

Renesas Starter Kit for RX113 CPU Board Schematics

REV	REF	DATE	DRAWN BY
1.00	Release	03.12.2014	YOI

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Note:

R : Fixed Resistor
RV : Potentiometer
U : Integrated Circuit
X : Crystal
RES : Reset Switch
SW : Switch
LED : Light Emitting Diode
PWR : Power Jack
J : Connector, Jumper

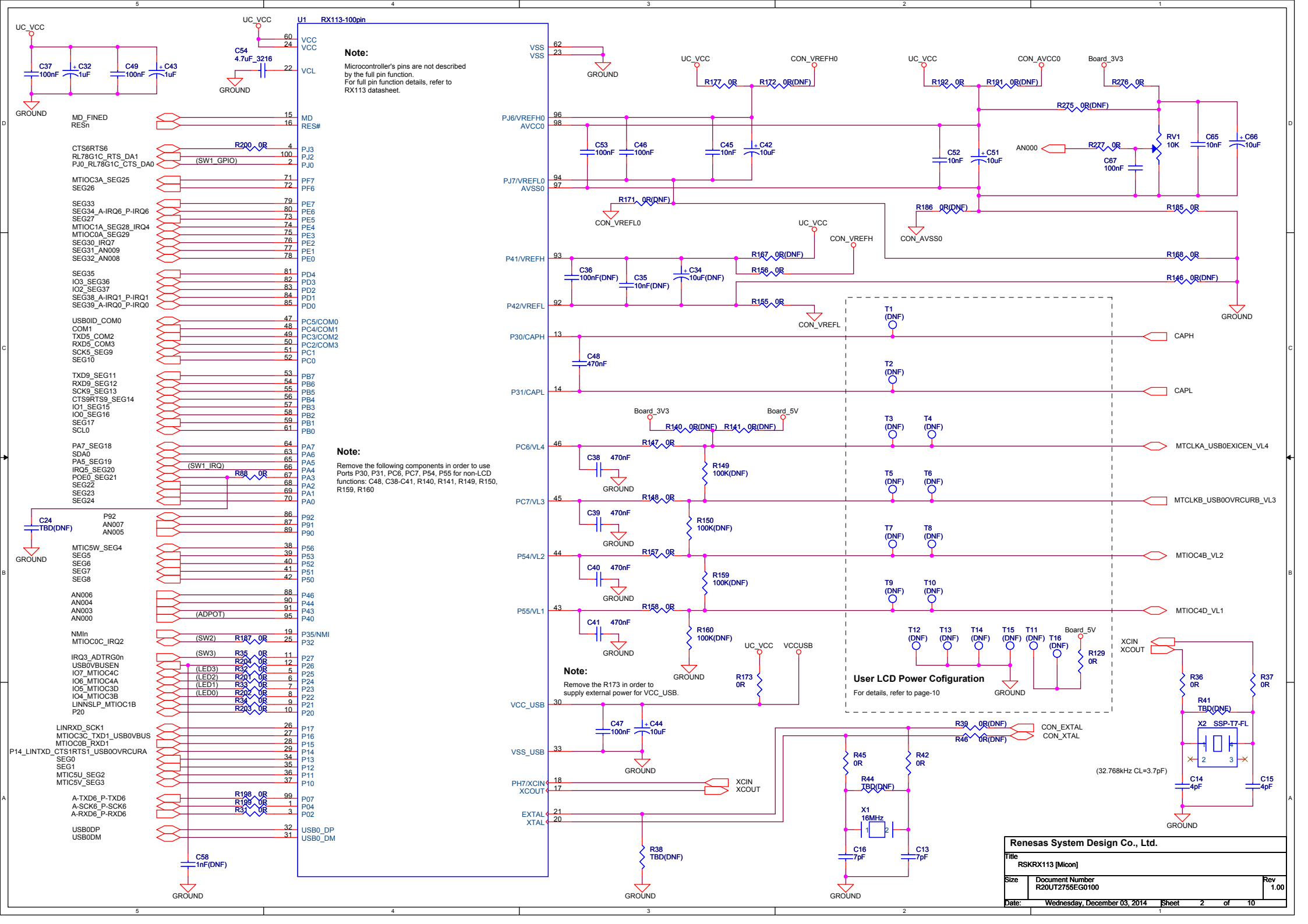
* "DNF" marking means that component is not fitted by default.

Board Code:

R0K505113C000BE : RSKRX113 MP Board

REEL Drawing No. D012782_04

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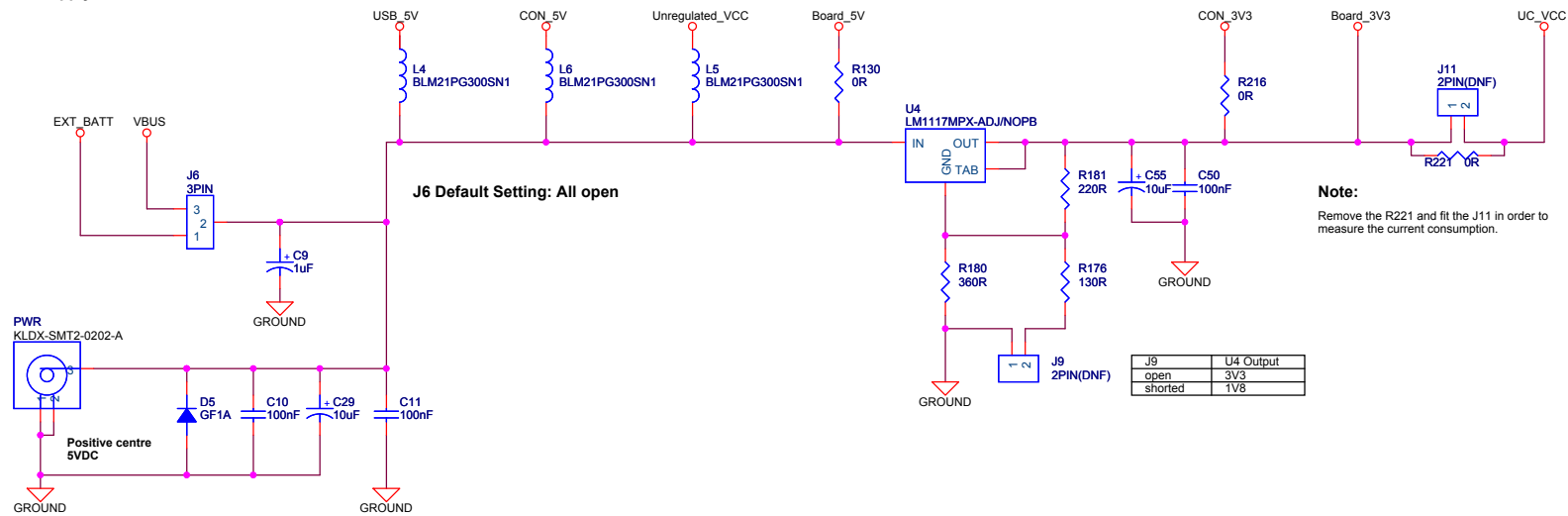
Note:
Microcontroller's pins are not described by the full pin function. For full pin function details, refer to RX113 datasheet.

Note:
Remove the following components in order to use Ports P30, P31, PC6, PC7, P54, P55 for non-LCD functions: C48, C38-C41, R140, R141, R149, R150, R159, R160

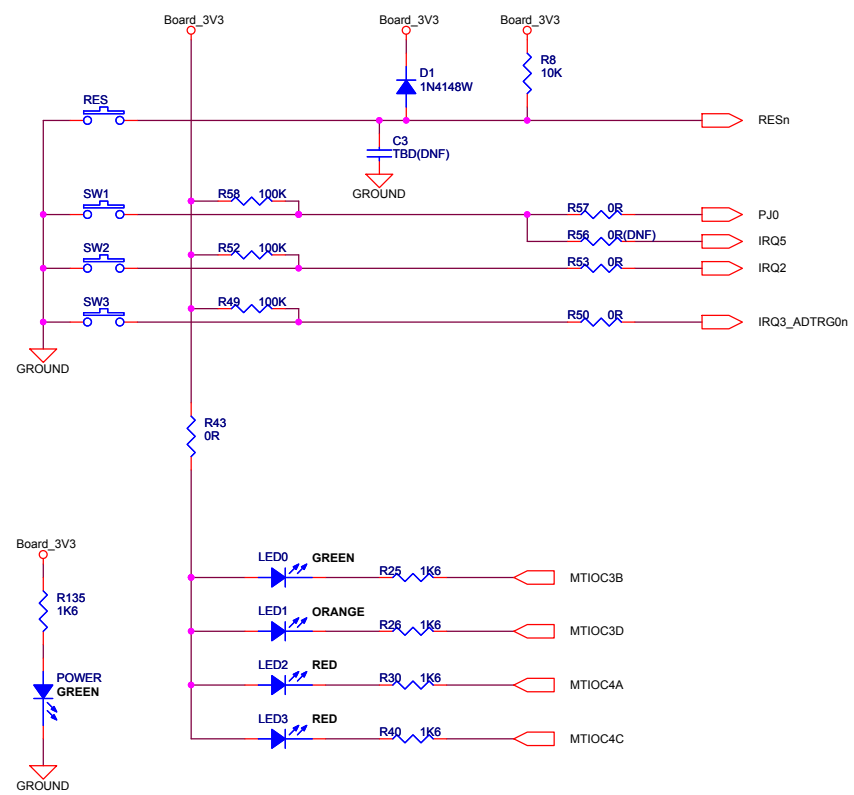
Note:
Remove the R173 in order to supply external power for VCC_USB.

User LCD Power Configuration
For details, refer to page-10

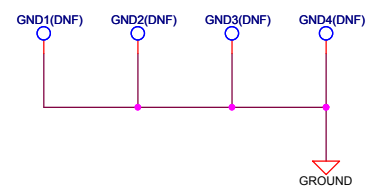
Power Supply Unit



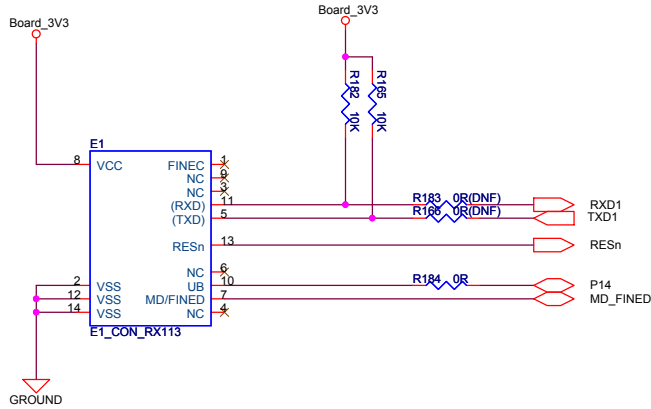
Switches, LEDs, RESET



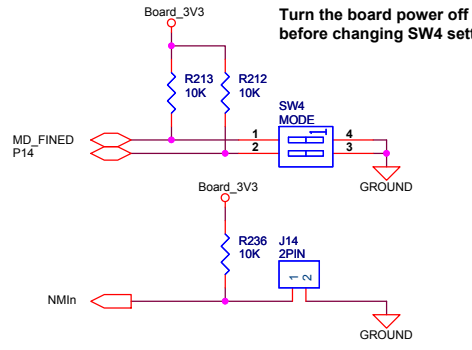
Ground Test Point



E1 Emulator Interface



MCU Mode Settings



Turn the board power off before changing SW4 settings.

MCU Operating Mode Configuration

SW4 Pin1	SW4 Pin2	Operating Mode
OFF	Don't care	Single Chip Mode
ON	OFF	Boot Mode (SCI)
ON	ON	USB Boot Mode

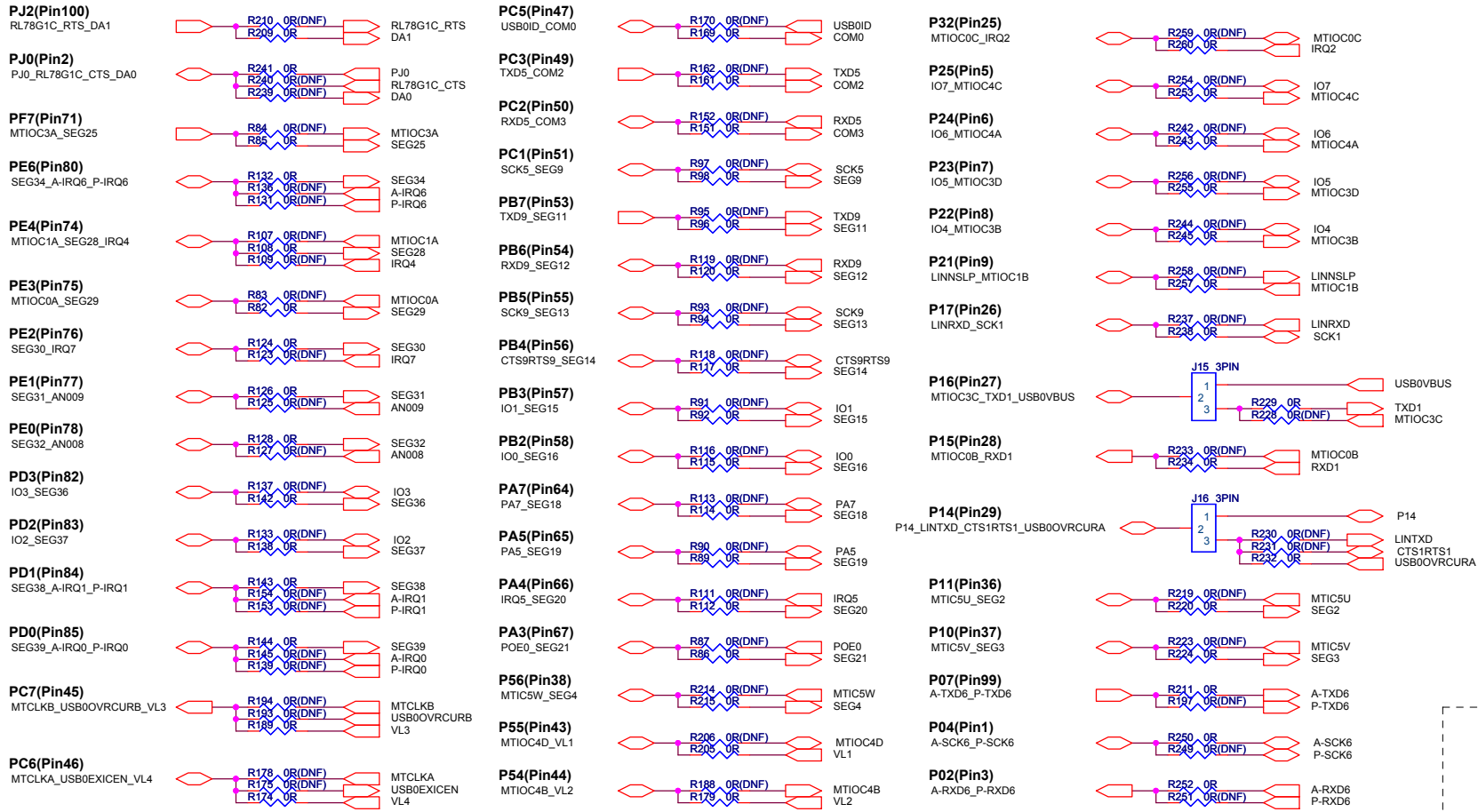
SW4 Default Setting: SW4.Pin1=OFF, SW4.Pin2=OFF

USB Boot Mode Power Configuration

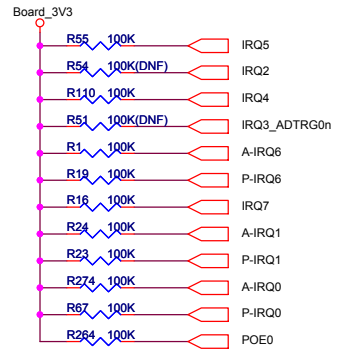
J14	Power Configuration for USB Boot Mode
shorted	Self Powered
open	Bus Powered

J14 Default Setting: Open

MCU Pin Function Select



Option pull-up resistor



J15 Default Setting: Shorted Pin2-3

J16 Default Setting: Shorted Pin2-3

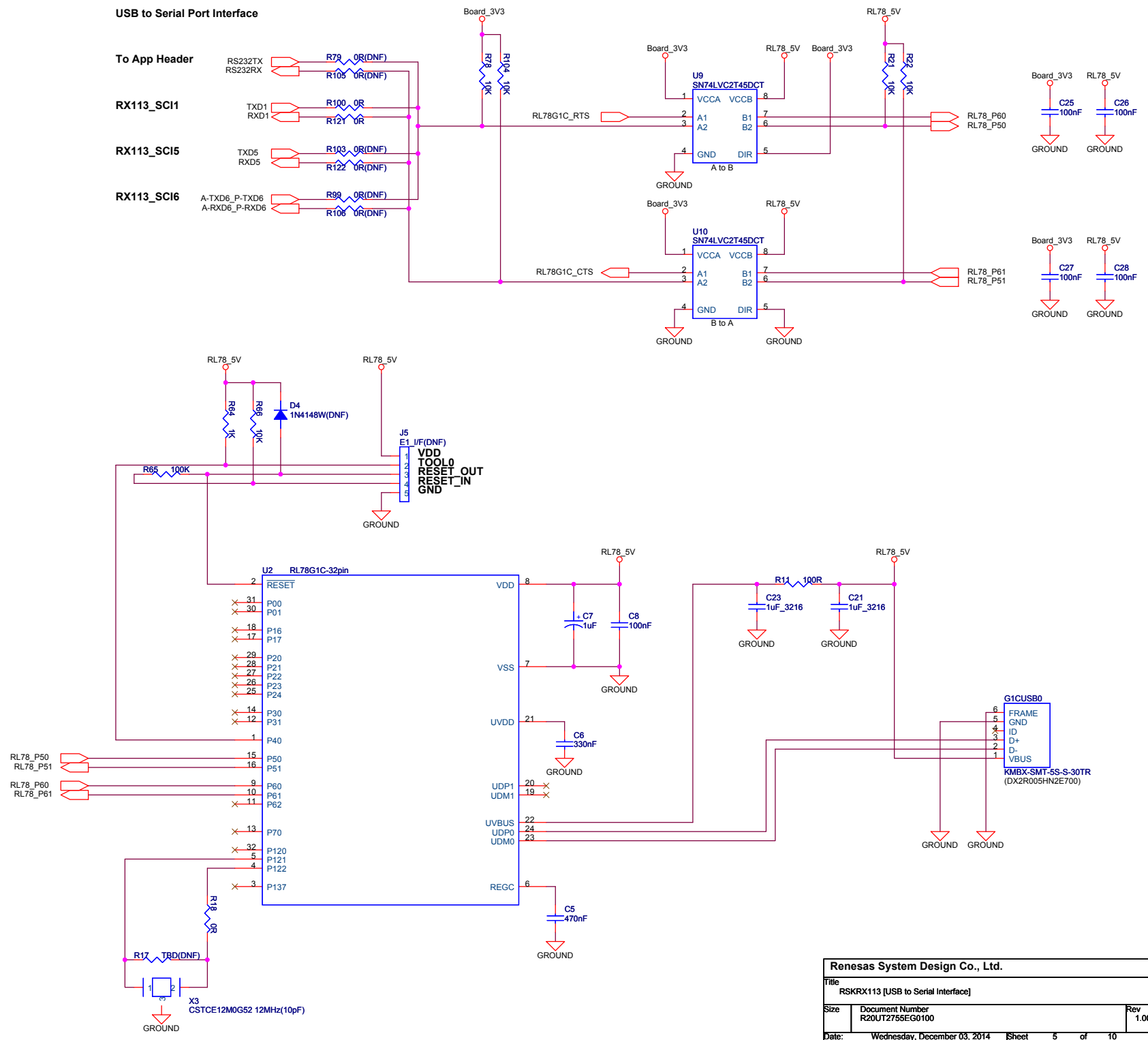
USB to Serial Port Interface

To App Header

RX113_SCI1

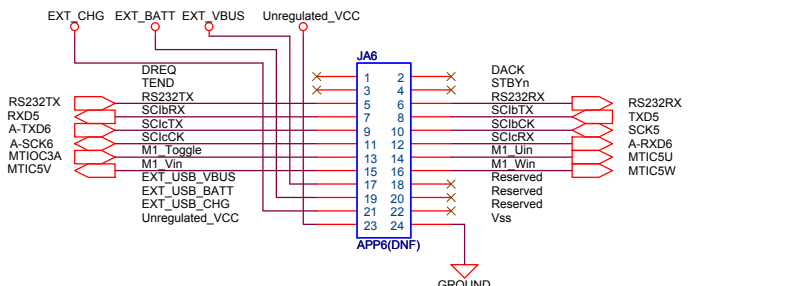
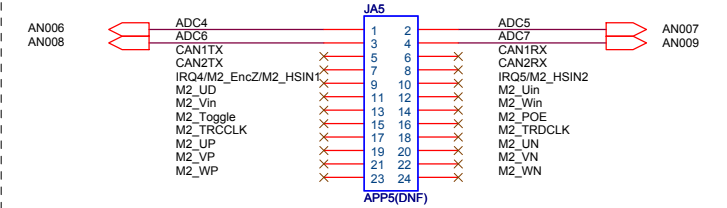
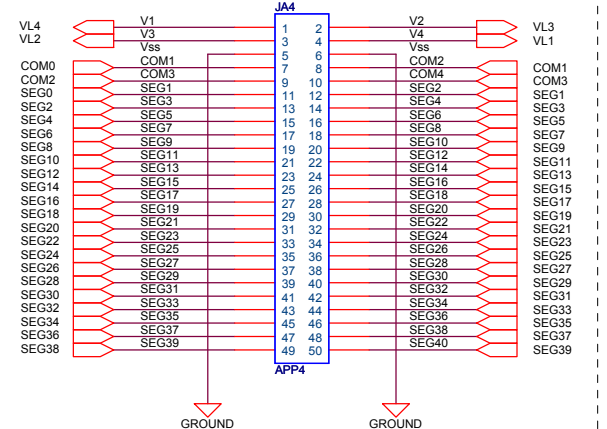
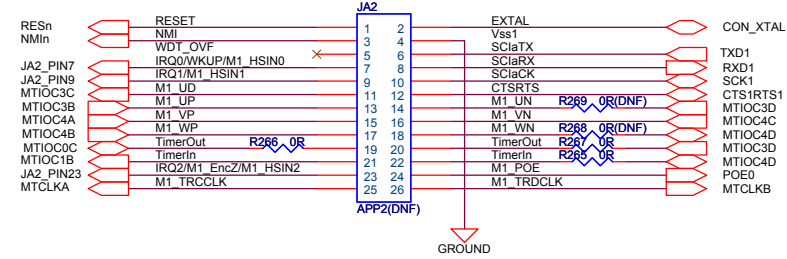
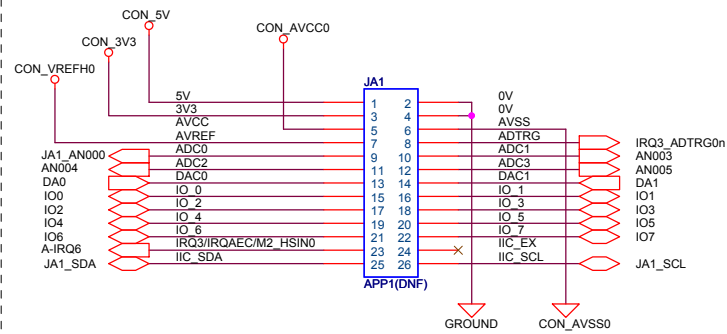
RX113_SCI5

RX113_SCI6

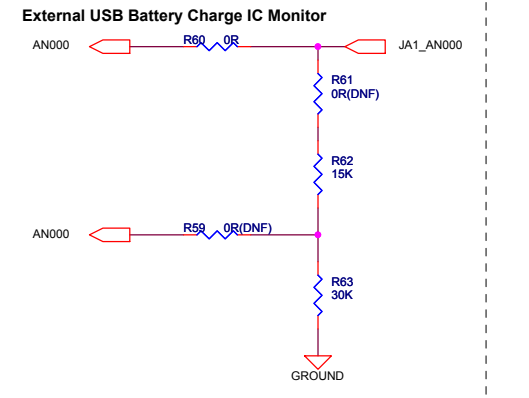
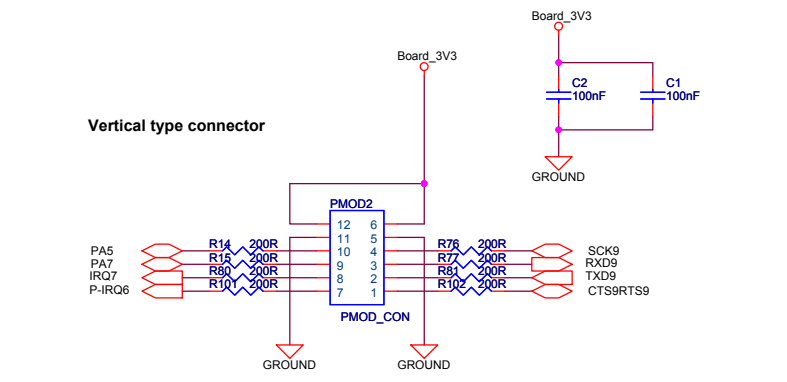
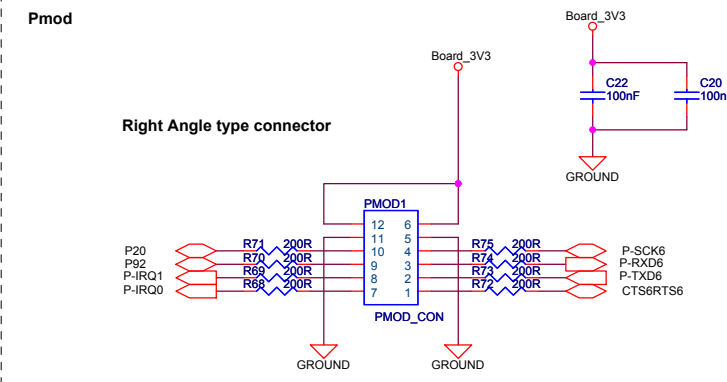
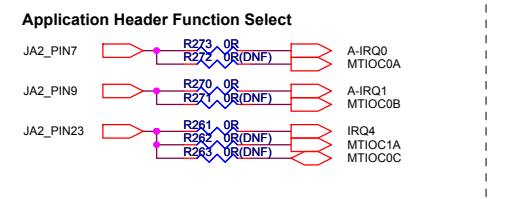


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Application Headers



NOTE:
 EXT_USB_BATT, EXT_USB_CHG and EXT_USB_VBUS are not standard RSK App Header Specification.
 Normally, JA6.Pin17, JA6.Pin19 and JA6.Pin21 are reserved header.

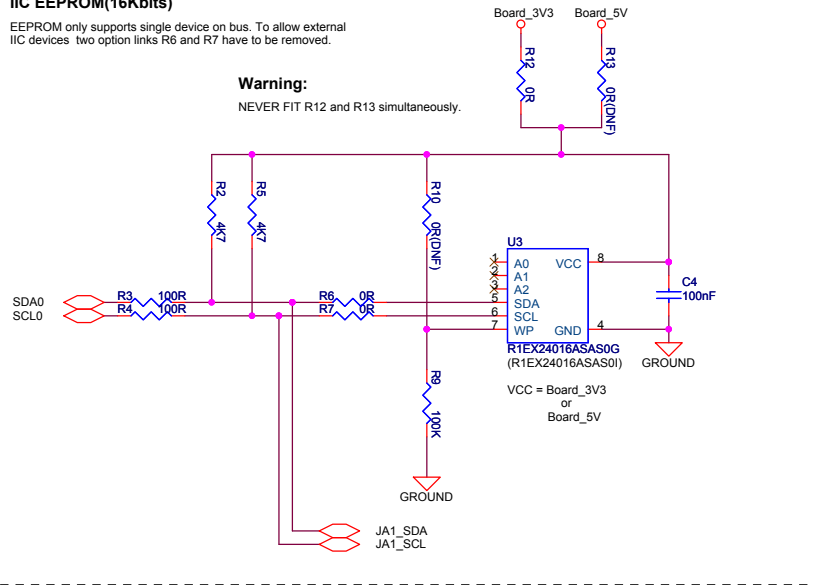


IIC EEPROM(16Kbits)

EEPROM only supports single device on bus. To allow external IIC devices two option links R6 and R7 have to be removed.

Warning:

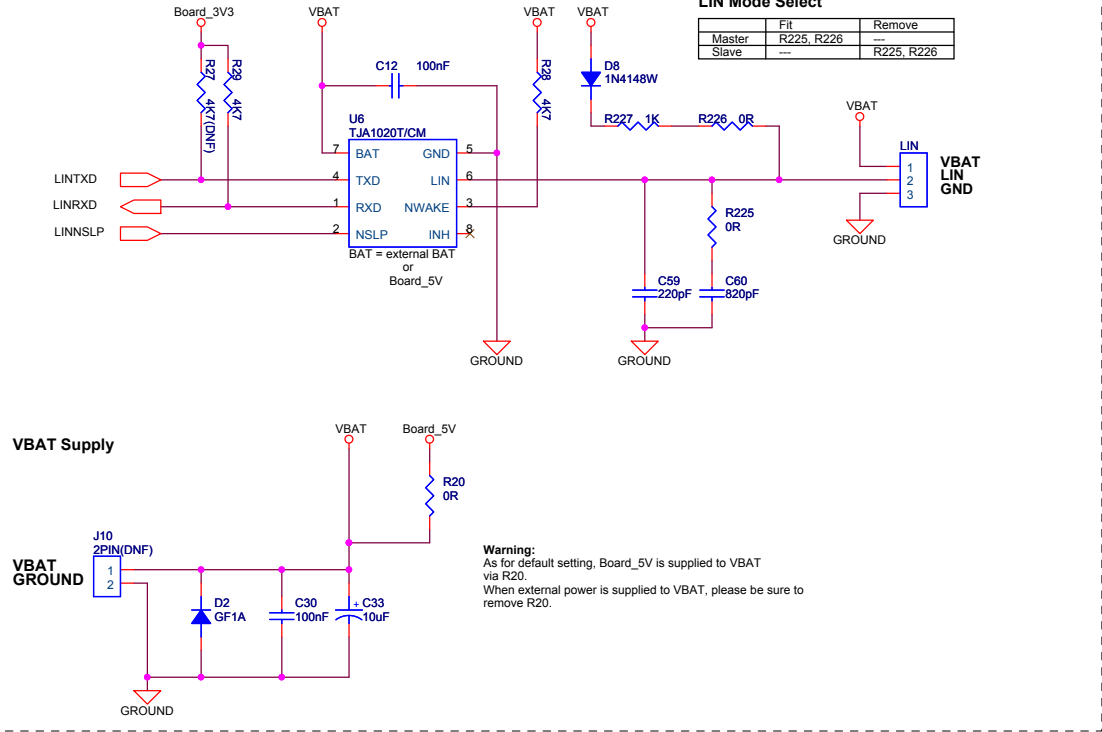
NEVER FIT R12 and R13 simultaneously.



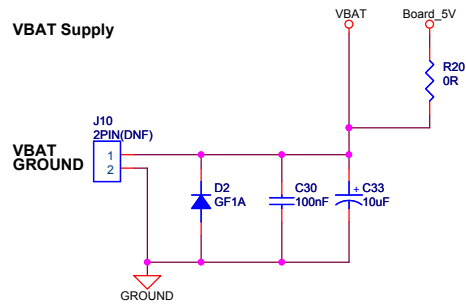
LIN

LIN Mode Select

	Fit	Remove
Master	R225, R226	---
Slave	---	R225, R226

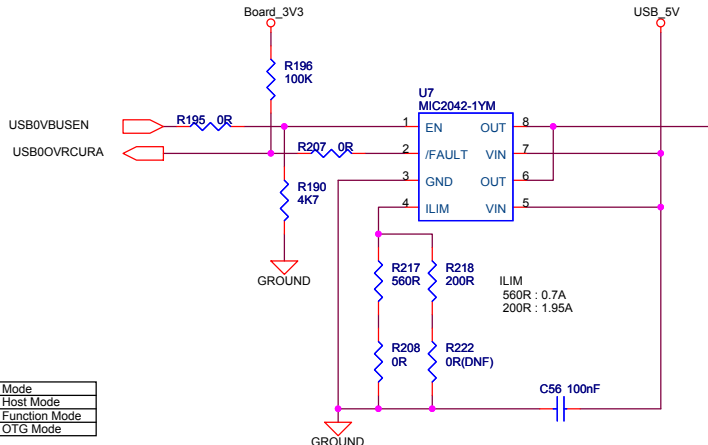


VBAT Supply



Warning:
As for default setting, Board_5V is supplied to VBAT via R20.
When external power is supplied to VBAT, please be sure to remove R20.

USB0 Host/Function/OTG



Note:
Please transpose to 0R resistor instead of diodes D3 and D6, when a voltage level is not enough by the voltage drops resulting from diodes.

VBUS0 Self-powered/Bus-powered Configuration for Function Mode

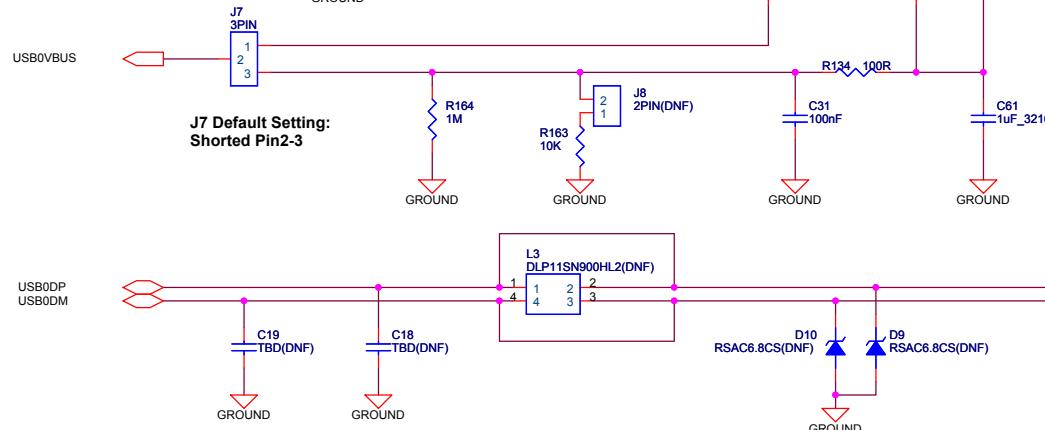
J7	
1-2 shorted	Bus-powered
2-3 shorted	Self-powered

VBUS0 Host/Function/OTG Select

J12	R235	R195, R207	R281, R282	Mode
1-2 shorted	Remove	Fit	Remove	Host Mode
2-3 shorted	Remove	Don't care	Don't care	Function Mode
All Open	Fit	Remove	Fit	OTG Mode

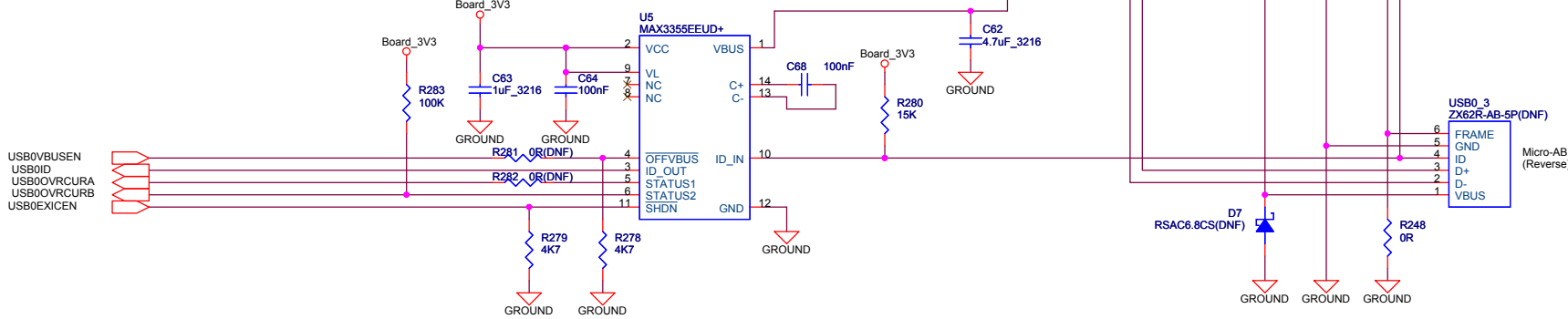
VBUS0 Battery Charging Configuration

J8, J13	
shorted	BC
Open	Non BC



J12 Default Setting:
Shorted Pin2-3

J7 Default Setting:
Shorted Pin2-3



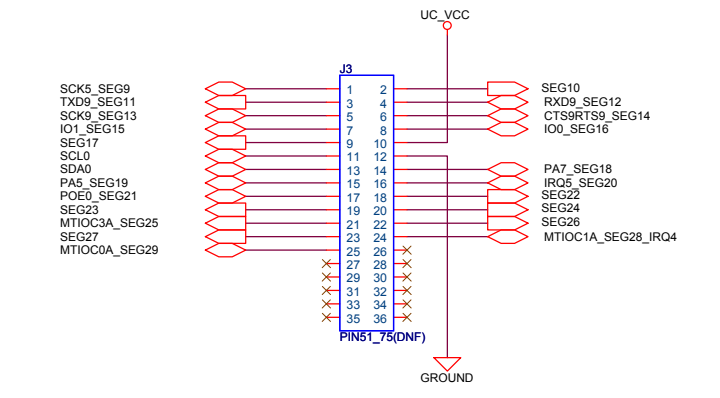
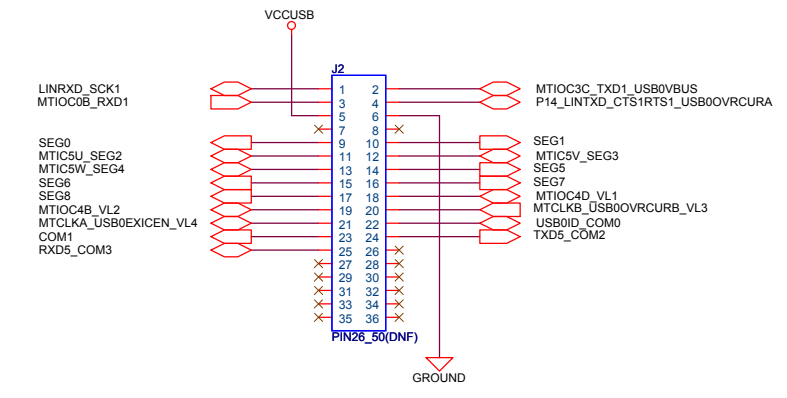
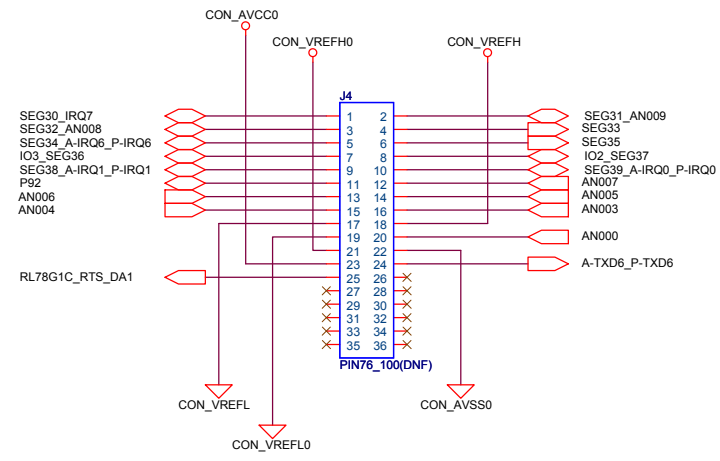
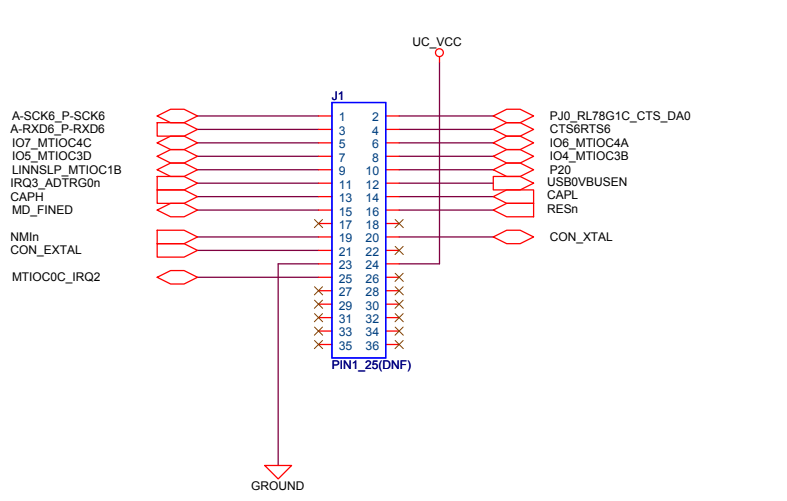
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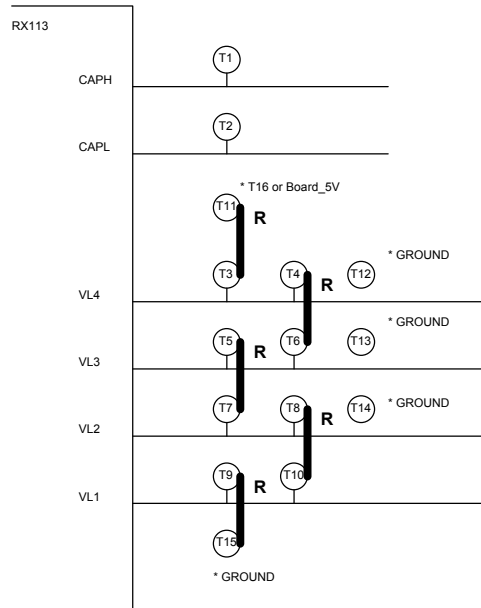
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Microcontroller Pin Headers

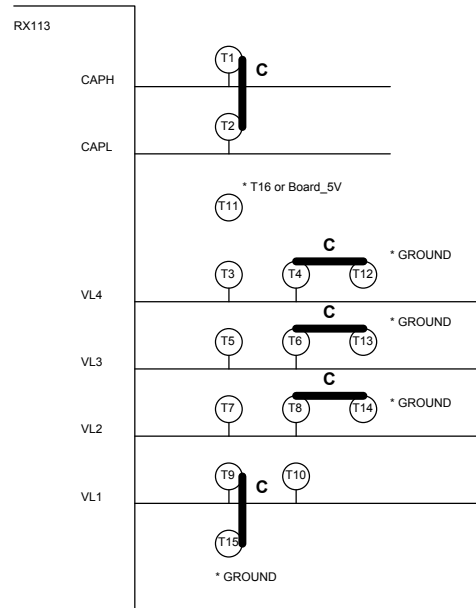


Appendix (User LCD Power Configurations)

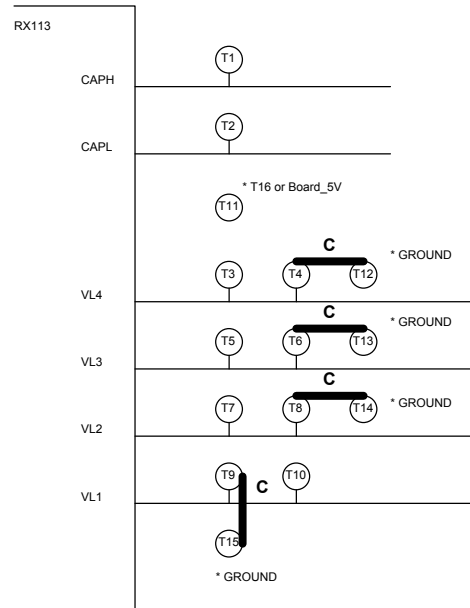
Example-1



Example-2



Example-3



Revision History

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1.00	03.12.2014	---	1st Release edition

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