Product Change Notification (PCN)

Transition from Iris V1.1B to Iris V2.0A

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Updated 2021-07-21: Added remarks on SD card signal pull-ups and clarifications about software support and product availability (updates marked blue)

1. Toradex Product Numbers Affected

EOL Product		Replacement Product	
Part Number	Product Name	Part Number	Product Name
01351101	Iris V1.1B	01352000	Iris V2.0A (Iris V2.0B)

2. Product Phase in / Phase out Schedule

EOL Product		Replacement Product	
Part Number	Estimated Schedule	Part Number	Estimated Schedule
01351101	LTB (Last Time Buy): 2020-09-30 non-cancellable and non-returnable LTS (Last Time Ship): 2020-12-31 (or longer if supply lasts)	01352000	Sample Production: Available now Volume Production: At the time of updating this PCN, we have decided to implement another version change to Iris V2.0B and go to Volume Production state with this version only. Iris V2.0A is in Sample Product state and will be discontinued once V2.0B is available. We do not expect any customer impact from V2.0A to V2.0B and there is no change in form-fit-function. More up-to-date information is available on our developer website: https://developer.toradex.com/products/iris-carrier-board#tab-revision-history

Customers are strongly encouraged to convert their designs to the replacement parts listed above. Toradex also advises customers to carefully validate the new product version before their production release.

3. Description of Changes

From 01351101 Iris V1.1B to 01352000 Iris V2.0A:

– General

  o SHIELD/CHASSIS_GND signal connection to mounting holes and connectors body (like USB, Ethernet, DVI) have been improved for better EMC behavior.

– Power Supply

  o New DC-DC buck regulators (with internal FETs) from Alpha and Omega Semiconductors have been used to increase the output current rating of the power supply. It also simplifies the power supply design and PCB layout.

  o Barrel Power connector X6 assembly option added. Not assembled by default.

- o Fuse F1 has been changed from 7A to 8A rated fuse to increase the input current limit.
- o Power input filter circuit has been improved.
- o Diode D13 has been changed to increase forward current rating.

– Ethernet

- o SODIMM_191 pin, components C50 and C51 are now connected to digital ground GND instead of ETH_AGND as the Ethernet circuit on the Colibri module uses digital ground GND as reference.
- o RJ45 connector X15 has been changed to support the full industrial operating temperature range: -40°C to +85°C.
- o Ethernet jumper JP2 has been removed and was replaced by resistor assembly options.

– USB

- o Micro USB Type-AB connector X12 has been changed to SMD type connector, which helps us to improve PCB layout and eliminate PCB assembly issues.
- o Pull down resistors R30, R58, R59, R60 (15KR) are not assembled by default.
- o Improved ESD protection circuit.

– Micro SD

- o Use new Micro SD cared holder (higher quality).
- o Pins S1 and S2 are connected to GND instead of SHIELD as these pins are required by the SD card detect switch. ESD protection diode D6 has been connected to the SD card detect pin CD1 and CD2.
- o Added load switch IC13 to control (enable/disable/power-cycle) Micro SD Card power using software. SODIMM_100 can be used control the load switch.
- o Data/CMD line pull-up resistors R101, R102, R103, R104, R105 on the Iris carrier board are not assembled anymore.

– Display Interface

- o New FFC connector used for Unified Interface Display X3 to support the full industrial operating temperature range.
- o Add new connector X5 for capacitive touch controller support (compatibility with future Toradex display offerings).

– LVDS

- o Changed LVDS Transmitter/Serializer IC9 to support dual channel LVDS output. New LVDS Transmitter/Serializer supports both VESA and JEDIA format output data/colour mapping (configurable using software OR assembly option on the carrier board). Please refer to Iris V2.0A schematics for details [1].
- o LVDS connector X7 has been changed to 40 pin connector (compatible with the LVDS connector on the Ixora and Apalis Evaluation Board).

– Audio

- o Microphone input signal connected to the Audio connector X6. Added biasing circuit to the microphone input.
- o By default, Audio connector X6 will follow CITA (AHJ) pinout standard which is newer and widely used pinout. Assembly option has been added to keep compatibility with OMTP pinout standard (used on Iris V1.1).

– RTC

- o Changed the RTC battery series resistor from 22Ω to 1kΩ for current limitation purpose.
  - – Battery holder
    - o Improve battery holder BAT1 footprint

For further details, please refer to the public design data (Altium Project, Schematics) of Iris V1.1B and V2.0A:
[1] https://developer.toradex.com/products/iris-carrier-board#tab-design-resources

4. Customer Impact

4.1. Hardware Design

- – New LVDS connector X7 is not backward compatible.
- – SHIELD / CHASSIS_GND changes may have an impact on EMI behavior.
- – For customers using Colibri PXAxxx, R30, R58, R59, R60 (15kΩ) need to be assembled for pulldown on USB.
- – For customer using PXA270, assembly option for the Ethernet needs to be changed. When using Colibri PXA270 with Iris V2.0, assemble resistor R121 and remove resistors R122 and R123. Please refer to Iris V2.0A schematics for details [1].

4.2. Software

- – Toradex has tested the following officially released (non-beta) BSPs on Iris V2.0A:
  - o Linux
    - ▪ BSP V3.0 and higher (recommended)
      - • For Colibri T20 and Linux BSPs prior to V5.1.0 some additional manual adjustments are required when using the micro SD card interface, see https://developer.toradex.com/knowledge-base/migrate-from-iris-v11-to-v20#SD_Card for details.
    - ▪ BSP prior to V3.0 (not validated)
      - • For BSPs prior to V3.0 some additional settings are required to use the LVDS interface, see https://developer.toradex.com/knowledge-base/migrate-from-iris-v11-to-v20#LVDS for details.
  - o Windows CE:
    - ▪ Colibri VFxx: V1.5 and higher
    - ▪ Colibri T20/T30: V2.0 and higher
      - • For Colibri T20/T30 BSP version prior to 2.4 (not released at the time of releasing this PCN document), some additional adjustments are required when using the micro SD card interface, see https://developer.toradex.com/software/windows-embedded-compact/t20-t30-wec-software/release-details?view=all&key=WC-2812.
    - ▪ Colibri iMX6: V1.0 and higher
    - ▪ Colibri iMX7: V1.0 and higher

5. Definitions

LTB: Last Time Buy

LTS: Last Time Ship

EOL: End Of Life

6. Contact

Please contact Toradex if you have any questions.

For commercial and sales questions please contact shop@toradex.com

For technical questions please contact support@toradex.com