

Quanta WiMAX Connection Manager Operator Guide

Version 1.1

Aug. 25, 2010



Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT NOTE:

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.



SAR compliance has been established in typical laptop computer(s) with USB slot, and product could be used in typical laptop computer with USB slot. Other application like handheld PC or similar device has not been verified and may not compliance with related RF exposure rule and such use shall be prohibited.

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Revision History

Version	Release Date	Description
1.1	Aug. 25, 2010	Based on WU202 to update the document.
1.0	Apr. 30, 2009	1 st User Guide Release



1. Introduction

The WiMAX dongle supports IEEE 802.16e-2005 state of the art Scalable OFDMA based Technology. It provides users a seamless broadband wireless access, video streaming at home, office or on the move. To protect information transmitting through wireless network, standard security Sublayer PKMv2 EAP based user authorization/authentication for data encryption is supported.

The following chapters will show you how to install the software package step by step.

1.1. Document Scope

This document has been written based on:

- WCM: 02.01.06
- OS: Windows 7 x86-based PC, English Version



2. Install and Un-install Windows Driver and Connection Manager

2.1.1. Un-installation of Windows Driver & Connection Manager

- 1. Please EXIT the WiMAX Connection Manager first.
- 2. Please click "Start ♣ All Programs ♣ WCM ♣ Uninstall WCM" to remove it.



2.1.2. Execute InstallShield Wizard

- 1. Please plug in WiMAX device into the laptop and execute InstallShield Wizard to install windows driver and connection manager.
- 2. Please click "**Next**" button.





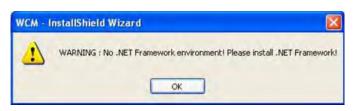
 If the laptop is off auto-install feature for security reasons, please open "CD Driver: WU202-GN..." and run "setup.exe".



4. Please click "**Install**" button to continue installation.

leady to Install the Program		
The wizard is ready to begin instal	llation.	
Click Install to begin the installatio	m.	
If you want to review or change a exit the wizard.	any of your installation settings	, click Back. Click Cancel to
taliShield		

- 5. WCM InstallShield will pop out a message if your laptop doesn't install .NET Framework.
- Please check if your Windows has .NET Framework 2.0 or plus, or WCM may not work properly.





7. Prepare to copy configuration file to C:\WiMAX.

Installing The proc	3 WCM gram features you selected are being installed.	2
ip	Please wait while the InstallShield Wizard installs W several minutes. Status:	CM. This may take
ataliShield -		

8. Windows will find new hardware and guide you to complete installation.



- 9. Please check "Always trust software from "Sequans Communications"." and click "Install" button to continue installation.
- 10. It may take a few minutes to complete driver installation.





- 11. After InstallShield Wizard has successfully installed WCM and driver, windows will prompt a message.
- 12. Click "**Finish**" button to finish InstallShield Wizard.
- 13. You can run the WCM from the WiMAX Connection Manager icon on desktop or run WCM from "Start * All Programs * WCM * WiMAX Connection Manager".

	InstallShield Wizard Completed
0	The InstallShield Wizard has successfully installed WCM. Click Finish to exit the wizard.
	-

2.1.3. Install with Second WiMAX device

- Each device is written with unique serial number in the flash, so windows will recognize each device as different one.
- Once you plug in the second device, Windows will pop out "Found New Hardware Wizard" and install driver automatically.

2.1.4. Upgrade WiMAX Connection Manager

- 1. This section will guide you how to upgrade to latest software package in client side.
- 2. Please make sure to plug in your WiMAX device first.
- Please execute InstallShield of new WCM, and click "Yes" button if you want to upgrade the WCM.

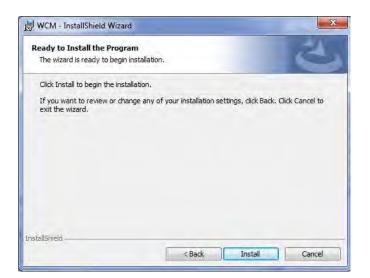




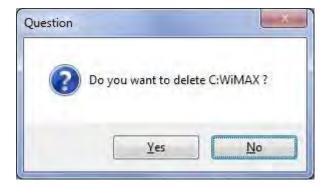
4. Click "**Next**" button to start installing WCM.

授 WCM - InstallShield Wizard	Resuming the InstallShield Wizard for WCM The InstallShield(R) Wizard will complete the installation of WCM on your computer. To continue, click Next.
	< Badt Next > Cancel

5. Click "**Install**" button to start install WCM.



It will pop out a Question window. If you want to keep the configuration settings, please click "No" button.





- It will show the message "Found USB/ PCIe Device".
- 8. It may take a few minutes to complete driver installation.

Installing The prog		you selected are being	installed.		2
i -	Please wait several minu Status: Driver Ins		Wizard installs \ / PICe Device .		/ take
nstallShield -			< Back	Next >	Cancel

9. Please click "**Finish**" button to exit the Wizard.





3. Configuration by WiMAX Connection Manager

1. Please open WiMAX Connection Manager firstly.

- Please move the mouse on the WCM and press "Ctrl + Alt + F9" to show the "Advanced" button for advance settings. Please click "Advanced" button and input the code "admin2".
- Once you switch to Advanced View, WCM will keep staying at Advanced View till you exit WCM or minimize to system tray.

WiMAX Connection	manayer	
	Scanning BS ID : N/A Operator Name : N/A IP Address : N/A Device Status : Plugged in	Signal Strength
Disconnect Mod	dem Off Account Info	Link Quality
WiMAX Connection	Manager	
	Scanning BS ID : N/A Operator Name : N/A IP Address : N/A Device Status : Plugged in	Signal Strength
Disconnect Mod	dem Off Account Info Advan	Link Quality
> Disconnect Mod	Advan	Lea J
dministrator	×	
Input Code :		
ОК	Cancel	



- 4. Please plug in WiMAX device and wait for WCM detects device.
- After WCM detects WiMAX device, you can start to set up the profile settings and EAP parameters.

10	Profile			
	a second second			[]
T	Profile Name	CI\WIMAX\WIMAXdicfg		Reset To Default
ofile	Auto Mode On	Off		
	Profile Security Setting			
-	PKM	None	•	NWG R1.0.0 NWG Draft
vice	Authentication	User Authentication	+	No Decoration
	EAP Method	TTLS	7	Save Setting
an				Reset
2				
ols	Please press "Save Sr System Setting	stling" button to take into accour	nt your changes.	

3.1. Connection Mode

3.1.1. Auto Mode

- If you have well setup frequency, bandwidth and the other EAP settings. Please keep the "Auto Mode" setting as "On" on "Profile" tab, this button will let device always try to automatically connect with BS.
- If "Auto Mode" is to "On" and the BSs information are listed in Pre-defined List or in History List on "Scan" tab, MS will automatically connect with BS.
- Please note that if you ever double clicked the NAP ID in the Base Station Scan List on "Scan" tab, it means you didn't want to automatically connect with BS and the "Auto Mode" will be "Off".

		CI WIMAX WIMAXE do	
	Profile Name	Service service services	Reset To Defaul
file	Auto Mode () On	Off Off	
2	Profile Security Setting PKM	None	NWG R1.0.
e	Authentication	User Authentication	 NWG Draft No Decorati
11	EAP Method	TTLS	- Save Setting
5			
tic			
SAMP.	Please press "Save Se System Setting	ting" button to take into account yo	vur changes.



 Please remember to keep the "Auto Mode" as "On" to let device automatically connect with BS.

3.2. Profile

The user profile "WiAMXd.cfg" is stored in the directory "C:\WiMAX\".

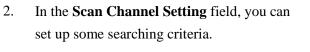
- Please plug in WiMAX device and wait for WCM detects device as depicted in the right screenshot.
- 2. When WCM detects WiMAX device, you can start to set up the EAP parameters.
- Please input all the information on "Profile" tab, including PKM, Authentication, EAP Method, NWG, Inner EAP, and so on.
- 4. Please click "**Save Setting**" button to save your setting.
- 5. You also can re-set the "**Operator Password**" for advance setting.

Profile			
Profile Name	C\\WiMAX\WiMAXd.cfg		Reset To Default
Arto Mode @ On	© Off		
Concernance and the			
PKM	None	*	() NWG R1.0.0
Authentication	User Authentication	+	 NWG Draft No Decoration
EAP Method	TTLS	+	Save Setting
			Reset
Please press "Save Se System Setting	tting" button to take into acco	unt your changes.	
	Auto Mode On Profile Security Setting PKM Authentication	Auto Mode On Off Profile Security Setting PKM None Authentication User Authentication	Auto Mode On Off Profile Security Setting PKM None User Authentication



3.2.1 Scanning Setting

1. Please click "**Scan Setting**" button to enter setting page.



- CINR Threshold filter: searching BS if and only if CINR is higher than specified value (dB). Minimum: -20, and maximum: 40.
- 4. **Period** setting: *Period* (0) which is initial period in second after which the terminal restart scanning procedure. Minimum: 0, and maximum: 255.
- 5. Retry setting: (n) configurable maximum value of the countdown procedure. Minimum: 0, and maximum: 50.

1		X Connection 6e Subscriber	
	Profile	oe subscriber	otation
0	Profile Name	C\WMAX.WiMAXd.dg	Reset To Default
file	Auto Mode @ On	O Off	
	Profile Security Setting		
2	PKM	None	NWG R1.0.0 NWG Draft
ce	Authentication	User Authentication	No Decoration
	EAP Method	TTLS	- Save Setting
n			Reset
stic			
Is	Please press "Save Se System Setting	stting" button to take into account your ch	anges.

Scan Parameters						
CINR Threshold	8	dB	Period		10 sec.	
Retry	30					
Center Frequenc	y List		Bandwidth		Frequenc	N.
Frequency Range	2.496~2.690 -	GHz	10000		2620000	,
Bandwidth	10000 -	KHZ	10000		2540500	
Frequency	2620000	KHz				
Add	Delete Clear	4)1				
Frequency Range	e List		Bandwidth	Step	Start Freq.	End Freq.
Frequency Range Frequency Range	e List 2.496 ~ 2.690 ▼	GHz	Bandwidth 10000	Step 500	Start Freq. 2600000	End Freq. 2620000
a concrete to the trace we						
Frequency Range	2.496 ~ 2.690 🔹	KHz				
Frequency Range Frequency Step	2.496 ~ 2.690 ▼ 500 ▼ 10000 ▼	KHz				
Frequency Range Frequency Step Bandwidth	2.496 ~ 2.690 • 500 • 10000 • 2600000 •	KHz KHz				



- 6. In the **Center Frequency List** field, you can set up some specified frequency you want.
- 7. **Frequency Range**: please select your target and frequency range according to what kind of WiMAX device you used.
- 8. **Bandwidth**: please select your preferred bandwidth in KHz. WCM supports mix-bandwidth scanning mechanism.
- 9. **Frequency**: please input your preferred frequency in KHz according to what kind of WiMAX device you used.
- 10. Please click **Add** button to add it into frequency list.
- Please select frequency from frequency list and click **Delete** button to remove it from the list.
- 12. You can click **Clear All** button to clear all setting of **Center Frequency List**.
- 13. In the **Frequency Range List** field, you can set up some specified frequency range you want.
- 14. **Frequency Range**: please select your target frequency range according to what kind of WiMAX device you used.
- 15. Frequency Step: please select increasing step.
- Bandwidth: please select your preferred bandwidth in KHz. WCM supports mix-bandwidth scanning mechanism.
- Start Frequency: please select starting frequency in KHz according to what kind of WiMAX device you used.
- End Frequency: please select ending frequency in KHz according to what kind of

Scan Parameters CINR Threshold Retry	8	dB	Period	10 sec.	
Center Frequency Frequency Range Bandwidth Frequency	2.496 ~ 2.690 ¥ 10000 ¥ 2620000	KHz	Bandwidth 10000 10000	Frequency 2620000 2540500	
Add	Delete Clear/	411	1		
Add Frequency Range		GHz	Bandwidth Ste	ip Start Freq. End Fre	eq.
Frequency Rang Frequency Range Frequency Step	e List	<u> </u>	Bandwidth Ste	ip Start Freq. End Fre	eq.
Frequency Range	e List 23~24 +	GHz	Bandwidth Ste	p Start Freq. End Fre	aq.
Frequency Rang Frequency Range Frequency Step	e List 2.3 ~ 2.4 = 500 =	GHz KHz	Bandwidth Ste	p Start Freq. End Fre	eq.
Frequency Rang Frequency Range Frequency Step Bandwidth	e List 23 - 24 500 - 10000 -	GHz KHz KHz	Bandwidth Ste	p Start Freq. End Fr	2q.

Scan Parameters						
CINR Threshold	8	dB	Period		10 sec.	
Retry	30					
Center Frequenc	cy List		Bandwidth		Frequenc	u.
Frequency Range	2.496~2.690 -	GHz	10000		2620000	,
Bandwidth	10000 -	KHZ	10000		2540500	
Frequency	2620000	KHz				
Add	Delete Clear A	() I				
Add Frequency Range		AII .	Bandwidth	Step	Start Freq.	End Freq.
		GHz	Bandwidth 10000	Step 500	Start Freq. 2600000	End Freq. 2620000
Frequency Range	e List			Constraint,		
 Frequency Range Frequency Range 	e List 2.496 ~ 2.690 ◆	GHz		Constraint,		
Frequency Range Frequency Range Frequency Step	e List 2.496 ~ 2.690 → 500 → 10000 →	GHz KHz		Constraint,		
Frequency Range Frequency Range Frequency Step Bandwidth	e List 2.496 ~ 2.690 + 500 + 10000 + 2600000 +	GHz KHz KHz		Constraint,		



WiMAX device you used.

- 19. Please click Add button to add it into frequency list. WCM supports maximum up to three sets of frequency range list.
- 20. Please select frequency from frequency list and click **Delete** button to remove it from the list.
- 21. You can click **Clear All** button to clear all setting of **Center Frequency List**.
- 22. If you have confirmed all your setting, please click **Save Setting** button.
- 23. This device will auto-reboot in order to make your settings become effective.



3.2.2. User Authentication

This section only guide you to connect with BS by User Authentication, for Device Authentication and User and Device Authentication, please refer to chapter 6.

- Please enable PKM by selecting the "PKMv2_EAP" option.
- Please select "User Authentication" as your authentication method. WCM will select EAP Method as "EAP-TTLS".
- 3. Please select inner EAP method, such as PAP, CHAP, MSCHAP and MSCHAPV2.
- 4. Please input postfix (Realm) of "Outer Identity".
- 5. Please load your CA Certificate.
- 6. Please input "User ID".
- 7. Please input "User Password".
- 8. Please select NWG spec as R1.0, Draft or No Decoration.
- 9. Please click "**Save Setting**" button to save all authentication settings.
- 10. If you want to reset to default setting, please click "**Reset**" button.
- Now, you can start connecting to BS successfully after setting scanning method through scan setting button as shown in <u>section 3.1</u>.

- 1	Profile			
10	Profile Name	C:\WiMAX\WiMAXd.cf	9	Reset To Default
ofile	Auto Mode O On	Off Off		
	Profile Security Setting	H 11		
2	РКМ	PKMv2_EAP	•	NWG R1.0.0
ce	Authentication	User Authentication	•	NWG Draft No Decoration
).	EAP Method	TTLS	÷	Save Setting
in	Inner EAP Method	MSCHAPv2	•	Reset
-	Outer Identity	OOI5AAS88X14WPIX	@ test.com	Generate
- 7-		Format : 128-bit random	ASCII characters @ F	Realm
ork	CA Certificate	1	-	
	User ID	quanta@test.com		Static Outer Identity
stic	User Password			
SUC	Postfix User ID	Provide Provid		
	1 000010			
ols				
	Please press "Save Se	tting" button to take into ac	count your changes	
	System Setting	and bountering and the bo	count your changes.	
	Operator Password		Save	Scan Setting

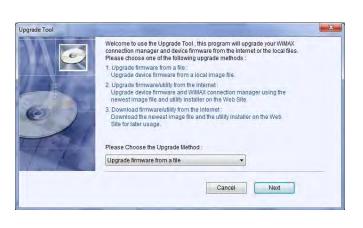


4. How to Upgrade F/W

- 1. This section will guide you how to upgrade the F/W of the device.
- 2. Please click "**Upgrade**" button on '**Tools**" tab to start the F/W upgrade wizard.

Tools CLI Command	Supplicant Log
Popup CLI Window	Show Supplicant Log
Show Sniffed Packet at Host	Device Script File Access
Show Sniffed Packet	ScriptAccess
Upgrade	Debug Tool
Upgrade	Debug Message
IOT	
0 Standard	Set
Debug Setting Debug Port: 1234	Inable debug messag
Debug IP 127 . 0 . 0	. 1 Save Debug Setting

3. Please choose "**Upgrade firmware from a file**", and then click "**Next**" button.





4. Click "**Read Firmware**" button to browse the new F/W file.

rmware Upgrade		
Firmware Upgrade Information		
New Firmware Version		Details
Current Firmware Version :	4.6.1.11 (22805) BFF-GN	Details
Upgrade Firmware File		
WU202_without_Bootcode_F	FwUpgVer_4.6.1.11-BFF-GN_A	uto-Load_20100811.bir
Upgrade Status : Ready Transport Status :	Sent file(s) / Tota	al file(s)
Transport Status :		
	Sent file(s) / Tota Burned file(s) / T	

- 5. Please browse the new F/W file and then click the "**Open**" button.
- 6. Please click "**Details**" button if you want to check the new F/W information.

	************	*************		******
Product Category	; USB			
Frequency Band	: 2.496 ~ 2.696	GHz		
Chipset Vendor	Sequans			
Chipset ID : SQN1	130 , RFIC ID :	MAX2839		
Flash Size +16 MB	, SDRAM Size	2:32 MB		
Software Feature :	Generic Softw	are		
Customer Code				
Serial No : N/A				
Version Number ;	67502347 , Fil	e Length : 3538393	bytes	
CRC Value : ad209	1c9 , Total : 5	file(s)		



 It will show the file name of new F/W in the window, then click "Start Upgrade" button to start upgrade procedure.

Firmware Upgrade Information	n	
New Firmware Version		Details
Current Firmware Version :	4.6.1.11 (22805) BFF-GN	Details
Upgrade Firmware File		
WU202_without_Bootcode	_FwUpgVer_4.6.1.11-BFF-GN_Aut	o-Load_20100811.bit
Inorade Status - Ready		
	8-15-(1) T-1-1	
Upgrade Status ; Ready Transport Status ;	Sent file(s) / Total	īle(s)
	Sent file(s) / Total Burned file(s) / Tot	
Fransport Status :		

8. The message is to notify you to start the upgrade procedure.

- 9. The device will auto reboot and then start to upgrade new F/W. Please don't power off device during the upgrade procedure.
- 10. In the upgrade procedure, the LED will display "Green Flashing" light
- 11. There are total 5 files to transport and burn to flash, it will take a few minutes to do this.

tify	
🕜 Do you want	t to start firmware upgrade procedure ?
	Yes No

Firmware Upgrade Information	n			
inon i minore referen	4.6.1.11		Γ	Details
Current Firmware Version :	4.6.1.11 (2	2805) BFF-GN	L	0.000
Upgrade Firmware File :				
WU202_without_Bootcode	_FwOpgver_4	1.0.1.11-BFF-GN	_AUTO-LOad	20100811.0
WARNING				
Do not power off device until the				time the st
		complete Loss o	T power du	ind the
upgrade process may cause de				
upgrade process may cause de				
upgrade process may cause de Jpgrade Status : Transmit		esponsive or to	require rep	air
upgrade process may cause de Jpgrade Status : Transmit			require rep	
upgrade process may cause de Upgrade Status ; Transmit		esponsive or to	require rep	air
upgrade process may cause de Jpgrade Status : Transmit Transport Status :		esponsive or to Sent file(s) / 1	require rep 'otal file(s)	air. 1/5
upgrade process may cause de Jpgrade Status : Transmit Fransport Status :		esponsive or to	require rep 'otal file(s)	air. 1/5
upgrade process may cause de Upgrade Status : Transmit Transport Status :		esponsive or to Sent file(s) / 1	require rep 'otal file(s)	air. 1/5
		esponsive or to Sent file(s) / 1	require rep 'otal file(s)	air. 1/5



- 12. After all files are burned success, the device will reboot automatically and display a successful message.
- 13. Please click "**Close**" button to exit the F/W upgrade wizard.



Firmware Upgrade Information		
New Firmware Version	4.6.1.11	Details
Current Firmware Version :	4.6.1.11 (22805) BFF-GN	Details
Upgrade Firmware File :		
WU202_without_Bootcode_	FwUpgVer_4.6.1.11-BFF-GN_Auto	-Load_20100811.bir
	upgrade is complete.Loss of pow vice to be unresponsive or to requi	
	vice to be unresponsive or to requi	
upgrade process may cause dev	vice to be unresponsive or to requi	re repair.
upgrade process may cause dev Jpgrade Status : Upgarde Succ Fransport Status :	vice to be unresponsive or to requi ressfully Sent file(s) / Total fi	re repair. le(s) 5/5
upgrade process may cause dev Jpgrade Status : Upgarde Succ	vice to be unresponsive or to requi	re repair. le(s) 5/5

14. Please click on "**Device**" tab to check if the F/W version is the same with new F/W version.

Device Open manually Device Device Information Product Category WiMAX USB Frequency Band 2.496-2.696GHz Hardware Serial Hardware Serial 8/U2024016 Chipset Vendor Software Feature Genetic Software MAC Address MAC Address 00:17:C4:01:01:15 Chipset ID Chipset ID SQN1130 RF IC MAV2839 SDRAM SIMes Ver. Submer Code GN Driver Ver. Customer Code GN Driver Ver. Calibrated Yes Library Ver. Utility Information 02,01.06 Version	Device Mode	Open automatically	_	Device reboot
Product Category WIMAX USB Frequency Band 2.496-2.696GHz Hardware Serial BIU202A016 Chipset Vendor Sequans Software Feature Generic Software MAC Address 00:17:C4.01:01:15 Chipset ID SQN1130 RF IC MAX2839 SDRAM 32MB SDRAM Customer Code GN Driver Ver. 6.1.2.24141 Calibrated Yes Utility Information	Device	Open manually	Device	Repoot De
Frequency Band 2.496-2.696GHz Hardware Serial 8IU202A016 Chipset Vendor Sequans Software Feature Generic Software MAC Address 0017/C4-01:01:15 Chipset ID SON1130 RF IC MAV2839 SDRAM 32MB SDRAM Customer Code GN Calibrated Yes Utility Information	Device Informati	on		
Hardware Serial 8IU202A016 Chipset Vendor Sequans Software Feature Generic Software MAC Address 00:17:C4:01:01:15 Chipset ID SQN1130 RF IC MAX2839 SDRAM 32MB SDRAM Firmware Ver. 4.6.1.11 (228 Customer Code GN Calibrated Yes Utility Information	Product Catego	ory WiMAX USB		
Chipset Vendor Sequans Software Feature Generic Software MAC Address 00:17:C4:01:01:15 Chipset ID SQN1130 RF IC MAX2839 SDRAM 32MB SDRAM Firmware Ver. 4.6.1.11 (228 Customer Code GN Calibrated Yes Utility Information	Frequency Ban	d 2.496~2.696GHz		
Software Feature Generic Software MAC Address 00:17:C4:01:01:15 Chipset ID SQN 1130 RF IC MAX2839 SDRAM 32MB SDRAM Firmware Ver. 4.6.1.11 (228 Customer Code GN Calibraited Yes Library Ver. 6.1.2.24141	Hardware Seria	al 8IU202A016		
MAC Address 00:17:C4:01:01:15 Chipset ID SQN1130 RF IC MAX2839 SDRAM 32MB SDRAM Firmware Ver. 4.6.1.11 (228 Customer Code GN Driver Ver. 6.1.2.24141 Calibrated Yes Library Ver. 6.1.2.24141	Chipset Vendo	r Sequans		
Chipset ID SQN1130 RF IC MAX2839 SDRAM 32MB SDRAM Firmware Ver. 4.6.1.11 (228 Customer Code GN Driver Ver. 6.1.2.24141 Calibrated Yes Library Ver. 6.1.2.24141 Utility Information	Software Featu	re Generic Software		
RF IC MAX2839 SDRAM 32MB SDRAM Firmware Ver. 4.6.1.11 (228 Customer Code GN Driver Ver. 6.1.2.24141 Calibrated Yes Library Ver. 6.1.2.24141 Utility Information	MAC Address	00:17:C4:01:01:15		
SDRAM 32/MB SDRAM Firmware Ver. 4.6.1.11 (228 Customer Code GN Driver Ver. 6.1.2.24141 Calibrated Yes Library Ver. 6.1.2.24141 Utility Information Ver. 1.2.24141	Chipset ID	SQN1130		
Customer Code GN Driver Ver. 5.1.2.24141 Calibrated Yes Library Ver. 5.1.2.24141 Utility Information	RFIC			
Calibrated Yes Library Ver. 5.1.2.24141 Utility Information	SDRAM	32MB SDRAM	Firmware Ver.	4.6.1.11 (228
Utility Information	Customer Cod	e GN	Driver Ver.	6.1.2.24141
	Calibrated	Yes	Library Ver.	6.1.2.24141
Utility Version 02.01.06	Utility Information	1 —		
	Utility Version	02.01.06		



5. Trouble Shooting

5.1. Why I can't detect my device?

- 1. If there is a yellow exclamation point on WiMAX Network Adapter, please re-install the driver from
- 2 C:\Program Files\WCM\Driver\USB.

Please check if you have installed software package successfully. If not, please uninstall WCM, reboot your

3 computer and reinstall it again.

Please check if LED function is OK on your device,

- I. if YES,
 - i. Please uninstall WCM
 - ii. Please reinstall software package again.
- II. if NO,
- 4. i. Please unplug and plug device and check it again.

Hibernation mode issue: In order to avoid an issue caused by Microsoft Vista when operating system recovers from hibernate mode, please update the hotfix provided by Microsoft website.

5. http://support.microsoft.com/kb/KB946723

Blue Screen issue: In order to avoid abnormal situation caused by Microsoft XP SP2, when user uses configure editor, please update the hotfix provided by Microsoft website.

5.2. Why I can't find any base station?

- 1. Please check if your BS is still alive or not?
- 2. Please check your bandwidth and frequency setting is correct.
- 3. If your setting is correct and you still can not find any BS, please reboot your computer and try it again.
- 4. If you still can't find BS, please report it and contact your support team.

5.3. Why I can't connect to base station?

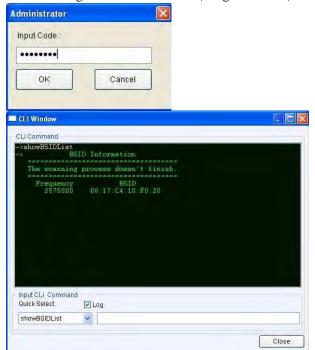
- 1. Please check if your BS is still alive or not?
- 2. Please check if WCM detects your device and LED function of device works.
- 3. If WCM can't detect your device, please refer to 5.1.
- 4. If WCM can detect your device and also find BS, but you can't connect to BS, please check if your profile setting is correct, including user ID, password, CA, and etc.
- 5. If you still can't connect to BS, please exit WCM and unplug and plug your device and try it again.
- 6. If you still can't connect to BS, please report it and contact your support team.



5.4. How to log debug information and report it?

Please open WCM and click on "Tools" tab. Q WiMAX Connection Manager (Advanced View) WiMAX Connection Manager 802.16e Subscriber Station Tools CLI Command Supplicant Log rofile Popup CLI Window Show Supplicant Log Show Sniffed Packet at Host Device Script File Access Device Show Sniffed Packet Script Access Scan Upgrade Debug Tool Debug Message Upgrade Network IOT 0 Standard Set Statistic Debug Setting 🛛 Enable debug messag 1234 Debug Port: Tools Save Debug Setting Debug IP 127 . 0 . 0 . 1 Device : Plugged in 0perational ((و)) Utility Version 02.01.06

- 1. For CLI window:
 - I. Please click "Popup CLI window" button and input the administrator code "22822281".
 - II. You can run the CLI command and get the response in this window.
 - III. The log file is stored in "C:\Program Files\WCM\WiMAXlog.txt".





2. For Debug Message

I. Please click "**Debug Message**" button that will pop out another window to have scanning, network link status and EAP log.



Please check application type and message level you want to filter messages. You can click "**Pause**", "**Start**", "**Clear**", "**Save As**", and "**Load**" button to control tracking messages.

5.5. What does LED activity mean?

The different state information for WU series is as follows:

1. USB dongle:



Device Activity	LED Status
Initialized	Green
Firmware Upgrade	Green (Flashing)
No Connection	Green
Normal Operation	Blue



6. Appendix

6.1. Create Device Information *.IFO file

- If you would like to set up a WCM with security, especially Device Authentication and User + Device Authentication, please use WCM to generate the Device Authentication Information file firstly.
- WCM will import all your necessary certificates and generate a file named *.ifo format.
- Please enable PKM by selecting PKMv2_EAP.
- 4. Please select "**Device Authentication**" as your authentication method.
- Please choose "Host PC" item and click "Create New" button from "Get Device Authentication Information File from..." field.
- 6. Please select your Certificate files.

CA Certificate file

Device Certificate file

Private Key Certificate file

- Enter your Key Password. If there is no password for authentication, please keep it empty.
- Select the directory you want to place the
 *.IFO file. Please choose "Host PC" item.
 "WiMAX Device" item is for feature.
- 9. Click "Make" button to generate *.ifo file.
- 10. You have created **Device Authentication Information File** successfully.



	Make device authentication information file	
efter of	Device authentication Information Setting	
	CA Certificate	
-	Device Certificate	
him	Private Key Certificate	
5	Key Password	
	Make device authentication information file to	
	Make device authentication information file to –	
		Make
	WIMAX Device	Make
	WIMAX Device Host PC	
	WIMAX Device Host PC Save as	
	WIMAX Device Host PC Save as	the Device



6.2. Device Authentication

- Please follow <u>section 6.1</u> to create Device Authentication Information File before you set up device authentication.
- 2. Please enable PKM by selecting the "**PKMv2_EAP**" option.
- Please select "Device Authentication" as your authentication method. WCM will select EAP Method as "EAP-TLS".
- 4. Please check the "**Outer Identity**", it should be "**0017C4**XXXXX".
- 0017C4XXXXXX is the MAC address of your device. Please type ipconfig/all in the DOS command window to check whether it matches your MAC address or not.
- 6. Please input postfix (Realm) of "Outer Identity".
- 7. Please load your CA Certificate.
- 8. Please load your Device Authentication Information File from your local hard disk.
- 9. You can click "**Create New**" button to create new one used for device authentication.
- Please select NWG spec as R1.0 or Draft or No Decoration.
- 11. Please click "**Save Setting**" button to save all authentication settings.
- 12. If you want to reset to default setting, please click "**Reset**" button.
- 13. If the "Outer Identity" is empty, please exit this WCM and take out your WiMAX device.
- 14. You must plug in your WiMAX device firstly

	6e Subscriber St	ation
Profile		
Profile Name	C:\WiMAX\WiMAXd.cfg	Reset To Default
Auto Mode (@) On	O Off	
Profile Security Setting		
РКМ	PKMv2_EAP -	NWG R1.0.0
Authentication	Device Authentication	No Decoration
EAP Method	TLS +	Save Setting
Inner EAP Method	None -	Reset
Outer Identity	0017C4010115 @	
	Format : WiMAX MAC address @ Realm	
CA Certificate		(
	tication Information File from	
WIMAX Device	-	Create New
	etting" button to take into account your changes	B.
Please press "Save S System Setting Operator Password	•••••• Save	Scan Setting



before you configure device authentication, otherwise WCM can NOT detect and get your device MAC address and can NOT put its MAC address as outer identity for device authentication.

- 15. Once you have plugged in your WiMAX device, please open WCM and wait for 5 seconds for WCM to initialize your device and get MAC address. Then you can start to configure device authentication.
- 16. Now, you can connect to base station successfully.

6.3. User and Device Authentication

- Please follow section 6.1 and section 6.2 to create Device Authentication Information File before you set up user and device authentication.
- Please enable PKM by selecting the "PKMv2_EAP" option.
- Please select "User and Device Authentication" as your authentication method. WCM will select EAP Method as "EAP-TTLS"
- 4. Please select Inner EAP, such as PAP, CHAP, MSCHAP and MSCHAPV2.
- 5. Please input postfix (Realm) of "Outer Identity".
- 6. Please load your CA Certificate.
- 7. Please input "User ID".
- 8. Please input "User Password".
- 9. Please load your Device Authentication

		A CONTRACTOR OF
Profile Profile Name	C:\WiMAX\WiMAXd.cfg	
Profile Name	C. WIMAA WIMAAD.crg	Reset To Default
ile Auto Mode @ On	Off Off	
Profile Security Setting		O NWG 810.0
PKM	PKMv2_EAP	NWG R1.0.0 NWG Draft
Authentication	User and Device Authentication	 No Decoration
EAP Method	TTLS	- Save Setting
Inner EAP Method	MSCHAPv2	Reset
Outer Identity	0017C4010115 @ test.c	
	Format : WiMAX MAC address @ Realm	
CA Certificate		
User ID	quanta@test.com	
User Password		-
Postfix User ID		
Get Device Authent	ication Information File from	
S WIMAX Device	Host PC	Create New
Planas proce "Cours C	etting" button to take into account your change	95.
System Setting		6



Quanta Computer Inc.

Information File from you local hard disk.

- 10. You can click "**Create New**" button to create new one used for device authentication.
- Please select NWG spec as R1.0 or Draft or No Decoration.
- 12. Please click "**Save Setting**" button to save all authentication settings.
- 13. If you want to reset to default setting, please click "**Reset**" button.
- 14. If the "Outer Identity" is empty, please exit this WCM and take out your WiMAX device.
- 15. You must plug in your WiMAX device firstly before you configure device authentication, otherwise WCM can NOT detect and get your device MAC address and can NOT put its MAC address as outer identity for device authentication.
- 16. Once you have plugged in your WiMAX device, please open WCM and wait for 5 seconds for WCM to initialize your device and get MAC address. Then you can start to configure device authentication.
- 17. Now, you can connect to base station successfully.

6.4. Functional Button

The following Configuration File parameters affect the WCM behavior.



6.4.1. Profile

- 1. **"Auto Mode**" On/Off, select on to enable automatic connection.
- 2. "**NWG R1.0.0**" option, use decoration with the format {am=1} preceding outer identity.
- 3. **"NWG Draft**" option, use decoration with the format {1} preceding outer identity.
- 4. "**No Decoration**" option, use no decoration preceding outer identity.
- 5. "**Save Setting**" button, click to save current setting into active profile.
- 6. "**Reset**" button, click to reset current setting to default.
- 7. "Generate" button, click to generate random outer identity.
- 8. "**Static Outer Identity**" option, check it to use static outer identity as user defined one.
- 9. "**Save**" button, click to save operator password once you change it.
- 10. "**Scan Setting**" button, click to open scan setting.

/		X Connection 6e Subscriber	
Г	Profile		and the second s
9	Profile Name	C:\WiMAX\WiMAXd.cfg	Reset To Default
	Auto Mode (@) On	O Off	
1	Profile Security Setting		
L	РКМ	PKMv2_EAP	 NWG R1.0.0 NWG Draft
ł	Authentication	User Authentication	No Decoration
	EAP Method	TTLS	← Save Setting
	Inner EAP Method	MSCHAPv2	▼ Reset
	Outer Identity	IU5HIAG7NTH66V7R @ te	st.com Generate
		Format : 128-bit random ASCII characte	ers @ Realm
	CA Certificate		
L	User ID	quanta@test.com	Static Outer Identi
	User Password	••••	
	Postfix User ID	<u> </u>	
L			
L	Please press "Save Se	atting" button to take into account your cha	andes
L.	System Setting		algoe.
ι.	Operator Password	••••• Save	Scan Setting



6.4.2. Scan

- "Disconnect" button, click it to disconnect with current base station. If your WCM is in "Auto Mode On" state, WCM will reconnect to BS automatically. This action of "Disconnect" button will not cause WCM to switch off Auto Mode.
- "Scan Base Station" button, click it to do manual scanning. This function is valid if and only if you switch "Auto Mode" off.
- 3. "**Start/Stop**" button, click it to start/stop the WiMAX RF.
- 4. "**Operator Allowed List**" button, click it to add, delete, and clear allowed operator list.
- 5. "Add" button, click it to add new operator ID into allowed list.
- 6. "**Clear All**" button, click it to clear all allowed list.
- 7. "**Load Default**" button, click it to load default allowed list.
- 8. **"Save Setting**" button, click it to save current operator allowed list.
- 9. "Close" button, click it to close current window.

Ех.,

Target BS group1 (HEX format)

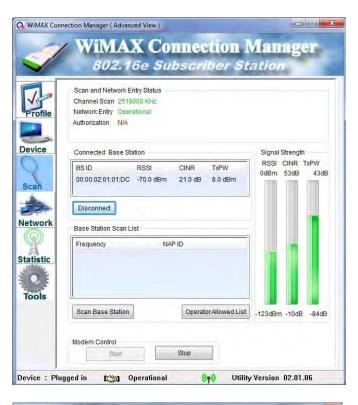
00:00:17:10:21:14

00:00:17:10:21:15

00:00:17:10:21:16

00:00:17:10:21:17

So, you can define the Start Operator ID and mask1



Operator Allowed List			Operator		History List		
Clear All Load Detault			Custom	-	Clear Ad	with a	
Operator Hame Operator D	Wask	Frequency	Operator Name Frequency (KHz)		Frequency 2518000	Operator (D 00:00:02:01:01 DC	Waak FF SP FF SP FF SF
	Bave Se	eng Closs	Adq	1			



Start Operator ID = 00:00:17:10:21:14

mask1 = FF:FF:FF:FF:FF:FC

Target BS group2 (HEX format)

00:00:18:10:11:11

as

00:00:18:10:xx:yy

So, you can define the Start Operator ID and mask2 as

Start Operator ID = 00:00:18:10:11:11

mask2 = FF:FF:FF:FF:00:00

6.4.3. Network

- 1. "**IP Release**" button, click it to release current IP address.
- 2. "**IP Renew**" button, click it to renew the lease time of current IP address.

NOTICE:

IP release/renew buttons are for you to manually release/renew IP address. Basically, you don't need to do that, unless MS can not release/renew IP address. However if MS enters network entry and gets IP address successfully. Once if you click IP release button, BS will deregister MS and force MS to do network entry procedure.





6.4.4. Statistic

1. "Service Flow Refresh" button, click it to refresh the status of service flow.

FFT Size Preamble Index Cell ID DC Max RSSI Frequency BWR backoff start BWR backoff end	1024 0 -99.00 dBm 2518000 KHz
Preamble Index Cell ID DC Max RSSI Frequency BWR backoff start	0 0 -99.00 dBm 2518000 KHz
Cell ID Cell ID Cell RSSI Frequency BWR backoff start	0 -99.00 dBm 2518000 KHz
DC Max RSSI Frequency BWR backoff start	-99.00 dBm 2518000 KHz
Frequency BWR backoff start	2518000 KHz
Frequency BWR backoff start	2518000 KHz
Frequency BWR backoff start	2518000 KHz
BWR backoff start	
BWR backoff end	0
	4
BWR code qty	21
	7
	1
FE FF FF FF	
PHY UL MCS OPSK	(CTC) 1/2
Time D	irection 🔶
1100 01	
	L/UL
E Basic Di	
E Basic Di	L/UL
	I-RNG code qty P-RNG code qty FFFFFFFF PHY UL MCS QPSK Type D

6.4.5. Tools

- 1. **"Popup CLI Window**" button, click it to show a CLI window for CLI commands.
- 2. **"Upgrade**" button, click it to open upgrade wizard.
- "Debug Message" button, click it to open Debug Message window.
- 4. **IOT** block, set IOT mode for different BS.
- 5. **Debug Setting** block:

Debug Port: UDP port "1234"

Debug IP: IP address "127.0.0.1".

Enable debug message: Enable to show the debug messages in Debug Message tool.

Save Debug Setting: Save the debug settings.

	Tools	
5	CLI Command	Supplicant Log
ofile	Popup CLI Window	Show Supplicant Log
ice	Show Sniffed Packet at Host	Device Script File Access
)	Show Sniffed Packet	ScriptAccess
an	Upgrade	Debug Tool
	Upgrade	Debug Message
vork	от	
stic	0 Standard	Set
-	Debug Setting	
	Debug Port: 1234	Enable debug messag
ols	Debug IP 127 . 0 . 0	1 Save Debug Setting