

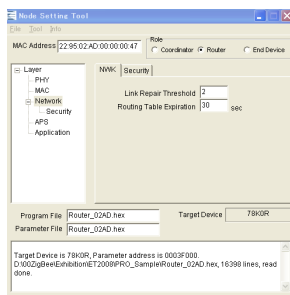
# ZigBee® PRO SDK

(Software Development Kit)

ZigBee® is a wireless network technology that enables long lifetime with low power consumption using dry batteries. The technology is well suited to a wide range of building automation, industrial automation, medical and residential control & monitoring applications. The ZigBee PRO SDK, Software Development Kit, enables the configuration of peer-to-peer mesh networks by working on the graphical user interface, GUI, on PC. Developers do not need to create a new source code. The SDK supports diagnostics and debugging of peer-to-peer mesh networks as well. Combined with the development platform of evaluation boards, the SDK allows system developers and OEMs to easily develop ZigBee prototypes and products.

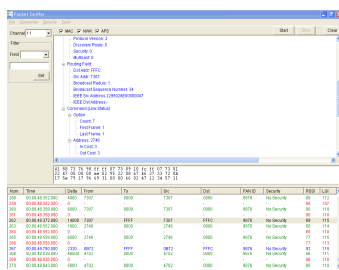
## Features

Compliant with the ZigBee PRO standard  
 GUI allows effortless development without the need for C programming <sup>NOTE1</sup>  
 The development platform, on which the SDK works, is available <sup>NOTE2</sup>

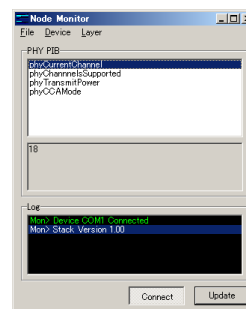
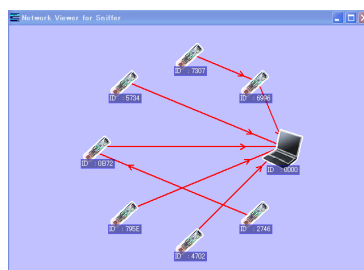


● **Node Setting Tool** allows configuration of ZigBee PRO parameters in PHY, MAC, NWK, and APS layers on the GUI interface.

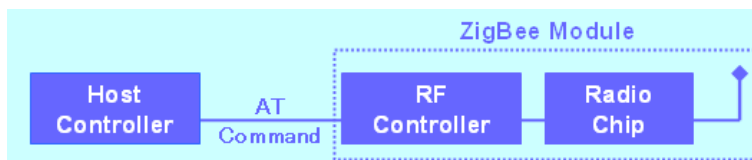
● **Network Viewer** displays the real-time network connections by collecting data at a coordinator. It also displays detailed information by clicking each node. Additionally it allows to send a command to each node.



● **Sniffer** analyzes IEEE802.15.4 MAC frames and displays network configuration in the sniffer viewer.



● **Node Monitor/Debugger** analyzes and displays the internal status of the stack in a node.



● **AT commands** are sent from the host CPU to the ZigBee module to control network communications.

**NOTE1:** The ZigBee PRO SDK includes neither the compiler nor assembler.

**NOTE2:** Two kind of SDKs, "ZigBee PRO SDK for 78K0R", and "ZigBee SDK for V850ES" are available.

## Specifications

ZigBee PRO library	Object library for each CPU with header files is included		
Sample Program	Mesh networking based on the ZigBee PRO library in the NEC PM+ and in the IAR workbench		
AT Commands	Host CPU controls the network communications by dispatching 43 kinds of AT commands to the ZigBee module		
Profile	Application profile of home automation is included in an object format		
Node Setting Tool	The tool allows configuration of the protocol parameters without the need for C programming. Over-The-Air update is also supported.		
	Parameters to be configured	PHY Layer	RF Channel, RF output power
		MAC Layer	IEEE 802.15.4 64bit address, PAN ID, Association permit, Coordinator/Router/End Device
		NWK Layer	Link Repair Threshold, Routing Table Expiration Time, Security Enable/Disable, and Network Key
		APS Layer	Channel Mask
Sniffer	Sniffer catches packets in the air, and analyzes the IEEE 802.15.4 frames at the MAC layer.		
	Text Description	displays and stores frames and commands, filtered by types, and sorted by time stamps and transmitter addresses.	
	Sniffer Viewer	Graphical display of the network configuration	
	Analyzed Layers	PHY, MAC, NWK, APS, and SEC layers	
Network Viewer	Network configuration is displayed on real time with RSSI on the PC display connected with the coordinator. Status information of each node on the network is displayed as well. Additionally, it allows developers to transmit commands to each node from the PC.		
Node Monitor /Debugger	Protocol parameters in each node are acquired and displayed by connecting the PC to the node.		
Operation Environment	MS Windows XP, and 2000, English version Adopted development platform (Evaluation boards) ZigBee PRO SDK for 78K0R for TK-78K0R/KG3+UZ and 78K0R UZ Stick ZigBee PRO SDK for V850ES for TK-850/SG2+UZ Supported compilers: NEC Compilers and IAR Work Bench		

NOTE3: The operation of SDK is not guaranteed on boards developed by users. Premium support program is available for porting and verification on a user-developed board.

**[How to purchase]**  
**The ZigBee PRO SDK is sold through the sales channel of NEC Electronics.**  
**Please contact to**  
**info@skyley.com**  
**for further information.**