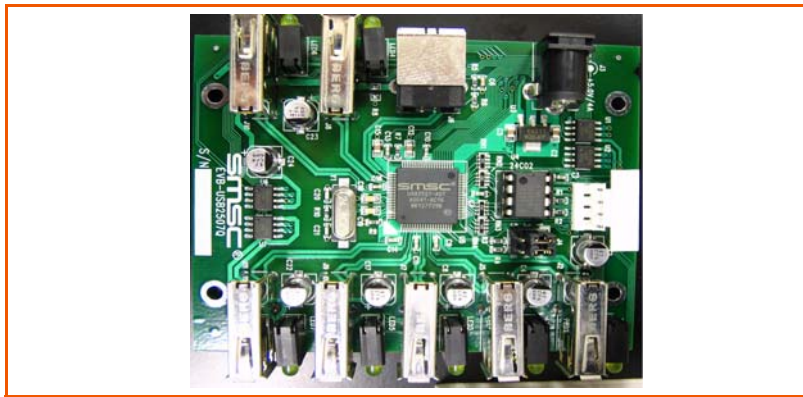


EVB-USB2507 Evaluation Board



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1 Overview

1.1 Features

- Operates from a single voltage (+5.0V, regulated) wall wart external power supply
- Onboard +3.3V Regulator
- Self-powered operation
- Serial EEPROM for configuration information mounted in a socket
- Header for SMBUS connection
- Full set of green and amber LED indicators
- Individual port over-current sense and power switching
- Multi-TT enabled
- High-speed/Full-speed capable
- 100mS down stream port power on time
- 1mA VBUS current consumption

1.2 General Description

The primary purpose of this board is to demonstrate a full-featured HUB configuration for the SMSC USB2507 7-port HUB. This does not represent a minimal cost design. The EEPROM allows for modifications to the base configuration - for example one or more down stream ports can be disabled or configured as non-removable for compound device application. The DID, PID or DID information can be changed for the HUB. The top silk screen of the evaluation board is shown in figure 1.

The EVB-USB2507Q board can be configured via EEPROM or from an external SMBus master. If an external SMBus master is available it can be connected to header J1. Table 1 shows the jumper settings to select SMBus or EEPROM. Note that internal default is not supported on this board.

The EVB-USB2507Q can configure the hub to report as self-powered or bus-powered. Table 2 shows the jumper selection.

The board itself does not support true bus power mode. The external power supply must be connected for the board to operate.

A Windows utility E2PROMAPP is included in the package to allow modifications of the base configuration EEPROM. The bin file evb-usb2507_01.bin contains the base configuration. A screen shot from the application is shown in figure 2. After changes has been selected click the button "Create EEPROM File". Note that if the output file name is the same as the input file name it will be overwritten with the new values. The output file name can be changed before creating a new bin file. The bin file format is compatible with most EEPROM programmers.

Table 1 Configuration Source

CONFIGURATION	CFG_SEL1	CFG_SEL0
SMBus Configuration (SMBUS connects to J1)	J4 shunt 3-5 (0)	Don't care
Internal default with strapping options	J4 shunt 1-3 (1)	J1 shunt 3-4 (0)
EEPROM configuration	J4 shunt 1-3 (1)	J1 open 3-4 (1)

Table 2 Self/Bus Powered Operation

MODE	SELF_PWR
Bus Powered Operation	J4 shunt 4-6 (0)
Self Powered Operation	J4 shunt 2-6 (1)

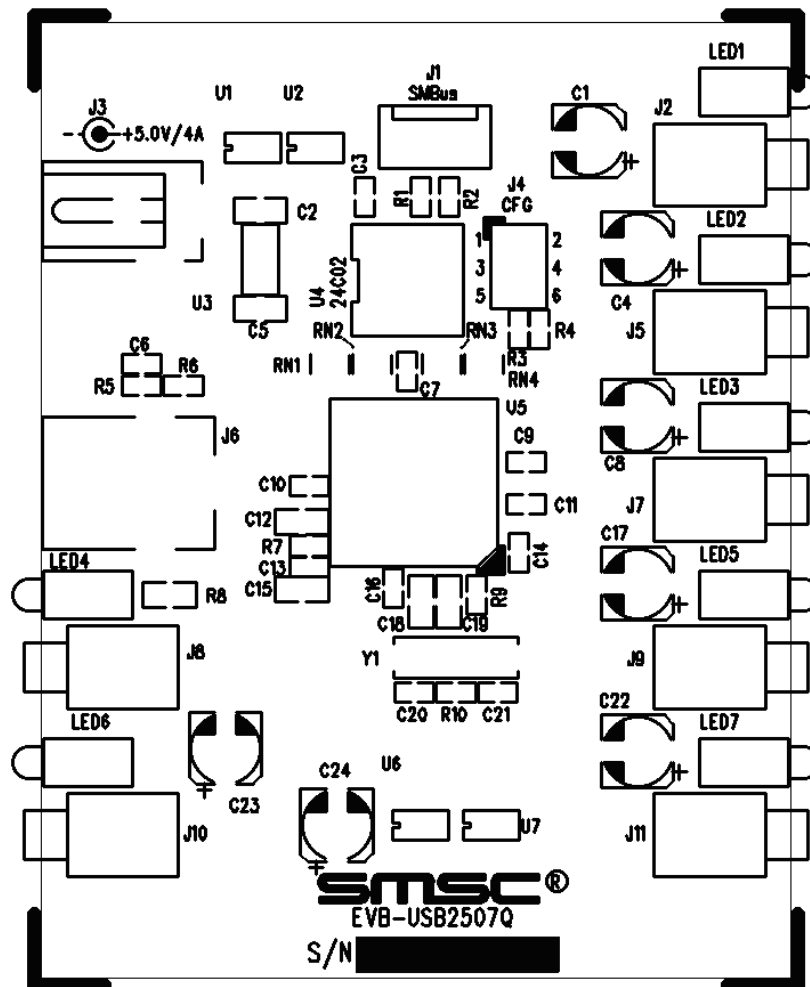


Figure 1.1 Top Silk Screen of EVB-USB2507Q

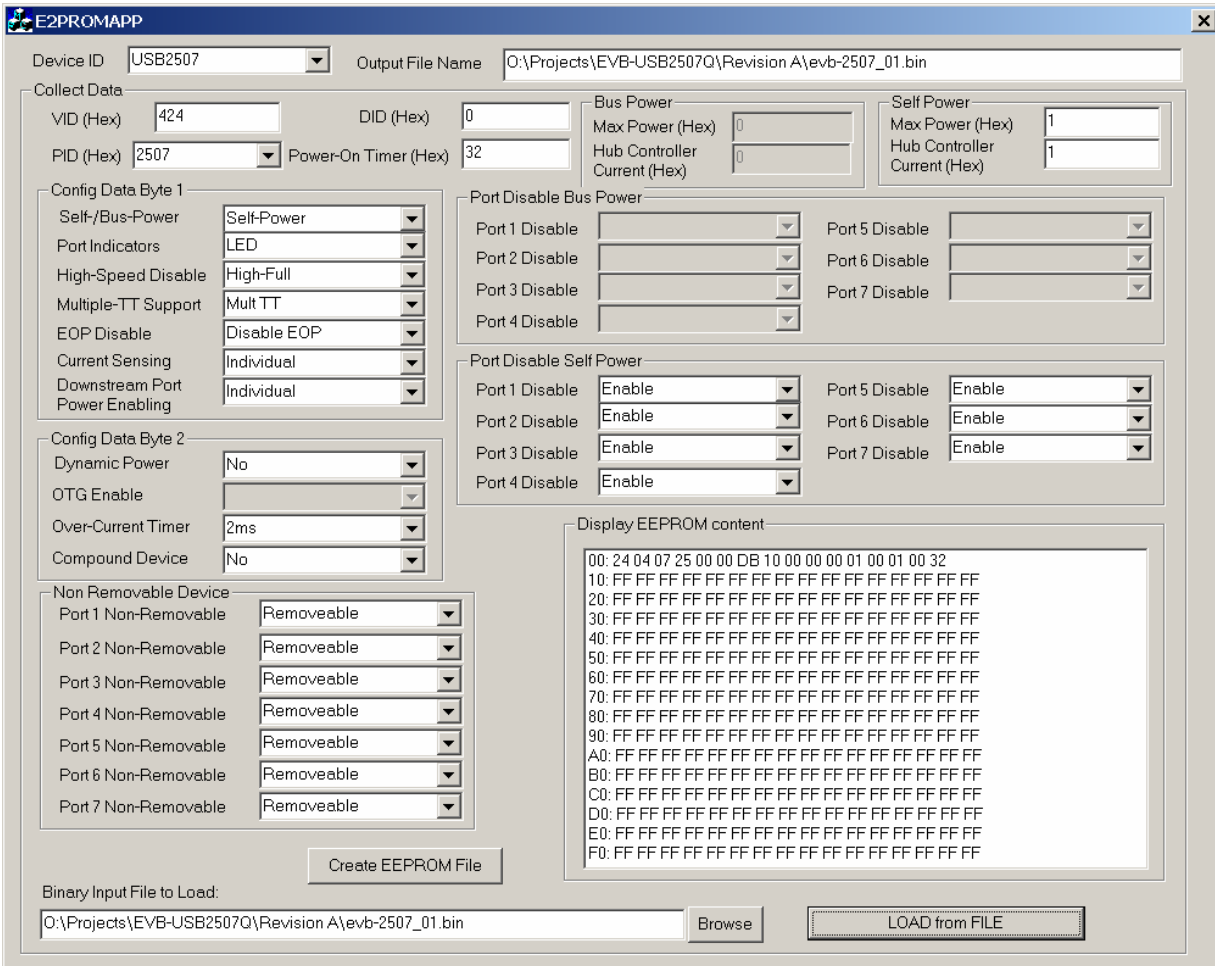


Figure 1.2 E2PROMAPP EEPROM Configuration Utility