MAXWELL INDUSTRIAL APPLICATION BOARD

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VER	1.0

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TEXAS INSTRUMENTS

MISTRAL

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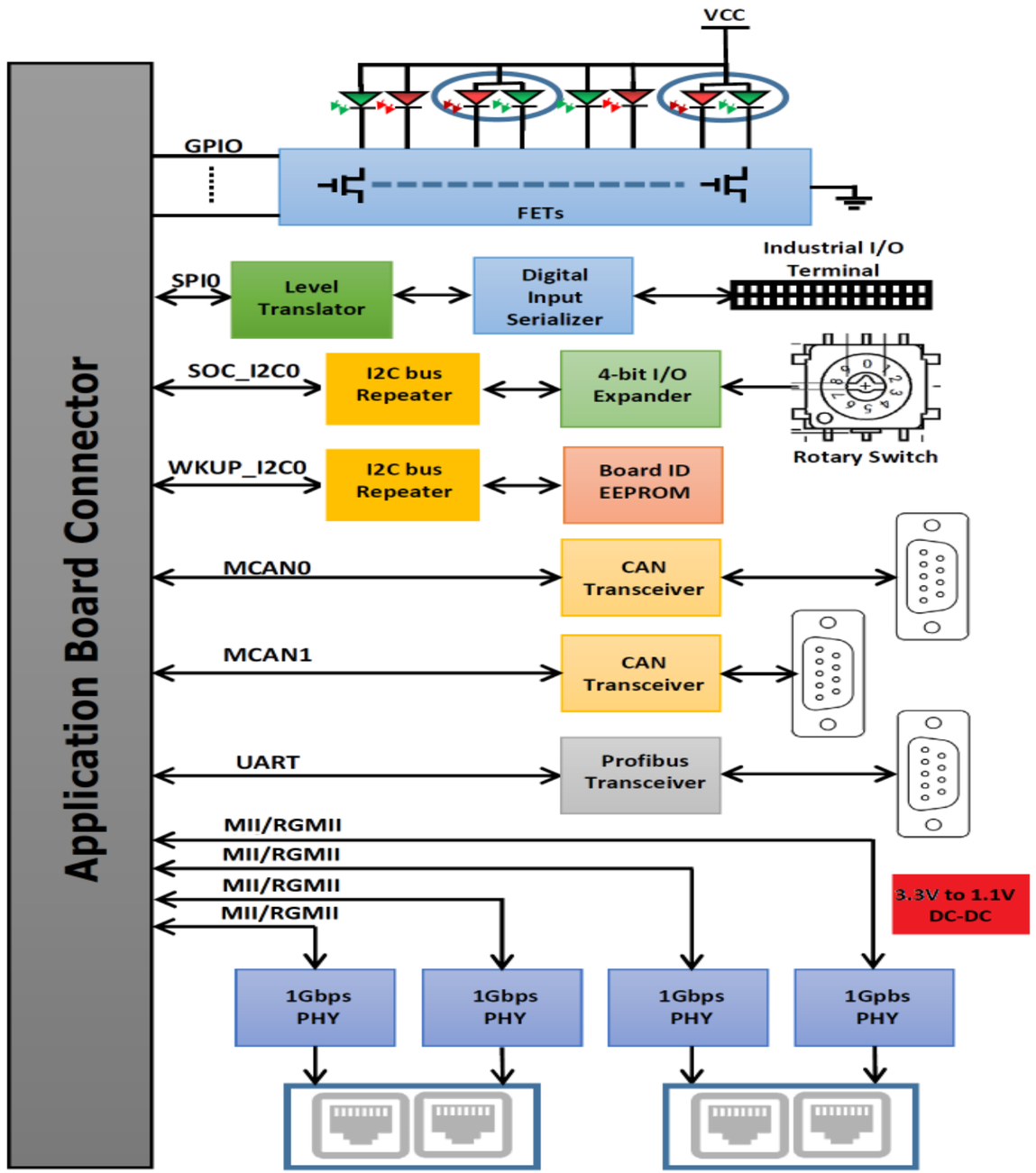
REVISION HISTORY

VER #	DATE	DESCRIPTION OF CHANGES	AUTHOR	REVIEWED BY	APPROVED BY
0.1	17th AUG 2018	Drafted from Rev E3, Ver 1.0 schematics.	Mistral Design Team	AJIT MB	AJIT MB
0.2	17th AUG 2018	Added TX_CLK jumper options to connect MII& RGMII mode and added Pullup on IDK_SPI_CSn_3V3 net	Mistral Design Team	AJIT MB	AJIT MB
0.3	23rd AUG 2018	Added Test Points on EDC_SYNC_OUT signals	Mistral Design Team	AJIT MB	AJIT MB
1.0	23rd AUG 2018	Baselined	Mistral Design Team	AJIT MB	AJIT MB

BLOCK DIAGRAM



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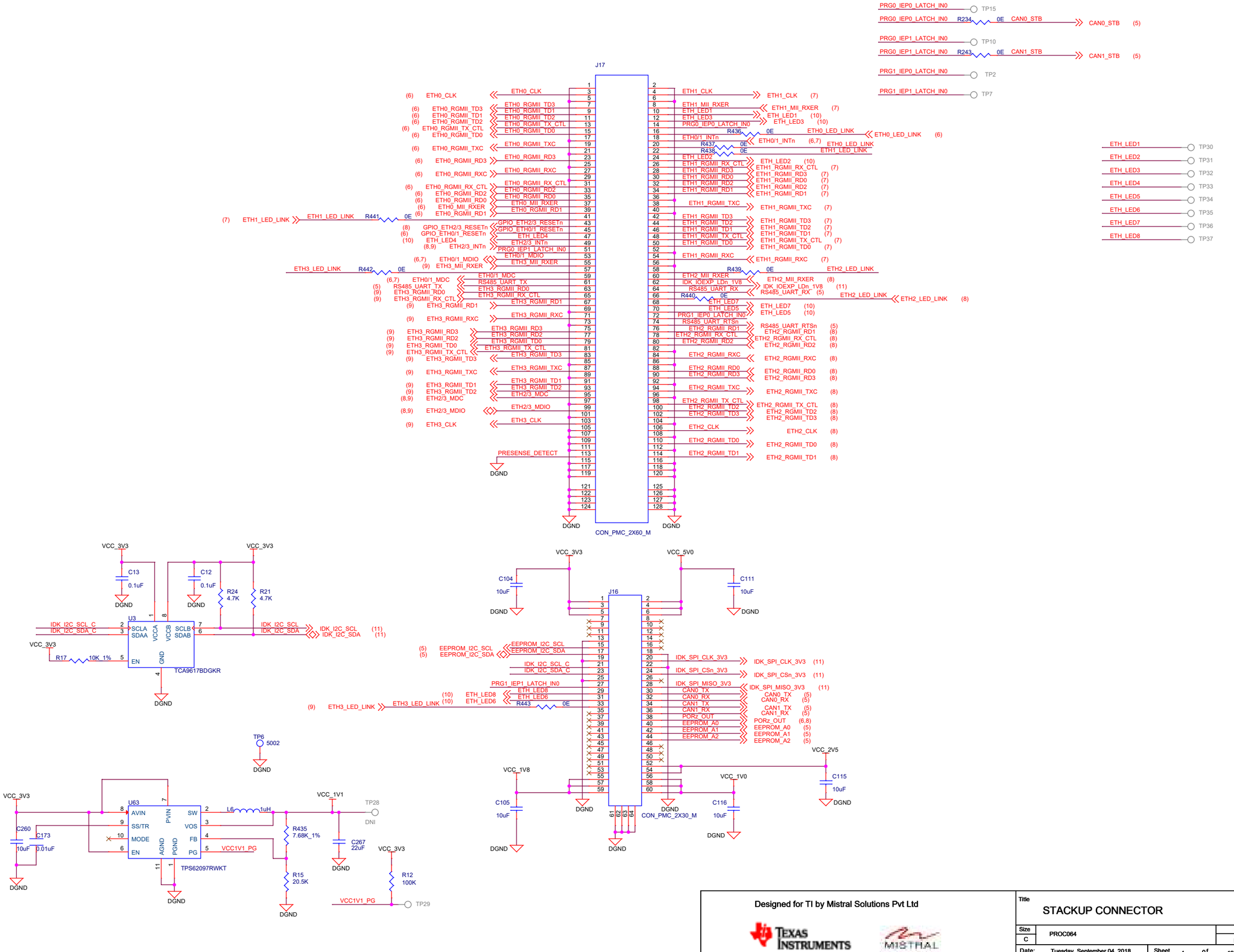

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Title	STACKUP CONNECTOR	
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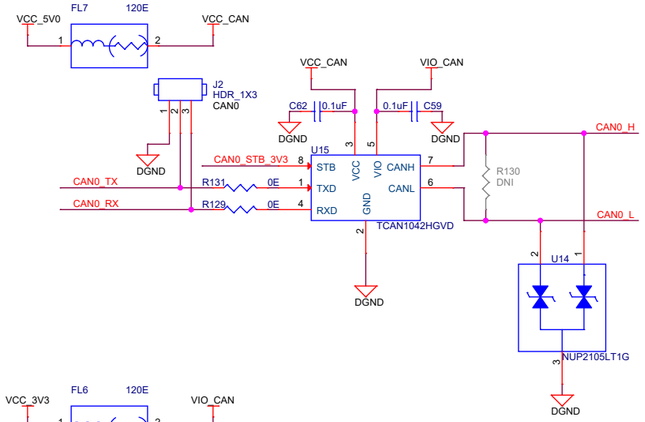
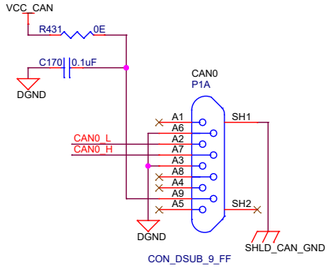
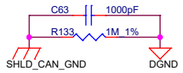
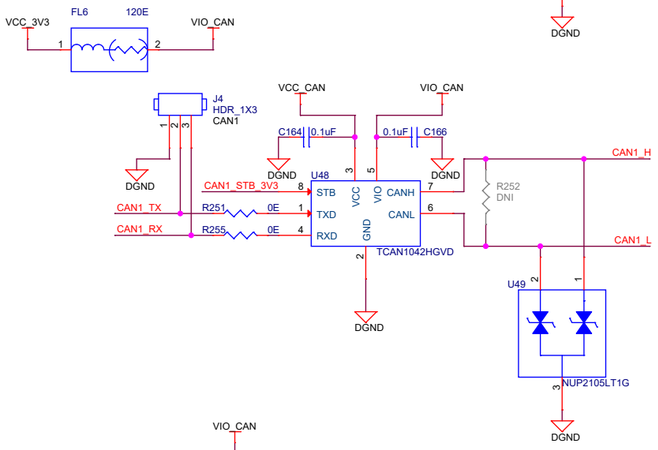
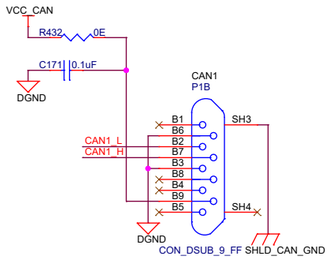
CAN INTERFACE

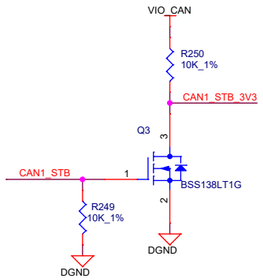


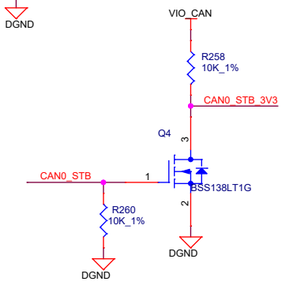




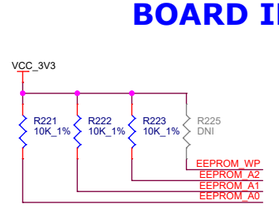


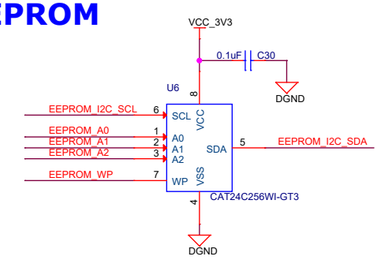






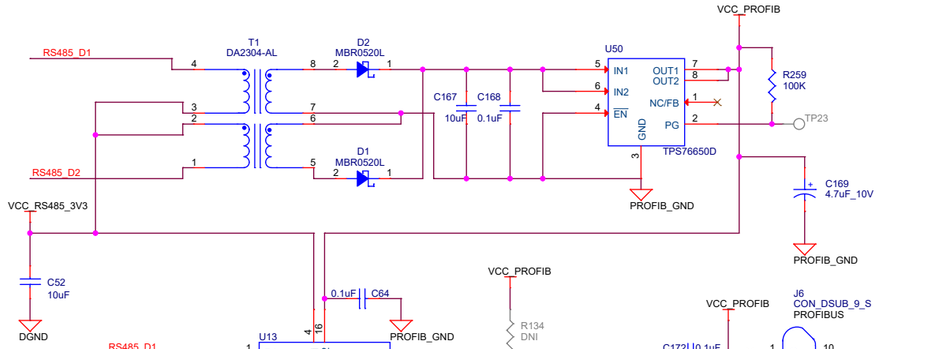
BOARD ID EEPROM

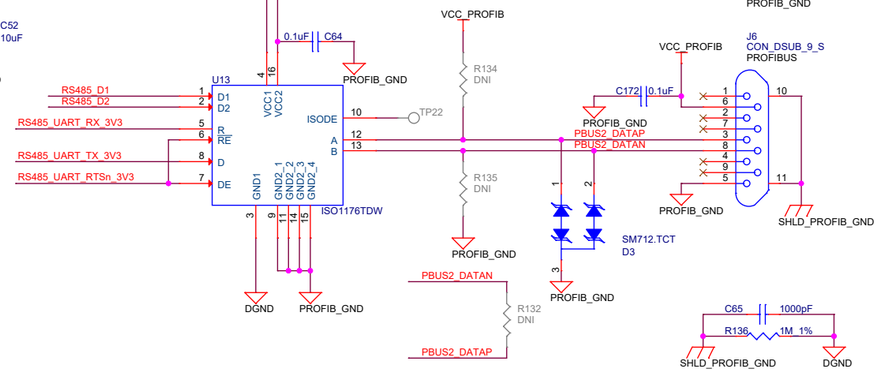


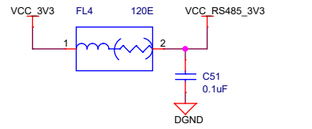


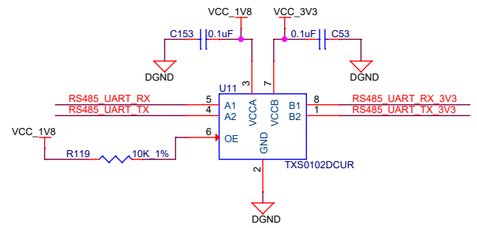
I2C address: 0x52h or Set by CP board

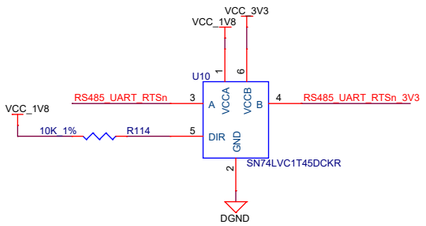
RS485 INTERFACE

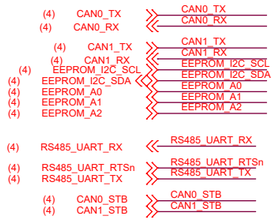












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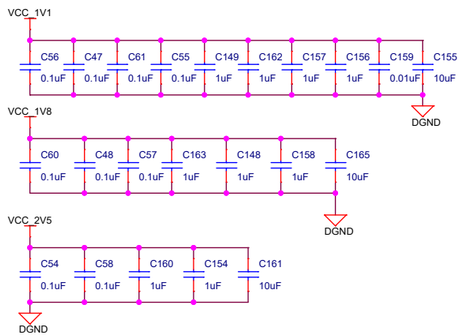
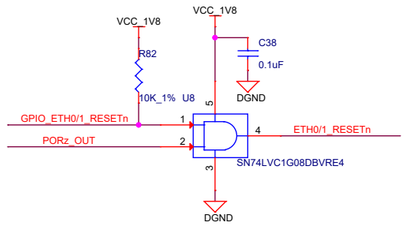
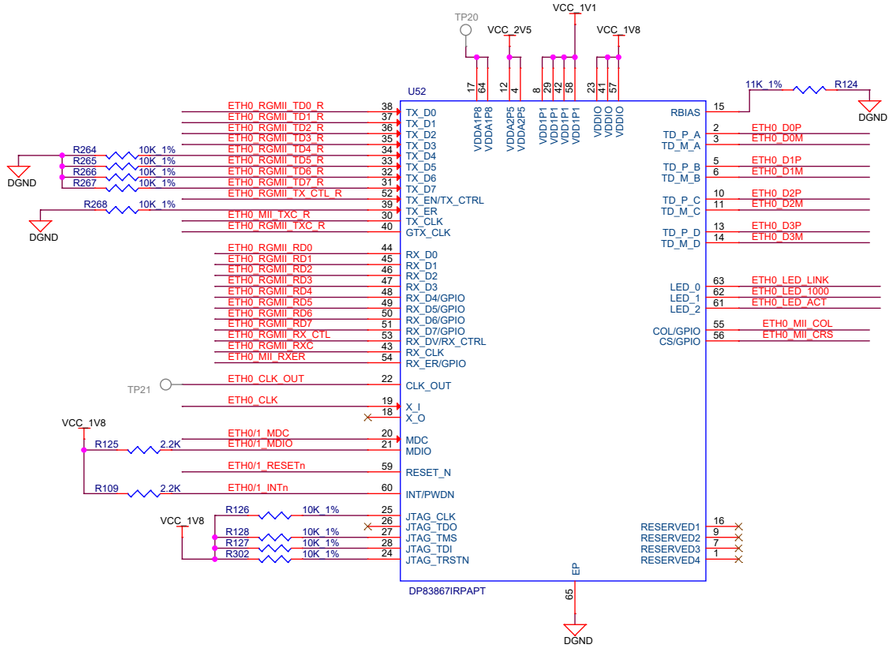
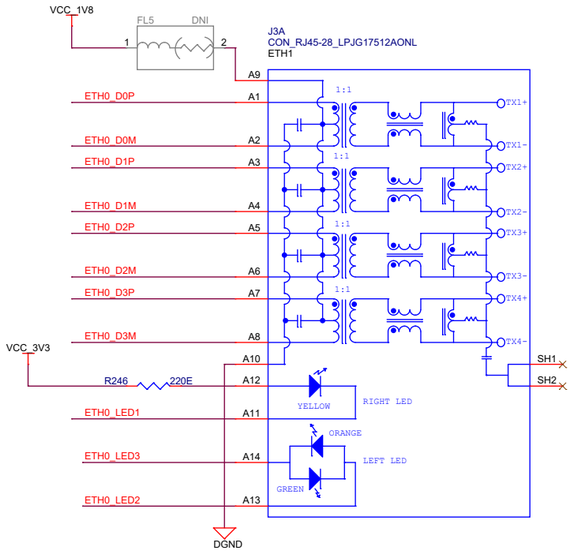
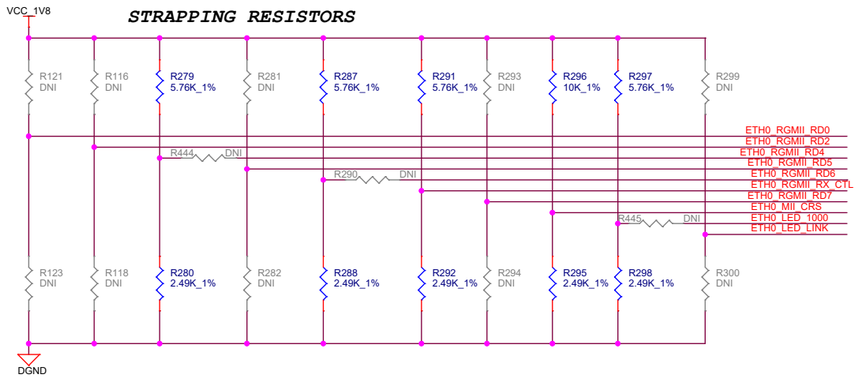




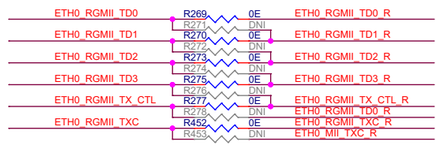




STRAPPING RESISTORS

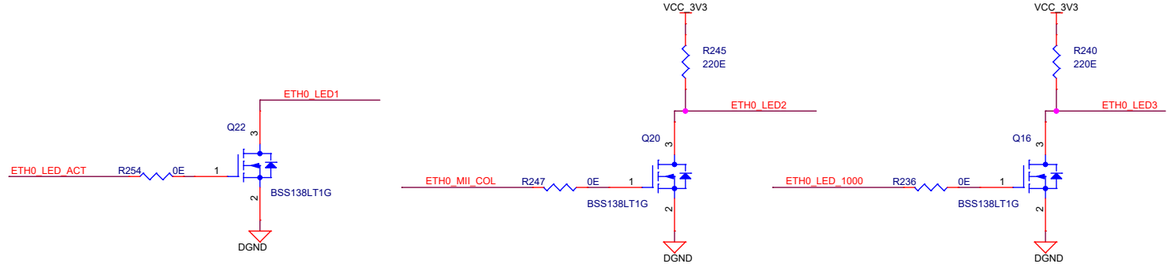


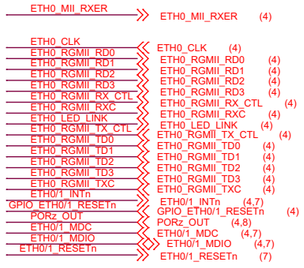
PHY ADD = 00000
Auto_neg =Enabled
ANEGsel 10/100/1000



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





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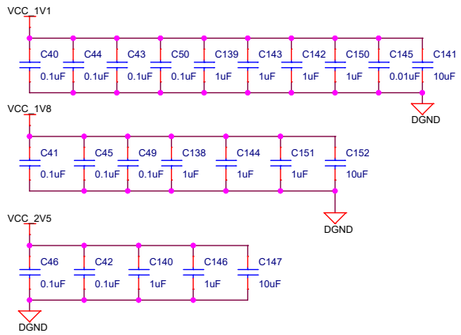
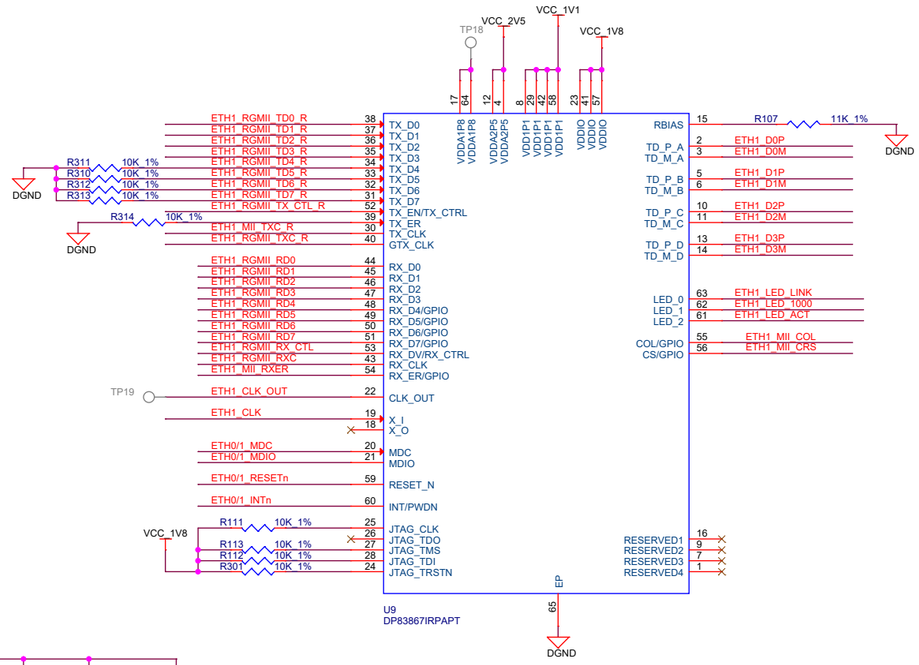
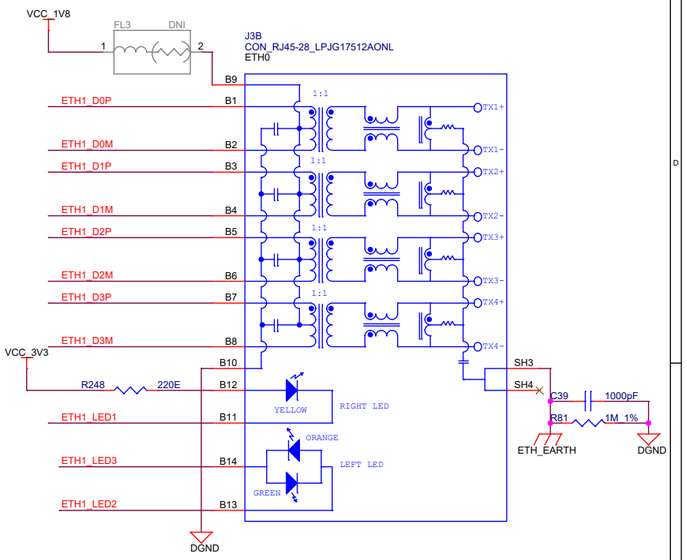
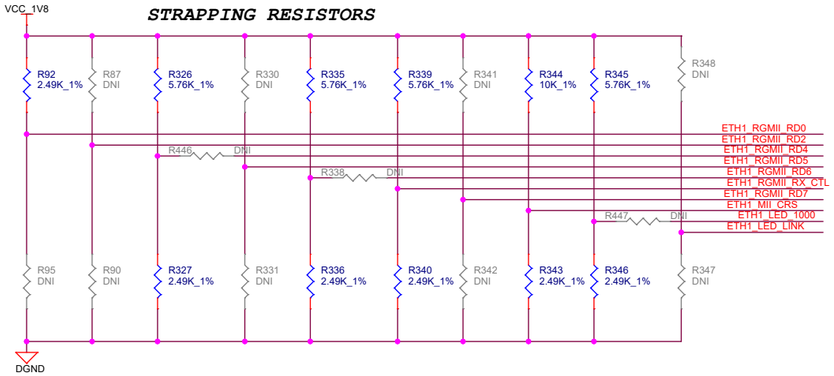
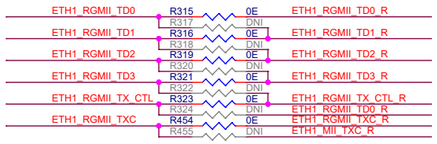






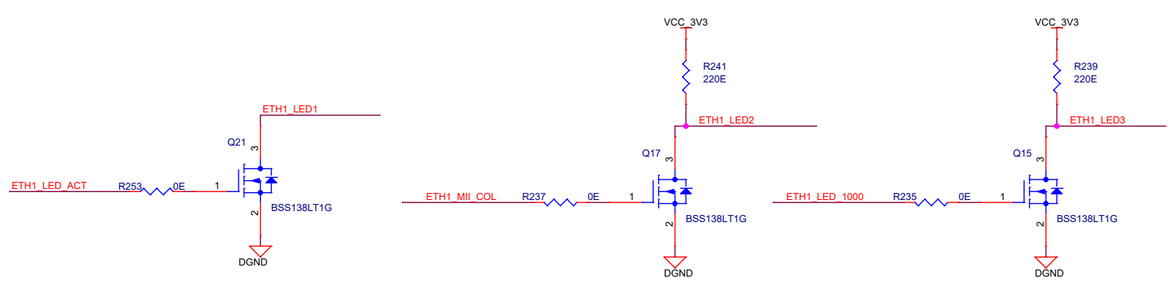


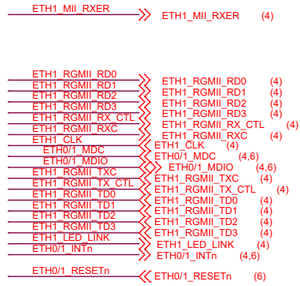
PHY ADD = 00011
Auto_neg =Enabled
ANEGsel 10/100/1000



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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Title	RGMII ETHERNET PHY 1		
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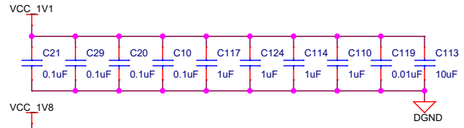
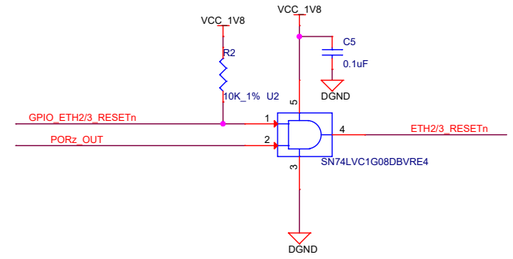
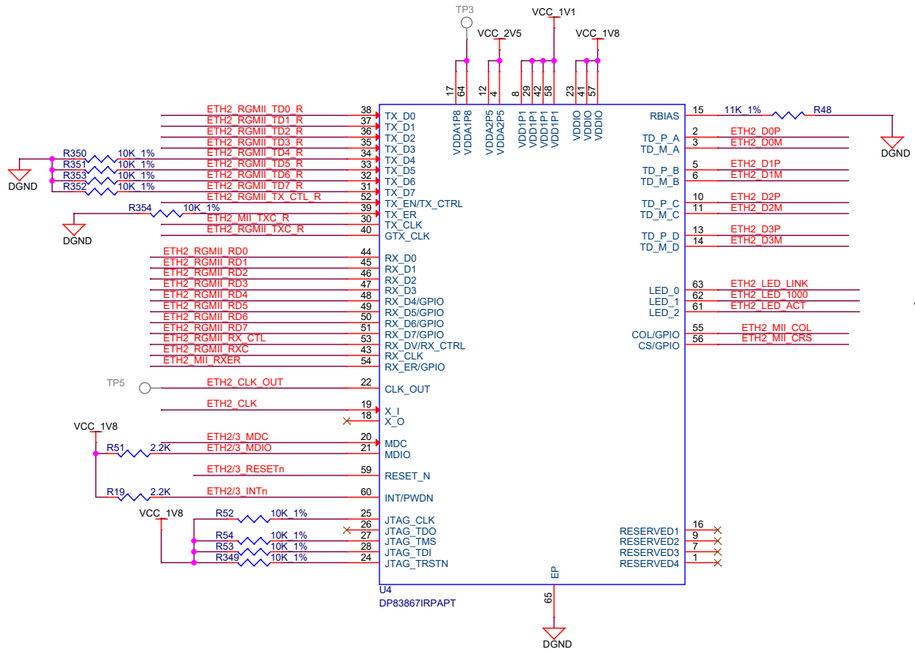
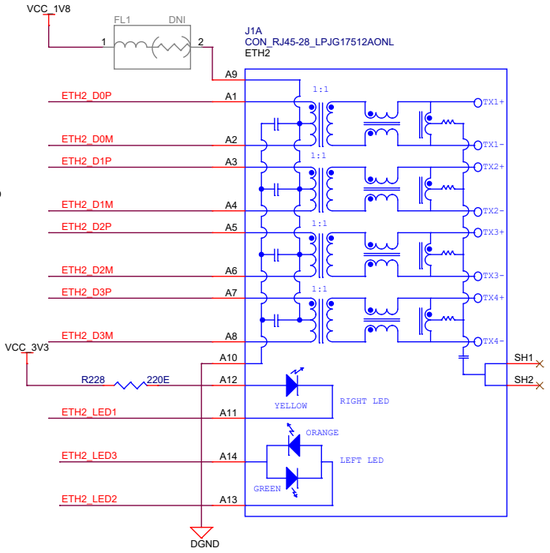
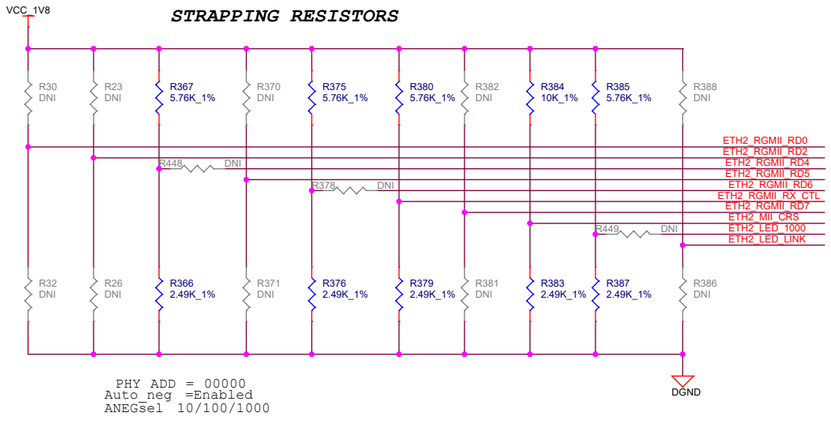
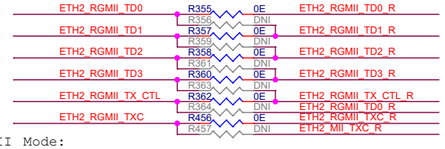












RGMII Mode:
Mount : R355, R357, R358, R360, R362,R456
Unmount : R356, R359, R361, R363, R364, R378, R448, R449 ,R457

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

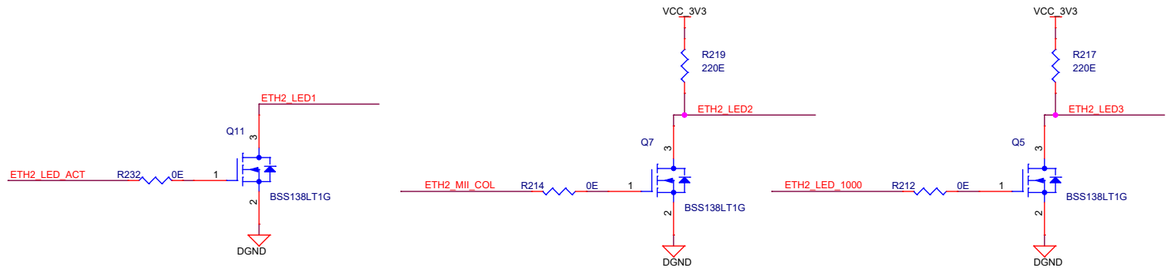
(4) ETH2_RGMII_RD0 ← ETH2_RGMII_RD0
(4) ETH2_RGMII_RD1 ← ETH2_RGMII_RD1
(4) ETH2_RGMII_RD2 ← ETH2_RGMII_RD2
(4) ETH2_RGMII_RD3 ← ETH2_RGMII_RD3
(4) ETH2_RGMII_RXC ← ETH2_RGMII_RXC
(4) ETH2_RGMII_RX_CTL ← ETH2_RGMII_RX_CTL

(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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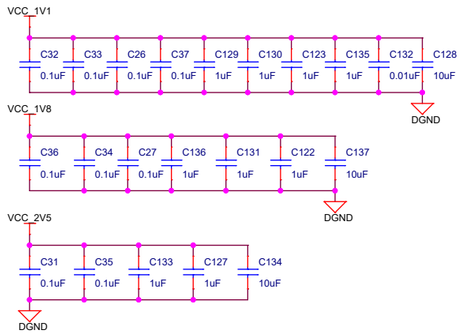
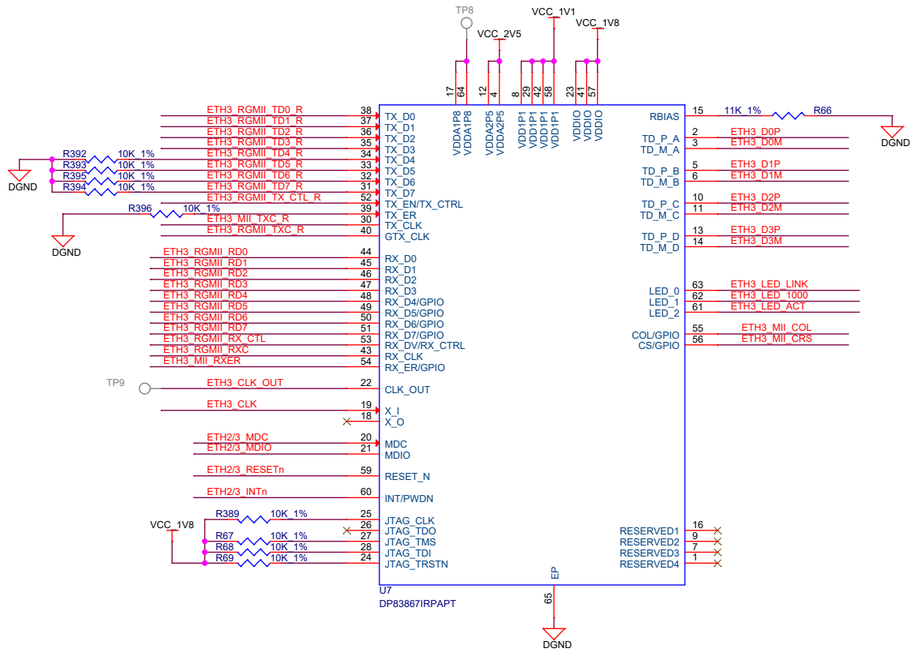
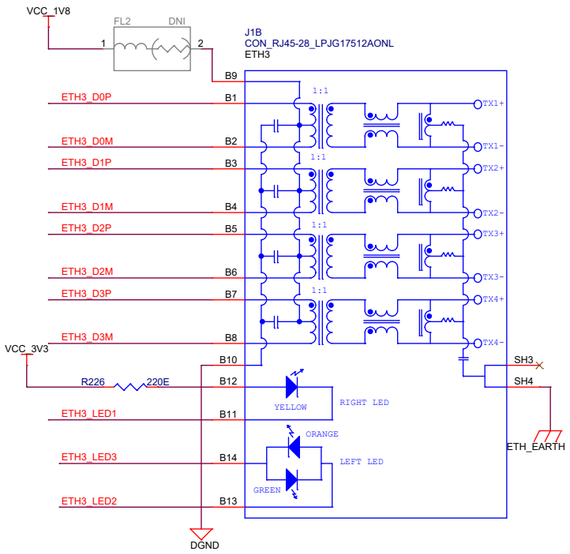
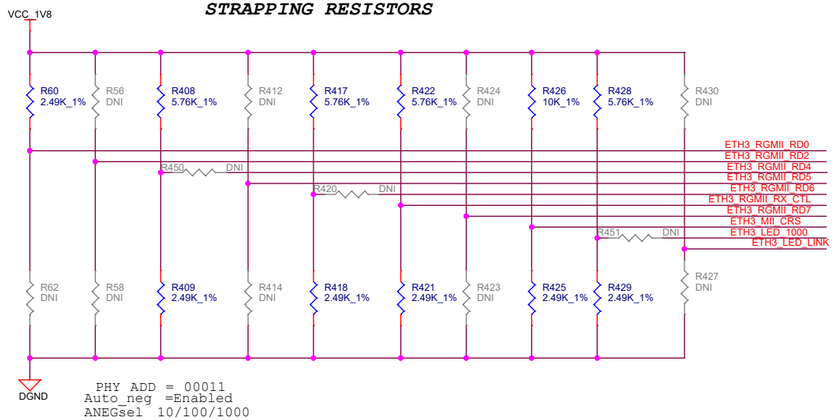


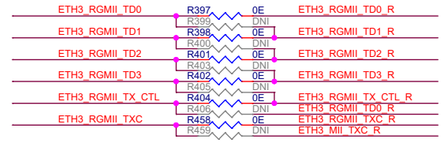




STRAPPING RESISTORS

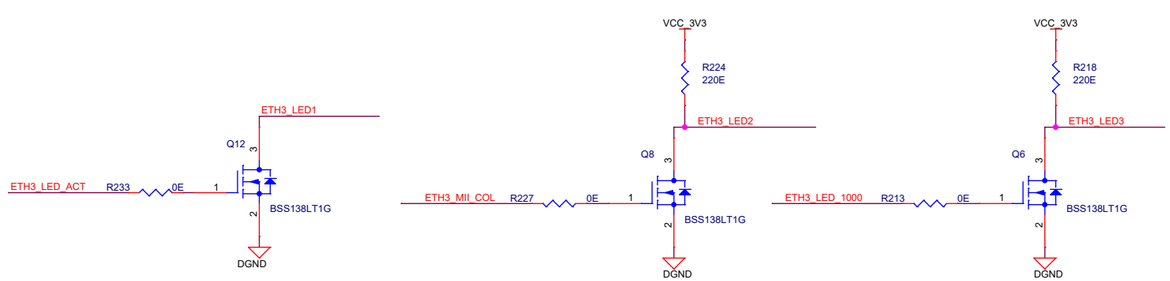


PHY ADD = 00011
Auto_neg =Enabled
ANEGsel 10/100/1000



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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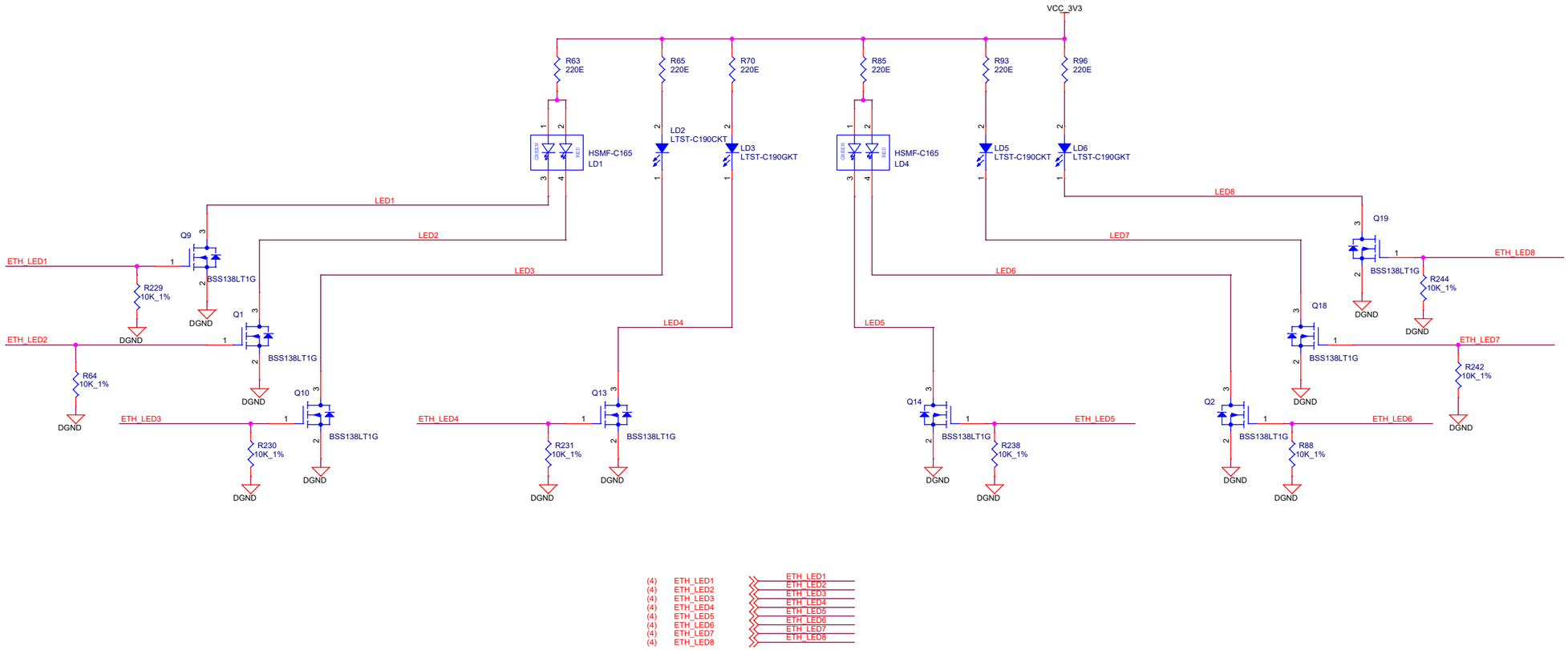

(4) ETH_LED1
(4) ETH_LED2
(4) ETH_LED3
(4) ETH_LED4
(4) ETH_LED5
(4) ETH_LED6
(4) ETH_LED7
(4) ETH_LED8

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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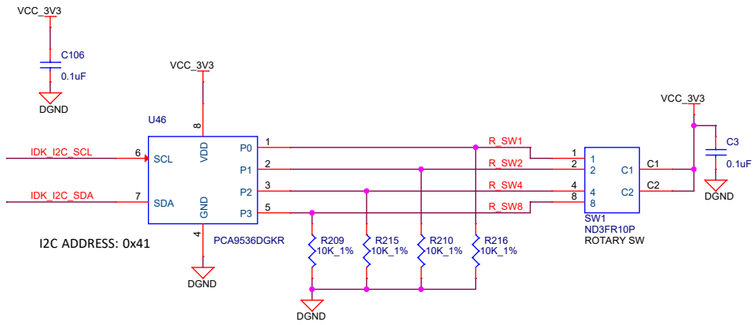

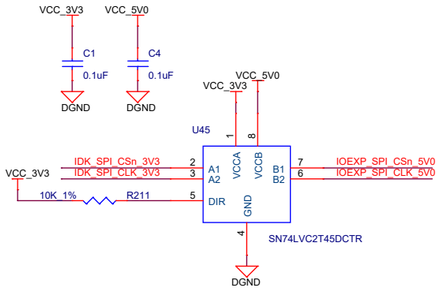

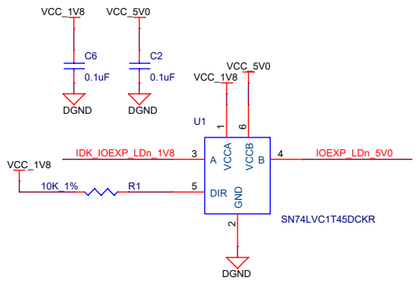

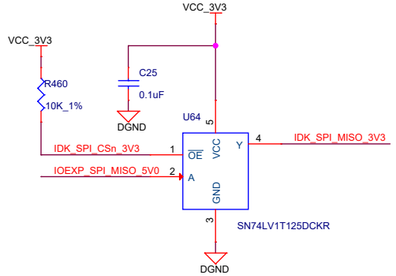

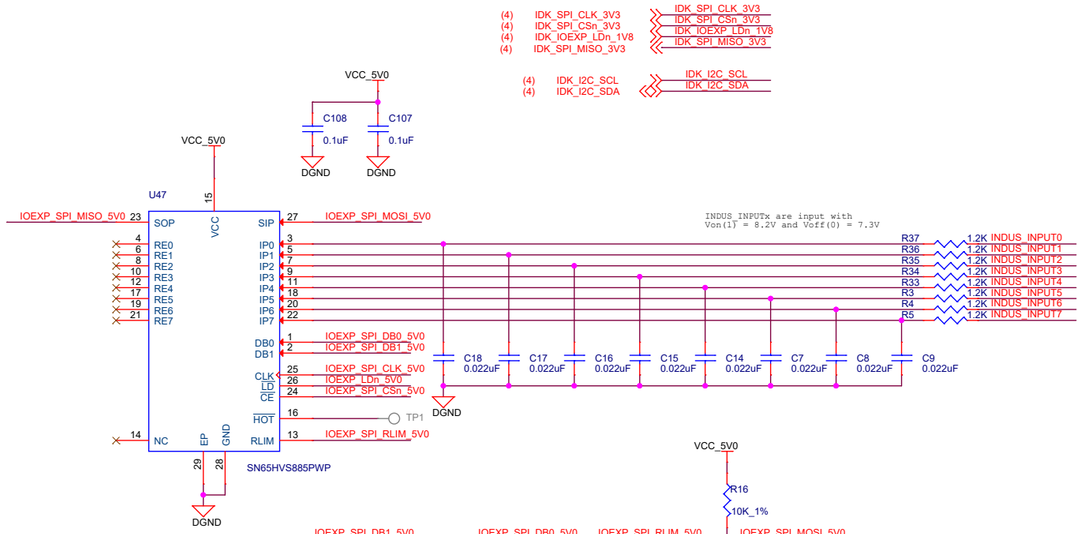

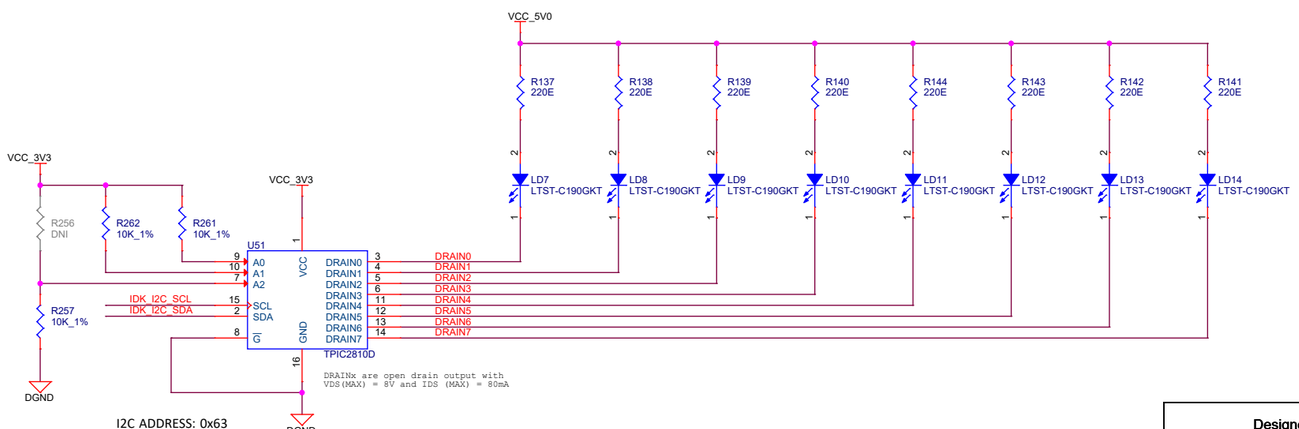

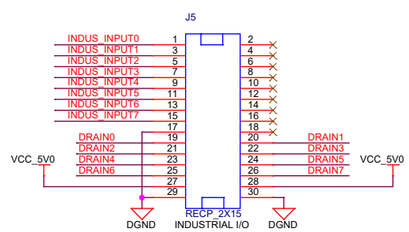

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Title	SPI/I2C IOEXPANDER	
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HARDWARE SCHEMATICS

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.

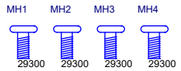
4. These assemblies are ESD sensitive, ESD precautions shall be observed.

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



WASHER's

FIDUCIALS

FID1 DNI
FID2 DNI
FID3 DNI
FID4 DNI
FID5 DNI
FID6 DNI

LABEL

Board Serial No.

LBL1
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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