



Customer Release Note

AirPrime HL7518 Firmware 2.21



SIERRA
WIRELESS®

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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	March 10, 2016	Creation
1.1	March 10, 2016	Updated: <ul style="list-style-type: none">• 1.3 New Features/Enhancements• 6.2 Interface Changes• 7 Restrictions and Additional Information
1.2	March 17, 2016	Updated: <ul style="list-style-type: none">• 1.3 New Features/Enhancements• 7 Restrictions and Additional Information
1.3	March 18, 2016	Updated 7 Restrictions and Additional Information



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1. Introduction

1.1. Document Scope

This document is the Firmware 2.21 customer release note of the AirPrime HL7518. Firmware 2.21 is a maintenance release based on Firmware 2.19.

1.2. Document Audience

This release note may be distributed to all direct and indirect customers.

1.3. New Features/Enhancements

Table 1. New Features/Enhancements

Feature	Description
Bootcore Upgrade	Additionally to firmware upgrade now the bootcore firmware is also integrated inside the updated firmware.



2. Abbreviations and Definitions

Table 2. Abbreviations and Definitions

Abbreviation/Acronym	Definitions
AMS	AirVantage Management Services
BIP	Bearer Independent Protocol
DRB	Data Radio Bearer
eMBMS	LTE version of MBMS
ESM	EPS Session Management
FOTA	Firmware Over The Air
GPIO	General Purpose Input Output
ICMP	Internet Control Message Protocol
MBMS	Multimedia Broadcast Multicast Services
PDN	Packet Data Networks
PRB	Physical Resource Block
PS	Packet Switched
RLF	Radio Link Function
SIM	Subscriber Identity Module
UART	Universal Asynchronous Receiver Transmitter
USB	Universal Serial Bus



3. Related Documentation

- [1] AirPrime HL7518 Product Technical Specification
Reference: 4115834
- [2] AirPrime HL7518 and HL7548 AT Commands Interface Guide
Reference: 4116303
- [3] AirPrime HL Series Development Kit User Guide
Reference: 4114877



4. Compatibility

Firmware 2.21 is compatible with the AirPrime HL7518.

Note: *The firmware has to be downloaded twice when downgrading to a firmware older than Firmware 2.19 due to differences in the partition table.*

Caution: *Do not downgrade to firmware versions older than Firmware 2.2 as this will damage the module's configuration.*



5. Software Release Description

5.1. Release Identification

Table 3. Firmware Release Information

Identification (ATI3)	RHL75xx.2.21.142600.201602051405.x7160_1
Date of generation	2016/02/05 14:05
Binary size	20011459 bytes
CRC32 Checksum	50CE0148
MD5 Checksum	905E9649E6E433C884BBC6981A202F42
IMEI SV	0x07
Stack version	M2M_7160_VRZ_01.1426
Flash/RAM size	1Gb/512Mb

5.2. Software Tools Versions

Table 4. Software Tools Versions

S/W 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	4.41

5.3. Released Files and Download Processes

Table 5. Released Files

Download Option	Files
All in one download executable	RHL75xx.2.21.142600.201602051405.x7160_1_signed.exe
All in one FLS file	RHL75xx.2.21.142600.201602051405.x7160_1_signed.flx



6. Software Changes Description

6.1. Validated Corrections/Improvements

This section presents all corrections or improvements integrated in Firmware 2.21. Issues are sorted alphabetically by impacted domain per firmware version in which they were fixed.

Table 6. Validated Corrections and/or Improvements

ID	Description	Impacted Domain	Impacted Sub-Domain	Fixed in
76810	AT+CGACT? returns extra carriage-return line-feed characters.	AT	Other	2.21
86392	AT+CEER does not return correct error codes for some network errors.	AT	Other	2.21
87675	SIM provisioning may fail if out of sync IP packets are received during BIP session.	BIP	Other	2.21
85716	After a PDN connectivity request fails due to ESM Cause code 55 (Multiple PDN connections for a given APN not allowed), subsequent PDN connectivity requests will also fail as the AirPrime does not perform a Tracking Area Update.	LTE	Other	2.21
86121	ICMP packets may be delayed or dropped, when eMBMS has been enabled.	LTE	Other	2.21
86612	Due to incorrect ASN.1 decoding, data connection may be dropped sometimes if the network sends a DRB with RLF.	LTE	Other	2.21
87321	BIP may sometimes activate the same APN, "VZWADMIN" with 2 internal PDP context IDs leading to PDN reject with ESM cause code 55 on PDP context #2.	LTE	Other	2.21
79068	On every registration the AirPrime initiates an AMS session that causes unwanted network traffic. After this change, AMS session only happens 3 times counting from boot up. Please refer to +HBHV=1 for more information.	AMS	AMS	2.19
82008	While performing AMS operations, AirPrime may output unwanted traces because of non-aligned memory pointers.	AMS	Monitoring	2.19
82490	AT+KCELL may return unwanted carriage-return-line-feed characters in its response.	AT	Other	2.19
82842	AT+KCELL=0 may return terminal OK response without any intermediate responses.	AT	Other	2.19
83247	The AirPrime would send an extra "NO CARRIER" when a PS call is terminated.	DATA	Other	2.19
83276	Dial up networking call could not be disconnected by ATH.	DATA	Other	2.19
79710	Occasionally, when power drop happens within 5 seconds after firmware is being upgraded using firmware files (.exe or .fls), the AirPrime may fail to boot up again and fail to start any further firmware download.	DWL	Other	2.19

ID	Description	Impacted Domain	Impacted Sub-Domain	Fixed in
82344	During the firmware download is in progress, an unexpected shutdown on the AirPrime may suspend the download and the download could not be resumed.	DWL	Other	2.19
78563	The AirPrime may reset by sending AT+WMANTSEL=0.	HWL	Modem	2.19
83505	There may be high network PRB utilization at the operator when multiple AirPrimes are performing firmware upgrade concurrently.	LTE	Other	2.19
79670	After accelerated life testing, the AirPrime may fail to boot up again.	Program Reliability	Other	2.19

6.2. Interface Changes

This section lists the interfaces that have been modified from Firmware 2.19.

Table 7. Interface Changes

Command	Comment
+CEER	The following new codes have been introduced: 130 - Activation rejected by GGSN - Serving GW or PDN GW 152 - single address bearers only allowed 153 - ESM information not received 154 - PDN connection does not exist 155 - Multiple PDN connections for a given APN not allowed 156 - Collision with network initiated request 181 - Invalid PTI value 182 - APN restriction value incompatible with active EPS bearer context 183 - PTI already in use 185 - Invalid EPS bearer identity 187 - Last PDN disconnection not allowed 188 - PDN type IPv4 only allowed 189 - PDN type IPv6 only allowed
AT110	New Sierra Wireless proprietary command to check the version of firmware components



7. Restrictions and Additional Information

The following table lists additional information or restrictions that must be taken into account regarding Firmware 2.21. Issues are sorted alphabetically by impacted domain.

Table 8. Restrictions and Additional Information

Issue ID	Description (What/When)	Impacted Domain	Impacted Sub-Domain
84556	Due to lack of bootcore upgrade support in previous firmware (2.13, 2.19) and change in partition table introduced in FW 2.19, AMS FOTA upgrade or upgrade using +WSDS from previous firmware (2.13, 2.19) to current firmware (2.21) is not recommended.	AMS	AMS
75681	Unexpected CGCLASS switching takes place after GPRS has been attached.	AT	OTHER
76694	Extra carriage-return-line-feed characters have been sent in AT+CMGR response.	AT	OTHER
78531	The result by the test command AT+WMRXPOWER is slightly deviated when the input RF power is less than -80dBm.	HWL	RF
88641	After SIM provisioning, MO SMS fails until the AirPrime is restarted.	SMS	MO SMS
76902	The AirPrime does not return +CMGS: <MR> intermediate response, if a MO SMS in text mode could be sent successfully.	SMS	MO SMS

8. Troubleshooting

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



9. Certification Description

The following table summarizes the certifications passed for this release.

Table 9. Certification Description

Module	Verizon
AirPrime HL7518	Yes



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