AC313U / AC330U
EM7700
MC7700 / MC7710

SWI9200X_03.05.14.00

Release Notes &
Upgrading Instructions

Table of Contents

General

Purpose

This document is intended to capture technical changes to the release package. The document covers changes in the Modem firmware (Bootloader and Application).

These release notes are **NOT** intended for the end user.

A new revision of this document will be issued when any of the firmware components of the product are updated.

Scope

This document covers issues that affect carriers and end users.

Revision History

Date	Author	Summary of changes
Feb 27, 2012	Ryan Kirk	Created for 3.5 Release 1
March 29, 2012	Ryan Kirk	Added 3.5 Release 2 Beta 1
April 20, 2012	Ryan Kirk	Added 3.5 Release 2 Beta 2
May 15, 2012	Ryan Kirk	Added 3.5 Release 2 RC 1
July 13, 2012	Ryan Kirk	Added 3.5 Release 2

Installing and Upgrading the Release

Download the entire necessary upgrade files

Download the files and follow any additional instructions on the download website:

Please contact your Sierra Wireless representative for access/instructions.

Supported Operating Systems

This software and firmware package supports the Sierra Wireless EM7700 on the following Microsoft Operating Systems:

1. Windows XP SP3 (Service Pack 3 or higher)
2. Windows Vista SP1 (Service Pack 1 or higher)
3. Windows 7
4. Windows 8 (no firmware upgrade support)

Upgrade Procedure

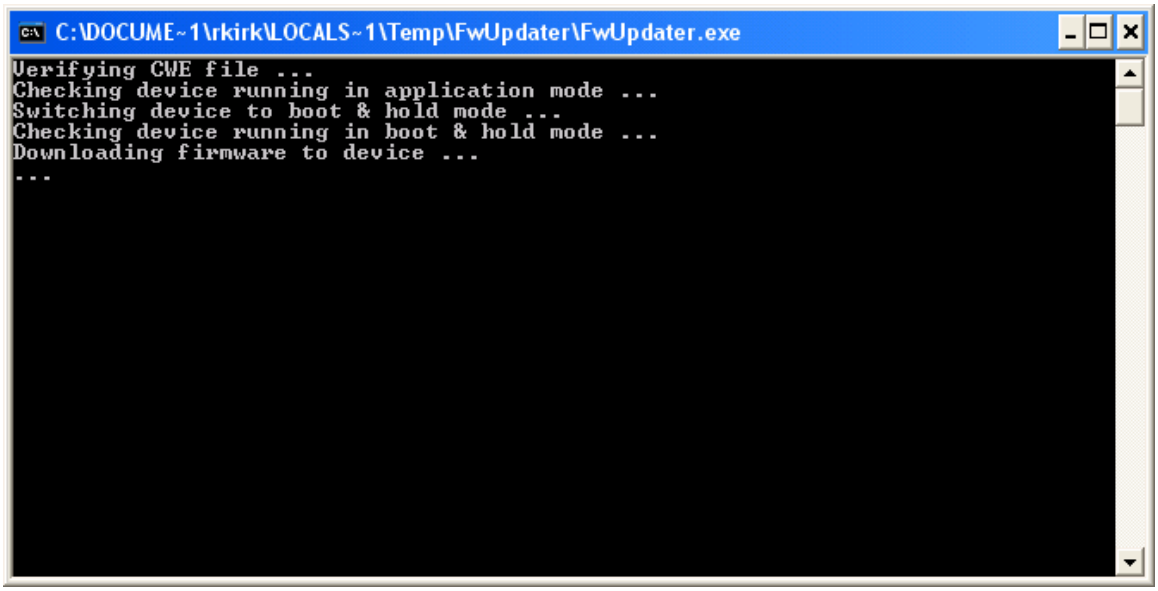
Sierra Wireless firmware upgrades are provided in a One-Click tool, which contains the firmware bundled right in with it. Before you start your upgrade, please ensure the following:

- Your computer is connected to an AC power supply, or that it has at least ½ hour of battery life remaining
- Please close all active sessions such as Hyperterminal, etc. that you may have open, debug logging sessions, etc.
- Please ensure that your card is powered and operating normally

To proceed with the download please follow the next steps:

1. Navigate to the folder in the current release containing the folder named “Firmware” and open it
2. Open the folder named “OneClickTool” and click on the executable within that folder to start the FwUpdater tool

3. When FwUpdater tool starts you will see the following image:



NOTE: The download can take up to 5 minutes to complete. Do not remove the power to either the laptop or the card until the upgrade tool completes.

NOTE 2: There can be more than one firmware image bundled with the One Click Tool.

Debug Tools

Sierra Wireless devices provide support for trace tools such as QXDM or the Sierra Wireless log-gathering tool. Please contact your Sierra Wireless representative for the logger tool and the installation instructions

Revision History

SWI9200X 3.5 Release 2

Firmware Component Revision Levels

Component	Revision	Compatibility
Boot loader	SWI9200X_03.05.14.00	
Application	SWI9200X_03.05.14.00	
Qualcomm Stack Version	3.5.240005	

Firmware Changes

- Add Qualcomm 3.5.240005 Stack
  - CR 326317 - UE goes OOS in Idle mode
  - CR 359715 - Win8: Device reports SIM not inserted temporarily during power-up
  - CR 356898 - Crash when name in MBIM_CID_PREFERRED_PROVIDERS is 19 characters
- Add support for Win8 MBIM Firmware ID device service
- Increment SVN to 11

Known Issues

- None

SWI9200X 3.5 Release 2 RC 1

Firmware Component Revision Levels

Component	Revision	Compatibility
Boot loader	SWI9200X_03.05.12.04	
Application	SWI9200X_03.05.12.04	
Qualcomm Stack Version	3.5.23	

Firmware Changes

- Fixed failure to enter offline mode using AT commands
- Improved performance in concurrent TCP/FTP throughput testing
- Decreased minimum voltage for online mode to 3.2V
- Added support to configure whether IMSI is displayed in Win8
- Added new USB compositions supporting Win8 MBIM interface
- Added AT command to determine NSET status

Known Issues

- None

SWI9200X 3.5 Release 2 Beta 2

Firmware Component Revision Levels

Component	Revision	Compatibility
Boot loader	SWI9200X_03.05.12.02	
Application	SWI9200X_03.05.12.02	
Qualcomm Stack Version	3.5.23	

Firmware Changes

- Add Qualcomm 3.5.23 Stack
  - Improved Windows 8 compliance
- Updated HPLMN search timers to meet 3GPP specifications
- Added OEM simplified anti-theft support
- Added configurable enumeration of Win8 MBIM interface only
- Added OMADM/FOTA support
- Added configurable carrier-specific Win8 interface support
  - International roaming indication
  - MTU size
  - Technology specific signal bar mapping
  - Technology indicator string

Known Issues

- None

SWI9200X 3.5 Release 2 Beta 1

Firmware Component Revision Levels

Component	Revision	Compatibility
Boot loader	SWI9200X_03.05.11.02	
Application	SWI9200X_03.05.11.02	
Qualcomm Stack Version	3.5.2250	

Firmware Changes

- Add Qualcomm 3.5.2250 Stack
  - Windows 8 support
- Resolved SUPL 2.0 failures
- Added support for GPIO control of SAR backoff state
- Increment SVN to 9

Known Issues

- None

SWI9200X 3.5 Release 1

Firmware Component Revision Levels

Component	Revision	Compatibility
Boot loader	SWI9200X_03.05.10.02	
Application	SWI9200X_03.05.10.02	
Qualcomm Stack Version	3.5.150005	

Firmware Changes

- Add Qualcomm 3.5.150005 Stack
  - LTE to WCDMA Packet switched handover
  - LTE to WCDMA and WCDMA to LTE redirection with measurements
  - LTE to GSM handover with S1 tunnel
  - Idle Mode Signalling Reduction (ISR)
  - 3G MIMO Capability
  - CR324537 - UI indicates incorrect PLMN during manual network selection
  - CR318670 - LTE frequency barred during cell reselection
  - CR316087 - Crash when reselecting from LTE to GSM or setting up PDP context in GSM
  - CR319244 - UE bounces between UMTS and LTE if camped on forbidden PLMN in UMTS
  - CR304839 - Enhancement cell measurements for a faster WCDMA-to-LTE reselection
  - CR330650 - FW crash due to CPC DTX reconfiguration during enabling delay expiry
  - CR330186 - CS fallback accepted by UE even when configured for "SMS Only"
  - CR330099 - Incorrect EF-TST update to indicate "Data+Voice" on a data-only device
  - CR322418 - NV Option to disable W2L Compressed Mode Support
- Add latest GPS almanac data (GPS week 1670)
- Add support for GPS SUPL reference location
- Fix unexpected Minicard LED behavior while in sleep mode
- Fix Data stall after LTE detach-attach cycle
- Fix conflicts between Low Power Mode triggers
- Add support for AT+CPINR to return SIM PIN retry information
- Add customizable support for AT+CFUN setting to be persistent
- Add customizable support to disable GPS bias voltage for an external antenna
- Enhanced support for custom VID/PID combinations for MC7700
- Add configurable WAKE pin support for incoming data/SMS
- NMEA data wakes the host from Selective Suspend
- Increment SVN to 8

Known Issues

- SUPL 2.0 Network Initiated mode not supported

Troubleshooting

The following sections describe troubleshooting information when using the AirCard when using in a live network and when using with a test box.

Ciphering/Integrity

If you're not attaching, check your ciphering settings. The UE needs to use the same settings as the network/test set. Generally, live networks will have ciphering/integrity enabled. Test sets may have them enabled or disabled, but it is common for test sets to leave it disabled unless explicitly testing that feature.

The AT command is noted below:

AT Command	Description
AT!GCIPHER=X	Set the card to support integrity and ciphering with the following settings: X = 0, Ciphering OFF, Integrity OFF X = 1, Ciphering ON, Integrity OFF X = 2, Ciphering ON, Integrity ON
AT!GCIPHER?	Query the GCIPHER settings.

Crash Investigation

Should the UE crash there are a number of different means to provide useful feedback to Sierra Wireless for resolution of the issue

Full memory dump

This is the preferred process because it captures the most crash information.

Configuring the UE for crash dump capture

This must be done to enable or disable the crash capture feature on the UE. This configuration is stored in NV so it is persistent across power cycles / power removal.

To enable crash dump capture
AT!EROPTION=0

To enable UE reset upon a crash (default behaviour)
AT!EROPTION=1

Capturing a crash dump

1. Wait for / cause a crash to occur
2. Close connection manager software (to release the com port)
3. Run SwiMemDebug
4. Click Start to initiate crash dump collection. If this fails, the application likely cannot open the com port (see step 2)
5. Once 100% is reached, the crash dump collection is complete. Click Reset to reset the modem (optional), and Exit to exit the program
6. Crash files will be in the same location as SwiMemDebug. Zip up the crash files and label the zip file with a unique name (date/timestamp is suggested) and send the zip to Sierra Wireless for analysis

Mini Dump

If a crash occurs, the summary of why the crash occurs is saved in memory. The command following command will display the crash summary:
AT!GCDUMP

Note that this crash summary is lost once power is removed from the device (or manually cleared via AT!GCCLR).

Error Listing

The AT!ERR command will display “points of interest” that have occurred in the UE. These are not crashes, but are often used by developers to highlight areas they wish to examine.

Vista Recommendations

For optimum performance and stability in Microsoft Vista, it is recommended that USB Selective Suspend be disabled. In order to disable Selective Suspend properly, follow both procedures (B.1 and B.2) below:

B.1 Disabling Global Selective Suspend

The following procedure will disable the global selective suspend setting in Microsoft Vista.

a. Open the **Control Panel**
b. Select the **Power Options** applet
c. For whichever item is selected as the current Power Mode (ie: Maximum Battery Life), select **Change plan settings**
d. Select **Change advanced power settings**
e. Expand **USB Settings**
f. Expand **USB Selective Suspend settings**
g. Change the settings for **Plugged in** to **DISABLED**
h. Change the settings for **On Battery** to **DISABLED**
i. Close the **Power Options** applet

B.2 Disabling Device Specific Selective Suspend for Generic Sierra Wireless Drivers

The following procedure will disable the device specific selective suspend setting in Microsoft Vista when using a device configured with the generic Sierra Wireless drivers:

1. Open a notepad
2. Type the following text into notepad

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\SWUMX32\Parameters]
"IdleDetect"=dword:00000000
"UsbSelSus"=dword:00000000
```

Compass885 use SWUMX80 instead of SWUMX32
AC885E use SWUMX59 instead of SWUMX32

3. Save the text file you just created with the filename ***disableSelSus.reg*** to the Desktop
4. Exit Notepad
5. Double-click the file you just created (***disableSelSus.reg***)
6. When prompted by Vista to allow this information to be added to the registry, select Yes.
7. Select OK
8. Reboot the PC