



# Customer Release Note

## Linux QMI SDK 04.00.06



**SIERRA**  
WIRELESS®

4134536  
01.00  
April 11, 2017

## Important Notice

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.

## Safety and Hazards

Do not operate the Sierra Wireless modem in areas where cellular modems are not advised without proper device certifications. These areas include environments where cellular radio can interfere such as explosive atmospheres, medical equipment, or any other equipment which may be susceptible to any form of radio interference. The Sierra Wireless modem can transmit signals that could interfere with this equipment. Do not operate the Sierra Wireless modem in any aircraft, whether the aircraft is on the ground or in flight. In aircraft, the Sierra Wireless modem **MUST BE POWERED OFF**. When operating, the Sierra Wireless modem can transmit signals that could interfere with various onboard systems.

---

*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.*

---

The driver or operator of any vehicle should not operate the Sierra Wireless modem while in control of a vehicle. Doing so will detract from the driver or operator's control and operation of that vehicle. In some states and provinces, operating such communications devices while in control of a vehicle is an offence.

## Limitations of Liability

This manual is provided "as is". Sierra Wireless makes no warranties of any kind, either expressed or implied, including any implied warranties of merchantability, fitness for a particular purpose, or noninfringement. The recipient of the manual shall endorse all risks arising from its use.

The information in this manual is subject to change without notice and does not represent a commitment on the part of Sierra Wireless. SIERRA WIRELESS AND ITS AFFILIATES SPECIFICALLY DISCLAIM LIABILITY FOR ANY AND ALL DIRECT, INDIRECT, SPECIAL, GENERAL, INCIDENTAL, CONSEQUENTIAL, PUNITIVE OR EXEMPLARY DAMAGES INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS OR REVENUE OR ANTICIPATED PROFITS OR REVENUE ARISING OUT OF THE USE OR INABILITY TO USE ANY SIERRA WIRELESS PRODUCT, EVEN IF SIERRA WIRELESS AND/OR ITS AFFILIATES HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES OR THEY ARE FORESEEABLE OR FOR CLAIMS BY ANY THIRD PARTY.

Notwithstanding the foregoing, in no event shall Sierra Wireless and/or its affiliates aggregate liability arising under or in connection with the Sierra Wireless product, regardless of the number of events, occurrences, or claims giving rise to liability, be in excess of the price paid by the purchaser for the Sierra Wireless product.

Customer understands that Sierra Wireless is not providing cellular or GPS (including A-GPS) services. These services are provided by a third party and should be purchased directly by the Customer.

**SPECIFIC DISCLAIMERS OF LIABILITY:** CUSTOMER RECOGNIZES AND ACKNOWLEDGES SIERRA WIRELESS IS NOT RESPONSIBLE FOR AND SHALL NOT BE HELD LIABLE FOR ANY DEFECT OR DEFICIENCY OF ANY KIND OF CELLULAR OR GPS (INCLUDING A-GPS) SERVICES.

## Patents

This product may contain technology developed by or for Sierra Wireless Inc.

This product includes technology licensed from QUALCOMM®.

This product is manufactured or sold by Sierra Wireless Inc. or its affiliates under one or more patents licensed from InterDigital Group and MMP Portfolio Licensing.

## Copyright

© 2014 Sierra Wireless. All rights reserved.

## Trademarks

Sierra Wireless®, AirPrime®, AirLink®, AirVantage®, WISMO® and the Sierra Wireless and Open AT logos are registered trademarks of Sierra Wireless, Inc. or one of its subsidiaries.

Watcher® is a registered trademark of Netgear, Inc., used under license.

Windows® and Windows Vista® are registered trademarks of Microsoft Corporation.

Macintosh® and Mac OS X® are registered trademarks of Apple Inc., registered in the U.S. and other countries.

QUALCOMM® is a registered trademark of QUALCOMM Incorporated. Used under license.

Other trademarks are the property of their respective owners.

## Contact Information

Sales Desk:	Phone:	1-604-232-1488
	Hours:	8:00 AM to 5:00 PM Pacific Time
	Contact:	<a href="http://www.sierrawireless.com/sales">http://www.sierrawireless.com/sales</a>
Post:	Sierra Wireless 13811 Wireless Way Richmond, BC Canada V6V 3A4	
Technical Support:	<a href="mailto:support@sierrawireless.com">support@sierrawireless.com</a>	
RMA Support:	<a href="mailto:repairs@sierrawireless.com">repairs@sierrawireless.com</a>	
Fax:	1-604-231-1109	
Web:	<a href="http://www.sierrawireless.com/">http://www.sierrawireless.com/</a>	

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
01.00	April 11, 2017	Creation



# Contents

<b>1. INTRODUCTION .....</b>	<b>7</b>
1.1. Document Scope .....	7
1.2. Document Audience .....	7
1.3. New Features/Enhancements .....	7
1.4. Removed Features .....	7
1.5. Lite APIs Rename.....	9
<b>2. ABBREVIATIONS AND DEFINITIONS.....</b>	<b>11</b>
<b>3. RELATED DOCUMENTATION .....</b>	<b>12</b>
<b>4. COMPATIBILITY .....</b>	<b>13</b>
<b>5. SOFTWARE RELEASE DESCRIPTION .....</b>	<b>15</b>
<b>6. SOFTWARE CHANGES DESCRIPTION .....</b>	<b>16</b>
6.1. Validated Corrections/Improvements .....	16
6.2. Known Issues .....	17
6.3. New API.....	17
6.4. Minor API prototype change.....	17
6.4.1. litefw_DownloadFW WP760x usage.....	17
6.4.2. Rename AvMS to AVMS in Lite APIs .....	17
6.5. Macro Usage .....	20



## List of Tables

Table 1.	New Features/Enhancements .....	7
Table 2.	Removed features .....	7
Table 3.	Abbreviations and Definitions .....	11
Table 4.	Related Documentation .....	12
Table 5.	Hardware Compatibility .....	13
Table 6.	Supported Application-Mode VID/PIDs .....	13
Table 7.	Supported Boot-Mode VID/PIDs .....	13
Table 8.	Modem and Firmware tested with the SDK.....	14
Table 9.	Release Information .....	15



# Introduction

## 1.1. Document Scope

This document describes the content of the Linux QMI SDK 04.00.06 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
Lite APIs	<ul style="list-style-type: none"><li>• <b>New Wrappers</b><ul style="list-style-type: none"><li>○ <b>CAT</b><ul style="list-style-type: none"><li>▪ CATSendEnvelopeCommand</li><li>▪ CATSendTerminalResponse</li></ul></li><li>○ <b>IMSA</b><ul style="list-style-type: none"><li>▪ SLQSRegisterIMSAIndication</li><li>▪ SLQSGetIMSARegStatus</li><li>▪ SLQSGetIMSAServiceStatus</li></ul></li><li>○ <b>LOC</b><ul style="list-style-type: none"><li>▪ SLQSLOCGetServer</li><li>▪ unpack_loc_EventNMEA_Ind (SetLocEventMaskNMEACallback)</li><li>▪ unpack_loc_GetServer_Ind (SetLocGetServerCallback)</li></ul></li></ul></li></ul>
Miscellaneous	<ul style="list-style-type: none"><li>• <b>Add Loc APIs</b><ul style="list-style-type: none"><li>○ SetLocEventMaskNMEACallback</li><li>○ SetLocGetServerCallback</li><li>○ SLQSLOCGetServer</li></ul></li></ul>

## 1.4. Removed Features

Table 2. Removed features

Feature	Description
---------	-------------



## 1.5. Lite APIs Rename

In order to be consistent on naming convention, we have renamed libpack and libsdp to lite-qmi and lite-fw respectively.

Table 3. libSDP to lite-fw Structure name update

libSDP	lite-fw
libSDP_FirmwareInfo	litefw_FirmwareInfo

Table 4. libSDP to lite-fw Enum name update

libSDP	lite-fw
LIBSDP_CARRIER_PACKAGE_SKU	LITEFW_CARRIER_PACKAGE_SKU

Table 5. libSDP to lite-fw API name update

libSDP	lite-fw
libSDP_getFileType	litefw_getFileType
libSDP_ExtractFirmwareParametersByPath	litefw_ExtractFirmwareParametersByPath
libSDP_GetModelFamily	litefw_GetModelFamily
libSDP_CheckValidFirmwareInfo	litefw_CheckValidFirmwareInfo
libSDP_BuildImagesPreferenceRequest	litefw_BuildImagesPreferenceRequest
libSDP_CalculateImageMask	litefw_CalculateImageMask
libSDP_DownloadFW	litefw_DownloadFW
libsdp_set_log_func	litefw_set_log_func
libsdp_SetReadBlockSize	litefw_SetReadBlockSize

**Note:** We have added below translations at the end of lite-fw.h header for backward compatibility

```
#define libSDP_GetVersion litefw_GetVersion
#define libSDP_CalculateImageMask litefw_CalculateImageMask
#define libSDP_getFileType litefw_getFileType
```

```
#define libSDP_ExtractFirmwareParametersByPath
litefw_ExtractFirmwareParametersByPath

#define libSDP_GetModelFamily litefw_GetModelFamily

#define libSDP_CheckValidFirmwareInfo litefw_CheckValidFirmwareInfo
#define libSDP_BuildImagesPreferenceRequest
litefw_BuildImagesPreferenceRequest

#define libSDP_DownloadFW litefw_DownloadFW
#define libsdp_set_log_func litefw_set_log_func

#define libsdp_SetReadBlockSize litefw_SetReadBlockSize

#define LIBSDP_CARRIER_PACKAGE_SKU LITEFW_CARRIER_PACKAGE_SKU
#define LIBSDP_SKU_STRING_LENGTH LITEFW_SKU_STRING_LENGTH

typedef litefw_FirmwareInfo libSDP_FirmwareInfo;

typedef litefwlogger libsdplogger;
```

## 2.

# Abbreviations and Definitions

Table 6. 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 7. Related Documentation

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

# 4.

## Compatibility

Table 8. Hardware Compatibility

Devices Compatibility List
AR7554/AR7554RD
EM/MC73xx
MC77xx
MC83x5
MC/SL9090
MC/EM74xx
WP8548/7502/7504
WP7601/WP7603

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 (VID) pairs supported by the Linux QMI SDK.

Table 9. 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 10. 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 the 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 04.00.06.

**Table 11. Modem and Firmware tested with the SDK**

<b>Modem</b>	<b>Firmware</b>
MC7430	SWI9X30C_02.24.04.00
EM/MC7455	SWI9X30C_02.24.04.00
MC7304	SWI9X15C_05.05.67.00
MC7354	SWI9X15C_05.05.58.00
MC7350	SWI9C15C_05.05.58.01
MC7355	SWI9X15C_05.05.67.00
MC7330	SWI9X15C_05.05.65.00
MC7305	SWI9X15C_05.05.58.00
MC7710	SWI9200X_03.05.29.06
MC9090	SWI6600U_02.04.06.00
EM7355	SWI9X15C_05.05.61.00
EM7330	SWI9X15C_05.05.65.00
EM7305	SWI9X15C_05.05.58.00
WP7502	SWI9X15Y_07.11.22.00
WP7504	SWI9X15Y_07.11.22.00
WP8548	SWI9X15Y_07.11.12.00
WP7603	SWI9X07Y_02.00.01.00

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

# 5.

## Software Release Description

Table 12. Release Information

Component	Content
SDK version	04.00.06
Date of generation	11/04/2017
Binary archive name	SLQS04.00.06.bin.tar.gz
MD5 checksum	f5e5e8658342c837df3baffaabd5b4d5
Binary archive name	SLQS04.00.06-lite.bin.tar.gz
MD5 checksum	3ed6dd9fdbb2748a289b1b4417e62aba
Source code archive name	SLQS04.00.06.tar.gz
MD5 checksum	51fc036d6000542427c7d3239ac06c64
Processor compatibility	x86, ARM, PowerPC, MIPS
Linux kernel compatibility	2.6.32 to 4.8
USB drivers compatibility	S2.28N2.42



# 6. Software Changes Description

## 6.1. Validated Corrections/Improvements

ID	Description
<a href="#">LXQMISDK-754</a>	Need to support catch DM log with over socket
<a href="#">LXQMISDK-761</a>	SwiFlash needs to set carrier slot before updating FW
<a href="#">LXQMISDK-777</a>	Implement Lite APIs for CAT
<a href="#">LXQMISDK-780</a>	Implement Lite APIs for IMSA
<a href="#">LXQMISDK-832</a>	Please add NMEA strings callback for LOC service for Linux QMI SDK
<a href="#">LXQMISDK-833</a>	FireHose support for lite-fw API
<a href="#">LXQMISDK-839</a>	[WP760x] Linux QMI SDK does not support WP760x spk file download
<a href="#">LXQMISDK-840</a>	Documentation does not provide details about possible enumeration and values
<a href="#">LXQMISDK-841</a>	SDKLite/ SLQSLite: Packingdemo sample application messes up the settings on the device
<a href="#">LXQMISDK-842</a>	Use libpack_log in SDK Lite
<a href="#">LXQMISDK-843</a>	SampleApps.mak file not included in the SLQSLite zip package
<a href="#">LXQMISDK-844</a>	Rename AvMS to AVMS in all APIs and structures
<a href="#">LXQMISDK-845</a>	lite-qmi-demo does not compile
<a href="#">LXQMISDK-846</a>	Add Linux SDK LOC API to get A-GPS SUPL server configuration
<a href="#">LXQMISDK-848</a>	Lite API demo code not check ioctl result.
<a href="#">LXQMISDK-852</a>	pack_loc_Start_t documentation is not complete

## 6.2. Known Issues

ID	Description
<a href="#">LXQMISDK-855</a>	[sapps firehose] Lite-fw updater needs file path instead of folder path for WP760x
<a href="#">LXQMISDK-860</a>	WP760x firmware download support on Marvell

## 6.3. New API

API	Comment
SetLocEventMaskNMEACallback	Enables/disables NMEA Event callback function
SetLocGetServerCallback	Enables/disables Get location server callback function
SLQSLOCGetServer	Gets the location server from the location engine

## 6.4. Minor API prototype change

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

### 6.4.1. `litefw_DownloadFW` WP760x usage

Due to LXQMISDK-855, the `litefw_DownloadFW` API works with full firmware file path instead of folder path when using ".CWE" files. Please pass full file path when using ".CWE" files if you want to evaluate this feature. Once LXQMISDK-855 is resolved, folder path should be used.

### 6.4.2. Rename AvMS to AVMS in Lite APIs

From	To
pack_swiavms_SLQSAvMSStartSession_t	pack_swiavms_SLQSAvMSStartSession_t
pack_swiavms_SLQSAvMSStartSession	pack_swiavms_SLQSAvMSStartSession
unpack_swiavms_SLQSAvMSStartSession_t	unpack_swiavms_SLQSAvMSStartSession_t
unpack_swiavms_SLQSAvMSStartSession	unpack_swiavms_SLQSAvMSStartSession
pack_swiavms_SLQSAvMSStopSession_t	pack_swiavms_SLQSAvMSStopSession_t
pack_swiavms_SLQSAvMSStopSession	pack_swiavms_SLQSAvMSStopSession
unpack_swiavms_SLQSAvMSStopSession_t	unpack_swiavms_SLQSAvMSStopSession_t
unpack_swiavms_SLQSAvMSStopSession	unpack_swiavms_SLQSAvMSStopSession
pack_swiavms_SLQSAvMSSetSettings_t	pack_swiavms_SLQSAvMSSetSettings_t
pack_swiavms_SLQSAvMSSetSettings	pack_swiavms_SLQSAvMSSetSettings
unpack_swiavms_SLQSAvMSStartSession	unpack_swiavms_SLQSAvMSStartSession
pack_swiavms_SLQSAvMSStopSession_t	pack_swiavms_SLQSAvMSStopSession_t
pack_swiavms_SLQSAvMSStopSession	pack_swiavms_SLQSAvMSStopSession
unpack_swiavms_SLQSAvMSStopSession_t	unpack_swiavms_SLQSAvMSStopSession_t
unpack_swiavms_SLQSAvMSStopSession	unpack_swiavms_SLQSAvMSStopSession
pack_swiavms_SLQSAvMSSetSettings_t	pack_swiavms_SLQSAvMSSetSettings_t
pack_swiavms_SLQSAvMSSetSettings	pack_swiavms_SLQSAvMSSetSettings
unpack_swiavms_SLQSAvMSSetSettings_t	unpack_swiavms_SLQSAvMSSetSettings_t
unpack_swiavms_SLQSAvMSSetSettings	unpack_swiavms_SLQSAvMSSetSettings
pack_swiavms_SLQSAvMSSetSettingsNoAutoRebootField	pack_swiavms_SLQSAvMSSetSettingsNoAutoRebootField
pack_swiavms_SLQSAvMSGetSettings	pack_swiavms_SLQSAvMSGetSettings
unpack_swiavms_SLQSAvMSGetSettings_t	unpack_swiavms_SLQSAvMSGetSettings_t
unpack_swiavms_SLQSAvMSGetSettings	unpack_swiavms_SLQSAvMSGetSettings
pack_swiavms_SLQSAvMSSendSelection_t	pack_swiavms_SLQSAvMSSendSelection_t
pack_swiavms_SLQSAvMSSendSelection	pack_swiavms_SLQSAvMSSendSelection

From	To
unpack_swiavms_SLQSAvMSSendSelection_t	unpack_swiavms_SLQSAvMSSendSelection_t
unpack_swiavms_SLQSAvMSSendSelection	unpack_swiavms_SLQSAvMSSendSelection
pack_swiavms_SLQSAvMSSessionGetInfo	pack_swiavms_SLQSAvMSSessionGetInfo
_unpack_swiavms_SLQSAvMSSessionGetInfo_t	_unpack_swiavms_SLQSAvMSSessionGetInfo_t
unpack_swiavms_SLQSAvMSSessionGetInfo_t	unpack_swiavms_SLQSAvMSSessionGetInfo_t
unpack_swiavms_SLQSAvMSSessionGetInfo	unpack_swiavms_SLQSAvMSSessionGetInfo
_unpack_swiavms_SLQSAvMSEventReportInd_t	_unpack_swiavms_SLQSAvMSEventReportInd_t
unpack_swiavms_SLQSAvMSEventReportInd_t	unpack_swiavms_SLQSAvMSEventReportInd_t
unpack_swiavms_SLQSAvMSEventReportInd	unpack_swiavms_SLQSAvMSEventReportInd

## 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.