Customer Release Note

Linux QMI SDK 04.00.04

4134500
01.01
January 09, 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.

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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.

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Contact Information

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

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

Document History

Version	Date	Updates
01.00	January 06, 2017	Creation
01.01	January 09, 2017	• Added a note for sample app source code location in Section 5 • Update Lite APIs Binaries archive to include PDS documentation

Contents

List of Tables

1. Introduction

1.1. Document Scope

This document describes the content of the Linux QMI SDK 04.00.04 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

<table>
<tr><th>Feature</th><th>Description</th></tr>
<tr><td>Lite APIs</td><td>
New Wrappers

NAS

InitiateDomainAttach
SetCDMANetworkParameters
SLQSNasGetHDRColorCode
SLQSNasGetTxRxInfo
SLQSGetOperatorNameData
SLQSNasGet3GPP2Subscription
SLQSSwiGetHDRPersonality
SLQSSwiGetHDRProtSubtype
SLQSSwiPSDetach
SLQSGetErrorRate
SLQSSwiGetHRPDStats
SLQSSwiNetworkDebug
GetHomeNetwork3GPP2
SLQSNASSwiSetChannelLock
SLQSNASSwiGetChannelLock

PDS

GetPDSState
SetPDSState
GetPDSDefaults
SetPDSDefaults
GetPortAutomaticTracking
SetPortAutomaticTracking

SMS

GetSMSCAddress
SetSMSCAddress
SaveSMS
SLQSGetSmsBroadcastConfig
SLQSSetSmsBroadcastConfig
SLQSSetSmsBroadcastActivation
SLQSGetTransLayerInfo
SLQSGetTransNWRegInfo
SLQSGetIndicationRegister
SLQSSetIndicationRegister
SLQSSmsSetRoutes
SLQSSmsGetMessageProtocol
SLQSSmsGetMaxStorageSize
SLQSGetMessageWaiting
SLQSSendAsyncSMS
SLQSSetSmsStorage
SLQSSwiGetSMSStorage

UIM

SLQSUIMReset
SLQSUIMRefreshOK
SLQSUIMRefreshRegister
SLQSUIMRefreshComplete
SLQSUIMRefreshGetLastEvent
SLQSUIMGetFileAttributes
SLQSUIMDepersonalization
SLQSUIMAuthenticate
SLQSUIMGetConfiguration

</td></tr>
</table>

Feature	Description
Miscellaneous	• Updated data structure unpack_wds_SLQSSetWdsEventCallback_ind_t and unpack_wds_SLQSSetWdsEventCallback_ind_t to support Data Bearer notification • Fix special character SMS decoding issue for 8bit & UCS2 encoding • Release Lite APIs source code • Release Lite APIs binary as separate archive • Add Data Bearer support in SLQSSetWdsEventCallback

1.4. Removed Features

Table 2. Removed features

Feature	Description

1.5. Lite APIs Rename

In order to be consistent on naming convention, we are going to rename libpack and libsdp to lite-qmi and lite-fw respectively. This change is planned on Linux QMI SDK 04.00.05.

When the libSDP is renamed to lite-fw, we expect structure and API change as below

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

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
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 (VID) pairs supported by the Linux QMI SDK.

Table 9. Supported Application-Mode VID/PIDs

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

Table 10. Supported Boot-Mode VID/PIDs

VID	1199	1199	1199	1199	1199	1199	1199	1199	3F0
PID	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 04.00.04.

Table 11. Modem and Firmware tested with the SDK

Modem	Firmware
MC7430	SWI9X30C_02.23.01.00
EM/MC7455	SWI9X30C_02.23.01.00
MC7304	SWI9X15C_05.05.58.00
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_05.05.67.00
MC7710	SWI9200X_03.05.29.06
MC9090	SWI6600U_02.04.04.00
EM7355	SWI9X15C_05.05.61.00
EM7330	SWI9X15C_05.05.65.00
EM7305	SWI9X15C_05.05.67.00
WP7502	SWI9X15Y_07.11.21.00
WP7504	SWI9X15Y_07.11.21.00
WP8548	SWI9X15Y_07.11.11.00

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	04.00.04
Date of generation	05/01/2017
Binary archive name	SLQS04.00.04.bin.tar.gz
MD5 checksum	37926e6be723369899197bd06a3c9163
Lite APIs Binary archive name	SLQS04.00.04-lite.bin.tar.gz
MD5 checksum	6d3def57dd6a3c4099e1fce1f28e09a6
Source code archive name	SLQS04.00.04.tar.gz
MD5 checksum	62726232d3056e3d5b9e77945f07f794
Processor compatibility	x86, ARM, PowerPC, MIPS
Linux kernel compatibility	2.6.32 to 4.4
USB drivers compatibility	S2.27N2.40

Note: SLQS04.00.04-lite.bin.tar.gz contains Lite APIs binaries and sample app source code. While SLQS04.00.04.bin.tar.gz contains Full APIs binaries and sample app source code

6. Software Changes Description

6.1. Validated Corrections/Improvements

ID	Description
LXQMISDK-815	SLQSSetWdsEventCallback needs to be updated for both SDK and SDK Lite
LXQMISDK-814	[9x30] a workaround solution to solve 9x30 modem did not enter boot and hold mode after receiving SetPower()
LXQMISDK-806	release Lite API source code and release binary as separate archive
LXQMISDK-804	Klocwork issue on SDK 4.0.3
LXQMISDK-803	Handling SDK compilation flag ULONG_AS_UINT
LXQMISDK-802	[SLQS04.00.03] special character '@' is not decoded correctly for 8bit and UCS2 encoding method of SDK
LXQMISDK-789	Implement Lite APIs for UIM
LXQMISDK-784	Implement Lite APIs for PDS
LXQMISDK-772	Implement Lite APIs for SMS
LXQMISDK-769	Implement Lite APIs for NAS
LXQMISDK-761	SwiFlash needs to set carrier slot before updating FW
LXQMISDK-300	[Linux QMI SDK] qatestapp can request for profile ID to start data on
LXQMISDK-815	SLQSSetWdsEventCallback needs to be updated for both SDK and SDK Lite
LXQMISDK-814	[9x30] a workaround solution to solve 9x30 modem did not enter boot and hold mode after receiving SetPower()
LXQMISDK-505	SLQSSwiGetFirmwareCurr() documentation needs to be updated

6.2. Known Issues

ID	Description
LXQMISDK-818	[SLQS04.00.04] [multiple modem] unable to launch sdk for third modem

6.3. New API

API	Comment

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
SLQSSetWdsEventCallback	Updated internal data structure (QmiCbkWdsEventStatusReportInd) to support Data Bearer
pack_wds_SLQSSetWdsEventCallback	Update pack_wds_SLQSSetWdsEventCallback_t to support Data Bearer
unpack_wds_SLQSSetWdsEventCallback_ind	Update pack_wds_SLQSSetWdsEventCallback_t to support Data Bearer

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.