



SWI6600H_02.04.04.00
Customer Release Note

[SL9090/MC9090]



SIERRA
WIRELESS

[4134322]
[R01.00]
[2015-07-02]

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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

Version	Date	Updates
1.0	2015-07-24	Creation
<i>(Above rows are examples for CRNs.)</i>		



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Introduction

1.1. Document Scope

This document is for announcing that the external formal build has been released for SL9090 product of MDM6600 platform and elaborate what issues have been fixed and the enhancement/new feature in this formal release.

1.2. Document Audience

Customer can get related information from this external formal release note to decide if need apply this build to integrate into their products.

1.3. New Features/Enhancements

Table 1. New Features/Enhancements

Feature	Description
EFS reliability enhancement	Improve reliability of EFS
NV management enhancement	Support multi-carrier NV backup
Image management enhancement	Support SPKG
MT-PDP support	Support the feature of MT-PDP
QMI Harmonization	QMI API interface is compatible with other Sierra QMI products
AT Harmonization	AT interface is compatible with other Sierra UMTS/CDMA products

2.

Abbreviations and Definitions

Table 2. Abbreviations and Definitions

Abbreviation/Acronym	Definitions
N/A	N/A

3.

Related Documentation

Table 3. Related Documentation

Ref. #	Doc. #	Rev.	Document title
N/A	N/A	N/A	N/A

4.

Compatibility

Table 4. Hardware Compatibility

AirPrime Compatibility List
SL9090/SL9090RD/MC9090/MC9090RD

Table 5. Software Compatibility

Component	Version
Firmware	SWI6600H_02.04.04.00
Open AT OS	Not support
Location Library	N/A
eCall inband Modem Library	N/A
Security Library	N/A
Internet Library	N/A
Extended AT Application	N/A

5.

Software Release Description

5.1. Release Identification

Table 6. Release Identification

Component	Revision
Boot loader	N/A
Application	SWI6600H_02.04.04.00AP
Date of generation	2015/07/14
Binary Size	amss.mbn (14,606,400 bytes)
Checksum	5CD680B592001CBCE721D31A26A5E36C
IMEI SV	N/A
Qualcomm Stack Version	M6600ASCAUTNZ35325
USB Host Version	Support USB1.1 and USB2.0

5.2. Software Tools Versions

Table 7. Software Tools

S/W Tools Name	Version	Resource file
SWIQMISetup	Build3650_Generic	\\jasmine2\projects-1\Engineering\HostSW\15 - External Release Packages\Drivers\QMI\Windows\Builds\Archived\Build3650_ALL\Generic
FDT	4197	\\jasmine2\projects-1\engineering\hostsw\15 - External Release Packages\FDT\Build4299

5.3. Released Files and Download Processes

5.3.1. 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.

5.3.2. Supported Operating Systems

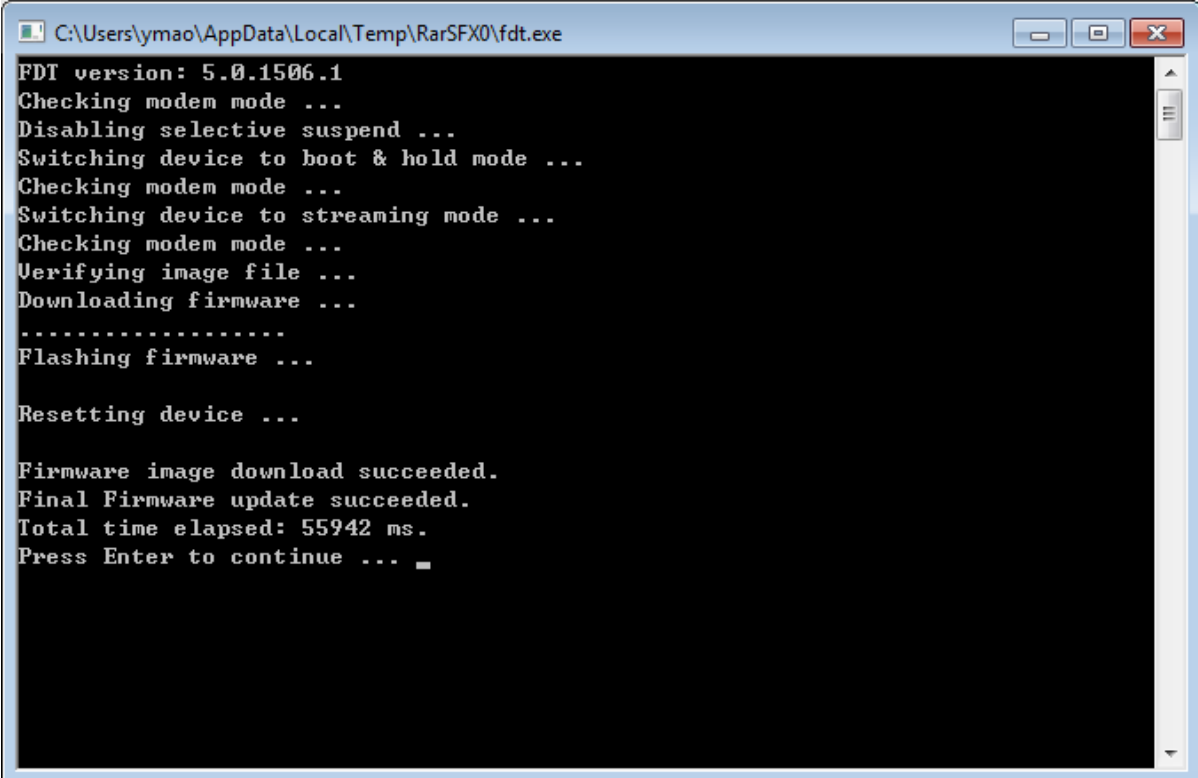
This software and firmware package supports the Sierra Wireless EM7700 on the following Microsoft Operating Systems:

1. Windows XP SP3 (Service Pack 3 or higher)

2. Windows Vista SP1 (Service Pack 1 or higher)
3. Windows 7

5.3.3. Upgrade Instructions

1. If USB driver is not installed. Unplug the USB cable of SL9090 module, run the USB driver SWIQMISetup and reset PC.
2. Power on the modem and plug USB cable to computer.
3. Make sure the boot loader is SWI6600X_02.00.02.02BT or higher. Open AT terminal, input AT!BCINF to get the boot loader version.
4. Close all applications using the modem such as Connection Manager, HyperTerminal, QXDM, etc.
5. Double click one of the exe files (SPKG exe is recommended) to download the FW.
6. After downloading finished, the output as below:



```
C:\Users\ymao\AppData\Local\Temp\RarSFX0\fdt.exe
FDT version: 5.0.1506.1
Checking modem mode ...
Disabling selective suspend ...
Switching device to boot & hold mode ...
Checking modem mode ...
Switching device to streaming mode ...
Checking modem mode ...
Verifying image file ...
Downloading firmware ...
.....
Flashing firmware ...
Resetting device ...
Firmware image download succeeded.
Final Firmware update succeeded.
Total time elapsed: 55942 ms.
Press Enter to continue ...
```

6. Software Changes Description

6.1. Validated Corrections/Improvements

This section presents all corrections or improvements integrated in SWI6600H_02.04.04.00.

Issues are sorted by fixed FW version.

Table 8. Change list

Description	Impacted Domain	Impacted Sub-Domain	Fixed in
Support new JSC memory	BSP	Memory	SWI6600H_02.04.04.00
Fixed the issue that modem failed to Set !GPSNMEASENTENCE	BSP	GPS	SWI6600H_02.04.04.00
Added the feature of UQCN clean up, just keep one UQCN for each carrier	BSP	UQCN	SWI6600H_02.04.03.00
Added the feature to provide the combination of carrier, slot and UQCN.	BSP	UQCN	SWI6600H_02.04.03.00
Fixed the bug of incorrectly check the maximum size of the input PasswordHA, PasswordAAA & MobileIP	CDMA	OMA	SWI6600H_02.04.03.00
Fixed the bug of incorrect LED behavior	CDMA	LED	SWI6600H_02.04.03.00
Fix the bug of Verizon's ACCOLC can't be changed via QMI command NASI_CMD_VAL_SET_ACCOLC	QMI	NAS	SWI6600H_02.04.03.00
Fix the bug QMI_NAS_SET_SYSTEM_SELECTION_PREFERENCE doesn't work when TLV 18 & 17 is unset	QMI	NAS	SWI6600H_02.04.03.00
Modem print "Device configuration update Failure" twice when there is error during CIDC or HFA DC	CDMA	OMA	SWI6600H_02.04.02.00
Modem crash during FUMO when there is no UI client	CDMA	OMA	SWI6600H_02.04.02.00
Update the Sprint PRL to 61105	CDMA	PRL	SWI6600H_02.04.02.00
Active image may be changed after reset the modem to factory	BSP	N/A	SWI6600H_02.04.00.00
QMI command of WDSI_CMD_VAL_START_NETWORK_INTERFACE no response when auto-connection is enabled	QMI	WDS	SWI6600H_02.04.00.00
Add a QMI DMSI_SWI_GET_DEVICE_SERIAL_NUMBERS_EXT for displaying module's MEID	QMI	DMS	SWI6600H_02.04.00.00
USB can't be waked up when there is an incoming SMS	BSP	SMS	SWI6600H_02.04.00.00
Modem crashes when active CDMA account is NAM2	BSP	CDMA	SWI6600H_02.04.00.00
Merge SBA_M6600ASCAUTNZ35318-35320_SR01780801_21Nov14 to the trunk	CDMA	CDMA	SWI6600H_02.02.01.00
Modem crash when delete multiple SMS	CDMA	SMS	SWI6600H_02.02.01.00
Backup UQCN NV list after Aeris live account activation	CDMA	NV	SWI6600H_02.02.01.00

Description	Impacted Domain	Impacted Sub-Domain	Fixed in
Backup UQCN NV list after Verizon OTASP success	CDMA	NV	SWI6600H_02.02.01.00
Fixed the issue where configuring NAM2 causes modem crash	CDMA	OTA	SWI6600H_02.02.01.00
Adding host wake feature for incoming SMS	CDMA	SMS	SWI6600H_02.01.03.06
Fix the bug that MSID and MDN initial value error for Sprint and Aeris	CDMA	CDMA	SWI6600H_02.01.03.05
Add HDR (Rev. A) statistics AT commands, !EVDOCONFIG, !SCPCUSTCONFIG, !SESSIONSTATUS, !SUFWDRCRS, !SUFWDTCSTATS, !SUFWDCCSTATS, !SUFWDRESET, !MUFWDSTATS, !MUFWDRESET, !PROTSUBTYPES, !APPSUBTYPES, !PERSONALITY, !SLEEPPARMS	AT	CDMA	SWI6600H_02.01.03.04
Add AT command !MDMVER,!GMODE	AT	CDMA	SWI6600H_02.01.03.04
Add AT command !STATUS	AT	CDMA	SWI6600H_02.01.03.04
Add AT command ~NAMLCK and ~NAMVAL	AT	CDMA	SWI6600H_02.01.03.04
Add AT command !SCI	AT	CDMA	SWI6600H_02.01.03.04
Fix the bug after at!nvdef, MEID will be deleted	AT	CDMA	SWI6600H_02.01.03.04
Add the AT commands about simple IP	AT	CDMA	SWI6600H_02.01.03.04
Add AT command !RSSI	AT	CDMA	SWI6600H_02.01.03.04
Adding AT commands +RCHVVER, +RCHVUNBLK, +RCHVCHG and +RCHVEN	AT	RUIM	SWI6600H_02.01.03.04
Add DTMF generation AT command, !AVTONEMUTE, ~TONDUR, ~DTMFB, ~DTMFK, ~TONMUT.	AT	Audio	SWI6600H_02.01.03.04
Add AT command +ATINIT	AT	BSP	SWI6600H_02.01.03.04
Add AT command !ACTSTAT	AT	BSP	SWI6600H_02.01.03.04
Add AT command !BCFWUPDATESTATUS	AT	BSP	SWI6600H_02.01.03.04
Add AT command !PADDNSLOOKUP	AT	PAD	SWI6600H_02.01.03.04
Fix the bug After set the NV453 to 1, reset modem, at!gstatus will get error response	AT	FTM	SWI6600H_02.01.03.04
Fix the bug NMEA can't be enable/disable by the NV/AT command	AT	GPS	SWI6600H_02.01.03.04
Add AT command !GPSLOCK	AT	GPS	SWI6600H_02.01.03.04
Add AT command !FMGENL, !FMGENDIRL and !EFS	AT	EFS	SWI6600H_02.01.03.04

Description	Impacted Domain	Impacted Sub-Domain	Fixed in
Add SAR QMI API	QMI	DMS	SWI6600H_02.01.03.04
Fixed the bug that SWIOMADM_CMD_VAL_SESSION_GETINFO can't return HFA retry counter in DM state 13	QMI	OMA	SWI6600H_02.01.03.04
Add QMI API QMI_DMSI_SWI_GET_FWUPDATE_STATUS	QMI	DMS	SWI6600H_02.01.03.04
Add AT/QMI API to disable/enable Gobi3K download method	QMI	DMS	SWI6600H_02.01.03.04
Add QMI command of QMI_NAS_GET_HDR_COLOR_CODE_MSG	QMI	NAS	SWI6600H_02.01.03.04
Add a QMI command to support the ##debug	QMI	DMA	SWI6600H_02.01.03.04
Add QMI DMSI_CMD_SWI_GET_FSN, NASI_CMD_SWI_PS_DETACH, NASI_CMD_SWI_HDR_PERSONALITY, and NASI_CMD_SWI_HDR_PROT_SUBTYPE	QMI	DMS/NAS	SWI6600H_02.01.03.04
Fix the bug that AUDIOI_CMD_VAL_SET_AUDIO_EXT_I2S_CONFIG always returns error	QMI	Audio	SWI6600H_02.01.03.04
Add QMI commands to support supplemental service command	QMI	VOICE	SWI6600H_02.01.03.04
Disable SO73	BSP	VOICE	SWI6600H_02.01.03.04
Optimize RTN reset	BSP	N/A	SWI6600H_02.01.03.04
SPKG download support	BSP	N/A	SWI6600H_02.01.03.04
EFS reliability improvement	BSP	EFS	SWI6600H_02.01.03.04
Add LED behavior in UMTS and CDMA release	BSP	LED	SWI6600H_02.01.03.04
Fix the bug ATH to disconnect call make modem crash on UART port.	BSP	UART	SWI6600H_02.01.03.04
Fix the bug additional UART pin abnormal for full UART using group 2	BSP	UART	SWI6600H_02.01.03.04
Fix the bug SL9090 OMA log can't be printed via QXDM	OMA	LOG	SWI6600H_02.01.03.04
Add a NV to control the time gap between FUMOREport and next FUMO	OMA	FUMO	SWI6600H_02.01.03.04
Use local time for FUMO installation	OMA	FUMO	SWI6600H_02.01.03.04
Sprint OMA can't return the right FW version when AT!PACKAGE is set	OMA	N/A	SWI6600H_02.01.03.04
HA_SS returns HEX string for Aires	CDMA	Provisioning	SWI6600H_02.01.03.04
GPS NMEA callback stops after the device is set to LPM	GPS	NMEA	SWI6600H_02.01.03.04
Fixed the bug that NMEA filter works abnormal	GPS	NMEA	SWI6600H_02.01.03.04

Description	Impacted Domain	Impacted Sub-Domain	Fixed in
Merge QTI new stack 35318.	N/A	N/A	SWI6600H_02.01.03.04

6.2. Interface Changes

None



Troubleshooting

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

7.1. Cipherring/Integrity

If you're not attaching, check your cipherring settings. The UE needs to use the same settings as the network/test set. Generally, live networks will have cipherring/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:

Table 9. AT commands to turn cipherring/integrity on/off

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

7.2. 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.

7.2.1. Full memory dump

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

7.2.2. 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. The UE must be reset after changing the setting before the changes take effect.

To enable crash dump capture

```
AT!EROPTION=0
```

To enable UE reset upon a crash (default behaviour)

```
AT!EROPTION=1
```

7.2.3. 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

7.2.4. 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).

7.2.5. 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.



8.

Certification Description

This version hasn't passed any certification.



9. Restrictions and Additional Information

Table 10. Additional information

Issue ID	Description (What/When)	Impacted Domain	Impacted Sub-Domain
None	None	None	None

9.1. 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 (9.1 and 9.2) below:

9.1.1. Disabling Global Selective Suspend

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

1. Open the Control Panel
2. Select the Power Options applet
3. For whichever item is selected as the current Power Mode (ie: Maximum Battery Life), select Change plan settings
4. Select Change advanced power settings
5. Expand USB Settings
6. Expand USB Selective Suspend settings
7. Change the settings for Plugged in to DISABLED
8. Change the settings for On Battery to DISABLED
9. Close the Power Options applet

9.1.2. 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\SWUMX3C\Parameters]
"IdleDetect"=dword:00000000
"UsbSelSus"=dword:00000000
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\SWUMX3E\Parameters]
"IdleDetect"=dword:00000000
"UsbSelSus"=dword:00000000
```

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\SWUMXA3\Parameters]

"IdleDetect"=dword:00000000

"UsbSelSus"=dword:00000000

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