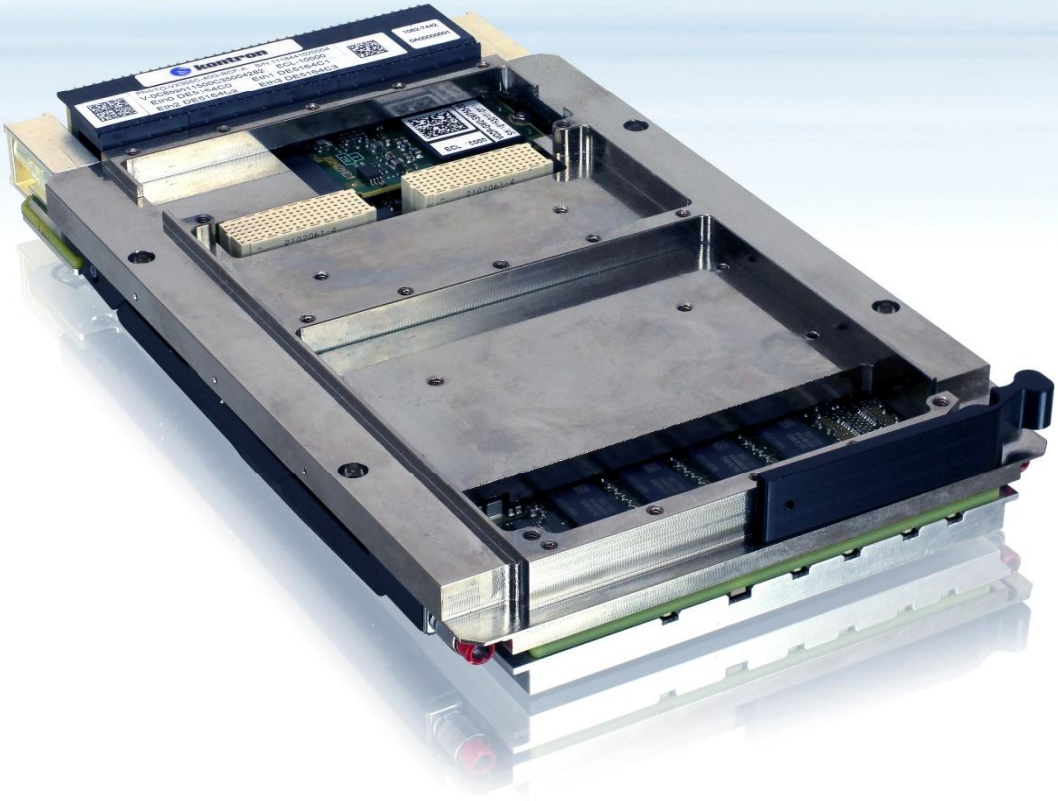
EFT RELEASE NOTE



VX305x-40G

3U VPX Computing Node

D213764-2.0 - March 2019

VX305x-40G – EFT RELEASE NOTE

Disclaimer

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Revision History

Publication Title:	VX305x-40G EFT Release Note	
Doc. ID:	D213764	
Revision	Brief Description of Changes	Date of Issue
1.0	Preliminary version	12-2018
2.0	New hardware EC Level 10002 New mechanical EC Level D1, D2 and A0 Updated chapters/sections: - 1/ introduction - 2/ EFT Definition - 5.1 EFT configuration Overview - 5.3 Hardware Known Issues - 5.5 BIOS/PBIT Release Note - 5.8 Boot Devices - 6.3 VX305x-40G EFT Revision Guide Table for Functional E.C. Levels - 6.5 VX305x-40G EFT Item Detailed Description for Functional E.C. Levels Updated Table 2 function overviews New sections: - 6.4 VX305x-40G EFT Revision Guide Table for Mechanical E.C. Levels - 6.6 VX305x-40G EFT Item Detailed Description for for Mechanical E.C. Levels	03-2019

Customer Support

Please contact our support team at support.KFR@kontron.com

Customer Service

As a trusted technology innovator and global solutions provider, Kontron extends its embedded market strengths into a services portfolio allowing companies to break the barriers of traditional product lifecycles. Proven product expertise coupled with collaborative and highly-experienced support enables Kontron to provide exceptional peace of mind to build and maintain successful products.

For more details on Kontron's service offerings such as: enhanced repair services, extended warranty, Kontron training academy, and more visit http://www.kontron.com/support-and-services/services.

Customer Comments

If you have any difficulties using this user guide, discover an error, or just want to provide some feedback, contact Kontron support. Detail any errors you find. We will correct the errors or problems as soon as possible and post the revised user guide on our website.

Symbols

The following symbols may be used in this user guide

⚠DANGER	DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.
⚠WARNING	WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.
⚠CAUTION	CAUTION indicates a hazardous situation which, if not avoided, may result in minor or moderate injury.
NOTICE	NOTICE indicates a property damage message.
	**Electric Shock!** This symbol and title warn of hazards due to electrical shocks (> 60 V) when touching products or parts of products. Failure to observe the precautions indicated and/or prescribed by the law may endanger your life/health and/or result in damage to your material.
	**ESD Sensitive Device!** This symbol and title inform that the electronic boards and their components are sensitive to static electricity. Care must therefore be taken during all handling operations and inspections of this product in order to ensure product integrity at all times.
	**HOT Surface!** Do NOT touch! Allow to cool before servicing.
	**Laser!** This symbol inform of the risk of exposure to laser beam and light emitting devices (LEDs) from an electrical device. Eye protection per manufacturer notice shall review before servicing.
	This symbol indicates general information about the product and the user guide. This symbol also indicates detail information about the specific product configuration.
	This symbol indicates important information which must be read carefully.
	This symbol precedes helpful hints and tips for daily use.

For Your Safety

Your new Kontron product was developed and tested carefully to provide all features necessary to ensure its compliance with electrical safety requirements. It was also designed for a long fault-free life. However, the life expectancy of your product can be drastically reduced by improper treatment during unpacking and installation. Therefore, in the interest of your own safety and of the correct operation of your new Kontron product, you are requested to conform with the following guidelines.

High Voltage Safety Instructions

As a precaution and in case of danger, the power connector must be easily accessible. The power connector is the product's main disconnect device.

⚠CAUTION

Warning

All operations on this product must be carried out by sufficiently skilled personnel only.

⚠CAUTION

Electric Shock!

Before installing a non hot-swappable Kontron product into a system always ensure that your mains power is switched off. This also applies to the installation of piggybacks. Serious electrical shock hazards can exist during all installation, repair, and maintenance operations on this product. Therefore, always unplug the power cable and any other cables which provide external voltages before performing any work on this product.

Earth ground connection to vehicle's chassis or a central grounding point shall remain connected. The earth ground cable shall be the last cable to be disconnected or the first cable to be connected when performing installation or removal procedures on this product.

Special Handling and Unpacking Instruction

NOTICE

ESD Sensitive Device!

Electronic boards and their components are sensitive to static electricity. Therefore, care must be taken during all handling operations and inspections of this product, in order to ensure product integrity at all times.

Do not handle this product out of its protective enclosure while it is not used for operational purposes unless it is otherwise protected.

Whenever possible, unpack or pack this product only at EOS/ESD safe work stations. Where a safe work station is not guaranteed, it is important for the user to be electrically discharged before touching the product with his/her hands or tools. This is most easily done by touching a metal part of your system housing.

It is particularly important to observe standard anti-static precautions when changing piggybacks, ROM devices, jumper settings etc. If the product contains batteries for RTC or memory backup, ensure that the product is not placed on conductive surfaces, including anti-static plastics or sponges. They can cause short circuits and damage the batteries or conductive circuits on the product.

General Instructions on Usage

In order to maintain Kontron's product warranty and CE compliance, this product must not be altered or modified in any way. Changes or modifications to the product, that are not explicitly approved by Kontron and described in this user guide or received from Kontron Support as a special handling instruction, will void your warranty and CE compliance.

This product should only be installed in or connected to systems that fulfill all necessary technical and specific environmental requirements. This also applies to the operational temperature range of the specific board version that must not be exceeded. If batteries are present, their temperature restrictions must be taken into account.

In performing all necessary installation and application operations, only follow the instructions supplied by the present user guide.

Keep all the original packaging material for future storage or warranty shipments. If it is necessary to store or ship the product then re-pack it in the same manner as it was delivered.

Special care is necessary when handling or unpacking the product. See Special Handling and Unpacking Instruction.

Environmental Protection Statement

This product has been manufactured to satisfy environmental protection requirements where possible. Many of the components used (structural parts, printed circuit boards, connectors, batteries, etc.) are capable of being recycled.

Final disposition of this product after its service life must be accomplished in accordance with applicable country, state, or local laws or regulations.

Environmental protection is a high priority with Kontron.
Kontron follows the WEEE directive
You are encouraged to return our products for proper disposal.

The Waste Electrical and Electronic Equipment (WEEE) Directive aims to:

- Reduce waste arising from electrical and electronic equipment (EEE)
- Make producers of EEE responsible for the environmental impact of their products, especially when the product become waste
- Encourage separate collection and subsequent treatment, reuse, recovery, recycling and sound environmental disposal of EEE
- Improve the environmental performance of all those involved during the lifecycle of EEE

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1/ Introduction

This document defines the VX305x-40G EFT board and its limitations.

EFT boards help customers to assess early samples before product release.

EFT boards are in general design-in samples to be used for functional testing and preliminary performance benchmarking, with well-known limitations.

Functional changes that differ from previous version of the document are identified by a vertical bar in the margin.

You will find the following information about the board you have in hand:

This document refers to the up-to-date release of the following documentation:

- VX305x-40G User's Guide D212135
- VX305x-40G BIOS User Manual D213792
- Kontron VME/VPX Fedora 28 Remix Release Notes..... D215295

2/ EFT Definition

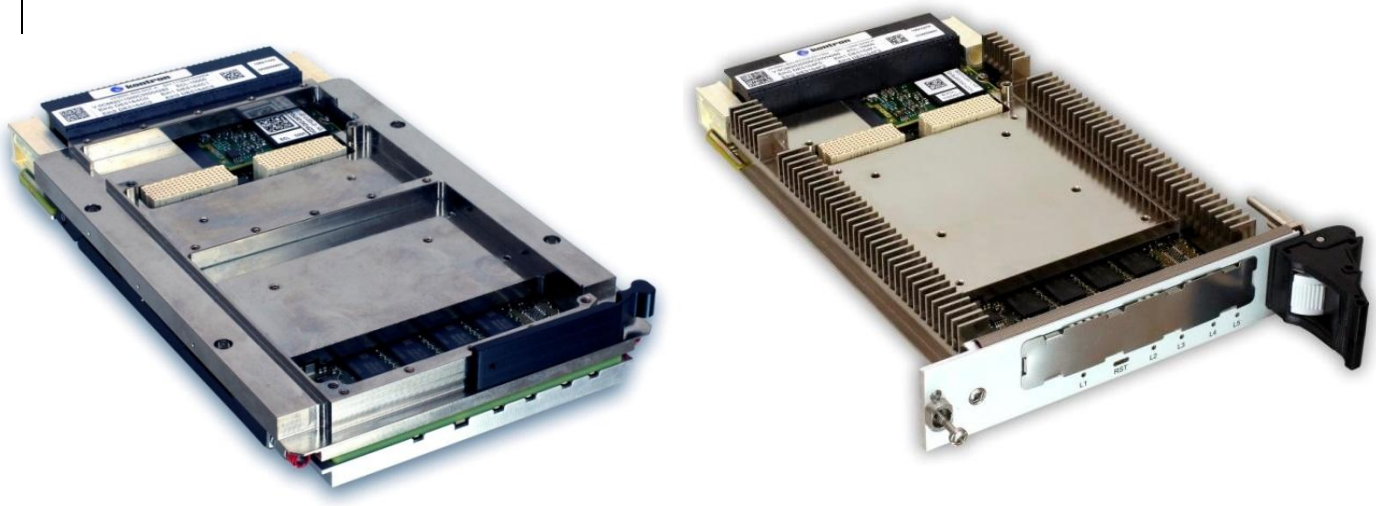
Featuring the Intel® Xeon® D processor family (formerly Broadwell-DE), the VX305x-40G based on VX305x product, is the first Kontron 3U VPX board offering an I/O intensive SBC compliant with the VITA 65 (OpenVPX) SLT3-PAY-1F1F2U1TU1T1U1T-14.2.16.

The VX305x-40G combines server-class processing with rich I/O featuring a 40 Gigabit Ethernet data plane, an 8-lane PCI Express Gen 3 XMC slot, a 4-lane PCI Express Gen 3 expansion plane, dual 10 Gigabit Ethernet control planes, along with USB (2 and 3), SATA 3.0, serial links, HDMI, GPIO, and XMC I/O mapping to the backplane (X12d+X16s+X8d). The result is a powerful, flexible, single board computing platform suitable for a wide range of embedded applications.

EFT means “Early Filed Trials”: EFT boards are released by Kontron to ease customer evaluation, at an early stage, before general product availability.

EFT purpose is to be used solely at research and development stages.

Figure 1: VX305x-40G 3U VPX Overview



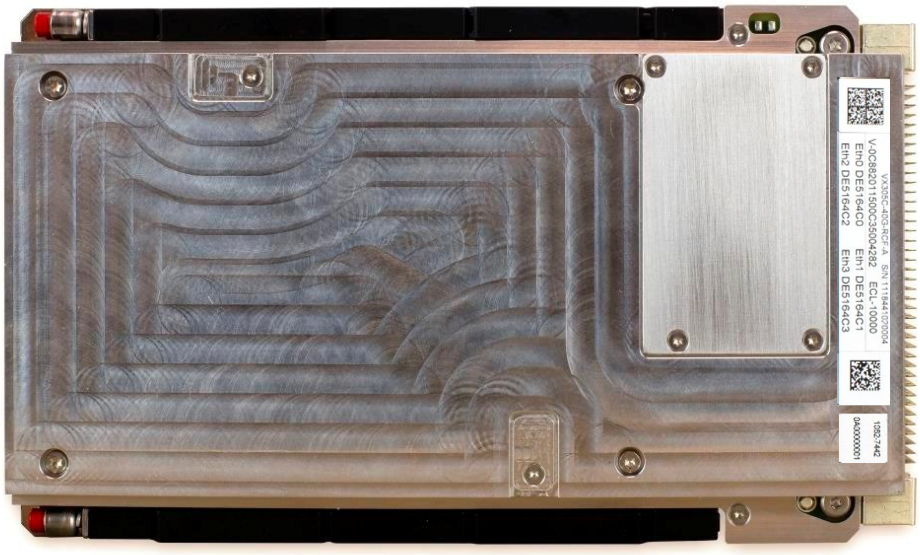
3/ EFT Board Identification

Engineering Change Level and Order Code for VX305C-40G

The Engineering Change Level (E.C. Level) and the Order Code information are available on the “Board Identification" label, located on the top side and on the bottom side of the board for board equipped with a XMC cover.

Figure 2: VX305X-40G Identification (Top Side)

Figure 3: VX305X-40G Identification (Bottom Side)



4 / General Information

4.1. Handling

The following safety precautions must be observed when installing or operating the VX305x-40G. Kontron assumes no responsibility for any damage resulting from failure to comply with these requirements.

Special care shall be taken while handling the board: the heat sink or heat frame can get very hot during operation. Do not touch the heat sink when installing or removing the board.

In addition, the board should not be placed on any surface or in any form of storage container before the board and heat sink have cooled down to room temperature

4.2. Power Supplies

On +12V power supplies, monotonic rise time shall comply with VS1 VPX standard rise time requirements.

For a power off condition to be valid, the +12V power supply inputs should remain at 0V for at least one second.

+3V3_AUX power supply is required for date retention as defined per VITA 61 standards.

+3V3_AUX power supply must supply VX305x-40G boards at least one sec before VS1 VPX power supply presence.

VS3 VPX backplane power supply (5 Volts) is required when using the most of I/Os available on PB-VX3-40G-601 Rear Transition Module.

4.3. Dielectric Separation

VX305x-40G product is compliant with new VITA 46.0 draft version and does not withstand any more voltage of 500VDC +/ -10V and a minimum resistance of 1 megaohm between safety ground and electric ground as per the ANSI/VITA 46.0-2007 (R2013), rule 3-15.

If you need to compliant with ANSI/VITA 46.0-2007 (R2013), rule 3-15, please contact Kontron.

5/ EFT Specifications & Limitations

5.1. EFT configuration Overview

Refer also to the user's Guide for order code description.

Table 1: EFT configuration

EFT	VX305C-40G-RCCGC05113Q	VX305C-40G-SACGC05113Q
Description	3U VPX VX305x-40G, conduction cooled, with graphics, bottom SSD module equipped	3U VPX VX305x-40G, labs air cooled, with graphics, bottom SSD module equipped
Processor	Intel XeonD-1559 (12 M Cache, 12-core, 45 W @1.5 GHz)	Intel XeonD-1559 (12 M Cache, 12-core, 45 W @1.5 GHz)
Hardware Engineering Level	ECL 10001D0 min.	ECL 10001A0 min.
Main Memory	DDR4-2133 Total amount of memory : 32 GB	DDR4-2133 Total amount of memory : 32 GB
Trusted Platfom Module	Infineon SLB9660XQ2.0FW5.62	Infineon SLB9660XQ2.0FW5.62
IPMC version	V1.02	V1.02
CPLD version	0x21	0x22
BIOS minimum version	ID18334EFT	ID19057
PBIT minimum version	V1.1 (ID18326)	V1.13 (ID19046)
OS Boot device	Refer to the "VX305x - AMI BIOS User Reference Manual" D213792,.	
Pre-installed LinuxOS option for product evaluation	Pre-installed Linux Fedora 28 Remix Live ID18333 chrono 3235 on bottom M.2 SATA SSD device for variants including "Q".	

Preinstalled M.2 SSD module is delivered on EFT with Linux distribution. Pre-equipped M.2 SSD device purpose is to ease product assessment and is restricted to customer developments in labs. Note that SATA SSD module use and reliability cannot be guaranteed by Kontron. Customer may use an external HDD on VPX SATA ports for higher reliability.

VX3058-40G 8-core versions have not been released in EFT yet. Please contact Kontron support to know the availability of these EFT versions.

5.2. VX305C-40G EFT Functions Overview

Test Acronyms

In this chapter, the following acronyms are used:

- HWTS: Kontron Proprietary Hardware Test Suite under Linux
- PBITs: Kontron Proprietary Power-on Built-In Tests
- PTU: Intel Power Thermal Utility

Functions Overview

The following table gives the status of each interface and function of VX305x-40G EFT:

- Available: the interface/function has been tested with basic or thorough test.
- Limitations: the interface/function is available with limitations.
- Assumed available: the interface/function has not been tested on VX305C-40G EFT but is assumed available because it was fully tested on VX3058 (from which VX305C-40G was derived).The interface/function may be used by development team.
- Not available (or empty): the interface/function is not equipped or it has not been sufficiently tested. If this interface/function is needed, contact Kontron.

Table 2: Functions Overview

ID	PROTOCOL/ FUNCTION	TEST	SEVERITY	FULL TEMP. RANGE TEST	STATUS	COMMENT
Onboard functions						
Processor	D-1559 Broadwell-DE 12-core 1.5GHz 45W	PTU HWTS	Thorough test	Yes	Available	
DDR4	DDR4-2133 dual channel memory with ECC	PBITs HWTS	Thorough test	Yes	Available	Board tested with 8 & 16 GByte per channel (16 & 32 GByte board total)
External RTC	Real time Clock RV8564C2 device powered by +3V3_AUX rail	PBITs	Read and check date validity	No	Available	
Watchdog, Timer	Watchdog, Timer in CPLD	PBITs	Basic test	No	Available	For watchdog, "Basic test" means "Thorough test in one particular implementation: 1-sec time out and 1ms time out".
FRAM	1-Mbit FRAM non-volatile memory	HWTS PBITs	Thorough test	Yes	Available	Read and write access
SPI Flash	Boot Flash (Main & Rescue)	PBITs Content upgrade and boot	Basic test	No	Available	PBITs test consist in check signature in rescue flash

ID	PROTOCOL/ FUNCTION	TEST	SEVERITY	FULL TEMP. RANGE TEST	STATUS	COMMENT
VPD EEPROM	Vital Product Data EEPROM	VPD storage HWTS PBITs (R/W access)	Thorough test	Yes	Available	Write Protection/ Unprotection by SW1-3 tested.
System EEPROM	Used by PBIT. Available to user.	PBIT results storage	Basic test	No	Available	
System CPLD	Board control and monitoring.	PowerGood signals tested.	Basic test	Yes	Available	
SW1, SW2	Microswitch, Board configuration	Used during bring up.	Basic test	No	Available	
Ethernet EEPROM	NVM Ethernet 1GbE/10GbE/40GbE eeprom	W/R access and write protection	Basic test	No	Available	Write protection not tested.
Voltage and Temp. sensors	Processor package and on-board temperature monitoring on I2C bus	HWTS PBITs	Basic test	No	Available	Voltage monitoring is done by IPMC. PBITs test consist in verify sensors values against thresholds (SDR reading)
TPM	Trusted Platform Module 2.0	PBITs: Basic accessibility & programming	Basic test	No	Available	
Wibu	Approtect secure element on USB2.0 port	PBITs: Accessibility Basic Function	Basic test	No	Available	
IPMC	Board monitoring and IPMB interfacing	PBITs: selftest FRU, PECI, Voltage sensors and IPMB accesses	Basic test	No	Available	
FRU Flash	IPMC FRU flash	R/W access	Basic test	No	Available	
IPMC SPI boot flash	IPMC boot flash	R/W access	Basic test	No	Assumed available	
Onboard interfaces						
M2S1	Top M.2 mezzanine with PCie interface	Graphics M.2 tested with high resolution display	Thorough test	Yes	Available	Tested resolution: 1280x1024
M2S2	Bottom M.2 mezzanine with SATA interface	SSD M.2 tested through linux boot.	Thorough test	Yes	Available	Mainly tested: 2242 Virtium StoreFly SSD VSFBM4XI030G-150
Port80	Debug Port80 on debug connector	-	Basic test	No	Not available	Connector equipped but adaptor not available

ID	PROTOCOL / FUNCTION	TEST	SEVERITY	FULL TEMP. RANGE TEST	STATUS	COMMENT
XMC	VITA 61 XMC 2.0 stack 12mm	PBITs: PCIe link Graphics test	Basic test	No	Available	Tested with XMC-GPU91 (1), PCIe Gen3 x8
Front panel						
LEDs	5-color LEDs	LEDs status at power up & debug mode	Basic test	No	Available	
Reset	Reset Push-Button	Push button to generate a reset	Basic test	No	Available	
VPX back plane						
V_VS1_VPX	+12V voltage from VPX backplane	HWTS	Basic test	Yes	Available	Only nominal voltage test done.
V_VS3_VPX	+5V voltage from VPX backplane	HWTS	Basic test	Yes	Available	Not used on VX305C-40G. Only used by PB-VX3-40G-601.
V_VS2_VPX	+3.3V voltage from VPX backplane	Not equipped	Not equipped	No	Not available	Not used
V_3V3_AUX	+3V3 standby voltage from VPX backplane	HWTS	Basic test	Yes	Available	Only nominal voltage test done.
V_12V_AUX	+12V and -12V auxiliary input voltage for XMC from VPX backplane	HWTS	Basic test	No	Not available	Not tested.
Link PCIEG3	PCIe x4 gen3	HWTS	Thorough test	Yes	Available	Read/write access on 4x PCIe Gen3 M.2 SSD on PB-VX3-601
ETH0 port	Lan0 SoC (10GBASE-KR, 1000BASE-KX, XFI modes)	- 10GBASE-KR: ssh, ping, HWTS - 1000BASE-KX: not tested - XFI: no tested	Thorough test PBIT test (loopback, link)	No	Assumed available	PXE boot not tested
ETH1 port	Lan1 SoC (10GBASE-KR, 1000BASE-KX, XFI modes)	- 10GBASE-KR: ssh, ping, HWTS - 1000BASE-KX: not tested - XFI: no tested	Thorough test PBIT test (loopback, link)	No	Assumed available	PXE boot not tested
ETH2 port	1000BASE-T	HWTS	Thorough test PBIT test (loopback, link)	Yes	Available	10/100Base-T(X) not tested. PXE boot not tested

ID	PROTOCOL / FUNCTION	TEST	SEVERITY	FULL TEMP. RANGE TEST	STATUS	COMMENT
ETH3 port	40GbE (40GBASE-KR4 mode)	- 40GBASE-KR4: ssh, ping, HWTS	Thorough test PBIT test (loopback, link)	Yes	Available	PXE boot not available
XMC IO	XMC IO signal on P1 and P2 connectors as per VITA 46.	Continuity test	Basic test	No	Not available	Not tested.
Port SATA	SATAIII	install, boot Linux, HWTS, PBITs	Thorough test	Yes	Available	
Port USB0	USB 2.0	HWTS, PBITs	Thorough test	Yes	Available	
Port USB2	USB 2.0	HWTS, PBITs	Thorough test	Yes	Available	
Port USBSS	USB 3.0	HWTS, PBITs	Thorough test	Yes	Available	
Maintenance port	Serial EIA-232	- 115200 bauds - BIOS & Linux console	Basic test	Yes	Available	3V3 signaling level not tested.
Port COM2	Serial EIA-232	Console redirection 115200 bauds IPMC console	Basic test	No	Available	EIA-422/485 not tested.
IPMB A/B	I2C bus on P0 connector	I2C access to Shelf Manager	Basic test	No	Available	
GPIO[1-4]	GPIOs on P1 and P2 connectors	PBITs	Basic test	No	Assumed available	Not tested on VX305x-40G.
GDiscrete1	GDiscrete1	Not tested	Not tested	No	Assumed available	
Maskable Reset	Maskable Reset/GPIO8	Not tested	Not tested	No	Assumed available	
GEOID	Geographical ID	PBIT	Thorough test	No	Assumed available	
SYSRESET#	SYSRESET#	Signal activation from backplane	Basic test	No	Assumed available	
VPX CLK	Synchronisation clocks REF_CLK, AUX_CLK	Not tested	Not tested	No	Assumed available	

ID	PROTOCOL / FUNCTION	TEST	SEVERITY	FULL TEMP. RANGE TEST	STATUS	COMMENT
NVMRO	NVMRO	Non-volatile memory write	Basic test	No	Assumed available	

(1) For further details about XMC board consults the XMC-GPU91 User's Guide, CA.DT.B40 or contact Kontron support.

5.3. Hardware Known Issues / Restrictions

Known issues

Refer to section 6.3 - "VX305x-40G EFT Revision Guide Table for Functional E.C. Levels", page 25.

Restrictions

Following restrictions are applied on VX305x-40G product :

- VX305x-40G product is only available with Xeon-D 1559 12-core processor (VX305C-40G), 8-core version is not available yet. Contact Kontron support to know the availability of this product version.
- DisplayPort interface is not available yet, DP++ mode is not supported. Only the HDMI interface is supported on VX305x-40G EFT product. Contact Kontron support to know the availability of this product version.
- For VX305x-40G EFT conduction-cooled product stuffed with SSD SATA M2 module, the size of module could be limited to 30GB non-coated SSD module.
- PCIe expansion plane is only available in x4 width, x2 width is not available yet.
- The 10GbE interface is not available on SFP+ connector of the RTM PB-VX3-40G-601. Contact Kontron support if you need this feature.

5.4. Qualification Tests

Qualification tests including environmental and mechanical tests have not been done on EFT boards. Contact Kontron support for further details

Product Hardware, BIOS and Board Support Package (BSP) are still in development and product qualification is in progress. Some limitations may be appear or be cancelled according Hardware, BIOS and Linux BSP software updates.

5.5. BIOS/PBIT Release Note

Refer to the "VX305x - AMI BIOS User Reference Manual" D213792, to know the known limitations and to know the recommendations.

5.6. IPMC Release Note

This section lists know limitations and recommendations for IPMC firmware release 1.02, SDR rev 0.1.

Know limitations

- KDP#46092: SDR (Sensor Data Repository) and SEL (System Event Log) must be adapted from PCIMG3.0 ATCA/IPMI1.5 rev1.1 to VITA46.11. Return values may be incoherent or null.
- KDP#46414: IPMI command cold/warm reset fails
- KDP#46430: IPMI watchdog not implemented
- KDP#50955: RTM as not seen as FRU managed device
- KDP#50302/kdp#45534: BMC self-test failed at poweron. This is due to the fact BMC starts at the same time as BIOS at poweron and it takes about 30 seconds to initialize host to BMC interfaces. Enabling "Wait for BMC" option in BIOS ServerMgmt setup menu solves the problem by forcing BIOS to wait for the BMC but this increases boot time by 30s.

Recommendations

- Use binary file *.hpm for updating via KCS interface (“kipmi” command from BIOS). This file follows PICMG HPM.1 specification.

5.7. LinuxOS Release Note

Refer to the “VX305x-40G Linux Fedora 28 Remix Live Software Release Notes ”, D215295.

Variants with “Q” option comes with a standard Linux release installed on bottom M.2 SSD device to ease system bring-up and product trials.

Some EFT limitations may be cancelled with future BSP releases.

How to Log into the system (login and passwd): “root”, passwd is “kontron”.

5.8. Boot Devices

Allowed boot interfaces are:

- PXE boot, boot feature on 40GbE interface is not available by default (refer to VX305x-40G BIOS User Manual D213792 for further details),
- Bottom M.2 SATA slot,
- VPX SATA port,
- VPX USB ports.

5.9. In case of Trouble

In case of trouble, contact Kontron support.

▸ Refer to “VX305x-40G - AMI BIOS User Reference Manual”, D213792 to know about how to restore or update the boot device, the BIOS or IPMC device. For further details, contact Kontron support.

6/ EFT Board Revision Guide

6.1. How to Use the Board Revision Guide Table

E.C. Level or ECL means Engineering change level.

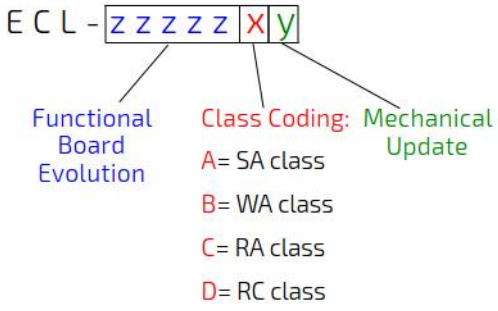
1. Find the E.C. Level associated to your board as described in the section 3/ “EFT Board Identification” page 12.
2. Find the column associated to the E.C. Level of your board in this table.
3. Check for a specific item in the table lines:
   a. A X (cross) in the E.C. Level column indicates that this item applies to this E.C. Level.
   b. No X (cross) in the E.C. Level column indicates that this item does not apply to this E.C. Level.
   c. If the functionality described by the item is not available on your board don't take into account this item. To know the functionalities available or not on your board, read the User's Guide associated with your board version.

Each item is fully described in section 6.5 “Item Detailed Description" page 26.

6.2. E.C. Level Coding

The E.C. Level of VX305x-40G board is composed of a functional part coding and a mechanical part coding.

The five first digits are used to code the functional board evolution and the two last digits are used to code the mechanical board evolution, as described as follows:



6.3. VX305x-40G EFT Revision Guide Table for Functional E.C. Levels

Table 3: EFT Revision Guide Table

Item	KDP #	Description	E.C. Levels		
			10001xy	10002xy	
1	# 50467	IPMC FRU memory write access	X		
2	#51766	Maintenance port not operational in 3V3 LVCMOS signaling mode	X		
3	-	Wrong front LEDs meaning with regard to User's Guide	X		

x and y are the mechanical E.C. Levels.

6.4. VX305x-40G EFT Revision Guide Table for Mechanical E.C. Levels

Table 4: Mechanical Revision Guide Table – RC version

Item	KDP #	Description	E.C. Levels		
			D0	D1	D2
RC-1	#53814	Possible conflict between bottom cover and PCB track/net/via	X		
RC-2	#50238	Mechanical improvements	X	X	

Table 5: Mechanical Revision Guide Table – SA version

Item	KDP #	Description	E.C. Levels		
			A0		

6.5. VX305x-40G EFT Item Detailed Description for Functional E.C. Levels

Each item applies only to a specific group of E.C. levels.

Refer to the table available in section 6.3 “Revision Guide” page 25 to find the specific E.C. levels associated to a specific item.

Item #1 IPMC FRU memory write access

Description:	The write protection level of IPMC FRU memory is at VPD level instead of at SYS level. By default, the VPD write protection is enabled preventing the write access to the IPMC FRU memory. See User’s Guide for further information on write protection level.
Impact:	IPMC System Log Event and sensors thresholds cannot be stored within FRU memory.
Workaround:	VPD write protection can be removed using microswitch SW1-3. This is not recommended for deployment.
Fix:	Fixed by the E.C. Level 10002xy

Item #2 Maintenance port not operational in 3V3 LVCMOS signaling mode

Description:	Maintenance port does not operate well when it is set in 3V3 LVCMOS signaling mode. Send characters from the maintenance port of VX305C-40G are unreadable when the serial port is set in 3V3 LVCMOS signaling mode.
Impact:	3V3 LCVMOS signaling mode is not available on maintenance port of VX305C-40G. No known impact in RS232 mode.
Workaround:	Use RS232 mode only
Fix:	Fixed by the E.C. Level 10002xy

Item #3 Wrong front LEDs meaning with regard to User’s Guide

Description: L1, L4 and L5 LEDs description is a little bit different with regard to VX305x-40G User’s Guide. The below table shows these differences:

L1	L4	L5	MEANING
	Not Blink	Not Blink	Permanent system error. Internal VX305X-40G power is off. In this state L2, L3, L4 and L5 do not carry the meaning described in this table but an error code detailed in the **ERRORS CODES** table.
			1000Base-T and 40GBase-KR4 interfaces: At least one interface is linked up (1000BASE-T or 40GBASE-KR4) Blinking when activity on the links
			1000Base-T and 40GBase-KR4 interfaces: 100M or 10MBASE-T link up, or 10GBASE-KX Blinking when activity on the links
			100BASE-TX/1000BASE-T interface is down

	●		Normal operation
	●		Factory test mode
	●		CPLD Watchdog expired
		✳	M2 SSD activity / presence on bottom socket
		●	Processor hot event (PROCHOT)
		●	M2 SSD not present

Impact: LEDs interpretation may be false.

Workaround: Upgrade CPLD to 0x22 version minimum

Fix: Fixed by the E.C. Level 10002xy. Refer to User's Guide for details about LEDs meaning.

6.6. VX305x-40G EFT Item Detailed Description for for Mechanical E.C. Levels

Each item applies only to a specific group of E.C. levels.

Refer to the table available in section 6.4 "Revision Guide" page 25 to find the specific E.C. levels associated to a specific item.

Item #1 Possible conflict between bottom cover and PCB track/net/via

Description: On some external areas of board, the bottom cover may be in electrical contact with tracks, vias or plane of the PCB. In harsh condition of operation and sustained, short circuits may occur even if conformal coating is applied on the PCB.

Impact: Risk of short circuit with the GND potential leading to fuses damage.

Workaround: Remove the bottom cover.

Fix: Fixed by the E.C. Level D1 and higher

Item #2 Mechanical improvements

Description: Mechanical improvements have been done some parts to ease the mounting/unmounting operations of mezzanine and to allow the mounting of additional conduction bars.

Impact: The use of conduction bars to improve thermal conduction between heat frame and XMC not possible. The mezzanine unmount/mounting is more difficult.

Workaround: None.

Fix: Fixed by the E.C. Level D1 and higher

About Kontron – An S&R Company

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