

Renesas Starter Kit for RX140 CPU Board Schematics

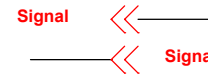
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Note:

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

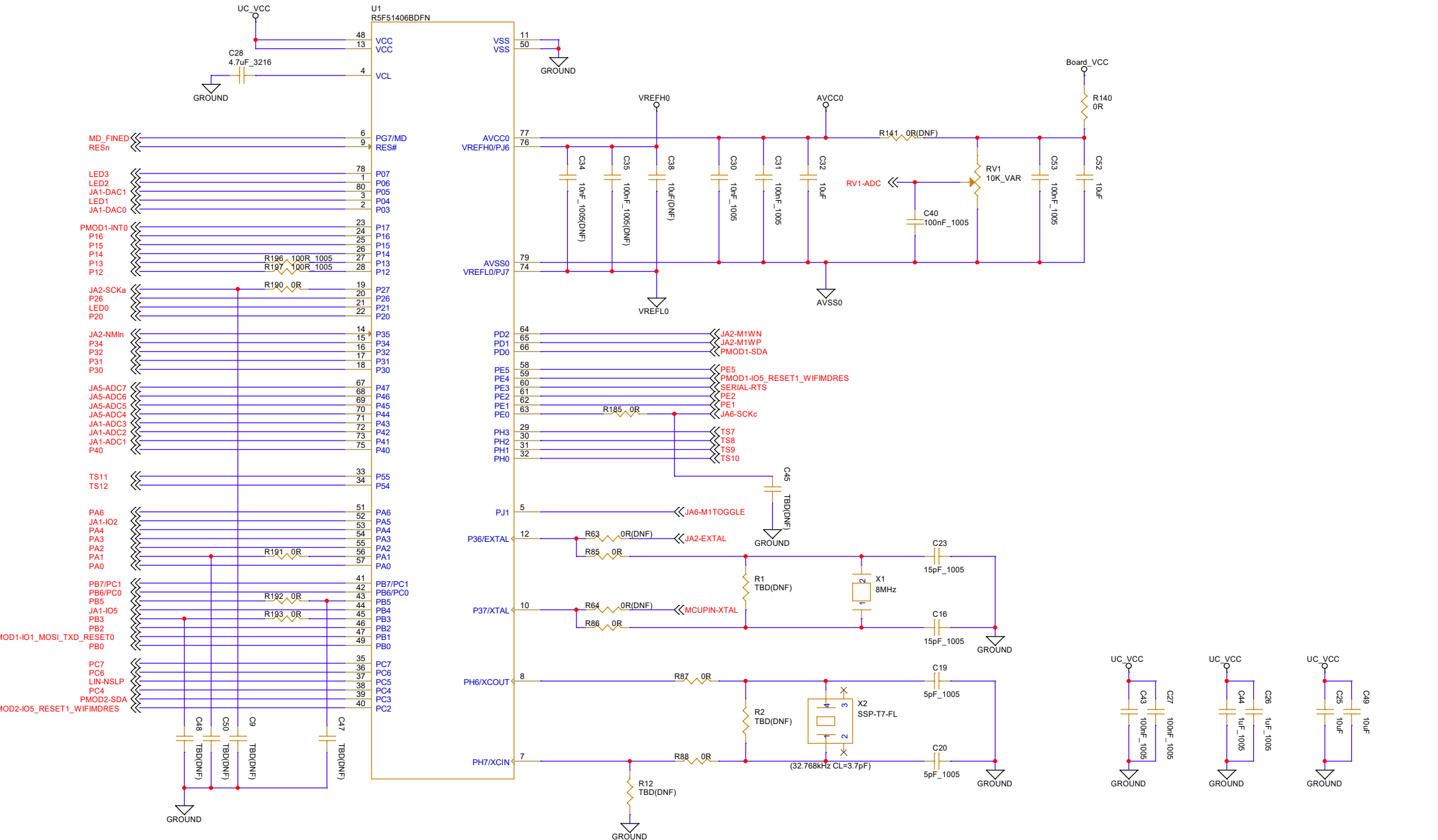
REE Drawing No. D018232_04

Renesas Electronics Corporation		
Title	RSKRX140 [Index]	
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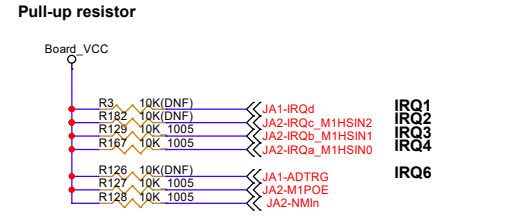
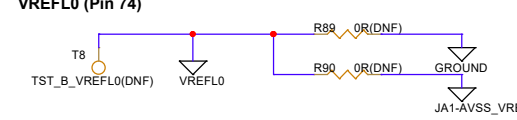
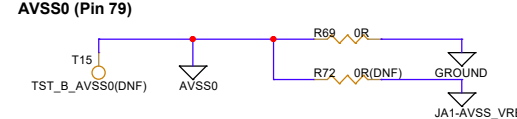
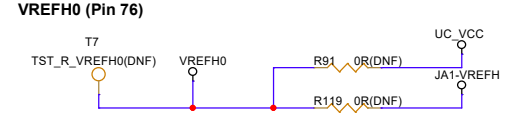
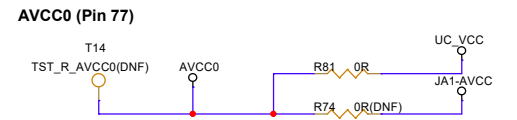
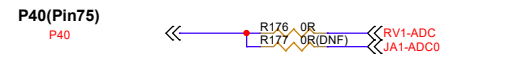
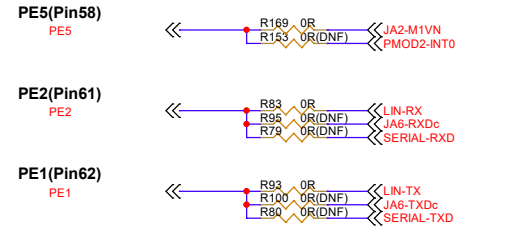
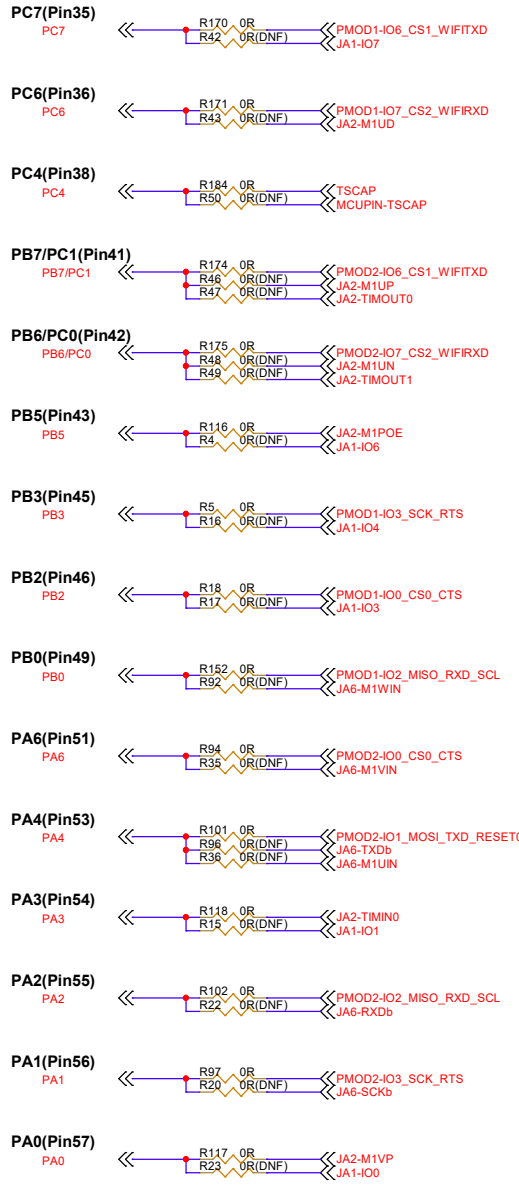
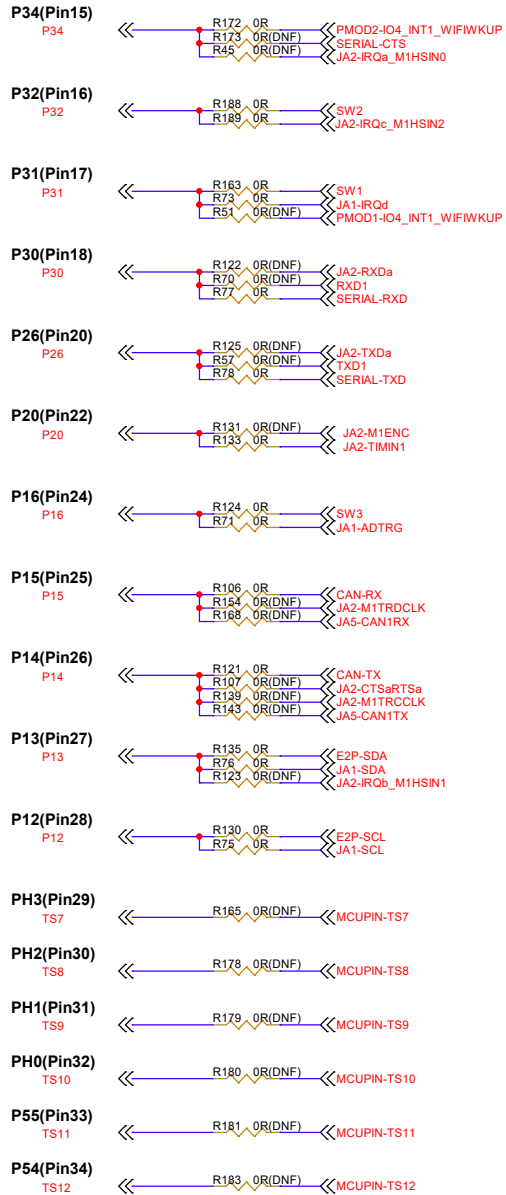
RX140 Microcontroller

Note:

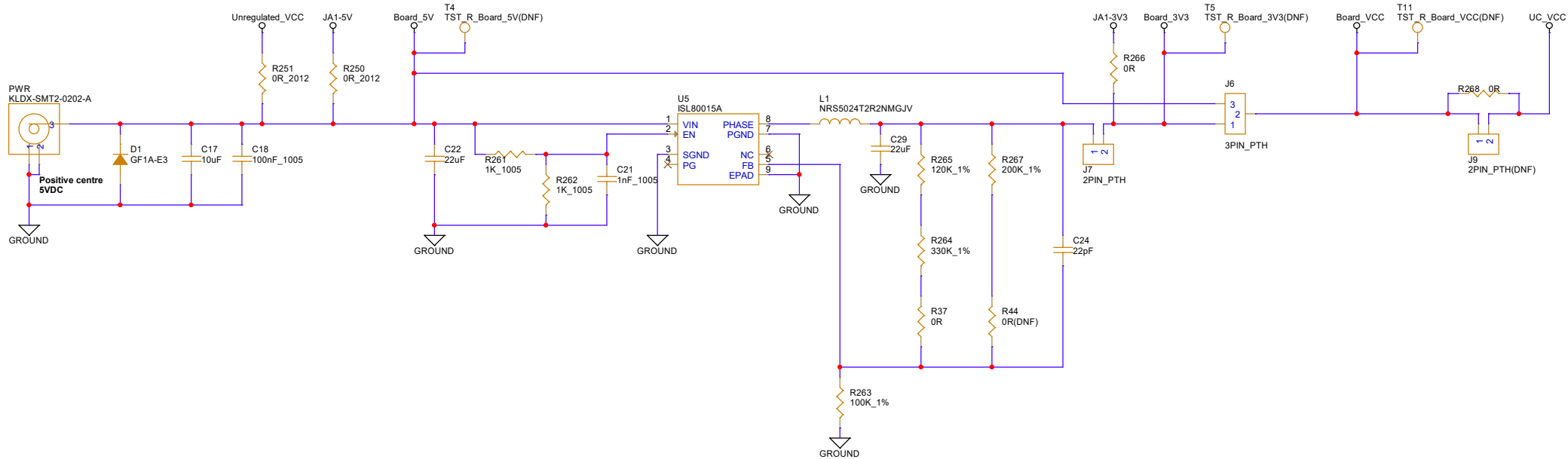
Microcontroller's pins are not described by the full pin function.
For full pin functions details, refer to RX140 datasheet.



MCU Pin Function Select



Power Supply Unit

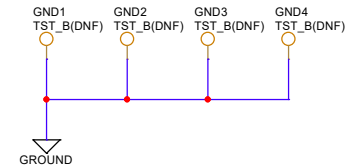


Power Supply Configuration

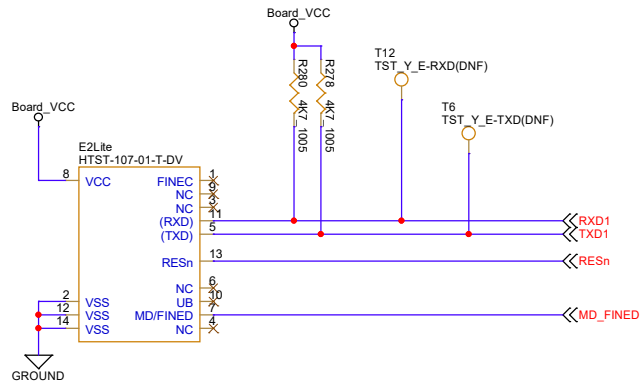
J6	J7	R37	R44	Power Supply Source	Board_VCC UC_VCC	Unavailable Feature
1-2 shorted	Open	Don't care	Don't care	E2 Lite(3V3)/JA1-3V3	3V3	LIN, CAN, 5V Interface Pmods
1-2 shorted	Fit	DNF	DNF	PWR/Unregulated_VCC/JA1-5V	3V3	5V Interface Pmods
1-2 shorted	DNF	Fit	Fit	PWR/Unregulated_VCC/JA1-5V	1V8	Pmods_LED,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

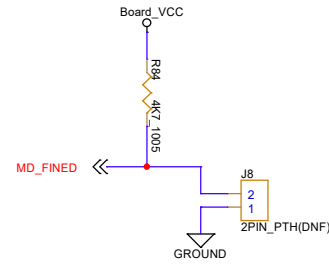


E2 Lite Emulator Interface

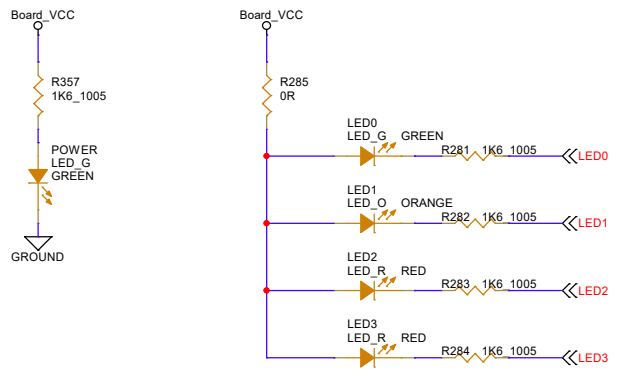


MCU Operating Mode Configuration

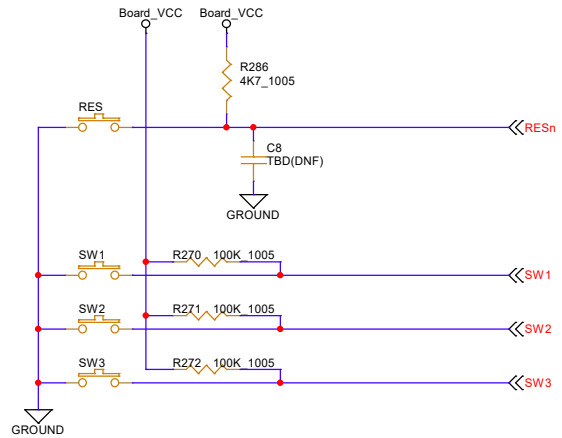
J8	Operating Mode
Open/DNF	Single Chip Mode
Shorted Pin	Boot Mode (SCI)



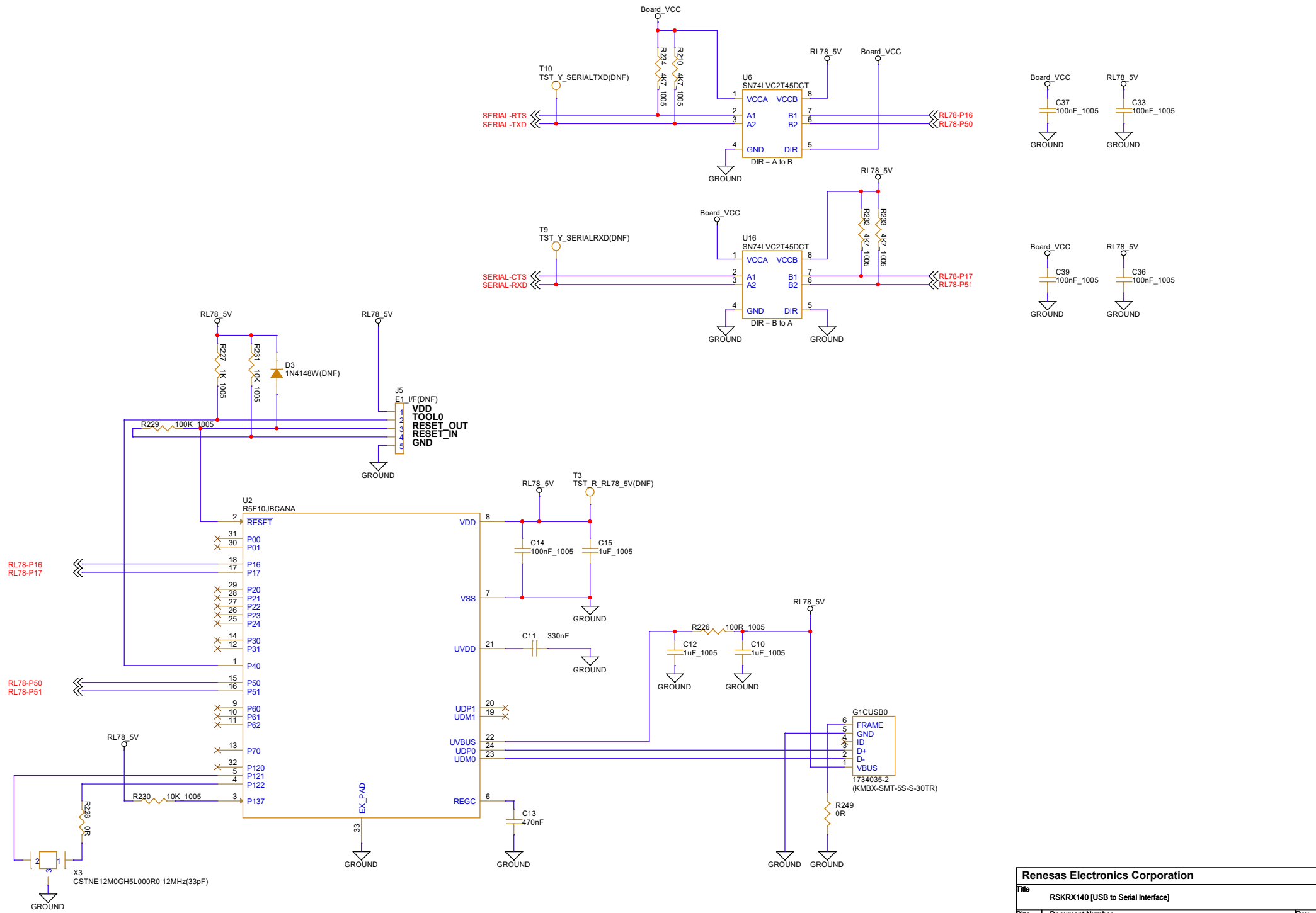
LEDs



Switches, RESET

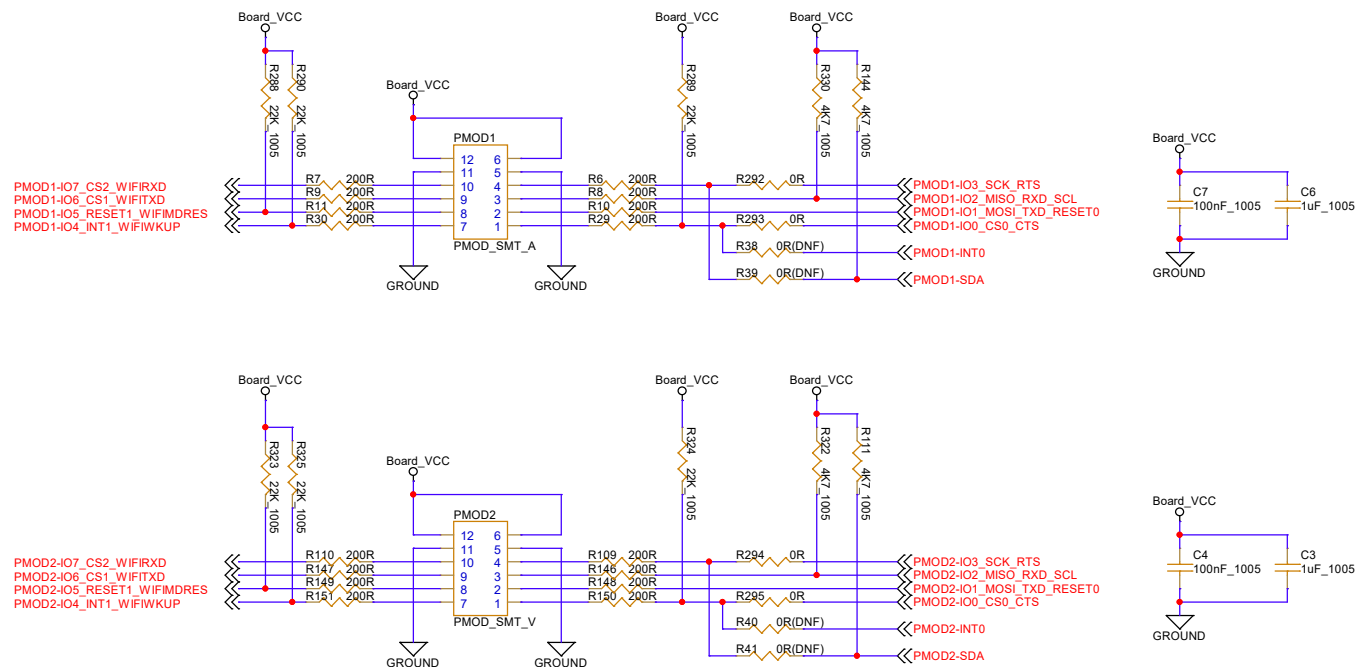


USB to Serial Interface



Renesas Electronics Corporation		
Title: RSKRX140 [USB to Serial Interface]		
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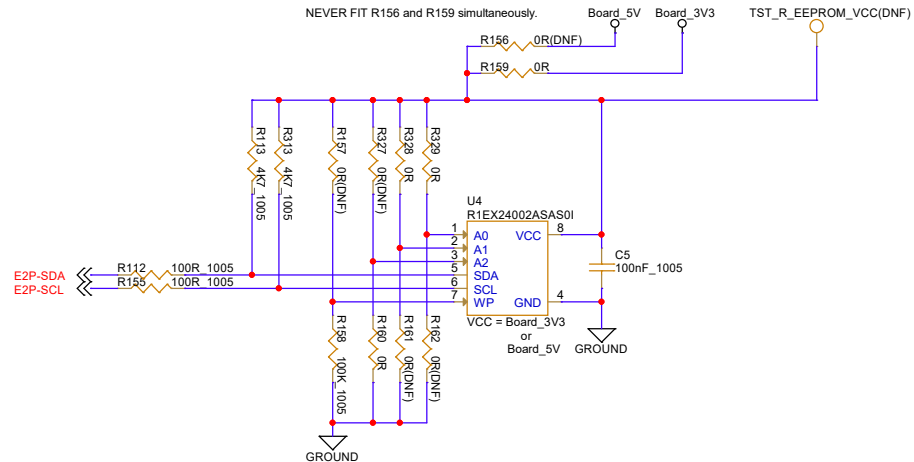
Pmod Interface



IIC EEPROM(2Kbits)

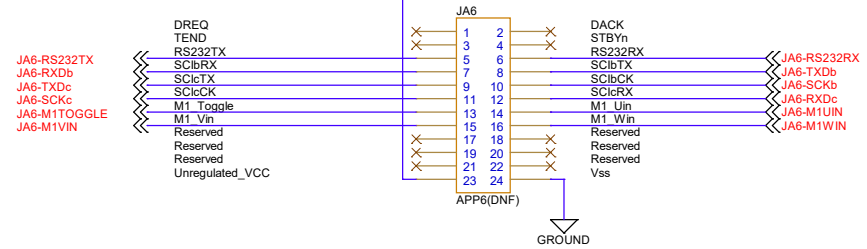
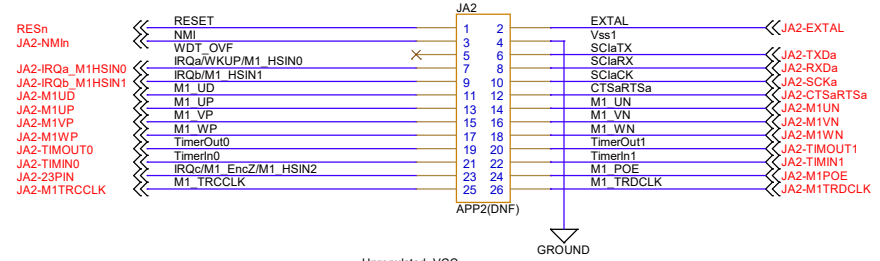
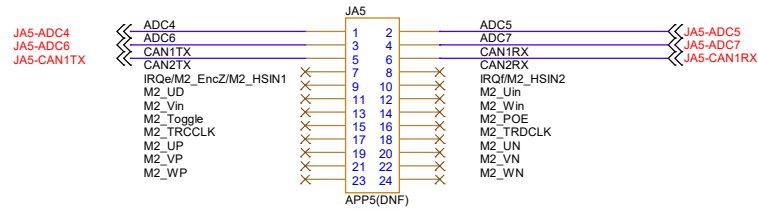
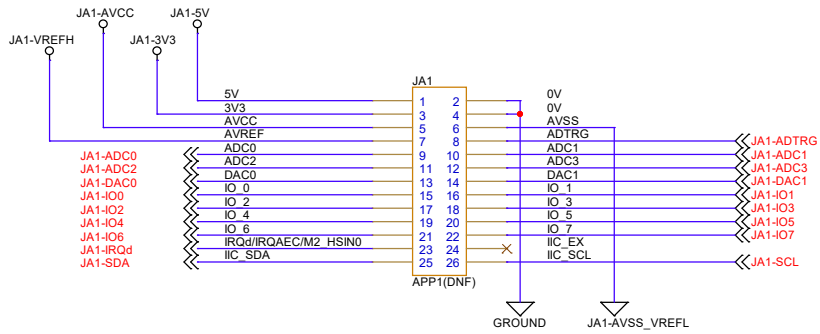
Warning:

NEVER FIT R156 and R159 simultaneously.

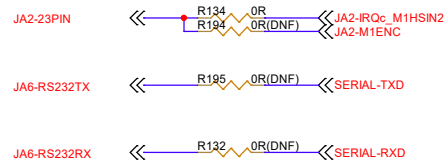


Renesas Electronics Corporation		
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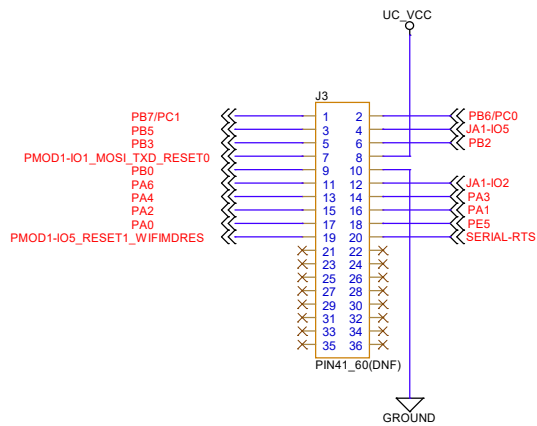
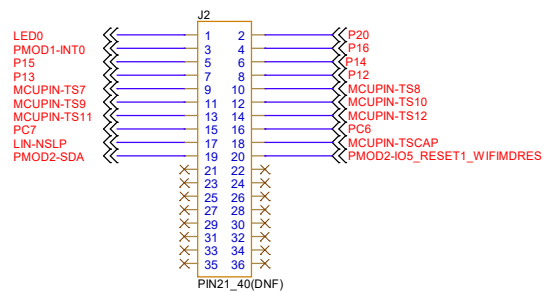
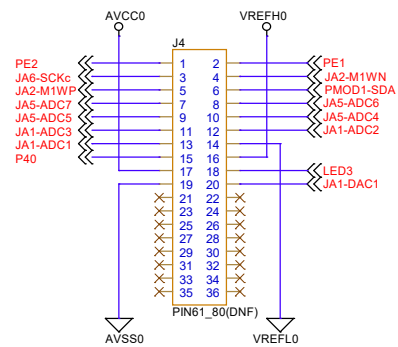
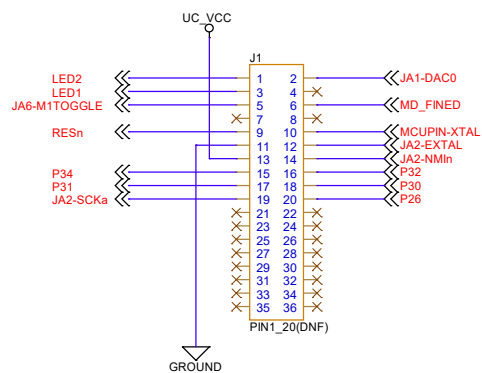
Application Headers



Application Header Function Select



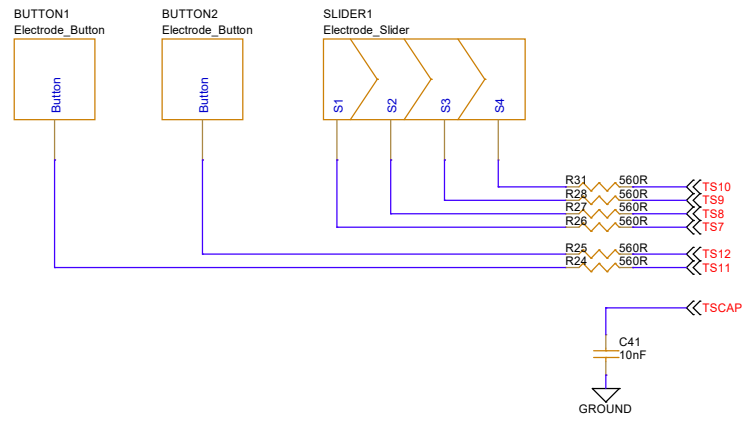
Microcontroller Pin Headers

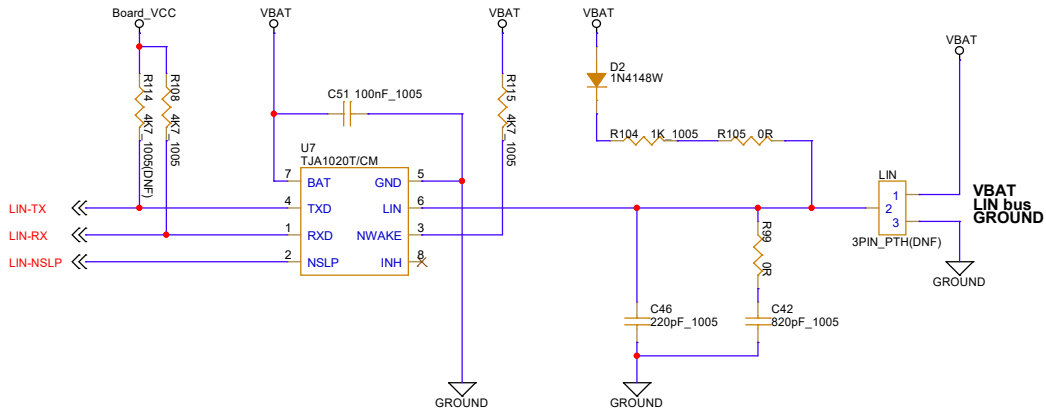
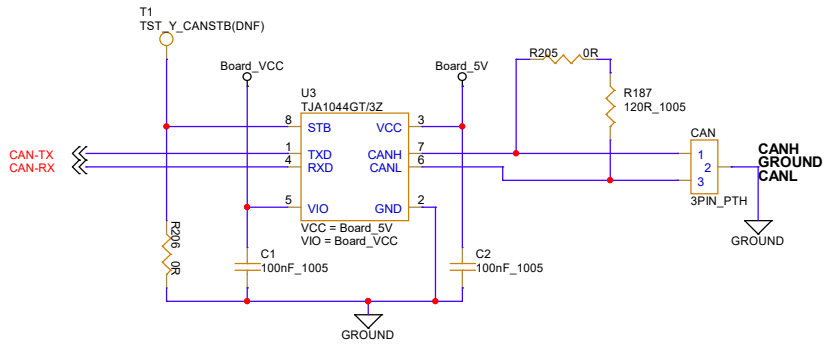


Touch Interface

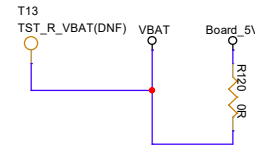
Note:

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.

Renesas Electronics Corporation			
Title			
RSKRX140 [Revision History]			
Size			
Document Number		Rev	
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