



# Customer Release Note

## Linux QMI SDK 04.00.07



**SIERRA**  
WIRELESS®

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# Document History

| Version | Date         | Updates                         |
|---------|--------------|---------------------------------|
| 01.00   | May 26, 2017 | Creation                        |
| 01.01   | May 29, 2017 | Updated test reports at Table 7 |



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# Introduction

## 1.1. Document Scope

This document describes the content of the Linux QMI SDK 04.00.07 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   |
|----------------------|---|
| <b>Lite APIs</b>     | <ul style="list-style-type: none"><li>• <b>New Wrappers</b><ul style="list-style-type: none"><li>○ <b>PDS</b><ul style="list-style-type: none"><li>▪ StartPDSTrackingSessionExt</li><li>▪ StopPDSTrackingSession</li><li>▪ PDSInjectTimeReference</li><li>▪ GetXTRAAutomaticDownload</li><li>▪ SetXTRAAutomaticDownload</li><li>▪ GetXTRANetwork</li><li>▪ SetXTRANetwork</li><li>▪ GetXTRAVality</li><li>▪ ForceXTRADownload</li><li>▪ GetServiceAutomaticTracking</li><li>▪ SetServiceAutomaticTracking</li><li>▪ ResetPDSData</li><li>▪ SLQSSetAGPSConfig</li><li>▪ SLQSPDSInjectAbsoluteTimeReference</li><li>▪ SLQSGetAGPSConfig</li><li>▪ SLQSPDSInjectPositionData</li><li>▪ SLQSPDSDeterminePosition</li><li>▪ SLQSGetGPSStateInfo</li><li>▪ SLQSSetPositionMethodState</li></ul></li></ul></li><li>• <b>New Helper Functions</b><ul style="list-style-type: none"><li>○ liteqmi_helper_decode7bitAsciiEncString</li></ul></li><li>• Documentation Improvement on LOC/NAS APIs</li><li>• Fix crash in SDK LITE wrappers for GetHomeNetwork &amp; GetHomeNetwork3GPP2</li><li>• Fix lite-fw updater not accepting file path for WP760x</li><li>• Fix SDK Lite indications unpack functions returning error</li></ul> |
| <b>Miscellaneous</b> | <ul style="list-style-type: none"><li>• Fix RSRQ unpack in SLQSSetSignalStrengthsCallback</li><li>• Fix WP760x firmware download support on Marvell</li><li>• Fix Server URL unpack at SetLocGetServerCallback</li><li>• DM log over socket<ul style="list-style-type: none"><li>○ Support IPv4 &amp; IPv6</li><li>○ Chunk support</li><li>○ Fix dropped packets</li></ul></li></ul>  |

## 1.4. Removed Features

Table 2. UIM APIs to be removed on QMI SDK 04.00.09

| UIM APIs to be removed     | Replacement APIs         |
|----------------------------|--------------------------|
| UIMSetPINProtection        | SLQSUIMSetPinProtection  |
| UIMVerifyPIN               | SLQSUIMVerifyPin         |
| UIMUnblockPIN              | SLQSUIMUnblockPin        |
| UIMChangePIN               | SLQSUIMChangePin         |
| UIMGetPINStatus            | SLQSUIMGetCardStatus     |
| UIMGetICCID                | SLQSUIMReadTransparent   |
| UIMGetControlKeyStatus     | SLQSUIMGetConfiguration  |
| UIMSetControlKeyProtection | SLQSUIMDepersonalization |
| UIMUnblockControlKey       | SLQSUIMDepersonalization |
| GetIMSI                    | SLQSUIMReadTransparent   |
| SLQSUIMGetState            | SLQSUIMGetCardStatus     |

## 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              |
| [R-2]  | 41111055 | Linux QMI SDK Sanity Test Report – 04.00.07              |
| [R-3]  | 41111054 | Linux QMI SDK Software Validation Test Report – 04.00.07 |

# 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 (PID) 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 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 04.00.07.

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

| <b>Modem</b> | <b>Firmware</b>      |
|--------------|----------------------|
| MC7430       | SWI9X30C_02.24.05.06 |
| EM/MC7455    | SWI9X30C_02.24.05.06 |
| 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 |
| MC9090       | SWI6600U_02.04.06.00 |
| EM7355       | SWI9X15C_05.05.67.00 |
| EM7330       | SWI9X15C_05.05.65.00 |
| EM7305       | SWI9X15C_05.05.58.00 |
| WP7502       | SWI9X15Y_07.12.09.00 |
| WP7504       | SWI9X15Y_07.12.09.00 |
| WP8548       | SWI9X15Y_07.12.09.00 |
| WP7603       | SWI9X07Y_02.03.01.00 |

*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                | 04.00.07                         |
| Date of generation         | 26/05/2017                       |
| Binary archive name        | SLQS04.00.07.bin.tar.gz          |
| MD5 checksum               | b54e0e42847db3cd33fe78adedd2c234 |
| Binary archive name        | SLQS04.00.07-lite.bin.tar.gz     |
| MD5 checksum               | 8fa4282d2291bf0f059f4b373fef2c3e |
| Source code archive name   | SLQS04.00.07.tar.gz              |
| MD5 checksum               | cecadaaeffee4aaf4105001a7fab35c3 |
| 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-895</a> | parallel run packing demo   |
| <a href="#">LXQMISDK-896</a> | AirVantage agent fail to build on binary release                                      |
| <a href="#">LXQMISDK-892</a> | SLQSNasConfigSigInfo2 documentation is not complete                                   |
| <a href="#">LXQMISDK-890</a> | GetHomeNetwork and GetHomeNetwork3GPP2 crash on Mc73xx in CDMA                        |
| <a href="#">LXQMISDK-888</a> | lite-fw-download fails when WP FW components(CWE) files are downloaded separately     |
| <a href="#">LXQMISDK-886</a> | unpack_omaDmConfigTlv_t documentation for "Data fields" and "Parameters" do not match |
| <a href="#">LXQMISDK-885</a> | omaDmNotificationsTlv and unpack_omaDmNotificationsTlv_t documentation is missing     |
| <a href="#">LXQMISDK-884</a> | Documentation for omaDmFotaTlv and unpack_omaDmFotaTlv_t is not complete              |
| <a href="#">LXQMISDK-883</a> | QMI SDK Lite: Unexpected response from QMI Lite API                                   |
| <a href="#">LXQMISDK-881</a> | SLQSLOCGetServer() fails to return A-GPS SUPL server URL                              |
| <a href="#">LXQMISDK-880</a> | [Linux QMI SDK] needs an OTA message parser for EMM and ESM cause                     |
| <a href="#">LXQMISDK-879</a> | unpack_nas_SLQSNasSysInfoCallback_ind returns error                                   |
| <a href="#">LXQMISDK-878</a> | Fixing sources for poky 2.12  |
| <a href="#">LXQMISDK-876</a> | check undocumented API/param on loc.h   |
| <a href="#">LXQMISDK-873</a> | check undocumented API/param on nas.h   |
| <a href="#">LXQMISDK-871</a> | SLQSLOCGetServer documentation not complete   |

| ID                           | Description   |
|------------------------------|---|
| <a href="#">LXQMISDK-870</a> | Documentation regarding end call reason   |
| <a href="#">LXQMISDK-868</a> | SLQSSetSignalStrengthsCallback(0 does not provide radio interface for RSRQ tlv              |
| <a href="#">LXQMISDK-865</a> | firmware download does not work when no GobiNet driver was installed                        |
| <a href="#">LXQMISDK-860</a> | WP760x firmware download support on Marvell   |
| <a href="#">LXQMISDK-859</a> | lite-qmi-demo receive SEGFAULT on ARM   |
| <a href="#">LXQMISDK-858</a> | mc7304 reset to single serial port mode during lite-qmi-demo testing                        |
| <a href="#">LXQMISDK-857</a> | dm-logger - packets lost ?  |
| <a href="#">LXQMISDK-856</a> | Phase2 SDKLite SLQSLite Packingdemo sample application messes up the settings on the device |
| <a href="#">LXQMISDK-855</a> | [sapps firehose] Lite-fw updater needs file path instead of folder path for WP760x          |
| <a href="#">LXQMISDK-854</a> | PDS reset API and notifications for SDK Lite  |
| <a href="#">LXQMISDK-813</a> | Implement Lite APIs for PDS #2  |

## 6.2. Known Issues

| ID | Description |
|----|-------------|
|----|-------------|

## 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

## 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. |