VT1844 - DisplayPort Pin 20 Problem

Problem:

Some DisplayPort and DisplayPort to miniDP cables incorrectly connect the 3.3V power pins through the cable. The DisplayPort specification is quite clear that this power line (Pin 20) is a no-connect in the cable. Pin 20 power is provided on the host or device socket to power active adapters (like our VL-CBR-2032 miniDP to VGA adapter).

Using a cable with pin 20 connected on both ends can cause two problems, both of which can potentially damage the product and void the warranty.

1. When the power is turned off to the VersaLogic CPU module, the Display Port attached product (monitor, etc.) provides power to the cable and allows the cable to source power (back drive) the VersaLogic CPU module. This can be indicated by the CPU board's LED's staying on. The presence of this rogue power can potentially affect the power up sequence of the CPU resulting in a no-boot situation.

2. When the power is on there are contending power sources on both ends of the cable and potential damage could occur if they are too mismatched.

This is a well-known issue in the DisplayPort industry and the cable manufacturers are slowly coming into compliance.

Affected Products:

All VersaLogic products with DisplayPort of mini DisplayPort video outputs.

Answer:

Only use DisplayPort cables that don't connect Pin 20 from connector to connector. Our VL-CBR-2031 cable is a compliant cable.

Cables that have been tested for compliance by DisplayPort.Org will have this official logo on them. Unfortunately, few cable manufacturers are having this compliance testing done.

Related Article:

Can be found by internet searching "DisplayPort pin 20 problem".