



Customer Release Note

Linux Drivers



SIERRA
WIRELESS®

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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.

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Consult our website for up-to-date product descriptions, documentation, application notes, firmware upgrades, troubleshooting tips, and press releases: www.sierrawireless.com

Document History

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1. Overview

1.1. Purpose

This document describes the modifications to the Sierra Wireless Linux Drivers for kernel-2.6 in the SierraLinuxdriversk2.6s1.7.36n1.22 release.

1.2. Naming Convention

The release is named SierraLinuxdriversk2.6.s1.7.22 using the following convention:

SierraLinuxdriversk2.6.XY.sA.B.CnD.E.F

Where:

- *k* indicates kernel version
- *s* indicates serial driver sierra
- *n* indicates network driver sierra_net
- XY indicates the minor version number for kernel-2.6 release, e.g. k2.6.31
- A.B.C indicate the release version for Sierra Linux usb serial driver sierra
- D.E.F indicates the release version for Sierra Linux net usb driver sierra_net



2. Release History

2.1. Release Summary

Release	Date
SierraLinuxdriversk2.6s1.7.34n1.20	August, 6, 2010
SierraLinuxdriversk2.6s1.7.36n1.22	November 30, 2010
SierraLinuxdriversk2.6s1.7.40n1.26	May 11, 2011
SierraLinuxdriversk2.6s1.7.40n3.0	July 05, 2011
SierraLinuxdriversk2.6s1.7.40n3.2	September 22, 2011
SierraLinuxdriversk2.6s1.7.46n3.2	February 6, 2013
SierraLinuxdriversk2.6s1.7.48n3.6	July 19, 2013
SierraLinuxdriversk2.6s1.7.50n3.6	December 10, 2013

2.2. SierraLinuxdriversk2.6.XYs1.7.34n1.20

2.2.1. Kernel Range Support

SierraLinuxdriversk2.6.XYs1.7.34n1.20 is the Sierra Wireless release targeted to Linux kernels 2.6.20 to 2.6.34.

2.2.2. Release Package Content

The release package consists of the following items.

Item Name	Version	Linux Driver Type
Sierra	1.7.34	USB serial driver
sierra_net	1.20	Network USB driver

2.2.3. Platforms Tested

2.2.3.1. X86

Testing performed on the X86 platform includes basic functionality, stability, connection management and throughput testing.

Selective suspend has also been tested.

2.2.3.2. ARM

Testing performed on the ARM platform includes basic functionality, stability, connection management and throughput testing.

Selective suspend is not tested.

2.2.4. Supported Devices

This release supports generic QMI MC7700/7710/7750 devices.

These devices are configured with VID = 0x1199 and PID = 0x68A2.

Table 1. Interface Enumeration

I/F Enumeration Order	I/F Num	Notes
DM	0	MC7750 PID
NMEA	2	
MDM	3	
NET	8	

2.2.5. Sierra Driver Updates

The following enumerates the major modifications to Linux drivers implemented by Sierra Wireless.

- Add MC7525 support (VID: 0x03f0, PID: 0x211D)

2.2.6. sierra_net Driver Updates

- DHCP handling
- Fix ZLP
- Fix logging in sierra_net_bind
- Update fw attribute retrieve at sierra_net_bind
- Add 64bit CPU support

2.2.7. Known Issues

- IPv6 support
Only IPv4 is currently supported in the sierra_net driver.

2.3. SierraLinuxdriversk2.6.XYs1.7.36n1.22

2.3.1. Kernel Range Support

SierraLinuxdriversk2.6.XYs1.7.36n1.22 is the Sierra Wireless release targeted to Linux kernels 2.6.20 to 2.6.34.

2.3.2. Release Package Content

The release package consists of the following items.

Item Name	Version	Linux Driver Type
sierra	1.7.36	USB serial driver
sierra_net	1.22	Network USB driver

2.3.3. Platforms Tested

2.3.3.1. X86

Testing performed on the X86 platform includes basic functionality, stability, connection management and throughput testing.

Selective suspend has also been tested.

2.3.3.2. ARM

Testing performed on the ARM platform includes basic functionality, stability, connection management and throughput testing.

Selective suspend is not tested.

2.3.4. Supported Devices

This release supports generic QMI MC7700/7710/7750 devices.

These devices are configured with VID = 0x1199 and PID = 0x68A2.

Table 2. Interface Enumeration

I/F Enumeration Order	I/F Num	Notes
DM	0	MC7750 PID
NMEA	2	
MDM	3	
NET	8	

2.3.5. Sierra Driver Updates

The following enumerates the major modifications to Linux drivers implemented by Sierra Wireless.

- USB 308 for ATT VID
Added USB 308 for ATT VID in sierra id_table (BZ 24092);
Added support for USB 308 with ATT VID in products list BZ 24092. Added USB 308 for ATT VID in sierra id_table.
- Deleted PID 0x0029 (eagle)
Deleted PID 0x0029 (eagle) from sierra serial driver (BZ 25279).
- Serial Port Deadlock Prevention

Note: This modification only applies to Linux kernels 2.6.32 and up.

Serial port deadlock prevented with Linux kernels 2.6.32 and up BZ 24714).

2.3.6. sierra_net Driver Updates

- USB 308 for ATT VID
Added support for USB 308 for ATT VID (BZ 24092).
- SYNC Restrictions
BZ 27214: Add sierra_net_open and sierra_net_stop interfaces – sync is now issued only on sierra_net_open() instead of from sierra_net_bind; shutdown command is now send from within sierra_net_stop().
- Receive Buffer Size Minimized
BZ 24391: Decrease Rx Buffer size to 1540 bytes for optimal throughput.
- Fix for “Link type unsupported: 0xff”
Modifications in sierra_net_parse_lsi() for BZ 27020: Fix sierra_net driver response "Link type unsupported: 0xff "

2.3.7. Known Issues

- IPv6 support
Only IPv4 is currently supported in the sierra_net driver.

2.4. SierraLinuxdriversk2.6.XYs1.7.40n1.26

2.4.1. Kernel Range Support

SierraLinuxdriversk2.6.XYs1.7.40n1.26 is the Sierra Wireless release targeted to Linux kernels 2.6.20 to 2.6.34.

2.4.2. Release Package Content

The release package consists of the following items.

Item Name	Version	Linux Driver Type
sierra	1.7.40	USB serial driver
sierra_net	1.26	Network USB driver

2.4.3. Platforms Tested

2.4.3.1. X86

Testing performed on the X86 platform includes basic functionality, stability, connection management and throughput testing.

Selective suspend has also been tested.

2.4.3.2. ARM

Testing performed on the ARM platform includes basic functionality, stability, connection management and throughput testing.

Selective suspend is not tested.

2.4.4. Supported Devices

This release supports generic QMI MC7700/7710/7750 devices.

These devices are configured with VID = 0x1199 and PID = 0x68A2.

Table 3. Interface Enumeration

I/F Enumeration Order	I/F Num	Notes
DM	0	MC7750 PID
NMEA	2	
MDM	3	
NET	8	

2.4.5. Sierra Driver Updates

The following enumerates the major modifications to Linux drivers implemented by Sierra Wireless.

- Add support for AC313 (VID: 0x0F3D, PID: 0x68AA)

2.4.6. sierra_net Driver Updates

- Add support for AC313 (VID: 0x0F3D, PID: 0x68AA)

2.4.7. Known Issues

- IPv6 support
Only IPv4 is currently supported in the sierra_net driver.

2.5. SierraLinuxdriversk2.6.XYs1.7.40n3.0

2.5.1. Kernel Range Support

SierraLinuxdriversk2.6.XYs1.7.40n3.0 is the Sierra Wireless release targeted to Linux kernels 2.6.20 to 2.6.34.

2.5.2. Release Package Content

The release package consists of the following items.

Item Name	Version	Linux Driver Type
sierra	1.7.40	USB serial driver
sierra_net	3.0	Network USB driver

2.5.3. Platforms Tested

2.5.3.1. X86

Testing performed on the X86 platform includes basic functionality, stability, connection management and throughput testing.

Selective suspend has also been tested.

2.5.3.2. ARM

Testing performed on the ARM platform includes basic functionality, stability, connection management and throughput testing.

Selective suspend is not tested.

2.5.4. Supported Devices

This release supports generic QMI MC7700/7710/7750 devices.

These devices are configured with VID = 0x1199 and PID = 0x68A2.

Table 4. Interface Enumeration

I/F Enumeration Order	I/F Num	Notes
DM	0	MC7750 PID
NMEA	2	
MDM	3	
NET	8	

2.5.5. sierra_net Driver Updates

- remove DHCP handling
- support selective suspend
- fix rx urb size issue

2.5.6. Known Issues

- IPv6 support
Only IPv4 is currently supported in the sierra_net driver.

2.6. SierraLinuxdriversk2.6.XYs1.7.40n3.2

2.6.1. Kernel Range Support

SierraLinuxdriversk2.6.XYs1.7.40n3.2 is the Sierra Wireless release targeted to Linux kernels 2.6.20 to 2.6.38.

2.6.2. Release Package Content

The release package consists of the following items.

Item Name	Version	Linux Driver Type
sierra	1.7.40	USB serial driver
sierra_net	3.2	Network USB driver

2.6.3. Platforms Tested

2.6.3.1. X86

Testing performed on the X86 platform includes basic functionality, stability, connection management and throughput testing.

Selective suspend has also been tested.

2.6.3.2. ARM

Testing performed on the ARM platform includes basic functionality, stability, connection management and throughput testing.

Selective suspend is not tested.

2.6.4. Supported Devices

This release supports generic QMI MC7700/7710/7750 devices.

These devices are configured with VID = 0x1199 and PID = 0x68A2.

Table 5. Interface Enumeration

I/F Enumeration Order	I/F Num	Notes
DM	0	MC7750 PID
NMEA	2	
MDM	3	
NET	8	

2.6.5. sierra_net Driver Updates

- IPv6 support
- Support kernel 2.6.38

2.6.6. Known Issues

2.7. SierraLinuxdriversk2.6.XYs1.7.46n3.2

2.7.1. Kernel Range Support

SierraLinuxdriversk2.6.XYs1.7.46n3.2 is the Sierra Wireless release targeted to Linux kernels 2.6.20 to 3.4.

2.7.2. Release Package Content

The release package consists of the following items.

Item Name	Version	Linux Driver Type
sierra	1.7.46	USB serial driver
sierra_net	3.2	Network USB driver

2.7.3. Platforms Tested

2.7.3.1. X86

Testing performed on the X86 platform includes basic functionality, stability, connection management and throughput testing.

Selective suspend has also been tested.

2.7.3.2. ARM

Testing performed on the ARM platform includes basic functionality, stability, connection management and throughput testing.

Selective suspend is not tested.

2.7.4. Supported Devices

This release supports generic QMI MC7700/7710/7750 devices.

These devices are configured with VID = 0x1199 and PID = 0x68A2.

Table 6. Interface Enumeration

I/F Enumeration Order	I/F Num	Notes
DM	0	MC7750 PID
NMEA	2	
MDM	3	
NET	8	

2.7.5. sierra Driver Updates

- Support kernel 3.4

2.7.6. Known Issues

2.8. SierraLinuxdriversk2.6.XYs1.7.48n3.6

2.8.1. Kernel Range Support

SierraLinuxdriversk2.6.XYs1.7.48n3.6 is the Sierra Wireless release targeted to Linux kernels 2.6.20 to 3.4.

2.8.2. Release Package Content

The release package consists of the following items.

Item Name	Version	Linux Driver Type
sierra	1.7.48	USB serial driver
sierra_net	3.6	Network USB driver

2.8.3. Platforms Tested

2.8.3.1. X86

Testing performed on the X86 platform includes basic functionality, stability, connection management and throughput testing.

Selective suspend has also been tested.

2.8.3.2. ARM

Testing performed on the ARM platform includes basic functionality, stability, connection management and throughput testing.

Selective suspend is not tested.

2.8.4. Supported Devices

This release supports generic QMI MC7700/7710/7750 devices.

These devices are configured with VID = 0x1199 and PID = 0x68A2.

Table 7. Interface Enumeration

I/F Enumeration Order	I/F Num	Notes
DM	0	MC7750 PID
NMEA	2	
MDM	3	
NET	8	

2.8.5. sierra Driver Updates

- add SL501x support

2.8.6. sierra_net Driver Updates

- add SL501x support

2.8.7. Known Issues

2.9. SierraLinuxdriversk2.6.XYs1.7.50n3.6

2.9.1. Kernel Range Support

SierraLinuxdriversk2.6.XYs1.7.48n3.6 is the Sierra Wireless release targeted to Linux kernels 2.6.20 to 3.4.

2.9.2. Release Package Content

The release package consists of the following items.

Item Name	Version	Linux Driver Type
sierra	1.7.50	USB serial driver
sierra_net	3.6	Network USB driver

2.9.3. Platforms Tested

2.9.3.1. X86

Testing performed on the X86 platform includes basic functionality, stability, connection management and throughput testing.

Selective suspend has also been tested.

2.9.3.2. ARM

Testing performed on the ARM platform includes basic functionality, stability, connection management and throughput testing.

Selective suspend is not tested.

2.9.4. Supported Devices

This release supports generic QMI MC7700/7710/7750 devices.
These devices are configured with VID = 0x1199 and PID = 0x68A2.

Table 8. Interface Enumeration

I/F Enumeration Order	I/F Num	Notes
DM	0	MC7750 PID
NMEA	2	
MDM	3	
NET	8	

2.9.5. sierra Driver Updates

- fix no NMEA data

2.9.6. Known Issues



3. Reference Documents

The source code of the drivers along with the corresponding Makefile(s) is available in:
\\jasmine2\Projects-1\Engineering\Firmware\Projects\Linux_Drivers\Releases\Generic\Sierra.

The name of the compressed file containing the drivers, Makefiles and Readme files source code for each particular kernel follows the naming convention:

SierraLinuxdriversk2.6.xys1.7.50n3.6.zip

Where xy is replaced with kernel 2.6 minor release version number; e.g. k2.6.31 indicates Linux drivers for kernel-2.6.31.