



Customer Release Note

Linux QMI SDK 04.00.00



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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Document History

| Version | Date | Updates |
|---------|----------------|--------------------------|
| 01.00 | July 12, 2016 | Creation |
| 01.01 | July 12 , 2016 | Update fixed issues list |

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Introduction

1.1. Document Scope

This document describes the content of the Linux QMI SDK 04.00.00 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"> • New Wrappers <ul style="list-style-type: none"> ○ Thermal Mitigation <ul style="list-style-type: none"> ▪ SLQSTmdGetMitigationDevList ▪ SLQSTmdGetMitigationLvl ▪ SLQSTmdRegNotMitigationLvl ▪ LQSTmdDeRegNotMitigationLvl ▪ SLQSTmdMitigationLvlRptCallback ○ SLQSGetNetworkTime ○ SLQSNasNetworkTimeCallBack ○ SetExtPowerConfig's indication ○ SLQSSwiGetFwUpdateStatus ○ • SMS Helpers <ul style="list-style-type: none"> ○ sms_SLQSWCDMADecodeLongTextMsg ○ sms_ConvertAsciiToGSMCharacter ○ sms_SwiMakeConcatenatedSmsPdu • Fix <ul style="list-style-type: none"> ○ fix unpack_fms_SetImagesPreference not returning ImageTypeSize • Enhancement <ul style="list-style-type: none"> ○ prefix libpack symbols ○ pdf for Lite api only ○ Add sample code to read IMSI ○ Wrap get_version as libpack_GetVersion |
| New API | <ul style="list-style-type: none"> • SLQSGetNetworkTime • SetLocSetExtPowerConfigCallback |
| Miscellaneous | <ul style="list-style-type: none"> • Fix multiple SMS display issue in SMS sample app • Fix SLQSKillSDKProcess only waitpid on first SDK process • Support OEM NVU firmware update on 9x15 • Improve firmware download sample app logs • Check crash action after update in UpgradeFirmware2k • Fix segfault in GetHomeNetwork • Update SetDefaultProfileLTEV2 to select profile id according carrier settings • Fix g++ compilation error • Expand maximum profile id to 24 • Remove incorrect 3GPP2 only note on SLQSSetSysSelectionPref • Improve mutli modem detection to first check with serial number. If serial number does not exist, usb path will be used • Fix SLQSSetDHCPv4ClientLeaseStatusCallback failure • Return error when sending long SMS with 3GPP2(CDMA) in SLQSSendLongSMS |

1.4. Removed Features

Table 2. Removed features

| Feature | Description |
|--------------------------------|---|
| SLQSSetDHCPv4ClientLeaseChange | This API is designed for internal use only, remove external usage |

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 |

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

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

Table 7. 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 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 04.00.00.

Table 8. Modem and Firmware tested with the SDK

| Modem | Firmware |
|--------------|----------------------|
| MC7430 | SWI9X30C_02.18.02.00 |
| EM/MC7455 | SWI9X30C_02.18.02.00 |
| 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_05.05.58.00 |
| MC7710 | SWI9200X_03.05.29.06 |
| MC7750 | SWI9600M_03.05.13.02 |
| MC9090 | SWI6600U_02.04.05.00 |
| EM7355 | SWI9X15C_05.05.66.00 |
| EM7330 | SWI9X15C_05.05.65.00 |
| EM7305 | SWI9X15C_05.05.67.00 |

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 | 04.00.00 |
| Date of generation | 12/07/2016 |
| Binary archive name | SLQS04.00.00.bin.tar.gz |
| MD5 checksum | cef5ae3ee2c0c5740b711098e1d4641a |
| Source code archive name | SLQS04.00.00.tar.gz |
| MD5 checksum | 7a778eed0e6bb5e0d87702bd725585ba |
| 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 |
|------------------------------|---|
| LXQMISDK-364 | [Linux SDK][Firmware Download App] Firmware Downloads will fail on USB 3.0 |
| LXQMISDK-586 | FW download not successful over USB 3.0 |
| LXQMISDK-602 | decouple imtask as libSDP |
| LXQMISDK-642 | unpack_dms_GetNetworkTime documentation needs to be updated |
| LXQMISDK-669 | SLQSSwiGetFwUpdateStatus to be supported in SDK Lite |
| LXQMISDK-616 | [WP7xxx] [Linux] Firmware download fails with sample application |
| LXQMISDK-619 | Add Lite APIs support for Thermal mitigation QMI objects |
| LXQMISDK-622 | Implement callback for QMI_LOC_SET_EXTERNAL_POWER_CONFIG_IND |
| LXQMISDK-630 | SDK UIM features: SLQSUIMGetSlotsStatus/SLQSUIMGetCardStatus on MC7455 |
| LXQMISDK-632 | SLQSKillSDKProcess for multi modem |
| LXQMISDK-634 | [Developer Studio FDT] Improve messages at the end of the download |
| LXQMISDK-638 | Firmware Download (UpgradeFirmware2k) to check if modem is set to RESET before initiating FW download |
| LXQMISDK-641 | Please add support for QMI_NAS_GET_NETWORK_TIME in SDK and SDK Lite |
| LXQMISDK-644 | [SLQS03.03.17] SMS Sample application is unable to display multiple sms due to buffer overflow |
| LXQMISDK-645 | Klocwork warning in Thermal mitigation test code |
| LXQMISDK-648 | User Entered APN fails using SetDefaultProfileLTEV2 |

| ID | Description |
|------------------------------|--|
| LXQMISDK-649 | [SLQS03.03.17] support 9x15 oem nvu file download |
| LXQMISDK-688 | SLQSSetDHCPv4ClientLeaseStatusCallback() fails with MC74xx FW release 13 |
| LXQMISDK-583 | [Linux][SDK][USB3] Turning on low current consumption causes sdk to fail to communicate to modem |
| LXQMISDK-626 | SDK and SDK Lite documentation to provide alternate APIs for deprecated APIs |
| LXQMISDK-627 | Please add sample code for how to read IMSI using SLQSUIReadTransparent |
| LXQMISDK-639 | [Linux SDK] sample application Firmware_Download cannot use -d as short option |
| LXQMISDK-646 | [Lite SDK] implement long sms pack/unpack function and port CUS85222 fix from main SDK to Lite SDK |
| LXQMISDK-668 | unpack_fms_SetImagesPreference does not set ImageTypesSize |
| LXQMISDK-671 | Add support for OEM PRI download in libSDP |
| LXQMISDK-672 | GetHomeNetwork get segment fault |
| LXQMISDK-673 | Failed to send long SMS with SLQSSendLongSMS |
| LXQMISDK-674 | SDK g++ Compiling issue |
| LXQMISDK-676 | Increase the number of profiles from 16 to 24 on 74xx modems |
| LXQMISDK-679 | unpack_dms_GetCustFeature prints incorrect log |
| LXQMISDK-680 | unpack_dms_SetFirmwarePreference prints incorrect log |
| LXQMISDK-681 | remove invalid note for SLQSSetSysSelectionPref |
| LXQMISDK-683 | Support for SLQSSwiSetCrashAction needed in SDK Lite |
| LXQMISDK-684 | SLQSFWINFO_PRIVERSION_SZ mismatch between SDK and SDK Lite |
| LXQMISDK-689 | change get_version to libpack_GetVersion() |

| ID | Description |
|------------------------------|---|
| LXQMISDK-691 | EM7455 firmware switching failed and caused low power mode when modem report error for setting image preference |
| LXQMISDK-700 | [Linux QMI SDK][3.3.17] Missing Lite header file in binary release package |

6.2. Known Issues

| ID | Description |
|--------------|---|
| LXQMISDK-693 | FW download on 9090 is reported as failure |
| LXQMISDK-701 | SLQS04.00.00] [Marvell] libsdp firmware download cannot take place on Marvell |

6.3. New API

| API | Comment |
|---------------------------------|--|
| SLQSGetNetworkTime | This API retrieves the last known network time information from the UE |
| SetLocSetExtPowerConfigCallback | This enables/disables the Set External Power Config Status callback function |

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 |
|----------------------------|---|
| SLQSNasNetworkTimeCallBack | Add pRadioInterface in nasNetworkTime structure |

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. |