Linux QMI SDK 04.00.23

Customer Release Note

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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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
2.10	Nov 22,2019	Updated for 04.00.23

Contents

List of Tables

1. Introduction

This document describes the contents of the Linux QMI SDK **04.00.23** release.

1.1. New Features/Enhancements

Table 1. New Features/Enhancements

Feature	Description
Add verify service APIs using predefined data	• Lite SDK demo application was updated to validate services (SMS, VOICE, FMS) APIs using predefined QMI byte strings.
New WDS API to get default profile	• QMI_WDS_GET_DEFAULT_SETTINGS (Include password TLV) implementation in full and lite SDK
New WDS API to get profile settings	• QMI_WDS_GET_PROFILE (WP76xx and EM75xx supported TLVs) implementation in full and lite SDK
New WDS API to get session duration	• QMI_WDS_GET_DURATION (WP76xx and EM75xx supported TLVs) implementation in full and lite SDK
New UIM API to get slots status	• QMI_UIM_GET_SLOTS_STATUS (WP76xx and EM75xx supported TLVs) implementation in full and lite SDK
New DMS API to get device capabilities	• QMI_DMS_GET_CAPS (WP76xx and EM75xx supported TLVs) implementation in full and lite SDK
New DMS API to get network time	• QMI_DMS_GET_CAPS (WP76xx and EM75xx supported TLVs) implementation in full and lite SDK
New DMS API to get higher supported LTE bands	• QMI_DMS_GET_BAND_CAP (WP76xx and EM75xx supported TLVs) implementation in full and lite SDK
New command option for Lite firmware downloader	• Add an option to read firmware file information
New build platform support	• Support compile natively on ARM64 platforms.
New GCC support	• Support GCC9

1.2. Lite SDK APIs added

- unpack_dms_SLQSGetBandCapabilityExt
- pack_dms_GetDeviceCapabilitiesV2
- unpack_dms_GetDeviceCapabilitiesV2
- pack_dms_GetNetworkTimeV2
- unpack_dms_GetNetworkTimeV2
- unpack_uim_SLQSUIMGetSlotsStatusV2
- pack_wds_SLQSGetProfileSettingsV2
- unpack_wds_SLQSGetProfileSettingsV2
- pack_wds_GetDefaultProfileV2
- unpack_wds_GetDefaultProfileV2

- pack_wds_GetSessionDurationV2
- unpack_wds_GetSessionDurationV2

1.3. Lite SDK APIs updated

- Nil

1.4. Full SDK APIs added

- GetDeviceCapabilitiesV2
- GetNetworkTimeV2
- SLQSGetBandCapabilitiesExt
- GetDefaultProfileV2
- GetSessionDurationV2
- SLQSGetProfileSettingsV2
- SLQSUIMGetSlotsStatusV2

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
RC7611

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 (VID) pairs supported by the Linux QMI SDK.

Table 4. Supported Application-Mode VID/PIDs

VID	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	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 **04.00.23**

Table 6. Modem and Firmware tested with the SDK

Modem	Firmware
WP7603	SWI9X07Y_02.35.02.00
WP7607	SWI9X07Y_02.35.02.00
WP7608	SWI9X07Y_02.35.02.00
WP7609	SWI9X07Y_02.35.02.00
WP7702	SWI9X06Y_02.32.04.00
EM7565	SWI9X50C_01.11.02.00
EM7511	SWI9X50C_01.11.02.00
EM7455	SWI9X30C_02.34.01.00
MC7305	SWI9X15C_05.05.58.00
WP7502	SWI9X15Y_07.14.01.00
RC7611	SWI9X07H_00.01.02.00

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	04.00.23
Date of generation	22/11/2019
Binary archive name	SLQS04.00.23.bin.tar.gz
Binary archive name	SLQS04.00.23-lite.bin.tar.gz
Source code archive name	SLQS04.00.23.src.tar.gz
Source code archive name	SLQS04.00.23.lite.src.tar.gz
Processor compatibility	x86, ARM, PowerPC, MIPS
Linux kernel compatibility	2.6.32 to 5.2
USB driver compatibility	S2.39N2.60

6. Software Changes

6.1. Validated Corrections/Improvements

Table 8. Validated Corrections/Improvements

ID	Description
LXQMISDK-1334	validate unpack byte strings in different services.
LXQMISDK-1348	valid constant sms unpack byte strings.
LXQMISDK-1354	valid constant voice unpack byte strings.
LXQMISDK-1356	valid constant fms unpack byte strings.
LXQMISDK-1410	[AndroidRIL] Add support QMI_WDS_GET_DEFAULT_SETTINGS TLV 0x1C
LXQMISDK-1435	Routing and IP address configuration not done correctly by packingdemo
LXQMISDK-1476	Review OEM API test cases
LXQMISDK-1481	add new DMS TLVs support in new firmware version of WP76xx and EM75xx
LXQMISDK-1484	add new WDS TLVs support in new firmware version of WP76xx and EM75xx
LXQMISDK-1490	add new unpack_uim_SLQSUIMGetSlotsStatus TLVs support in new firmware version of WP76xx and EM75xx
LXQMISDK-1491	Verify litefw_SLQSGetFirmwareFileInfo() output and provide option to read file info
LXQMISDK-1493	CPU64 flag is not defined if SDK is compiled natively on ARM64 platforms
LXQMISDK-1494	ifndef gurads not working
LXQMISDK-1496	compilation error for gcc-8.x and gcc-9.x
LXQMISDK-1498	dump_SLQSGetSysSelectionPrefExtSettings print needs to be corrected.
LXQMISDK-1499	litefw_FirmwareFileInfo structure documentation is not formatted correctly
LXQMISDK-1504	reduce duplicate define in WDS service headers
LXQMISDK-1508	Download Qshrink file from the FW to the host
LXQMISDK-1509	Add new ext API to support TLV 0x12 in QMI_DMS_GET_BAND_CAPABILITY
LXQMISDK-1510	Update Application developer's guide

6.2. Known Issues

Table 9. Known Issues

ID	Description

6.3. Minor API Prototype Change

API	Comments

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.