



Microsemi Corporation

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Change Notification No: CN1401

CN Change Level: Major

Subject: High Speed Serial Interfaces Configurator Incorrect Generation

Dear Customer,

The SmartFusion[®]2 and IGLOO[®]2 SERDESIF component is incorrectly programmed in Libero[®] SoC 11.2 and 11.2 SP1. This impacts all M2Sxxx and M2GLxxx devices, listed in the table at the end of this document. The incorrect programming will cause SERDES links' problems on the actual device as well as in the RTL simulation model. The BFM_PClE simulation model will not experience any problems with this issue.

For several protocol combinations, the SERDESIF Configurator GUI incorrectly programs the SERDES lane data path multiplexors. One of these protocol combinations is the PCIe x1 link used on the IGLOO 2 Evaluation Kit.

It is possible for the user to modify the programming of the registers and alleviate the problem early in the design flow. This can be accomplished inside the High Speed Serial Interfaces Configurator using the "Edit Registers..." button. Select the "Edit Registers..." button in the SERDESIF Configurator GUI. Table 1 provides the correct values for the invalid configurations. Modify the SYSTEM_CONFIG_PHY_MODE_0 and SYSTEM_CONFIG_PHY_MODE_1 registers to the correct values and generate the component.

Table 1: Correct Values for Invalid Configurations

Protocol 1	Protocol 2	SYSTEM_CONFIG_PHY_MODE_0	SYSTEM_CONFIG_PHY_MODE_1	11.2 & 11.2 SP1
PCIe x1	None	0xFFFF0	0xF1E	Invalid
PCIe x2	None	0xFF00	0xF3C	Invalid
PCIe x4	None	0x0000	0xFF0	Valid
EPCS x1 1.25G	None	0xFFF4	0xF0F	Invalid
EPCS x2 1.25G	None	0xFF44	0xF0F	Invalid
EPCS x4 1.25G	None	0x4444	0xF0F	Invalid
EPCS x1 2.5G	None	0xFFF3	0xF0F	Invalid

EPCS x2 2.5G	None	0xFF33	0xF0F	Invalid
EPCS x4 2.5G	None	0x3333	0xF0F	Invalid
SGMII x1	None	0x4FFF	0xF0F	Invalid
XAUI	None	0x1111	0xF0F	Invalid
PCIe x1	EPCS x1 1.25G	0x4FF0	0xF1E	Invalid
PCIe x2	EPCS x1 1.25G	0x4F00	0xF3C	Invalid
PCIe x1	EPCS x2 1.25G	0x44F0	0xF1E	Invalid
PCIe x2	EPCS x2 1.25G	0x4400	0xF3C	Invalid
PCIe x1	EPCS x1 2.5G	0x3FF0	0xF1E	Invalid
PCIe x2	EPCS x1 2.5G	0x33F0	0xF3C	Invalid
PCIe x1	EPCS x2 2.5G	0x33F0	0xF1E	Invalid
PCIe x2	EPCS x2 2.5G	0x3300	0xF3C	Invalid
PCIe x1	SGMII x1	0x4FF0	0xF1E	Invalid
PCIe x2	SGMII x1	0x4F00	0xF3C	Invalid
PCIe x1	PCIe x1	0xF0F0	0xF5A	Invalid
PCIe x2	PCIe x1	0xF000	0xF78	Invalid
PCIe x1	PCIe x2	0x00F0	0xFD2	Invalid
PCIe x2	PCIe x2	0x0000	0xFF0	Valid

Steps for IGLOO2

To make the necessary changes to the IGLOO2 device family, perform the following steps:

1. Modify the SYSTEM_CONFIG_PHY_MODE_0 and SYSTEM_CONFIG_PHY_MODE_1 register values using the “Edit Registers...” button of the High Speed Serial Interfaces Configurator.
2. Regenerate the top-level design component.
3. Click the “Clean and Run” button for the entire design flow to generate new programming data.

Steps for SmartFusion2

To make the necessary changes to the SmartFusion2 device family, perform the following steps:

1. Modify the SYSTEM_CONFIG_PHY_MODE_0 and SYSTEM_CONFIG_PHY_MODE_1 register values using the “Edit Registers...” feature of the High Speed Serial Interfaces Configurator.
2. Regenerate the top-level design component.



3. Recompile the firmware using the new values. This step can be performed in SoftConsole or using Keil or IAR embedded development tools.
4. Reprogram the new firmware HEX image into eNVM.
5. Perform "Clean and Run" for the entire design flow to generate new programming data.

Contact Information: Microsemi SoC Products Group

For any clarifications or questions, please contact Microsemi SoC Tech Support

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Regards,
Microsemi Corporation

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Table 2: List of Affected Part Numbers

SmartFusion2 Devices	
M2S010T-1FG484	M2S025T-VF400
M2S010T-1FG484I	M2S025T-VF400I
M2S010T-1FGG484	M2S025T-VFG400
M2S010T-1FGG484I	M2S025T-VFG400I
M2S010T-1VF400	M2S050T-1FG484
M2S010T-1VF400I	M2S050T-1FG484I
M2S010T-1VFG400	M2S050T-1FG896
M2S010T-1VFG400I	M2S050T-1FG896I
M2S010T-FG484	M2S050T-1FGG484
M2S010T-FG484I	M2S050T-1FGG484I
M2S010T-FGG484	M2S050T-1FGG896
M2S010T-FGG484I	M2S050T-1FGG896I
M2S010T-VF400	M2S050T-1VF400
M2S010T-VF400I	M2S050T-1VF400I
M2S010T-VFG400	M2S050T-1VFG400
M2S010T-VFG400I	M2S050T-1VFG400I
M2S025T-1FG484	M2S050T-FG484
M2S025T-1FG484I	M2S050T-FG484I
M2S025T-1FGG484	M2S050T-FG896
M2S025T-1FGG484I	M2S050T-FG896I
M2S025T-1VF400	M2S050T-FGG484
M2S025T-1VF400I	M2S050T-FGG484I
M2S025T-1VFG400	M2S050T-FGG896
M2S025T-1VFG400I	M2S050T-FGG896I
M2S025T-FG484	M2S050T-VF400
M2S025T-FG484I	M2S050T-VF400I
M2S025T-FGG484	M2S050T-VFG400
M2S025T-FGG484I	M2S050T-VFG400I

IGLOO2 Devices	
M2GL050T-FG484	M2GL010T-1FG484I
M2GL050T-FGG484	M2GL010T-1FGG484I
M2GL050T-1FG484	M2GL010T-FG484I
M2GL050T-1FGG484	M2GL010T-FGG484I
M2GL050T-1FG484I	M2GL010T-VF400
M2GL050T-1FGG484I	M2GL010T-VFG400
M2GL050T-FG484I	M2GL010T-1VF400
M2GL050T-FGG484I	M2GL010T-1VFG400
M2GL050T-FG896	M2GL010T-1VF400I
M2GL050T-FGG896	M2GL010T-1VFG400I
M2GL050T-1FG896	M2GL010T-VF400I
M2GL050T-1FGG896	M2GL010T-VFG400I
M2GL050T-1FG896I	M2GL025T-FG484
M2GL050T-1FGG896I	M2GL025T-FGG484
M2GL050T-FG896I	M2GL025T-1FG484
M2GL050T-FGG896I	M2GL025T-1FGG484
M2GL050T-1VF400	M2GL025T-1FG484I
M2GL050T-1VFG400	M2GL025T-1FGG484I
M2GL050T-1VF400I	M2GL025T-FG484I
M2GL050T-1VFG400I	M2GL025T-FGG484I
M2GL050T-VF400	M2GL025T-VF400
M2GL050T-VFG400	M2GL025T-VFG400
M2GL050T-VF400I	M2GL025T-1VF400
M2GL050T-VFG400I	M2GL025T-1VFG400
M2GL010T-FG484	M2GL025T-1VF400I
M2GL010T-FGG484	M2GL025T-1VFG400I
M2GL010T-1FG484	M2GL025T-VF400I
M2GL010T-1FGG484	M2GL025T-VFG400I