KSZ9031MNX

Gigabit Ethernet Transceiver with GMII / MII Support

KSZ9031MNX-EVAL Board User's Guide

Revision 1.0 / August 2012

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Revision History

Revision	Date	Summary of Changes
1.0	8/17/12	Initial Release

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1.0 Introduction

The KSZ9031MNX is a completely integrated triple speed (10Base-T/100Base-TX/1000Base-T) Ethernet Physical Layer Transceiver for transmission and reception of data on standard CAT-5 unshielded twisted pair (UTP) cable.

The KSZ9031MNX reduces board cost and simplifies board layout by using on-chip termination resistors for the four differential pairs and by integrating a LDO controller to drive a low cost MOSFET to supply the 1.2V core.

On the copper media interface, the KSZ9031MNX can automatically detect and correct for differential pair misplacements and polarity reversals, and correct propagation delays and re-sync timing between the four differential pairs, as specified in the IEEE 802.3 standard for 1000Base-T operation.

The KSZ9031MNX provides the industry standard GMII/MII (Gigabit Media Independent Interface / Media Independent Interface) for connection to GMII/MII MACs in Gigabit Ethernet Processors and Switches for data transfer at 1000 Mbps or 10/100Mbps speed.

The KSZ9031MNX Evaluation Board (KSZ9031MNX-EVAL) provides a comprehensive platform to evaluate the KSZ9031MNX features. All KSZ9031MNX configuration pins are accessible either by jumpers, test points or interface connectors.

2.0 Board Features

- Micrel KSZ9031MNX 10Base-T/100Base-TX/1000Base-T Physical Layer Transceiver
- RJ-45 Jack for Ethernet cable interface
- Auto MDI/MDI-X for automatic detection and correction for straight-through and crossover cables
- GMII Loopback for standalone 1000Mbps evaluation
- MII Connector to interface with 10/100Mbps MAC controller/switch
- LED Indicators for link status and activity
- Jumpers to configure strapping pins
- Manual Reset Button for quick reboot after re-configuration of strapping pins
- USB port for MDC/MDIO programming access to KSZ9031MNX PHY registers

3.0 Evaluation Kit Contents

The KSZ9031MNX Evaluation Kit includes the following hardware:

- KSZ9031MNX-EVAL Board (a.k.a. KSZ9031MNX Socket Board)

And a design package with the following collaterals:

- KSZ9031MNX Evaluation-Socket Board Schematic (PDF and OrCAD DSN file)
- KSZ9031MNX Evaluation-Socket Board Gerber & PADS PowerPCB Files
- KSZ9031MNX Evaluation-Socket Board BOM
- KSZ9031MNX Evaluation-Socket Board User's Guide (this document)
- KSZ9031MNX IBIS Models (separate files for 1.8V, 2.5V, and 3.3V VDD I/O voltages)
- Micrel MDIO Configuration Software

4.0 Hardware Description

The KSZ9031MNX-EVAL board is the evaluation platform for the KSZ9031MNX Gigabit Ethernet Transceiver. Configuration of the KSZ9031MNX is accomplished through on-board jumper selections and/or by PHY register access via the KSZ9031MNX MDC/MDIO management pins via the USB port (CN1).

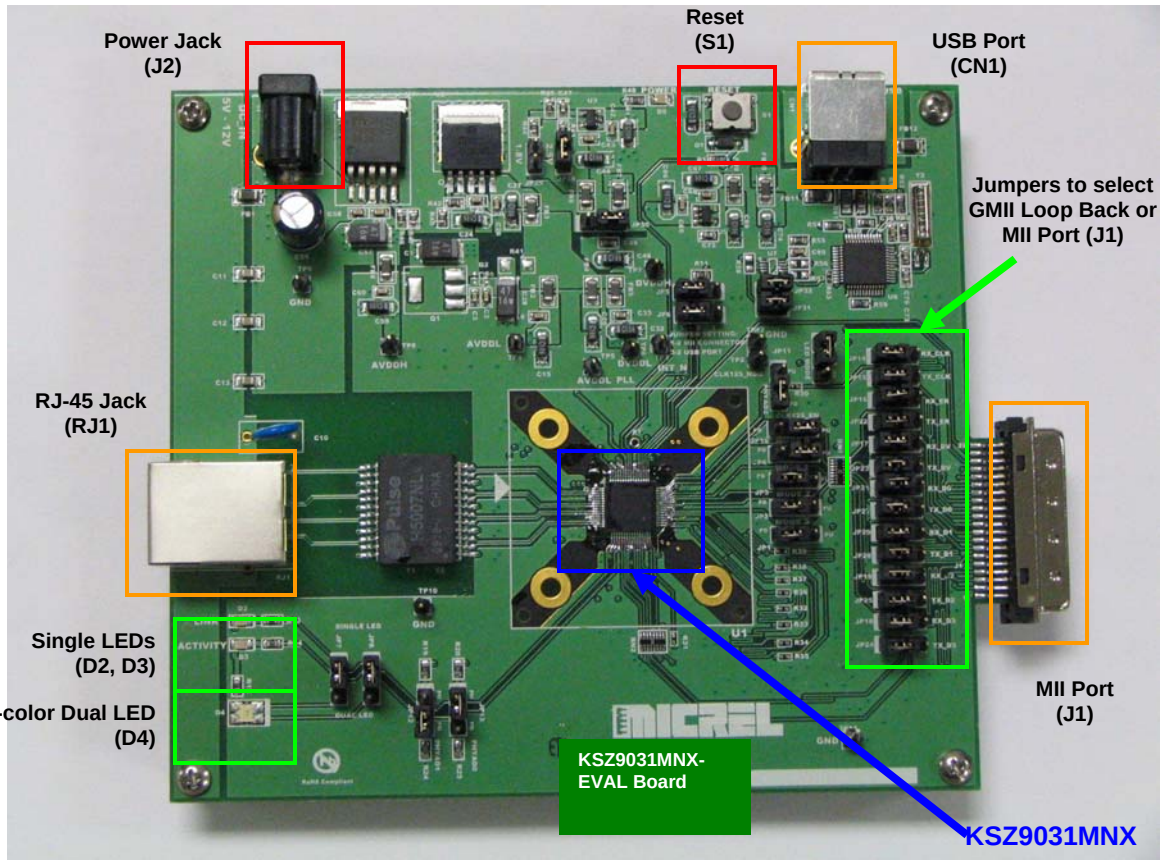


Figure 1. KSZ9031MNX-EVAL Board

Features include a RJ-45 Jack for 10/100/1000 Ethernet speed cable connection, programmable LED indicators for reporting link status and activity, and a manual reset button for quick reboot after re-configuration of strapping pins.

GMII receive output clock and signals can be looped back to GMII transmit input clock and signals to provide a standalone platform to evaluate the KSZ9031MNX device in 1000Mbps mode.

MII Port (J1) provides the 10/100 MAC interface connections to Micrel KSZ88xx 3-port Switch evaluation boards with the mating MII MAC interface connectors.

The KSZ9031MNX-EVAL board receives power from a DC power jack (J2). Any DC power adapter in the range of 5V to 12V with a current rating of 2 Amp or better can also be used.

4.1 Jumper Setting & Definition

At power-up, the KSZ9031MNX device is configured via strapping pins that are set by external pull-up and pull-down resistors. The KSZ9031MNX-EVAL board provides jumpers for the KSZ9031MNX device strap-in settings and for selective board options.

Jumpers allow for quick configuration and re-configuration. To override the current KSZ9031MNX device and board settings, simply select and close the desired jumper setting(s) and toggle the on-board manual reset button (S1) for the new setting(s) to take effect.

The KSZ9031MNX-EVAL board jumper settings are defined in the table below.

Jumper	KSZ9031MNX Pin Name	Setting	Function
KSZ9031MNX Device Strapping Pins			
JP1	MODE3	Close pins (1, 2)	Set MODE3 = 1
		Close pins (2, 3)	Set MODE3 = 0
JP2	MODE2	Close pins (1, 2)	Set MODE2 = 1
		Close pins (2, 3)	Set MODE2 = 0
JP3	MODE1	Close pins (1, 2)	Set MODE1 = 1
		Close pins (2, 3)	Set MODE1 = 0
JP4	MODE0	Close pins (1, 2)	Set MODE0 = 1
		Close pins (2, 3)	Set MODE0 = 0
JP11	PHYAD2	Close pins (1, 2)	Set PHYAD2 = 1
		Close pins (2, 3)	Set PHYAD2 = 0
JP12	PHYAD1	Close pins (1, 2)	Set PHYAD1 = 1
		Close pins (2, 3)	Set PHYAD1 = 0
JP13	PHYAD0	Close pins (1, 2)	Set PHYAD0 = 1
		Close pins (2, 3)	Set PHYAD0 = 0
JP10	CLK125_EN	Close pins (1, 2)	Enable 125 MHz Clock Output
		Close pins (2, 3)	Disable 125 MHz Clock Output
JP9	LED_MODE	Close pins (1, 2)	Select Single LED Mode
		Close pins (2, 3)	Select Tri-color Dual LED Mode
KSZ9031MNX-EVAL Board Settings			
JP7	LED2	Close pins (1, 2)	Use for Single LED Mode
		Close pins (2, 3)	Use for Tri-color Dual LED Mode
JP8	LED1	Close pins (1, 2)	Use for Single LED Mode
		Close pins (2, 3)	Use for Tri-color Dual LED Mode
JP6	MDC	Close pins (1, 2)	Select MDC clock to MII Port (J1)
		Close pins (2, 3)	Select MDC clock to USB Controller (U6)
JP5	MDIO	Close pins (1, 2)	Select MDIO signal to MII Port (J1)
		Close pins (2, 3)	Select MDIO signal to USB Controller (U6)
JP14	RX_CLK	Close pins (1, 2)	Select GMII GTX_CLK clock for GMII Loop Back
		Close pins (2, 3)	Select MII RX_CLK clock to MII Port (J1)
JP15	GTX_CLK	Close pins (1, 2)	Select GMII RX_CLK clock for GMII Loop Back
		Close pins (2, 3)	Select MII TX_CLK clock to MII Port (J1)
JP16	RX_ER	Close pins (1, 2)	Select GMII TX_ER signal for GMII Loop Back
		Close pins (2, 3)	Select MII RX_ER signal to MII Port (J1)

Jumper	KSZ9031MNX Pin Name	Setting	Function
JP17	RX_DV	Close pins (1, 2)	Select GMII TX_EN signal for GMII Loop Back
		Close pins (2, 3)	Select MII RX_DV signal to MII Port (J1)
JP18	RXD3	Close pins (1, 2)	Select GMII TXD3 signal for GMII Loop Back
		Close pins (2, 3)	Select MII RXD3 signal to MII Port (J1)
JP19	RXD2	Close pins (1, 2)	Select GMII TXD2 signal for GMII Loop Back
		Close pins (2, 3)	Select MII RXD2 signal to MII Port (J1)
JP20	RXD1	Close pins (1, 2)	Select GMII TXD1 signal for GMII Loop Back
		Close pins (2, 3)	Select MII RXD1 signal to MII Port (J1)
JP21	RXD0	Close pins (1, 2)	Select GMII TXD0 signal for GMII Loop Back
		Close pins (2, 3)	Select MII RXD0 signal to MII Port (J1)
JP22	TX_ER	Close pins (1, 2)	Select GMII RX_ER signal for GMII Loop Back
		Close pins (2, 3)	Select MII TX_ER signal to MII Port (J1)
JP23	TX_EN	Close pins (1, 2)	Select GMII RX_DV signal for GMII Loop Back
		Close pins (2, 3)	Select MII TX_EN signal to MII Port (J1)
JP24	TXD3	Close pins (1, 2)	Select GMII RXD3 signal for GMII Loop Back
		Close pins (2, 3)	Select MII TXD3 signal to MII Port (J1)
JP25	TXD2	Close pins (1, 2)	Select GMII RXD2 signal for GMII Loop Back
		Close pins (2, 3)	Select MII TXD2 signal to MII Port (J1)
JP26	TXD1	Close pins (1, 2)	Select GMII RXD1 signal for GMII Loop Back
		Close pins (2, 3)	Select MII TXD1 signal to MII Port (J1)
JP27	TXD0	Close pins (1, 2)	Select GMII RXD0 signal for GMII Loop Back
		Close pins (2, 3)	Select MII TXD0 signal to MII Port (J1)
JP28	DVDDH	Close Jumper	Select 2.5V for KSZ9031MNX digital I/Os (Set in conjunction with JP29 and JP30)
JP29		Close Jumper	Select 1.8V for KSZ9031MNX digital I/Os (Set in conjunction with JP28 and JP30)
JP30	DVDDH	Close pins (1, 2)	Select 1.8V or 2.5V for KSZ9031MNX digital I/Os (Set in conjunction with JP28 and JP29)
		Close pins (2, 3)	Select 3.3V for KSZ9031MNX digital I/Os
JP31 [1]	MDC	Close Jumper	Close MDC clock to USB Controller (U6)
		Open Jumper	Open MDC clock to USB Controller (U6)
JP32 [1]	MDIO	Close Jumper	Close MDIO signal to USB Controller (U6)
		Open Jumper	Open MDIO signal to USB Controller (U6)

Note: [1] JP31 and JP32 connect the MDC/MDIO signals to U6 when U7 is not populated.

Table 1. KSZ9031MNX-EVAL Board – Jumper Definition

The following table lists the strapping pin definitions for the KSZ9031MNX-EVAL board jumpers.

<table>
<tr><th>Jumper</th><th>Pin</th><th>Pin Name</th><th>Pin Function</th></tr>
<tr><td>JP1
JP2
JP3
JP4</td><td>39
41
43
44</td><td>MODE3
MODE2
MODE1
MODE0</td><td>The MODE[3:0] strap-in pins are latched at power-up / reset and are defined as follows:

<table><tr><th>MODE[3:0]</th><th>Mode</th></tr><tr><td>0001</td><td>GMII / MII</td></tr><tr><td>0100</td><td>NAND Tree</td></tr><tr><td>0111</td><td>Chip Power Down</td></tr></table>
All other MODE[3:0] settings not listed are reserved and are not used by the KSZ9031MNX-EVAL.

MODE[3:0] = 0001 is set as the default for the board.</td></tr>
<tr><td>JP11
JP12
JP13</td><td>48
17
19</td><td>PHYAD2
PHYAD1
PHYAD0</td><td>The PHY Address is latched at power-up / reset and is configurable to any value from 0 to 7.
PHY Address bits [4:3] are always set to '00'.

PHYAD[2:0] = 001 is set as the default for the board.</td></tr>
<tr><td>JP10</td><td>45</td><td>CLK125_EN</td><td>CLK125_EN is latched at power-up / reset and is defined as follows:
Pull-up (1) = Enable 125MHz Clock Output
Pull-down (0) = Disable 125MHz Clock Output
Pin 56 (CLK125_NDO) provides the 125MHz reference clock output option for use by the MAC.

CLK125_EN = 0 is set as the default for the board.</td></tr>
<tr><td>JP9</td><td>56</td><td>LED_MODE</td><td>LED_MODE is latched at power-up / reset and is defined as follows:
Pull-up (1) = Single LED Mode
Pull-down (0) = Tri-color Dual LED Mode

LED_MODE = 1 is set as the default for the board.</td></tr>
</table>

Table 2. Strapping Pin Definitions for KSZ9031MNX-EVAL Board Jumpers

4.2 Test Point Definition

The KSZ9031MNX-EVAL board has 12 usable test points, as defined in the following table.

Test Point	Definition
TP1	XI Clock Input (KSZ9031MNX pin 61)
TP2	CLK125_NDO Clock Output (KSZ9031MNX pin 56)
TP3	Interrupt Signal (KSZ9031MNX pin 53) with 4.7K external pull-up
TP4	AVDDL voltage – KSZ9031MNX power pins
TP5	AVDDL_PLL voltage – KSZ9031MNX power pin
TP6	DVDDL voltage – KSZ9031MNX power pins
TP7	DVDDH voltage – KSZ9031MNX power pins
TP8	AVDDH voltage – KSZ9031MNX power pins
TP9	Signal Ground
TP10	Signal Ground
TP11	Signal Ground
TP12	Signal Ground

Table 3. KSZ9031MNX-EVAL Board – Test Point Definition

4.3 RJ-45 Copper Interface

The RJ-45 copper interface (RJ1) connects to standard unshielded twisted pair (UTP) CAT-5 Ethernet cable to interface with 10Base-T/100Base-TX/1000Base-T network devices.

The KSZ9031MNX copper media interface can automatically detect and correct for differential pair misplacements and polarity reversals, and correct propagation delays and re-sync timing between the four differential pairs, as specified in the IEEE 802.3 standard for 1000Base-T operation.

Auto MDI/MDI-X is supported for automatic detection and correction for straight and crossover cables when interfacing to link partners with fixed MDI or MDI-X setting.

4.4 LED Indicators

The KSZ9031MNX device provides two programmable LED output pins, LED2 (pin 17) and LED1 (pin 19). On the KSZ9031MNX-EVAL board, these two LED pins are connected to two sets of LEDs to support two LED configurations: Single LED mode and Tri-color Dual LED mode.

4.4.1 Single LED Mode

To enable Single LED mode,

- Close pins (1, 2) of jumpers JP7 and JP8 to select D2 and D3, respectively for the single LEDs.
- Close pins (1, 2) of jumper JP9 to set the LED_MODE strap-in for Single LED mode.
- Power-up the board.

After board power-up, the on-board D2 and D3 LEDs are defined as follows:

LED	LED Definition	Link / Activity
D2	OFF	Link off
	Green – ON	Link on (any speed)
D3	OFF	No Activity
	Green – Blinking	Activity (RX, TX)

Table 4: Single LED Mode – LED Definition

4.4.2 Tri-color Dual LED Mode

To enable Tri-color Dual LED mode,

- Close pins (2, 3) of jumpers JP7 and JP8 to select D4 for the tri-color dual LED.
- Close pins (2, 3) of jumper JP9 to set the LED_MODE strap-in for Tri-color Dual LED mode.
- Power-up the board.

After board power-up, the on-board D4 LED is defined as follows:

LED: D4	Link / Activity
OFF	Link off
Green – ON	1000Mbps Link / No Activity
Green – Blinking	1000Mbps Link / Activity (RX, TX)
Red – ON	100Mbps Link / No Activity
Red – Blinking	100Mbps Link / Activity (RX, TX)
Orange – ON	10Mbps Link / No Activity
Orange – Blinking	10Mbps Link / Activity (RX, TX)

Table 5: Tri-color Dual LED Mode – LED Definition

4.5 Gigabit Media Independent Interface (GMII)

The KSZ9031MNX-EVAL Board is shipped with the GMII signals configured for GMII Loopback. Pins 1 and 2 of jumpers [JP14—JP27] are closed to connect the GMII output clock and signals to their respective GMII input clock and signals. Refer to KSZ9031MNX Evaluation-Socket Board Schematic for details.

GMII Loopback enables the KSZ9031MNX device to operate on a standalone evaluation platform without the need of an external GMAC for 1000Mbps mode operation. Gigabit (1000Base-T) Ethernet traffic from the link partner (Spirent SmartBits 6000B in the following figure) is received by the KSZ9031MNX device, looped back externally via GMII pins and jumpers [JP14—JP27], and transmitted back to the link partner.

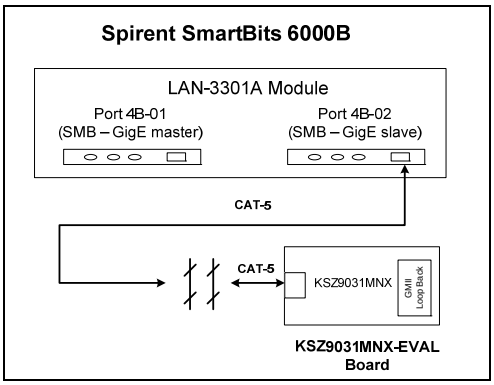


Figure 2. KSZ9031MNX-EVAL Board – GMII Loop Back

4.6 Media Independent Interface (MII)

The KSZ9031MNX-EVAL Board provides access to the MII clocks and signals at the MII Port (J1). Pins 2 and 3 of jumpers [JP14—JP27] are closed to connect the MII clocks and signals from the KSZ9031MNX device to the MII Port (J1). Similarly, pins 1 and 2 of jumpers [JP6, JP5] are closed to connect the MII Management pins (MDC, MDIO) from the KSZ9031MNX device to the MII Port (J1). Refer to KSZ9031MNX Evaluation-Socket Board Schematic for details.

The following figure shows the KSZ9031MNX-EVAL Board attached to Spirent SmartBits (Ethernet traffic generator/analyzer) for testing. MII Port (J1) provides the 10/100 MAC interface and plugs directly into the connector of the SX-7210 Module, while the RJ-45 connector (RJ1) provides the 10/100 copper interface and is connected via CAT-5 Ethernet cable to the SX-7410 Module.

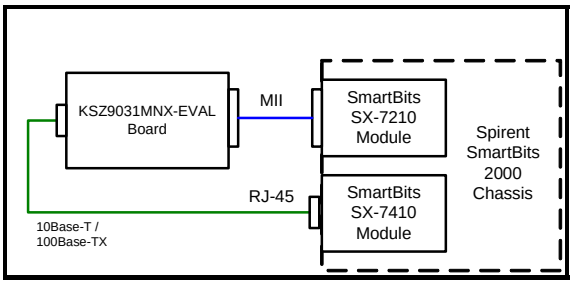


Figure 3. KSZ9031MNX-EVAL Board – MII Interface Connection with Spirent SmartBits

The Micrel KSZ88xx 3-port Switch evaluation boards have the corresponding 10/100 MII MAC interface connectors that plug directly into the MII Port (J1) of the KSZ9031MNX-EVAL Board to provide an end-to-end 10/100 copper to 10/100 copper evaluation platform.

The MII Port (J1) is a 40-pin male edge connector that interfaces with and plugs directly into the mating AMP 787170-4 (40-pin, right angle, female) connector

The following table lists the pin outs for the MII Port (J1).

Pin #	Signal	Pin #	Signal
1	VCC (NC)	21	VCC (NC)
2	MDIO	22	Ground
3	MDC	23	Ground
4	RXD3	24	Ground
5	RXD2	25	Ground
6	RXD1	26	Ground
7	RXD0	27	Ground
8	RX_DV	28	Ground
9	RX_CLK	29	Ground
10	RX_ER	30	Ground
11	TX_ER	31	Ground
12	TX_CLK	32	Ground
13	TX_EN	33	Ground
14	TXD0	34	Ground
15	TXD1	35	Ground
16	TXD2	36	Ground
17	TXD3	37	Ground
18	COL	38	Ground
19	CRS	39	Ground
20	VCC (NC)	40	VCC (NC)

Table 6. MII Port (J1) – MII Pin Definition

4.7 USB Port

The USB port (CN1) provides programming access to the KSZ9031MNX device's PHY registers through its MDC/MDIO management pins.

See following software section for PHY register access.

5.0 Micrel MdioConfig Software – Installation

The Micrel MDIO Configuration Software (**MdioConfig.exe** program) runs on a PC/NOTEBOOK with the Window XP or 7 Operating System. It communicates with the KSZ9031MNX-EVAL board via USB to provide programming access to the KSZ9031MNX device's PHY registers.

The Micrel software is provided in a Microsoft Windows Installer installation package file (*.msi file) with the following file name.

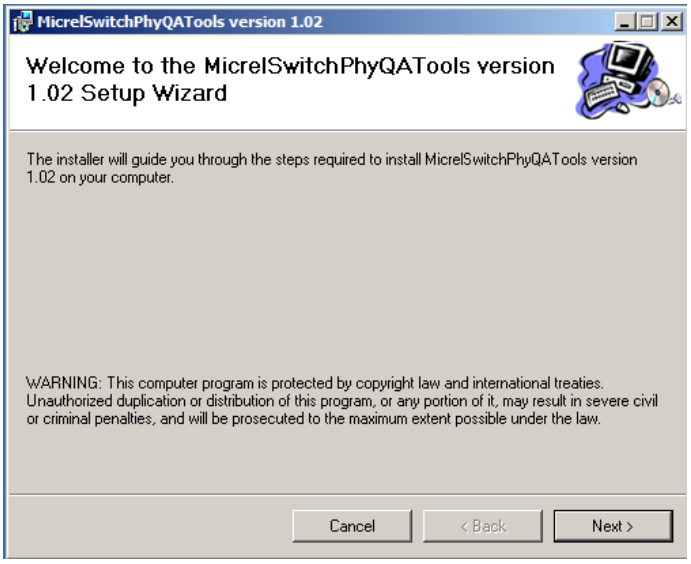
MicrelSwitchPhyQATools_x.xx.msi // where x.xx is the release version number

5.1 MicrelSwitchPhyQATools Installation

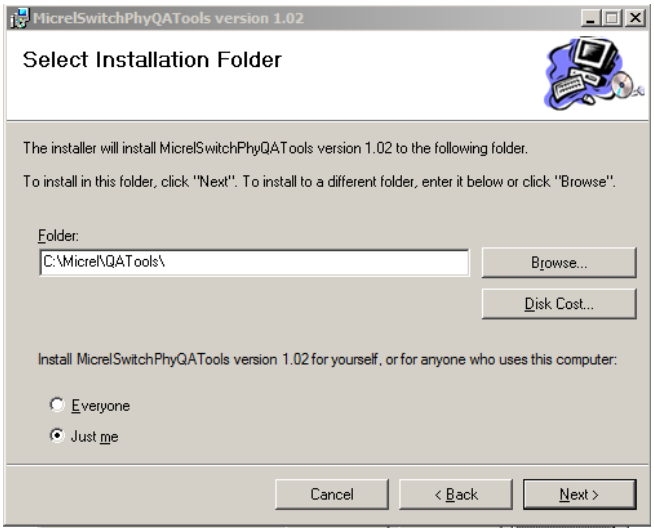
Before running the **MicrelSwitchPhyQATools** installation, make sure previously installed version of the **MicrelSwitchPhyQATools** software has been removed and the USB cable to the KSZ9031MNX-EVAL board is unplugged.

To unpack the **MicrelSwitchPhyQATools_x.xx.msi** file and start the installation, double click on the file name from Windows Explorer, and proceed with the following steps:

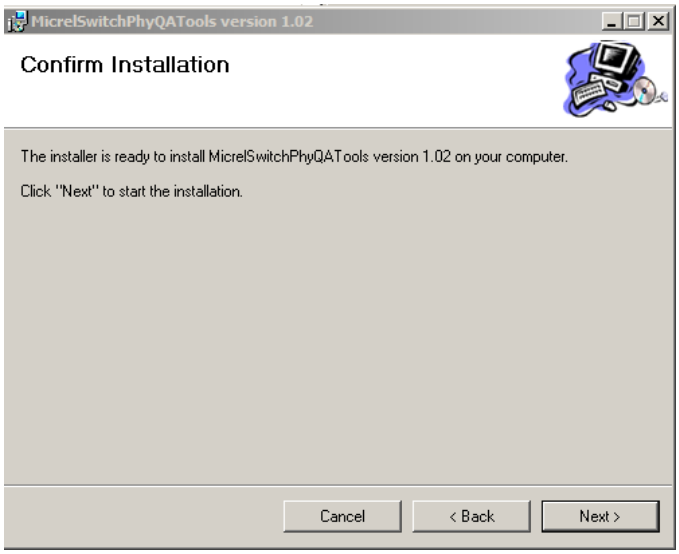
1. At the "**Welcome"** screen, press the **Next>** button.



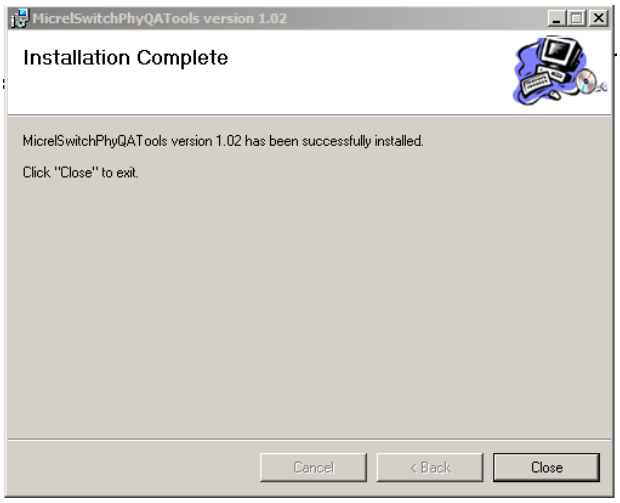
2. At the "**Select Installation Folder"** screen,
    a. Select the folder for the software installation (c:\Micrel\QATools\ is the default installation folder).
    b. Press the **Next>** button.



3. At the "**Confirm Installation"** screen,
    a. Press the **Next>** button for the installation to proceed.
    b. Wait a few seconds for the installation to finish.



4. When the installation is finished, the "**Installation Complete"** screen is returned. Press the **Close>** button to exit.



After the **MicrelSwitchPhyQATools** installation, an installation folder (c:\Micrel\QATools\ is the default installation folder) is created containing the **mdioConfig** application program and software drivers for the KSZ9031MNX-EVAL board's USB port.

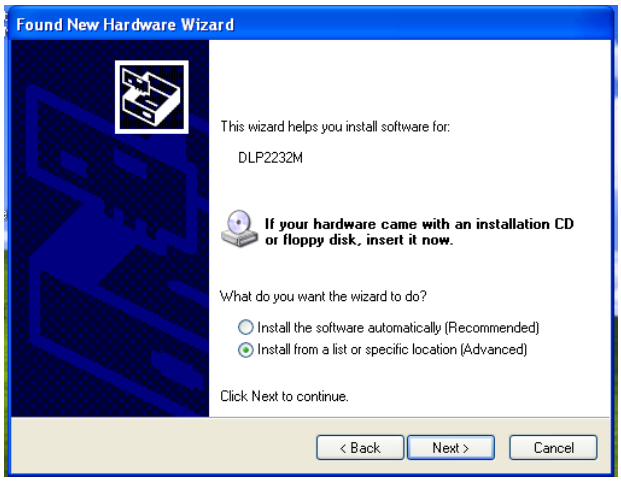
5.2 USB Driver Installation

Before installing the USB driver, complete the **MicrelSwitchPhyQATools** software installation in the previous section to extract the USB driver from the **MicrelSwitchPhyQATools_x.xx.msi** installation file and have it copied to the created installation folder.

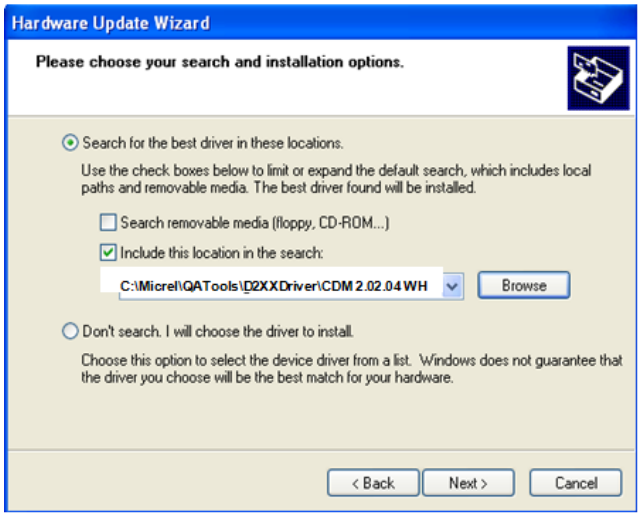
Power-up the KSZ9031MNX-EVAL Board and connect USB cable from board to PC/NOTEBOOK with the Windows XP or 7 Operating System to initiate the USB driver installation, and proceed with the following steps:

1. Windows XP detects the KSZ9031MNX-EVAL board's USB device. At the "**Welcome to the Found New Hardware Wizard"** screen,
    a. Select "**No, not this time".**
    b. Press the **Next>** button.

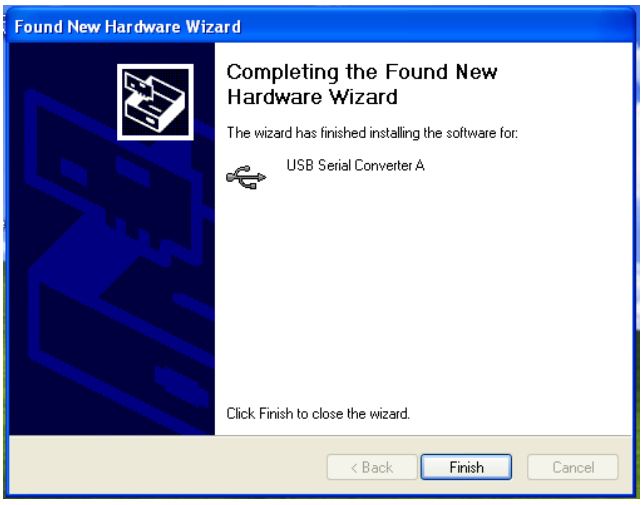
2. At the "**… install software for:"** screen,
    a. Select "**Install from a list or specific location (Advanced)".**
    b. Press the **Next>** button.



3. At the "**Please choose your search and installation options"** screen,
    a. Select **"Include this location in the search:"**
    b. Press the **Browse** button and navigate to and select the USB driver directory (**C:\Micrel\QATools\D2XXDriver\CDM 2.02.04 WHQL Certified** is the USB driver directory for the default installation folder).
    c. Press the **Next>** button for the USB driver installation to proceed.
    d. Wait for the USB driver installation to finish.

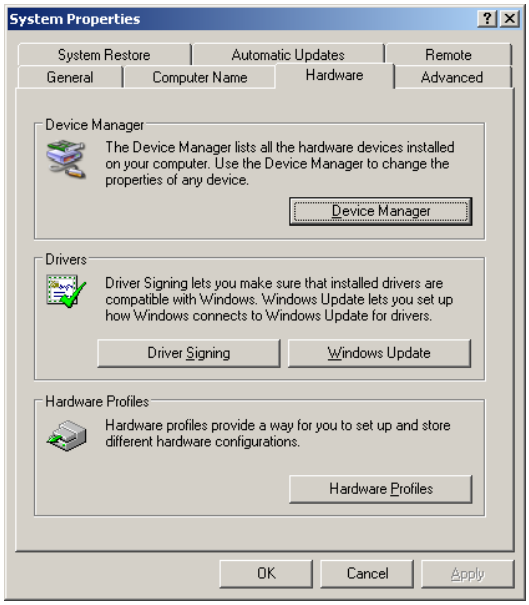


4. At the "**Completing the Found New Hardware Wizard"** screen, press the **Finish** button to close the wizard and exit.



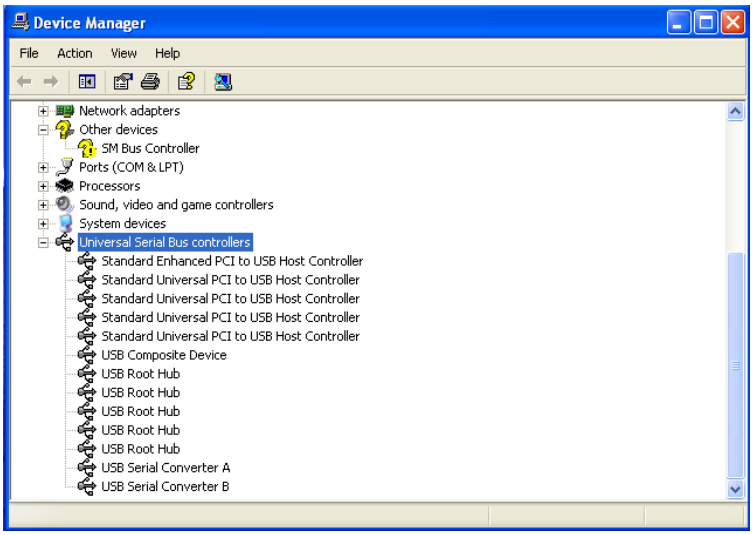
5. After the USB driver installation, verify the USB driver is installed.

   a. Go to the **Windows XP System Properties** box (select the System icon under Windows Start Menu -> Settings -> Control Panel).



b. Press the **Device Manager** button

c. Scroll down to the end of Universal Serial Bus controllers to verify "**USB Serial Converter A**" and "**USB Serial Converter B**" are installed.



6.0 MicrelMdioConfig Software – Application Programs

The **Micrel MdioConfig** application program resides in the software installation folder created in the previous section (c:\Micrel\QATools\ is the default installation folder). The following application program in the folder will be used to provide read/write access to the KSZ9031MNX PHY registers.

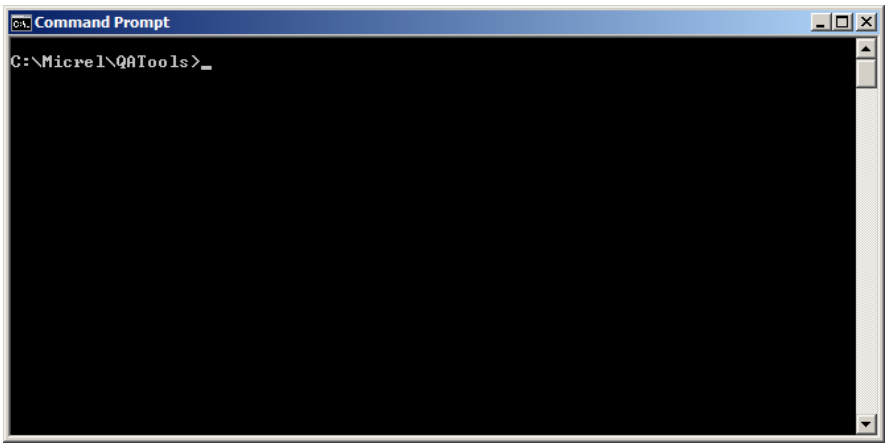
- **mdioConfig.exe** // Windows Command Prompt program

6.1 Windows Command Prompt – Command Line program

The **mdioConfig.exe** program is a command line interface program.

6.1.1 Running the program

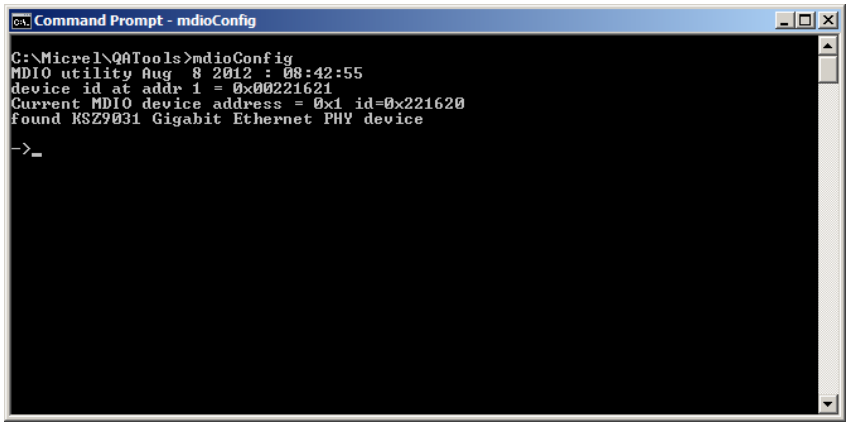
The **mdioConfig.exe** program is executed from a Windows Command Prompt. Open a Windows Command Prompt (select the Command Prompt under Windows Start Menu -> Programs -> Accessories) and go to the **mdioConfig.exe** program directory (c:\Micrel\QATools\ is the program directory for the default installation folder), as shown in the following figure.



mdioConfig.exe Program – Windows Command Prompt

The **mdioConfig.exe** program is started by typing the **mdioConfig.exe** program name at the Windows Command Prompt and pressing the **<ENTER>** key.

After pressing the **<ENTER>** key at the previous screen, the program will automatically detect and set the KSZ9031MNX PHY address for the programming session, and then display the command line prompt, "->", as shown in the following figure.



mdioConfig.exe Program – Command Line Prompt

6.1.2 Read/Write access to KSZ9031MNX PHY registers

Direct register read and direct register write can be used to check and/or update individual PHY register setting, as needed. The following are the commands and parameters:

Direct Register Read

r [register address (hex)]

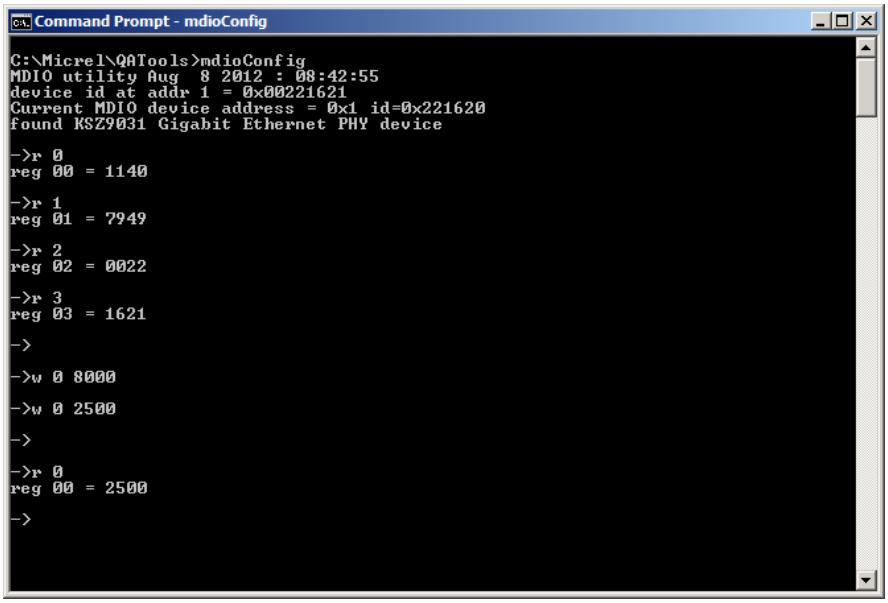
r 0	// Read PHY register 0h
r 1	// Read PHY register 1h
r 2	// Read PHY register 2h
r 3	// Read PHY register 3h

Direct Register Write

w [register address (hex)] [written value (hex)]

w 0 8000	// Write PHY register 0h with value 0x8000h
w 0 2500	// Write PHY register 0h with value 0x2500h

The following screen shows the execution of the direct register read/write commands.



mdioConfig.exe Program – Direct Register Read / Write Examples

6.1.3 Creating and running a script file

A group of single command lines can be put in a text file (*.txt) to produce a PHY configuration script file. The script file can then be run to program a set of PHY registers.

The script file format is as follow:

- Lines starting with the "#" symbol are ignored and can be used to provide comments
- Empty lines with just the **<ENTER>** key are ignored
- Each command line for register read or register write is entered on a separate line and followed by the **<ENTER>** key

For example, the following is the content of a script file called "**sample.txt**".

```
# Sample script file to read PHY registers 0-3 and write to PHY registers 0 twice
#

r 0
r 1
r 2
r 3
w 0 8000
w 0 2500
```

Copy the script file into the software installation folder created earlier in section 5.0 (c:\Micrel\QATools\ is the default installation folder).

Type the following script file command line and press the **ENTER** key to execute the script file.

run sample.txt

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