

 **RELEASE NOTES**

Altair PSIM 2022.1

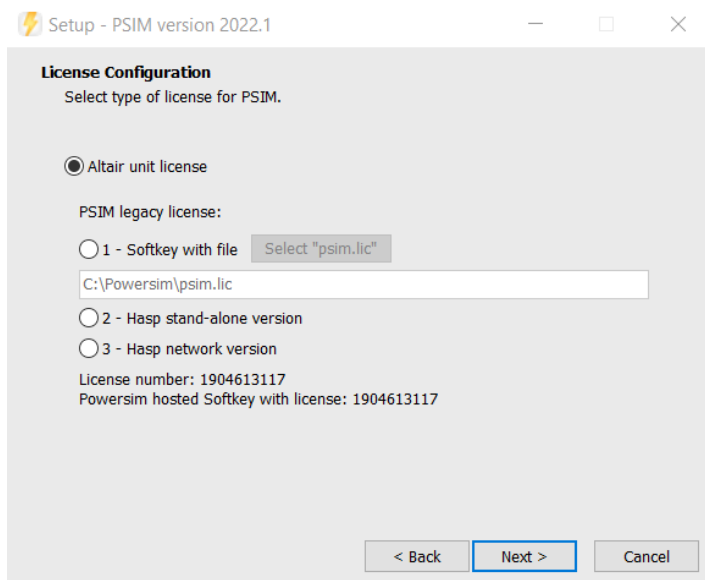
New Features and Enhancements PSIM 2022.1

Release Highlights

Altair PSIM Licensing

PSIM 2022.1 is the first release of PSIM after the acquisition of PowerSim Inc. by Altair. In this release, PSIM now also supports the Altair Licensing system.

A new setup dialog for License Configuration has the option for using the Altair license or PSIM legacy license. Upon installation of PSIM, user will then be offered to use the various options (managed, server, local file) available with Altair Licensing.



Improvement in thermal module

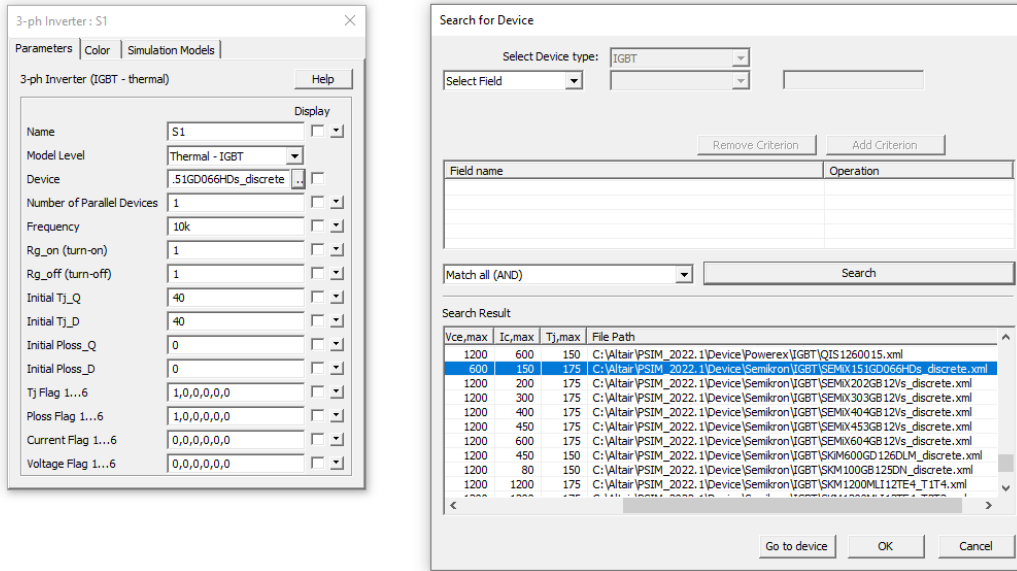
- **New thermal .XML database**

The Thermal device database folder is now provided with semiconductor devices in the .XML format which can be edited by any text editors. The previous. DEV format is still supported. Around 400 new devices are added.

PC > Local Disk (C:) > Altair > PSIM_2022.1 > Device > Infineon > IGBT

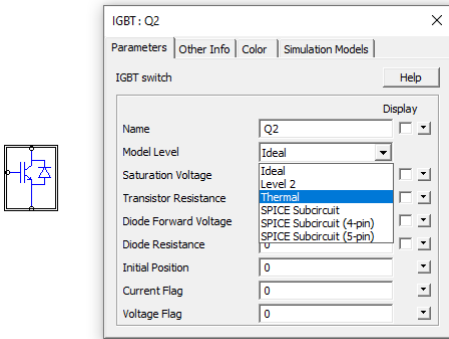
Name	Date modified	Type	Size
IKY75N120CH3.xml	6/27/2022 6:17 PM	XML Document	2 KB
IKY50N120CH3.xml	6/27/2022 6:17 PM	XML Document	2 KB
IKW60N60H3.xml	6/27/2022 6:16 PM	XML Document	3 KB
IKW50N60H3.xml	6/27/2022 6:15 PM	XML Document	2 KB
IKQ50N120CH3.xml	6/27/2022 6:14 PM	XML Document	3 KB
IKQ40N120CH3.xml	6/27/2022 6:14 PM	XML Document	2 KB
FS800R07A2E3_discrete.xml	6/27/2022 6:05 PM	XML Document	9 KB
FS660R08A6P2FB_discrete.xml	6/27/2022 6:04 PM	XML Document	9 KB
FS450R12OE4_discrete.xml	6/27/2022 6:03 PM	XML Document	8 KB
FS400R07A3E3_H6_discrete.xml	6/27/2022 6:02 PM	XML Document	8 KB
FS400R07A3E3_discrete.xml	6/27/2022 6:01 PM	XML Document	9 KB
FS400R07A1E3_S7_discrete.xml	6/27/2022 6:00 PM	XML Document	8 KB
FS300R12OE4_discrete.xml	6/27/2022 6:00 PM	XML Document	8 KB

The Device Database Editor (PcdEditor) can now be used to add new devices and manage devices in the .XML format.



- **Integrated into multi-level switch models**

The multi-level switch models are now integrated to support thermal switching characteristics as well. The **Model Level** drop-down box in switch elements can now be used to select **Thermal**:

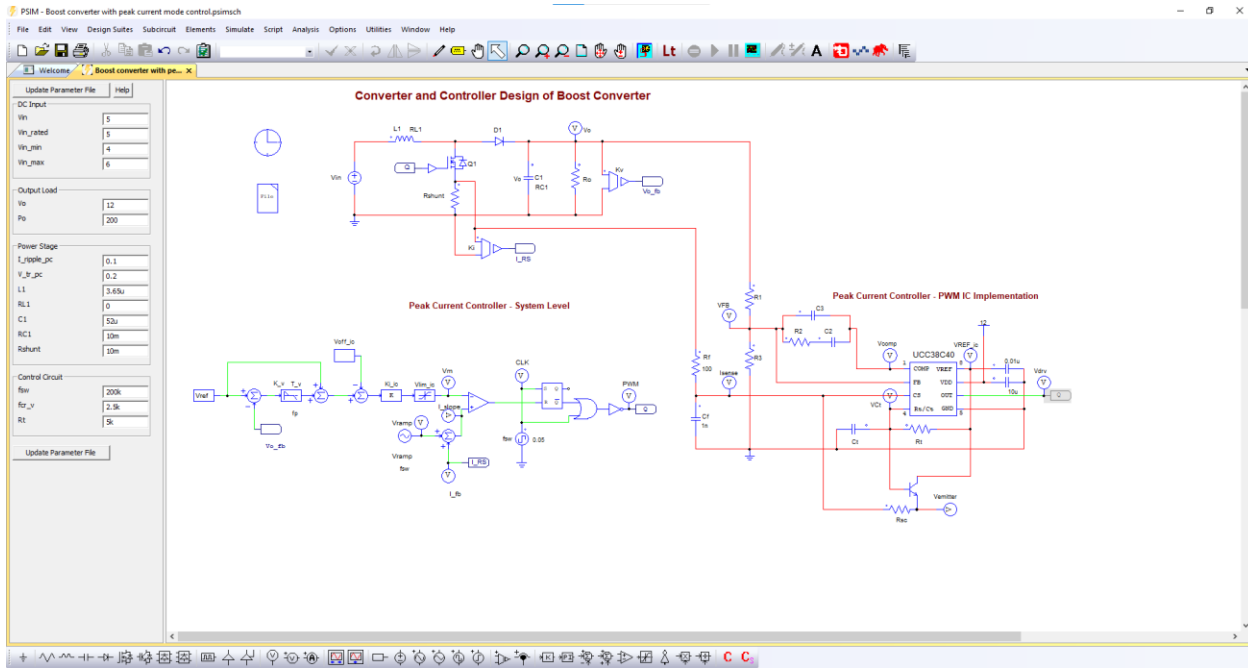


New Power Supply Design Suite templates

Three new templates are provided in Power Supply Design Suite (PSDS) for the design of peak current mode controlled (PCMC) dc-dc converters.

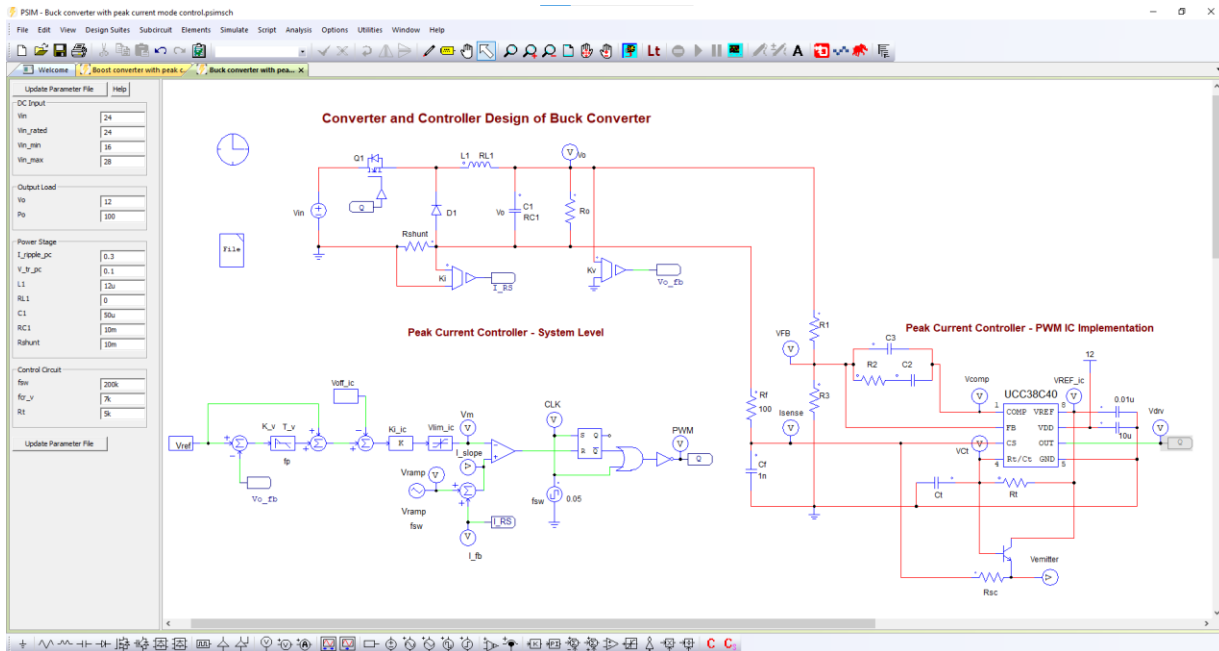
PCMC Boost Converter Template

The overall structure of the new PCMC dc-dc boost converter template with the system-level design and the PWM IC implementation is shown below:



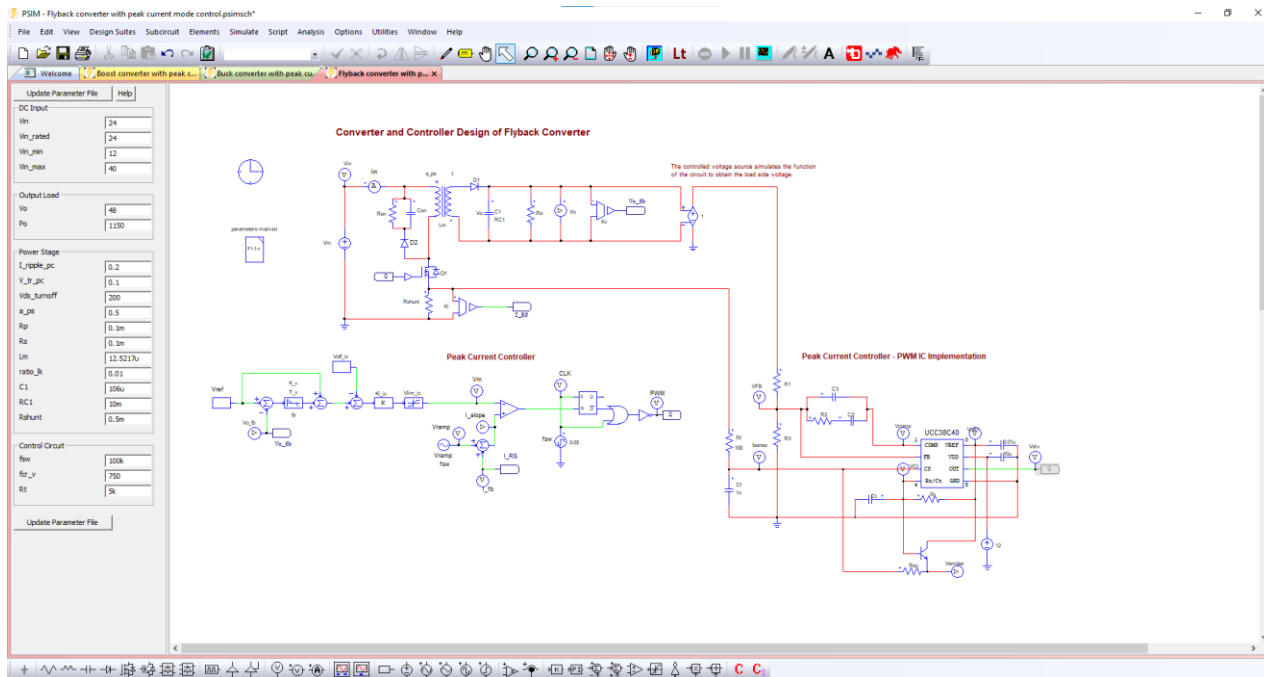
PCMC Buck Converter Template

The overall structure of the new PCMC dc-dc buck converter template with the system-level design and the PWM IC implementation is shown below:



PCMC Flyback Converter Template

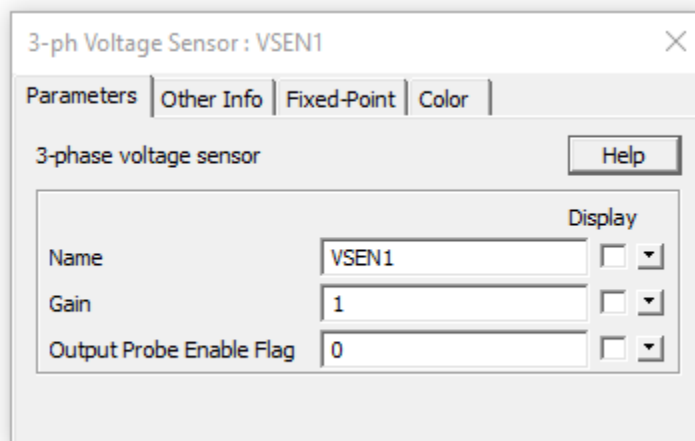
The overall structure of the new PCMC dc-dc flyback converter template with the system-level design and the PWM IC implementation is shown below in the figure:



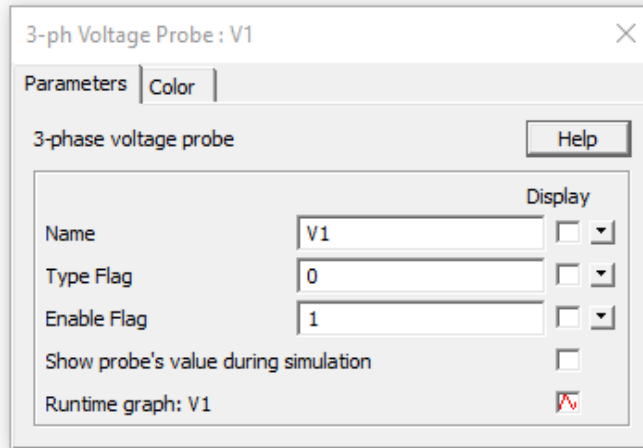
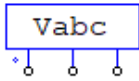
New 3-phase elements

- Voltage sensor and probe

A new 3-phase voltage sensor element is added:

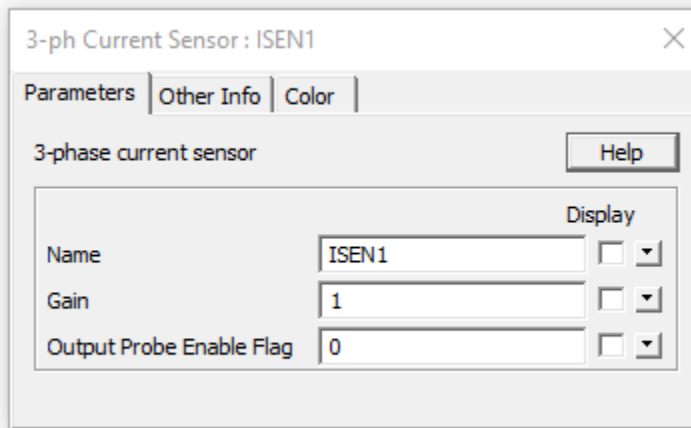
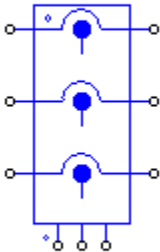


A new 3-phase voltage probe element is added:

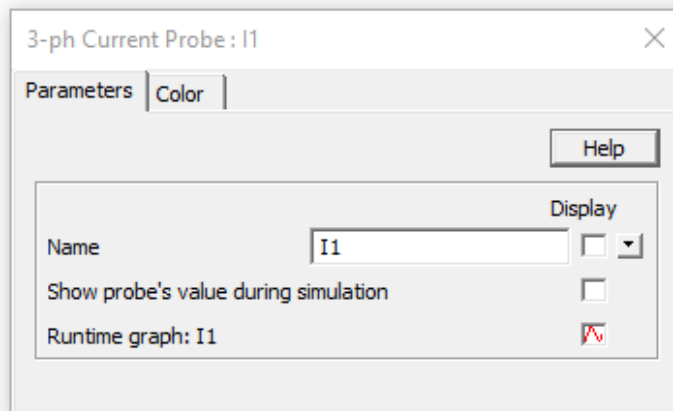
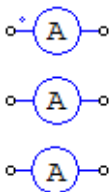


- Current sensor and probe**

A new 3-phase voltage sensor element is added:

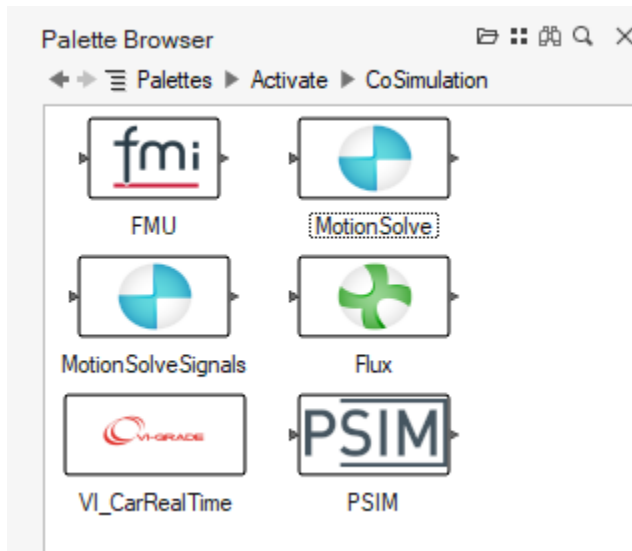


A new 3-phase voltage probe element is added:



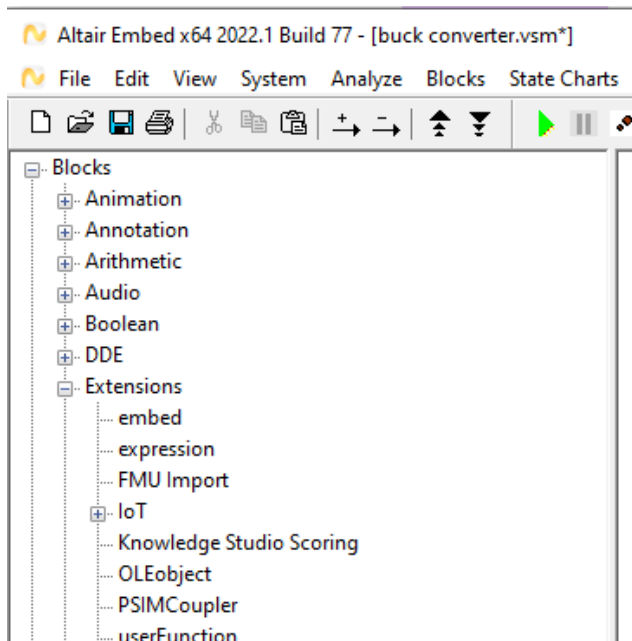
Direct Co-simulation Link with Activate

A new PSIM cosimulation block is added in Palettes → Activate → CoSimulation for the direct co-simulation between PSIM and Activate.



Direct Co-simulation Link with Embed

A new PSIM cosimulation block is added in Embed → Blocks → Extensions for the direct co-simulation between PSIM and Embed.



Other Improvements

- New timestep tutorial video cross link

Resolved Issues

- B-H curve tool do not refresh graph sometimes when the values are modified
- SimCoder generates wrong code for SPI when there are multiple input channels with same sampling rate.
- SimCoder doesn't support 'Active Low Complementary' dead time mode
- A minimized help window is easily lost
- PSIM AC sweep examples
- PSIM unrecoverable simulation warning
- .smv file corrupted to pull frequency info when plotted
- ADC multisampling documentation
- SimCoder generates wrong code for single out circular buffer
- Hard - crash FFT .smv file causes hard crash
- Codegen Issue when SUM block has one logic input