Be smart. Prototype online.

Infineon Designer 入门简介

2018年5月18日

技术支持: mailto:support@infineon.com

Agenda

1. Infineon Designer 仿真简介
2. Infineon Designer 仿真新特性和新电路
3. 入门例子
4. 技术支持

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4. 技术支持

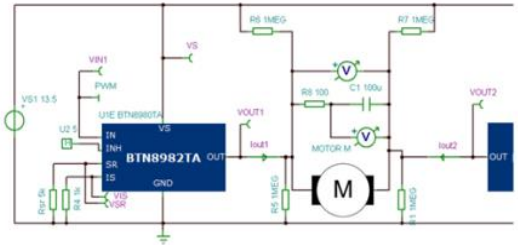
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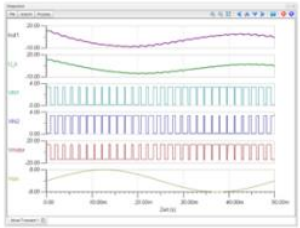
Infineon Designer - Online Digital Prototyping Engine (www.infineon.com/ifxdesigner)



powered by...







绝佳的用户体验

- 多浏览器支持 (IE, Safari, Chrome, Firefox等等)
- 无需安装
- 无限免费仿真授权
- 服务器配置16核CPU内核，支持快速仿真

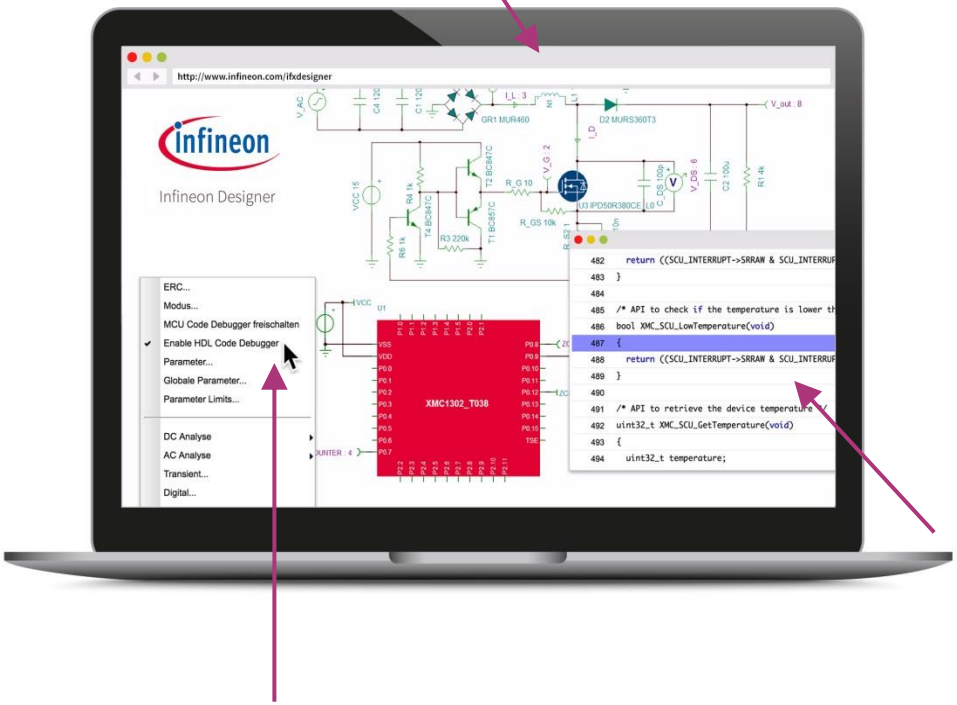
特性

- 精准的时域信号仿真+系统能效仿真
- 快速参数设置
- 数字/模拟交互仿真
- 已发布超过150个应用电路

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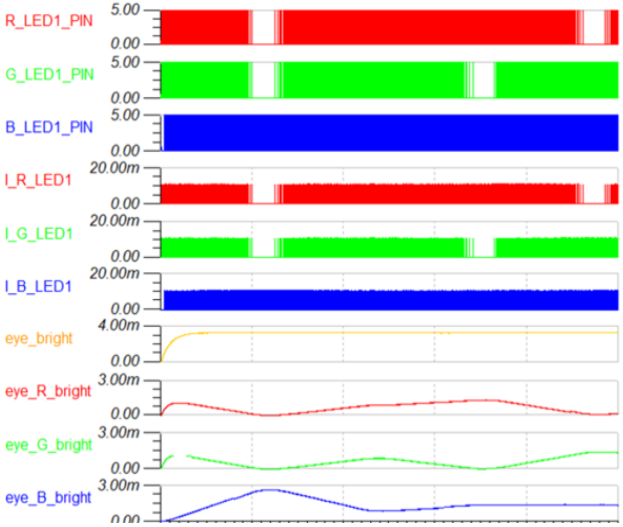
发布的全球首款结合数字（处理器代码）和模拟信号交互仿真的在线工具 Electronica 2016

1 选择 XMC1200电路



2 选择仿真模式

样例电路: 32-bit MCU XMC1200 controlling the RGB color walk with constant brightness



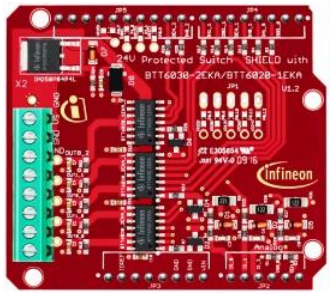
3 交互仿真处理器软件和模拟电路

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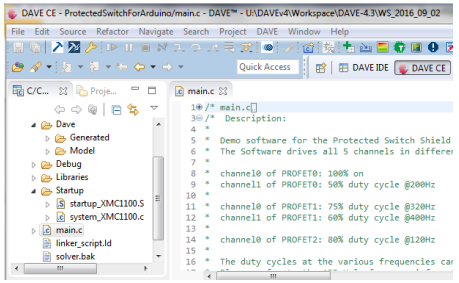
Infineon Designer实例：汽车级在线设计
24V Arduino Shield PROFET™+ 24V Family

- 独特的附加价值
  - 通过点击鼠标在线探索评估板特性，无需阅读冗长的规格书和应用手册
  - 根据应用需求，在购买样片前，直接在线快速配置硬件和软件参数，熟悉评估板性能

硬件

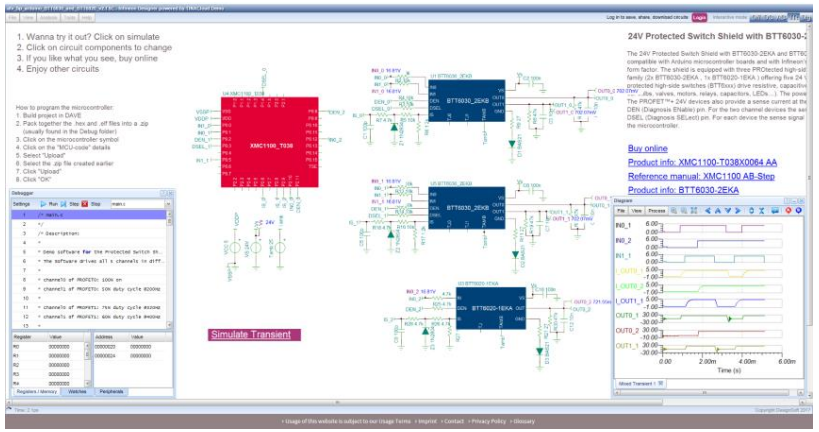


软件



- 在线仿真全套硬件和软甲设计
  - 硬件：Arduino Shield
  - 软件：DAVE
  - 在线仿真：Infineon Designer（Spice）
  - 仿真引擎：DesignSoft

在线仿真：结果快速可视化



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Infineon Designer不同版本

英飞凌服务器	DesignSoft服务器

在线

www.infineon.com/ifxdesigner

在线仿真
分享



设计
仿真
分享

www.tinacloud.com

TINA WEB-BASED CIRCUIT DESIGN & ANALYSIS Cloud

PC, Mac, Tablet, Smartphone
Available in 22 languages

设计
仿真
分享

在线

升级

设计
仿真

TINA v11

离线

防火墙

离线

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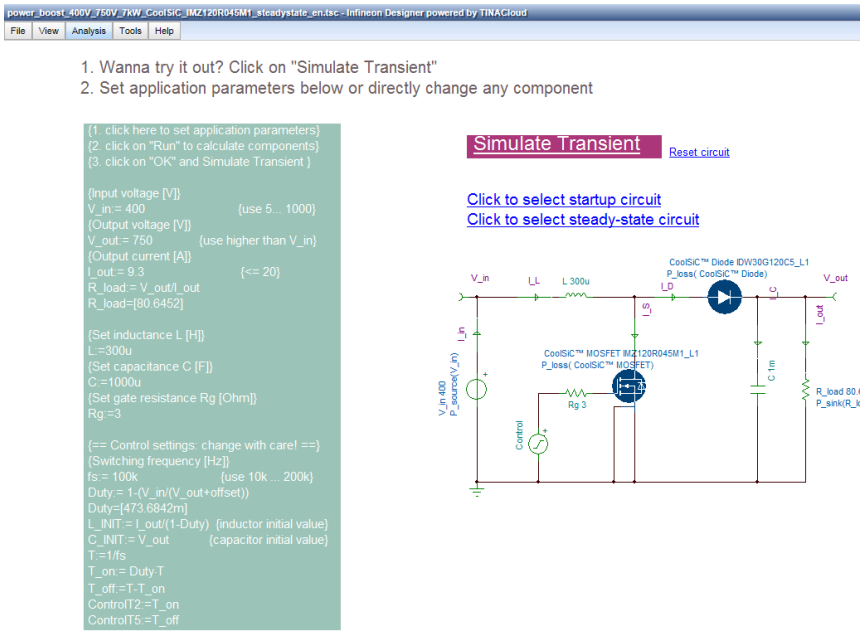
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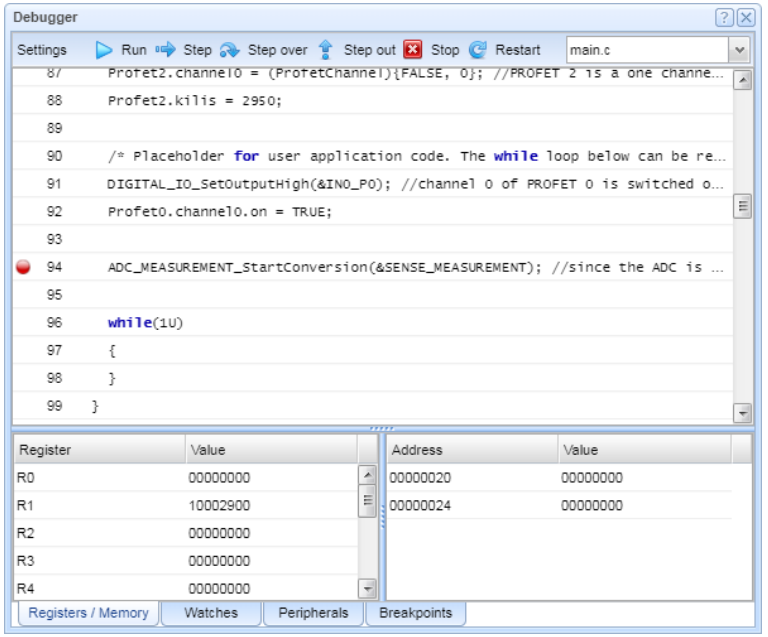
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Infineon Designer
新特性

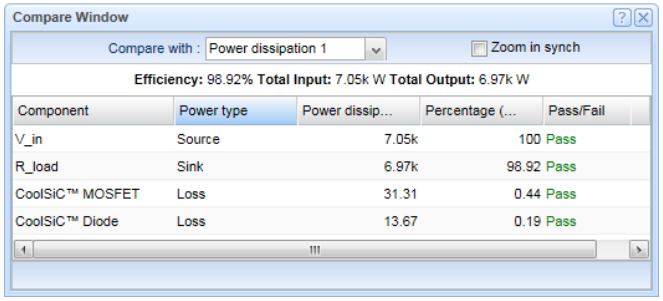
应用电路：可自由配置参数



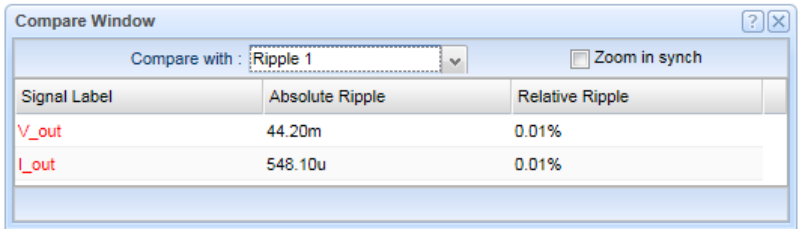
进阶MCU代码调试功能



功率损耗和效率计算



信号处理，比如：纹波



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Infineon Designer: 新增电路

- 电机控制 （汽车级产品）
  - 24V DC Motor Control Shield with BTN8982TA for bi-directional DC brushed motor (with torque simulation)
  - 12V DC Motor Control Shield with BTN8982TA for two uni-directional or one bi-directional DC brushed motor
  - 12V DC Motor Control Shield with BTN8982TA and XMC1100 for two uni-directional or one bi-directional DC brushed motor
- 智能低边/高边开关（汽车级产品）
  - 24V PROFET™ shield with BTT6030-2EKA and BTT6020-1EKA for Arduino
  - 13.5V low side over-temperature protection with HITFET™ BTF3050TE
  - 24V high side over-current and over-temperature protection with PROFET™ BTT6020-1EKA
  - 13.5V high side short-circuit protection and thermal shutdown with restart using PROFET™ BTS4140N
- 静电保护ESD
  - ESD Protection Diode with Low clamping voltage bi-directional ESD237-B1-W0201 Electrical Characteristics
  - ESD Protection Diode with Low clamping voltage bi-directional ESD241-B1-W0201 Insertion Loss
- 功率转换（Expert Talk系列）
  - 200V Boost Converter with CoolMOS™ P6 and EiceDRIVER™ 2EDN7523F
  - Expert Talk: What is a Power Converter (SMPS)?
  - Expert Talk: What is a DC-DC Converter (SMPS)?

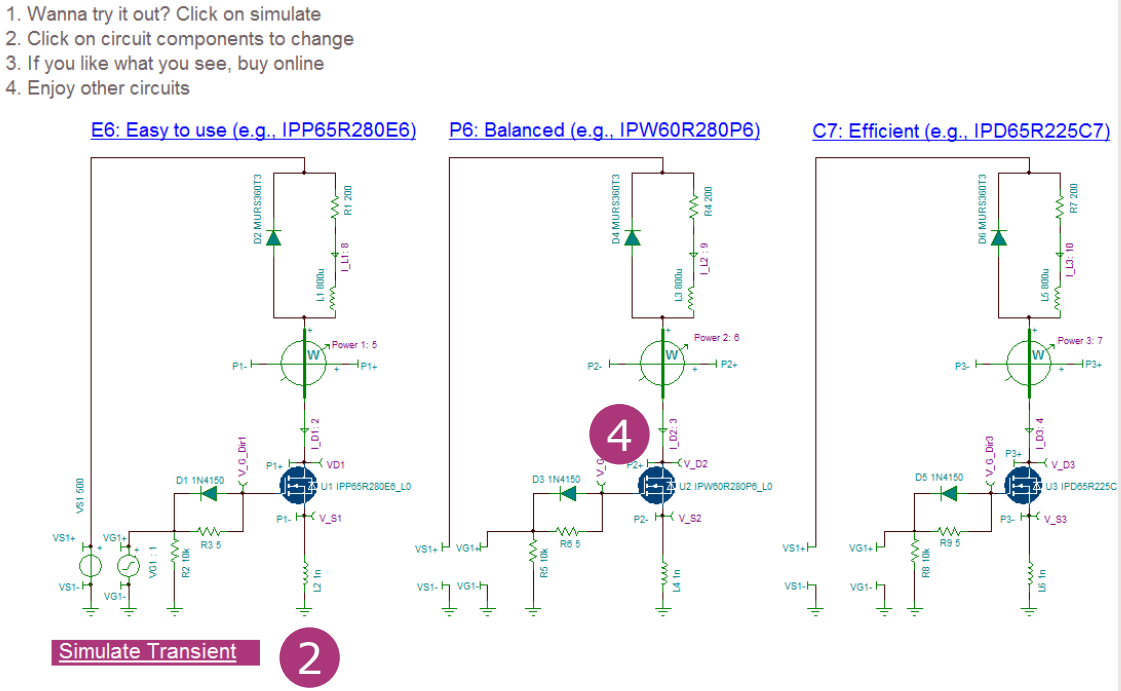
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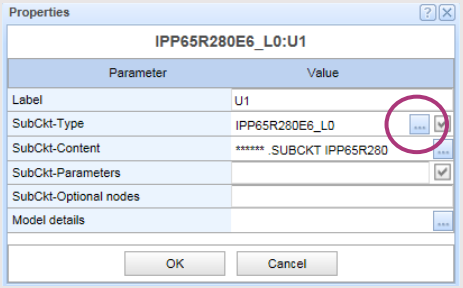
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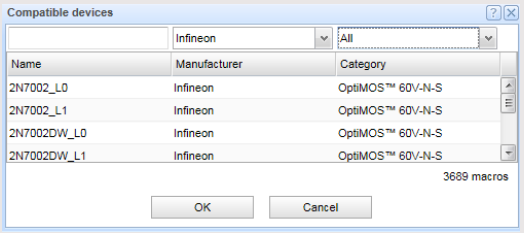
Infineon Designer：实例
MOSFET性能比较



1. 点击打开电路 MOSFET性能比较
2. 点击启动仿真 Simulate Transient
3. 通过电路图了解应用电路功能和信号
4. 点击MOSFET图标后选择“SubCkt-type”行的"..."



5. 在列表中重新选择一款别的MOSFET进行性能比较

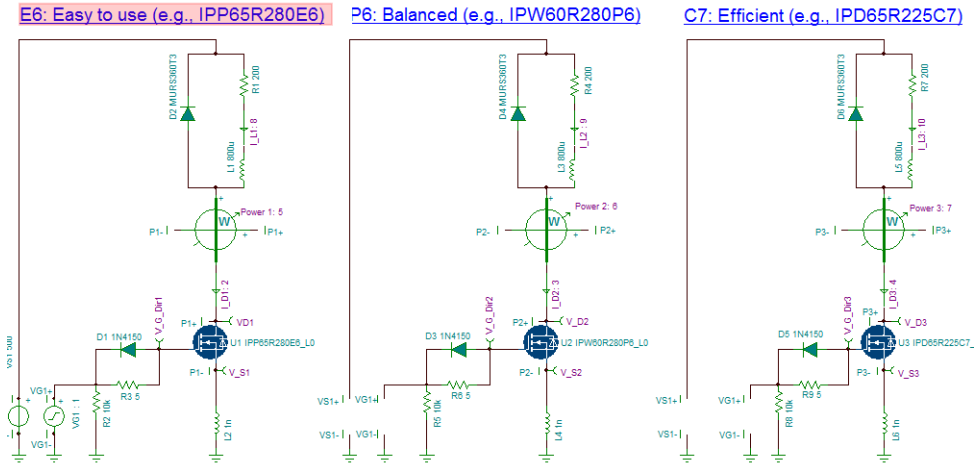


6. 通过MyInfineon账户登录，保存或分享您配置的电路

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Infineon Designer：实例
MOSFET性能比较

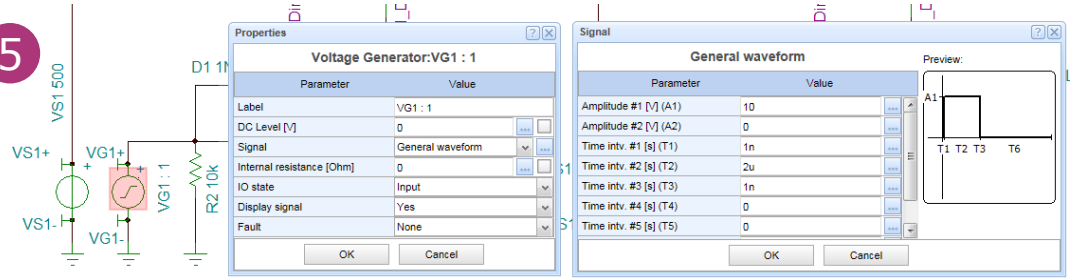
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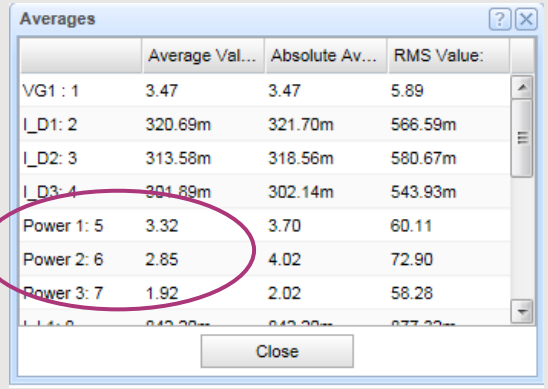
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5



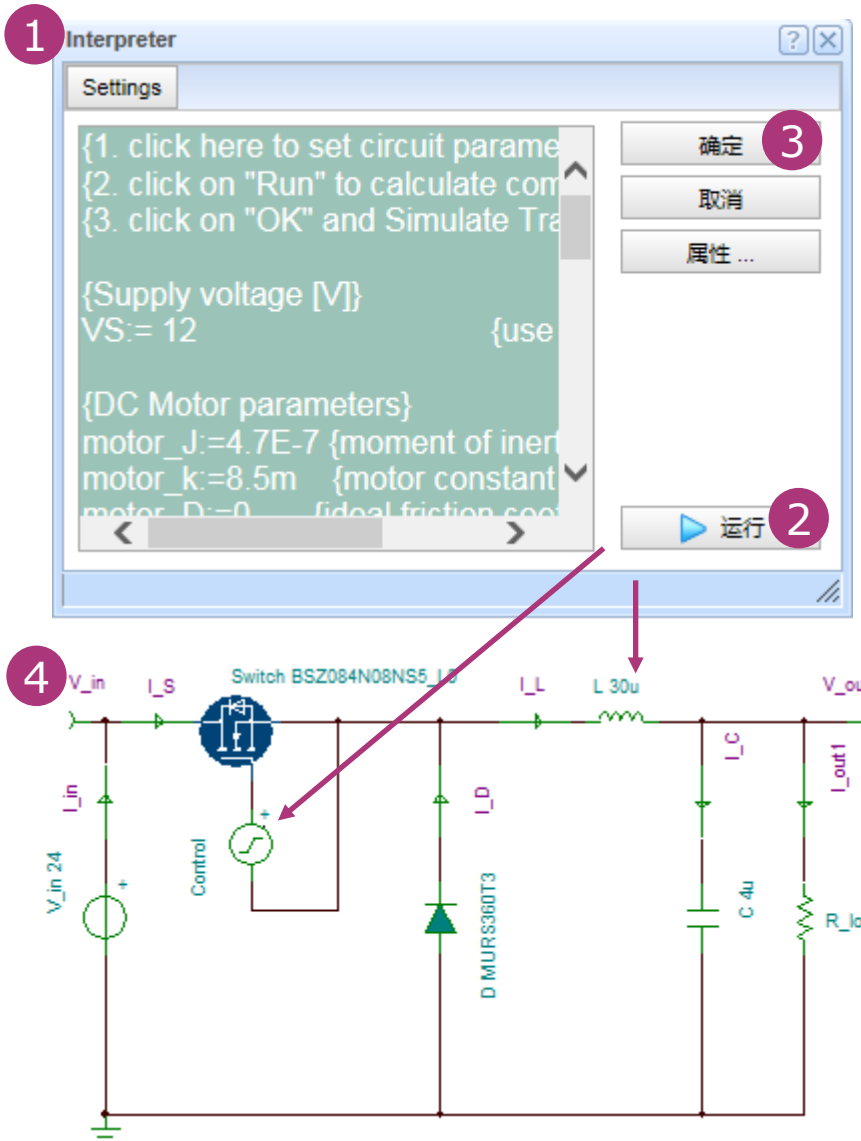
1. 点击打开电路 MOSFET性能比较
2. 点击启动仿真 **Simulate Transient**
3. 点击图表窗口菜单栏"过程" → "平均..."



4. 比较3个不同MOSFET的功率损耗
5. 改变VG1信号发生器的PWM信号，并重新启动仿真，用同样方式再次比较不同MOSFET的功率损耗
6. 点击 Buy online 比较不同MOSFET的价格区别

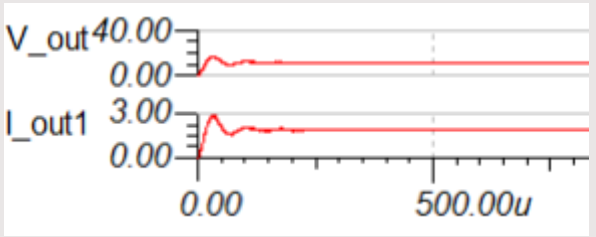
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Infineon Designer新增特性：电路参数配置器



1. 打开电路 [Design a 24V Buck Converter in CCM mode]
2. 点击浅绿色窗口，在电路参数配置器编辑直流转换器的输入输出特性参数
3. 点击"运行"计算其他参数，参数配置器将并自动配置相应电路元件参数。（占空比，电感值，等等）
4. 点击"确定"，然后再次启动仿真

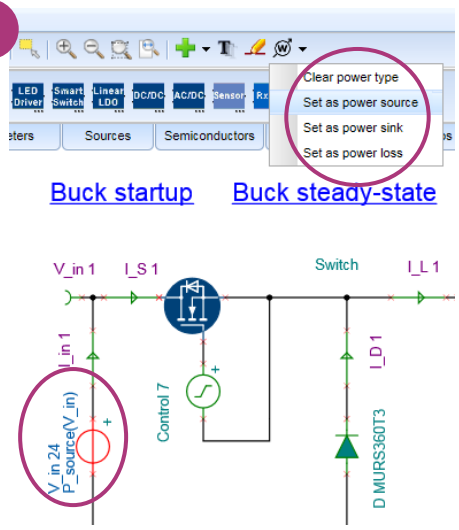
   Simulate Transient
5. 在仿真图表窗口查看仿真结果和直流转换器输入输出值



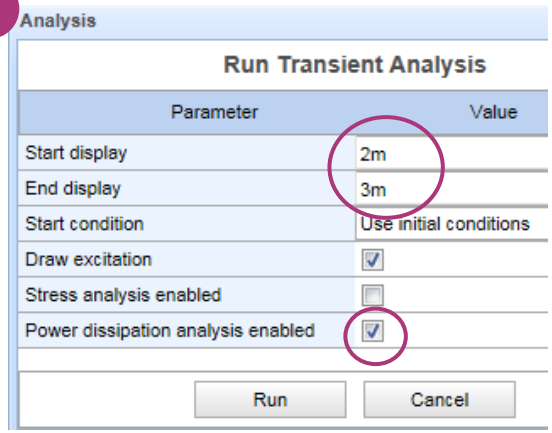
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Infineon Designer新增特性：功率损耗和电路效率计算

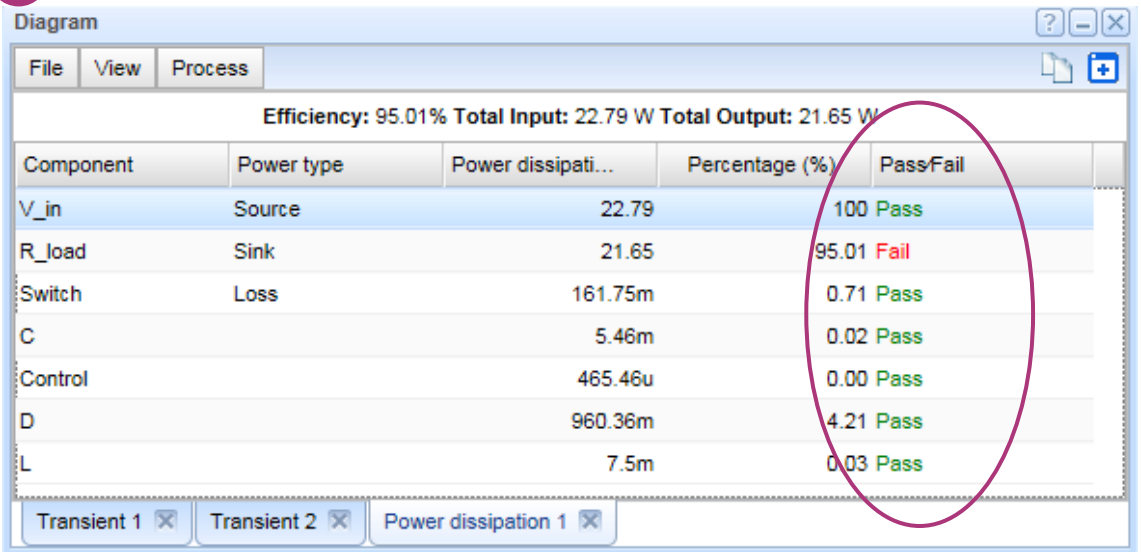
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2



3



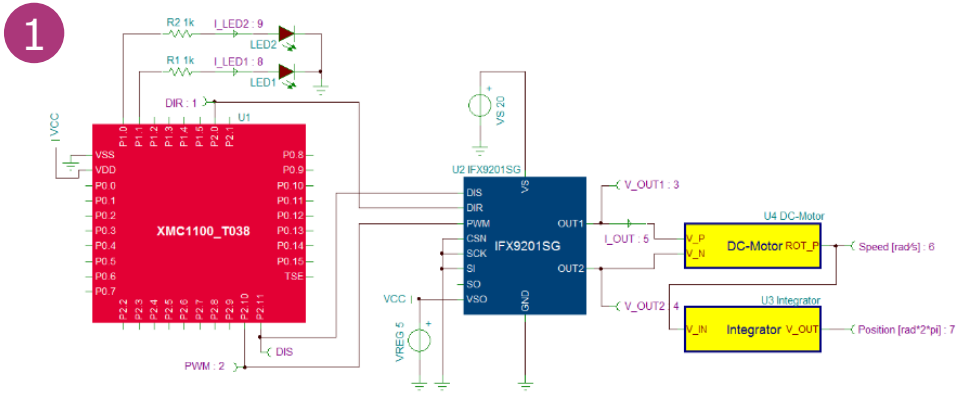
1. 打开带有已设置功率类型的元器件的电路，比如CoolSiC™ Boost
2. 打开菜单栏“分析” -> “瞬态...”并勾选“Power dissipation analysis enabled”
   注意：把起始显示时间和终止显示时间设置在电路稳态情况。（计算电路效率时电路必须已处于稳态）
3. 点击启动仿真

   Simulate Transient
4. 仿真结束后，在结果图表窗口中打开“Power dissipation”页面
   - 电路效率Efficiency
   - 各个元器件功率数据，分为功率源、功率损耗、有效功率
   - 基于器件最大额定功率决定：通过或失败（Pass/Fail）

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Infineon Designer新增特性：增强型MCU程序调试 (H-bridge Kit 2Go)

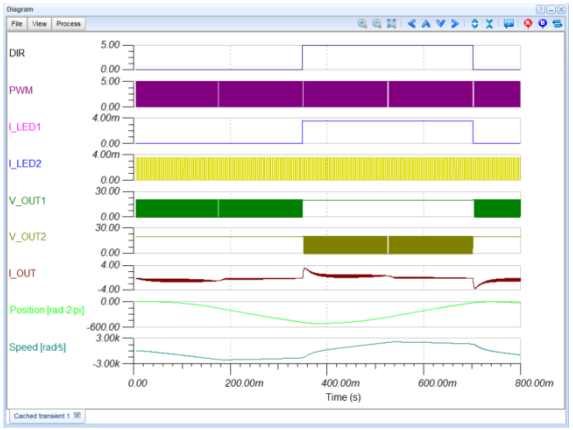
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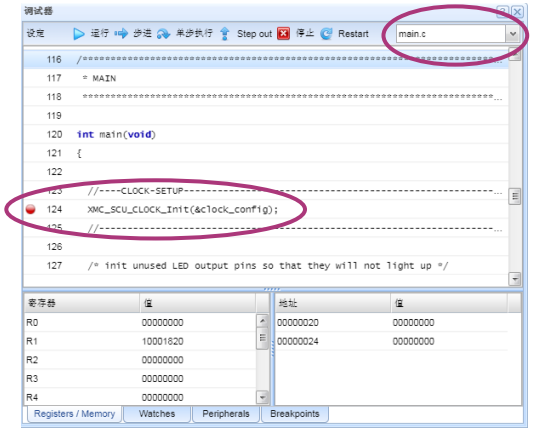
2

Simulate Transient

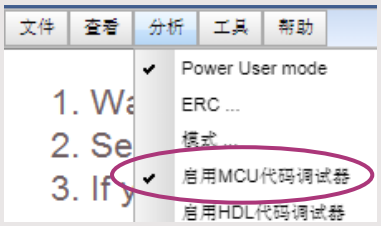
3



6



1. 点击打开电路 H-bridge Kit 2Go
2. 点击启动仿真 Simulate Transient
3. 通过电路图了解应用电路功能和信号
4. 启用MCU代码调试器



5. 用TR交互模式开始交互瞬态仿真



6. 在调试器窗口选择调试代码文件，设定断点并一步步调试

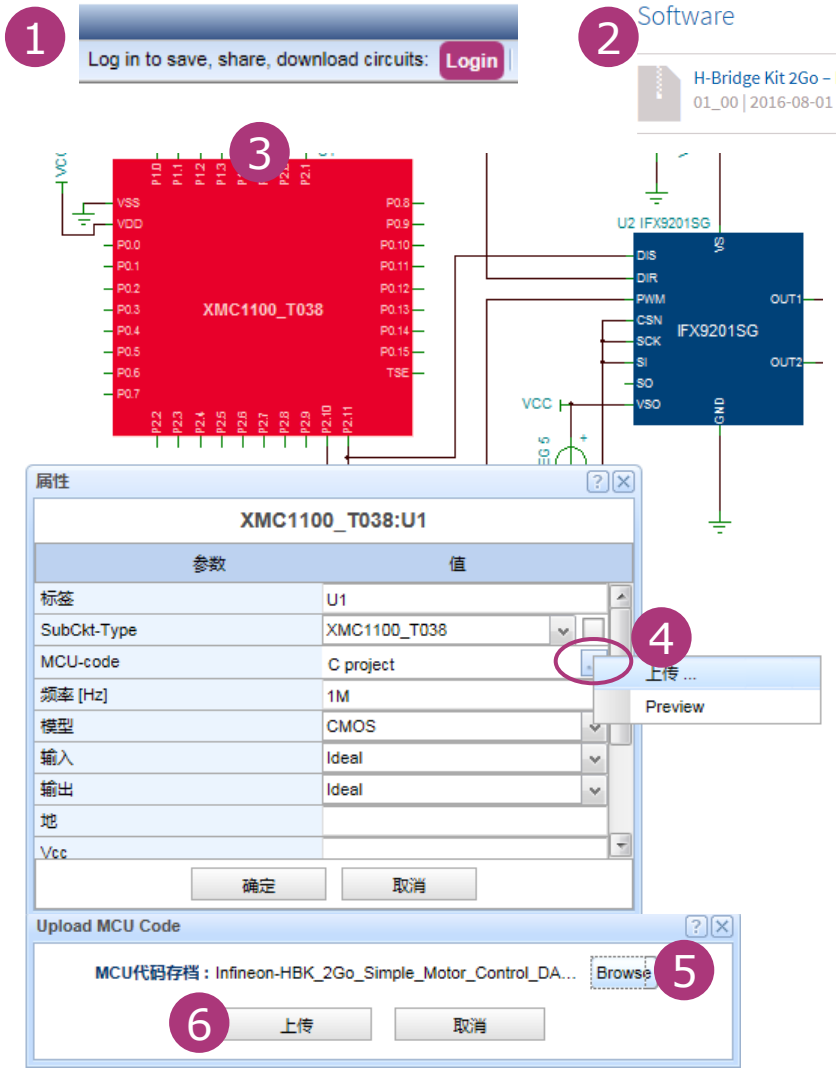
7. 在线购买样片或评估板



Buy online

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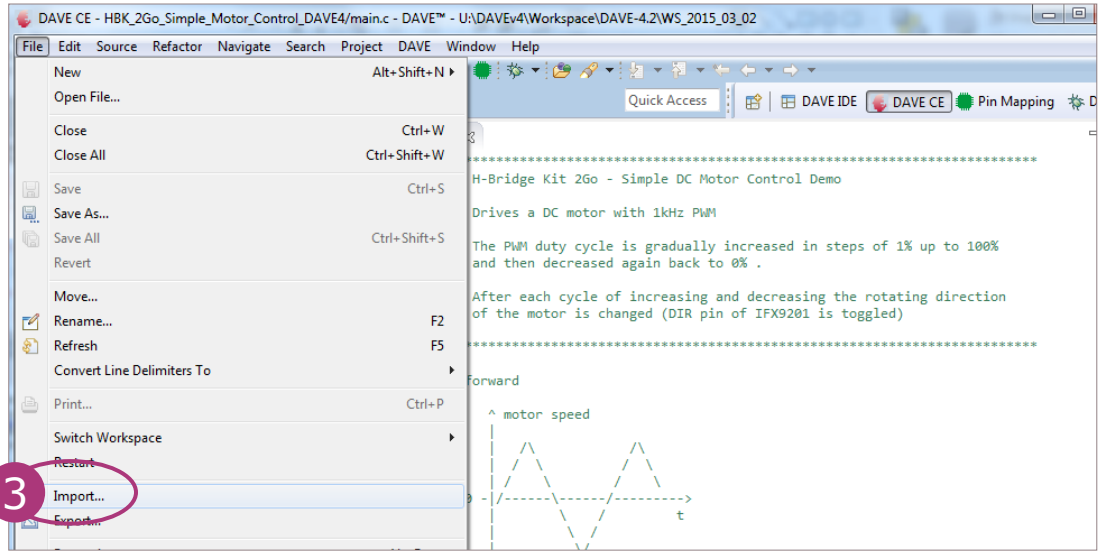
Infineon Designer XMC™ 软件示例 H-bridge Kit 2Go (上传软件)

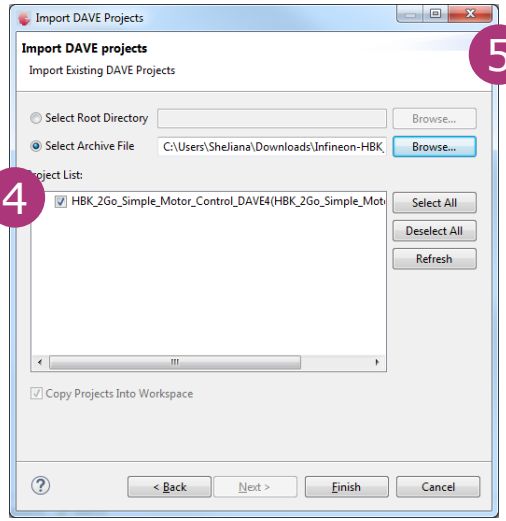


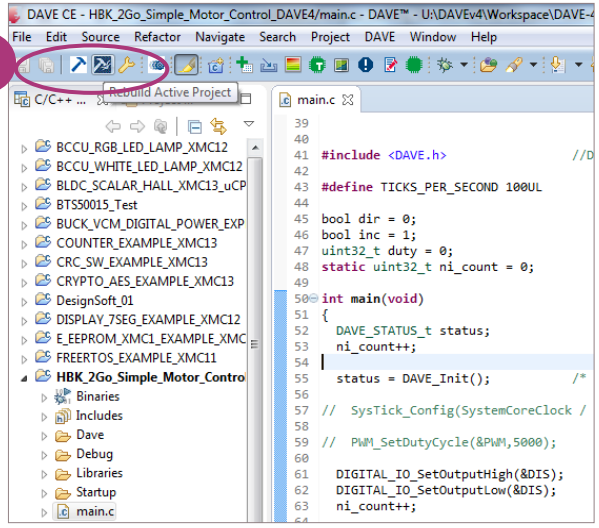
1. 点击打开电路H-bridge Kit 2Go 并用MyInfineon账户登录
2. 下载代码压缩包文件.zip H-bridge Kit 2Go – default simple example routine 评估板H-bridge Kit 2Go产品页软件和工具选项卡
3. 点击红色的XMC1100器件打开属性对话框
4. 点击MCU-code行的"..."打开上传代码
5. 选在路径确认已下载的代码压缩包（包括.elf, .hex 编译文件和源代码）
6. 上传代码Infineon-HBK_2Go_simple_motor_control_DAVE4.zip-SW-v01_00-EN.zip
7. 点击启动仿真 Simulate Transient
8. 查看仿真结果

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Infineon Designer XMC™ 软件示例
H-bridge Kit 2Go (修改代码并重新编译)







1. 下载并安装DAVE™开发套件 DAVE™ for windows
2. 下载代码压缩包文件.zip H-bridge Kit 2Go – default simple example routine 评估板H-bridge Kit 2Go产品页软件和工具选项卡
3. 启动DAVE™并导入代码项目File → Import → Infineon DAVE™ Project
4. 点击"Next"，选择已下载代码压缩包路径并勾选项目
5. 修改代码并重新编译
6. 到DAVE™的Workspace工作空间目录并把整个项目目录打包成.zip
7. 重新回到电路点击红色XMC1100器件并上传修改后的代码

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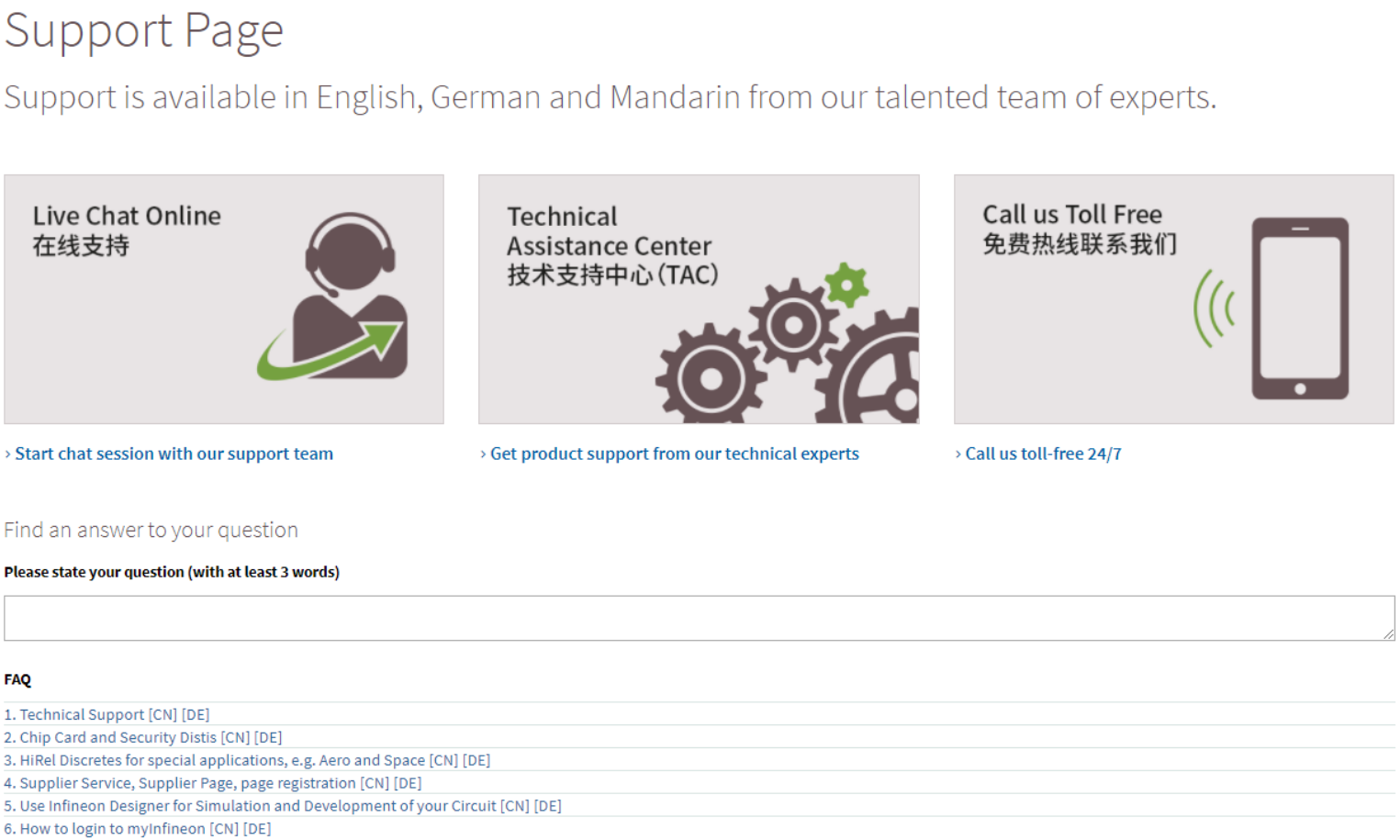
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