



**Linux QMI SDK 04.00.18**

## **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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*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.*

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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
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2.4	Oct 26, 2018	Updated for 04.00.17
2.5	Dec 21, 2018	Updated for 04.00.18

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# 1. Introduction

This document describes the contents of the Linux QMI SDK 04.00.17 release.

## 1.1. New Features/Enhancements

Table 1. New Features/Enhancements

Feature	Description
<b>New API to change modem USB configuration</b>	<ul style="list-style-type: none"> <li>QMI_SWI_DMS_GET_HOST_INTF_COMP and QMI_SWI_DMS_SET_HOST_INTF_COMP implementation in full and lite SDK</li> </ul>
<b>New API to support PCI scan type</b>	<ul style="list-style-type: none"> <li>Obtain MCC/MNC and global cell ID for LTE network on WP76xx and EM75xx modules</li> </ul>
<b>Documentation update</b>	<ul style="list-style-type: none"> <li>Band class value updated</li> </ul>
<b>Lite SDK API can show availability of optional TLV</b>	<ul style="list-style-type: none"> <li>Add bit mask to show availability of optional return value from modem</li> <li>All QMI service was supported</li> </ul>

## 1.2. Lite SDK APIs added

- **NAS:**
  - pack\_nas\_PerformNetworkScanPCI
- **SWIDMS:**
  - pack\_swidms\_SLQSSwiDmsGetUsbComp
  - unpack\_swidms\_SLQSSwiDmsGetUsbComp
  - pack\_swidms\_SLQSSwiDmsSetUsbComp
  - unpack\_swidms\_SLQSSwiDmsSetUsbComp

## 1.3. Lite SDK APIs updated

- **NAS:**
  - unpack\_nas\_PerformNetworkScan
- **WDS:**
  - unpack\_wds\_SLQSStartDataSession
  - unpack\_wds\_SLQSSetPacketSrvStatusCallback
  - unpack\_wds\_SLQSStopDataSession
  - unpack\_wds\_SLQSGetRuntimeSettings
  - unpack\_wds\_SLQSSetWdsEventCallback\_ind
  - unpack\_wds\_SLQSSetWdsEventCallback
  - unpack\_wds\_SLQSCreateProfile
  - unpack\_wds\_SLQSModifyProfile
  - unpack\_wds\_SLQSGetProfileSettings

- unpack\_wds\_GetSessionState
  - unpack\_wds\_GetDefaultProfile
  - unpack\_wds\_GetConnectionRate
  - unpack\_wds\_GetPacketStatus
  - unpack\_wds\_GetSessionDuration
  - unpack\_wds\_GetDormancyState
  - unpack\_wds\_SLQSDeleteProfile
  - unpack\_wds\_SetDefaultProfile
  - unpack\_wds\_SLQSGet3GPPConfigItem
  - unpack\_wds\_SLQSSet3GPPConfigItem
  - unpack\_wds\_GetMobileIP
  - unpack\_wds\_GetMobileIPProfile
  - unpack\_wds\_SLQSGetCurrDataSystemStat
  - unpack\_wds\_GetLastMobileIPError
  - unpack\_wds\_RMSetTransferStatistics
  - unpack\_wds\_SetMobileIPProfile
  - unpack\_wds\_SLQSWdsSwiPDPRuntimeSettings
  - unpack\_wds\_SLQSGetDUNCallInfo
  - unpack\_wds\_SLQSGetDataBearerTechnology
  - unpack\_wds\_SLQSSetIPFamilyPreference
  - unpack\_wds\_SetDefaultProfileNum
  - unpack\_wds\_GetDefaultProfileNum
  - unpack\_wds\_SLQSSetDHCPv4ClientConfig
  - unpack\_wds\_GetPacketStatistics
  - unpack\_wds\_GetByteTotals
  - unpack\_wds\_SLQSGetCurrentChannelRate
  - unpack\_wds\_SLQSSetLoopback
  - unpack\_wds\_SLQSSetLoopback
  - unpack\_wds\_RMTransferStatistics\_ind
  - unpack\_wds\_DHCPv4ClientLeaseChange
  - unpack\_wds\_DHCPv4ClientLease\_ind
  - unpack\_wds\_SetMobileIP
  - unpack\_wds\_SetMobileIPParameters
  - unpack\_wds\_SetAutoconnect
  - unpack\_wds\_GetAutoconnect
  - unpack\_wds\_SLQSWdsSetEventReport
  - unpack\_wds\_SLQSWdsGoDormant
  - unpack\_wds\_SLQSWdsGoActive
  - unpack\_wds\_SLQSResetPacketStatics
  - unpack\_wds\_SLQSSetDHCPv4ClientConfig
  - unpack\_wds\_GetDataBearerTechnology
  - unpack\_wds\_SetMuxID
  - unpack\_wds\_SLQSDUNCallInfoCallBack\_ind
- **VOICE:**
- unpack\_voice\_OriginateUSSD
  - unpack\_voice\_AnswerUSSD
  - unpack\_voice\_CancelUSSD
  - unpack\_voice\_SLQSVoiceDialCall
  - unpack\_voice\_SLQSVoiceEndCall
  - unpack\_voice\_SLQSVoiceSetSUPSService
  - unpack\_voice\_SLQSVoiceSetConfig
  - unpack\_voice\_SLQSVoiceAnswerCall
  - unpack\_voice\_SLQSVoiceGetCLIR
  - unpack\_voice\_SLQSVoiceGetCLIP
  - unpack\_voice\_SLQSVoiceGetCallWaiting

- unpack\_voice\_SLQSVoiceGetCallBarring
- unpack\_voice\_SLQSVoiceGetCallForwardingStatus
- unpack\_voice\_SLQSVoiceSetCallBarringPassword
- unpack\_voice\_SLQSVoiceGetCallInfo
- unpack\_voice\_SLQSVoiceGetAllCallInfo
- unpack\_voice\_SLQSVoiceManageCalls
- unpack\_voice\_SLQSVoiceBurstDTMF
- unpack\_voice\_SLQSVoiceStartContDTMF
- unpack\_voice\_SLQSVoiceStopContDTMF
- unpack\_voice\_SLQSVoiceSendFlash
- unpack\_voice\_SLQSVoiceSetPreferredPrivacy
- unpack\_voice\_SLQSVoiceIndicationRegister
- unpack\_voice\_SLQSVoiceGetConfig
- unpack\_voice\_SLQSVoiceOrigUSSDNoWait
- unpack\_voice\_SLQSVoiceBindSubscription
- unpack\_voice\_SLQSVoiceALSSetLineSwitching
- unpack\_voice\_SLQSVoiceALSSelectLine
- unpack\_voice\_SLQSVoiceGetCOLP
- unpack\_voice\_SLQSVoiceGetCOLR
- unpack\_voice\_SLQSVoiceGetCNAP
- unpack\_voice\_SLQSOriinateUSSD
- unpack\_voice\_USSDNotificationCallback\_ind
- unpack\_voice\_SLQSVoiceSUPSCallback\_ind
- unpack\_voice\_allCallStatusCallback\_ind
- unpack\_voice\_voicePrivacyChangeCallback\_ind
- unpack\_voice\_DTMFEventCallback\_ind
- unpack\_voice\_SUPSNotificationCallback\_ind
- unpack\_voice\_OTASPStatusCallback\_ind
- unpack\_voice\_VoiceInfoRecCallback\_ind

○ **UIM:**

- unpack\_uim\_GetCardStatus
- unpack\_uim\_VerifyPin
- unpack\_uim\_UnblockPin
- unpack\_uim\_SetPinProtection
- unpack\_uim\_ChangePin
- unpack\_uim\_ReadTransparent
- unpack\_uim\_SLQSUIMEventRegister
- unpack\_uim\_SLQSUIMSetStatusChangeCallBack\_ind
- unpack\_uim\_SLQSUIMGetSlotsStatus
- unpack\_uim\_SLQSUIMSwitchSlot
- unpack\_uim\_SetUimSlotStatusChangeCallback\_ind
- unpack\_uim\_SLQSUIMPowerUp
- unpack\_uim\_SLQSUIMPowerDown
- unpack\_uim\_SLQSUIMReset
- unpack\_uim\_SLQSUIMRefreshOK
- unpack\_uim\_SLQSUIMRefreshRegister
- unpack\_uim\_SLQSUIMRefreshComplete
- unpack\_uim\_SLQSUIMRefreshGetLastEvent
- unpack\_uim\_SLQSUIMGetFileAttributes
- unpack\_uim\_SLQSUIMDepersonalization
- unpack\_uim\_SLQSUIMAuthenticate
- unpack\_uim\_SLQSUIMGetConfiguration
- unpack\_uim\_SLQSUIMRefreshCallback\_Ind

- **TMD:**
  - unpack\_tmd\_SLQSTmdGetMitigationDevList
  - unpack\_tmd\_SLQSTmdGetMitigationLvl
  - unpack\_tmd\_SLQSTmdRegNotMitigationLvl
  - unpack\_tmd\_SLQSTmdDeRegNotMitigationLvl
  - unpack\_tmd\_SLQSTmdMitigationLvlRptCallback\_ind
  
- **SWIOMA**
  - unpack\_swioma\_SLQSOMADMStartSession
  - unpack\_swioma\_SLQSOMADMCancelSession
  - unpack\_swioma\_SLQSOMADMGetSettings
  - unpack\_swioma\_SLQSOMADMSetSettings
  - unpack\_swioma\_SLQSOMADMSendSelection
  - unpack\_swioma\_SLQSOMADMGetSessionInfo
  - unpack\_swioma\_SLQSOMADMAAlertCallback
  - unpack\_swioma\_SLQSOMADMAAlertCallback\_ind
  
- **SWIAUDIO**
  - unpack\_swiaudio\_SLQSGetM2MAudioProfile
  - unpack\_swiaudio\_SLQSSetM2MAudioProfile
  - unpack\_swiaudio\_SLQSGetM2MAudioVolume
  - unpack\_swiaudio\_SLQSSetM2MAudioVolume
  - unpack\_swiaudio\_SLQSSetM2MAudioAVCFG
  - unpack\_swiaudio\_SLQSSetM2MAudioLPBK
  - unpack\_swiaudio\_SLQSSetM2MAudioNVDef
  - unpack\_swiaudio\_SLQSGetM2MSpkrGain
  - unpack\_swiaudio\_SLQSSetM2MSpkrGain
  - unpack\_swiaudio\_SLQSGetM2MAVMute
  - unpack\_swiaudio\_SLQSSetM2MAVMute

## 1.4. Full SDK APIs added

- **NAS:**
  - SLQSPerformNetworkScanPCI
  
- **SWIDMS:**
  - SLQSSwiDmsGetUsbComp
  - SLQSSwiDmsSetUsbComp

# 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
WP7601/WP7603/WP7607/WP7608/WP7609
WP7702
EM7565/EM7511

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

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

Table 5. Supported Boot-Mode VID/PIDs

<b>VID</b>	1199	1199	1199	1199	1199	1199	1199	1199	1199	3F0	1199	1199	1199
<b>PID</b>	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.

=The following table enumerates the modules with their corresponding firmware that were tested with Linux QMI SDK 04.00.17.

**Table 6. Modem and Firmware tested with the SDK**

<b>Modem</b>	<b>Firmware</b>
WP7603	SWI9X07Y_02.25.00.00
WP7607	SWI9X07Y_02.25.00.00
WP7608	SWI9X07Y_02.25.00.00
WP7609	SWI9X07Y_02.25.00.00
WP7702	SWI9X06Y_02.22.04.00
EM7565	SWI9X50C_01.08.04.00
EM7511	SWI9X50C_01.08.04.00
EM7455	SWI9X30C_02.32.02.00
MC7305	SWI9X15C_05.05.67.00
WP7502	SWI9X15Y_07.13.07.00

*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

<b>SDK version</b>	04.00.18
<b>Date of generation</b>	21/12/2018
<b>Binary archive name</b>	SLQS04.00.18.bin.tar.gz
<b>Binary archive name</b>	SLQS04.00.18-lite.bin.tar.gz
<b>Source code archive name</b>	SLQS04.00.18.src.tar.gz
<b>Source code archive name</b>	SLQS04.00.18-lite.src.tar.gz
<b>Processor compatibility</b>	x86, ARM, PowerPC, MIPS
<b>Linux kernel compatibility</b>	2.6.32 to 4.19
<b>USB driver compatibility</b>	S2.36N2.55

## 6. Software Changes

### 6.1. Validated Corrections/Improvements

Table 8. Validated Corrections/Improvements

ID	Description
<a href="#">LXQMISDK-1359</a>	[MC7455][SW] QMI SDK-Compiling errors with "SLQS04.00.17.bin.tar"
<a href="#">LXQMISDK-1331</a>	some character symbols such as 'Δ', 'Φ', and 'Ω' cannot be displayed
<a href="#">LXQMISDK-1328</a>	SDKLITE documentation for sms.h is not complete
<a href="#">LXQMISDK-1327</a>	Band Class values need to be updated
<a href="#">LXQMISDK-1324</a>	[Developer Studio Swiflash] include Raspberry Pi build in the release tar ball
<a href="#">LXQMISDK-1314</a>	[FWATE] multiple IPV4V6 data call cannot ping through
<a href="#">LXQMISDK-1312</a>	create API for QMI_SWI_DMS_GET_HOST_INTF_COMP and QMI_SWI_DMS_SET_HOST_INTF_COMP
<a href="#">LXQMISDK-1311</a>	change SDK src and bin tar file name
<a href="#">LXQMISDK-1310</a>	SLQSGetImageInfo should display the full PRI version with _000
<a href="#">LXQMISDK-1301</a>	Optimize unpack_fms_GetStoredImages() stack usage
<a href="#">LXQMISDK-1266</a>	Unable to set APN on WP7702
<a href="#">LXQMISDK-1255</a>	Add support ability to obtain MCC/MNC and Global cell ID in SLQSPerformNetworkScan
<a href="#">LXQMISDK-1234</a>	Provide optimized method to check if TLV is present in wds service
<a href="#">LXQMISDK-1233</a>	Provide optimized method to check if TLV is present in voice service
<a href="#">LXQMISDK-1232</a>	Provide optimized method to check if TLV is present in uim service
<a href="#">LXQMISDK-1231</a>	Provide optimized method to check if TLV is present in tmd service
<a href="#">LXQMISDK-1230</a>	Provide optimized method to check if TLV is present in swioma service
<a href="#">LXQMISDK-1229</a>	Provide optimized method to check if TLV is present in swiaudio service
<a href="#">LXQMISDK-307</a>	[Linux SDK] MBIM Driver Support

### 6.2. Known Issues

Table 9. Known Issues

ID	Description

### 6.3. Minor API Prototype Change

*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.