation B4. MediaPlayer B5. Application Management				See the HTML5 SDK Runtime Licenses section in the TPLTL
		<u>WebWorks Platform JavaScript APIs</u> and code for: B6. WebViews B7. Security B8. Native Extensions B9. Events B10. Application Management	Source is not to be modified.		Custom	See the HTML5 SDK Runtime Licenses section in the TPLTL.
		C. JavaScript Application Frameworks These provide user interface controls and utilities used by QNX Reference Applications and 3rd Party Reference Applications. The JavaScript Application Frameworks contains open source and proprietary software primarily authored by 3rd parties.	SOURCE (JavaScript)	Type I	Unsupported	
		C1. <u>jQuery</u>				See the JavaScript Application Frameworks Runtime Licenses

Version Number	Part Number(s)	Description	Code Provided	Type of Software	Support Provided	End-User Licenses
						section in the TPLTL.
		C2. jQuery Mobile				See the JavaScript Application Frameworks Runtime Licenses section in the TPLTL.
		D. HTML5 Application Extensions These components provide an interface layer that enables QNX and 3rd Party Reference Applications to interact with lower-layer QNX CAR subsystems. This subsystem primarily contains QSS authored software.				
		Plugins for native platform access. The following extensions are available: D1. PPS extension D2. SQL extension D3. Composition Manager extension				Refer to the HTML5 Application Extensions section of the File Mapping table in the TPLTL.
QNX CAR 2	910514 (development) 010452 (runtime)	5.1.4.2 HTML5 Engine Parts This subsystem provides a WebKit (open source) based browser engine and QSS authored platform integration software.	Object	Type I	Custom	QSS QDL , except as noted below for Legal ID codes listed and/or referenced in indicated sections of the TPLTL. Licensed on a Project basis for commercial development. Runtime royalty bearing.
		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				Refer to the HTML5 Engine section of the File Mapping table in the TPLTL.

Version Number	Part Number(s)	Description	Code Provided	Type of Software	Support Provided	End-User Licenses
		<p>B. Web Platform Integration Contains QSS authored code for integrating the WebKit components described above in (E). This includes:</p> <ul style="list-style-type: none"> B1. <u>POSIX OS services</u> for filesystems, networking, timers, threading, date/time services and others B2. <u>Graphics and window management integration</u> B3. <u>Image rendering and font support</u> B4. <u>Web Launcher</u> application B5. <u>Input methods</u> B6. <u>Hardware accelerated graphics rendering</u> B7. <u>Software graphics rendering</u> B8. <u>Backing store</u> 				Refer to the HTML5 Engine section of the File Mapping table in the TPLTL.
QNX CAR 2	<p>910514 (development)</p> <p>070214 (runtime)</p>	5.1.4.3 Infotainment Core Parts	Object, except as noted below.	Type I, except as noted below.	Custom, except as noted below.	<p>QSS QDL, except as noted below for Legal ID codes listed and/or referenced in indicated sections of the TPLTL.</p> <p>Licensed on a Project basis for commercial development.</p> <p>Runtime royalty bearing.</p>
		<p>A. Application Management This QNX CAR 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. This consists of primarily of QSS authored software.</p>				
		<ul style="list-style-type: none"> A1. <u>Auth Mgr</u> A2. <u>Launcher</u> 				Refer to the Application Management section of the File

Version Number	Part Number(s)	Description	Code Provided	Type of Software	Support Provided	End-User Licenses
						Mapping table in the TPLTL.
		A3. <u>Installer</u>	Source (Python script)		Limited (Source)	Refer to the Application Management section of the File Mapping table in the TPLTL.
		B. Mobile Device Gateway These components provide interfaces to mobile devices such as smart phones and portable media players. This contains primarily QSS and 3rd party authored software.				
	910537 (development) 070214 (runtime)	B1. <u>QNX interface for iPod</u>				Refer to the Mobile Device Gateway section of the File Mapping table in the TPLTL. No 3rd party licenses provided.
		<u>Bluetooth integration modules</u> B2. pps-bluetooth B3. io-bluetooth B4. BTMGR B5. spp-bluego B6. map-bluego B7. hfp-bluego				Refer to the Mobile Device Gateway section of the File Mapping table in the TPLTL.
QNX CAR 2	910514 (development) 070214 (runtime)	C. Automotive Services This subsystem provides automotive infotainment features such as a media player (multimedia), automatic speech recognition (ASR) and navigation components. This software primarily contains QSS authored software and 3rd party components.				QSS QDL , except as noted below for Legal ID codes listed and/or referenced in indicated sections of the TPLTL. Licensed on a Project basis for commercial development.

Version Number	Part Number(s)	Description	Code Provided	Type of Software	Support Provided	End-User Licenses
						Runtime royalty bearing.
		C1. Automotive Services – Multimedia				
		<u>Multimedia CAR Integration</u> C1.1 mm-detect C1.2 artwork-client C1.3 mm-control			Limited (Integration)	Refer to the Automotive Services - Multimedia section of the File Mapping table in the TPLTL.
		<u>Multimedia Core Services</u> C1.4 mm-sync C1.5 mm-renderer C1.6 mm-trksession C1.7 dev-publishers C1.8 mcd C1.9 Libmd C1.10 QNX multimedia code for AAC C1.11 QNX multimedia codec for MP3 (Xing – Floating Point) N.B. QSS does not offer any codec patent licenses or related intellectual property infringement indemnification.				Refer to the Automotive Services - Multimedia section of the File Mapping table in the TPLTL. No 3rd party patent licenses provided.
	910539 (development) 070214 (runtime)	C1.12 <u>QNX multimedia codec for MP3</u> (Fraunhofer – Fixed Point) N.B. QSS does not offer any codec patent licenses or related intellectual property infringement indemnification.		Type II		Refer to the Automotive Services - Multimedia section of the File Mapping table in the TPLTL. No 3rd party patent licenses provided.
	910538 (development) 070214 (runtime)	C1.13 QNX multimedia codec for Microsoft WMA9 N.B. QSS does not offer any codec patent licenses or related intellectual property infringement indemnification.		Type III		Refer to the Automotive Services - Multimedia section of the File Mapping table in the TPLTL. No 3rd party licenses provided.

Version Number	Part Number(s)	Description	Code Provided	Type of Software	Support Provided	End-User Licenses
		C2. Automotive Services – ASR Integration Module				
		C2.1 ASR Integration Module				Refer to the Automotive Services - Multimedia section of the File Mapping table in the TPLTL.
		C3. Automotive Services – Radio				
		C3.1 Radio				Refer to the Automotive Services - Multimedia section of the File Mapping table in the TPLTL.
		C4. Automotive Services – Navigation Integration Module				
		C4.1 Navigation Integration Module				Refer to the Automotive Services – Navigation Integration Module section of the File Mapping table in the TPLTL.
		C5. Automotive Services – Database				
		Database C5.1 qdb				Refer to the Automotive Services – Database section of the File Mapping table in the TPLTL.
		C6. Automotive Services – System Launch Manager				
		C6.1 System Launch Manager		Type III	Limited (Custom)	Refer to the Automotive Services – System Launch Manager section of the File Mapping table in the TPLTL.

Version Number	Part Number(s)	Description	Code Provided	Type of Software	Support Provided	End-User Licenses
QNX CAR 2	910514 (development)	<p>5.1.4.4 Acoustic Processing Parts</p> <p>QNX CAR 2 Licensees are entitled to develop with the QNX Aviage Acoustic processing technology, as described in section 5.3. Separate QNX Runtime Component part numbers and associated runtime royalty fees apply (see Runtime Part number in section 5.3).</p>	Object	Type I	Full	<p>QSS QDL</p> <p>Licensed on a Project basis for commercial development.</p> <p>Runtime royalty bearing.</p>

5.2 QNX Aviage Acoustic Processing Kit 2.0 (includes both development tool and runtime components)

Version Number	Part Number(s)	Description	Code Provided	Type of Software	Support Provided	End-User Licenses
2.0	010424 (runtime)	<p>Acoustic echo cancellation & noise reduction package for in-car handsfree speech applications. Floating-point and fixed-point versions included.</p> <p>Supported target CPUs variants of:</p> <p>PPC – floating point ARM Cortex-A8 – fixed-point</p>	Object	Type I	Full	<p>QSS QDL</p> <p>Licensed on a Project basis for commercial development.</p> <p>Runtime royalty bearing.</p>
		<p>A. Acoustic Processing Library</p> <ul style="list-style-type: none"> A1. Multi-channel Acoustic Echo Cancellation and Noise Reduction A2. Dynamic Noise Reduction A3. Low Frequency Reconstruction A4. Automatic Delay Compensation A5. Automatic Gain Control A6. Send Parametric Equalization A7. High Frequency Encoding A8. Wind Buffet Suppression A9. Send Dynamic Limiter A10. Diagnostic module A11. QWALive graphical control tool A12. Dual channel complex mixer A13. Off-Axis Rejection A14. Receive Parametric Equalization A15. Receive Noise Compensation A16. Receive Automatic Gain Control A17. Receive Dynamic Level Control A18. Receive Bandwidth Extension A19. Receive Dynamic Limiter A20. Wideband Telephony Support A21. Receive Electrical Noise Suppression A22. Send Dynamic Parametric Equalization 				
		<p>B. Documentation, including sample code</p>				

6. QNX Board Support Packages

Except as expressly noted below, at the download site(s) or in the associated source code, QNX Board Support Packages (“BSPs”) bundled in the QNX Software Development Platform, or downloaded from either Foundry27 or the myQNX download center may be used by QNX Software Development Platform licensees under the terms of their QDLs and may be distributed by OEM or Runtime License Agreement licensees under the terms of their QNX distribution licenses.

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

Unless otherwise expressly indicated, 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 has been made available, and (ii) should be assumed to contain confidential information of QSS or its licensor(s).

The Panda (TI) and SabreLite (Freescale) BSPs are considered “Reference Platforms” for the purpose of the QDLs.

Note that some BSPs may have been originally packaged and released under various versions of the former Momentics End User License Agreement (“MEULA”) and their associated License Guides. Copies of all these documents are available at <http://licensing.qnx.com/document-archive/>. [For more information see http://www.qnx.com/legal/licensing/dev_license/eula/License.Guide.1-05d.updated.Nov19-07b.pdf]

Board	Description	Code Provided	Type of Software	Support Provided	End-User Licenses
Texas Instruments Panda	<ul style="list-style-type: none"> Imagination graphics driver Ducati codecs and framework SysLink <p>N.B. QSS does not offer any codec patent licenses or related intellectual property infringement indemnification.</p>	Object	Type III	Limited (3 rd Party)	<p>QSS QDL, except as noted for Legal ID codes listed and/or referenced in the Panda BSP section of the File Mapping table of the TPLTL.</p> <p>No 3rd party patent licenses provided.</p>
Freescale i.MX6 Sabre Lite	<ul style="list-style-type: none"> Vivante graphics driver Video codecs Libvpuapi <p>N.B. QSS does not offer any codec patent licenses or related intellectual property infringement indemnification.</p>	Object	Type III	Limited (3 rd Party)	<p>QSS QDL, except as noted for Legal ID codes listed and/or referenced in the Sabre Lite BSP section of the File Mapping table of the TPLTL.</p> <p>No 3rd party patent licenses provided.</p>

Board	Description	Code Provided	Type of Software	Support Provided	End-User Licenses
Texas Instruments Jacinto 5 EVM	<ul style="list-style-type: none"> • Imagination graphics driver • Ducati codecs and framework • AM/FM/HD Radio Tuner • SysLink <p>N.B. QSS does not offer any codec patent licenses or related intellectual property infringement indemnification.</p>	Object	Type III	Limited (3 rd Party)	<p>QSS QDL, except as noted for Legal ID codes listed and/or referenced in the Jacinto 5 EVM section of the File Mapping table of the TPLTL.</p> <p>No 3rd party patent licenses provided.</p>
Texas Instruments Jacinto 5 Eco EVM	<ul style="list-style-type: none"> • Imagination graphics driver • SysLink <p>N.B. QSS does not offer any codec patent licenses or related intellectual property infringement indemnification.</p>	Object	Type III	Limited (3 rd Party)	<p>QSS QDL, except as noted for Legal ID codes listed and/or referenced in the Jacinto 5 Eco EVM section of the File Mapping table of the TPLTL.</p> <p>No 3rd party patent licenses provided.</p>

7. Export/Import Information

This QNX Software Development Platform may not be imported or exported to or from any country in contravention of the laws of that country, or the laws of Canada or the United States. Without restricting the foregoing, the QNX Software Development Platform may not be transferred to: (i) any country prohibited by United States and/or Canadian laws and regulations (presently including Belarus, Cuba, Iran, Myanmar (Burma), North Korea, Sudan and Syria); (ii) any person or entity prohibited from receiving United States and/or Canadian exports (including, but not limited to, those involved with missile technology or nuclear, chemical or biological weapons) and those on US government restricted persons/entities lists – see <http://www.bis.doc.gov/complianceand enforcement/liststocheck.htm>); or (iii) any country which requires an import or use license, permit or authorization for encryption technology (“Import License”), except after obtaining such Import License.

Please contact licensing@qnx.com for more information.

Publication History

Version	Date Issued	Reason for Update
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