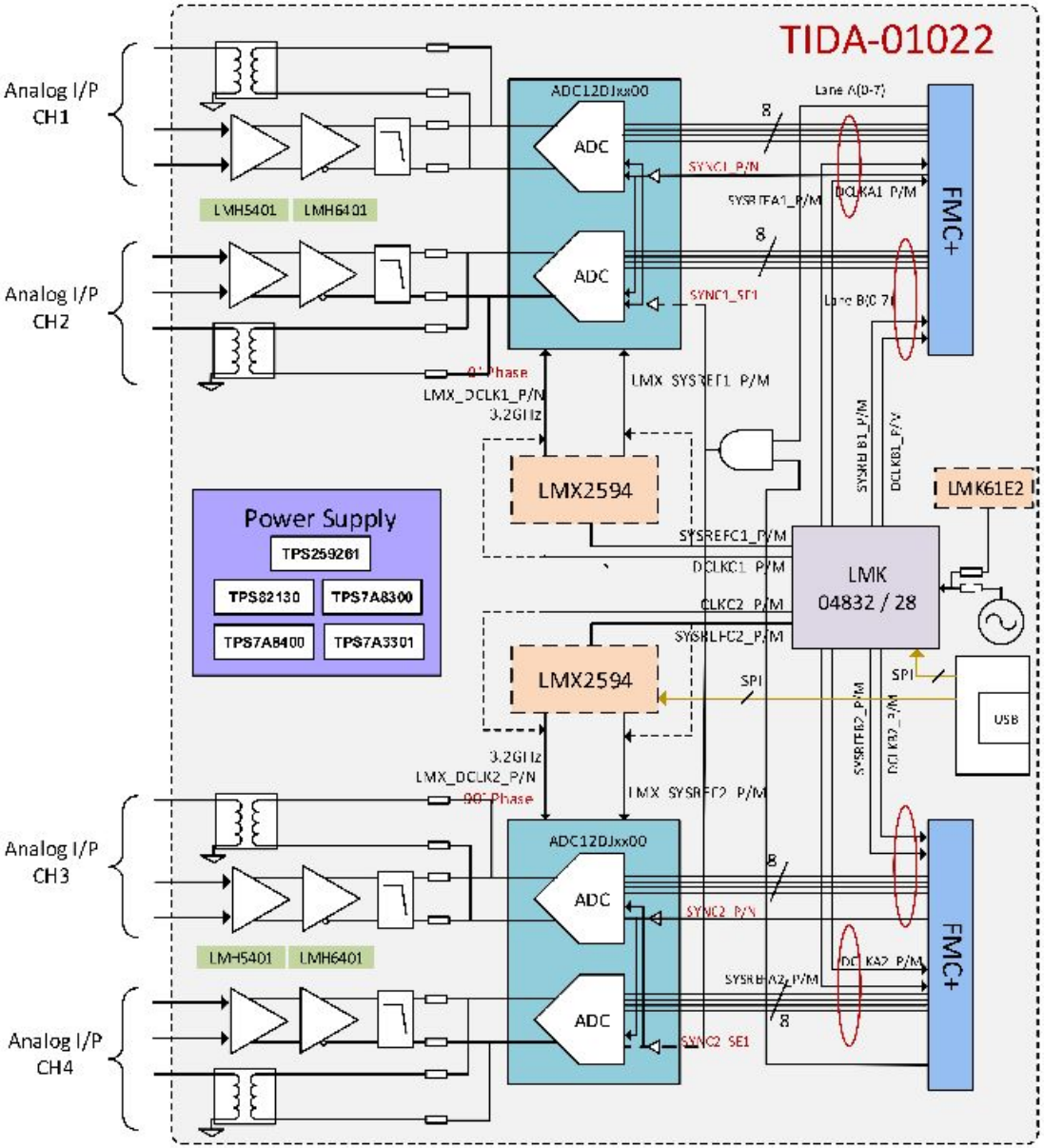

Build on TIDA-01022-E3 PCB and power solution used from TIDA-01027

Orderable: NA		Designed for: Public Release	Mod. Date: 5/16/2019
TID #: 010122		Project Title: TIDA-010122	
Number: TIDA-010122	Rev: E3	Sheet Title: Block Diagram	
SVN Rev: Version control disabled		Assembly Variant: TIDA-01022_E3_with_TIDA-01027_P1	Sheet 1 of 26
Drawn By: Avinash N		File: TIDA-01022-E3_CoverSheet.SchDoc	Size: B
Engineer: Anbu Mani		Contact: http://www.ti.com/support	

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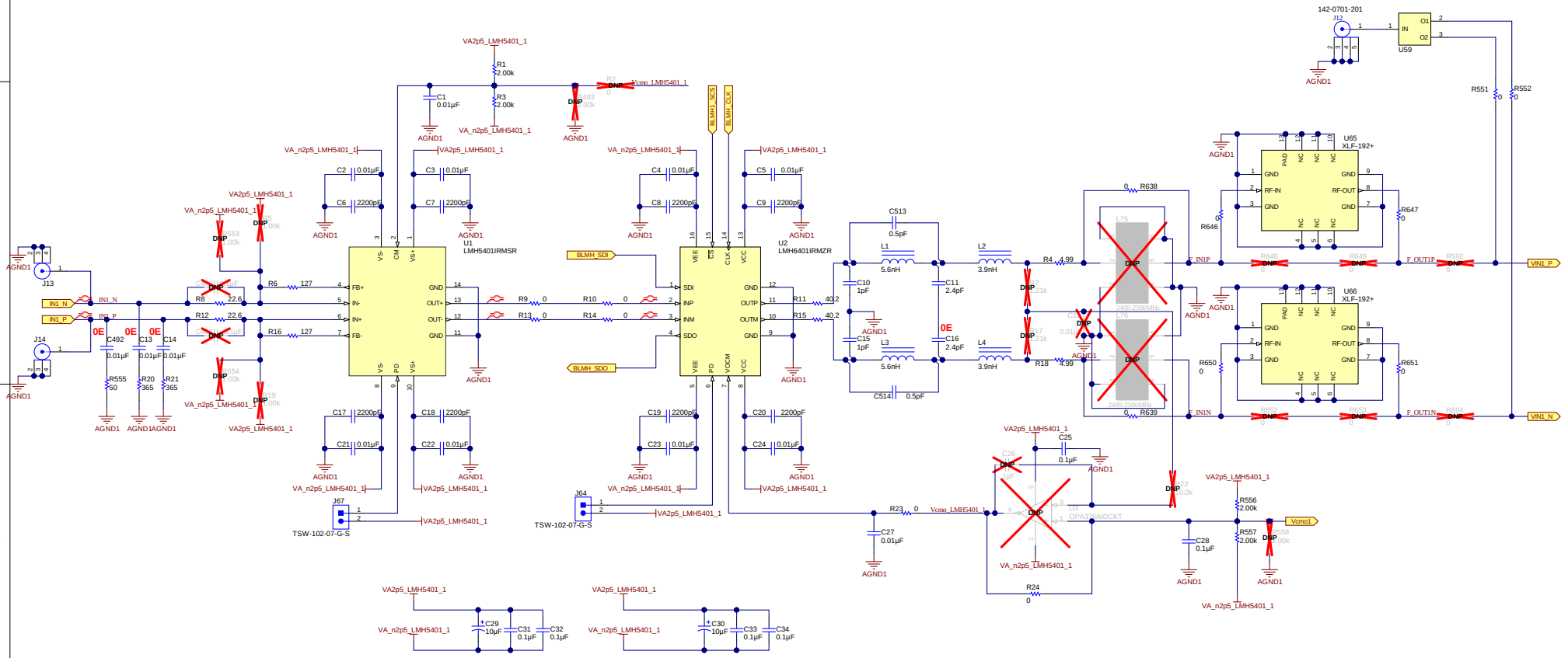
ANALOG INPUT CH-1



Note:

1) Replace capacitor (C492, C13, C14) with 0E resistor for DC coupling
50 E impedance

Build on TIDA-01022-E3 PCB and power solution used from TIDA-01027

Orderable: NA		Designed for: Public Release	Mod. Date: 5/16/2019
TID #: 010122		Project Title: TIDA-010122	
Number: TIDA-010122	Rev: E3	Sheet Title: ADC ANALOG INP CH1	
SVN Rev: Version control disabled		Assembly Variant: TIDA-01022_E3_with_TIDA-01027_Power	Sheet: 2 of 26
Drawn By: Avinash N		File: TIDA-01022-E3_ADC ANALOG INP CH1.SchDoc	Size: B
Engineer: Anbu Mani		Contact: http://www.ti.com/support	

1	2	3	4	5	6

A

B

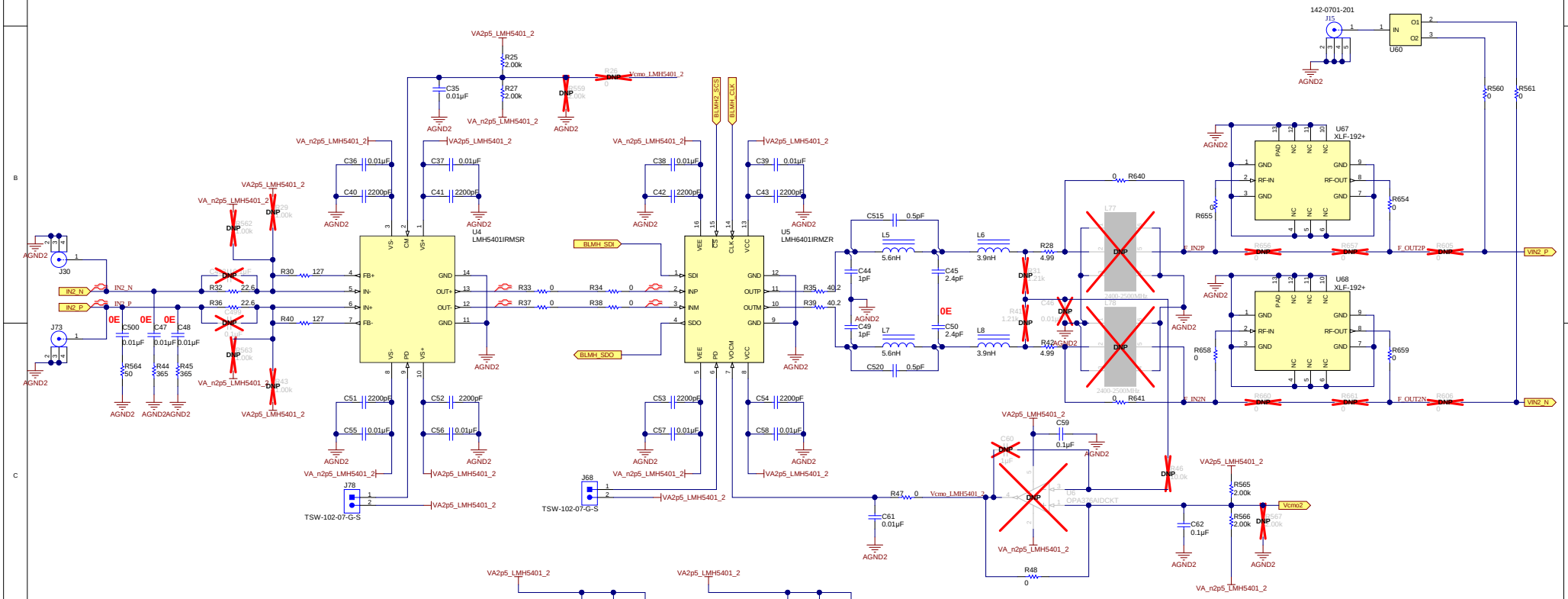
C

D

Orderable: NA	Designed for: Public Release	Mod. Date: 5/8/2018
TID #: 010122	Project Title: TIDA-010122	TEXAS INSTRUMENTS
Number: TIDA-010122 Rev: E3	Sheet Title:	
SVN Rev: Version control disabled	Assembly Variant: TIDA-01022_E3_with_TIDA-01027_Pwr Sheet 2 of 3	
Drawn By:	File: Sheet1.SchDoc Size: B	http://www.ti.com
Engineer: Anbu Mani	Contact: http://www.ti.com/support	© Texas Instruments 2017

1	2	3	4	5	6

ANALOG INPUT CH-2



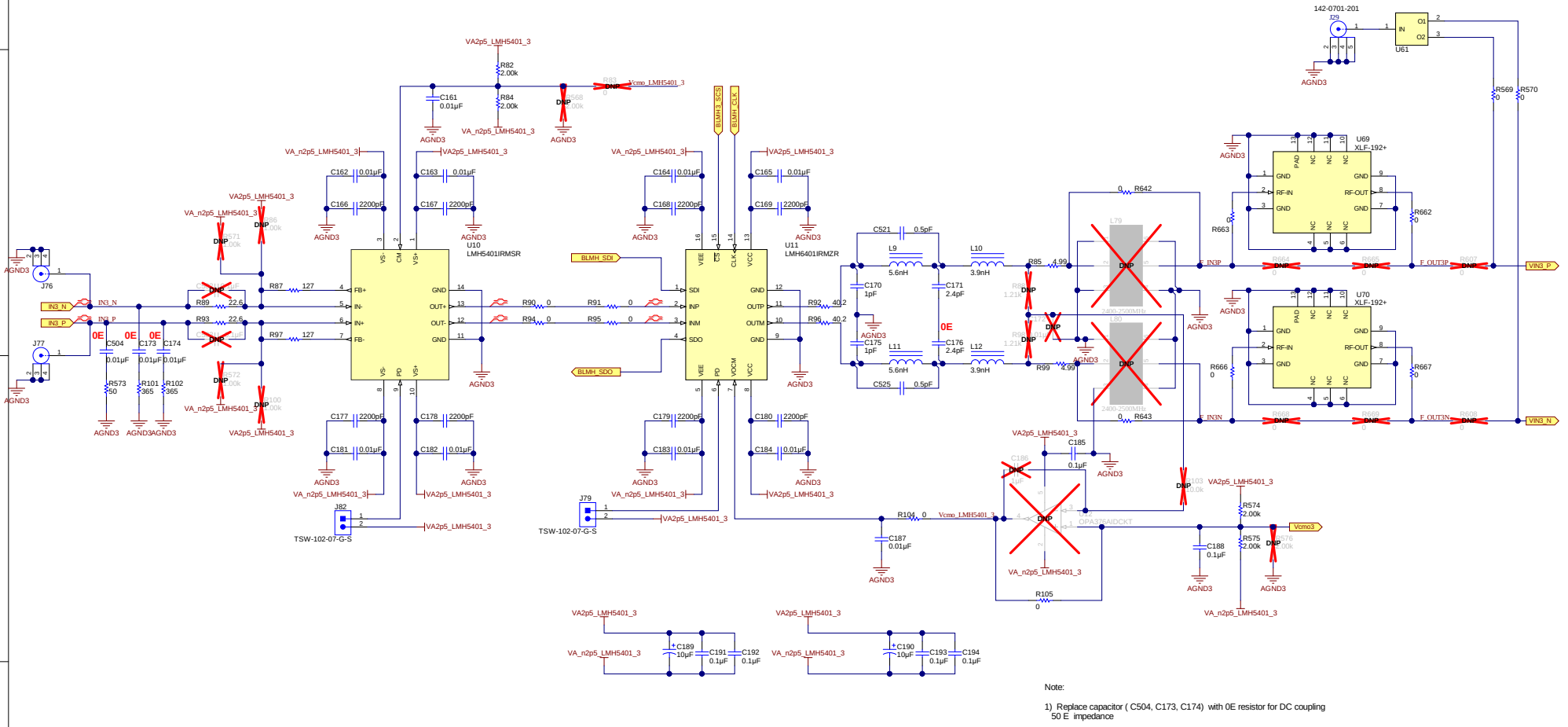
Note:

1) Replace capacitor (C500, C47, C48) with 0E resistor for DC coupling
50 E impedance

Build on TIDA-01022-E3 PCB and power solution used from TIDA-01027

Orderable: NA		Designed for: Public Release	Mod. Date: 5/16/2019
TID #: 010122		Project Title: TIDA-010122	
Number: TIDA-010122	Rev: E3	Sheet Title: ADC12DJxx00_CH2	
SVN Rev: Version control disabled		Assembly Variant: TIDA-01022_E3_with_TIDA-01027_8wof_26	
Drawn By: Avinash N		File: TIDA-01022-E3_ADC ANALOG INP CH2.SchDoc	Size: B
Engineer: Anbu Mani		Contact: http://www.ti.com/support	

ANALOG INPUT CH-3



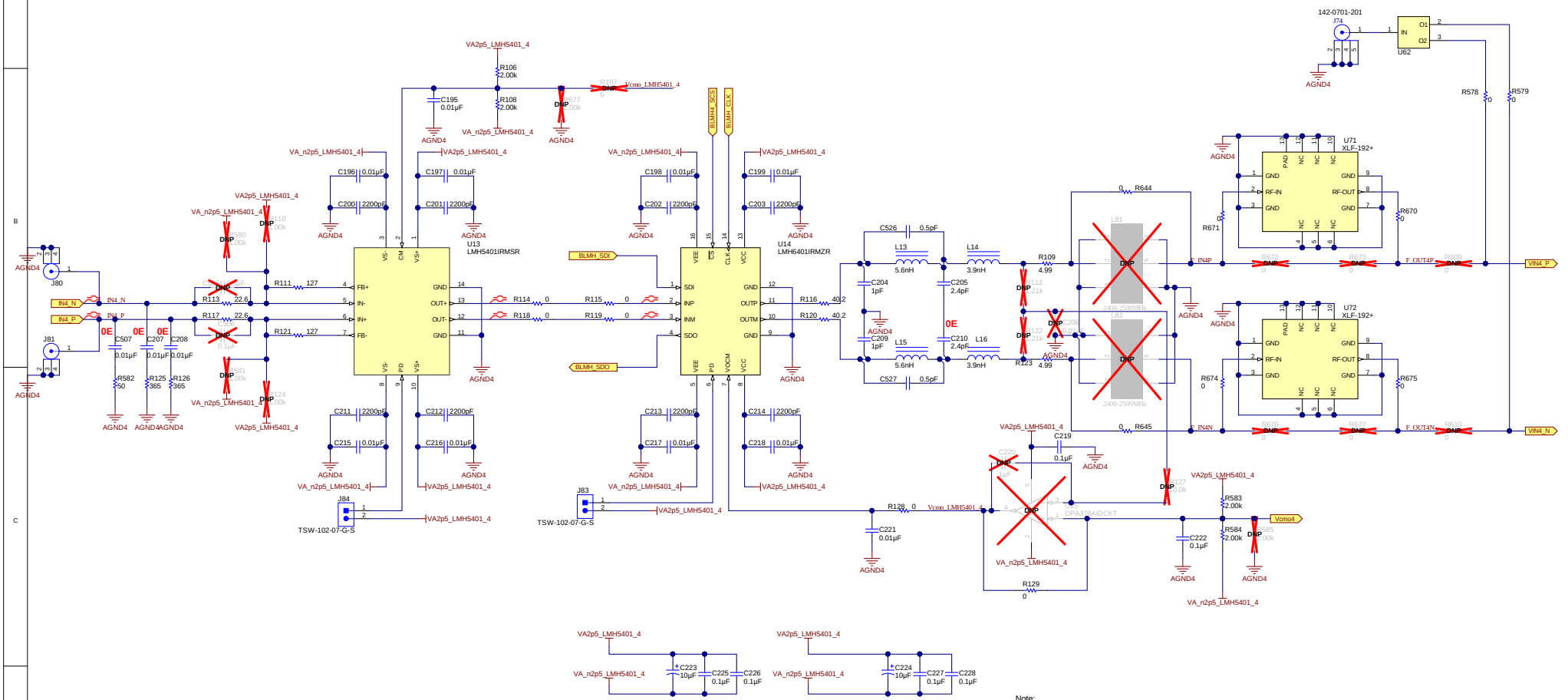
Note:

1) Replace capacitor (C504, C173, C174) with 0E resistor for DC coupling 50 E impedance

Build on TIDA-01022-E3 PCB and power solution used from TIDA-01027

Orderable: NA		Designed for: Public Release	Mod. Date: 5/16/2019
TID #: 010122		Project Title: TIDA-010122	
Number: TIDA-010122	Rev: E3	Sheet Title: ADC12Dxx00_CH3	
SVN Rev: Version control disabled		Assembly Variant: TIDA-01022_E3_with_TIDA-01027, Pwr	Sheet: 4 of 26
Drawn By: Avinash N		File: TIDA-01022-E3_ADC ANALOG INP CH3.SchDoc	Size: B
Engineer: Anbu Mani		Contact: http://www.ti.com/support	

ANALOG INPUT CH-4



Note:

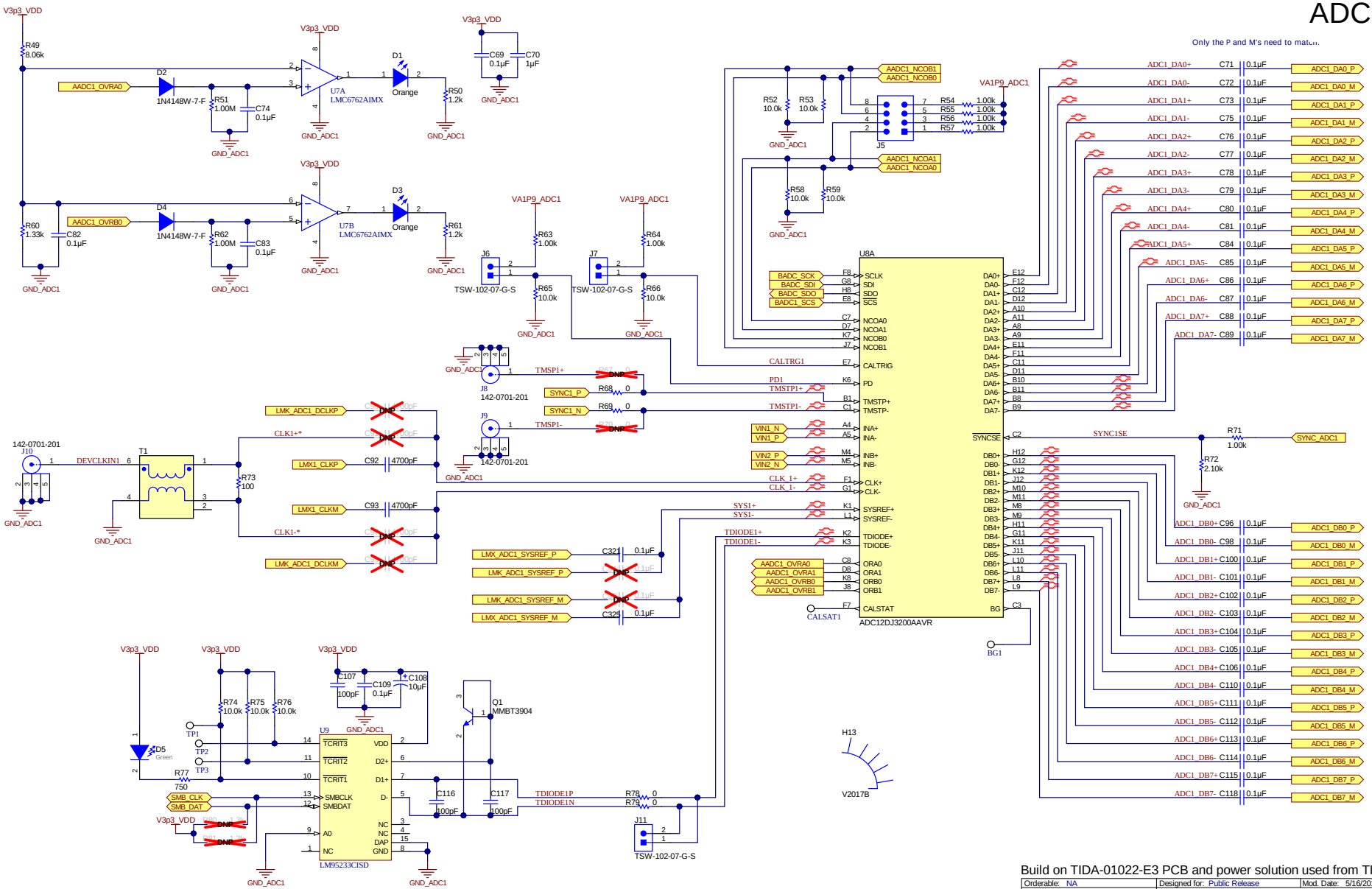
1) Replace capacitor (C507, C207, C208) with 0E resistor for DC coupling
50 E impedance

Build on TIDA-01022-E3 PCB and power solution used from TIDA-01027

Orderable: NA		Designed for: Public Release	Mod. Date: 5/16/2019
TID #: 010122		Project Title: TIDA-010122	
Number: TIDA-010122	Rev: E3	Sheet Title: ADC12D1x00_CH4	
SVN Rev: Version control disabled		Assembly Variant: TIDA-01022_E3_with_TIDA-01027_Power	Sheet: 2 of 26
Drawn By: Avinash N		File: TIDA-01022-E3_ADC ANALOG INP CH4.SchDoc	Size: B
Engineer: Anbu Mani		Contact: http://www.ti.com/support	

ADC-1

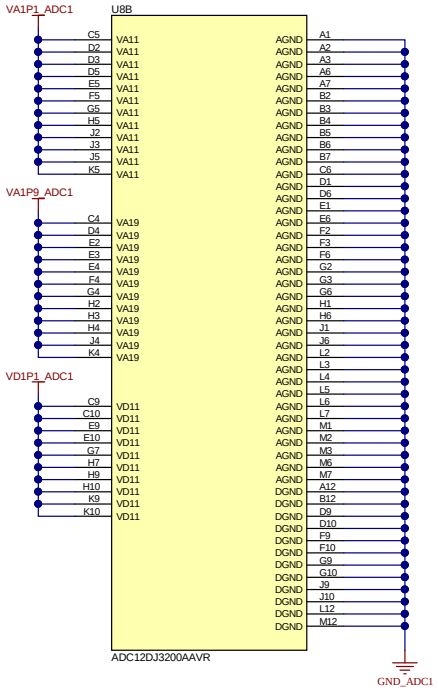
Only the P and M's need to match.



Build on TIDA-01022-E3 PCB and power solution used from TIDA-01027

Orderable: NA		Designed for: Public Release	Mod. Date: 5/16/2019
TID #: 010122		Project Title: TIDA-010122	
Number: TIDA-010122	Rev: E3	Sheet Title: ADC12DJxx00_1	
SVN Rev: Version control disabled		Assembly Variant: TIDA-01022_E3_with_TIDA-01027_E6	Sheet 6 of 26
Drawn By: Avinash N		File: TIDA-01022-E3_ADC12DJxx00_1.SchDoc	Size: B
Engineer: Anbu Mani		Contact: http://www.ti.com/support	http://www.ti.com

ADC-1



Build on TIDA-01022-E3 PCB and power solution used from TIDA-01027

Orderable: NA		Designed for: Public Release	Mod. Date: 5/16/2019
TID #: 010122		Project Title: TIDA-010122	
Number: TIDA-010122	Rev: E3	Sheet Title: ADC12DJxx00_1PWR	
SVN Rev: Version control disabled		Assembly Variant: TIDA-01022_E3_with_TIDA-01027_PWR	Sheet 5 of 26
Drawn By: Avinash N		File: TIDA-01022-E3_ADC12DJxx00_1PWR.SchDoc	Size: B
Engineer: Anbu Mani		Contact: http://www.ti.com/support	

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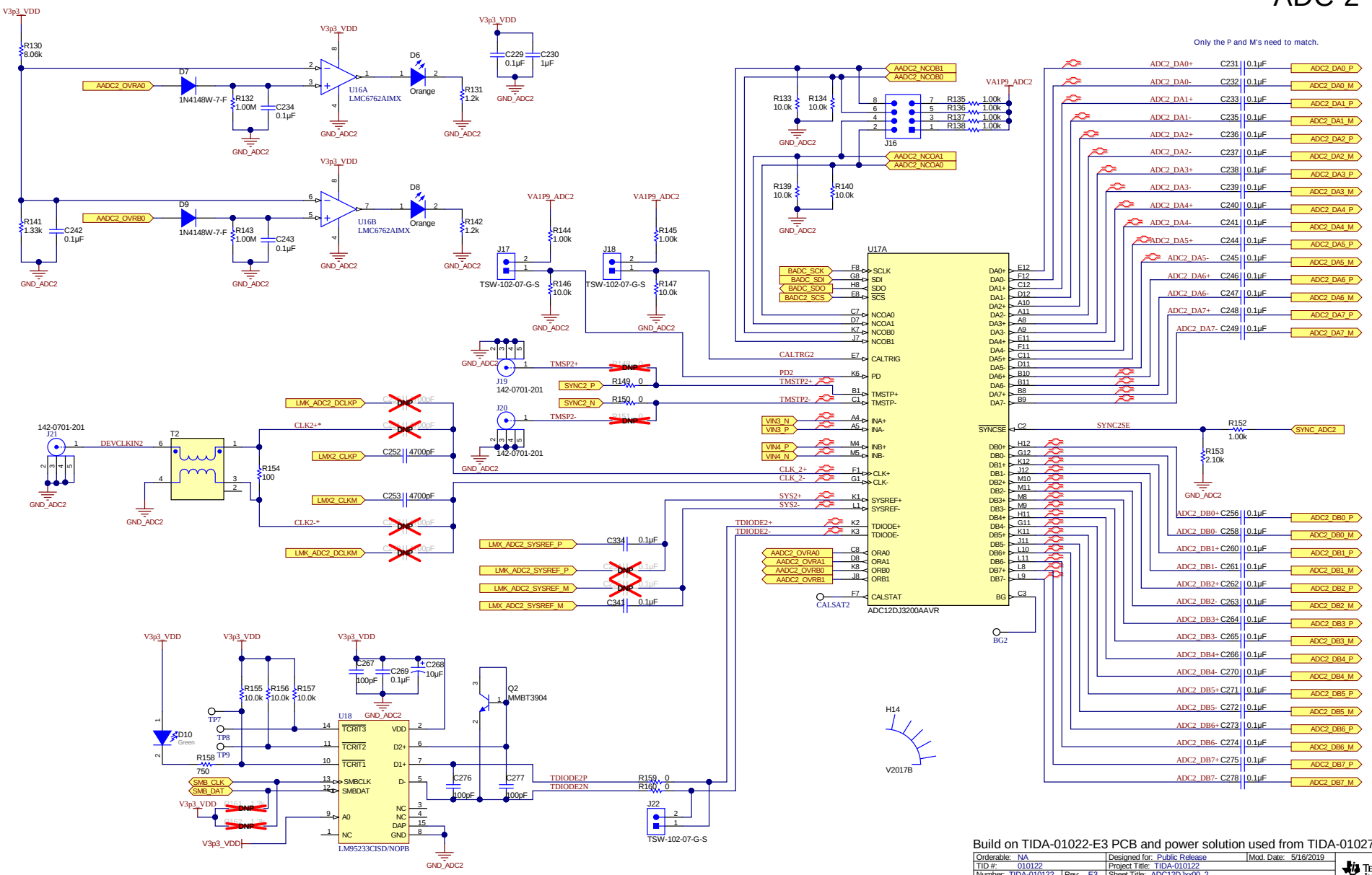
ADC-2



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TID #: 010122		Project Title: TIDA-010122	
Number: TIDA-010122	Rev: E3	Sheet Title: ADC12DJxx00_2	
SVN Rev: Version control disabled		Assembly Variant: TIDA-01022_E3_with_TIDA-01027	Sheet 2 of 26
Drawn By: Avinash N		File: TIDA-01022-E3_ADC12DJxx00_2.SchDoc	Size: B
Engineer: Anbu Mani		Contact: http://www.ti.com/support	

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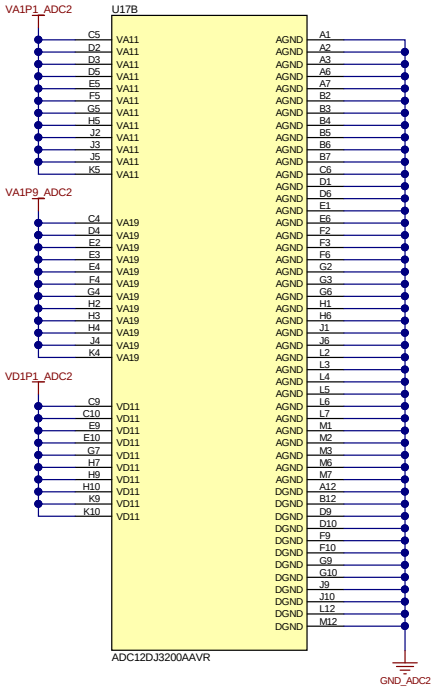
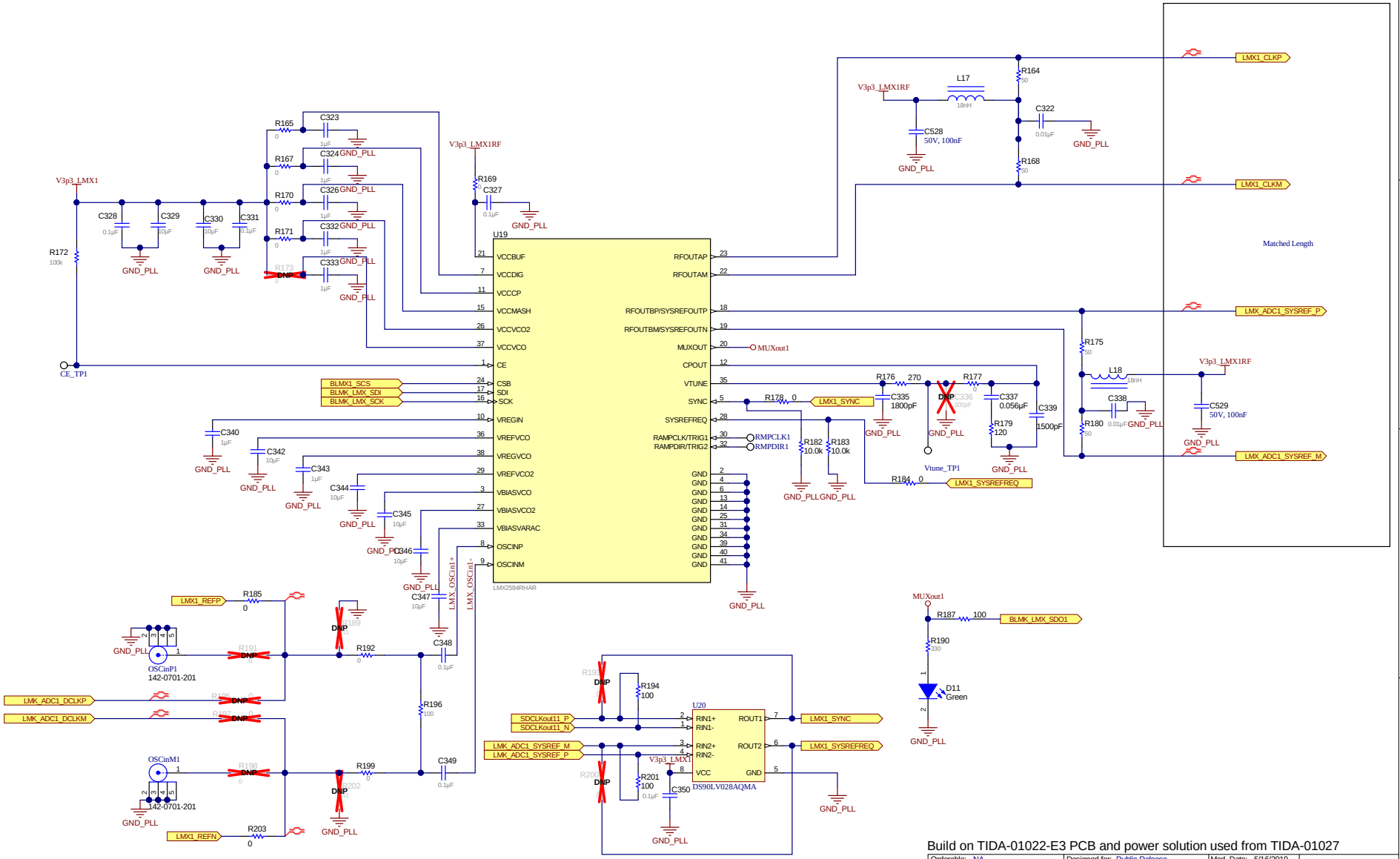
ADC-2



Build on TIDA-01022-E3 PCB and power solution used from TIDA-01027

Orderable: NA		Designed for: Public Release	Mod. Date: 5/16/2019
TID #: 010122		Project Title: TIDA-010122	
Number: TIDA-010122	Rev: E3	Sheet Title: ADC12DJxx00_1PWR	
SVN Rev: Version control disabled		Assembly Variant: TIDA-01022_E3_with_TIDA-01027_E3	Sheet 4 of 26
Drawn By: Avinash N		File: TIDA-01022-E3_ADC12DJxx00_2PWR.SchDoc	Size: B
Engineer: Anbu Mani		Contact: http://www.ti.com/support	

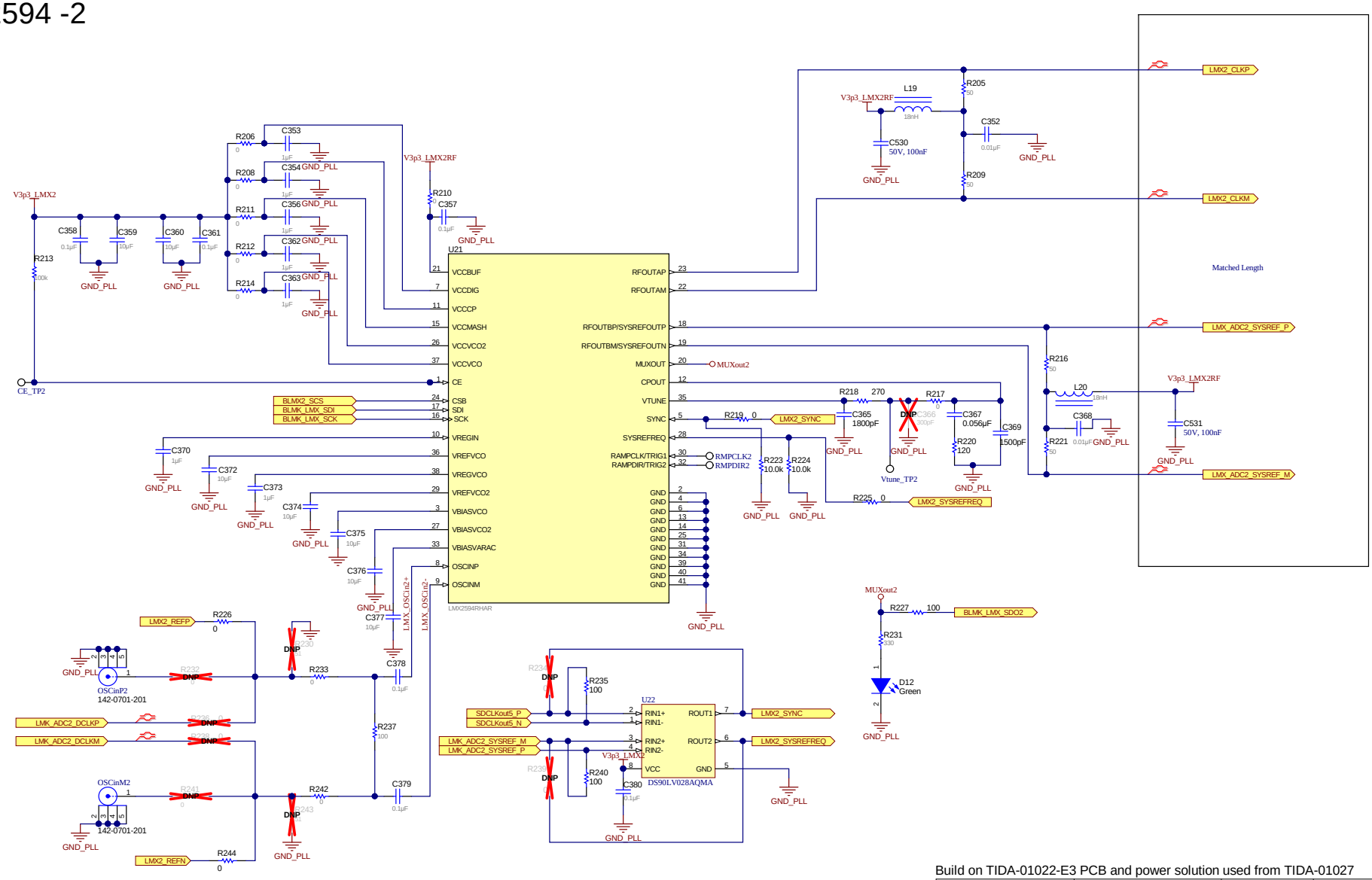
LMX2594 -1



Build on TIDA-01022-E3 PCB and power solution used from TIDA-01027

Orderable: NA		Designed for: Public Release	Mod. Date: 5/16/2019
TID #: 010122		Project Title: TIDA-010122	
Number: TIDA-010122	Rev: E3	Sheet Title: LMX2594R	
SVN Rev: Version control disabled		Assembly Variant: TIDA-01022_E3_with_TIDA-01027_P1.0	Sheet 5 of 26
Drawn By: Avinash N		File: TIDA-01022-E3_LMX2594R_1.SchDoc	Size: B
Engineer: Anbu Mani		Contact: http://www.ti.com/support	http://www.ti.com

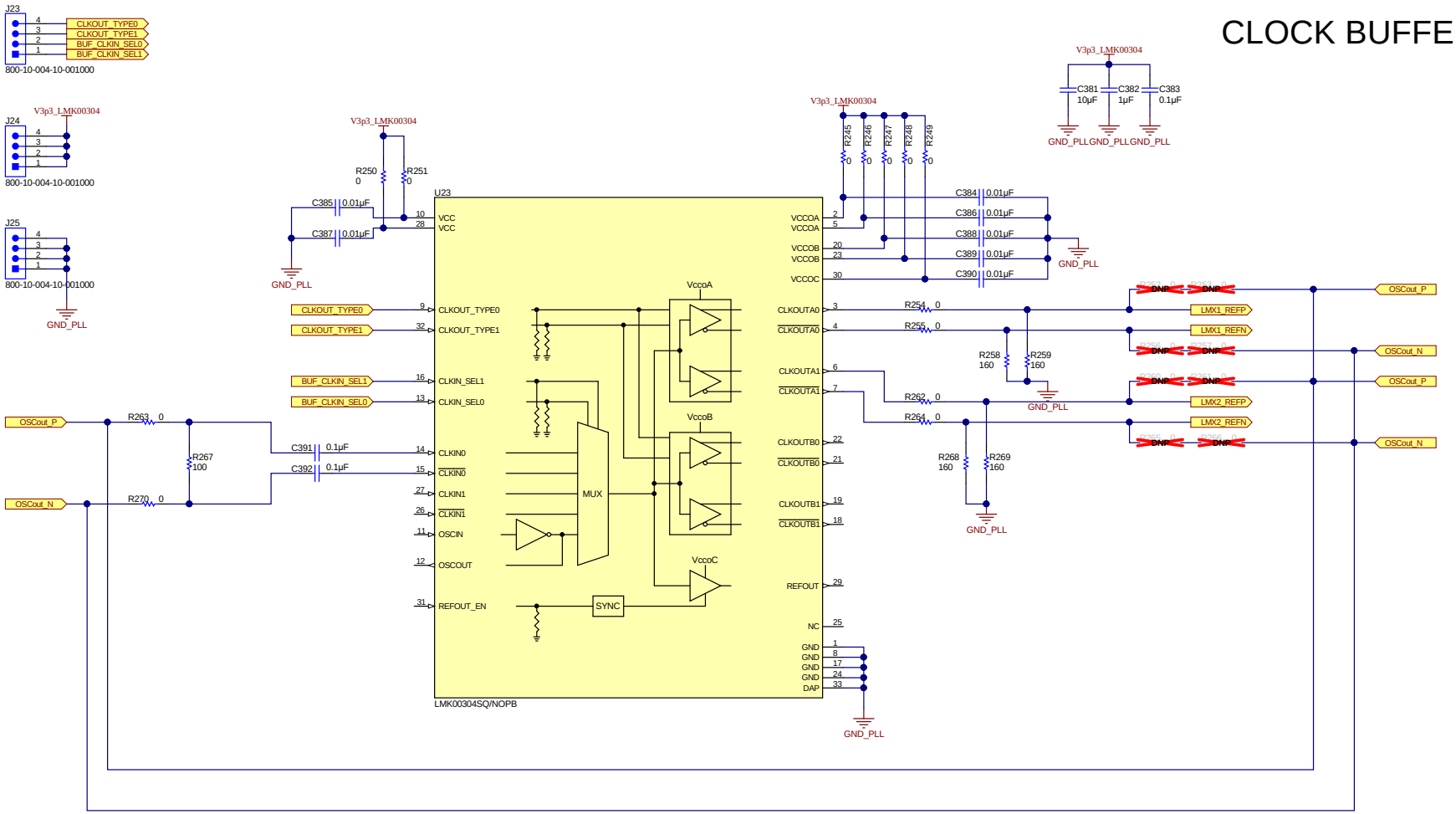
LMX2594 -2



Build on TIDA-01022-E3 PCB and power solution used from TIDA-01027

Orderable: NA		Designed for: Public Release	Mod. Date: 5/16/2019
TID #: 010122		Project Title: TIDA-010122	
Number: TIDA-010122	Rev: E3	Sheet Title: LMX2594R	
SVN Rev: Version control disabled		Assembly Variant: TIDA-01022_E3_with_TIDA-01027_P1	Sheet 1 of 26
Drawn By: Avinash N		File: TIDA-01022-E3_LMX2594R_2.SchDoc	Size: B
Engineer: Anbu Mani		Contact: http://www.ti.com/support	

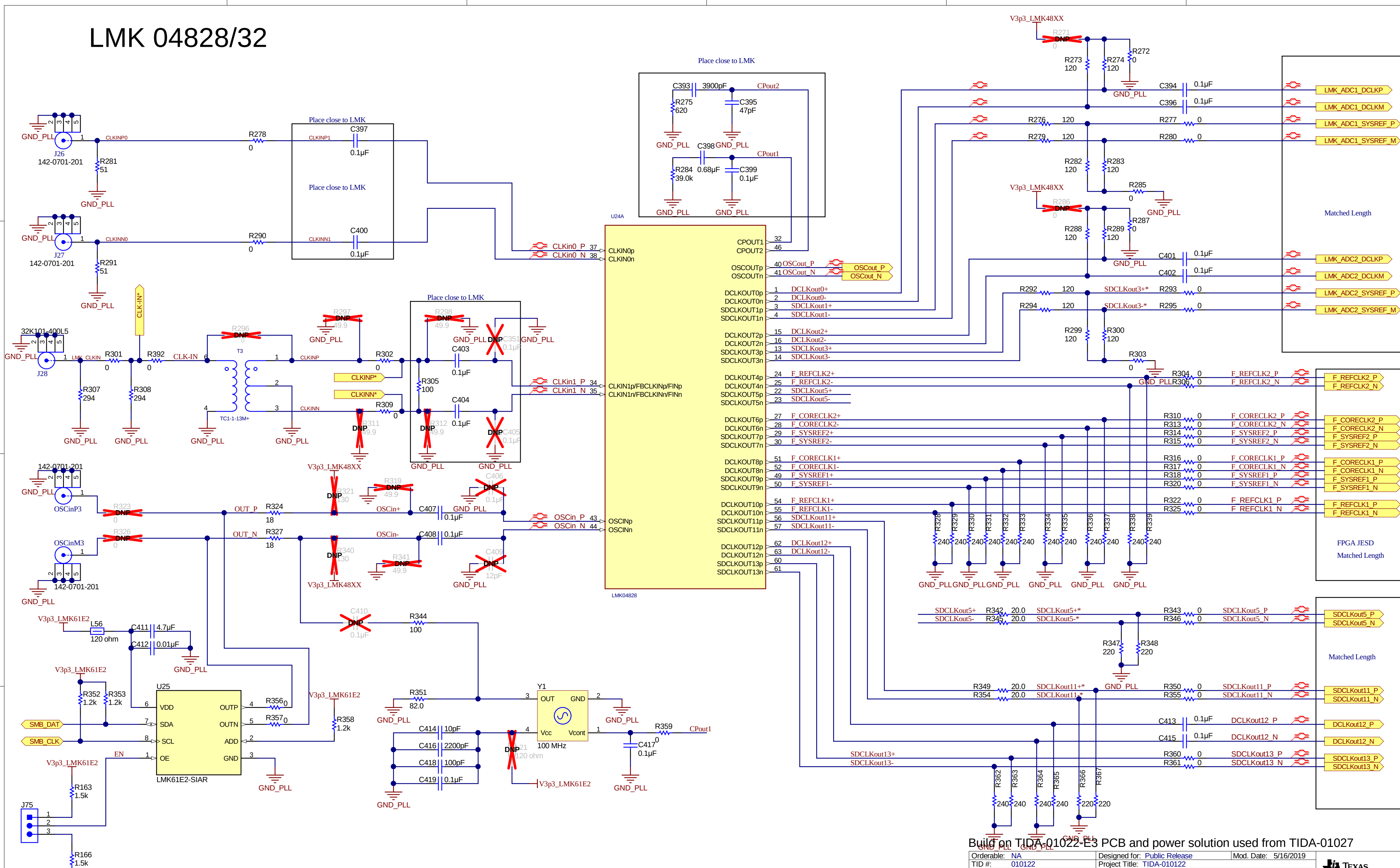
CLOCK BUFFER/MUX



Build on TIDA-01022-E3 PCB and power solution used from TIDA-01027

Orderable: NA		Designed for: Public Release	Mod. Date: 5/16/2019
TID #: 010122		Project Title: TIDA-010122	
Number: TIDA-010122	Rev: E3	Sheet Title: LMK00304_Buffer	
SVN Rev: Version control disabled		Assembly Variant: TIDA-01022_E3_with_TIDA-01027_PWR	Sheet 2 of 26
Drawn By: Avinash N		File: TIDA-01022-E3_LMK00304_Buffer.SchDoc	Size: B
Engineer: Anbu Mani		Contact: http://www.ti.com/support	

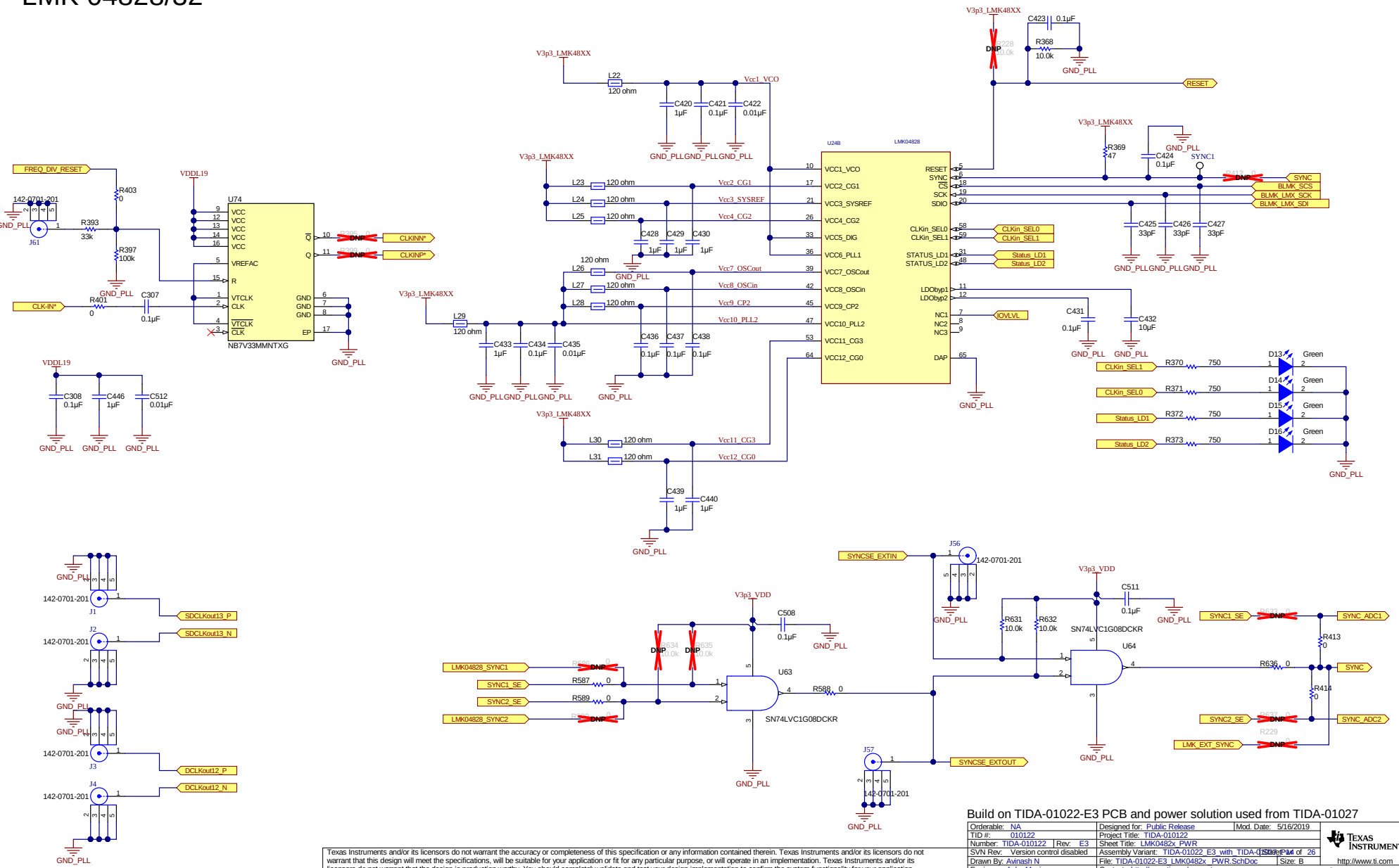
LMK 04828/32



Build on TIDA-01022-E3 PCB and power solution used from TIDA-01027

Orderable: NA	Designed for: Public Release	Mod. Date: 5/16/2019	
TID #: 010122	Project Title: TIDA-010122		
Number: TIDA-010122 Rev: E3	Sheet Title: LMK0482x		
SVN Rev: Version control disabled	Assembly Variant: TIDA-01022_E3_with_TIDA-01027	Sheet 14 of 26	
Drawn By: Avinash N	File: TIDA-01022-E3_LMK0482x.SchDoc	Size: B	http://www.ti.com
Engineer: Anbu Mani	Contact: http://www.ti.com/support		© Texas Instruments 2017

LMK 04828/32



Build on TIDA-01022-E3 PCB and power solution used from TIDA-01027

Orderable: NA		Designed for: Public Release	Mod. Date: 5/16/2019
TID #: 010122		Project Title: TIDA-010122	
Number: TIDA-010122	Rev: E3	Sheet Title: LMK0482x_PWR	
SVN Rev: Version control disabled		Assembly Variant: TIDA-01022_E3_with_TIDA-01027	Sheet 14 of 26
Drawn By: Avinash N		File: TIDA-01022-E3_LMK0482x_PWR.SchDoc	Size: B
Engineer: Anbu Mani		Contact: http://www.ti.com/support	

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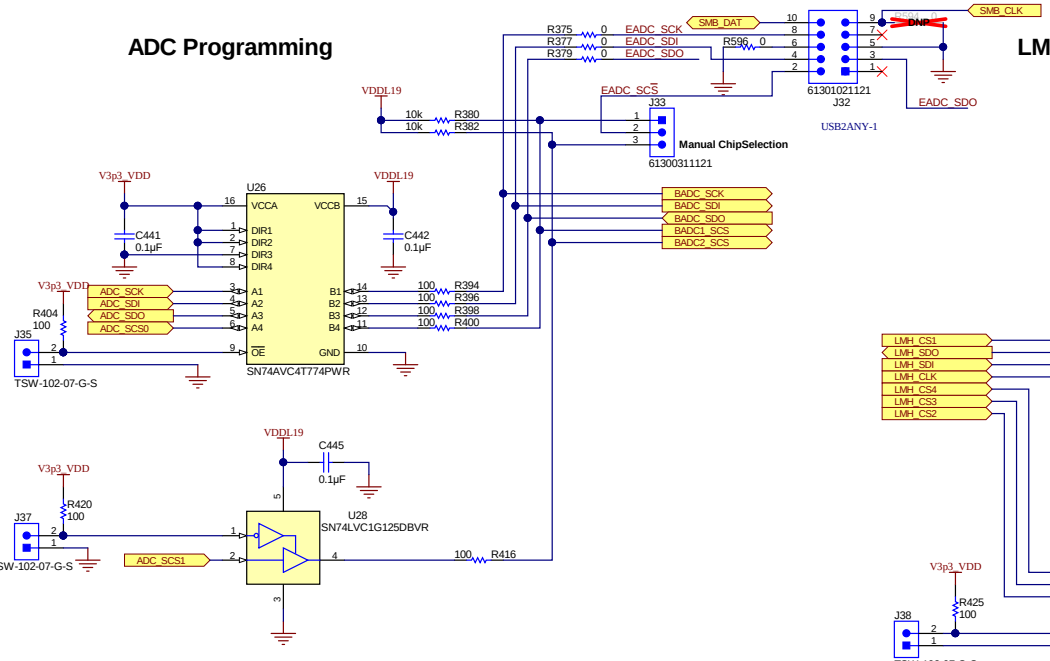
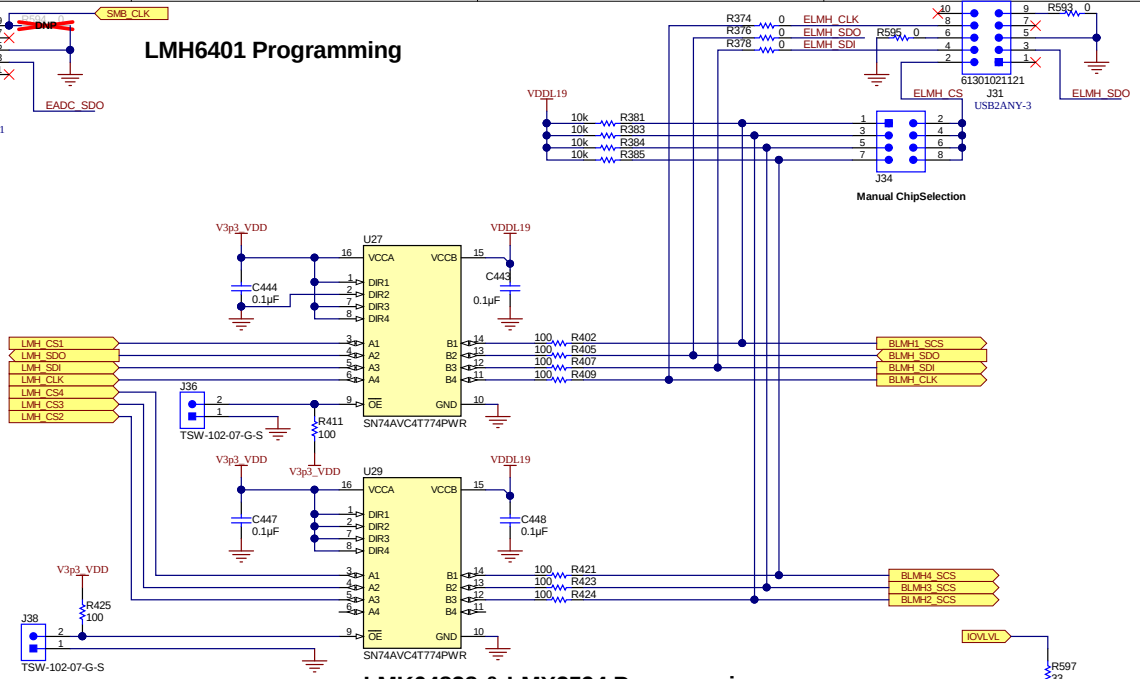
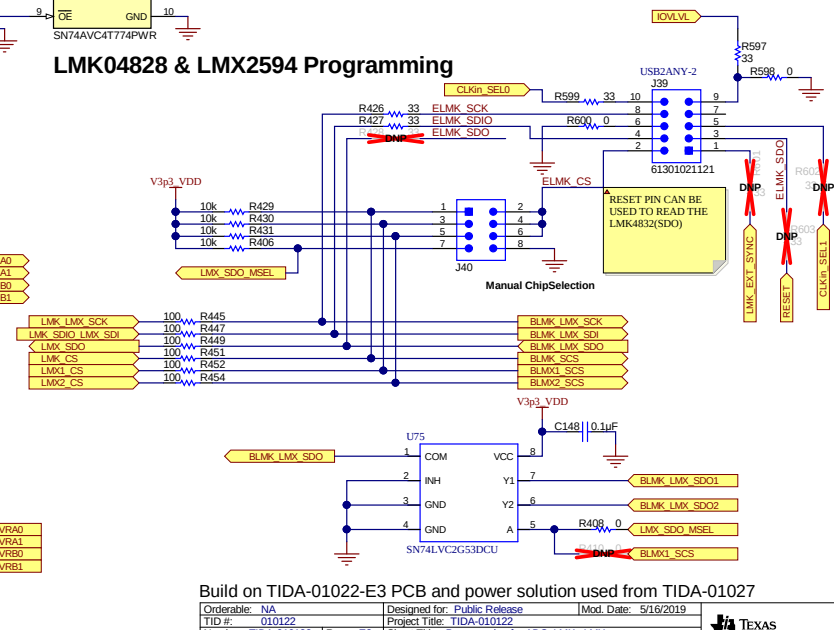
ADC Programming



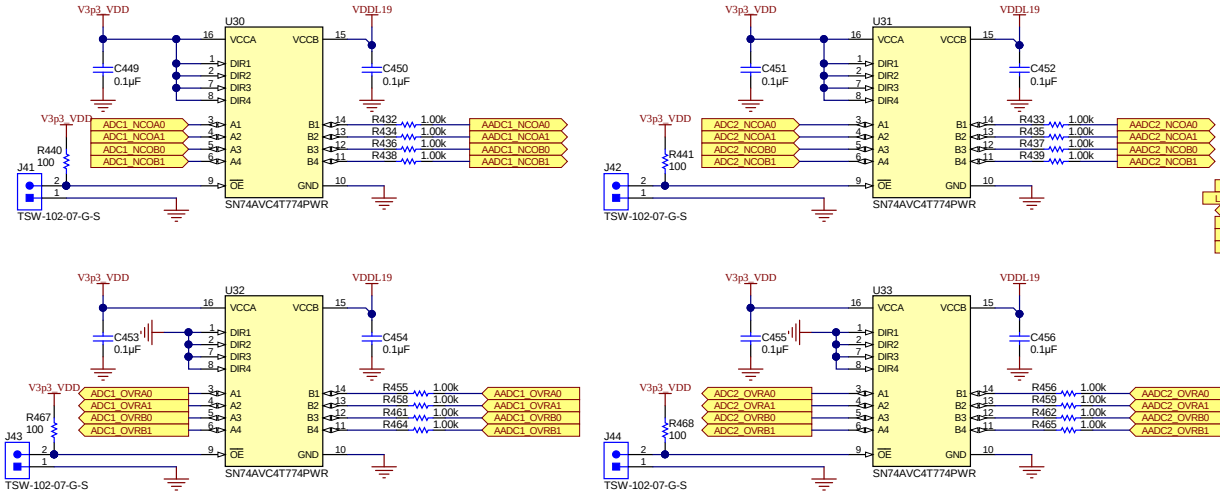
LMH6401 Programming



LMK04828 & LMX2594 Programming



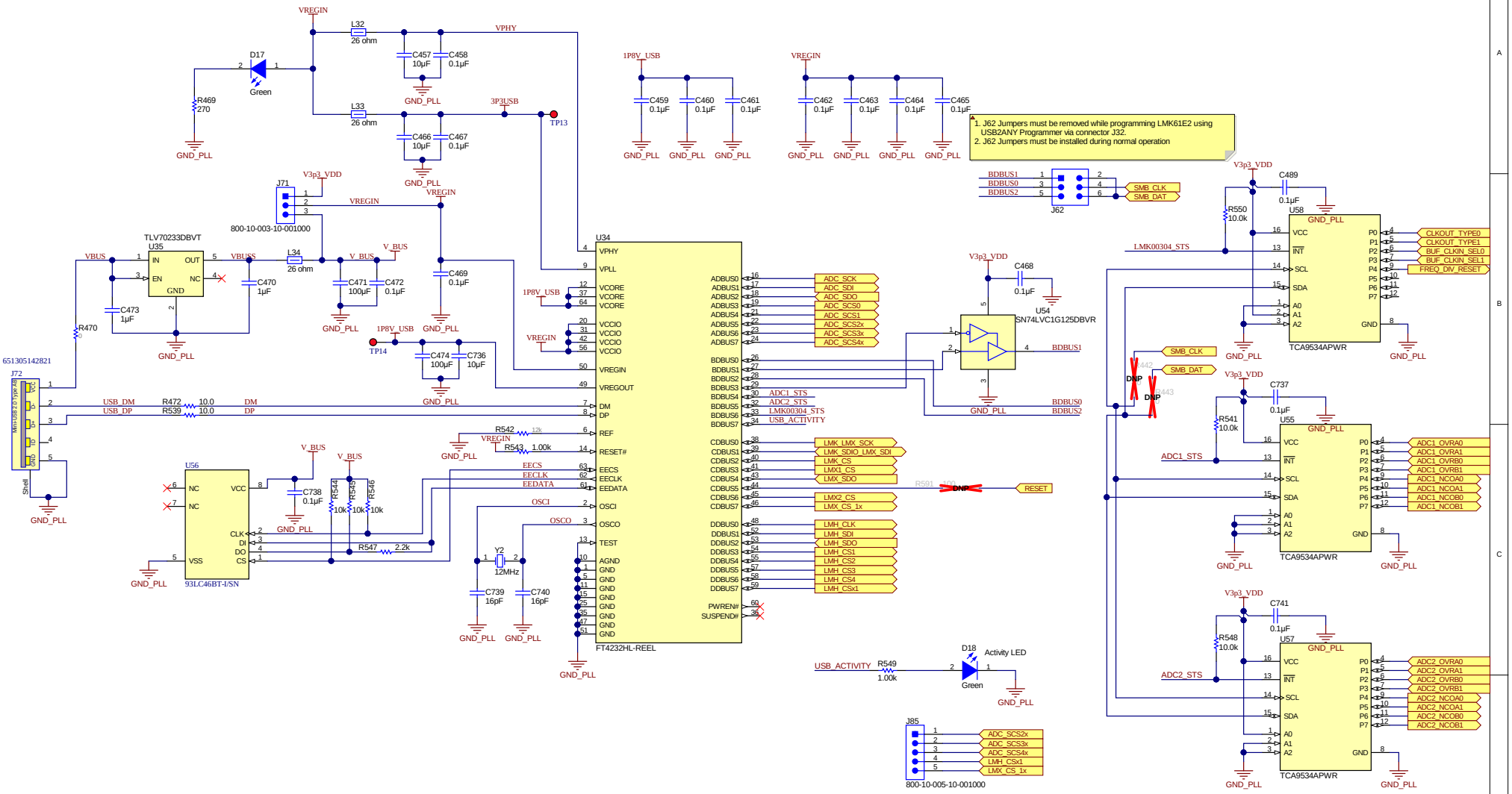
ADC1 & 2 OverRange & NCO Selection



Build on TIDA-01022-E3 PCB and power solution used from TIDA-01027

Orderable: NA		Designed for: Public Release	Mod. Date: 5/16/2019
TID #: 010122		Project Title: TIDA-010122	
Number: TIDA-010122	Rev: E3	Sheet Title: Programming for ADC, LMK , LMX	
SVN Rev: Version control disabled		Assembly Variant: TIDA-01022_E3_with_TIDA-01027_E3	Sheet: 5 of 26
Drawn By: Avinash N		File: TIDA-01022-E3_Programming for ADC_LMK_LMX.SchDoc	
Engineer: Anbu Mani		Contact: http://www.ti.com/support	

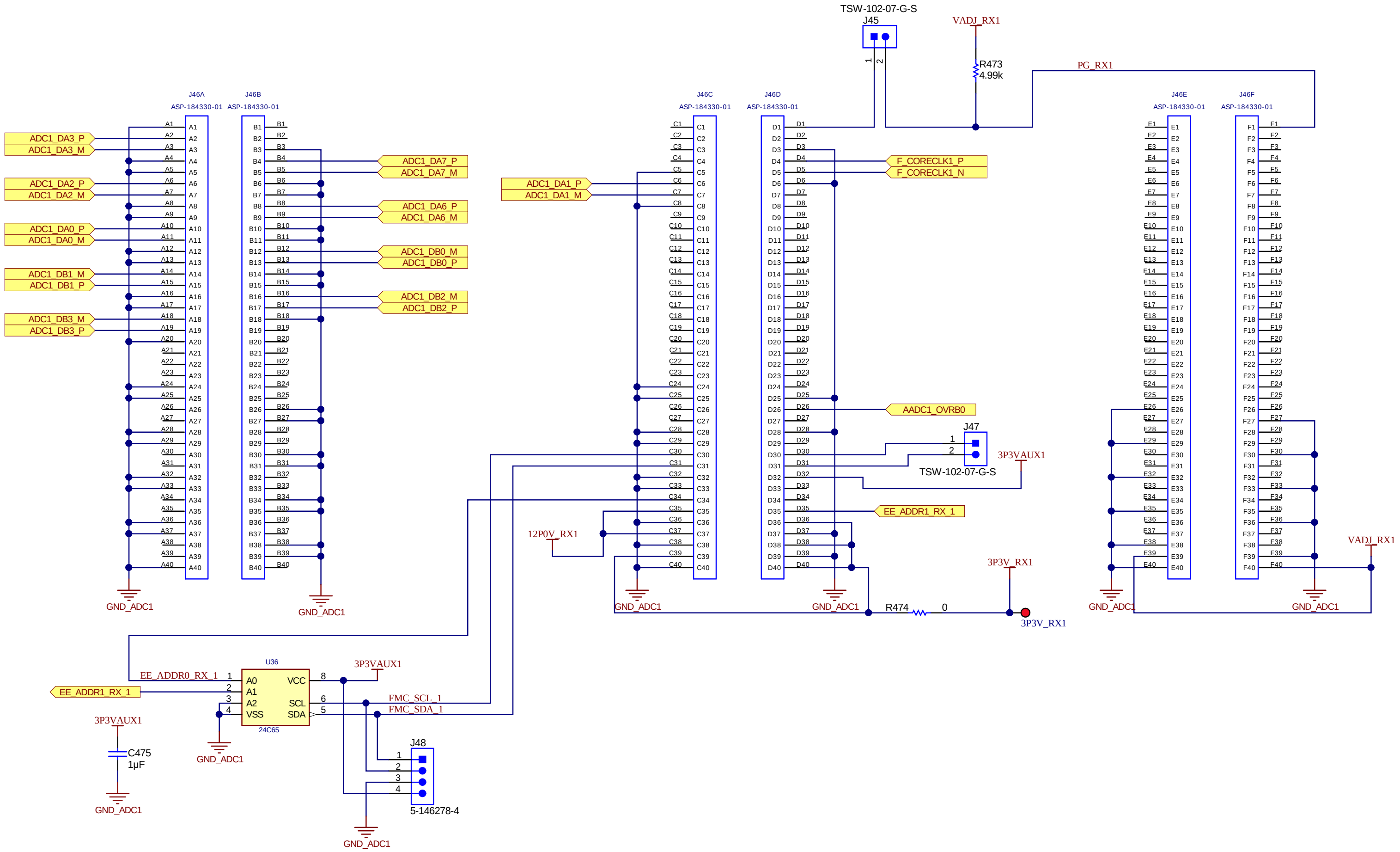
USB to SPI Interface



Build on TIDA-01022-E3 PCB and power solution used from TIDA-01027

Orderable: NA		Designed for: Public Release	Mod. Date: 5/16/2019
TID #: 010122		Project Title: TIDA-010122	
Number: TIDA-010122	Rev: E3	Sheet Title: USB	
SVN Rev: Version control disabled		Assembly Variant: TIDA-01022_E3_with_TIDA-01027	Sheet: 16 of 26
Drawn By: Avinash N		File: TIDA-01022-E3_USB.SchDoc	Size: B
Engineer: Anbu Mani		Contact: http://www.ti.com/support	http://www.ti.com

ADC1 FMC+_1 Connector



Build on TIDA-01022-E3 PCB and power solution used from TIDA-01027

Orderable: NA	Designed for: Public Release	Mod. Date: 5/16/2019
TID #: 010122	Project Title: TIDA-010122	
Number: TIDA-010122 Rev: E3	Sheet Title: FMC+CONN1	
SVN Rev: Version control disabled	Assembly Variant: TIDA-01022_E3_with_TIDA-01027	Sheet 17 of 26
Drawn By: Avinash N	File: TIDA-01022-E3_FMC+CONN1_1.SchDoc	Size: B
Engineer: Anbu Mani	Contact: http://www.ti.com/support	

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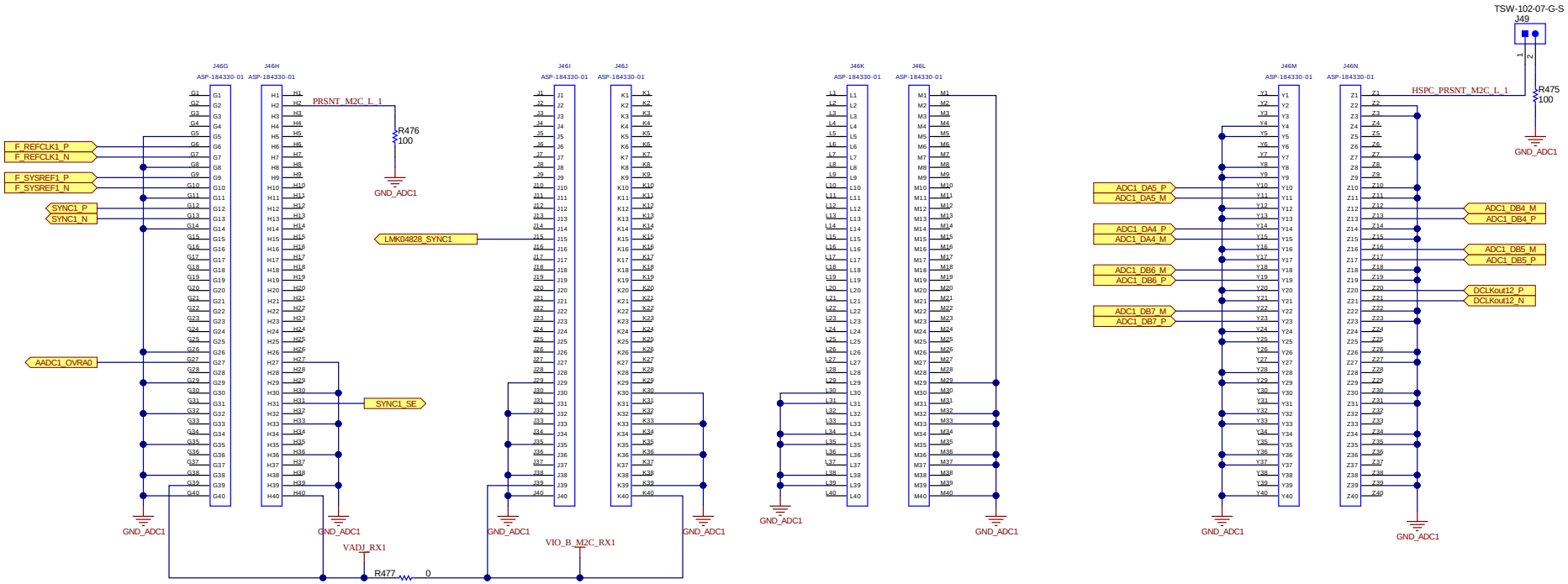
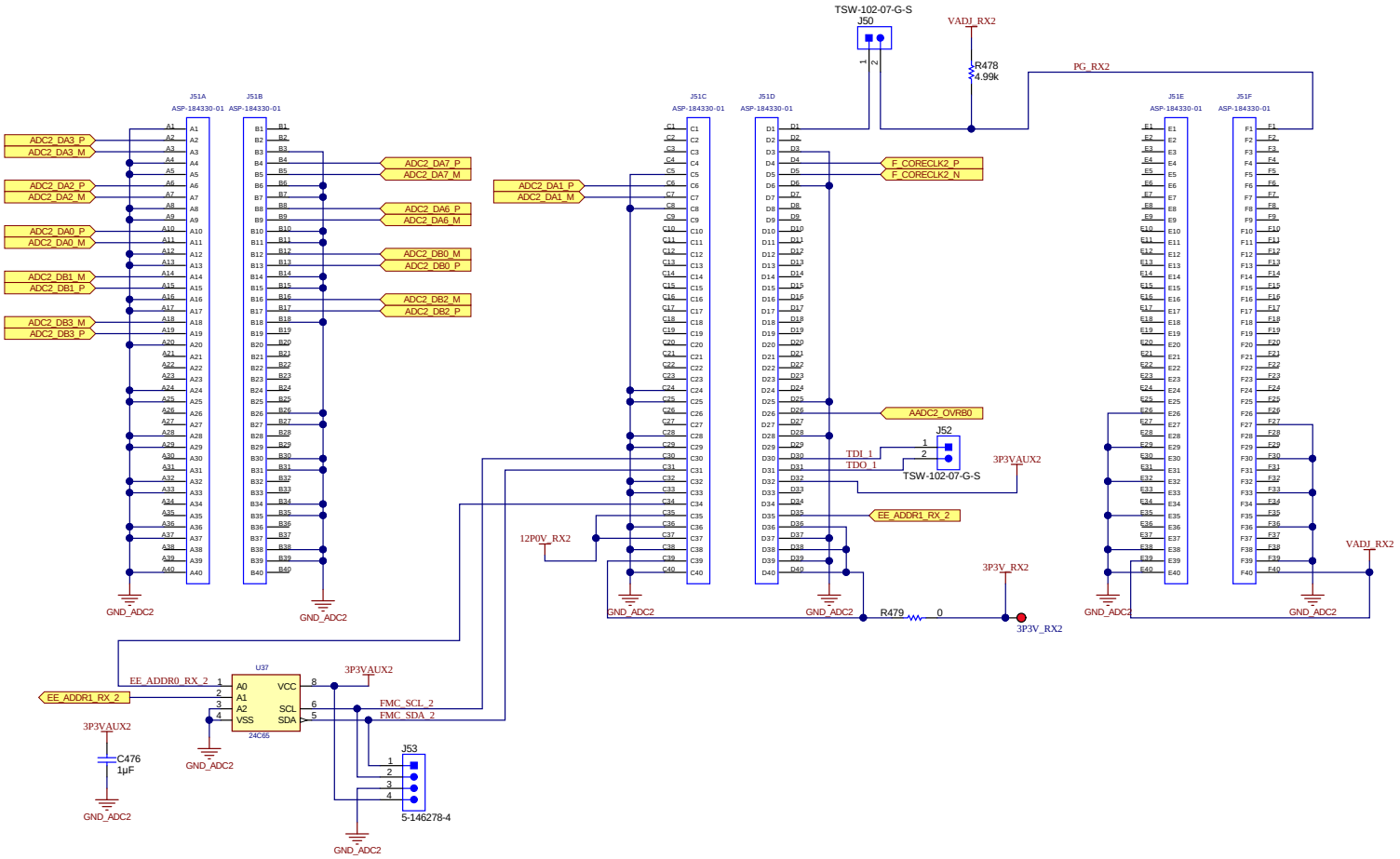
ADC1 FMC+_1 Connector



Build on TIDA-01022-E3 PCB and power solution used from TIDA-01027

Orderable: NA		Designed for: Public Release	Mod. Date: 5/16/2019
TID #: 010122		Project Title: TIDA-010122	
Number: TIDA-010122	Rev: E3	Sheet Title: FMC+CONN1	
SVN Rev: Version control disabled		Assembly Variant: TIDA-01022_E3_with_TIDA-01027_E3	Sheet 14 of 26
Drawn By: Avinash N		File: TIDA-01022-E3_FMC+CONN1_2.SchDoc	Size: B
Engineer: Anbu Mani		Contact: http://www.ti.com/support	

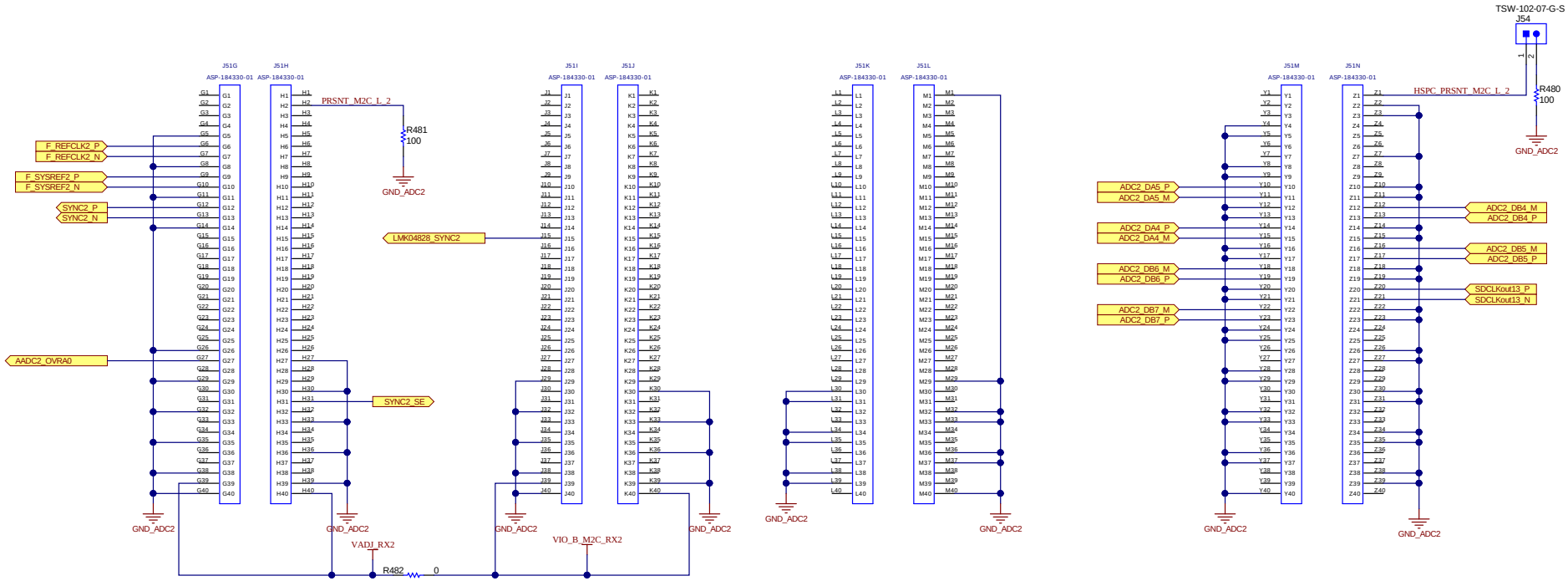
ADC1 FMC+_2 Connector



Build on TIDA-01022-E3 PCB and power solution used from TIDA-01027

Orderable: NA		Designed for: Public Release	Mod. Date: 5/16/2019
TID #: 010122		Project Title: TIDA-010122	
Number: TIDA-010122	Rev: E3	Sheet Title: FMC+CONN2	
SVN Rev: Version control disabled		Assembly Variant: TIDA-01022_E3_with_TIDA-01027_P1.0	Sheet 5 of 26
Drawn By: Avinash N		File: TIDA-01022-E3_FMC+CONN2_1.SchDoc	Size: B
Engineer: Anbu Mani		Contact: http://www.ti.com/support	

ADC1 FMC+_2 Connector



Build on TIDA-01022-E3 PCB and power solution used from TIDA-01027

Orderable: NA		Designed for: Public Release	Mod. Date: 5/16/2019
TID #: 010122		Project Title: TIDA-010122	
Number: TIDA-010122	Rev: E3	Sheet Title: FMC+CONN2	
SVN Rev: Version control disabled		Assembly Variant: TIDA-01022_E3_with_TIDA-01027_E2	Sheet: 20 of 26
Drawn By: Avinash N		File: TIDA-01022-E3_FMC+CONN2_2.SchDoc	Size: B
Engineer: Anbu Mani		Contact: http://www.ti.com/support	

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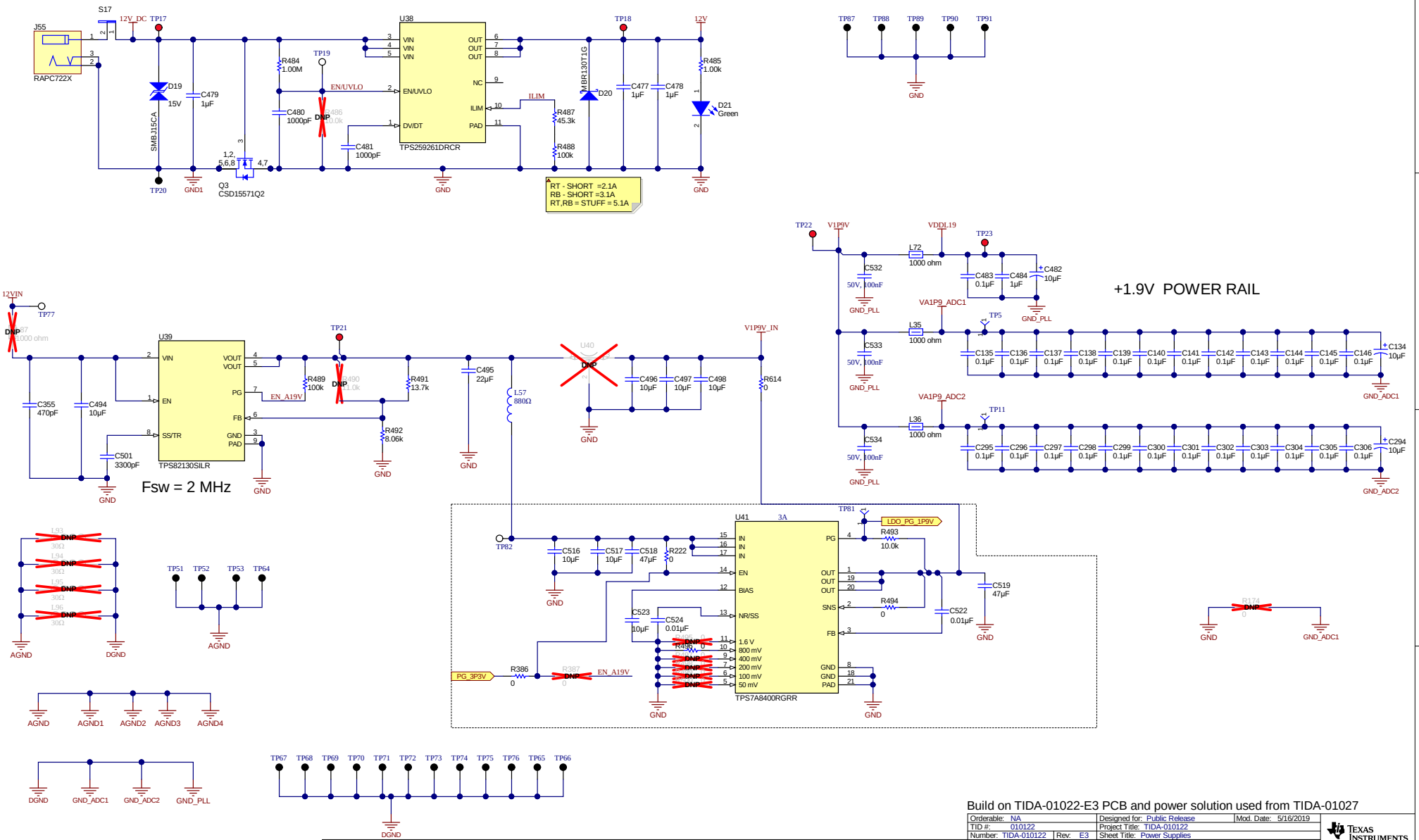
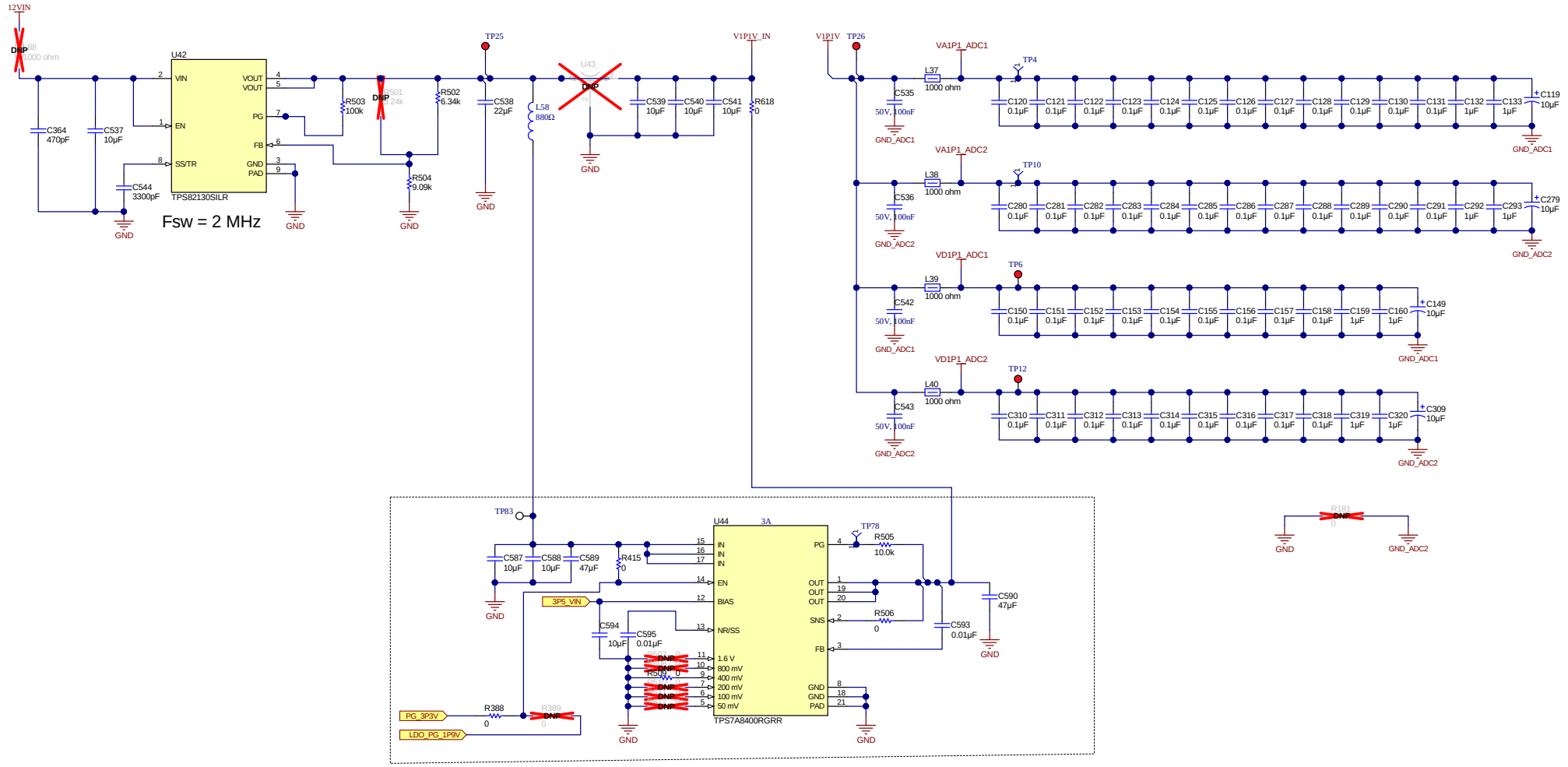


Build on TIDA-01022-E3 PCB and power solution used from TIDA-01027

Orderable: NA		Designed for: Public Release	Mod. Date: 5/16/2019
TID #: 010122		Project Title: TIDA-010122	
Number: TIDA-010122	Rev: E3	Sheet Title: Power Supplies	
SVN Rev: Version control disabled		Assembly Variant: TIDA-01022_E3_with_TIDA-01027	Sheet: 21 of 26
Drawn By: Avinash N		File: TIDA-01022-E3_Power1.SchDoc	Size: B
Engineer: Anbu Mani		Contact: http://www.ti.com/support	

TEXAS INSTRUMENTS
http://www.ti.com

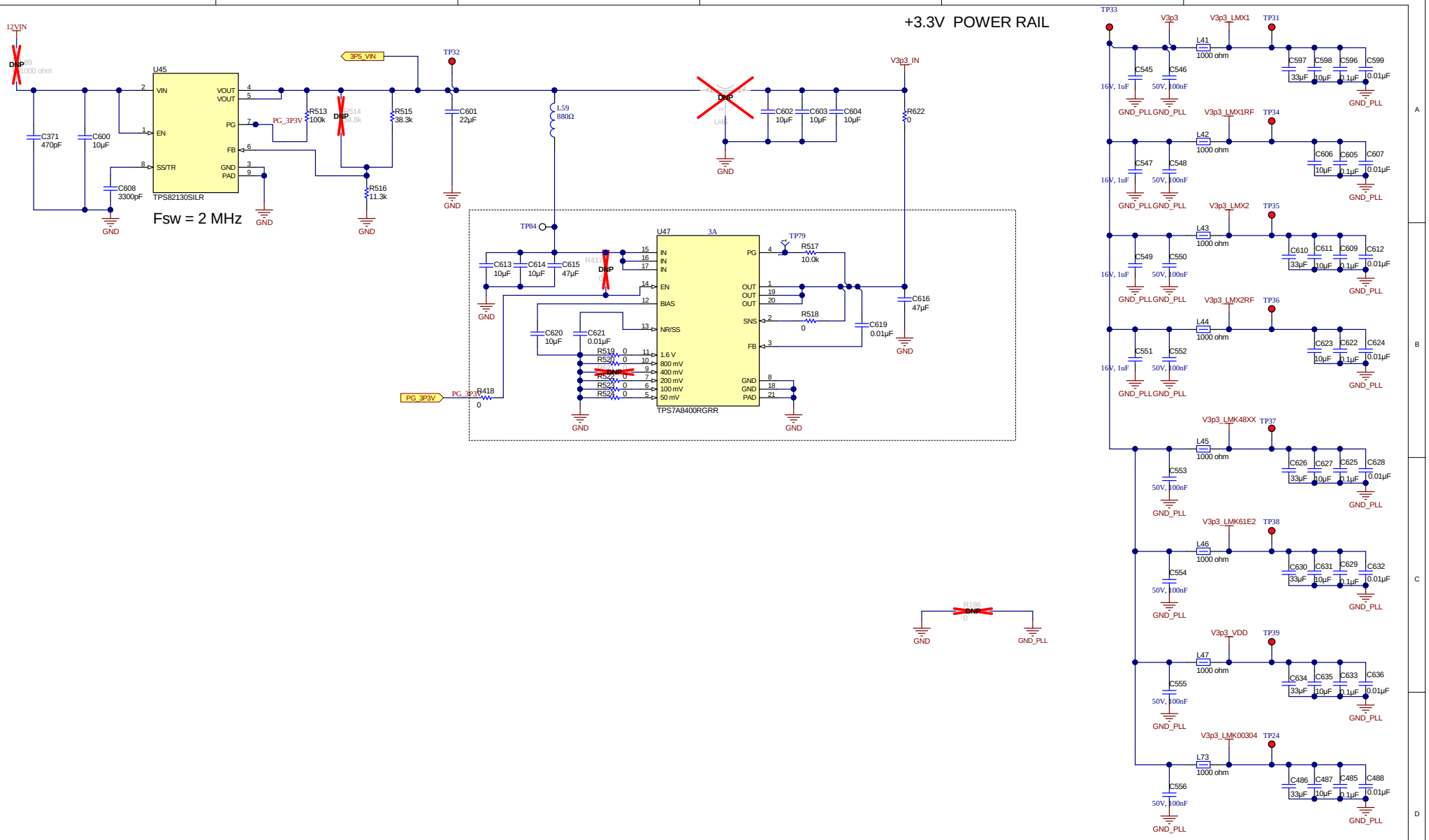
+1.1V POWER RAIL



Build on TIDA-01022-E3 PCB and power solution used from TIDA-01027

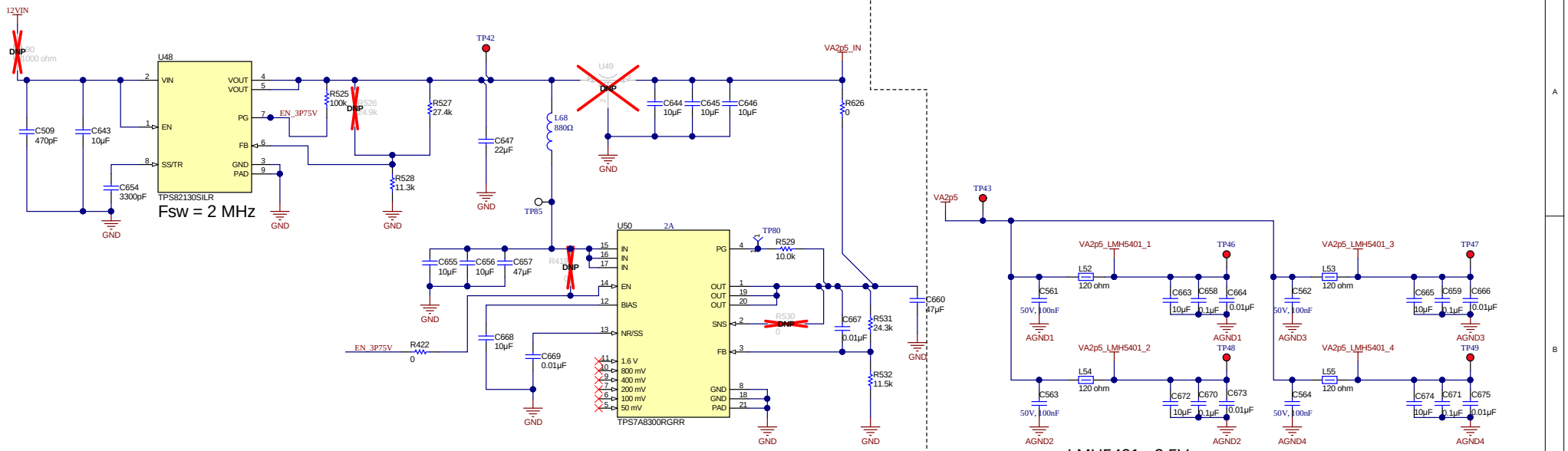
Orderable: NA		Designed for: Public Release	Mod. Date: 5/16/2019
TID #: 010122		Project Title: TIDA-010122	
Number: TIDA-010122	Rev: E3	Sheet Title: Power Supplies	
SVN Rev: Version control disabled		Assembly Variant: TIDA-01022_E3_with_TIDA-01027_P2	Sheet 22 of 26
Drawn By: Avinash N		File: TIDA-01022-E3_Power2.SchDoc	Size: B
Engineer: Anbu Mani		Contact: http://www.ti.com/support	http://www.ti.com

+3.3V POWER RAIL



Build on TIDA-01022-E3 PCB and power solution used from TIDA-01027

Orderable: NA		Designed for: Public Release	Mod. Date: 5/16/2019
TID #: 010122		Project Title: TIDA-010122	
Number: TIDA-010122	Rev: E3	Sheet Title: Power Supplies	
SVN Rev: Version control disabled		Assembly Variant: TIDA-01022_E3_with_TIDA-01027	Sheet: 28 of 26
Drawn By: Avinash N		File: TIDA-01022-E3_Power3.SchDoc	Size: B
Engineer: Anbu Mani		Contact: http://www.ti.com/support	http://www.ti.com



Build on TIDA-01022-E3 PCB and power solution used from TIDA-01027

Orderable: NA		Designed for: Public Release	Mod. Date: 5/16/2019
TID #: 010122		Project Title: TIDA-010122	
Number: TIDA-010122	Rev: E3	Sheet Title: Power Supplies	
SVN Rev: Version control disabled		Assembly Variant: TIDA-01022_E3_with_TIDA-01027_E4	Sheet: 24 of 26
Drawn By: Avinash N		File: TIDA-01022-E3_Power4.SchDoc	Size: B
Engineer: Anbu Mani		Contact: http://www.ti.com/support	

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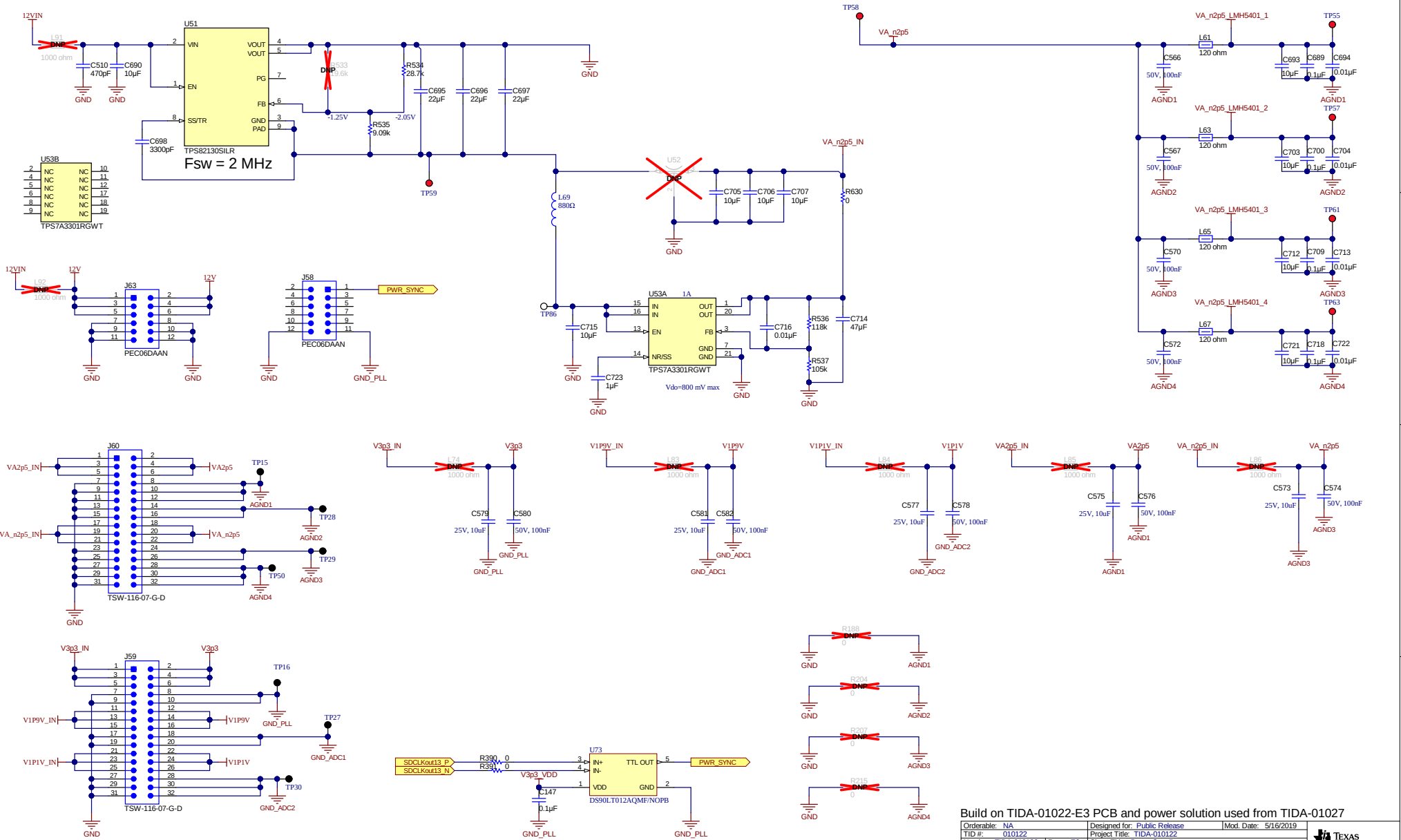
LMH5401 -2.5V
12VIN
L91
DNP
1000 ohm
C510
470pF
C690
10µF
GND
U51
VIN
VOUT
EN
PG
FB
SS/TR
GND
PAD
TPS82130SILR
R533
DNP
9.6k
R534
28.7k
R535
9.09k
C695
22µF
C696
22µF
C697
22µF
C698
3300pF
-1.25V
-2.05V
Fsw = 2 MHz
TP59
U53B
TPS7A3301RGWT
TP58
VA_n2p5
VA_n2p5_LMH5401_1
L61
120 ohm
TP55
C566
50V, 100nF
C693
10µF
C689
0.1µF
C694
0.01µF
AGND1
VA_n2p5_LMH5401_2
L63
TP57
C567
C703
C700
C704
AGND2
VA_n2p5_LMH5401_3
L65
TP61
C570
C712
C709
C713
AGND3
VA_n2p5_LMH5401_4
L67
TP63
C572
C721
C718
C722
AGND4
VA_n2p5_IN
U52
DNP
C705
10µF
C706
10µF
C707
10µF
R630
0
L69
880Ω
TP86
C715
10µF
U53A
1A
TPS7A3301RGWT
Vdo=800 mV max
C716
0.01µF
R536
118k
C714
47µF
R537
105k
C723
1µF
L92
DNP
1000 ohm
12V
J63
PEC06DAAN
J58
PWR_SYNC
GND_PLL
J60
TSW-116-07-G-D
VA2p5_IN
VA2p5
TP15
AGND1
TP28
AGND2
VA_n2p5_IN
VA_n2p5
TP29
AGND3
TP50
AGND4
V3p3_IN
V3p3
L74
C579
25V, 10uF
C580
50V, 100nF
GND_PLL
V1P9V_IN
V1P9V
L83
C581
C582
GND_ADC1
V1P1V_IN
V1P1V
L84
C577
C578
GND_ADC2
VA2p5_IN
VA2p5
L85
C575
C576
AGND1
VA_n2p5_IN
VA_n2p5
L86
C573
C574
AGND3
J59
TP16
TP27
TP30
R390 0
R391 0
V3p3_VDD
U73
DS90LT012AQMF/NOPB
SDCLKout13_P
SDCLKout13_N
C147
0.1µF
R188
R204
R207
R215
Build on TIDA-01022-E3 PCB and power solution used from TIDA-01027
Orderable: NA
TID #: 010122
Number: TIDA-010122
Rev: E3
SVN Rev: Version control disabled
Drawn By: Avinash N
Engineer: Anbu Mani
Designed for: Public Release
Mod. Date: 5/16/2019
Project Title: TIDA-010122
Sheet Title: Power Supplies
Assembly Variant: TIDA-01022_E3_with_TIDA-01027
Sheet: 26 of 26
File: TIDA-01022-E3_Power5.SchDoc
Size: B
Contact: http://www.ti.com/support
http://www.ti.com
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S1 S2 S3 S4 S5 S6 S7 S8 S9 S10 S11 S12

1648-440-AL

H1 H2 H3 H4 H5 H6 H7 H8 H9 H10 H11 H12

PMSSS 440 0038 PH

FID1 FID2 FID3 FID4 FID5 FID6

PCB Number: TIDA-010122
PCB Rev: E3

PCB LOGO
Logo1

PCB LOGO
Pb-Free Symbol

PCB LOGO
FCC disclaimer

PCB LOGO
Logo4

PCB LOGO
Logo5


LOGO6


LOGO7


LOGO8


LOGO9

Variant/Label Table	
Variant	Label Text
001	ChangeMe!
002	ChangeMe!

LBL1
PCB Label
Size: 0.65" x 0.20 "

ZZ1
Label Assembly Note
This Assembly Note is for PCB labels only

ZZ2
Assembly Note
These assemblies are ESD sensitive, ESD precautions shall be observed.

ZZ3
Assembly Note
These assemblies must be clean and free from flux and all contaminants. Use of no clean flux is not acceptable.

ZZ4
Assembly Note
These assemblies must comply with workmanship standards IPC-A-610 Class 2, unless otherwise specified.

Build on TIDA-01022-E3 PCB and power solution used from TIDA-01027

Orderable: NA		Designed for: Public Release	Mod. Date: 6/13/2019
TID #: 010122		Project Title: TIDA-010122	
Number: TIDA-010122	Rev: E3	Sheet Title: Hardware	
SVN Rev: Version control disabled		Assembly Variant: TIDA-01022_E3_with_TIDA-01027	Sheet 26 of 26
Drawn By: Avinash N		File: TIDA-01022-E3_Hardware.SchDoc	Size: B
Engineer: Anbu Mani		Contact: http://www.ti.com/support	

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