

# Renesas Starter Kit for RX140 CPU Board Schematics

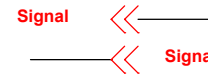
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### Note:

- C : Capacitor
- D : Diode
- FB : Ferrite Beads
- J : Connector, Jumper
- L : Inductor
- LED : Light Emitting Diode
- MR : Resistor Array
- PWR : Power Jack
- R : Fixed Resistor
- RES : Reset Switch
- RV : Potentiometer
- SW : Switch
- T : Test Point
- U : Integrated Circuit
- X : Crystal, Oscillator

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

\*\*The following off-page connectors used in this schematics do not indicate the signal direction.



### Board Code:

RTK551406BC00000BE : RSKRX140 MP Board (Encryption version)

### Abbreviations:

- CAN : Controller Area Network
- IIC : Philips(TM) Inter-Integrated Circuit Connection Bus
- LED : Light Emitting Diode
- LIN : Local Interconnect Network
- MCU : Microcontroller Unit
- PSU : Power Supply Unit
- RSK : Renesas Starter Kit
- USB : Universal Serial Bus

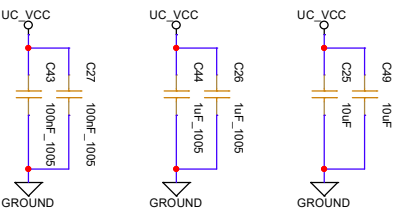
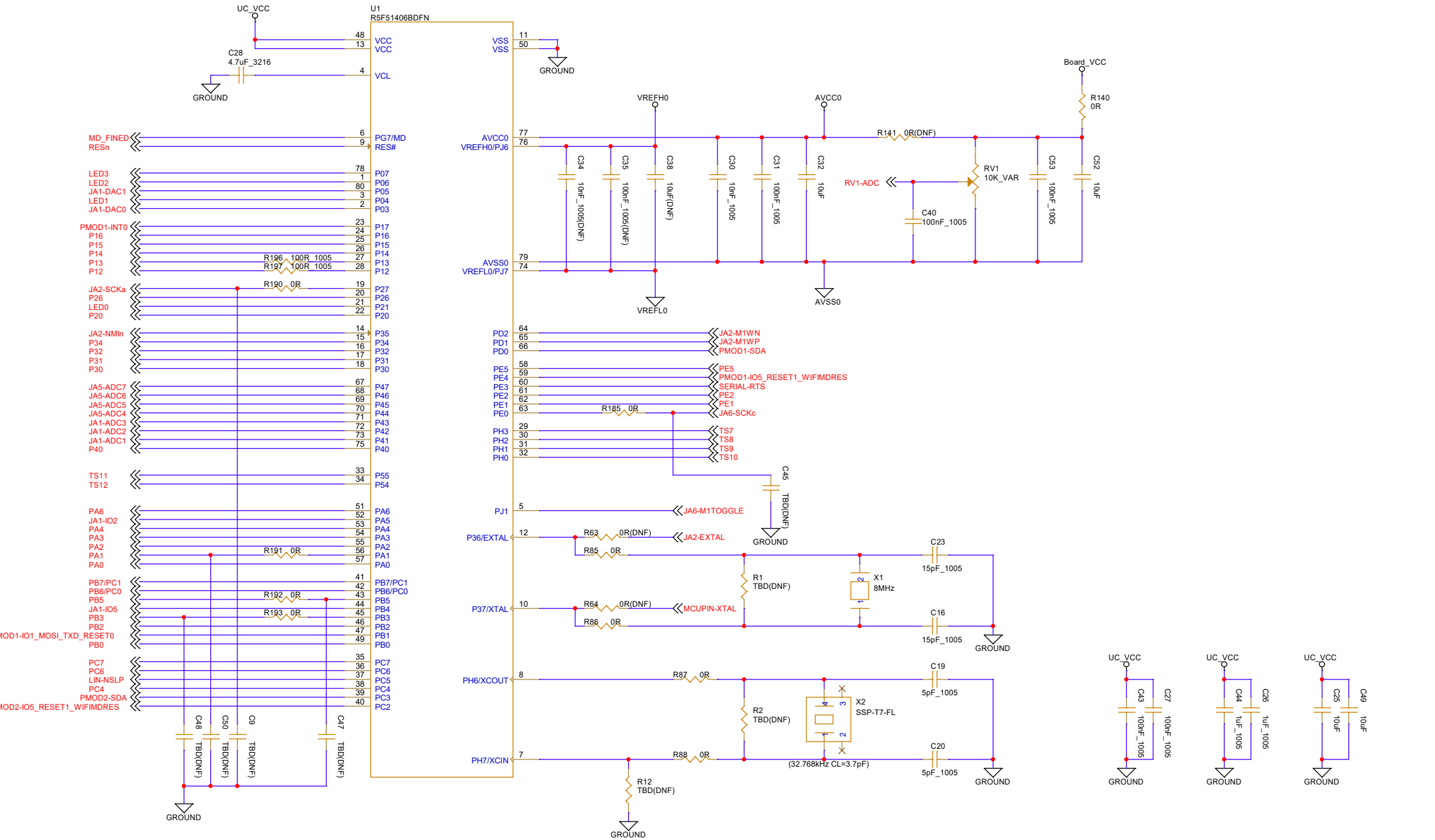
REE Drawing No. D018232\_04

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# RX140 Microcontroller

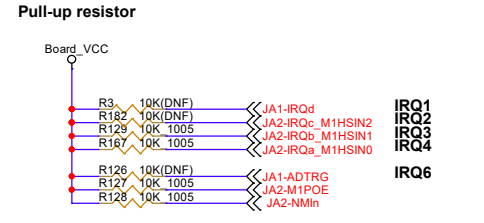
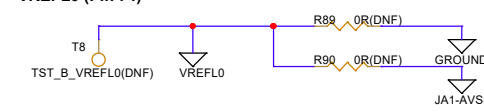
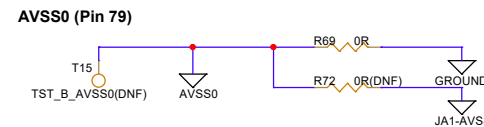
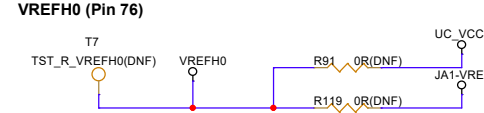
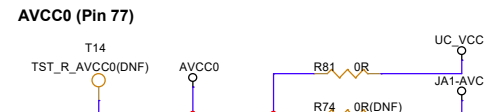
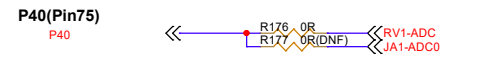
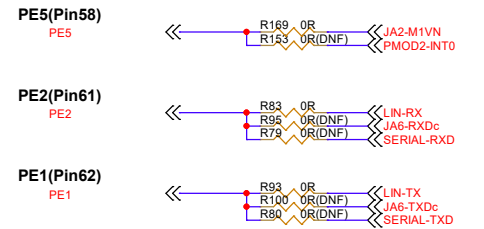
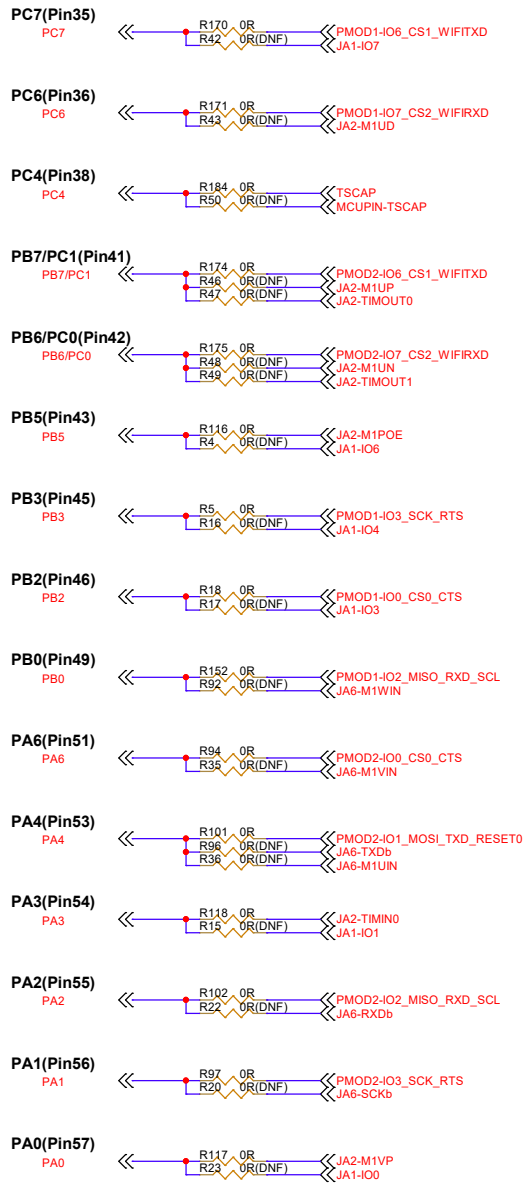
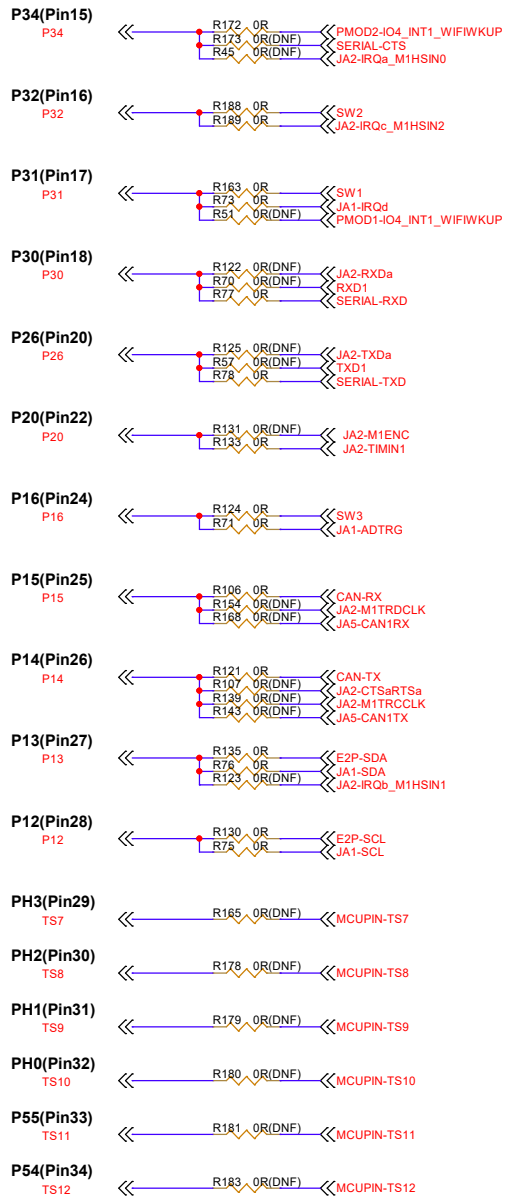
## Note:

Microcontroller's pins are not described by the full pin function.  
For full pin functions details, refer to RX140 datasheet.

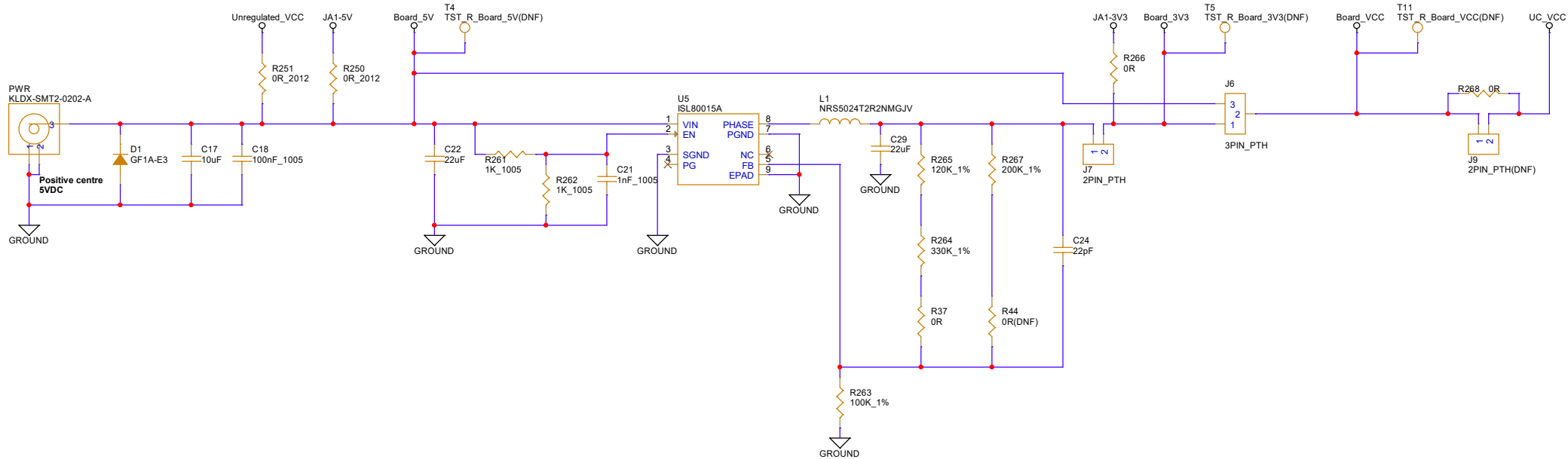


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MCU Pin Function Select



# Power Supply Unit

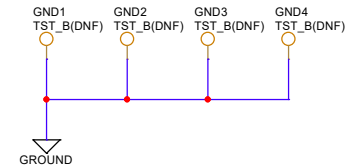


## Power Supply Configuration

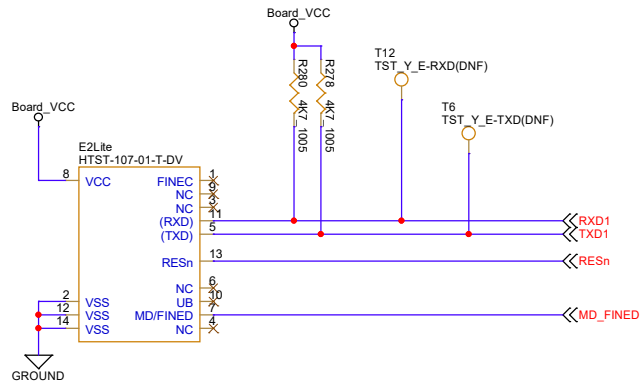
J6	J7	R37	R44	Power Supply Source	Board_VCC UC_VCC	Unavailable Feature
1-2 shorted	Open	Don't care	Don't care	E2 Lite(3V3)/JA1-3V3	3V3	LIN, CAN, 5V Interface Pmods
1-2 shorted	Fit	DNF	DNF	PWR/Unregulated_VCC/JA1-5V	3V3	5V Interface Pmods
1-2 shorted	DNF	Fit	Fit	PWR/Unregulated_VCC/JA1-5V	1V8	Pmods_LED, LIN, CAN
2-3 shorted	1-2 shorted	Don't care	Don't care	PWR/Unregulated_VCC/JA1-5V	5V	Pmod LCD and other 3V3 Interface Pmods

<- Default Settings

Note1: JA1-3V3 and Board\_3V3 become 1.8V when 1.8V is output with J6 = 1-2 and J7 = 1-2.

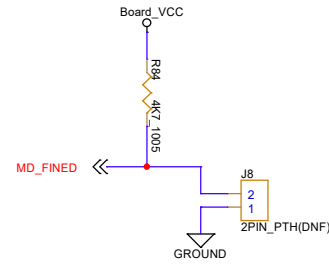


### E2 Lite Emulator Interface

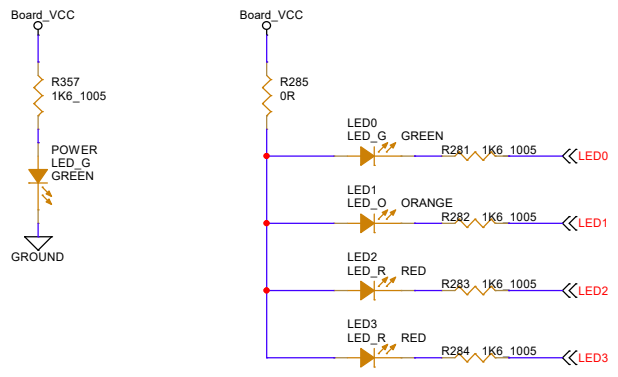


### MCU Operating Mode Configuration

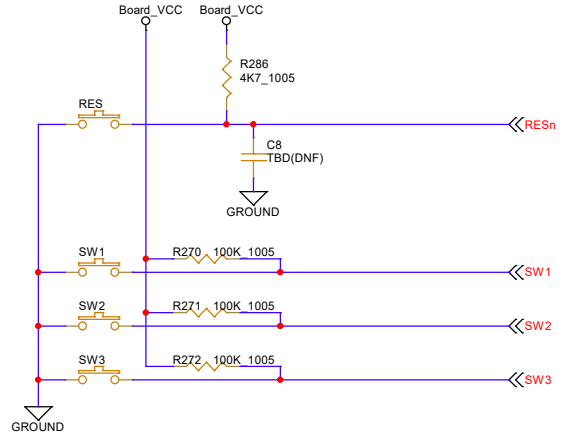
J8	Operating Mode
Open/DNF	Single Chip Mode
Shorted Pin	Boot Mode (SCI)



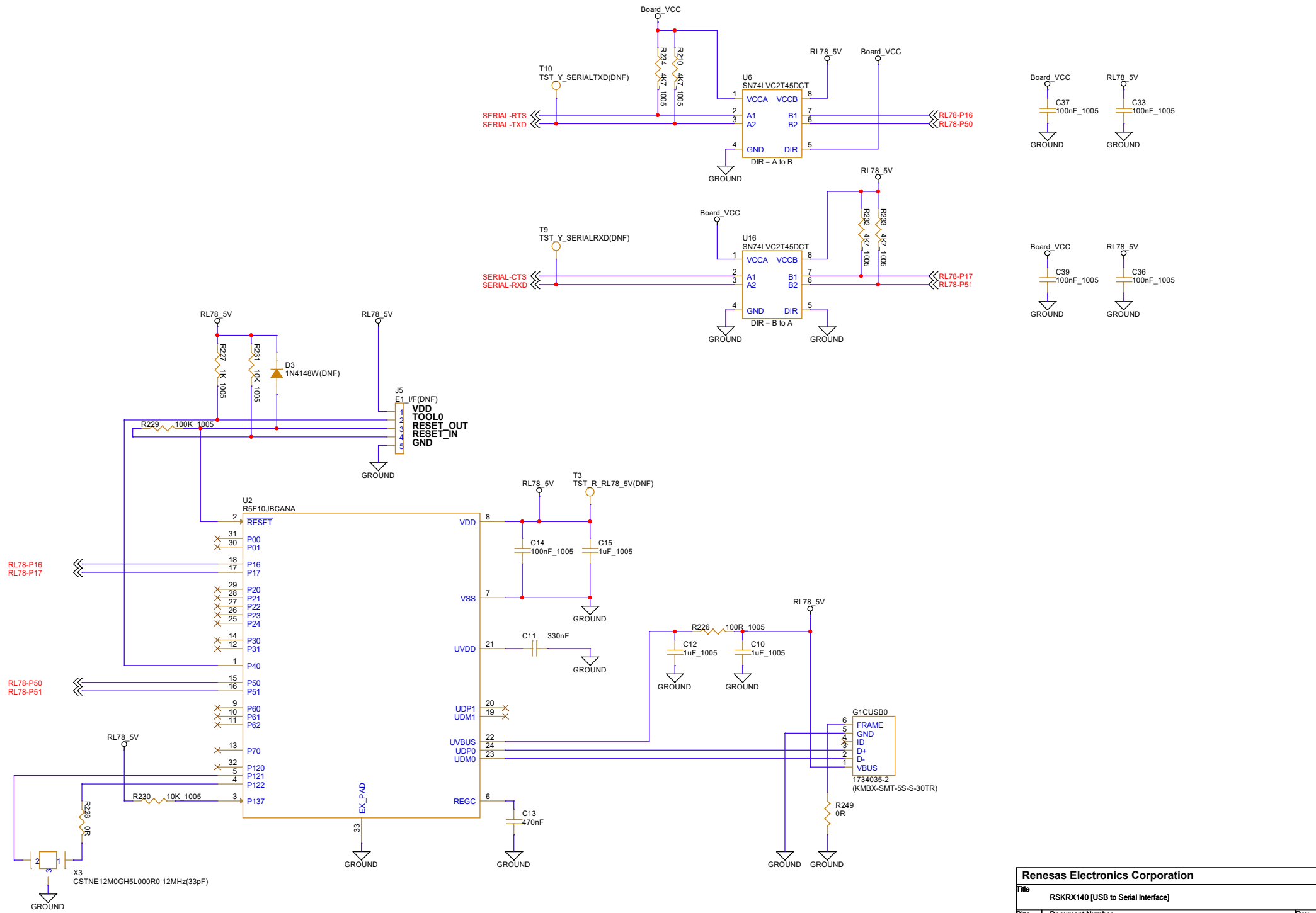
### LEDs



### Switches, RESET

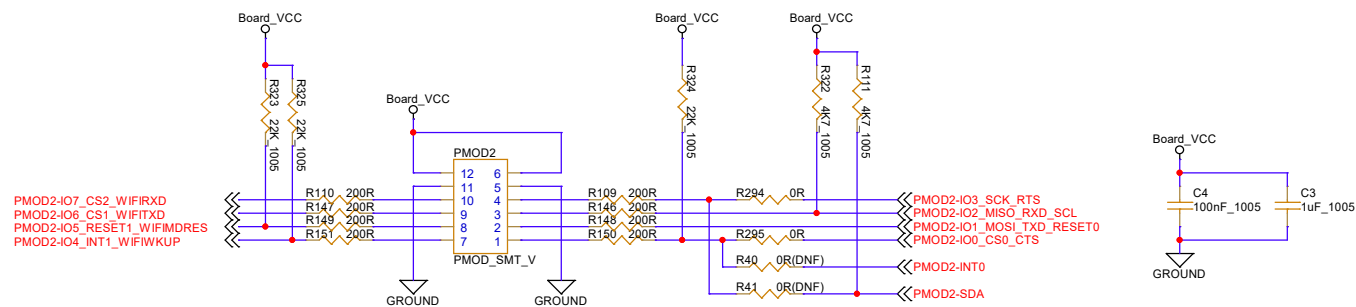
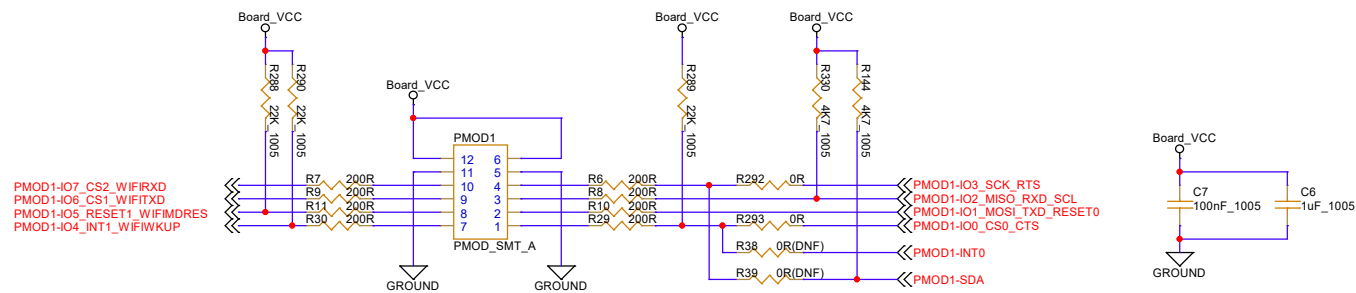


USB to Serial Interface



<b>Renesas Electronics Corporation</b>		
Title RSKRX140 [USB to Serial Interface]		
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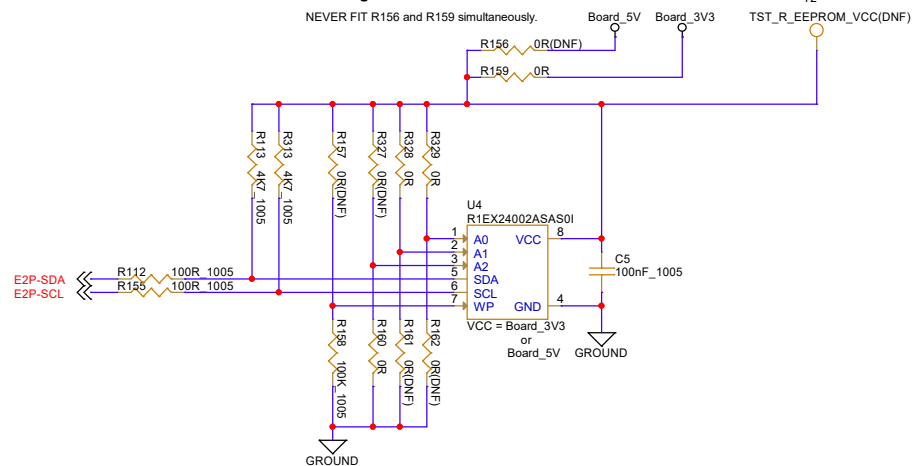
Pmod Interface



IIC EEPROM(2Kbits)

**Warning:**

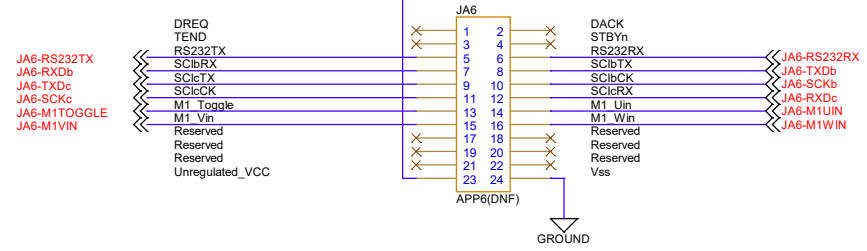
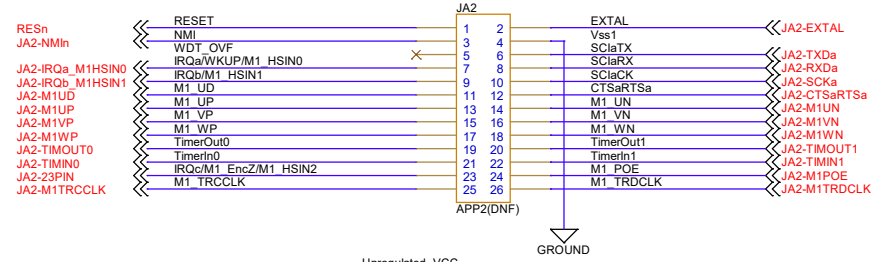
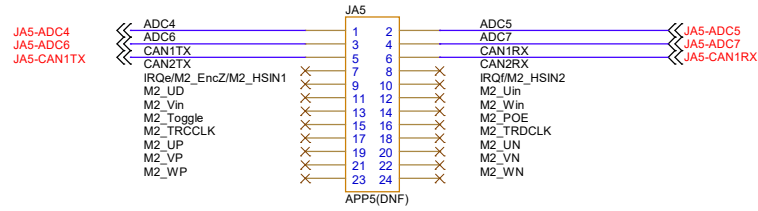
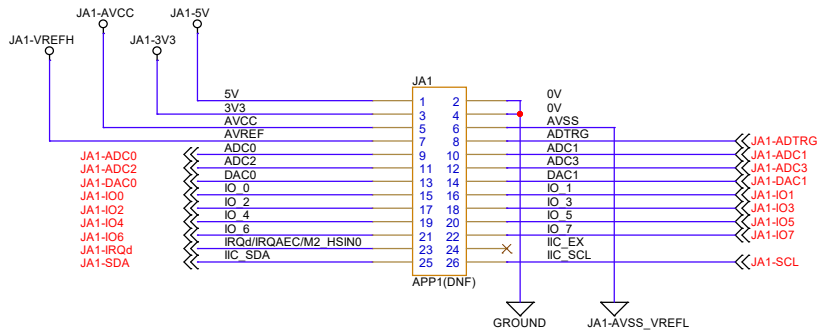
NEVER FIT R156 and R159 simultaneously.



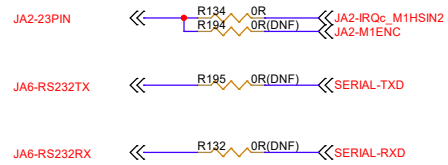
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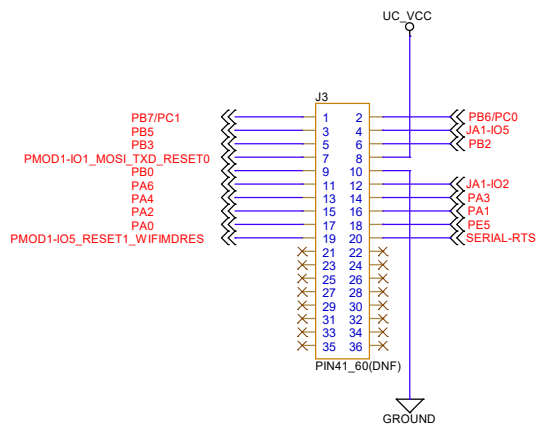
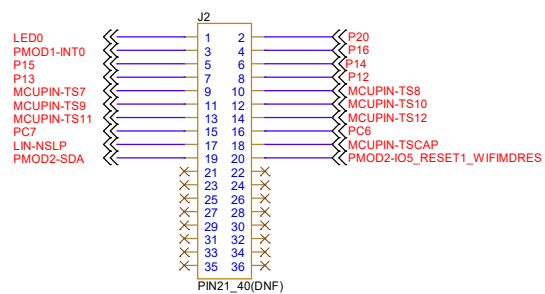
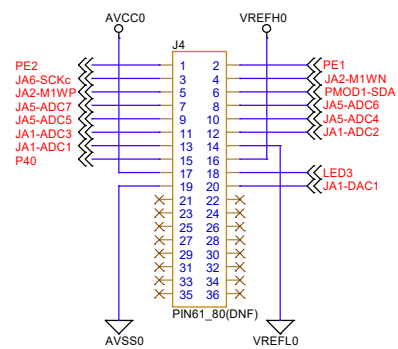
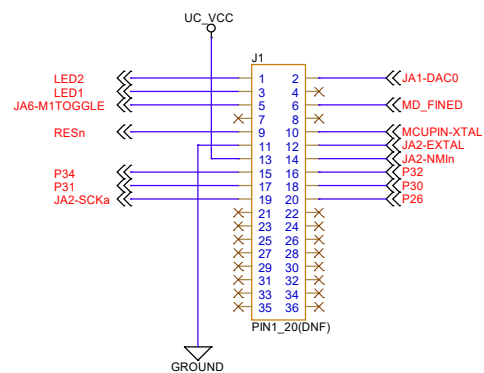
### Application Headers



### Application Header Function Select



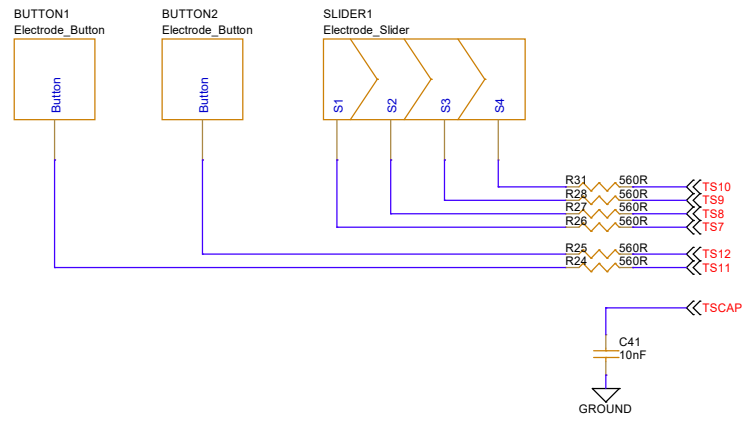
# Microcontroller Pin Headers

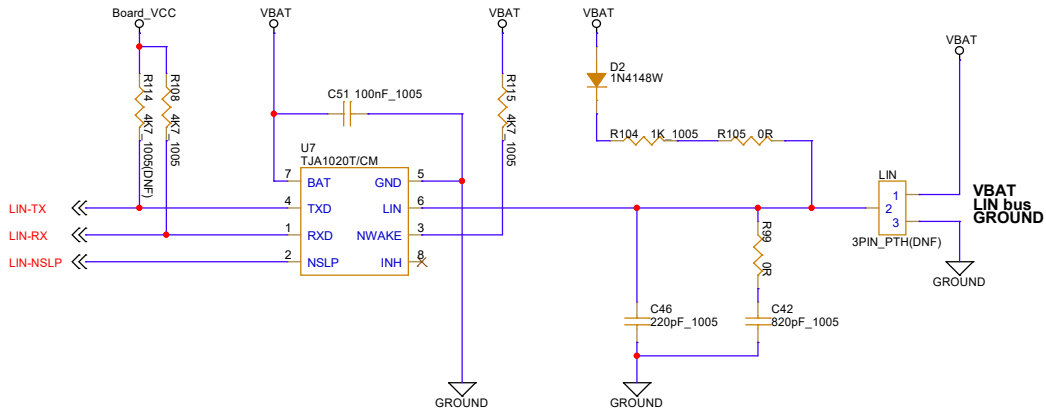
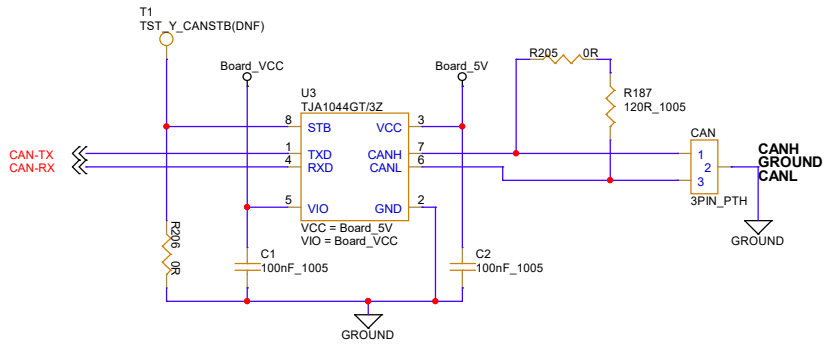


# Touch Interface

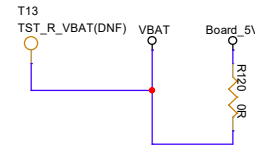
## Note:

Touch signals require careful route pattern.  
For technical design information, please refer to application note 'CTSU Basis of Cap touch detection' (R30AN0218EJ).





VBAT Supply



LIN Mode Configuration

	Fit	Remove
Master	R99, R105	---
Slave	---	R99, R105

# Revision History

REV	DATE	SHEET	DESCRIPTION
1.00	07.12.2021	--	1st release edition.

<b>Renesas Electronics Corporation</b>			
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Size	Document Number		Rev
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