HW part number: HW002

HW revision: R002

Firmware version: initial, unreleased test firmware

Software version: N/A

Test case: IP Validation: UART RX

Test date: 2021-08-21

Steps to reproduce the problem

1. Apply power to MIDI box
2. Connect digital piano to MIDI Input 4 (of 4)
3. Apply power to digital piano
4. Connect logic analyzer input 1 (of 8) to MIDI input 4 (output of optocoupler)
5. Connect logic analyzer input 2 (of 8) to FPGA output MIDI OUT 3 (0 to 3)
6. Verify all data sent by the digital piano (MIDI input 4) is received on output 0
7. Verify all data sent by the digital piano (MIDI input 4) is received on output 3

Investigation notes

2021-08-21: FPGA output on pin 26 (MIDI output 0) appears to be non functional now. I ran a test where this was used as an output at the same time the microcontroller was using it as an output, and it looks like the microcontroller burned out the FPGA’s driver.

FPGA output on pin 29 (MIDI output 3) appears to be functioning.

I’m not sure this makes complete sense, since I thought the driver conflict was on the FBIN traces, but at least I was able to observe correct IP behavior on one of the output pins (pin 29).

I’ll have to watch this for other anomalous behavior in the future.