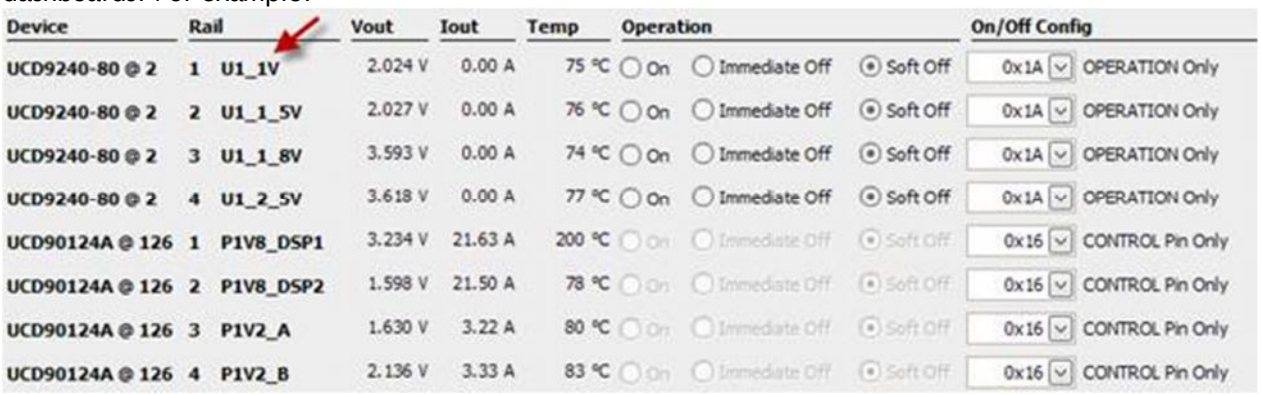
Fusion Digital Power Designer v1.8.80
Major Changes Since v1.8.58.1

Misc:

- If there was an error saving a project in offline mode when "File->Save Project" was selected, the GUI would crash. Fixed.

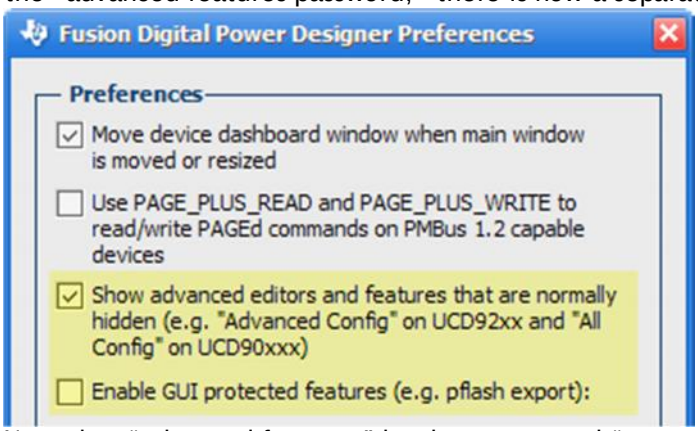
- Rail names are shown in more places when working with a UCD92xx or UCD90xxx, such as rail and system dashboards. For example:



Device	Rail		Vout	Iout	Temp	Operation			On/Off Config	
UCD9240-80 @ 2	1	U1_1V	2.024 V	0.00 A	75 °C	On	Immediate Off	Soft Off	0x1A	OPERATION Only
UCD9240-80 @ 2	2	U1_1_5V	2.027 V	0.00 A	76 °C	On	Immediate Off	Soft Off	0x1A	OPERATION Only
UCD9240-80 @ 2	3	U1_1_8V	3.593 V	0.00 A	74 °C	On	Immediate Off	Soft Off	0x1A	OPERATION Only
UCD9240-80 @ 2	4	U1_2_5V	3.618 V	0.00 A	77 °C	On	Immediate Off	Soft Off	0x1A	OPERATION Only
UCD90124A @ 126	1	P1V8_DSP1	3.234 V	21.63 A	200 °C	On	Immediate Off	Soft Off	0x16	CONTROL Pin Only
UCD90124A @ 126	2	P1V8_DSP2	1.598 V	21.50 A	78 °C	On	Immediate Off	Soft Off	0x16	CONTROL Pin Only
UCD90124A @ 126	3	P1V2_A	1.630 V	3.22 A	80 °C	On	Immediate Off	Soft Off	0x16	CONTROL Pin Only
UCD90124A @ 126	4	P1V2_B	2.136 V	3.33 A	83 °C	On	Immediate Off	Soft Off	0x16	CONTROL Pin Only

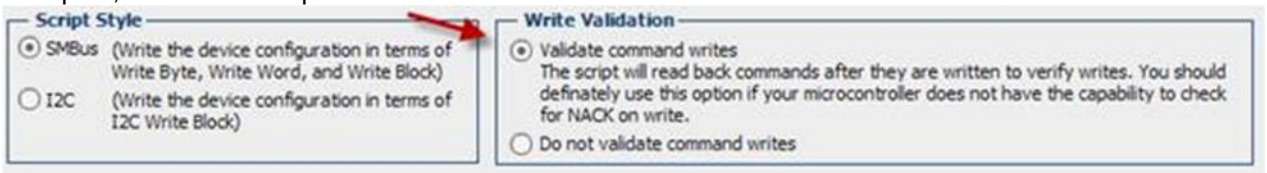
- Updated ucd30xx.bsdl file. Non-JATG part-specific pins like DPWM1A were removed. Only pins required for JTAG programming are listed. This file is in C:\Program Files\Texas Instruments Fusion Digital Power Designer\misc.

- Updated how advanced config is shown/hidden from user on UCD92xx/UCD90xxx. Instead of being controlled by the "advanced features password," there is now a separate entry in the GUI preferences:



Note that "advanced features" has been renamed "protected features." If you are upgrading your GUI install and had previously entered the password, "show advanced editors and features" will be automatically enabled. For a new install it will be disabled.

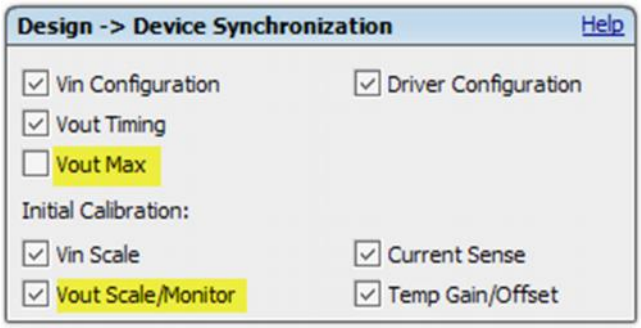
- In Export, the PMBus script read-back validation can now be turned on or off:



UCD92xx:

- Miscellaneous bug fixes for configurations where tracking to an external source was being done.

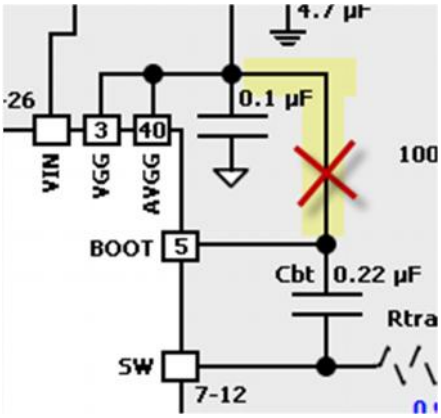
- In Design -> Device synchronization, VOUT_MAX is now managed by its own category. VOUT_SCALE_LOOP and VOUT_SCALE_MONITOR are managed separately:



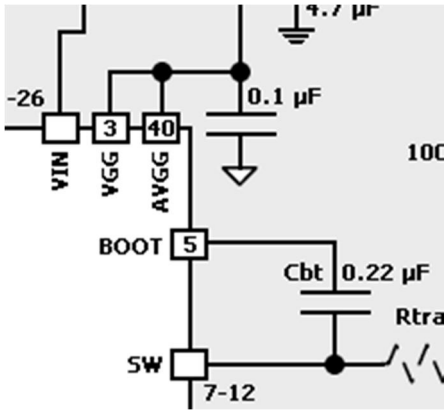
- If you designed a parallel stage UCD7242, the GUI would select 10k Rcs2 instead of 4.99k. Fixed.
- Improved power stage measurement (aka TFA):
  - UCD9246E and UCD9246F TFA results are now improved.
  - When running TFA, the GUI verifies that the device is converting power by comparing READ_VOUT (vout reading) to VOUT_COMMAND (setpoint). The threshold was 0.1V instead of the intended 10%. Fixed.
  - The GUI now also perform the same comparison after TFA is complete to verify that a fault has not caused the rail to stop conversion during TFA.
- Added support for PTD08A210W module.

- Updated the UCD74110 schematic

Old:

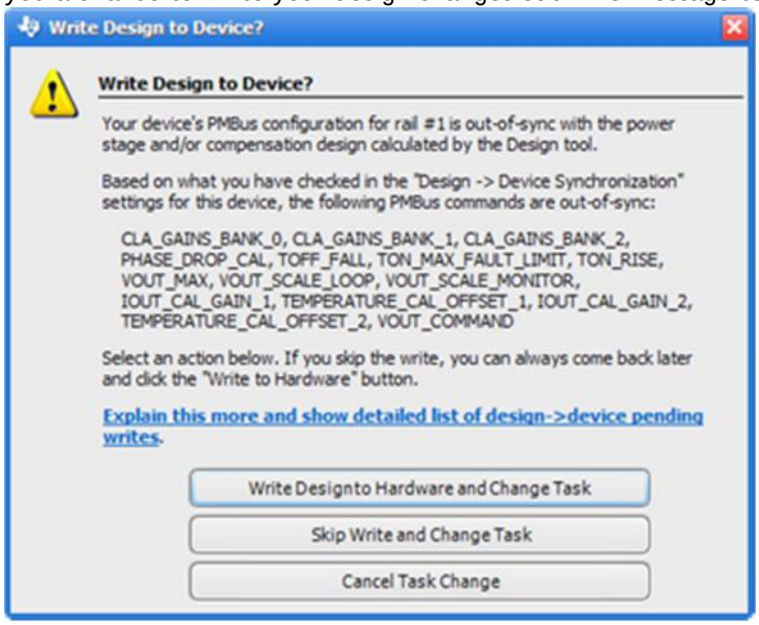


New:

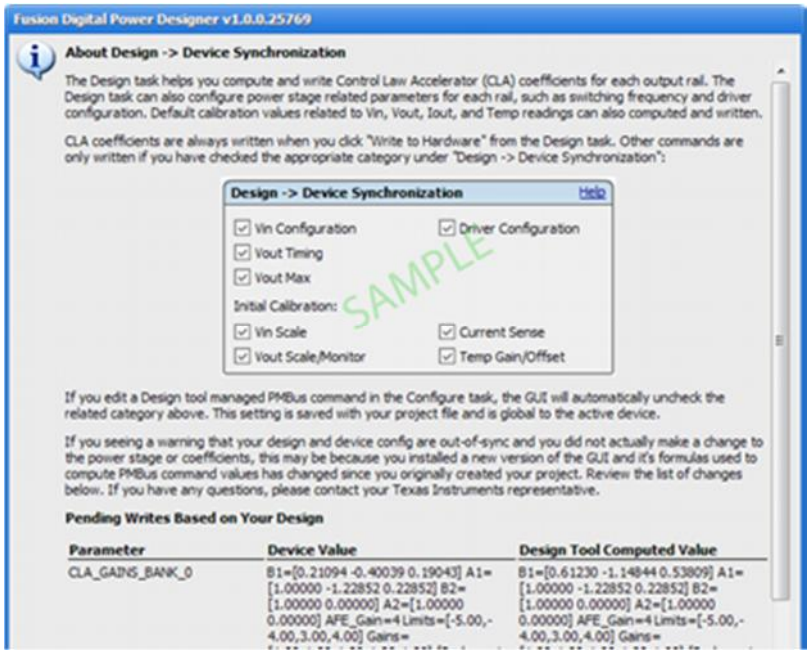


- The frequency response (bode) magnitude plot Y axis range could become too large in certain cases. Fixed.

- Within the Design task, if you try to change rail or task with “unwritten” changes, the GUI warns you and gives you a chance to write your design changes out. The message text has been reworked:

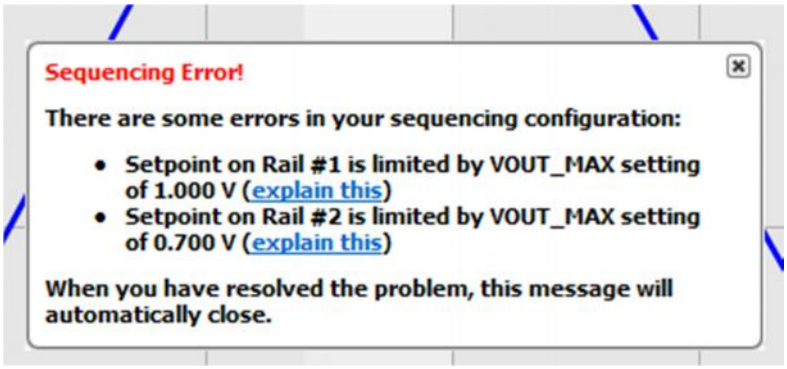


Clicking the link will provide additional detail and help:

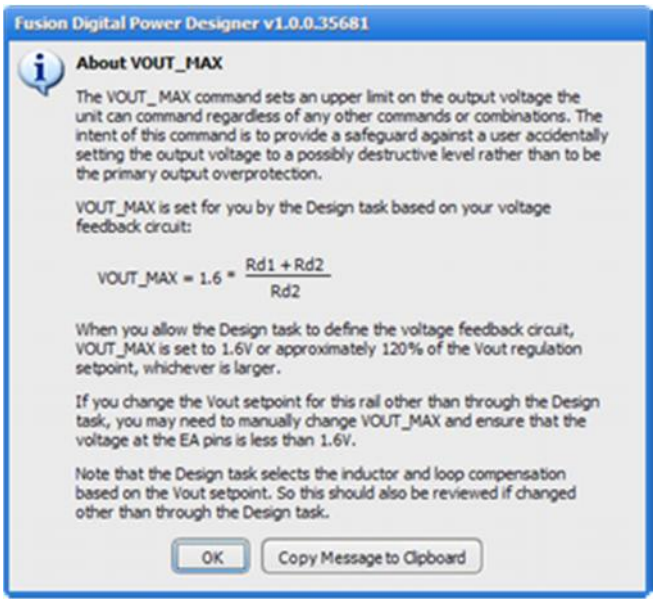


- When the above sync check was performed, CLA bank 0x02 was inspected even if phase shedding (light load) mode was not enabled. Fixed. Not this bank is skipped in the compare in this case.

- A new warning is presented if VOUT_MAX is less than VOUT_COMMAND, and would therefore limit the output voltage.



Clicking the link brings this up a further explanation:



UCD90xxx:

- After changing the number of fans, the Monitor plots area could become garbled. Fixed.
- The RESET_COUNT editor was not showing up under Status on “A” devices. Fixed.
- On the system dashboard, the “Clear Logged Faults” button would not always be enabled when a new fault was logged. Fixed.
- Clearing logged faults would not always clear MFR_STATUS:12, “New Logged Fault Detail.” Fixed. The GUI now reads the LOGGED_FAULT_DETAIL command after logged faults has been cleared, which clears this bit.
- Changes were not always being detected when changing the pin on a Static GPO. The “Write to Hardware” button would therefore remain disabled and the user could not perform a write. Fixed.

Isolated:

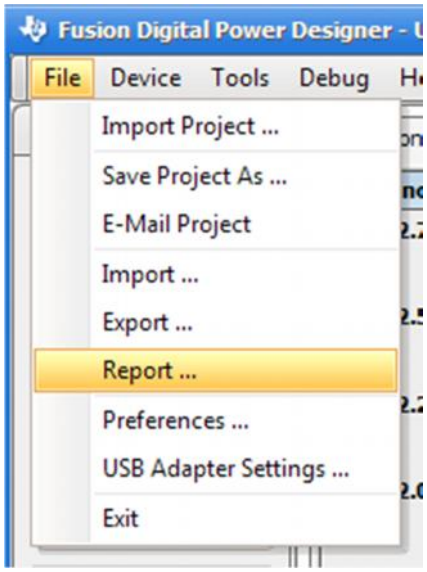
- New DEVICE_ID/SETUP_ID fallback mode added.
- Improved command bitmask editor, with support for PMBus 1.2.
- New tool to convert from Decimal to Mantissa and Exponent back and forth. You can access from the Tools menu while the GUI is running or the Start Menu.
- Numerous UCD31xx changes and improvements.

UCD30xx Device GUI:

- Handles multiple devices on the bus better: reports on each program-mode device found, and lets you select the device to perform actions against.
- The UCD3xxx Device GUI and Firmware Download Tool handle devices with an unknown DEVICE_ID better now. The GUI assumes the device supports PARM_INFO, PARM_VALUE, and ENABLE_ROM_MODE commands. Thus various flash-oriented tools like export flash and firmware download can function, if the device ultimately supports these commands.

New Device Report Tool:

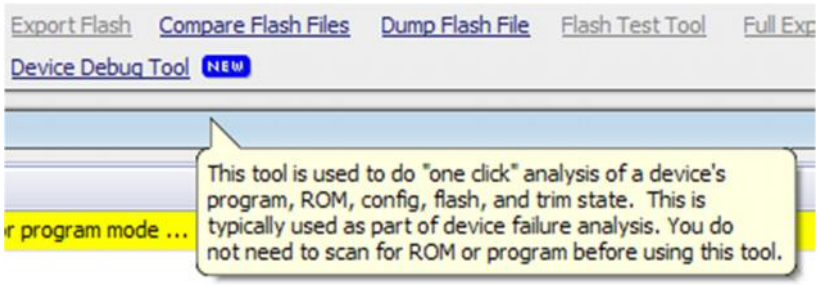
- You can now generate a basic rail configuration report for UCD92xx and UCD90xxx devices. Excel or HTML reports can be generated.
- You can generate the report for the current device or, when online in a multi-device system, a single report on all attached devices.
- Launched via File menu:



New UCD Device Debug Tool:

- This tool performs “one click” failure analysis/troubleshooting on a device. It inspects the ROM, program, PMBus config, flash, and trim state of the device and generates a ZIP file with reports, logs, and exports.
- The tool is launched from the Start Menu or Device GUI:
  - Start Menu->Fusion Digital Power Designer->Tools->UCD Device Debug Tool:

  - UCD3xxx Device GUI:



- The advanced features password is required to run the tool. It should only be used for troubleshooting IC issues and failure analysis.