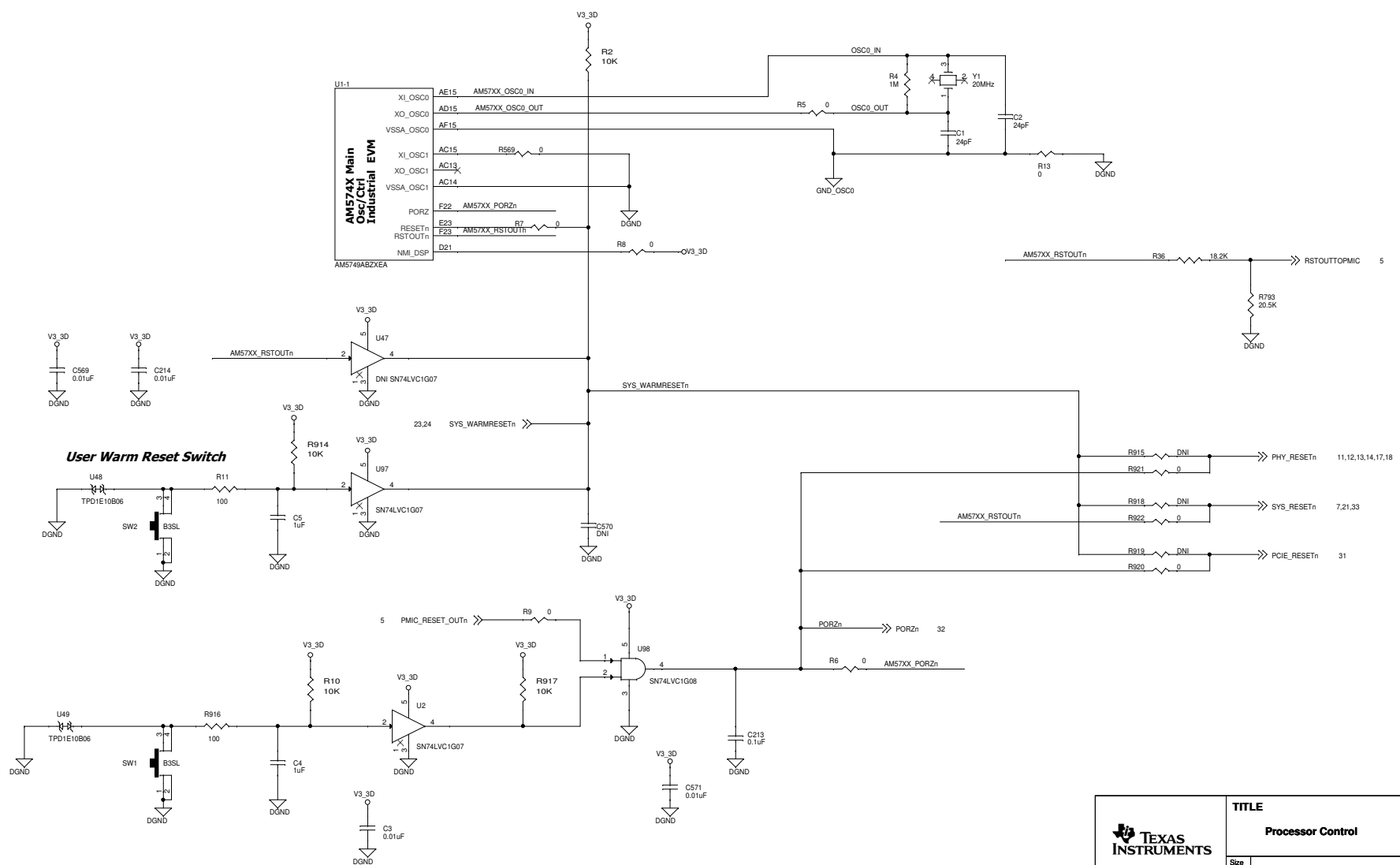


AM574x Industrial Development Kit



TITLE		
TMDXIDK574X		
Size		
C	Variant Name = Proj PROC053 001 OPN# TMDSIDK574	Rev
Date: Tuesday, March 13, 2018		Sheet: 01 of 34

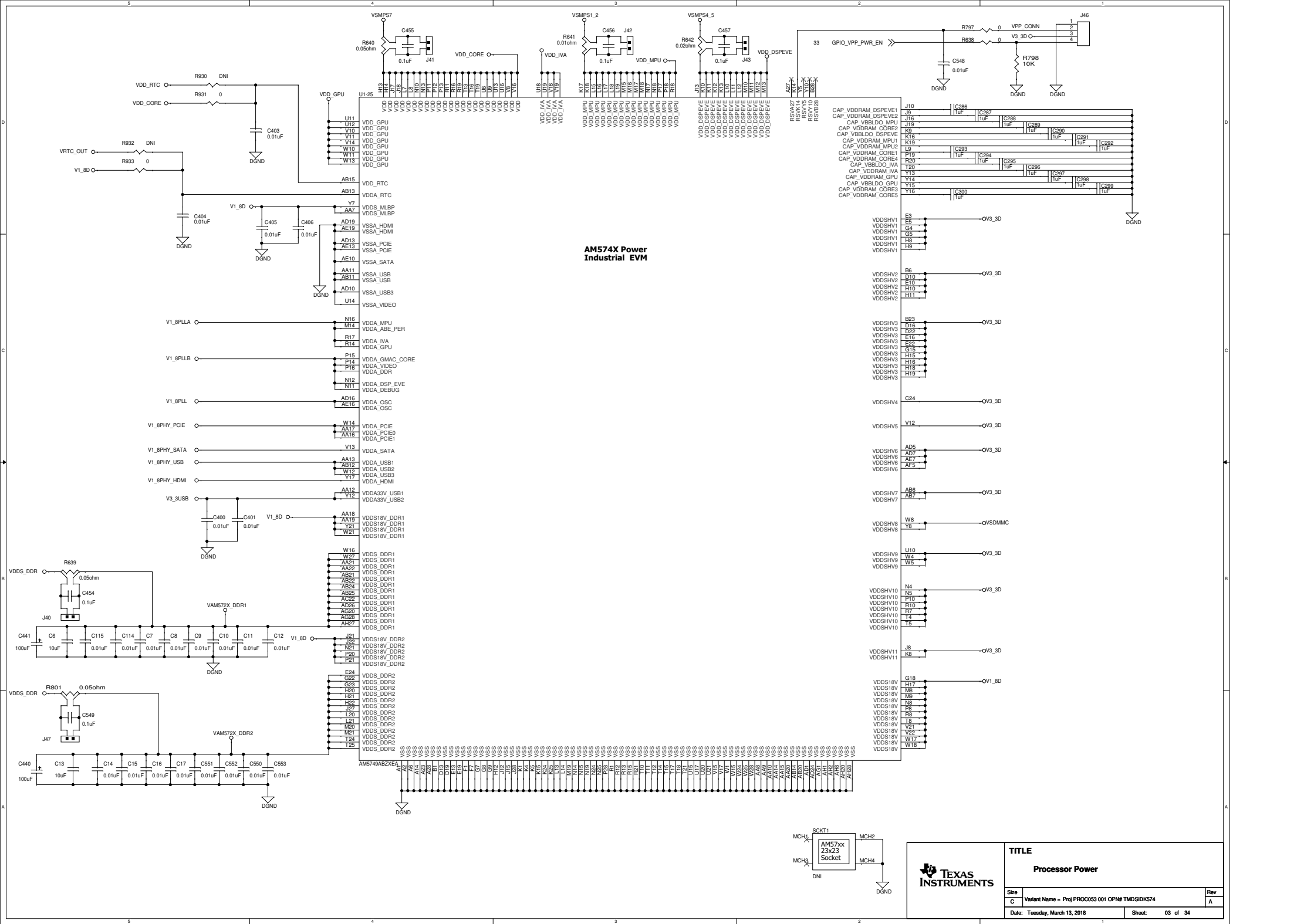


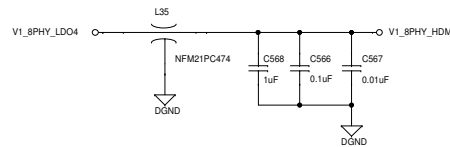
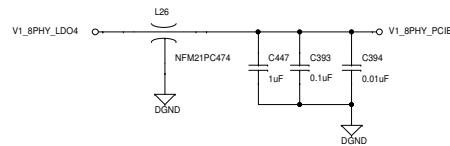
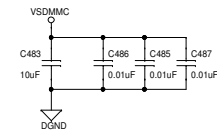
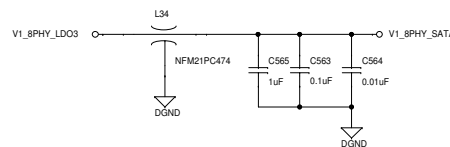
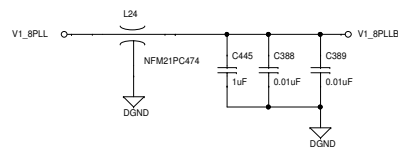
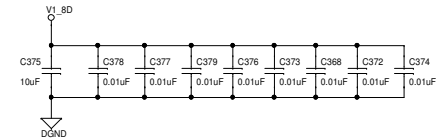
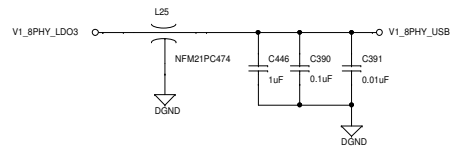
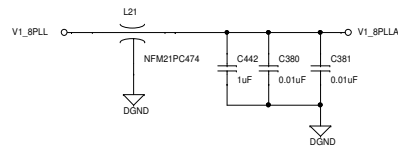
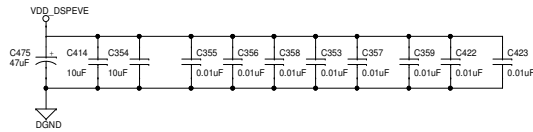
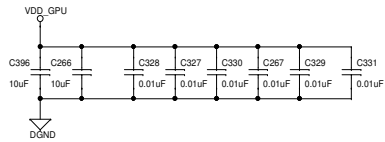
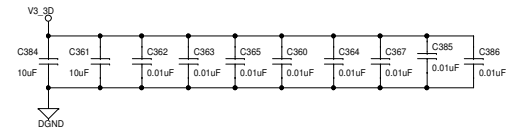
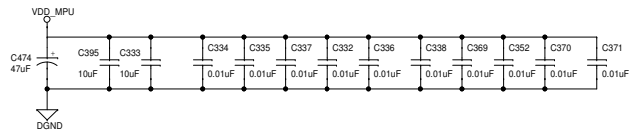
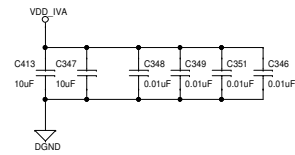
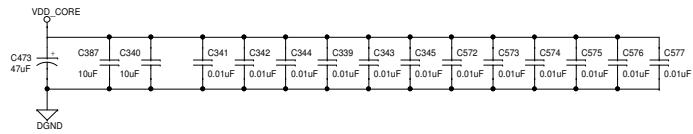


TITLE

Processor Control

Size	Variant Name	Rev
C	Proj PROC053 001 OPNI TMSIDK574	A
Date: Tuesday, March 13, 2018		Sheet: 02 of 34





	TITLE	
	Processor Power	
Size	Variant Name = Proj PROC053 001 OPN# TMSIDK574	Rev
C		A
Date: Tuesday, March 13, 2018	Sheet: 04 of 34	

Main 5VDC Power Input

The schematic shows the main 5VDC power input circuit. It starts with a power jack (J1, RAPC712) and a DNI connector (J2, Screwdown). The power from J1 goes through a diode (D1, SK1545) and a fuse (F1, 5A) to a common rail. This rail is connected to a series of capacitors (C24, C20, C21, C22, C23, C411, C412) and a test point (TP1). The capacitors are connected to the VMAIN pin of the PMIC. The DNI connector is also connected to the common rail and ground. A note indicates that sufficient capacitance is needed to hold up VMAIN (over 2.7V) for at least 1ms after power supply shut off, allowing the PMIC to properly execute its power-down sequence.

Main 5VDC Power Input

VPWRIN_PREFUSE

F1 Fuse 5A

TP1

C24 100uF

C20 0.1uF

C21 0.1uF

C22 10uF

C23 1uF

C411 100uF

C412 100uF

VMAIN

D1 SK1545

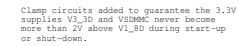
D2 SMCJ5.0A

J1 Power Jack RAPC712

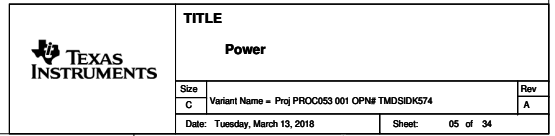
J2 DNI Connector_Screwdown

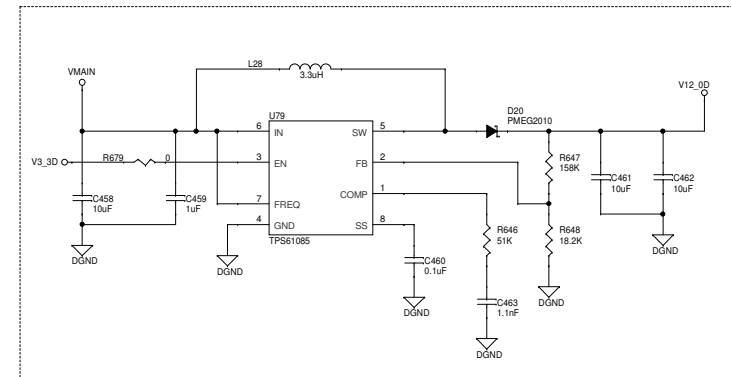
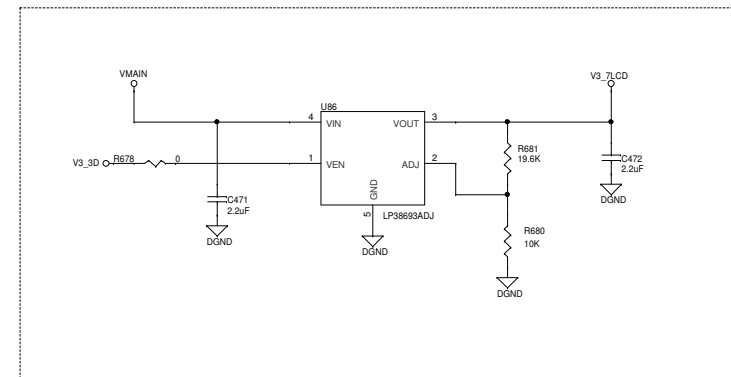
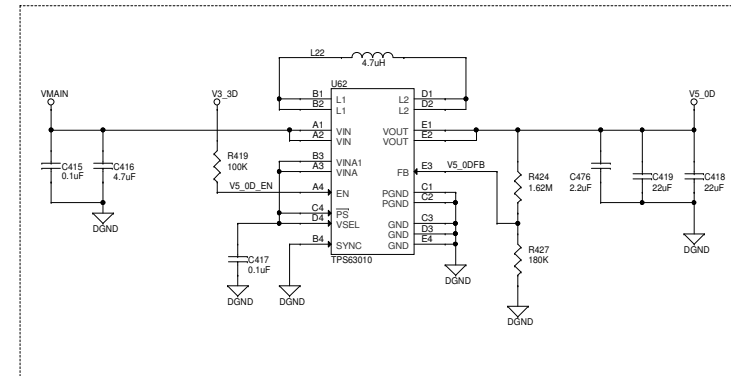
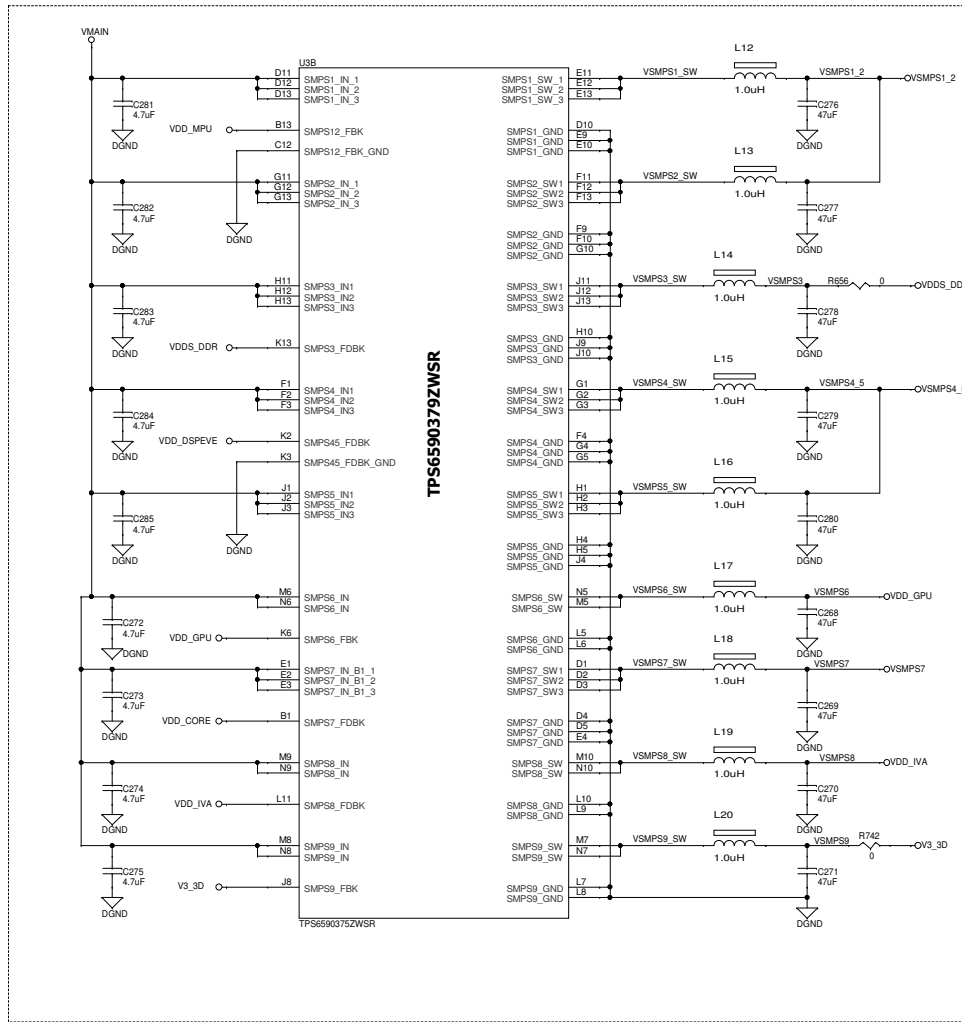
DGND

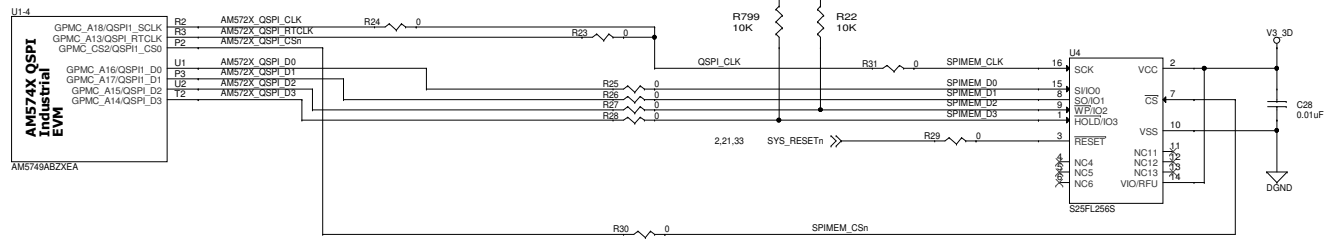
Sufficient capacitance needed to hold up VMAIN (over 2.7V) for at least 1ms after power supply shut off. AM57xx device will be in POR reset. This will allow the PMIC to properly execute its power-down sequence.

[illegible]

It has been later determined that the clamp circuit on VSDMMC is not sufficient and the PMIC was enhanced to better control shut-down sequencing. Therefore, the VSDMMC clamp is no longer required, the power-down sequence defined in the Data Manual must be met.



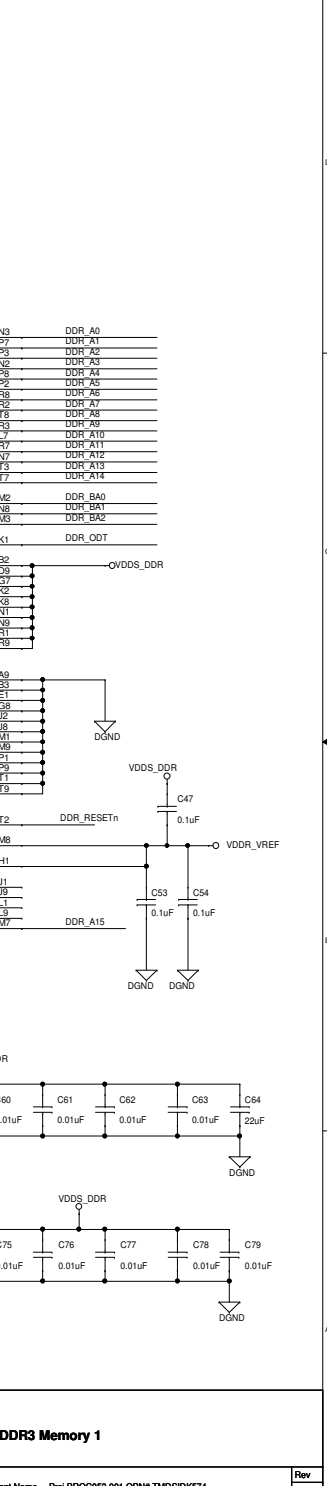
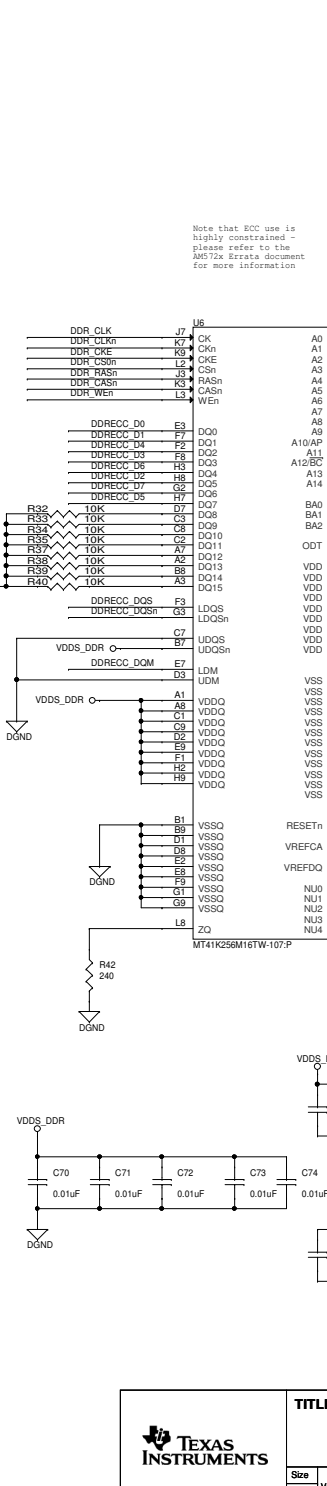
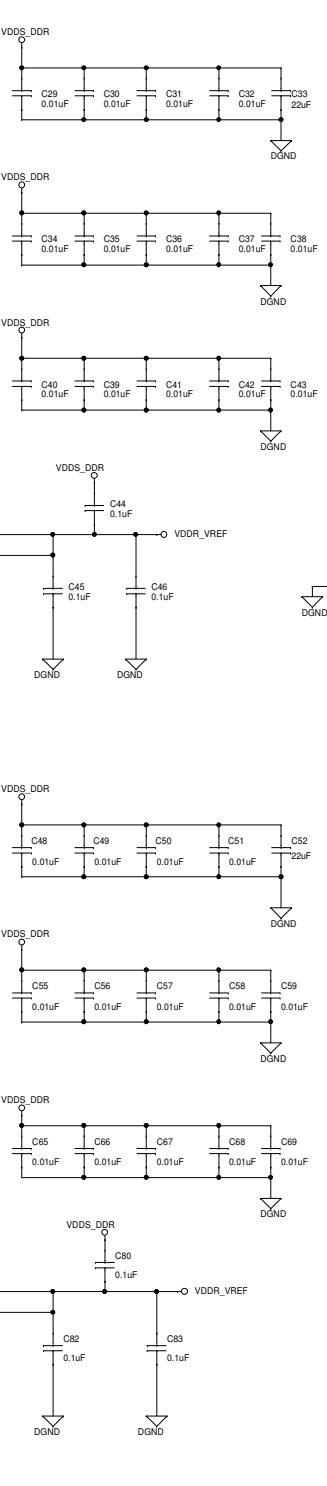
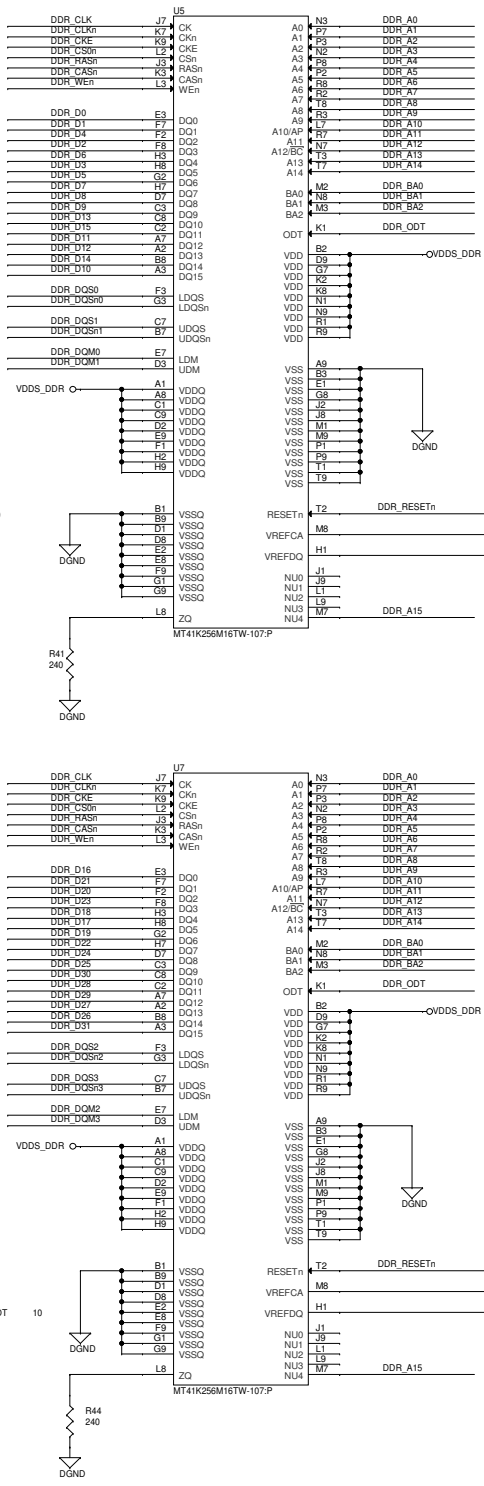




AM574X DDR Industrial EVM

- DDRECC_D0 W22
- DDRECC_D1 V23
- DDRECC_D2 W19
- DDRECC_D3 W23
- DDRECC_D4 V25
- DDRECC_D5 V24
- DDRECC_D6 V25
- DDRECC_D7 V26
- DDRECC_DQM V26
- DDRECC_DQS V27
- DDRECC_DQSn V28

AMS748B2XEA



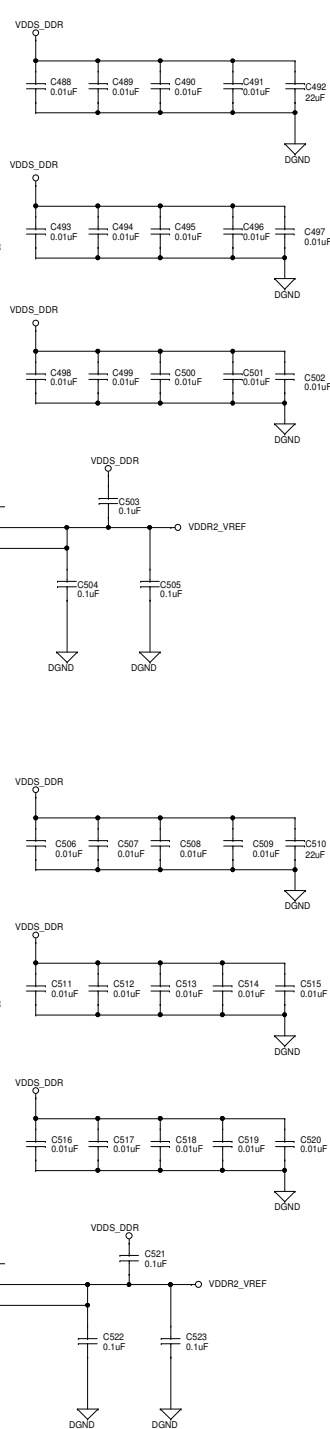
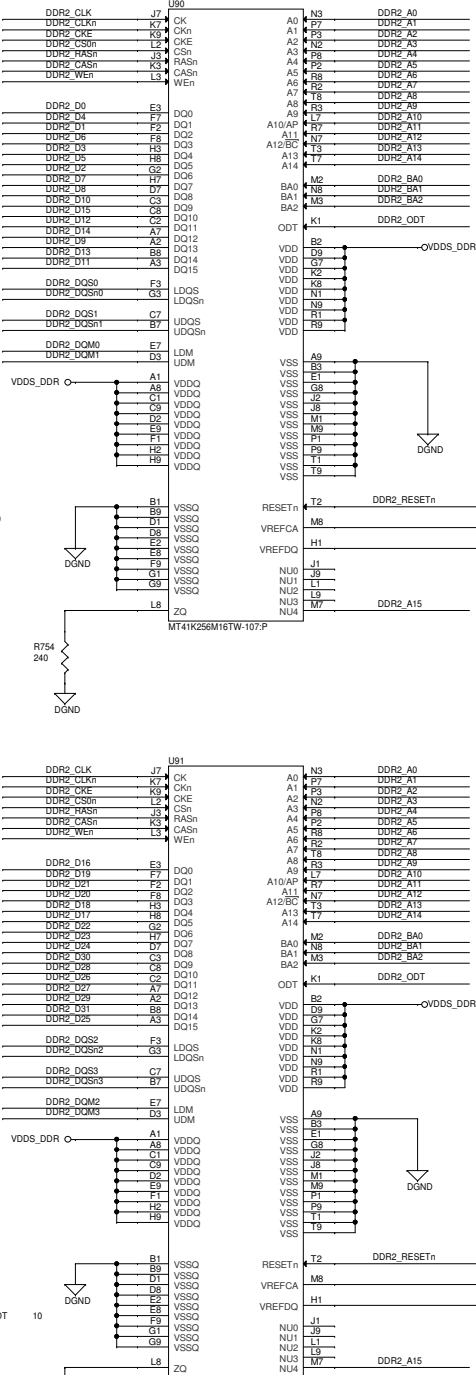
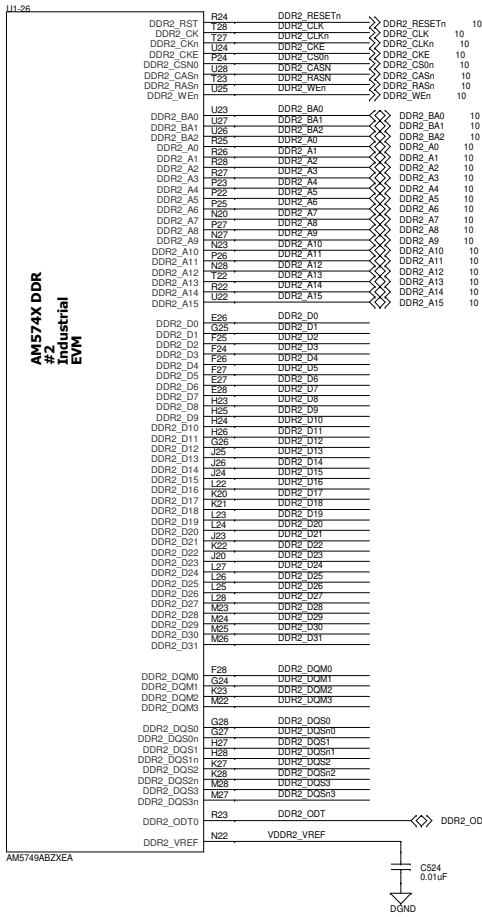
Note that ECC use is highly constrained - please refer to the AM572X Errata document for more information



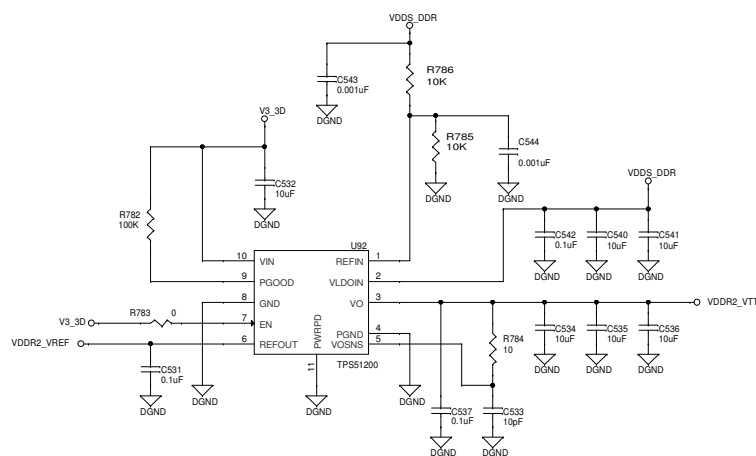
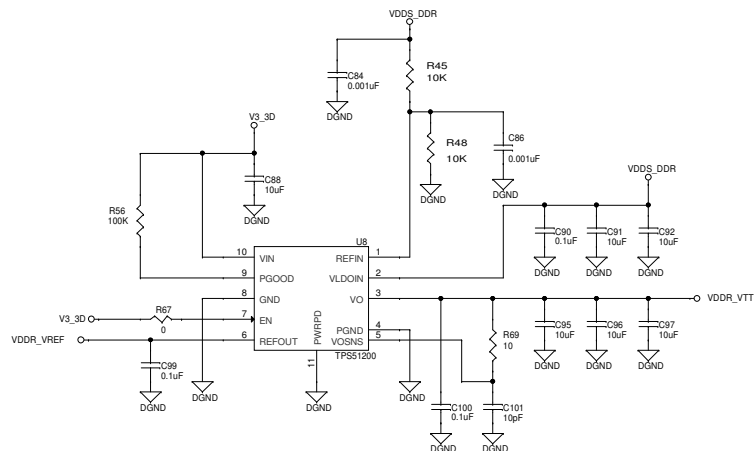
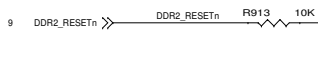
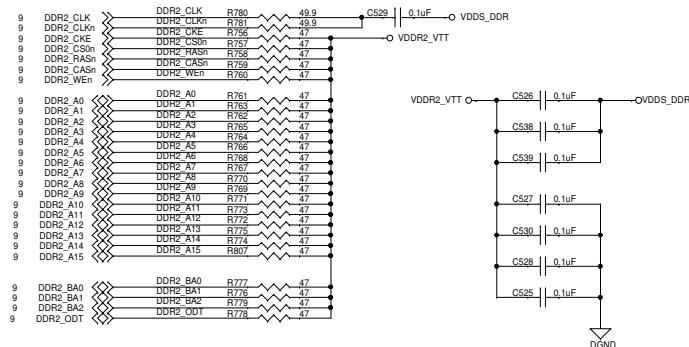
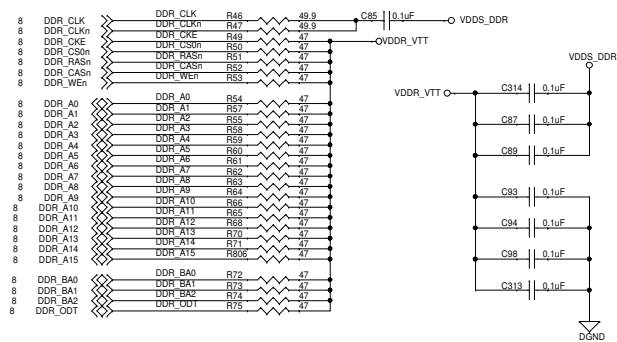
TITLE

DDR3 Memory 1

Size	Variant Name = Proj PROC053 001 OPN TMSDK574	Rev
C		A
Date: Monday, April 16, 2018	Sheet: 06 of 34	

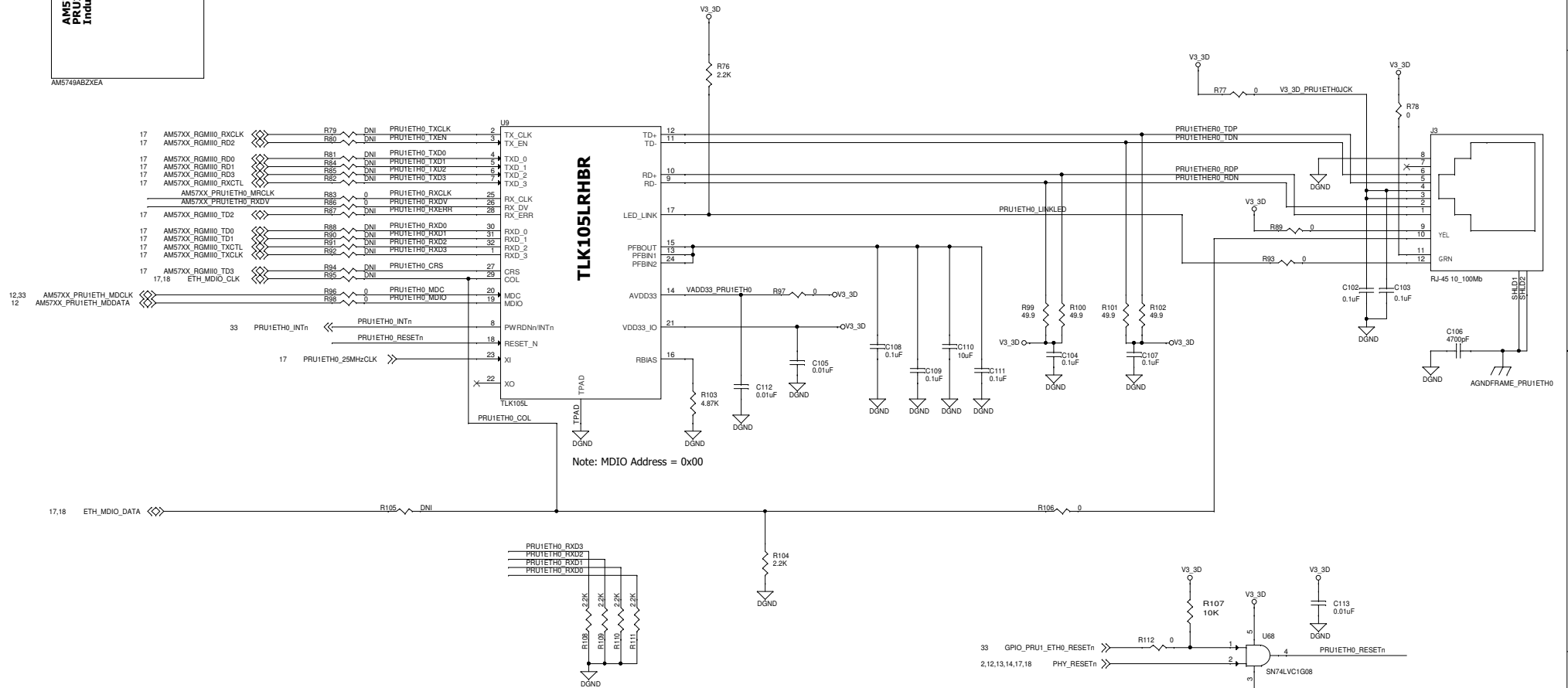
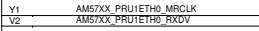
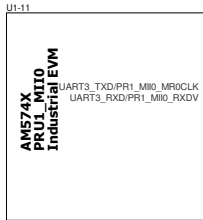


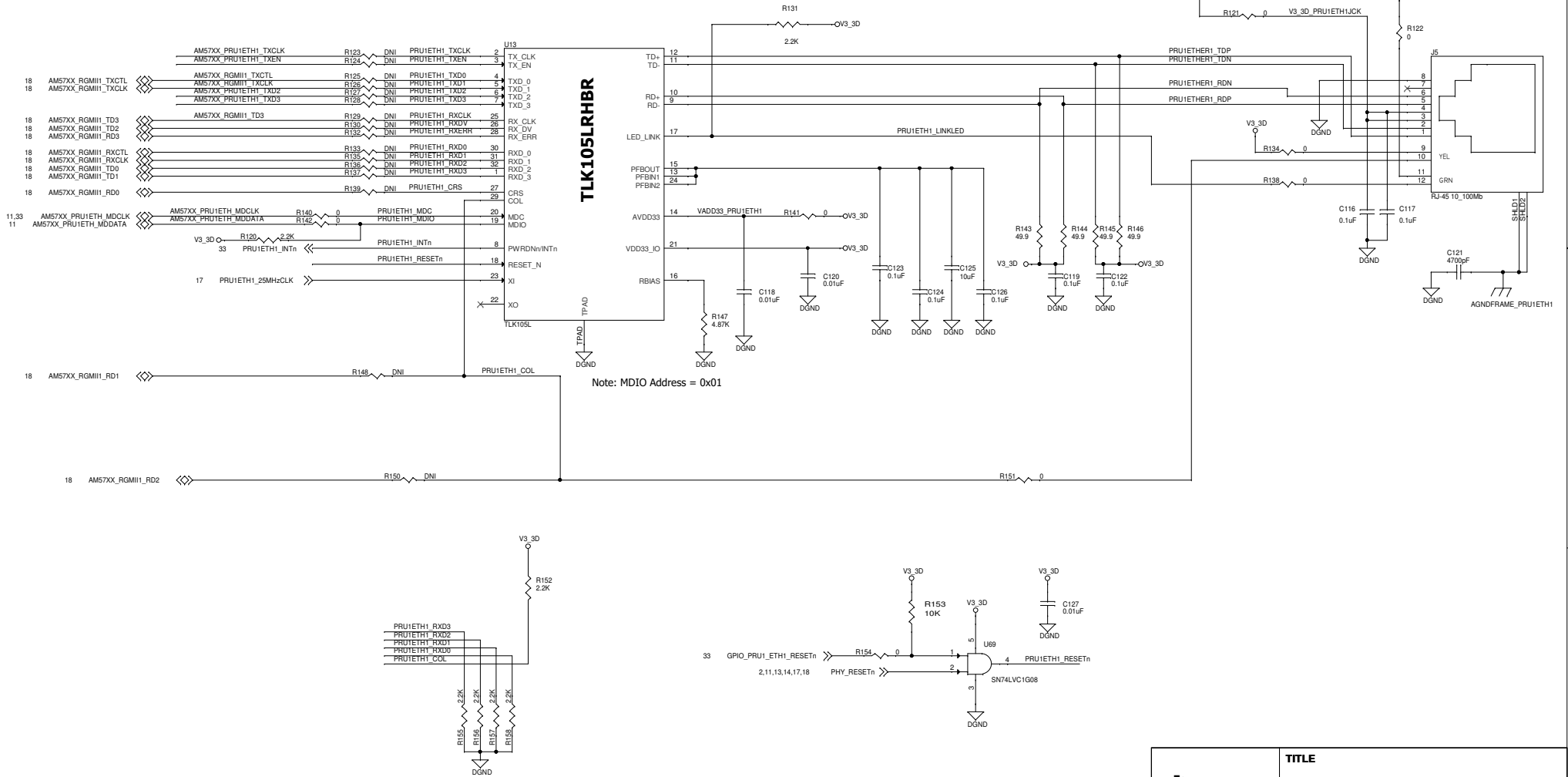
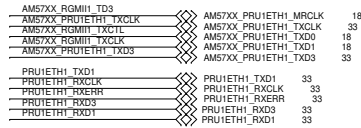
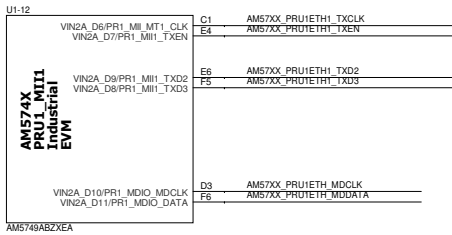
TITLE		
DDR3 Memory 2		
Size	Variant Name = Proj PROC053 001 OPN TMSIDK574	Rev
C		A
Date: Monday, April 16, 2018	Sheet: 09 of 34	

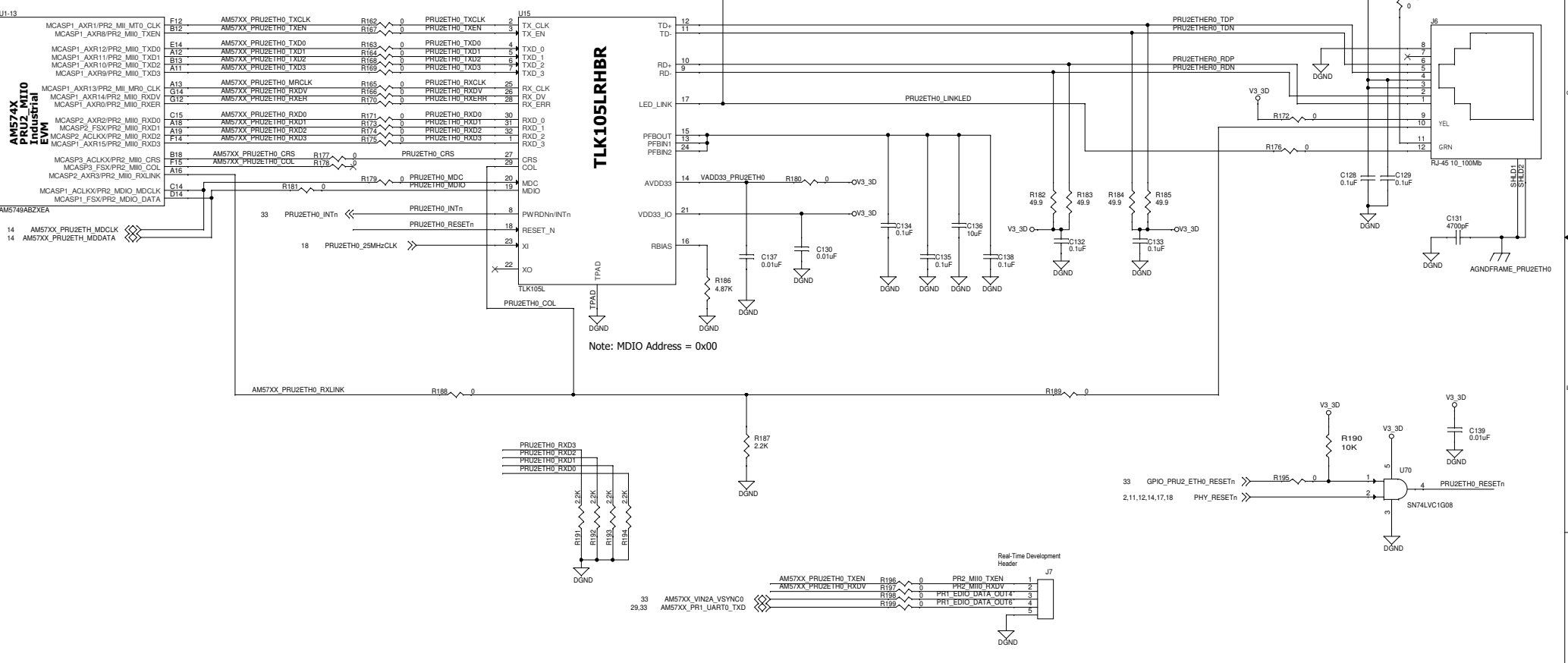


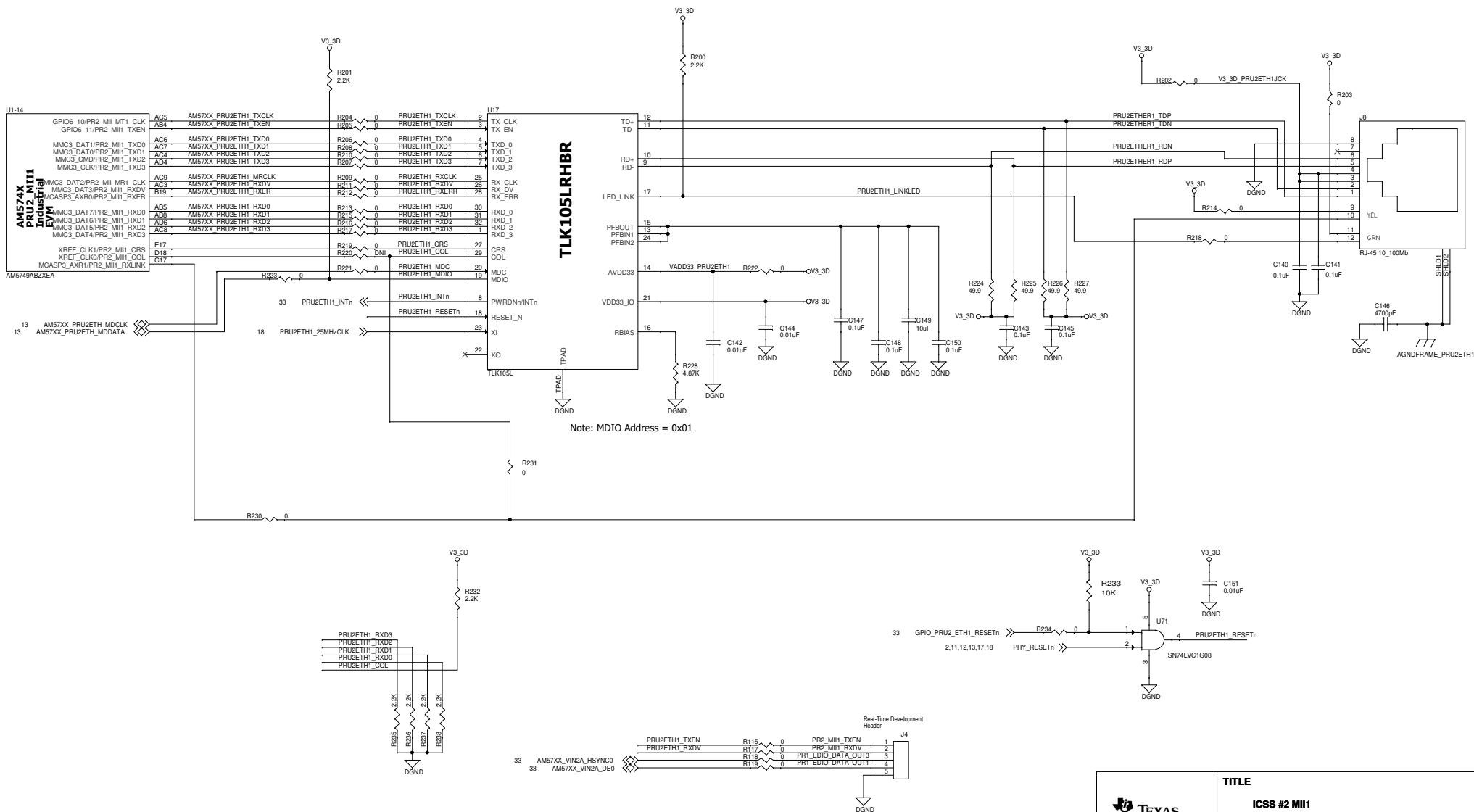
TITLE **DDR3 VTT Termination**

Size	Variant Name	Proj	Proc	Rev
C	Variant Name	Proj	Proc	A
Date:	Tuesday, March 13, 2018	Sheet:	10 of 34	

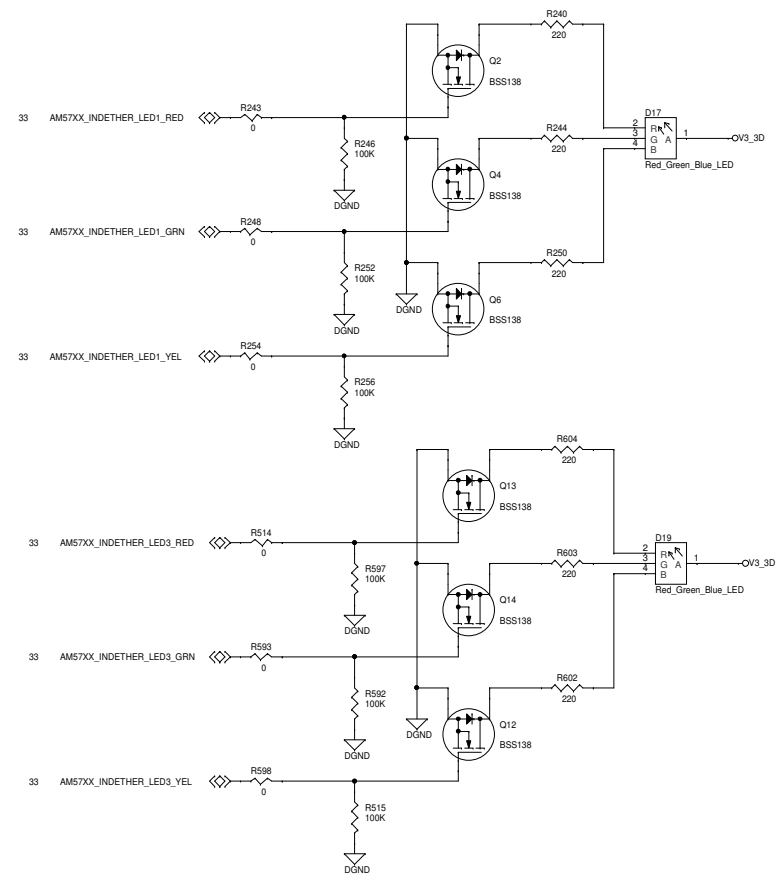
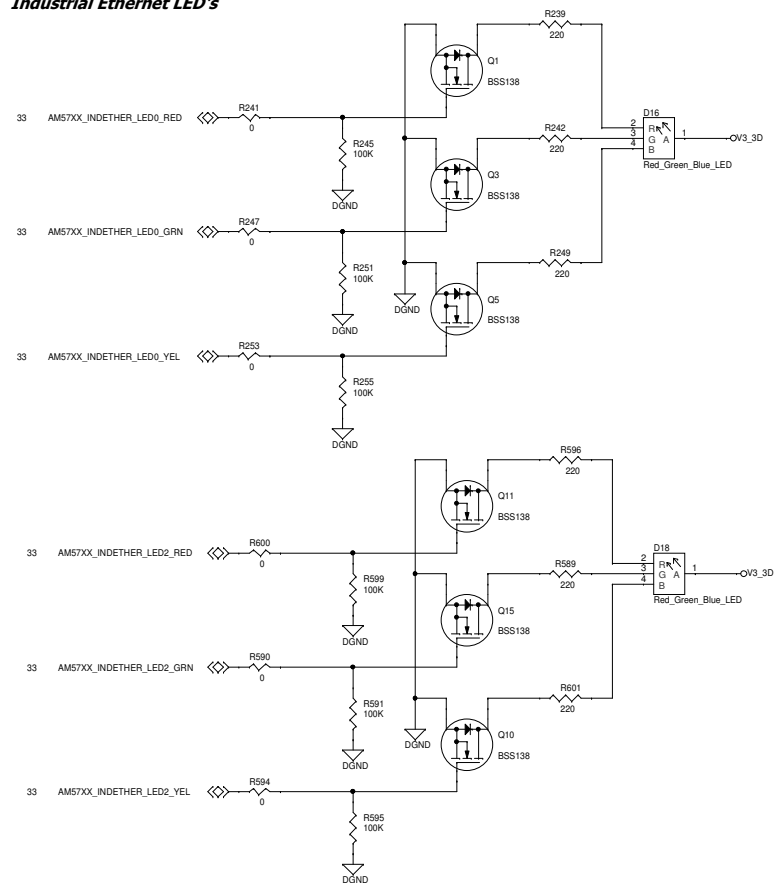




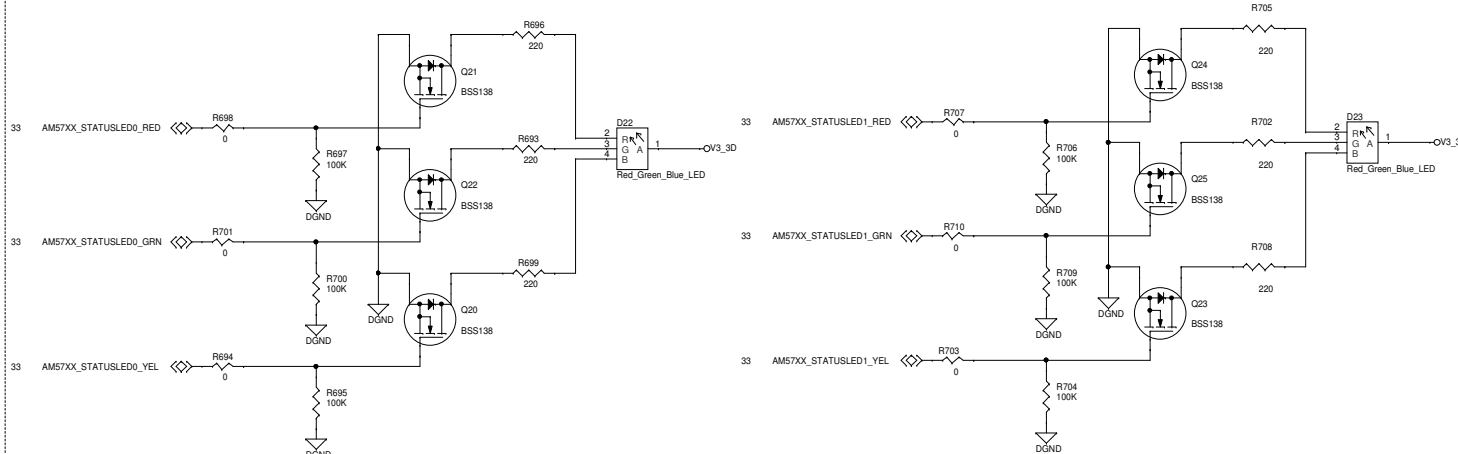




Industrial Ethernet LED's



Status LED's



TITLE			
Industrial Ethernet LED's/Status LED's			
Size	Variant Name = Proj PROC053 001 OPN# TMSIDK574		Rev
C			A
Date: Tuesday, March 13, 2018	Sheet: 15 of 34		

U1-24
AM574X Camera #1 Industrial EVM
 GPMC_A10/VIN4B_CLKI
 GPMC_A9/VIN4B_VSYNCl
 GPMC_A8/VIN4B_HSYNCl
 GPMC_A11/VIN4B_DEl
 GPMC_A12/VIN4B_FLDl
 GPMC_A0/VIN4B_D0
 GPMC_A1/VIN4B_D1
 GPMC_A2/VIN4B_D2
 GPMC_A3/VIN4B_D3
 GPMC_A4/VIN4B_D4
 GPMC_A5/VIN4B_D5
 GPMC_A6/VIN4B_D6
 GPMC_A7/VIN4B_D7
 XREF_CLK3/CLKOUT3
 AM5749ABZXE

N9 AM572X_VIN4B_PCLK
 R4 AM572X_VIN4B_VSYNCl
 N7 AM572X_VIN4B_HSYNCl
 P9 AM572X_VIN4B_DE
 P4 AM572X_VIN4B_FLD
 R6 AM572X_VIN4B_DATA0
 T9 AM572X_VIN4B_DATA1
 T6 AM572X_VIN4B_DATA2
 T7 AM572X_VIN4B_DATA3
 P6 AM572X_VIN4B_DATA4
 R9 AM572X_VIN4B_DATA5
 R5 AM572X_VIN4B_DATA6
 P5 AM572X_VIN4B_DATA7

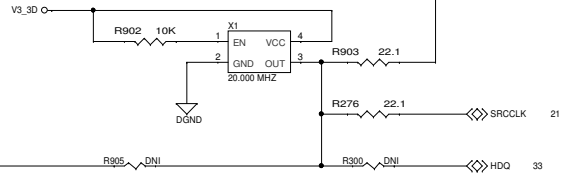
C23 AM57XX_CLKOUT3

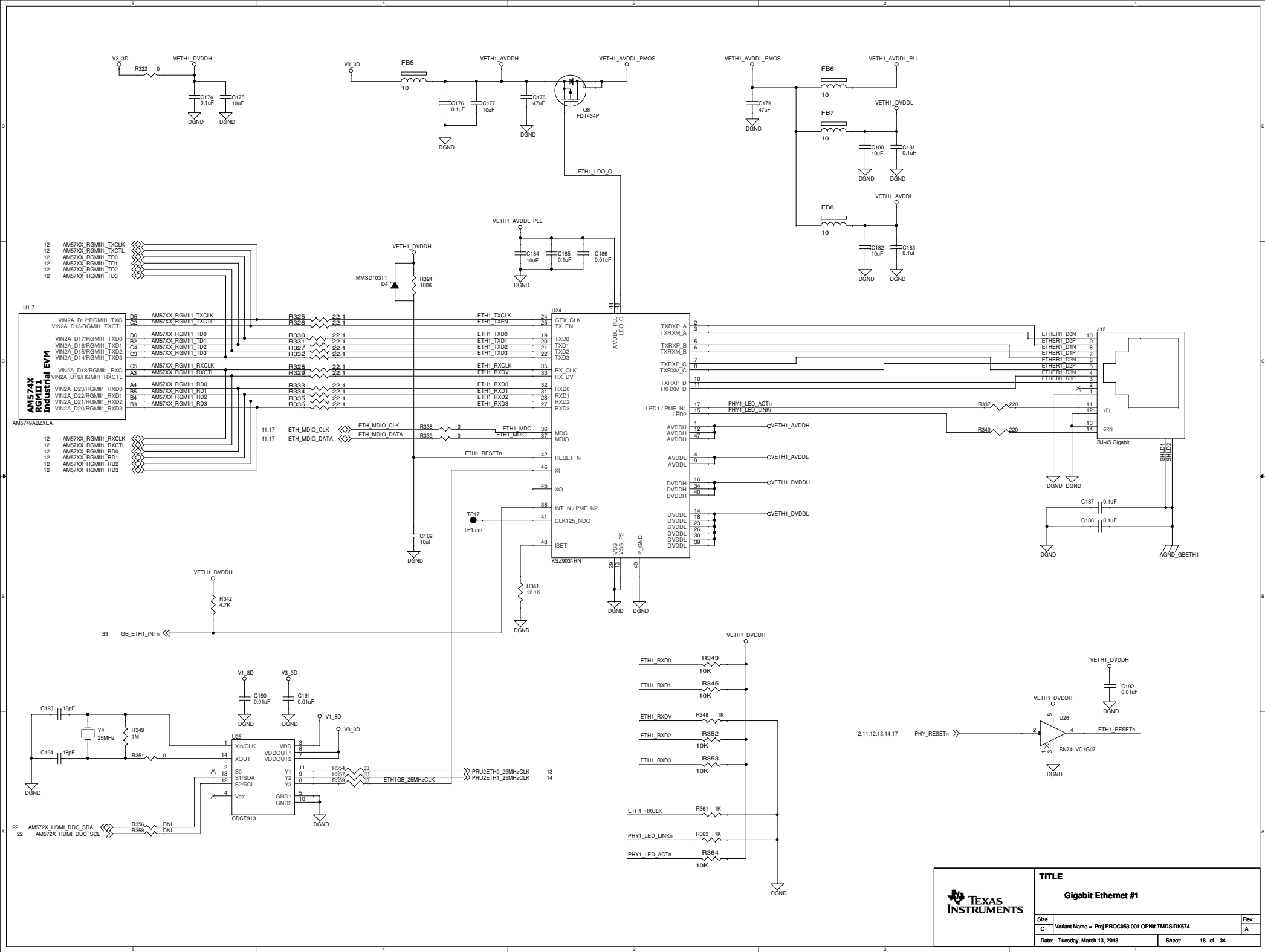
AM572X_VIN4B_DATA0 R260 0
 AM572X_VIN4B_DATA1 R261 0
 AM572X_VIN4B_DATA2 R262 0
 AM572X_VIN4B_PCLK R263 0
 AM572X_VIN4B_DATA3 R267 0
 AM572X_VIN4B_DATA4 R268 0
 AM572X_VIN4B_DATA5 R271 0
 AM572X_VIN4B_DATA6 R272 0

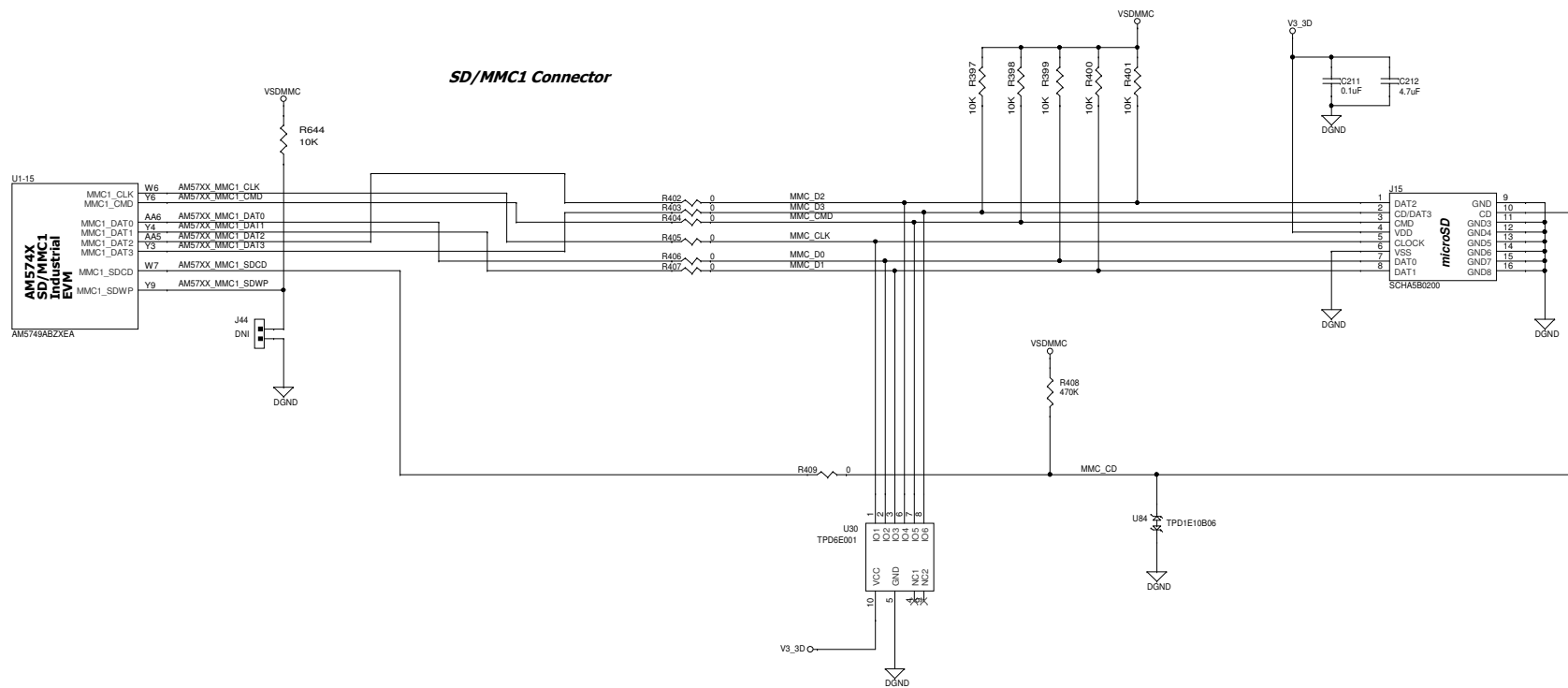
CAM1_DATA0 1
 CAM1_DATA1 3
 CAM1_DATA2 5
 CAM1_PCLK 7
 CAM1_DATA3 11
 CAM1_DATA4 13
 CAM1_DATA5 15
 CAM1_WEN 17
 CAM1_GIOT 19
 CAM1_FIELD 21
 CAM1_EN 23

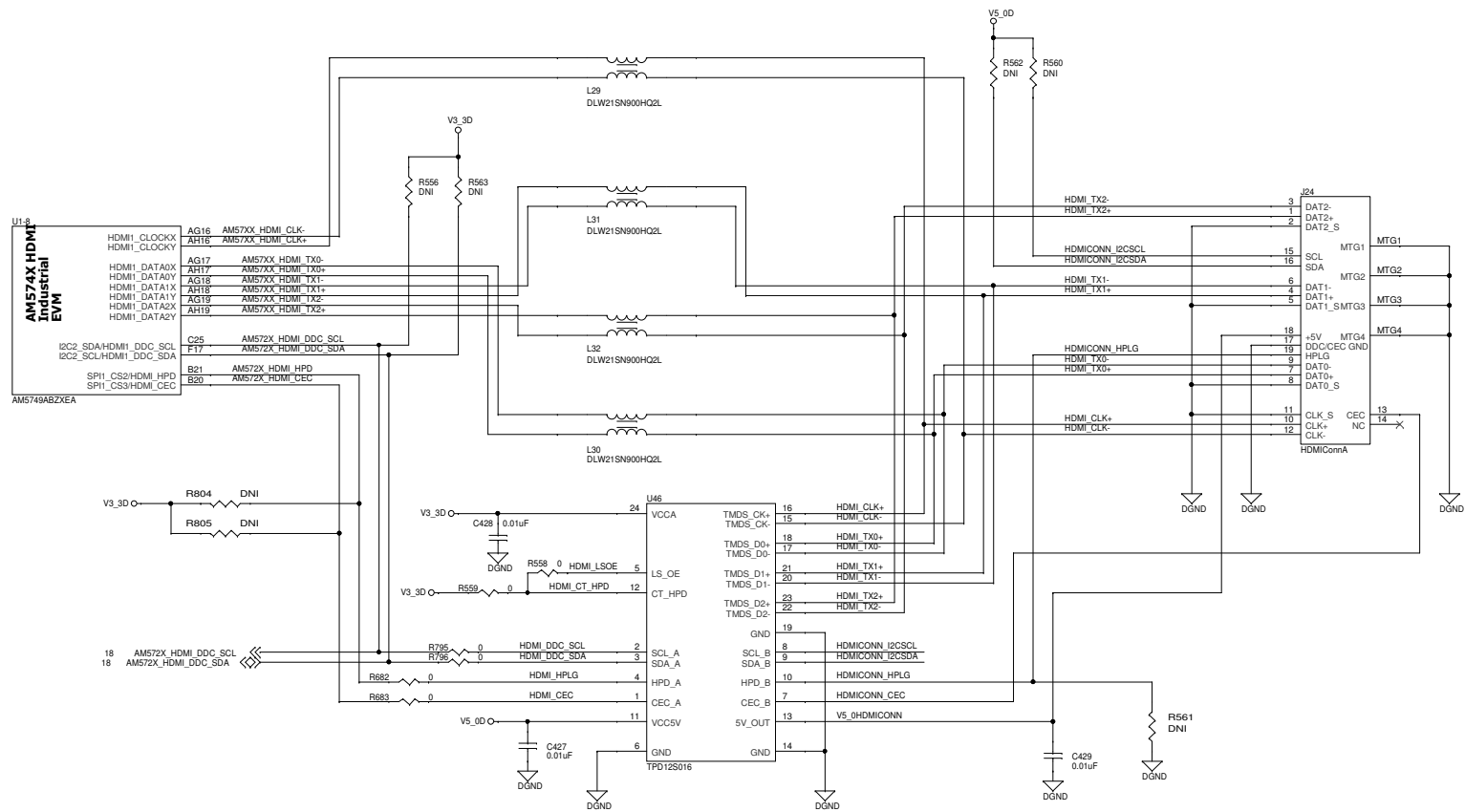
2 CAM1_VSYNCl R257 0
 4 CAM1_HSYNCl R258 0
 6 CAM1_DATA6 R265 0 AM572X_VIN4B_DATA6
 8 CAM1_DATA7 R266 0 AM572X_VIN4B_DATA7
 10
 12
 14 CAM1_GIOT
 16 CAM1_GIOT
 18 CAM1_FIELD R274 0
 20 CAM1_FIELD R275 0
 22 CAM1_FIELD R277 0
 24

V3_3D
 R259 10K
 CAM_EN 33
 IND_I2C_SCL 5,17,20,21,23,31,33
 IND_I2C_SDA 5,17,20,21,23,31,33









ID Memory

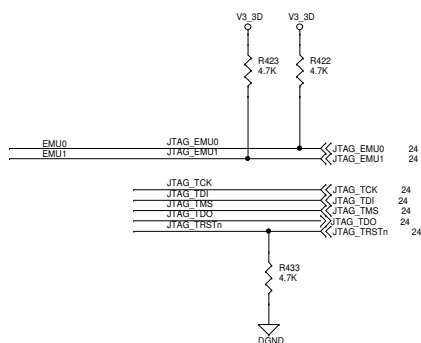
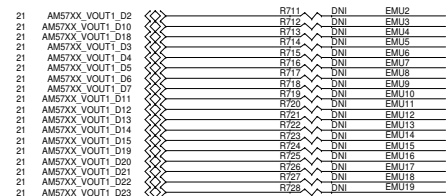
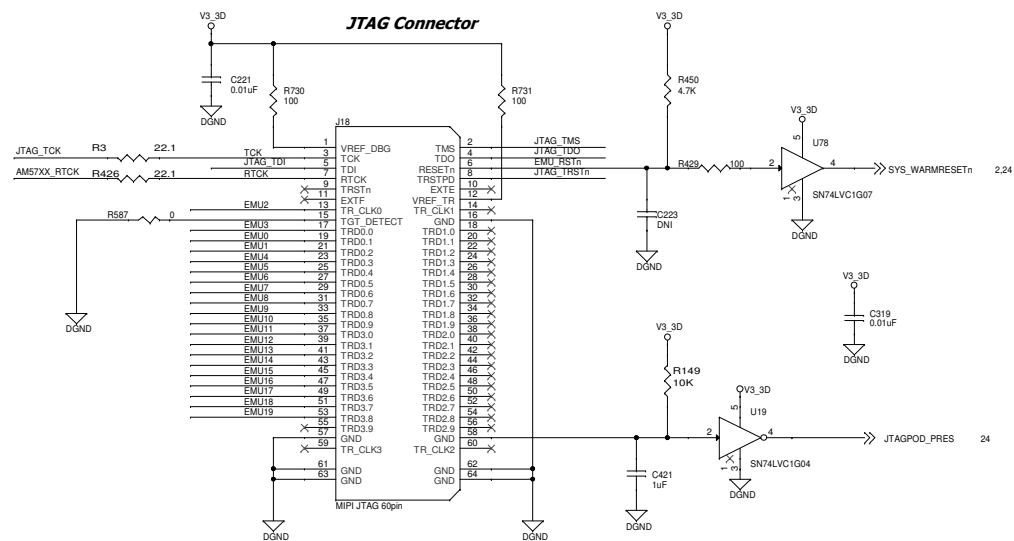
5,16,17,20,21,31,33
5,16,17,20,21,31,33

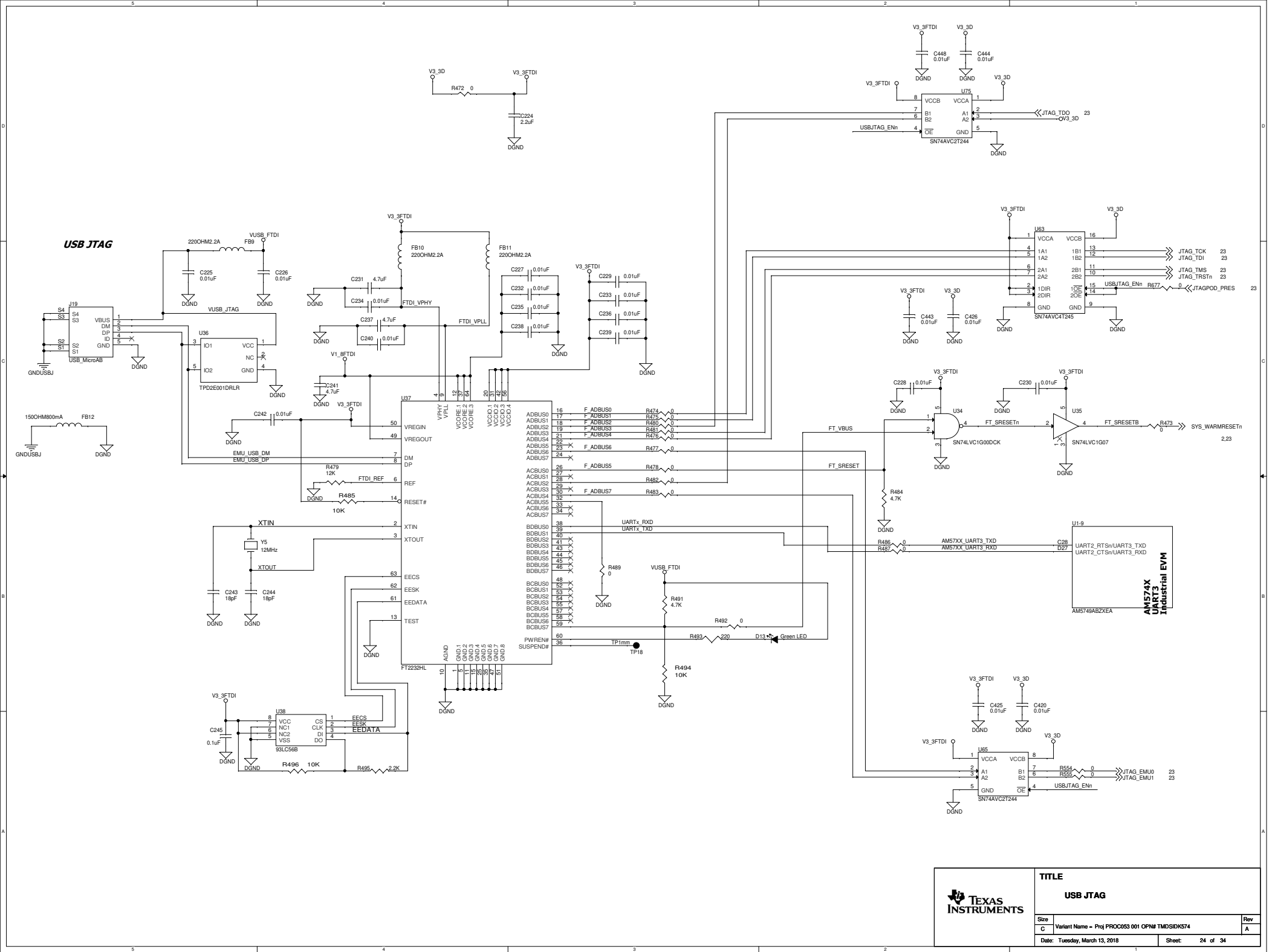
IND_I2C_SCL
IND_I2C_SDA

U33
SCL
VCC
SDA
VSS
A0
A1
A2
WP
CAT24C256W

DGND

V3_3D
C220
0.01uF
R421
DNI
V3_3D

[illegible]



U1-17
**AM574X
USB1
Industrial
EVM**
AM5749AB2XEAE

USB1_DP
USB1_DM
USB1_DRVVBUS
USB_RXN0
USB_RXP0
USB_TXN0
USB_TXP0

AD12 AM572X_USB1_DP
AC12 AM572X_USB1_DM
AB10 AM572X_USB1_DRVVBUS
AF12
AE12
AC11 AM572X_USB1_3_0_STDA_SSTX-
AD11 AM572X_USB1_3_0_STDA_SSTX+

R557 0
R553 10K
C554 0.1uF
C555 0.1uF

U66
IN
OUT
EN
GND
OC

TPS2065D
V5_0D
USB1_VBUS_EN
USB1_OVRCURn
R551 10K
OV3_3D

L11
ACM2012
VUSB_VBUS1
U64
TPD2EUSB30DRTR

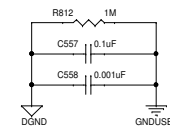
USB1_3_0_STDA_SSRX-
USB1_3_0_STDA_SSRX+
USB1_3_0_STDA_SSTX-
USB1_3_0_STDA_SSTX+

U95
D1+ NC6
D1- NC7
D2+ NC9
D2- NC10
GND
TPD4E05U06

J23
VBUS
DM
DP
GND
STDA_SSRX-
STDA_SSRX+
GND_DRAIN
STDA_SSTX-
STDA_SSTX+
USB3_0_SdA

S1
S2
GNDUSB1

USB1 Port



		TITLE	
		USB1 Port	
Size	Variant Name = Proj PROC053 001 OPN/ TMD5DK574		Rev
C			A
Date:	Tuesday, March 13, 2018	Sheet:	26 of 34

U1-29
**AM574X
USB2
Industrial
EVM**
AM5749ABZXE4

USB2_DP
USB2_DM
USB2_DRVVBUS
N1A_D12/GPIO

AE11 AM572X_USB2_DP
AF11 AM572X_USB2_DM
AC10 AM572X_USB2_DRVVBUS
AF2 GPIO_AM572X_USB2_ID

R787 0

R788 100

V5_0D

USB2_VBUS_EN

R791 10K

DGND

IN

IN

EN

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DGND

DGND

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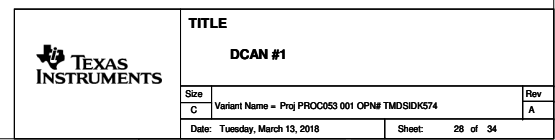
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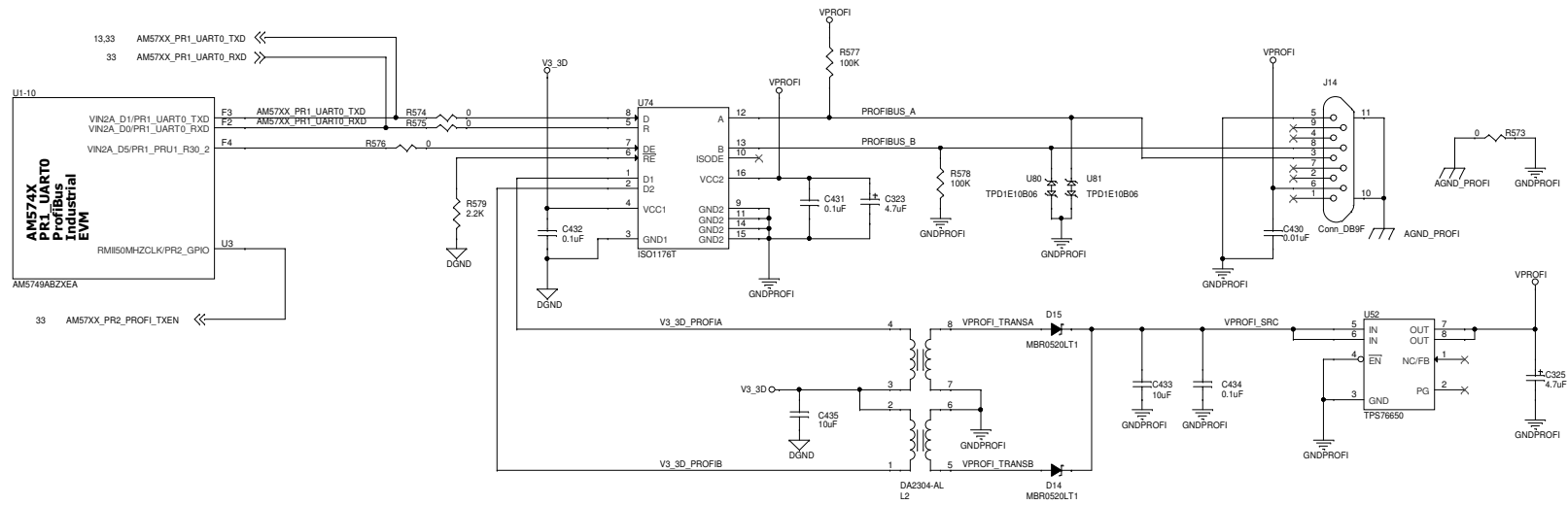
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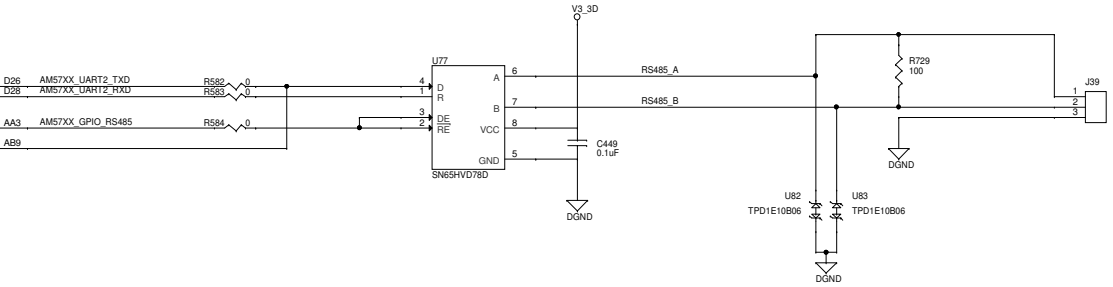


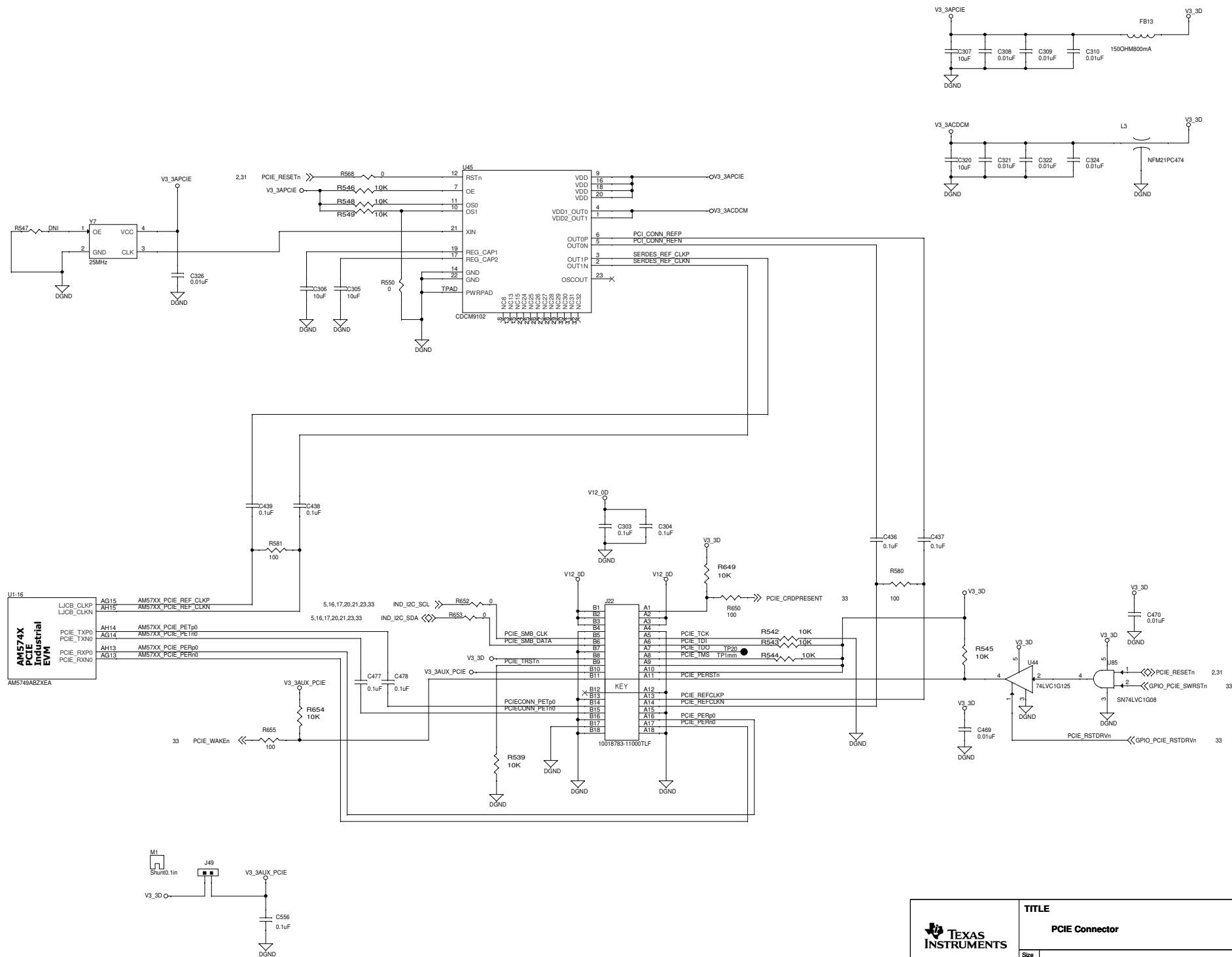
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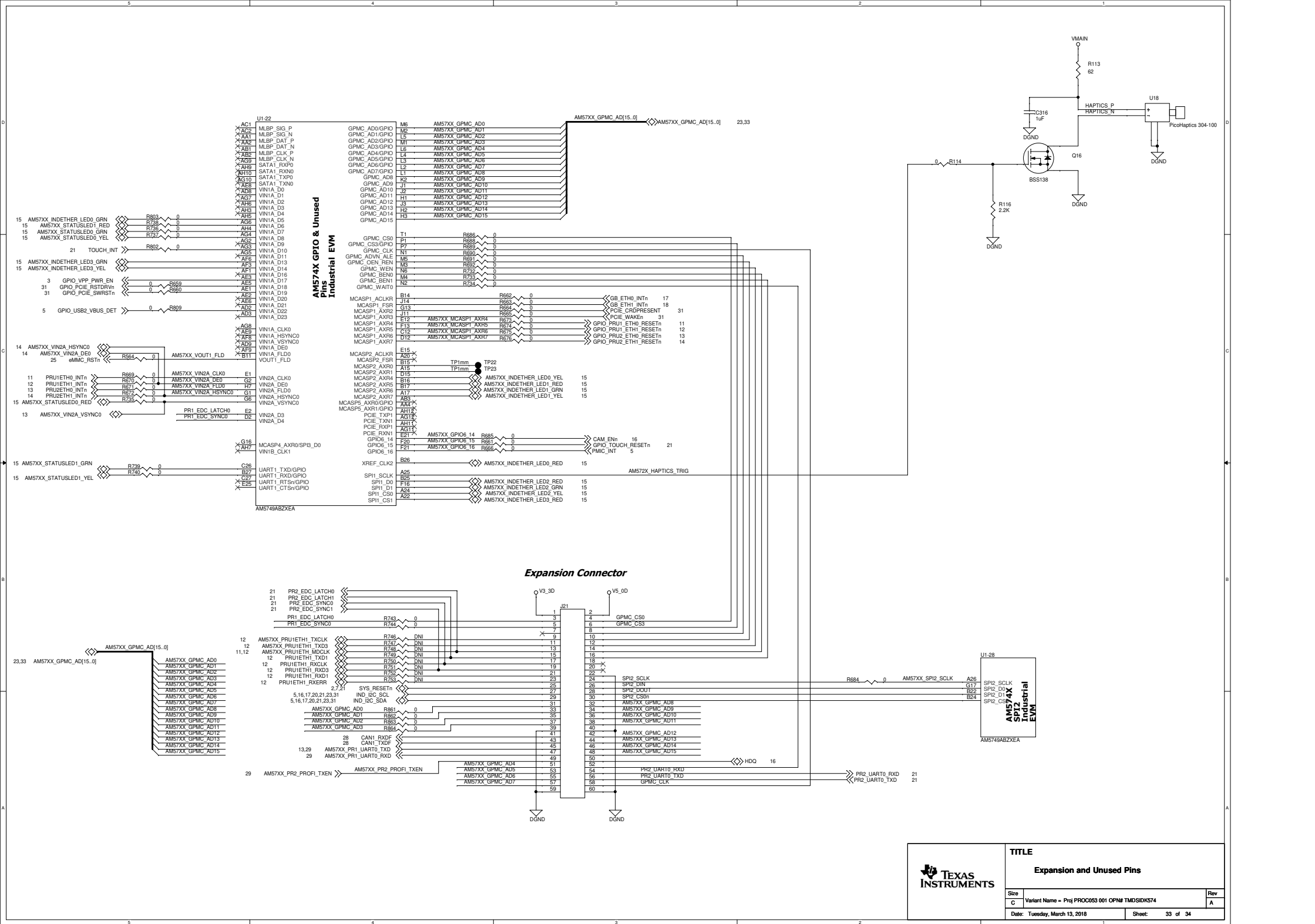
AM574X
RS-485
Industrial EVM

MCASP5_ACLKX/PR2_PRU1_R30_1
MCASP5_FSX/PR2_PRU1_R31_2

AM5749ABZXE4







PCB LOGO:
Texas Instruments



PCB LOGO:
WEEE and CE



PCB LOGO:
FCC disclaimer

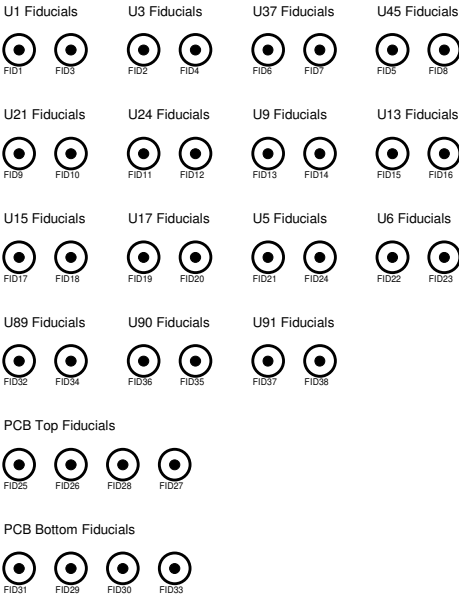
For evaluation only; not
FCC approved for resale

PCB LOGO:
Caution Hot Surface



Install label in silkscreened box after final wash.
Text shall be 8 pt. Text shall be per the label table in the PDF schematics

- Assembly Notes:
1. These assemblies are ESD sensitive. ESD precautions shall be observed.
 2. These assemblies must be clean and free from flux and all contaminants. Use of 'no clean flux' is not acceptable.
 3. These assemblies must comply with workmanship standard IPC-A-610 Class 2, unless otherwise specified.
 4. Each finished board will receive a serial number sticker during final testing.
 5. Each finished board will receive a MAC Address sticker during final testing.
 6. Install header shunt M1 (on J49) and M2 (on J50) during final testing.



PCB1
PROC053

Variant / Label Table	
Variant	Label Text
001	TMD5DK574
002	TMD5DK574H

LBL1
PCB LABEL

TITLE	
Hardware	
Size	Rev
C	A
Variant Name = Proj PROC053 001 OPN# TMD5DK574	
Date: Tuesday, March 13, 2018	Sheet: 34 of 34