

DA1470x Power Measurement Module

Design Name	da1470x-sb-pmm2
Ref. Number	500-29-D
Version	D2
Date	April 29, 2022
Designer	PR

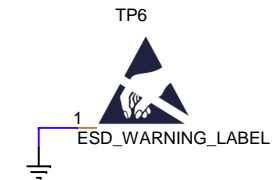
Configuration note

NOTE box

Changes in
this
Version.

Version	Date	Comments
A0.1	06 / Apr / 2021	Release for internal review
A1.0	22 / Apr / 2021	Release for manufacturing
B0.1	09 / Sept / 2021	Changes after debugging the version A 1.R29 changed to 0 ohm populated 2.R31 changed to 0 ohm populated 3. R40 changed to 33 ohm 4. C12 changed to Resistor 0 Ohm 5. Connect VREFN (U1, pin 13) to AGND Added features 6. Remove U9, U10 (not needed) 7. Added TRIG_[0:7] connections to J1 8. Disconnected ADC DONE pin from FD4_SYNC and removed R42 9. Reassigned FD4_SYNC to ADS131 RESET 10. Removed Q1, R5, R11 (SW trigger circuit shorting DO) 11. Added shift register U14 to control CH3, CH4, MUX A[0:3] 12. Added ESD protection to external AIN 13. Replaced V18 with VBAT on CH4 MUX 14. Added switchable 0.75x divider to CH4 15. Modifications for activating double sense circuit 16. Removed 3.3VA rail and ADC power option from 3.3V 17. Removed FCx and TRIGx connections (implemented on MB) 18. Added optional feedback network to U3A 19. Added optional memory U16 20. Removed ADC synchronous master option R15
	23 / Dec / 2021	1. Corrected MUX bit order from shift register 2. Added U19 to eliminate the current drawn by I/V stage 3. Changed Q2 control circuit 4. Added analog switch to change sampling point of low rng 5. Added U19 + associated logic U20 6. Rearranged U7, U8 inputs to detect VBAT_CC with single gate 7. R59, R60 divider values x10 to reduce input current 8. Replaced Q1 with dual NMOS to also invert HIB_EN
C0.1	10 / Jan / 2022	Released for manufacturing
C1.0	21 / Feb / 2022	Changed C1..C6,C40 part number to CC0201JRNPO9BN101 Changed Q2 to SSM3J133TU,LF
D1.0	28 / Feb / 2022	Released for manufacturing
D1.1	04 / April / 2022	R31 made NP
D2.1	29 / April / 2022	LP2 made NP, D5 1N4148 & D6 RB521G-30T2R diodes added

- ⊙ TP5 FIDUCIAL
- ⊙ TP7 FIDUCIAL
- ⊙ TP8 FIDUCIAL
- ⊙ TP13 HOLE



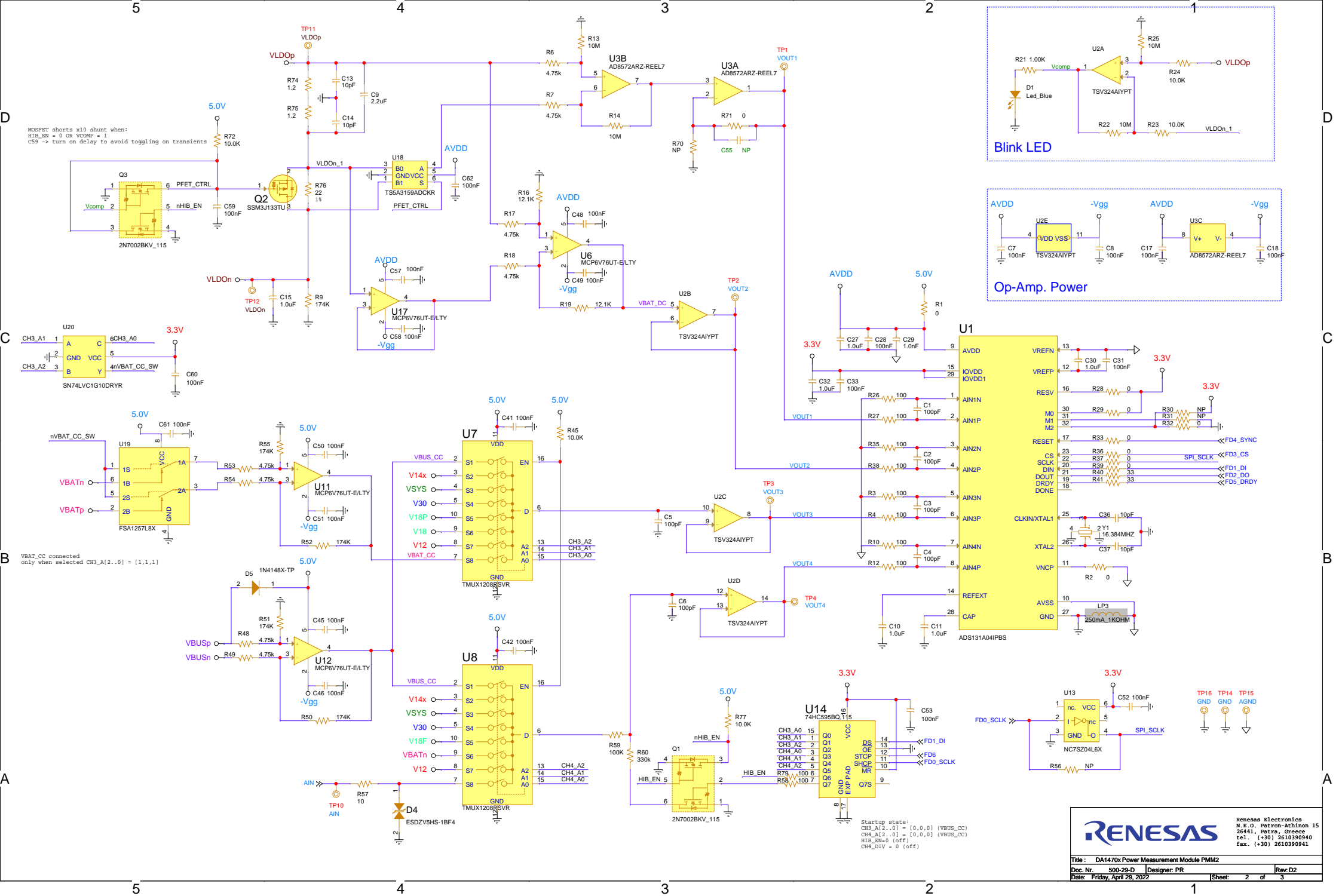
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MOSFET shorts x10 shunt when:
 HIB_EN = 0 OR VCOMP = 1
 CS9 -> turn on delay to avoid toggling on transients

VBAT_CC connected
 only when selected CH3_A[2..0] = [1,1,1]

Startup state:
 CH3_A[2..0] = [0,0,0] (VBUS_CC)
 CH4_A[2..0] = [0,0,0] (VBUS_CC)
 HIB_EN=0 (off)
 CH4_DIV = 0 (off)

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