

# ATM3330e PV Remote Control Reference Design

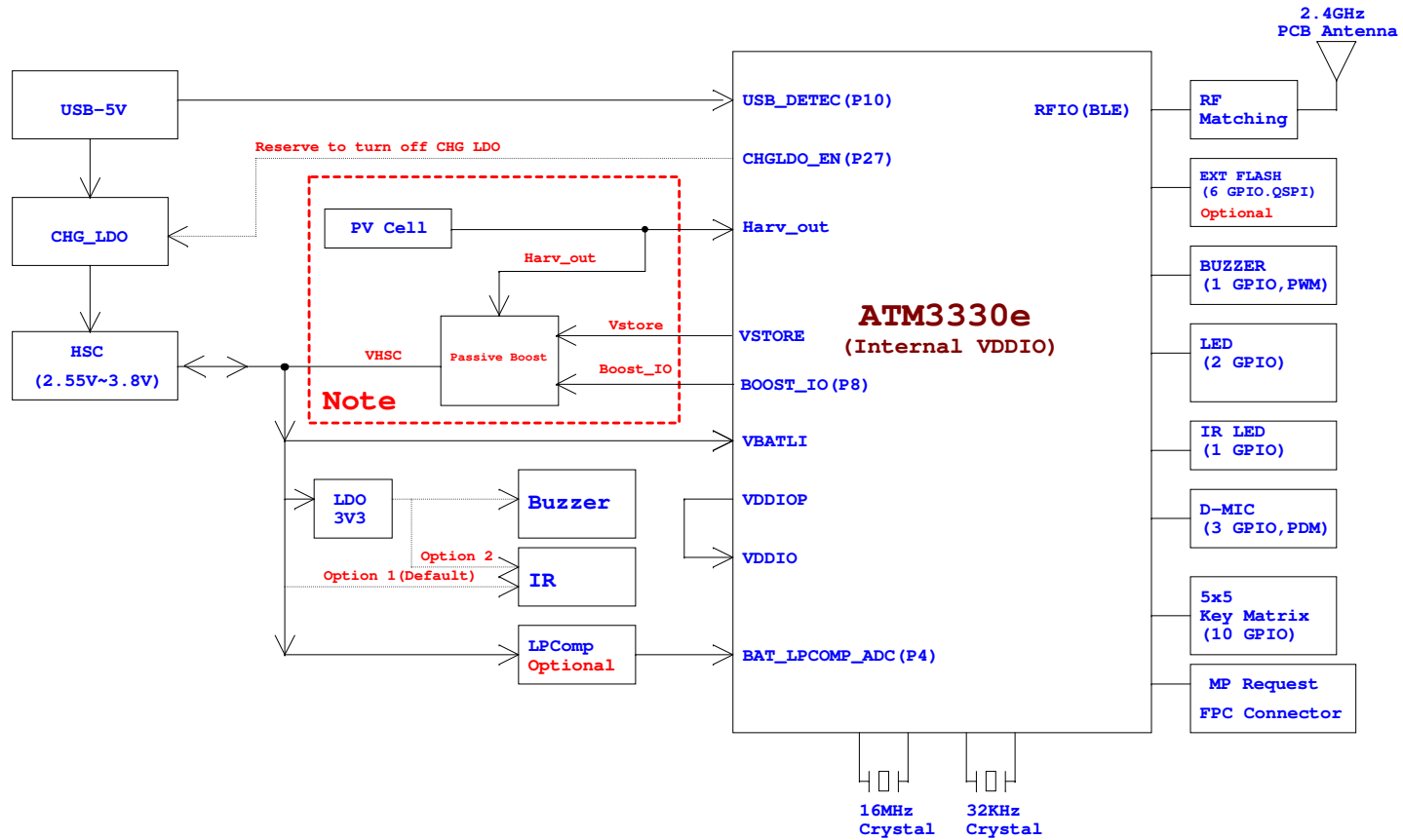
Release Date	Revision	Design Eng.	Design Note
2022/08/23	Rev. 1.0	Joe Chen	Preliminary release
2022/09/02	Rev. 1.0	Joe Chen	1. U1-Pin36(P13) changes to R1, U1-Pin37(P14) changes to BOOST_IO 2. Add dummy options b/w V HARV and Passive booster.
2022/09/13	Rev. 1.0	Joe Chen	1. Change the CN3 connection pin define.
2022/09/14	Rev. 1.0	Joe Chen	1. Add a DM18(DNS) footprint for Non Harvesting Application
2022/10/03	Rev. 1.0	Joe Chen	1. Modify USB Plug-In Reset
2022/11/07	Rev. 1.0	Albert_Shao	1. Change IO voltage supply from external IO to Internal IO 2. Add Green Color LED driving circuit
2022/12/27	Rev. 2.0	Joe Chen	1. POWER a. Add a capacitor C43=0.1uF to DVDD1 b. VDDPA input power : DM15 changes to 0ohm c. DM16 changes to DNS. 2. LDO a. LDO changes to 3V3: U16 changes to ME6226C33M5G. b. Reserve R128/R131/R133 if U16 changes to an adjustable LDO. 3. USB a. Add R125/R126 =5.1Kohm for CC1/CC2. b. Connect the U5-A4/B9 to USB_5V 4. Charger LDO a. Reserve Q7/R134/R135. 5. RF matching a. Modify components value L1=4.3nH, C1=2pF, L2=2.4nH, C2=1.2pF, C16=10pF
2023/07/11	Rev. 3.0		1. Add booster options 2. Change Booster_IO pin out from P14 to P8
2023/10/27			Change R19 to 18.7Kohm

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**Note:** The boost circuit has three kinds of configurations depending on the type of PV cell, please see next page for the details.

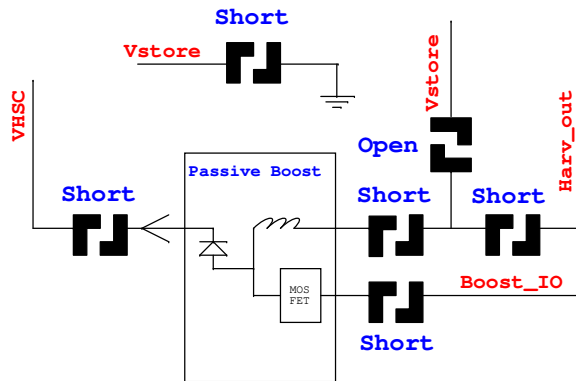
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# Different boost circuits depending on the type of PV cell & efficiency

## Option 1 - Inductive Boost from Vharv

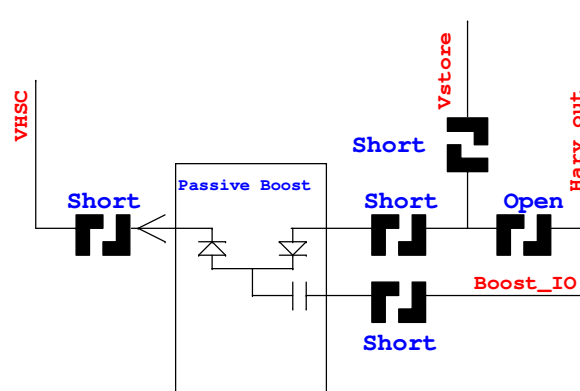
-- Best Efficiency option for all PV cell within Vharv range



Boost IO: P8 Canharv&Mustharv

## Option 2 - 2-diode Boost from Vstore

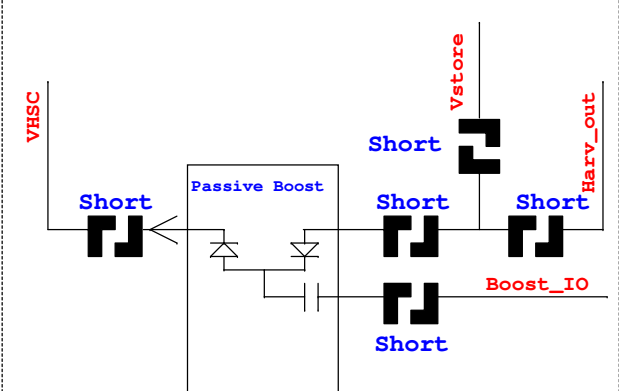
-- Cost Optimized option for all PV cell within Vharv range



Boost IO: P8 Hardware Control

## Option 3 - 2-diode Boost from Vharv

-- High Efficiency, Lower Cost option for 6-cell PV

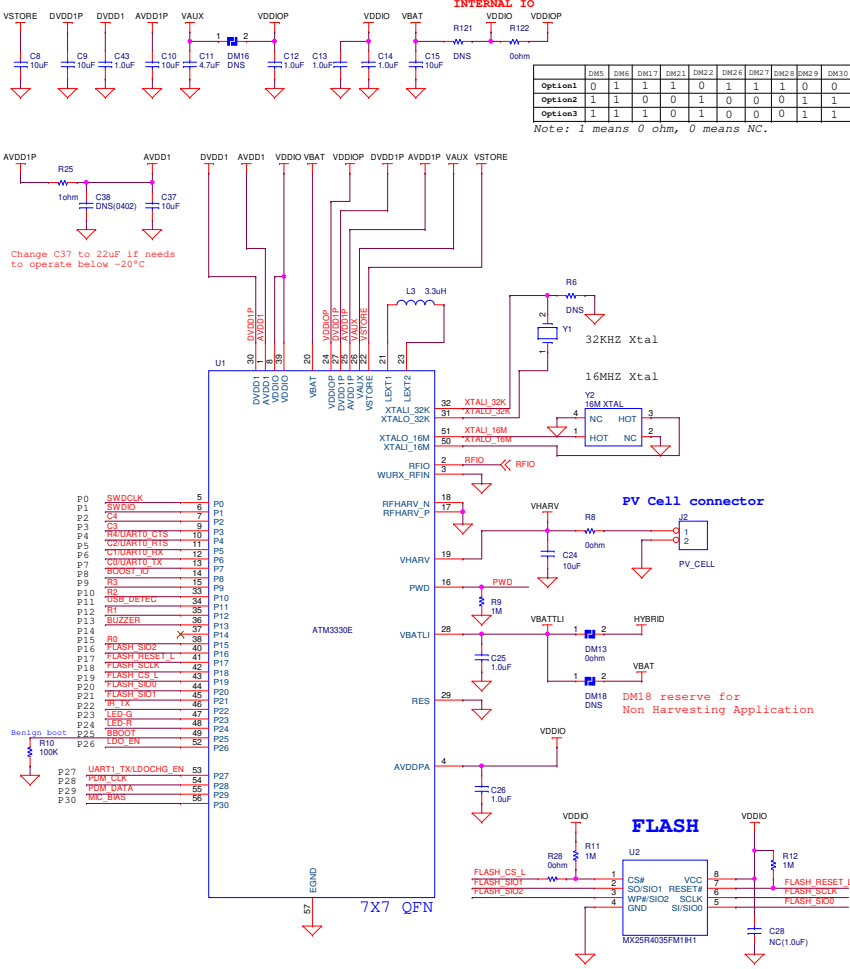


Boost IO: P8 Hardware Control

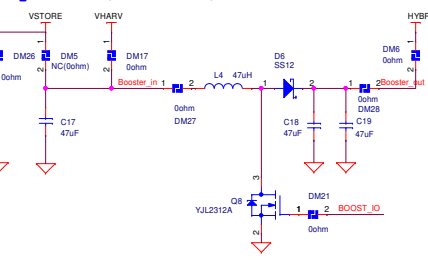
Note: Open is no connection, Short is connection

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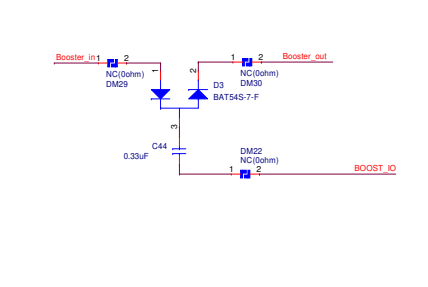
# ATM3330e



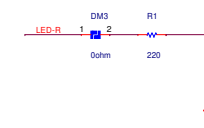
## Passive Boost Option1 (default)



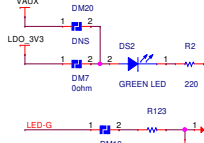
## Option2/Option3



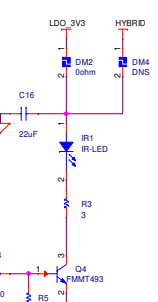
## LED-R



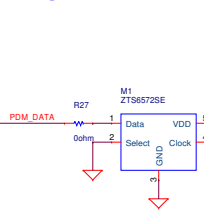
## LED-G



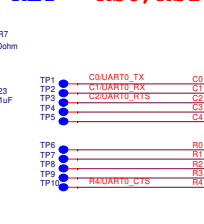
## IR LED



## DMIC

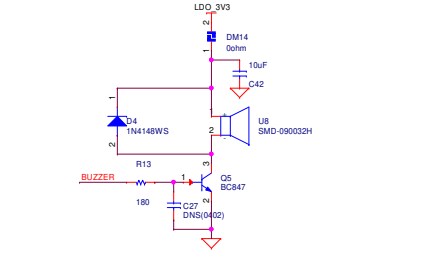


## KEY

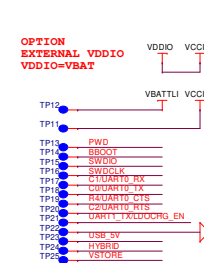


## KSO/KSI

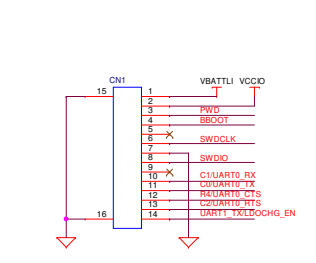
## BUZZER



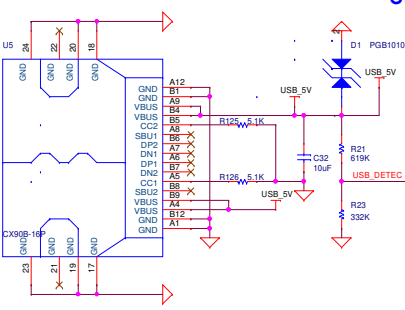
## TEST POINTS



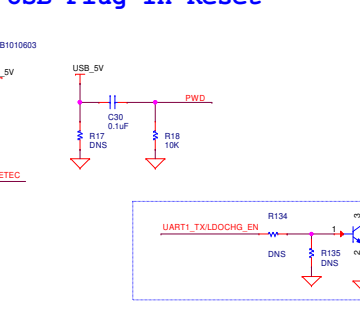
## FPC TEST CONNECTOR



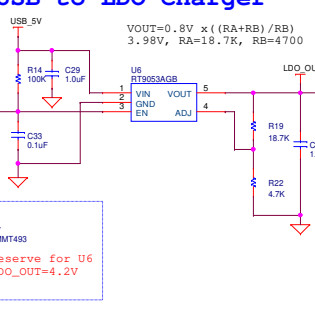
## USB CONNECTOR



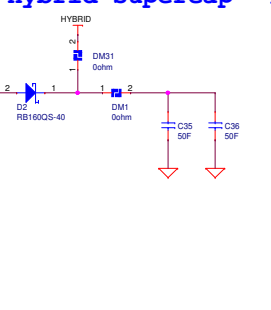
## USB Plug-In Reset



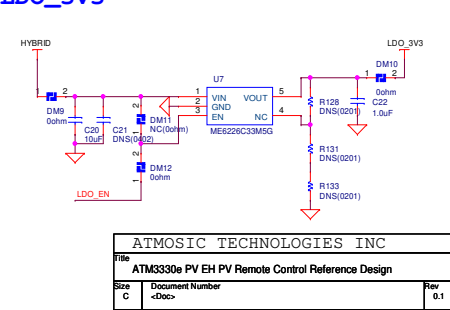
## USB to LDO Charger

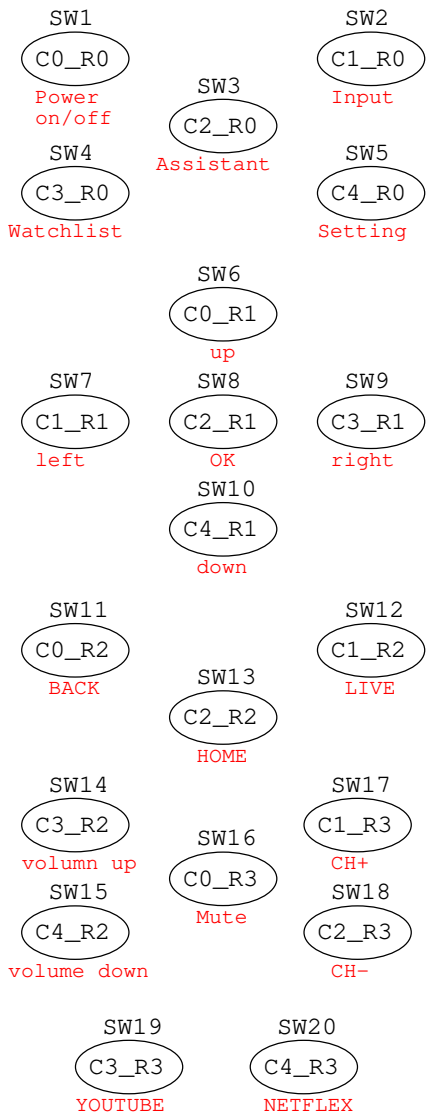


## Hybrid Supercap

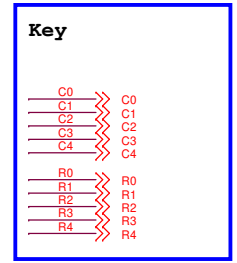


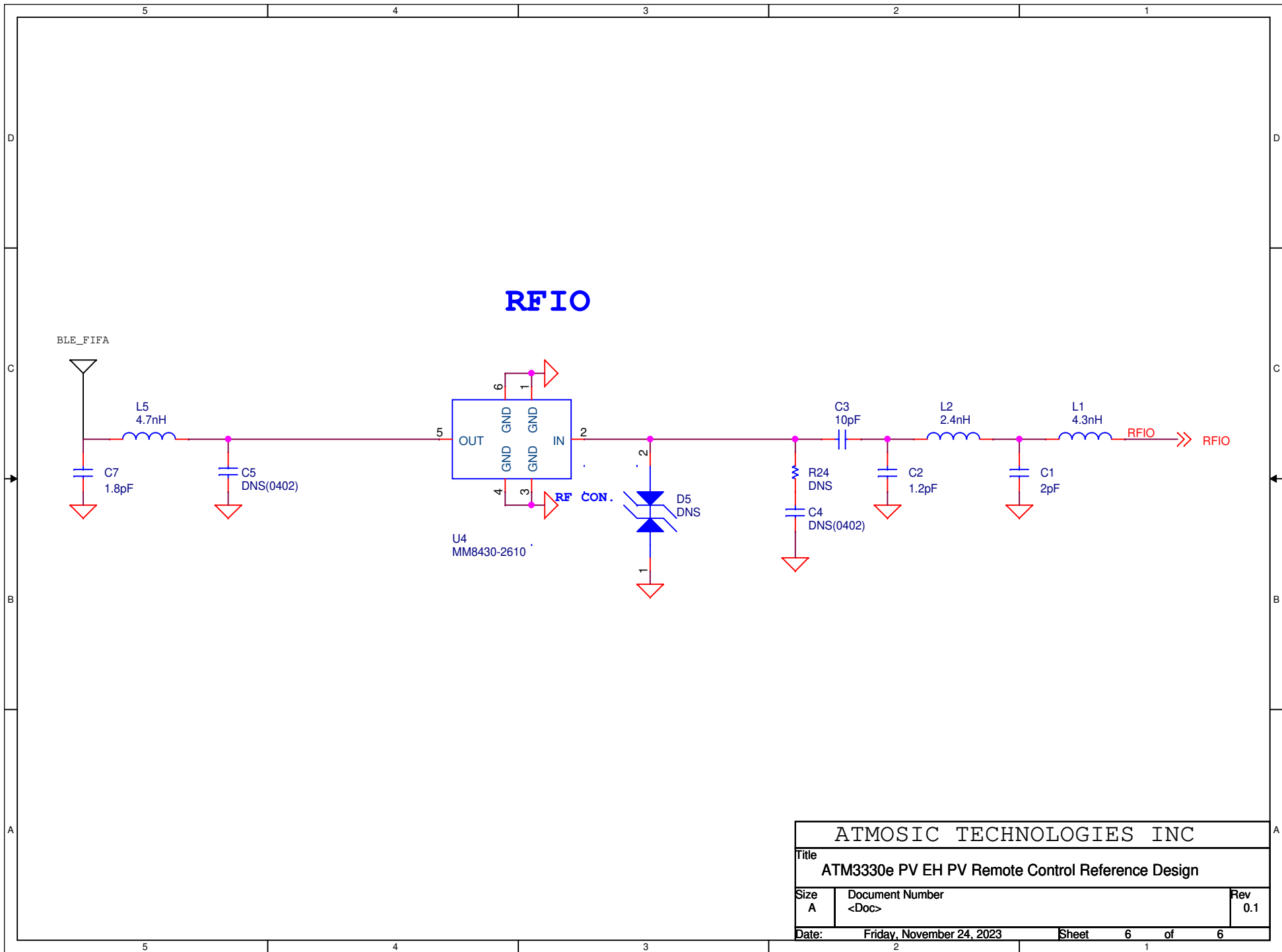
## LDO\_3V3





	Column 0 P29	Column 1 P28	Column 2 P12	Column 3 P9	Column 4 P8
Row 0 P23					
Row 1 P22					
Row 2 P21					
Row 3 P20					
Row 4 P13	Reserve	Reserve	Reserve	Reserve	Reserve





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