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## Letter of Volatility ALIF4001T/ALIF4021T and ALIF4001R/4021R

To whom it may concern,

*'The ALIF4000 range of extenders are comprised of a System-on-Chip (SoC) containing a processor subsystem, FPGA and a variety of I/O devices including high speed serial transceivers (SERDES); CPLD power management and CPLD expansion circuitry; external NAND flash and SDRAM memories for the SoC; external and internal Flash memory for the CPLD's; USB, Ethernet, Video and Audio circuitry. Interconnects between these circuits are not accessible from outside the unit. An extender system consists of Transmitter and Receiver units either directly linked or networked together. Units all have the memory elements detailed below unless otherwise noted.*

Memory Type	Function /Purpose	User Accessible ?	Size	Volatile / Non Volatile	Process to clear
FLASH	Parallel NAND Flash Program code; FPGA configuration bitstreams; Unit identification (serial number, MAC address); Configuration data.	No (1)	64 Gbit	Non-volatile	Perform Factory reset to erase user data and load default values
FLASH	Serial NOR Flash CPLD configuration bitstream (backup image).	No	1 Mbit	Non-volatile	None (No user data)
FLASH	On-chip Flash memory CPLD configuration bitstream (main image).	No (1)	470 kbit	Non-volatile	None (No user data)
FLASH	On-chip Flash memory CPLD configuration bitstream.	No	71 kbit	Non-volatile	None (No user data)
FLASH	Serial NOR Flash Hi-speed USB configuration bitstream.	No (1)	4 Mbit	Non-volatile	None (No user data)
DRAM	DDR4 memory Temporary storage of program code and working data for processor subsystem.	No	4 Gbit	Volatile	Power off
DRAM	DDR4 memory Temporary storage of video data	No	20 Gbit	Volatile	Power off
SRAM	FPGA distributed/block memory Temporary storage of working data being processed by the FPGA.	No	17,452 kbit	Volatile	Power off
SRAM	CPLD distributed memory Temporary storage of working data being processed by the CPLD.	No	2 kbit	Volatile	Power off
SRAM	CPLD distributed/block memory Temporary storage of working data being processed by the CPLD.	No	90 kbit	Volatile	Power off
SRAM	DisplayPort Redriver (ALIF4021T only) Defined configuration registers providing temporary storage.	No	280 bits	Volatile	Power off



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Memory Type	Function /Purpose	User Accessible ?	Size	Volatile / Non Volatile	Process to clear
SRAM	Audio CODEC Defined configuration registers providing temporary storage.	No	558 bits	Volatile	Power off
SRAM	USB hub Defined configuration registers providing temporary storage.	No	2 kbit	Volatile	Power off
SRAM	USB ULPI Transceiver Defined configuration registers providing temporary storage.	No	512 bits	Volatile	Power off
SRAM	USB ULPI Transceiver (ALIF4021T only) Defined configuration registers providing temporary storage.	No	512 bits	Volatile	Power off
SRAM (Not ALIF4001)	Ethernet transceiver 10/100/1000 Mbps Defined configuration registers providing temporary storage.	No	512 bits	Volatile	Power off
SRAM (Not ALIF4001)	Ethernet transceiver 10/100/1000 Mbps Defined configuration registers providing temporary storage.	No	512 bits	Volatile	Power off
SRAM	OLED Driver/Controller Display data, Character generator and registers providing temporary storage.	No	1540 bits	Volatile	Power off
SRAM	Quad clock generator Defined configuration registers providing temporary storage.	No	2800 bits	Volatile	Power off
SRAM	Temperature sensors Combined defined configuration registers providing temporary storage.	No	104 bits	Volatile	Power off

- (1) Content modification by user limited to downloading of digitally signed Adder firmware upgrade images and entering of configuration data using the provided on-screen display (OSD) or ADDERLink INFINITY Manager (AIM).

End of document.

Created By: Preben Hjelmberg

Date: 24<sup>th</sup> March 2023

Authorized By: Mark Kennedy

Position: Compliance & Quality Manager

Signed: