



# Customer Release Note

## Linux QMI SDK 04.00.01



**SIERRA**  
WIRELESS®

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Due to the nature of wireless communications, transmission and reception of data can never be guaranteed. Data may be delayed, corrupted (i.e., have errors) or be totally lost. Although significant delays or losses of data are rare when wireless devices such as the Sierra Wireless modem are used in a normal manner with a well-constructed network, the Sierra Wireless modem should not be used in situations where failure to transmit or receive data could result in damage of any kind to the user or any other party, including but not limited to personal injury, death, or loss of property. Sierra Wireless accepts no responsibility for damages of any kind resulting from delays or errors in data transmitted or received using the Sierra Wireless modem, or for failure of the Sierra Wireless modem to transmit or receive such data.

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*Note: Some airlines may permit the use of cellular phones while the aircraft is on the ground and the door is open. Sierra Wireless modems may be used at this time.*

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Consult our website for up-to-date product descriptions, documentation, application notes, firmware upgrades, troubleshooting tips, and press releases: [www.sierrawireless.com](http://www.sierrawireless.com)

# Document History

Version	Date	Updates
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# Introduction

## 1.1. Document Scope

This document describes the content of the Linux QMI SDK 04.00.01 release.

## 1.2. Document Audience

This release note may be distributed to all direct and indirect customers.

## 1.3. New Features/Enhancements

Table 1. New Features/Enhancements

Feature	Description
<b>Lite APIs</b>	<ul style="list-style-type: none"> <li>• <b>New Wrappers</b> <ul style="list-style-type: none"> <li>○ <b>LOC</b> <ul style="list-style-type: none"> <li>▪ SLQSLOCGetBestAvailPos</li> <li>▪ SetLocBestAvailPosCallback</li> </ul> </li> <li>○ <b>NAS</b> <ul style="list-style-type: none"> <li>▪ SetNasLTECphyCalndCallback</li> </ul> </li> </ul> </li> <li>• <b>Enhancement</b> <ul style="list-style-type: none"> <li>○ Rename unpack_nas_SLQSNasSigInfoCallback to unpack_nas_SLQSNasSigInfoCallback<sub>ind</sub></li> <li>○ Rename unpack_nas_SLQSNasSysInfoCallback to unpack_nas_SLQSNasSysInfoCallback<sub>ind</sub></li> </ul> </li> </ul>
<b>New API</b>	<ul style="list-style-type: none"> <li>• SLQSLOCGetBestAvailPos</li> <li>• SetLocBestAvailPosCallback</li> <li>• SLQSSetSIMBasedImageSwitching</li> </ul>
<b>Miscellaneous</b>	<ul style="list-style-type: none"> <li>• <b>Firmware Update</b> <ul style="list-style-type: none"> <li>○ Gobi Image Management, fix 9090 download failure</li> <li>○ Fix PTCRB image switch/update on 74xx</li> <li>○ Add firmware update support for WP750x &amp; WP8548</li> <li>○ Firmware downloader, fix application not exit when image switching</li> <li>○ Filter out intermediate app mode during firmware download</li> </ul> </li> <li>• <b>Libsdp</b> <ul style="list-style-type: none"> <li>○ Support OEM PRI nvu update</li> <li>○ Fix framing issue</li> <li>○ Fix download issue on Marvell</li> </ul> </li> <li>• Fix compilation on Ubuntu 16.04's gcc</li> <li>• Fix truncated table in Doxygen generated APIs PDF</li> <li>• Fix image preference corrupt when downloading OEM PRI</li> <li>• Fix mutex mismatch at SLQSStartStopDataSession</li> <li>• Improve SLQSKillSDKProcess timeout</li> <li>• Multi Modem <ul style="list-style-type: none"> <li>○ Fix issue when usb path is specified</li> </ul> </li> <li>• Remove QoS mappings APIs</li> <li>• Support 64bit ARM</li> </ul>

## 1.4. Removed Features

Table 2. Removed features

Feature	Description
<b>SLQSQosMap</b>	This API is obsolete
<b>SLQSQosUnmap</b>	This API is obsolete
<b>SLQSQosClearMap</b>	This API is obsolete
<b>SLQSQosEditMap</b>	This API is obsolete
<b>SLQSQosReadMap</b>	This API is obsolete
<b>SLQSQosDumpMap</b>	This API is obsolete

## 2.

# Abbreviations and Definitions

Table 3. Abbreviations and Definitions

Abbreviation/Acronym	Definitions
MSM	Mobile Station Modem
PRI	Product Release Instructions
QMI	Qualcomm MSM Interface
SLQS	Sierra Linux QMI SDK
WP	Work Package

### 3.

## Related Documentation

Table 4. Related Documentation

Ref. #	Doc. #	Document title
[R-1]	4110914	Linux QMI SDK Application Developer's Guide

# 4.

## Compatibility

Table 5. Hardware Compatibility

Devices Compatibility List
AR7554/AR7554RD
EM/MC73xx
MC77xx
MC83x5
MC/SL9090
WP71xx
MC/EM74xx
WP8548/7502/7504

Note: MC77xx devices must operate in "QMI Mode" and not in "Direct-IP" mode.

To switch device into QMI mode of operation, use the following AT commands:

- **AT!UDPID=68A2**
- **AT!RESET**

Note: MC73xx, set the device using "AT!UDPID=68C0".

The tables below list the hexadecimal values of the Vendor ID (VID) and Product ID (PID) pairs supported by the Linux QMI SDK.

Table 6. Supported Application-Mode VID/PIDs

<b>VID</b>	1199	1199	1199	1199	1199	1199	1199	1199	3F0
<b>PID</b>	68A2	68C0	9011	9013	9015	9019	9041	9071	371D

Table 7. Supported Boot-Mode VID/PIDs

<b>VID</b>	1199	1199	1199	1199	1199	1199	1199	1199	3F0
<b>PID</b>	68A2	68C0	9010	9012	9014	9018	9040	9070	361D

To check your device's VID/PID, issue the `lsusb` command. The output will present a list of USB devices with a column showing each device's manufacturer. The device VID/PID can be read from the row containing the correct device manufacturer. Additionally, on MC77xx devices, you can use the `AT!UDINFO?` command to check VID/PID information. If your VID/PID does not match any of the entries in the tables above, contact your FAE for support.

The following table enumerates the modems with their corresponding firmware that were tested with Linux QMI SDK 04.00.01.

**Table 8. Modem and Firmware tested with the SDK**

<b>Modem</b>	<b>Firmware</b>
MC7430	SWI9X30C_02.20.03.01
EM/MC7455	SWI9X30C_02.20.03.01
MC7304	SWI9X15C_05.05.67.00
MC7354	SWI9X15C_05.05.58.00
MC7350	SWI9C15C_05.05.58.01
MC7355	SWI9X15C_05.05.58.00
MC7330	SWI9X15C_05.05.65.00
MC7305	SWI9X15C_05.05.67.00
MC7710	SWI9200X_03.05.29.06
MC7750	SWI9600M_03.05.13.02
MC9090	SWI6600U_02.04.05.00
EM7355	SWI9X15C_05.05.67.00
EM7330	SWI9X15C_05.05.65.00
EM7305	SWI9X15C_05.05.67.00
WP7502	SWI9X15Y_07.10.04.00
WP7504	SWI9X15Y_07.10.04.00
WP8548	SWI9X15Y_07.10.04.00

*Note: The SDK in general work across all firmware revisions. However, some new API might require a recent firmware.*

# 5.

## Software Release Description

Table 9. Release Information

Component	Content
SDK version	04.00.01
Date of generation	24/08/2016
Binary archive name	SLQS04.00.01.bin.tar.gz
MD5 checksum	6a246765ebe2d620a407945ef2712afc
Source code archive name	SLQS04.00.01.tar.gz
MD5 checksum	91d398dad15a8e3c9ae9725afb569365
Processor compatibility	x86, ARM, PowerPC, MIPS
Linux kernel compatibility	2.6.32 to 4.1
USB drivers compatibility	S2.25N2.36



## 6.

# Software Changes Description

## 6.1. Validated Corrections/Improvements

ID	Description
<a href="#">LXQMISDK-729</a>	Need a special handling when download customer nvu file
<a href="#">LXQMISDK-727</a>	fix klocwork warning at doprintreason
<a href="#">LXQMISDK-723</a>	Shared memory allocation fails on 64 bit OS with SDK 04.00.00
<a href="#">LXQMISDK-722</a>	[Linux SDK] Firmware Download sample applications hangs at times during image switching
<a href="#">LXQMISDK-721</a>	unable to detect modem with usb path specified
<a href="#">LXQMISDK-720</a>	Modem not detected when index and usb path are provided on 64 bit Linux and SDK aborts
<a href="#">LXQMISDK-719</a>	unpack_uim_SLQSUIEventRegister_t documentation is not complete
<a href="#">LXQMISDK-718</a>	helper_get_resp_ctx prints UNKNOWN CMD MESSAGE
<a href="#">LXQMISDK-717</a>	SDK mutex not released if SLQSSstartStopDataSession times out
<a href="#">LXQMISDK-715</a>	SLQSKillSDKProcess takes too much time
<a href="#">LXQMISDK-714</a>	SLQSGetSysSelectionPref / SLQSSetSysSelectionPref Documentation Issue
<a href="#">LXQMISDK-713</a>	[Linux] [QATest App] QATest App have some unexpected behaviors
<a href="#">LXQMISDK-712</a>	Optimize SDK logging
<a href="#">LXQMISDK-710</a>	Unused QoS APIs need to be marked a deprecated in SDK documentation
<a href="#">LXQMISDK-709</a>	Documentation for "instanceId" missing in ssdatasession_params Struct
<a href="#">LXQMISDK-708</a>	Consider adding -fPIC option to SDK Lite libraries
<a href="#">LXQMISDK-707</a>	[SL9090] firmware download fails sometimes using G3K firmware download method

ID	Description
<a href="#">LXQMISDK-706</a>	SDK headers do not have "include guards"
<a href="#">LXQMISDK-704</a>	SDK needs to remove check for boot loader version for 9090 modems
<a href="#">LXQMISDK-703</a>	SDK aborts when same FW is downloaded to SL9090 Legacy modem
<a href="#">LXQMISDK-701</a>	[SLQS04.00.00] [Marvell] libsdp firmware download cannot take place on Marvell
<a href="#">LXQMISDK-698</a>	Please add support for SKU specific SPKG files in libsdp
<a href="#">LXQMISDK-697</a>	Compilation errors in SDK with Ubuntu 16.04
<a href="#">LXQMISDK-696</a>	[Linux][Firmware Download] Fails to image switch to PTCRB
<a href="#">LXQMISDK-694</a>	SDK crash at pthread_attr_setstacksize on 64bit arm
<a href="#">LXQMISDK-693</a>	FW download on 9090 is reported as failure
<a href="#">LXQMISDK-692</a>	classify WP7 modules with WP7 instead of WP71
<a href="#">LXQMISDK-690</a>	73XX RMFU fails ( from SPK file)
<a href="#">LXQMISDK-687</a>	Linux QMI SDK 3.3.17 doxygen formatting issue
<a href="#">LXQMISDK-686</a>	lite SDK build fails on Beagle Bone Black
<a href="#">LXQMISDK-678</a>	API for SIM based firmware switching
<a href="#">LXQMISDK-643</a>	Please add support for QMI_LOC_GET_BEST_AVAILABLE_POSITION in SDK and SDK Lite
<a href="#">LXQMISDK-640</a>	Please add unpack functions for indications enabled with SLQSNasIndicationRegisterExt
<a href="#">LXQMISDK-735</a>	[arm64] start data call return memory error while modem response ok
<a href="#">LXQMISDK-741</a>	cwe and nvu remains open after FW upgrade completes

## 6.2. Known Issues

ID	Description
<a href="#">LXQMISDK-740</a>	[arm64bit] EM7455 remaining file size displayed is wrong during firmware download on arm64bit platform

## 6.3. New API

API	Comment
SLQSLOCGetBestAvailPos	This API get the best available position estimate from the location engine
SetLocBestAvailPosCallback	This API enables/disables Best Available Location callback function
SLQSSetSIMBasedImageSwitching	This API is used to enable the SIM-based Image Switching. The modem will reboot automatically to take effect of the enabling

## 6.4. Minor API prototype change

Note: when updating SDK, please make sure to pull the latest headers from <SDK\_ROOT>/api folder

API	Comment
-----	---------

## 6.5. Macro Usage

Macro	Usage
AM_API_MUTEX_TIMEOUT_IN_SEC	This is the timeout time (in seconds) for which the mutex is locked when the SDK is compiled with API_TIMEOUT flag.
API_TIMEOUT	This is a compilation flag. If this flag is defined during compilation, SDK will lock the mutex for a particular time. The locking time is defined by AM_API_MUTEX_TIMEOUT_IN_SEC. If this flag is not defined then the mutex is locked indefinitely.