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Alpha Boards Test Report Camera Inputs Highlights

RT-RK LLC

09/03/2018





Context

Problem Description

Proposed Solution



RT-RK HEADQUARTER

Context



Alpha Boards - background:

<http://www.rt-rk.com/news/213-ti-expands-adas-and-autonomous-vehicle-portfolio-with-new-development-board-and-broadened-ecosystem>

P280-R004 is the fourth revision of the Alpha boards, adjusted and dedicated for new projects on artificial intelligence, deep learning algorithms and automotive ADAS systems

<http://www.rt-rk.com/news/219-rt-rk-in-h2020-bonseyes-platform-for-open-development-of-systems-of-artificial-intelligence>

<http://www.rt-rk.com/news/221-alpha-board-gets-camera-monitor-system-algorithm-by-denso-adas>

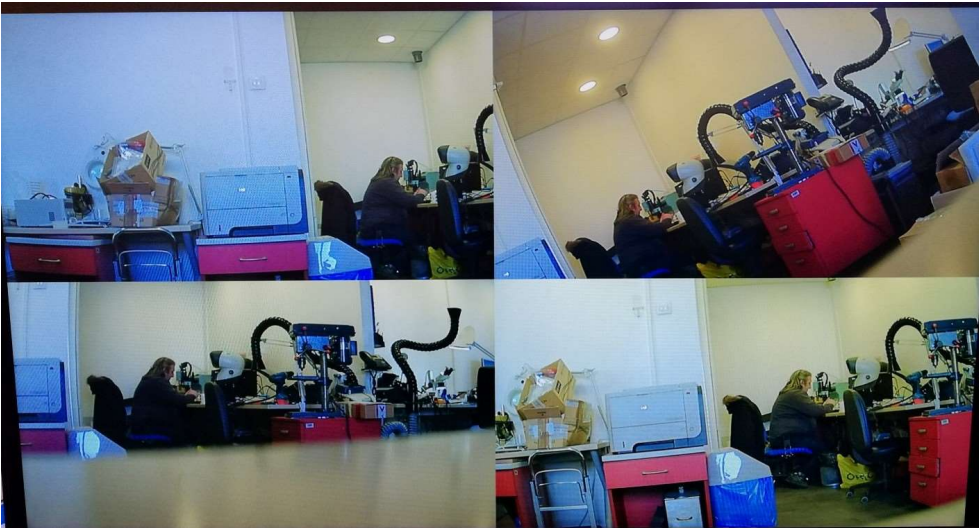
The last production batch, from February 2018, produced by Iritel, Belgrade, shows a kind of systematic failures on camera inputs subsystem.

Problem description

All the cameras should be interfaced via DS90UB914ATRHSJQ1 deserializer (the same one across all the Alpha boards family members and revisions).

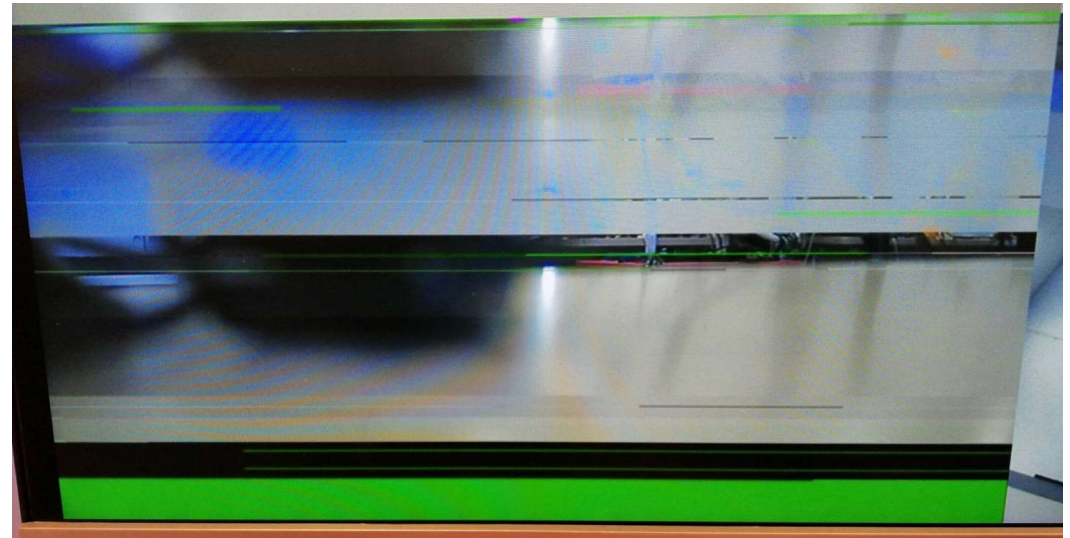
On a number of boards from the last production batch from Iritel, system can not pass functional tests, video inputs are corrupted, as shown on following pictures:

Pic 1: The example of correct video input



Problem description

Pic 2/3: The example of corrupted camera input (2), zoomed (3):
Lines are present, complete frames are missing and video is not continual



Problem Description

Statistics:

Out of first 55 boards tested, in total 25 boards failed:

- 16 had failures on single deserializer (equal split between 4 existing on board)
- 9 had failure on 2 -4 on-board deserializers

First 12 boards have been corrected by changing the deserializer available from internal stock (same purchasing code), 100% successfully.

Top marking on the ICs soldered on the boards:

76A08LUG3

UB914AQ

Top marking on the ICs from internal stock:

62AL26UG3

UB914AQ



Contact us

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