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TECHNICAL NOTE 4027

Certification Letter of Volatility
for
SL100/SL240 Multi-Channel PCIe/XMC Cards

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Introduction

This TECHNOTE answers the following questions concerning memory on FibreXtreme SL100/SL240 Multi-channel PCIe and XMC PCIe cards.

1. What kinds of memory are in the device?
2. How much memory does the device have?
3. Is the memory volatile or non-volatile?
4. Is the memory user assessable?
5. How can the memory be cleared?

Discussion

Information concerning the memory on the FibreXtreme SL100/SL240 cards is described below. The order numbers this information applies to are listed in the Board Versions section.

Memory Size	Memory Type	Volatile/Non-Volatile	Contains User Data	Clearing Method	Write Protect Method
16 Mb	Flash	Non-volatile	No	Factory	None
256 MB (PCIe)	DDR2	Volatile	Yes	Power Cycle	n/a
512 MB (XMC)	DDR2	Volatile	Yes	Power Cycle	n/a
Additional on XMC PCIe only.					
2KB	EEPROM	Non-volatile	No	Factory	None

The 16 Mb Flash EEPROM contains the firmware code for the card. It can be written to using Curtiss-Wright Controls' nsljam utility or ALTERA's JTAG programming utility. It is not in the data path and there is no way to write-protect the chip.

The DDR2 is cleared of the user data by power cycling the card.

Transceivers

The transceiver(s) provided with the SL100/SL240 products may contain non-volatile storage. There is no hardware or software means present on any of the SL100/SL240 products that would allow access to this storage. Therefore, the transceiver's non-volatile storage is not user accessible while installed in the SL100/SL240. However, in the case of removable transceivers provided with certain SL100/SL240 products, it is possible that these transceivers may be removed from these products and placed into systems that may provide access to the non-volatile storage. In this case, it is the user's responsibility to ensure that access to this storage is controlled in a manner consistent with the user's policies. Reference the transceiver manufacturer's datasheet for more information.

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EEPROM on XMC PCIe Cards (Table 2)

The VITA 42 XMC standard requires that the SL240 XMC card provide hardware definition information within an onboard EEPROM that may be read by an external controller using IPMI commands and I2C serial bus transactions. This information is referred to as an FRU record (Field Replaceable Unit). The FRU record contains a record header with the record sub-type, record length, checksum, and manufacturer's ID. Following the header is the sub-record with the FRU information in addition to the data protocol within the IPMI EEPROM.

The FRU memory is factory programmed and contains board manufacturing and configuration data only. This memory is not in the active data path and cannot control data flow nor retain received or transmitted data.

Board Versions

Table 1 SL240 PCIe Multi-channel

Order Number	Description
FHA5-PE1MWB04-00	SL-100 PCIe, x8 form-factor with one SFP optical transceiver.
FHA5-PE2MWB04-00	SL-100 PCIe, x8 form-factor with two SFP optical transceivers.
FHA5-PE4MWB04-00	SL-100 PCIe, x8 form-factor with four SFP optical transceivers.
FHA7-PE1MWB04-00	SL-240 PCIe, x8 form-factor with one SFP optical transceiver.
FHA7-PE2MWB04-00	SL-240 PCIe, x8 form-factor with two SFP optical transceivers.
FHA7-PE4MWB04-00	SL-240 PCIe, x8 form-factor with four SFP optical transceivers.

Table 2 SL240 XMC PCIe Multi-channel

Order Number	Description
FHA5-XE1MWB04-00	SL-100 XMC PCIe, x8 form-factor with one SFP optical transceiver.
FHA5-XE2MWB04-00	SL-100 XMC PCIe, x8 form-factor with two SFP optical transceivers.
FHA5-XE4MWB04-00	SL-100 XMC PCIe, x8 form-factor with four SFP optical transceivers.
FHA7-XE1MWB04-00	SL-240 XMC PCIe, x8 form-factor with one SFP optical transceiver.
FHA7-XE2MWB04-00	SL-240 XMC PCIe, x8 form-factor with two SFP optical transceivers.
FHA7-XE4MWB04-00	SL-240 XMC PCIe, x8 form-factor with four SFP optical transceivers.

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