



VeraSolSM

Product Variation Details Form Guide



VeraSolSM

Table of contents

- [Purpose of the Form](#)
- [Form Tabs](#)
- [Renewals and Previously Tested](#)
- [New Similar Products](#)
- [Family Variation Details](#)
- [Recommendations](#)

Purpose of the Form

The purpose of this form is to help us understand:

1. How kits and components differ from previously tested versions. This allows us to reduce testing redundancy and costs.
2. What components companies want us to include in a family. This helps us avoid surprises and additional testing later and ensures that all the required tests are completed as efficiently as possible.



VeraSolSM

Form sheets

Renewals and Previously Tested

New Similar Products

Family Variation details

The Variation details form is designed with three separate sheets for different scenarios. Detailed explanations for each tab can be found on the following slides.

- Renewals and Previously Tested: For product renewals
- New Similar Products: for new products that are similar to a previously tested product and share components
- Family Variation details: for product families

Renewals and Previously Tested

The 'Renewals and Previously Tested' tab:

- is designated for products that have undergone prior testing and are now undergoing renewal testing.
- provides a detailed overview of the modifications made to a product between tests. These modifications help determine which tests need to be carried out as well as the number of samples needed for each test. The information provided should be detailed enough in both columns so that we can tell whether or not there were any modifications made to the product between test events.

The details of the **originally** tested product go in the “Primary Product/Kit” column and the **current product iteration** details go the “Current Variation” column. It is very important that information about the original product is included so that we can efficiently compare it to the variation.

	Primary Product/Kit	Current Variation 1	Current Variation 2
Element	Enter the kit that has been previously tested or renewed here.	Enter the kit that will be tested and is similar to the Primary Product.	Enter the kit that will be tested and is similar to the Primary Product.
	[insert name]	[insert name]	[insert name]

The details of the originally tested product go in the first column.

The details of the product in its current iteration go in the subsequent column.



Renewals and Previously Tested

Manufacturers commonly leave many applicable rows blank. Filling out these fields will help avoid delays during report review. Make sure to fill out these **commonly missed** sections:

- Manufacturer names for each component
 - Light point manufacturer
 - LED manufacturer
 - PV module manufacturer
 - PV module cable manufacturer and markings
 - Battery manufacturer
- Information about LEDs
- Battery size and battery voltage
- Include information about appliances that are included in a kit, such as radios, TVs, or fans.



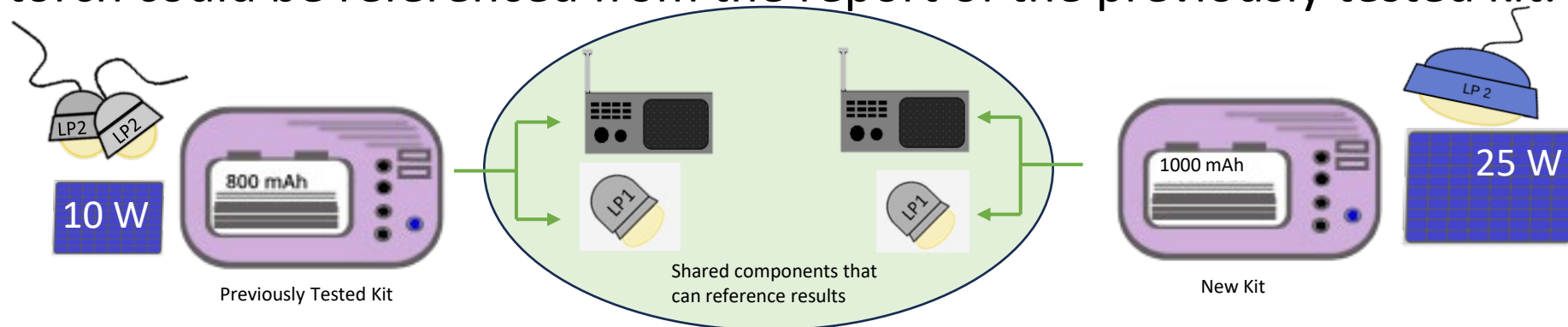
Energy Source	
PV Module	
Type (e.g. mono-si, poly-si, amorphous, etc.)	
Rate Specifications (Wp, Isc, Voc at STC)	
PV Module Manufacturer	
Strain Relief/Junction Box type (indicate any changes)	
PV module cable manufacturer and markings	
Any other differences in the PV module?	
Does the PV module have IEC 61730 or IEC 61215 certification?	
Enter YES (and which certificate you have) or NO	
Other Energy Source	
Type (e.g. mechanical dynamo, AC grid, etc.)	
Additional details	

Light point type 1	
Number of light points (e.g. number of lamps)	
Number of light output levels	
Luminous flux for each light output level	
Light point manufacturer	
Light point housing size and lens cover type	
Is there a Constant Current Regulator (driver) in the lamps? (yes/no)	
Operating voltage or voltage range	
Type (e.g. high/low power LED, through-hole/surface mount LED, CFL, etc.)	
Number of light sources (e.g. number of LEDs per lamp)	
Current to the LEDs	
LED Manufacturer	
Additional details (e.g. optics, etc.)	
Any other differences in the light source?	

New Similar Products

The new similar products tab is for products that can reference test results from one another. This allows us to substitute the results of a new product with the results of a previously tested product. This will cut down on the amount of testing needed for a new product.

For example, a previously tested kit might come with a radio and a torch that is going to be included with a new kit. The results for the radio and torch could be referenced from the report of the previously tested kit.





New Similar Products

The first column (column B) is for the product that will be fully tested or was already fully tested during a previous testing event.

The following columns (C-F) are for products that are being submitted for testing that will reference results from the product in column B.

	Primary Product/Kit	Current Variation 1	Current Variation 2
Element	Enter the kit that you want to be fully tested here that will have results referenced	Enter the kit that will be tested and is similar to the Primary Product.	Enter the kit that will be tested and is similar to the Primary Product.
	<i>[insert name]</i>	<i>[insert name]</i>	<i>[insert name]</i>



Family Variation Details

The family variation details tab is for product families and includes kits and components included in a product family. This tab helps us identify which components are part of a product family, and the composition of each kit in the family.

Product/Kit Name & Model Number ↓	Component Names ->	Does this kit need a Wh/day calculation? [yes/no]	Light Points		PV Modules		Batteries		Control Unit and Housing		Appliances	
			[Name / Model #1]	[Name / Model #2]	[Name / Model #1]	[Name / Model #2]	[Name / Model #1]	[Name / Model #2]	[Name / Model #1]	[Name / Model #2]	[Name / Model #1]	[Name / Model #2]
Kit 1 (Model number)		yes	1		1		1		1		1	
Kit 2 (Model number)		no		2		1		1		1		1
Kit 3 (Model number)		no	1		1		1		1		1	

Fill in this section with names of kits in the family and include appliances such as radios, TVs, and fans in the table. It is important that the kit names/model numbers are included for clarity as well as every component included in the family.



Family Variation Details

Product/Kit Name & Model Number ↓	Component Names ->	Does this kit need a Wh/day calculation? [yes/no]	Batteries		Control Unit and Housing		Appliances	
			Battery 1	Battery 2	[Name / Model #1]	[Name / Model #2]	Radio	Fan
Kit 1			1		1		1	
Kit 2				1		1	1	1

The numbers in the component columns represent the number of that specific component in a kit. In the example above, Kit 1 has a different battery and control unit/housing than kit 2. Kit 2 includes both the fan, and the radio as appliances while kit 1 includes only the radio as an appliance.

If a component is optional, enter “0-1” in the component column.



Family Variation Details

The sections below are where manufacturers fill in data for each component. Fill out each component column in the applicable cells. Make sure that the data in this section agrees with the data in the above section. There are often discrepancies between the data in these two sections. Grayed out cells are not applicable to the components in the column.

Element	Light Point 1	Light Point 2	Light Point 3	Light Point 4
	[Name / Model #]	[Name / Model #]	[Name / Model #]	[Name / Model #]
Has this component been previously tested?				
What is the model number?				
Performance				
Full-battery run time for each light output level				
Solar run time for each light output level				
Any other differences in the performance?				
Light source				
Number of light points (e.g. number of lamps)				
Number of light output levels				
Luminous flux for each light output level				
Light point manufacturer				
Light point housing size and lens cover type				
Is there a Constant Current Regulator (driver) in the lamps? (yes/no)				
Operating voltage or voltage range				
Type (e.g. high/low power LED, through-hole/surface mount LED, CFL, etc.)				
Number of light sources (e.g. number of LEDs per lamp)				
Current to the LEDs				
LED Manufacturer				
Additional details (e.g. optics, etc.)				
Any other differences in the light source?				
Energy Source				
PV Module				
Type (e.g. mono-si, poly-si, amorphous, etc.)				
Rate Specifications (Wp, Isc, Voc at STC)				
PV Module Manufacturer				
Strain Relief/Junction Box type (indicate any changes)				
PV module cable manufacturer and markings				
Any other differences in the PV module?				
Does the PV module have IEC 61730 or IEC 61215 certification? (Yes/No) and which certificate you have.				
Other Energy Source				
Type (e.g. mechanical dynamo, AC grid, etc.)				
Additional details				
Battery				
Battery Pack Capacity (mAh)				
Battery Cell Capacity (mAh) and number of cell in series and parallel				
Chemistry (e.g. SLA, Li-ion, NiMH, etc.)				
Battery Pack Nominal voltage (V)				
Battery Cell Nominal voltage (V)				
Battery Manufacturer				
Cell size (e.g. 14250, 26500, 32700)				
Additional details				



VeraSolSM

Recommendations

- Specify battery capacity ratings in Ah or mAh
- Don't leave any cells blank; write "n/a" or "same" to make sure you don't miss anything
- Make sure to list all differences, even if they don't directly affect performance or user experience (e.g. changes to number or type of LEDs, battery or PV module supplier, connector types, maximum power point tracking algorithm)



VeraSolSM

Thank you

Please reach out to the team at testing@verasol.org if you have any questions.