Evaluation Board : AEM30940

Please follow the next steps when using the AEM30940 evaluation board

Step 1 : MPP configuration (DS page 12)
Step 2 : System configuration (DS page 11)
Step 3 : LDO outputs configuration (DS page 9)
Step 4 : ZMPPT configuration (if used) (DS page 12)
Step 5 : Balun for dual-cells supercapacitor (DS page 10)
Step 6 : Primary battery configuration (DS page 12)
Step 7 : Connect the storage element
Step 8 : Connect the primary battery
Step 9 : Connect the loads
Step 10 : Connect the source
Step 11 : Status

For more information : support@e-peas.com
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1. SELMPP1-0 | MPPT Ratio (%)
---|---
0-0 | 50
0-1 | 65
1-0 | 80
1-1 | ZMPP feature

2. CFG2-1-0 | Storage element type
---|---
H-H-H | Li-ion battery
H-H-L | Solid state battery
H-L-H | Li-ion / NiMH battery
H-L-L | Single cell supercapacitor
L-H-H | Dual cell supercapacitor
L-H-L | Dual cell supercapacitor
L-L-H | LifePo4
L-L-L | Custom mode

MPP configuration (DS page 12)
System configuration (DS page 11)

Please see DS page 11 « Custom mode » and use the R1 – R6 resistors

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3.

<table>
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<th>HVOUt</th>
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<td>0</td>
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</tbody>
</table>

LDO outputs configuration (DS page 9)

3. Do not leave floating jumpers

4. ZMPPT configuration (DS page 12)

Connect a resistor on RZMPPT if ZMPP feature used
Else **do not connect** any resistor

Please see DS page 12

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5. If dual-cell supercapacitor:
   BAL connected to the node between the supercapacitors
   BAL = ToCN

If not:
   BAL = GND

6. Connect the jumpers « NoPRIM » if no primary battery
   else
   \[ 100 \text{k}\Omega \leq RP = R7+R8 \leq 500 \text{k}\Omega \]
   \[ V_{PRIM\_MIN} = \text{minimum voltage on PRIM} \]
   \[ R7 = \left( \frac{V_{PRIM\_MIN}}{4} \times RP \right) / 2.2 \text{V} \]
   \[ R8 = RP - R7 \]

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For dual-cells supercapacitors, use the BAL connexion and connect the BAL jumper to “ToCN”; Else connect the BAL jumper to “GND”.

If no primary battery, please connect the jumpers “NoPRIM”.

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Use SRC for DC signal (R13 removed)
Use AC SRC for AC signal (R13 = 0R soldered)

RECTIFIER:
Please note that BAT54 diodes are solder. The structure is a standard diodes bridge. This circuit might not be adapted for all type of inputs [regarding the frequency signal and/or the input power]. Please use the SRC connector if using an external rectifier.
STATUS0 = Asserted when the LDOs can be enabled
STATUS1 = Asserted if the battery voltage falls under Vovdis
STATUS2 = Asserted when the AEM performs the MPP tracking
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