ERRATA

January 5, 2025

Products Affected:

Versal AI Edge - VE2302 Development Kit – Carrier Card - Revision 1

Introduction:

Thank you for your interest in the Tria Versal AI Edge VE2302 Development Kit. Although Tria has made every effort to ensure the highest possible quality, these kits and associated software are subject to the limitations described in this errata notification. Be aware that any of the optional workarounds requiring physical modifications to the board are done at the user's own risk, and Tria is not liable for poorly performed rework.

Identifying Affected Boards:

The VE2302 Development Kits affected by these errata can be identified by the PCB Revision listed in copper on the top of the PCB. The board containing errata is the VE2302 Carrier Card. The VE2302 SOM does not have any available errata currently.

The PCB Revision of the VE2302 Carrier Card is listed in copper and can be found on the top layer of the board near the card edge by the SFP connectors. The current production revision is "AES-VE2302-IOCC-PCB-1". Carrier Boards that are at this production revision are affected.
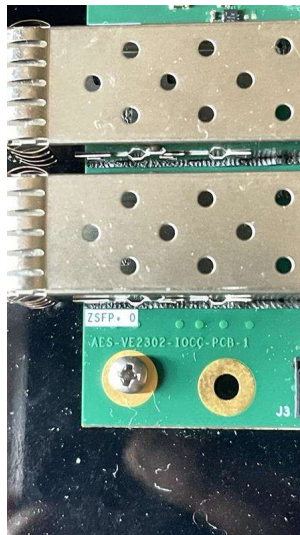
Board Bottom Side View

Errata:

Installed fan is enabled when 12V power supply connected to VE2302 Carrier Card

<u>Applications Affected</u> – All designs utilizing Revision 1 of the VE2302 Carrier Card.

<u>Description</u> – The fan header is supplied with 12V to operate the provided fan. Unfortunately, that 12V is always active when a 12V power supply is connected.

<u>Workaround</u> – The provided fan is a PWM controlled fan. Applications can control the enabling / disabling of the fan via the fan header, J57, pin 4 (FAN_PWM). Driving this pin from an application to a low level will disable the fan.

<u>Performance Limitation</u> – None.

Circuit monitoring +VCC_RAM for power sequencing not triggering

<u>Applications Affected</u> – All designs utilizing Revision 1 of the VE2302 Carrier Card.

<u>Description</u> – The +VCC_RAM power rail is included in the power sequence monitoring of the VE2302 Carrier Card. Unfortunately, the +VCC_RAM power rail does not generate a power good signal to provide an indicator that the supply is functional. The circuit used to signal power good to the power sequencer was not capable of reliably triggering as +VCC_RAM voltage is +0.8V nominal.

<u>Workaround</u> – All available Revision 1 VE2302 Carrier Cards contains a WHITE WIRE rework to ensure that the VE2302 Carrier Card power sequencing completes correctly. This WHITE WIRE rework should be visible near the 12V power connector just to the right of the large inductor.

Power Sequencing White Wire

<u>Performance Limitation</u> – None.

JTAG PC4 Connector Not Functional

Applications Affected – Designs which desire programming/configuration through JTAG using the PC4 connector, J35, instead of the USB Type-C connector, J53.

Description – The JTAG PC4 connector was designed into the platform as a fall back to the USB Type-C JTAG/UART in case of issues with JTAG programming of initial prototypes. There is a select circuit which chooses the USB-Type-C connector or the JTAG PC4 connector dependent on if the Type-C is connected or not. When the USB Type-C connector is not plugged in (PC4 connector selected), the VE2302 Carrier Cards +UTIL_3V3 voltage is being back fed through the JTAG/UART device, U27, onto the +USB_5V0 line through protection device U30 at a level preventing the select circuit from functioning as intended.

Workaround – Utilize the USB Type-C connector, J53, for programming and debug requirements. In future board revisions, the PC4 connector, J35, will not be installed.
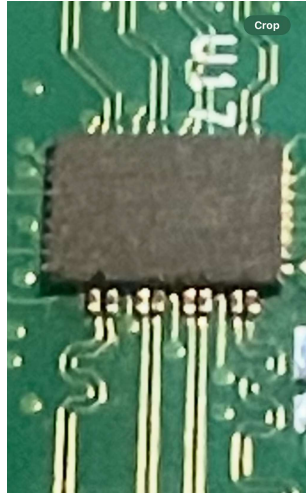
Performance Limitation – None.

Missing Required AC Coupling Capacitors on HDMI RX Interface

Applications Affected – Designs which desire to utilize the HDMI RX functionality.

Description – It has been determined that AC coupling capacitors were not implemented on the HDMI RX interface between the TMDS1204 HDMI re-driver device, U17, and VE2302 device that exist on the Versal SOM.

Workaround – While it is possible to rework the boards to successfully implement HDMI RX, we intend to limit availability of Revision 1 Development Kits to those who do not require HDMI RX.

For clarity, the rework requires the addition of eight (8) 0201 100nF capacitors on the 4 RX differential pairs. This requires careful trace exposure, trace cutting, and then the installation of the eight capacitors in the path. The following is an image of the rework performed on the Revision 1 Carrier Card to support HDMI RX functionality:

HDMI RX AC Coupling Capacitor Rework

Performance Limitation – HDMI RX not functional on Revision 1 Carrier Cards. This functionality is resolved in Revision 2 platforms. Revision 1 platforms are limited to those customers who do not require HDMI RX functionality.

New Errata:

If new errata are discovered it will be posted to the VE2302 Development Kit product page, under the Technical Documents tab: http://avnet.me/ve2302-dk

Additional Support:

For additional support, please review the discussions and post your questions in the VE2302 Development Kit Forum located here: http://avnet.me/ve2302-dk-forum

Alternatively, you can also reach out to your local Avnet Field Application Engineer (FAE) for support.

Revision History:

Date	Version	Revision
5-Jan-26	1.0	Initial Release