



AirPrime HL7688

Firmware A.2.13 Customer Release Note



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.

Safety and Hazards

Do not operate the Sierra Wireless modem in areas where cellular modems are not advised without proper device certifications. These areas include environments where cellular radio can interfere such as explosive atmospheres, medical equipment, or any other equipment which may be susceptible to any form of radio interference. The Sierra Wireless modem can transmit signals that could interfere with this equipment. Do not operate the Sierra Wireless modem in any aircraft, whether the aircraft is on the ground or in flight. In aircraft, the Sierra Wireless modem **MUST BE POWERED OFF**. When operating, the Sierra Wireless modem can transmit signals that could interfere with various onboard systems.

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.

The driver or operator of any vehicle should not operate the Sierra Wireless modem while in control of a vehicle. Doing so will detract from the driver or operator's control and operation of that vehicle. In some states and provinces, operating such communications devices while in control of a vehicle is an offence.

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1. Introduction

1.1. Document Scope

This document is the Firmware A.2.13 for AT&T customer release note of the HL7688. Firmware A.2.13 is a maintenance release based on Firmware A.2.11.

1.2. Main Features

Table 1. Main Features

Feature	Description
LTE	Wireless stack and 3GPP AT commands
Diversity	1x Main Antenna and 1x RX Diversity
USB/UART interface	USB 2.0 and UART serial interface, V24 AT commands
USB/UART	USB 2.0 interface and UART serial interface
SIM	SIM access AT commands
GPIO	12 GPIO interfaces and related control AT commands
Cell information/monitoring	Cell information/monitoring AT commands
Band	Band RAT configurations AT commands
RF test	RF TX and RX test AT commands
AVMS	AirVantage FOTA
Temperature Monitor	Temperature Monitor AT command
Delta Firmware update	Download with 1K X-modem/FOTA, delta Firmware format supported
DSSS / Fast SIM switch	Dual SIM Single Standby with fast SIM switch capability
Audio PCM	Audio PCM bus and related control audio/voice AT commands

2. Abbreviations and Definitions

Table 2. Abbreviations and Definitions

Abbreviation/Acronym	Definitions
ADC	Analog Digital Converter
DV1	Development verification build #1
GPIO	General Purpose Input Output
PCM	Pulse Code Modulation
PWM	Pulse Width Modulation
SIM	Subscriber Identity Module
UART	Universal Asynchronous Receiver Transmitter
UICC	Universal Integrated Circuit Card
USB	Universal Serial Bus



3. Related Documentation

- [1] AirPrime HL7688 Product Technical Specification
Reference number: 4119272
- [2] AirPrime HL76xx AT Commands Interface Guide
Reference number: 4118395
- [3] AirPrime HL7 Series Firmware Download User Guide
Reference number: 4116153

4. Compatibility

This firmware is compatible with DV1 or newer versions of the AirPrime HL7688.



5. Software Release Description

5.1. Release Identification

Table 3. Firmware Release Information

Modem Firmware Identification (ATI3)	RHL7688.A.2.13.1.0.151600.201802271603.x7160_1
Full Firmware Identification (ATI10)	Modem-Firmware: RHL7688.A.2.13.1.0.151600.201802271603.x7160_1 Primary-Boot: RHL7688.A.2.13.1.0.0202170420.201802271603.x7160_1 Secondary-Boot: RHL7688.A.2.13.1.0.0202170420.201802271603.x7160_1 Update-Agent: RHL7688.A.2.13.1.0.0201160412.201802271603.x7160_1 4G-Firmware: 7160.S3.561.40.4.805.01.5227.18265 3G-Firmware: 202.999.623.43-54.35
ALL-IN-ONE Firmware FLS Image	Filename: RHL7688.A.2.13.1.0.151600.201802271603.x7160_1_signed.fl File size in bytes: 20875691 Checksum (CRC32): 0xB1E0E11F Checksum (MD5): 332A00CD8DDE1997C3BEF10A047360CD
ALL-IN-ONE Firmware Image, Windows one-click Downloader	Filename: RHL7688.A.2.13.1.0.151600.201802271603.x7160_1_signed.exe File size in bytes: 8816804 Checksum (CRC32): 0xE9A1DFFA Checksum (MD5): 8A5276CB79A38196F5038582F659395E
Date of Generation	2018-02-27 17:19:52 GMT+8
IMEI SV	05 (HL7688)
Baseline Version	M2M_7160_ATT_HL7588_1742.00_SWI00154671_SWI00180850_Patch01

5.2. Software Tools Versions

Table 4. Software Tools Versions

Software Tools Name	Version	
FlashTool	v.4.140.3.66	DLL: v.4.140,0.0
Command Line FlashTool (DownloadTool.exe, dll)	v.1.37	DLL: v.4.140,0.0
USB Host Driver version	4.19	

5.3. Released Files

Table 5. Released Files

Download Option	Files
All in one download executable	RHL7688.A.2.13.1.0.151600.201802271603.x7160_1_signed.exe
All in one FLS file	RHL7688.A.2.13.1.0.151600.201802271603.x7160_1_signed.fl

6. Software Changes

This section lists all corrections or improvements integrated in Firmware A.2.13. Changes were based on Firmware A.2.11. Issues are sorted alphabetically by Impacted Domain.

Table 6. Validates Corrections and Improvements

ID	Description	Impacted Functionality / Sub-Functionality
INT7160ATT-2034	In rare cases, the module may not be able to attach to LTE cells in particular network condition because of being unable to decode some SIB messages and skip additional information element introduced in 3GPP versions higher than 9.13.0. The module will fall back to 3G if a corresponding cell is available.	LTE/OTHER



7. Restrictions and Known Issues

This section lists out important known issues.

Table 7. Restrictions and Known Issues

ID	Description
INT7160ATT-1612	HTTPS Sever authentication might occasionally fail on the module.
INT7160ATT-1928	Basic HTTP authentication might not work and fail for some cases.

8. Troubleshooting

Please contact Sierra Wireless customer service for support and debugging information.

9. Certification

This firmware has passed certifications for the following:

- AT&T
- NAPRD.03 (Version: 5.34)