WM5030-OD WiMAX Outdoor Modem

Quick Installation Guide



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# 1. UNPACK THE OUTDOOR MODEM

The following figure lists the items shipped with WM5030OD outdoor modem:

- 1. PoE Adapter: Qty 1
- 2. 1.5 M 8P4C gray Ethernet cable (between computer and PoE): Qty 1
- 3. 1 M 8P8C white Ethernet cable (between PoE and Modem) <sup>note</sup>: Qty 1
- 4. Quick Installation Guide: Qty 1
- 5. WM5030-OD outdoor modem: Qty 1
- 6. Mounting kit: Qty 1
- 7. RJ45 connector water sealing plug: Qty 1
- 8. CD-ROM: Qty 1
- 9. 1.5M Power Cable for PoE Adapter: Qty 1
- 10. Warranty Card : Qty 1

Note: The length of Ethernet cable required connecting outdoor modem and PoE adapter pending on

actual installation requirements, and it is thus not provided. The cable provided is for configuration or

testing purpose only - not for installation purpose.



Figure 1. WM5030 Outdoor Modem Package Contents

# 2. MAKING CONNECTIONS

In order to configure WM5030 outdoor modem, please take the following steps:

- Connect the white Ethernet cable between the RJ-45 connector located at the bottom of the outdoor modem and the "Data & Power Out" port of PoE adapter.
- 2. Connect the gray Ethernet cable between the "data in" port of the PoE adapter and your personal computer.
- 3. Plug the PoE adapter power cable to power outlet
- 4. Plug the OMK (Outdoor modem Monitoring Kit) to OMK connector



Figure 2. Typical Installation Diagram

# 3. OMK

OMK (Outdoor modem Monitoring Kit) is a convenient tool for technician during installation, testing and maintenance for WM5030-OD. It is designed for easy carrying and an excellent tool to display radio quality for technician to adjust orientation and tilt of WM5030-OD for best reception from WiMAX base station. OMK features include:

CINR signal quality

Power indicator

Reset to factory default

Link status



Figure 3. OMK

	Color					Function				
WiMAX	Green	CINR	31 ≥	29 >	27 >	24 >	20 >	15 >	10 >	CINR
Signal		>	$\text{CINR} \geq$	CINR ≥	CINR ≥	$\text{CINR} \geq$	CINR ≥	CINR ≥	CINR ≥	< 5dBm
Indicator		31dBm	29dBm	27dBm	24dBm	20dBm	15dBm	10dBm	5dBm	
Saturate	Red	RSSI > -2	0dBm: ON	(saturate)						
LED										
WiMAX	Green	Operatior	nal: ON							
Link		Not in operation: OFF								
LED										
Power	Green	Power-on	: ON, Pow	er-off: OFF						
LED										
Reset		Push and	Push and hold for 20 seconds will reset WM5030-OD to factory default							
Button										

Table 1: Definitions of OMK LED

# 4. NETWORK CONFIGURATION

### 4.1 Setup your computer to configure WM5030-OD

- Step 1: Complete prior section 2 to connect your computer and WM5030OD.
- Step 2: Make sure the power indicator on Modem is on.
- Step 3: Find your "Network Connections" setting in "Control Panel"
- Step 4: In your "Network Connections", right click "Local Area Connection", and then select

"Properties". (Ref. Figure 4)



Figure 4. Local Area Connection Property

Step 5: A dialog that contains properties of this network connection appears as below. Please select "Internet

Protocol (TCP/IP)" and click "OK" (Ref. Figure 5)

🕹 Local Area Connection Properties 🛛 🔹 💽
General Authentication Advanced
Connect using:
Wware Accelerated AMD PCNet Adapter
Configure This connection uses the following items:
☑         Elert for Microsoft Networks           ☑         ➡         File and Printer Sharing for Microsoft Networks           ☑         ➡         Old Stacket Scheduler           ☑         ➡         Internet Protocol (TCP/IP)
Install Uninstall Properties Description Description
Protocol/Internet Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.
Show icon in notification area when connected
OK Cancel

#### Figure 5. TCP/IP

Step 6: Enter 192.168.111.100 into IP address and 255.255.255.0 into Subnet mask, and click "OK".

(INCL. I Igule 0	(Ref.	Figure	6)
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Internet Protocol (TCP/IP) Properties				
General				
You can get IP settings assigned autor this capability. Otherwise, you need to a the appropriate IP settings.	natically if your network supports ask your network administrator for			
🔘 Obtain an IP address automaticall	y			
💿 Use the following IP address: —				
IP address:	192 . 168 . 111 . 100			
Subnet mask:	255.255.255.0			
Default gateway:	· · ·			
Obtain DNS server address automatically				
• Use the following DNS server addresses:				
Preferred DNS server:				
Alternate DNS server:	· · ·			
	Advanced			
	OK Cancel			

Figure 6. IP Configuration

Step 7: Enter the IP address (default is 192.168.111.113) of WiMAX modem into Web Browser. A dialog Box will pop out to request for user login information (Ref. Figure 7). Please enter management username/password into the required fields, then click "Apply" to continue. The username/password for outdoor modem technical installer is isp/isp. After successfully log in, WM5030-OD home page is displayed.

semane	
assword	

Figure 7. Login

Note: For subscriber, the default username/password is subscriber/ subscriber with limited control features.

## 4.2 Making Connection to WiMAX Network

Step 1: Press "Disconnect" button. If user is already connected to WiMAX network, then new channel cannot

be added to the scan list (Ref. Figure 8)

Restore Default Configuration <u>Reset Factory</u> Default
RECONNECT
DISCONNECT
Rehont

Figure 8. Disconnect before Scanning

Step 2: Type in the central frequency of the WiMAX operator, and select the correct bandwidth to add new

frequency to the scan list (	(Ref. Figure 9).
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Add to Scanning List					
Frequency	3595000				
Bandwidth	10 MHz 💌				
Duration	5ms 🗸				
Id	2				
Apply	Cancel				
Id Frequency (KHz)	Bandwidth (KHz)	Duration(us)	Enabled		
1 3575000	10000	5000	Yes		
2 3595000	10000 5000 Yes				
Delete					

### Figure 9. Add Operator Central Frequency to Scan List

Note: A channel cannot be added when WiMAX modem is scanning. Press "Disconnect" to stop.

Step 3. To use the authentication feature, user must provide security settings. Please first select

"Authentication" at the right of the modem home page. If operator requires TLS setting, please follow

steps 4-A. If operator requires TTLS, then please follow step 4-B (Ref. Figure 10).

Authentication Settings	
Enable Authentication     Apply	

#### Figure 10. Choose TLS or TTLS for Authentication

Note: The factory default Authentication setting is "None".

Step 4-A: Please locate the proper CA Certificate file, User Certificate file and Decryption Key file to upload to

WM5030-OD. Please contact your WiMAX operator for Password of Decryption Key file. Please

also type in account ID and password (Ref. Figure 11).

TLS	
Root Certificate:	Browse Upload
User Certificate:	Browse Upload
User Key:	Browse Upload
<ul> <li>Enable Root Certificate</li> <li>Enable User Certificate</li> <li>Enable User Key</li> </ul>	
User Key Password:	••••
Inner Auth Type:	MSChapV2 🗸
	Outer Identity
Identity:	testuser@test.com
Inner Identity:	testuser
Password:	
Apply	

### Figure 11. TLS Configuration

Note: The above figures are just for example. For using the WiMAX service, please use the correct authentication type and user information that ISP provided for the authentication setting.

Step 4-B: Please locate the proper CA Certificate file, User Certificate file and Decryption Key file to upload to WM5030-OD. Please contact your WiMAX operator for Password of Decryption Key file. Please select the desired Inner EAP category and enter Identity, Inner Identity and Password, then click "Apply" to configure. (Ref. Figure 12)

TTLS	
Root Certificate:	Browse Upload
User Certificate:	Browse Upload
User Key:	Browse Upload
<ul> <li>Enable Root Certificate</li> <li>Enable User Certificate</li> <li>Enable User Key</li> </ul>	
User Key Password:	••••
Inner Auth Type:	MSChapV2
	Outer Identity
Identity:	testuser@test.com
Inner Identity:	testuser
Password:	•••••
Apply	

### Figure 12. TTLS Configuration

Note: The above figures are just for example. For using the WiMAX service, please use the correct authentication type and user information that ISP provided for the authentication setting.

Step 5: Press "Reconnect" button, to connect to WiMAX network.

Restore Default Configuration Reset Factory Default RECONNECT
DISCONNECT
Reboot

Figure 13. Connecting to WiMAX Network

Step 6: Now, please change the network setting of your computer in Internet Protocol (TCP/IP) properties, select "Obtain an IP address automatically" and select "Obtain DNS server address automatically".

Alternate Configuration	
u can get IP settings assigned - s capability. Otherwise, you nee e appropriate IP settings.	automatically if your network supports d to ask your network administrator for
⊙ <u>O</u> btain an IP address automa	atically
Use the following IP address	:
IP address:	(a) (a) (a)
S <u>u</u> bnet mask:	
<u>D</u> efault gateway:	
Use the following DNS server	ar addresses.
Proformed DNIC compart	
Eleiened Divis server.	
A BOARD AND A REAL PROPERTY AND A REAL PROPERT	141 AV AV

Figure 14. Configure Your Computer TCP/IP Setting

Step 7: Open web browser such as Internet Explorer (IE) to access Internet to check whether you have

successfully connected to the Internet.

IMPORTANT NOTE:

To comply with the RF exposure compliance requirements, the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 1 meter from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. No change to the antenna or the device is permitted. Any change to the antenna or the device could result in the device exceeding the RF exposure requirements and void user's authority to operate the device.