SXP 36x3G Evaluation Kit

FEATURES

The SXP 36x3G Evaluation Kit (PM2319-KIT) allows evaluation of the PM8387 SXP 36x3G 36 Port SAS Expander with Serial ATA or SAS Hard Disk Drives, as well as allowing signal integrity measurements via SMA coaxial connectors. Users may use the kit in conjunction with a SAS controller/initiator or may utilise the built-in data generator and checker for signal integrity measurements. A Windows-based GUI provides access to all hardware functions and status information.

SXP 36X3G EVALUATION CARD

This card contains an SXP 36x3G Expander device, an SGPIO fan-out FPGA, a CPLD (for pin configuration, programming SEEPROM and TWI control), a temperature sensor device, fan controller device, FLASH (1M x 16-bit), SRAM (1M x 16-bit), clock circuitry, and SAS 4X External (SFF 8470) connectors

for all high speed serial interfaces. It also contains a DB9 connector for a 16550 UART interface and an EJTAG connector for debugging the integrated MIPS-based processor.

The Evaluation Card can be configured via a USB or serial port connection to a laptop or desktop computer, or may be operated in a standalone configuration. The Evaluation Card provides access to the three Two Wire Interface (TWI) which can be used for various purposes. The on-board TWI(s) may be extended to other boards for debug purposes.

The Evaluation Card is powered from a PC power supply, and accepts a 4 pin ATX-style power connector. On-board regulation is provided for all supply voltages, with the exception of the hard disk drive power supplies.

The approximate dimensions of the Evaluation Card are 30 cm by 30 cm.
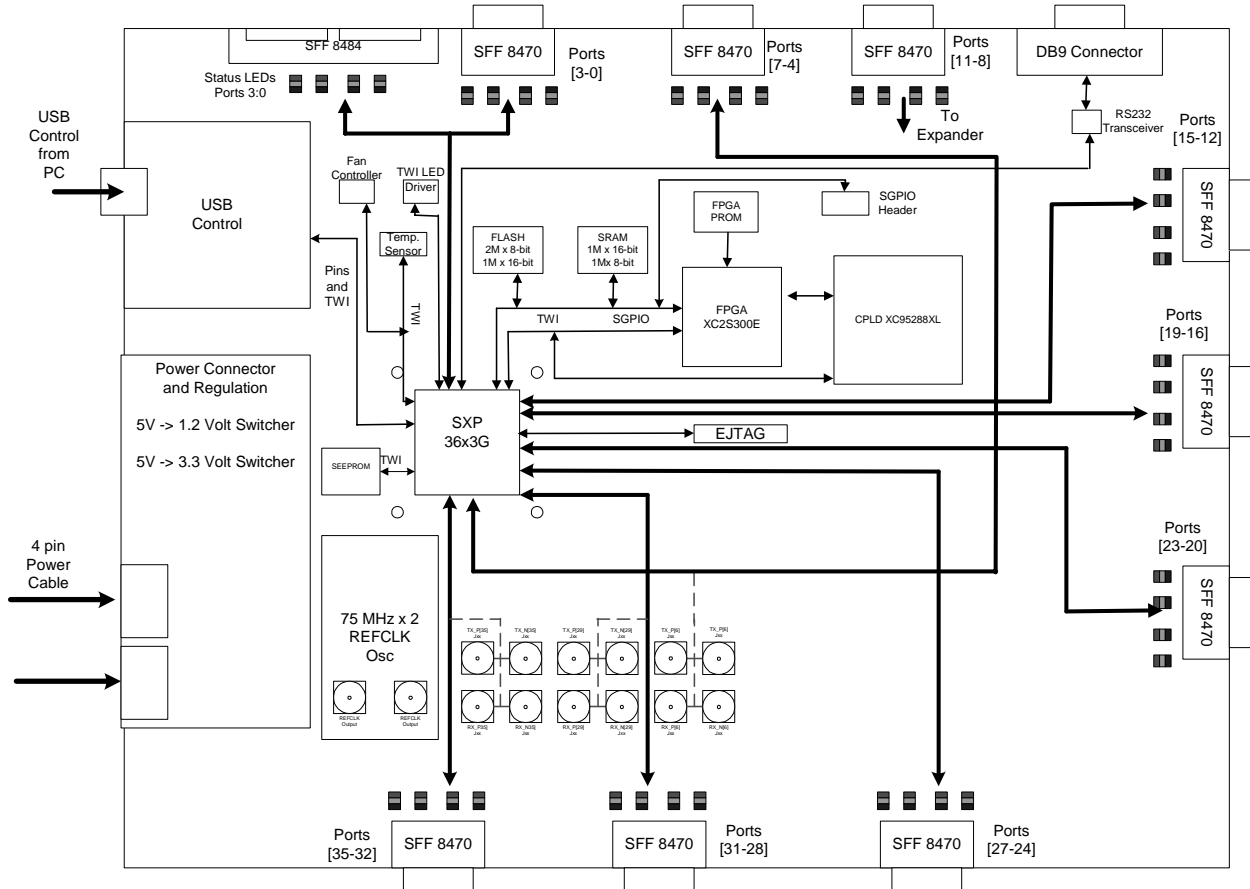
SMA ADAPTER CARD

When used in conjunction with the SMA interfaces on the Evaluation Card, the SMA Adapter Card provides the ability to connect HDDs to the SXP 36x3G via a backplane channel with SMA interfaces. This allows inter-operability testing between the SXP 36x3G and HDDs through a customer supplied channel.

SOFTWARE FEATURES

The demonstration software supplied with the SXP 36x3G Evaluation Kit provides a graphical user interface with support for the following major functions:
- Access to registers in SXP 36x3G device.
- Control of external pins on the SXP 36x3G device.
- Automated user-defined configuration of all devices using TCL scripts.
- Status and mode indicators for the SXP 36x3G device.

SXP 36X3G EVALUATION CARD BLOCK DIAGRAM

SXP 36x3G Evaluation Kit

PM2319-KIT

The PM2319-KIT SXP 36x3G Evaluation Kit consists of the following:
- Software Installation CD ROM.
  - Evaluation Kit software installation files.
  - Evaluation Kit User's Guide.
  - Evaluation Kit Design Document.
- Evaluation Kit circuit boards.
  - SXP 36x3G Evaluation Card.
  - SMA Adapter Card.
- USB Cable, 3 metres in length.
- UART Cable.

NOTE

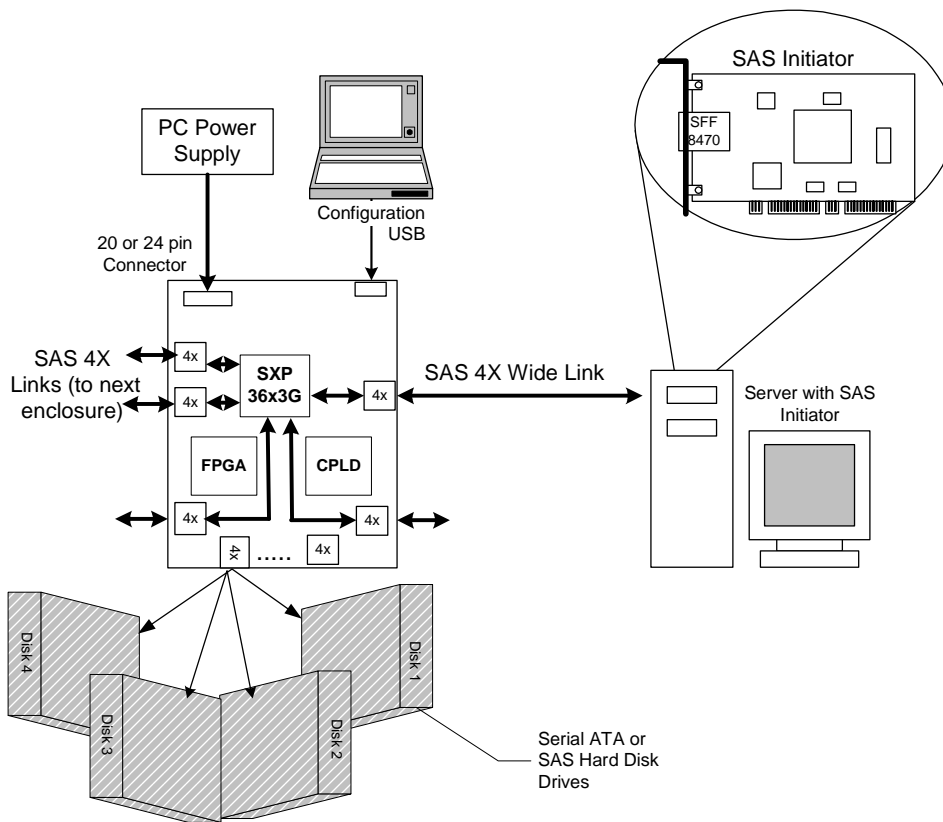The following items are required for operation of the kit and must be supplied by the user:
- Personal computer running Windows 2000 or Windows XP / XP Pro with an available USB Port.
- SATA 4x Cables and/or length matched SMA cable pairs.

The following items (user to supply) are optional for operation of the kit:
- SAS and/or SATA HDDs.
- SAS Controller/Initiator.
- High-speed oscilloscope for performing eye diagram measurements.
- Jitter analyzer (such as Wavecrest) for analysis of jitter components.

TYPICAL APPLICATION

SXP 36X3G TESTING WITH HARD DISK DRIVES AND SAS INITIATOR