



## Customer Release Note

### AirPrime HL7518 Firmware 3.07



**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.

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*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.*

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# Document History

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# 1. Introduction

## 1.1. Document Scope

This document is the Firmware 3.07 customer release note of the AirPrime HL7518. Firmware 3.07 is a maintenance release based on Firmware 2.21.

## 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
Complete TCP/IP stack	TCP, UDP, FTP
8-wired UART	Additional UART status control
Enhanced sleep mode management	Power management control for UART



## 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 number: 4115834
- [2] AirPrime HL7518 and HL7548 AT Commands Interface Guide  
Reference number: 4116303
- [3] AirPrime HL Series Development Kit User Guide  
Reference number: 4114877

## 4. Compatibility

Firmware 3.07 is compatible with the AirPrime HL7518.

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**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.*

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

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## 5. Software Release Description

### 5.1. Release Identification

Table 3. Package Release Information

<b>Identification (ATI3)</b>	RHL75xx.3.07.142600.201609121150.x7160_1
<b>Date of generation</b>	2016/09/12 11:50
<b>Binary size</b>	20043943
<b>MD5 Checksum</b>	29725434C9A682EA069EA0A535152D0B
<b>IMEI SV</b>	08
<b>Stack version</b>	M2M_7160_VRZ_01.1426
<b>Flash/RAM size</b>	1Gb/512Mb

### 5.2. Software Tools Versions

Table 4. Software Tools Versions

<b>Software Tools Name</b>	<b>Version</b>
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

<b>Download Option</b>	<b>Files</b>
All in one download executable	RHL75xx.3.07.142600.201609121150.x7160_1_signed.exe
All in one FLS file	RHL75xx.3.07.142600.201609121150.x7160_1_signed.flc
All in one DWL file	RHL75xx.3.07.142600.201609121150.x7160_1_signed.dwl



## 6. Software Changes Description

### 6.1. Validated Corrections/Improvements

This section presents all corrections or improvements integrated in Firmware 3.07. 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 Functionality/ Sub-Functionality	Fixed in
INT7160VRZ-495, INT7160VRZ-498, INT7160VRZ-499, INT7160VRZ-500, INT7160VRZ-501	Fixes related to VzW LTE Data Retry TC 3.5, 6.2, 6.3, 6.5 & 6.6.	LTE/Data Retry	3.07
INT7160VRZ-574	In rare cases, a single PDN connectivity reject with ESM cause code 55 may be seen after the AirPrime performs local detach due to a single low layer failure.	LTE/Other	3.07
INT7160VRZ-600	In some rare case, AirPrime may reset during embedded IP operation (TCP/IP AT commands, OMADM, BIP).	LTE/Other	3.07
INT7160VRZ-622	The AirPrime may reset under a network whose transmitted single sub-frame contains both CQI, PDCCH and PBCH.	LTE/Other	3.07
INT7160VRZ-570	Embedded IP (OMADM, TCP/IP AT commands) may fail to work under some conditions	Other/Other	3.07
INT7160VRZ-585	NCM and embedded IP (OMADM, TCP/IP AT commands) cannot work simultaneously on the same APN/CID.	Other/Other	3.07
INT7160VRZ-490, INT7160VRZ-491, INT7160VRZ-492, INT7160VRZ-493, INT7160VRZ-494	Fixes related to VzW B13 UICC TC 4.6, 4.7, 4.9, 4.11, 4.45, 4.49, 4.57, 4.58, 4.59, and 4.60.	SIM/Other	3.07
INT7160VRZ-293	AT+CGACT? returns extra carriage-return line-feed characters.	AT/Other	2.21
INT7160VRZ-463	AT+CEER does not return correct error codes for some network errors.	AT/Other	2.21
INT7160VRZ-476	SIM provisioning may fail if out of sync IP packets are received during BIP session.	BIP/Other	2.21
INT7160VRZ-458	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
INT7160VRZ-460	ICMP packets may be delayed or dropped, when eMBMS has been enabled.	LTE/Other	2.21

ID	Description	Impacted Functionality/ Sub-Functionality	Fixed in
INT7160VRZ-464	Due to incorrect ASN.1 decoding, data connection may be dropped sometimes if the network sends a DRB with RLF.	LTE/Other	2.21
INT7160VRZ-466	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
INT7160VRZ-366	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
INT7160VRZ-385	While performing AMS operations, AirPrime may output unwanted traces because of non-aligned memory pointers.	AMS/Monitoring	2.19
INT7160VRZ-397	AT+KCELL may return unwanted carriage-return-line-feed characters in its response.	AT/Other	2.19
INT7160VRZ-423	AT+KCELL=0 may return terminal OK response without any intermediate responses.	AT/Other	2.19
INT7160VRZ-435	The AirPrime would send an extra "NO CARRIER" when a PS call is terminated.	DATA/Other	2.19
INT7160VRZ-436	Dial up networking call could not be disconnected by ATH.	DATA/Other	2.19
INT7160VRZ-372	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
INT7160VRZ-388	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
INT7160VRZ-345	The AirPrime may reset by sending AT+WMANTSEL=0.	HWL/Modem	2.19
INT7160VRZ-437	There may be high network PRB utilization at the operator when multiple AirPrimes are performing firmware upgrade concurrently.	LTE/Other	2.19
INT7160VRZ-371	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 2.21.

Table 7. Interface Changes

Command	Comment
+KCNXCFG	New Sierra Wireless command to have GPRS connection configuration
+KCNXTIMER	New Sierra Wireless command to have connection timer configuration

Command	Comment
+KCNXPROFILE	New Sierra Wireless command to have current profile connection configuration
+KCGPADDR	New Sierra Wireless command to display PDP address
+KCNX_IND	New Sierra Wireless command to have connection status notification
+KCNXUP	New Sierra Wireless command to bring the PDP connection up
+KCNXDOWN	New Sierra Wireless command to bring the PDP connection down
+KPATTERN	New Sierra Wireless command to customize end of data pattern
+KURCCFG	New Sierra Wireless command to enable or disable the URC from protocol commands
+KIPOPT	New Sierra Wireless command to have general options configuration
+KTCPCFG	New Sierra Wireless command to have TCP connection configuration
+KTCPCNX	New Sierra Wireless command to start TPC connection
+KTCPRCV	New Sierra Wireless command to receive data through a TCP connection
+KTCPSEND	New Sierra Wireless command to send data through a TCP connection
+KTCPCLOSE	New Sierra Wireless command to close current TCP operation
+KTCPDEL	New Sierra Wireless command to delete a configured TCP session
+KTCP_SRVREQ	New Sierra Wireless command to have incoming client connection request
+KTCP_DATA	New Sierra Wireless command to have incoming data through a TCP connection
+KTCP_IND	New Sierra Wireless command to have TCP status
+KTCPSTAT	New Sierra Wireless command to get TCP socket status
+KTCPSTART	New Sierra Wireless command to start a TCP connection in direct data flow
+KTCP_ACK	New Sierra Wireless command to have status report for latest TCP data
+KTCPACKINFO	New Sierra Wireless command to poll ACK status for the latest data
+KUDPCFG	New Sierra Wireless command to have UDP connection configuration
+KUDPRCV	New Sierra Wireless command to receive data through a UDP connection
+KUDPSEND	New Sierra Wireless command to send data through a UDP connection
+KUDPCLOSE	New Sierra Wireless command to close current UDP connection
+KUDPDEL	New Sierra Wireless command to delete a configured UDP session
+KUDP_IND	New Sierra Wireless command to have UDP status
+KUDP_DATA	New Sierra Wireless command to have incoming data through a UDP connection
+KFTPCFG	New Sierra Wireless command to have FTP configuration
+KFTPCNX	New Sierra Wireless command to start FTP connection
+KFTPRCV	New Sierra Wireless command to receive FTP files
+KFTPSEND	New Sierra Wireless command to send FTP files
+KFTPDEL	New Sierra Wireless command to delete FTP files
+KFTP_IND	New Sierra Wireless command to have FTP status
+KFTPCLOSE	New Sierra Wireless command to close current FTP connection
+KFTPCFGDEL	New Sierra Wireless command to delete a configured FTP session
+KRIC	New Sierra Wireless command to have ring indicator control
+KSLEEP	Add a new option 0 to support DTR toggling
&C	New Sierra Wireless command to set Data Carrier Detect (DCD)
&D	New Sierra Wireless command to set Data Terminal Ready (DTR)
&V	Add a new parameter to output the number of ring occurrences for last incoming call



## 7. Restrictions and Additional Information

The following table lists additional information or restrictions that must be taken into account regarding Firmware 3.07. Issues are sorted alphabetically by impacted domain.

Table 8. Restrictions and Additional Information

Issue ID	Description (What/When)	Impacted Functionality/ Sub-Functionality
INT7160VRZ-450	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 +WDSO from previous firmware (2.13, 2.19) to firmware 2.21 or above is not recommended.	AMS/AMS
INT7160VRZ-148	Unexpected CGCLASS switching takes place after GPRS has been attached.	AT/Other
INT7160VRZ-272	Extra carriage-return-line-feed characters have been sent in AT+CMGR response.	AT/Other
INT7160VRZ-625	The AirPrime cannot send SMS with a newly provisioned SIM until the next power cycle.	GSM/SMS
INT7160VRZ-343	The result by the test command AT+WMRXPOWER is slightly deviated when the input RF power is less than -80dBm.	HWL/RF
INT7160VRZ-305	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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