Customer Release Note

AirPrime BX310x R2.5.0

SIERRA WIRELESS®

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2.0
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Important Notice

Due to the nature of wireless communications, transmission and reception of data can never be guaranteed. Data may be delayed, corrupted (i.e., have errors) or be totally lost. Although significant delays or losses of data are rare when wireless devices such as the Sierra Wireless modem are used in a normal manner with a well-constructed network, the Sierra Wireless modem should not be used in situations where failure to transmit or receive data could result in damage of any kind to the user or any other party, including but not limited to personal injury, death, or loss of property. Sierra Wireless accepts no responsibility for damages of any kind resulting from delays or errors in data transmitted or received using the Sierra Wireless modem, or for failure of the Sierra Wireless modem to transmit or receive such data.

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Document History

Version	Date	Updates
1.00	November 16, 2018	Creation, New Release 2.5.0-2
2.00	November 27, 2018	Added BT SIG QDID for 2.5.0

Contents

List of Tables

1. Introduction

1.1. Document Scope

This document describes AirPrime BX310x firmware release BX310x.2.5.0-2.

1.2. Document Audience

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

1.3. New Features/Enhancements

Table 1. New Features/Enhancements

Feature	Description
Power Saving	Power saving optimization
BT Classic	Legacy pairing support

2. Abbreviations and Definitions

Table 2. Abbreviations and Definitions

Abbreviation/Acronym	Definitions
A2DP	Advanced Audio Distribution Profile
AVRCP	Audio/Video Remote Control Profile
BA	Broadcast Audio
BLE	Bluetooth® Low Energy
BR	Basic Rate
BT	Bluetooth®
EDR	Enhanced Data Rate
GPIO	Generic Programmable Input / Output
HFP	Hands-Free Profile
HID	Human Interface Device Profile
I/O	Input / Output
IAP	iPod Accessory Protocol
LED	Light-emitting diode
MAP	Message Access Profile
MFI	“Made for iPhone/iPod/iPad” license
PBAP	Phone Book Access Profile
SPP	Serial Port Profile
TWS	True Wireless Stereo
UART	Universal Asynchronous Receiver Transmitter

3. Related Documentation

Table 3. Related Documentation

Ref. #	Doc. #	Rev.	Document title
[1]	41111444	6.0	AirPrime BX310X Product Specification
[2]	41111445	1.0	AirPrime BX310X AT Command Guide
[3]	41112399	2.0	Customer Release Note for Firmware R2.0.0.201803141120.BX310x.1
[4]	41112440	1.0	Customer Release Note for Firmware R2.1.0.20180502101500.BX310x.1
[5]	41112615	2.0	Customer Release Note for Firmware R2.2.0.201807121327.BX310x.1
[6]	41112727	2.0	Customer Release Note for Firmware R2.3.0.201809061400.BX310x.1
[7]	41112820	1.0	Customer Release Note for Firmware R2.4.0.201810031030.BX310x.1

4. Compatibility

Table 4. Hardware Compatibility

AirPrime Compatibility List	
BX3100	: PV1 and onwards
BX3105	: PV1 and onwards

Table 5. Software Compatibility

Component	Version
FW	R1.3.1 and greater. Note: HW built with R1.3.1 requires UART Updater tool to update to P1.x and beyond. FOTA does not work on R1.3.1 to update to P1.x and later versions.

5. Software Release Description

5.1. Release Identification

Table 6. Firmware Release Information

Component	Version
Maturity / Maturity ID	BX310x Release Candidate 2.5.0-2
Date of generation	November 16, 2018
IMEI SV	NA
Baseline version	BX310x.2.5.0-2
Firmware images - file and identification information	BX310x.2.5.0-2

5.2. Software Tools Versions

Table 7. Software Tools Versions

S/W Tools Name	Version	Resource file
UART FW Updater Tool	06.18	BX310x FW Updater v2.zip

5.3. Download Procedure

5.3.1. UART Firmware Updater Tool

The UART firmware updater tool is available from https://source.sierrawireless.com/resources/airprime/software/bx310x-firmware-upgrade-tool/

This is the BX310x UART loader which enables you to flash new firmware onto a BX310x device. It is a command line tool built to run in Windows/DOS.

The procedure to use the tool is as follows.

1. Set GPIO27 high. This can be achieved by using a jumper between GPIO27 pin and 'PADS' pin.
2. Reset the board with the terminal emulator connected.

   This is the output you should get, notice the last line with "WSIH". This means the bootloader is in the correct mode.

   rst:0x1 (POWERON_RESET),boot:0x13 (SPI_FAST_FLASH_BOOT)

   configsip: 0, SPIWP:0xee

   clk_drv:0x00,q_drv:0x00,d_drv:0x00,cs0_drv:0x00,hd_drv:0x00,wp_drv:0x00

   mode:DIO, clock div:2

load:0x3fff80d0,len:4

load:0x3fff80d4,len:540

load:0x40078000,len:0

load:0x40078000,len:18412

entry 0x40078c2c

ÀWSIHÀ

3. Close the terminal emulator.
4. Run the command “BX31xxBlTest.exe comXX -v” (where XX is the com port number you would normally send AT commands over e.g. com12), any unrecognized commands will result in the help being output with all of the options. This will output the bootloader version.

   -v

   \\.\com12

   BC310x bootloader version 2.0.

If you get “the connection failed -50, try again”, it means that port is not ready, and this can be from windows not finished closing the port or initializing the port.

5. To download firmware you need to specify the -u switch (as given in the help output) and the appropriate firmware .bin file. E.g BX31xxBlTest.exe com12 -u BX310x.2.5.0-2.bin

   Status: 0x1, Percent: 0.000000, Bytes Written: 0

   Status: 0x2, Percent: 0.335570, Bytes Written: 4096

   Status: 0x2, Percent: 0.671141, Bytes Written: 8192

   Status: 0x2, Percent: 1.006711, Bytes Written: 12288

   Status: 0x2, Percent: 1.342282, Bytes Written: 16384

   .

   .

   .

   Status: 0x2, Percent: 98.993286, Bytes Written: 1208320

   Status: 0x2, Percent: 99.328857, Bytes Written: 1212416

   Status: 0x2, Percent: 99.664429, Bytes Written: 1216512

   Status: 0x2, Percent: 100.000000, Bytes Written: 1220608

   Status: 0x2, Percent: 100.000000, Bytes Written: 1220608

   Status: 0x4, Percent: 100.000000, Bytes Written: 1220608

   completed update with 0

5.3.2. AirVantage

5.3.2.1. AirVantage

Log into AirVantage and create an upgrade for the BX310x module. For more information, please refer to
https://source.sierrawireless.com/airvantage/fota/reference/monitor/howtos/upgradeAirPrimeFw/

5.3.2.2. Manual Wi-Fi scanning and connection

Connect the BX310x to WiFi with the following steps:

1. Connect to the module using UART and make sure the READY prompt has been displayed.
2. Configure the module in Station mode with the AT+SRWCFG=1 command.
3. Scan for access points using the AT+SRWSTASCN command.
4. Choose an Access Point and configure the station for connection: AT+SRWSTACFG=<ssid>,<password>.
5. Request a connection to the configred AP: AT+SRWSTACON=1.
6. After a few seconds, two new prompts will appear: +SRWSTASTATUS: 1,<ssid>,<ap_bsddid>,<ap_channel>,<ap_security_mode> and +SRWSTAIP: <local_ip>,<netmask>,<gateway_ip>
7. The connection has now been established.

5.3.2.3. Connect BX310x module to AirVantage

1. Enable device services indications: AT+WDSI=8191
2. Start a device services session: AT+WDSS=1,1

6. Software Changes Description

6.1. Validated Corrections/Improvements

Table 8. Validated Corrections/Improvements

ID	Description	Impacted Domain/Sub-Domain	Fixed in
BX310x-905	AT+KTCPCLOSE command, with <mode>=3 (secure client) - R2.3.0, only close_type=1 is authorized. - R2.4.0, only close_type=0 is authorized. - R2.5.0, both close types are authorized.	Network	2.5.0
BX310x-903	Not displaying error for +SRBLEADDCHARDESCR write command with invalid parameter <permissions>	Bluetooth Low Energy	2.5.0
BX310x-902	AT+SRBLEADDCHAR will accept invalid uuid values. The resulting created characteristic will have an undefined uuid value. AT+SRBLEADDCHAR will accept invalid permissions values. AT+SRBLEADDCHAR will accept invalid properties values.	Bluetooth Low Energy	2.5.0
BX310x-901	AT+SRBLEADDCHAR and AT+SRBLEADDCHARDESCR write commands will not output any answer if the <service_handle> parameter is invalid (either out of range or not related to an existing service).	Bluetooth Low Energy	2.5.0
BX310x-892	AT+SRBLEADDINCSERV documentation is not correct. Both primary and secondary services can include other services.	Bluetooth Low Energy	2.5.0
BX310x-891	AT+SRBLEDISCSERV will accept invalid uuid values. AT+SRBLEADDSERV will accept invalid uuid values. The resulting created service will have an undefined uuid value. AT+SRBLEADDCHAR will accept invalid uuid values. The resulting created characteristic will have an undefined uuid value. AT+SRBLEADDCHARDESCR will accept invalid uuid values. The resulting created characteristic descriptor will have an undefined uuid value.	Bluetooth Low Energy	2.5.0
BX310x-884	If BX support BC Smart Server and the remote device support BC Smart Client, then the remote device needs to register to notifications in order to receive them. If BX uses AT+SRBCSMARTSEND right after the connection establishment, OK will be returned even if the remote device has not yet registered to notifications.	Bluetooth Low Energy	2.5.0

ID	Description	Impacted Domain/Sub-Domain	Fixed in
BX310x-869	Data including non-ascii characters may be improperly printed in the +SRREMCMD response.	Bluetooth Low Energy	2.5.0
BX310x-864	The result of the first command issued after remote control is enabled will be preceded by "\0d\0aOK\0d\0a".	Bluetooth Low Energy	2.5.0
BX310x-847	Addition of Wifi STA DNS configuration AT command	Network	2.5.0
BX310x-833	KTCPCFG and KUDPCFG response format correction	Network	2.5.0
BX310x-809	Entering BC Smart data mode as a client will not return an error if the remote device does not support BC Smart data (server).	Bluetooth Low Energy	2.5.0
BX310x-767	Increase Web server stack size	Network	2.5.0
BX310x-716	AT+KPRIVKSTORE <nb_data> parameter should be optional.	Network	2.5.0
BX310x-532	AT+WDSS=1,1 will not return an error if the board has no bearer. It will try to connect, fail and output +WDSI notifications.	Network	2.5.0
BX310x-486	Cannot publish MQTT zero-length messages.	Network	2.5.0
BX310x-466	AT+KMQTTCFG does not check the validity of <server> parameter. Unsupported values may be accepted but will generate errors when trying to connect to the server.	Network	2.5.0
BX310x-428	AT+KHTTPSCFG does not check the validity of <http_server> parameter. Unsupported values may be accepted but will generate errors when trying to perform HTTP requests.	Network	2.5.0
BX310x-371	New format for +SRBLECONNPARAMS response	Bluetooth Low Energy	2.5.0
BX310x-251	AT+KTCPCLOSE does not close the connection.	Network	2.5.0

6.2. New AT Commands – Release 2.5.0

6.2.1. Wi-Fi STA DNS configuration (BX310x-847)

AT+SRWSTADNSCFG	Configures the DNS IP addresses for the station interface	
Commands	Write Command: AT+SRWSTADNSCFG=[dns_main][,[dns_backup][,dns_fallback]]	Read Command AT+SRWSTADNSCFG?
Response	OK --- ERROR	+SRWSTANETCFG: dns_main, dns_backup, dns_fallback OK
Parameters	• dns_main: DNS main IP address • Configuration value used in static mode (DHCP disabled) • dns_backup: DNS backup IP address	

	• Configuration value used in static mode (DHCP disabled)
	  • If the main DNS server is not available the backup DNS server will be tried
	• dns_fallback: DNS fallback IP address
	  • Configuration value used if no DNS servers are set via DHCP when a DHCP client is enabled in WIFI STA or ETH mode,	

Notes		
Example	AT+SRWSTADNSCFG="10.10.10.1","10.10.10.2","10.10.10.1" OK	AT+SRWSTADNSCFG? +SRWSTADNSCFG: "10.10.10.1","10.10.10.2","10.10.10.1" OK
Introduced in FW Revision	2.5.0	2.5.0
Modified in FW Revision	-	-

6.3. Modified AT Commands – Release 2.5.0

6.3.1. AT+KTCPCLOSE command (BX310x-905)

AT+KTCPCLOSE	**Close the specified TCP session.**
Commands	Write command: AT+KTCPCLOSE=<tcp_session_id>,<closing_type> Purpose: Close the specified TCP session.
Response	OK --- ERROR --- +CME_ERROR: <value> --- +KTCP_NOTIF: <tcp_session_id>,<tcp_notif>

Parameters	• <tcp_session_id> (TCP session ID)
	  • [1-64]: Unique integer value assigned to the session by AT+KTCPCFG
	• <closing_type> (Method used to close TCP session)
	  • 0: Fast closing of the TCP connection

	• 1: Complete close • <tcp_notif> (Connection failure cause) • 0: Network error • 1: No more sockets available; max. number already reached • 2: Memory problem • 3: DNS error • 4: TCP disconnection by the server or remote client • 5: TCP connection error • 6: Generic error • 7: Fail to accept client requests • 8: Data sending is OK, but +KTCPSND was waiting for more or fewer characters • 9: Bad session ID • 10: Session is already running • 11: All sessions are used
Note	
Example	AT+KTCPCLOSE=2,1 OK
Introduced in FW Revision	-
Modified in FW Revision	2.1.0, 2.3.0, 2.4.0, 2.5.0

6.3.2. AT+SRBLEADDINCSERV documentation is not correct (BX310x-892)

AT+SRBLEADDINCSERV	**Create an included service**
Commands	Write command: AT+SRBLEADDINCSERV=<including_service_handle>, <included_service_handle> Function to reference a service with handle <included_service_handle> from a service with handle <including_service_handle>. After this command, the service with handle <included_service_handle> will become an included service to the service with handle <including_service_handle>.
Response	OK --- ERROR
Parameters	<including_service_handle>: the handle of the including service in DECIMAL format <included_service_handle>: the handle of the service to be included in DECIMAL format
Note	Both primary and secondary services can included services. Both primary and secondary services can be included in services.

Example	*// add a primary service, and its returned handle is 50* AT+SRBLEADDSERV=1234 +SRBLEADDSERV: 50 OK --- *// add a non-primary service, and its returned handle is 150* AT+SRBLEADDSERV=6789,0 +SRBLEADDSERV: 150 OK --- *// add another primary service, and its returned handle is 250* AT+SRBLEADDSERV=2345,1 +SRBLEADDSERV: 250 OK --- *// include a non-primary service* AT+SRBLEADDINCSERV=50,150 OK --- *// include a primary service* AT+SRBLEADDINCSERV=50,250 OK
Introduced in FW Revision	-
Modified in FW Revision	2.5.0

6.3.3. New format for +SRBLECONNPARAMS response (BX310x-371)

AT+SRBLECONNPARAMS	**Update connection parameters**	
Commands	Write Command: AT+SRBLECONNPARAMS=<session_id>, <min_interval>, <max_interval>, <latency>, <timeout> Function: Update connection parameters.	Read command AT+SRBLECONNPARAMS? Function: Read connection parameters
Response	OK +SRBLECONNPARAMS: <session_id>,<conn_interval>,<latency>,timeout>	+SRBLECONNPARAMS: <session_id>,<conn_interval>,<latency>,timeout>

	ERROR +SRBLE_ERROR: <error>	+SRBLECONNPARAMS: <session_id>,<conn_interval>,<latency> ,timeout> ... OK or ERROR

Parameters	• <session_id>: the session_id of the peer device in DECIMAL format.
	• <min_interval>: Interval Minimum in DECIMAL format. Range from 6 to 3200. Shall be less than or equal to max_interval. Connection Interval Minimum (connIntervalMin) will be equal to Interval Minimum * 1.25 ms.
	• <max_interval>: Interval Maximum in DECIMAL format. Range from 6 to 3200. Shall be equal to or greater than min_interval. Connection Interval Maximum (connIntervalMax) will be equal to Interval Maximum * 1.25 ms.
	• <conn_interval>: the connection interval in DECIMAL format.
	  • 0: connection parameters have not yet been updated
	  • n egotiated connection interval
	• <slave_latency>: Slave Latency in DECIMAL format. Range from 0 to ((connSupervisionTimeout / (connIntervalMax*2)) - 1) and less than 500.
	• <timeout>: Timeout Multiplier in DECIMAL format. Range from 10 to 3200. Connection Timeout (connSupervisionTimeout) will be equal to Timeout Multiplier * 10 ms	

Note		
Example	*// Update connection parameters:* AT+SRBLEUPCONNPARAMS=1,32,64,0,400 +SRBLECONNPARAMS: 1,64,0,400 OK	*// Read connection parameters:* AT+SRBLEUPCONNPARAMS? +SRBLECONNPARAMS: 1,64,0,400 +SRBLECONNPARAMS: 2,12,0,600 OK
Introduced in FW Revision	-	-
Modified in FW Revision	2.0.0, 2.5.0	2.0.0, 2.5.0

+SRBLECONNPARAMS	The connection parameters update response indication
Notification	+SRBLECONNPARAMS: <session_id>,<conn_interval>,<latency>,timeout>
Parameters	• <session_id>: the session_id of the peer device in DECIMAL format. • <conn_interval>: the connection interval in DECIMAL format. Range from 6 to 3200. • <slave_latency>: Slave Latency in DECIMAL format. Range from 0 to ((connSupervisionTimeout / (connIntervalMax*2)) -1) and less than 500. • <timeout>: Timeout Multiplier in DECIMAL format. Range from 10 to 3200. Connection Timeout (connSupervisionTimeout) will be equal to Timeout Multiplier * 10 ms
Note	
Example	+SRBLECONNPARAMS: 1,64,0,400
Introduced in FW Revision	2.0.0
Modified in FW Revision	2.5.0

6.4. New AT Commands – Release 2.4.0

6.4.1. Legacy Pairing PIN Configuration (BX310x-546)

AT+SRBTCPINCFG	
Command	Write command: AT+SRBTCPINCFG=<type=0> AT+SRBTCPINCFG=<type=1>,<pin_code> Configure the legacy pairing pin feature
Response	OK ERROR
Parameters	• type ○ 0: Variable pin ▪ +SRBTCPIN notification will be displayed when a remote device request a pairing. The

	host can answer the request with AT+SRBTCPIN command. ○ 1: Fixed pin ▪ BX310x will automatically accept pairing requests from remote devices and answer them with the specified pin. • pin_code ○ Pin code value. Between 1 and 16 digits.
Notes	
Examples	AT+SRBTCPINCFG=1,1234 OK
Introduced in FW Revision	2.4.0
Modified in FW Revision	

AT+SRBTCPIN	
Command	Write command: AT+SRBTCPIN=<bluetooth_address>,<accept=0> AT+SRBTCPIN=<bluetooth_address>,<accept=1>,<pin_code> Reply to a legacy pairing request
Response	OK ERROR
Parameters	• bluetooth_address ○ Bluetooth address of the remote device • accept ○ 0: Deny the request ○ 1: Accept the request • pin_code ○ Pin code value. Between 1 and 16 digits.
Notes	
Examples	AT+SRBTCPIN="20:fa:bb:00:01:79",1,1234 OK
Introduced in FW Revision	2.4.0

Modified in FW Revision	

+SRBTCPIN	
Notification	+SRBTCPIN: <bluetooth_address> Legacy pairing request notification
Parameters	• bluetooth_address ○ Bluetooth address of the remote device
Notes	This request should be replied to with AT+SRBTCPIN
Examples	+SRBTCPIN: "20:fa:bb:00:01:79"
Introduced in FW Revision	2.4.0
Modified in FW Revision	

6.5. New AT Commands – Release R2.3.0

6.5.1. BT Power Saving (BX310x-638)

AT+SRBTPS		
Command	Write command: AT+SRBTPS=<state> Function to write enable BT Power Saving.	Read command: AT+SRBTPS? Function to read the state of the BT Power Saving.
Response	Write command: OK or ERROR	Read command: "+SRBTPS: <state>" OK or ERROR

Parameters	• state
	  ○ 0: OFF BT Power Saving
	  ○ 1: ON BT Power Saving	

Notes	Enable/Disable bluetooth to enter modem sleep	
Example	AT+SRBTPS=1 OK	AT+SRBTPS? +SRBTPS: 1 OK
Introduced in FW Revision	2.3.0	2.3.0
Modified in FW Revision	-	-

6.5.2. BT Transmit Power Setting (BX310x-656)

AT+SRBTCTXPWR	**Transmit Power**	
Command	Write command: AT+SRBTCTXPWR=<min_tx_power>, <max_tx_power>	Read command: AT+SRBTCTXPWR?
Response	OK --- Error	+SRBTCTXPWR=<min_tx_power>, <max_tx_power>

Parameters	• min_tx_power
	  ○ Minimum transmit power: 0-6 see values below
	• max_tx_power
	  ○ Minimum transmit power: 0-6 see values below
	
	Values
	• 0: -12dBm
	• 1: -9dBm
	• 2: -6dBm
	• 3: -3dBm
	• 4: 0dBm (Default min_tx_power)
	• 5: +3dBm (Default max_tx_power)
	• 6: +6dBm	

Notes		
Examples	AT+SRBTCTXPWR=4,5 OK	AT+SRBTCTXPWR? +SRBTCTXPWR: 4,5 OK
Introduced in FW Revision	2.3.0	2.3.0

Modified in FW Revision		

6.5.3. BLE Transmit Power Setting (BX310x-657)

AT+SRBLETXPWRCFG		
Commands	Write command: AT+SRBTCTXPWRCFG=<type>,<tx_power>	Read command: AT+SRBTCTXPWRCFG?
Response	OK ERROR	+SRBTCTXPWRCFG: 0,<tx_power> +SRBTCTXPWRCFG: 1,<tx_power> +SRBTCTXPWRCFG: 2,<tx_power> OK

• **Parameters**	• type
	  ○ 0 - Default
	  ○ 1 - Advertise
	  ○ 2 - Scan
	• tx_power
	  ○ 0: -12dBm
	  ○ 1: -9dBm
	  ○ 2: -6dBm
	  ○ 3: -3dBm
	  ○ 4: 0dBm
	  ○ 5: +3dBm
	  ○ 6: +6dBm	

Notes		
Examples	AT+SRBLETXPWRCFG=1,4 OK	AT+SRBTCTXPWRCFG? +SRBTCTXPWRCFG: 0,5 +SRBTCTXPWRCFG: 1,5 +SRBTCTXPWRCFG: 2,5 OK
Introduced in FW revision	2.3.0	2.3.0
Modified in FW revision		

AT+SRBLETXPWR		
Commands	Write command: AT+SRBLETXPWR=<session_id>, <tx_power>	Read command: AT+SRBLETXPWR?
Response	OK --- ERROR	+SRBLETXPWR=<session_id> ,<is_connected>, <tx_power> +SRBLETXPWR=<session_id> ,<is_connected>, <tx_power> ... OK

Parameters	• <session id>
	  ○ BLE session identifier in Decimal Format.
	• <is connected>:
	  ○ 0: Not connected
	  ○ 1: connected
	• tx_power
	  ○ 0: -12dBm
	  ○ 1: -9dBm
	  ○ 2: -6dBm
	  ○ 3: -3dBm
	  ○ 4: 0dBm
	  ○ 5: +3dBm
	  ○ 6: +6dBm	

Notes		
Example	AT+BLETXPWR=1,4 OK	AT+SRBLETXPWR? OK AT+SRBLECFG="00:11:22:aa:bb:cc" +SRBLECFG: 1,0,"00:11:22:aa:bb:cc",23 OK AT+SRBLETXPWR=1,5 AT+SRBLETXPWR? +SRBLETXPWR: 1,0,5 OK
Introduce in FW Revision	2.3.0	2.3.0
Modified in FW revision		

6.6. Modified AT Commands – Release 2.3.0

6.6.1. Implement TLS for TCP (BX310x-829)

Secure client (TLS) option 3 added to AT+KTCPCFG command. AT+KTCPCLOSE modified for fast closing of the TCP connection is not available if the session mode is 3=Secure TCP client.

AT+KTCPCFG	Set up (configure) a TCP session, or display the current configuration of all sessions	
Commands	Write command: AT+KTCPCFG=[<cnx_cnf>],<mode>[,<tcp_remote_address>[,<tcp_port>[,[<source_port>][,<data_mode>[,<URC_ENDTCP_enable>]]]]] Purpose: Set up (configure) a TCP session, or display the current configuration of all sessions.	Read command: AT+KTCPCFG? Purpose: Display the current configuration of all TCP connections.
Response	+KTCPCFG: <tcp_session_id> OK --- ERROR --- +CME_ERROR: <value>	+KTCPCFG: <tcp_session_id>,<status>,[<cnx_cnf>],<mode> [,<server_ID>],<tcp_remote_address>,<tcp_port>,[<source_port>], <data_mode>,<URC_ENDTCP_enable> ... OK

Parameters	• <cnx_cnf>: Not used
	• <tcp_session_id> (TCP session ID)
	  ○ [1-64]: Unique integer value assigned to a specific session
	• <mode> (BX310X module's TCP mode)
	  ○ 0: Client
	  ○ 1: Server
	  ○ 2: Child (Generated by server sockets)
	  ○ 3: Secure client (TLS)
	• <tcp_remote_address> (Remote TCP server's address)
	  ○ Format depends on <mode>.
	  ○ If <mode> is:
	  ▪ 0, 2: FQDN or IPv4 address
	  ▪ 1: Leave field blank (server configuration)
	• <tcp_port> (TCP port)
	  ○ [0-65535]
	  ○ Note: If <mode> is 0 (Client), this is the remote TCP server's port.
	• <status> (Connection state of the selected socket)
	  ○ 0: Disconnected
	  ○ 1: Connected	

	• <server_ID> (Server session ID index)
	  ○ Applies only for socket in <mode>=2 (Child)
	  ○ Integer
	• <source_port> (Local TCP client port number)
	  ○ for mode = 0
	  ▪ [0-65535] or blank. This feature is not supported and the value will be ignored.
	  ○ for mode = 1
	  ▪ value should be left blank
	• <data_mode> (URC display?)
	  ○ 0: (Not supported) Do not display <data> in URC
	  ○ 1: (Default) Display <data> in URC
	  ○ Note: For a child session, the <data_mode> will be the same as the server socket's setting.
	• <URC_ENDTCP_enable> (Display URC acknowledgement)
	  ○ 0: (Default): Do not display URC "+KTCP_ACK"
	  ○ 1: Display URC "+KTCP_ACK"
	  ○ Not used	

Note		
Example	*// Configure a server* AT+KTCPCFG=,1,,5005 +KTCPCFG: 1 OK *// Configure a client* AT+KTCPCFG=,0,192.168.100.183,5005 +KTCPCFG: 2 OK	AT+KTCPCFG? +KTCPCFG: 1,0,,1,"",5005,,1,0 +KTCPCFG: 2,0,,0,"192.168.100.100",5005,,1,0
Updated in FW Revision	2.2.0, 2.3.0	

7. Troubleshooting

Please contact customer service for support and debugging information.

8. Certification Description

The following table summarizes the certifications passed for this release.

Table 9. Certifications

Product	Version	QDID
BQB BX3100, BX3105	2.5.0	121580

9. Restrictions and Additional Information

This section presents additional information or restrictions that must be taken into account. Issues are sorted by order of ID.

Table 10. Restrictions and Additional Information

ID	Description (What/When)	Impacted Domain/Sub-Domain
BX310x-803	If +KMQTTDEL is used to deleted a MQTT session that has been configured but not connected, the module does not respond and has to be powered on and off to recover. +KMQTTDEL can be used with MQTT sessions that have been connected.	Network
BX310x-837	Enable/Disabling BT adds duplicate AT commands in the command list displayed by AT+CLAC	Common SW Features
BX310x-924	Wi-Fi Power Saving and Bluetooth cannot be enabled simultaneously	Wi-Fi
BX310x-969	Reboot when streaming audio with unsupported I2S port value 1	Bluetooth Classic A2DP
BX310x-970	AT+SRBLESCAN invalid value for duration parameter is accepted and scan is output continuously	Bluetooth Low Energy
BX310x-977	Missing comma in AT+KTCPREAD command if the session type is different from child: +KTCPCFG: 1,0,,3"192.168.100.1",443,,1,0 should be +KTCPCFG: 1,0,,3,"192.168.100.1",443,,1,0	Network
BX310x-985	AT+KTCPCFG wil report invalid <status> value for server and client connections. After session creation and before connection <status> will be 1 instead of 0.	Network
BX310x-992	If an HTTPS to a server returns a header of size greater than 1024 bytes, an error is returned.	Network
BX310x-999	MQTT repeatedly displays “ERROR” rather than specific indication if connection is lost, until AT+KMQTTCLOSE=1 command.	Network
BX310x-1000	An active MQTT session can be deleted without being closed previously.	Network
BX310x-1021	Cannot activate 2 BLE and 2 SPP connections concurrently	Bluetooth Classic SPP and Bluetooth Low Energy
BX310x-1022	BLE cannot connect to peripheral using random address	Bluetooth Low Energy
	Memory restrictions may not allow all features to be enabled and used simultaneously.	