

# Wireless Devices Technical Approval Notification



In Confidence

**To** Nicholas Broomfield - Telstra Device Management  
Tyrone van Schalkwyk-Sierra Wireless.

**Cc** Andrew Volard, Telstra Device Management

**From** Steve Vodicka for Kate Coburn  
Wireless Devices and Applications

**Date** 1/9/2014



**File** SierraWireless\_MC8704\_MC8705\_Approval\_V3


**Total Pages** 6

**Telstra Wireless**  
Networks| Consumer and Mobility  
Product Engineering| Verification,  
Models, Devices & Deployment |  
Wireless Devices and Applications

Level 12, 18 Smith St  
Parramatta NSW 2150  
Australia

Telephone +61 2 9865 4668  
Facsimile +61 2 9865 4709  
Mobile +61 400 000 937  
Insert 0 for +61 within Australia

<b>Approval Type</b>	<b>Conditional Approval</b>
<b>Nature of Approval</b>	<b>Maintenance Release</b>
<b>Product Type</b>	<b>PCI Express Embedded Module</b>
<b>Manufacturer</b>	<b>Sierra Wireless</b>
<b>Model</b>	<p>MC8704 [ Voice, Data and SMS Support]</p>  <p>MC8705 [Data and SMS Only]</p> 
<b>Telstra Product line</b>	<b>To be determined by the end-product integrating the module</b>
<b>Firmware/Boot loader version (and SVN)</b>	<p>MC8704 T3.0.6.4 (SVN: 12)</p> <p>MC8705 T3.5.6.4 (SVN: 13)</p>
<b>Hardware Version</b>	<p>MC8704 – “Rev 1.0”</p> <p>MC8705 – “Rev 1.0”</p>
<b>AT command to display modem firmware and Hardware revision</b>	<p>Firmware version: ATI</p> <p>Hardware version: AT^HVER</p>
<b>Connection Manager Software Version</b> <b>Win7, Vista and Windows XP</b>	<b>To be determined by the end-product integrating the module</b>
<b>Receiver Type (1,2,3,hybrid,3i)</b>	Type 3i
<b>Integrated Antenna Assessment</b>	
<b>Data Device Coverage Performance Rating</b>	<b>To be determined by the end-product integrating the module</b>
<b>Internal antenna characteristics</b>	<b>To be determined by the end-product integrating the module</b>
<b>External Antenna Connector Type</b>	2x U.FL connectors

International Roaming Suitability	<b>Quad Band UMTS ( 850(or 800), 900, 1900, 2100, MHz)</b> <b>Quad Band GSM ( 850, 900, 1800, 1900 MHz)</b> Support for UMTS roaming in Europe and USA. Support for GSM roaming in Europe and USA.
Locked to Telstra Network	<b>To be determined by the end-product integrating the module</b> Current setting of device is not locked to Telstra
Additional Device Specifications	 2400059 MC8704 & MC8705 Product Spec
Device Accessories	<b>To be determined by the end-product integrating the module</b>
Firmware Upgrade procedure	<b>One-Click tool</b>
User Interface (UI) Upgrade procedure	<b>To be determined by the end-product integrating the module</b>
Other comments	The main purpose of this firmware upgrade is to update the Qualcomm Stack Version to M8200CFACPASZD30550 and address several reset issues  <b>Major Issue Fixed :</b> Fixed module resets after sending long SMS Fixed sending SMS randomly returns +CMS ERROR: 500 Fixed cyclic reset when using AT+CMGL Fixed firmware crash @ w11m Fixed no ring back tone is heard during alerting state Fixed AT+CMGL causes modem to reset when there are more than 17 messages  For the complete list of issues fixed, refer to the Release Notes in “Basis for Approval” section.  <b>The inbuilt TCP/IP stack is not in the scope of this approval. It is the responsibility of integrated device vendors to ensure this functionality.</b>

**Main Device Strengths Noted**



<ul style="list-style-type: none"> <li>Module has Integrated TCP/IP stack which removes need for separate Host controller in products integrating this module</li> </ul>
--


**Main Device Weaknesses Noted**

<ul style="list-style-type: none"> <li>None</li> </ul>
--

<b>Kate Coburn</b> GM – Verification, Models, Devices & Deployment For <b>Peter F Ager</b> Acting Director - Consumer Mobility Product Engineering	Approval Date 1/09/2014
---	----------------------------




MAIN FEATURE SUMMARY	
Type approval designation	MC8704 and MC8705
A-tick number	MC8704: Not Provided MC8705: N24480
TA Codes (TAC) – List All	MC8704: 35759704 MC8705: 35356704
Declared Specific Absorption Rate (SAR)	Radiated tests (SAR, effective radiated power, and spurious harmonics) are dependant on the antenna configuration and <b>must be done on the end-product integrating the module.</b>
Size	<b>Dimensions and weight for MC8704 &amp; MC8705</b> Dimensions: 50.85 mm x 29.85 mm x 4.38 mm Weight: approx. 11g
Environmental Operating temperature	<b>Operating temperature ranges for MC8704 &amp; MC8705:</b> Normal operation: -25°C to +60°C Reduced RF performance : +60°C to +75°C
Power supply	<b>Power Supply range for MC8704 &amp; MC8705</b> Min - 3.20V      Typical - 3.3V      Max - 3.6V
Lead Free, RoHS Compliant Packaging	Yes
UE HS-DSCH Category (Maximum downlink speed)	<b>HSDPA Category 14 (21.1 Mbps network peak)</b>
UE HSUPA Category (Maximum uplink speed)	<b>HSUPA Category 6 (5.76 Mbps network peak)</b>
Mobile Station Modem Version	MDM8200A
Qualcomm Stack Version	M8200CFACPASZD30550
Radio Processor model	RTR6285
Memory type and size (NAND/NOR Flash)	NAND; Flash: 128 GB SDRAM : 64 MB
Supports external memory	<b>To be determined by the end-product integrating the module</b>
Operating Systems Supported	x32/x64 Windows 7, Vista (SP2) , XP(SP3) & Linux [Kernel version 2.6.20 to 2.6.38 and 3.0.X]
Connection Manager Software Version	<b>To be determined by the end-product integrating the module</b>
Network Adapter Interface	Yes
Modem Interface	Yes
Driver version Windows XP/Vista/7- 32-bit/64-bit	Windows 8.1/8/7 : NDIS: 6.20.0.18 Windows XP : NDIS: 6.20.0.17 Modem: 11.5.1005.5
Standalone Driver Package	NA
Zero-Install Plug 'n' Play support	NA
Software Development Kit (SDK)	NA
Windows Compatibility Centre Listed <a href="http://www.microsoft.com/windows/compatibility/windows-7/en-us/Default.aspx?type=Software">http://www.microsoft.com/windows/compatibility/windows-7/en-us/Default.aspx?type=Software</a>	No
Microsoft WHQL certified drivers	No
Status Indicator LEDs (Power, 2G, 3G, Roaming)	<b>To be determined by the end-product integrating the module</b>
HSDPA / W-CDMA Air interfaces	Quad band UMTS <b>850(or 800)/900/1900/2100 MHz</b>
EDGE/GSM Air Interfaces	Quad band E-GPRS/GSM <b>850/900/1800/1900 MHz</b>
Multimode Support	Yes (2G and 3G)
Supports Voice	MC8704- Yes (Tested via AT command) MC8705 - No
Supports SMS	Yes
Supports GPS	Yes
Supports AGPS	No
Receiver Equalization	Yes
Dual antenna Receiver Diversity	Yes
3GPP FDD compliance	WCDMA: Release 7
WCDMA power class	3
EDGE Power	E2
GSM Power Class	850/900 Class 4, 1800/1900 Class 1

MAIN FEATURE SUMMARY	
<b>Multi-slot (E)GPRS Class 12, &amp; Class B Type 1 MT</b>	GPRS(Class 12 ) and EGPRS (Class 12)
<b>Supported Quality of Service Classes (Streaming, Background and Interactive)</b>	Yes
<b>Supports EFR</b>	MC8704- Yes MC8705 – No (data only)
<b>Supports HR</b>	MC8704- Yes MC8705 – No (data only)
<b>Supports AMR</b>	MC8704- Yes MC8705 – No (data only)
<b>Supports AMR Wideband</b>	MC8704- No MC8705 – No (data only)
<b>Support for PPP, IP transparent/non-transparent modes</b>	Yes
<b>Transparent support for IPSec and VPN technology</b>	Yes
<b>Handover between UMTS and GSM/E-GPRS networks</b>	Yes
<b>Supports PAP</b>	Yes
<b>Supports CHAP</b>	Yes
<b>SIM Application toolkit</b>	Yes – Release 6
<b>Band Selection Options</b> (All bands, 3G-850-Only, 3G-2100-Only, 3G-850/2G900/1800, etc)	AT! BAND? 00, All bands ( <b>Default</b> )  Selection of Individual supported Bands AT! BAND=? Index, Name 00, All bands 05, GSM ALL 08, WCDMA ALL 0C, WCDMA 850 GSM 900/1800 0D, WCDMA 850
<b>Diagnostics Monitoring tool</b>	QXDM
<b>IP version supported</b>	IPV4
<b>Multiple PDP/RAB support</b>	Yes
<b>GCF and PTCRB Report</b> (date and firmware version)	Certified according to GCF-CC-3.39.0 and NAPRD.03 v5.4 (Performed on FW version: T0.2.5.2 & Hardware Version Rev 1.0)
<b>AT Interface</b>	3GPP TS 27.007 and 27.005, and proprietary Sierra Wireless Modules commands  <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">             2130617 Supported            AT Commands v6.pdf         </div> <div style="text-align: center;">             2130616 Extended            AT Commands v5.pdf         </div> </div>

SPECIAL CONDITIONS OR CONFIGURATIONS FOR APPROVAL	
<b>SVN Updates and Declaration Conditions</b>	<ul style="list-style-type: none"> <li>Approval is given on basis that future software upgrades will have updated SVN.</li> <li>Future changes to hardware and software are to be formally submitted to Telstra in writing prior to implementation so Telstra can evaluate and/or validate the impact of the changes.</li> <li>Approval is provided based on the hardware and software variants submitted to, tested by and technically approved by Telstra.</li> </ul>
<b>Compliance Requirements of the End Products integrating embedded module.</b>	<p>The end product integrating this module must comply with Australian customer equipment and safety labelling requirements for A-Tick and C-Tick as specified by the Australian Communications &amp; Media Authority (ACMA).</p> <p>Radiated tests (SAR, ERP, spurious harmonics) are dependent on the antenna configuration and cannot be done by module provider. These tests can only be performed with final product.</p>
<b>Basis for Approval</b>	<p>Compatibility status is given based on vendor's declaration and release notes provided by Sierra Wireless.</p>  <p><b>Release_Notes.zip</b></p> <p><i>[Release_Notes.zip]</i></p>
<b>Testing Covered</b>	<p>Based on the release notes submitted by Sierra, following testing was conducted on MC8704 module</p> <ul style="list-style-type: none"> <li>Device Customization and Specifications Verifications</li> <li>Extended data session tests</li> <li>Field testing in Sydney</li> <li>Multi RAB</li> <li>Pilot Pollution</li> <li>Emergency voice calls tests</li> <li>Device Subjective and Voice calls tests</li> </ul> <p>In addition, Specifications Verifications tests and Extended data session tests were covered on MC8705 module as well. Testing was conducted in the Telstra model environment and in the live network having the release W13B.</p>

CONDITIONS OF APPROVAL	
<ul style="list-style-type: none"> <li>Approval is provided based on the hardware and software variants submitted to, tested by and technically approved by Telstra.</li> <li>Any changes to hardware and software are to be formally submitted to Telstra in writing prior to implementation so Telstra can evaluate and/or validate the impact of the change/s.</li> <li>Approval is given on basis that future software upgrades will have updated SVN values.</li> <li>Compatibility status is given on tests performed, manufacturers declaration of compliance and change information on existing compatible product.</li> </ul>	
<b>Network Impacting Issues</b>	
None	
<b>Customer Impacting Issues</b>	
<b>Sierra Wireless to address the following issues in the next Maintenance Release</b>	
<p>1. In MC8704, rarely, the voice on both A and B party is either garbled or muted. One occurrence of the above two issues was observed in 5 days of testing. Device fails to recover until power-cycle/restart. [Issue #71]</p> <p><b>Network Impact: None.</b></p>	<p><b>Sierra Wireless to address this issue in future Maintenance release.</b></p> <p>This issue existed in the previous approved release as well.</p> <p>TPM has provided their acceptance for these issues, Refer MSI9649.msg</p>

<p><b>Customer Impact:</b> Occasionally, during voice call customers will experience poor voice quality with garbled voice or voice mute issues. Issue will be observed until device power-cycle/restart.</p>	
---	--

<p><b>Outstanding Issues Register</b>  (Class 3 issues should be addressed in future releases or products )</p>	 Sierra_MC8704_MC8705_issues.xlsm [Sierra_MC8704_MC8705_issues.xlsm]
<p><b>Approved Manufacturer Firmware Customisation File</b></p>	  Product_Config_MC8704_Telstra_1.5.xlsx      Product_Configuration_MC8705_Generic_Telstra_v1.2.xlsx [Product_Config_MC8704_Telstra_1.5.xlsx] [Product_Configuration_MC8705_Generic_Telstra_v1.2.xlsx]

Vivien Tao

For  
Steve Vodicka  
Networks| Consumer and Mobility Product Engineering| Verification, Models, Devices & Deployment | Wireless Devices and Applications