

RTL8111E/RTL8111F/RTL8105E 48Pin Reference Schematic V110

PAGE INDEX

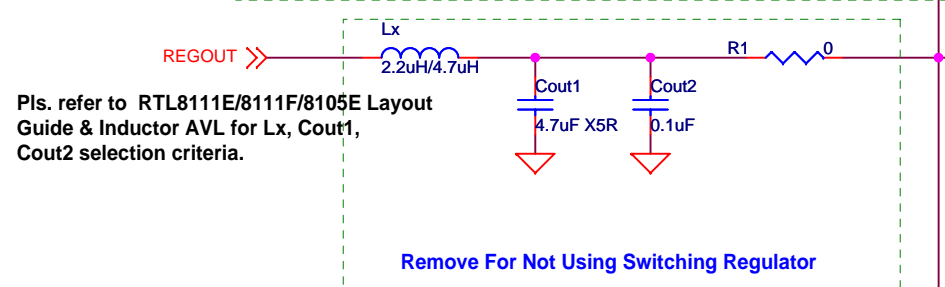
1. Title Page
2. POWER
3. CONTROLLER
4. Optional Function
5. Change Notes

Realtek Semiconductor Corp.		
No.2, Industry E. Rd. IX, Science-Based Industrial Park, Hsinchu, Taiwan 300		
Title		
RTL8111E/RTL8111F/RTL8105E Reference Schematic: Index		
Size	Document Number	Rev
A4	RTL8111E/RTL8111F/RTL8105E Reference Schematic	
Date:	Monday, January 10, 2011	Sheet 1 of 5

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 and RTL8111F Series.

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

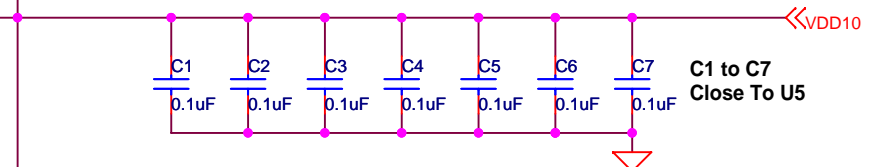


Pls. refer to RTL8111E/8111F/8105E Layout Guide & Inductor AVL for Lx, Cout1, Cout2 selection criteria.

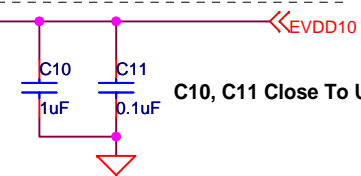
For RTL8111E Series / RTL8111F Series
* C1 to C7 are for VDD10 pins-- 3, 6, 9, 13, 29, 41, 45.

For RTL8105E-VB
* C1 to C4 are for VDD10 pins-- 3, 13, 29, 45.

For RTL8105E Series (except for VB)
* C1 to C3 are for VDD10 pins-- 13, 29, 45.



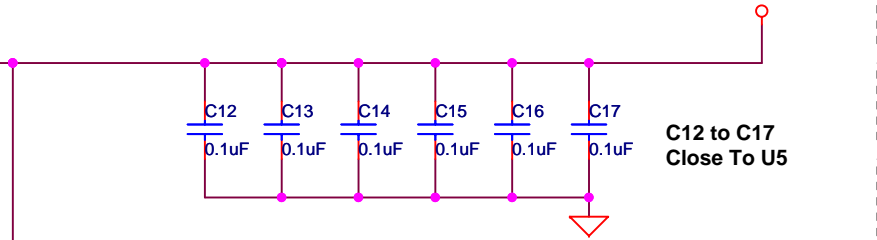
* C10, C11 are for EVDD10 pin-- 21.



	mode	Lx	Cout1,2	R1	Cin1,2	R3	R23	R24
8111E Series/8111F Series/8105E Series	SWR	O	O	O	O	O	O	X
8105E Series (except for VB)	LDO	X	X	X	X	X	X	O
8111E Series/8111F Series/8105E-VB	External	X	X	X	X	X	X	O
8105E Series (except for VB)	External	X	X	X	X	X	O	X

VDD33

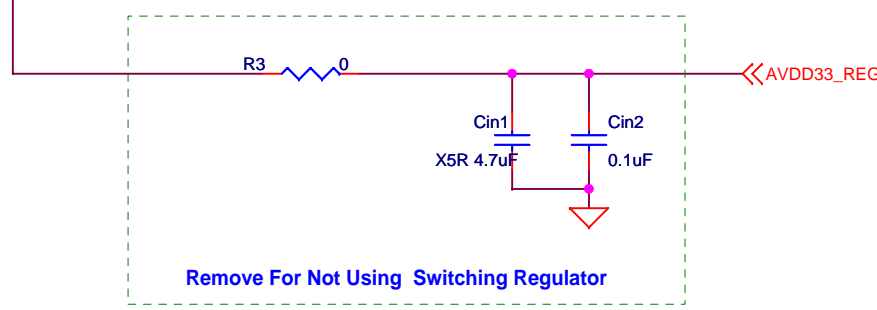
33VAUX



For RTL8111E Series / RTL8111F Series
* C12 to C17 are for VDD33 pins-- 12, 27, 39, 42, 47, 48.

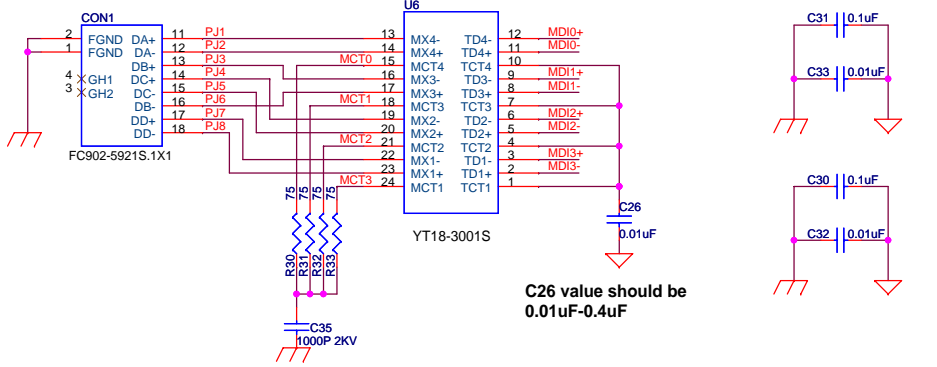
For RTL8105E-VB
* C12 to C16 are for VDD33 pins-- 27, 39, 42, 47, 48.

For RTL8105E Series (except for VB)
* C12 to C15 are for VDD33 pins-- 27, 39, 47, 48.

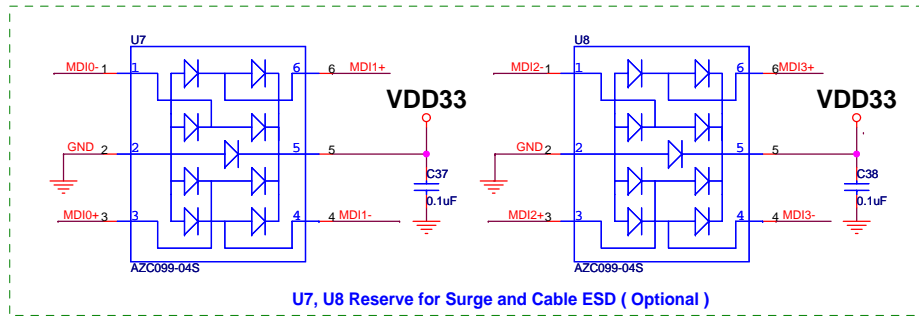


Power Sequence Must Refer to Layout Guide.

Connector / TVS



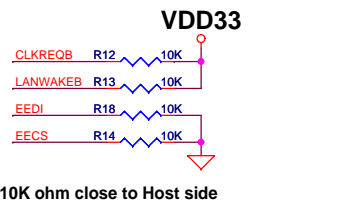
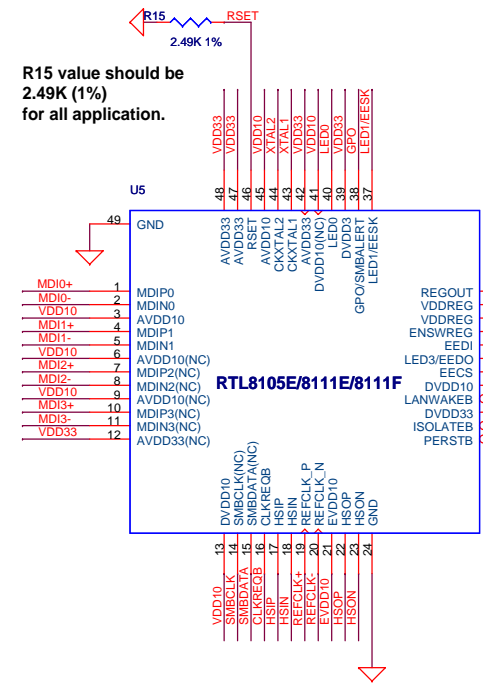
C26 value should be 0.01uF-0.4uF



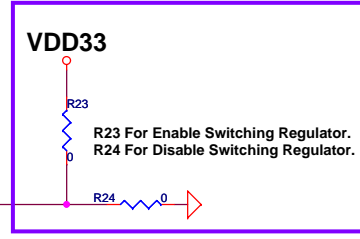
U7, U8 Reserve for Surge and Cable ESD (Optional)

Controller

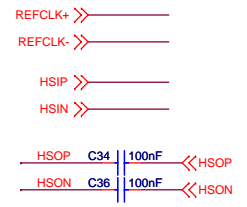
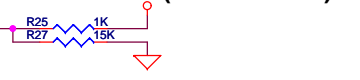
R15 value should be 2.49K (1%) for all application.



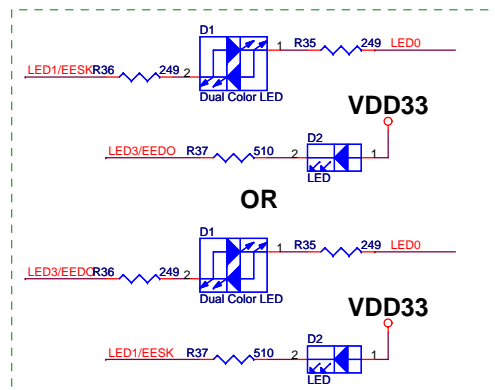
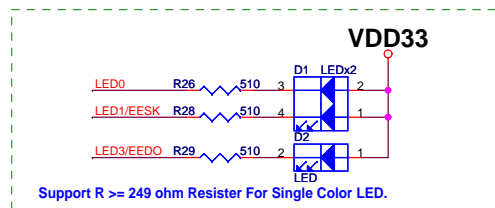
10K ohm close to Host side



VCC33 (Main Power)



LED

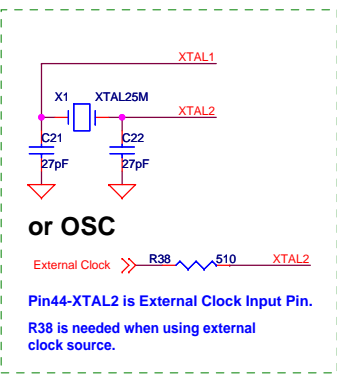


Support R>= 249 ohm Resistor For Single Color LED.

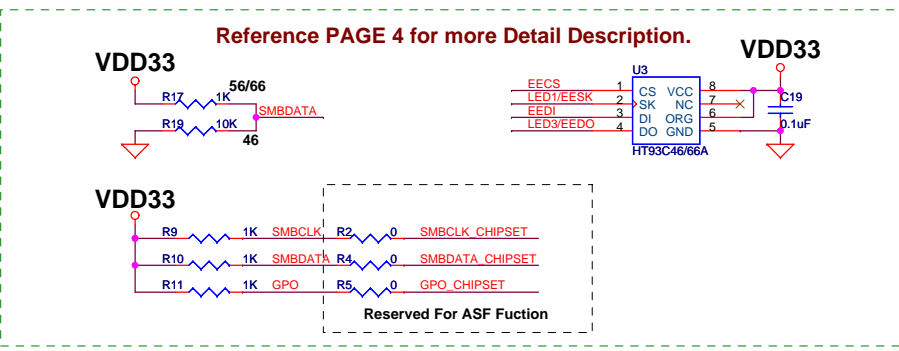
Support R>= 125 ohm Resistor For Dual Color LED.

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

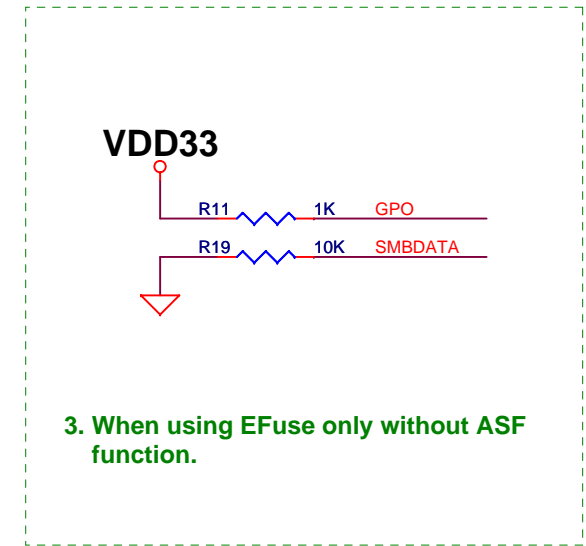
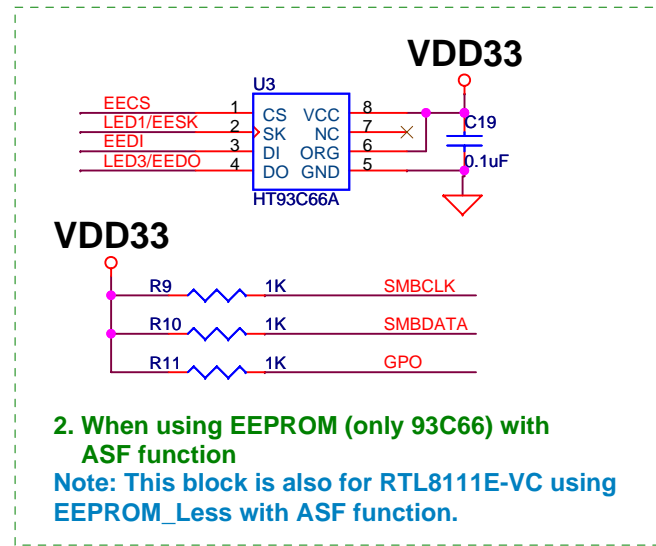
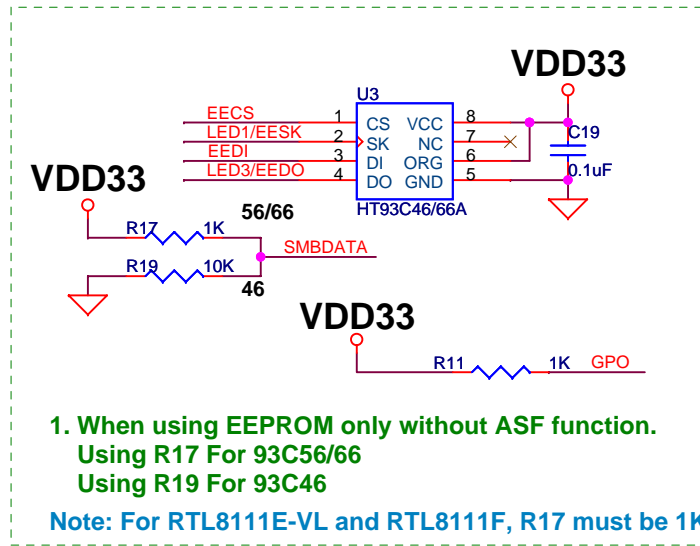
XTAL



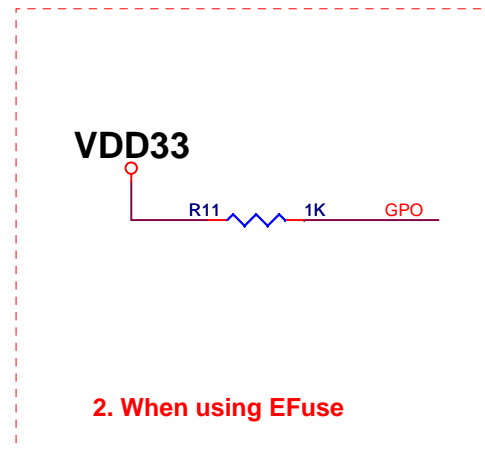
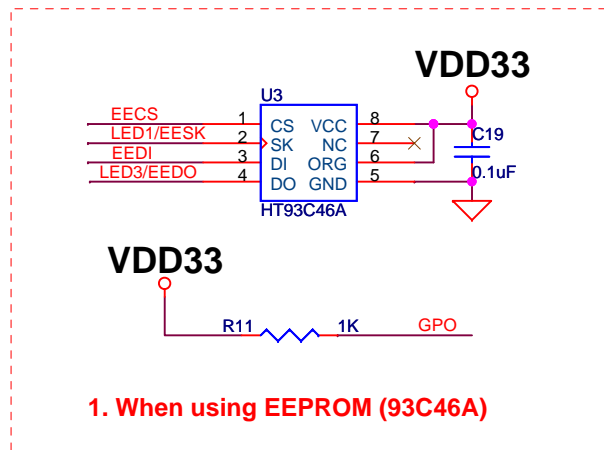
Function (EEPROM, Efuse, ASF)



*****For RTL8111E Series and RTL8111F Series EEPROM / ASF / Efuse Function (3 Option)*****



*****For RTL8105E Series EEPROM / Efuse Function (2 Option)*****



**Keep R11 for RTL8105E-VB application
 Remove R11 for RTL8105E Series (except for VB)**

Realtek Semiconductor Corp.		
No.2, Industry E. Rd. IX, Science-Based Industrial Park, Hsinchu, Taiwan 300		
Title RTL8111E/8111F/8105E Reference Schematic: Optional Function		
Size A4	Document Number RTL8111E/8111F/8105E Reference Schematic	Rev
Date: Monday, January 10, 2011	Sheet 4	of 5

Change Notice from 1.00 to 1.01

1. C17 rename to Cin1, C18 rename to Cin2. C8 rename to Cout1, C9 rename to Cout2, L1 rename to Lx to align with SWR Layout Guide (Page 2.)
2. Add supported resistor values for Dual Color LED, supported combinations when using EEPROM (Page 3.)
3. Add R38 for external clock circuit. (Page 3.)

Change Notice from 1.01 to 1.02

1. Update Pin name(Pin3, Pin47) For RTL8105E.(Page 3.)
2. Update Capacitor Description For RTL8105E and RTL8111E. (Page 2.)
3. Modify Center tap Schematic for Power Optimization. Center tap short and coconnector 1uF to GND.(Page 3.)
4. Add RTL8105E Optional Function Schematic.(Page 4.)

Change Notice from 1.02 to 1.03

1. Modify Efuse Autoload Schematic, SMBDATA Pull Down. (Page 4.)

Change Notice from 1.03 to 1.04

1. Remove TWSI Schematic. (Page 3 & 4.)
2. Remove TWSI Share Pin Name. (Page 3 & 4.)
3. Add Note For Lanwakeb & Clkreqb.(Page 3.)
4. Add Note For Function Option for Using Efuse/BIOS Patch.(Page 4.)

Change Notice from 1.04 to 1.05

1. Add Resister For SMB Bus.(Page 3.)
2. Add C26 Value Note.(Page 3.)
3. Add SWR Power Sequence Note.(Page2.)

Change Notice from 1.05 to 1.06

1. Modify Power Mode Table. (Page 2.)
2. Remove C4, C16 For RTL8105E-VC. (Page 2.)
3. Modify Lx Value and Update Note. (Page 2.)
4. Modify C26 Value Note. (Page 3.)

Change Notice from 1.06 to 1.07

1. Remove XTAL14.318M from XTAL Circuit. (Page 3.)

Change Notice from 1.07 to 1.08

1. Modify R17 Value. (Page 3 & 4.)
2. Add note for RTL8111E-VL and RTL8111E-VC (Page 4.)
3. Remove R11 for RTL8105E-VC. (Page 4.)

Change Notice from 1.08 to 1.09

1. Modify Note For RTL8105E Series. (Page 2.)
2. Modify Note For RTL8105E Series EEPROM / Efuse Function. (Page 4.)

Change Notice from 1.09 to 1.10

1. Add Note For RTL8111F Series.
2. Modify Note For External Power Supply When Not Using Switching Regulator (Page 2)

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Title RTL8111E/8111F/8105E Reference Schematic: Change Notes		
Size A	Document Number RTL8111E/8111F/8105E Reference Schematic	Rev
Date:	Monday, January 10, 2011	Sheet 5 of 5