



Customer Release Note

Linux QMI SDK 03.03.10



SIERRA
WIRELESS®

4134317
01.00
July 09, 2015

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.

Safety and Hazards

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.

Note: Some airlines may permit the use of cellular phones while the aircraft is on the ground and the door is open. Sierra Wireless modems may be used at this time.

The driver or operator of any vehicle should not operate the Sierra Wireless modem while in control of a vehicle. Doing so will detract from the driver or operator's control and operation of that vehicle. In some states and provinces, operating such communications devices while in control of a vehicle is an offence.

Limitations of Liability

This manual is provided "as is". Sierra Wireless makes no warranties of any kind, either expressed or implied, including any implied warranties of merchantability, fitness for a particular purpose, or noninfringement. The recipient of the manual shall endorse all risks arising from its use.

The information in this manual is subject to change without notice and does not represent a commitment on the part of Sierra Wireless. SIERRA WIRELESS AND ITS AFFILIATES SPECIFICALLY DISCLAIM LIABILITY FOR ANY AND ALL DIRECT, INDIRECT, SPECIAL, GENERAL, INCIDENTAL, CONSEQUENTIAL, PUNITIVE OR EXEMPLARY DAMAGES INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS OR REVENUE OR ANTICIPATED PROFITS OR REVENUE ARISING OUT OF THE USE OR INABILITY TO USE ANY SIERRA WIRELESS PRODUCT, EVEN IF SIERRA WIRELESS AND/OR ITS AFFILIATES HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES OR THEY ARE FORESEEABLE OR FOR CLAIMS BY ANY THIRD PARTY.

Notwithstanding the foregoing, in no event shall Sierra Wireless and/or its affiliates aggregate liability arising under or in connection with the Sierra Wireless product, regardless of the number of events, occurrences, or claims giving rise to liability, be in excess of the price paid by the purchaser for the Sierra Wireless product.

Customer understands that Sierra Wireless is not providing cellular or GPS (including A-GPS) services. These services are provided by a third party and should be purchased directly by the Customer.

SPECIFIC DISCLAIMERS OF LIABILITY: CUSTOMER RECOGNIZES AND ACKNOWLEDGES SIERRA WIRELESS IS NOT RESPONSIBLE FOR AND SHALL NOT BE HELD LIABLE FOR ANY DEFECT OR DEFICIENCY OF ANY KIND OF CELLULAR OR GPS (INCLUDING A-GPS) SERVICES.

Patents

This product may contain technology developed by or for Sierra Wireless Inc.

This product includes technology licensed from QUALCOMM®.

This product is manufactured or sold by Sierra Wireless Inc. or its affiliates under one or more patents licensed from InterDigital Group and MMP Portfolio Licensing.

Copyright

© 2014 Sierra Wireless. All rights reserved.

Trademarks

Sierra Wireless®, AirPrime®, AirLink®, AirVantage®, WISMO® and the Sierra Wireless and Open AT logos are registered trademarks of Sierra Wireless, Inc. or one of its subsidiaries.

Watcher® is a registered trademark of Netgear, Inc., used under license.

Windows® and Windows Vista® are registered trademarks of Microsoft Corporation.

Macintosh® and Mac OS X® are registered trademarks of Apple Inc., registered in the U.S. and other countries.

QUALCOMM® is a registered trademark of QUALCOMM Incorporated. Used under license.

Other trademarks are the property of their respective owners.

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 | July 09, 2015 | Creation |



Contents

| | |
|---|-----------|
| 1. INTRODUCTION | 7 |
| 1.1. Document Scope | 7 |
| 1.2. Document Audience | 7 |
| 1.3. New Features/Enhancements | 7 |
| 2. ABBREVIATIONS AND DEFINITIONS | 8 |
| 3. RELATED DOCUMENTATION | 9 |
| 4. COMPATIBILITY | 10 |
| 5. SOFTWARE RELEASE DESCRIPTION | 12 |
| 6. SOFTWARE CHANGES DESCRIPTION | 13 |
| 6.1. Validated Corrections/Improvements | 13 |
| 6.2. Known Issues | 14 |
| 6.3. New API..... | 14 |
| 6.4. Minor API prototype change..... | 15 |
| 6.5. Macro Usage | 15 |



List of Tables

| | | |
|----------|---|----|
| Table 1. | New Features/Enhancements | 7 |
| Table 2. | Abbreviations and Definitions | 8 |
| Table 3. | Related Documentation | 9 |
| Table 4. | Hardware Compatibility | 10 |
| Table 5. | Supported Application-Mode VID/PIDs | 10 |
| Table 6. | Supported Boot-Mode VID/PIDs | 10 |
| Table 7. | Modem and Firmware tested with the SDK..... | 11 |
| Table 8. | Release Information | 12 |



Introduction

1.1. Document Scope

This document describes the content of the Linux QMI SDK 03.03.10 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 |
|---------------------------|--|
| SWI OMA-DM refresh | Sync API with latest specification for Sprint Activation |
| Usability Improvement | <ul style="list-style-type: none">Flag deprecated API in Doxygen Remove deprecated API usage in Sample Apps |
| Documentation Improvement | <ul style="list-style-type: none">Add how to blacklist qcserial & qmi_wwan kernel modulesGenerate API doc in HTML & PDF |
| New Ramdump tool | Add support for MC74xx which use Sahara protocol |

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

Table 3. Related Documentation

| Ref. # | Doc. # | Document title |
|--------|---------|---|
| [R-1] | 4110914 | Linux QMI SDK Application Developer's Guide |

4.

Compatibility

Table 4. Hardware Compatibility

| Devices Compatibility List |
|----------------------------|
| AR7554 |
| EM73xx |
| MC73xx |
| MC77xx |
| MC78xx |
| MC83x5 |
| MC9090 |
| SL9090 |
| WP71xx |
| EM7455 |

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 5. 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 6. 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 03.03.10.

Table 7. Modem and Firmware tested with the SDK

| Modem | Firmware |
|--------|---|
| EM7455 | SWI9X30C_01.03.00.00 |
| EM7305 | SWI9X15C_05.05.58.00 |
| EM7330 | SWI9X15C_05.05.63.00 |
| EM7355 | SWI9X15C_05.05.58.00 |
| MC7304 | SWI9X15C_05.05.58.00 |
| MC7305 | SWI9X15C_05.05.58.00 |
| MC7330 | SWI9X15C_05.05.63.00 |
| MC7350 | SWI9C15C_05.05.58.01 |
| MC7354 | SWI9X15C_05.05.58.00 |
| MC7355 | SWI9X15C_05.05.58.00 |
| MC7710 | SWI9200X_03.05.29.03 |
| MC7750 | SWI9600M_03.05.13.02 |
| MC9090 | SWI6600U_02.04.03.00 / SWI6600H_02.04.03.00 |

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

5.

Software Release Description

Table 8. Release Information

| Component | Content |
|----------------------------|----------------------------------|
| SDK version | 03.03.10 |
| Date of generation | 2015/07/09 |
| Binary archive name | SLQS03.03.10.bin.tar.gz |
| MD5 checksum | f3f2082c02e14914c0ae384661667199 |
| Source code archive name | SLQS03.03.10.tar.gz |
| MD5 checksum | 73bdc162c654b8f32134e2969acbc45a |
| Processor compatibility | x86, ARM, PowerPC, MIPS |
| Linux kernel compatibility | 2.6.18 to 3.13 |
| USB drivers compatibility | S2.24N2.33 |

6.

Software Changes Description

6.1. Validated Corrections/Improvements

| ID | Description |
|----------|--|
| DEV78237 | Suppress compile output Message |
| ANO78290 | Firmware Download fails on WP8548G device |
| ANO80661 | SWI OMA-DM QMI Service Interface specification v1.6 api doc update |
| DEV80684 | Linux SDK, add RSRP in SLQSGetSignalStrength API [SDK-IMPROV-JUN15] |
| ANO80728 | [Linux SDK] [EM7455] Firmware download Sample application fails to image switch |
| ANO81296 | msgid type in qmqmisvcresponse structure is not correct |
| ANO81297 | [Linux SDK] [Documentation] Indicate deprecated Apis in documentation |
| DEV81897 | Sync API wiith QMI latest specs affecting Connection manager sample app |
| ANO79753 | nasGetSigInfoResp structure documentation typo needs to be corrected |
| ANO79763 | [SLQS03.03.09] some special characters are not encoded correctly |
| ANO79806 | [AVMS]DevTree handler hang when AT port in non-echo mode(ate0) |
| ANO80932 | SDK sample applications use APIs that are marked as deprecated [SDK-IMPROV-JUN15] |
| DEV80991 | SDK documentation format can be updated [SDK-IMPROV-JUN15] |
| ANO81041 | RM Transfer statistic callback is not cleared correctly |
| CUS79635 | swiQosFilter->pNxtHdrProto documentation needs to be updated |
| ANO79715 | ECIOThresh structure does not match QMI specification |
| ANO79716 | LTESNRThresh structure does not match QMI specification [SDK-IMPROV-JUN15] |
| ANO79720 | RSRQThresh structure does not match QMI specification [SDK-IMPROV-JUN15] |
| ANO79721 | RSRPThresh structure does not match QMI specification [SDK-IMPROV-JUN15] |
| ANO79722 | LTESigRptCfg structure does not match QMI specification [SDK-IMPROV-JUN15] |
| ANO79725 | CDMASSInfo structure does not match QMI specification [SDK-IMPROV-JUN15] |
| ANO79726 | HDRSSInfo structure does not match QMI specification [SDK-IMPROV-JUN15] |
| ANO79727 | pGSMInfo of nasSigInfo structure does not match QMI specification [SDK-IMPROV-JUN15] |
| ANO79728 | LTESInfo structure does not match QMI specification [SDK-IMPROV-JUN15] |
| ANO80754 | SLQSGetPidof documentation is missing in SDK [SDK-IMPROV-JUN15] |
| DEV80755 | eAPI_DCS_GET_DEVICE_MODE and eDevState enums are duplicates. One of them can be removed [SDK-IMPROV-JUN15] |
| ANO80759 | sQosFlowStat documentation is not correct [SDK-IMPROV-JUN15] |

| ID | Description |
|----------|---|
| ANO80763 | Documentation of "reason" field is missing in tFNQoSStatus [SDK-IMPROV-JUN15] |
| ANO80820 | [Linux QMI SDK][Firmware Download App] Firmware Download App redownloads FW when attempting to download the same FW |
| DEV80841 | migrate to new ramdump tool |
| DEV80853 | multi modems not recognize |
| ANO80869 | SLQSGetNetStatistic returns the same value for Rx and Tx bytes |
| ANO80906 | eQCWWAN_ERR_SWIIM_FIRMWARE_NOT_DOWNLOADED not sent for NVU item |
| ANO81478 | [Linux SDK] SMS sample application does not show text messages at times |
| DEV81493 | implement QMI_NAS_CONFIG_SIG_INFO2 since QMI_NAS_SET_EVENT_REPORT is deprecated |
| CUS75004 | Sample apps api usage consistency |
| CUS79470 | [Linux QMI SDK] Update SWI OMA Module to match SWI OMA-DM QMI Service Interface specification v1.6 [SDK-IMPROV-JUN15] |
| CUS79551 | [Linux QMI SDK] SLQSSetQosPriEventCallback() documentation needs to specify that this event is for UMTS alone |
| CUS80635 | SDK to add RSRP delta in SLQSSetSignalStrengthsCallback() [SDK-IMPROV-JUN15] |
| CUS80639 | Please implement QMI_WDS_GET_DATA_BEARER_TECHNOLOGY_EX as QMI_WDS_GET_DATA_BEARER_TECHNOLOGY is deprecated [SDK-IMPROV-JUN15] |
| CUS80641 | Please consider to add roaming indicator in SLQSSetServingSystemCallback() [SDK-IMPROV-JUN15] |
| ANO79675 | SLQSNasGetSigInfo provides incorrect values |

6.2. Known Issues

| ID | Description |
|----------|---|
| ANO82126 | SetRMTransferStatisticsCallback() RXOKByteCount is always 0 |
| ANO82014 | firmware download (MBN mode) failed sometimes |

6.3. New API

| API | Comment |
|-------------------------|---|
| SLQSNasSigInfo2CallBack | Enables/disables the Signal Info callback function, replacing deprecated SLQSNasSigInfoCallBack for MC73xx & MC74xx |
| SLQSGetSerialNumbers | Returns all the serial numbers assigned to the device. These serial numbers include the ESN (Electronic serial number of the device), the IMEI (International Mobile Equipment Identity) and MEID (Mobile Equipment Identifier) |
| SLQSOMADMStartSession2 | Starts an OMA-DM session |

| API | Comment |
|--------------------------------|---|
| SLQSOMADMSendSelection2 | Sends the specified OMA-DM selection for the current network initiated session |
| SLQSOMADMSetSettings3 | Sets the settings related to OMADM. These settings are saved on the modem across power cycles |
| SLQSGetDataBearerTechnologyExt | This API Get Data Bearer Technology. This is a new API to replace API GetDataBearerTechnology(). see the description of GetDataBearerTechnology() to get more information |

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 |
|---|---|
| SetFwDIdCompletionCbK | The second parameter in callback is renamed from psessionTypeFields to pEventFields |
| SLQSSetServingSystemCallback | Add Roaming Info(RoamingInfo) in callback |
| SLQSSetSignalStrengthsCallback | <ul style="list-style-type: none"> Add SNR & RSRP info in callback Add SNR & RSRP delta settings when registering callback |
| SLQSNasSigInfoCallBack | Updated callback function prototype (tFNSigInfo) <ul style="list-style-type: none"> Update pGSMSigInfo to signed Add pRscp Updated member in TDSCDMASigInfoExt to floating point |
| GetRFInfo, SLQSGetSignalStrength, SLQSNasGetSigInfo | Corrected signedness of structure's member returned |
| SLQSOMADMGetSessionInfo | Added session type, state and retry count in returned structure |
| SLQSOMADMGetSettings2 | Added auto check in returned 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. |