



## 1.0 Design Specifications

Inputs	Outputs #1	Outputs #2
VinMin=5	Vout1=3.3	Vout2=2.5
VinMax=5	Iout1=2.0	Iout2=2.0

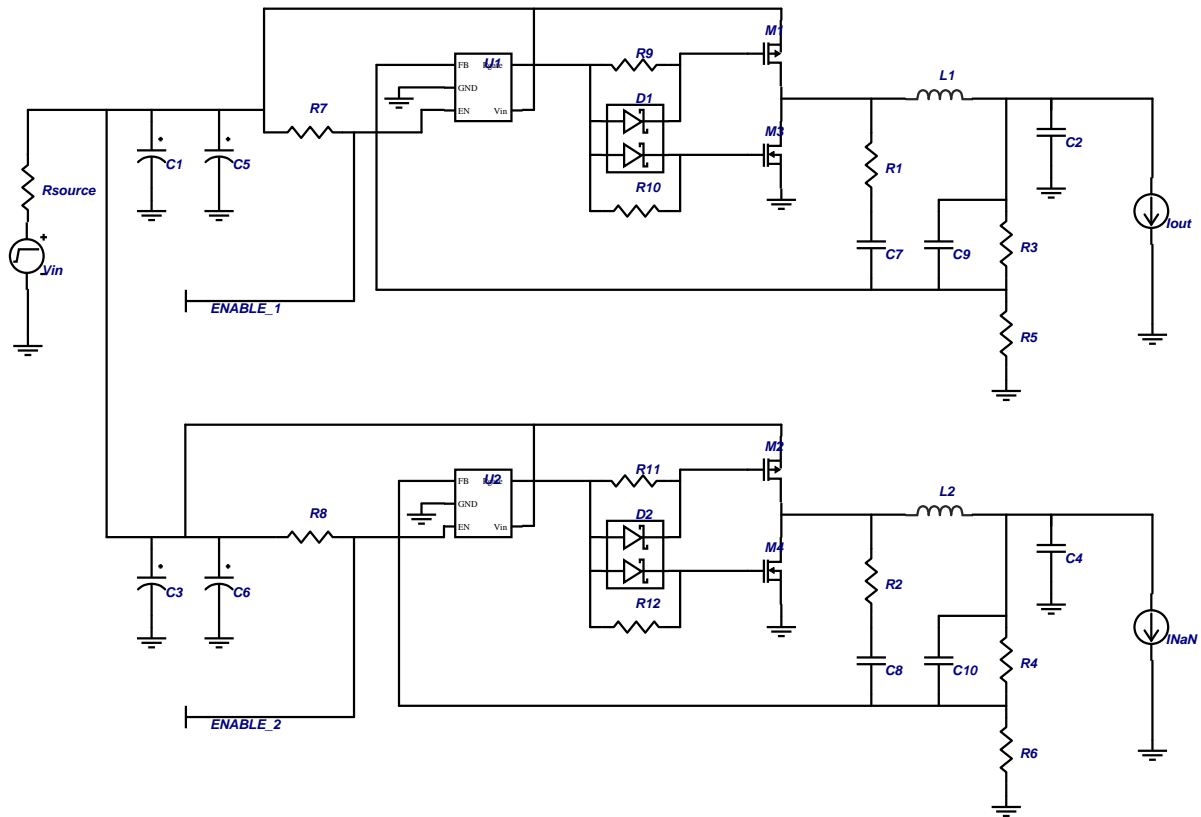
## 2.0 Design Description

The design provides 3.3V (U1) and 2.5V (U2) outputs using buck topology with LM3475 controller. The LM3475 is a hysteretic step-down controller operating around 450 KHz in steady state and steps down the input voltage to various output voltages as indicated above.

This design is known for its simplicity and fast transient response. Another benefit is high efficiency operation at light loads without an increase in output ripple.

Notes: Please note that M1, M2, M3, and M4 in the schematic are designated as Q1, Q2, Q3, and Q4 respectively in the layout.

## 3.0 Schematic



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FIGURE 1. Example Schematic Showing Connection for all Components.

## 4.0 Bill Of Materials

Part	Manufacturer	Part#	Attributes
C1	Vishay	593D106X0035D2T	10u F, 0.3 Ohms

Part	Manufacturer	Part#	Attributes
C10	Vishay	VJ0805Y222JXAAT	2.2n F
C2	Vishay	593D106X06R5D2T	10u F, 0.3 Ohms
C3	Vishay	593D106X0035D2T	10u F, 0.3 Ohms
C4	Vishay	593D106X06R5D2T	10u F, 0.3 Ohms
C5	NOT INSERTED	NOT INSERTED	1u F
C6	NOT INSERTED	NOT INSERTED	1u F
C7	Vishay	VJ0805Y222JXAAT	2.2n F
C8	Vishay	VJ0805Y222JXAAT	2.2n F
C9	Vishay	VJ0805Y222JXAAT	2.2n F
D1	Diodes	BAT54S	0.32 V
D2	Diodes	BAT54S	0.32 V
L1	Coilcraft	DO1813H-472	4.7u H, 0.054 Ohms
L2	Coilcraft	DO1813H-472	4.7u H, 0.054 Ohms
M1	Vishay	SI3469DV	
M2	Vishay	SI3469DV	
M3	Vishay	SI3454DV	
M4	Vishay	SI3454DV	
R1	Vishay	CRCW08055492FRT6	54.9k Ohms
R10	Vishay	CRCW080510R0FRT6	10 Ohms
R11	Vishay	CRCW080510R0FRT6	10 Ohms
R12	Vishay	CRCW080510R0FRT6	10 Ohms
R2	Vishay	CRCW08054992FRT6	49.9k Ohms
R3	Vishay	CRCW08051652FRT6	16.5k Ohms
R4	Vishay	CRCW08053482FRT6	34.8k Ohms
R5	Vishay	CRCW08055361FRT6	5.36k Ohms
R6	Vishay	CRCW08053482FRT6	16.5k Ohms
R7	Vishay	CRCW08051002FRT6	10k Ohms
R8	Vishay	CRCW08051002FRT6	10k Ohms
R9	Vishay	CRCW080510R0FRT6	10 Ohms
U1	National Semiconductor	LM3475	
U2	National Semiconductor	LM3475	

## 5.0 Layout

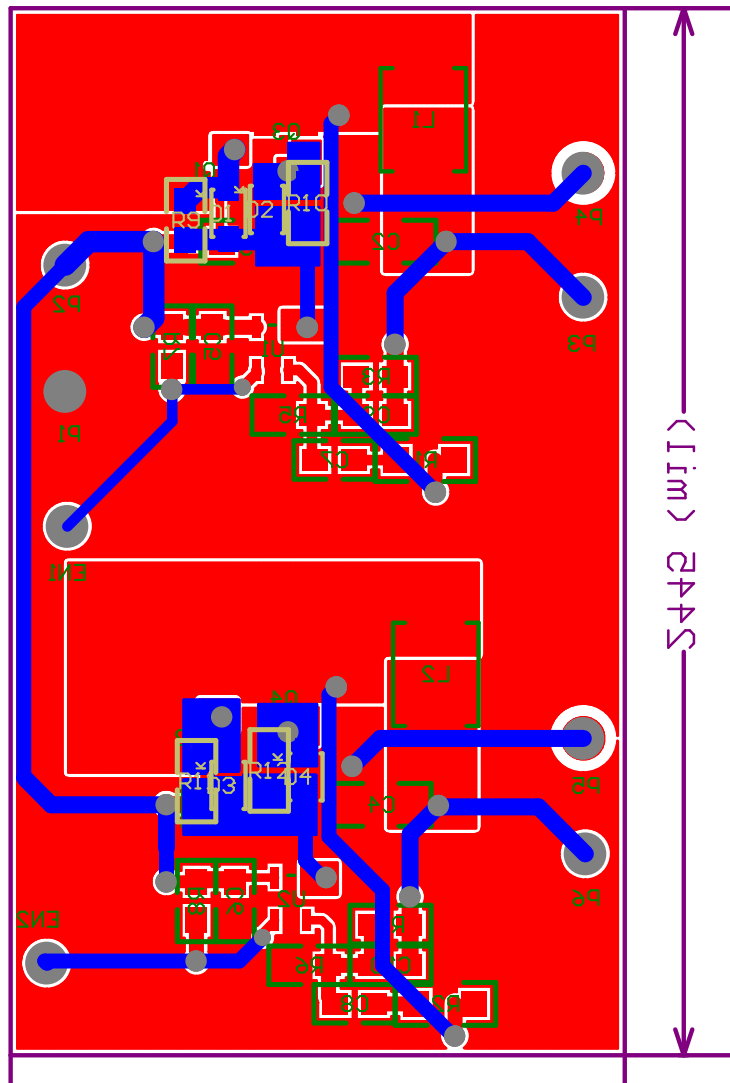


FIGURE 2. Board's Bottom View

PADC\_INSC0605\_lo\_1



# Notes

LM3475

## Notes

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