

Renesas Starter Kit for RX660

CPU Board Schematics

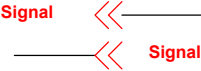
REV	REF	DATE	DRAWN BY
1.00	Release	14.02.2022	YOL

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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

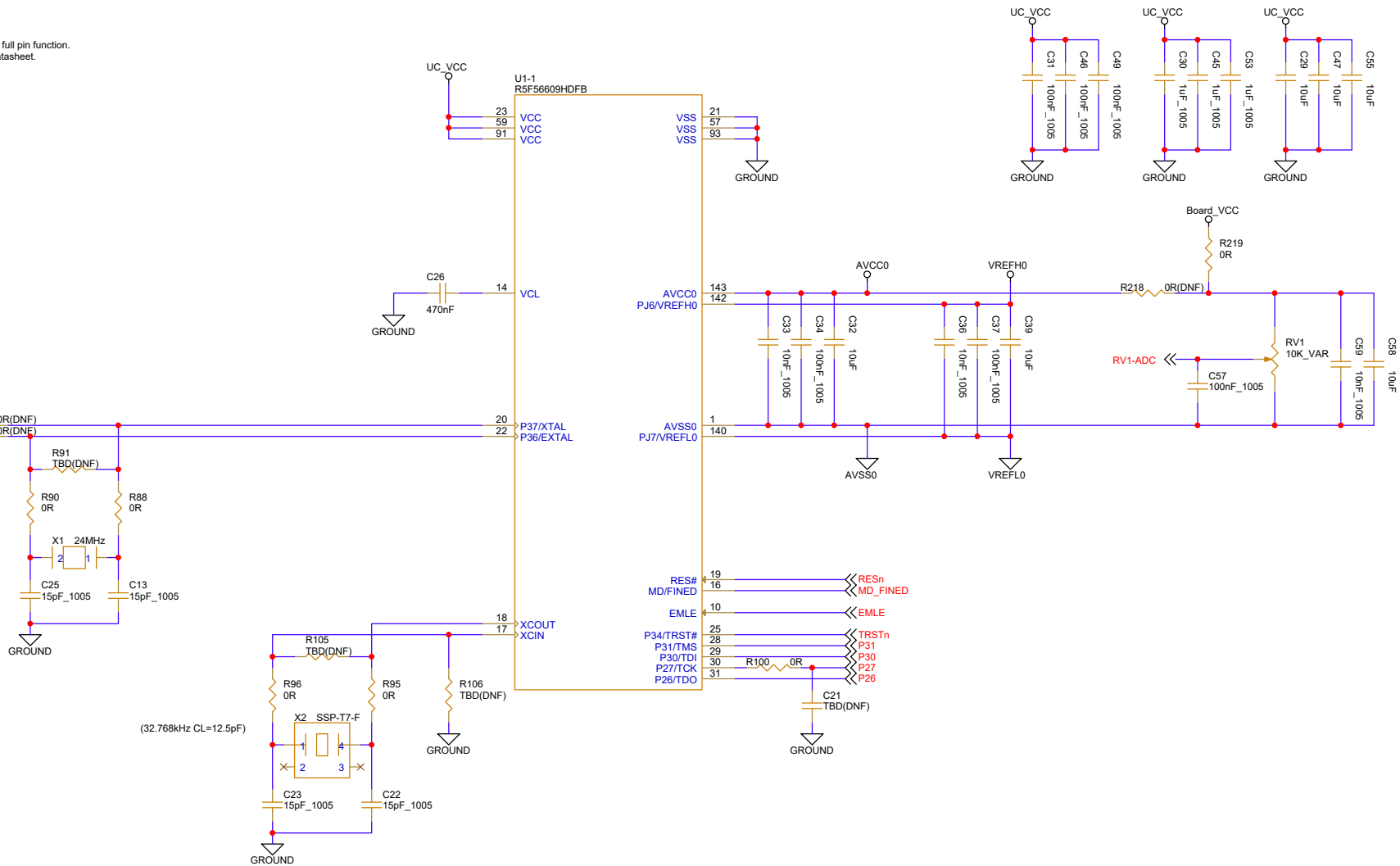
REE Drawing No. D018252_04

Renesas Electronics Corporation			
Title	RSKRX660 [Index]		
Size	Document Number	Rev	
	R20UT5016EG0100	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.

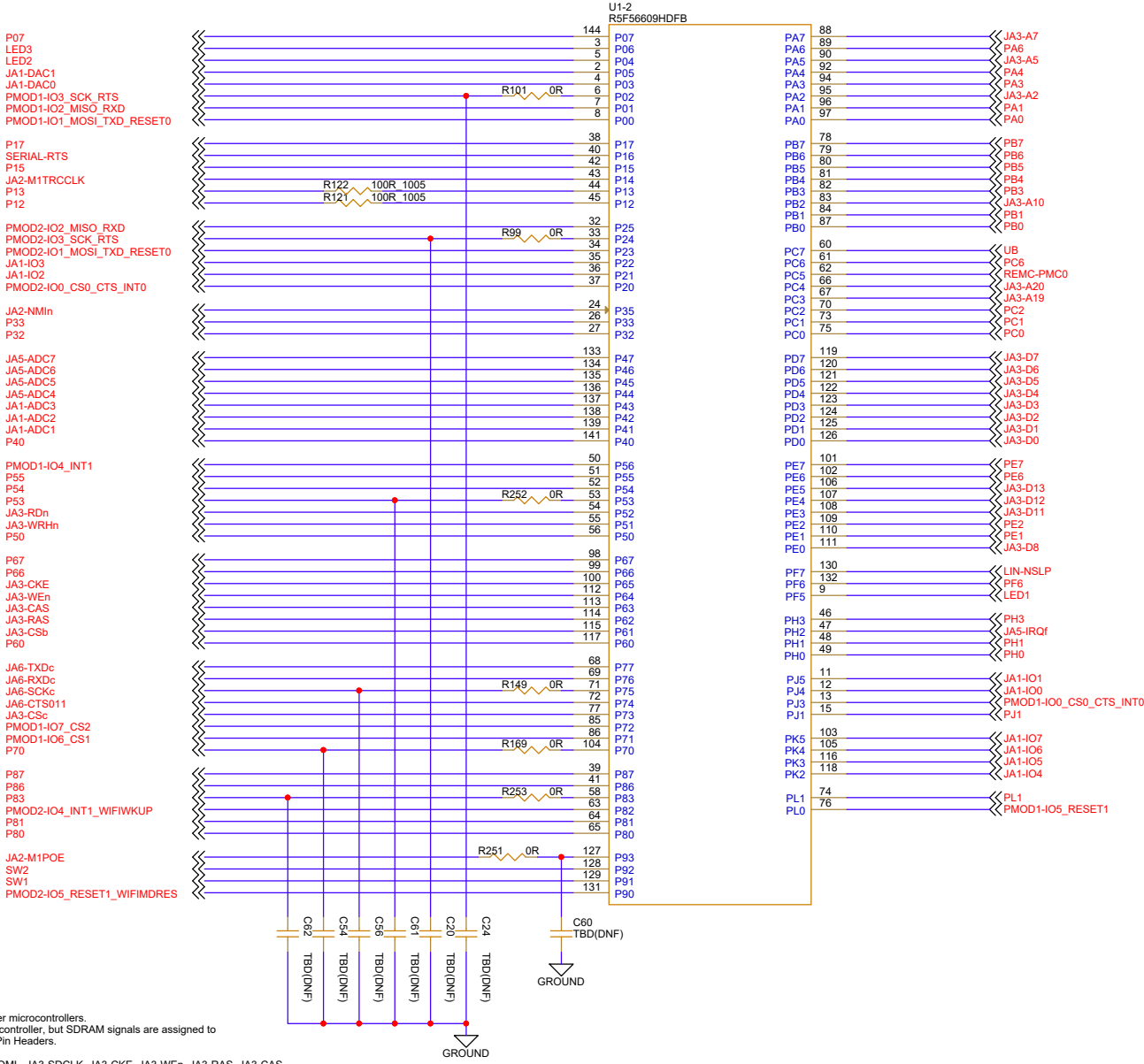
J1-20
JA2-EXTAL



RX660 Microcontroller-2

Note:

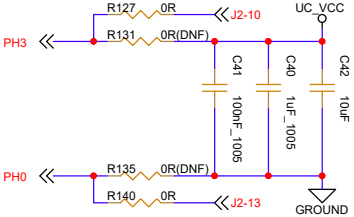
Microcontroller's pins are not described by the full pin function.
For full pin functions details, refer to RX660 datasheet.



Note:

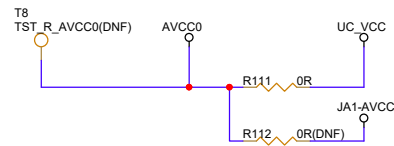
This board is designed to be shared with other microcontrollers.
Therefore, RX660 does not support SDRAM controller, but SDRAM signals are assigned to
Application Header JA3 and Microcontroller Pin Headers.

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

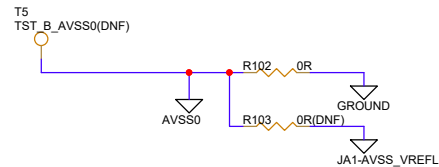


MCU Pin Function Select

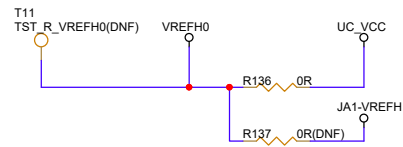
AVCC0 (Pin 143)



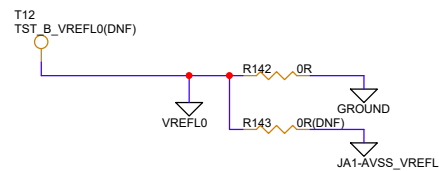
AVSS0 (Pin 1)



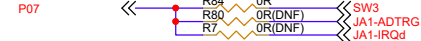
VREFH0 (Pin 142)



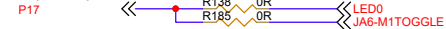
VREFL0 (Pin 140)



P07 (Pin 144)



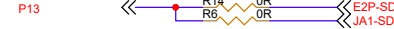
P17 (Pin 38)



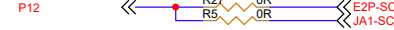
P15 (Pin 42)



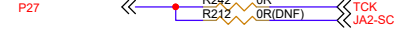
P13 (Pin 44)



P12 (Pin 45)



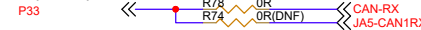
P27 (Pin 30)



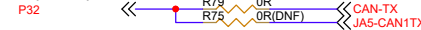
P26 (Pin 31)



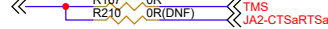
P33 (Pin 26)



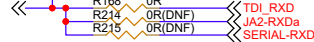
P32 (Pin 27)



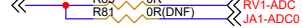
P31 (Pin 28)



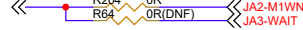
P30 (Pin 29)



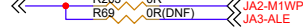
P40 (Pin 141)



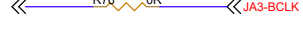
P55 (Pin 51)



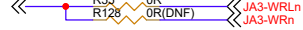
P54 (Pin 52)



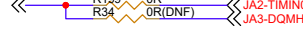
P53 (Pin 53)



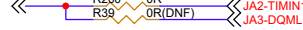
P50 (Pin 56)



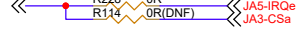
P67 (Pin 98)



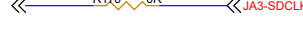
P66 (Pin 99)



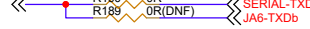
P60 (Pin 117)



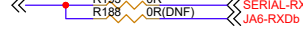
P70 (Pin 104)



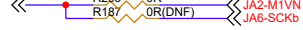
P87 (Pin 39)



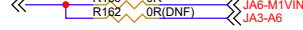
P86 (Pin 41)



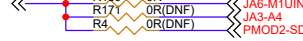
P83 (Pin 58)



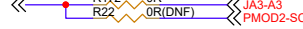
PA6 (Pin 89)



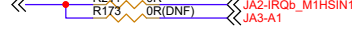
PA4 (Pin 92)



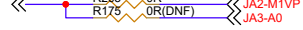
PA3 (Pin 94)



PA1 (Pin 96)



PA0 (Pin 97)

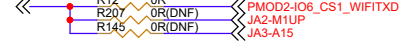


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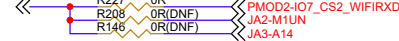
This board is designed to be shared with other microcontrollers. Therefore, RX660 does not support SDRAM controller, but SDRAM signals are assigned to Application Header JA3 and Microcontroller Pin Headers.

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PB7 (Pin 78)



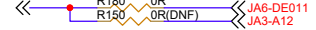
PB6 (Pin 79)



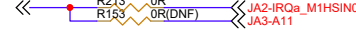
PB5 (Pin 80)



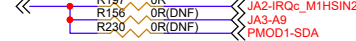
PB4 (Pin 81)



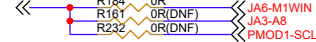
PB3 (Pin 82)



PB1 (Pin 84)



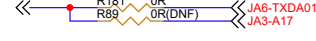
PB0 (Pin 87)



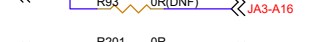
PC2 (Pin 70)



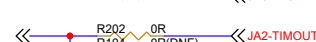
PC1 (Pin 73)



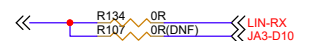
PC0 (Pin 75)



PE7 (Pin 101)



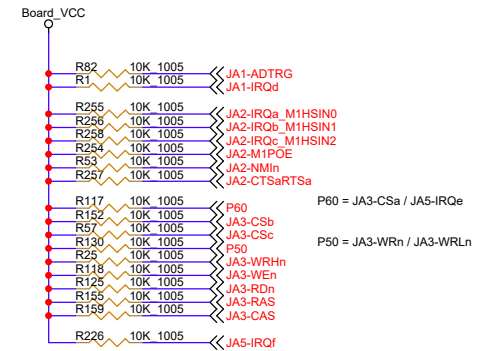
PE6 (Pin 102)



PE2 (Pin 109)



PE1 (Pin 110)



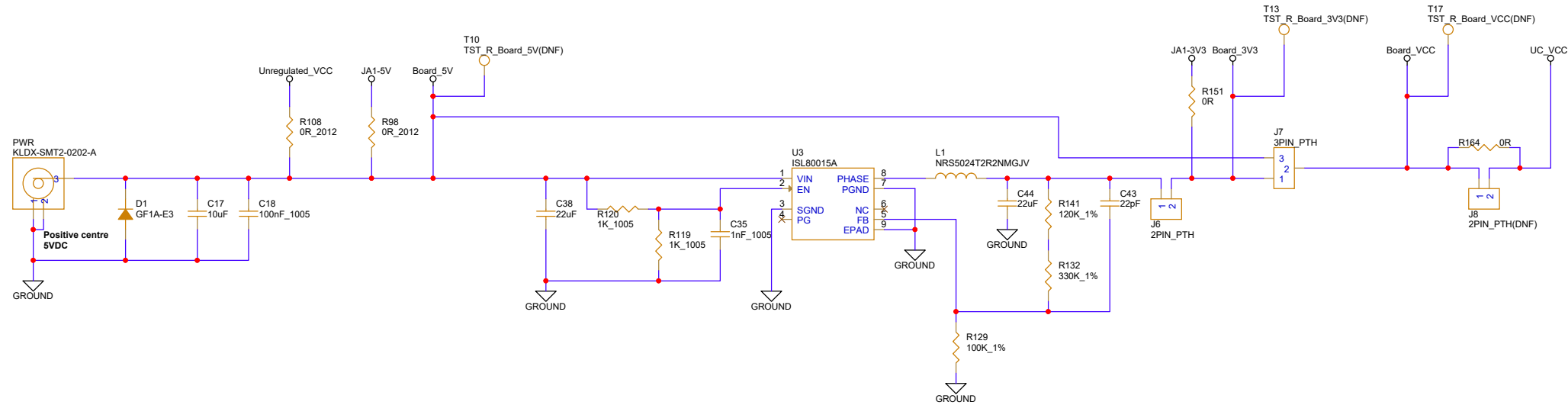
P60 = JA3-CSa / JA5-IRQe

P50 = JA3-WRn / JA3-WRLn

Renesas Electronics Corporation

Title		
RSKRX660 [MCU Pin Function Select]		
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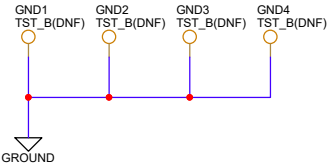
Power Supply Unit



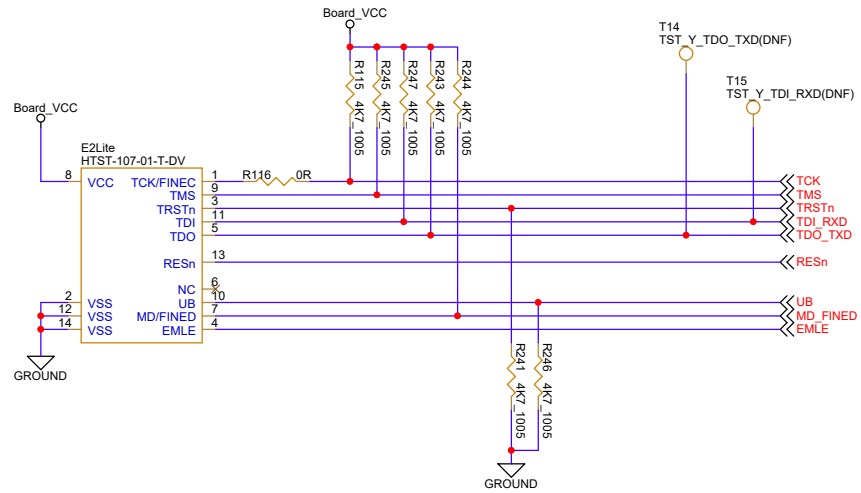
Power Supply Configuration

J7	J6	Power Supply Source	Board_VCC	Unavailable Feature
1-2 shorted	Open	E2 Lite(3V3)/JA1-3V3	UC_VCC	LIN, CAN, 5V Interface Pmods
1-2 shorted	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

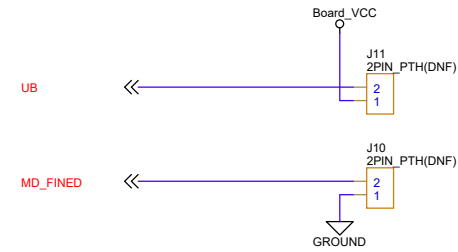
<- Default Settings



E2 Lite Emulator Interface

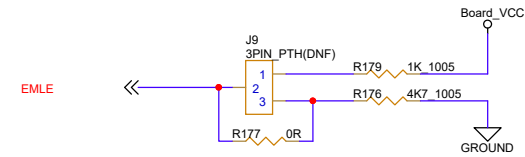


MCU Mode Setting



MCU Operating Mode Configuration

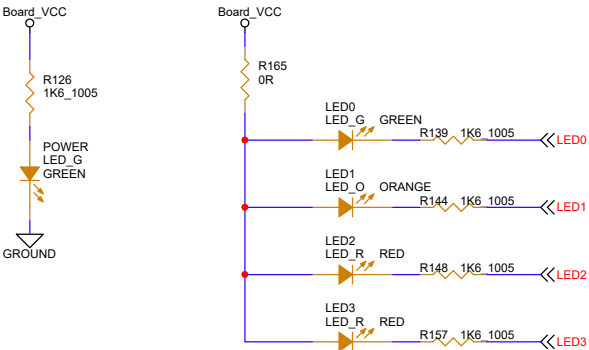
J10	J11	Operating Mode
Open	Don't care	Single Chip Mode
1-2 shorted	Open	SCI Boot Mode
1-2 shorted	1-2 shorted	User Boot Mode



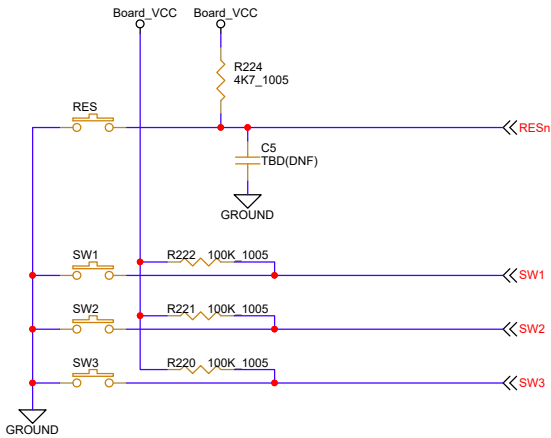
Emulator Configuration

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

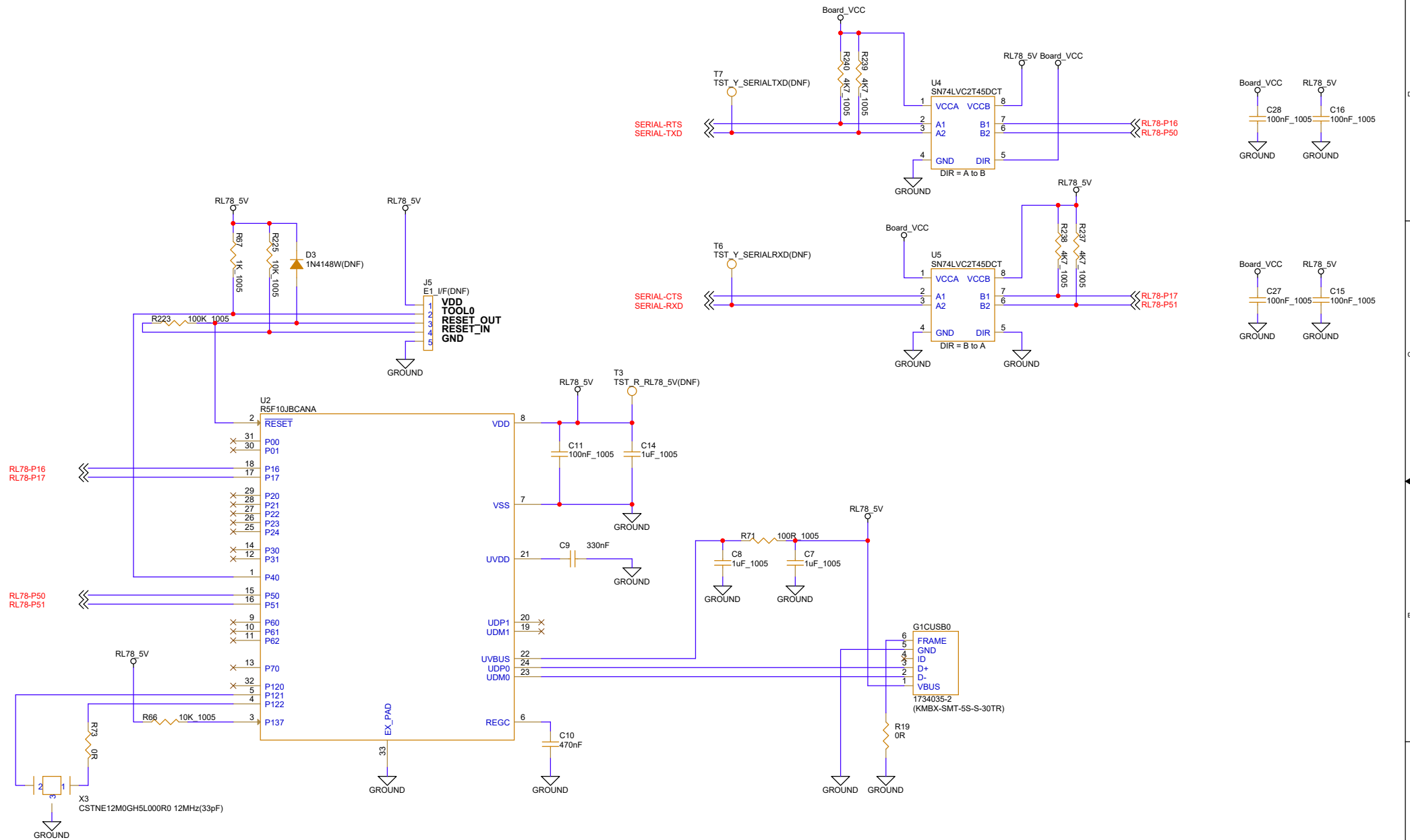
LEDs



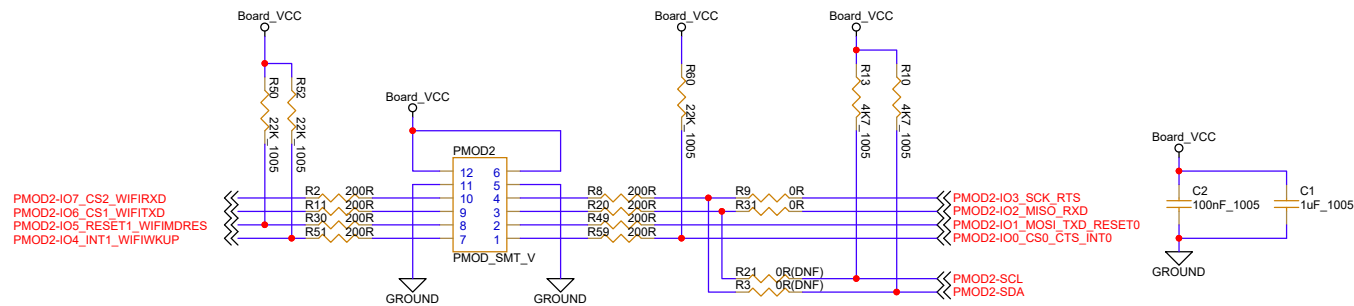
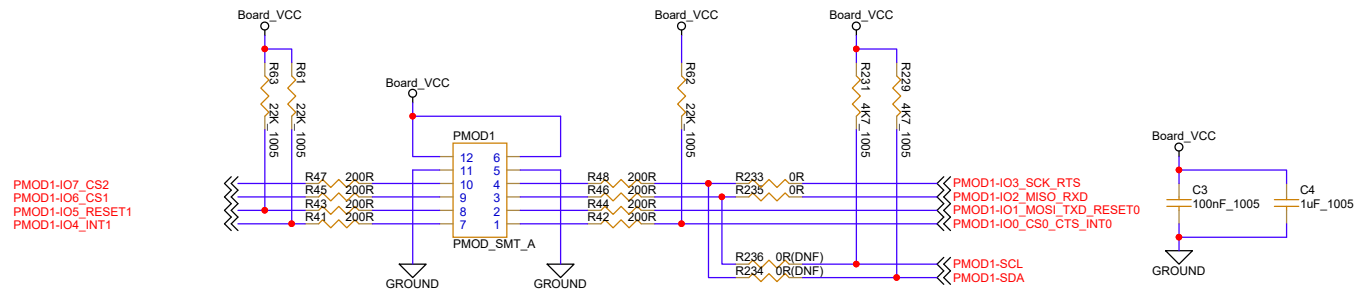
Switches, RESET



USB to Serial Interface



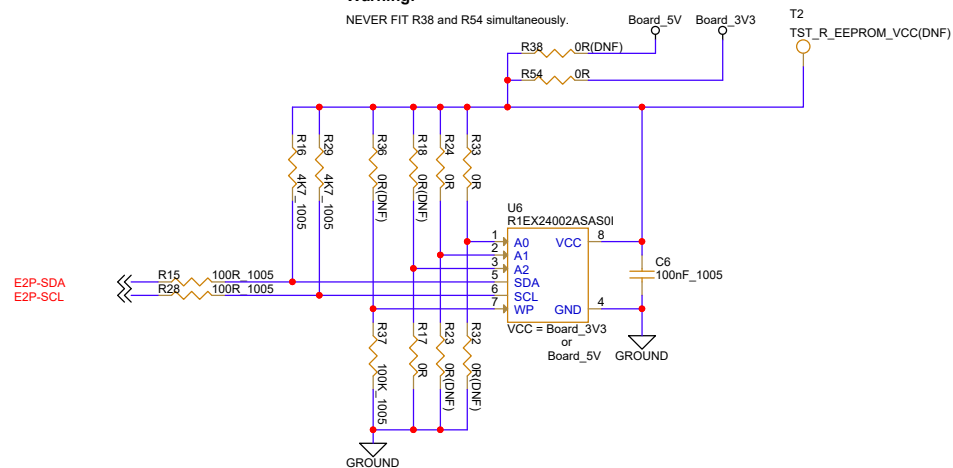
Pmod Interface



IIC EEPROM(2Kbits)

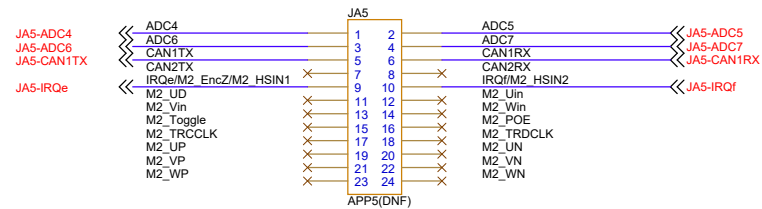
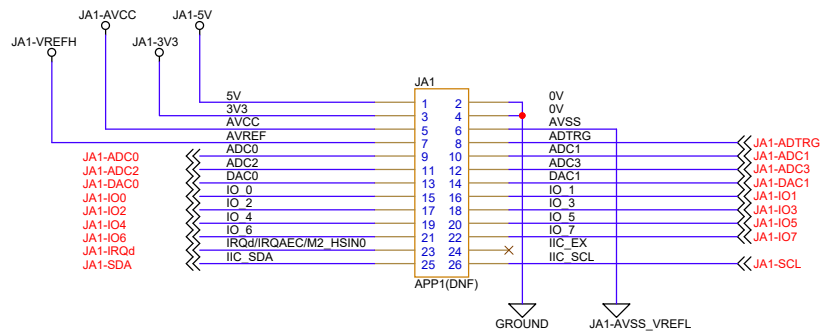
Warning:

NEVER FIT R38 and R54 simultaneously.

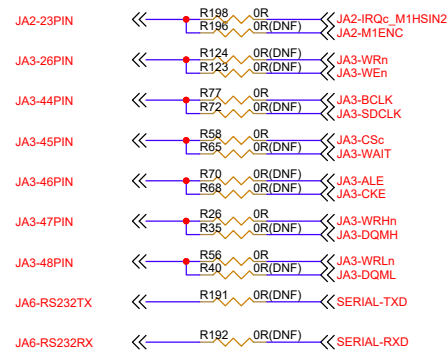


Renesas Electronics Corporation			
Title			
RSKRX660 [Pmod, IIC EEPROM]			
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Application Headers



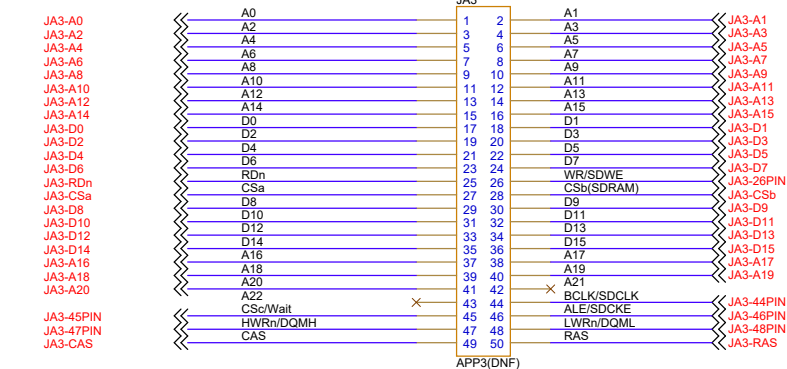
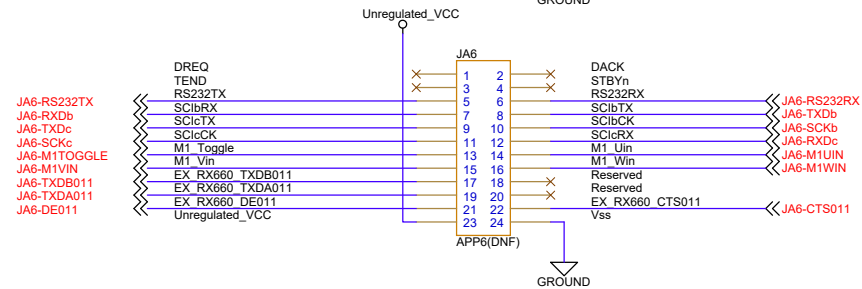
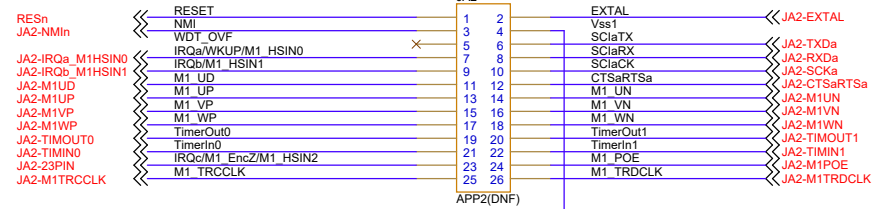
Application Header Function Select



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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.

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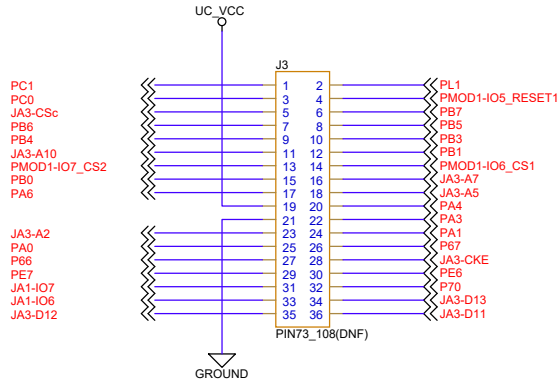
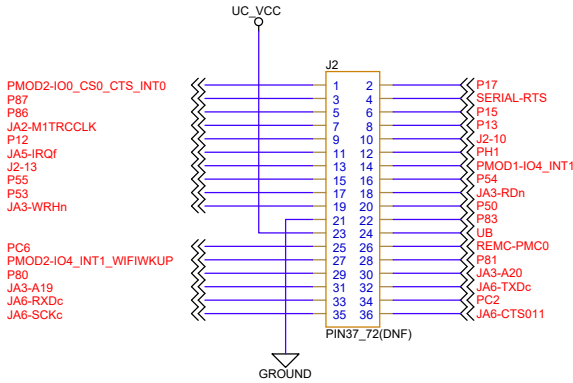
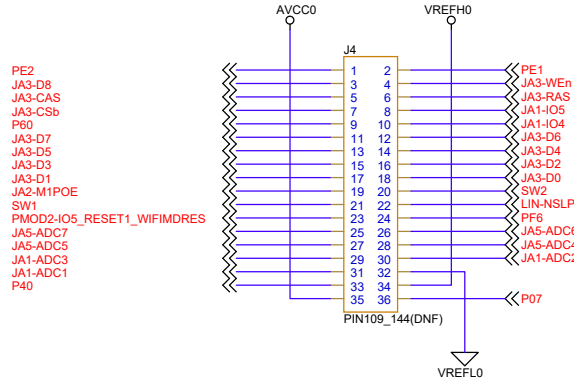
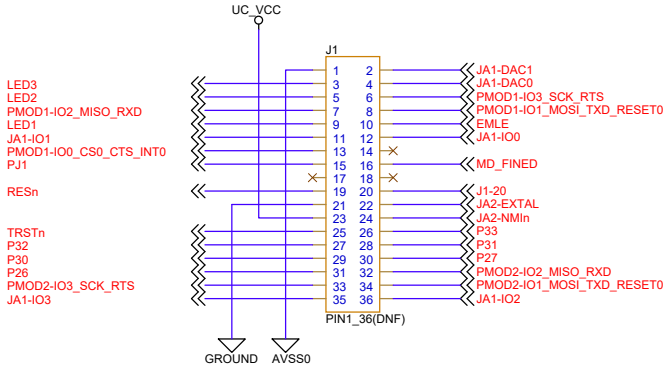


Microcontroller Pin Headers

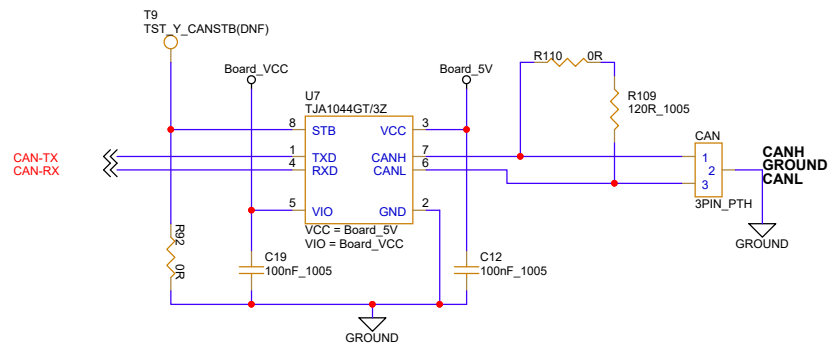
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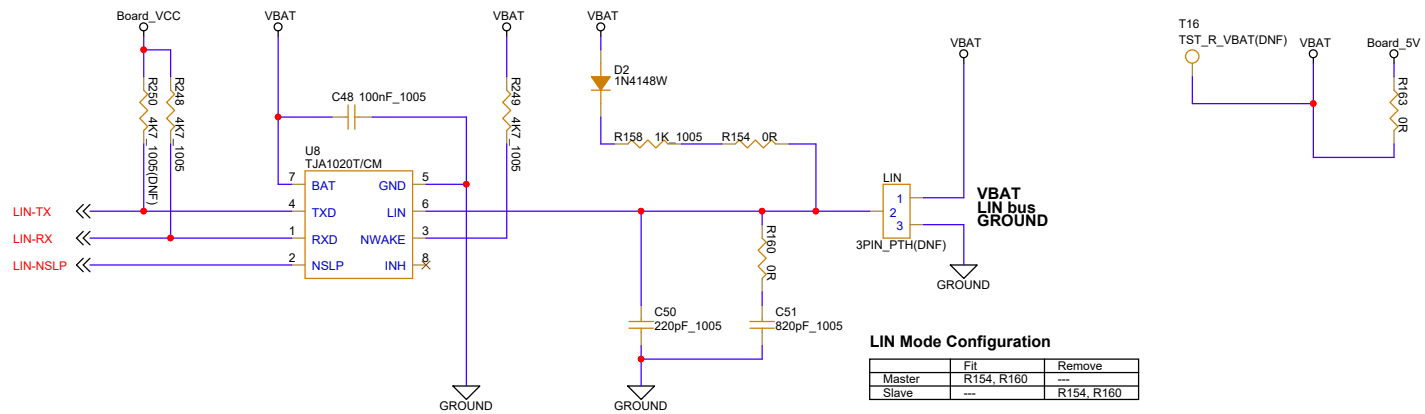
The affected signals are: JA3-DQMH, JA3-DQML, JA3-SDCLK, JA3-CKE, JA3-WEn, JA3-RAS, JA3-CAS



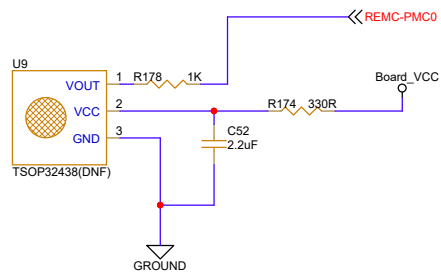
CAN



LIN



REMC



LIN Mode Configuration

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

Revision History

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