CEL California Eastern Laboratories

ZIC2410 Series

CEL
Profile-Simulator
Software Manual

0005-05-08-17-001
(Rev C)

Table of Contents

1 INTRODUCTION

This is the user manual for the CEL ***Profile-Simulator*** program. ***Profile-Simulator*** assists users in simulating and testing a ZigBee™ network. ***Profile-Simulator*** contains four tools:

- **Device Manager**: For setting the parameters of a ZigBee node.
- **Bind Manager**: For binding the devices in a network.
- **ZStack Manager**: For setting the parameters of a network.
- **ZigBee Device Wizard**: For selecting a Network Configuration during network formation.

1.1 REFERENCED DOCUMENTS

Category	*filename [.pdf]*	Document Name
Software Manuals	*zic11_getstrt_sm*	***ZIC2410 Getting Started Guide***
Stack API References	*zic02_apdev_api*	***ZIC2410 User Guide Application Development Guide***
	zic04_zcl_api	***ZIC2410 User Guide Profile and ZigBee Cluster Library (ZCL)***
	zic06_zdo_api	***ZIC2410 User Guide ZigBee Device Object***
	zic07_aps_api	***ZIC2410 User Guide Application Support Layer API Reference***
	zic08_nwk_api	***ZIC2410 User Guide Network Layer API Reference***
	zic09_zdp_api	***ZIC2410 User Guide ZigBee Device Profile***
	zic19_hal_api	***ZIC2410 User Guide Hardware Abstraction Layer API Reference***

1.2 PREREQUISITES

Prior to running the ***Profile-Simulator*** program the following should be performed:

- Software Downloads: the ***Profile-Simulator*** program and the ***CP2101 USB Driver*** should be loaded to the user's PC
- Hardware: An evaluation board configured as a Coordinator should be available to connect to the PC through a USB cable. Other evaluation boards (configured appropriately) should be available in order to simulate a network.

2 *PROFILE-SIMULATOR*

Profile-Simulator is used for testing ZigBee devices such as Coordinators, Routers and End Devices. In addition, it is used to generate ZigBee standard primitive functions for the MAC, NWK and APS layers, the ZigBee Device Object and APP.

Profile-Simulator can be connected to a ZigBee Coordinator, Router or End Device and different functions performed for each. The major functions for each type of device are as follows:

2.1 ZIGBEE COORDINATOR

- Network Formation
- Register a Device
- Register a Profile
- Control another device as first controller
- Request ZDO Primitive functions and responses
- Manage a Binding Table

2.2 ZIGBEE ROUTER AND END-DEVICE

- Connect to a Network
- Request device registration to another Coordinator
- Request profile registration to another Coordinator
- Request ZDO Primitive functions and responses

3 INSTALLATION

The CEL ***Profile-Simulator*** application has been tested under the Windows XP Professional operating environment. Support for Windows Vista is untested and cannot be guaranteed, but successful operation has been reported once Windows XP Compatibility has been enabled. For details on enabling Windows XP compatibility in the Windows Vista operating system see Appendix A of this document.

3.1 INSTALLING THE *PROFILE-SIMULATOR* SOFTWARE

The installation program for the CEL ***Profile-Simulator*** application can be found on the CD in the **\ZIC2410\Tools\CEL ZigBee Profile-Simulator** directory. The following is the detailed installation procedure.

1) Double click **'Setup.exe'**. The screen in Figure 1 will be displayed. Click **'Next'**.

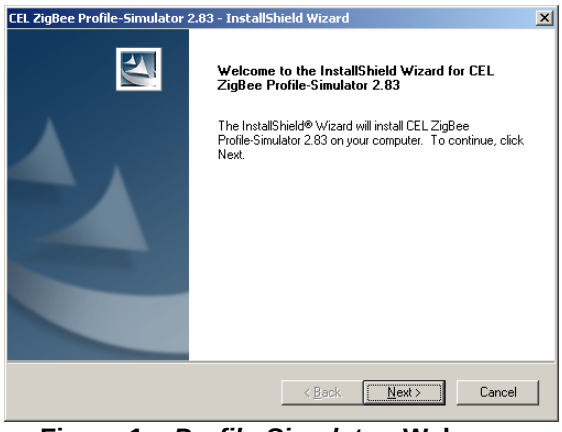


Figure 1 – *Profile-Simulator*, Welcome

2) Read the License Agreement, select **'I accept the items of the license agreement'** and click **'Next'**.

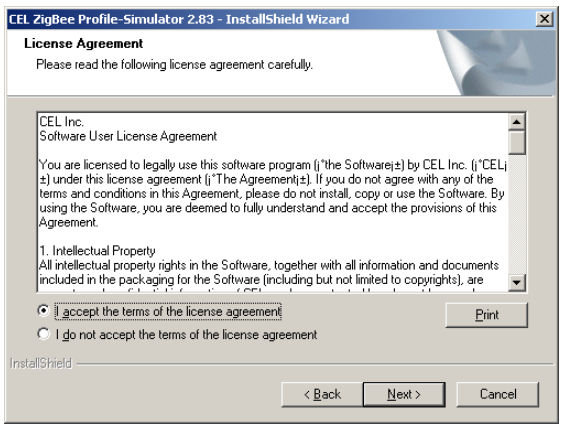


Figure 2 – *Profile-Simulator*, License Agreement

3) Type in a user name and company name and click **'Next'**.

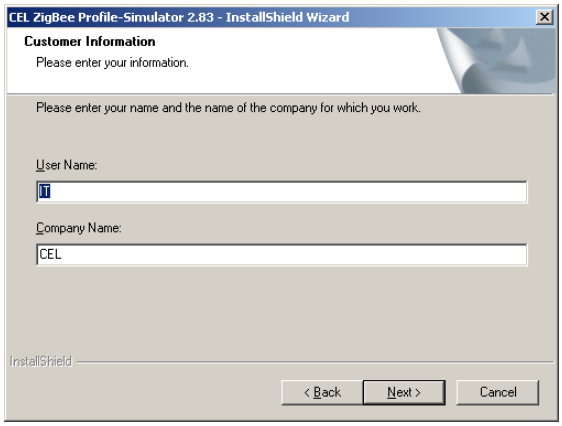


Figure 3 – *Profile-Simulator*, Customer Information

4) Select the installation path and click **'Next'**. (By default, the installation path is set to **C:\Program Files\CEL\CEL ZigBee Profile-Simulator 2.83**)

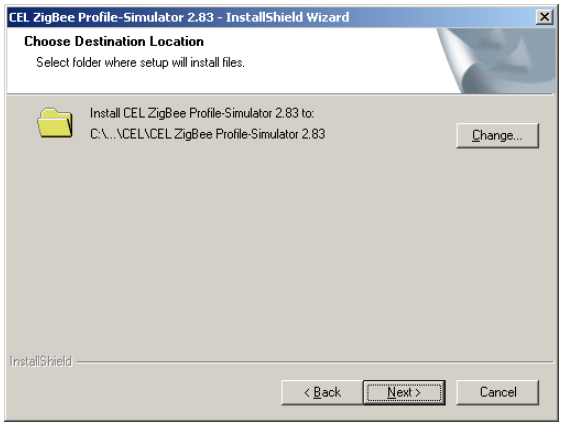


Figure 4 – *Profile-Simulator*, Installation Location

5) Click **'Install'** to begin the installation.

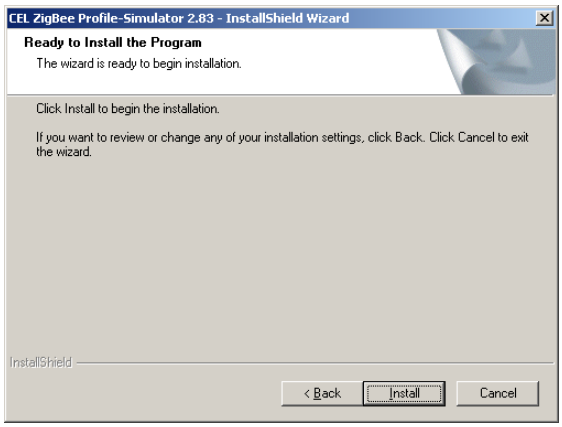


Figure 5 – *Profile-Simulator*, Ready to Install

6) During installation the screen in **Figure 5Figure 6** will be displayed.

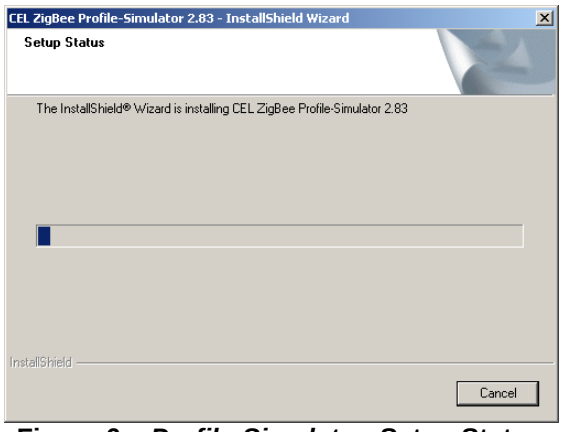


Figure 6 – *Profile-Simulator*, Setup Status

7) When the installation is complete the message below will display. Click **'Finish'** to exit the installation process.

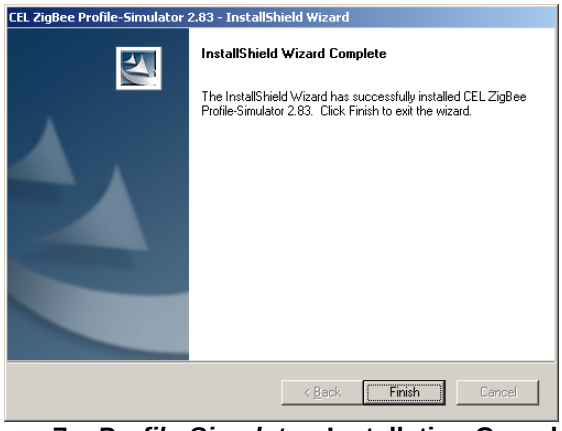


Figure 7 – *Profile-Simulator*, Installation Complete

The CEL ***Profile-Simulator*** application has been successfully installed. The icon 

should now be displayed on your desktop.

3.2 INSTALLING THE USB DRIVER

In order to connect the **ZIC2410-WNA** to a PC through the USB Port, it is necessary to install the CP2101 USB Driver (if it has not already been installed). Please refer to the ***"ZIC2410 Getting Started Guide"*** for complete installation instructions.

4 PROFILE-SIMULATOR MENUS

4.1 MENU BAR DESCRIPTIONS

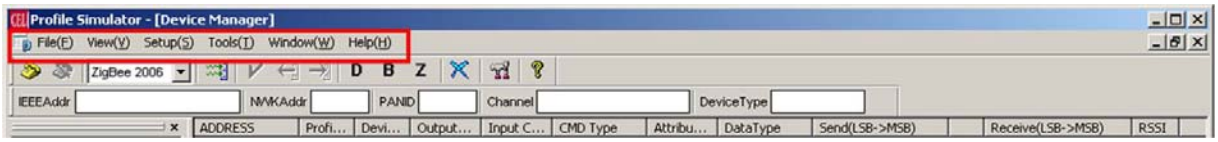
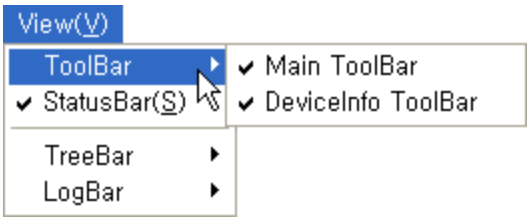


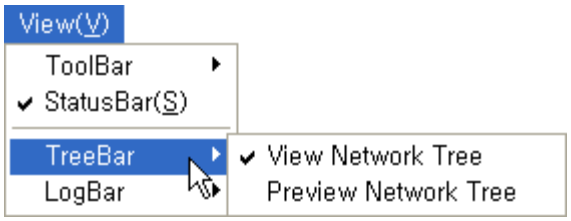
Figure 8 – Screen, *Profile-Simulator* (Menu Bar line 1)

(1) View (V)

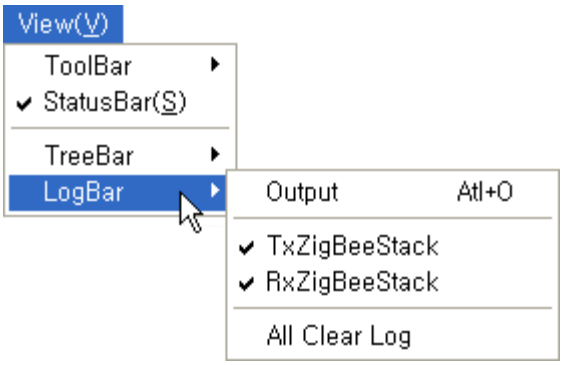
- **ToolBar**
  - **Main Toolbar**: View and hide Tool bar which has communication connection and disconnection used in ***Profile-Simulator.***
  - **Device Info Toolbar**: View and hide Tool bar which shows the information of the device connected to Profile-Simulator.



- **Status Bar** View and hide the status of ***Profile-Simulator***.
- **TreeBar**



  - **View Network Tree**: View/hide Network Tree window.
  - **Preview Network Tree**: View/hide Preview Network Tree window.
- **LogBar**



- **Output**: View and hide Output log window which records the communication packet of UART or Ethernet and log.
- **TxZigBeeStack**: View and hide log window which records ZigBee packet transmitted using UART or Ethernet.
- **RxZigBeeStack**: View and hide log window which records ZigBee packet received from UART or Ethernet.
- **All Clear Log**: Delete log message of all log windows (Output, TxZigBeeStack, RxZigBeeStack)

(2) Setup (S)

- **Connection**: Connect RS232 (Serial) or Ethernet (TCP/IP) communication
- **Disconnection**: Disconnect RS232 (Serial) or Ethernet (TCP/IP) communication.

(3) Tools (T)

- **Device Manager**: To set the parameters of a ZigBee node.
- **Bind Manager**: To bind devices to the network.
- **ZStack Manager**: To set the parameters of the network.
- **ZigBee Device Wizard**: To select the Network Configuration during network formation.

4.2 TOOL BAR DESCRIPTIONS

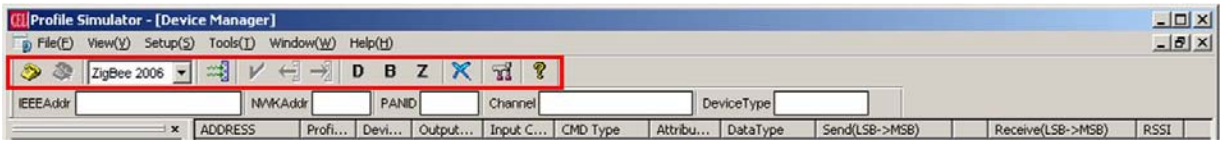


Figure 9 – Screen, *Profile-Simulator* (Tool Bar line 2)

Table 1 – *Profile-Simulator* Icon List

Icon	Description	Icon	Description
	Connect communication using RS232(Serial) or Ethernet(TCP/IP)		Run Device Manager
	Disconnect communication connection.		Run Bind Manager
	Select ZigBee Protocol Version		Run ZStack Manager
	Network setting and formation.		Delete messages in all logs (Output, TxZigBeeStack, RxZigBeeStack)
	Hardware test.		Set device information.
	Check device information		About ***Profile-Simulator***
	Store to Flash memory (System Back up)		

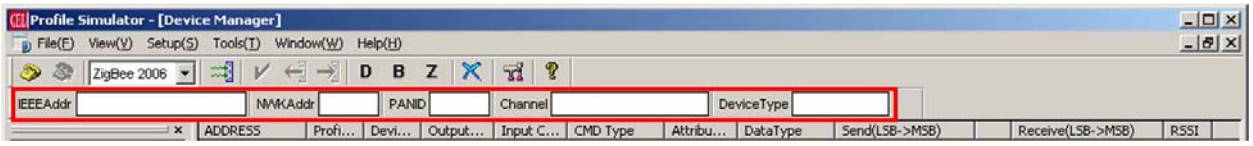


Figure 10 – Screen, *Profile-Simulator* (Tool Bar line 3)

- **IEEE Addr**: IEEE Address (8Bytes) of the current device.
- **NWK Addr**: Network Address (2Bytes) of the current device.
- **PANID**: PAN ID for the current device.
- **Channel**: RF Channel for the current device
- **Device Type**: Type of device (Coordinator, Router, End Device)

5 STARTING *PROFILE-SIMULATOR*

Before opening ***Profile-Simulator***, connect the evaluation board with the "Coordinator" firmware to a PC using one of the supplied USB cables. If the evaluation board has more than one USB connector, use the one labeled '**USB1'**. Once connected turn the **'POWER'** switch to the **'ON'** position.

5.1 PREPARING FOR A USB CONNECTION

5.1.1 Installing the USB Driver

In order to connect an evaluation board to a PC through the USB Port, it is necessary to install the CP2101 USB Driver (if it has not already been installed). Please refer to the ***"ZIC2410 Getting Started Guide"*** for complete installation instructions.

5.1.2 Identifying the COM port for the Coordinator

It is necessary now to determine the COM port number on the PC, to which the evaluation board has been assigned. Windows Device Manager on the PC can be used to do so, and to check that the hardware and associated drivers have been properly installed.

The Windows Device Manager can be accessed by right clicking the mouse on the **'My Computer'** icon (either on the desktop or in the **'Start'** Menu). Click on **'Properties'** at the bottom of the pop-up menu. Click on the **'Hardware'** Tab and find and click on **'Device Manager'**. Double-click on **'Ports (COM & LPT)'**.

The port **'CP2101 USB to UART Bridge Controller (COM#)'** should be on the list.

For a detailed procedure for determining the COM port number (#) please refer to **"Appendix 1"** of ***"ZIC2410 Getting Started Guide"***.

> **NOTE:** It is important to take note here of the COM port that has been assigned to the evaluation board. It will be needed later in this procedure for establishing a connection with the ***Profile-Simulator*** software.

If multiple evaluation boards are to be connected to a single PC through their USB ports, please refer to **APPENDIX A: DEALING WITH COM PORT CONFLICTS** in the ***"ZIC2410 Getting Started Guide"*** document.

5.2 CONNECTING THROUGH THE USB PORT

1) Open ***Profile-Simulator*** by clicking the icon on the desktop. As shown in Figure 11, the **'Device Manager'** Tool will be displayed.

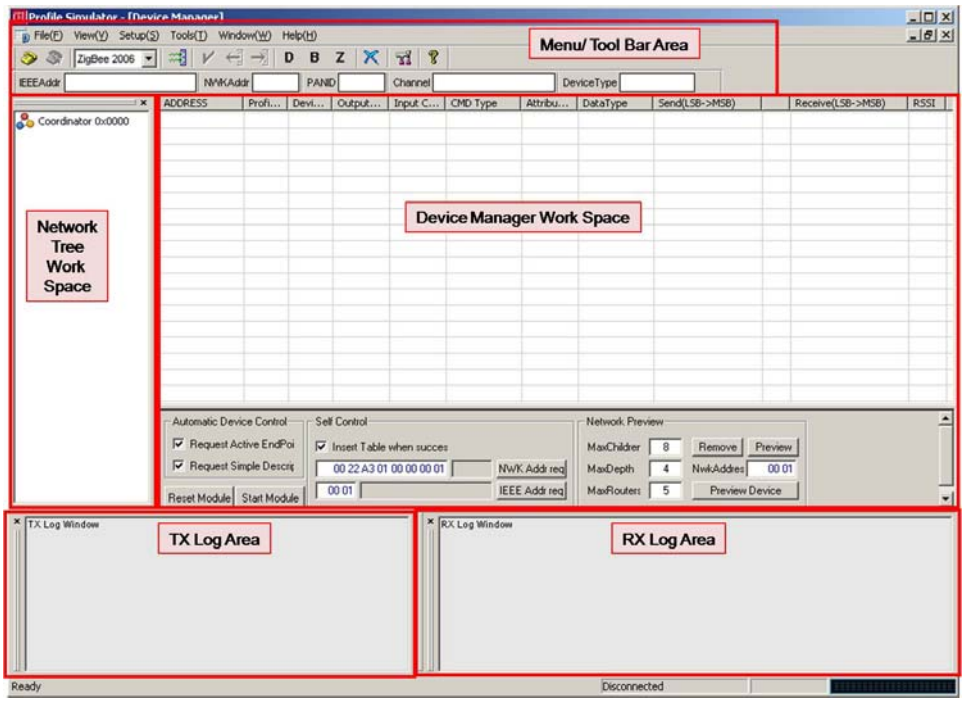
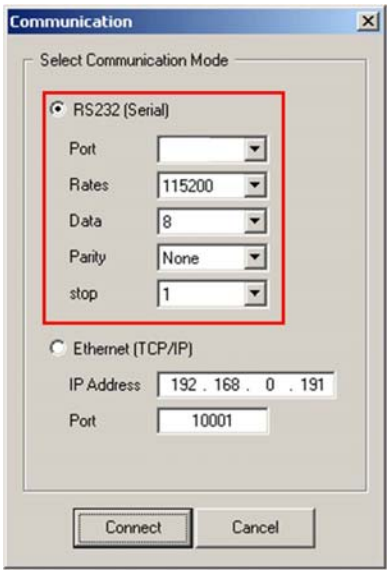


Figure 11 – Screen, *Profile-Simulator* (Opening Device Manager tool)

2) Ensure that **'ZigBee 2006'** is selected using  on the top left of the toolbar because the **ZIC2410** supports ZigBee2006 only.

3) Click the connection icon () to display the **'Communication'** window in Figure 12.

4) Select **'RS232 (Serial)'**.



- **Port**: Select the port to which the interface board is connected (See 5.1.2)
- **Rate**: 115,200 bps
- **Data**: 8-bit
- **Parity**: None
- **Stop**: 1-bit

Figure 12 – Screen, *Profile-Simulator* (Select Communications Window)

5) Input the five parameters above, and click **'Connect'**. The screen in Figure 13 should be displayed. Click **'OK'**.

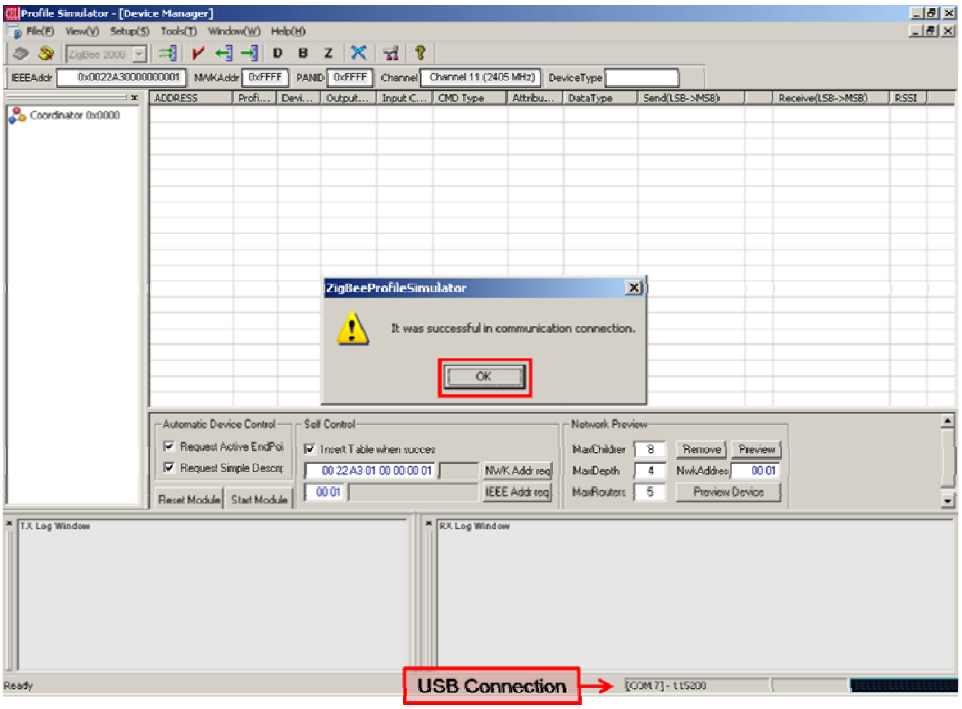


Figure 13 – Screen, *Profile-Simulator* (Successful Connection)

If the COM port setting is incorrect or there is an unexpected error, the error message in Figure 14 will be displayed. When that happens, press the **'Reset'** button on the evaluation board to initialize it, or check the **'ISP Switch'** setting. The **'ISP Switch'** must be set to '**NORMAL**' mode, for the board to connect to the program.

Figure 14 – Screen, *Profile-Simulator* (Error Message)

5.3 FORMATTING PAN FOR A ZIGBEE COORDINATOR

The procedure for formatting a new network in ***Profile-Simulator*** is as follows:

1) To form a new ZigBee network, click **'Tools'** → **'ZigBee Device Wizard'** on the Menu bar or click the  icon.
2) When the screen in Figure 15 is displayed; click **'Next'**.

.

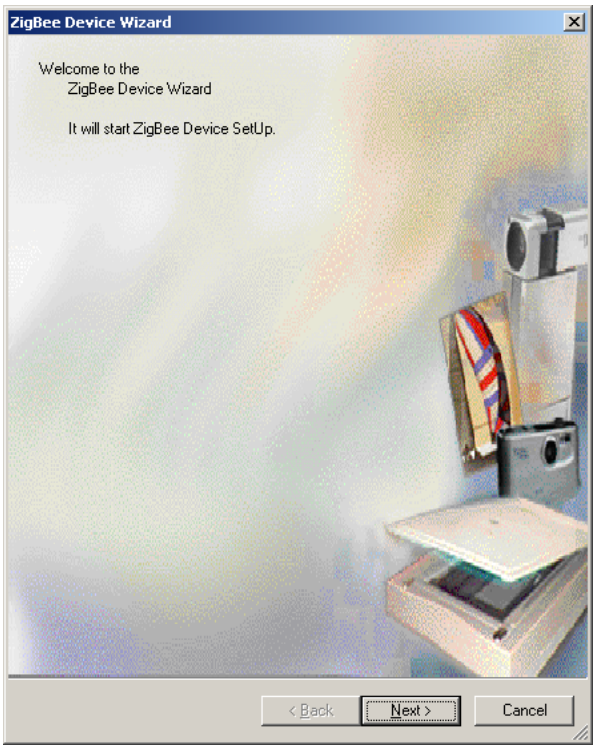


Figure 15 – Screen, ZigBee Device Wizard (Opening)

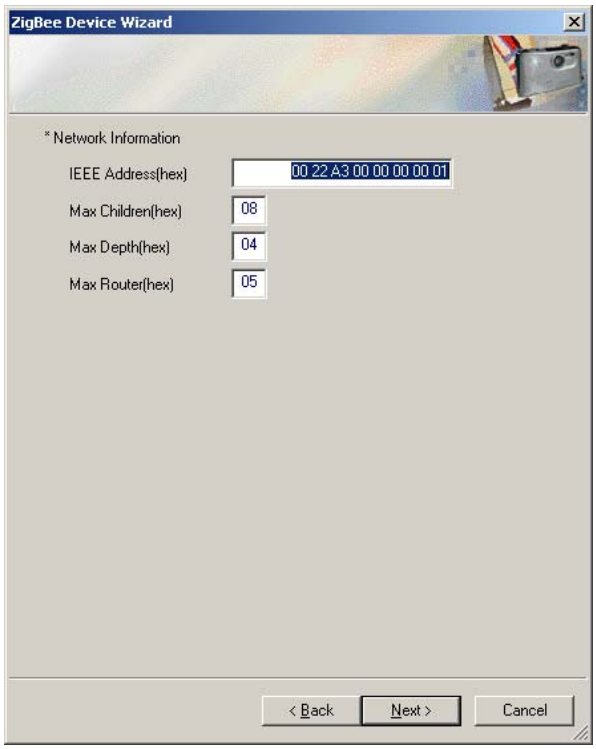


Figure 16 – Screen, ZigBee Device Wizard (Network Information Setting)

3) When Figure 16 is displayed, check the five defined network information fields, edit if necessary, and click **'Next'**. Descriptions of the five fields are given below:

- **IEEE Address**: IEEE Address of the device.
- **Max Children**: Maximum number of routers and end devices that can be connected to a parent device (coordinator or router).
- **Max Depth**: Maximum number of levels from coordinator to last end device.
- **Max Router**: Maximum number of nodes on any level that can be operated as a router.

4) As shown in Figure 17, **'ZigBee Device Type'** window is displayed. Check **'ZigBee Coordinator'** and click **'Next'**.

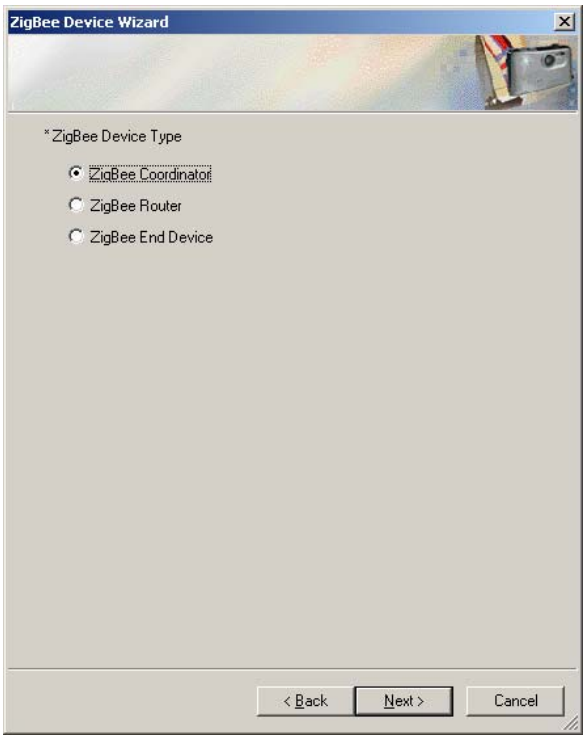


Figure 17 – Screen, ZigBee Device Wizard (Device Type Selection – Coordinator)

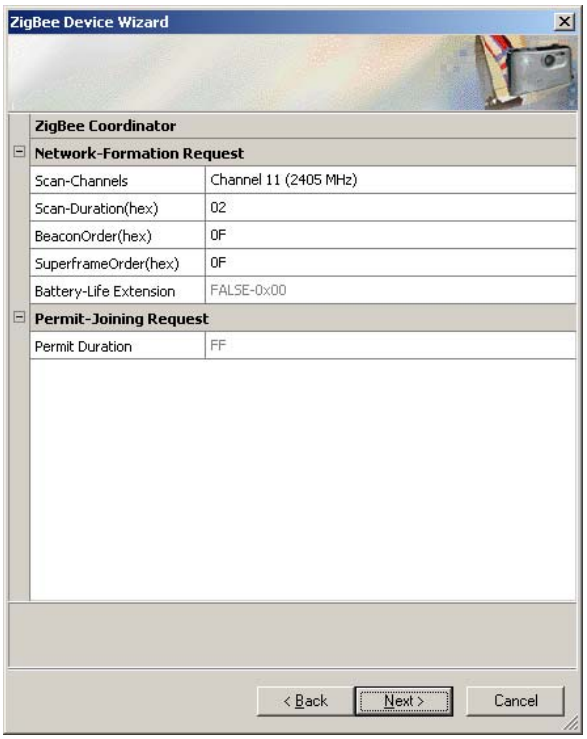


Figure 18 – Screen, ZigBee Device Wizard (Setting Values for Coordinator)

5) Input the channel for the ZigBee Coordinator and click **'Next'**.

When a device is joined as a Coordinator, the necessary primitives of the NWK layer are as follows:

- Reset Request
- Network-Formation Request
- Permit-Joining Request

For more detailed information, please refer to ***"ZIC2410 User Guide Network Layer API Reference"***.

Note: A Coordinator is needed to format a ZigBee Network.

6) In 5) above, when clicking '**Next'**, the process is performed to format the network. When ZigBee Coordinator formats the network successfully, Figure 19 is displayed. If not, try again by pressing **'Retry'** or **'Back'** and repeat from step 5) above.

Figure 19 – Screen, ZigBee Device Wizard (Coordinator Network Formation)

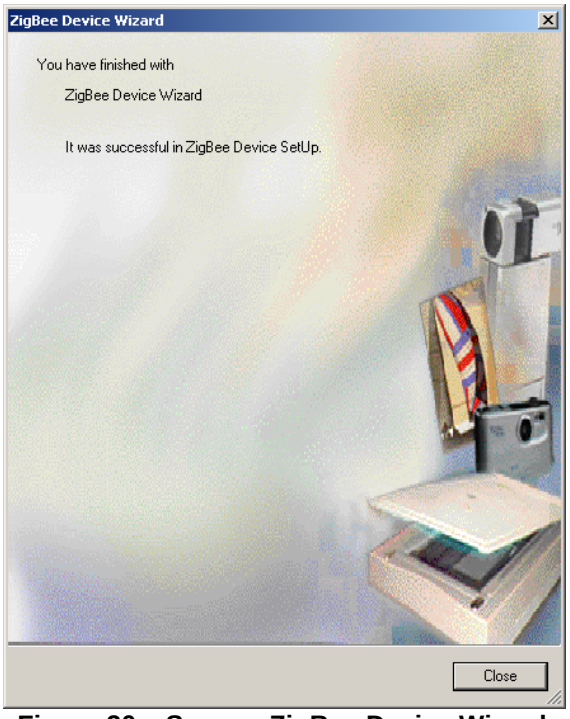


Figure 20 – Screen, ZigBee Device Wizard (Finish)

7) Click **'Next'** to finish ZigBee Device Wizard, and then click **'Close'**. The ZigBee device is now ready to operate as a PAN Coordinator.

5.4 DEVICE MANAGER

The following operations are performed using the Device Manager Tool:

- ZigBee Device Monitoring
- ZigBee Device Simulation
- Network Simulation
- Profile Simulation

The following icons are used in ***Profile-Simulator*** as well as by the other software tools supplied by CEL.

Table 2 – Icons in the Device Manager

Icon	Description
	ZigBee Coordinator
	ZigBee Router

Icon	Description
	ZigBee End-Device
	ZigBee Endpoint

5.4.1 Node Monitoring in Network Tree Work Space

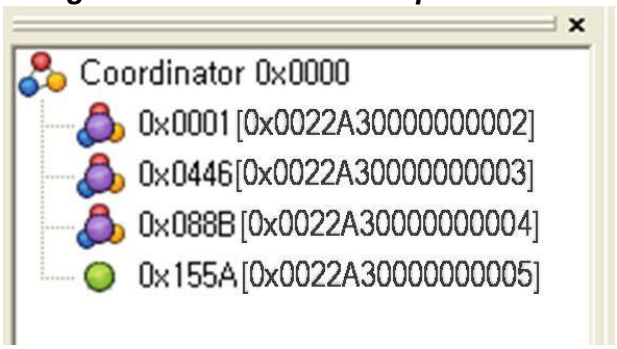


Figure 21 – Screen, *Profile-Simulator* (Network Tree Work Space)

The Network Tree Work Space (on the left side of the opening ***Profile-Simulator*** screen) shows the network structure. In this tree, all network nodes (children of the Coordinator) are shown with each ZigBee device being displayed with both its 16-bit short address and its [64-bit extended address].

- **Normal Device**: Displays Network (short) Address and IEEE [Extended] Address.
- **Abnormal Device**:Displays Network (short) Address.

5.4.2 Node Monitoring Using the Device Manager Tool

ADDRESS	Prof...	Dev...	Output...	Input ...	CMD Type	Attribu...	DataType	Send(LSB->MSB)		Receive(LSB->M
0x0001										
E...	Ho...	On...	OnOff	OnOff	Read att...	OnOff	Bool		>	
E...	Ho...	On...	Basic	Basic	Read att...	ZCL ...	UINT8		>	
0x0446										
E...	Ho...	On...	OnOff	OnOff	Read att...	OnOff	Bool		>	
E...	Ho...	On...	Basic	Basic	Read att...	ZCL ...	UINT8		>	
0x088B										
E...	Ho...	On...	OnOff	OnOff	Read att...	OnOff	Bool		>	
E...	Ho...	On...	Basic	Basic	Read att...	ZCL ...	UINT8		>	
0x155A										
E...	Ho...	On...	OnOff	OnOff	Read att...	OnOff	Bool		>	
E...	Ho...	On...	Basic	Basic	Read att...	ZCL ...	UINT8		>	

Figure 22 – Screen, *Profile-Simulator* (Device Manager Table)

When a ZigBee Device (Router or End Device) is joined to a network, it broadcasts an **'End Device Announce'**. After, the ZigBee coordinator receives the broadcast and informs the ***Profile-Simulator;*** the Device Manager Tool then requests an **'Active End Point request'** (Active_EP_req) and a '**Simple Descriptor request'** (Simple_Desc_req) from the device that sent the **'End Device Announce'**.

For the detail information of ZigBee device profile, refer to the ***"ZIC2410 User Guide ZigBee Device Profile"***.

5.4.3 Node Simulation Using the Device Manager Tool

Device Manager of ***Profile-Simulator*** can request the information for node descriptor, power descriptor, and active endpoint of desire node or start 'Leave Request' based on the Section 5.2.

In addition, corresponding node requests the simple descriptor of each endpoint which corresponding node has

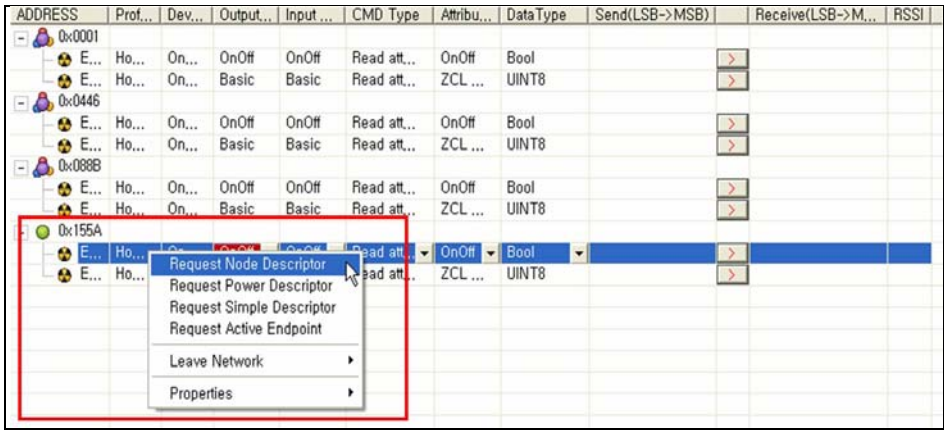


Figure 23 – Screen, *Profile-Simulator* (Pop-up Menu for the Device Manager Table)

A right-click on a node within Device Manager or an endpoint, displays a pop-up menu as shown in Figure 23.

A user can simulate by selecting corresponding menu on the pop-up menu. The following explains the items on the menu.

- **Request Node Descriptor**: Retrieves 'Node Descriptor' information from each node connected to the device.
- **Request Power Descriptor**: Retrieves 'Power Descriptor' information from each node connected to the device.
- **Request Simple Descriptor**: Retrieves 'Simple Descriptor' information from each node connected to the device.
- **Request Active Endpoint**: Displays the list of endpoints which is actively operating.
- **Leave Network > Leave Only** (Not supported in this version): Deletes the selected node from network.
- **Leave Network > Leave with Children** (Not supported in this version): Deletes the selected node and its children on network.

For more detailed information, refer to the ***"ZIC2410 User Guide ZigBee Device Profile"*** and ***"ZIC2410 User Guide Network Layer API Reference"*** documents.

Table 3 shows the result when a selected request is performed normally. When clicking it with the mouse, it disappears automatically after few seconds.

Table 3 – The result for each request

Request	**Result**	
Node Descriptors	NWKAddr: 15.5A. Logical Type: 02 ComplexDesc: 00 UserDesc: 00 rsv: 00 APSflags: 00	FreqBand: 08 MacCapa: 8F Manufacture: 03.28 MaxBufSize: 40 MaxTranZize: 00.00 ServerMask: 00.00
Power Descriptors	NWKAddr: 15.5A. CurrPwrMode: 00 AvailPwrSrc: 07	CurrPwrSrc: 01 CurrPwrLevel: 03
Simple Descriptors	NWKAddr: 15.5A. EP: 10 AppProID: 01.04. AppDevID: 01.00. DevVersion: 00	NumInClus: 04 InClusList: 00.04.00.03.00.00.00.06 NumOutClus: 04 OutClusList: 00.04.00.03.00.00.00.06
Active Endpoints	NWKAddr: 15.5A. Active EndPoint Count: 02 Active EndPoint List: 10.11.	

5.4.4 Network Simulation

Figure 24 shows the Device Manager Configuration. It has three operations for network simulation:

- **Automatic Device Control**
- **Self Control**
- **Network Preview**

Figure 24 – Screen, *Profile-Simulator* (Device Manager Configuration)

Automatic Device Control: Set the value to monitor node in Device Manager Table.

Figure 25 – Screen, *Profile-Simulator* (Automatic Device Control)

- **Request Active Endpoint**: Set the enable/disable for active endpoint request of ZigBee device profiles.
- **Request Simple Descriptor**: Set the enable/disable for simple descriptor request of ZigBee device profiles.
- **Reset Module**: Perform reset request of network layer to ***Profile-Simulator***.

- **Start Module**: Execute ZigBee Device Wizard of ***Profile-Simulator***.

Whenever a device is joined to the network, ***Profile-Simulator*** performs two requests to add the device in the Device Manager Table as shown in Figure 25.

(1) When a device is first joined to the network, the 16-bit network address of the corresponding device is stored in the Device Manager Table.

(2) When Request Active EndPoint of Automatic Device Control is checked, end points are added to the bottom of the corresponding network address of the device manager table by requesting the endpoint of the device, which is currently operating.

(3) Finally when checking Request Simple Descriptor of Automatic Device Control, store it to the device manager table by requesting simple descriptor, which has detailed information such as profile of endpoint etc, based on the list of endpoints added in step (2).

Self Control: A user can monitor a node in the Device Manager Table.

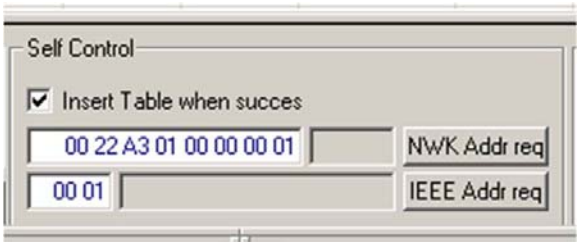


Figure 26 – Screen, *Profile-Simulator* (Self Control)

A user can request network address or IEEE address of defined ZigBee device in Device Manager of ***Profile-Simulator.*** If **'Insert Table when Success'** is checked and a request is done successfully, a device is set to the Device Manager Table based on the **'Automatic Device Control'** settings as shown in Figure 26.

- **Insert Table when Success**: When the two requests (NWK Addr req, IEEE Addr req) succeed, a user can decide whether to add corresponding ZigBee device information or not.
- **NWK Addr req**: If a user knows the 64-bit extended address (IEEE address) of a ZigBee device, he or she can find the 16-bit network address of a ZigBee device.
- **IEEE Addr req**: If a user knows the 16-bit network address of aZigBee device, he or she can find the 64-bit extended address (IEEE address) of a ZigBee device.

Network Preview: A user can simulate a network structure.

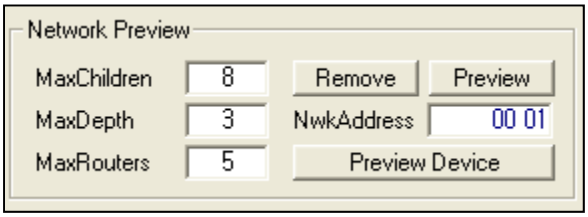


Figure 27 – Screen, *Profile-Simulator* (Network Preview)

As shown in Figure 27, a user can test the path from the ZigBee coordinator of a desired network address by typing NwkAddress, the number of MaxChildren, MaxRouters and MaxDepth and clicking **'Preview Device'** button. The result is shown in Figure 28. In addition, in Figure 27, a user can test the path from the ZigBee coordinator of all the devices in the network by typing the number of MaxChildren, MaxRouters and MaxDepth and clicking **'Preview'** button. The result is shown in Figure 29.

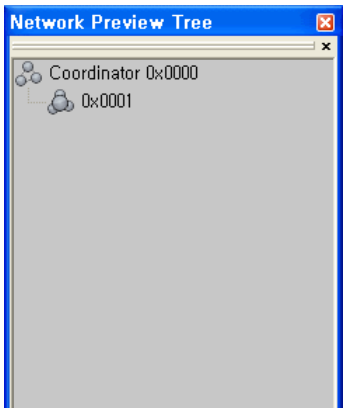


Figure 28 – Screen, *Profile-Simulator* (Preview Network Tree - Preview Device)

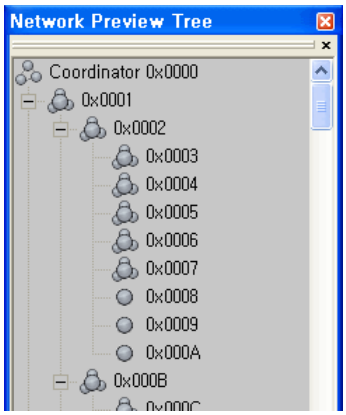


Figure 29 – Screen, *Profile-Simulator* (Preview Network Tree - Preview Network)

Note: When several devices exist in a network, a large amount of system memory may be used to display the network in the ***Profile-Simulator***. Therefore, it is recommended to test the network topography using Preview Device feature when appropriate.

5.4.5 Profile-Simulation

Profile-Simulator can simulate the endpoints of the devices in a network using the Device Manager tool.

5.4.5.1 Profile Data Transmission

When trying to send profile data as endpoint in the device, a user should set proper value for the following items.

- **Input Cluster**: Cluster ID to simulate amongst the input cluster list which is contained in the endpoint.
- **CMD Type**: Simulation command type for profile.
- **Attribute ID**: Attribute ID used in the input cluster selected.
- **Data Type**: Data type of attribute ID.
- **Send**: Data value (LSB first) to send.

After setting the items above, please click '>' button between 'Send' and 'Receive'. ***Profile-Simulator*** sends it to the endpoint of the defined device.

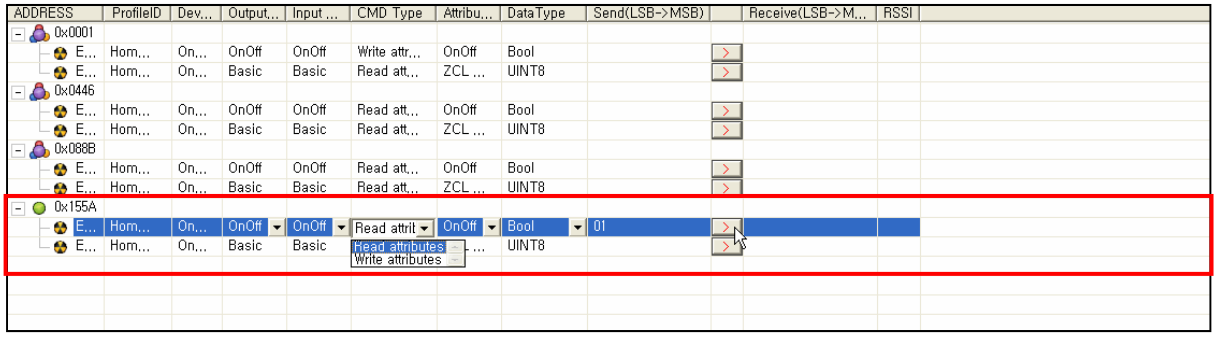


Figure 30 – Screen, *Profile-Simulator* (Profile Data Transmission)

5.4.5.2 Profile Data Reception

Data received from an endpoint of a specific device is shown in the 'Receive' column; the 'RSSI' column shows the RSSI value of the received packet.

By clicking on the 'Receive' item where there is received data, a user can check that data with details depending on its profile type. Please see Figure 31.

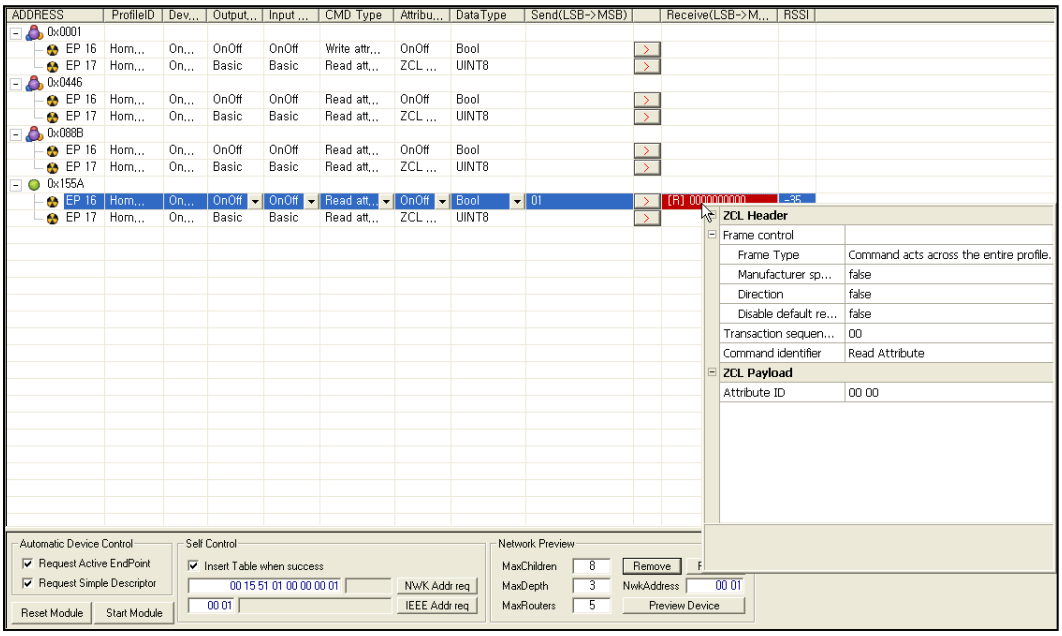


Figure 31 – Screen, *Profile-Simulator* (Profile Data Reception)

In addition, a user-programmed profile can also be simulated using the same aforementioned procedure.

5.5 BIND MANAGER

When binding occurs among ZigBee devices, the result of the binding event is sent to ZigBee Coordinator which then creates and manages a binding table.

The binding table can be viewed by using the **'Bind Manager'** Tool of ***Profile-Simulator***

The Bind Manager has an index value, source address, source endpoint, cluster ID, destination address, destination endpoint and the status for corresponding entry.

Figure 32 – Screen, *Profile-Simulator* (Bind Manager)

Note: ZigBee 2006 does not support direct binding (i.e. End Point to End Point) and requires the Coordinator as an intermediary, which would forward the data onto the target destination.

5.6 zSTACK MANAGER

The ZStack Manager can be used for simulation after the ZigBee functions and IEEE 802.15.4 standard primitives have been generated. In other words, it is easy to simulate by selecting a primitive because primitive functions for the each network layer, (MAC, NWK, SEC, APS, ZDP and APP), are provided.

Therefore, the user can generate primitive functions for a desired layer and simulate them using

this tool.

For more detailed information on the primitive functions of each layer, refer to the IEEE 802.15.4 standard, the ZigBee Specification documents or the CEL documents specific to that layer:

Layer	Document Title	*filename [.pdf]*
Application	***ZIC2410 User Guide Application Development Guide***	*zic02_apdev_api*
Device Object (ZDO)	***ZIC2410 User Guide ZigBee Device Object***	*zic06_zdo_api*
Cluster Library (ZCL)	***ZIC2410 User Guide Profile and ZigBee Cluster Library (ZCL)***	*zic04_zcl_api*
Device Profile (ZDP)	***ZIC2410 User Guide ZigBee Device Profile***	*zic09_zdp_api*
APS	***ZIC2410 User Guide Application Support Layer API Reference***	*zic07_aps_api*
NWK	***ZIC2410 User Guide Network Layer API Reference***	*zic08_nwk_api*
HAL	***ZIC2410 User Guide Hardware Abstraction Layer API Reference***	*zic19_hal_api*

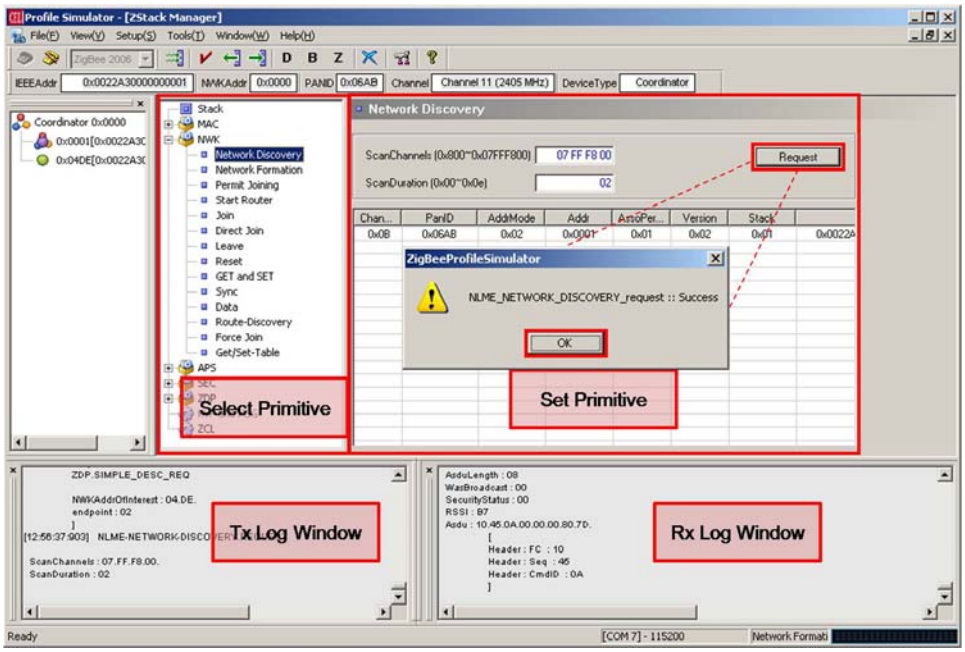


Figure 33 – Screen, *Profile-Simulator* (ZStack Manager, Nwk Discovery)

5.6.1 Common way to use primitives in zStack Manager

Based on the selected primitive, the primitive's settings are displayed. If a primitive setting requires a specific value, the **'Set Primitive'** pane allows for the value to be entered.

- Click **'Request'** button. When the **'Success'** screen appears, click **'OK'**.
- Check primitive value sent via ***Profile-Simulator*** in the **'Tx Log Window'** on the left side of the bottom.
- Check the response of primitive sent via **'Rx Log Window'** on the right side of the bottom.

6 REVISION HISTORY

Revision	Date	Description
A	3Sep08	Released
B	13Jan09	Updated Tables in Section 1.1 and 5.6; added filenames to reference documents
C	11Jun09	General Cleanup. Added detailed installation instructions and Vista compatibility.

A WINDOWS VISTA OPERATING SYSTEM

CAUTION: When the Operating System is Windows Vista (instead of Windows XP), the user must set the compatibility mode of the software tool.

1) After installing CEL ***Profile-Simulator*** right-click the desktop icon and click on **'Properties'** in the pop-up menu.
2) Click on the **'Compatibility'** tab. (It may be necessary to delete what is written in the **'Start in'** field to access the **'Compatibility'** tab)
3) As shown below, check the box for **'Compatibility mode'** and select '**Windows XP'**.
4) Click **'OK'**.

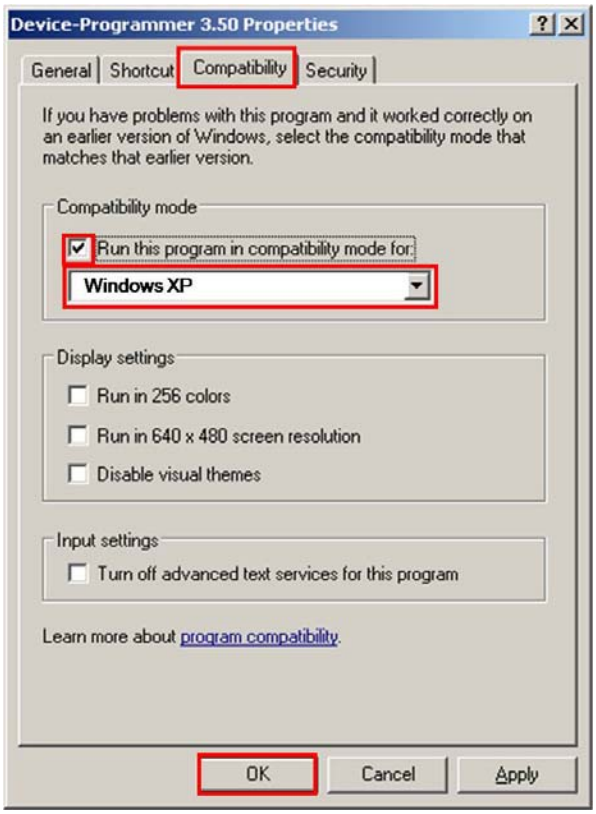


Figure 34 – Profile-Simulator, Compatibility