PRODUCT MODIFICATION INSTRUCTIONS

QCF17

VCS3-RP2040-V2 UART power mod

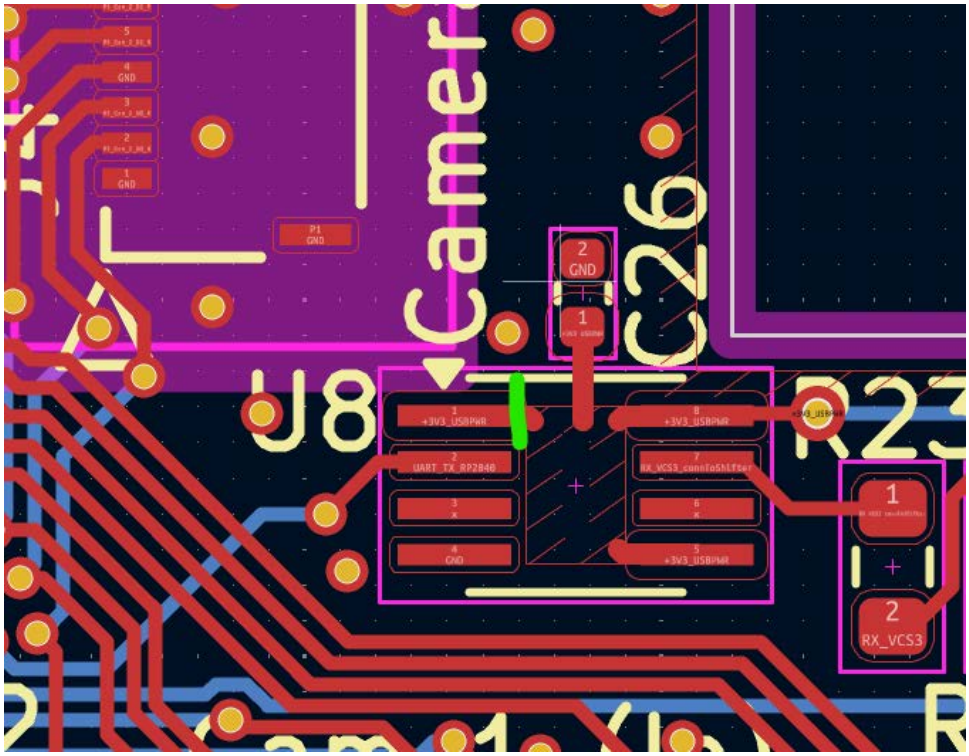
SUNDANCE MULTIPROCESSOR TECHNOLOGY LTD.

Originated by:	CH
Approved by:	CH

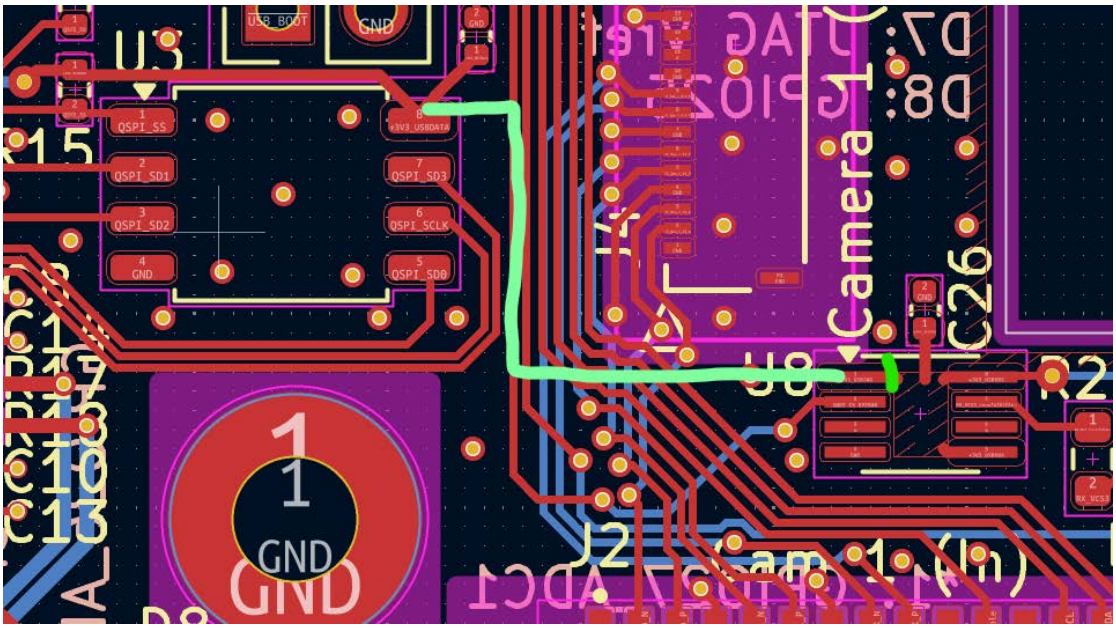
Issued to	Date	Action
	11th Aug 25	Cut the track and add a wire.

What to do

Cut this track (green) to isolate pin 1 of U8.



Add a wire from pin U8 pin 1 to pin 8 of U3 – the other green (the 8 pin flash chip):



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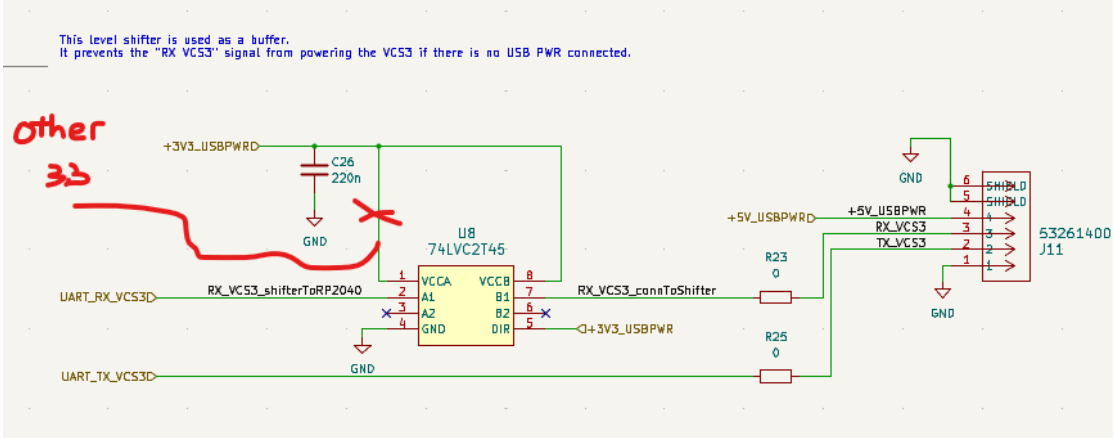
Why?

Due to a choice made when routing the board, both sides of the level shifter that is used as a switch for the troublesome TX UART pin (which causes the VCS3 to be powered when the 5V is off in certain situations) are connected to the same 3.3V. During initial testing this wasn't found to be a problem, hence it was put into the V2 of the PCB. There was no power on TX when the board was switched off.

Subsequent testing revealed that if the system is used in standalone mode, with the VCS3 booting LINUX, there can be an issue that causes the board not to boot.

This was traced back to the TX pin.

We need to power the left-hand side of the buffer (the input in this configuration) from the same power supply as the RP2040 side of the TX pin. This means that when the RP2040 side of the board has no power, the left-hand side of the buffer also has no power so is pulled down.
As shown below, pin 1 of the buffer needs to be isolated and connected to the +3V3_DATA rail.



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