Renesas Starter Kit for RX660
CPU Board Schematics

REV	REF	DATE	DRAWN BY
1.00	Release	14.02.2022	YOI

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7	Reset, Switches, LEDs
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10	Application Headers
11	Microcontroller Pin Headers
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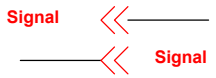
Note:

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:

RTK556609HC00000BE : RSKRX660 MP Board

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
REMC : Remote Control Signal Receiver
RSK : Renesas Starter Kit
USB : Universal Serial Bus

REE Drawing No. D018252_04

Renesas Electronics Corporation		
Title: RSKRX660 [Index]		
Size	Document Number: R20UT5016EG0100	Rev: 1.00
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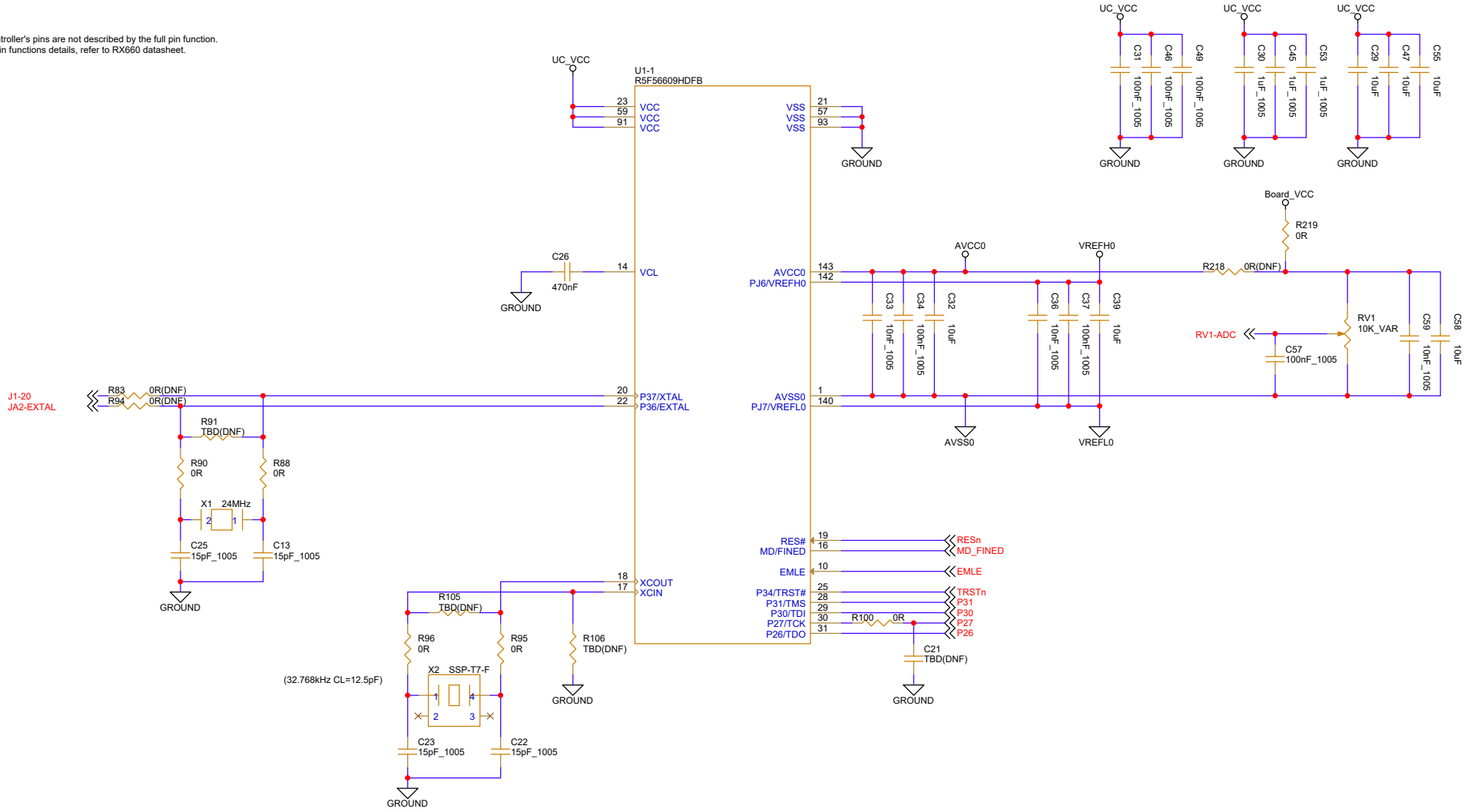
RX660 Microcontroller-1

Note:

Microcontroller's pins are not described by the full pin function.
For full pin functions details, refer to RX660 datasheet.



Renesas Electronics Corporation	
Title	RSKRX660 [Micon-1]
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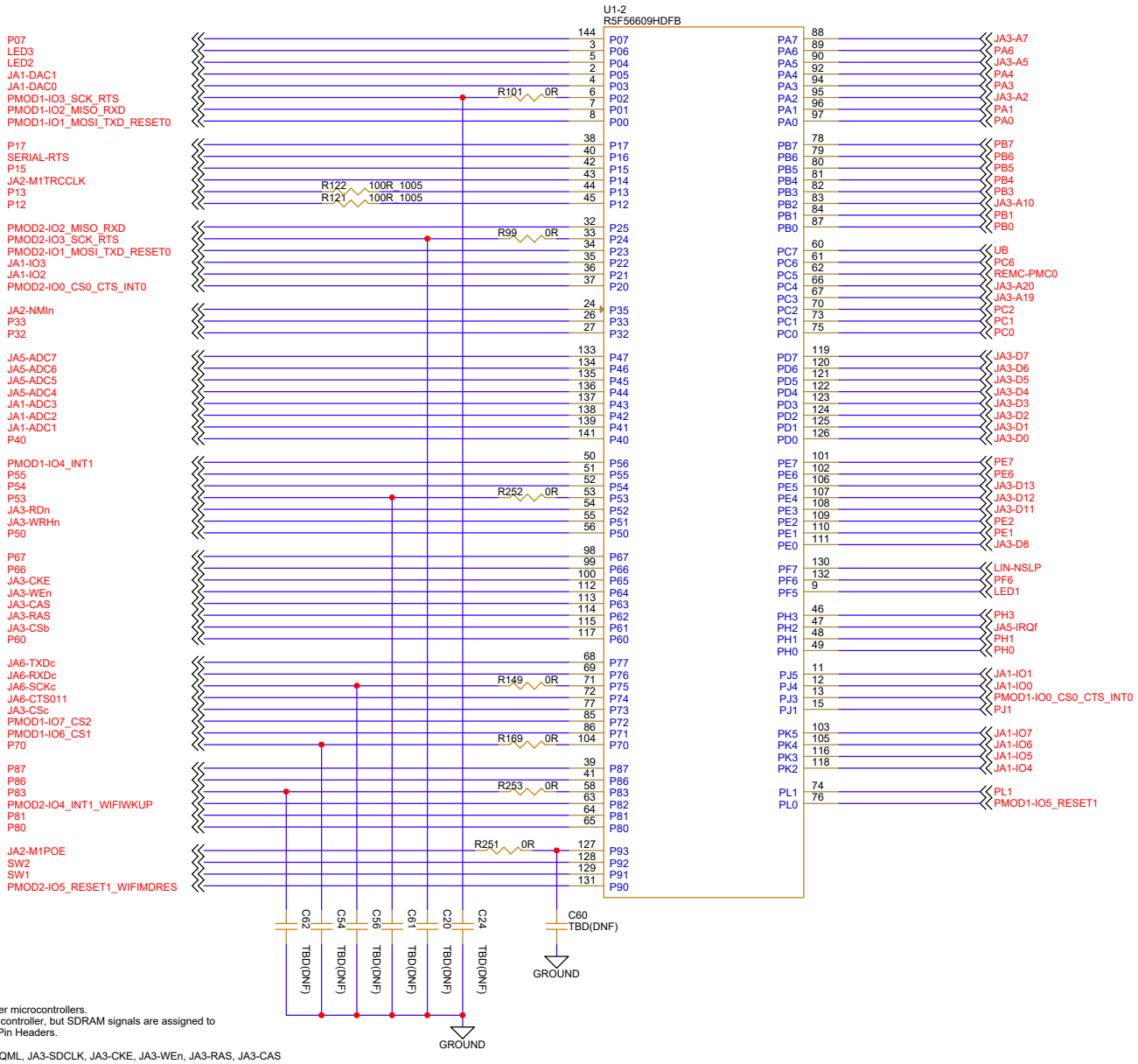
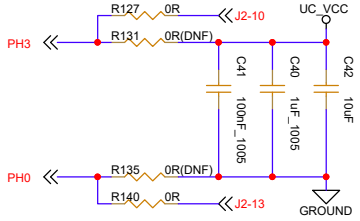
RX660 Microcontroller-2

Note:

Microcontroller's pins are not described by the full pin function.
For full pin functions details, refer to RX660 datasheet.





Note:

This board is designed to be shared with other microcontrollers.
Therefore, RX660 does not support SDRAM controller, but SDRAM signals are assigned to Application Header JA3 and Microcontroller Pin Headers.

The affected signals are: JA3-DQMH, JA3-DQML, JA3-SDCLK, JA3-CKE, JA3-WEn, JA3-RAS, JA3-CAS

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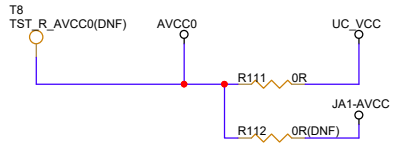
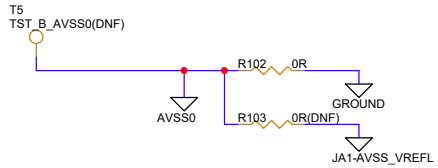
MCU Pin Function Select

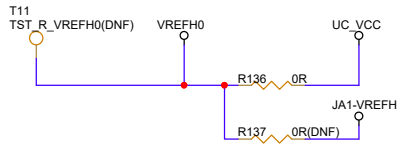
AVCC0 (Pin 143)



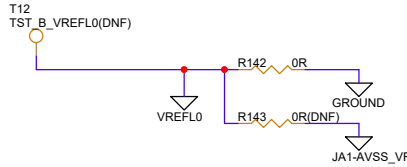
AVSS0 (Pin 1)



VREFH0 (Pin 142)

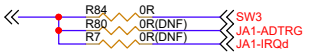


VREFL0 (Pin 140)



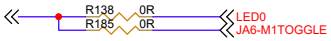
P07 (Pin 144)

P07



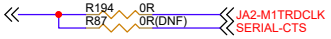
P17 (Pin 38)

P17



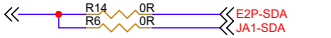
P15 (Pin 42)

P15



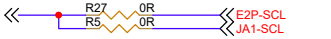
P13 (Pin 44)

P13



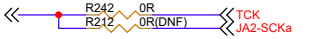
P12 (Pin 45)

P12



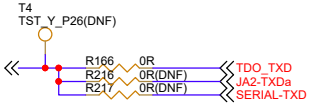
P27 (Pin 30)

P27



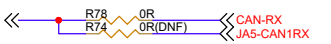
P26 (Pin 31)

P26



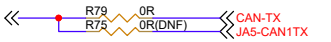
P33 (Pin 26)

P33



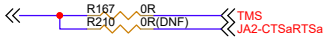
P32 (Pin 27)

P32



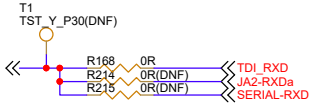
P31 (Pin 28)

P31



P30 (Pin 29)

P30



P40 (Pin 141)

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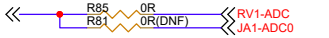

P55 (Pin 51)

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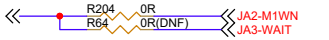

P54 (Pin 52)

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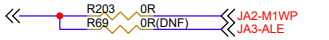
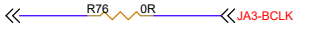


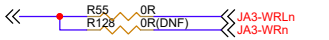
P53 (Pin 53)

P53



P50 (Pin 56)

P50



P67 (Pin 98)

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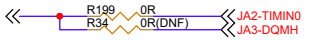

P66 (Pin 99)

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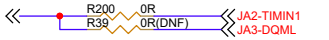

P60 (Pin 117)

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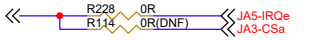

P70 (Pin 104)

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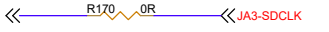

P87 (Pin 39)

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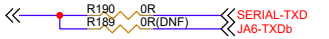

P86 (Pin 41)

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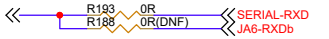

P83 (Pin 58)

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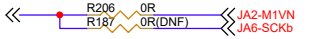
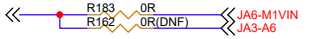


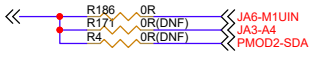
PA6 (Pin 89)

PA6



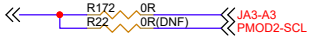
PA4 (Pin 92)

PA4



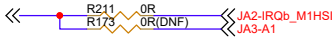
PA3 (Pin 94)

PA3



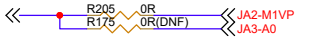
PA1 (Pin 96)

PA1



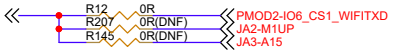
PA0 (Pin 97)

PA0



PB7 (Pin 78)

PB7



PB6 (Pin 79)

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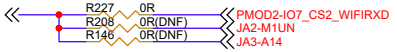

PB5 (Pin 80)

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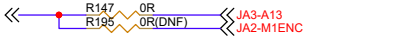
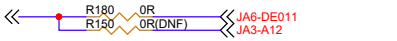


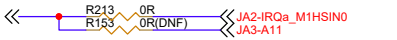
PB4 (Pin 81)

PB4



PB3 (Pin 82)

PB3

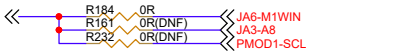


PB1 (Pin 84)

PB1

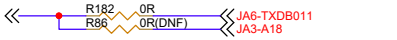
PB0 (Pin 87)

PB0



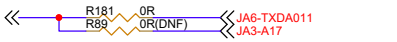
PC2 (Pin 70)

PC2



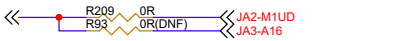
PC1 (Pin 73)

PC1



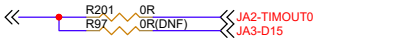
PC0 (Pin 75)

PC0



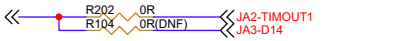
PE7 (Pin 101)

PE7



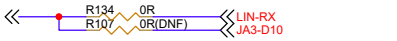
PE6 (Pin 102)

PE6



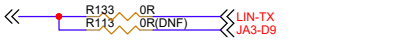
PE2 (Pin 109)

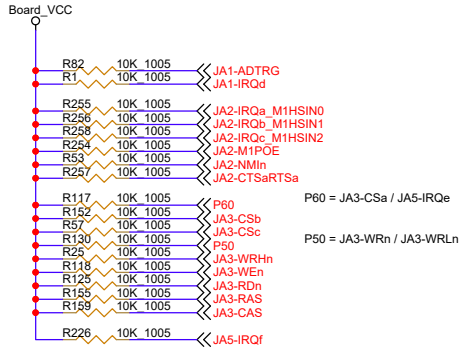
PE2



PE1 (Pin 110)

PE1





Note:

This board is designed to be shared with other microcontrollers.
Therefore, RX660 does not support SDRAM controller, but SDRAM signals are assigned to Application Header JA3 and Microcontroller Pin Headers.

The affected signals are: JA3-DQMH, JA3-DQML, JA3-SDCLK, JA3-CKE, JA3-WEn, JA3-RAS, JA3-CAS

Renesas Electronics Corporation		
Title: RSKRX660 [MCU Pin Function Select]		
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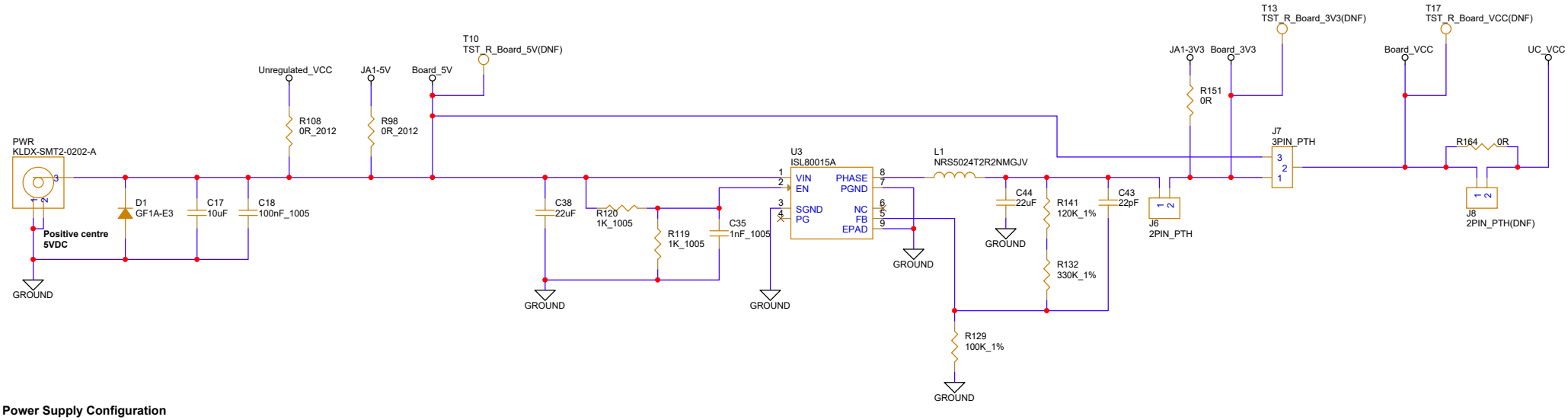
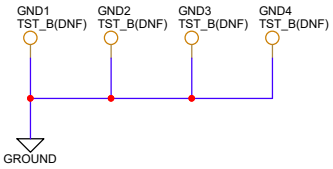
Power Supply Unit



Power Supply Configuration

J7	J6	Power Supply Source	Board_VCC UC_VCC	Unavailable Feature	
1-2 shorted	Open	E2 Lite(3V3)/JA1-3V3	3V3	LIN, CAN, 5V Interface Pmods	<- Default Settings
	1-2 shorted	PWR/Unregulated_VCC/JA1-5V	3V3	5V Interface Pmods	
2-3 shorted	1-2 shorted	PWR/Unregulated_VCC/JA1-5V	5V	Pmod LCD and other 3V3 Interface Pmods	



Renesas Electronics Corporation		
Title	RSKRX660 [PSU]	
Size	Document Number R20UT5016EG0100	Rev 1.00
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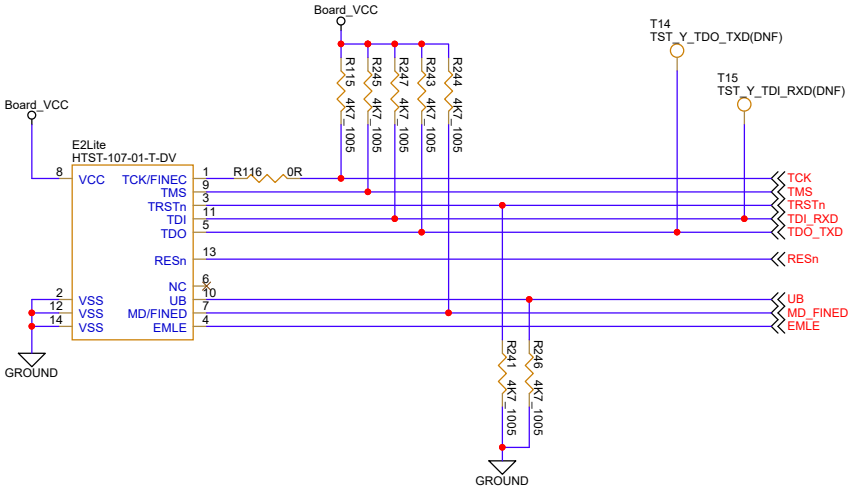
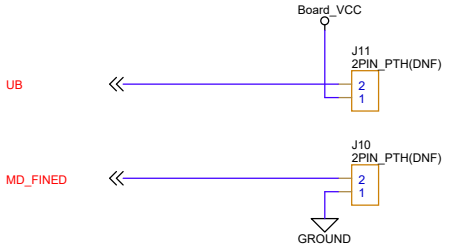
E2 Lite Emulator Interface

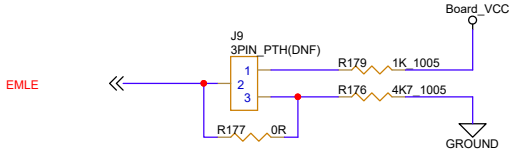


MCU Mode Setting



MCU Operating Mode Configuration

J10	J11	Operating Mode
Open	Don't care	Single Chip Mode
1-2 shorted	Open	SCI Boot Mode
1-2 shorted	1-2 shorted	User Boot Mode



Emulator Configuration

J9	Emulator Configuration
Shorted Pin1-2	E2 Lite debugging with Hot plug-in
Shorted Pin2-3	E2 Lite normal debugging Microcontroller single operation (without emulator)
All open	DO NOT SET

Renesas Electronics Corporation		
Title: RSKRX660 [E2 Lite, MCU Mode Setting]		
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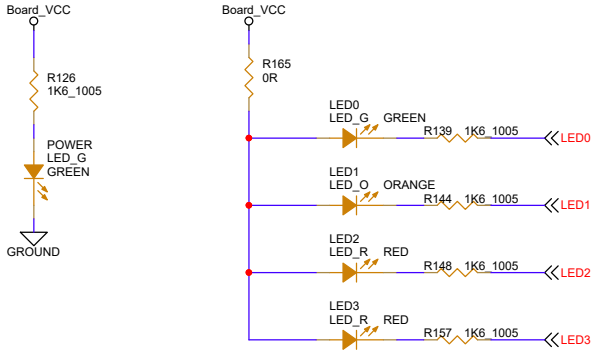
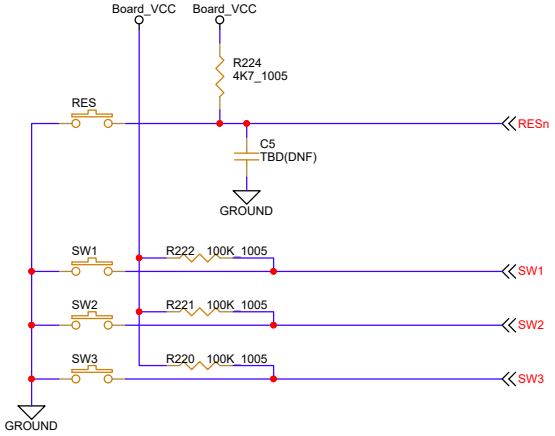
LEDs



Switches, RESET



Renesas Electronics Corporation		
Title: RSKRX660 [RESET, Switches, LEDs]		
Size	Document Number: R20UT5016EG0100	Rev: 1.00
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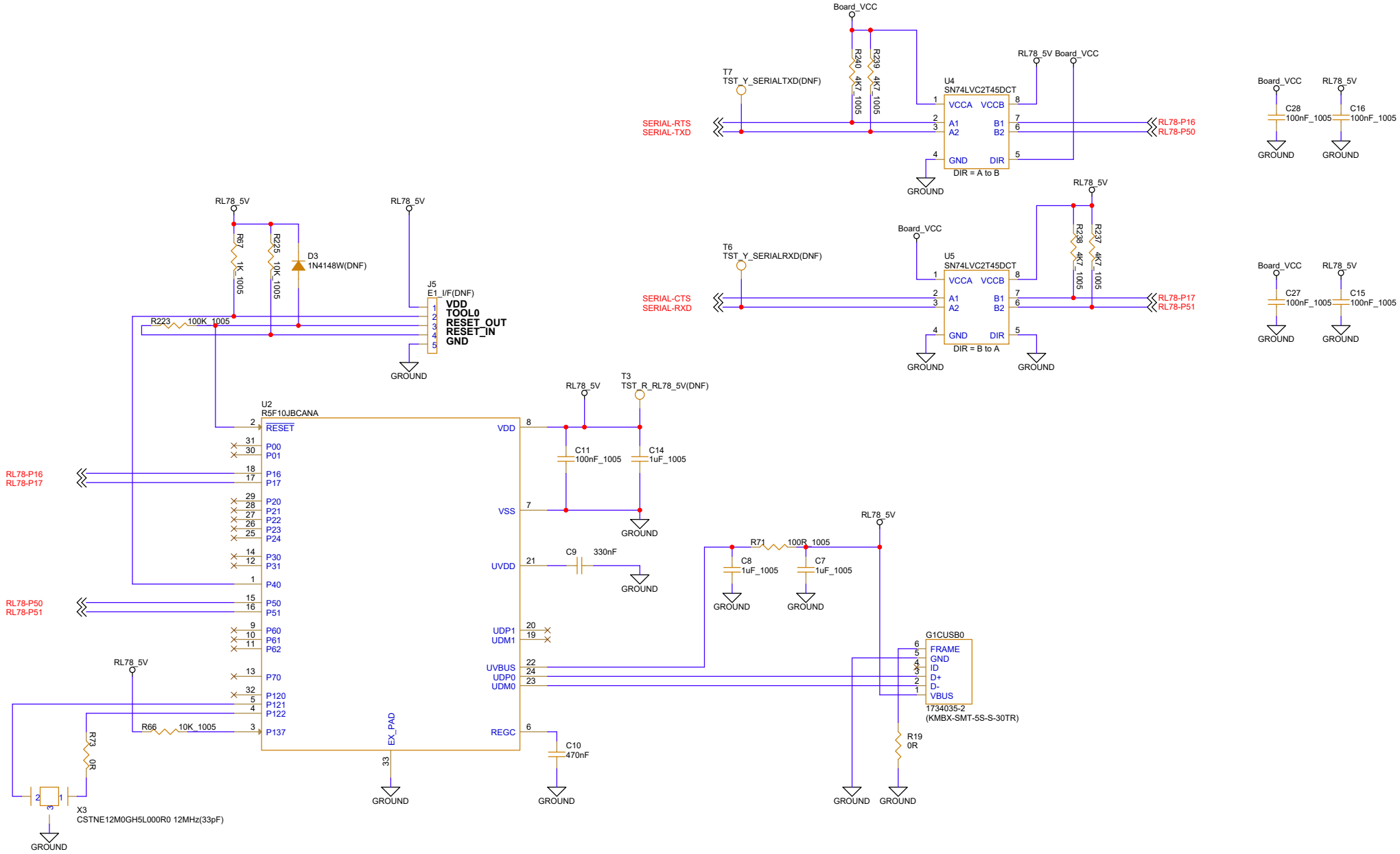
USB to Serial Interface



Renesas Electronics Corporation		
Title: RSKRX660 [USB to Serial Interface]		
Size	Document Number: R20UT5016EG0100	Rev: 1.00
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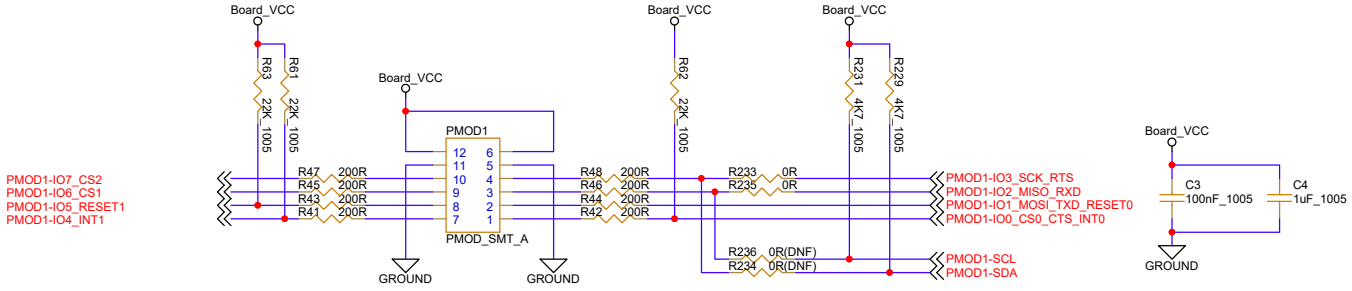
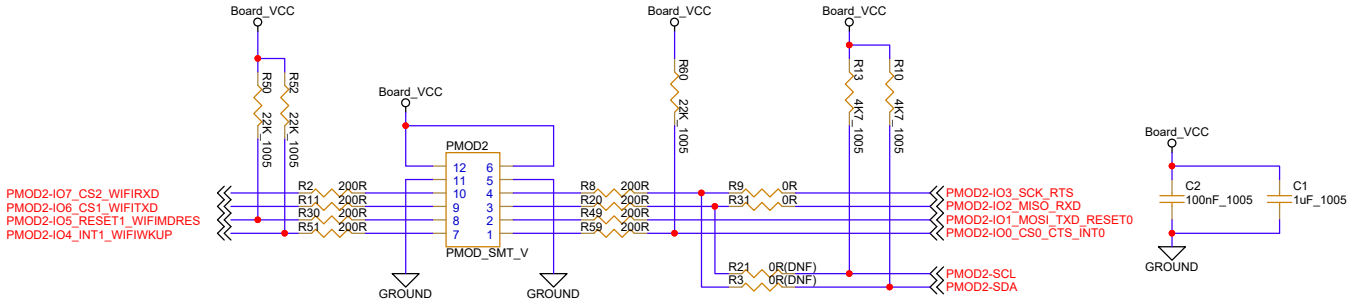
Pmod Interface

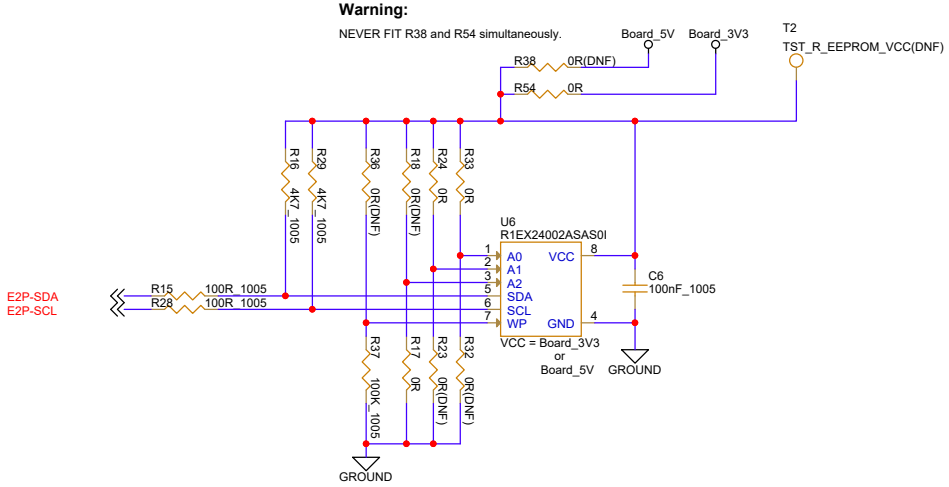




IIC EEPROM(2Kbits)

Warning:

NEVER FIT R38 and R54 simultaneously.



Renesas Electronics Corporation		
Title: RSKRX660 [Pmod, IIC EEPROM]		
Size	Document Number: R20UT5016EG0100	Rev: 1.00
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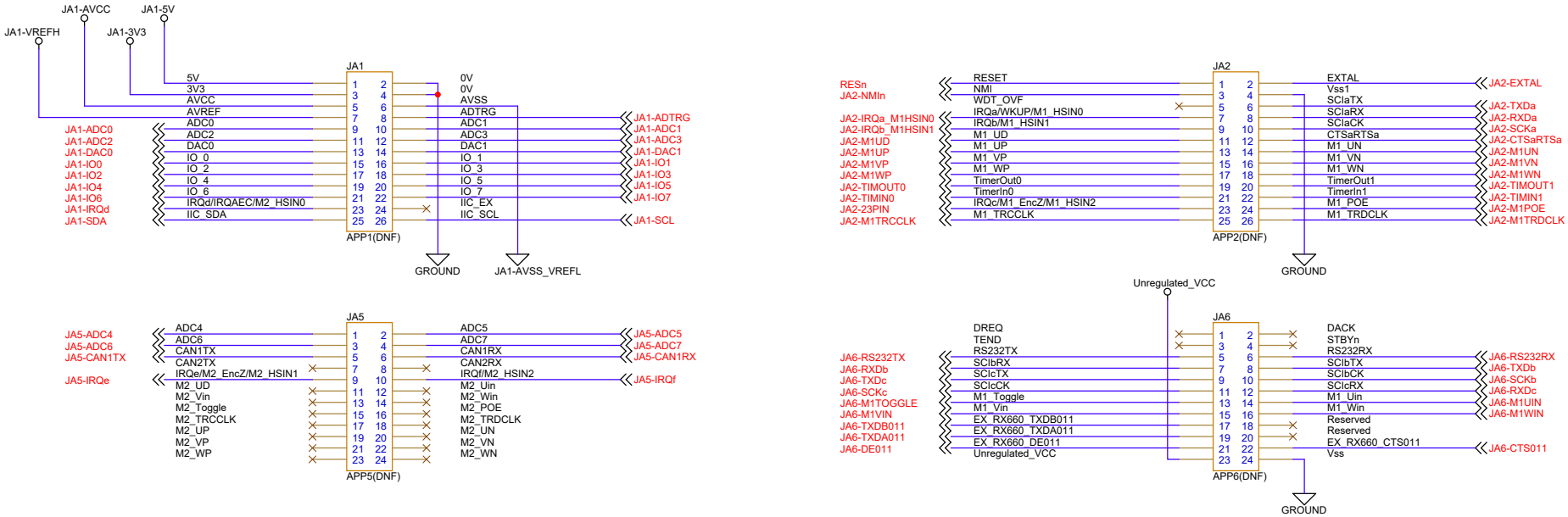
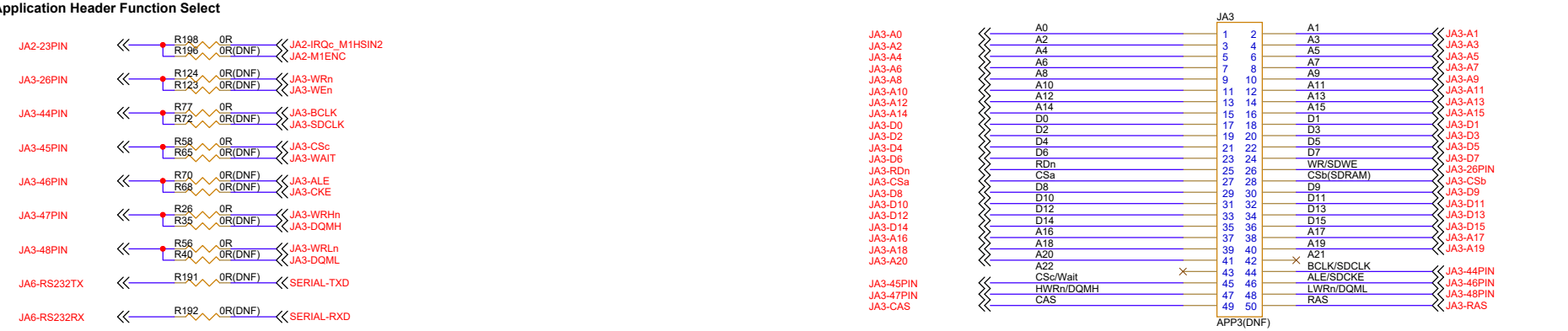
Application Headers



Application Header Function Select



Note:

This board is designed to be shared with other microcontrollers.
Therefore, RX660 does not support SDRAM controller, but SDRAM signals are assigned to Application Header JA3 and Microcontroller Pin Headers.

The affected signals are: JA3-DQMH, JA3-DQML, JA3-SDCLK, JA3-CKE, JA3-WEn, JA3-RAS, JA3-CAS

Renesas Electronics Corporation		
Title: RSKRX660 [Application Headers]		
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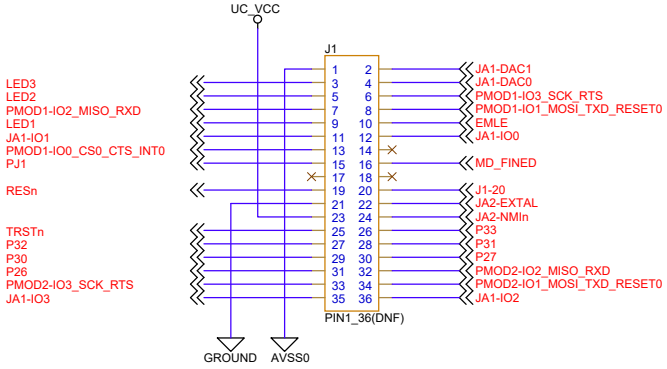
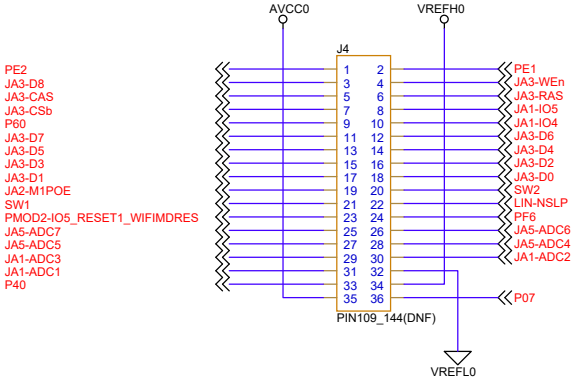
Microcontroller Pin Headers

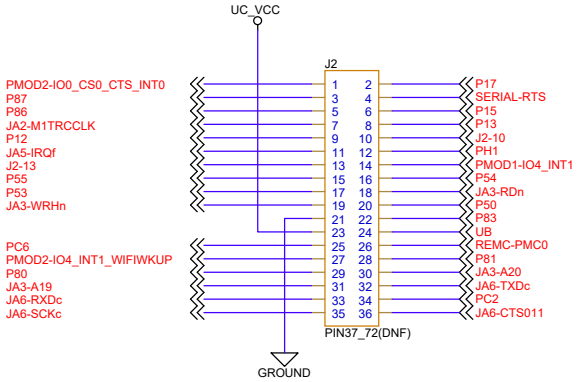
Note:

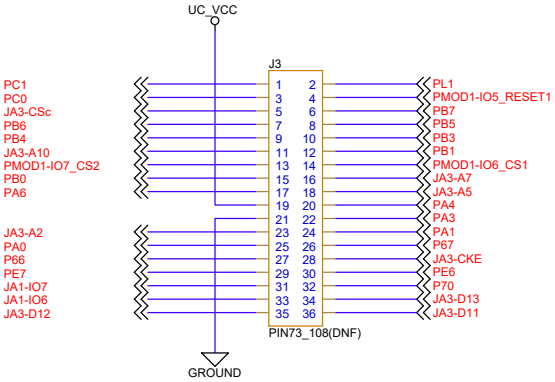
This board is designed to be shared with other microcontrollers.
Therefore, RX660 does not support SDRAM controller, but SDRAM signals are assigned to Application Header JA3 and Microcontroller Pin Headers.

The affected signals are: JA3-DQMH, JA3-DQML, JA3-SDCLK, JA3-CKE, JA3-WEn, JA3-RAS, JA3-CAS









Renesas Electronics Corporation		
Title: RSKRX660 [Microcontroller Pin Headers]		
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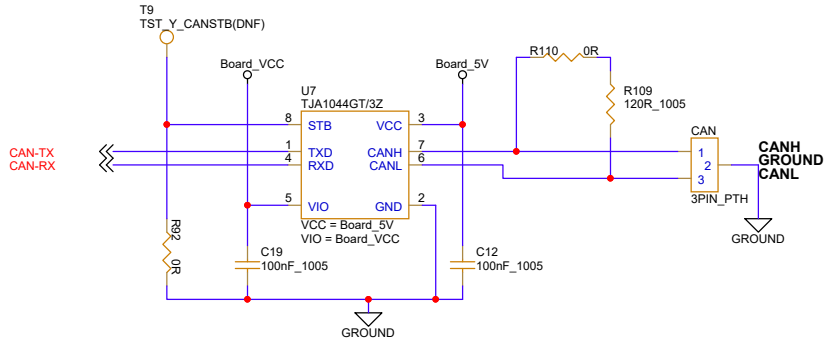
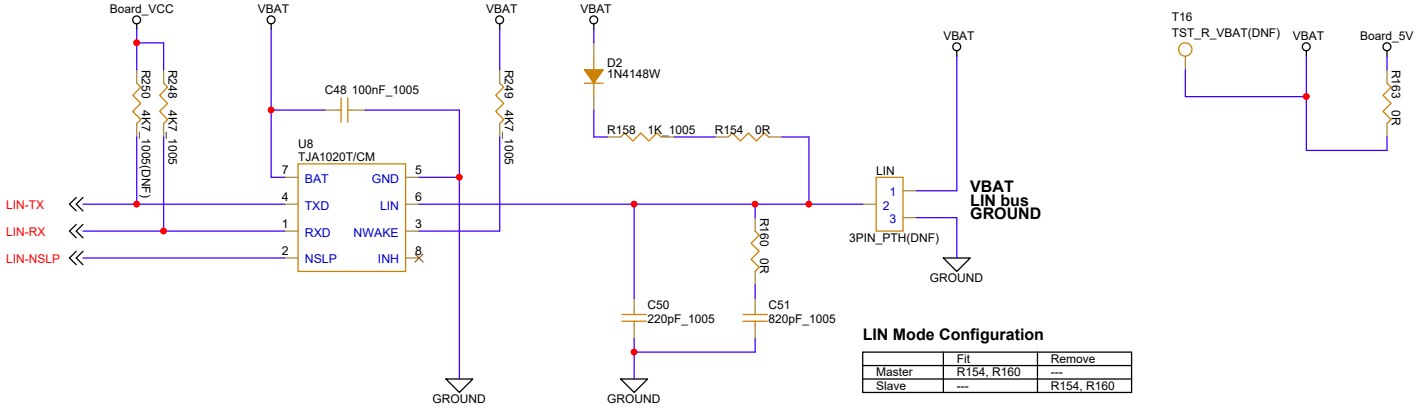
CAN



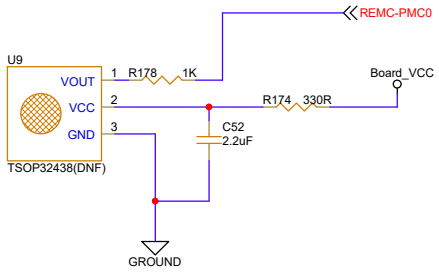
LIN



LIN Mode Configuration

	Fit	Remove
Master	R154, R160	---
Slave	---	R154, R160

REMC



Renesas Electronics Corporation		
Title: RSKRX660 [CAN, LIN, REMC]		
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Revision History

REV	DATE	SHEET	DESCRIPTION
1.00	14.02.2022	---	1st release edition.

Renesas Electronics Corporation		
Title	RSKRX660 [Revision History]	
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