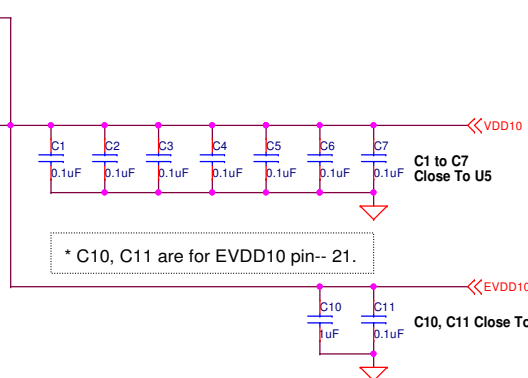
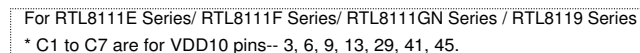
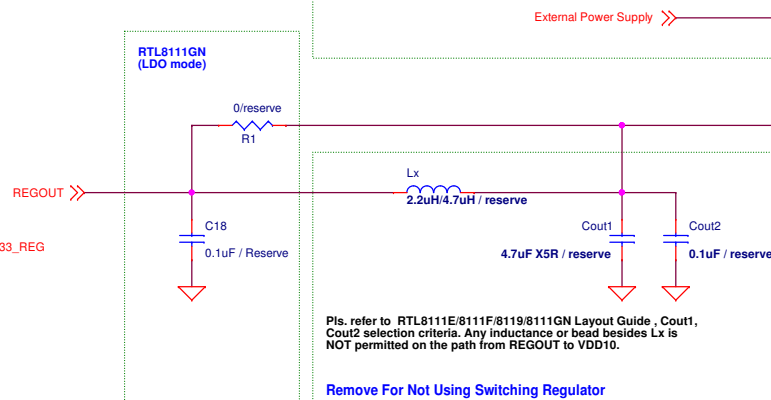
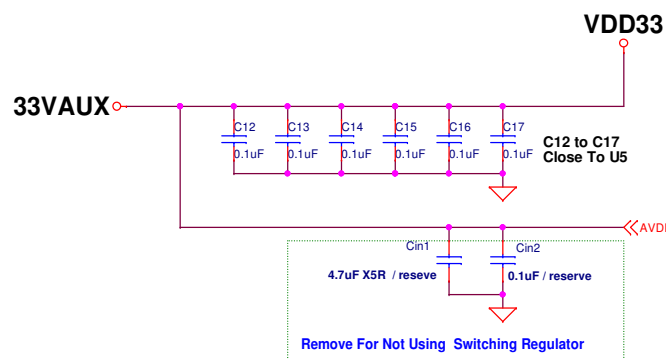
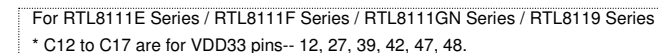


RTL8111E/RTL8111F/RTL8111GN/ RTL8119/RTL8119i 48 Pin Reference Schematic V100

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2. POWER
3. CONTROLLER
4. Reserved Component
5. Optional Function
6. Change Notes



3.3V and 1.xV Power-Supply Configurations

	1.xV source	Lx	Cout1,2	Cin1,2	R23 / reserve	R24 / reserve	R1 / reserve	C18
8111E / 8111F / 8111GN / 8119 Series	SWR	O	O	O	O	X	X	X
8111GN Series	LDO	X	X	X	X	O	O	O
8111E/8111F/ 8119 Series	External	X	X	X	X	O	X	X
8111GN Series	External	X	X	X	X	O	X	O

Note:
1. R23, R24 and R1 are reserved for the convenience of changing the 1.xV supply source between SWR/LDO mode and external power supply.

No design change of PCB model is needed with R23, R24 and R1 reserved.

2. Please refer to the table above when using different 1.xV supply source

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

External 1.0V Supply When Not Using Switching Regulator for RTL8111E-VL/RTL8111F/RTL8119 Series.

External 1.0V Supply When Not Using SWR/LDO mode for RTL8111GN Series.

If only one 1.xV supply source is selected for one PCB model, i.e. no other choices are reserved:

1. R23, R24 and R1 are not necessary.
2. Just make a path of short to replace the use of R23/R24/R1 on the table.

3. SWR mode only (8111E series / 8111F series / 8119 series / 8111GN series):

- (1) R23 => short ENSWREG to VDD33
(2) R24/R1 => not necessary

4. LDO mode only (8111GN series)

- (1) R24 => short ENSWREG to GND
- (2) R23 => not necessary
- (3) R1 => short REGOUT to VDD10

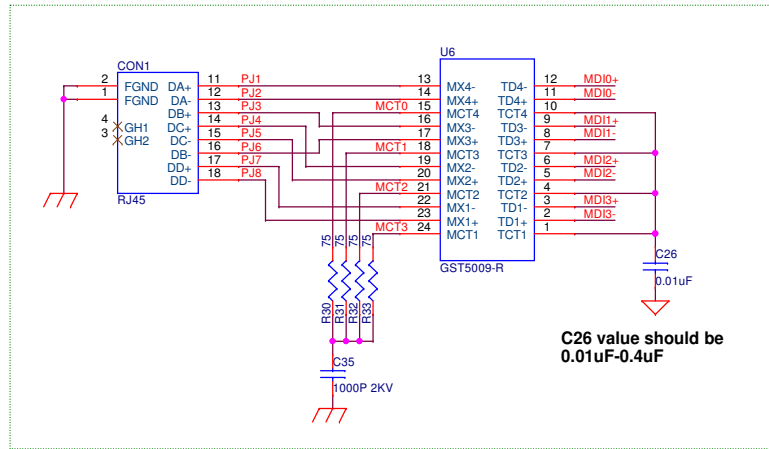
5. External supply only (8111E series / 8111F series / 8119 series):

- (1) R24 => short ENSWREG to GND
(2) R23 => not necessary

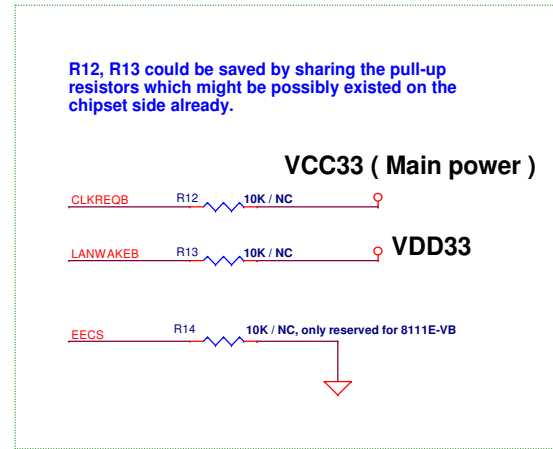
6. External supply only (8111GN series)

- (1) R24 => short ENSWREG to GND
(2) R23/R1 => not necessary

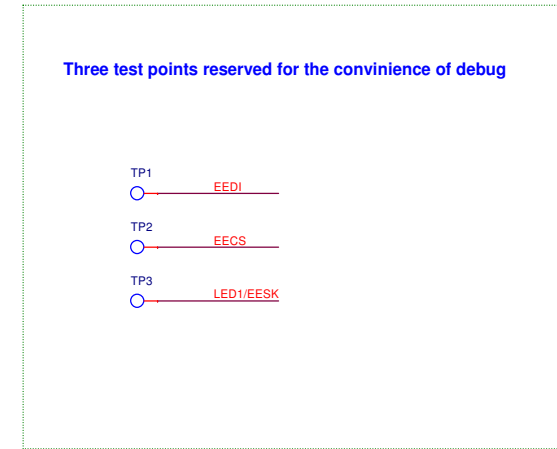
Connector



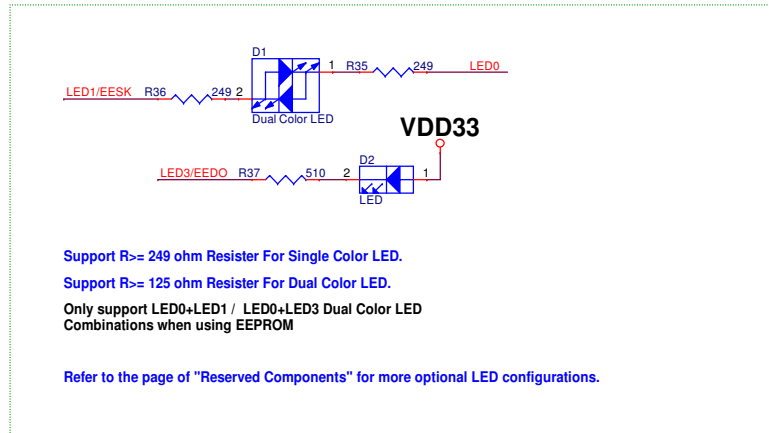
Pull-up resistors



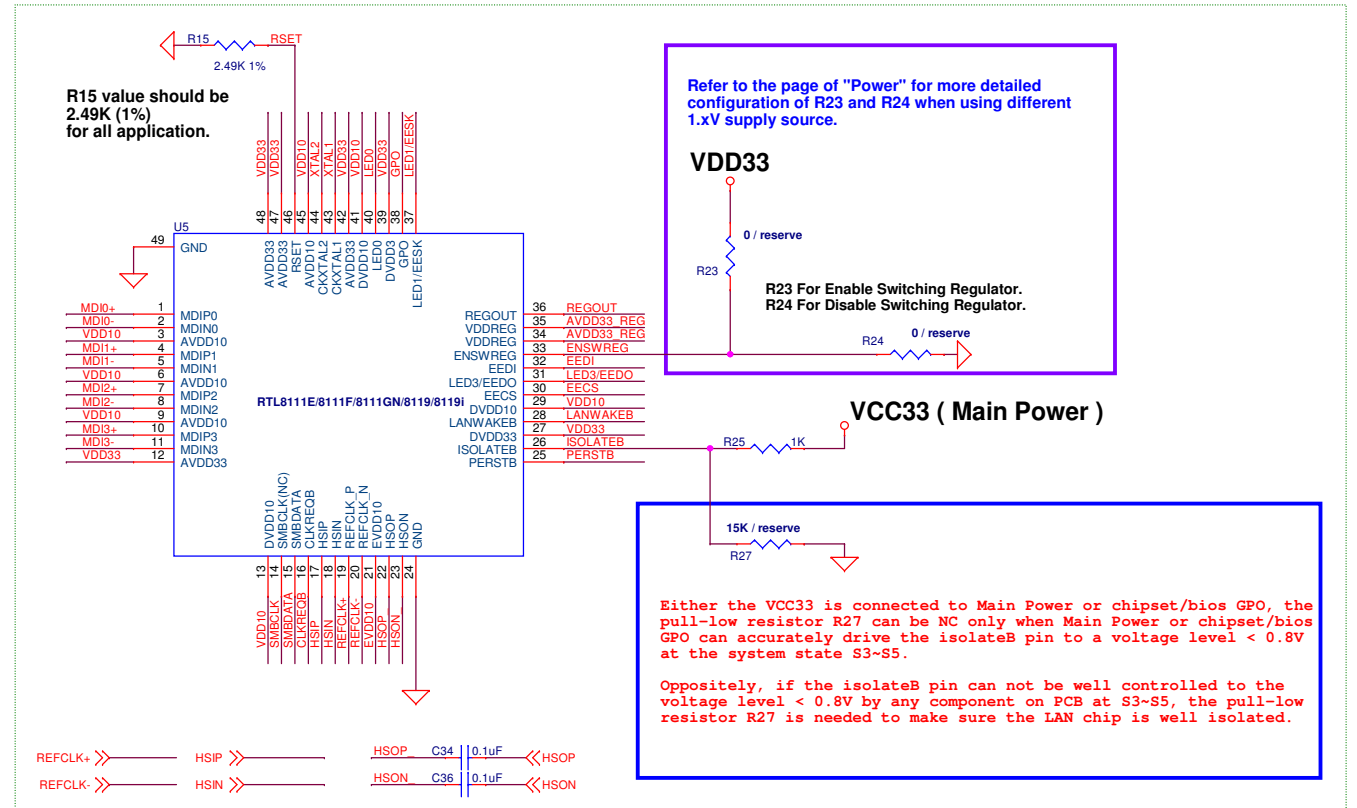
Test Point



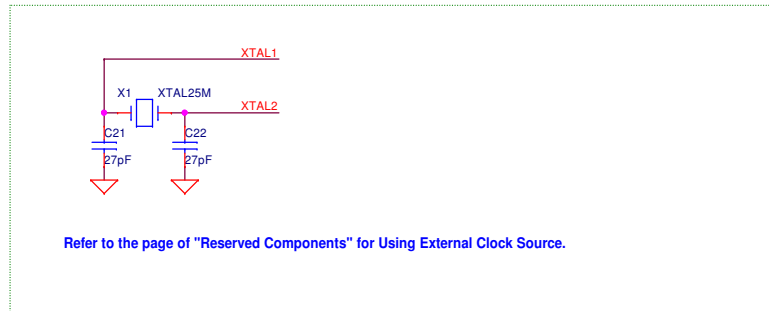
LED



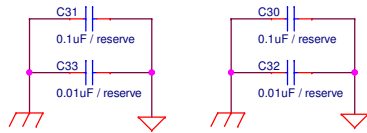
Controller



XTAL



Reserved for Noise Isolation



C30, C31, C32, C33 Reserved for Noise Isolation between Chassis GND and System GND (optional)

Reserved for Using External Clock Source

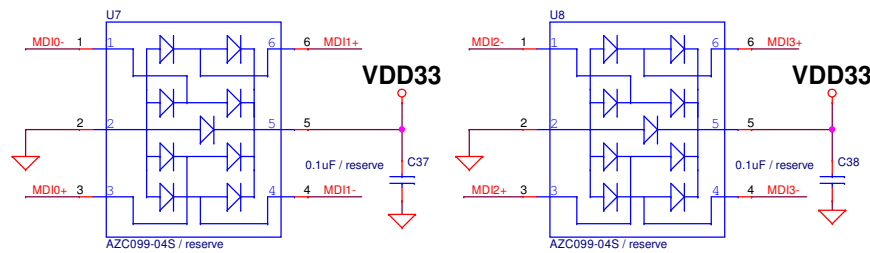


Pin44- XTAL2 is External Clock Input Pin.
Pin43- XTAL1 must be floating when using external clock source.

R38 is needed when using external clock source.

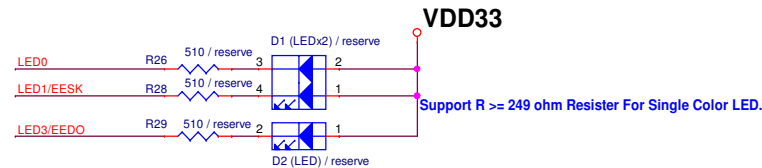
R34, R38 Reserved for Using External Clock Source (optional)

Reserved for TVS Components

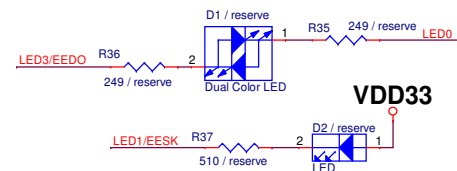


Note :
1. U7, U8 and C37, C38 reserved for line-to-line Surge and Cable ESD on the secondary side. (optional)
2. Gas Tube is for line-to-ground Surge on the primary side. (optional)

Optional LED Configurations



R26, R28, R29 and D1, D2 Reserved for only Single Color LED Configuration (optional)



Support R>= 249 ohm Resistor For Single Color LED.

Support R>= 125 ohm Resistor For Dual Color LED.

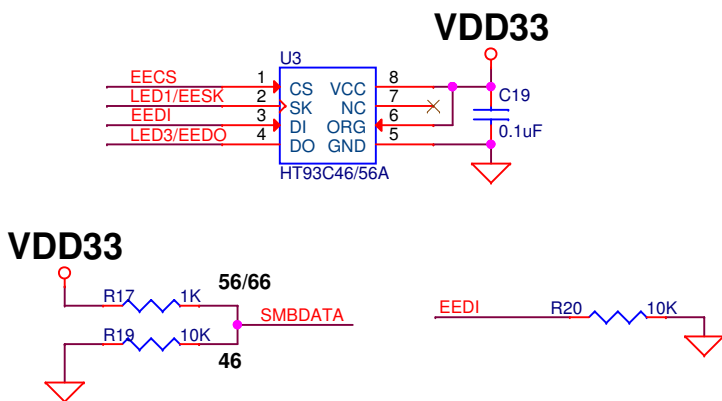
Only support LED0+LED1 / LED0+LED3 Dual Color LED Combinations when using EEPROM

R35, R36, R37 and D1, D2 Reserved for Single Color + Dual Color LED Configuration (optional)

Realtek Semiconductor Corp.		
No.2, Innovation Road II, Hsinchu Science Park, Hsinchu 300, Taiwan		
Title		
RTL8111E/8111F/8111GN/8119/8119i Reference Schematic: Reserved		
Size		
A3 Document Number		
RTL8111E/8111F/8111GN/8119/8119i Reference Schematic		
Date:		
Friday, April 18, 2014		
Sheet		
4 of 6		
Rev		

For RTL8111E Series, RTL8119 Series, RTL8111F Series and RTL8111GN Series with EEPROM / ASF Function (2 Options)

Using EEPROM without ASF function



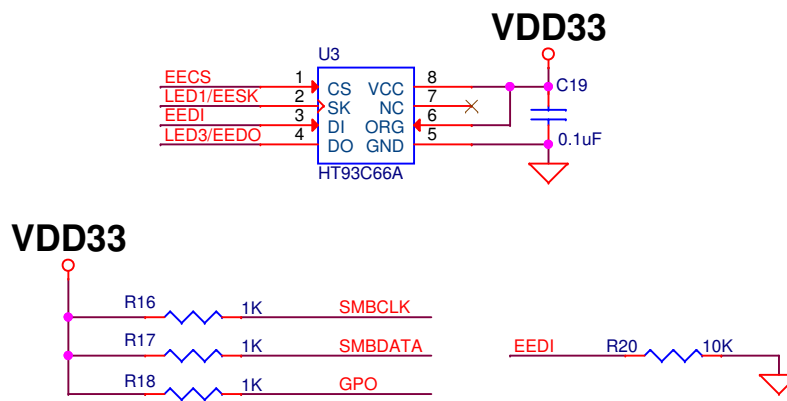
1. All components in this block will be needed only if an EEPROM is used without ASF function.

Using R17 For 93C56/66

Using R19 For 93C46

Note: For RTL8111E-VL/ RTL8111F Series / RTL8119 Series / RTL8111GN Series, R17 must be 1K.

Using EEPROM(93C66) with ASF function



1. Only RTL8111E-VB/VC support ASF function

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

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

SMBCLK
SMBDATA
GPO
EEDI
EECS
LED1/EESK
LED3/EEDO

Realtek Semiconductor Corp.		
No.2, Innovation Road II, Hsinchu Science Park, Hsinchu 300, Taiwan		
Title RTL8111E/8111F/8111GN/8119/8119i Reference Schematic: Optional		
Size A4	Document Number RTL8111E/8111F/8111GN/8119/8119i Reference Schematic	Rev
Date: Friday, April 18, 2014	Sheet 5	of 6