

RTL8411/RTL8111E/RTL8111F/RTL8105E

64/48 Pin Reference Schematic V101

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Realtek Semiconductor Corp.		
No.2, Industry E. Rd. IX, Science-Based Industrial Park, Hsinchu, Taiwan 300		
Title RTL8411/8111E Reference Schematic : Index		
Size A4	Document Number RTL8411_8111E_REFERENCE_SCHEMATIC_V101.DSN	Rev 101
Date: Wednesday, September 07, 2011 Sheet 1 of 7		

3.3V Power

For RTL8411

* C1 to C6 are for VDD33 pins-- 11, 12, 39, 58, 63, 64

For RTL8111E Series / RTL8111F Series

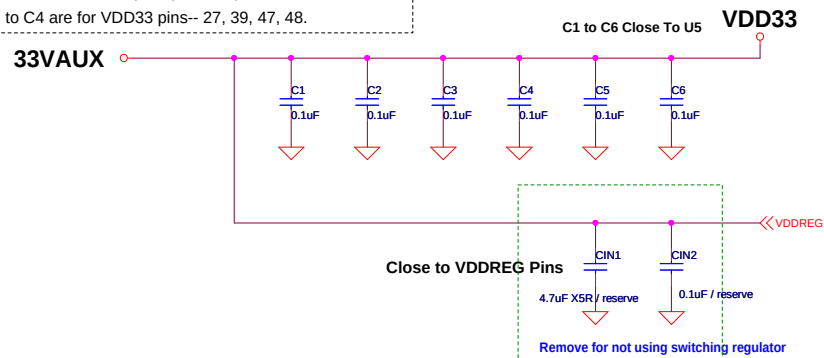
* C1 to C6 are for VDD33 pins-- 12, 27, 39, 42, 47, 48.

For RTL8105E-VB

* C1 to C5 are for VDD33 pins-- 27, 39, 42, 47, 48.

For RTL8105E Series (except for VB)

* C1 to C4 are for VDD33 pins-- 27, 39, 47, 48.



**** Power Sequence Must Refer to Layout Guide ****

Power-Supply Configuration Table

	mode	Cin1,2	R2	Lx	Cout1,2	R28	R31	C37
RTL8411/8111E Series/8111F Series/8105E Series	SWR	O	X	O	O	O	X	X
RTL8411	LDO	X	O	X	X	X	O	X
8105E Series(Expect for VB)	LDO	X	X	X	X	X	O	X
RTL8411	External	X	X	X	X	X	O	O
8105E Series (Except for VB)	External	X	X	X	X	O	X	X
RTL8111E Series/8111F Series/8105E-VB	External	X	X	X	X	X	O	X

If only one 1.05V / 1.0V supply source is selected for one PCB model, i.e. no other choices are reserved:

*** R28, R31 are not necessary. Just make a path of short to replace the use of R28/R31 on the table.

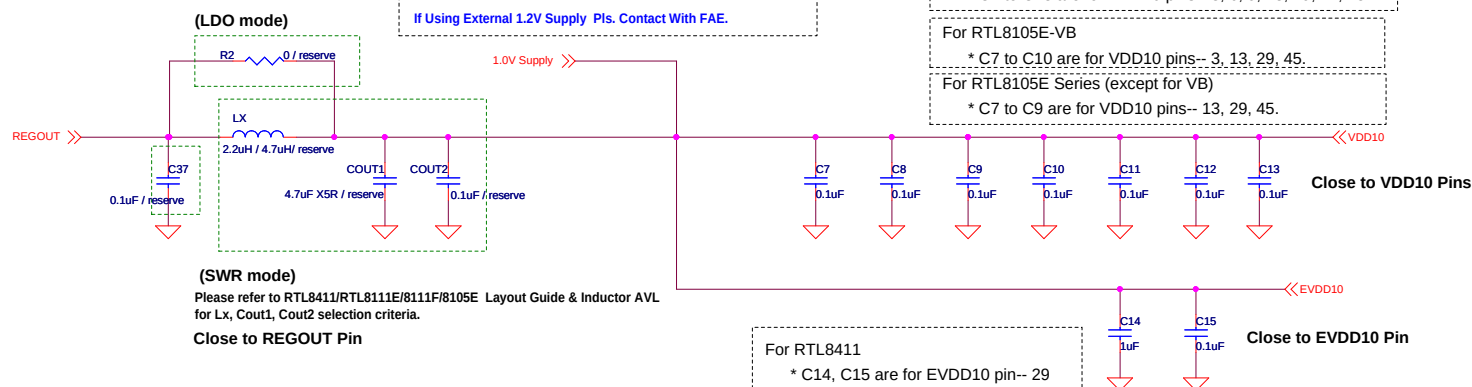
- SWR mode only (8411/8111E series / 8111F series / 8105E series):
 - R28 => short ENSWREG to VDD33.
 - R31 => not necessary.
- LDO mode only (8411/8105E series, except for VB):
 - R28=> not necessary.
 - R31 => short ENSWREG to GND
- External supply only (8411/8111E series / 8111F series / 8105E-VB):
 - R28 => not necessary.
 - R31 => short ENSWREG to GND
- External supply only (8105E Series, except for VB):
 - R28 => short ENSWREG to VDD33.
 - R31 => not necessary.

1.0V Power

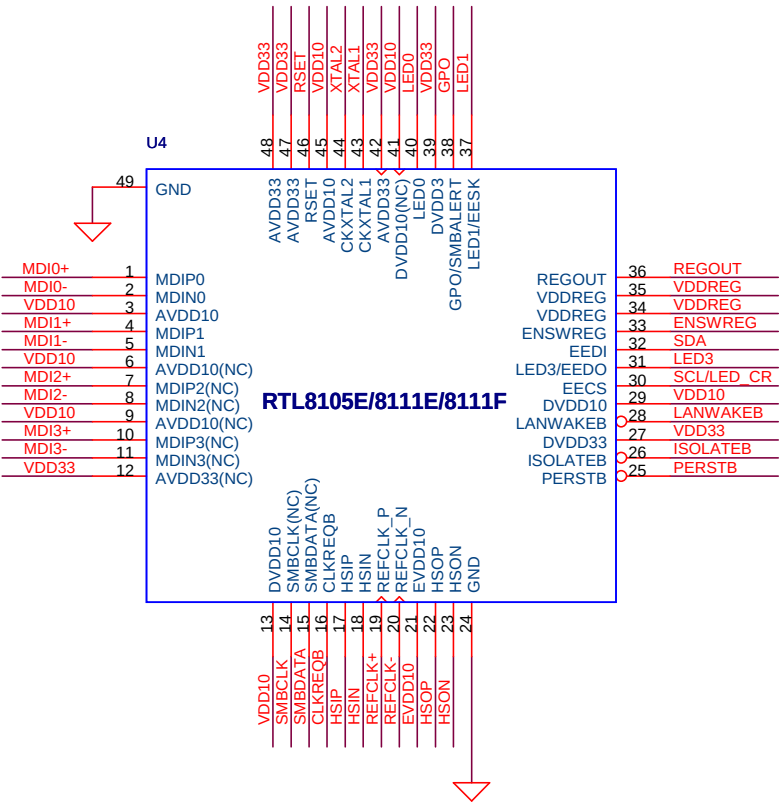
External 1.05V Supply When Not Using Switching Regulator for RTL8105E Series and RTL8111E Series (except for VL).

External 1.0V Supply When Not Using Switching Regulator for RTL8111E VL, RTL8111F Series and RTL8411.

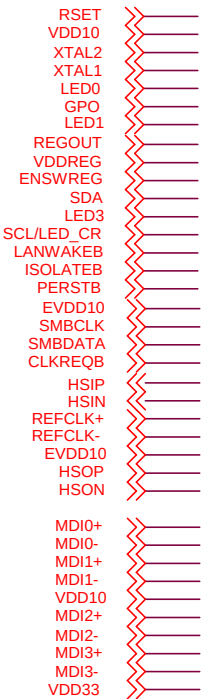
If Using External 1.2V Supply Pls. Contact With FAE.



RTL8105E/8111E/8111F



RTL8411/8111 Colay



[illegible]

SP1	SD D7		xD RDY
SP2	SD D6	MS INS#	xD RE#
SP3	SD D5		xD CE#
SP4	SD D4		xD WE#
SP5	SD D1	MS CLK	xD D6
SP6	SD D0	MS D7	xD D5
SP7	SD CLK	MS D3	xD D4
SP8	SD CMD	MS D6	xD D3
SP9	SD D3	MS D2	xD D2
SP10	SD D2		xD D7
SP11		MS BS	xD CLE
SP12	SD WP	MS D1	xD WP#
SP13	SD CD#	MS D5	xD ALE
SP14		MS D4	xD D0
SP15		MS D0	xD D1
SP16			xD CD#

CARD_3V3

C32
0.1uF
Close to CARD_3V3 pin

VDD33/18

C33
0.1uF

C34
4.7uF / NC
REVERSE

C35
0.1uF

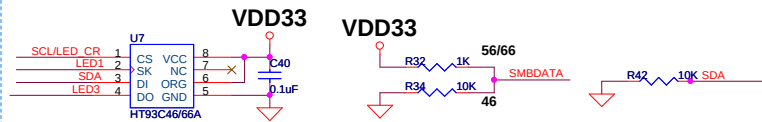
C36
4.7uF / NC
REVERSE

For RTL8411

- *Place C33, C34 close to VDD33/18 pin -- 33
- *Place C35, C36 close to VDD33/18 pin -- 53

For RTL8111E Series and RTL8111F Series EEPROM / ASF Function (2 Option)

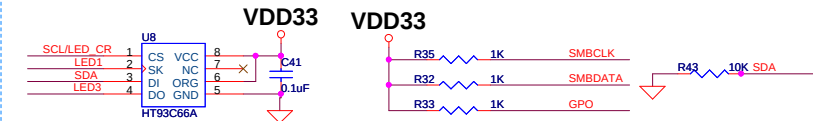
1. When using EEPROM only without ASF function.



Note: For RTL8111E-VL / RTL8111F, R32 must be 1K.

1. All components in this block will be needed only if an EEPROM is used without ASF function
Using R32 For 93C56/66
Using R34 For 93C46

2. When using EEPROM (93C66) with ASF function

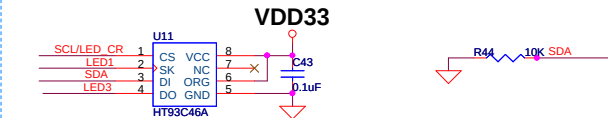


Note: This block is also for RTL8111E-VC using EEPROM_Less with ASF function.

1. All components in this block will be needed only if an EEPROM of 93C66 is used with ASF function

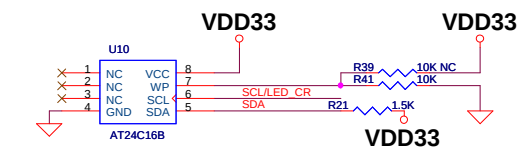
For RTL8105E Series EEPROM Function (1 Option)

1. When using EEPROM (93C46)

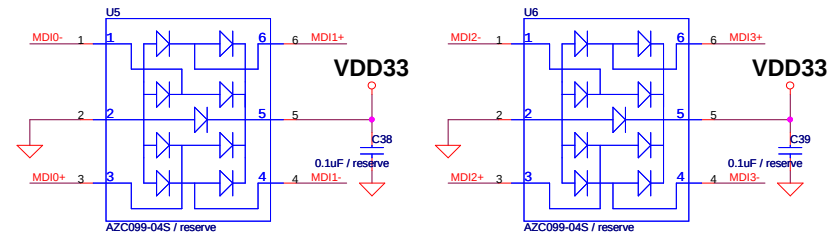


1. All components in this block will be needed only if an EEPROM of 93C46 is used

*** For RTL8411 Series TWSI Function (1 Option) ***



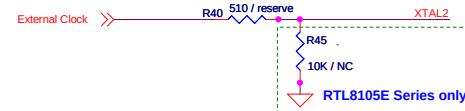
Reserved for TVS Components



U5, U6 and C38, C39 are reserved for surge and cable ESD (Optional)

Reserved for Using External Clock Source

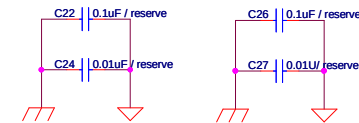
External 25MHz Clock



XTAL2 is external clock input pin.
XTAL1 must be floating when using oscillator or external clock.

For RTL8111E/RTL8111F/RTL8105E series
- R40 is 510 ohm
For RTL8411 - Keep R40 to be 0 ohm

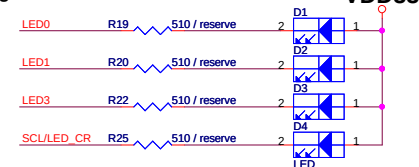
Reserved for Noise Isolation



C22, C24, C26, C27 Reserved for Noise Isolation
between Chassis GND and System GND (optional)

Optional LED Configuration

Single Color LED



Support R<= 249 ohm resistor for Single Color LED.
Support R<= 125 ohm resistor for Dual Color LED.

R19, R20, R22, R25 and D1, D2, D3, D4 Reserved for
only Single Color LED Configuration (optional)

LAN/PHY Disable Function (Optional)

GPO
Connect to the control circuit, like SuperIO,
with pull-high or pull-low capability
Please refer to LAN / PHY Disable
Application Note.

Change Notice from 1.00 to 1.01

1. Move all optional components to Page 6 (Optional Function)
2. Add Power selection guide to Page 2 (Power)
3. Add Test Point to page 3 (QFN64 Controller)
4. Remove Power On Latch on page 3 (QFN64 Controller)
5. Remove the block of Efuse-only in page 6 (Optional Function)
for 8111E/8111F/8105E series
6. Modify QFN48 Colay QFN64 Line/Net Naming in Page 4 (QFN48 Colay)

Title		
RTL8411/8111E Reference Schematic : Optional Function		
Size	Document Number	Rev
A	RTL8411_8111E_REFERENCE_SCHEMATIC_V101.DSN	101
Date: Thursday, September 08, 2011		
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