Quanta LM17B Test Operation Guide

Version 0.1 Nov. 24, 2014 Robert

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0.0	Apr. 23, 2014	1 st Test Operation Guide Release
0.1	Nov. 24, 2014	2 nd Test Operation Guide Release

1. Introduction

This document gives the guidance on how to test Quanta devices.

2. Test Environment

Quanta LM17B device supports Windows XP, Windows Vista (32 bit), and Windows 7 (32 bit) operating system. It's recommended to install Quanta LM17B software in Windows 7 32-bit OS.

2.1. Uninstallation

In order to install latest version of software, uninstallation of previous version is required, including drivers, connection manager, and corresponding software tools.

2.1.1. Windows 7 (32 bit)

1. Please click

Start→Programs→Altair Semiconductor→LTE ALT3100→Uninstall

***LM17B needs to use ALT3800 package.

🍌 Altair Semiconductor
🕌 LTE ALT3100
ADCC
Connection Manager
💥 DbgView
MDM
M MsgView
Offline Logs Playback
C SmartCLI
Q Uninstall
🔐 HLVUSB
🍶 Internal Tools

2. Please click "Yes (Y)" button.



- 3. Please click "Uninstall" button.
- 4. Please wait a few seconds to complete uninstallation.

5. Please click "Close" button.

6. Please click "OK" button.



7. Please click

"Start→Programs→Altair Semiconductor→LTE ALT3100→LTEUSB→Uninstall".

- 8. Please click "YES (Y)" button.
- 9. Please reboot your computer after you have completed the uninstallation.

🕑 Uninstall	
Windows Installer	×
您確定要解除安曇	装這個產品嗎?
是(Y)	否则

2.2. Installation of drivers

2.2.1. Windows 7 (32 bit)

- Please double clicks on "Honeynut_HN_01_02_00_30_06_setup.exe" to start installation.
- 2. Please click "Next >" button.

The InstallShield(R) Wizard will install Altair Honeynut on your computer. To continue, click Next. WARNING: This program is protected by copyright law and international treaties. WARNING: This program is protected by copyright law and international treaties. Altair(Quanta) Tool Package v1.0.0 - InstallShield Wizard Ready to Install the Program The wizard is ready to begin installation. Click Install to begin the installation. Click Install to begin the installation. If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.

X

Welcome to the InstallShield Wizard for Altair

🗒 Altair Honeynut - InstallShield Wizard

Honeynut

- 3. Please click "Install" button.
- 4. It will take a few minutes to complete installation.

- 5. Please check "I accept the terms in the license agreement".
- 6. Please click "Next >" button.



< <u>B</u>ack

Install

Cancel

7. Please click "Next >" button.

Please click "Finish" button.



Next > Cancel

< <u>B</u>ack

Please click "Next >" button.

8.

- 9. Please check "I accept the terms in the license agreement".
- 10. Please click "Next >" button.

11. Please click "Install" button.

- 12. Please click "Continue to install driver anyway (I)".
- 13. Please click "Continue to install driver anyway (I)".
- 14. Please click "Continue to install driver anyway (I)".
- 15. Please click "Continue to install driver anyway (I)".



- 16. Please un-check "Launch "Hostless Image Burn"".
- 17. Please click "Finish" button to complete driver installation.

18. Please click "OK" button.

19. Please click "Finish" button.

- 20. Please plug in Quanta device and please be patient and wait a few minutes to complete driver installation.
- 21. Please click "Close (C)" button.
- 22. Please reset Quanta device (take out and plug in the usb cable), it will take about 50 seconds for Quanta embedded system to be ready.

Altair HLVUSB - InstallShiel	d Wizard
2	InstallShield Wizard Completed
	The InstallShield Wizard has successfully installed Altair HLVUSB. Click Finish to exit the wizard.
41	📄 Launch "Hostless Image Burn"
	< Back Einish Cancel
Altair(Quanta) Tool Pa	ckage v1.0.0 - InstallShield Wiz
Install Succ	essfully!
	確定
Altair(Quanta) Tool Packag	e v1.0.0 - InstallShield Wizard
3	InstallShield Wizard Completed
	The InstallShield Wizard has successfully installed Altair(Quanta) Tool Package v1.0.0. Click Finish to exit the wizard.
44.0	
	< Back Finish Cancel
裝置驅動程式軟體安裝不	成功
Gadget Serial (COM111) Multifunction Gadget with mu	tiple V····································
configurations Remote NDIS based Internet S	haring 🗸 己可使用
Gadget Serial (COM112)	✔己可使用
如何處理裝置未正確安裝的問題。	

23.

24.

25.

3. Operation of Connection Manager

3.1. Windows 7 (32 bit)

3.1.1. Basic Configuration

- In order to get information from our embedded connection manager, it's mandatory to configure as the following instructions.
- 2. Please click

Start→Programs→Altair Semiconductor→Honeynut→Connection Manager.

3. Please right click on top of connection manager and select

Options \rightarrow Device Location \rightarrow Open Platform.

- 4. Connection manager will pop out window for you to enter IP and port.
- 5. Please select VCom for card detection.
- 6. Please click "OK" button.



7. Please check if connection manager shows device information correctly and the red Altair logo turns into yellow color.



3.1.2. Extended Information

1. Please right click on top of connection manager and select

 $View \rightarrow Extended Information.$

- 2. Connection manager will pop out "Extended Information" window.
- 3. It's NOT mandatory to set up this "Configuration" tab, connection manager will scan all the supported frequency bands and try to connect to the network.



4. The "Extended Data" tab shows information of Connection Status, APN, Transmission mode, Bandwidth, DL EARFCN, Band, PLMN and Physical Cell ID and so on.

5. The "At Commands" tab will allow you to send AT Commands sets to configure supported functional parameters or to get supported information you want.

Configuration Exter Information Connection Status:				
Information Connection Status:	nded Data At C	Commar	nds	
Connection Status:				
	Not connec	cted		
#apn: 1 - PV4:	None			
íPV6:	None			
APN:	None			
Transmission mode:	None			
Band Width:	None			
DL EARFCN:	5230			
DL Frequency:	751.0 Mhz			
Band:	13			
PLMN:	None			
Physical Cell ID:	None			
RSRP:	0 dBm			
RSRQ:	0 dB			
SINR:	0 dB			
Connection Time:	00:00:00:0	0		
Activity				
Operator Limitation:	None	1	None	
Rx/Tx Rate:	Obp/s	1	Obo/s	
Received/Sent:	Ob	1	Ob	
onfiguration Exter	nded Data At C	Commar	ıds	
AT Command Pane				
5 at				
at				
OK				
3259-3425				

3.1.3. LTE Manager

1. Please right click on top of connection manager and select

View \rightarrow LTE Manager.

- 2. Connection manager will pop out a "Supervisor Password" window.
- 3. Please input "123456" and click "OK" button.
- 4. It will pop out a "LTE Manager" window.



5. LTE Manager shows information about GeneralInfo, LogCreator, Dispatcher, Relay, and GPS Tool.

3.1.4. Manual PLMN

1. Please right click on top of connection manager and select

Manual PLMN.

2. Connection manager will pop out a "Plmn Search" window.



3. It's not necessary for you to select PLMN manually if you want to connect to network.

Plmn Sear	ch	
	Select	Cancel

3.1.5. Change to Commercial Mode

1. Please right click on top of connection manager and select

"Change to Commercial Mode".

2. Connection manager will pop out a "User Mode Changed" dialog.

	SIM inserted	Manual PLMN	
\vdash	Service Area	Change to Commercial Mode	
Ц	Automatic PL	Options	•
H	G	Help Reset	•
Н	Connection Tim	Quit	

3. Please click "YES (Y)" button.

User Mode Change	d	
Card must be rest Do you wish to re	arted to complet start card?	e transition.
	是()	香(N)

4. Please wait a few seconds for device to be ready.

3.1.6. Disable Polling

1. Please right click on top of connection manager and select

"Options→Disable Polling".

2. Connection manager will stop searching for available network.

LTE - Technician SIM inserte Samina Arr	View Manual PLMN Change to Commercial I	Mode		
Automatic F	Options	•	Disable Polling	
Connection T:	Help Reset Quit	•	PIN Management Automatic Connect Mod Open New RB	• de
	a i r niconductor		Device Location Upgrade Image Device Mode	•

3.1.7. PIN Management

1. Please right click on top of connection manager and select

"Options \rightarrow PIN Management \rightarrow PIN Information" to get PIN information.

- 2. Connection manager will pop out "PIN Information" window.
- 3. Please click "OK" button.



PIN Inform	nation	Mindae Inc.	×
0	PIN is not in use PIN retry counte PUK retry count	e. er: 3 er: 10	
LTE - Technician P SIM inserted Service Area Conserving Tag Conserving Tag	View Manual PLMN Change to Commercial Mode Options Help Reset	Disable Polling PIN Management Automatic Connect Mode	確定 PIN Information Enable PIN Usage
	Quit i r sonductor	Open New RB Device Location Upgrade Image Device Mode	Change PIN Code
Pleas PI Er Re PI	se Enter PIN Cod N is currently locke nter a 4-8 digits for emaining retries: 3 N Code *****	le d d the SIM PIN DK Cance	

4. You also can enable PIN usage by right click on top of connection manager and select

"Options→PIN Management→Enable PIN Usage".

5. Please input correct PIN code and click "OK" button.

3.1.8. Automatic Connect Mode

1. Please right click on top of connection manager and select

"Options→Automatic Connect Mode" to switch connection manager from manual connect mode to automatic connect mode.

2. Connection manager will automatically connect to network.

SIM inserted Service Area	View Manual PLMN Change to Commercial Mode	2		
Automatic PL	Options	•	Disable Polling	
c	Help	•	PIN Management	×
	Reset		Automatic Connect Mode	
Connection 1im	Quit		Open New RB	
	i r		Device Location	×
00.00			Upgrade Image Device Mode	•

3.1.9. Device Location

- 1. For Quanta hostless device, please use "Technician PC" only.
- 2. Please right click on top of connection manager and select

"Options \rightarrow Device Location \rightarrow Technician PC".

- 3. Please set IP address to "10.0.0.1" and click "OK" button.
- 4. Connection manager will get information from Quanta hostless device.



3.1.10. Help

1. Please right click on top of connection manager and select

"Help→About".

- 2. Connection manager will pop out a "LTE Card Info" message box.
- 3. It will show information of IMSI number, IMEI number, Supported Bands, Current firmware version, and System package version.
- 4. Please click "OK" button.

5. Please right click on top of connection manager and select

"Help \rightarrow Show Versions".

- 6. Connection manager will pop out a "Version info" message box.
- 7. It will show information of System release version, SWInfra release version, and Current firmware version.
- 8. Please click "OK" button.



a (11)

View

Q LTE - Technician P

52

۲

確定

3.1.11. Reset

1. Please right click on top of connection manager and select

"Reset".

2. Connection manager will pop out a "" message box.

	Manual PLMN	
Device Not Fo	Change to Commercial Mode Options	•
Co	Help	ļ
	Reset	
Connection Time	Quit	

4. Diagnostic Tool

4.1. MsgView

1. Please open MsgView by clicking

Start→Programs→Altair Semiconductor→LTE ALT3100→MsgView.



- 2. Please click "Start Logging" button to start message logging.
- 3. Please plug in Quanta device and wait a few seconds for device to be ready.
- 4. Once you find an issue, please stop testing and data logging, please save log file and send it to Quanta.

C\ProgramData\\WinFormProject\1.0.0\Log>\20120928_112815_logfile.log* lessage Logging	
Timestamp L1A MAC RLC PDCP RRCPDM NAS	

4.2. DbgView

1. Please open DbgView by clicking

Start→Programs→Altair Semiconductor→LTE ALT3100→DbgView.

- Altair Semiconductor
 LTE ALT3100
 ADCC
 Connection Manager
 DbgView
 MDM
 MsgView
 Offline Logs Playback
 SmartCLI
 Uninstall
 HLVUSB
 Internal Tools
- 2. Please plug in Quanta device and wait a few seconds for device to be ready, and the DbgView will start data logging.
- 3. Please click "Save" button to save log to a file.
- 4. Once you find any issue, please stop testing and data logging, and please send this log file to Quanta.

243 U	ebugview on (M	(003)	
File	Edit Capture	Options Computer Help	
1	🖬 🗃 🛛 🔍	🥴 → 💐 🗗 💷 ① 🗢 🖳 🦊	
ŧ	Time	Debug Print	-
100 101 102	上午11:31:31 上午11:31:31 上午11:31:31	[8796] 1348803091, 127.0.0.1, UMAC, 2104626409, DEBUG," AT command received: anayIndex=59", at_cmd_paster.c, 184 [8796] 1348803091, 127.0.0.1, UMAC, 2104626991, INPO, "AT command response: [8796] +CEES: 0.0	
103 104 105	上午11:31:31 上午11:31:31 上午11:31:31	[8796] [8796] O.K. [8796] "a cond handless.c. 652	
106 107 108	王午113131 上午113131 上午113131	[8796] 1348803091, 127.0.01, UMAC, 2109105668, INFO, "AT command received: AT", at fsm_handless.c, 97 [8796] 1348803091, 127.0.01, UMAC, 2109106083, INFO, "AT command response: 1879610 K	
109 110 111 112	上午 11:31:31 上午 11:31:31 上午 11:31:31 上午 11:31:31	[3796] "a: cmd jandlens.c., 662. [3796] [34800004, 1270.01, UMAC, 2109255817, DRPU, "AT command received: AT+CFUN?", et.fsm.jandlens.c., 97 [3796] [34800004, 1270.01, UMAC, 210925450, DEBUG, "AT command received: anyEndem-55", at.cmd.janzer.c., 184 [3796] [34800004, 1270.01, UMAC, 21092700; DBPL 47, "Arronand received: anyEndem-55", at.cmd.janzer.c., 184	
113 114 115	主午 11:31:31 上午 11:31:31 上午 11:31:31	[2756] - 4770N-1 [2756] DX [2756] J, at card handlence, 652	
117 118 119	上午 11:31:31 上午 11:31:31 上午 11:31:31	[876] J4880009, [27001], UMAC, 210800998, [RFO, AI commands network: AIA-AG97, at Ism_matoless.c, 37 [8769] [14880099, [127001], UMAC, 210806908, [NFO, AI command response: any index=13", at_cmol_parsec.c, 184 [8796] - URAS0091, [127001], UMAC, 2109406768, [NFO, AI command response: [8796] - CREP, 0.0	
120 121 122	王午 11:31:31 上午 11:31:31 上午 11:31:31	[8766] [8796] O.K. (mod. handlers.c., 662.	
123 124 125	上午 11:31:31 上午 11:31:31 上午 11:31:31	[8786] 134803091, 127.0.0.1, UMAC, 210960339, INFO, "AT command received: AT-CGATT?", at fcm, landles c, 97 [8786] 134803091, 127.0.0.1, UMAC, 210960363, DEBUG," AT command received: anaylindes=27", at cmd pascer.c, 184 [8786] 134803091, 127.0.0.1, UMAC, 210960683, DEBUG, "Handling CGATT Exercised: Inter(*), at-cmd, landlesc, 4510	=
126 127 128	上午 11:31:31 上午 11:31:31 上午 11:31:31	[8796] U348800991, 127.0.01, UMAC, 2109603142, INFO, "AT command response: [8796] OGATT: 0 [8796] OK	
129	工十 [1515]	[8796] , at_cmd_handums.c, co2	
1212			

5. Firmware Upgrade

5.1. Image Burn Tool

1. Please click

Start→Programs→Altair Semiconductor→LTE ALT3100→HLVUSB→Image Burn Tool.

🍌 Altair Semiconductor	
📗 LTE ALT3100	
ADCC	
Connection Manager	
💥 DbgView	
M MsgView	
Offline Logs Playback	
C SmartCLI	
Q Uninstall	
👔 HLVUSB	
🔲 Image Burn Tool	
🔂 Uninstall	
🍶 Internal Tools	

- 2. Please check "U-Boot Env".
- 3. Please check "U-Boot".
- 4. Please check "Linux".
- 5. Please check "File System".
- 6. Please check "NVM".
- 7. Please click "Start" button to start firmware upgrade process.



8. Please click "YES (Y)" button.



- 9. It will show message "Waiting for device reset ...".
- 10. The easiest way to reset device is to power cycle device (i.e. to take out and plug in device).
- 11. If you are doing remote firmware upgrade process, please follow the following procedure to reset device.
- 12. Please open device manager and find network interface of Quanta device "Remote NDIS based Internet Sharing Device #".
- 13. Please disable this network interface by right click on it.
- 14. Please enable this device again.
- 15. Please find your Gadget Serial COM port number (for example, COM112).





- 16. Please open COM112 COM port (for example, open it by putty.exe)
- 17. Please select "Serial" as your "Connection type".
- 18. Please fill in "COM112" as your "Serial line".
- 19. Please click "Open" button to set up connection.

- 20. Please enter "at".
- 21. Please check if it responds with "OK".
- 22. Please enter "atz" AT command to reboot Quanta device.

- 23. After Quanta device reboots successfully, the "Image Burn Tool" will start to do firmware upgrade process.
- 24. Please make sure you Quanta device has finished the firmware upgrade process with "---- Finished ----".
- 25. Please close "Image Burn Tool".
- 26. Please take out and plug in Quanta device.



Page 27

Finished -----

- 27. In order to recover the original calibration data, please use ADCC tool.
- 28. After the device reboot successfully, please open "Altair Device Control Center" by clicking, Start→Programs→Altair Semiconductor→LTE ALT3100→ADCC.
- 29. Please click "Open Connection" and wait for a few minutes.
- 30. Please click "BSP DB" tab.
- 31. Please select "Boot Parameters (Boot Bp).
- 32. Please select "From File".
- 33. Please click Read DB and find the source DB and click "Open" button to read it.

- 34. Please click "Burn DB" button to start burning.
- 35. Please repeat this procedure to burn the other DBs.



6. OMA-DM

6.1. Mandatory Configuration

- 1. It's necessary to configure Quanta device with the following parameters before you start OMA-DM testing.
- 2. It's mandatory to configure Quanta device with the following parameters if your device is upgraded to new firmware.
- 3. Please make sure that the device is not connected to LTE network (i.e. offline from eNodeB) before you do any configuration.
- 4. Please open connection manager.
- 5. Please enter the following AT commands sequentially (Please refer section 3.1.2).

AT%SETCFG="enable_test_mode","0"

AT%SETCFG="vzw_mode","1"

AT%SETACFG=ecm.Mode.VzwMode,true

AT%SETACFG=ecm.Mode.VzwImsTestMode,false

- 6. Please check if it returns "OK".
- 7. Please confirm your configuration by entering the following AT commands sequentially.

AT%GETCFG="enable_test_mode"

(it shall be "0")

AT%GETCFG="vzw_mode"

(it shall be "1")

AT%GETACFG=ecm.Mode.VzwMode

(it shall be "true")

AT%GETACFG=ecm.Mode.VzwImsTestMode

(it shall be "false")

onfiguration Extended Data At Commands	
AT Command Pane	
> AT%SETCFG="enable_test_mode","0" OK	*
> AT%SETCFG="vzw_mode","1" OK	i i
> AT%SETACFG=ecm.Mode.VzwMode,true OK	
> AT%SETACFG=ecm.Mode.VzwImsTestMod OK	le,false
> AT%GETCFG="enable_test_mode" 0 OK	E
> AT%GETCFG="vzw_mode" 1 OK	
> AT%GETACFG=ecm.Mode.VzwMode true OK	
> AT%GETACFG=ecm.Mode.VzwImsTestMo false OK	de 🚽
	Send

6.2. How to Enable/Disable APN

- 1. Please make sure your device has disconnected from network.
- 2. If you would like to edit APN table, it's necessary to telnet to embedded connection manager. (Please refer to section 3.1.1)
- 3. Please open command console.
- 4. Please key in "telnet 10.0.0.1" and press enter.
- 5. If you failed to telnet 10.0.0.1, please manually set your IP address to 10.0.0.133.
- 6. After successfully telnet to 10.0.0.1, please key in "cat /etc/config/APNTable" and press enter.
- There are 4 APNs in table, and you can see its configurations, including NAME, IP_Type, P_CSCF and so on.

- 8. For example, if you would like to disable "VZWIMS" APN, please use the editor tool "vi" to edit this APNTable.
- 9. Therefore, please key in

"vi /etc/config/APNTable" and press enter.



10. Please move cursor to

Option Enabled "true"

11. Please modify this value to "false".

NOTE: If you are not familiar with vi commands, please refer to section 6.6 for more information.

- 12. Please enter "Shift+z" twice to save file.
- 13. Please key in

"cat /etc/config/APNTable" and press enter.

14. Please check if "VZWIMS" APN is disabled.

Option Enabled 'false'

- 15. Please enter "**reboot**" command to reboot device in order to take effect of the configuration.
- 16. You can also follow above procedures to enable/disable other APNs.

NOTE: Please make sure to reboot device in order to take effect of your setting.



6.3. How to Modify OMA-DM Server URL

- 1. Please make sure your device has disconnected from network.
- 2. If you would like to edit OMA-DM server URL, it's necessary to telnet to embedded connection manager. (Please refer to section 3.1.1)
- 3. Please open command console.
- 4. Please key in "telnet 10.0.0.1" and press enter.
- 5. If you failed to telnet 10.0.0.1, please manually set your IP address to 10.0.0.133.
- 6. Please key in

"vi etc/config/service" and press enter.

7. Please modify the server URL to

"ivzwmdmii.iot.motive.com"

- 8. Please enter "**Shift+z**" twice to save file.
- 9. Please key in "cat /etc/config/service" and check if the server URL is set up correctly.





10. Please key in

"vi etc/config/vdmc/tree-motive.xml"

and press enter.



- 11. Please key in "/https" to search the server URL.
- 12. Please modify the server URL to
- https://ivzwmdmii.iot.motive.com/southbound-con nector/dm

- 13. Please also check if port number is "443".
- 14. Please enter "Shift+z" twice to save file.

6.4. How to Online Enable/Disable Internet APN

- 1. Please check if your device has connected to LTE network successfully.
- 2. If you would like to online enable/disable "INTERNET" APN (see NOTE), it's necessary to enter specific AT command.

NOTE: Online enable/disable "INTERNET" APN means it's not mandatory to reboot device to take effect of "INTERNET" APN. Please note that this method is applicable to "INTERNET" APN only, and this configuration will be lost after device reboots.

Configuration	Extended Data At Commands	1
AT Comman	l Pane	
> AT OK > at%dpdnac OK	⊨0	
12		
at%dpdnact=	1	Send

 If you enter "at%dpdnact=0" to disable "INTERNET" APN, the LTE connection will be lost. On the contrary, if you enter "at%dpdnact=1" to enable "INTERNET" APN, device will reconnect to LTE network.

6.5. How to Enable/Disable OMA-DM log

- 1. Please make sure your device has disconnected from network.
- If you would like to enable/disable OMA-DM log, it's necessary to telnet to embedded connection manager. (Please refer to section 3.1.1)
- 3. Please open command console.
- 4. Please key in "telnet 10.0.0.1" and press enter.
- 5. If you failed to telnet 10.0.0.1, please manually set your IP address to 10.0.0.133.
- 6. Please key in

"vi etc/config/service" and press enter.

- 7. Please modify the value of DebugLevel to "debug".
- 8. Please enter "**Shift+z**" twice to save file.
- 9. Please enter "**reboot**" command to reboot device.

10. Please enter "cat /tmp/vdm.log" and check OMA-DM logs.







6.6. How to Use VI editor

Please google search "vi manual" or by clicking below URL directly. <u>http://glaciated.org/vi/</u>