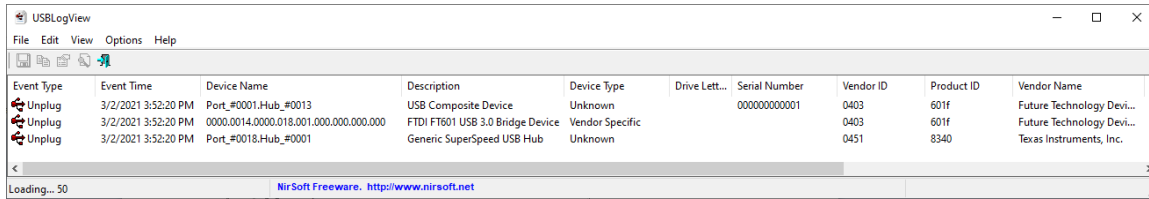


Often while operating in our instrument, the USB 3 HUB (PN: TUSB8043AIRGCR) drops out of Windows as shown:

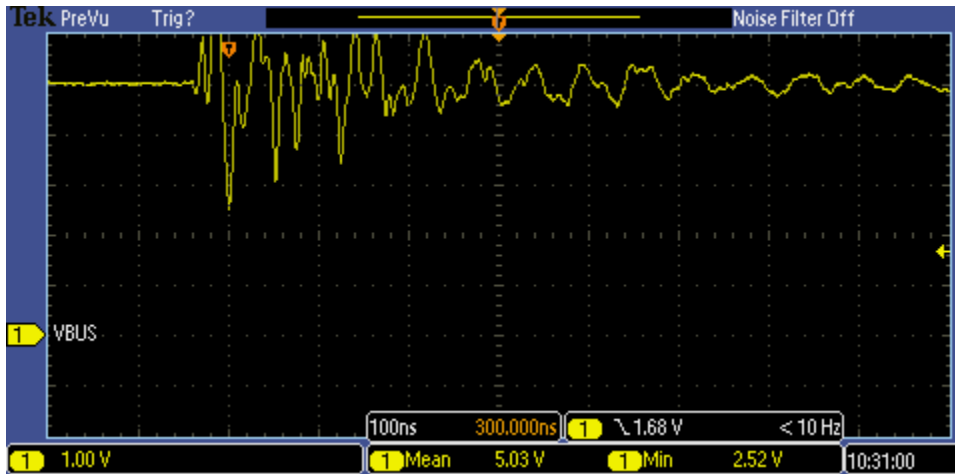


The screenshot shows the USBLogView application window. It displays a table of events with the following columns: Event Type, Event Time, Device Name, Description, Device Type, Drive Lett..., Serial Number, Vendor ID, Product ID, and Vendor Name. Three 'Unplug' events are listed, all occurring at 3:52:20 PM on 3/2/2021. The first event is for 'Port_#0001.Hub_#0013' (USB Composite Device). The second is for '0000.0014.0000.018.001.000.000.000.000' (FTDI FT601 USB 3.0 Bridge Device). The third is for 'Port_#0018.Hub_#0001' (Generic SuperSpeed USB Hub). The status bar at the bottom indicates 'Loading..._50' and 'NirSoft Freeware, http://www.nirsoft.net'.

Event Type	Event Time	Device Name	Description	Device Type	Drive Lett...	Serial Number	Vendor ID	Product ID	Vendor Name
Unplug	3/2/2021 3:52:20 PM	Port_#0001.Hub_#0013	USB Composite Device	Unknown		000000000001	0403	601f	Future Technology Devi...
Unplug	3/2/2021 3:52:20 PM	0000.0014.0000.018.001.000.000.000.000	FTDI FT601 USB 3.0 Bridge Device	Vendor Specific			0403	601f	Future Technology Devi...
Unplug	3/2/2021 3:52:20 PM	Port_#0018.Hub_#0001	Generic SuperSpeed USB Hub	Unknown			0451	8340	Texas Instruments, Inc.

The USB 2.0 section of the HUB is working fine.

We do have some noise on VBUS as shown:



However, the USB 3 HUB as I understand it, has debouncing logic on the VBUS. Can this noise explain why only the USB 3 section of the hub unplugs?

Does TI have any suggestions to improve the robustness of the design?