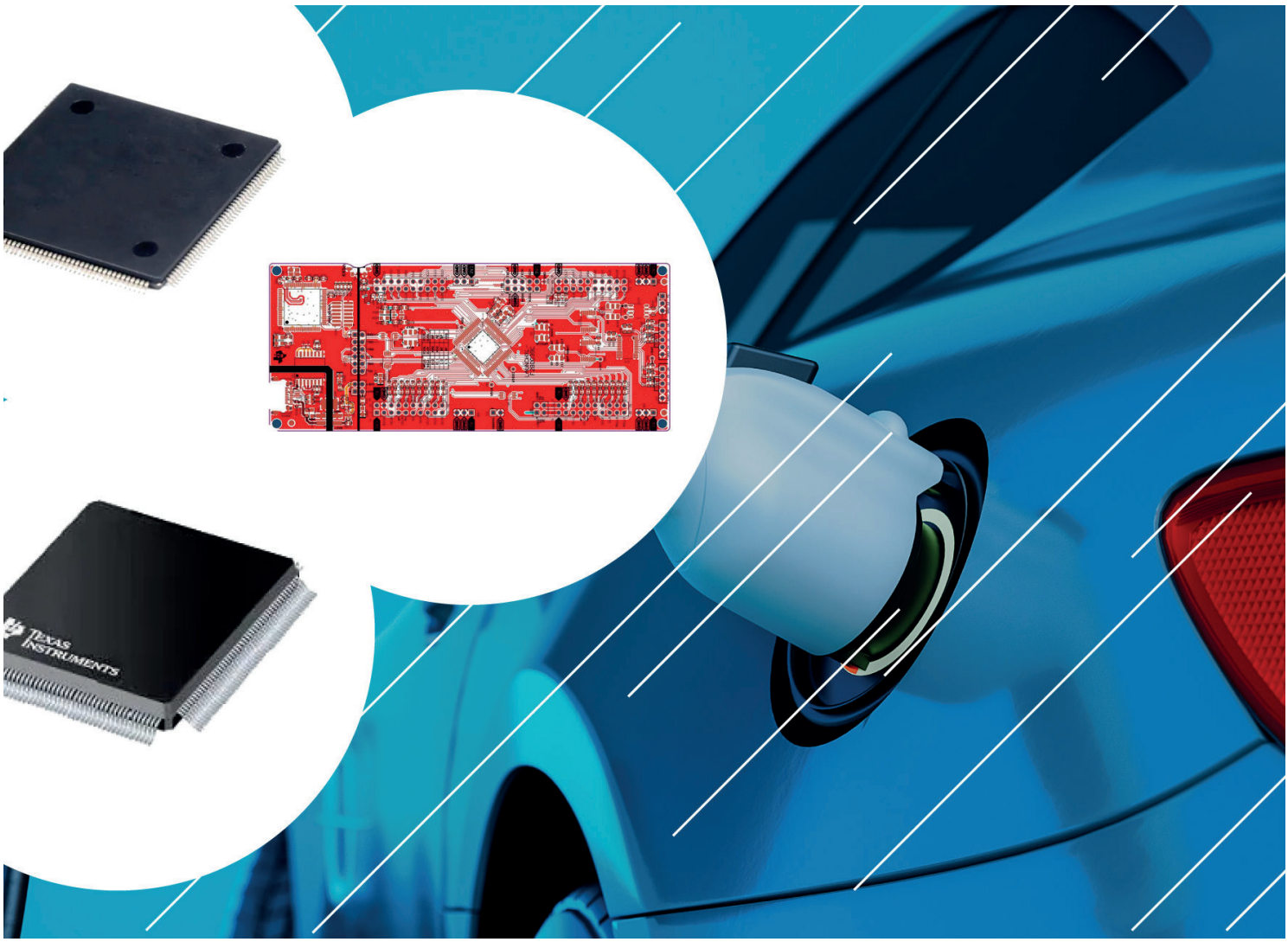
How to simplify EV charger designs using C2000™ MCUs

Questions and answers



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Question 1

For the second series connection, at how many volts level will it be more efficient?

I presume your question is related to stacking of LLC converters. 3 level converters on primary side are suitable for EV chargers powered from 690Vac grids or even higher.

Question 2

Is the ref design kit available for sale?

The reference designs mentioned in the webinar are not available for sale. However, customers will be able to download the design guide, CAD files at the respective design webpages (links embedded in the slides) together with the reference SW available here

Question 3

I have 4 Half bridges and 2 full bridge converters on board (running at 12v max). Can I use this MCU or any other similar one for generating my PWM pulses without using gate drivers for MOSFETS? Output power is 80W max. Isolated topology is also being considered.

16 PWM seems to be the requirement – which can be supported by TMS320F28003x. While the ePWM modules of C2000 MCU support dead band generation, it does not have built in gate drivers.

Question 4

Will TI offer launchpads or control cards for the MCUs to come in July?

Yes, TI will be offering both control cards and Launch pads for the new C2000 device family scheduled for launch in July'23. As well those will be available on https://eu.mouser.com as soon as possible

Question 5

F28379D launchpads are out of stock on Mouser for a long time now - will they be in stock soon?

Check the Microsite on mouser.com

Two things you can do:

a. You can sign up to get notified as soon as they are available
b. You can purchase this product for backorder

Question 6

Is C2000 supported by any model-based development tools?

C2000 is supported by MathWorks and PSIM for model-based development – including simulation and auto code generation.

Question 7

Does TI offer libraries and reference software for the development?

C2000Ware - Device-specific driver library and driver-based peripheral
C2000 Digital Control Library
Reference SW