



Linux QMI SDK 04.00.22

Customer Release Note



SIERRA
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41112349
2.9
Sep 13, 2019

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Document History

Version	Date	Updates
1.0	February 28, 2018	Creation
2.0	April 11, 2018	Updated document reference number and template
2.1	April 27, 2018	Updated for 04.00.14
2.2	June 22, 2018	Updated for 04.00.15
2.3	Aug 17, 2018	Updated for 04.00.16
2.4	Oct 26, 2018	Updated for 04.00.17
2.5	Dec 21, 2018	Updated for 04.00.18
2.6	Mar 08, 2019	Updated for 04.00.19
2.7	May 03, 2019	Updated for 04.00.20
2.8	Jul 05, 2019	Updated for 04.00.21
2.9	Sep 13,2019	Updated for 04.00.22

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1. Introduction

This document describes the contents of the Linux QMI SDK **04.00.22** release.

1.1. New Features/Enhancements

Table 1. New Features/Enhancements

Feature	Description
Correct struct member type in unpack_dms_GetBandCapability_t	<ul style="list-style-type: none"> Correct BanCapability type to uint64_t
Documentation update	<ul style="list-style-type: none"> Correct Tx and Rx total bytes bit mask in wds.h
Add verify service APIs using predefined data	<ul style="list-style-type: none"> Lite SDK demo application was updated to validate services (DMS, LOC, SWIAvms, NAS, PDS, SWIOMA, TMD and WDS) APIs using predefined QMI byte strings.
New SWIOMA API to get session info	<ul style="list-style-type: none"> QMI_SWI_OMA_GET_SESSION_INFO implementation in full and lite SDK
New LOC API to get operation mode	<ul style="list-style-type: none"> QMI_LOCK_GET_OPERATION_MODE implementation in full and lite SDK
New SWIDMS API to get and set hardware watchdog	<ul style="list-style-type: none"> QMI_SWIDMS_GET_HW_WATCH_DOG and QMI_SWIDMS_SET_HW_WATCH_DOG implementation in full and lite SDK
New SWIDMS API to get secure info from radio module.	<ul style="list-style-type: none"> QMI_SWIDMS_GET_SEC_INFO implementation in full and lite SDK New API works only with R14 or newer WP76xx firmware
New API to extract firmware file info	<ul style="list-style-type: none"> Litefw_SLQSGetFirmwareFileInfo implantation in lite SDK
Update QMI_UIM_GET_CARD_STATUS	<ul style="list-style-type: none"> Add full and lite API to support valid card status and sim busy status.
Update QMI_UIM_UBBLOCK_PIN	<ul style="list-style-type: none"> Add full and lite API to support unblock card result.

1.2. Lite SDK APIs added

- unpack_uim_GetCardStatusV2
- unpack_uim_UnblockPinV2
- litefw_SLQSGetFirmwareFileInfo
- pack_swidms_SLQSSwiDmsGetHWWatchdog
- unpack_swidms_SLQSSwiDmsGetHWWatchdog
- pack_swidms_SLQSSwiDmsSetHWWatchdog
- unpack_swidms_SLQSSwiDmsSetHWWatchdog
- pack_swidms_SLQSSwiDmsGetSecureInfo
- unpack_swidms_SLQSSwiDmsGetSecureInfo
- pack_loc_SLQSLOCGetOpMode
- unpack_loc_SLQSLOCGetOpMode

- pack_swioma_SLQSOMADMGetSessionInfoExt
- unpack_swioma_SLQSOMADMGetSessionInfoExt

1.3. Lite SDK APIs updated

- unpack_dms_GetBandCapability

1.4. Full SDK APIs added

- SLQSUIMGetCardStatusV2
- SLQSUIMUnblockPinV2
- SLQSSwiDmsGetSecureInfo
- SLQSSwiDmsGetHWWatchdog
- SLQSSwiDmsSetHWWatchdog
- SLQSLOCGetOpMode
- SLQSOMADMGetSessionInfoExt

1.5. Full SDK APIs updated

- Nil

2. Abbreviations and Definitions

Table 2. 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

- [1] Linux QMI SDK Application Developer's Guide
Reference number: 4110914
- [2] Linux QMI SDK Sanity Test Report
Reference number: 41112405
- [3] Linux QMI SDK Software Validation Test Report
Reference number: 41112406

4. Compatibility

Table 3. Hardware Compatibility

Compatible Devices
AR7554/AR7554RD
EM/MC73xx
MC77xx
MC83x5
MC/SL9090
MC/EM74xx
WP8548/7502/7504
WP76xx
WP7702
EM75xx

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

To switch the 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 4. Supported Application-Mode VID/PIDs

VID	1199	1199	1199	1199	1199	1199	1199	1199	1199	3F0	1199	1199	1199
PID	68A2	68C0	9011	9013	9015	9019	9041	9071	371D	9091	90B1	90C1	

Table 5. Supported Boot-Mode VID/PIDs

VID	1199	1199	1199	1199	1199	1199	1199	1199	1199	3F0	1199	1199	1199
PID	68A2	68C0	9010	9012	9014	9018	9040	9070	361D	9090	90B0	90C0	

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.

Following table enumerates the modules with their corresponding firmware that were tested with Linux QMI SDK **04.00.22**

Table 6. Modem and Firmware tested with the SDK

Modem	Firmware
WP7603	SWI9X07Y_02.31.01.00
WP7607	SWI9X07Y_02.31.01.00
WP7608	SWI9X07Y_02.31.01.00
WP7609	SWI9X07Y_02.31.01.00
WP7702	SWI9X06Y_02.32.02.00
EM7565	SWI9X50C_01.11.00.00
EM7511	SWI9X50C_01.11.00.00
EM7455	SWI9X30C_02.33.00.00
MC7305	SWI9X15C_05.05.58.00
WP7502	SWI9X15Y_07.14.01.00

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

5. Software Release Description

Table 7. Release Information

SDK version	04.00.22
Date of generation	13/09/2019
Binary archive name	SLQS04.00.22.bin.tar.gz
Binary archive name	SLQS04.00.22-lite.bin.tar.gz
Source code archive name	SLQS04.00.22.src.tar.gz
Source code archive name	SLQS04.00.22-lite.src.tar.gz
Processor compatibility	x86, ARM, PowerPC, MIPS
Linux kernel compatibility	2.6.32 to 5.2
USB driver compatibility	S2.38N2.59

6. Software Changes

6.1. Validated Corrections/Improvements

Table 8. Validated Corrections/Improvements

ID	Description
LXQMISDK-1486	Rename HTML documentation folder and PDF file names
LXQMISDK-1485	ramdumptool always builds for i386
LXQMISDK-1483	add new UIM TLVs support in new firmware version of WP76xx and EM76xx
LXQMISDK-1475	New API to identify firmware file types and contents
LXQMISDK-1472	create SDK API to identify firmware bootloader is debug or secure
LXQMISDK-1469	[WP76xx] API for HW watchdog
LXQMISDK-1466	wds_test_pack_unpack_loop_invalid_unpack close file handle when read/write fail
LXQMISDK-1464	Unsubscribe net change callback when application exit
LXQMISDK-1461	qaGobiApiSms helper function might attempt to write read only memory.
LXQMISDK-1454	identify assigning NULL pointer to the members of a struct when doing the variable initialization
LXQMISDK-1407	[AndroidRIL] Add support for QMI_LOC_GET_OPERATION_MODE
LXQMISDK-1405	[AndroidRIL] Support QMI_SWIOMA_GET_SESSION_INFO
LXQMISDK-1355	valid constant wds unpack byte strings.
LXQMISDK-1352	valid constant tmd unpack byte strings.
LXQMISDK-1350	valid constant swioma unpack byte strings.
LXQMISDK-1344	valid constant pds unpack byte strings.
LXQMISDK-1343	valid constant nas unpack byte strings.
LXQMISDK-1342	valid constant swiavms unpack byte strings.
LXQMISDK-1341	valid constant dms unpack byte strings.
LXQMISDK-1339	valid constant loc unpack byte strings.

6.2. Known Issues

Table 9. Known Issues

ID	Description

6.3. Minor API Prototype Change

API	Comments
unpack_dms_GetBandCapability	Correct BandCapability type from uint32_t to uint64_t in unpack_dms_GetBandCapability_t

Note: When updating the SDK, make sure to pull the latest headers from <SDK_ROOT>/api folder.

6.4. Macro Usage

Table 10. 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.