NXP I^{2}C 2002-1A evaluation board kits OM6285 and OM6278
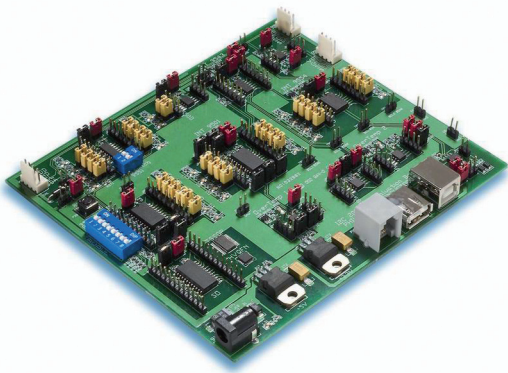
Evaluate the I^{2}C-bus with a comprehensive kit

This full-featured yet easy-to-use evaluation kit gives you everything you need to start experimenting with the many design options of NXP's general-purpose I^{2}C-bus portfolio.

OM6278 / Low Cost OM6285 (*) kit features

‣ I2C 2002-1A evaluation board with 11 I^{2}C-bus slave devices*
‣ I2CPORT v2 adapter card with 4-wire connection cable
‣ USB adapter card*
‣ 9-V power supply*
‣ CD-ROM with operating instructions and Win-I2CNT application software

Devices on I2C 2002-1A evaluation board

‣ PCA9501 8-bit GPIO with interrupt and 2K EEPROM
‣ PCA9561 Quad 6-bit multiplexed DIP-switch
‣ PCA9543 2-channel switch with interrupt logic and reset
‣ PCA9554 8-bit GPIO with interrupt
‣ PCA9555 16-bit GPIO with interrupt
‣ PCA9550 2-bit programmable LED blinker
‣ PCA9551 8-bit programmable LED blinker
‣ PCF8582C-2 256 x 8-bit CMOS EEPROM
‣ LM75A Digital temperature sensor with watchdog
‣ PCA9515 I^{2}C-bus repeater
‣ P82B96 I^{2}C-bus high voltage buffer

Applications

‣ Explore I^{2}C-bus features, including
 – Program and blink LEDs
 – Control temperture sensors and EEPROMS

The OM6278 evaluation kit provides a simple, easy-to-use introduction to the NXP portfolio of general-purpose I^{2}C-bus devices. It includes an evaluation board, a port adapter card, a USB adapter card, a power supply, software, and complete instructions, and lets designers perform a variety of experiments.

Here are some of the things the kit will let you do:

‣ **Program and blink LEDs**
 Use the various GPIO and the LED blinkers to experiment with the LED functions. Note that the LED blinker can continue to blink the LEDs when the I^{2}C-bus is disconnected.

‣ **Control temperature sensors and EEPROMs**
 Configure the two-channel switch PCA9534 as a multiplexer and a voltage translator (translating between 3.3 and 5 V), and work with the temperatures sensors and the 2-k EEPROMs. See what happens when the master sends commands to devices with the same address at the same time, and see how the temperature sensors responds at different voltage levels.

▸ **Replace the DIP switch**
Program the multiplexer I²C-bus EEPROM to replace a DIP switch.

OM6278 contents

The I2C 2002-1A evaluation board is a two-layer circuit board (6 x 5 inches) equipped with eleven different I²C-bus slave devices that represent NXP's general-purpose I²C-bus families.

The I2CPORT v2 adapter card plugs into the PC parallel port and provides the interface between the PC (bus master) and the evaluation board's I²C-bus slaves. The interface runs at over 100 kHz. The kit's 4-wire connection cable connects the I2CPORT v2 adapter card to the evaluation board at normal SDA/SCL signal levels.

The USB adapter card connects the I2CPORT v2 adapter card to the evaluation board via the P92B96 and a USB cable (not included). The connection isn't a standard USB connection; the USB cable and the USB connectors are used to carry the SCL/SDA signals at special P82B96 voltage levels.

The 9-volt power supply provides power to the devices and LEDs on the evaluation board. It operates from 100 to 240 V at 47 to 66 Hz Edison plus on one side, and from a 9-V mini-plug on the other.

On the kit's CD-ROM, there are operating instructions (including detailed applications notes, software operating instructions, and set-up procedures), and Win-I2CNT software.

Win-I2CNT is 32-bit application software compatible with Windows 95/98/ME/200/NT and XP operating systems. It provides the device-specific and universal-mode graphic interface between the PC and the adapter card, and controls the I²C-bus slave devices on the evaluation board.

Low cost OM285 contents

Contains just the I²C slave devices and not the master or software to provide a low cost target board for use with your own master or controller.

Ordering information

Purchase either board at www.digikey.com or www.demoboard.com.

The I2C 2002-1A evaluation board kit

www.nxp.com/i2clogic