



Renesas Electronics Corporation delivers trusted embedded design innovation with complete semiconductor solutions that enable billions of connected, intelligent devices to enhance the way people work and live. A global leader in microcontrollers, analog, power, and SoC products, Renesas provides comprehensive solutions for a broad range of automotive, industrial, infrastructure, and IoT applications that help shape a limitless future.



Würth Elektronik eiSos is one of the leading manufacturers of electronic and electromechanical components in Europe. The product portfolio includes: EMC Components, EMC Filters, Capacitors, Inductors, RF Inductors and LTCC Components, Resistors, Quartz, Oscillators, Transformers, Components for Circuit Protection, Power Modules, LEDs, Connectors, Switches, High-Power Contacts, Assembly Technique, Wireless Connectivity and Sensors.



SEGGER has over twenty-five years of experience in Embedded Systems, producing cutting-edge RTOS and Software Libraries, and offering a full set of hardware tools (for development and production) and software tools. The J-Link debug probes, with Ozone the accompanying debugger and performance analyzer, and Embedded Studio the powerful cross platform C/C++ IDE, are available to support developers in creating their own embedded systems.



Macronix, a leading integrated device manufacturer in the Non-Volatile Memory (NVM) market, provides a full range of NOR Flash, NAND Flash, and ROM products. With its world-class R&D and manufacturing capability, Macronix continues to deliver high-quality, innovative and performance driven products to its customers in the consumer, communication, computing, industrial, automotive, networking and other segment markets.



AP Memory is a memory IC design company focusing on Low to Mid density RAM solutions, providing a full range of IoT RAM (low pin count QSPI, OPI, PSRAM), ADMUX RAM (CellularRAM), low power DRAM (LPDDR2/LPDDR3), as well as innovative solution for AI such as UHS OPI and more... Partnering with an advanced DRAM technology foundry, AP Memory provides world class performance, supply longevity, quality and cost, including high volume and customer oriented innovative and customized solutions, in both KGD and package form.


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PRODUCT

M13-RA6M5-EK (Evaluation Board)

DRAWN BY

PATRICK S.

DATE

2021.11.02

PAGE

Content

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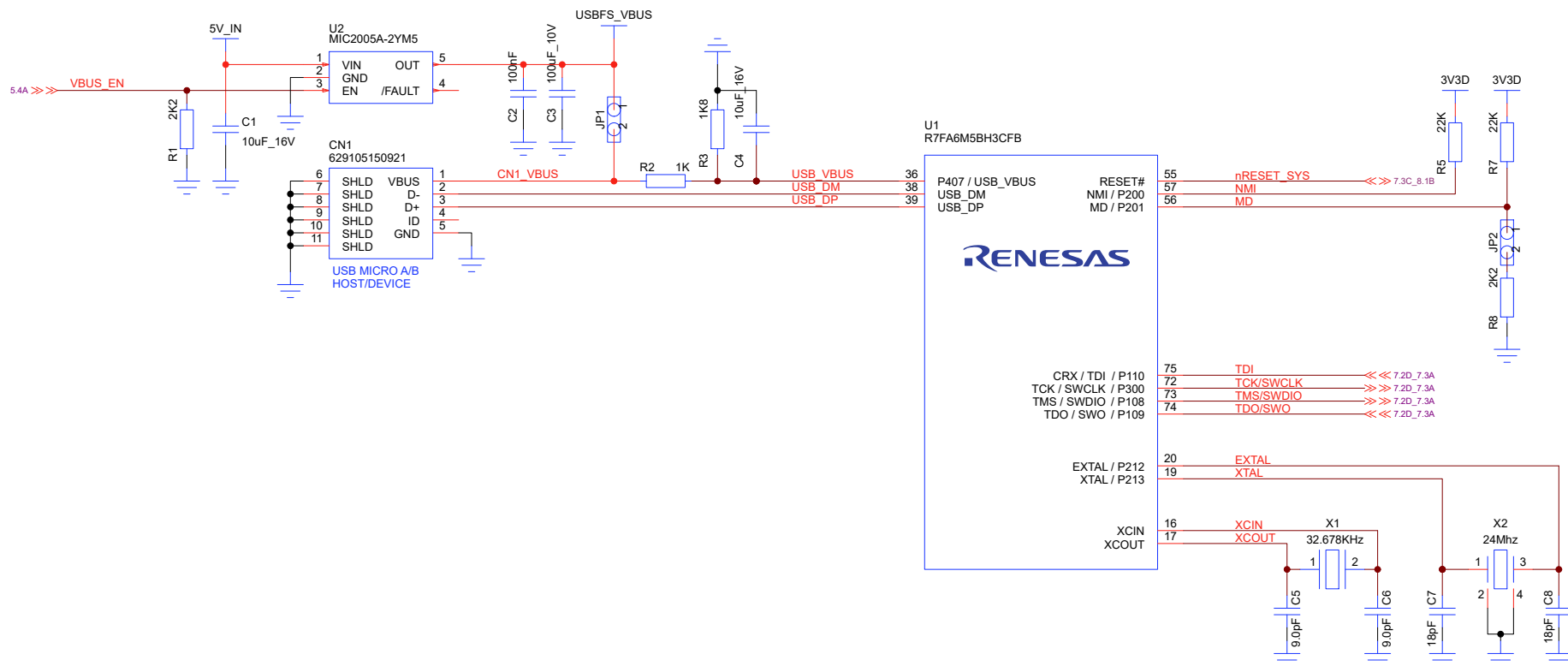
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PRELIMINARY

2021.12.20

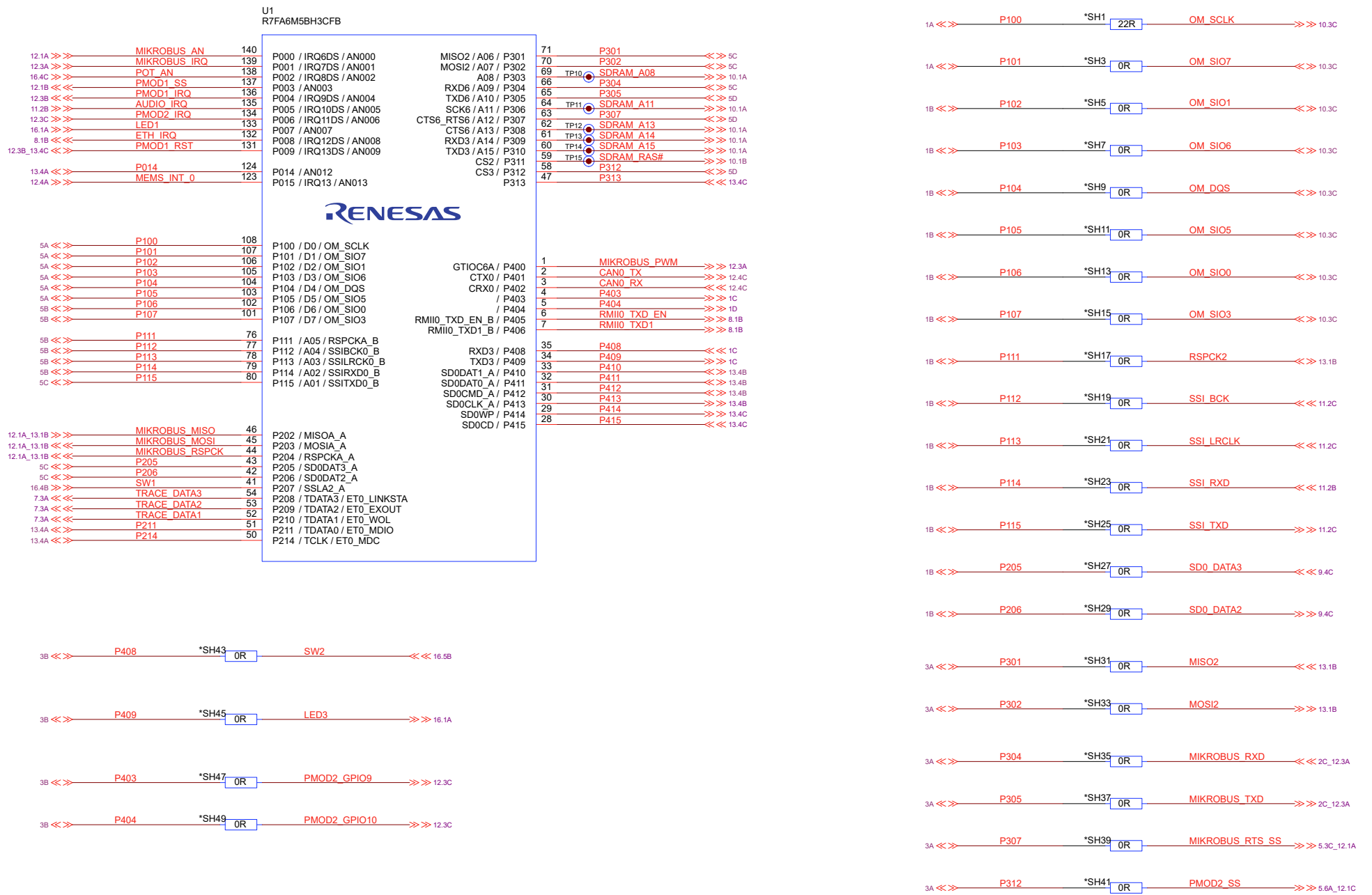
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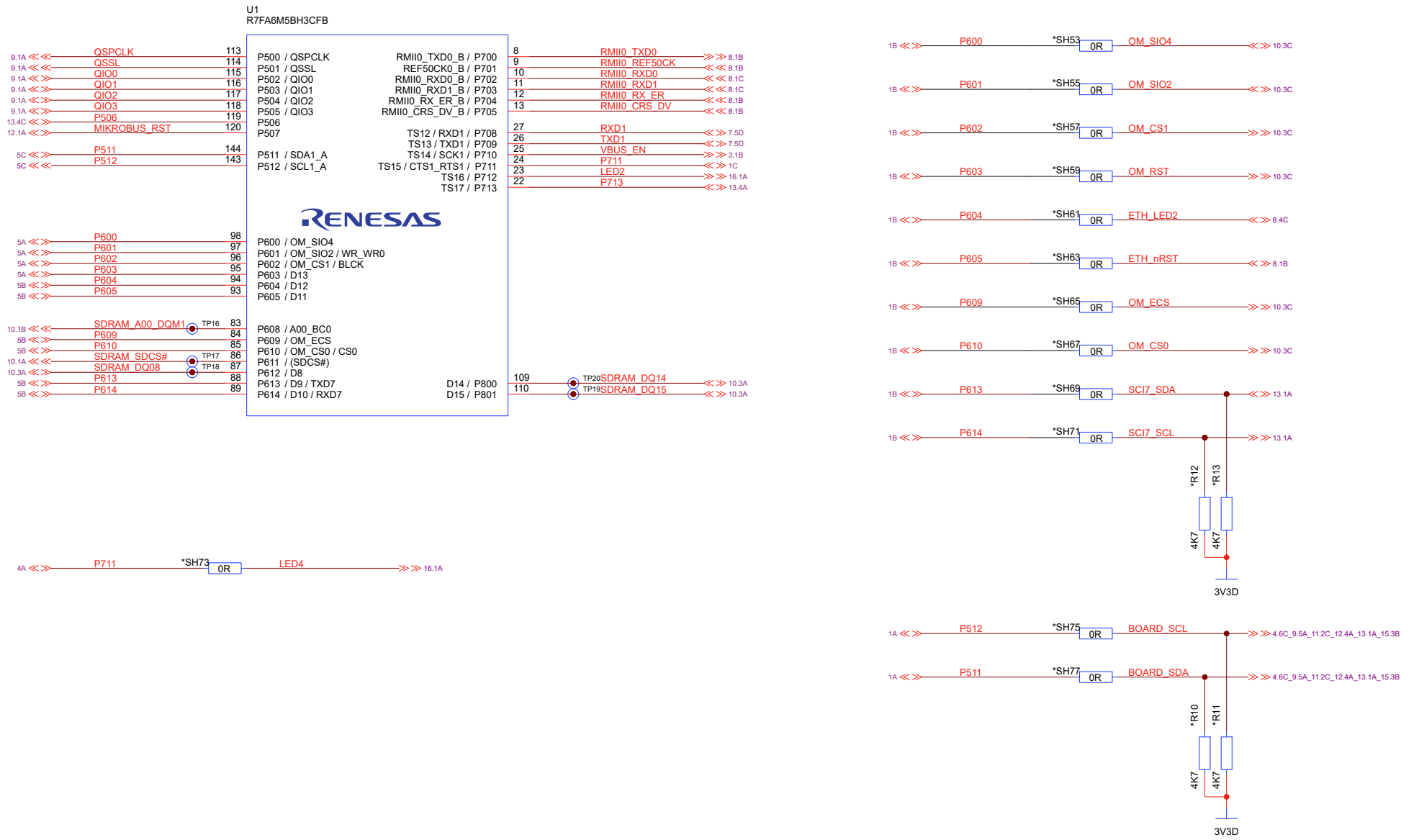
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U1
R7FA6M5BH3CFB

9.1A <<< QSPCLK 113	P500 / QSPCLK	RMII0_TXD0_B / P700	8	RMII0_TXD0	>>> 8.1B
9.1A <<< QSSL 114	P501 / QSSL	REF50CK0_B / P701	9	RMII0_REF50CK	<<< 8.1B
9.1A <<< QIO0 115	P502 / QIO0	RMII0_RXD0_B / P702	10	RMII0_RXD0	<<< 8.1C
9.1A <<< QIO1 116	P503 / QIO1	RMII0_RXD1_B / P703	11	RMII0_RXD1	<<< 8.1C
9.1A <<< QIO2 117	P504 / QIO2	RMII0_RX_ER_B / P704	12	RMII0_RX_ER	<<< 8.1B
9.1A <<< QIO3 118	P505 / QIO3	RMII0_CRD_V_B / P705	13	RMII0_CRD_V	<<< 8.1B
13.4C <<< P506 119	P506				
12.1A <<< MIKROBUS_RST 120	P507				
5C <<< P511 144	P511 / SDA1_A	TS12 / RXD1 / P708	27	RXD1	<<< 7.5D
5C <<< P512 143	P512 / SCL1_A	TS13 / TXD1 / P709	26	TXD1	<<< 7.5D
		TS14 / SCK1 / P710	25	VBUS_EN	>>> 3.1B
		TS15 / CTS1_RTS1 / P711	24	P711	>>> 1C
		TS16 / P712	23	LED2	>>> 16.1A
		TS17 / P713	22	P713	>>> 13.4A

RENESAS

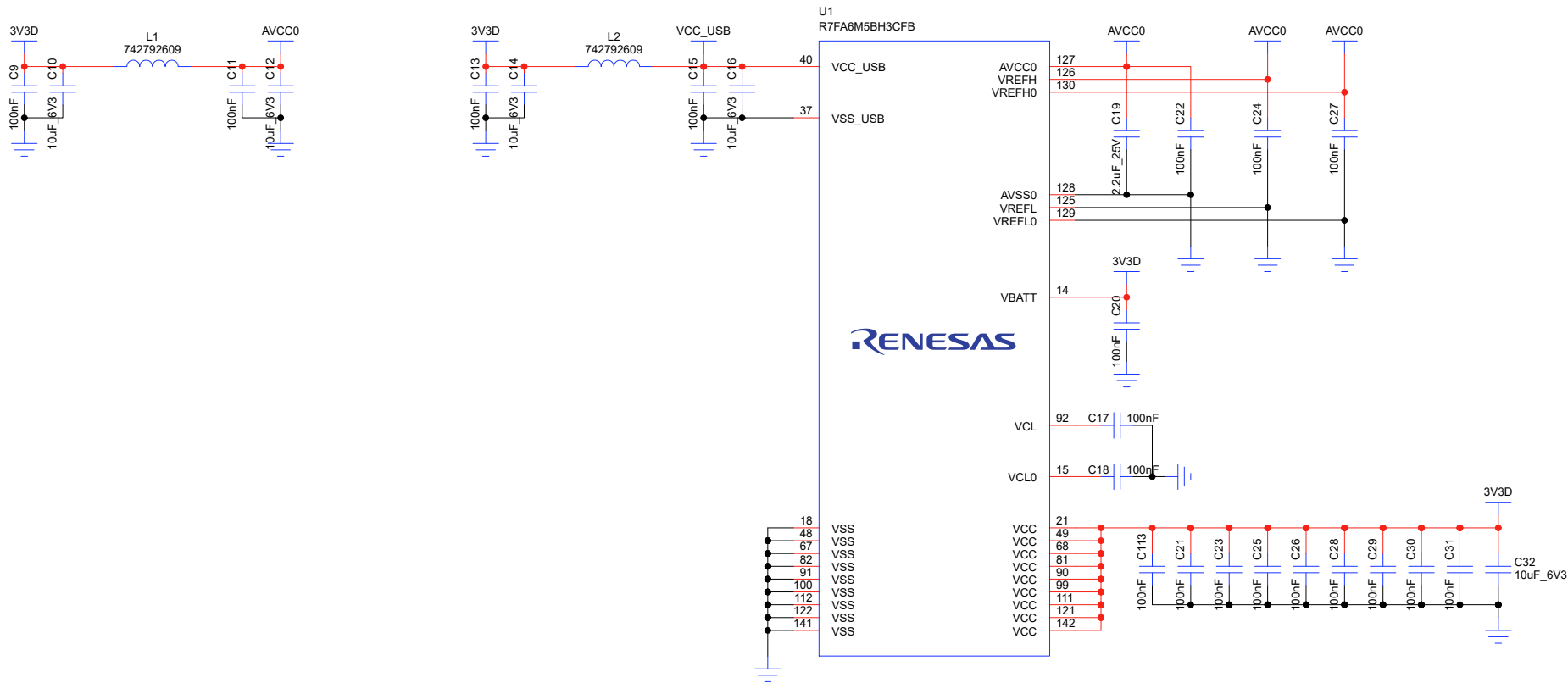
5A <<< P600 98	P600 / OM_SIO4				
5A <<< P601 97	P601 / OM_SIO2 / WR_WR0				
5A <<< P602 96	P602 / OM_CS1 / BLCK				
5A <<< P603 95	P603 / D13				
5A <<< P604 94	P604 / D12				
5B <<< P605 93	P605 / D11				
10.1B <<< SDRAM_A00_DQM1 TP16 83	P608 / A00_BC0				
5B <<< P609 84	P609 / OM_ECS				
5B <<< P610 85	P610 / OM_CS0 / CS0				
10.1A <<< SDRAM_SDCS# TP17 86	P611 / (SDCS#)				
10.3A <<< SDRAM_DQ08 TP18 87	P612 / D8				
5B <<< P613 88	P613 / D9 / TXD7				
5B <<< P614 89	P614 / D10 / RXD7				

D14 / P800
D15 / P801

109 TP20 SDRAM_DQ14 <<< 10.3A
110 TP19 SDRAM_DQ15 <<< 10.3A



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PRODUCT M13-RA6M5-EK (Evaluation Board)

PAGE RA6M5 Power

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TONY P.

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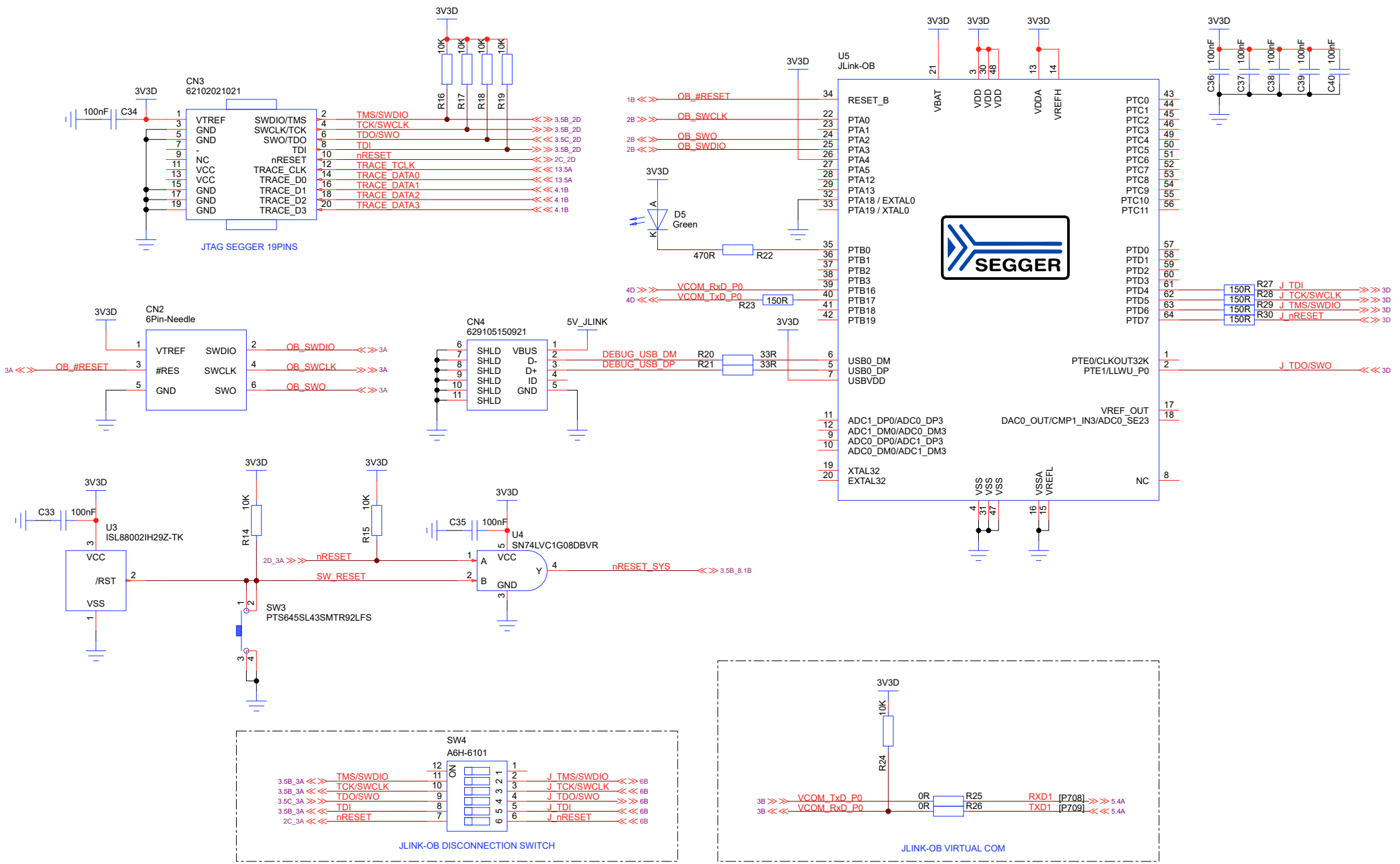
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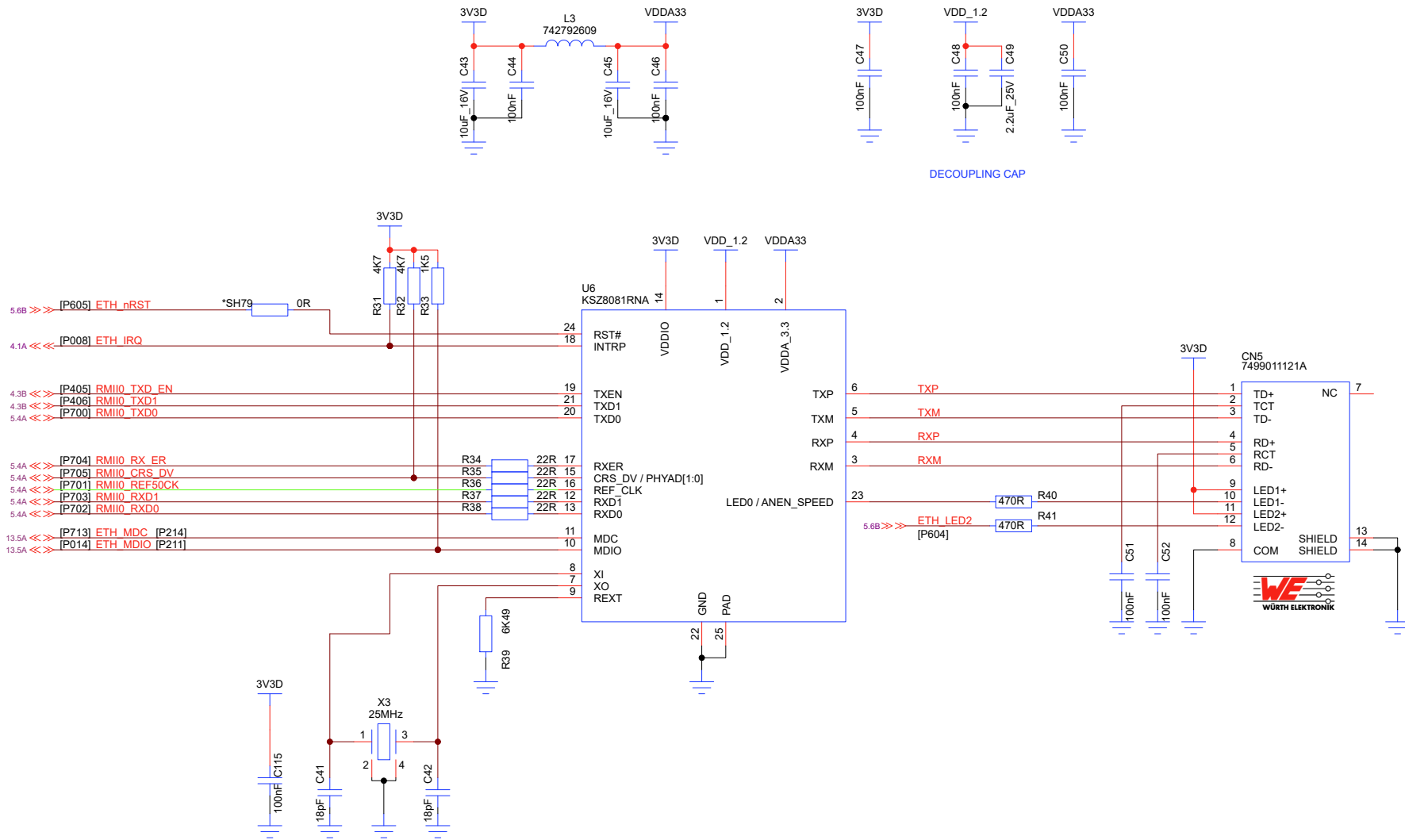
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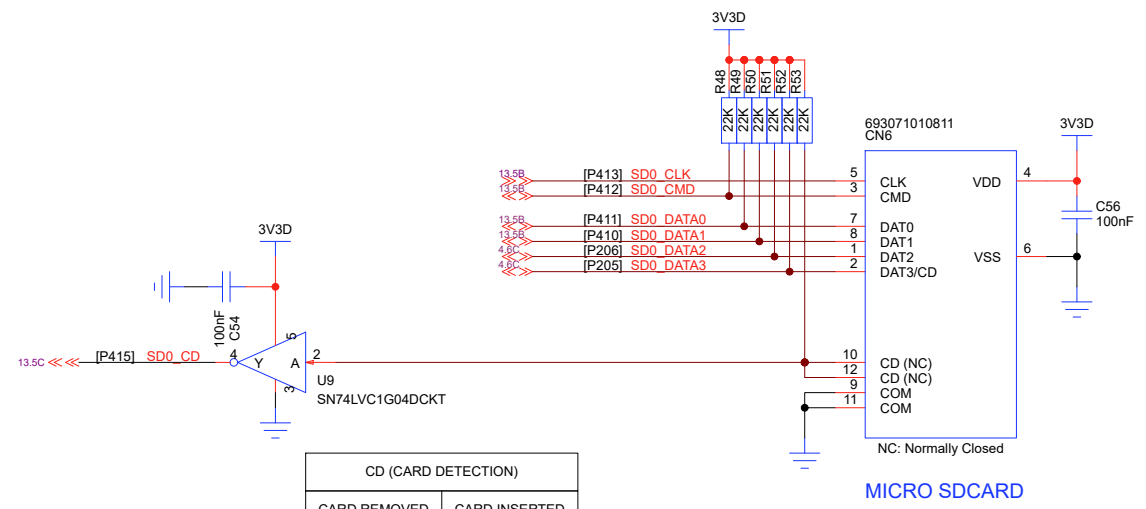
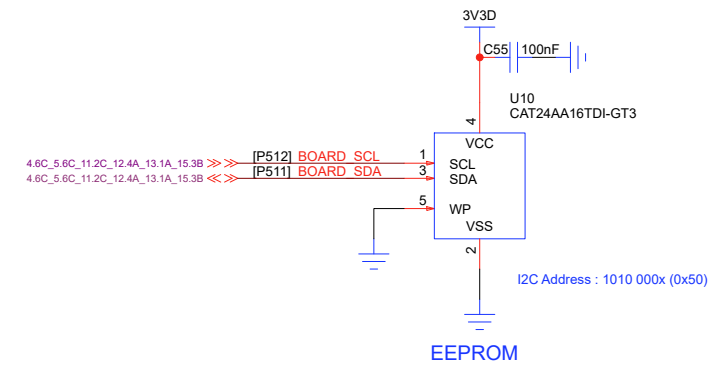
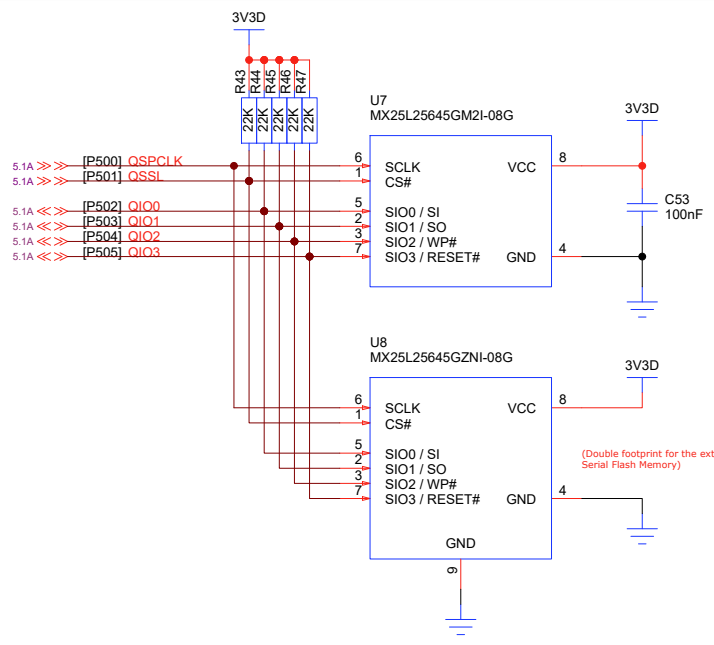


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DECOUPLING CAP

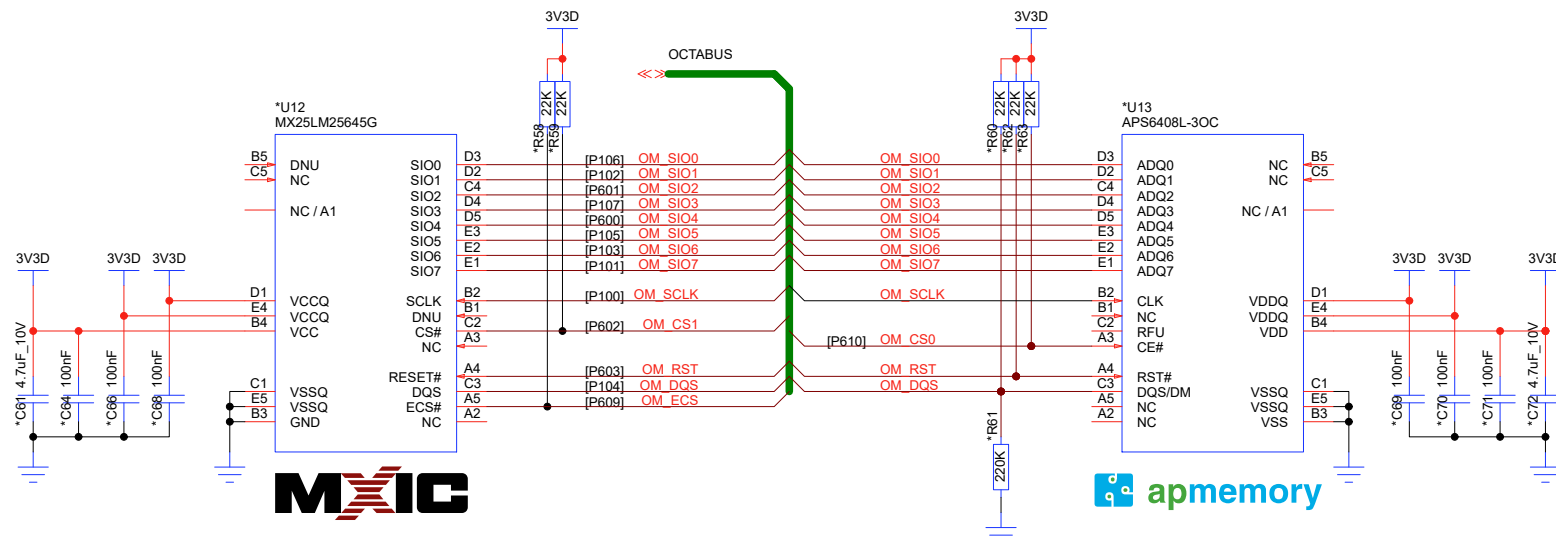
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CD (CARD DETECTION)	
CARD REMOVED	CARD INSERTED
CLOSE	OPEN
SD0_CD = 1	SD0_CD = 0



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PRODUCT M13-RA6M5-EK (Evaluation Board)

PAGE OctaFlash, OctaRAM

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DATE 2021.11.02

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DATE 2021.12.20



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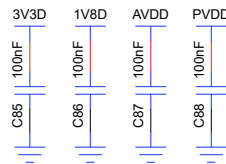
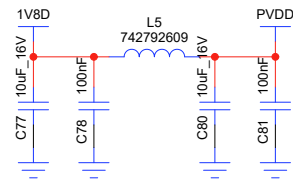
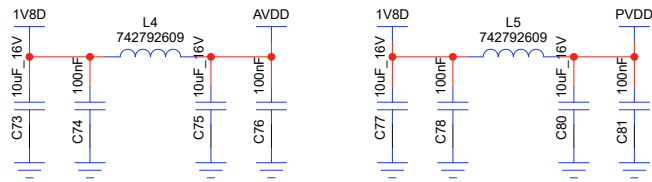
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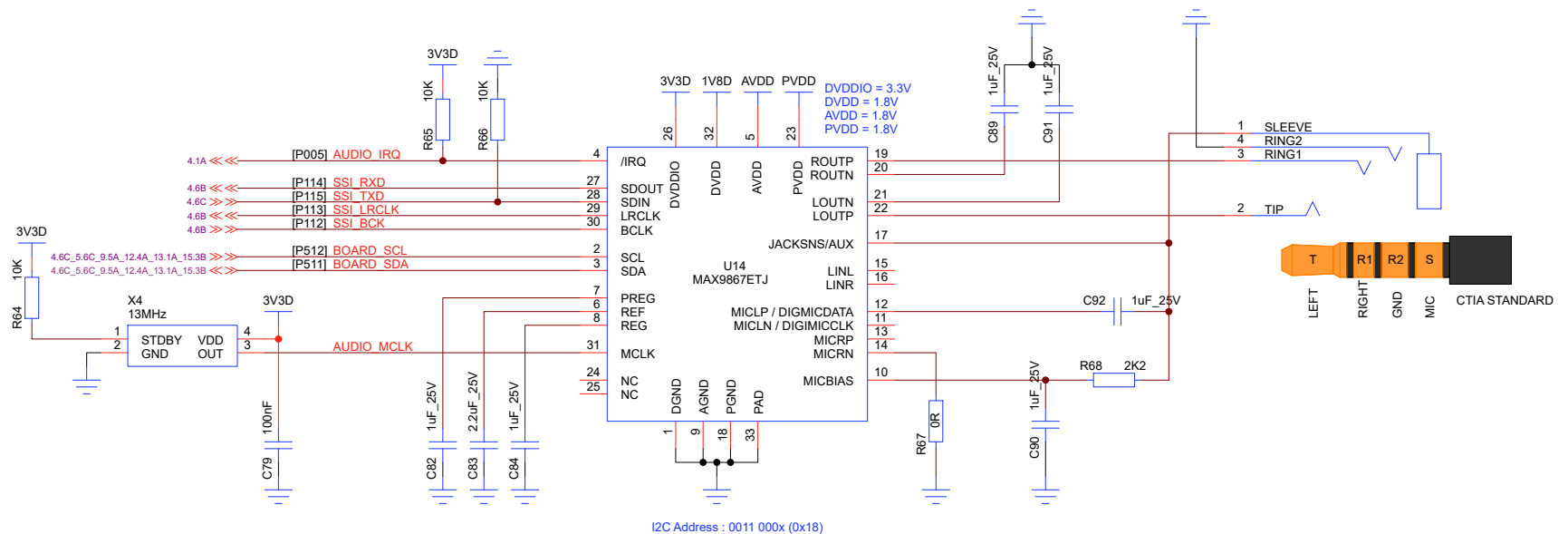
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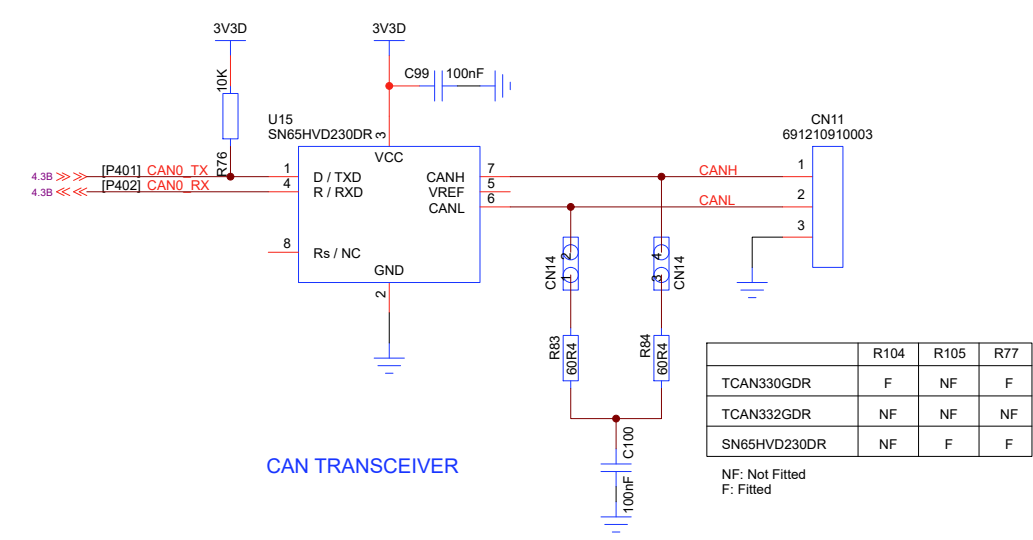
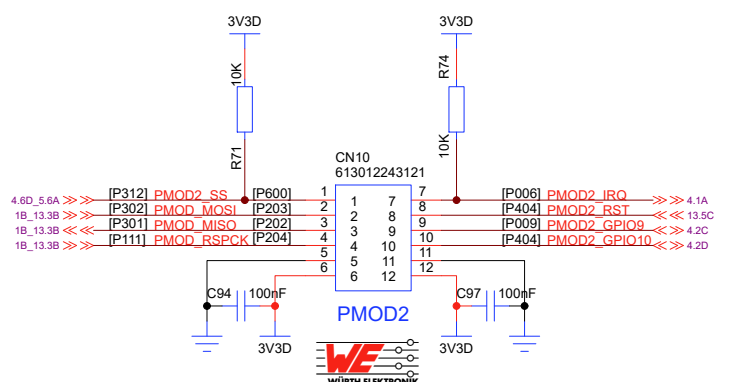
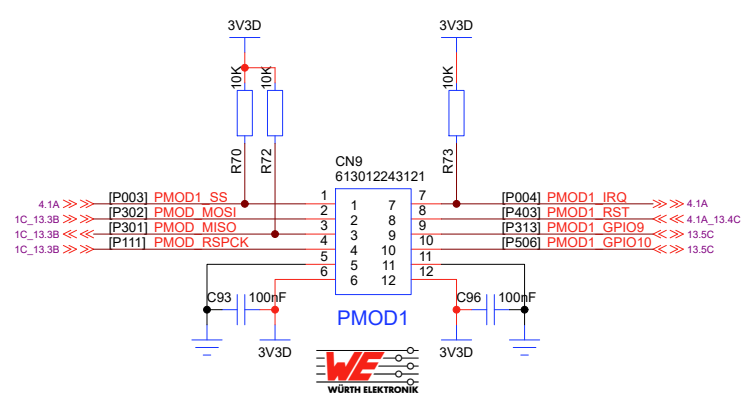
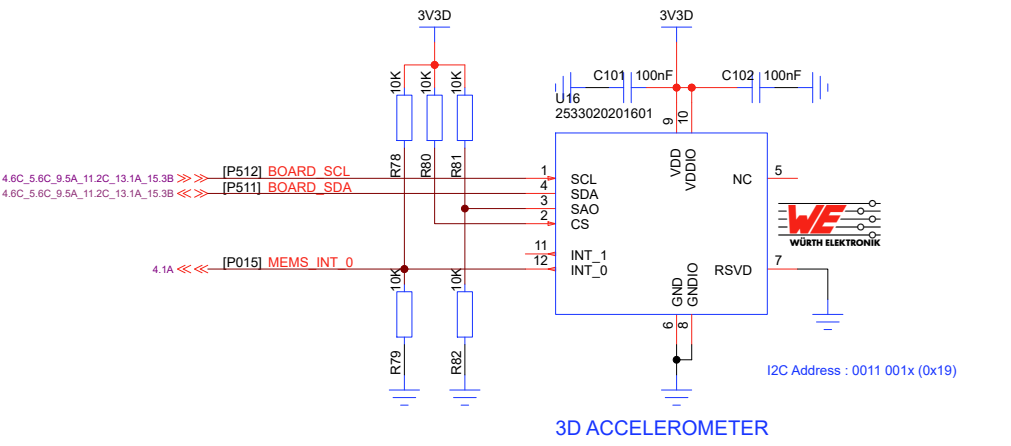
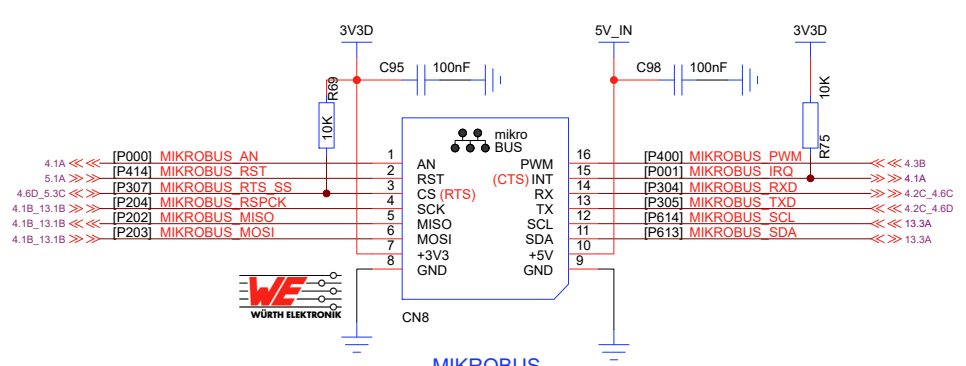


DECOUPLING CAPACITORS



I2C Address : 0011 000x (0x18)

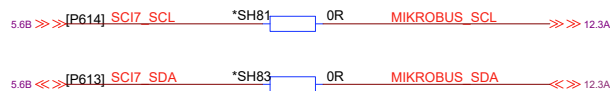
 www.m13design.fr	PRODUCT	M13-RA6M5-EK (Evaluation Board)			DRAWN BY	PATRICK S.	DATE	2021.11.02
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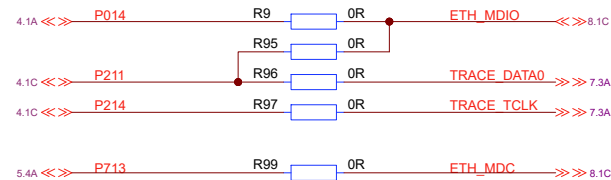
	R104	R105	R77
TCAN330GDR	F	NF	F
TCAN332GDR	NF	NF	NF
SN65HVD230DR	NF	F	F

NF: Not Fitted
F: Fitted

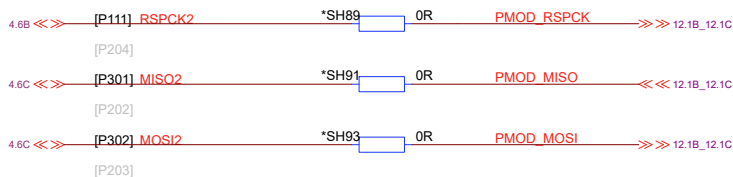
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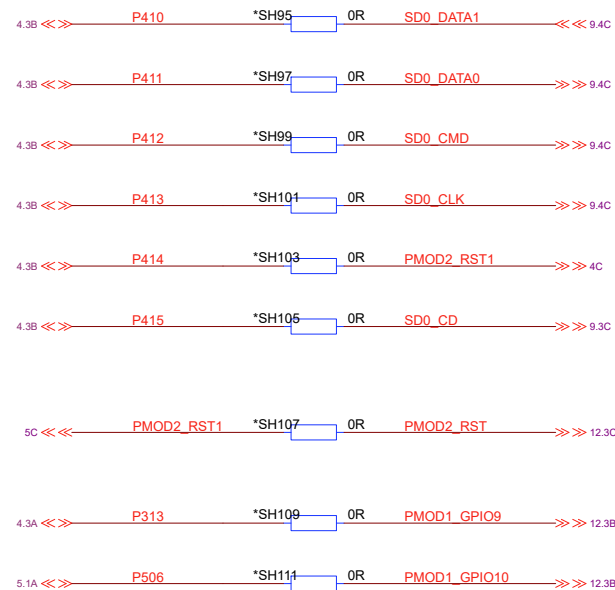
I2C BUS SELECTION FOR MIKROBUS



MDC/MDIO & TRACE SIGNALS SELECTION



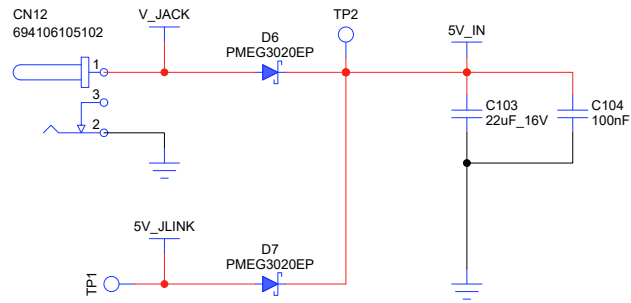
SPI BUS SELECTION FOR PMOD



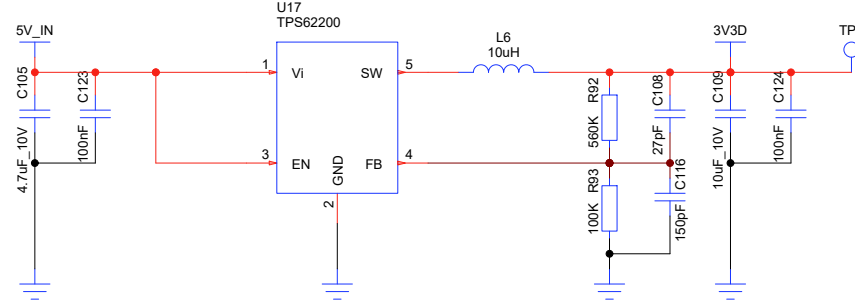
SDCARD / CAMERA MULTIPLEXING

JACK POWER SUPPLY MUST BE STRICTLY 5V

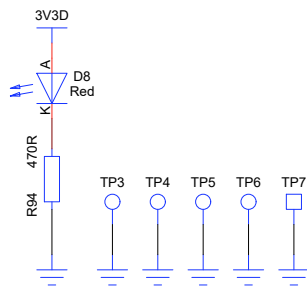
5V POWER SOURCE



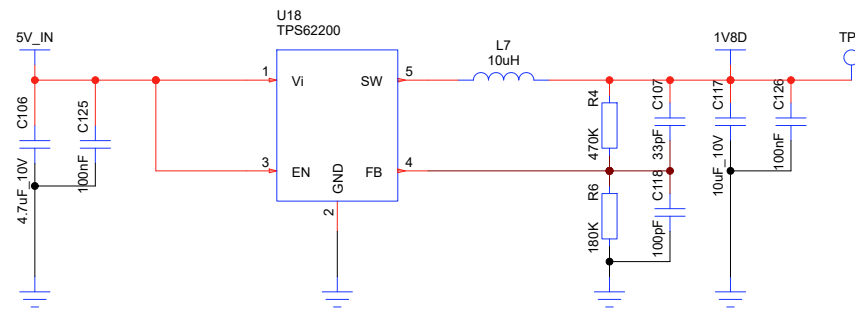
5V TO 3V3 Digital



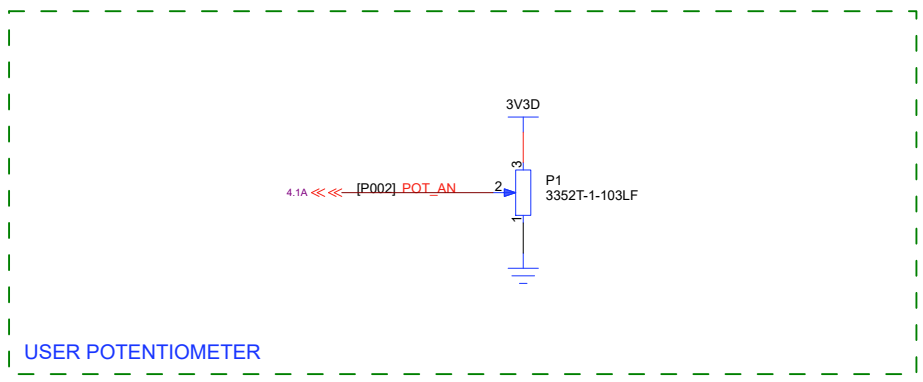
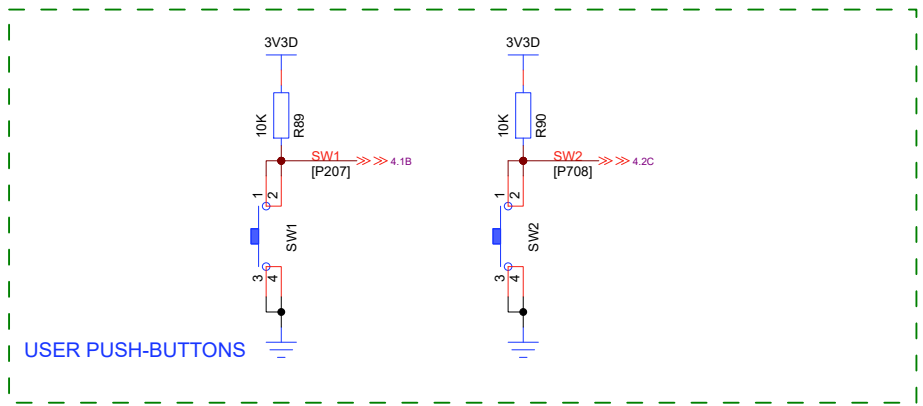
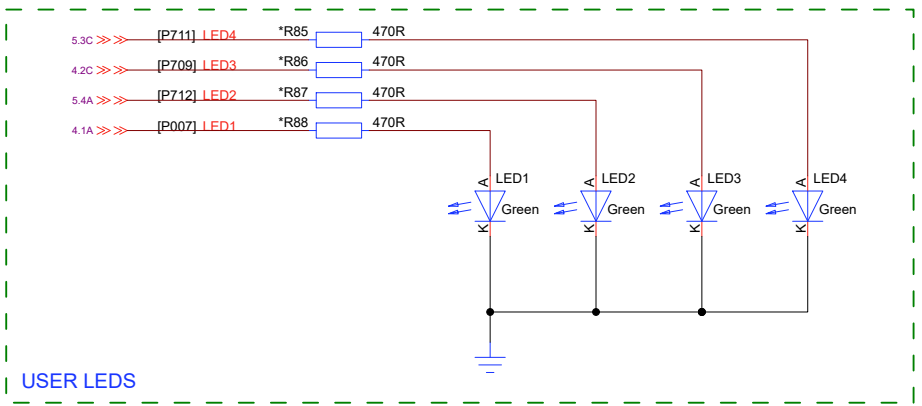
POWER ON LED



5V TO 1V8 Digital




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2021.12.20	V0.1	First Draft

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