Customer Release Note

HL7800

SIERRA WIRELESS

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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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Document History

Version	Date	Updates
R00.01	Dec 11, 2018	Creation for AHL78XX.2.1. 0.0-RK0201000054
R00.02	Jan 25, 2019	Creation for AHL78XX.2.3.0.0-RK0201010018
R00.03	Feb 08, 2019	Creation for AHL78XX.2.3.1.0-RK0201010018
R00.04	Feb 20, 2019	Creation for AHL78XX.2.4.1.0-RK0201010025
R00.05	March 13, 2019	Creation for BHL78XX.2.5.1.0-RK0201010032
R00.06	March 20, 2019	Creation for BHL78XX.2.5.2.0-RK0201010035
R00.07	April 1, 2019	Creation for BHL78XX.2.5.3.0-RK0201010036
R00.08	April 3, 2019	Creation for BHL78XX.2.5.4.0-RK0201010040
R00.09	April 8, 2019	Creation for BHL78XX.2.5.5.0-RK0201010041
R00.10	April 15, 2019	Creation for BHL78XX.2.5.6.1-RK0201010041
R00.11	April 23, 2019	Creation for BHL78XX.2.5.8.0-RK0201010044
R00.12	June 4, 2019	Creation for BHL78XX.3.4.1.0-RK0201010046
R00.13	June 6, 2019	§3 Related Documents Update
R00.14	July 3, 2019	Creation for HL78XX.3.4.5 (RK0201010057)
R00.15	July 16, 2019	Creation for HL78XX.3.5.0 (RK0201010060)
R00.16	Oct 29,2019	Creation for BHL78XX3.7.2.3 (RK0201010085)
R00.17	Nov 15,2019	Updated Known Issues for BHL78XX.3.7.2.3 (RK0201010085)

Contents

1. Introduction

1.1. Document Scope

This document describes AirPrime HL7800 firmware release BHL78XX.3.7.2.3

2. Abbreviations and Definitions

Table 1. Abbreviations and Definitions

Abbreviation/Acronym	Definitions
AVMS	Air Vantage Management Services
DTR	Data Terminal Ready
IMEI	International Mobile Equipment Identity
PPP	Point-to-Point Protocol
SIM	Subscriber Information Module
SINR	Signal to Interference plus Noise Ratio
UART	Universal Asynchronous Receiver Transmitter
USB	Universal Serial Bus

3. Related Documentation

Table 2.   Related Documentation

Ref. #	Doc. #	Rev.	Document title
[R-1]	41111821	R09.3	AirPrime - HL78xx - AT Commands Interface Guide
[R-2]	41111094	R07.0	AirPrime - HL7800 - Product Technical Specification
[R-3]	4114877	R06.00	AirPrime – HL series – HL Development Kit User Guide
[R-4]	2174229	R02.00	AirPrime - HL7800 - Low Power Modes Application Note
[R-5]	2174213	R02.00	AirPrime - HL7800-M - MNO and RF Band Customization at Customer Production Site Application Note
[R-6]	2174260	R01.00	HL7800/HL7800-M Firmware Upgrade Requirement for NV Backup

4. Compatibility

4.1. Software Tools Compatibility

S/W Tools Name	Version
SFT	V1.0.22

5.   Hardware Limitations

5.1. Hardware Versions

AirPrime Compatibility List		RAT
HL7800 DV2.3	Serial Number: **T6**YWWDNNNNPP**04**	Cat-M1 Only
HL7800 DV3.1	Serial Number: **T6**YWWDNNNNPP**05**	Cat-M1 Only
HL7800 DV4.1	Serial Number: **T6**YWWDNNNNPP**06**	Cat-M1 Only
HL7800 PV1	Serial Number: **T6828**DNNNNPP**10**	Cat-M1 Only
HL7800 PV2	Serial Number: **T6835**DNNNNPP**10**	Cat-M1/NB1
HL7800 PP1	Serial Number: **T6840**DNNNNPP**10**	Cat-M1/NB1
HL7800 PP2	Serial Number: **T6846**DNNNNPP**10**	Cat-M1/NB1
HL7800 PP3	Serial Number: **T6848**DNNNNPP**10** / **T6849**DNNNNPP**10**	Cat-M1/NB1
HL7800 MP	Serial Number: Other	Cat-M1/NB1

T6= HL7800 Product ID

Y = Year

WW = Week of the year

D = Day

NNNN = unique serial number; starts at "0001" at the beginning of every day

PP = panel position

04 or 05 = Hardware Version

- "04" for DV2.3
- "05" for DV3.1
- "06" for DV4.1
- "10" for PV/PP/MP

5.2. HL7800 DV2.3

Limitation	Description (What/When)	Impacted Functionality/Sub-Functionality
Module start issue	HL7800 module does not start outside of -20°C/ +40°C temperature range (Internal pull-up on RESET pin is not weak enough to ensure module start across whole temperature range). Workaround: Add Pull up 10k on Reset_in_N signal to external 1.8V that is present only after VBAT is stable.	Module power-up outside of temperature range
USB	USB not functional for future use	USB
FOTA	FOTA credential not loaded inside the module	FOTA
RF	Only Cat-M1 1,2,3,4,5,8,12,13,18,19,20,26,28 are supported	RF bands
Baseband	Baseband version is preliminary one	ESD Power consumption in sleep mode

5.3. HL7800 DV3.1

Limitation	Description (What/When)	Impacted Functionality/Sub-Functionality
Module start issue	HL7800 module does not start outside of -20°C/ +40°C temperature range (Internal pull-up on RESET pin is not weak enough to ensure module start across whole temperature range). Workaround: Add Pull up 10k on Reset_in_N signal to external 1.8V that is present only after VBAT is stable.	Module power-up outside of temperature range
FOTA	FOTA credential not loaded inside the module	FOTA
RF	Only Cat-M1 1,2,3,4,5,8,12,13,18,19,20,26,28 are supported	RF bands
Baseband	Baseband version is preliminary one	ESD, power consumption in sleep mode

5.1. HL7800 DV4.1

Limitation	Description (What/When)	Impacted Functionality/Sub-Functionality
RF	Only Cat-M1 1,2,3,4,5,8,12,13,18,19,20,26,28 are supported	RF bands
Baseband	Baseband version is preliminary one	ESD Power consumption in sleep mode

5.2. HL7800 PV1

Limitation	Description (What/When)	Impacted Functionality/Sub-Functionality
RF	Only Cat-M1 1,2,3,4,5,8,12,13,18,19,20,26,28 are supported	RF bands
Baseband	Baseband version is preliminary one	ESD Power consumption in sleep mode

5.3. HL7800 PV2/PP1

Limitation	Description (What/When)	Impacted Functionality/Sub-Functionality
Baseband	Baseband version is preliminary one	ESD Power consumption in sleep mode

6. BHL78XX.3.7.2.3 Release Description

6.1. Release Identification

Table 3.   Package Release Information

	Services (ATI, AT%VER)
FW Identification	BHL78XX.3.7.2.3 (RK0201010085)
Components	Chipset baseline: RK0201010085 Legato RTOS: 18.09.2.ALT1250.rc22 2019/07/29 13:51:59 atSwi: 22.00 UBOOT: 01.03 Apps: RKAPP_02_01_01_11_77__2e6d86c7c5a36543444aef3b128582b44fe6b0f2 MAC: ALT1250_02_01_01_00_73_FW
Date of generation	2019/10/30 00:57:12
Binary Size	4546560 AppFW_flash.bin 1040 sysHeader_backup.bin.alt1250 3492 sysHeader.bin.alt1250 700 sysHeader_modem.bin.alt1250 520076 u-boot.bin 3716408 ue_lte.fw 4096 partmap.bin 2750792 ue_lte.fw2(HL7800 package) 16384 ue_lte.fw2(HL7800-M package)
IMEI SV	07
TS 25 PLMN List	24th June 2019
Supported HW	HL7800, HL7800-M (tested with PV1 or newer)

6.2. New Features/Enhancements

Table 4.   New Features/Enhancements

Feature/ID	Description
EURY-864	User can request a synchronize job on AirVantage server for devices
EURY-1782, EURY-1469, EURY-852	NV Backup Phase 2: Additional configurations backed up
EURY-2241, EURY-2134, EURY-2087	Optimizations added to NV Backup and Recovery feature
EURY-200	Initial release supporting Ready To Connect feature (Ready-to-Connect)
EURY-159	Temperature Warning feature allowing application to react before auto-switch off

6.3. Software Changes Description

This section presents all corrections or improvements integrated in this release.

ID	Issue Resolved
EURY-2325	With one of the fixes under BHL78XX.3.7, KMON=1 behavior was corrected to ensure module resets after unexpected crash. This leads to problem for units with KMON=1 and upgraded to BHL78XX.3.7. Problem has been solved by changing Firmware default value to KMON=2 and not persisting KMON=1 after cold boot.
EURY-2016	Setting Band Configuration with KBNDCFG after cold boot returns error
EURY-1927	TAU is not attempted after TAU reject with EMM-Cause #15 ((No suitable cells in tracking area) is received
EURY-1896	In some rare cases of attach/detach, UE fails to perform Attach to the network
EURY-1895	During bootup when DNS resolution takes long time, AT commands become slow in their response time
EURY-1726	PPP connection fails with error 628 on windows with 921600 baudrate
EURY-1660	AT+KCELL doesn't return Intra Frequency neighbor cell information
EURY-1556	Cannot activate PDP context 2 and module responds command too long (> 60s)
EURY-2241, EURY-2204	Some cases where AT+KCARRIERCFG change followed by RESET leads to NV Back up recovery fail and unit becomes unresponsive
EURY-2173	Initial boot baud rate is not persisted over FOTA or Local upgrade
EURY-2134	File corruption leads to module failing to connect or being unresponsive
EURY-2004	In some cases KSLEEP delay timer doesn't keep module awake for configured time
EURY-2089	Closing CMUX while PPP is active leads to CMUX not working properly in the next run
EURY-2088	Memory leak during closing CMUX leads to module sending out garbage characters in response to AT commands
EURY-2087	APNs have been reset to default even with KCARRIERCFG=1
EURY-2024	Module freeze after loop testing with eDRX hibernate and IP-PUSH due to race condition
EURY-1687	Long run eDRX test with IP-Push sometimes leads to crash resulting in module unresponsive
EURY-1250	PPP fails during LCP negotiation due to hard coded baud rate used
EURY-1994	UE ignores EF_FPLMN list after network detach
EURY-1989	DUT didn't reattach correctly after unexpected network loss or uncatched economic optimization
EURY-1902	No attach request after eco-opti following network detach
EURY-2129	Location Status Normal -> No Service after eco-opti REFRESH response
EURY-2105	Module is unable to perform NV backup due to NV partition not having enough free space
EURY-2030	FOTA job sometimes failed when power off/on module during package download
EURY-1982	FOTA job failed after network was lost and recovered subsequently
EURY-1770	AT port not responsive after a few minutes idle with UART0 set to LOG
EURY-1623	FOTA Download from Motive Server Fails to Update FW

ID	Issue Resolved
EURY-1521	The module configured in NB1 auto reboots after Lite Hibernate or Hibernate is configured
EURY-1170	In NB1 mode without eDRX and PSM, with DH2 sleep mode modules wakes up every 6secs
EURY-159	Temperature Warning feature allowing application to react before auto-switch off
EURY-1764	Race condition may override hibernate state set by +KSLEEP
EURY-1626	AT+KCELL=0 returns CME Error 60 when network is EPS_ONLY attach.
EURY-1455	Internal IP stack data integrity issue (Escape sequence (+++) parsing of serial data fails in some cases)
EURY-1932	Incoming UDP/TCP data is limited to 512 bytes
EURY-1892	FW download cannot be done with AT+WDSD or FOTA with logs stored in tempfs
EURY-1845	Module cannot hibernate after TAU with RTS de-asserted
EURY-1822	Attach process stopped after receiving TAU reject
EURY-1782	HL7800 need to ensure AT+KHWIOCFG is saved by NV backup
EURY-1778	HL7800 Smartsim Initialization (modem reset)
EURY-1760	KUDPSND data lost @9600 bps when fails to parse +++
EURY-1749	SMS Term Ref vs DUT has 3 failures -1.0 % delta compared with 2 failures on Ref
EURY-1745	When module received IP-PUSH, sometimes UE couldn't send Service request(RACH Fail)
EURY-1731	Connecting over PPP for ~15 seconds will cause AT+WPPP commands to stop responding.
EURY-1648	Can't use USB port because of incorrect serial port mapping
EURY-1564	AT+KTCP and AT+KUDP commands sometimes fail to send data to server when data contains one or more '+' characters
EURY-1560	Internal IP stack UDP data msg is not sent after CONNECT
EURY-1438	Garbled characters output after wakeup from hibernate mode at 9600 baud
EURY-871	AT+KSIMDET takes upto 112sec to detects SIM removal and upto 4mins to detect SIM insertion
EURY-852	KCARRIERCFG, KBNDCFG, WPP credentials are included in NV Backup
EURY-1978	+gnssloc result is 45km away
EURY-1696	Module is frozen after sending some invalid commands.
EURY-1689	Module cannot receive data after sending data to FTP server successfully for the first time.
EURY-1645	UE fails to report an accurate position fix with AT+GNSSLOC
EURY-1615	Module output +WDSI: 5(Authentication ended with failure) after +WDSI: 10(Download OK).
EURY-1584	LGU+ LWM2M requirements
EURY-1417	Internal TCP and UDP uplink in NB-IoT mode is causing corrupt and false data
EURY-1122	AT+KFTPSND with large files trigger error and file is displayed in hyperterminal
EURY-939	"+SIM: 1" URC is not returned after reboot module
EURY-864	[AV] Add Synchronize action in application model for AV packages
EURY-1749	Modem crash observed while handling MT-SMS which is fixed with a modem firmware patch

Certification Description

The following table summarizes the certifications status for this release and immediate previous release.

Product	Version	Notes
HL7800-M	BHL78XX.3.7.2.3[Note 1:]	*Note1: Targeted for Verizon CAT-M1 MR, GCF/PTCRB*
HL7800-M	BHL78XX.3.5.0	Verizon Certificate obtained for Stationary device

7. Restrictions and Additional Information

This section presents additional information or restrictions that must be considered.

7.1. Restrictions

Feature	Description (What/When)	Impacted Functionality/Sub-Functionality

Enable pin for external DCDC	Before using **+KWIOCFG** to activate this feature, you must send AT Commands below:
	
	`AT+KGPIOCFG=8,0,2 (Set GPIO8 output high)`
	`OK`
	`AT+KGPIO=8,1`
	`OK`
		IO Configuration

New pin output for monitoring HL7800 status	Before using **+KWIOCFG** to activate this feature, you must send AT Commands below:
	
	`AT+KGPIOCFG=6,0,2 (Set GPIO6 output high)`
	`OK`
	`AT+KGPIO=6,1`
	
	`OK`
		IO Configuration

RF TX/RX	Commands WMTXPOWER/WMRXPOWER are not supported on NB1	RX/TX Power (NB1)
PWR_ON_N	PWR_ON_N Managed feature is disabled, HL7800 is starting as soon as VBAT is applied.	Module start sequence
Factory default setting	Default Cat-M1 RF bands: 2, 3, 4, 8, 12, 13, 18, 20, 26, 28	Cat-M1 Bands

7.2. Known Issues

ID	Description
EURY-2175	Module assert after Stress test for long hours observed

ID	Description
EURY-2239	During FW upgrade for HL7800-M, after upgrade ati commands do not show "-M"
EURY-1283	[NBIOT] Resets seen in Lite Hibernate mode
EURY-1741	SMS getting corrupt when using CMUX
EURY-1758	Module cannot go back into hibernate mode after UDP IP-PUSH
EURY-1983	T-Mobile NB1 network device takes about a minute to register on network after waking up at the end of T3412 timer
EURY-2137	Module goes unresponsive or crashes during SCP file transfer over CMUX
EURY-2014	+KSREP? sometimes return 0,2 (SIM not present) with eDRX enabled
EURY-2147	CFUN=0 is not retained after waking up from LITE HIBERNATE mode
EURY-2149	URC emit during XMODEM FW upgrade which is unexpected
EURY-2304	If power is lost during a FOTA upgrade, there is a chance of the module being stuck in boot mode. A power cycle recovers this issue.
EURY-2206	If the network rejects the module with Cause 17, the module with Sierra SIM will stay on that network and not attempt to find service on other networks. A workaround will be available in a future firmware release

7.2.1. Limitation related to NV Backup Feature

As part of improvements done in NV Backup feature to automatically detect corruption in file system under Firmware Release 3.7.2.2/3.7.2.3, NV Backup file format is not compatible with older releases anymore. This results in issues when any unit with older Firmware release is upgraded to Firmware 3.7.2.2/3.7.2.3 and NV Backup feature is set to automatic.

To mitigate this issue, prior to upgrade/downgrade if Automatic NV Backup feature is enabled, that should be set to Manual. After upgrade NV Backup should be deleted before re-enabling automatic NV Backup feature.

For detailed description and step by step mitigation refer to Application Note [R-6]

8. AT Commands List

Table 5. Supported AT command list

AT Commands	HL Releases
+KHWIOCFG: Enable and Disable IO Features	BHL78xx.2.5.1.0
+KCELLMEAS Command: Request Network Coverage Information	BHL78xx.2.5.1.0
+KNWSCANCFG Command: configure Network scan policy	AHL78xx.2.4.1.0
+WEXTCLK Command: External Clocks Setting 32KHz/26MHz	AHL78xx.2.3.0.0
+WMTXPOWER Command: Test RF Tx	BHL78xx.1.7.10.0
+WMRXPOWER Command: Test RF Rx	BHL78xx.1.7.10.0
+KMON Command: Enable/disable monitor mode	BHL78xx.1.7.6.0
&C Command: Set Data Carrier Detect (DCD) Function Mode	BHL78xx.1.6.3.0
&D Command: Set Data Terminal Ready (DTR) Function Mode	BHL78xx.1.6.3.0
&R Command: RTS/CTS Option	BHL78xx.1.6.3.0
&S Command: DSR Option	BHL78xx.1.6.3.0
+KTCP_ACK Notification: Status Report for Latest TCP Data	BHL78xx.1.6.3.0
+KSYNC Command: Application Synchronization Signal	BHL78xx.1.6.3.0
+XDNS Command: Dynamic DNS Request	BHL78xx.1.6.3.0
+CMUX Command: Multiplexing Mode	BHL78xx.1.6.3.0
+KTCP_DATA Notification: Incoming Data through a TCP Connection	AHL78xx.1.6.2.0
+KTCP_IND Notification: TCP Status	AHL78xx.1.6.2.0
+KTCP_SRVREQ Notification: Incoming Client Connection Request	AHL78xx.1.6.2.0
+KTCPSTART Command: Start a TCP Connection in Direct Data Flow	AHL78xx.1.6.2.0
+WIMEI Command: IMEI Write and Read	AHL78xx.1.6.2.0
+WPPP Command: PDP Context Authentication Configuration	AHL78xx.1.6.2.0
+CPOF Command: Power Off	AHL78xx.1.6.0.0
+KCERTDELETE Command: Delete Local Certificate from the Index	AHL78xx.1.6.0.0
+KCERTSTORE Command: Store Root CA and Local Certificates to File System	AHL78xx.1.6.0.0
+KPRIVKDELETE Command: Delete Private Key from the Index	AHL78xx.1.6.0.0
+KPRIVKSTORE Command: Store Private Key Associated to a Local Certificate	AHL78xx.1.6.0.0
+KRIC Command: Ring Indicator Control	AHL78xx.1.6.0.0
+KSLEEP Command: Power Management Control (eDRX, PSM)	AHL78xx.1.6.0.0
+KSSLCFG Command: SSL Configuration	AHL78xx.1.6.0.0
+KSSLCRYPTO Command: Cipher Suite Configuration	AHL78xx.1.6.0.0

AT Commands	HL Releases
+++ Command: Switch from Data Mode to Command Mode (Legato service)	AHL78xx.1.5.1.0
&F Command: Restore Factory Settings	AHL78xx.1.5.1.0
&V Command: Display Current Configuration	AHL78xx.1.5.1.0
&W Command: Save Stored Profile	AHL78xx.1.5.1.0
+KCELL Command: Cell Environment Information	AHL78xx.1.5.1.0
+KGPIO Command: Hardware IO Control	AHL78xx.1.5.1.0
+KGPIOCFG Command: GPIO Configuration	AHL78xx.1.5.1.0
+WDSE Command: Device Services Error	AHL78xx.1.5.1.0
+WDSG Command: Device Services General Status	AHL78xx.1.5.1.0
+WDSI Command: Device Services Indications	AHL78xx.1.5.1.0
+WDSR Command: Device Services Reply	AHL78xx.1.5.1.0
+WDSS Command: Device Services Session	AHL78xx.1.5.1.0
S4 Command: Set Response Formatting Character	AHL78xx.1.5.1.0
Z Command: Reset and Restore User Configuration	AHL78xx.1.5.1.0
+KCARRIERCFG Command: Set operator	AHL78xx.1.4.4.0
+CEDRXS eDRX setting	AHL78xx.1.4.1.0
+KUDP_DATA Notification: Incoming Data through a UDP Connection	AHL78xx.1.4.1.0
+KUDP_IND Notification: UDP Status	AHL78xx.1.4.1.0
+KUDPCFG Command: UDP Connection Configuration	AHL78xx.1.4.1.0
+KUDPCLOSE Command: Close Current UDP Operation	AHL78xx.1.4.1.0
+KUDPRCV Command: Receive Data through a UDP Connection	AHL78xx.1.4.1.0
+KUDPSND Command: Send Data through a UDP Connection	AHL78xx.1.4.1.0
+KUDPDEL Command: Delete a Configured UDP Session	AHL78xx.1.4.1.0
IPR Command: Set Fixed Local/DTE Rate	AHL78xx.1.4.1.0
+WAMS Command: Load and Verify AVMS Credentials	AHL78xx.1.4.1.0
+IFC Command: Set Local Data Flow Control	AHL78xx.1.4.1.0
+CMGW Command: Write SMS Message to Memory	AHL78xx.1.4.0.0
+CPSMS Power saving mode setting	AHL78xx.1.4.0.0
+CUSATA	AHL78xx.1.4.0.0
+CUSATD	AHL78xx.1.4.0.0
+CUSATE	AHL78xx.1.4.0.0
+CUSATEND	AHL78xx.1.4.0.0
+CUSATP	AHL78xx.1.4.0.0
+CUSATR	AHL78xx.1.4.0.0

AT Commands	HL Releases
+CUSATT	AHL78xx.1.4.0.0
+CUSATW	AHL78xx.1.4.0.0
+HWREV Command : Request Hardware Revision	AHL78xx.1.4.0.0
+KCGPADDR Command: Display PDP Address	AHL78xx.1.4.0.0
+KCNX_IND Notification: Connection Status Notification	AHL78xx.1.4.0.0
+KCNXCFG Command: GPRS Connection Configuration	AHL78xx.1.4.0.0
+KCNXDOWN Command: Bring the PDP Connection Down	AHL78xx.1.4.0.0
+KCNXPROFILE Command: Current Profile Connection Configuration	AHL78xx.1.4.0.0
+KCNXTIMER Command: Connection Timer Configuration	AHL78xx.1.4.0.0
+KCNXUP Command: Bring the PDP Connection Up	AHL78xx.1.4.0.0
+KGSN Command: Request Product Serial Number and Software Version	AHL78xx.1.4.0.0
+KIPOPT Command: General Options Configuration	AHL78xx.1.4.0.0
+KPATTERN Command: Custom End of Data Pattern	AHL78xx.1.4.0.0
+KTCPCFG Command: TCP Connection Configuration	AHL78xx.1.4.0.0
+KTCPCLOSE Command: Close Current TCP Operation	AHL78xx.1.4.0.0
+KTCPCNX Command: Start TCP Connection	AHL78xx.1.4.0.0
+KTCPDEL Command: Delete a Configured TCP Session	AHL78xx.1.4.0.0
+KTCPRCV Command: Receive Data through a TCP Connection	AHL78xx.1.4.0.0
+KTCPSND Command: Send Data through a TCP Connection	AHL78xx.1.4.0.0
+KURCCFG Command: Enable or Disable the URC from Protocol Commands	AHL78xx.1.4.0.0
+WDSD Command: Device Services Local Download	AHL78xx.1.4.0.0
+KBND Command: Current Networks Band Indicator	AHL78xx.1.3.2.x
+KBNDCFG Command: LTE Bands selection AT Command	AHL78xx.1.3.2.x
+CGMI Command: Request Manufacturer Identification	AHL78xx.1.3.1.0
+CGMM Command: Request Model Identification	AHL78xx.1.3.1.0
+CGMR Command: Request Revision Identification	AHL78xx.1.3.1.0
+CLAC Command: List Available AT Commands	AHL78xx.1.3.1.0
+CMGD Command: Delete SMS Message	AHL78xx.1.3.1.0
+CMGF Command: Select SMS Message Format	AHL78xx.1.3.1.0
+CMGL Command: List SMS Messages from Preferred Storage	AHL78xx.1.3.1.0
+CMGR Command: Read SMS Message	AHL78xx.1.3.1.0
+CMGS Command: Send SMS Message	AHL78xx.1.3.1.0
+CMSS Command: Send SMS Message from Storage	AHL78xx.1.3.1.0
+CNMI Command: New SMS Message Indication	AHL78xx.1.3.1.0

AT Commands	HL Releases
+CPMS Command: Preferred Message Storage	AHL78xx.1.3.1.0
+CSCA Command: SMS Service Center Address	AHL78xx.1.3.1.0
+CSDH Command: Show Text Mode Parameters	AHL78xx.1.3.1.0
+CSMP Command: Set SMS Text Mode Parameters	AHL78xx.1.3.1.0
+CSMS Command: Select Message Service	AHL78xx.1.3.1.0
+GMI Command: Request Manufacturer Identification	AHL78xx.1.3.1.0
+GMM Command: Request Model Identification	AHL78xx.1.3.1.0
+GMR Command: Request Revision Identification	AHL78xx.1.3.1.0
+KSREP Command: Mobile Start-up Reporting	AHL78xx.1.3.1.0
I Command: Request Identification Information	AHL78xx.1.3.1.0
&K Command: Flow Control Option	AHL78xx.1.2.0
+CGACT Command: PDP Context Activate or Deactivate	AHL78xx.1.2.0
+CLCK Command: Facility Lock	AHL78xx.1.2.0
+CMT Notification: Received SMSPP Content	AHL78xx.1.2.0
+CPWD Command: Change Password	AHL78xx.1.2.0
+CSCS Command: Set TE Character Set	AHL78xx.1.2.0
H Command: Disconnect Existing Connection	AHL78xx.1.2.0
+++ Command: Switch from Data Mode to Command Mode	AHL78xx.1.1.0
+CCHC Command: Close Logical Channel	AHL78xx.1.1.0
+CCHO Command: Open Logical Channel	AHL78xx.1.1.0
+CCID Command: Request SIM Card Identification	AHL78xx.1.1.0
+CCLK Command: Real Time Clock	AHL78xx.1.1.0
+CEER Command: Extended Error Report	AHL78xx.1.1.0
+CEMODE Command : UE Modes of Operation for EPS	AHL78xx.1.1.0
+CEREG Command : EPS Network Registration Status	AHL78xx.1.1.0
+CESQ Command : Extended Signal Quality	AHL78xx.1.1.0
+CFUN Command: Set Phone Functionality	AHL78xx.1.1.0
+CGATT Command: PS Attach or Detach	AHL78xx.1.1.0
+CGCMOD Command: Modify PDP Context	AHL78xx.1.1.0
+CGDCONT Command: Define PDP Context	AHL78xx.1.1.0
+CGDSCONT Command: Define Secondary PDP Context	AHL78xx.1.1.0
+CGEREP Command: GPRS Event Reporting	AHL78xx.1.1.0
+CGPADDR Command: Show PDP Address	AHL78xx.1.1.0
+CGSMS Command: Select Service for MO SMS Messages	AHL78xx.1.1.0

AT Commands	HL Releases
+CGSN Command: Request Product Serial Number Identification (IMEI)	AHL78xx.1.1.0
+CGTFT Command: Traffic Flow Template	AHL78xx.1.1.0
+CIMI Command: Request International Subscriber Identity	AHL78xx.1.1.0
+CMEE Command: Report Mobile Termination Error	AHL78xx.1.1.0
+CNUM Command: Subscriber Number	AHL78xx.1.1.0
+COPN Command: Read Operator Name	AHL78xx.1.1.0
+COPS Command: Operator Selection	AHL78xx.1.1.0
+CPAS Command: Phone Activity Status	AHL78xx.1.1.0
+CPBF Command: Find Phonebook Entries	AHL78xx.1.1.0
+CPBR Command: Read Current Phonebook Entries	AHL78xx.1.1.0
+CPBS Command: Select Phonebook Memory Storage	AHL78xx.1.1.0
+CPBW Command: Write Phonebook Entries	AHL78xx.1.1.0
+CPIN Command: Enter Pin	AHL78xx.1.1.0
+CPLS Command: Select Preferred PLMN list	AHL78xx.1.1.0
+CPOL Command: Preferred PLMN List	AHL78xx.1.1.0
+CREG Command: Network Registration	AHL78xx.1.1.0
+CRSM Command: Restricted SIM Access	AHL78xx.1.1.0
+CSIM Command: Generic SIM Access	AHL78xx.1.1.0
+CSQ Command: Signal Quality	AHL78xx.1.1.0
+CTZR Command: Time Zone Reporting	AHL78xx.1.1.0
+CTZU Command: Automatic Time Zone Update	AHL78xx.1.1.0
+GCAP Command: Request Complete TA Capability List	AHL78xx.1.1.0
+GSN Command: Request Product Serial Number (IMEI)	AHL78xx.1.1.0
D Command: Mobile Originated Call to Dial a Number	AHL78xx.1.1.0
E Command: Enable Echo Command	AHL78xx.1.1.0
O Command: Switch from Command Mode to Data Mode	AHL78xx.1.1.0
S2 Command: Set Character for the Escape Sequence (Data to Command Mode)	AHL78xx.1.1.0

9. Released Files and Download Processes

9.1.1. Upgrade with One-Click exe (Windows)

1/ Double click on the **.exe** (Example BHL78XX.3.5.0.0.exe)

```
Available ports:

COM5    (Intel(R) Active Management Technology - SOL (COM5))
COM14    (USB Serial Port (COM14))
Enter COM Port ID:13

Com port can be set using Environment Variables: SFT_COM_PORT
Enter COM Speed (9600, 57600, 115200, 460800, 921600[default], 1843200, 2400000):
Speed can be set using Environment Variables: SFT_COM_SPEED

File to download: sysHeader_backup.bin.alt1250
File to download: sysHeader.bin.alt1250
File to download: u-boot.bin
File to download: partmap.bin
File to download: AppFW_flash.bin
File to download: ue_lte.fw

Using port COM13 at 921600 bps
Synchronizing with module...
Module CLI found. Attempting to synchronize with bootloader...
```

9.1.2. Upgrade by standalone sft tool (Windows and Linux)

1/ Unzip the **.7z** (for example BHL78XX.3.4.1.0.7z) into a folder

2/ Open a Windows command line session

3/ Go into the folder where the file has been unzipped

4/ Identify the COM port on your computer connected to the HL7800 and run the **sft.exe** command as per the example below (with COM3 as an example)

```
Microsoft Windows [Version 10.0.14393]
(c) 2016 Microsoft Corporation. All rights reserved.

D:\>cd BHL78XX.3.4.1.0

D:\BHL78XX.3.4.1.0>sft.exe
Usage: sft [option]... file(s)
Download specified file(s) to the module

 -p <port>   --port     Use communications port. Mandatory option.
 -b <baud>   --baud     Set baud rate. Default is maximum baud rate supported by com port.
```

```
 -i <port>   --info      Shows available baudrates for port
 -l         --list      Lists available communication ports
 -c         --configfs   Enable configfs download
 -f         --bootstrap  Force bootstrap download
 -r         --recover    mode
 -s         --strict     mode (all given files must be present)
 -d         --debug      Debug mode
 -v         --version    Print version
 -h         --help      (this message)


D:\BHL78XX.3.4.1.0>sft.exe -l
Available ports:

COM3    (USB Serial Port (COM3)) // COM3 refers to the computer's COM port connected to the HL7800
COM5    (Intel(R) Active Management Technology - SOL (COM5))


D:\BHL78XX.2.5.6.1>sft.exe -p COM3 *
File to download: sysHeader_backup.bin.alt1250
File to download: sysHeader.bin.alt1250
File to download: u-boot.bin
File to download: partmap.bin
File to download: AppFW_flash.bin
File to download: ue_lte.fw

Using port COM3 at 921600 bps
Synchronizing with module...
Module CLI found. Attempting to synchronize with bootloader...
...
```

Note: The **sft** file (without .exe extension) available in the package is the Linux compatible upgrader tool. It can but used with the same parameters over Linux host.

9.1.1. **Upgrade by XMODEM/WDSD**

1/ Download FOTA package from FW delivery folder. For example: **AVMS_AHL7800.2.4.1.0.20190218.zip**

2/ Unzip the **.zip** file (Example AVMS_AHL7800.2.4.1.0.20190218.zip) into a folder

Name ^	Date modified	Type
AHL7800.2.4.1.0.20190218.app	2019-02-18 13:11	APP File
HL7800_A2.3.1.0_to_A2.4.1.0_allBin_nbIOT11.foto	2019-02-18 13:11	FOTO File
HL7800_A2.4.0.0_to_A2.4.1.0_allBin_nbIOT11.foto	2019-02-18 13:11	FOTO File
HL7800_T2.4.1.0.99_to_A2.4.1.0_allBin_nbIOT11.foto	2019-02-18 13:11	FOTO File
oma.cp	2019-02-18 13:11	CP File
swir.cp	2019-02-18 13:11	CP File

3/ AT Command Sequence (Upgrade FW2.4.0.0 to FW2.4.1.0)

```
AT+WDSI= 4479
OK

AT+WDSD=865314 // .dwl package size in Bytes
```

4/ Send **HL7800_A2.4.0.0_to_A2.4.1.0_allBin_nbIOT11.foto** using 1K-Xmodem

```
OK
+WDSI:3

AT+WDSR=4
OK

+WDSI:14
//AUTOMATIC REBOOT
…
+WDSI:16 //UPGRADE OK
```

10.   History

10.1.   BHL78XX3.5.0 (RK0201010060)

10.1.1. Release Identification

Table 6.   **Package Release Information**

	Services (ATI, AT%VER)
FW Identification	BHL78XX.3.5.1 (RK0201010060)
Identification	ati HL7800 OK ati3 BHL7800:E0.3.5.1.0.20190719 OK ati9 HL7800:E0.3.5.1 BHL78xx.3.5.1.0.RK_02_01_01_00_60.20190719 2019/07/19 01:22:30 IMEI-SV: 3594160915351706 Legato RTOS: 18.09.2.ALT1250.rc16 2019/06/27 07:55:19 atSwi: 18.00 UBOOT: 01.03 Apps: RKAPP_02_01_01_00_53__75bc4403e8c402686d52674ceabcdb24b36c4c65 MAC: ALT1250_02_01_01_00_54_FW PHY: 12.50.214034 PMP: 214037 SBUB: 1 SBFW: 1 RPuK: 42BA7F7D FPuK: 4A14BD70 RBUB: 0 RBFW: 0 OK at%ver NP Package: RK_02_01_01_00_60 Apps: RKAPP_02_01_01_00_53__75bc4403e8c402686d52674ceabcdb24b36c4c65 Using APP processor - no SB or 3B versions MAC Revision: REL_1250_02_01_01_REV_214037 MAC Package Version: ALT1250_02_01_01_00_54_FW MAC Build Time: Jun_16_2019_15_26_36 PHY Revision: 12.50.214034 PHY Build Time: Jun_16_2019_15_00_25 PHY Build Info: releas_0 PMP Revision: 214037 PMP Version: 54_FW BB Product: 1250 BB HW Revision: 20 RFIC_6200 Revision: 00

	NP Build Time: Jun 17 2019 17:56:03 OK
Date of generation	2019/06/14 21:13:13
Binary Size	5402624 AppFW_flash.bin 1040 sysHeader_backup.bin.alt1250 3492 sysHeader.bin.alt1250 700 sysHeader_modem.bin.alt1250 519932 u-boot.bin 3703092 ue_lte.fw 4096 partmap.bin 2734888 ue_lte.fw2(HL7800 package) 16384 ue_lte.fw2(HL7800-M package)
MD5	12971a5ac479b359612665bf5553d00679e9cef0 AppFW_flash.bin 3ddf3512ac6ce33554b6a0ec3a65785833907187 sysHeader_backup.bin.alt1250 (HL7800-M) 99304e15e717f19b067ba74602640b448b553529 sysHeader.bin.alt1250 (HL7800-M) 809ae301ee95e2fc36aed1edee063a8bd127ffd0 u-boot.bin 45ecfbd0908137ad235cf1b2bd61391a0d8d6500 ue_lte.fw 54fce5fa38a5933f7a2be7d387940dff716ed59b partmap.bin (HL7800-M) 547372f1044a3442aa52fcd2b3546540aba59344 ue_lte.fw2 (HL7800-M)
IMEI SV	05
TS 25 PLMN List	29th April 2019

10.1.1.Software Changes Description

10.1.1.1.   Validated Corrections/Improvements

ID	Description
EURY-1699	[VZW][LWM2M][Diagnostics] Notify messages are not reporting periodically
EURY-1693	NV Backup (if it is in automatic mode) is restored at each init after upgrade to FW3.4.5.0 due to ImeiSV change (bsp/prop)
EURY-1675	Verizon cert configuration enhancements in AT+KCARRIERCFG
EURY-1662	If NV data file corrupted, backup is not restored and the module crashes.
EURY-1655	FOTA completion notification fails in some cases
EURY-1646	AT port stops working after downgrade from FW 3.4.5.0.
EURY-1609	[VZW][LWM2M] File version number in LWM2M resource 3/0/3 is missing 4th digit
EURY-1482	HL7800 NV Backup file not automatically generated
EURY-1475	AirVantage (DNS) failure on Vodafone NB1 due to lack of ePCO support in network. To workaround this network issue execute: `at%setacfg=modem_apps.NBIoT.ePCOCap,false` A more formal solution is planned for a future release.
EURY-1470	Module fails to restore NV data by NVBU command
EURY-1466	AT+KHTTPCFG fails in IPv6 mode
EURY-1409	FTP server time out occurred while uploading file to FTP on Ericsson eNB

ID	Description
EURY-1402	HL7800 crash and reboots when trying to open DLCs other than 1 - 4
EURY-1366	GNSS LNA Support added AT+CNSSCONF=1,<0= LNA disable, 1=LNA auto enable>
EURY-1357	Successive TX attempts with AT%TSTRF use maximum output power instead of configured value
EURY-1332	When Power On feature is enabled and power button is in the Off position ,module still boots successfully after hard reset.
EURY-1309	Latitude , Longitude and Altitude are mismatched between module and AVMS server
EURY-1261	Periodic resets seen in NB1 light hibernate
EURY-1208	+KTCP_DATA displays the incorrect send data value compare to the configured <send_size>
EURY-1199	The result of AT+CESQ may not change on NB1
EURY-1114	Module crashed when connecting to AVMS server by AT+WDSS=1,1 in stress test
EURY-998	+KUDP_DATA is not displayed when send and receive UDP data many times.
EURY-882	Test of "Mobile terminated message Class 0 and 2" Failed
EURY-646	Update CLAC with new AT commands
EURY-1716	Exclude TS25 files from NVBackup as they might be changed in the field
EURY-1601	Module auto attach after +CGATT=0

10.2. BHL78XX3.4.5.x (RK0201010057)

10.2.1. Release Identification

Table 7.   **Package Release Information**

	Services (ATI, AT%VER)
FW Identification	BHL78XX.3.4.5.1-RK0201010057
Identification	ati HL7800-M OK ati3 BHL7800-M.3.4.5.1.20190617 OK ati9

	HL7800-M.3.4.5 BHL78xx.3.4.5.1.RK_02_01_01_00_57.20190617 2019/06/17 17:57:04 IMEI-SV: 3594160915360706 Legato RTOS: 18.09.2.ALT1250.rc15 2019/06/07 12:03:18 atSwi: 17.00 UBOOT: 01.03 Apps: RKAPP_02_01_01_00_50__9b22bd4a0ca5cb1abde3f3dc385fd2c17807c84e MAC: ALT1250_02_01_01_00_51_FW PHY: 12.50.212808 PMP: 213109 SBUB: 0 SBFW: 0 RPuK: FPuK: RBUB: 0 RBFW: 0 OK at%ver NP Package: RK_02_01_01_00_57 Apps: RKAPP_02_01_01_00_50__9b22bd4a0ca5cb1abde3f3dc385fd2c17807c84e Using APP processor - no SB or 3B versions MAC Revision: REL_1250_02_01_01_REV_213109 MAC Package Version: ALT1250_02_01_01_00_51_FW MAC Build Time: Jun_02_2019_20_40_49 PHY Revision: 12.50.212808 PHY Build Time: May_28_2019_11_32_43 PHY Build Info: releas_0 PMP Revision: 213109 PMP Version: 51_FW PMP build time: Jun_02_2019_20_40_49 DSP Revision: 51142 BB Product: 1250 BB HW Revision: 20 RFIC_6200 Revision: 00 NP Build Time: Jun 17 2019 17:56:03 OK
Date of generation	2019/06/17 17:57:04
Binary Size	5349376 AppFW_flash.bin 420 sysHeader_backup.bin.alt1250 3492 sysHeader.bin.alt1250 700 sysHeader_modem.bin.alt1250 519932 u-boot.bin 3702316 ue_lte.fw 4096 partmap.bin 16384 ue_lte.fw2(HL7800-M package)
MD5	12971a5ac479b359612665bf5553d00679e9cef0 AppFW_flash.bin 3ddf3512ac6ce33554b6a0ec3a65785833907187 sysHeader_backup.bin.alt1250 (HL7800-M) 99304e15e717f19b067ba74602640b448b553529 sysHeader.bin.alt1250 (HL7800-M) 809ae301ee95e2fc36aed1edee063a8bd127ffd0 u-boot.bin 45ecfbd0908137ad235cf1b2bd61391a0d8d6500 ue_lte.fw 54fce5fa38a5933f7a2be7d387940dff716ed59b partmap.bin (HL7800-M) 547372f1044a3442aa52fcd2b3546540aba59344 ue_lte.fw2 (HL7800-M)
IMEI SV	05
TS 25 PLMN List	29th April 2019

10.2.2.Software Changes Description

10.2.2.1.   Validated Corrections/Improvements

This section presents all corrections or improvements integrated in this release.

ID	Description
EURY-449	Fixed issue which prevent AT+COPS=2 from detaching from the network
EURY-812	Add support for two simultaneous HTTP sessions
EURY-858	Fixed GPIO6 LPM behavior
EURY-874	CRLF is now sent after username, password. This allows connection to Microsoft FTP servers.
EURY-896	Improved detection of multi-IMSI SIMs
EURY-907	AT+KCELL will now show timing advanced parameter of serving cell
EURY-924	Module can now receive SMS after wake up from Hibernate mode with SM preferred message storage
EURY-949	Fixed issue where AT+COPS=? sometimes return a blank list
EURY-950	Fixed issue which prevented UE from initiating a network search after receiving "service not allowed" network detach response
EURY-962	Fixed issue where Location Status – Normal Service envelope was not sent to USIM after network attach
EURY-1078	Fixed rare issue where device fails to get a GNSS position fix under stress test conditions
EURY-1098	Add support for up to 6 simultaneous FTP sessions
EURY-1112	"NO CARRIER" is now returned when reading an unavailable file from FTP server
EURY-1117	If requested via +KSSLCRYPTO, TLS 1.2 is used instead of TLS 1.0
EURY-1118	Duplicate KFTP_ERROR URC no longer returned when sending +KFTPLS to get file size of a non-existing file
EURY-1132	PDP connection is now closed automatically after all FTP sessions are closed
EURY-1133	If 2 FTP sessions are active, +KFTPRCV no longer receives duplicate data in received file
EURY-1141	Improved NV Backup functionality
EURY-1186	Band, operator selection, baud rate, echo mode, PDP context, sleep mode, PSM, eDRX configurations are now persistent across FOTA
EURY-1210	Fixed occasional issue where +KTCP_SRVREQ URC missing some characters after the module resumes from sleep

ID	Description
EURY-1212	Fixed issue where +KTCP_DATA is displays incorrect received data value compare to configured TCP IPv6 <send_size> value
EURY-1240	AT port no longer freeze when module attempts to send UDP data with character "-" at the end
EURY-1248	Fixed rare issue where module was unable to attach after recovered from out of service
EURY-1253	Fixed rare issue where FOTA from 1.x to 3.x FW reported error even when it succeeded
EURY-1265	+KUDP commands no longer receive UDP data from AirVantage during FOTA
EURY-1287	+KSRAT is now persistent after upgrade from 1.7 FW
EURY-1328	"KTCP_NOTIF: 1,0" is now displayed after entering flight mode
EURY-1378	Enable pin for external DCDC
EURY-1385	Improved +KTCP_NOTIF behavior
EURY-1398	Closing TCP socket using +KTCPSTART no longer freezes module
EURY-1425	Improved embedded SIM detection using +KSIMSEL
EURY-1443	Fixed rare issue which prevented module from entering hibernate mode after FOTA
EURY-1444	Improved FOTA resume functionality
EURY-1445	Fixed rare issue where AirVantage server did not receive FOTA completion notification
EURY-1448	Loosened +AVDATASEND float and integer restrictions
EURY-1451	Improved eDRX stability under stress conditions
EURY-1471	Improved power consumption during LPM
EURY-1487	Fixed issue where the module fails to attach after an extended loss of coverage
EURY-1510	Fixed issue where module remains out of service when switching from invalid to valid CAT-M1 eNB
EURY-1518	AT+COPS=? no longer causes endless reboots when in NBIOT mode
EURY-1546	Fixed crash when changing NB1 band
EURY-1559	Fixed an issue causing the GPIO2 RI pulse to last longer than the configured duration
EURY-960	R2C: SIM is not read consistently

10.3. BHL78XX.3.4.1.0-RK0201010046

10.3.1. Release Identification

Table 8. Package Release Information

	Services (ATI, AT%VER)
FW Identification	BHL78XX.3.4.1.0-RK0201010046
Identification	ati HL7800 OK ati3 BHL7800.3.4.1.0.20190425 OK ati9 HL7800.3.4.1 BHL78xx.3.4.1.0.RK_02_01_01_00_46.20190425 2019/04/25 16:01:01 IMEI-SV: 3546160900092205 Legato RTOS: 18.09.2.ALT1250.rc8 2019/04/25 07:32:10 atSwi: 14.00 UBOOT: 01.03 Apps: RKAPP_02_01_01_00_42__4c94d7fcd51692e5e4264345040d4092d8fcc024 MAC: ALT1250_02_01_01_00_42_FW PHY: 12.50.210494 PMP: 210539 SBUB: 0 SBFW: 0 RPuK: FPuK: RBUB: 0 RBFW: 0 OK at%ver NP Package: RK_02_01_01_00_46 Apps: RKAPP_02_01_01_00_42__4c94d7fcd51692e5e4264345040d4092d8fcc024 Using APP processor - no SB or 3B versions MAC Revision: REL_1250_02_01_01_REV_210539 MAC Package Version: ALT1250_02_01_01_00_42_FW MAC Build Time: Apr_17_2019_12_26_21 PHY Revision: 12.50.210494 PHY Build Time: Apr_16_2019_14_37_27 PHY Build Info: releas_0 PMP Revision: 210539 PMP Version: 42_FW PMP build time: Apr_17_2019_12_26_21 DSP Revision: 46229 BB Product: 1250 BB HW Revision: 20 RFIC_6200 Revision: 00 NP Build Time: Apr 25 2019 15:59:47

	OK
Date of generation	2019/04/12 16:06:49
Binary Size	5226496 AppFW_flash.bin 420 sysHeader_backup.bin.alt1250 3492 sysHeader.bin.alt1250 519848 u-boot.bin 3769672 ue_lte.fw 4096 partmap.bin 2728724 ue_lte.fw2
MD5	d944db2f7f3c6b263cb387b1354f5639be51dbf8 AppFW_flash.bin 4bc8a110cfc39469a4fc05ece45b48c3382e46d4 sysHeader_backup.bin.alt1250 c7a95d1005dc80344f8b007791bd596c84fff2a8 sysHeader.bin.alt1250 a7213b890a65d7f89215d0dbc88d27d5848dd4d0 u-boot.bin fc975da586f86143ac0364d1d1a0ea0d2b5533f1 ue_lte.fw 7615da15f55f81205ea35b8b705f9b4ed556704f partmap.bin 463a7db878e1071d01a10d2c4db4463ee14dec90 ue_lte.fw2
IMEI SV	05
TS 25 PLMN List	1st April 2019

10.3.2. Software Changes Description

10.3.2.1.   Validated Corrections/Improvements

This section presents all corrections or improvements integrated in this release.

ID	Description
EURY-1322	Device connects to AVMS server TWICE at the same times after setting polling mode timer.
EURY-1291	[LGU+][4.2] Cell search does not work according network searching cycle specified by LG U+ when moving from no service area to service area.
EURY-1290	[AVMS] module doesn't reconnect to server after +WDSI:16
EURY-1289	[LGU+][4.1] cell search does not work according to network searching cycle specified by LG U+ in no service area
EURY-1266	MCU cannot receive AT command from module
EURY-1257	HL7800 crash seen during PPP call
EURY-1254	APN re-write by module itself
EURY-1229	[NS][EDRX] CST is not LOW again after module is woken up by SMS
EURY-1225	[NS][CEMODE] AT port is frozen after setting AT+CEMODE=3
EURY-1223	[CMUX] HL7800 PPP Failed FW 2.5.6.1
EURY-1180	[GPRS][+CGTFT] Missing 1 space in response when sending command AT+CGTFT?
EURY-1152	[VZW][AVMS][FOTA] Couldn't upgrade FW from N-1 to N by FOTA
EURY-1070	[GPRS][CGDCONT] +CGDCONT configuration isn't persistent after reboot

ID	Description
EURY-1045	[GPRS][CGDCONT][KTCPSND][KUDPSND] Module doesn't send data while there is an data call establish.
EURY-1044	[GPRS][CGDCONT][AVMS][WDSS] Can not start TCP/UDP connection with PDP context 1 if PDP 2 is configured for AVMS connection
EURY-1038	[PROTOCOM][KTCPCNX] Response time for AT+KTCPCNX is too long when starting TCP Connection with invalid IP address or invalid port
EURY-691	[MECS][KCELL] Module returns +CME ERROR: 60 when sending command AT+KCELL=0
EURY-687	[LegatoRTOS] Firmware information is not displayed rightly
EURY-668	[AVMS][FOTA] After network lost during FOTA session, module can't re-connect and continue FOTA upgrade, +WDSI: 11,2 is received.
EURY-623	FROMDIZZY1 - CLONE - [IPV6][KCNXUP][REG] Module can't bring up GPRS session with IPV4V6.
EURY-621	FROMDIZZY1 - CLONE - [ATandD]DCD is not active when module in data mode (KTCPSND/KUDPSND)
EURY-616	[KSLEEP][CPSMS] Modem does not go back to HIBERNATE mode when waking up in the middle of a PSM cycle
EURY-615	[WDSD] +WDSI 3 does not appear after AT+WDSD local download and therefore patch can't be installed
EURY-607	FROMDIZZ1_CLONE- [AVMS][KDDI][FOTA] Sometimes double +WDSI: 4 returned when connecting to server to trigger FOTA job
EURY-606	[KSLEEP] Modem state is not retained after waking up from LITE HIBERNATE mode
EURY-593	[PROTOCOL][TLS1.2][KTCPCNX] Module crashes when bring up TCP connection as secure client.
EURY-580	[WDSD] +WDSI 3 does not appear after AT+WDSD local download and therefore patch can't be installed
EURY-565	[SMS][CMGW][CMGS] Missing \r\n when entering the multiple line message
EURY-563	[SMS][CPMS] Module returns +CMS ERROR: 321 when selecting storage for <mem2>,<mem3>
EURY-550	[GPRS][CGEREP][CGEV] The URC +CGEV is not displayed when GPRS event happens.
EURY-545	[MECS][+CCHO] Wrong response when sending AT+CCHO command.
EURY-539	[NS][+COPS] Wrong responses when testing AT+COPS=? command
EURY-537	[TEST][WMRXPOWER] Module restart during testing WMRXPOWER
EURY-536	[SMS][CMGS] wrong responses for AT+CMGS=?

ID	Description
EURY-535	[VER25TER][3plus] After executing "+++" to switch from Data Mode to Command Mode, double "OK" is returned in the response.
EURY-533	[GEN][ATZ] Wrong response and delay in response when testing ATZ command.
EURY-525	[GPRS][CGCONTRDP] CGCONTRDP returns wrong response when network is detached
EURY-519	[V25TER][AT&D] Can't switch to command mode after DTR drops from active to inactive with AT&D1 command
EURY-518	[AVMS][FOTA] Can not trigger "upgrade job" on AVMS server from module with KDDI network
EURY-516	[MECS][+CMEE] Command AT+CMEE=2 should not be supported and should not be in list of supported values (AT+CMEE=?)
EURY-515	[GPRS][+CGEREP] CGEREP value is not saved after at+cfun=1,1
EURY-512	[PROTOCOM][KCNXDOWN] Can not bring down GPRS connection after TCP connection had been disconnected
EURY-511	[WMRXPOWER] ERROR returns for AT+WMRXPOWER=<ENABLE> and wrong response for read command
EURY-510	[V25TER][AT&D] Can't switch to command mode after DTR drops from active to inactive with AT&D2 command
EURY-507	[PROTOCOL][KTCPCNX] After start 6 TCP sessions, 7th sessions still connected.
EURY-506	[GEN][CMGS] "+CMTI" URC appears before "+CMGS" URC after sending successfully SMS
EURY-504	[GPRS][KCNXDOWN] Wrong KCNX_IND when bringing PDP connection down with AT+KCNXDOWN=1,1
EURY-499	[GPRS][+CPLS] Wrong responses when testing +CPLS command
EURY-497	[MECS][KSRAT] Extra /r/n in the response of +KSRAT
EURY-496	[CC][ATH] NO CARRIER is not returned after disconnect the data call by ATH
EURY-495	[NS][CPSMS] The responses of AT+CPSMS have incorrect format and value
EURY-493	[PROTOCOL][+KCNX_IND] The +KCNX_IND: 1,0,0 URC is not displayed when there is TCP connection error
EURY-491	[PROTOCOM][KTCPRCV] KTCPRCV cannot receive data available in buffer
EURY-488	[GPRS][+CGACT] Extra \r\n when sending CGACT command
EURY-486	[PROTOCOL][KUDPCFG][KUDPCLOSE]The 7th,8th,9th session can be started, and AT port is frozen after closing 7th UDP sessions

ID	Description
EURY-483	[HL78 Legato]: Received not enough data when read with command AT+KCERTSTORE?
EURY-481	[PROTOCOM][KURCCFG] URC "+KTCP_NOTIF: 1,4" is not returned after timeout
EURY-480	[VZW][V25TER][+CGCMOD] ERROR code is returned when modifying PDP context by +CGCMOD command
EURY-477	[PROTOCOM][KTCP_DATA] "+KTCP_DATA" is not displayed when send and receive TCP data in many times
EURY-473	[PROTOCOL][KTCPCFG]TCP sessions are displayed incorrectly
EURY-472	[SMS][+CMGS] First parameter of +CMT should be string type.
EURY-469	[NS][+COPS] Wrong responses when testing +COPS command
EURY-467	[MECS][KGPIO][KGPIOCFG] KGPIO configuration is not saved after rebooting
EURY-465	[PROTOCOM][KURCCFG] Client module does not send successfully with a lot of bytes to TCP server module

10.4. BHL78XX.2.5.8.0-RK0201010044

10.4.1. Release Identification

	Services (ATI, AT%VER)
FW Identification	BHL78XX.2.5.8.0-RK0201010044
Identification	ati HL7800 OK ati3 BHL7800.2.5.8.0.20190419 OK ati9 HL7800.2.5.8 BHL78xx.2.5.8.0.RK_02_01_01_00_44.20190419 2019/04/19 10:55:57 IMEI-SV: 3546160900011404 Legato RTOS: 18.09.2.ALT1250.rc6 2019/04/15 07:49:52 atSwi: 13.01 UBOOT: 01.03 Apps: RKAPP_02_01_01_00_40__91d60b93360df8db6aea51c4b159a1e87833e1c6 MAC: ALT1250_02_01_01_00_41_FW PHY: 12.50.210190 PMP: 210290 SBUB: 0 SBFW: 0 RPuK: FPuK:

	RBUB: 0
	RBFW: 0
	OK
	at%ver
	NP Package: RK_02_01_01_00_44
	Apps: RKAPP_02_01_01_00_40__91d60b93360df8db6aea51c4b159a1e87833e1c6
	Using APP processor - no SB or 3B versions
	MAC Revision: REL_1250_02_01_01_REV_210290
	MAC Package Version: ALT1250_02_01_01_00_41_FW
	MAC Build Time: Apr_11_2019_18_34_08
	PHY Revision: 12.50.210190
	PHY Build Time: Apr_11_2019_13_14_06
	PHY Build Info: releas_0
	PMP Revision: 210290
	PMP Version: 41_FW
	PMP build time: Apr_11_2019_18_34_08
	DSP Revision: 46229
	BB Product: 1250
	BB HW Revision: 20
	RFIC_6200 Revision: 00
	NP Build Time: Apr 19 2019 10:54:53
	OK
Date of generation	2019/04/19 10:54:53

Binary Size	`5185536 AppFW_flash.bin`
	`420    sysHeader_backup.bin.alt1250`
	`3492   sysHeader.bin.alt1250`
	`519704 u-boot.bin`
	`3769060  ue_lte.fw`
	`4096    partmap.bin`
	`2726872 ue_lte.fw2`

MD5	`ba78abeebbd939efd1968f2efd1becb6 AppFW_flash.bin`
	`ca55792af5c8d67af5c29a9fd3a4c58d`
	`sysHeader_backup.bin.alt1250`
	`83bbd1ad029a2333830d151e75ca3b50 sysHeader.bin.alt1250`
	`e54b966a41179ed3fb2cfc05d8c33adf u-boot.bin`
	`8ca8765d3fa0e21d19e1cdda400916cb ue_lte.fw`
	`4da8569f5f7f8dbaa990956542f759b7 partmap.bin`
	`9d1298c9c007da286f8e014a47105ee4 ue_lte.fw2`

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10.4.2. Software Changes Description

10.4.2.1.   New Features/Enhancements

Feature/ID	Description

10.4.2.2.   Validated Corrections/Improvements

This section presents all corrections or improvements integrated in this release

DIZZY1-1094	[NVBU] Module fails to automatically restore NV data after file corrupted. Then module is crashed.
DIZZY1-1192	+CGDCONT setting revert to default after Upgrade
DIZZY1-1201	[NVBU] URC NVBU_IND does not have a valid <backup date> and <backup firmware version> when module automatically generates NV backup files after boot
DIZZY1-1244	[CMUX][ATD] Module crashes in long run test for ping with PPP on Linux DLC
DIZZY1-390	[GPRS][+CGTFT] Missing 1 space in response when sending command AT+CGTFT?
DIZZY1-1078	[MECS][KSLEEP][CEDRXS] The module does not go to sleep, hibernate mode again after receiving many packets of data
DIZZY1-1241	Module cannot go back into hibernate mode after UDP IP-PUSH
DIZZY1-1258	[AVMS]Module is frozen when make a connection to AVMS server with "Heartbeat=ON" and "Status report = ON"
DIZZY1-1304	[AT&T] LWM2M client is not configured with the correct production servers addresses

10.4.2.3. Restrictions and Additional Information

Features	Description (What/When)	Impacted Functionality/Sub-Functionality

[04.115] Enable pin for external DCDC	Before using **+KWIOCFG** to activate this feature, you must send AT Commands below:
	
	`AT+KGPIOCFG=8,0,2 (Set GPIO8 output high)`
	`OK`
	`AT+KGPIO=8,1`
	`OK`
		IO Configuration

Features	Description (What/When)	Impacted Functionality/Sub-Functionality

[04.128] New pin output for monitoring HL7800 status	Before using **+KWIOCFG** to activate this feature, you must send AT Commands below:
	
	`AT+KGPIOCFG=6,0,2 (Set GPIO6 output high)`
	`OK`
	`AT+KGPIO=6,1`
	
	`OK`
		IO Configuration

NVBACKUP Feature	Feature has been delivered but disabled. It must deeply validated/verified by Sierra R&D Team so, don't request a manual backup +NVBU=0[1]	NV Corruption
RF TX/RX	Commands WMTXPOWER/WMRXPOWER are not supported on NB1	RX/TX Power (NB1)
PWR_ON_N	Power-on feature is disabled, HL7800 is starting as soon as VBAT is applied.	Module start sequence
Factory default setting	Default Cat-M1 RF bands: 2, 3, 4, 8, 12, 13, 18, 20, 26, 28	Cat-M1 Bands

ID	Description
EURY-1288	[CMUX][PROTOCOL] URC is received on all opened DLC when AT command is executed in a DLC
EURY-1261	[NBIOT] Periodic resets seen in LHT
EURY-1259	[CMUX] HL7800 module crashing after some time during ping test on AT&T
EURY-1256	High current consumption
EURY-1228	[MECS][CPSMS][EDRX] VGPIO is LOW when module enters LITE HIBERNATE
EURY-1113	[PROTOCOM][KIPOPT] "+KTCP_NOTIF: 1,4" is NOT returned after closing TCP server port
DIZZY1-1282	[GPRS][CGACT]After 30 times active PDP context by command AT+CGACT=1,<cid>, module return ERROR instead of OK

ID	Description
DIZZY1-1276	[GPRS][CGDCONT] +CGDCONT configuration isn't persistent after reboot
DIZZY1-1275	[KCELLMEAS] RSRP of KCELLMEAS is not correct for band 2
DIZZY1-1257	[PROTOCOL][KCNXUP] Can not bring connection up without activated PDP
DIZZY1-1255	[GPRS][CGDCONT][AVMS][WDSS] Can not start TCP/UDP connection with PDP context 1 if PDP 2 is configured for AVMS connection
DIZZY1-1250	[GPRS][THROUGHPUT][NB1]After dialing-up, some packets lost when pinging
DIZZY1-1248	[MECS][CPSMS] Have no response after device enters PSM in stress test
DIZZY1-1240	[SMS][CMGD] "OK" is returned too slowly when deleting all messages in full storage.
DIZZY1-1202	[PROTOCOM][KUDP_DATA] "+KUDP_DATA" is not displayed when send and receive UDP data in many times.
DIZZY1-1157	[TELSTRA] IPv6 DNS issue
DIZZY1-1096	[CPSMS][KSLEEP] Module can not receive SMS after wake up from Hibernate mode with SM preferred message storage
DIZZY1-1092	[NVBU] Module fails to restore NV data by NVBU command
DIZZY1-1091	[NVBU] Sometime module cannot generate backup by NVBU command
DIZZY1-1051	[NS][+COPS] Wrong responses for +COPS write command.
DIZZY1-1021	[AVMS][WDSS][NB1] Couldn't start AVMS connection with Deutsche Telekom operator.
DIZZY1-1019	[GPRS][THROUGHPUT][NB1]Network delay is too long with Deutsche Telekom operator.
DIZZY1-895	[NS][CEDRXRDP] Wrong response when testing command +CEDRXRDP
DIZZY1-494	[MECS][KCELL] Module returns +CME ERROR: 60 when sending command AT+KCELL=0

10.5. BHL78XX.2.5.7.0-RK0201010041

10.5.1. Release Identification

	Services (ATI, AT%VER)
FW Identification	BHL78XX.2.5.7.0-RK0201010041
Identification	ati HL7800 OK ati3 BHL7800.2.5.7.0.20190415 OK

	ati9 HL7800.2.5.7 BHL78xx.2.5.7.0.RK_02_01_01_00_41.20190415 2019/04/15 16:45:50 IMEI-SV: 3546160900092204 Legato RTOS: 18.09.2.ALT1250.rc5 2019/04/04 14:02:47 atSwi: 13.01 UBOOT: 01.03 Apps: RKAPP_02_01_01_00_37__76cc94b4672ac9bde0f08de3724a5c20b28bc2 ba MAC: ALT1250_02_01_01_00_38_LO PHY: 12.50.209178 PMP: 210432 SBUB: 0 SBFW: 0 RPuK: FPuK: RBUB: 0 RBFW: 0 OK at%ver NP Package: RK_02_01_01_00_41 Apps: RKAPP_02_01_01_00_37__76cc94b4672ac9bde0f08de3724a5c20b28bc2ba Using APP processor - no SB or 3B versions MAC Revision: REL_1250_02_01_01_REV_210432 MAC Package Version: ALT1250_02_01_01_00_38_LO MAC Build Time: Apr_15_2019_13_19_38 PHY Revision: 12.50.209178 PHY Build Time: Mar_28_2019_10_52_30 PHY Build Info: releas_0 PMP Revision: 210432 PMP Version: 38_LO PMP build time: Apr_15_2019_13_19_38 DSP Revision: 46229 BB Product: 1250 BB HW Revision: 20 RFIC_6200 Revision: 00 NP Build Time: Apr 15 2019 16:44:56 OK
Date of generation	2019/04/15 16:45:50
Binary Size	5173248 AppFW_flash.bin 420 sysHeader_backup.bin.alt1250 3492 sysHeader.bin.alt1250 519704 u-boot.bin 3765228 ue_lte.fw 4096 partmap.bin 2726852 ue_lte.fw2
MD5	90efaa3bfd17d9d5edd79189a03dc9b230ae3cde AppFW_flash.bin 16a5125a846fb6fa98b063422f55161eca896654 sysHeader_backup.bin.alt1250 f8c5789a7df6167a783047a77680085e0016eeb0 sysHeader.bin.alt1250 06c6a2c84977acb00ae781432b6060d18f35a05e u-boot.bin f2297bd4a90e4757df30266f0578c661ab401221 ue_lte.fw 1c58b2248708edf47eb2269eabe7ec3d9414d186 partmap.bin 68bfd2ac656085760748fdfb84e9833d4a62b115 ue_lte.fw2
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10.5.2.Software Changes Description

10.5.2.1.   New Features/Enhancements

Feature/ID	Description

10.5.2.2.   Validated Corrections/Improvements

This section presents all corrections or improvements integrated in this release

DIZZY1-1094	[NVBU] Module fails to automatically restore NV data after file corrupted. Then module is crashed.
DIZZY1-1046	Exception observed during PSM/Hibernate tests
DIZZY1-1110	[NVBU] Module fails to generate NV backup automatically when NV backup is corrupted
DIZZY1-1123	[AVMS][WDSS] URC +WDSI: 8 is not displayed when session is terminated by AT+WDSS=1,0 and module has a reset with AT&T
DIZZY1-507	[MECS][CEDRXS] AT+CEDRXS=? returns the wrong supported range when module is configured in NB1
DIZZY1-1008	[AVMS][FOTA] Module reconnect to DM server before Starting Firmware update when upgrade FW from N-1 to N
DIZZY1-1040	[] Device cannot attach to the network
DIZZY1-1319	[CEDRXS] eDRX does not work when register to Orange F network

10.5.2.3. Restrictions and Additional Information

Features	Description (What/When)	Impacted Functionality/Sub-Functionality

[04.115] Enable pin for external DCDC	Before using **+KWIOCFG** to activate this feature, you must send AT Commands below:
	
	`AT+KGPIOCFG=8,0,2 (Set GPIO8 output high)`
	`OK`
	`AT+KGPIO=8,1`
	`OK`
		IO Configuration

[04.128] New pin output for monitoring HL7800 status	Before using **+KWIOCFG** to activate this feature, you must send AT Commands below:
	
	`AT+KGPIOCFG=6,0,2 (Set GPIO6 output high)`
	`OK`
	`AT+KGPIO=6,1`
	
	`OK`
		IO Configuration

NVBACKUP Feature	Feature has been delivered but disabled. It must deeply validated/verified by Sierra R&D Team so, don't request a manual backup +NVBU=0[1]	NV Corruption
RF TX/RX	Commands WMTXPOWER/WMRXPOWER are not supported on NB1	RX/TX Power (NB1)
PWR_ON_N	Power-on feature is disabled, HL7800 is starting as soon as VBAT is applied.	Module start sequence
Factory default setting	Default Cat-M1 RF bands: 2, 3, 4, 8, 12, 13, 18, 20, 26, 28	Cat-M1 Bands

ID	Description
DIZZY1-1096	Module cannot receive SMS after waking up from Hibernate mode with SM preferred message storage

ID	Description
DIZZY1-1053	Cannot initiate dial-up using DLCs port on Linux OS
DIZZY1-1051	Wrong responses when testing +COPS command, and <mode> is persistent after set CFUN with config AT+COPS=1,2,"00101".
DIZZY1-1024	Periodic resets seen in LHT
DIZZY1-1021	Can't use AVMS feature with Deutsche Telekom network
DIZZY1-1019	Bad network throughput, delay time is too long for TCP/UDP/AVMS connection which might cause network time-out issue.
DIZZY1-895	Wrong response when testing command +CEDRXRDP
DIZZY1-494	+KCELL=0 AT command gives CMEE ERROR: 60
DIZZY1-208	Unexpected URCs are produced over each AT channel
DIZZY1-1157	[Telstra] IPv6 DNS issue
DIZZY1-1138	VGPIO is LOW when module enters LITE HIBERNATE
DIZZY1-1031	eDRX/Hibernate High current consumption
DIZZY1-987	NV Backup issues raised by dev team
DIZZY1-1216	[EDRX/KSLEEP] AT commands do not answer after +CFUN=1,1 if traces AT_SWITCHES/AT_CLIENT are deactivated
DIZZY1-1202	[KUDP_DATA] "+KUDP_DATA" is not displayed when send and receive UDP data in many times.
DIZZY1-1197	[KIPOPT] "+KTCP_NOTIF: 1,4" is NOT returned after closing TCP server port
DIZZY1-1192	+CGDCONT setting revert to default after Upgrade
DIZZY1-1186	eDRX current consumption with network
DIZZY1-1147	[CMUX] HL7800 module crashing after some time during ping test on AT&T
DIZZY1-1092	[NVBU] Module fails to restore NV data by NVBU command
DIZZY1-1091	[NVBU] Sometime module cannot generate backup by NVBU command
DIZZY1-1282	[GPRS][CGACT]After 30 times active PDP context by command AT+CGACT=1,<cid>, module return ERROR instead of OK
DIZZY1-1276	[GPRS][CGDCONT] +CGDCONT configuration isn't persistent after reboot
DIZZY1-1275	[KCELLMEAS] RSRP of KCELLMEAS is not correct for band 2
DIZZY1-1258	[AVMS] Module is frozen when make a connection to AVMS server with "Heartbeat=ON" and "Status report = ON"
DIZZY1-1257	[KCNXUP] Cannot bring connection up without activated PDP

ID	Description
DIZZY1-1255	[GPRS][CGDCONT][AVMS][WDSS] Cannot start TCP/UDP connection with PDP context 1 if PDP 2 is configured for AVMS connection
DIZZY1-1254	NB1 Idle Sleep modes Crash CMW500
DIZZY1-1250	[GPRS][THROUGHPUT][NB1] After dialing-up, some packets lost when pinging
DIZZY1-1249	[KTCPCNX] Response time for AT+KTCPCNX is too long when starting TCP Connection with invalid IP address or invalid port
DIZZY1-1248	[CPSMS] Have no response after device enters PSM in stress test
DIZZY1-1241	Device cannot go back into hibernate mode after UDP IP-PUSH
DIZZY1-1240	[SMS][CMGD] "OK" is returned too slowly when deleting all messages in full storage.
DIZZY1-1210	[CMUX] HL7800 Crash when start PPP
DIZZY1-1207	HL7800 crash seen during PPP call
DIZZY1-1201	[NVBU] URC NVBU_IND does not have a valid <backup date> and <backup firmware version> when module automatically generates NV backup files after boot

10.1.   BHL78XX.2.5.6.1-RK0201010041

10.1.1.Release Identification

	Services (ATI, AT%VER)
FW Identification	BHL78XX.2.5.6.1-RK0201010041
Identification	ati HL7800 OK ati3 BHL7800.2.5.6.1.20190412 OK ati9 HL7800.2.5.6 BHL78xx.2.5.6.1.RK_02_01_01_00_41.20190412 2019/04/12 16:08:23 IMEI-SV: 3546160900092204 Legato RTOS: 18.09.2.ALT1250.rc5 2019/04/04 14:02:47 atSwi: 13.01 UBOOT: 01.03 Apps: RKAPP_02_01_01_00_37__76cc94b4672ac9bde0f08de3724a5c20b28b c2ba MAC: ALT1250_02_01_01_00_38_FW PHY: 12.50.209178 PMP: 209236 SBUB: 0

	SBFW: 0 RPuK: FPuK: RBUB: 0 RBFW: 0 OK at%ver NP Package: RK_02_01_01_00_41 Apps: RKAPP_02_01_01_00_37__76cc94b4672ac9bde0f08de3724a5c20b28bc2ba Using APP processor - no SB or 3B versions MAC Revision: REL_1250_02_01_01_REV_209236 MAC Package Version: ALT1250_02_01_01_00_38_FW MAC Build Time: Mar_28_2019_15_28_56 PHY Revision: 12.50.209178 PHY Build Time: Mar_28_2019_10_52_30 PHY Build Info: releas_0 PMP Revision: 209236 PMP Version: 38_FW PMP build time: Mar_28_2019_15_28_56 DSP Revision: 46229 BB Product: 1250 BB HW Revision: 20 RFIC_6200 Revision: 00 NP Build Time: Apr 12 2019 16:06:49 OK
Date of generation	2019/04/12 16:06:49
Binary Size	5505024 AppFW_flash.bin 420 sysHeader_backup.bin.alt1250 3492 sysHeader.bin.alt1250 519688 u-boot.bin 3765052 ue_lte.fw 4096 partmap.bin 2726852 ue_lte.fw2
MD5	6d3028552e6ad8540e80df71bae7c7c47c2d5fef AppFW_flash.bin 50e791fe8add94599b736086aef3802e3f245f1a sysHeader_backup.bin.alt1250 518403ebd6cbde809a2684a1b3d77e63795905e9 sysHeader.bin.alt1250 65dad9458387fc7480087bbc7397e29b793ad5bf u-boot.bin eb1d92d3d4d2200a07d43194684ed5942381f5cf ue_lte.fw 496b2e0d82cc83f010e42d2201829f45cf1a0ce9 partmap.bin 68bfd2ac656085760748fdfb84e9833d4a62b115 ue_lte.fw2
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10.1.2. Software Changes Description

10.1.2.1. New Features/Enhancements

Feature/ID	Description

10.1.2.2.   Validated Corrections/Improvements

This section presents all corrections or improvements integrated in this release

DIZZY1-1094	[NVBU] Module fails to automatically restore NV data after file corrupted. Then module is crashed.
DIZZY1-1191	MCU cannot receive AT command from module
DIZZY1-1216	[eDRX/PSM] AT commands do not answer after +CFUN=1,1 if traces AT_SWITCHES/AT_CLIENT is deactivated
DIZZY1-792	Device is not able to enter in hibernate when in PSM mode in NBIOT or M1
DIZZY1-1110	[NVBU] Module fails to generate NV backup automatically when NV backup is corrupted
DIZZY1-1186	eDRX current consumption with network
DIZZY1-1207	Device crash during PPP call
DIZZY1-1210	[CMUX] Device crash when start PPP Session
DIZZY1-1244	[CMUX][ATD] Module crashes in long run test for ping with PPP on Linux DLC
DIZZY1-233	[ATH] NO CARRIER is not returned after disconnecting the data call by ATH
DIZZY1-574	[EDRX][CPSMS] CTS is not HIGH immediately after module is woken up by SMS
DIZZY1-1027	[KCELLMEAS] Extra \r\n when testing +KCELLMEAS command
DIZZY1-1053	[NB1][Linux][CMUX][DIAL] Module resets when using DLC1 to initiate dial-up connection on Linux OS
DIZZY1-1141	[KTCPCLOSE] +KCNX_IND: 1,5,30 is displayed after closing TCP session
DIZZY1-1201	[NVBU] URC NVBU_IND does not have a valid <backup date> and <backup firmware version> when module automatically generates NV backup files after boot
DIZZY1-1202	[KUDP_DATA] "+KUDP_DATA" is not displayed when send and receive UDP data in many times.

10.1.2.3. Restrictions and Additional Information

Features	Description (What/When)	Impacted Functionality/Sub-Functionality
[04.115] Enable pin for external DCDC	Before using **+KWIOCFG** to activate this feature, you must send AT Commands below: AT+KGPIOCFG=8,0,2 (Set GPIO8 output high) OK AT+KGPIO=8,1 OK	IO Configuration
[04.128] New pin output for monitoring HL7800 status	Before using **+KWIOCFG** to activate this feature, you must send AT Commands below: AT+KGPIOCFG=6,0,2 (Set GPIO6 output high) OK AT+KGPIO=6,1 OK	IO Configuration
NVBACKUP Feature	Feature has been delivered but disabled. It must deeply validated/verified by Sierra R&D Team so, don't request a manual backup +NVBU=0[1]	NV Corruption
RF TX/RX	Commands WMTXPOWER/WMRXPOWER are not supported on NB1	RX/TX Power (NB1)
PWR_ON_N	Power-on feature is disabled, HL7800 is starting as soon as VBAT is applied.	Module start sequence
Factory default setting	Default Cat-M1 RF bands: 2, 3, 4, 8, 12, 13, 18, 20, 26, 28	Cat-M1 Bands

ID	Description
DIZZY1-1096	Module cannot receive SMS after waking up from Hibernate mode with SM preferred message storage

ID	Description
DIZZY1-1051	Wrong responses when testing +COPS command, and <mode> is persistent after set CFUN with config AT+COPS=1,2,"00101".
DIZZY1-1024	Periodic resets seen in LHT
DIZZY1-1021	Can't use AVMS feature with Deutsche Telekom network
DIZZY1-1019	Bad network throughput, delay time is too long for TCP/UDP/AVMS connection which might cause network time-out issue.
DIZZY1-895	Wrong response when testing command +CEDRXRDP
DIZZY1-494	+KCELL=0 AT command gives CMEE ERROR: 60
DIZZY1-208	Unexpected URCs are produced over each AT channel
DIZZY1-1157	[Telstra] IPv6 DNS issue
DIZZY1-1138	VGPIO is LOW when module enters LITE HIBERNATE
DIZZY1-1031	eDRX/Hibernate High current consumption
DIZZY1-987	NV Backup issues raised by dev team
DIZZY1-1197	[KIPOPT] "+KTCP_NOTIF: 1,4" is NOT returned after closing TCP server port
DIZZY1-1192	+CGDCONT setting revert to default after Upgrade
DIZZY1-1147	[CMUX] HL7800 module crashing after some time during ping test on AT&T
DIZZY1-1092	[NVBU] Module fails to restore NV data by NVBU command
DIZZY1-1091	[NVBU] Sometime module cannot generate backup by NVBU command
DIZZY1-1282	[GPRS][CGACT]After 30 times active PDP context by command AT+CGACT=1,<cid>, module return ERROR instead of OK
DIZZY1-1276	[GPRS][CGDCONT] +CGDCONT configuration isn't persistent after reboot
DIZZY1-1275	[KCELLMEAS] RSRP of KCELLMEAS is not correct for band 2
DIZZY1-1258	[AVMS] Module is frozen when make a connection to AVMS server with "Heartbeat=ON" and "Status report = ON"
DIZZY1-1257	[KCNXUP] Cannot bring connection up without activated PDP
DIZZY1-1255	[GPRS][CGDCONT][AVMS][WDSS] Cannot start TCP/UDP connection with PDP context 1 if PDP 2 is configured for AVMS connection
DIZZY1-1254	NB1 Idle Sleep modes Crash CMW500
DIZZY1-1250	[GPRS][THROUGHPUT][NB1] After dialing-up, some packets lost when pinging
DIZZY1-1249	[KTCPCNX] Response time for AT+KTCPCNX is too long when starting TCP Connection with invalid IP address or invalid port
DIZZY1-1248	[CPSMS] Have no response after device enters PSM in stress test
DIZZY1-1241	Device cannot go back into hibernate mode after UDP IP-PUSH

ID	Description
DIZZY1-1240	[SMS][CMGD] "OK" is returned too slowly when deleting all messages in full storage.

10.2. BHL78XX.2.5.6.0-RK0201010041

10.2.1. Release Identification

	Services (ATI, AT%VER)
FW Identification	BHL78XX.2.5.6.0-RK0201010041
Identification	ati HL7800 OK ati3 BHL7800.2.5.6.0.20190401 OK ati9 HL7800.2.5.6 BHL78xx.2.5.6.0.RK_02_01_01_00_41.20190405 2019/04/05 15:48:09 IMEI-SV: 3546160900092204 Legato RTOS: 18.09.2.ALT1250.rc5 2019/04/04 14:02:47 atSwi: 13.00 UBOOT: 01.03 Apps: RKAPP_02_01_01_00_37__76cc94b4672ac9bde0f08de3724a5c20b28bc2ba MAC: ALT1250_02_01_01_00_38_FW PHY: 12.50.209178 PMP: 209236 SBUB: 0 SBFW: 0 RPuK: FPuK: RBUB: 0 RBFW: 0 OK at%ver NP Package: RK_02_01_01_00_41 Apps: RKAPP_02_01_01_00_37__76cc94b4672ac9bde0f08de3724a5c20b28bc2ba Using APP processor - no SB or 3B versions MAC Revision: REL_1250_02_01_01_REV_209236 MAC Package Version: ALT1250_02_01_01_00_38_FW MAC Build Time: Mar_28_2019_15_28_56 PHY Revision: 12.50.209178 PHY Build Time: Mar_28_2019_10_52_30 PHY Build Info: releas_0 PMP Revision: 209236 PMP Version: 38_FW PMP build time: Mar_28_2019_15_28_56 DSP Revision: 46229 BB Product: 1250

	BB HW Revision: 20 RFIC_6200 Revision: 00 NP Build Time: Apr 5 2019 15:46:22 OK
Date of generation	2019/04/01 08:46:47
Binary Size	5533696 AppFW_flash.bin 420 sysHeader_backup.bin.alt1250 3492 sysHeader.bin.alt1250 519704 u-boot.bin 3765052 ue_lte.fw 4096 partmap.bin 2726852 ue_lte.fw2
MD5	c4ddb920149a8b2bf82b49be3cd0b202f060526b AppFW_flash.bin 16a5125a846fb6fa98b063422f55161eca896654 sysHeader_backup.bin.alt1250 f8c5789a7df6167a783047a77680085e0016eeb0 sysHeader.bin.alt1250 8b50a5f548a75a13e5925a53480cb83f8ed3322c u-boot.bin eb1d92d3d4d2200a07d43194684ed5942381f5cf ue_lte.fw cce2c1e24601f1a8210b441a2847f8f6522ac733 partmap.bin 68bfd2ac656085760748fdfb84e9833d4a62b115 ue_lte.fw2
IMEI SV	04
TS 25 PLMN List	18th February 2019

10.2.2. Software Changes Description

10.2.2.1. New Features/Enhancements

Feature/ID	Description

10.2.2.2. Validated Corrections/Improvements

This section presents all corrections or improvements integrated in this release

DIZZY1-1042	[KHWIOCFG] GPIO6 and GPIO8 are displayed in +KGPIOCFG command when they are reserved for +KHWIOCFG
DIZZY1-1076	Exception observed during SMS loopback test on live ATT and VZW network
DIZZY1-1098	[IPR] Baud rate is changed to default after reboot
DIZZY1-1123	[AVMS][WDSS] URC +WDSI: 8 is not displayed when session is terminated by AT+WDSS=1,0 and module has a reset with AT&T
DIZZY1-1178	[AVMS] DUT returns +WDSI: 11,1 during FOTA upgrade
DIZZY1-286	[MECS][KSRAT] Radio access technology +KSRAT is not persistent after upgrade FW

DIZZY1-324	[SMS][+CMGR] Wrong response when read SMS in PDU mode
DIZZY1-648	[PPP] Cannot re-establish dial-up connection after disconnecting
DIZZY1-798	[PPP] pings stop after some time but PPP connection still up
DIZZY1-899	Device connects to the BS server after waiting the user agreement timer for installing expired (30 minutes)
DIZZY1-1089	GPIO6 does not work as expected during TAU
DIZZY1-1114	[LGU+] After PPP Dial up, AT Command does not work.
DIZZY1-1118	[LGU+] After disconnecting from PPP dial up, unable to connect to PPP dial up
DIZZY1-1122	Double +WDSI: 14 is returned when upgrade FW by FOTA with AT&T
DIZZY1-1130	[PPP] Unable to activate PPP Twice after toggling Wake Up Pin

10.2.2.3.   Restrictions and Additional Information

Features	Description (What/When)	Impacted Functionality/Sub-Functionality
Reset	Device is frozen after a reboot (+CFUN=1,1 or Reset button) after a eDRX/PSM.	Low Power Mode
[04.115] Enable pin for external DCDC	Before using **+KWIOCFG** to activate this feature, you must send AT Commands below: AT+KGPIOCFG=8,0,2 (Set GPIO8 output high) OK AT+KGPIO=8,1 OK	IO Configuration

Features	Description (What/When)	Impacted Functionality/Sub-Functionality

[04.128] New pin output for monitoring HL7800 status	Before using **+KWIOCFG** to activate this feature, you must send AT Commands below:
	
	`AT+KGPIOCFG=6,0,2 (Set GPIO6 output high)`
	`OK`
	`AT+KGPIO=6,1`
	
	`OK`
		IO Configuration

NVBACKUP Feature	Feature has been delivered but disabled. It must deeply validated/verified by Sierra R&D Team so, don't request a manual backup +NVBU=0[1]	NV Corruption
RF TX/RX	Commands WMTXPOWER/WMRXPOWER are not supported on NB1	RX/TX Power (NB1)
PWR_ON_N	Power-on feature is disabled, HL7800 is starting as soon as VBAT is applied.	Module start sequence
Factory default setting	Default Cat-M1 RF bands: 2, 3, 4, 8, 12, 13, 18, 20, 26, 28	Cat-M1 Bands

ID	Description
DIZZY1-1096	Module cannot receive SMS after waking up from Hibernate mode with SM preferred message storage
DIZZY1-1053	Cannot initiate dial-up using DLCs port on Linux OS
DIZZY1-1051	Wrong responses when testing +COPS command, and <mode> is persistent after set CFUN with config AT+COPS=1,2,"00101".
DIZZY1-1024	Periodic resets seen in LHT
DIZZY1-1021	Can't use AVMS feature with Deutsche Telekom network
DIZZY1-1019	Bad network throughput, delay time is too long for TCP/UDP/AVMS connection which might cause network time-out issue.
DIZZY1-895	Wrong response when testing command +CEDRXRDP
DIZZY1-494	+KCELL=0 AT command gives CMEE ERROR: 60

ID	Description
DIZZY1-208	Unexpected URCs are produced over each AT channel
DIZZY1-1157	[Telstra] IPv6 DNS issue
DIZZY1-1138	VGPIO is LOW when module enters LITE HIBERNATE
DIZZY1-1031	eDRX/Hibernate High current consumption
DIZZY1-987	NV Backup issues raised by dev team
DIZZY1-1216	[EDRX/KSLEEP] AT commands do not answer after +CFUN=1,1 if traces AT_SWITCHES/AT_CLIENT are deactivated
DIZZY1-1202	[KUDP_DATA] "+KUDP_DATA" is not displayed when send and receive UDP data in many times.
DIZZY1-1197	[KIPOPT] "+KTCP_NOTIF: 1,4" is NOT returned after closing TCP server port
DIZZY1-1192	+CGDCONT setting revert to default after Upgrade
DIZZY1-1186	eDRX current consumption with network
DIZZY1-1147	[CMUX] HL7800 module crashing after some time during ping test on AT&T
DIZZY1-1092	[NVBU] Module fails to restore NV data by NVBU command
DIZZY1-1091	[NVBU] Sometime module cannot generate backup by NVBU command
DIZZY1-1282	[GPRS][CGACT]After 30 times active PDP context by command AT+CGACT=1,<cid>, module return ERROR instead of OK
DIZZY1-1276	[GPRS][CGDCONT] +CGDCONT configuration isn't persistent after reboot
DIZZY1-1275	[KCELLMEAS] RSRP of KCELLMEAS is not correct for band 2
DIZZY1-1258	[AVMS] Module is frozen when make a connection to AVMS server with "Heartbeat=ON" and "Status report = ON"
DIZZY1-1257	[KCNXUP] Cannot bring connection up without activated PDP
DIZZY1-1255	[GPRS][CGDCONT][AVMS][WDSS] Cannot start TCP/UDP connection with PDP context 1 if PDP 2 is configured for AVMS connection
DIZZY1-1254	NB1 Idle Sleep modes Crash CMW500
DIZZY1-1250	[GPRS][THROUGHPUT][NB1] After dialing-up, some packets lost when pinging
DIZZY1-1249	[KTCPCNX] Response time for AT+KTCPCNX is too long when starting TCP Connection with invalid IP address or invalid port
DIZZY1-1248	[CPSMS] Have no response after device enters PSM in stress test
DIZZY1-1241	Device cannot go back into hibernate mode after UDP IP-PUSH
DIZZY1-1240	[SMS][CMGD] "OK" is returned too slowly when deleting all messages in full storage.
DIZZY1-1210	[CMUX] HL7800 Crash when start PPP
DIZZY1-1207	HL7800 crash seen during PPP call

ID	Description
DIZZY1-1201	[NVBU] URC NVBU_IND does not have a valid <backup date> and <backup firmware version> when module automatically generates NV backup files after boot

10.3. BHL78XX.2.5.5.0-RK0201010041

10.3.1. Release Identification

	Services (ATI, AT%VER)
FW Identification	BHL78XX.2.5.5.0-RK0201010041
Identification	ati HL7800 OK ati3 BHL7800.2.5.5.0.20190401 OK ati9 HL7800.2.5.5 BHL78xx.2.5.5.0.RK_02_01_01_00_41.20190401 2019/04/01 08:46:47 IMEI-SV: 3546160900092203 Legato RTOS: 18.09.2.ALT1250.rc4 2019/03/28 17:12:38 atSwi: 12.01 UBOOT: 01.03 Apps: RKAPP_02_01_01_00_37__76cc94b4672ac9bde0f08de3724a5c20b28bc2ba MAC: ALT1250_02_01_01_00_38_FW PHY: 12.50.209178 PMP: 209236 SBUB: 0 SBFW: 0 RPuK: FPuK: RBUB: 0 RBFW: 0 at%ver NP Package: RK_02_01_01_00_41 Apps: RKAPP_02_01_01_00_37__76cc94b4672ac9bde0f08de3724a5c20b28bc2ba Using APP processor - no SB or 3B versions MAC Revision: REL_1250_02_01_01_REV_209236 MAC Package Version: ALT1250_02_01_01_00_38_FW MAC Build Time: Mar_28_2019_15_28_56 PHY Revision: 12.50.209178 PHY Build Time: Mar_28_2019_10_52_30 PHY Build Info: releas_0 PMP Revision: 209236 PMP Version: 38_FW PMP build time: Mar_28_2019_15_28_56 DSP Revision: 46229

	BB Product: 1250 BB HW Revision: 20 RFIC_6200 Revision: 00 NP Build Time: Apr 1 2019 08:45:52 OK
Date of generation	2019/04/01 08:46:47
Binary Size	5505024 AppFW_flash.bin 420 sysHeader_backup.bin.alt1250 3492 sysHeader.bin.alt1250 519688 u-boot.bin 3765052 ue_lte.fw 4096 partmap.bin 2726852 ue_lte.fw2
MD5	6d3028552e6ad8540e80df71bae7c7c47c2d5fef AppFW_flash.bin 50e791fe8add94599b736086aef3802e3f245f1a sysHeader_backup.bin.alt1250 518403ebd6cbde809a2684a1b3d77e63795905e9 sysHeader.bin.alt1250 65dad9458387fc7480087bbc7397e29b793ad5bf u-boot.bin eb1d92d3d4d2200a07d43194684ed5942381f5cf ue_lte.fw 496b2e0d82cc83f010e42d2201829f45cf1a0ce9 partmap.bin 68bfd2ac656085760748fdfb84e9833d4a62b115 ue_lte.fw2
IMEI SV	03
TS 25 PLMN List	18th February 2019

10.3.2. Software Changes Description

10.3.2.1.   New Features/Enhancements

Feature/ID	Description

10.3.2.2.   Validated Corrections/Improvements

This section presents all corrections or improvements integrated in this release

DIZZY1-931	[GPIO2] Randomly pull High
DIZZY1-892	[AVMS][NB1] Module takes a long time to response during FOTA testing
DIZZY1-326	[GPRS][CGEREP][CGEV] The URC +CGEV is not displayed when GPRS event happens.
DIZZY1-1160	[CEDRXS] CEDRXP have wrong format parameters

10.3.2.3.   Restrictions and Additional Information

Features	Description (What/When)	Impacted Functionality/Sub-Functionality

[04.115] Enable pin for external DCDC	Before using **+KWIOCFG** to activate this feature, you must send AT Commands below:
	
	`AT+KGPIOCFG=8,0,2 (Set GPIO8 output high)`
	`OK`
	`AT+KGPIO=8,1`
	`OK`
		IO Configuration

[04.128] New pin output for monitoring HL7800 status	Before using **+KWIOCFG** to activate this feature, you must send AT Commands below:
	
	`AT+KGPIOCFG=6,0,2 (Set GPIO6 output high)`
	`OK`
	`AT+KGPIO=6,1`
	
	`OK`
		IO Configuration

NVBACKUP Feature	Feature has been delivered but disabled. It must deeply validated/verified by Sierra R&D Team so, don't request a manual backup +NVBU=0[1]	NV Corruption
RF TX/RX	Commands WMTXPOWER/WMRXPOWER are not supported on NB1	RX/TX Power (NB1)
PWR_ON_N	Power-on feature is disabled, HL7800 is starting as soon as VBAT is applied.	Module start sequence
Factory default setting	Default Cat-M1 RF bands: 2, 3, 4, 8, 12, 13, 18, 20, 26, 28	Cat-M1 Bands

ID	Description
DIZZY1-1130	Unable to perform PPP Twice
DIZZY1-1123	Wrong URC +WDSI when executing AT+WDSS=1,0 and module has a reset

ID	Description
DIZZY1-1110	NV backup is not generated automatically after it is corrupted
DIZZY1-1096	Module cannot receive SMS after waking up from Hibernate mode with SM preferred message storage
DIZZY1-1089	GPIO6 does not work as expected during TAU
DIZZY1-1053	Cannot initiate dial-up using DLCs port on Linux OS
DIZZY1-1051	Wrong responses when testing +COPS command, and <mode> is persistent after set CFUN with config AT+COPS=1,2,"00101".
DIZZY1-1024	Periodic resets seen in LHT
DIZZY1-1021	Can't use AVMS feature with Deutsche Telekom network
DIZZY1-1019	Bad network throughput, delay time is too long for TCP/UDP/AVMS connection which might cause network time-out issue.
DIZZY1-895	Wrong response when testing command +CEDRXRDP
DIZZY1-798	PPP pings stop after some time but PPP connection still up
DIZZY1-792	Not able to enter in hibernate when in PSM mode in NBIOT
DIZZY1-782	In some conditions of timers: T3412 and T3324 in PSM, the device don't go back to hibernate. Impacting current consumption
DIZZY1-494	+KCELL=0 AT command gives CMEE ERROR: 60
DIZZY1-324	When using AT+CMGR for SMS response longer than 127 characters, the response is truncated.
DIZZY1-286	[KSRAT] Radio access technology +KSRAT is not persistent after upgrade FW
DIZZY1-208	Unexpected URCs are produced over each AT channel
DIZZY1-199	[CMUX] Wrong response when send SABM to set up connection to DLC1, DLC2, DLC3, DLC4
DIZZY1-1157	[Telstra] IPv6 DNS issue
DIZZY1-1138	VGPIO is LOW when module enters LITE HIBERNATE
DIZZY1-1031	eDRX/Hibernate High current consumption
DIZZY1-987	NV Backup issues raised by dev team
DIZZY1-899	[Telstra][FOTA] Module connects to the BS server after waiting the user agreement timer for installing expired (30 minutes)
DIZZY1-648	Cannot re-establish dial-up connection after disconnecting
DIZZY1-543	[KCNXUP] Cannot bring connection up without activated PDP
DIZZY1-1216	[EDRX/KSLEEP] AT commands do not answer after +CFUN=1,1 if traces AT_SWITCHES/AT_CLIENT are deactivated
DIZZY1-1202	[PROTOCOM][KUDP_DATA] "+KUDP_DATA" is not displayed when send and receive UDP data in many times.

ID	Description
DIZZY1-1197	[PROTOCOM][KIPOPT] "+KTCP_NOTIF: 1,4" is NOT returned after closing TCP server port
DIZZY1-1192	+CGDCONT setting revert to default after Upgrade
DIZZY1-1191	MCU cannot receive AT command from module
DIZZY1-1187	[PSM] After the module enters sleep mode, URC response miss some characters when module is woken by TCP or UDP data
DIZZY1-1186	eDRX current consumption with network
DIZZY1-1162	Power consumption too high above the target in LTE-M PSM after 1h in hibernate mode
DIZZY1-1147	[CMUX] HL7800 module crashing after some time during ping test on AT&T
DIZZY1-1094	[NVBU] Module fails to automatically restore NV data after file corrupted. Then module is crashed.
DIZZY1-1092	[NVBU] Module fails to restore NV data by NVBU command
DIZZY1-1091	[NVBU] Sometime module cannot generate backup by NVBU command
DIZZY1-1042	[KHWIOCFG] GPIO6 and GPIO8 are displayed in +KGPIOCFG command when they are reserved for +KHWIOCFG

10.4.   BHL78XX.2.5.4.0-RK0201010040

10.4.1. Release Identification

	Services (ATI, AT%VER)
FW Identification	BHL78XX.2.5.4.0-RK0201010040
Identification	ati HL7800 OK ati3 BHL7800.2.5.4.0.20190329 OK ati9 HL7800.2.5.4 BHL78xx.2.5.4.0.RK_02_01_01_00_40.20190329 2019/03/29 13:17:40 IMEI-SV: 3546160900092203 Legato RTOS: 18.09.2.ALT1250.rc4 2019/03/28 17:12:38 atSwi: 12.01 UBOOT: 01.03 Apps: RKAPP_02_01_01_00_36__91fd885226284f8043fc35d1ab88457df59bdafd MAC: ALT1250_02_01_01_00_37_FW PHY: 12.50.208836

	PMP: 208843 SBUB: 0 SBFW: 0 RPuK: FPuK: RBUB: 0 RBFW: 0 at%ver NP Package: RK_02_01_01_00_40 Apps: RKAPP_02_01_01_00_36__91fd885226284f8043fc35d1ab88457df59bdafd Using APP processor - no SB or 3B versions MAC Revision: REL_1250_02_01_01_REV_208843 MAC Package Version: ALT1250_02_01_01_00_37_FW MAC Build Time: Mar_24_2019_17_43_38 PHY Revision: 12.50.208836 PHY Build Time: Mar_24_2019_16_43_43 PHY Build Info: releas_0 PMP Revision: 208843 PMP Version: 37_FW PMP build time: Mar_24_2019_17_43_38 DSP Revision: 46229 BB Product: 1250 BB HW Revision: 20 RFIC_6200 Revision: 00 NP Build Time: Mar 29 2019 13:16:47 OK
Date of generation	2019/03/29 13:17:40
Binary Size	5500928 AppFW_flash.bin 420 sysHeader_backup.bin.alt1250 3492 sysHeader.bin.alt1250 519688 u-boot.bin 3763324 ue_lte.fw 4096 partmap.bin 2726040 ue_lte.fw2
MD5	da1bdf67f52827695236111592459a85929f9128 AppFW_flash.bin 50e791fe8add94599b736086aef3802e3f245f1a sysHeader_backup.bin.alt1250 518403ebd6cbde809a2684a1b3d77e63795905e9 sysHeader.bin.alt1250 d7b978688c12ba462f69bb717696fe41f4a56f64 u-boot.bin 399f48e61067e4a22b258dd16855053e961dbfd4 ue_lte.fw 728597f976a6ed5b74297febe2ce7e92393d0fd5 partmap.bin 4a48dbb274084f2b769a832fd8883d76dbf55133 ue_lte.fw2
IMEI SV	03
TS 25 PLMN List	18th February 2019

10.4.2. Software Changes Description

10.4.2.1.   New Features/Enhancements

Feature/ID	Description

10.4.2.2. Validated Corrections/Improvements

This section presents all corrections or improvements integrated in this release

ID	Description
DIZZY1-316	[CMUX][PROTOCOL] Many same URCs are received on a DLC
DIZZY1-924	Module auto attach to LTE after executing +CGATT=0 detach command
DIZZY1-1029	[TCP Testing] Module cannot go back into hibernate mode
DIZZY1-1111	+KCELLMEAS=0 causes firmware crash and reboot
DIZZY1-1128	[PSM] Module cannot go to Lite Hibernate after T3324
DIZZY1-1131	[KSLEEP] The module does not enter Sleep Mode/Lite Hibernate again after awakened
DIZZY1-1132	[EDRX] Module cannot enter Lite hibernate mode again after receiving data or SMS
DIZZY1-668	[PSM] Module cannot go to LITE HIBERNATE mode with SIM PIN code activated when configured in HIBERNATE mode
DIZZY1-714	Network registration is not stable on live network.
DIZZY1-738	[SMS][CMGW] AT ports is frozen after save messages PDU mode to memory
DIZZY1-917	[COPS] Module can't register to network automatically with AT+COPS=0 command with NB1
DIZZY1-1035	+KCNX_IND:1,0,0 is not output after AT+CFUN=4
DIZZY1-1039	Device is crashed during CFUN, COPS stress test
DIZZY1-1136	Device enters continuous reset cycle with Exception observed when module was sitting idle for a long time
DIZZY1-1146	Exception observed during PSM/hibernate testing. Module consumes ~145mA.

10.4.2.3. Restrictions and Additional Information

Features	Description (What/When)	Impacted Functionality/Sub-Functionality

[04.115] Enable pin for external DCDC	Before using **+KWIOCFG** to activate this feature, you must send AT Commands below:
	
	`AT+KGPIOCFG=8,0,2 (Set GPIO8 output high)`
	`OK`
	`AT+KGPIO=8,1`
	`OK`
		IO Configuration

[04.128] New pin output for monitoring HL7800 status	Before using **+KWIOCFG** to activate this feature, you must send AT Commands below:
	
	`AT+KGPIOCFG=6,0,2 (Set GPIO6 output high)`
	`OK`
	`AT+KGPIO=6,1`
	
	`OK`
		IO Configuration

NVBACKUP Feature	Feature has been delivered but disabled. It must deeply validated/verified by Sierra R&D Team so, don't request a manual backup +NVBU=0[1]	NV Corruption
RF TX/RX	Commands WMTXPOWER/WMRXPOWER are not supported on NB1	RX/TX Power (NB1)
PWR_ON_N	Power-on feature is disabled, HL7800 is starting as soon as VBAT is applied.	Module start sequence
Factory default setting	Default Cat-M1 RF bands: 2, 3, 4, 8, 12, 13, 18, 20, 26, 28	Cat-M1 Bands

ID	Description
DIZZY1-1130	Unable to perform PPP Twice
DIZZY1-1123	Wrong URC +WDSI when executing AT+WDSS=1,0 and module has a reset

ID	Description
DIZZY1-1110	NV backup is not generated automatically after it is corrupted
DIZZY1-1096	Module cannot receive SMS after waking up from Hibernate mode with SM preferred message storage
DIZZY1-1089	GPIO6 does not work as expected during TAU
DIZZY1-1053	Cannot initiate dial-up using DLCs port on Linux OS
DIZZY1-1051	Wrong responses when testing +COPS command, and <mode> is persistent after set CFUN with config AT+COPS=1,2,"00101".
DIZZY1-1024	Periodic resets seen in LHT
DIZZY1-1021	Can't use AVMS feature with Deutsche Telekom network
DIZZY1-1019	Bad network throughput, delay time is too long for TCP/UDP/AVMS connection which might cause network time-out issue.
DIZZY1-895	Wrong response when testing command +CEDRXRDP
DIZZY1-798	PPP pings stop after some time but PPP connection still up
DIZZY1-792	Not able to enter in hibernate when in PSM mode in NBIOT
DIZZY1-782	In some conditions of timers: T3412 and T3324 in PSM, the device don't go back to hibernate. Impacting current consumption
DIZZY1-494	+KCELL=0 AT command gives CMEE ERROR: 60
DIZZY1-324	When using AT+CMGR for SMS response longer than 127 characters, the response is truncated.
DIZZY1-286	[KSRAT] Radio access technology +KSRAT is not persistent after upgrade FW
DIZZY1-208	Unexpected URCs are produced over each AT channel
DIZZY1-199	[CMUX] Wrong response when send SABM to set up connection to DLC1, DLC2, DLC3, DLC4
DIZZY1-1157	[Telstra] IPv6 DNS issue
DIZZY1-1138	VGPIO is LOW when module enters LITE HIBERNATE
DIZZY1-1031	eDRX/Hibernate High current consumption
DIZZY1-987	NV Backup issues raised by dev team
DIZZY1-899	[Telstra][FOTA] Module connects to the BS server after waiting the user agreement timer for installing expired (30 minutes)
DIZZY1-648	Cannot re-establish dial-up connection after disconnecting
DIZZY1-543	[KCNXUP] Cannot bring connection up without activated PDP
DIZZY1-1216	[EDRX/KSLEEP] AT commands do not answer after +CFUN=1,1 if traces AT_SWITCHES/AT_CLIENT are deactivated
DIZZY1-1202	[PROTOCOM][KUDP_DATA] "+KUDP_DATA" is not displayed when send and receive UDP data in many times.

ID	Description
DIZZY1-1197	[PROTOCOM][KIPOPT] "+KTCP_NOTIF: 1,4" is NOT returned after closing TCP server port
DIZZY1-1192	+CGDCONT setting revert to default after Upgrade
DIZZY1-1191	MCU cannot receive AT command from module
DIZZY1-1187	[PSM] After the module enters sleep mode, URC response miss some characters when module is woken by TCP or UDP data
DIZZY1-1186	eDRX current consumption with network
DIZZY1-1162	Power consumption too high above the target in LTE-M PSM after 1h in hibernate mode
DIZZY1-1147	[CMUX] HL7800 module crashing after some time during ping test on AT&T
DIZZY1-1094	[NVBU] Module fails to automatically restore NV data after file corrupted. Then module is crashed.
DIZZY1-1092	[NVBU] Module fails to restore NV data by NVBU command
DIZZY1-1091	[NVBU] Sometime module cannot generate backup by NVBU command
DIZZY1-1042	[KHWIOCFG] GPIO6 and GPIO8 are displayed in +KGPIOCFG command when they are reserved for +KHWIOCFG

10.5.   BHL78XX.2.5.3.0-RK0201010036

10.5.1.Release Identification

	Services (ATI, AT%VER)
FW Identification	BHL78XX.2.5.3.0-RK0201010036
Identification	ati HL7800 OK ati3 BHL7800.2.5.3.0.20190322 OK ati9 HL7800.2.5.3 BHL78xx.2.5.3.0.RK_02_01_01_00_36.20190322 2019/03/22 17:30:30 IMEI-SV: 3546160900011403 Legato RTOS: 18.09.2.ALT1250.rc3 2019/03/20 11:02:55 atSwi: 12.00 UBOOT: 01.03 Apps: RKAPP_02_01_01_00_34__c7a89c4ac148f9f2fe8d9135381b98ebd05e137c MAC: ALT1250_02_01_01_00_34_FW PHY: 12.50.207152 PMP: 207588

	SBUB: 0 SBFW: 0 RPuK: FPuK: RBUB: 0 RBFW: 0 OK at%ver NP Package: RK_02_01_01_00_36 Apps: RKAPP_02_01_01_00_34__c7a89c4ac148f9f2fe8d9135381b98ebd05e137c Using APP processor - no SB or 3B versions MAC Revision: REL_1250_02_01_01_REV_207588 MAC Package Version: ALT1250_02_01_01_00_34_FW MAC Build Time: Mar_14_2019_17_14_36 PHY Revision: 12.50.207152 PHY Build Time: Mar_05_2019_16_53_40 PHY Build Info: releas_0 PMP Revision: 207588 PMP Version: 34_FW PMP build time: Mar_14_2019_17_14_36 DSP Revision: 46229 BB Product: 1250 BB HW Revision: 20 RFIC_6200 Revision: 00 NP Build Time: Mar 22 2019 17:29:26
Date of generation	2019/03/22 17:29:26
Binary Size	5505024 AppFW_flash.bin 420 sysHeader_backup.bin.alt1250 3492 sysHeader.bin.alt1250 519036 u-boot.bin 3762032 ue_lte.fw 4096 partmap.bin 2721420 ue_lte.fw2
MD5	3b1c6629086e5153167f05c7eb1f7ff8 AppFW_flash.bin 957d6d2c7574f41be80dd3a67eb37822 sysHeader_backup.bin.alt1250 7f9fb4353a94c547b5568a3823e8f023 sysHeader.bin.alt1250 6bc5d5c3ddebd1c32acaaabd28b54f98 u-boot.bin f953a78742ec265e875dc21f51070a15 ue_lte.fw c007f8b490fc5cc69c54bb8c6356e931 partmap.bin b3687744ced72449c941261095981105 ue_lte.fw2
IMEI SV	03
TS 25 PLMN List	18th February 2019

10.5.2. Software Changes Description

10.5.2.1.   New Features/Enhancements

Feature/ID	Description

10.5.2.2. Validated Corrections/Improvements

This section presents all corrections or improvements integrated in this release

ID	Description
DIZZY1-1032	MTU for IPv4 is not compliant with LGU+ requirements
DIZZY1-988	UDP data can only be received up to 1500 bytes
DIZZY1-207	Device not receive "+KTCP_NOTIF: 1,4" URC after re-transmission timeout during "AT+KTCPSND" command execution
DIZZY1-264	Can't switch to command mode after DTR drops from active to inactive with AT&D2 command
DIZZY1-486	Set AT&D1, DTR toggle OFF/ON can't make +KUDPSND exit data mode.
DIZZY1-695	Module is crashed when activating the 3rd PDP context if existing 2 activated PDP contexts
DIZZY1-755	If user wait few minutes before accepting the install, he will receive +WDSI: 5 notification, then the install will start correctly, so there is no effect to the FOTA.
DIZZY1-774	Module freeze in data mode due to data never read by +KTCPRCV; There is congestion on socket and data flow control is activated on serial link. Consequently, EOF pattern can't be detected.
DIZZY1-862	+WDSI: 7 is returned after download is successful +WDSI: 10
DIZZY1-948	FOTA upgrade job is failed when network is lost immediately after the download start (+WDSI: 18)
DIZZY1-1000	[AT&T] Module is crashed when trying to remove credential then connect to BS and DM server.
DIZZY1-1012	[VZW] After FOTA update Module is crashed after registering to network successfully
DIZZY1-1106	[RRC] +KALTCFG AT Command persistency

10.5.2.3.   Restrictions and Additional Information

Features	Description (What/When)	Impacted Functionality/Sub-Functionality

[04.115] Enable pin for external DCDC	Before using **+KWIOCFG** to activate this feature, you must send AT Commands below:
	
	`AT+KGPIOCFG=8,0,2 (Set GPIO8 output high)`
	`OK`
	`AT+KGPIO=8,1`
	`OK`
		IO Configuration

[04.128] New pin output for monitoring HL7800 status	Before using **+KWIOCFG** to activate this feature, you must send AT Commands below:
	
	`AT+KGPIOCFG=6,0,2 (Set GPIO6 output high)`
	`OK`
	`AT+KGPIO=6,1`
	
	`OK`
		IO Configuration

NVBACKUP Feature	Feature has been delivered but disabled. It must deeply validated/verified by Sierra R&D Team so, don't request a manual backup +NVBU=0[1]	NV Corruption
RF TX/RX	Commands WMTXPOWER/WMRXPOWER are not supported on NB1	RX/TX Power (NB1)
PWR_ON_N	Power-on feature is disabled, HL7800 is starting as soon as VBAT is applied.	Module start sequence
Factory default setting	Default Cat-M1 RF bands: 2, 3, 4, 8, 12, 13, 18, 20, 26, 28	Cat-M1 Bands

ID	Description
DIZZY1-1132	After receiving data or SMS, module fails to enter Lite hibernate again.
DIZZY1-1131	The module does not enter Sleep mode again

ID	Description
DIZZY1-1130	Unable to perform PPP Twice
DIZZY1-1128	DUT cannot enter Lite hibernate mode after T3324
DIZZY1-1123	Wrong URC +WDSI when executing AT+WDSS=1,0 and module has a reset
DIZZY1-1122	Wrong URC +WDSI when installing FW with FOTA
DIZZY1-1111	Will not run into out of heap situations
DIZZY1-1110	NV backup is not generated automatically after it is corrupted
DIZZY1-1098	Baud rate is changed to default after reset
DIZZY1-1096	Module cannot receive SMS after waking up from Hibernate mode with SM preferred message storage
DIZZY1-1089	GPIO6 does not work as expected during TAU
DIZZY1-1085	Country Band scanning may be applied instead of full scan, meaning that some enabled bands may not be scanned if they do not belong to the bands associated with the current country the device is located in.
DIZZY1-1083	HL7800-NB1 Receive data incomplete when setup with TCP socket
DIZZY1-1053	Cannot initiate dial-up using DLCs port on Linux OS
DIZZY1-1051	Wrong responses when testing +COPS command, and <mode> is persistent after set CFUN with config AT+COPS=1,2,"00101".
DIZZY1-1044	When Power On feature is enable and SW203 on SLIM DEVKIT is set to off, module still boots successfully after hard reset.
DIZZY1-1039	Module is crashed during CFUN, COPS stress test
DIZZY1-1035	MDC disconnection event is not sent on radio switch off
DIZZY1-1024	Periodic resets seen in LHT
DIZZY1-1021	Can't use AVMS feature with Deutsche Telekom network
DIZZY1-1019	Bad network throughput, delay time is too long for TCP/UDP/AVMS connection which might cause network time-out issue.
DIZZY1-1018	Bad connection performance with dial-up on Cat-NB1
DIZZY1-1007	UDP session after waking up from PSM-Hibernate state - Live VzW
DIZZY1-997	[NB1] One reboot seen after download from PP2 customized firmware
DIZZY1-982	Cannot start TCP/UDP connection with PDP context 1 if PDP 2 is configured for AVMS connection
DIZZY1-960	When module reboot, customer PDP context configure isn't persistent, module will change PDP context to default.
DIZZY1-931	[GPIO2] Randomly pull High
DIZZY1-919	Wrong format of <Requested_eDRX_value>, <NV-provided_eDRX_value> and <Paging_time_window> in the response of +CEDRXS write command
DIZZY1-917	Module can't register to network after +COPS=2 then +COPS=0. If reset module, it can register to network.
DIZZY1-905	IPv6 DNS issue
DIZZY1-895	Wrong response when testing command +CEDRXRDP
DIZZY1-892	[NB1] Module takes a long time to response during FOTA testing

ID	Description
DIZZY1-873	Module enters SLEEP mode when sending TCP data by KTCPSTART and Drop DTR with +KSLEEP=0,0
DIZZY1-868	NULL is returned after AT+CFUN=1,1
DIZZY1-857	Sometimes VGPIO blinking and almost Low instead of HIGH when the module in Tptw seconds in Hibernate.
DIZZY1-798	PPP pings stop after some time but PPP connection still up
DIZZY1-792	Not able to enter in hibernate when in PSM mode in NBIOT
DIZZY1-782	In some conditions of timers: T3412 and T3324 in PSM, the device don't go back to hibernate. Impacting current consumption
DIZZY1-759	Module does not display +CEREG URC during sleeping with PSM configuration
DIZZY1-738	AT ports is frozen after save messages PDU mode to memory
DIZZY1-721	Module performs boot continuously after some minutes configuring +KSLEEP=1,0 (or +KSLEEP=0,2) with eDRX (or CPSMS) activated
DIZZY1-714	Network registration is not stable on live network.
DIZZY1-668	Module cannot go to LITE HIBERNATE mode with SIM PIN code activated when configured in HIBERNATE mode
DIZZY1-645	CTS is HIGH most of the time when testing with +KSLEEP = x,2
DIZZY1-544	[NB1] Failed to download FOTA package due to TLS handshake errors - No WDSI: 9
DIZZY1-526	Unable to attach when PAP/CHAP is setup
DIZZY1-521	+KUDP_DATA is not displayed when send and receive UDP data in many times
DIZZY1-494	+KCELL=0 AT command gives CMEE ERROR: 60
DIZZY1-324	When using AT+CMGR for SMS response longer than 127 characters, the response is truncated.
DIZZY1-316	[CMUX] Many same URCs are received on a DLC
DIZZY1-315	[CMUX] Module is stuck after executed +KTCPSTART to send data on DLC
DIZZY1-286	[KSRAT] Radio access technology +KSRAT is not persistent after upgrade FW
DIZZY1-208	Unexpected URCs are produced over each AT channel
DIZZY1-199	[CMUX] Wrong response when send SABM to set up connection to DLC1, DLC2, DLC3, DLC4
DIZZY1-194	AT port is frozen after setting +CEMODE
DIZZY1-1160	+CEDRXP have wrong format parameters
DIZZY1-1157	[Telstra] IPv6 DNS issue
DIZZY1-1138	VGPIO is LOW when module enters LITE HIBERNATE
DIZZY1-1065	Exception observed while initiating PSM with ATT
DIZZY1-1031	eDRX/Hibernate High current consumption
DIZZY1-1030	[KTCPSTART] Send/Receive 10k data incompletely through TCP socket
DIZZY1-1029	[TCP] Module cannot go back into hibernate mode
DIZZY1-987	NV Backup issues raised by dev team
DIZZY1-899	[Telstra][FOTA] Module connects to the BS server after waiting the user agreement timer for installing expired (30 minutes)

ID	Description
DIZZY1-648	Cannot re-establish dial-up connection after disconnecting
DIZZY1-543	[KCNXUP] Cannot bring connection up without activated PDP

10.6. BHL78XX.2.5.2.0-RK0201010035

10.6.1. Release Identification

	Services (ATI, AT%VER)
FW Identification	BHL78XX.2.5.2.0-RK0201010035
Identification	ati HL7800 ati3 BHL7800.2.5.2.0.20190315 at%ver NP Package: RK_02_01_01_00_35 Apps: RKAPP_02_01_01_00_33__4b1c0a31b3072a8b13b39754a90cd2b69397bd17 Using APP processor - no SB or 3B versions MAC Revision: REL_1250_02_01_01_REV_207419 MAC Package Version: ALT1250_02_01_01_00_33_FW MAC Build Time: Mar_11_2019_18_23_17 PHY Revision: 12.50.207152 PHY Build Time: Mar_05_2019_16_53_40 PHY Build Info: releas_0 PMP Revision: 207419 PMP Version: 33_FW PMP build time: Mar_11_2019_18_23_17 DSP Revision: 46229 BB Product: 1250 BB HW Revision: 20 RFIC_6200 Revision: 00 NP Build Time: Mar 15 2019 14:21:47 ati9 HL7800.2.5.2 BHL78xx.2.5.2.0.RK_02_01_01_00_35.20190315 2019/03/15 14:22:49 IMEI-SV: 3546160900092202 Legato RTOS: 18.09.2.ALT1250.rc2 2019/03/11 11:57:49 atSwi: 11.02 UBOOT: 01.03 Apps: RKAPP_02_01_01_00_33__4b1c0a31b3072a8b13b39754a90cd2b69397bd17 MAC: ALT1250_02_01_01_00_33_FW

	PHY: 12.50.207152 PMP: 207419 SBUB: 0 SBFW: 0 RPuK: FPuK: RBUB: 0 RBFW: 0
Date of generation	2019/03/15 14:22:49
Binary Size	5488640 AppFW_flash.bin 420 sysHeader_backup.bin.alt1250 3492 sysHeader.bin.alt1250 519036 u-boot.bin 3761796 ue_lte.fw 4096 partmap.bin 2719708 ue_lte.fw2
MD5	db32e3a488a61c91229be2b4683034581cce8eb2 AppFW_flash.bin 3197edfcc517c5fdbf7ecdfe067f8552c6c1421d sysHeader_backup.bin.alt1250 9effde86c3f101bfd9c83471b08442f265219999 sysHeader.bin.alt1250 4ba9f799fc634f8011d9d724b0782c77ca56e6b6 u-boot.bin 483a7067bd0cfdc25fa8835481b9e310e42b29fb ue_lte.fw 90b7c4253a5acfb1c17a72ff510dc0083e826575 partmap.bin 3b78cc82147f75dee0da9e91263b2ae67e6d256f ue_lte.fw2
IMEI SV	02
TS 25 PLMN List	18th February 2019

10.6.2. Software Changes Description

10.6.2.1.   New Features/Enhancements

Feature/ID	Description

10.6.2.2.   Validated Corrections/Improvements

This section presents all corrections or improvements integrated in this release

ID	Description
DIZZY1-1030	[KTCPSTART] Send/Receive 10k data incompletely through TCP socket
DIZZY1-1005	TAU failure after eNB FW upgraded
DIZZY1-1004	RACH fail after changing eNB parameter
DIZZY1-989	No support GPIO 3,15 when executing +KGPIO and +KGPIOCFG Command
DIZZY1-972	+WDSG incorrect reporting of +WDSG: 1,2

ID	Description
DIZZY1-959	Wrong response when executing some valid +KNWSCANCFG commands
DIZZY1-923	Can't set operator to China Telecom by +KCARRIERCFG=14
DIZZY1-907	After about >30 times send data to server by +KTCPSND command, module is return +KTCP_NOTIF: 1,8, AT port Frozen
DIZZY1-878	Receive data incomplete when setup with TCP socket
DIZZY1-871	Device is frozen when make a connection to AVMS server with "Status report = ON"
DIZZY1-856	AT Port is frozen after module re-connects to AVMS server automatically when the polling mode timer is expired
DIZZY1-828	Module cannot go back into hibernate mode when TCP session ID is 7
DIZZY1-739	Module does not wake up by data reception after entering sleep mode
DIZZY1-725	High current consumption at high temperature(4mA)
DIZZY1-715	[MECS][KSLEEP] Module does not response when testing with KSLEEP = 1,x
DIZZY1-697	CTS blinks all the time, spaces and some strange character are added to terminal when module is in sleep mode
DIZZY1-685	+WDSI: 10 is returned incorrectly when releasing the connection just after the beginning of download process (after +WDSI: 18 returned)
DIZZY1-623	+CGAUTH support up to 64 characters for user & password
DIZZY1-542	FOTA is Failed (+WDSI: 15) when rebooting module after +WDSI: 18 and +WDSI: 18,100
DIZZY1-471	Module should not send IPCP protocol when "IPv6" is set
DIZZY1-425	[NB1] Device unstable ping during callbox throughput test
DIZZY1-273	Command AT+CMEE=2 should not be supported and should not be in list of supported values (AT+CMEE=?)
DIZZY1-256	After start 6 TCP sessions, 7th sessions still connected
DIZZY1-221	The 7th,8th,9th session can be started and AT port is frozen after closing 7th UDP sessions
DIZZY1-192	First parameter of +CMT should be string type.

10.6.2.3.   Restrictions and Additional Information

Features	Description (What/When)	Impacted Functionality/Sub-Functionality

[04.115] Enable pin for external DCDC	Before using **+KWIOCFG** to activate this feature, you must send AT Commands below:
	
	`AT+KGPIOCFG=8,0,2 (Set GPIO8 output high)`
	`OK`
	`AT+KGPIO=8,1`
	`OK`
		IO Configuration

[04.128] New pin output for monitoring HL7800 status	Before using **+KWIOCFG** to activate this feature, you must send AT Commands below:
	
	`AT+KGPIOCFG=6,0,2 (Set GPIO6 output high)`
	`OK`
	`AT+KGPIO=6,1`
	
	`OK`
		IO Configuration

NVBACKUP Feature	Feature has been delivered but disabled. It must deeply validated/verified by Sierra R&D Team so, don't request a manual backup +NVBU=0[1]	NV Corruption
RF TX/RX	Commands WMTXPOWER/WMRXPOWER are not supported on NB1	RX/TX Power (NB1)
PWR_ON_N	Power-on feature is disabled, HL7800 is starting as soon as VBAT is applied.	Module start sequence
Factory default setting	Default Cat-M1 RF bands: 2, 3, 4, 8, 12, 13, 18, 20, 26, 28	Cat-M1 Bands

ID	Description
DIZZY1-1132	After receiving data or SMS, module fails to enter Lite hibernate again.
DIZZY1-1131	The module does not enter Sleep mode again

ID	Description
DIZZY1-1130	Unable to perform PPP Twice
DIZZY1-1128	DUT cannot enter Lite hibernate mode after T3324
DIZZY1-1123	Wrong URC +WDSI when executing AT+WDSS=1,0 and module has a reset
DIZZY1-1122	Wrong URC +WDSI when installing FW with FOTA
DIZZY1-1111	Will not run into out of heap situations
DIZZY1-1110	NV backup is not generated automatically after it is corrupted
DIZZY1-1098	Baudrate is changed to default after reset
DIZZY1-1096	Module cannot receive SMS after wake up from Hibernate mode with SM preferred message storage
DIZZY1-1094	NV data is unable to be restored after corruption
DIZZY1-1092	Cannot restore NV data
DIZZY1-1091	Cannot generate NV backup
DIZZY1-1089	GPIO6 does not work as expected during TAU
DIZZY1-1085	Country Band scanning may be applied instead of full scan, meaning that some enabled bands may not be scanned if they do not belong to the bands associated with the current country the device is located in.
DIZZY1-1083	HL7800-NB1 Receive data incomplete when setup with TCP socket
DIZZY1-1053	Cannot initiate dial-up using DLCs port on Linux OS
DIZZY1-1051	Wrong responses when testing +COPS command, and <mode> is persistent after set CFUN with config AT+COPS=1,2,"00101".
DIZZY1-1044	When Power On feature is enable and SW203 on SLIM DEVKIT is set to off, module still boots successfully after hard reset.
DIZZY1-1039	Module is crashed during CFUN, COPS stress test
DIZZY1-1035	MDC disconnection event is not sent on radio switch off
DIZZY1-1024	Periodic resets seen in LHT
DIZZY1-1021	Can't use AVMS feature with Deutsche Telekom network
DIZZY1-1019	Bad network throughput, delay time is too long for TCP/UDP/AVMS connection which might cause network time-out issue.
DIZZY1-1018	Bad connection performance with dial-up on Cat-NB1
DIZZY1-1007	UDP session after waking up from PSM-Hibernate state - Live VzW
DIZZY1-997	[NB1] One reboot seen after download from PP2 customized firmware
DIZZY1-982	Cannot start TCP/UDP connection with PDP context 1 if PDP 2 is configured for AVMS connection
DIZZY1-960	When module reboot, customer PDP context configure isn't persistent, module will change PDP context to default.
DIZZY1-931	[GPIO2] Randomly pull High
DIZZY1-919	Wrong format of <Requested_eDRX_value>, <NV-provided_eDRX_value> and <Paging_time_window> in the response of +CEDRXS write command
DIZZY1-917	Module can't register to network after +COPS=2 then +COPS=0. If reset module, it can register to network.
DIZZY1-905	IPv6 DNS issue

ID	Description
DIZZY1-895	Wrong response when testing command +CEDRXRDP
DIZZY1-892	[NB1] Module takes a long time to response during FOTA testing
DIZZY1-873	Module enters SLEEP mode when sending TCP data by KTCPSTART and Drop DTR with +KSLEEP=0,0
DIZZY1-868	NULL is returned after AT+CFUN=1,1
DIZZY1-857	Sometimes VGPIO blinking and almost Low instead of HIGH when the module in Tptw seconds in Hibernate.
DIZZY1-798	PPP pings stop after some time but PPP connection still up
DIZZY1-792	Not able to enter in hibernate when in PSM mode in NBIOT
DIZZY1-782	In some conditions of timers: T3412 and T3324 in PSM, the device don't go back to hibernate. Impacting current consumption
DIZZY1-759	Module does not display +CEREG URC during sleeping with PSM configuration
DIZZY1-738	AT ports is frozen after save messages PDU mode to memory
DIZZY1-721	Module performs boot continuously after some minutes configuring +KSLEEP=1,0 (or +KSLEEP=0,2) with eDRX (or CPSMS) activated
DIZZY1-714	Network registration is not stable on live network.
DIZZY1-695	Module is crashed when activating the 3rd PDP context if existing 2 activated PDP contexts – Live VzW
DIZZY1-668	Module cannot go to LITE HIBERNATE mode with SIM PIN code activated when configured in HIBERNATE mode
DIZZY1-645	CTS is HIGH most of the time when testing with +KSLEEP = x,2
DIZZY1-544	[NB1] Failed to download FOTA package due to TLS handshake errors - No WDSI: 9
DIZZY1-526	Unable to attach when PAP/CHAP is setup
DIZZY1-521	+KUDP_DATA is not displayed when send and receive UDP data in many times
DIZZY1-494	+KCELL=0 AT command gives CMEE ERROR: 60
DIZZY1-324	When using AT+CMGR for SMS response longer than 127 characters, the response is truncated.
DIZZY1-316	[CMUX] Many same URCs are received on a DLC
DIZZY1-315	[CMUX] Module is stuck after executed +KTCPSTART to send data on DLC
DIZZY1-286	[KSRAT] Radio access technology +KSRAT is not persistent after upgrade FW
DIZZY1-208	Unexpected URCs are produced over each AT channel
DIZZY1-199	[CMUX] Wrong response when send SABM to set up connection to DLC1, DLC2, DLC3, DLC4
DIZZY1-194	AT port is frozen after setting +CEMODE

10.7.   AHL78XX.2.5.1.0-RK0201010032

10.7.1.Release Identification

	Services (ATI, AT%VER)
FW Identification	BHL78XX.2.5.1.0-RK0201010032
Identification	ati HL7800 ati3 BHL7800.2.5.1.0.20190306 at%ver NP Package: RK_02_01_01_00_32 Apps: RKAPP_02_01_01_00_29__d8af2ccd5d4fd4e37e568216faca9547c88f7cb5 Using APP processor - no SB or 3B versions MAC Revision: REL_1250_02_01_01_REV_206700 MAC Package Version: ALT1250_02_01_01_00_30_FW MAC Build Time: Feb_25_2019_17_38_35 PHY Revision: 12.50.206678 PHY Build Time: Feb_25_2019_15_53_10 PHY Build Info: releas_0 PMP Revision: 206700 PMP Version: 30_FW PMP build time: Feb_25_2019_17_38_35 DSP Revision: 46229 BB Product: 1250 BB HW Revision: 20 RFIC_6200 Revision: 00 NP Build Time: Mar 6 2019 14:49:40 ati9 HL7800.2.5.1 BHL78xx.2.5.1.0.RK_02_01_01_00_32.20190306 2019/03/06 14:50:37 IMEI-SV: 3546160900092201 Legato RTOS: 18.09.2.ALT1250.rc1 2019/02/25 13:03:46 atSwi: 11.01 UBOOT: 01.03 Apps: RKAPP_02_01_01_00_29__d8af2ccd5d4fd4e37e568216faca9547c88f7cb5 MAC: ALT1250_02_01_01_00_30_FW PHY: 12.50.206678 PMP: 206700 SBUB: 0 SBFW: 0 RPuK: FPuK: RBUB: 0 RBFW: 0
Date of generation	2019/03/06 14:50:37
Binary Size	5410816 AppFW_flash.bin 420 sysHeader_backup.bin.alt1250

	3492 sysHeader.bin.alt1250 519132 u-boot.bin 3760800 ue_lte.fw 4096 partmap.bin 2718532 ue_lte.fw2
MD5	d88671608db57752cf9cba493820426955054f9a AppFW_flash.bin a73be2581000c700ec44e57816f53f4b719228de sysHeader_backup.bin.alt1250 e174615bf8e40610e46f0a751bdc6fac051b6694 sysHeader.bin.alt1250 57ae92d80a085e189bcb1f2323f0db8814f2c04e u-boot.bin dc8d4fe1c3a809a9ebc9d03f2b05a149851c6ee1 ue_lte.fw eaf25b966c37e9acf447bcba3c8b357602716976 partmap.bin 6d7f0977879bc1311358d9568cfc4a03b63bd567 ue_lte.fw2
IMEI SV	01
TS 25 PLMN List	21st January 2019

10.7.2. Software Changes Description

10.7.2.1.   New Features/Enhancements

Feature/ID	Description
04.69	FS Corruption (NVBackup)
08.01	Power on sequence compatible HL / CF3
04.115	Enable pin for external DCDC
04.127	Need an AT command to query MCL (+KCELLMEAS)
04.128	New pin output for monitoring HL7800 status

10.7.2.2.   Validated Corrections/Improvements

This section presents all corrections or improvements integrated in this release

ID	Description
DIZZY1-897	Failed to enter AT command to the module when it is wake-up by SMS in Hibernate mode with EDRX is activated.
DIZZY1-896	The device only goes to SLEEP mode after restart the device in Hibernate with CPSMS is activated.
DIZZY1-891	Wrong KCNX_IND Notification (connection Status Notification) when bring up TCP connection with invalid APN
DIZZY1-863	Module is crashed after configuring PDP context identifier by WDSS command on VZW network
DIZZY1-853	UART not responsive after entering in hibernate mode in PSM

ID	Description
DIZZY1-673	Upgrade failure between FW1.7.x.x to FW2.4.x.x
DIZZY1-672	AT port not connected blocks CLI port at startup
DIZZY1-628	The device closes the connection to the bootstrap server at the 1st attempts
DIZZY1-619	Module is auto-reset during LITE/HIBERNATE mode in eDRX. Then device is unable to wake up by WAKE UP PIN
DIZZY1-604	NB1 is not available with AHL2.1.0.0 with at least all bands configured. Different behavior for with AHL2.2.0.0 with sporadic resets but not linked to the initial issue
DIZZY1-533	URC +CRTDCP is not sent over UART
DIZZY1-488	After ATO, NO CARRIER is not returned after connection terminated on NB1

10.7.2.3.   Restrictions and Additional Information

Features	Description (What/When)	Impacted Functionality/Sub-Functionality

[04.115] Enable pin for external DCDC	Before using **+KWIOCFG** to activate this feature, you must send AT Commands below:
	
	`AT+KGPIOCFG=8,0,2 (Set GPIO8 output high)`
	`OK`
	`AT+KGPIO=8,1`
	`OK`
		IO Configuration

[04.128] New pin output for monitoring HL7800 status	Before using **+KWIOCFG** to activate this feature, you must send AT Commands below:
	
	`AT+KGPIOCFG=6,0,2 (Set GPIO6 output high)`
	`OK`
	`AT+KGPIO=6,1`
	
	`OK`
		IO Configuration

Features	Description (What/When)	Impacted Functionality/Sub-Functionality
NVBACKUP Feature	Feature has been delivered but disabled. It must deeply validated/verified by Sierra R&D Team so, don't request a manual backup +NVBU=0[1]	NV Corruption
RF TX/RX	Commands WMTXPOWER/WMRXPOWER are not supported on NB1	RX/TX Power (NB1)
PWR_ON_N	Power-on feature is disabled, HL7800 is starting as soon as VBAT is applied.	Module start sequence
Factory default setting	Default Cat-M1 RF bands: 2, 3, 4, 8, 12, 13, 18, 20, 26, 28	Cat-M1 Bands

ID	Description
DIZZY1-1046	Exception observed during PSM/Hibernate tests
DIZZY1-1040	Device cannot attach to the network
DIZZY1-1031	High current consumption
DIZZY1-1029	[TCP] Module cannot go back into hibernate mode
DIZZY1-1024	[NBIOT] Periodic resets seen in LHT
DIZZY1-1021	[WDSS][NB1]Couldn't start AVMS connection with Deutsche Telekom operator
DIZZY1-1019	[GPRS][THROUGHPUT][NB1]Network delay is too long with Deutsche Telekom operator.
DIZZY1-1018	[GPRS][THROUGHPUT][NB1]After dialing-up, some packets lost when pinging
DIZZY1-1017	[PROTOCOM][KTCPSND] +KTCP_NOTIF: 1,8 is returned although module have sent fully data to server
DIZZY1-1012	[VZW][AVMS] After FOTA update Module is crashed after registering to network successfully
DIZZY1-1000	[AVMS][AT&T] Module is crashed when trying to remove credential then connect to BS and DM server.
DIZZY1-997	[NB1] One reboot seen after download from PP2 customized firmware (FW1.7.10.0)
DIZZY1-982	[GPRS][CGDCONT][AVMS][WDSS] Can not start TCP/UDP connection with PDP context 1 if PDP 2 is configured for AVMS connection

ID	Description
DIZZY1-960	[GPRS][CGDCONT] +CGDCONT configuration isn't persistent after reboot
DIZZY1-959	[NS][KNWSCANCFG] Wrong response when executing some valid +KNWSCANCFG commands
DIZZY1-936	Device unable to register when AT+KCARRIERCFG=5 (AT&T) is set
DIZZY1-931	[GPIO2] Randomly pull High
DIZZY1-924	Module auto attach to LTE after executing +CGATT=0 detach command
DIZZY1-919	[NS][CEDRXS] CEDRXP have wrong format parameters
DIZZY1-917	[NS][COPS] Module can't register to network automatically with AT+COPS=0 command with NB1
DIZZY1-915	[VZW][AVMS][FOTA] Couldn't upgrade FW from N-1 to N by FOTA
DIZZY1-905	[TELSTRA] IPv6 DNS issue
DIZZY1-895	[NS][CEDRXRDP] Wrong response when testing command +CEDRXRDP
DIZZY1-893	Device unable to boot up
DIZZY1-892	[AVMS][NB1]Module takes a long time to response during FOTA testing
DIZZY1-873	[KSLEEP][KTCPSTART]Module enters SLEEP mode when sending TCP data by KTCPSTART and Drop DTR with +KSLEEP=0,0
DIZZY1-857	[MECS][EDRXS] Sometimes VGPIO blinking and almost Low instead of HIGH when the module in Tptw seconds in Hibernate.
DIZZY1-798	HL7800 PPP pings stop after some time but PPP connection still up
DIZZY1-792	Device not able to enter in hibernate when in PSM mode in NB1
DIZZY1-782	In some conditions of timers: T3412 and T3324 in PSM, the device don't go back to hibernate. Impacting current consumption
DIZZY1-774	Module freeze in data mode due to data never read by +KTCPRCV; There is congestion on socket and data flow control is activated on serial link. Consequently, EOF pattern can't be detected.
DIZZY1-759	[MECS][KSLEEP][CPSMS] Module does not display +CEREG URC during sleeping with PSM configuration
DIZZY1-738	[SMS][CMGW] AT ports is frozen after save messages PDU mode to memory
DIZZY1-721	[KSLEEP][eDRX] Module performs boot continuously after some minutes configuring AT+KSLEEP=1,0 (or AT+KSLEEP=0,2) with eDRX (or CPSMS) activated
DIZZY1-714	[] Network registration is not stable on live network.
DIZZY1-695	[GPRS][VZW] Module is crashed when activating the 3rd PDP context if existing 2 activated PDP contexts
DIZZY1-668	[NS][CPSMS][KSLEEP] Module cannot go to LITE HIBERNATE mode with SIM PIN code activated when configured in HIBERNATE mode

ID	Description
DIZZY1-648	[PPP] Can not re-establish dial-up connection after disconnecting
DIZZY1-544	[NB1] Failed to download FOTA package due to TLS handshake errors (Amarisoft) - No WDSI: 9
DIZZY1-543	[PROTOCOL][KCNXUP]Can not bring connection up without activated PDP
DIZZY1-526	[WPPP] PAP/CHAP authentication issue - Credentials not taken into account in sequence CFUN4/1
DIZZY1-501	[NB1][MECS][EDRXS][CPSMS] VGPIO is always HIGH in Hibernate
DIZZY1-479	Device does not got to SLEEP/HIBERNATE mode if FW_LOG Uart not set to C
DIZZY1-316	[CMUX][PROTOCOL] Many same URCs are received on a DLC
DIZZY1-315	[CMUX][KTCPSTART] Module is stuck after executed KTCPSTART to send data on DLC
DIZZY1-208	[CMUX][PROTOCOL] URC is received on all opened DLC when AT command is executed in a DLC
DIZZY1-194	[CEMODE] AT port is frozen after setting CEMODE

10.8. AHL78XX.2.4.1.0-RK0201010025

10.8.1. Release Identification

	Services (ATI, AT%VER)
FW Identification	AHL78XX.2.4.1.0-RK0201010025
Identification	ati HL7800 ati3 AHL7800.2.4.1.0.20190218 at%ver NP Package: RK_02_01_01_00_25 Apps: RKAPP_02_01_01_00_23__065d9ede51792cd5b2b26b61999e9f0c86ee291d Modem Apps: ALT1250_02_01_01_00_20_MA Using APP processor - no SB or 3B versions MAC Revision: REL_1250_02_01_01_REV_204219 MAC Package Version: ALT1250_02_01_01_00_24_FW MAC Build Time: Jan_30_2019_12_25_56 PHY Revision: 12.50.204170 PHY Build Time: Jan_29_2019_17_25_21 PHY Build Info: releas_0 PMP Revision: 204219 PMP Version: 24_FW

	PMP build time: Jan_30_2019_12_25_56 DSP Revision: 44559 BB Product: 1250 BB HW Revision: 20 RFIC_6200 Revision: 00 NP Build Time: Feb 18 2019 12:40:46 ati9 HL7800.2.4.1 AHL78xx.2.4.1.0.RK_02_01_01_00_25.20190218 2019/02/18 12:42:13 IMEI-SV: 3546160900092201 Legato RTOS: 18.09.1.ALT1250.rc4 2019/02/14 13:12:35 atSwi: 10.00 UBOOT: 01.03 Apps: RKAPP_02_01_01_00_23__065d9ede51792cd5b2b26b61999e9f0c86ee291d Modem Apps: ALT1250_02_01_01_00_20_MA MAC: ALT1250_02_01_01_00_24_FW PHY: 12.50.204170 PMP: 204219 SBUB: 0 SBFW: 0 RPuK: FPuK: RBUB: 0 RBFW: 0
Date of generation	2019/02/18 12:42:13
Binary Size	4952064 AppFW_flash.bin 420 sysHeader_backup.bin.alt1250 3492 sysHeader.bin.alt1250 519328 u-boot.bin 3762952 ue_lte.fw 4096 partmap.bin 2705784 ue_lte.fw2
MD5	70e1813efcc719c44a58277c76494c0c8f1e5480 AppFW_flash.bin 4996b458cfbb05cec9ad7823b315ef015255f16a sysHeader_backup.bin.alt1250 c6952ccf3118c3b0d1afba18ed17bbe0bcdcac63 sysHeader.bin.alt1250 109c115921ae40c6d2590d68a72269eee2d700f8 u-boot.bin 93b27cb8007f9403d4d0d478009bbef6527c7547 ue_lte.fw b13a8faa594e4f348ee8657abb8fcb8529984834 partmap.bin 2a3dafec2d52b9df1305d8b4be36665f05874730 ue_lte.fw2

10.8.2. Software Changes Description

10.8.2.1. New Features/Enhancements

Feature/ID	Description
04.126	Support multiple APN
04.32	XMODEM -WDSD/WDSR

10.8.2.2. Validated Corrections/Improvements

This section presents all corrections or improvements integrated in this release

ID	Description
DIZZY1-675	[PROTOCOM][KTCPSTART] AT port is frozen after send KTCPSTART with IPV6
DIZZY1-280	[GPRS][+CGPADDR] Wrong responses when testing +CGPADDR command

10.8.2.3. Restrictions and Additional Information

Features	Description (What/When)	Impacted Functionality/Sub-Functionality
Upgrade from FW1.7.x.0 to FW2.4.x.0 crash the device.	The workaround is to upgrade the device from FW1.7.x.0 to FW2.3.1.0 and FW2.3.1.0 to FW2.4.x.0	Upgrade
RF TX/RX	Commands WMTXPOWER/WMRXPOWER are not supported on NB1	RX/TX Power (NB1)
PWR_ON_N	Power-on feature is disabled, HL7800 is starting as soon as VBAT is applied.	Module start sequence

10.9. AHL78XX.2.4.0.0-RK0201010025

10.9.1. Release Identification

	Services (ATI, AT%VER)
FW Identification	AHL78XX.2.4.0.0-RK0201010025
Identification	ati HL7800 ati3 AHL7800.2.4.0.0.20190207 at%ver

R-6	NP Package: RK_02_01_01_00_25 Apps: RKAPP_02_01_01_00_23__065d9ede51792cd5b2b26b61999e9f0c86ee291d Modem Apps: ALT1250_02_01_01_00_20_MA Using APP processor - no SB or 3B versions MAC Revision: REL_1250_02_01_01_REV_204219 MAC Package Version: ALT1250_02_01_01_00_24_FW MAC Build Time: Jan_30_2019_12_25_56 PHY Revision: 12.50.204170 PHY Build Time: Jan_29_2019_17_25_21 PHY Build Info: releas_0 PMP Revision: 204219 PMP Version: 24_FW PMP build time: Jan_30_2019_12_25_56 DSP Revision: 44559 BB Product: 1250 BB HW Revision: 20 RFIC_6200 Revision: 00 NP Build Time: Feb 7 2019 17:00:16 ati9 HL7800.2.4.0 AHL78xx.2.4.0.0.RK_02_01_01_00_25.20190207 2019/02/07 17:01:05 IMEI-SV: 3546160900092201 Legato RTOS: 18.09.0.ALT1250 2019/01/21 11:45:30 (*) atSwi: 09.00 UBOOT: 01.03 Apps: RKAPP_02_01_01_00_23__065d9ede51792cd5b2b26b61999e9f0c86ee291d Modem Apps: ALT1250_02_01_01_00_20_MA MAC: ALT1250_02_01_01_00_24_FW PHY: 12.50.204170 PMP: 204219 (*)Please note that it should have been 18.09.1.ALT1250.rc1
Date of generation	2019/02/07 17:01:05
Binary Size	4382720 AppFW_flash.bin 420 sysHeader_backup.bin.alt1250 3492 sysHeader.bin.alt1250 519088 u-boot.bin 3762952 ue_lte.fw 4096 partmap.bin 2705784 ue_lte.fw2
MD5	db73c0ff5746ed415f738e01c5d6672ba9dc0e0d AppFW_flash.bin 2308057a59cfd615e2a1309da09cde41ba0d20b8 sysHeader_backup.bin.alt1250 1e1552a0c3c1837d1332e76037d7d85968d6c02a sysHeader.bin.alt1250 04955a29a70d97df30d913d60c7570d2e88fab4f u-boot.bin 93b27cb8007f9403d4d0d478009bbef6527c7547 ue_lte.fw 838f35c540440a5670ea4c6fe14e069bb87512ab partmap.bin 2a3dafec2d52b9df1305d8b4be36665f05874730 ue_lte.fw2

10.9.2. **Software Changes Description**

10.9.2.1.   New Features/Enhancements

Feature/ID	Description
04.57	Out of coverage behavior (+KNWSCANCFG)

10.9.2.2.   Validated Corrections/Improvements

This section presents all corrections or improvements integrated in this release

ID	Description
DIZZY1-731	[PROTOCOM][KTCPSTART] Wrong response after starting TCP connection with AT+KTCPSTART command
DIZZY1-705	Default PSM and eDRX configuration have been modified
DIZZY1-704	[+KCARRIRCFG] The +CME ERROR: 3 is returned with read command +KCARRIERCFG?
DIZZY1-682	[PROTOCOL][KTCPCNX] Wrong response when start TCP connection with invalid port
DIZZY1-679	[PROTOCOL][KTCPCLOSE] AT ports of DUT and AUX are frozen after sending command AT+KTCPCLOSE=1,1 on DUT
DIZZY1-674	[UDP] On Alternate UDP request, channel is opened by FW
DIZZY1-647	[PROTOCOM][KTCPCFG]"KTCP_NOTIF: 1,0" does not displays after entering filght mode
DIZZY1-618	[V25ter][AT&F] Double OK is returned with AT&F command
DIZZY1-571	[PROTOCOL][KTCPSTART] Cannot get IP address when starting a TCP connection +KTCPSTART with PS detached
DIZZY1-310	[WMTXPOWER] ERROR returns for AT+WMTXPOWER=0 and wrong response for read command
DIZZY1-265	[WMRXPOWER] ERROR returns for AT+WMRXPOWER=<ENABLE> and wrong response for read command
DIZZY1-224	[SMS][+CMGS] AT port and CLI port are hung when execute command AT+CMSS=1
DIZZY1-717	[CR]Module cannot read the left data in UDP socket by +KUDPRCV
DIZZY1-694	[PROTOCOL][KCERTSTORE] Extra \r\n in data when read command AT+KCERTSTORE ?

ID	Description
DIZZY1-283	[PROTOCOM][KPATTERN][KUDP_DATA] Wrong +KUDP_DATA returned when sending data with character "-" at the end.
DIZZY1-469	Out of coverage behavior

10.9.2.3. Restrictions and Additional Information

Features	Description (What/When)	Impacted Functionality/Sub-Functionality
RF TX/RX	Commands WMTXPOWER/WMRXPOWER are not supported on NB1	RX/TX Power (NB1)
WDSD	Local Upgrade by delta package (XMODEM) is not functional	FW Upgrade
PWR_ON_N	Power-on feature is disabled, HL7800 is starting as soon as VBAT is applied.	Module start sequence

10.10. AHL78XX.2.3.1.0-RK0201010018

10.10.1. Release Identification

	Services (ATI, AT%VER)
FW Identification	AHL78XX.2.3.1.0-RK0201010018
Identification	ati HL7800 ati3 AHL7800.2.3.1.0.20190128 at%ver NP Package: RK_02_01_01_00_18 Apps: RKAPP_02_01_01_00_17__52a2801313924544b18fb0cd20d894d22b8a3140 Modem Apps: ALT1250_02_01_01_00_17_MA Using APP processor - no SB or 3B versions MAC Revision: REL_1250_02_01_01_REV_202576 MAC Package Version: ALT1250_02_01_01_00_17_FW

	MAC Build Time: Jan_08_2019_12_31_59 PHY Revision: 12.50.202571 PHY Build Time: Jan_08_2019_10_31_35 PHY Build Info: releas_0 PMP Revision: 202576 PMP Version: 17_FW PMP build time: Jan_08_2019_12_31_59 DSP Revision: 41935 BB Product: 1250 BB HW Revision: 20 RFIC_6200 Revision: 00 NP Build Time: Jan 28 2019 15:16:11 ati9 HL7800.2.3.1 AHL78xx.2.3.1.0.RK_02_01_01_00_18.20190128 2019/01/28 15:17:18 IMEI-SV: 3546160900092201 Legato RTOS: 18.09.0.ALT1250 2019/01/21 11:45:30 atSwi: 08.00 UBOOT: 01.03 Apps: RKAPP_02_01_01_00_17__52a2801313924544b18fb0cd20d894d22b8a3140 Modem Apps: ALT1250_02_01_01_00_17_MA MAC: ALT1250_02_01_01_00_17_FW PHY: 12.50.202571 PMP: 202576
Date of generation	2019/01/28 15:17:18
Binary Size	4764528 AppFW_flash.bin 420 sysHeader_backup.bin.alt1250 3492 sysHeader.bin.alt1250 523132 u-boot.bin 3767176 ue_lte.fw 4096 partmap.bin 2692064 ue_lte.fw2
MD5	9cab575892d1e6027b62d5120943100c00478055 AppFW_flash.bin 0b39c63cb59e73f809e098c89367e56bb6fe50ab sysHeader_backup.bin.alt1250 6e085b305459bd80548119fa1bd97c8793c6cf0a sysHeader.bin.alt1250 eb9a8509e832359f9d3f5c43bae98d791ab30257 u-boot.bin f2152f84ebb2a430ec0adc36d816a525140fb074 ue_lte.fw 7d1778035047e9b805405764a4ea1efcd7b1d5fc partmap.bin fa1deb5b0ea86499a9d3955bf15f4b5dadb48f16 ue_lte.fw2

10.10.2. Software Changes Description

10.10.2.1. Validated Corrections/Improvements

This section presents all corrections or improvements integrated in this release

ID	Description
DIZZY1-754	[PROTOCOL][KCNXDOWN] The +KCNX_IND: x,5,30 URC is delayed on AT port after bringing the PDP connection up/down
DIZZY1-744	[FOTA] Freeze after moving module into out-of-service during FOTA
DIZZY1-718	[CFUN] Module is crashed when send command AT+CFUN=4
DIZZY1-713	[Amarisoft network] Module is crashed when send AT Command CFUN=1,1
DIZZY1-709	[PROTOCOM][KTCPCLOSE][KUDPCLOSE]After closing TCP/UDP connection successfully. and then module is crashed when executing the command AT+CFUN=1,1.
DIZZY1-708	[CFUN][TELSTRA] Module is crashed when send command AT+CFUN=1,1
DIZZY1-707	[AT&T] Module is crashed when send command AT+CFUN=1,1
DIZZY1-706	Module is crashed when send AT Command CFUN=1,1
DIZZY1-631	[GPRS][CGATT] AT+CGATT=0 returns wrong response on NB1
DIZZY1-616	[AVMS][FOTA] Module is crashed when de-registering to network (AT+CFUN=0) during download process
DIZZY1-578	[CP] Sending data over CP in CAT-M1 is possible even if CP CIoT Opt. is not enabled
DIZZY1-551	[PROTOCOL][KTCPCNX]Module reboots when starting TCP connection with invalid APN
DIZZY1-549	[PROTOCOL][KCNXUP]Module reboots when bring connection up without activated PDP
DIZZY1-541	[NB1][FOTA] MAC assert after TLS handshake error during FOTA package download
DIZZY1-530	Using KRIC/RI pin for SMS wakeup
DIZZY1-520	[AVMS][FOTA] Module does not establish a new connection to server when rebooting after +WDSI: 10 returned
DIZZY1-505	[PROTOCOL]TCP session is not stable
DIZZY1-485	[CC][ATH] Command ATH cannot disconnect the data call on NB1
DIZZY1-466	[PROTOCOL][KCNXTIMER]URC is returned too slowly when starting TCP connection with invalid APN
DIZZY1-386	[KCELL] Module restart after send command AT+KCELL=0
DIZZY1-336	[NB1] LTE interface lost after PPP dial-up and down
DIZZY1-317	[AVMS][FOTA] After network lost during FOTA session, module can't re-connect and continue FOTA updrage, +WDSI: 11,2 is received.
DIZZY1-308	[CEDRXS] Command AT+CEDRXS? in NB1 is returned different from CAT-M1
DIZZY1-232	[NS][CPSMS] The responses of AT+CPSMS have incorrect format and value

ID	Description
DIZZY1-206	[VZW][V25TER][+CGCMOD] ERROR code is returned when modifying PDP context by +CGCMOD command
DIZZY1-200	[PROTOCOM][KTCP_DATA] "+KTCP_DATA" is not displayed when send and receive TCP data in many times

10.10.2.2. Restrictions and Additional Information

Features	Description (What/When)	Impacted Functionality/Sub-Functionality
RF TX/RX	Commands WMTXPOWER/WMRXPOWER are not supported on NB1	RX/TX Power (NB1)
WDSD	Local Upgrade by delta package (XMODEM) is not functional	FW Upgrade
PWR_ON_N	Power-on feature is disabled, HL7800 is starting as soon as VBAT is applied.	Module start sequence

10.11. AHL78XX.2.3.0.0-RK0201010018

10.11.1. Release Identification

	Services (ATI, AT%VER)
FW Identification	AHL78XX.2.3.0.0-RK0201010018
Identification	ati HL7800 ati3 AHL7800.2.3.0.0.20190121 at%ver NP Package: RK_02_01_01_00_18 Apps: RKAPP_02_01_01_00_17__52a2801313924544b18fb0cd20d894d22b8a3140 Modem Apps: ALT1250_02_01_01_00_17_MA Using APP processor - no SB or 3B versions MAC Revision: REL_1250_02_01_01_REV_202576

	MAC Package Version: ALT1250_02_01_01_00_17_FW MAC Build Time: Jan_08_2019_12_31_59 PHY Revision: 12.50.202571 PHY Build Time: Jan_08_2019_10_31_35 PHY Build Info: releas_0 PMP Revision: 202576 PMP Version: 17_FW PMP build time: Jan_08_2019_12_31_59 DSP Revision: 41935 BB Product: 1250 BB HW Revision: 20 RFIC_6200 Revision: 00 NP Build Time: Jan 21 2019 16:33:04 ati9 HL7800.2.3.0 AHL78xx.2.3.0.0.RK_02_01_01_00_18.20190121 2019/01/21 16:34:35 IMEI-SV: 3546160900092201 Legato RTOS: 18.09.0.ALT1250.rc3 2019/01/14 08:58:17 atSwi: 07.14 UBOOT: 01.03 Apps: RKAPP_02_01_01_00_17__52a2801313924544b18fb0cd20d894d22b8a3140 Modem Apps: ALT1250_02_01_01_00_17_MA MAC: ALT1250_02_01_01_00_17_FW PHY: 12.50.202571 PMP: 202576
Date of generation	2019/01/21 16:34:35
Binary Size	4763648 AppFW_flash.bin 420 sysHeader_backup.bin.alt1250 3492 sysHeader.bin.alt1250 523132 u-boot.bin 3767176 ue_lte.fw 4096 partmap.bin 2692064 ue_lte.fw2
MD5	721718ccb648844118b0cbd1755fa6df389369a4 AppFW_flash.bin 0b39c63cb59e73f809e098c89367e56bb6fe50ab sysHeader_backup.bin.alt1250 6e085b305459bd80548119fa1bd97c8793c6cf0a sysHeader.bin.alt1250 c8e78106c7ebdffbd175b47748a6f3395dfd17ba u-boot.bin f2152f84ebb2a430ec0adc36d816a525140fb074 ue_lte.fw 6d1fb8ad272bee5046ebdd8f952daaec64dc5044 partmap.bin fa1deb5b0ea86499a9d3955bf15f4b5dadb48f16 ue_lte.fw2

10.11.2. Software Changes Description

10.11.2.1. Validated Corrections/Improvements

This section presents all corrections or improvements integrated in this release

ID	Description
DIZZY1-691	Sending AT Command is split when turn on Echo ATE1
DIZZY1-676	Cannot switch to NB1
DIZZY1-670	Upgrading to 2.2 FW bricks the modem - Use Case 1
DIZZY1-660	[HL78] Double OK on boot
DIZZY1-643	[Crash] Systematic crash at startup when switching to NB1 RAT (MAC exception)
DIZZY1-609	[CFUN] Double OK is returned with AT+CFUN=1,1 command
DIZZY1-608	Responses of some commands are missing \r\n
DIZZY1-604	[KBNDCFG] Module is frozen after configuring all supported bands
DIZZY1-591	[CPSMS] Sometimes CTS is HIGH but module does not response anything after wake up from Hibernate
DIZZY1-589	No more answer to AT commands can occur after +KCARRIERCFG
DIZZY1-583	v25 profile lost on 1st boot after update
DIZZY1-494	[KCELL] Module returns +CME ERROR: 60 when sending command AT+KCELL=0
DIZZY1-478	HL7800 CPOF command Fail in time
DIZZY1-456	[CEDRXS] Displayed configuration is not updated while in CFUN=0
DIZZY1-342	[CEDRXS] Unsolicited +CEDRXP is not displayed on UART even if enabled
DIZZY1-311	[NS][+COPS] Wrong responses when testing AT+COPS=? command
DIZZY1-305	[CTZR]URC +CTZV: <tz> does not return after enable Time Zone Reporting by command AT+CTZR
DIZZY1-229	[PROTOCOL][+KCNX_IND] The +KCNX_IND: 1,0,0 URC is not displayed when there is TCP connection error
DIZZY1-222	[NS][CEREG][Amarisoft] Double +CEREG URCs are returned after registering/de-registering network registration by +COPS, +CFUN, +CGATT
DIZZY1-193	[PROTOCOL][KTCPCFG]TCP sessions are displayed incorrectly
DIZZY1-178	[V25TER][ATE][IFC] Wrong display current configuration of ATE and IFC command after executed concatenated command

10.11.2.2. Restrictions and Additional Information

Features	Description (What/When)	Impacted Functionality/Sub-Functionality
RF TX/RX	Commands WMTXPOWER/WMRXPOWER are not supported on NB1	RX/TX Power (NB1)
WDSD	Local Upgrade by delta package (XMODEM) is not functional	FW Upgrade
PWR_ON_N	Power-on feature is disabled, HL7800 is starting as soon as VBAT is applied.	Module start sequence

10.12. AHL78XX.2.2.0.0-RK0201010009

10.12.1. Release Identification

	Services (ATI, AT%VER)
FW Identification	AHL78XX.2.2.0.0-RK0201010009
Identification	ati HL7800 ati3 AHL7800.2.2.0.0.20190107 at%ver NP Package: RK_02_01_01_00_09 Apps: RKAPP_02_01_01_00_10__c042c2340fec785e1549a022ea05147d42b3277f Modem Apps: ALT1250_02_01_01_00_08_MA Using APP processor - no SB or 3B versions MAC Revision: REL_1250_02_01_01_REV_200767 MAC Package Version: ALT1250_02_01_01_00_09_FW MAC Build Time: Dec_10_2018_14_11_23 PHY Revision: 12.50.200754 PHY Build Time: Dec_10_2018_11_47_52 PHY Build Info: releas_0 PMP Revision: 200767 PMP Version: 09_FW PMP build time: Dec_10_2018_14_11_23 DSP Revision: 41092 BB Product: 1250 BB HW Revision: 20 RFIC_6200 Revision: 00 NP Build Time: Jan 7 2019 15:34:28

	ati9 HL7800.2.2.0 AHL78xx.2.2.0.0.RK_02_01_01_00_09.20190107 2019/01/07 15:35:14 IMEI-SV: 0044024600289401 Legato RTOS: 18.04.2.ALT1250.rc20 2018/12/20 16:38:04 atSwi: 07.14 UBOOT: 01.03 Apps: RKAPP_02_01_01_00_10__c042c2340fec785e1549a022ea05147d42b3277f Modem Apps: ALT1250_02_01_01_00_08_MA MAC: ALT1250_02_01_01_00_09_FW PHY: 12.50.200754 PMP: 200767
Date of generation	2019/01/07 15:40
Binary Size	4718592 AppFW_flash.bin 428 sysHeader_backup.bin.alt1250 3492 sysHeader.bin.alt1250 493980 u-boot.bin 3743520 ue_lte.fw 4096 partmap.bin 2664988 ue_lte.fw2
MD5	010a9c4357476f9edda094f0c6ed7237a3ebe23c AppFW_flash.bin 5768948434459c909617b384a99749c032492b61 sysHeader_backup.bin.alt1250 fd254275f934660e2437e11daebda5833e0617c7 sysHeader.bin.alt1250 3cd2332d6abb7e581ac6861e18cd244fd5f6c800 u-boot.bin 302ab964e6d521f6f9676fe72ace33cae6aa7db9 ue_lte.fw 71717a16af7bd59243919028f75e77b0616a1701 partmap.bin b55ecee813522e5466cee1aaa44a885d68ceb6d0 ue_lte.fw2

10.12.2. Software Changes Description

10.12.2.1.   Validated Corrections/Improvements

This section presents all corrections or improvements integrated in this release

ID	Description
ALT1250-2513	[SMS][+CMGR] Redundant \r\n when read SMS with index 1 is empty
ALT1250-2486	CHAP authentication issue
ALT1250-2416	Merge issue for RK_02_00_01_15
ALT1250-2048	PSM Timers mangement issue at limits

10.12.2.2. Restrictions and Additional Information

Features	Description (What/When)	Impacted Functionality/Sub-Functionality
NB1/KSRAT	NB1 Switch is only available on PV2 HW releases	NB1
DEBUG	Modem Logs not available	DEBUG Logs/Traces
RF TX/RX	Commands WMTXPOWER/WMRXPOWER are not supported on NB1	RX/TX Power (NB1)
WDSD	Local Upgrade by delta package (XMODEM) is not functional	FW Upgrade
PWR_ON_N	Power-on feature is disabled, HL7800 is starting as soon as VBAT is applied.	Module start sequence

10.13. AHL78XX.1.8.0.0-RK0201000047

10.13.1. Release Identification

	Services (ATI, AT%VER)
FW Identification	AHL78XX.1.8.0.0-RK0201000047
Identification	ati HL7800 ati3 AHL7800.1.8.0.0.20181109 at%ver NP Package: RK_02_01_00_00_47 Apps: RKAPP_02_01_00_00_43__a065e9d3571d9cd78b999ddfb767f2d78e2dcc18 Modem Apps: ALT1250_02_01_00_00_21_MA Using APP processor - no SB or 3B versions MAC Revision: REL_1250_02_01_00_REV_197651 MAC Package Version: ALT1250_02_01_00_00_50_FW MAC Build Time: Oct_18_2018_16_42_04 PHY Revision: 12.50.197647 PHY Build Time: Oct_18_2018_15_49_42 PHY Build Info: releas_0 PMP Revision: 197651

	PMP Version: 50_FW PMP build time: Oct_18_2018_16_42_04 DSP Revision: 32302 BB Product: 1250 BB HW Revision: 20 RFIC_6200 Revision: 00 NP Build Time: Nov 9 2018 09:38:04 ati9 HL7800.1.8.0 AHL78xx.1.8.0.0.RK_02_01_00_00_47.20181109 2018/11/09 09:39:03 IMEI-SV: 3546160901199701 Legato RTOS: 18.04.2.ALT1250.rc15 2018/10/25 10:35:05 atSwi: 07.10 UBOOT: 01.03 Apps: RKAPP_02_01_00_00_43__a065e9d3571d9cd78b999ddfb767f2d78e2dcc18 Modem Apps: ALT1250_02_01_00_00_21_MA MAC: ALT1250_02_01_00_00_50_FW PHY: 12.50.197647 PMP: 197651
Date of generation	2018/11/09 09:40
Binary Size	3973120 AppFW_flash.bin 4096 partmap.bin 3492 sysHeader_backup.bin.alt1250 3492 sysHeader.bin.alt1250 487064 u-boot.bin 3730012 ue_lte.fw 2901688 ue_lte.fw2
MD5	53ad3fa3c4887731e8a945c7ab24290d30a67116 AppFW_flash.bin b1b142b99d04e94f68fd05c4d74edeedbd8e8f94 sysHeader_backup.bin.alt1250 f4195d10921f6822b1e83c750a2a6cd2f9ec5b2e sysHeader.bin.alt1250 0f4511345ebd7ebd0886c4815ca0e973b0252a95 u-boot.bin eaa55895c33a7b1f54d49ed8abd15249a9795aa1 ue_lte.fw 92f64e813491fdd90893ffc6242ad8c822e9e847 partmap.bin dc39eba144ad268e22e52666e8a989bbe7ff0040 ue_lte.fw2

10.13.2. **Software Changes Description**

10.13.2.1. Restrictions and Additional Information

Features	Description (What/When)	Impacted Functionality/Sub-Functionality
RF TX/RX	Commands WMTXPOWER/WMRXPOWER are not supported on NB1	RX/TX Power (NB1)
WDSD	Local Upgrade by delta package (XMODEM) is not functional	FW Upgrade
+CPOF AT Command	Unable to use wakeup pin	Power Management
PWR_ON_N	Power-on feature is disabled, HL7800 is starting as soon as VBAT is applied.	Module start sequence