MAXWELL INDUSTRIAL APPLICATION BOARD

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TEXAS INSTRUMENTS

MISTRAL

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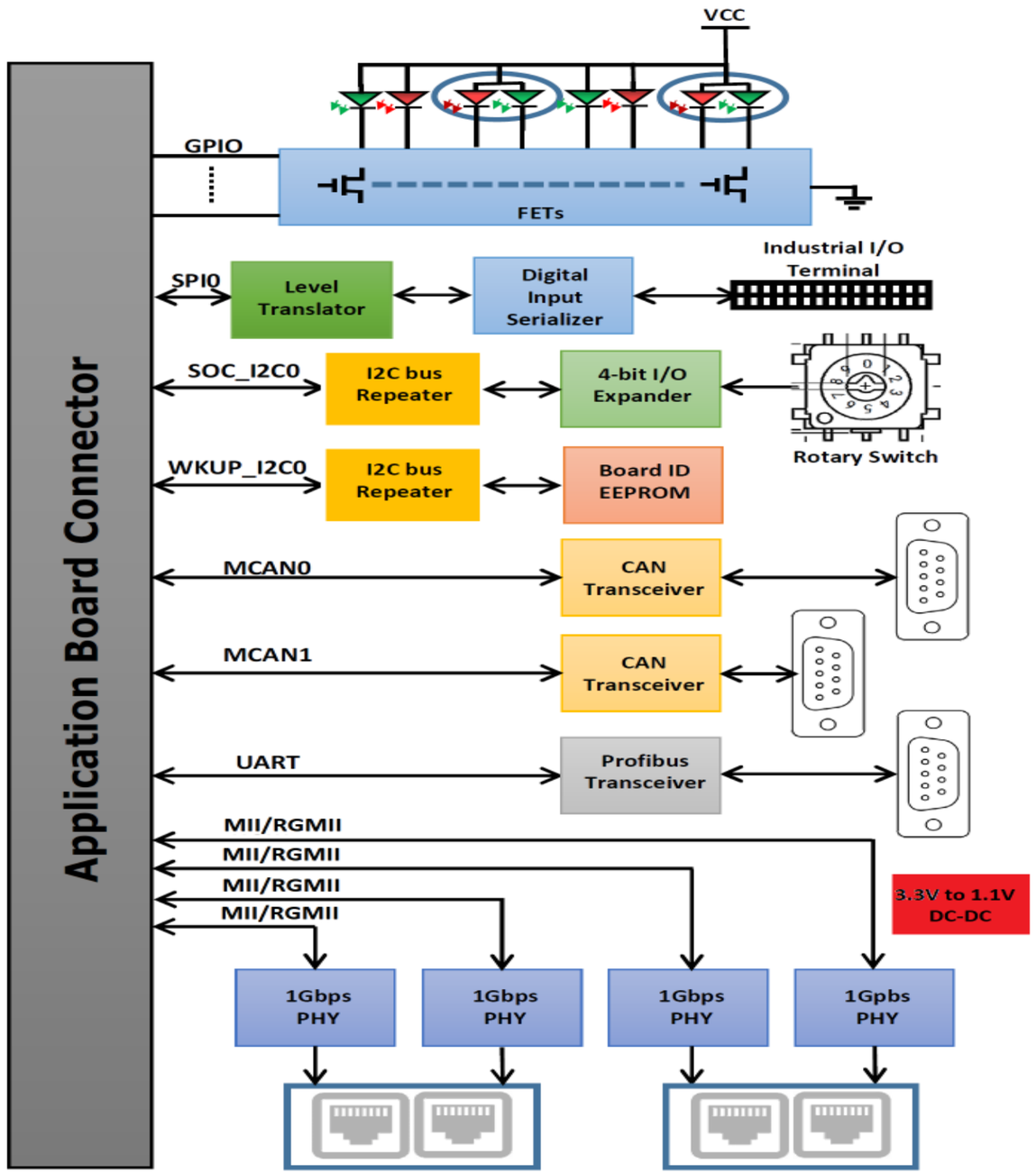
REVISION HISTORY

VER #	DATE	DESCRIPTION OF CHANGES	AUTHOR	REVIEWED BY	APPROVED BY
0.1	30th JAN 2020	Drafted from Rev E4, Ver 1.0 schematics.	Mistral Design Team	AJIT MB	AJIT MB
0.2	30th JAN 2020	Installed R130 and R252	Mistral Design Team	AJIT MB	AJIT MB
0.3	20th FEB 2020	Updated alternate for 0.1uF capacitor	Mistral Design Team	AJIT MB	AJIT MB
1.0	20th FEB 2020	Baselined	Mistral Design Team	AJIT MB	AJIT MB

BLOCK DIAGRAM



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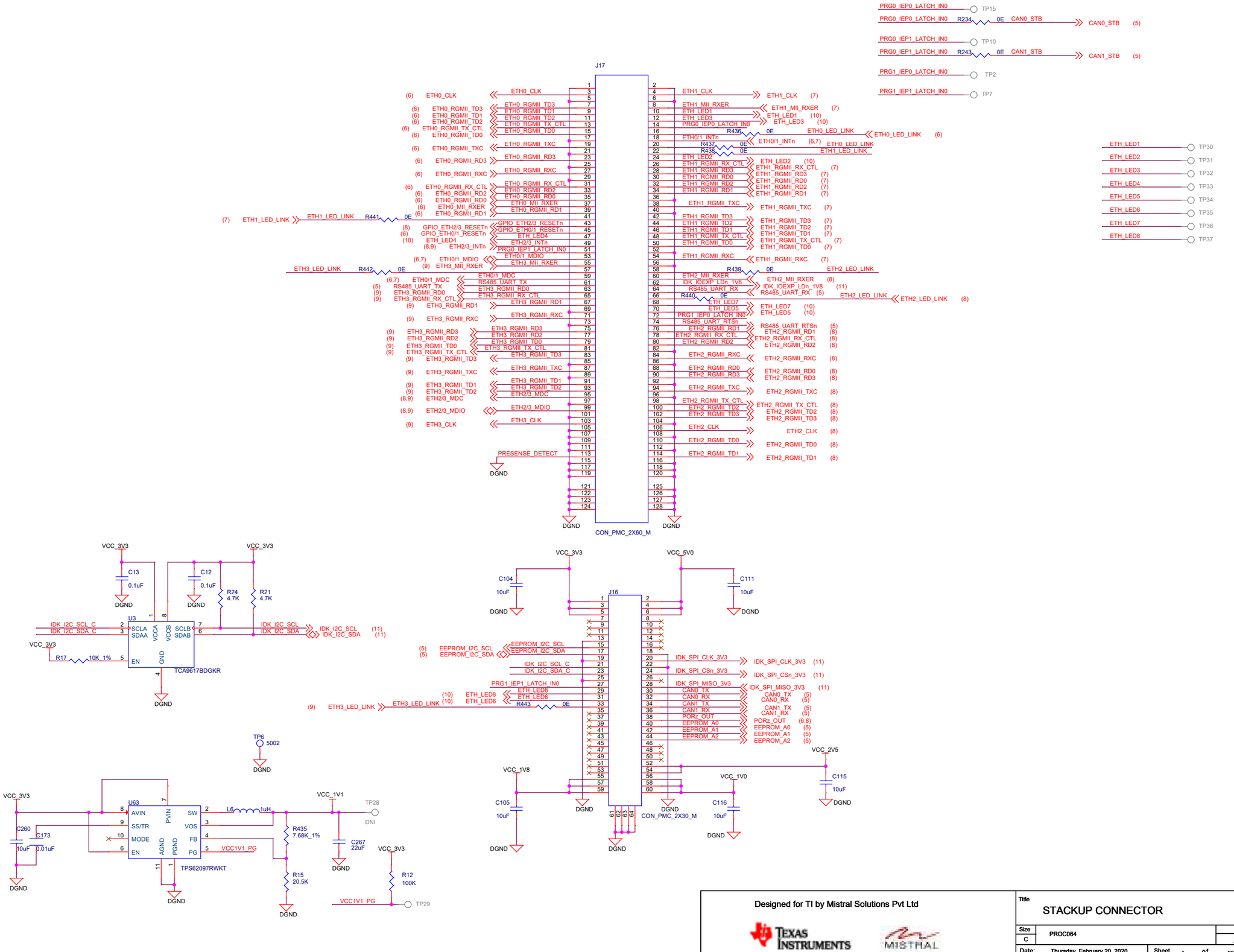
J17
CON_PMC_2X60_M
J16
CON_PMC_2X30_M
U3
TCA9617BDGKR
U63
TPS62097RWKT
TP6
5002
TP28
DNI
TP29
TP15
TP10
TP2
TP7
TP30
TP31
TP32
TP33
TP34
TP35
TP36
TP37
PRESENSE_DETECT
DGND
VCC_3V3
VCC_5V0
VCC_1V8
VCC_1V0
VCC_2V5
VCC_1V1
ETH1_LED_LINK
ETH3_LED_LINK
ETH2_LED_LINK
ETH0_LED_LINK
CAN0_STB
CAN1_STB
VCC1V1_PG
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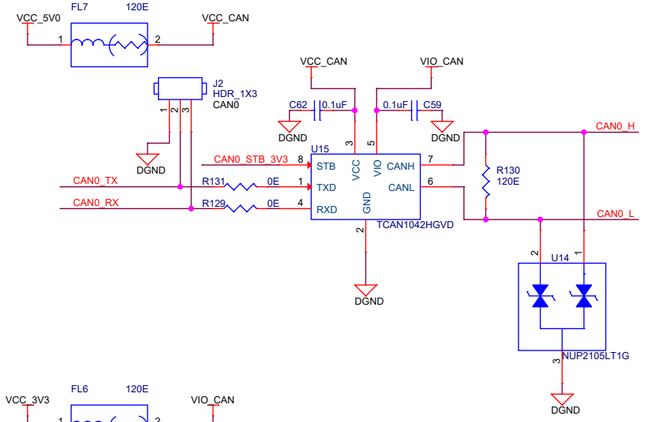
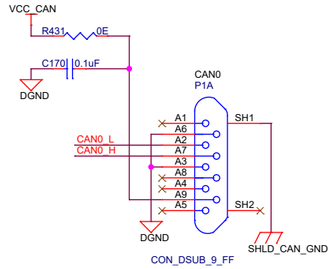
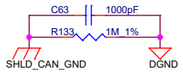
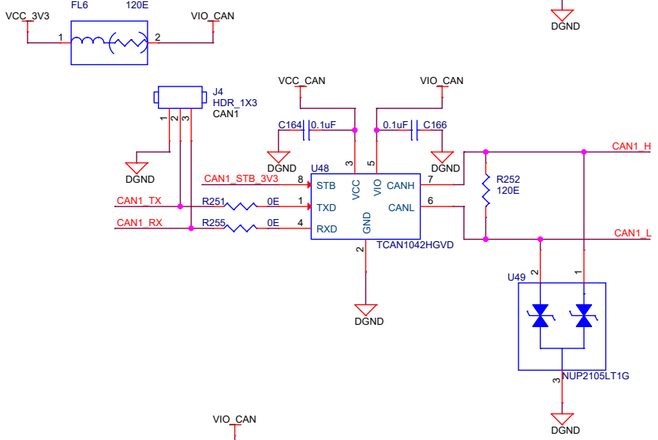
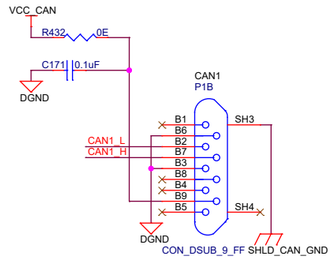
CAN INTERFACE

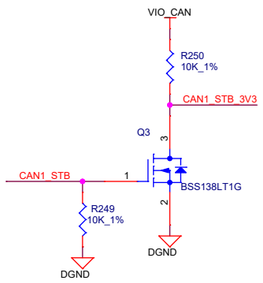


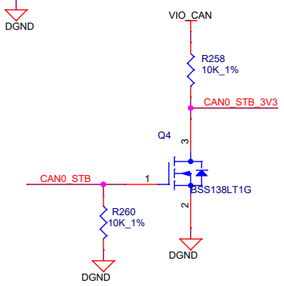




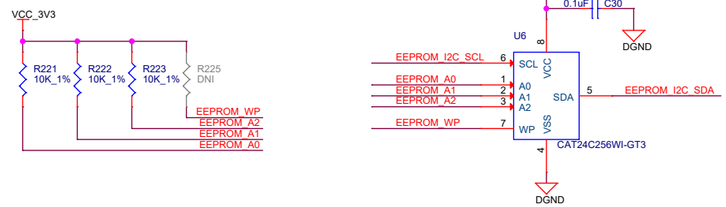






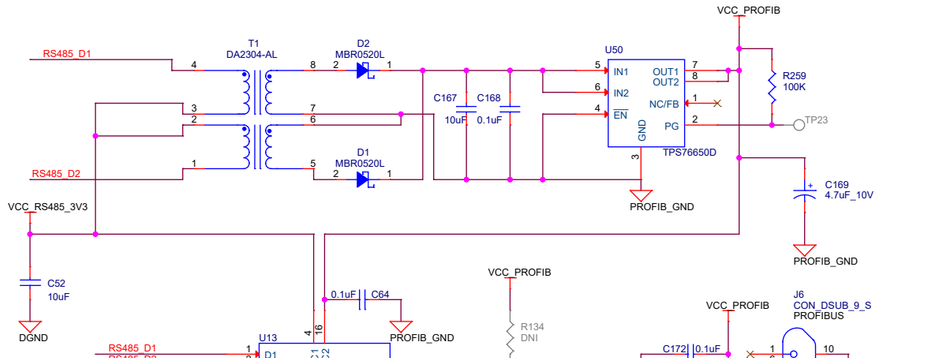


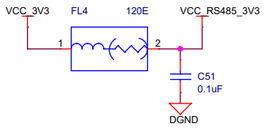
BOARD ID EEPROM

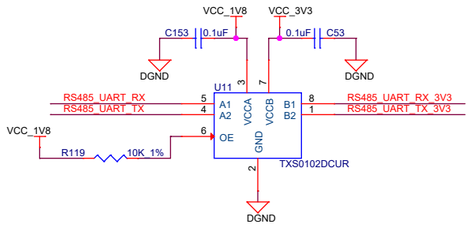


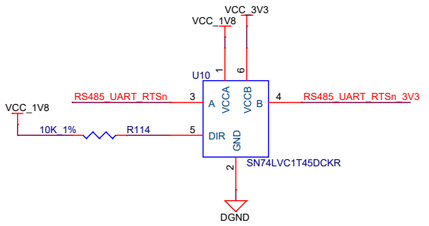
I2C address: 0x52h or Set by CP board

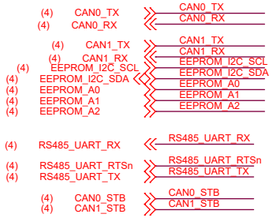
RS485 INTERFACE











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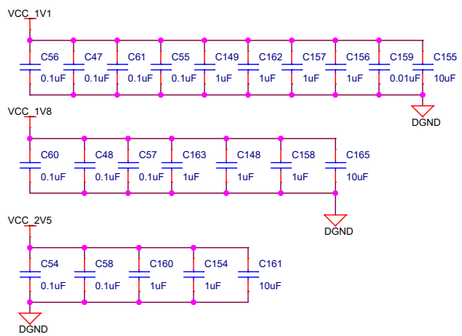
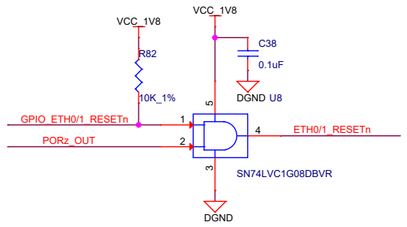
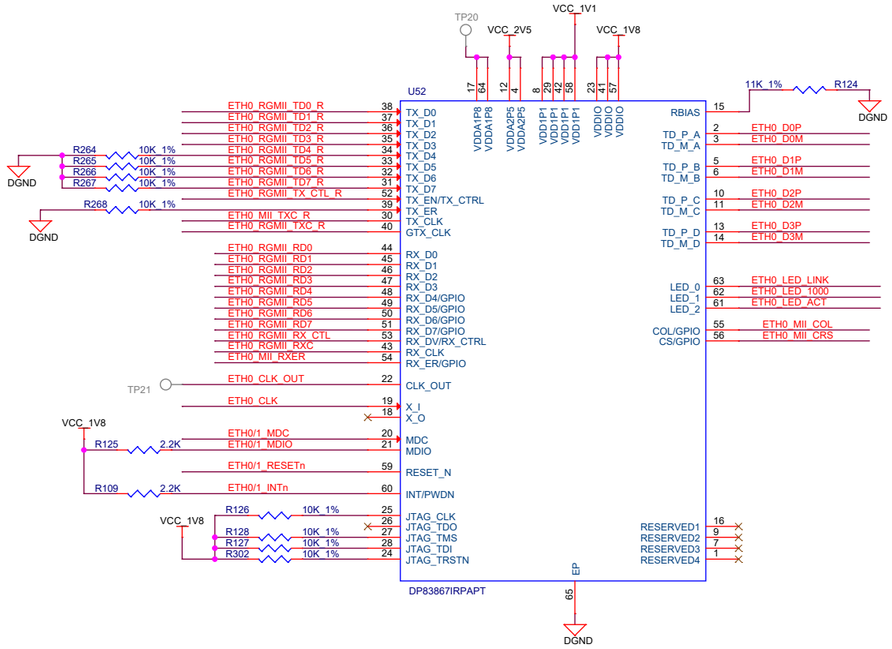
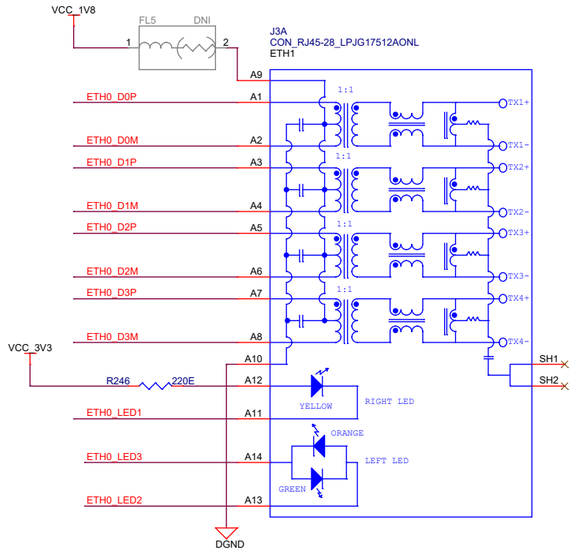
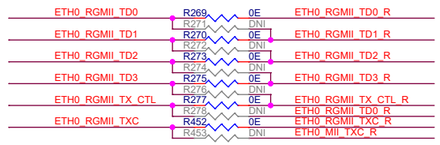






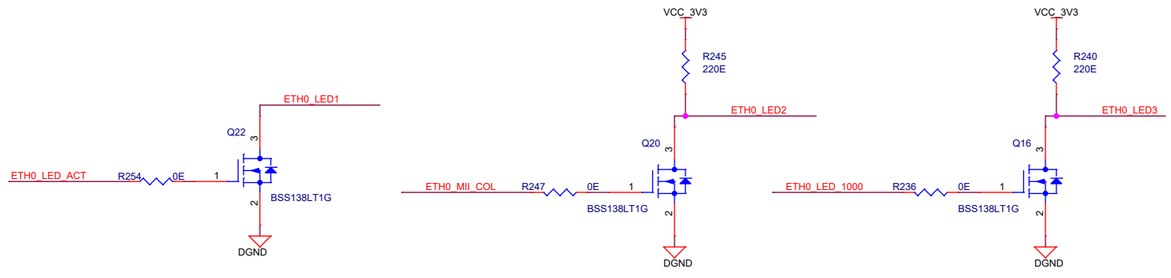


PHY ADD = 00000
Auto_neg =Enabled
ANEGsel 10/100/1000



RGMII Mode:
Mount : R269, R270, R273, R275, R277,R452
Unmount : R271, R272, R274, R276, R278, R290, R444, R445 ,R453

MII Mode:
Mount : R271, R272, R274, R276, R278, R290, R444, R445,R453
Unmount : R269, R270, R273, R275, R277,R452



ETH0_MII_RXER → ETH0_MII_RXER (4)

ETH0_CLK → ETH0_CLK (4)
ETH0_RGMII_RD0 → ETH0_RGMII_RD0 (4)
ETH0_RGMII_RD1 → ETH0_RGMII_RD1 (4)
ETH0_RGMII_RD2 → ETH0_RGMII_RD2 (4)
ETH0_RGMII_RD3 → ETH0_RGMII_RD3 (4)
ETH0_RGMII_RX_CTL → ETH0_RGMII_RX_CTL (4)
ETH0_RGMII_RXC → ETH0_RGMII_RXC (4)
ETH0_LED_LINK → ETH0_LED_LINK (4)
ETH0_RGMII_TX_CTL → ETH0_RGMII_TX_CTL (4)
ETH0_RGMII_TD0 → ETH0_RGMII_TD0 (4)
ETH0_RGMII_TD1 → ETH0_RGMII_TD1 (4)
ETH0_RGMII_TD2 → ETH0_RGMII_TD2 (4)
ETH0_RGMII_TD3 → ETH0_RGMII_TD3 (4)
ETH0_RGMII_TXC → ETH0_RGMII_TXC (4)
ETH0/1_INTn → ETH0/1_INTn (4,7)
GPIO_ETH0/1_RESETn → GPIO_ETH0/1_RESETn (4)
PORz_OUT → PORz_OUT (4,8)
ETH0/1_MDC → ETH0/1_MDC (4,7)
ETH0/1_MDIO → ETH0/1_MDIO (4,7)
ETH0/1_RESETn → ETH0/1_RESETn (7)

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Title: RGMII ETHERNET PHY 0

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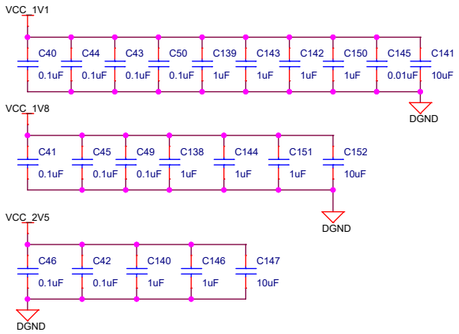
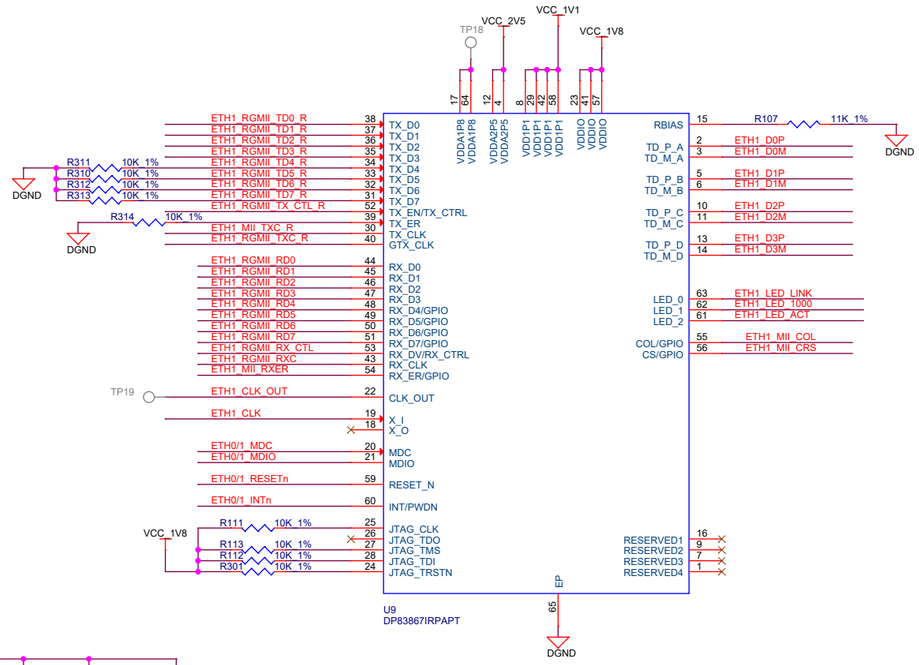
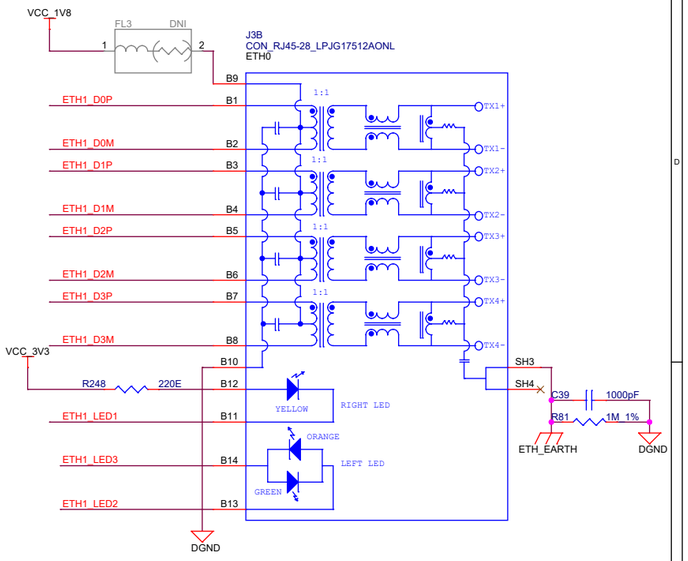
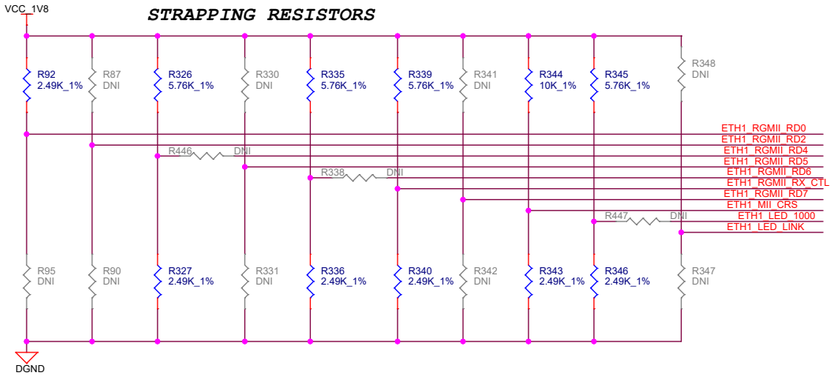
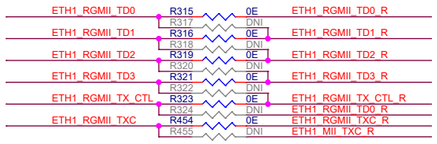






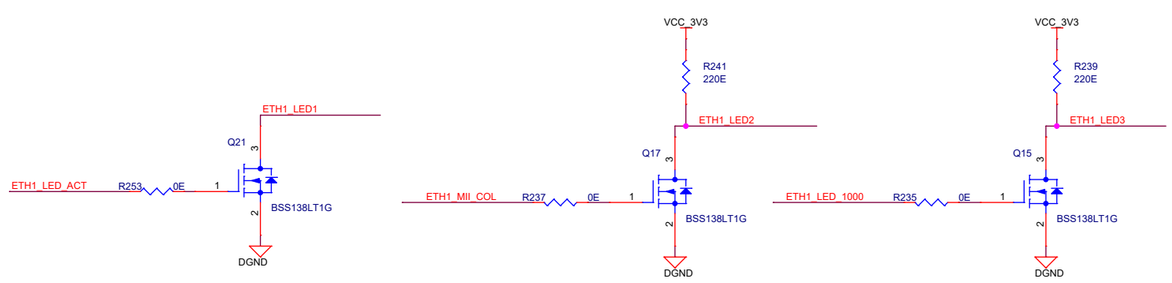


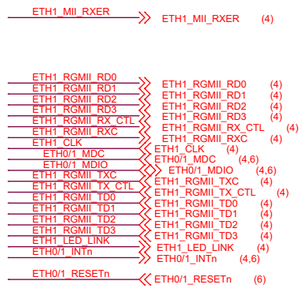
PHY ADD = 00011
Auto_neg =Enabled
ANEGsel 10/100/1000



RGMII Mode:
Mount : R315, R316, R319, R321, R323,R454
Unmount : R317, R318, R320, R322, R324, R338, R446, R447 ,R455

MII Mode:
Mount : R317, R318, R320, R322, R324, R338, R446, R447,R455
Unmount : R315, R316, R319, R321, R323,R454





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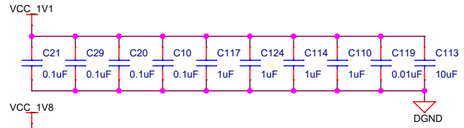
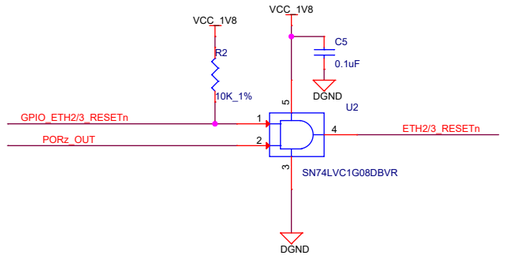
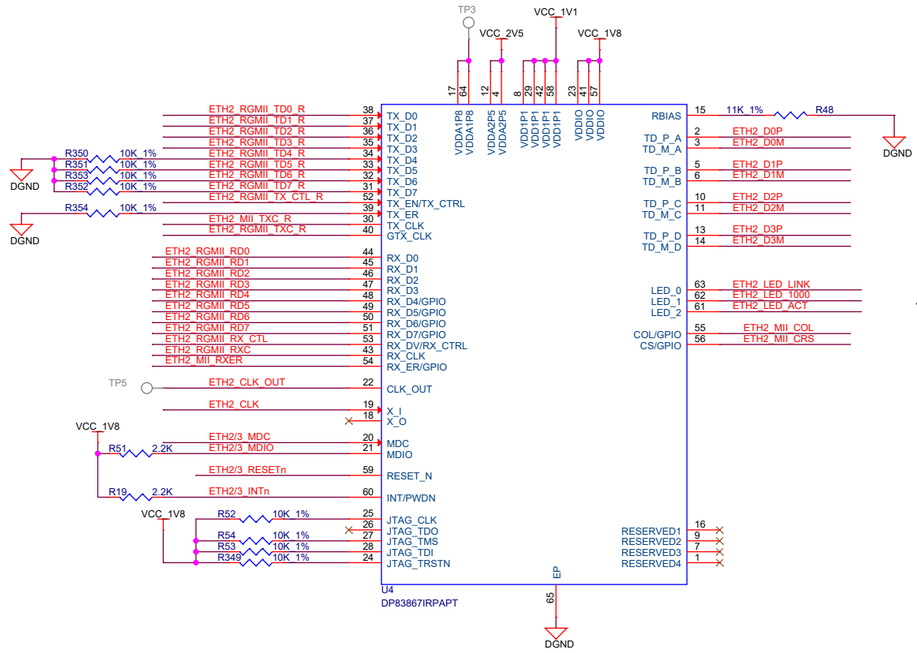
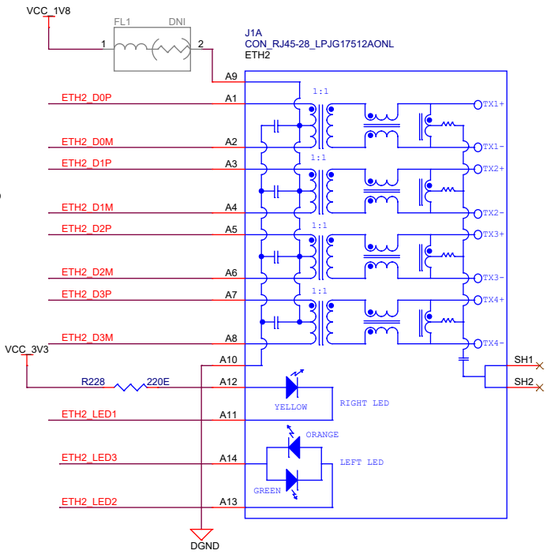
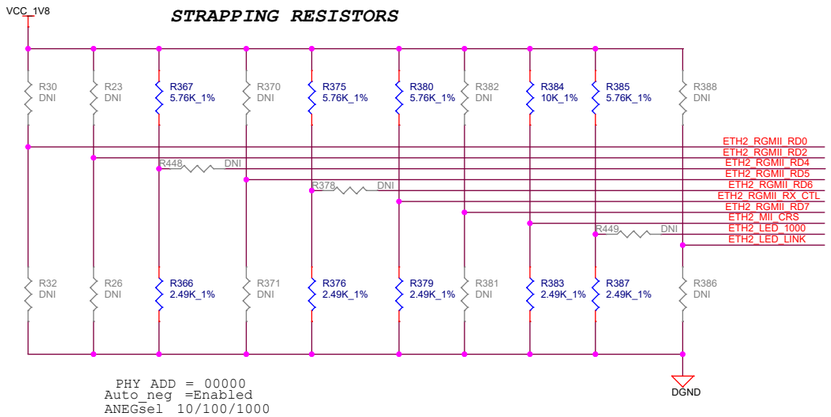
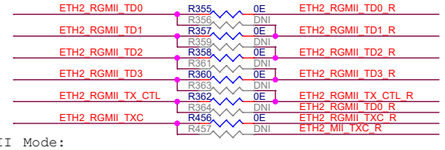












RGMII Mode:
Mount : R355, R357, R358, R360, R362,R456
Unmount : R356, R359, R361, R363, R364, R378, R448, R449 ,R457

MII Mode:
Mount : R356, R359, R361, R363, R364, R378, R448, R449,R457
Unmount : R355, R357, R358, R360, R362,R456

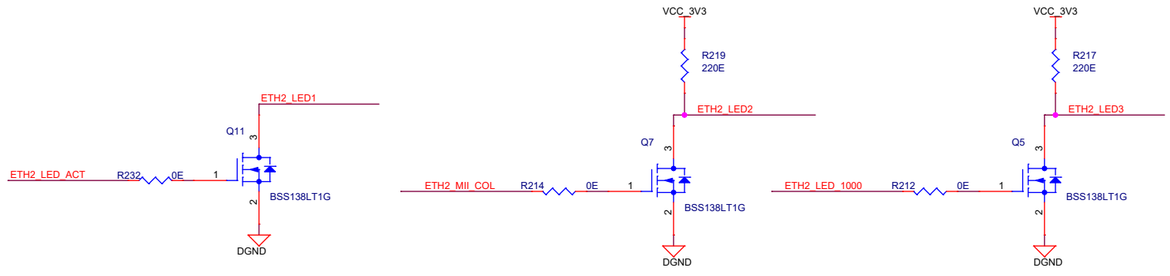
(4) ETH2_MII_RXER ← ETH2_MII_RXER

(4) ETH2_LED_LINK ← ETH2_LED_LINK
(4,9) ETH2/3_INTn ← ETH2/3_INTn
(4) ETH2_CLK ← ETH2_CLK
(4) ETH2_RGMII_TD0 ← ETH2_RGMII_TD0
(4) ETH2_RGMII_TD1 ← ETH2_RGMII_TD1
(4) ETH2_RGMII_TD2 ← ETH2_RGMII_TD2
(4) ETH2_RGMII_TD3 ← ETH2_RGMII_TD3
(4) ETH2_RGMII_TXC ← ETH2_RGMII_TXC
(4) ETH2_RGMII_TX_CTL ← ETH2_RGMII_TX_CTL

(4) ETH2_RGMII_RD0 ← ETH2_RGMII_RD0
(4) ETH2_RGMII_RD1 ← ETH2_RGMII_RD1
(4) ETH2_RGMII_RD2 ← ETH2_RGMII_RD2
(4) ETH2_RGMII_RD3 ← ETH2_RGMII_RD3
(4) ETH2_RGMII_RXC ← ETH2_RGMII_RXC
(4) ETH2_RGMII_RX_CTL ← ETH2_RGMII_RX_CTL

(4,9) ETH2/3_MDC ↔ ETH2/3_MDC
(4,9) ETH2/3_MDIO ↔ ETH2/3_MDIO

(4) GPIO_ETH2/3_RESETn → GPIO_ETH2/3_RESETn
(4,6) PORz_OUT → PORz_OUT
(9) ETH2/3_RESETn → ETH2/3_RESETn



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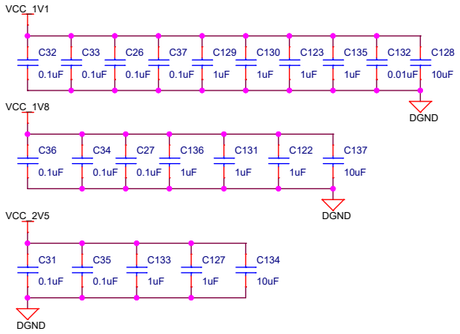
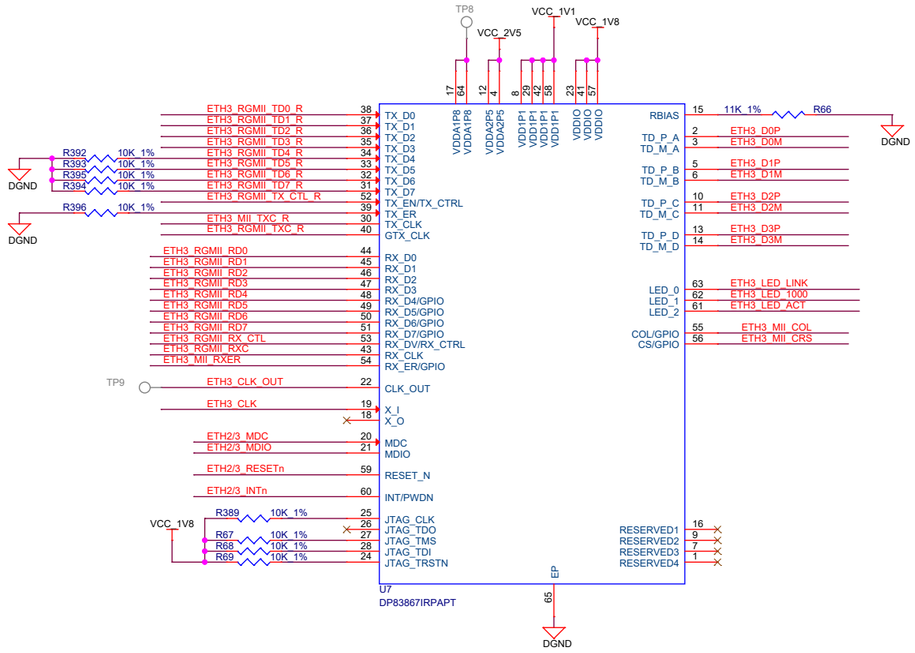
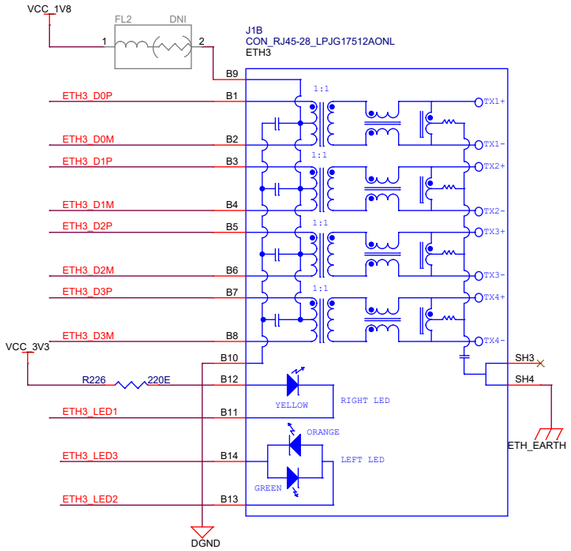
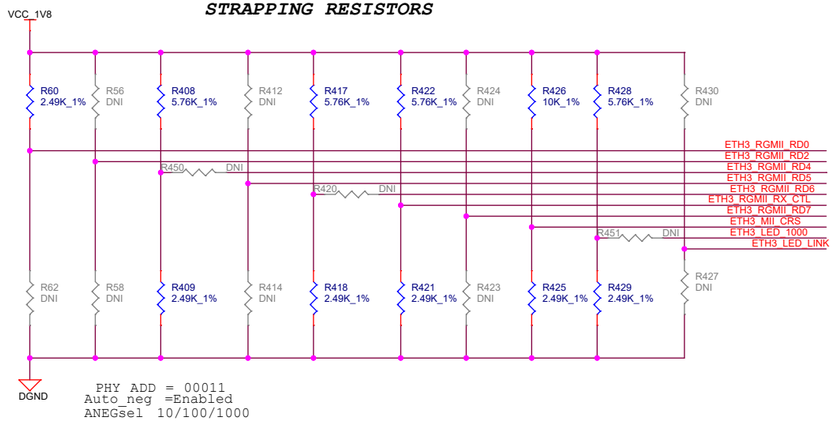
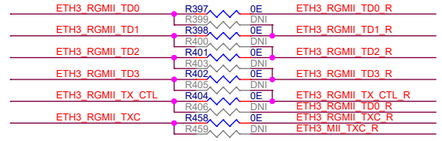






STRAPPING RESISTORS






```
RGMII Mode:
Mount : R397, R398, R401, R402, R404,R458
Unmount : R399, R400, R403, R405, R406, R420, R450, R451,R459

MII Mode:
Mount : R399, R400, R403, R405, R406, R420, R450, R451,R459
Unmount : R397, R398, R401, R402, R404,R458
```

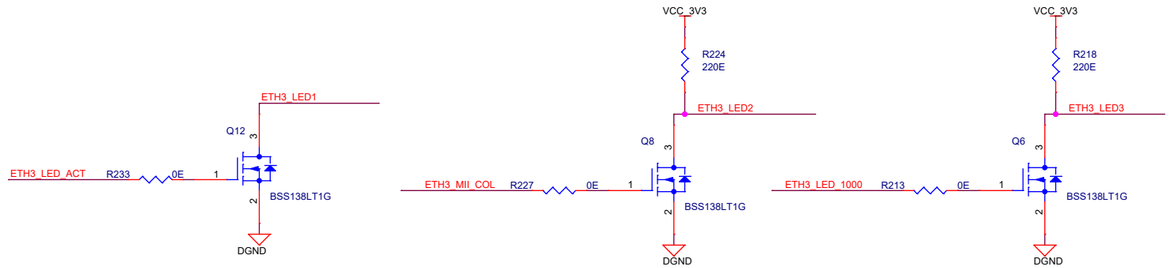
(4) ETH3_MII_RXER — ETH3_MII_RXER

(4) ETH3_LED_LINK — ETH3_LED_LINK
(4,8) ETH2/3_INTn — ETH2/3_INTn
(4) ETH3_CLK — ETH3_CLK
(4) ETH3_RGMII_TD0 — ETH3_RGMII_TD0
(4) ETH3_RGMII_TD1 — ETH3_RGMII_TD1
(4) ETH3_RGMII_TD2 — ETH3_RGMII_TD2
(4) ETH3_RGMII_TD3 — ETH3_RGMII_TD3
(4) ETH3_RGMII_TXC — ETH3_RGMII_TXC
(4) ETH3_RGMII_TX_CTL — ETH3_RGMII_TX_CTL

(4) ETH3_RGMII_RD0 — ETH3_RGMII_RD0
(4) ETH3_RGMII_RD1 — ETH3_RGMII_RD1
(4) ETH3_RGMII_RD2 — ETH3_RGMII_RD2
(4) ETH3_RGMII_RD3 — ETH3_RGMII_RD3
(4) ETH3_RGMII_RXC — ETH3_RGMII_RXC
(4) ETH3_RGMII_RX_CTL — ETH3_RGMII_RX_CTL

(4,8) ETH2/3_MDC — ETH2/3_MDC
(4,8) ETH2/3_MDIO — ETH2/3_MDIO

(8) ETH2/3_RESETn — ETH2/3_RESETn



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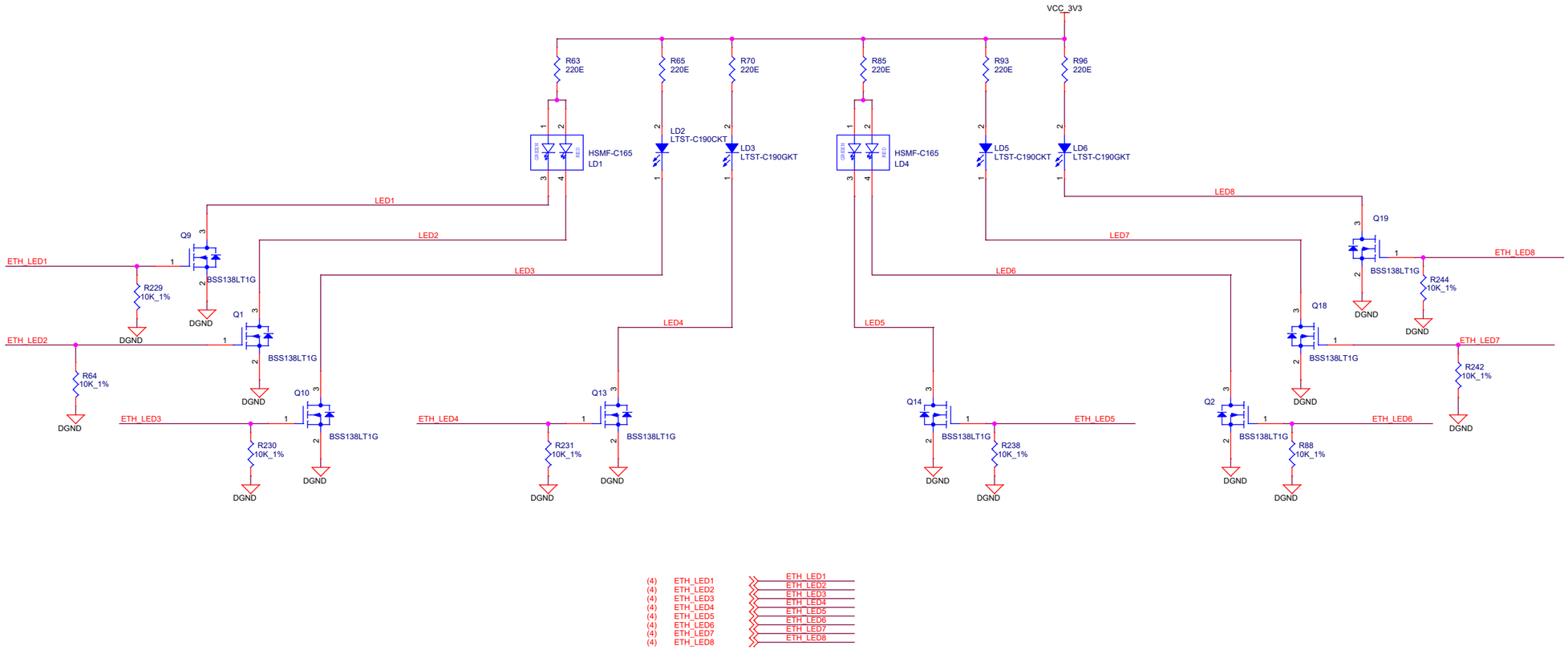

(4) ETH_LED1
(4) ETH_LED2
(4) ETH_LED3
(4) ETH_LED4
(4) ETH_LED5
(4) ETH_LED6
(4) ETH_LED7
(4) ETH_LED8

ETH_LED1
ETH_LED2
ETH_LED3
ETH_LED4
ETH_LED5
ETH_LED6
ETH_LED7
ETH_LED8

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Texas Instruments

MISTRAL

Title	LED		
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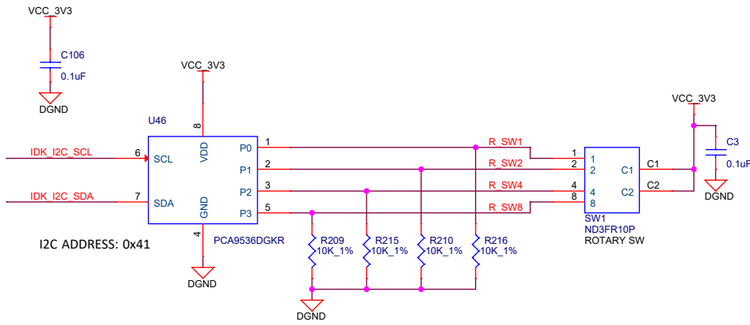

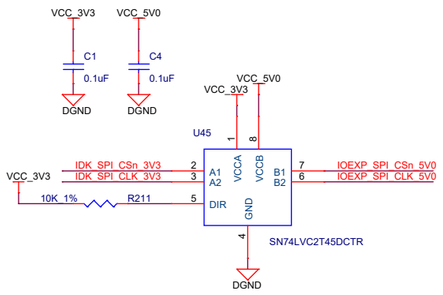

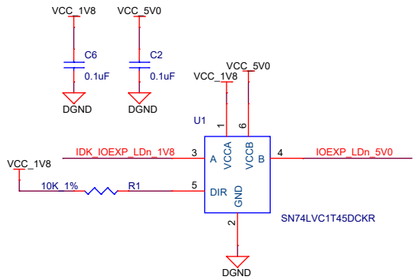

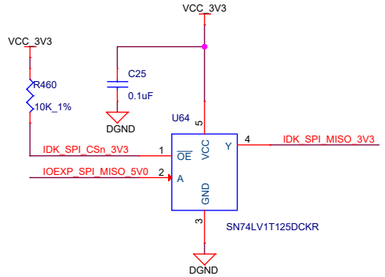

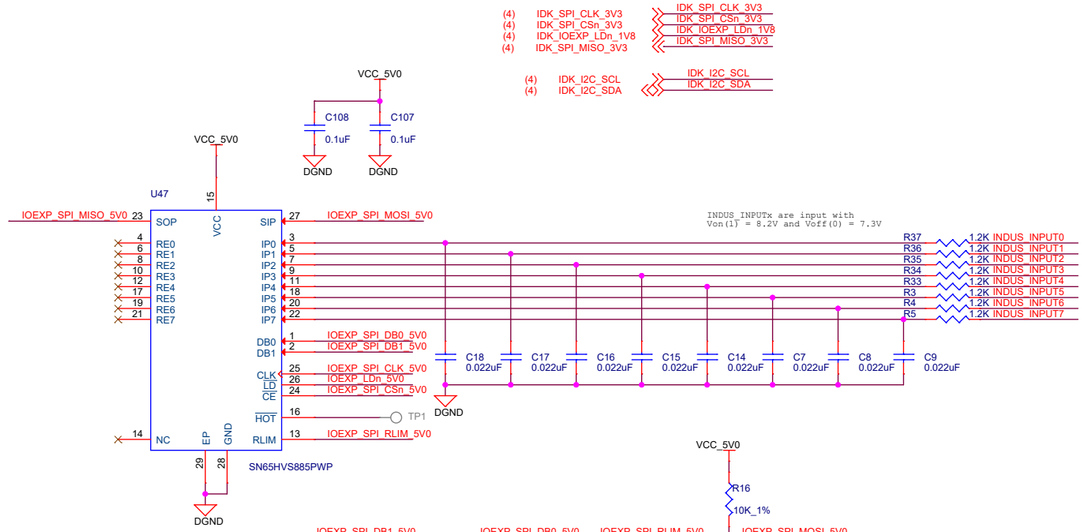

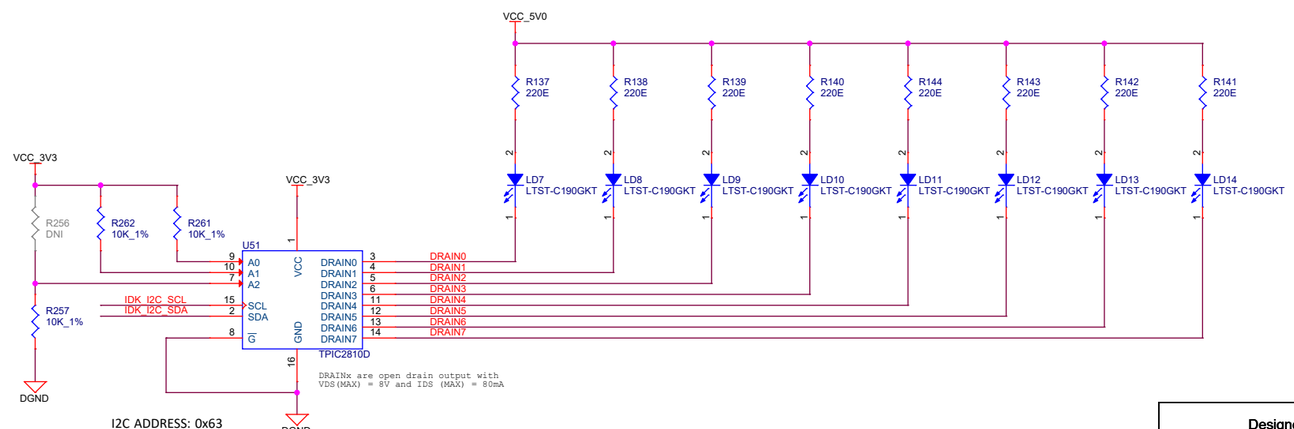

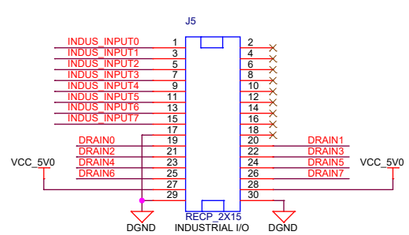

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Title: SPI/I2C IOEXPANDER

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HARDWARE SCHEMATICS

ASSEMBLY NOTES

1. All MSL components should be baked as per JEDEC standard.

2. PCB should be baked at 120 degree for 8 hours.

3. Board assembly must comply with workmanship standards. IPC-A-610 Class 2, unless otherwise specified.

4. These assemblies are ESD sensitive, ESD precautions shall be observed.

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

6. Provide serial numbers to the assembled boards for identification.

7. The assembled board are wrapped in ESD Covers(individual) and packed securely before shipment.

SCREWS

MH1 MH2 MH3 MH4

29300 29300 29300 29300

WASHER's

M1 M2 M3 M4

4692 4692 4692 4692

These mechanicals will be used to secure this board to PROC062

FIDUCIALS

FID1 DNI FID2 DNI FID3 DNI

FID4 DNI FID5 DNI FID6 DNI

LABELS

Board Serial No.

LBL1

PCB LABEL

THT-103-423-10

Assembly Revision

LBL2

PCB LABEL

THT-103-423-10

BARE PCB

PCB1

PROC064

LOGOs

PCB LOGO DNI

Texas Intruments

PCB LOGO DNI

For Evaluation only; not FCC approved for resale

PCB LOGO DNI

CE Mark

PCB LOGO DNI

WEEE Mark

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