HARDWARE
RELEASE NOTES

VX3058-SA EFT

CA.DT.B29-1e - November 2016

POSSIBILITIES START HERE kontron

VX3058-SA EFT Hardware Release Notes

Lise-Meitner-Str. 3-5

86156 Augsburg

Germany

www.kontron.com

REVISION HISTORY

PUBLICATION TITLE:	VX3058-SA EFT Hardware Release Notes	
DOC. ID:	CA.DT.B29-1e	
Revision	Brief Description of Changes	Date of Issue
1e	Updated sections: - 3.3 Battery Replacement - 6.2 Board Revision Guide Table	11-2016
0e	Initial Issue	08-2016

SYMBOLS

The following symbols may be used in this manual:

⚠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 (> 60V) when touching products or parts of them. 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. Please refer also to the "High-Voltage Safety Instructions" portion below in this section.
	**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.
	This symbol indicates general information about the product and the user manual. This symbol also indicates detail information about the specific product configuration.
	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, in case of danger, the power connector is the product's main disconnect device and must be easily accessible.

⚠CAUTION

Warning!
All operations on this device must be carried out by sufficiently skilled personnel only.

Caution, Electric Shock!
Before installing a not hot-swappable Kontron product into a system always ensure that your mains power is switched off. This applies also to the installation of piggybacks. Serious electrical shock hazards can exist during all installation, repair and maintenance operations with this product. Therefore, always unplug the power cable and any other cables which provide external voltages before performing work.
Earth ground connection to vehicle's chassis or a central grounding point shall remain connected. The earth ground cable shall be the last disconnected or the first connected during operations of cabling.

Special Handling and Unpacking Instructions

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 board 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 board.

GENERAL INSTRUCTIONS ON USAGE

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

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

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

Keep all the original packaging material for future storage or warranty shipments. If it is necessary to store or ship the board, please re-pack it as nearly as possible in the manner in which it was delivered.

Special care is necessary when handling or unpacking the product. Please consult the 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 DEEE/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 they 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

TRADEMARKS

This document may include names, company logos and trademarks, which are registered trademarks and, therefore, proprietary to their respective owners.

Table Of Contents

1 / Introduction

1.1 EFT and Product name

Featuring the Intel® Xeon® D processor family (formerly Broadwell-DE), the VX3058 is the first 8-core multiprocessing board of the Kontron 3U VPX ecosystem. The highly integrated 8-core architecture with Dual 10 Gigabit Ethernet, high bandwidth PCI Express 3.0, high speed DDR4 memory, and versatile mezzanine options, is consequently SWaP-C optimized and simply the best choice for high performance embedded computing platforms

VX3058-SA EFT is the preliminary Early Field Trial (EFT) sample release of a new Octo Core Intel® Xeon® Processor VPX Server Blade product.

1.2 Manual Overview

This document defines Early Field Test sample (EFT) status and limitations.

EFT boards help customer 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 in the following information:

- How to identify the Engineering Change (E.C.) level and the Order Code of the board you have in hand: Chapter 2 page 2
- What is the important information related to the different revisions of the board and the VX3058-SA EFT User's Guide:
  - General information for VX3058-SA EFT boards Chapter 3 page 3
  - Information related to a specific E.C. level Chapter 6 page 13

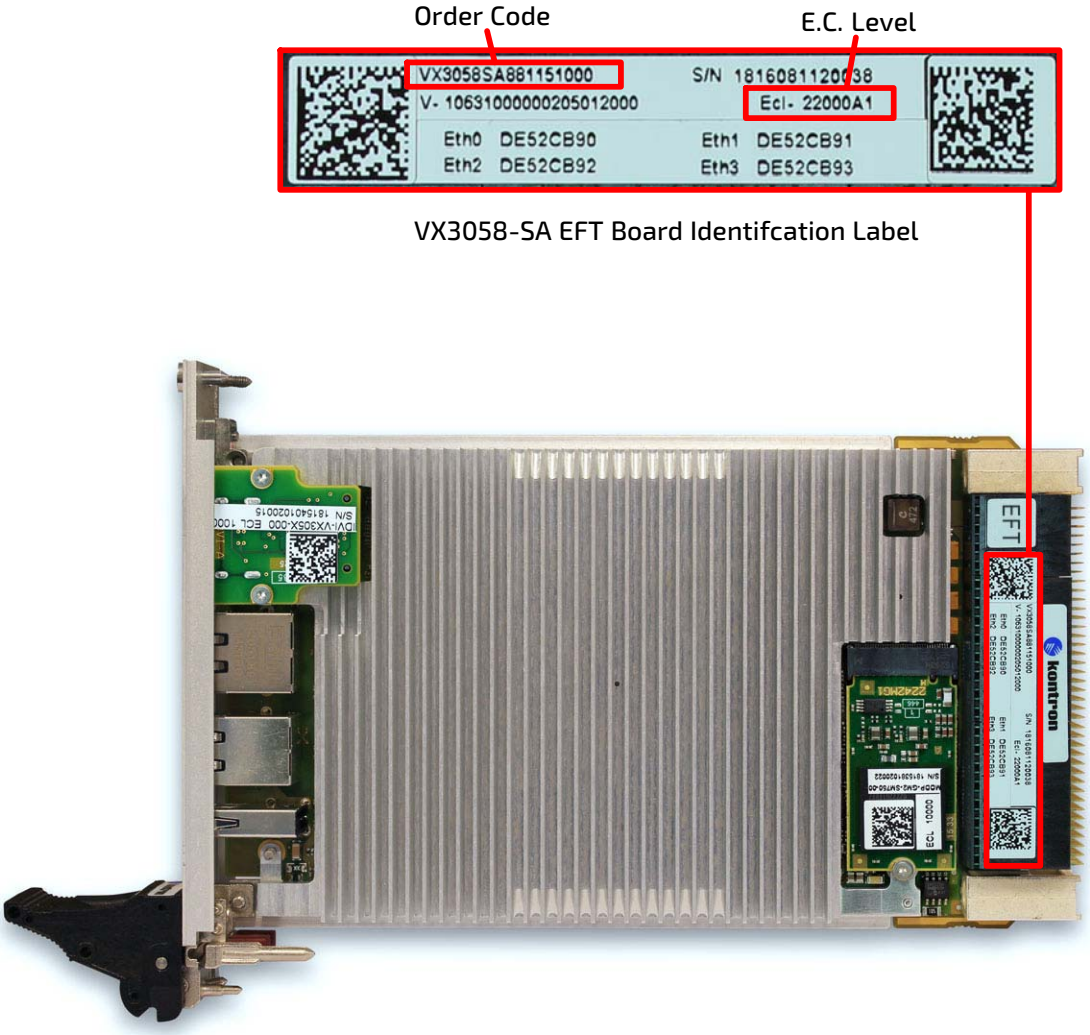
This document refers to the up-to-date release of the following User's Guide documentation:

- VX305x User's Guide CA.DT.B25

2 / Board Identification

Engineering Change Level and Order Code

The Engineering Change Level (E.C. Level) and Order Code information are available on the “Board Identification" labels, located on the top side of the board.



3 / General Information

3.1 Handling

Personal Injuries

- Do not touch the CPUs heatsink while removing the board from a rack because it can get very hot.
- Be careful while handling the board, because of the cutting edges of the heatsink.
- Do not place the board on any surface or in any form of storage container until the board and its heatsink have cooled down to room temperature.

EMC Gasket

In order to protect the EMC gasket located in the front panel, be careful during the insertion of the boards in the rack. It is recommended to insert the boards in a rack starting from the higher slot number and extract them starting from the lowest slot number.

3.2 Power Supplies

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

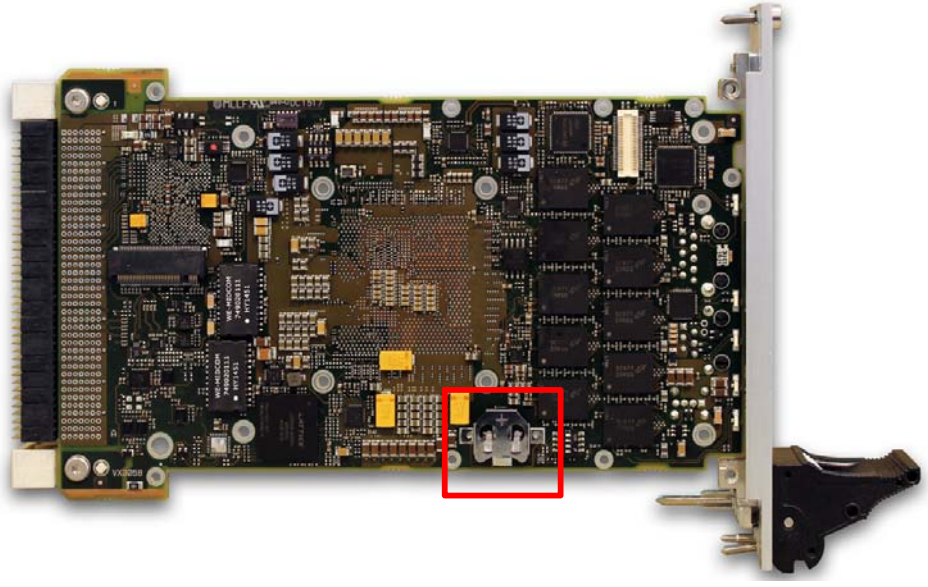
For a power off condition to be valid, the +12V power supply inputs should remain at 0V for at least one second.

3.3 Battery Replacement

The lithium battery must be replaced with an identical battery or a battery type recommended by the manufacturer. The battery is used to run a time of day clock during the absence of power. Operation without the battery is possible but the date and time will not be retained in the absence of power. Alternatively, the VPX VBAT signal on P0 can provide a 3.3V voltage from the backplane to retain the date and time.

To replace the battery, proceed as follows:

- Turn off the power.
- Get the battery outside of its holder:



- Place the new battery in the socket with the plus pole facing upwards.

⚠CAUTION	Danger of explosion when replacing with wrong type of battery. Replace only with the same or equivalent type recommended by the manufacturer. The lithium battery type must be UL recognized.
	Do not dispose of lithium batteries in general trash collection. Dispose of the battery according to the local regulations dealing with the disposal of these special materials, (e.g. to the collecting points for dispose of batteries).
	When replacing the battery of the VX3058-SA EFT use the following reference: RENATA CR1220 The design of an electronic circuit powered by a component class battery requires the designer to consider two interacting paths that determine a battery's life: consumption of active electrochemical components and thermal wear-out.

4 / EFT - EC10000A0 E.C. Level

4.1 EFT Configuration Overview

EFT CONFIGURATION	
EFT ORDER CODE	VX3058SA881150000(L) (Air cooled)
EFT OPERATING CONDITIONS	Ambient temperature 10°C to 30°C, 3U inlet airflow above 3 m/s
EFT HARDWARE E.C. LEVEL	EC10000A0 No graphics Intel Broadwell-DE V-1 12MB 8c 1.4 GHz 35W ES2 processor cPLD Version 0x1
EFT BIOS	ID15196PROTO for KONTRON VX3052 & VX3058 PROTO boards
SUPPORTED OPERATING SYSTEM	Fedora 21, Linux version 3.18.3-15202.VX305x.fc21.x86_643.18.3-15202.VX305x.fc21.x86_64 (BSP is not yet available). No other OS is supported.
OPTIONAL PRE-INSTALLED SSD BOOT DEVICE	Pre-installed Top M.2 SATA SSD device (standard Fedora 21) M.2 SSD device: Transcend TS32GMTS400 32 GB SSD This option with preinstalled SSD with LinuxOS can be ordered adding "L" at the end of the product order code.

Warning: Preinstalled M.2 Transcend TS32GMTS400 32GB SATA SSD option can be delivered on EFT with Fedora 21 distribution. Please note that Transcend TS32GMTS400 32 GB SATA SSD use and reliability cannot be guaranteed by Kontron. Customer may use an external HDD on VPX P1 SATA port0 or port1 for higher reliability.

This option with preinstalled SSD with LinuxOS can be ordered adding "L" at the end of the product order code

4.2 EFT Features and Limitations

Important Note about Intel ES2 samples: Intel Engineering Samples (ES2) are not meant for performance benchmarking, they are really design-in samples to be used for functional testing and firmware development.

FEATURE	GROUP	STATUS	TEST CONDITIONS
Front reset	Front panel	Available	Basic functional test
Front ETH	Front panel	Available	Basic functional test
Front USB2	Front panel	Available	Basic functional test
Front serial (1)	Front panel	COM1, RS232 only	Basic functional test
Front LED indicators	Front panel	Available	Basic functional test
Front HDMI port	Front panel	Not available, verification in progress	Contact support
VPX P0 SMBus0/1 (1)	VPX P0 rear panel	Not available, verification in progress	Contact support
VPX P0 user GPIO (1)	VPX P0 rear panel	Not available, verification in progress	Contact support

FEATURE	GROUP	STATUS	TEST CONDITIONS
VPX P0 RefCLK (1)	VPX P0 rear panel	Not available, verification in progress	Contact support
VPX P0 RefCLK (1)	VPX P0 rear panel	Not available, verification in progress	Contact support
VPX P1 Gdiscrete (1)	VPX P1 rear panel	Not available, verification in progress	Contact support
VPX Maskable Reset	VPX P1 rear panel	Not available, verification in progress	Contact support
VPX P1 SATA (port0) (1)	VPX P1 rear panel Wafer 9	Available Up to 3Gbps (SATA II)	Basic functional test
VPX P1 SATA (port1) (1)	VPX P1 rear panel Wafer 10	Available Up to 3Gbps (SATA II)	Basic functional test
VPX P1 1000Base-T Ethernet (1)	VPX P1 rear panel Wafer 13/14	Not available, verification in progress	Contact support
VPX P1 10G-KR Ethernet (1)	VPX P1 rear panel Wafer 15	Available 10G-KR mode only	Basic functional test
VPX P1 10G-KR Ethernet (1)	VPX P1 rear panel Wafer 16	Available 10G-KR mode only	Basic functional test
VPX P1 x8 PCIe (1)	VPX P1 rear panel Wafer 1~8	Available,	Basic functional test With VX3905 Tool
VPX P1 USB3 port (1)	VPX P1 rear panel Wafer 11	Not available, verification in progress	Contact support
VPX P1 USB2 port0	VPX P1 rear panel Wafer 12, Row E/F	Available	Basic functional test with PB-VX3-401 Tool
VPX P2 (1)	VPX P2 rear panel Wafer 1~16	Not available, verification in progress	Contact support
RTC/Battery	RTC	Available	Basic functional test
TOP M.2 slot	M.2	Available	Basic functional test
Bottom M.2 slot (1)	M.2	Not available, verification in progress	Contact support
cPLD Misc features (1)	cPLD	Not available, verification in progress	Contact support
SW1 dipSW (1)	dipSW	No change allowed, all positions are OFF	Basic functional test
SW2 dipSW (1)	dipSW	Position 1 can be used if necessary No change allowed for position 2, 3 and 4 (OFF only)	Basic functional test
User FRAM (1)	Memory	Not available, verification in progress	Contact support
User eeprom (1)	Memory	Not available, verification in progress	Contact support
VPD eeprom	Read only Memory	Available No write allowed	Basic functional test
8GB DDR4-2133 dual bank	Memory	Available	Basic functional test
Broadwell-DE V-1 12MB 8c 1.4GHz 35W ES2	SOC	Available with I/O limitations described in this table.	Basic functional test

Note (1) in table: Features not yet available. Hardware, BIOS and Board Support Package (BSP) are still in development and verification in progress. Some limitations may be cancelled with BIOS and Linux BSP software updates.

4.3 BIOS Release Notes

Version: ID15196PROTO for KONTRON VX3052 & VX3058 PROTO boards

MD5SUM:

16feaf80daf1d77f0195d2b64123dbf6 ID15196PROTO.ROM

8488af83bd34893f80cfb78d47cfe1b2 VX305x_ID15196PROTO.bin

Recommendations:

- PCH Bios Lock setting option must remain disabled in.

  IntelRCSetup/PCH Configuration/Security Configuration setup menu, needed for **`kflash`** command.
- Switches SW1.1 FACTORY MODE and SW1.2 DEBUG MODE must remain in OFF position to prevent any SPD EEPROM damage.
- PCIe switch EEPROM update must remain disabled in Kontron/VPX Configuration setup menu (option VPX EEPROM Config.).

Limitations:

- Workaround for reset issue: write 0x6 instead of 0xE in the CF9 PCH register. Full reset bit not set.
- Kontron BIOS ID reported in the BIOS banner only.
- ID not reported under setup nor in the smbios table type 0 (full date displayed instead).
- PCIe switch configuration limited to transparent mode, x8, gen3. **`kvpx`** command not operational yet.
- **`kmac`** command not implemented. Must use the Intel tools eeupdate and lanconf to update Ethernet interface eeproms/spiflashes and to configure the MAC adresses.
- PXE boot is not operational.
- SMBIOS tables not ported. UUID not implemented.
- ACPI not fully ported (thermal zones, powerbutton ...). Negative temperatures not supported.
- AZERTY USB keyboard not supported.
- BIOS fail safe not supported.
- Cannot limit speed on SATA ports
- USBSS not operational
- NO PBIT test available in this release.

4.4 LinuxOS Release Notes

Standard Fedora 21 Linux version 3.18.3-15202.VX305x.fc21.x86_643.18.3-15202.VX305x.fc21.x86_64 is installed on M.2 SSD (Transcend TS32GMTS400 32GB SSD) to ease system bring-up and product assessment.

This preinstalled linux distribution does not include VX3058 Board Support Package, still in development.

See table in section 4.2 above for the list of already supported devices and associated fonctionnality status.

VX3058 Board Support Package is not yet available and will be released later.

Some EFT limitations may be cancelled with future BSP releases.

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

4.5 Boot Devices

Allowed boot interfaces are: Top M.2 SATA slot, VPX SATA ports, front panel and VPX USB2 ports.

PXE boot is not operational but will soon become available with BIOS updates. Contact support.

4.6 In Case of Trouble

Please contact your Kontron support.

- How to restore or update the boot device or the BIOS : contact support.

5 / EFT - ECx9000A0, ECx1000A0, ECx4000A0, EC21000D0 E.C. Levels

5.1 EFT Configuration Overview

EFT CONFIGURATION				
EFT ORDER CODES	VX3052SA280150000(L) VX3052SA280151000(L) (Air cooled)	VX3058SA881150000(L) VX3058SA881151000(L) (Air cooled)	VX3058SA882150000(L) VX3058SA882151000(L) (Air cooled)	VX3058RC881150000(L) (conduction cooled)
EFT OPERATING CONDITIONS	Ambient temperature from 10°C to 30°C, 3U inlet airflow above 3m/s	Ambient temperature from 10°C to 30°C, 3U inlet airflow above 3m/s	Ambient temperature from 10°C to 30°C, 3U inlet airflow above 3m/s	Min/Max Temperature at board edge: From -40°C to 55°C
PROCESSOR	D-1508 Broadwell-DE V-2 3 MB 2c 2.2 GHz 25W	D-1537 Broadwell-DE V-2 12 MB 8c 1.7 GHz 35W	D-1548 Broadwell-DE V-2 12 MB 8c 2.0 GHz 45W	D-1537 Broadwell-DE V-2 12 MB 8c 1.7 GHz 35W
EFT HARDWARE E.C. LEVEL	Minimum E.C. Levels: EC29000A0/EC2A000A0 EC19000A0/EC1A000A0 (With/without graphics)	Minimum E.C. Levels: EC21000A0/EC22000A0 EC11000A0/EC12000A0 (With/without graphics)	Minimum E.C. Levels: EC240000A0/EC250000A0 EC14000A0/EC15000A0 (With/without graphics)	Minimum E.C. Levels: EC21000D0/EC22000D0 (Without Graphic option)
CPLD VERSION	Min cPLD version: Version 0x2			
EFT BIOS	Min BIOS release: ID15336EFT for KONTRON VX3052 & VX3058			
SUPPORTED OPERATING SYSTEM	Min LinuxOS release: Fedora 21 , Linux version 3.18.3-15303.VX305x.fc21.x86_64 Kontron VPX VME Board Support Package [15314] (kvx_bsp-1.1.0-15303_kernel_3.18.3_201.fc21.x86_64.x86_64) No other operating system is supported.			
OPTIONAL PRE-INSTALLED SSD BOOT DEVICE	Pre-installed Top M.2 SATA SSD device (standard Fedora 21) M.2 SSD device: Transcend TS32GMTS400 32 GB SSD This option with pre-installed SSD with LinuxOS can be ordered adding "L" at the end of the product order code.			

Warning: Pre-installed M.2 Transcend TS32GMTS400 32 GB SATA SSD option can be delivered on EFT with Fedora 21 distribution. Please note that Transcend TS32GMTS400 32 GB SATA SSD use and reliability cannot be guaranteed by Kontron. Customer may use an external HDD on VPX P1 SATA port0 or port1 for higher reliability. This option with pre-installed SSD with LinuxOS can be ordered adding "L" at the end of the product order code

5.2 EFT Features and Limitations

FEATURE	GROUP	STATUS	TEST CONDITIONS
Front reset	Front panel	Available	Basic functional test
Front ETH	Front panel	Available	Basic functional test
Front USB2	Front panel	Available	Basic functional test
Front serial	Front panel	COM1, RS232 only	Basic functional test
Front LED indicators	Front panel	Available	Basic functional test
Front HDMI port	Front panel	Available with graphic option	Basic functional test
VPX P0 SMBus0/1 (1)	VPX P0 rear panel	Not available, verification in progress	Contact support
VPX P0 user GPIO (1)	VPX P0 rear panel	Not available, verification in progress	Contact support

FEATURE	GROUP	STATUS	TEST CONDITIONS
VPX P0 RefCLK (1)	VPX P0 rear panel	Not available, verification in progress	Contact support
VPX P0 RefCLK (1)	VPX P0 rear panel	Not available, verification in progress	Contact support
VPX P1 Gdiscrete (1)	VPX P1 rear panel	Not available, verification in progress	Contact support
VPX Maskable Reset	VPX P1 rear panel	Not available, verification in progress	Contact support
VPX P1 SATA (port0)	VPX P1 rear panel Wafer 9	Available Up to 6Gbps (SATA III mode)	Basic functional test
VPX P1 SATA (port1)	VPX P1 rear panel Wafer 10	Available Up to 6Gbps (SATA III mode)	Basic functional test
VPX P1 1000Base-T Ethernet	VPX P1 rear panel Wafer 13/14	Available	Basic functional test
VPX P1 10G-KR Ethernet	VPX P1 rear panel Wafer 15	Available, 1G/10G-KR autoneg mode only	Basic functional test
VPX P1 10G-KR Ethernet	VPX P1 rear panel Wafer 16	Available 1G 10G-KR autoneg mode only	Basic functional test
VPX P1 x8 PCIe	VPX P1 rear panel Wafer 1~8	Available	Basic functional test
VPX P1 USB3 port	VPX P1 rear panel Wafer 11	Available See also BIOS release note	Basic functional test
VPX P1 USB2 port0	VPX P1 rear panel Wafer 12, Row E/F	Available	Basic functional test with PB-VX3-401 Tool
VPX P2 USB2 port2	VPX P2 rear panel Wafer 4, Row E/F	Available	Basic functional test
VPX P2 SATA (port2)	VPX P2 rear panel Wafer 1	Available Up to 6Gbps (SATA III mode)	Basic functional test
VPX P2 SATA (port3)	VPX P2 rear panel Wafer 2	Available Up to 6Gbps (SATA III mode)	Basic functional test
VPX P2 1000Base-T Ethernet	VPX P2 rear panel Wafer 5/6	Available	Basic functional test
VPX P2 HDMI port	VPX P2 rear panel Wafer 7/8/9/10	Available shared with front panel HDMI	Basic functional test
VPX P2 serial line	VPX P2 rear panel Wfaer 3/ G3, Wafer 7/G7	Available COM1, RS232 only shared with front panel serial port	Basic functional test
RTC/Battery	RTC	Available	Basic functional test
TOP SATA M.2 slot	M.2 Without graphic option	Available	Basic functional test
Bottom SATA M.2 slot	M.2	Available	Basic functional test
cPLD Misc features (1)	cPLD	Not available, verification in progress	Contact support
SW1 dipSW (1)	dipSW	No change allowed, all positions are OFF	Basic functional test
SW2 dipSW (1)	dipSW	Position 1 can be used if necessary No change allowed for position 2, 3 and 4 (OFF only)	Basic functional test
User FRAM	Memory	Available	Basic functional test
User eeprom	Memory	Available	Basic functional test
VPD eeprom	Read only Memory	Available No write allowed	Basic functional test

FEATURE	GROUP	STATUS	TEST CONDITIONS
8GB DDR4-2133 dual bank	Memory	Available	Basic functional test
Processor	SOC	Available but with known Intel sightings.	Basic functional test

Note (1) in table: Features not yet available. Hardware, BIOS and Board Support Package (BSP) are still in development and verification in progress. Some limitations may be cancelled with BIOS and Linux BSP software updates.

5.3 BIOS Release Notes

Version: ID15336EFT for KONTRON VX3052 & VX3058 EFT boards

This BIOS version supports both processor V1 and V2 steppings.

Includes microcode updates: 0000000D for V1, 07000005 for V2.

MD5SUM:

a74583ba4515ee834e406dce0c2c8dd0 VX305x_ID15336EFT.bin

Recommandations:

- PCH Bios Lock setting option must remain disabled in IntelRCSetup/PCH Configuration/Security Configuration setup menu. Needed for **`kflash`** command.

Limitations:

- Workaround for reset issue: write 0x6 instead of 0xE in the CF9 PCH register. Full reset bit not set.
- **`kmac`** command does not program the 10G X550 and i210IT SPI flashes.
- UUID setting not fully implemented. Default setting to nodeid.
- ACPI not fully ported (thermal zones, powerbutton ...). Negative temperatures not supported.
- USBSS port operates in super speed mode under BIOS if xHCI configuration is forced to Enabled in the setup menu.

Then all the USB ports are routed to the xHCI controller.

Some EFT limitations may be cancelled with future BIOS releases.

5.4 LinuxOS Release Notes

Standard Fedora 21, Linux version 3.18.3-15303.VX305x.fc21.x86_64 is installed on M.2 SSD (Transcend TS32GMTS400 32GB SSD) to ease system bring-up and product assessment.

VX3058 Board Support Package: Kontron VPX VME Board Support Package [15314]

(kvx_bsp-1.1.0-15303_kernel_3.18.3_201.fc21.x86_64.x86_64)

Some EFT limitations may be cancelled with future BSP releases.

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

5.5 Boot Devices

Allowed boot interfaces are: Top or bottom M.2 SATA slot, VPX SATA ports, front panel and VPX USB2 ports.

PXE boot can be set on EFT boards without graphic option. See errata list.

5.6 In case of Trouble

Please contact your Kontron support.

- How to restore or update the boot device or the BIOS : contact support.

6 / VX305x EFT Board Revision Guide

6.1 How to Use the Board Revision Guide Table

1. Find the E.C. Level associated to your board as described in the Chapter 2 "Board Identification" page 2.
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:
   - 3.1. A X (cross) in the E.C. Level column indicates that this item applies to this E.C. Level.
   - 3.2. No X (cross) in the E.C. Level column indicates that this item does not apply to this E.C. Level.
   - 3.3. 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 6.3 "Item Detailed Description" page 14.

Contact Support Team for more information on each item.

6.2 VX305x Board Revision Guide Table - Functional E.C. Levels

Item	KDP	Description	E.C. Levels				
			10000A0	x1000A0	x4000A0	x9000A0	21000D0
1	17829	cPLD fails to reset local board via VPX SYSRESET	X	X	X	X	X
2	19749	PXE boot may fail on EFT with grapic option	X	X	X	X	X
3	-	High EFT RC board mass					X
4	-	Button cell battery on the bottom side may hit the chassis during board insertion.					X

6.3 VX305x Board 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 6.2 “VX305x Board Revision Guide Table - Functional E.C. Levels” page 13 to find the specific E.C. Levels associated to a specific item.

Item #1 cPLD fails to reset local board via VPX SYSRESET

Description: Board power-on sequence may fail when full reset (with S5 deep sleep sequence), when VPX VS1 is not powered off.

Impact: Power-on sequence fails.

Solution: Turn off VS1 power supply fo force a correct power-off/on sequence. Under investigation. Will be fixed in future E.C. level revision.

Item #2 PXE boot may fail on EFT with grapic option

Description: PXE boot may fail on EFT with grapic option. No PXE issue without graphic option.

Impact: No PXE boot allowed with graphic option.

Solution: Under investigation for EFT with graphic option.
Will be fixed in future E.C. level revision.

Item #3 High EFT board mass

Description: EFT board mass is high, around 1.5 kg. This is due to a massive copper heatspreader, not optimized yet.

Impact: High EFT board mass, Board must be handled with precaution.

Solution: Will be optimized in future E.C. level revision.

Item #4 Button cell battery on the bottom side may hit the chassis during board insertion.

Description: When mounted, the button cell battery is slightly violating VITA 46 mechanical standard (RC class only).

Button cell battery on the bottom side may hit the chassis during board insertion.

See VX305x User's Guide - CA.DT.B25 to locate battery option.

No issue for product without battery option.

Impact: Button cell battery on the bottom side may hit the chassis during board insertion.

Solution: If button cell is required (RTC retention required), make sure that battery is not hitting the chassis during board insertion.

No issue for product without battery option.

May be fixed in future E.C. level revision.

7 / Rear Transition Module for VX3058 EFT Boards

7.1 Legacy PB-VX3-4xx Modules

The VX305x-SA supports the PB-VX3-4xx Rear Transition Modules, with I/O limitations defined in the User's Guide CA.DT.B25 and the Hardware Release note CA.DT.B26.

Figure 1: PB-VX3-4xx Rear Transition Module

Because VX305x-SA products are 5HP boards, 5HP rear transition modules are preferred: PB-VX3-401 or PB-VX3-411.

7.2 PB-VX3-5xx EFT Modules

EFT PB-VX3-501 and PB-VX3-511 rear transition modules are preferred if rear HDMI port (HDMI) and a second rear 1000BASE-T port (ETHB) are required.

Both HDMI and ETHB ports are fully operational.

EFT PB-VX3-501 and PB-VX3-511 rear transition modules have the same PB-VX3-4xx limitations, except regarding HDMI and ETHB ports

Figure 2: PB-VX3-5xx Rear Transition Module

About Kontron

Kontron, a global leader in embedded computing technology and trusted advisor in IoT, works closely with its customers, allowing them to focus on their core competencies by offering a complete and integrated portfolio of hardware, software and services designed to help them make the most of their applications.

With a significant percentage of employees in research and development, Kontron creates many of the standards that drive the world's embedded computing platforms; bringing to life numerous technologies and applications that touch millions of lives. The result is an accelerated time-to-market, reduced total-cost-of-ownership, product longevity and the best possible overall application with leading-edge, highest reliability embedded technology

Kontron is a listed company. Its shares are traded in the Prime Standard segment of the Frankfurt Stock Exchange and on other exchanges under the symbol "KBC".
For more information, please visit: **www.kontron.com**

CORPORATE OFFICES

EUROPE, MIDDLE EAST & AFRICA

Lise-Meitner-Str. 3-5
86156 Augsburg
Germany
Tel.: + 49 821 4086-0
Fax: + 49 821 4086-111
info@kontron.com

NORTH AMERICA

14118 Stowe Drive
Poway, CA 92064-7147
USA
Tel.: + 1 888 294 4558
Fax: + 1 858 677 0898
info@us.kontron.com

ASIA PACIFIC

1~2F, 10 Building, No. 8 Liangshuihe 2nd Street,
Economical & Technological Development Zone,
Beijing, 100176, P.R. China
Tel.: + 86 10 63751188
Fax: + 86 10 83682438
info@kontron.cn