

How to Order a Blank Board from the **ADIsimPower** Tool

OVERVIEW

ADIsimPower is a power management design tool that is popular with engineers around the world. Not only can **ADIsimPower** be used to design a power supply, but the user also has the option of obtaining a free blank evaluation board to build and test designs on. This user guide illustrates the steps needed to secure a blank **EVAL-ADIsimPower** evaluation board.

ADIsimPower design tools are specific to a product or product family. Over 30 different design tools and over 50 different blank board are available.

Additional product support is provided on EngineerZone.

ADIsimPower

The fastest and most accurate Power Management design tool!

ADIsimPower Design Center lets you design your power circuits in three easy steps:

- Step #1: Part Selection
- Step #2: Design and Optimize
- Step #3: Simulate

ADIsimPower Selector uses your specific application requirements and compares solutions from over 300 power management parts and over 10 different topologies.

Each solution takes into consideration the IC, external components, and operating condition to be able to compare expected performance.

Step #1: Part Selection



	Input Parameters		Output Parameters		
Launch of ADIsimPower Voltage Regulator Selection	Vin (min)	5.4 V	Vout	3.3 V	Find Solutions
	Vin (max)	13.4 V	Iout	1 A	
			Tmax	55 C	

13148-001

Figure 1. **ADIsimPower** Launch Page

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REVISION HISTORY

6/15—Revision 0: Initial Version

GETTING STARTED

There are two ways to get started.

- Go to the [ADIsimPower](#) page and use the voltage regulator selector tool. Enter the design parameter and choose the correct product for the design. Download the tool (see the Download the Tool section for instructions).

Input Parameters		Output Parameters		Find Solutions
Vin (min)	5.4 V	Vout	3.3 V	
Vin (max)	13.4 V	Iout	1 A	
		Tmax	55 C	

Figure 2. Voltage Regulator Selector Tool (Entering Parameters)

Tool Available	Part Number	IC Description and Features	Topology	Solution Cost* (BOM (USD))	Solution Area*	Efficiency	Component Count
B Buck (19 items)							
Download Tool	ADP1604	Multichannel Regul...	Buck	\$2.08	320 mm²	95%	11
Download Tool	ADP1602	Multichannel Regul...	Buck	\$1.93	250 mm²	95%	11
Download Tool	ADP1603	Multichannel Regul...	Buck	\$1.98	250 mm²	95%	11
Download Tool	ADP1606	Multichannel Regul...	Buck	\$2.13	250 mm²	95%	11
Download Tool	ADP1601	Multichannel Regul...	Buck	\$2.18	250 mm²	95%	11
Download Tool	ADP1608	Regulator	Buck	\$2.08	318 mm²	95%	12
Download Tool	ADP1605	10 Dual Regulator...	Buck	\$2.42	287 mm²	94%	12
Download Tool	ADP1609	Regulator + Driver	Buck	\$2.43	280 mm²	94%	14
Download Tool	ADP1611	Dual Regulator	Buck	\$1.87	147 mm²	94%	16
Download Tool	ADP1604	Regulator	Buck	\$2.54	254 mm²	94%	12
Download Tool	ADP1601	Regulator + Driver	Buck	\$2.78	342 mm²	94%	14
Download Tool	ADP1623	10 Dual Regulator...	Buck	\$2.14	224 mm²	94%	12
Download Tool	ADP1442	Regulator	Buck	\$2.50	149 mm²	89%	12
Download Tool	ADP1441	Regulator	Buck	\$2.45	150 mm²	89%	13
Download Tool	ADP1864	Controller + Driver	Buck	\$2.02	153 mm²	89%	11
Download Tool	ADP1608	Regulator	Buck	\$1.52	141 mm²	88%	9
Download Tool	ADP1601	Regulator	Buck	\$1.48	132 mm²	84%	9
Download Tool	ADP1606	Regulator	Buck	\$2.85	189 mm²	81%	12
B SEPIC (2 items)							
Download Tool	ADP1814	Regulator	SEPIC	\$2.42	148 mm²	79%	19
Download Tool	ADP1821	Controller + Driver	SEPIC	\$2.93	148 mm²	73%	23

Figure 3. Design Selection Table

- If you already know which device you want to use, you can go directly to the product page and click **Tools & Simulations** from the **Overview** bar on the left side of the page. The **Design Tools** section opens. Click the design tool you want to use. Some devices only have one design tool, while others may have two to three design tools supporting multiple possible topologies.

ADP1621

☆☆☆☆ (0 Customer Reviews)

Write the First Review

Constant-Frequency, Current-Mode S Controller

Production

Overview

Evaluation Kits

Documentation

Tools & Simulations

Reference Designs

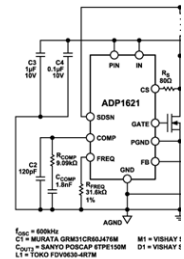
Reference Materials

Design Resources

Discussions

Reviews

Sample & Buy



View All



View All

Figure 4. ADP1621 Product Page

Overview

Evaluation Kits

Documentation

Tools & Simulations

Reference Designs

Reference Materials

Design Resources

Discussions

Reviews

Sample & Buy

Design Tools

ADIsimPower™ Voltage Regulator Design Tool

This expert design tool produces custom DC-DC converter designs in about a minute. The user enters 5 inputs and chooses to optimize for efficiency, PCB space, cost, or part count. Output is a complete schematic, BOM, efficiency plot, and performance summary. A PDF summary and a blank PCB is offered for each design to facilitate fast prototyping to verify the design.

ADP1621 Coupled-SEPIC Design Tool

Microsoft Excel download tool from ADIsimPower to generate a power supply design complete with a schematic, bill of materials, and performance specifications.

ADP1621 Cuk Design Tool

Microsoft Excel download tool from ADIsimPower to generate a power supply design complete with a schematic, bill of materials, and performance specifications.

ADP1621 Boost Regulator Design Tool

Microsoft Excel download tool from ADIsimPower to generate a power supply design complete with a schematic, bill of materials, and performance specifications.

Figure 5. Design Tool Selection Page

DOWNLOAD THE TOOL

To download the design tool, take the following steps:

1. After clicking the design tool link, a download prompt displays asking if you want to open or save the file. It is recommended that you save the file to your computer, then unzip the file and open the design tool with Excel.

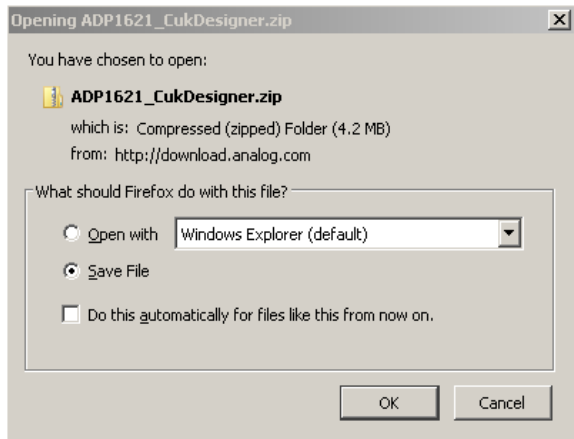


Figure 6. Download Prompt

2. Once the zip file is downloaded, unzip and open the **Read Me** file, which contains the following:

The ADP1621_{...}.xls is a stand-alone tool for generating a power supply design that employs an appropriate integrated switch ADI regulator: ADP1621.

IMPORTANT: You must enable macros when Microsoft Excel asks you as the file is being opened.

This Excel design tool produces a schematic, bill of materials, and performance specifications including efficiency based on the user's preference for size, efficiency, and cost.

Note: Microsoft Excel is dependent on the language setting Microsoft Windows for the indication of a decimal point. Minor issues may arise when this file is saved using US English notation and then read/run in Excel of another language. Changing the decimal notation in the input entries (such as "2.7" to "2,7") should resolve this.

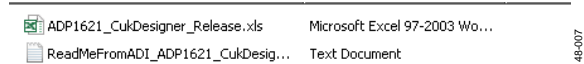


Figure 7. Zip File Contents

ENABLE MACROS

Macros must be enabled to run the tool.

1. Enable macros in Excel to use the tool.

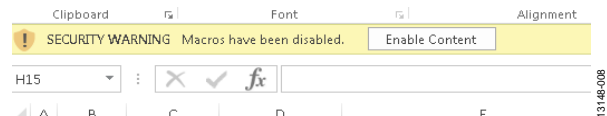


Figure 8. Macro Enable Button

2. When macros are enabled, the user input box appears. Enter your design parameters in this box.

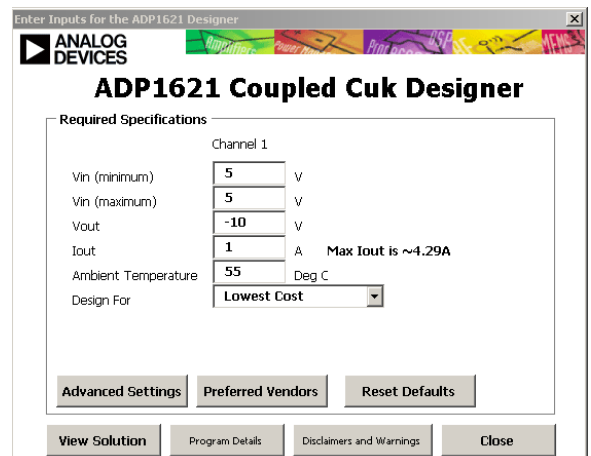


Figure 9. Design Tool Parameter Entry

3. After initial parameters are entered, if a more detailed designed is needed, click **Advanced Settings**. Under **Advanced Settings**, options such as output ripple and switching frequency can be changed. **Preferred Vendors** allows the user to enable or disable vendors called out in the tool. Click **View Solution** to run the tool and call out the components in the bill of materials (BOM).

REQUEST BLANK EVALUATION BOARD

To request a blank board, take the following steps:

1. After the tool has produced a design, click the **Build Your Design** tab (located toward the bottom of the window) to pull up the BOM view used for building the blank boards.



Figure 10. **Build Your Design** Tab

2. At the top on the spreadsheet is a **Request Blank Evaluation Board** button. This button only works if you have a default email client defined in your browser. Only click **Request Blank Evaluation Board** after the design is finalized. If the design is not finalized, you may receive a board that does not fit all the components you need.



Figure 11. **Request Blank Evaluation Board** Button

EMAIL REQUEST

A blank evaluation board can also be requested by manually sending an email to SimPowertool@analog.com. The email must contain the following categories:

- Name:
- Job Function:
- Company Name:
- Shipping Address:
- Phone number:
- Production Timing:
- Anticipated Annual Volume:
- Describe application:
- Feedback on tool (optional):
- To expedite, enter FedEx account number:
- Basic design criteria:
 - V_{INMIN} =
 - V_{INMAX} =
 - V_{OUT} =
 - I_{OUT} =
 - $Temp_{MAX}$ =
 - Optimization =
 - IC =

Availability subject to business case. All information is considered confidential. If no FedEx account information is entered, blank evaluation boards are sent by USPS mail or FedEx economy ground shipping by default.

EVALUATION BOARD

The blank **ADIsimPower** evaluation board is designed to accommodate a wide range of builds. Some of the component footprints are created to accept multiple sizes of components.

Not all components are used, and some components may require shorting resistors or jumpers. Pay close attention to the **Build Your Design** bill of materials.

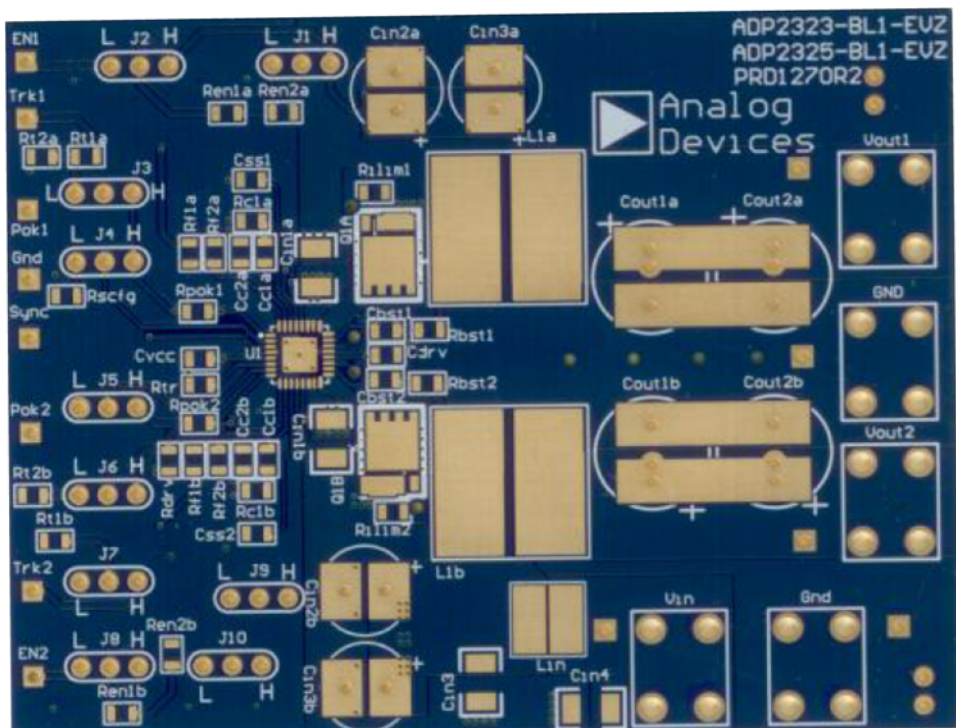


Figure 12. Blank Evaluation Board, Front

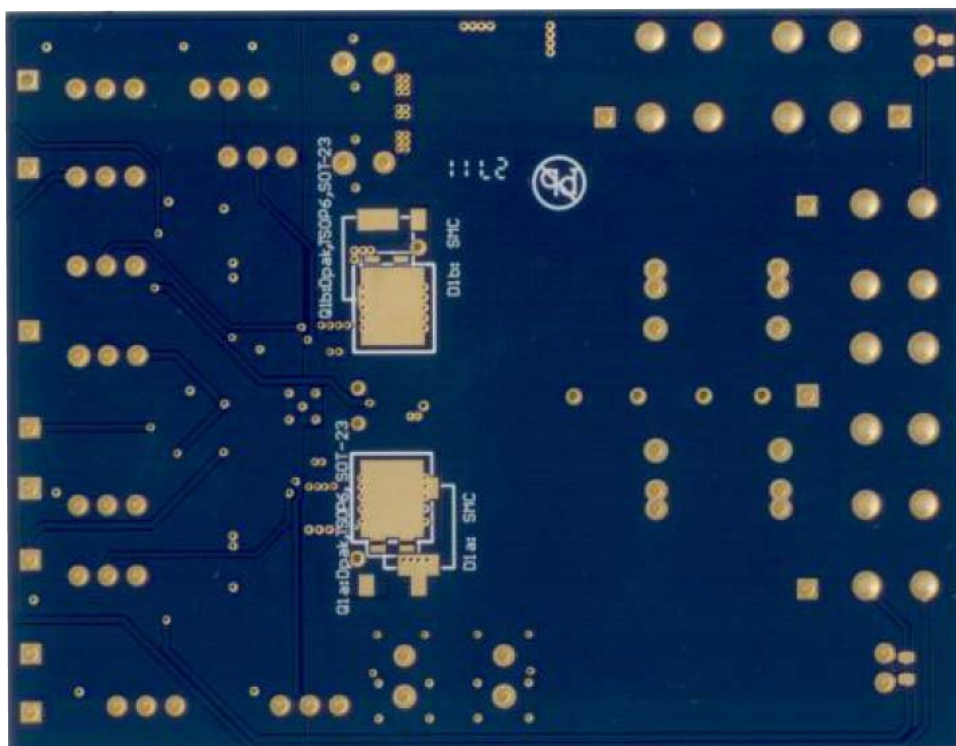


Figure 13. Blank Evaluation Board, Back

NOTES



ESD Caution

ESD (electrostatic discharge) sensitive device. Charged devices and circuit boards can discharge without detection. Although this product features patented or proprietary protection circuitry, damage may occur on devices subjected to high energy ESD. Therefore, proper ESD precautions should be taken to avoid performance degradation or loss of functionality.

Legal Terms and Conditions

By using the evaluation board discussed herein (together with any tools, components documentation or support materials, the "Evaluation Board"), you are agreeing to be bound by the terms and conditions set forth below ("Agreement") unless you have purchased the Evaluation Board, in which case the Analog Devices Standard Terms and Conditions of Sale shall govern. Do not use the Evaluation Board until you have read and agreed to the Agreement. Your use of the Evaluation Board shall signify your acceptance of the Agreement. This Agreement is made by and between you ("Customer") and Analog Devices, Inc. ("ADI"), with its principal place of business at One Technology Way, Norwood, MA 02062, USA. Subject to the terms and conditions of the Agreement, ADI hereby grants to Customer a free, limited, personal, temporary, non-exclusive, non-sublicensable, non-transferable license to use the Evaluation Board FOR EVALUATION PURPOSES ONLY. Customer understands and agrees that the Evaluation Board is provided for the sole and exclusive purpose referenced above, and agrees not to use the Evaluation Board for any other purpose. Furthermore, the license granted is expressly made subject to the following additional limitations: Customer shall not (i) rent, lease, display, sell, transfer, assign, sublicense, or distribute the Evaluation Board; and (ii) permit any Third Party to access the Evaluation Board. As used herein, the term "Third Party" includes any entity other than ADI, Customer, their employees, affiliates and in-house consultants. The Evaluation Board is NOT sold to Customer; all rights not expressly granted herein, including ownership of the Evaluation Board, are reserved by ADI. CONFIDENTIALITY. This Agreement and the Evaluation Board shall all be considered the confidential and proprietary information of ADI. Customer may not disclose or transfer any portion of the Evaluation Board to any other party for any reason. Upon discontinuation of use of the Evaluation Board or termination of this Agreement, Customer agrees to promptly return the Evaluation Board to ADI. ADDITIONAL RESTRICTIONS. Customer may not disassemble, decompile or reverse engineer chips on the Evaluation Board. Customer shall inform ADI of any occurred damages or any modifications or alterations it makes to the Evaluation Board, including but not limited to soldering or any other activity that affects the material content of the Evaluation Board. Modifications to the Evaluation Board must comply with applicable law, including but not limited to the RoHS Directive. TERMINATION. ADI may terminate this Agreement at any time upon giving written notice to Customer. Customer agrees to return to ADI the Evaluation Board at that time. LIMITATION OF LIABILITY. THE EVALUATION BOARD PROVIDED HEREUNDER IS PROVIDED "AS IS" AND ADI MAKES NO WARRANTIES OR REPRESENTATIONS OF ANY KIND WITH RESPECT TO IT. ADI SPECIFICALLY DISCLAIMS ANY REPRESENTATIONS, ENDORSEMENTS, GUARANTEES, OR WARRANTIES, EXPRESS OR IMPLIED, RELATED TO THE EVALUATION BOARD INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTY OF MERCHANTABILITY, TITLE, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS. IN NO EVENT WILL ADI AND ITS LICENSORS BE LIABLE FOR ANY INCIDENTAL, SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES RESULTING FROM CUSTOMER'S POSSESSION OR USE OF THE EVALUATION BOARD, INCLUDING BUT NOT LIMITED TO LOST PROFITS, DELAY COSTS, LABOR COSTS OR LOSS OF GOODWILL. ADI'S TOTAL LIABILITY FROM ANY AND ALL CAUSES SHALL BE LIMITED TO THE AMOUNT OF ONE HUNDRED US DOLLARS (\$100.00). EXPORT. Customer agrees that it will not directly or indirectly export the Evaluation Board to another country, and that it will comply with all applicable United States federal laws and regulations relating to exports. GOVERNING LAW. This Agreement shall be governed by and construed in accordance with the substantive laws of the Commonwealth of Massachusetts (excluding conflict of law rules). Any legal action regarding this Agreement will be heard in the state or federal courts having jurisdiction in Suffolk County, Massachusetts, and Customer hereby submits to the personal jurisdiction and venue of such courts. The United Nations Convention on Contracts for the International Sale of Goods shall not apply to this Agreement and is expressly disclaimed.

