

# PowerFilm<sup>®</sup>

## SOLAR

MADE IN THE USA

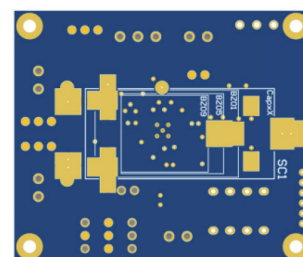
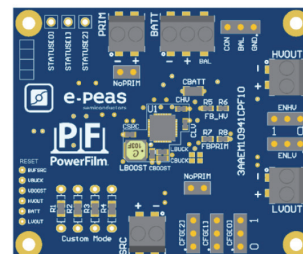
## AEM-PF-EVK Solar Development Kit with e-peas PMIC Quick Start Guide

### Step 1: AEM10941 Configuration

**MPPT Ratio:** Defined to 70%

**Storage Element Voltages Protection:** CFG2-CFG1-CFG0.

Configuration pins			Storage element threshold voltages			LDOs output voltages		Typical use	
CFG[2]	CFG[1]	CFG[0]	Vovch	Vchrdy	Vovdis	Vhv	Vlv		
1	1	1	4.12 V	3.67 V	3.60 V	3.3 V	1.8 V	Li-ion battery	
1	1	0	4.12 V	4.04 V	3.60 V	3.3 V	1.8 V	Solid state battery	
1	0	1	4.12 V	3.67 V	3.01 V	2.5 V	1.8 V	Li-ion/NiMH battery	
1	0	0	2.70 V	2.30 V	2.20 V	1.8 V	1.2 V	Single-cell supercapacitor	
0	1	1	4.50 V	3.67 V	2.80 V	2.5 V	1.8 V	Dual-cell supercapacitor	
0	1	0	4.50 V	3.92 V	3.60 V	3.3 V	1.8 V	Dual-cell supercapacitor	
0	0	1	3.63 V	3.10 V	2.80 V	2.5 V	1.8 V	LiFePO4 battery	
0	0	0	Custom mode - Programmable through R1 to R6					1.8 V	



**BAL Option:** Select "CON" for dual-cells super capacitor and "GND" for any other storage.

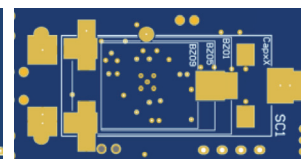
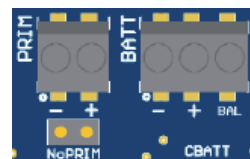
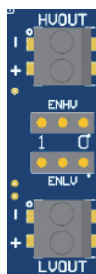
**PRIM Option:** Connect both jumpers "NoPRIM" or remove them if a primary battery is connected. Define minimum voltage using R7 and R8.

- $100\text{ k}\Omega \leq RP \leq 500\text{ k}\Omega$
- $R7 = \left(\frac{V_{prim\_min}}{4} * RP\right) / 2.2\text{ V}$
- $R8 = RP - R7$

ENLV	ENHV	LV output	HV output
1	1	Enabled	Enabled
1	0	Enabled	Disabled
0	1	Disabled	Enabled
0	0	Disabled	Disabled

**LDOs Output Voltages:** ENHV [HVOUT] - ENLV [LVOUT]

**Step 2: Connect the storage element (and primary battery) or solder a super capacitor on the bottom layer**



**Step 3: Connect the Load(s) to HVOUT / LVOUT**

**Step 4: Connect the PowerFilm Photovoltaic Cell**



**Step 5: Check the Status**