

# Renesas Starter Kit for RX111 CPU Board Schematics

REV	REF	DATE	DRAWN BY
1.00	Release	13.06.2013	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 does not fit by default.

**Board Code:**

R0K505111C000BE : WS/MP Board

REEL Drawing No. D011672\_04

Renesas Solutions Corp.			
Title RSKRX111 [INDEX]			
Size	Document Number R20UT2192EG0100	Rev 1.00	
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**RX111 Microcontroller**

**Note:**  
 Microcontroller's pins are not described by the full pin function.  
 For full pin function details, refer to latest RX111 datasheet.

MD\_FINED  
 RESn  
 NMin

IO7\_AN015  
 IO6\_AN014  
 IO5\_MTI0C4C  
 IO4\_MTI0C1A\_IRQ4  
 IO3\_MTI0C0A  
 LINRXD\_I02\_RXD12  
 LINTXD\_I01\_TXD12  
 IO0\_SCK12

PC7\_MTLCKB\_USB0VRCURB  
 MTLCKA\_USB0XICEN  
 RL78G1C\_RES\_USB0ID  
 PC4  
 A-TXD5\_P-TXD5  
 A-RXD5\_P-RXD5

MTI0C3B  
 MTI0C3D  
 PB5\_MTI0C1B  
 USB0VRCURA  
 LINISLP  
 MTIC5W\_SCL\_ADTRG0n

MTIC5V\_SDA\_CTS5RTS5  
 IRQ5\_MTI0C5U  
 POE0\_A-IRQ6\_P-IRQ6  
 A-SCK5\_P-SCK5  
 MTI0C4A

MTI0C4D  
 MTI0C4B  
 P46\_AN006  
 P44\_AN004  
 AN003  
 AN002  
 AN001  
 AN000

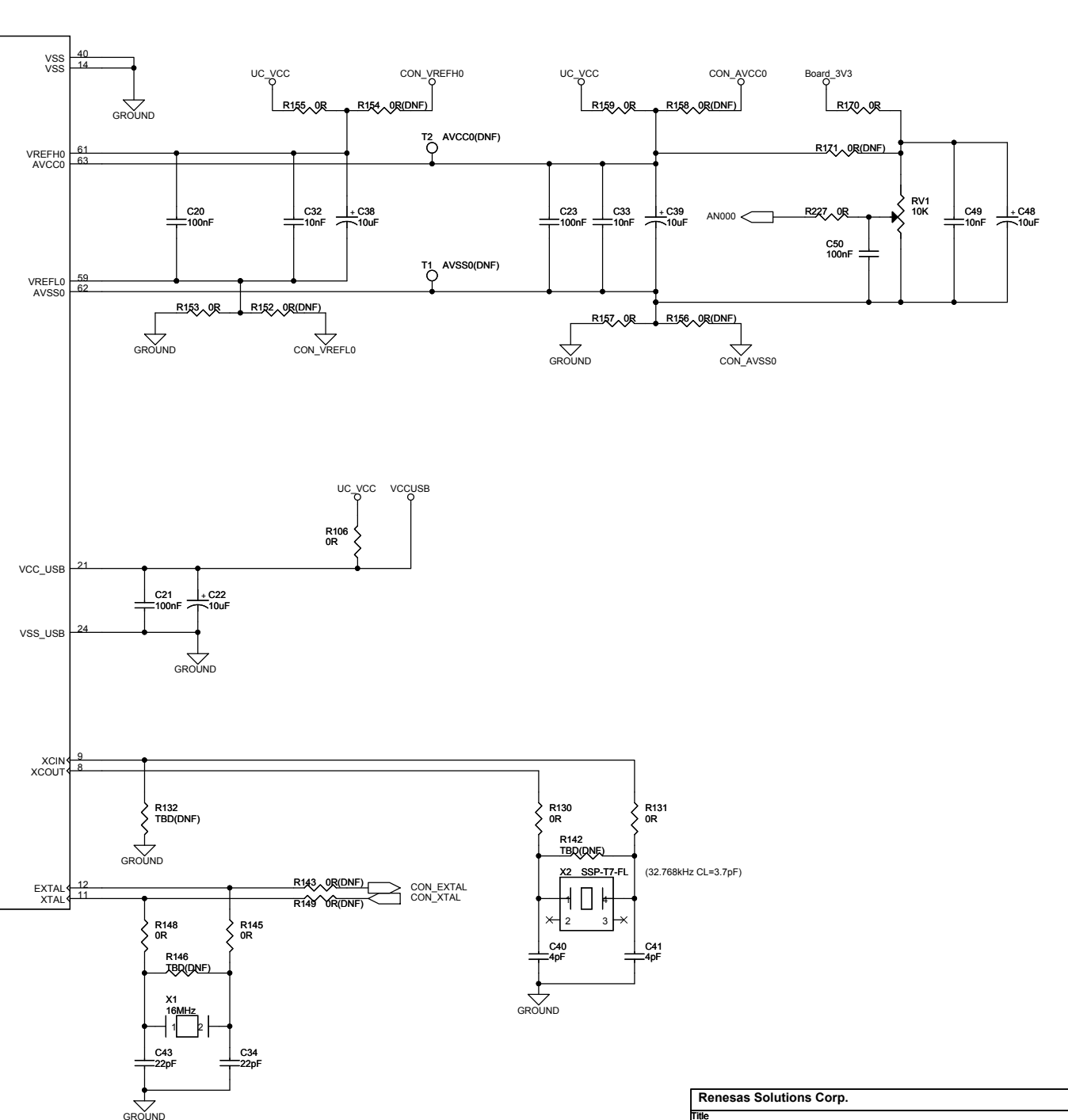
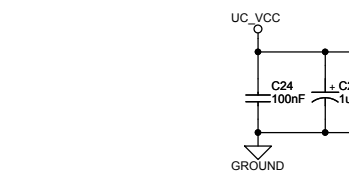
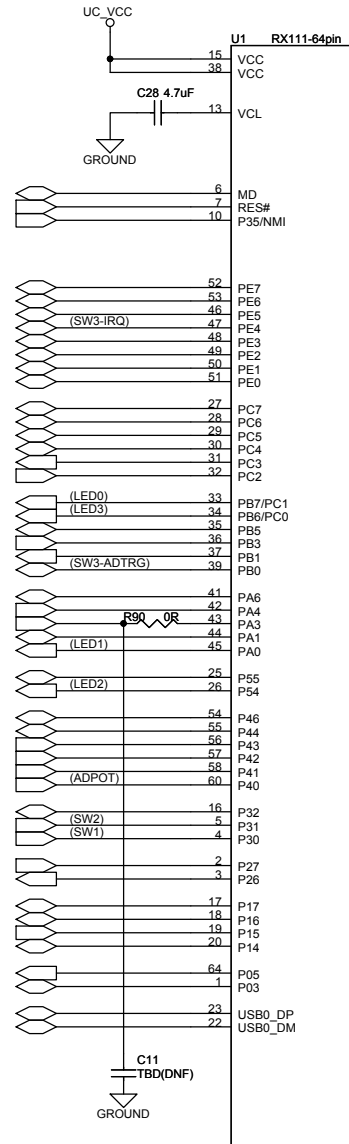
P32\_MTI0C0C  
 A-IRQ1\_P-IRQ1  
 A-IRQ0\_P-IRQ0

P27  
 USB0VBUSEN

MTI0C3A\_A-SCK1\_P-SCK1  
 MTI0C3C\_A-TXD1\_P-TXD1\_USB0VBUS  
 MTI0C0B\_A-RXD1\_P-RXD1  
 P14\_A-CTS1RTS1\_P-CTS1RTS1

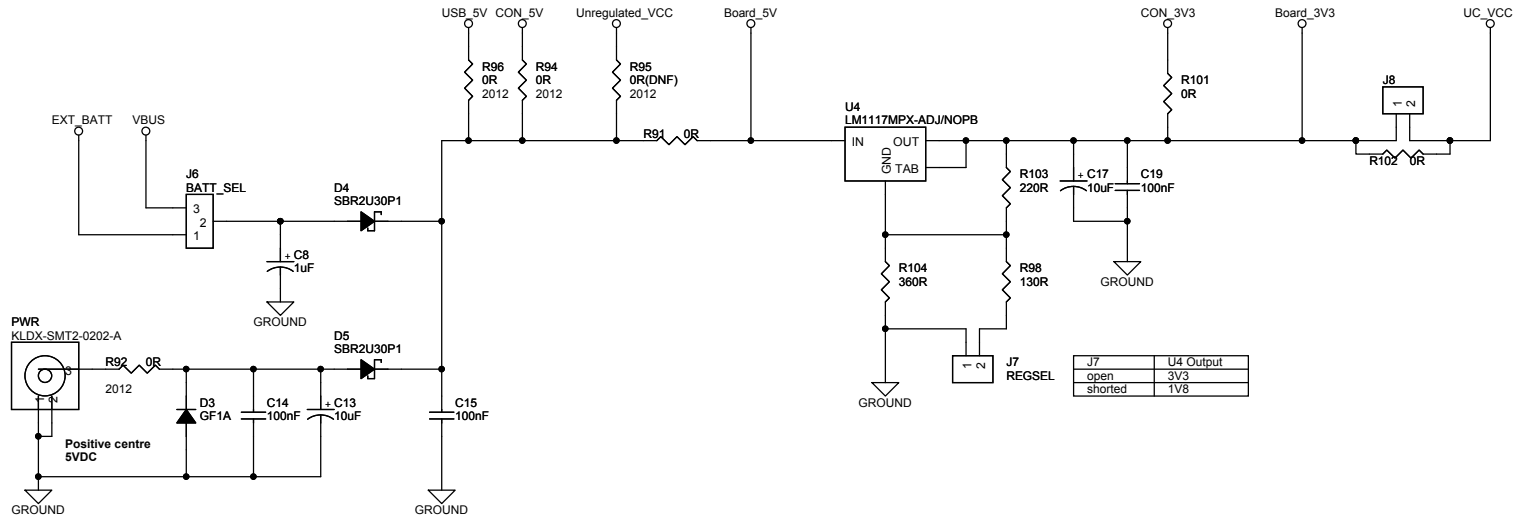
RL78G1C\_RTS\_DA1  
 RL78G1C\_CTS\_DA0

USB0DP  
 USB0DM

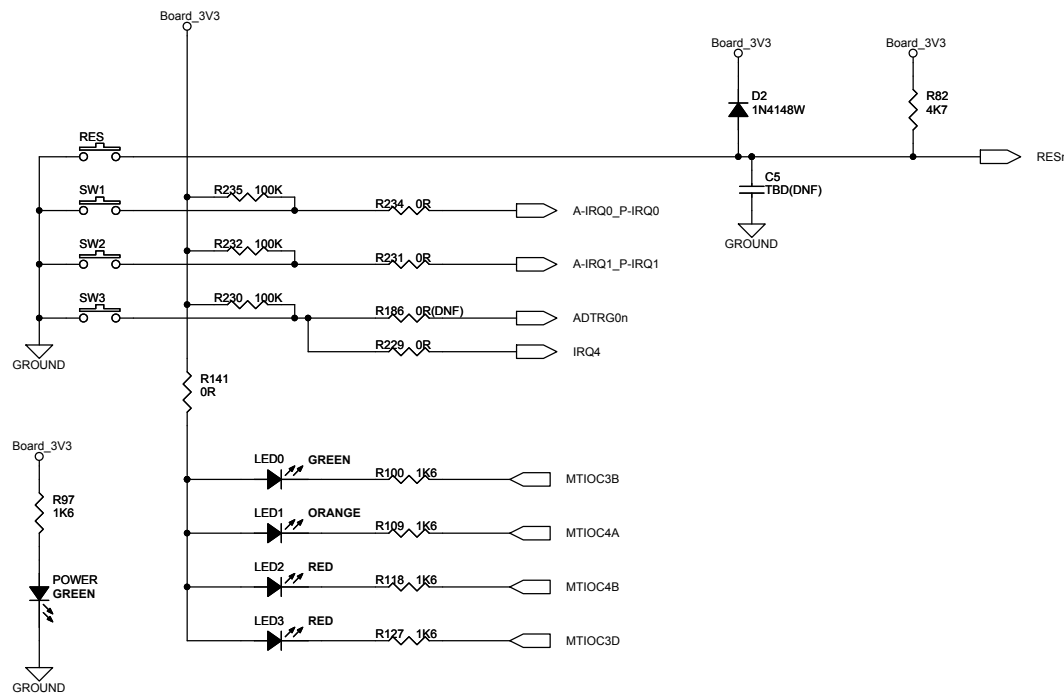


<b>Renesas Solutions Corp.</b>		
Title RSKRX111 [Micon]		
Size	Document Number R20UT2192EG0100	Rev 1.00
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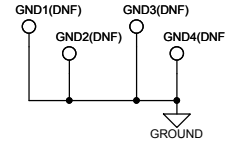
**Power Supply Unit**



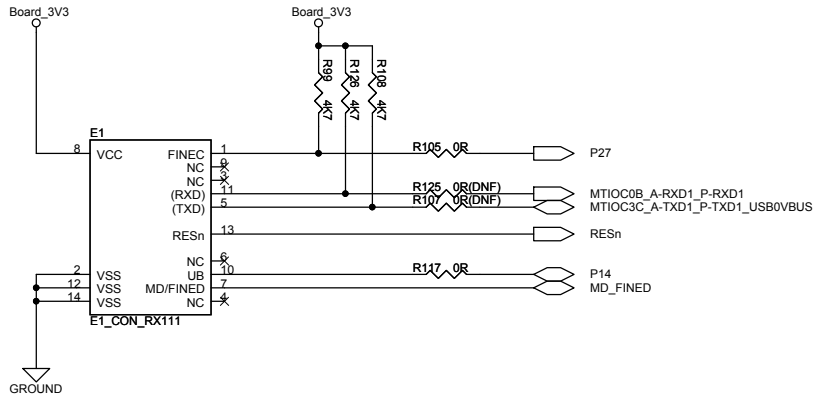
**Switches, LEDs, RESET**



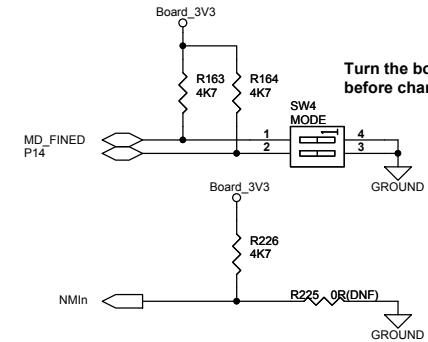
**Ground Test Point**



### E1 Emulator Interface



### MCU Mode Settings



Turn the board power off before changing SW4 settings.

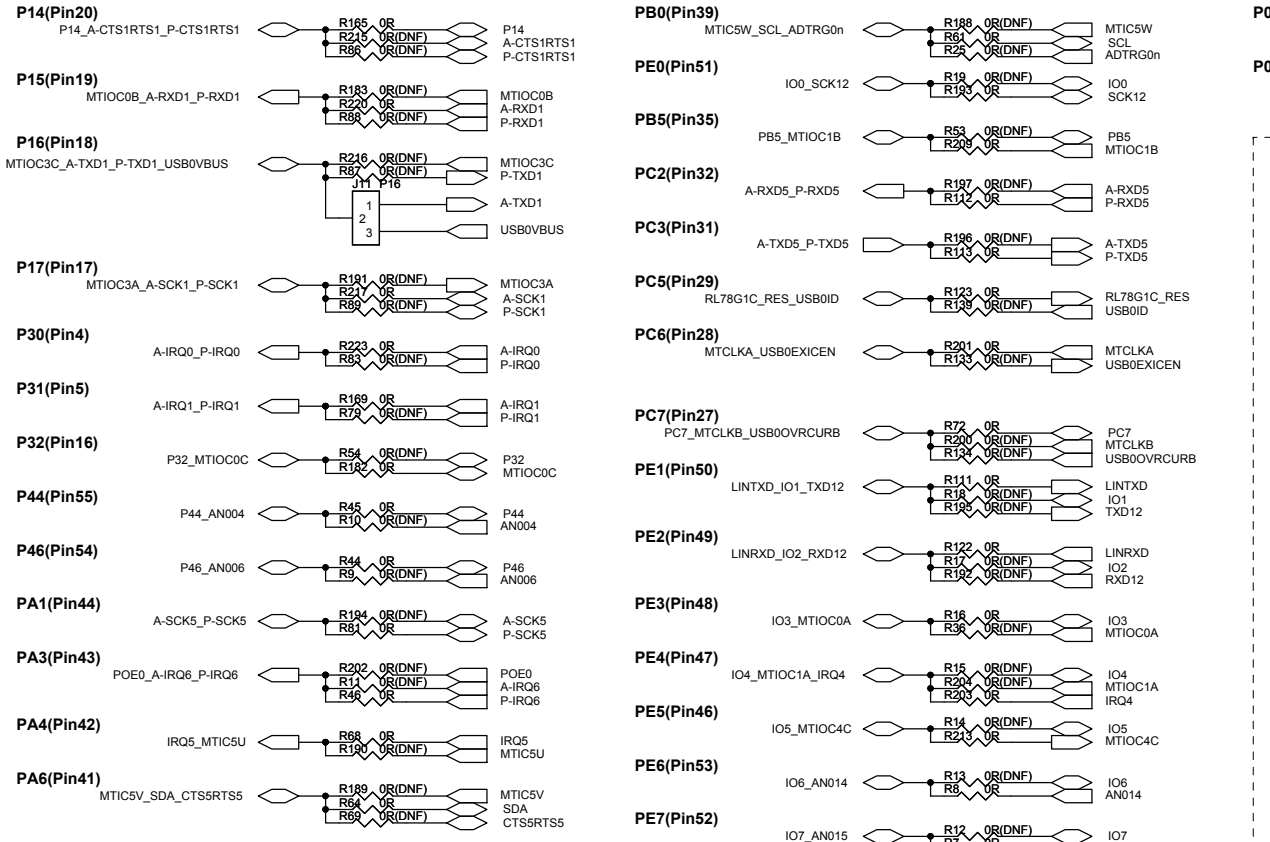
#### MCU Operating Mode Configuration

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

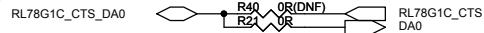
#### USB Boot Mode Power Configuration

R225	Power Configuration for USB Boot Mode
Fit	Self Powered
Remove	Bus Powered

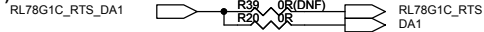
### MCU Pin Function Select



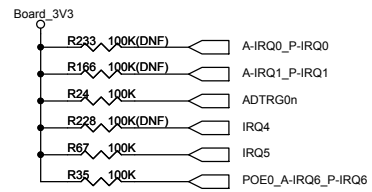
#### P03(Pin1)



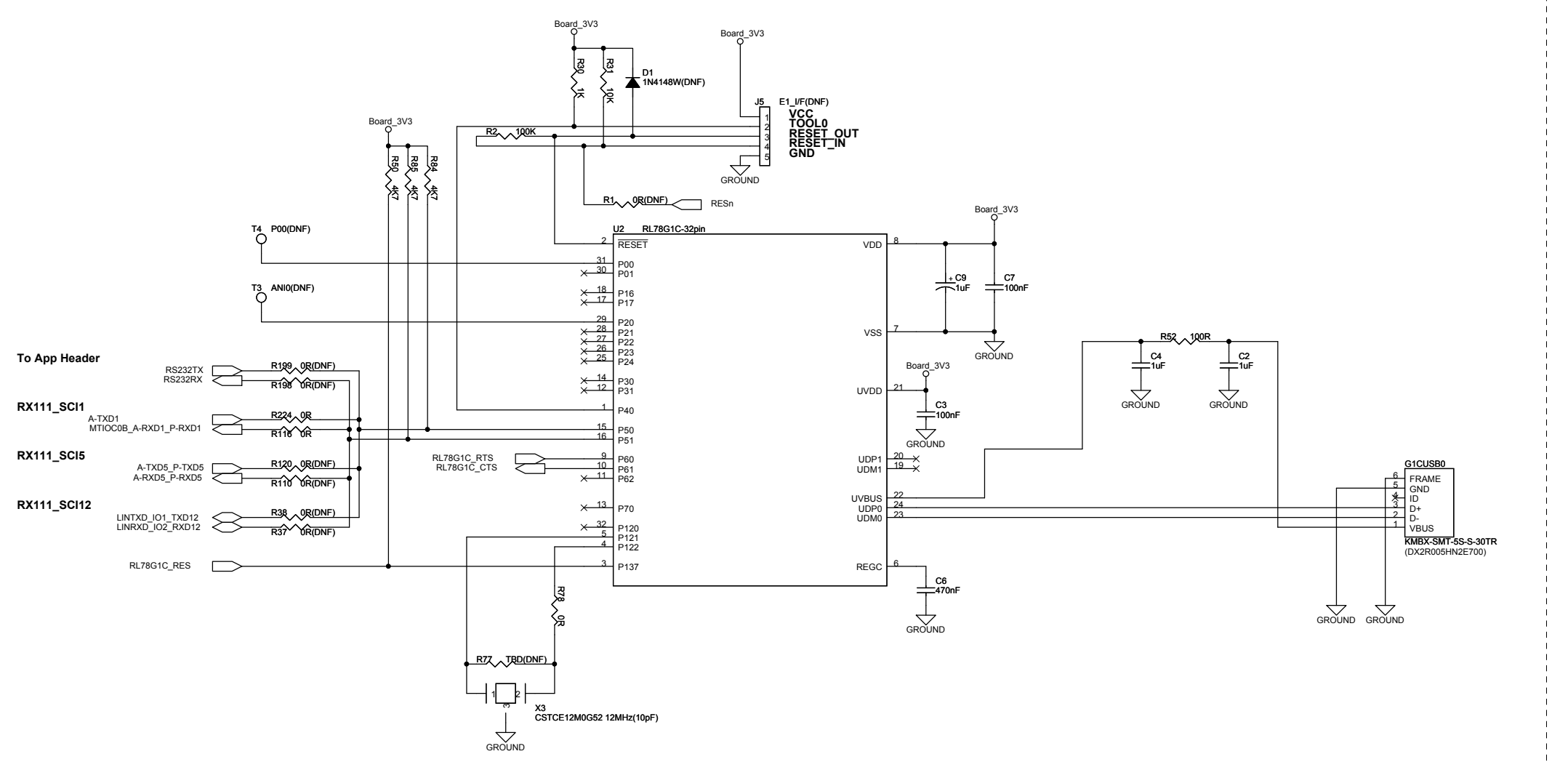
#### P05(Pin64)



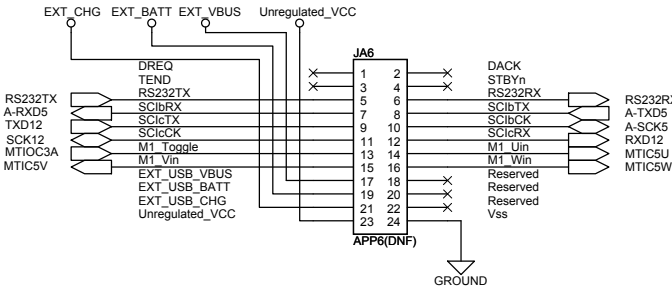
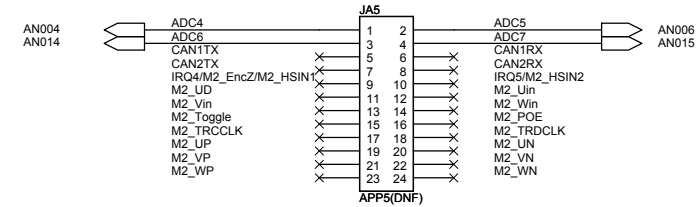
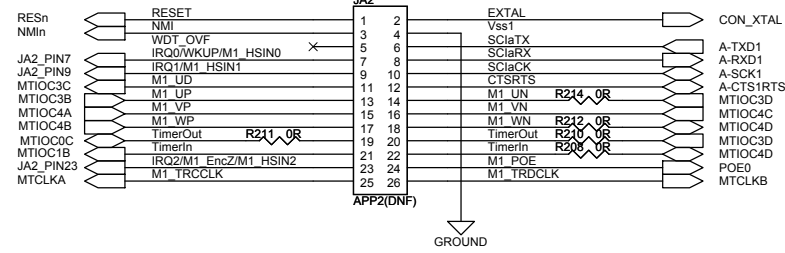
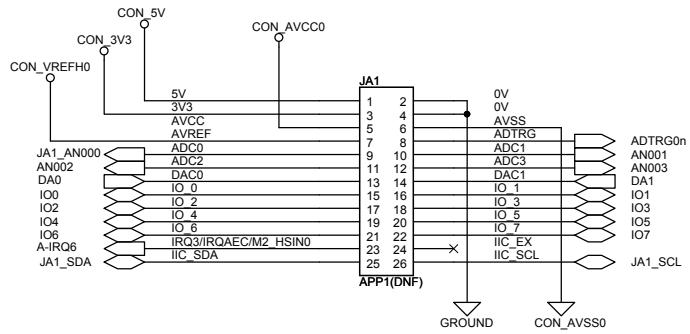
#### Option pull-up resistor



Virtual COM Interface



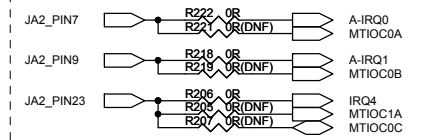
### Application Headers



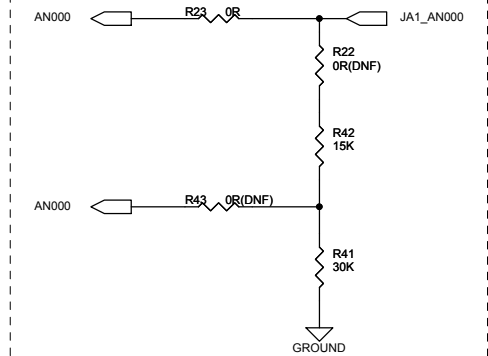
#### NOTE:

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.

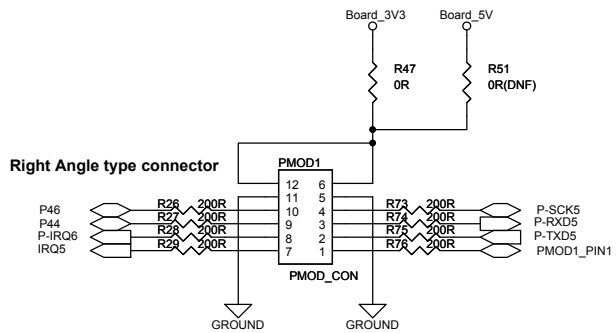
### Application Header Function Select



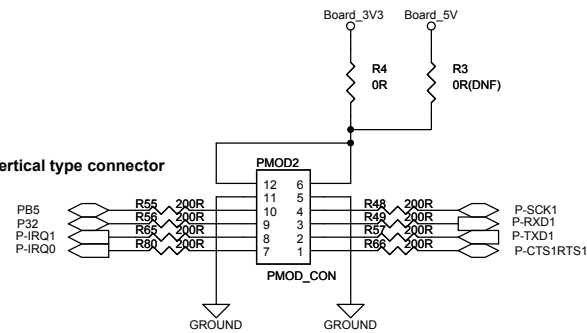
### External USB Battery Charge IC Monitor



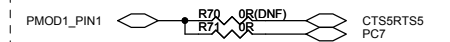
### Pmod



#### Vertical type connector



### Pmod Header Function Select

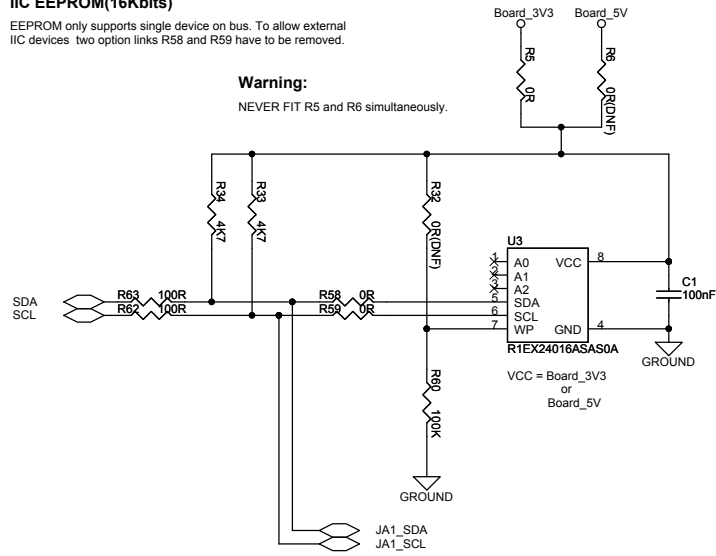


### IIC EEPROM(16Kbits)

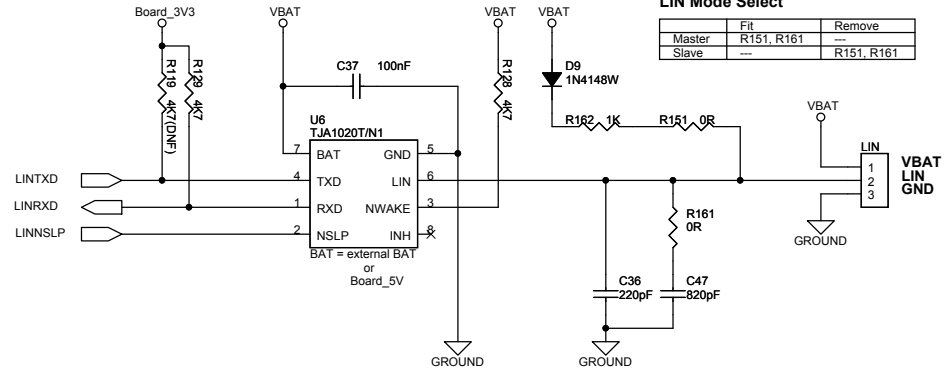
EEPROM only supports single device on bus. To allow external IIC devices two option links R58 and R59 have to be removed.

**Warning:**

NEVER FIT R5 and R6 simultaneously.



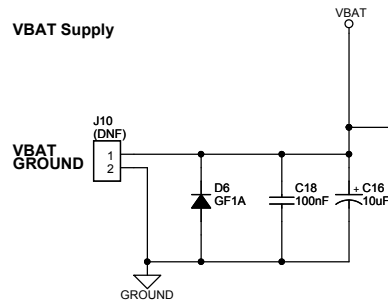
### LIN



#### LIN Mode Select

	Fit	Remove
Master	R151, R161	---
Slave	---	R151, R161

### VBAT Supply

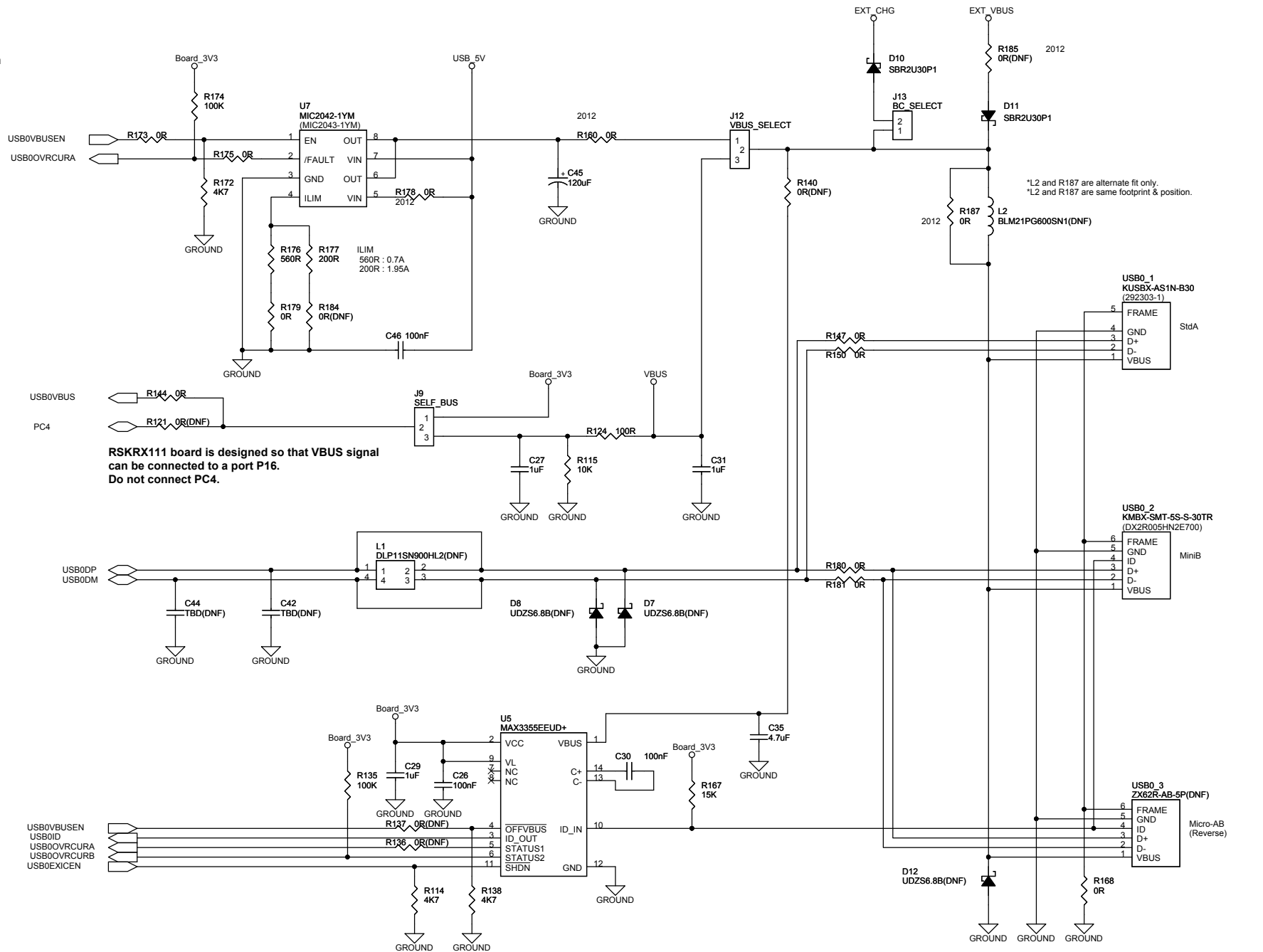


**Warning:**  
As for default setting, Board\_5V is supplied to VBAT via R93.  
When external power is supplied to VBAT, please be sure to remove R93.

USB0 Host/Function/OTG

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

J9	
1-2 shorted	Bus-powered
2-3 shorted	Self-powered

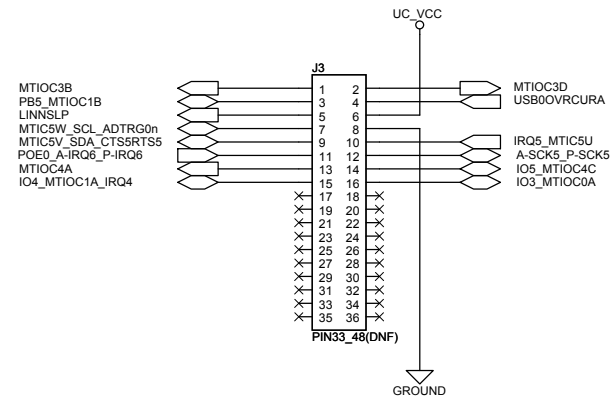
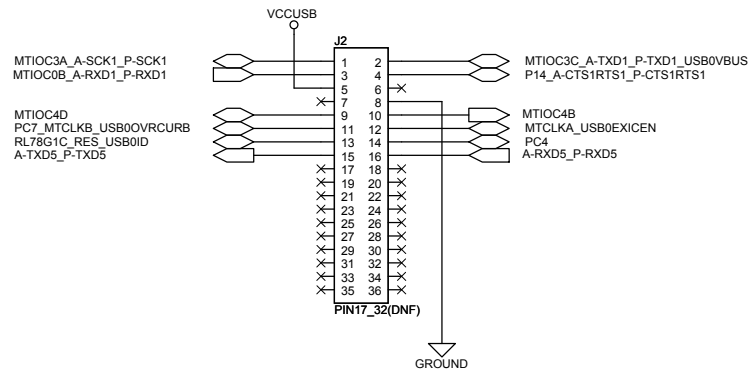
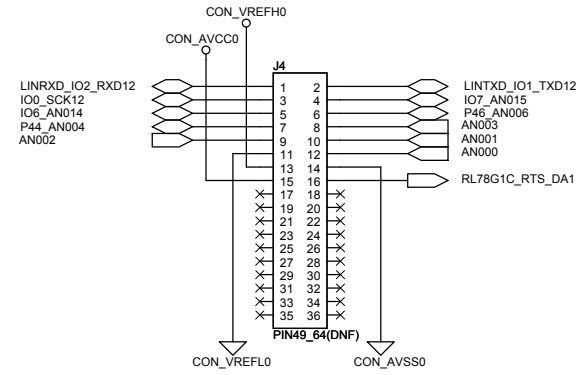
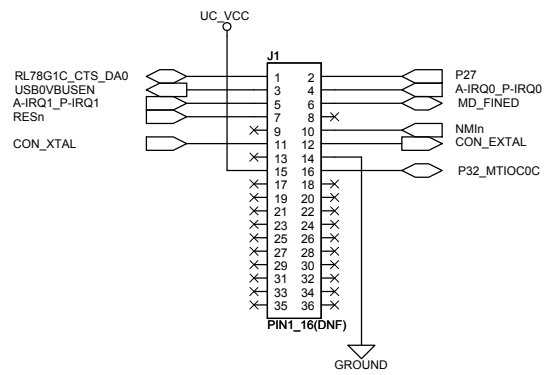


RSKRX111 board is designed so that VBUS signal can be connected to a port P16. Do not connect PC4.

\*L2 and R187 are alternate fit only. \*L2 and R187 are same footprint & position.



Microcontroller Pin Headers



# Revision History

REV	DATE	PAGE	DESCRIPTION
1.00	13.06.2013	---	1st release edition.