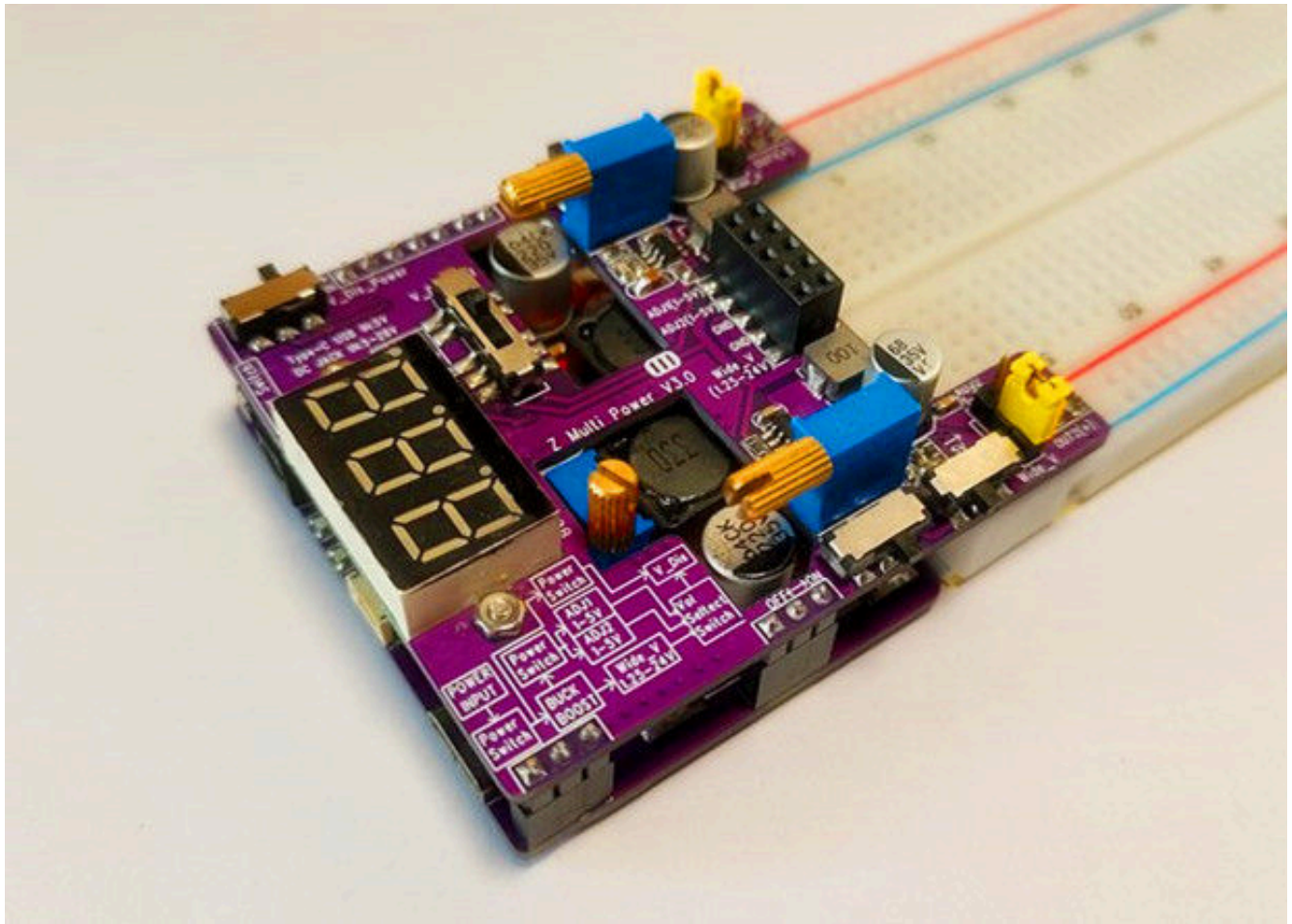


Zero Multi-Power Supply V3.0 for Bread Board

A powerful power supplier board for your Bread Board and other electronics project.

Multi input, including Type-C,DC3.5 ,Li-Bat. Super wide and multi output, 1.25V up to 24V. 4-way voltage display,.

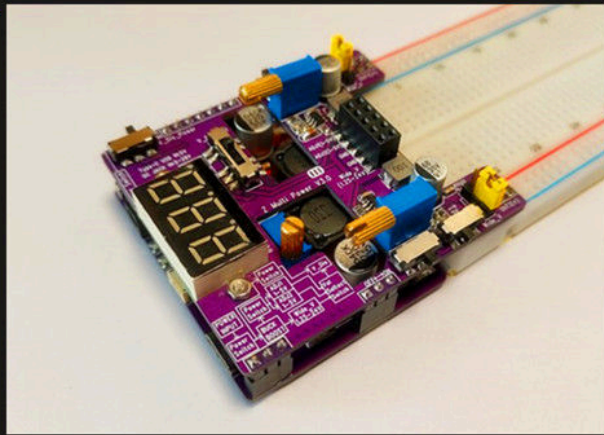


Features:

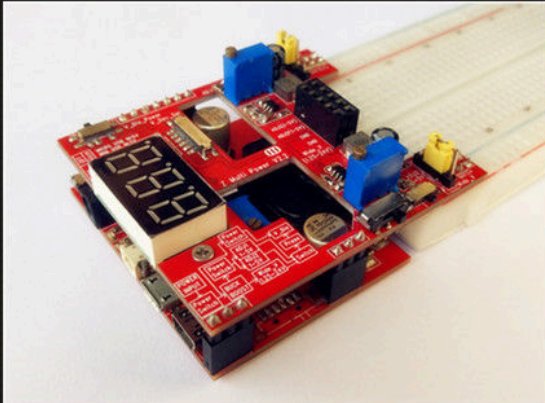
- Multi Input : Type-C,DC3.5 ,Li-Bat.
- Multi Output : ADJ: 1.25-24V、 ADJ1: 1-5V、 Fixed: 3V3、 ADJ2:1-5V、 Fixed: 5V .
- Li-Battery can as power supply and Charge.
- Voltage display
- Leave Input at the bottom board to support the board and balance the board
- Use DC-DC switch convert (Buck and Boost) to ensure the power efficient.

Update:

1. Change Trimming Potentiometer (ADJ), More easy to use.
2. Larger size switch.
3. Remove Mini & Micro-USB, Add Type-C USB.
4. Change Int-CAP to SMD-CAP.
5. PCB changed to rounded corner.



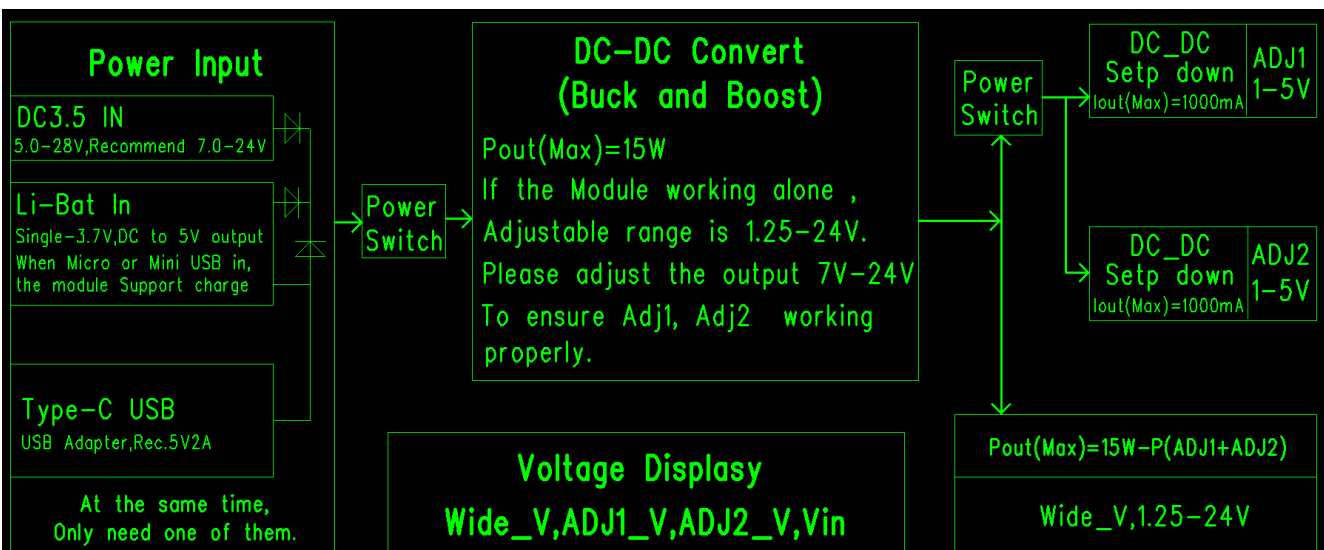
V3.0



V2.2

Design Detail:

Block Diagram:



Note:

This module is not only a practical development power supply, but also a good tool to learn power knowledge. By testing various Vin, Iin, Vout&lout, you will get the power supply you need and have a better understanding of P=V*I. I tested the Pout(Max), Vout and lout(Max) on a sample, and the test cycle is 120 minutes.

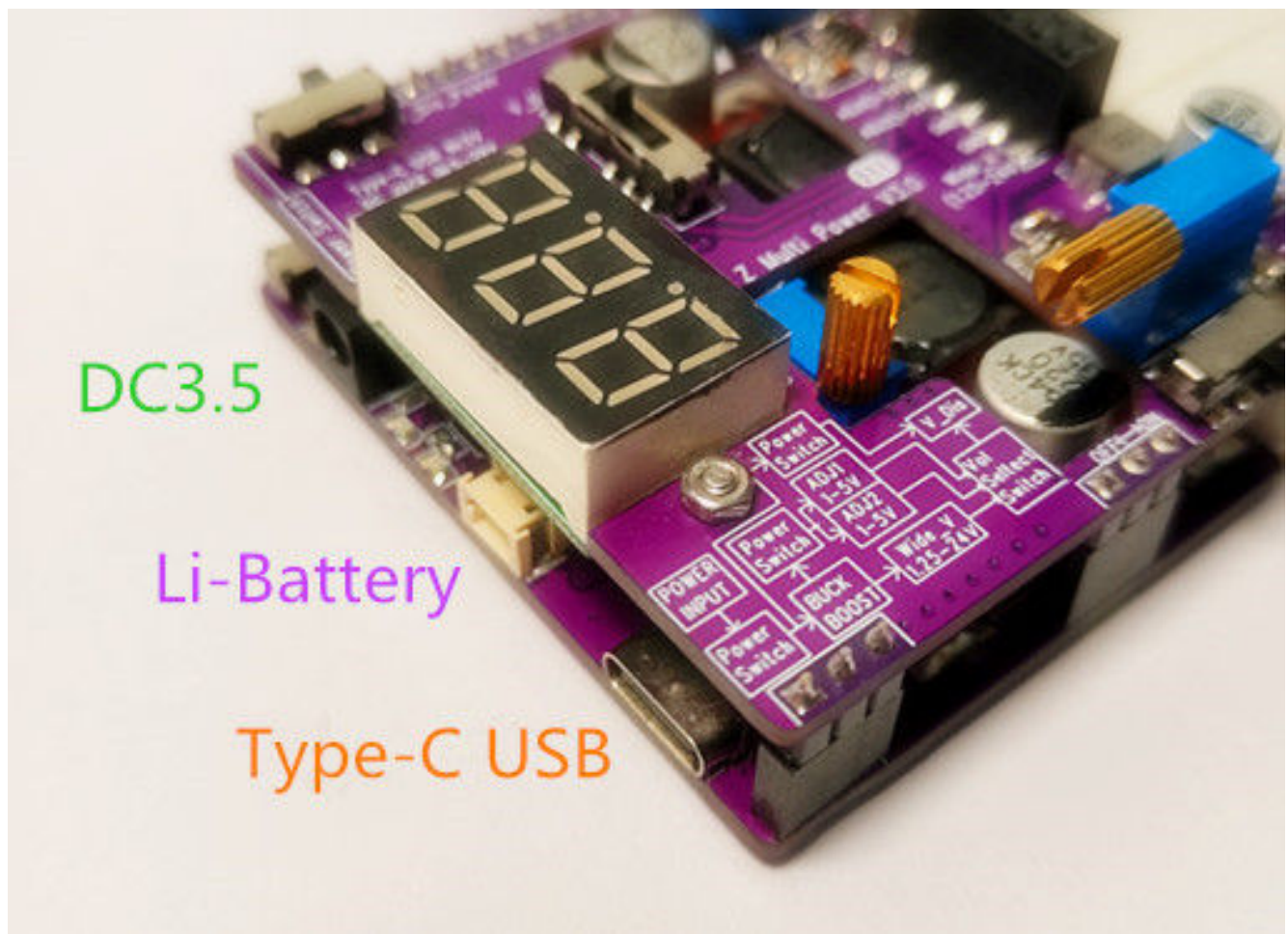
Four type input:

DC3.5 : Wide input,5.0-28V,recommend 7-24V.

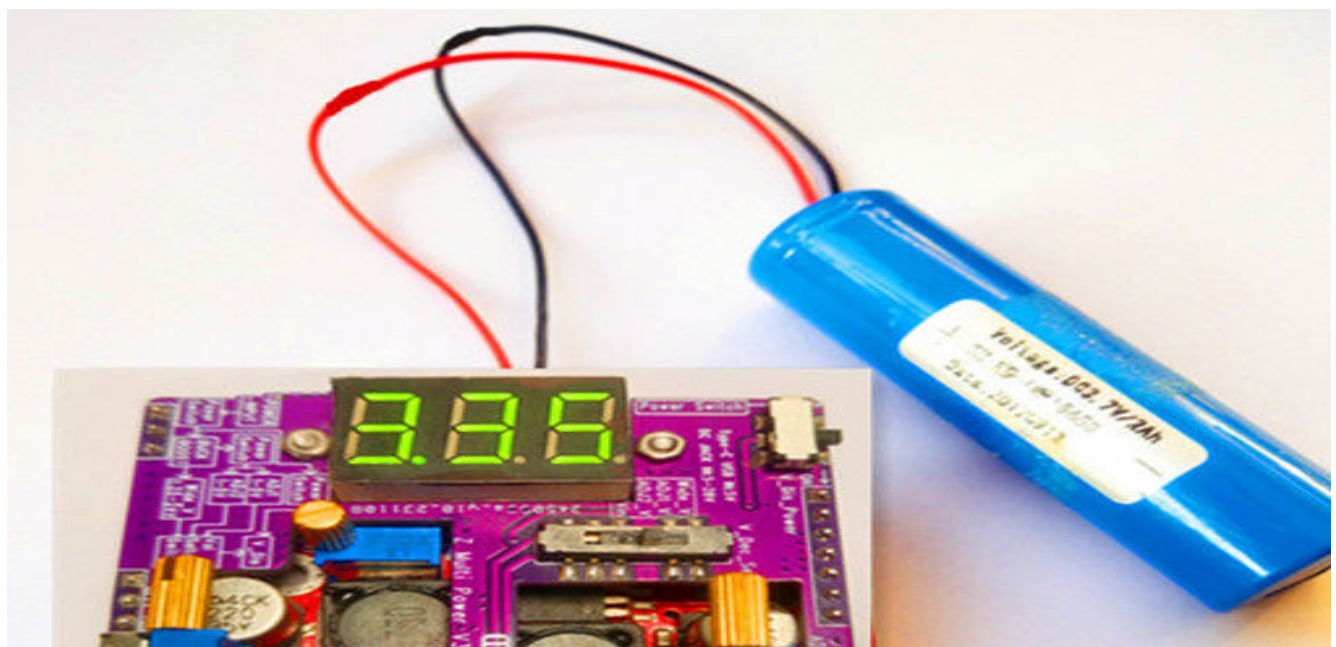
Type-C USB : 5V.

Li-Battery : Single-3.7V,DC up to 5V;

When Micro USB or Mini USB in, the module support charge.



Li-Battery as power supply, it is let you more convenience and freedom, anytime and anywhere.



About charger:

For Li-Battery, Single-3.7V;

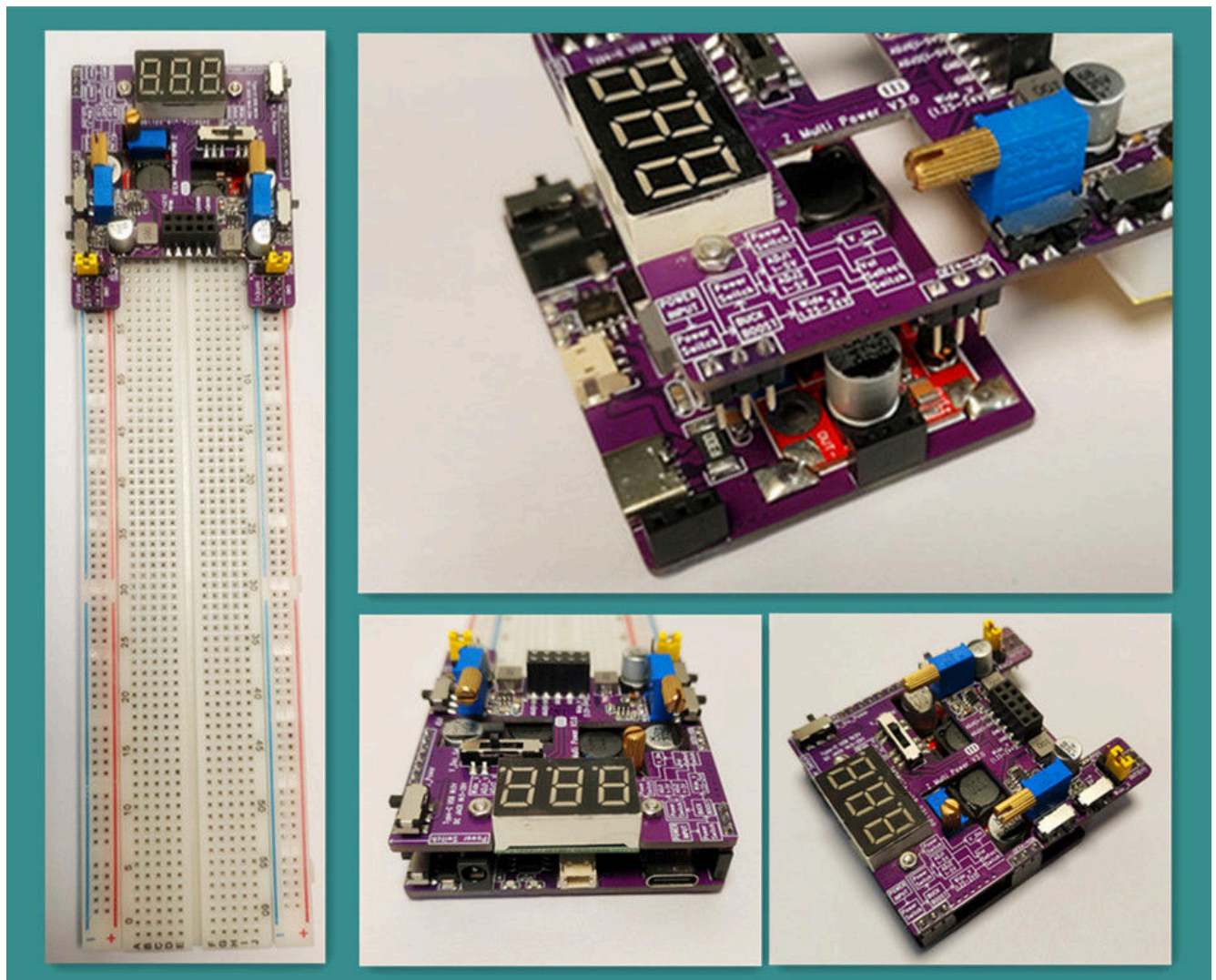
Charger source : Type-C USB in;

Max charging current : 1A;

LED: Red---Charging, Green---Standby.

Smart structural design.

Reducing the volume, the laminated structure is more conducive to heat emission.

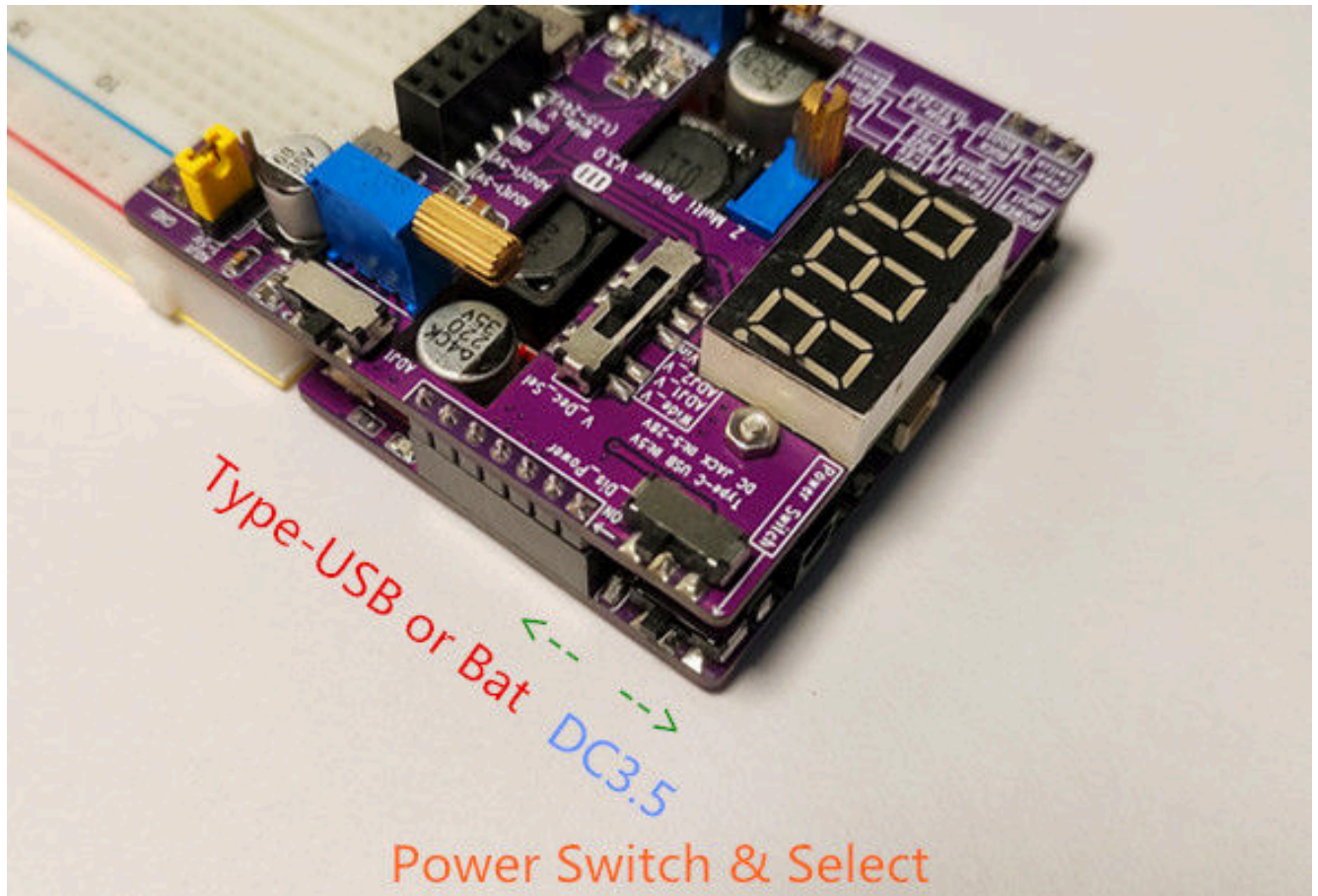


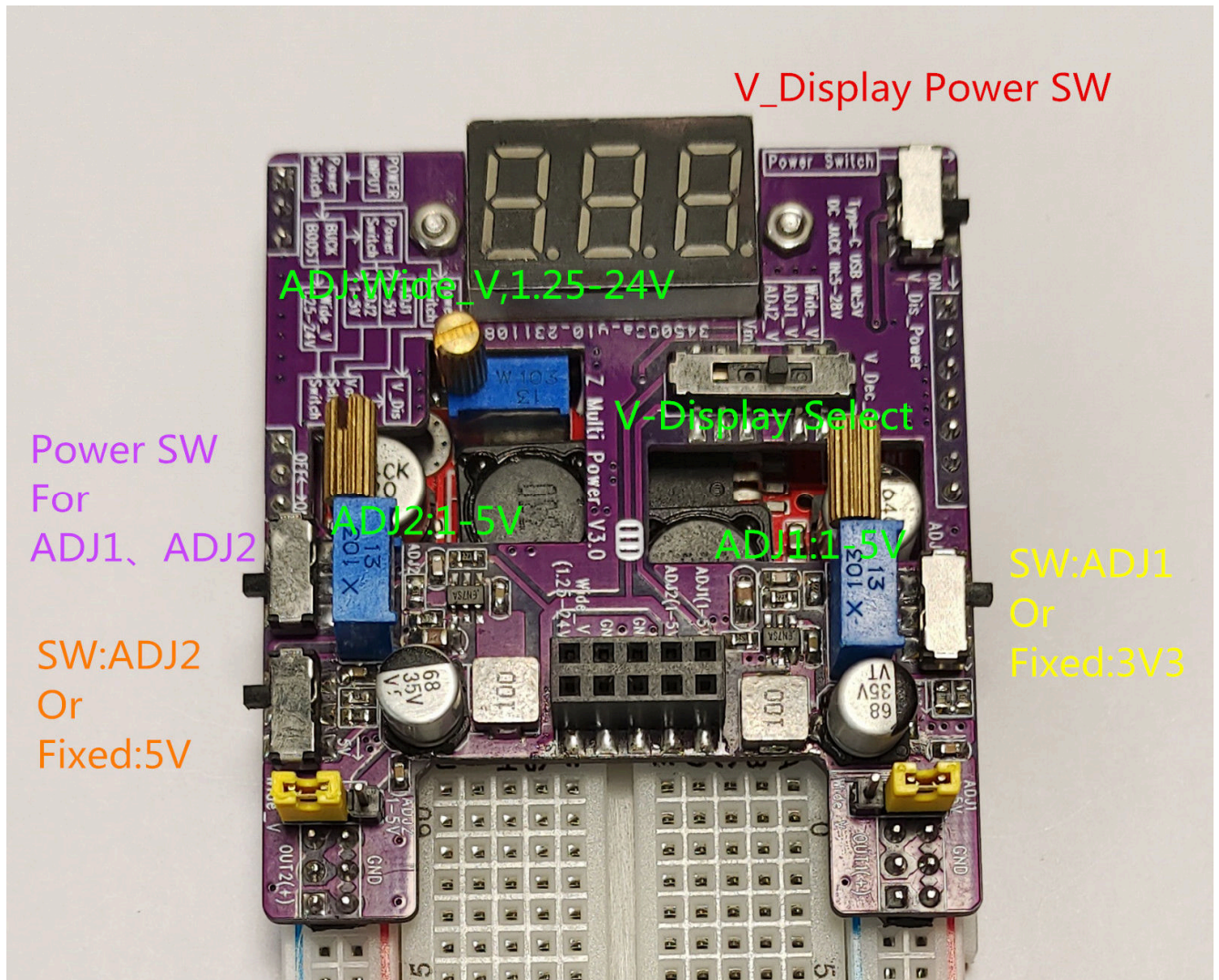
Power switch(select) and Adjust :

ADJ: Adjustable (Wide _ V : 1.25-24V).

ADJ1: Adjustable (1-5V).

ADJ2: Adjustable (1-5V) .





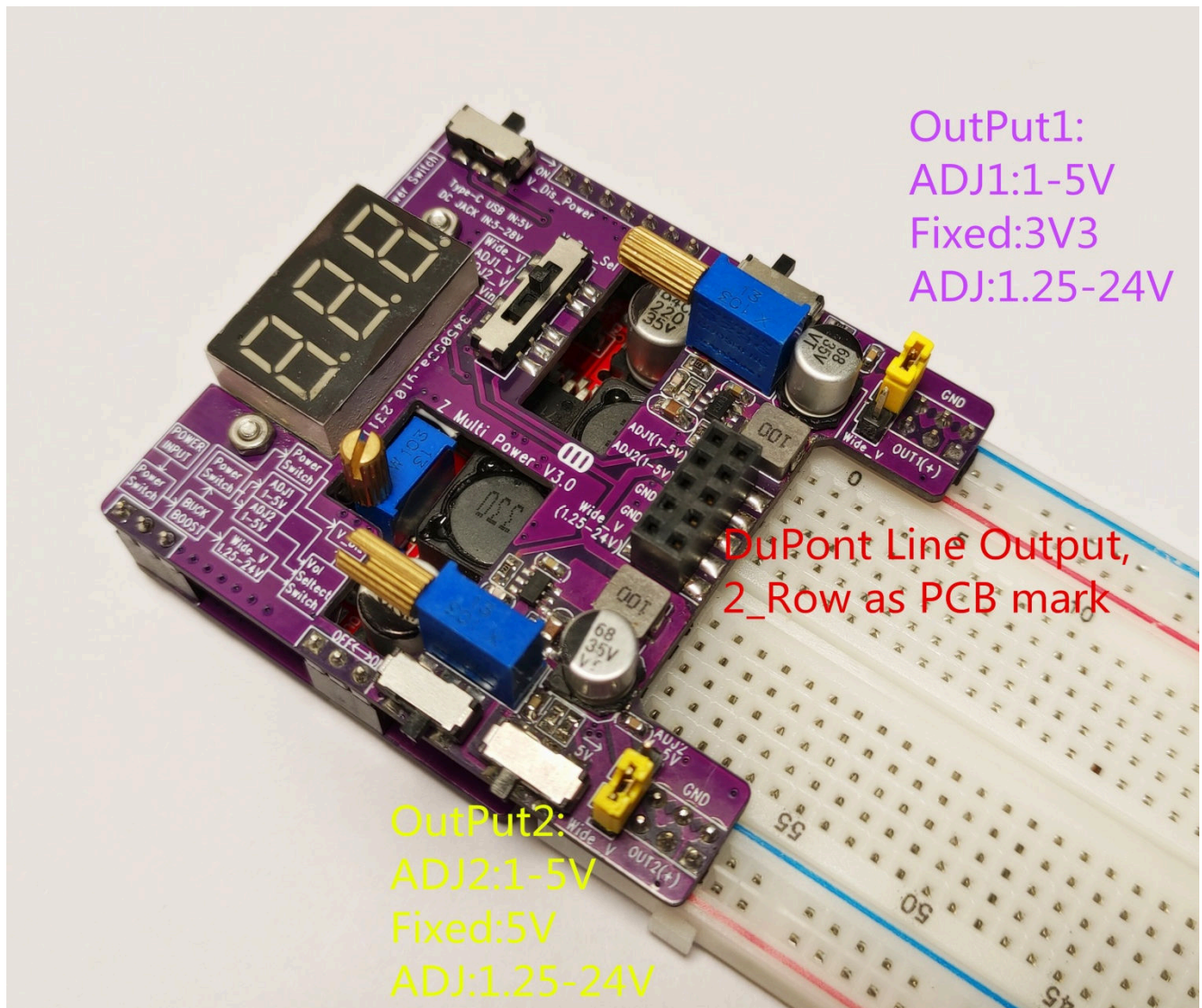
Output:

1-Way Wide _ V & Adjustable (1.25-24V) (*Marked as Wide-V*)*.

2-Way Adjustable(1-5V) output.

2 Row DuPont line output, It is easy to connect more device.

Through switch selection, ADJ1 can be fixed in 3V3, ADJ2 fixed in 5V, convenient and fast, save your time.



2 Row DuPont line output, It is easy to connect more device.

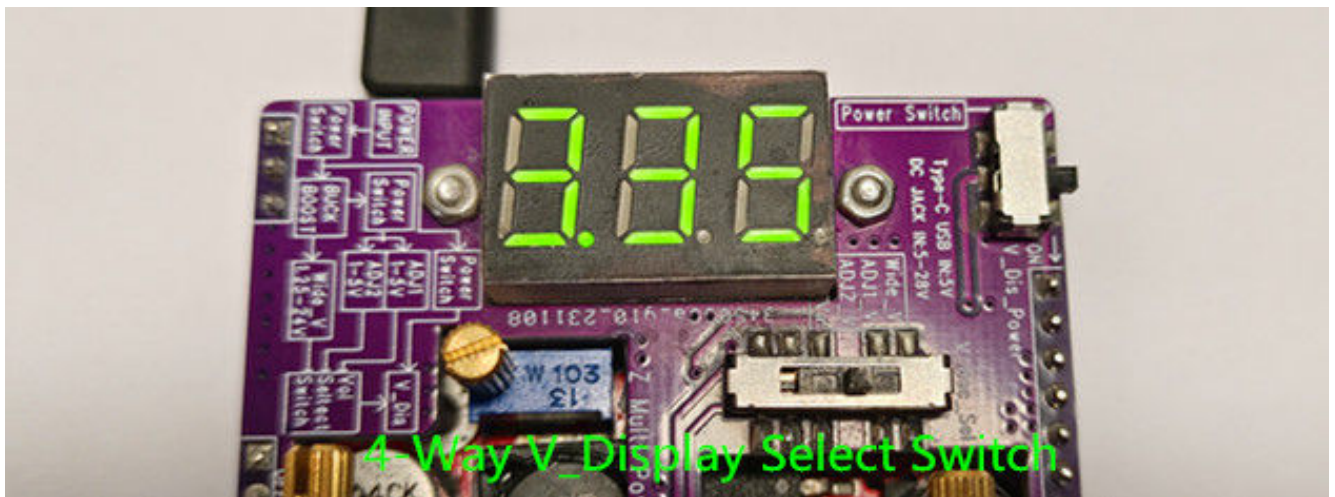
*Note:

The wide range output is the source of Adj1, Adj2. If the voltage is lower than 7V, the Adj1, Adj2 will not working properly. Recommend only use the wide range output 7V-24V to ensure Adj1, Adj2 working properly.

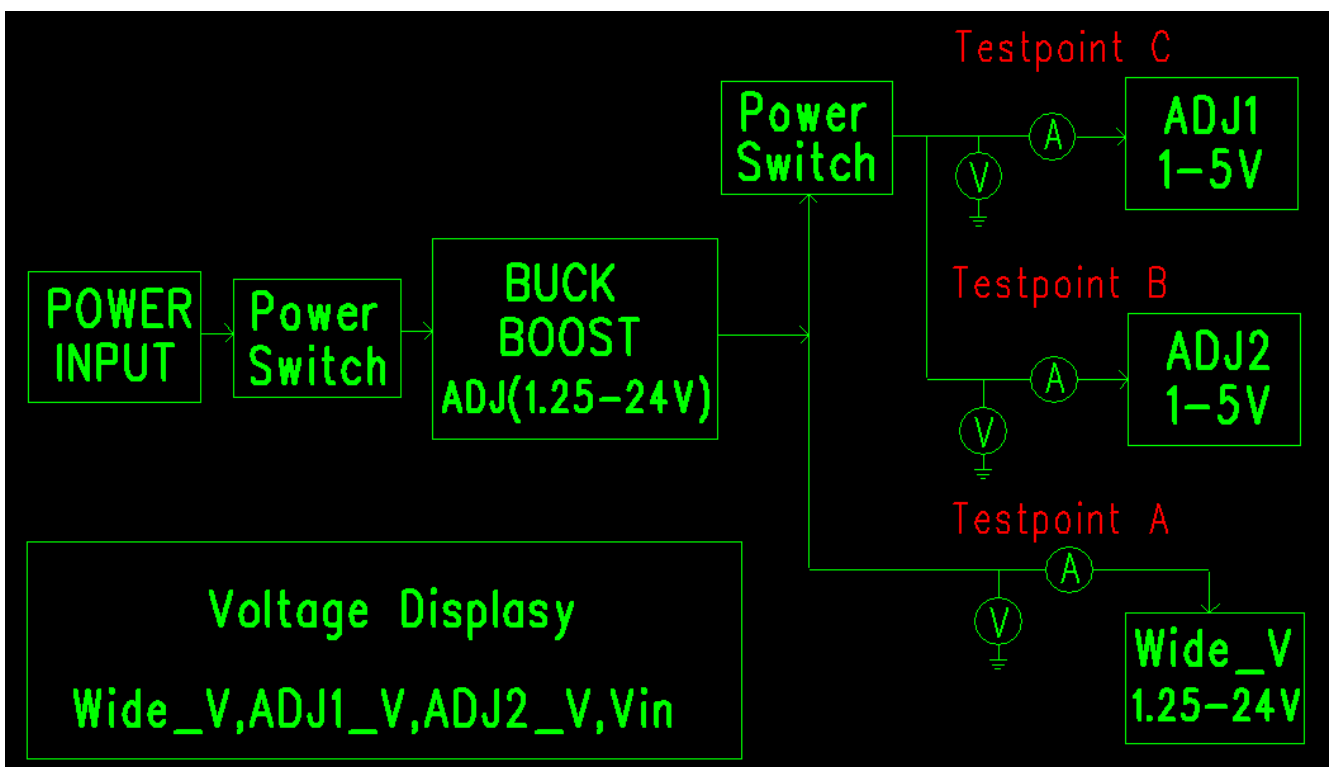
Multi way voltage display

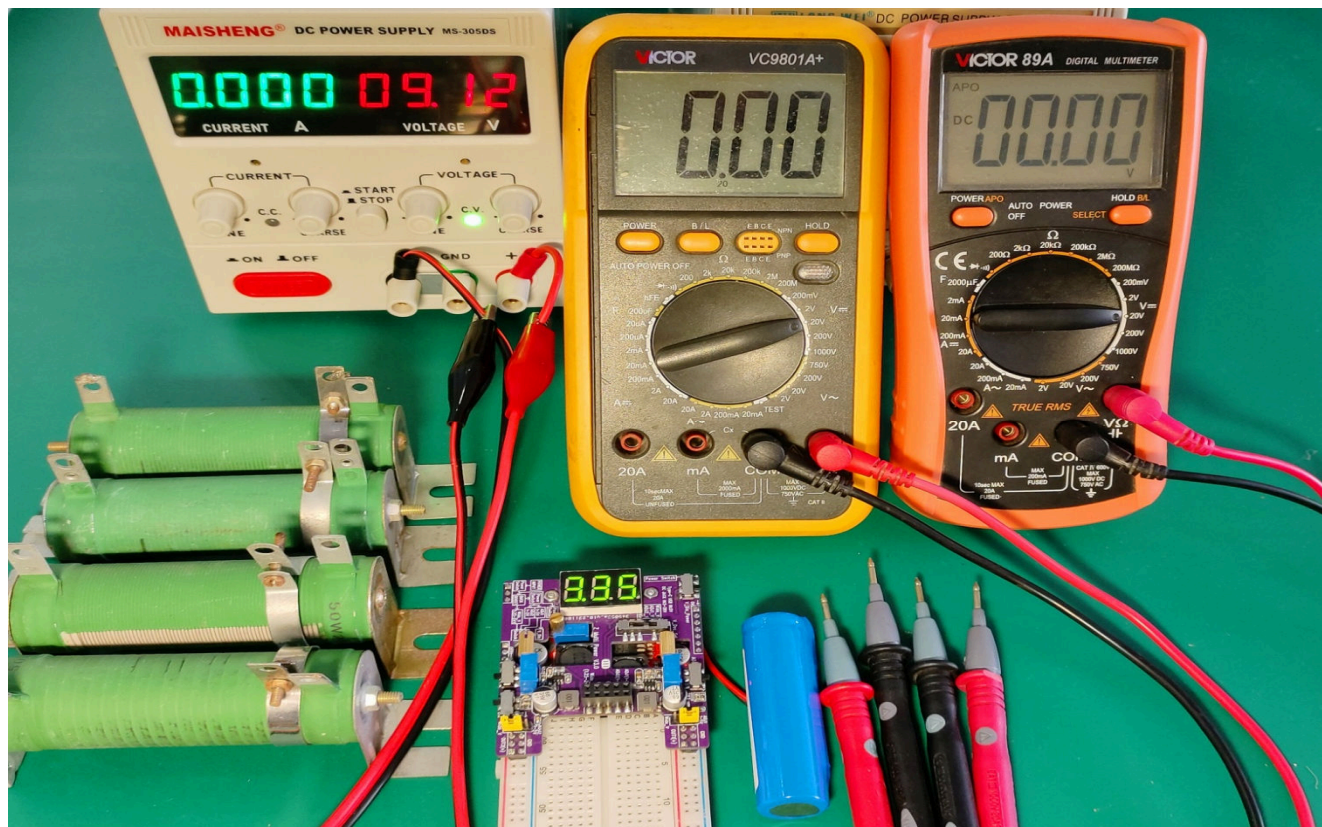
4-way:Vin、 Wide _ V、 ADJ1_ V、 ADJ2 - V.

Green digital display, clear and accurate.



Output Brief Test Data:





Z-Multi Power V3.0 TeasPoint A(ADJ1/ADJ2 Power Off)			
Power In	Unloaded Vout (V)	loaded Vout (V) (Minimum)	Iout (mA) (Maximum)
Power Supply = 5.00V (As USB Adapter 5V2A)	3.35	3.30	775
	7.10	7.00	655
	12.10	12.0	463
	24.10	24.0	238
DC3.5 In = 9.0V	3.35	3.30	895
	7.10	7.00	1172
	12.10	12.0	925
	24.10	24.0	473
DC3.5 In = 12V	3.35	3.30	912
	7.10	7.00	1173
	12.10	12.0	1036
	24.10	24.0	502
DC3.5 In = 21V	3.35	3.30	1055
	7.10	7.00	1278
	12.10	12.0	1103
	24.10	24.0	565

Z-Multi Power V3.0 TeasPoint B、C(ADJ1、ADJ2 working at the same time)			
Power In	Unloaded Vout (V)	loaded Vout (V) (Minimum)	Iout (mA) (Maximum)
DC3.5 In = 12V Buck Boost ADJ = 9.10V	ADJ1=>5.05	5.00	1023
	ADJ2=>5.05	5.00	1035
Power Supply = 5.00V (As USB Adapter 5V2A) Buck Boost ADJ = 7.10V	ADJ1=>5.05 ADJ2 on but unload	5.00	1019
	ADJ1=>3.35 ADJ2 on but unload	3.30	1021
	ADJ1=>1.55 ADJ2 on but unload	1.50	1017
	ADJ2=>5.05 ADJ1 on but unload	5.00	1018
	ADJ2=>3.35 ADJ1 on but unload	3.30	1035
	ADJ2=>1.55 ADJ1 on but unload	1.50	1027