

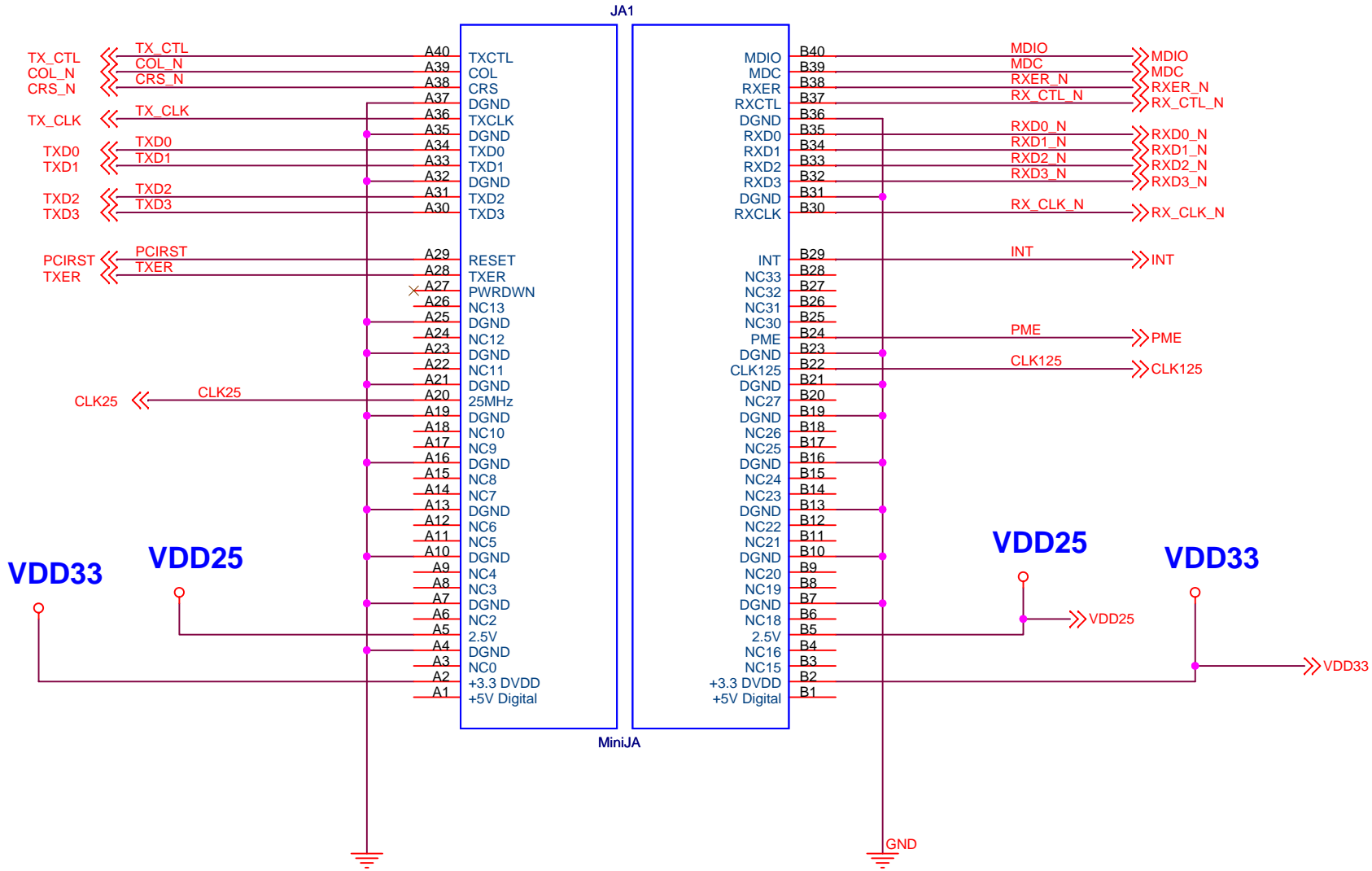
# RTL8211CN/8211D/8211E/8201EN/8201FN COLAY SCHEMATIC

## REV 1.8

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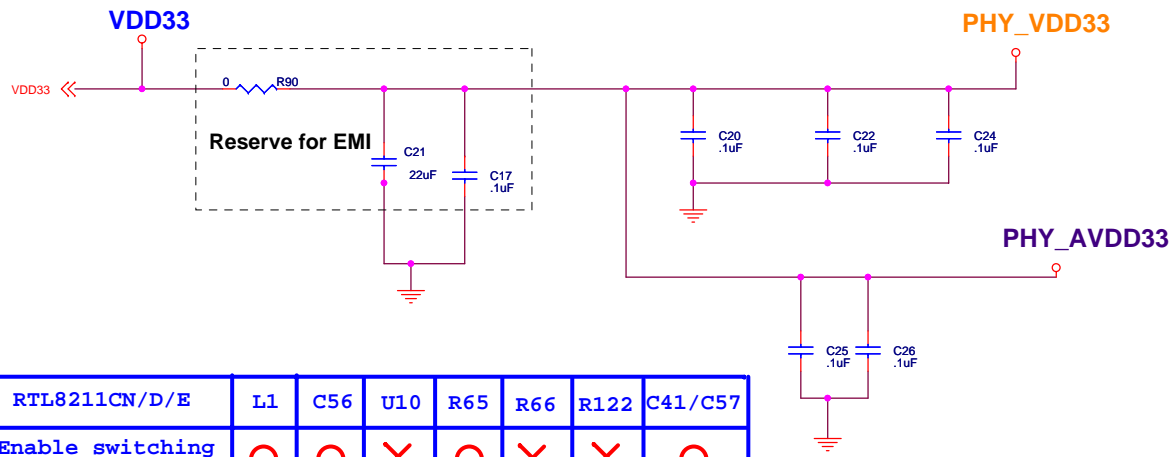
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# ACR Connector For RGMII/MII Interface



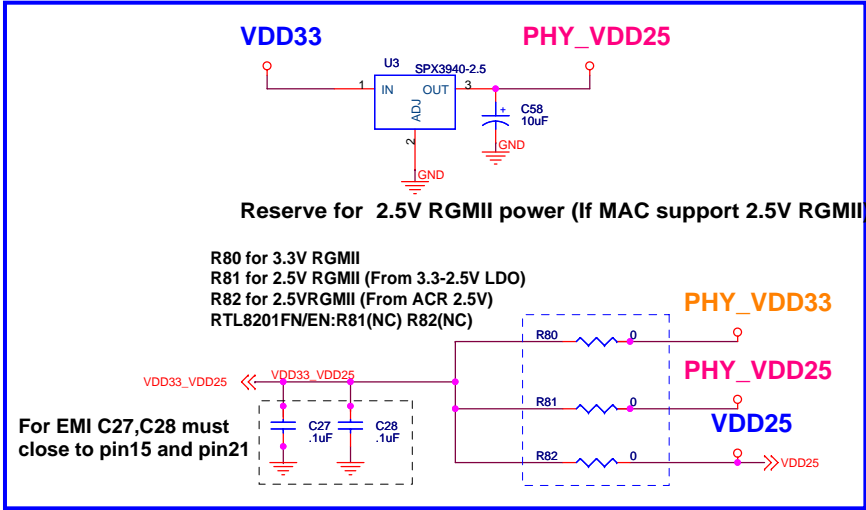
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RTL8211CN/D/E	L1	C56	U10	R65	R66	R122	C41/C57
Enable switching regulator	○	○	✗	○	✗	✗	○
Disable switching regulator	✗	✗	○	✗	○	○	✗

### 3.3/2.5V RGMII Power

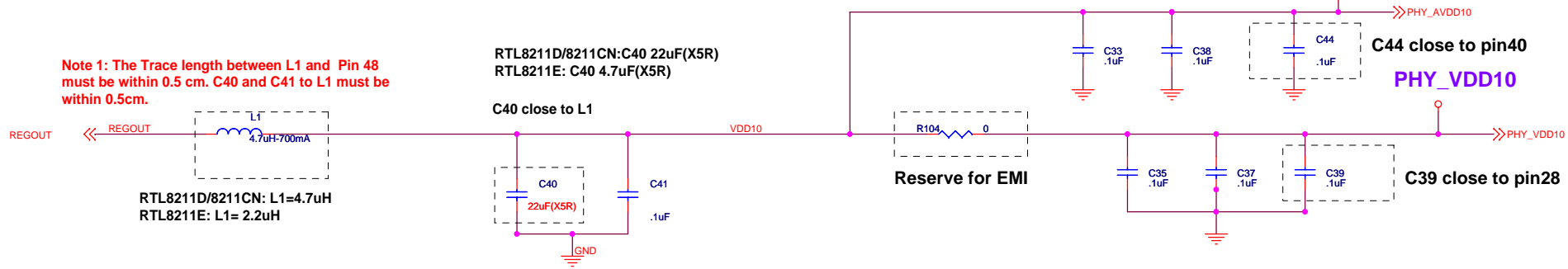


Reserve for 2.5V RGMII power (If MAC support 2.5V RGMII)  
 R80 for 3.3V RGMII  
 R81 for 2.5V RGMII (From 3.3-2.5V LDO)  
 R82 for 2.5VRGMII (From ACR 2.5V)  
 RTL8201FN/EN:R81(NC) R82(NC)

For EMI C27,C28 must close to pin15 and pin21

RTL8201FN/EN :  
 C40,C41,L1 is NC  
 C33,C38,C35,C37 is NC

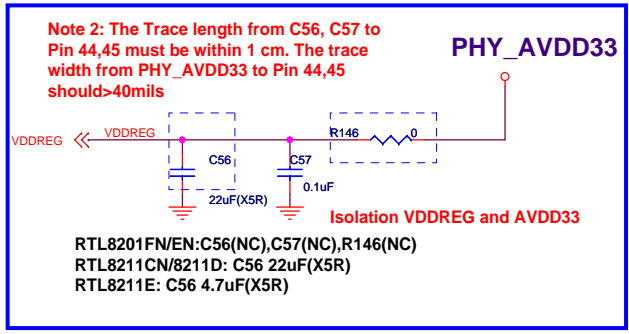
Note 1: The Trace length between L1 and Pin 48 must be within 0.5 cm. C40 and C41 to L1 must be within 0.5cm.



RTL8211D/8211CN:C40 22uF(X5R)  
 RTL8211E: C40 4.7uF(X5R)

RTL8211D/8211CN: L1=4.7uH  
 RTL8211E: L1= 2.2uH

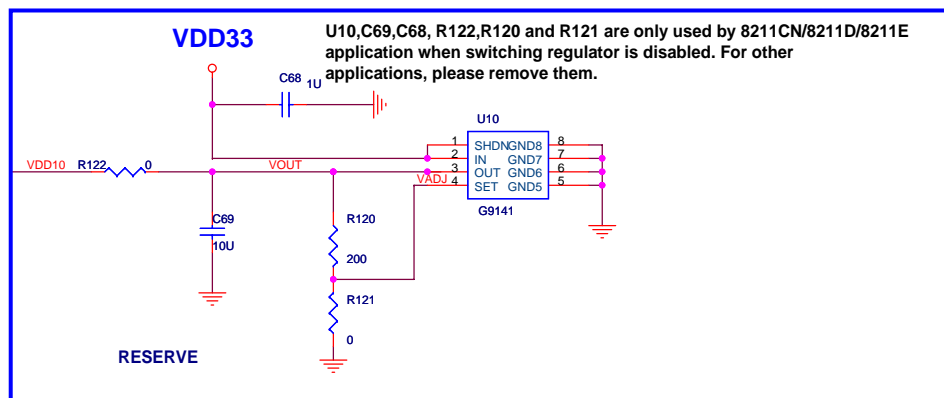
### VDDREG



Note 2: The Trace length from C56, C57 to Pin 44,45 must be within 1 cm. The trace width from PHY\_AVDD33 to Pin 44,45 should >40mils

RTL8201FN/EN:C56(NC),C57(NC),R146(NC)  
 RTL8211CN/8211D: C56 22uF(X5R)  
 RTL8211E: C56 4.7uF(X5R)

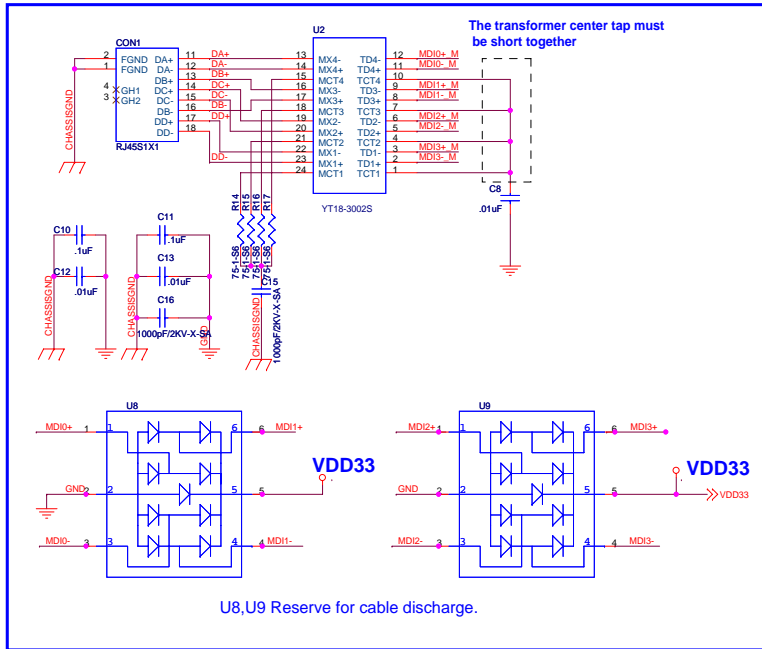
### External Power Source



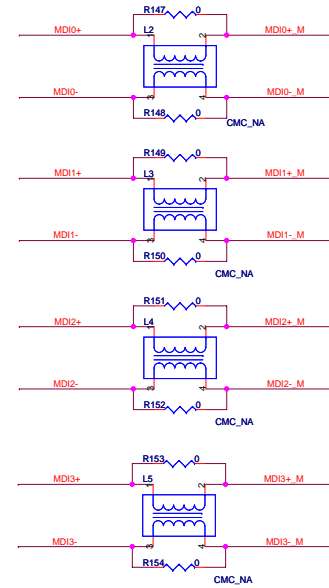
U10,C69,C68, R122,R120 and R121 are only used by 8211CN/8211D/8211E application when switching regulator is disabled. For other applications, please remove them.

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## Transformer and TVS



## Common mode choke



L2,L3,L4,L5 Reserve for EMI, close to transformer.  
 RTL8201EN/RTL8201FN :  
 L4 , L5 , R151,R152,R153,R154 are NC.

RTL8201EN/ 8201FN/ 8211CN/ 8211D/8211E Pin Difference

Pin	RTL8201EN	RTL8201FN	RTL8211CN	RTL8211D/8211E
3	NC	NC	FB10 (AVDD10)	AVDD10
7	NC	NC	MDI[2]+	MDI[2]+
8	NC	NC	MDI[2]-	MDI[2]-
9	NC	NC	AVDD10	AVDD10
10	NC	NC	MDI[3]+	MDI[3]+
11	NC	EN_LDO_OUT	MDI[3]-	MDI[3]-
12	NC	TXER	NC	NC
13	RXDV	RXDV	RXCTL	RXCTL (8211D) RXCTL_PHYAD2 (8211E)
16	RXD1	RXD1	RXD1/TXDLY	RXD1/TXDLY
17	RXD2	RXD2	RXD2/AN0	RXD2/AN0
18	RXD3	RXD3/CLK_CTL	RXD3/AN1	RXD3/AN1
20	NC	INT	NC	INT
27	TXEN	TXEN	TXCTL	TXCTL
28	DVDD12	DVDD10	DVDD10	DVDD10
32	INTB	LED2/PHYAD[2]	CLK125	LED2/RXDLY
33	NC	PME	NC	PME
36	CRS/CRS_DV	CRS/CRS_DV	DVDD10	DVDD10
38	COL/SNI	COL	LED2/RXDLY	ENSWREG
39	RXER/FXEN	RXER/FXEN	ENSWREG	RSET
40	PWOUT12D	DVDD10OUT	AVDD10	AVDD10
44	NC	NC	VDDREG	VDDREG
45	NC	NC	VDDREG	VDDREG
46	RSET	RSET	RSET	CLK125
47	NC	NC	GND	GND
48	PWOUT12A	AVDD10OUT	REGOUT	REGOUT

# Reversion History

Reversion	Release date	Summary
1.0	2009/5/20	First release
1.1	2009/8/18	Add RTL8211CN INT pin setting
1.2	2009/9/21	Add RTL8201EN config Pin Setting
1.3	2009/10/1	Modify RTL8201EN COL/CRS/RXER nets
1.4	2009/10/27	Modify transformer center tap circuit Add INT pin to ACR interface
1.5	2009/11/11	Modify PHYRSTB pull high voltage
1.6	2010/2/04	Add Cap. at pin15 and pin21 (RGMI power pins)
1.7	2010/4/22	Modify config pin pull up voltage
1.8	2010/5/5	Add common mode choke for EMI. Add RTL8201FN Config Pin Setting

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