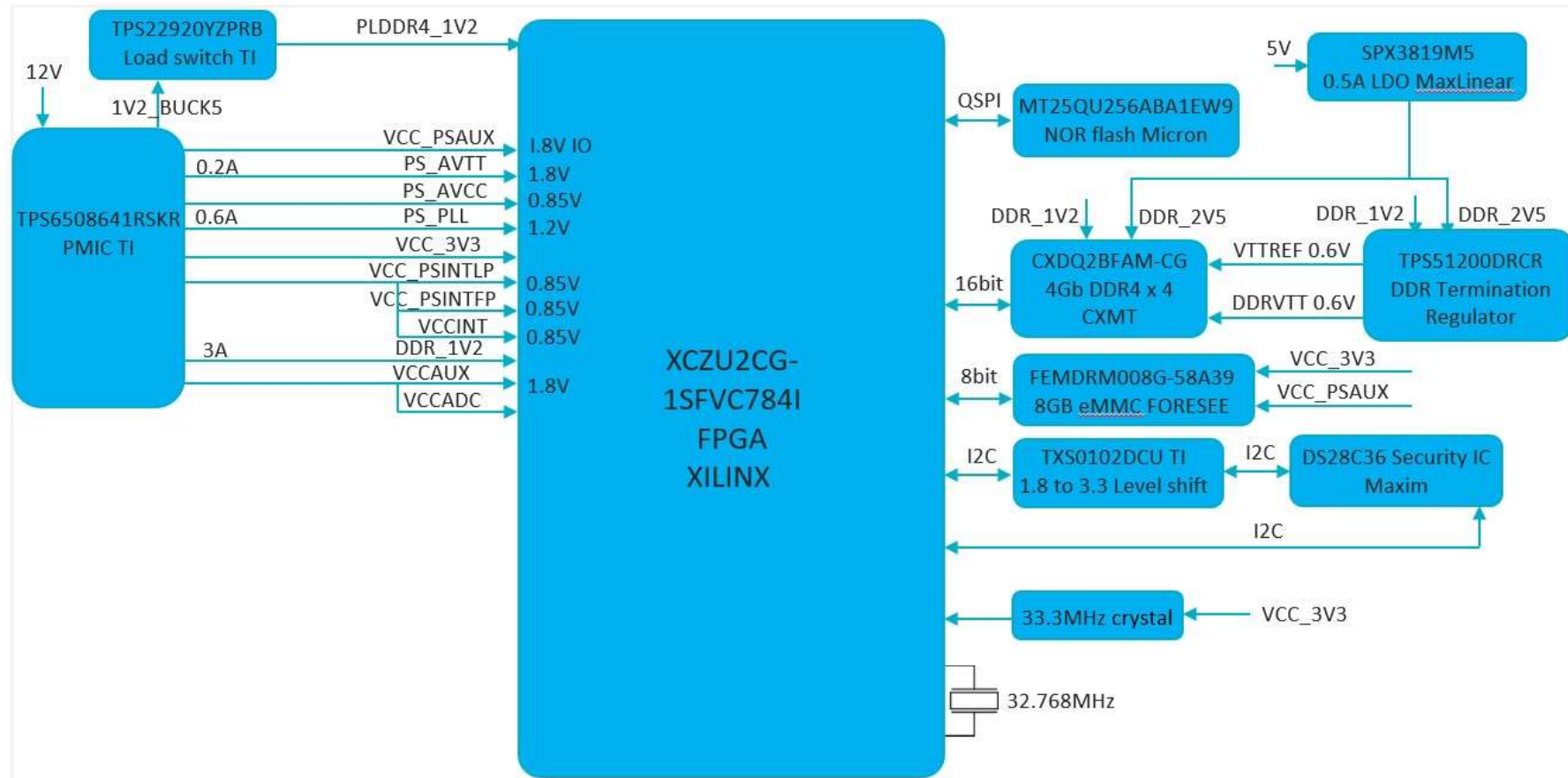


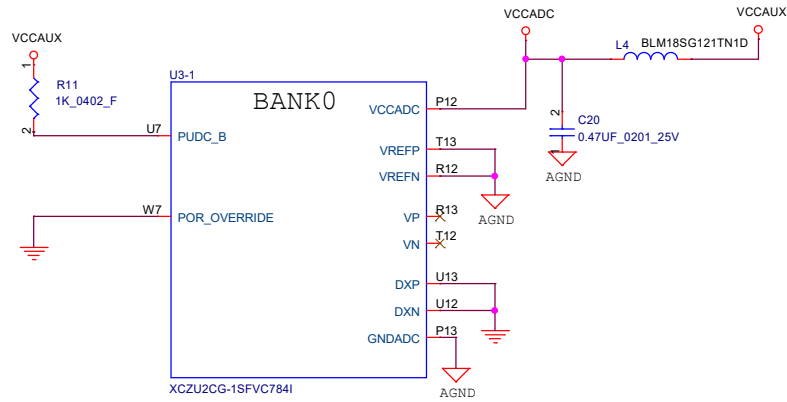
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Title	SCHEMATIC, M/B GA-641 (Block Diagram)		
Size	Document Number	601K39	Rev
A3			B1
Date:	Friday, March 01, 2024	Sheet	3 of 17

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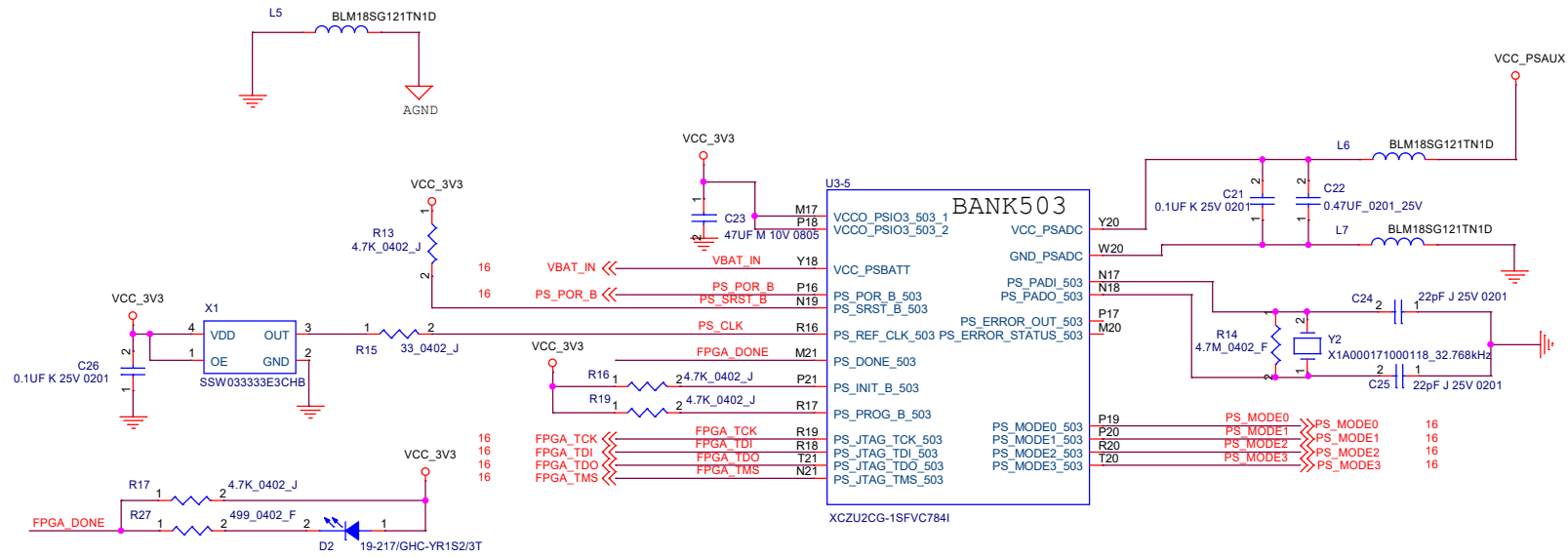


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Title	SCHEMATIC, M/B GA-641 (Power Tree)		
Size	Document Number	601K39	Rev
A3			BI
Date:	Friday, March 01, 2024	Sheet	4 of 17



MODE[3:0]	BOOT MODE	Description
0000	PS JTAG	PS JTAG Interface
0001	Quad SPI (24b)	24-Bit addressing (QSPI24)
0010	Quad SPI (32b)	32-Bit addressing (QSPI32)
0011	SD0 (2.0)	SD2.0
0100	NAND	Requires 8-bit data bus width
0101	SD1 (2.0)	SD2.0
0110	eMMC (1.8V)	eMMC version 4.5 at 1.8V
0111	USB0 (2.0)	USB 2.0 only
1000	PJTAG (MIO #0)	PJTAG connection 0 option
1001	PJTAG (MIO #1)	PJTAG connection 1 option
1110	SD1 LS (3.0)	SD 3.0



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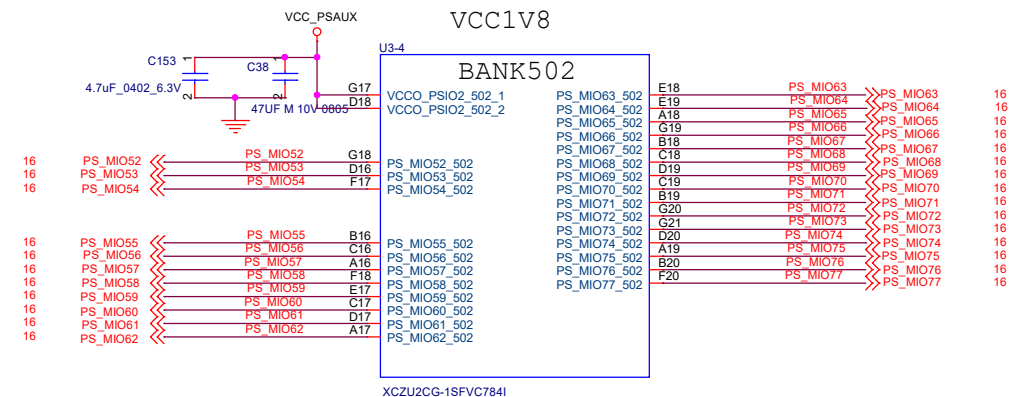
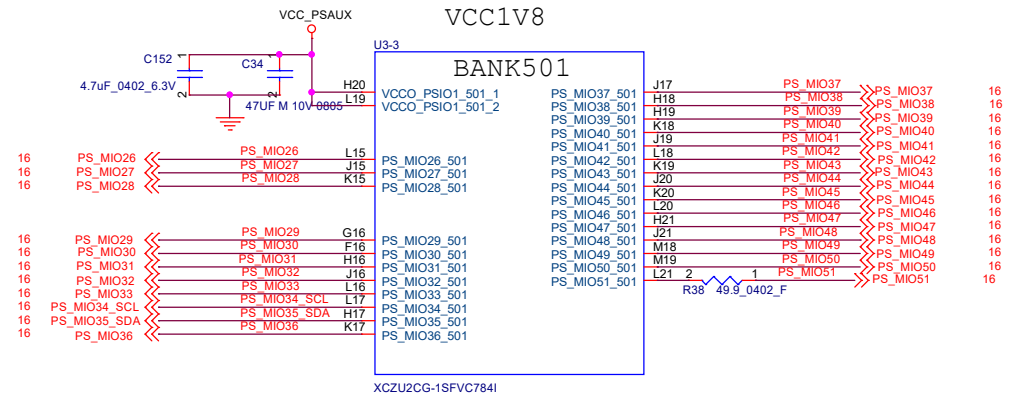
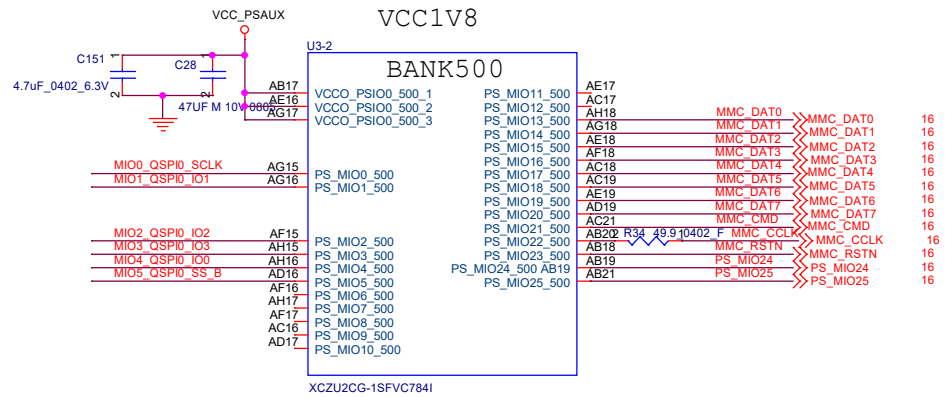
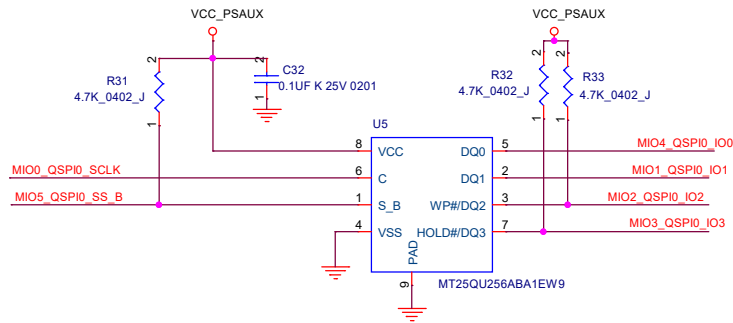
SCHEMATIC, M/B GA-641 (DBB-2)

Document Number: **601K99**

DATE: Friday, March 01, 2024

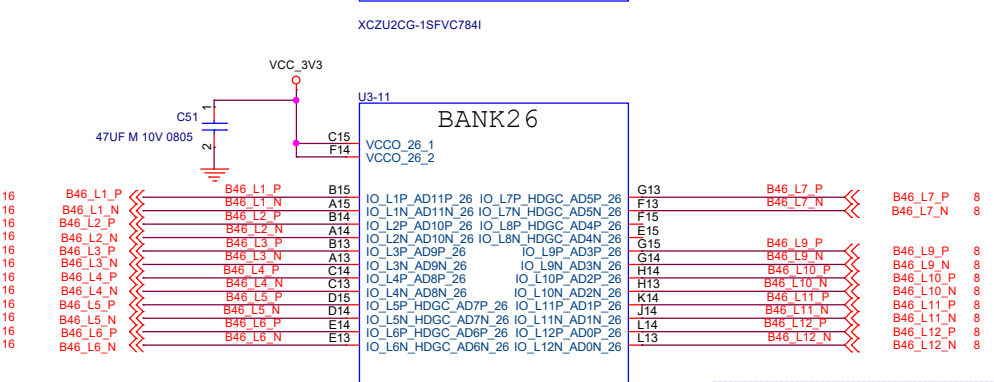
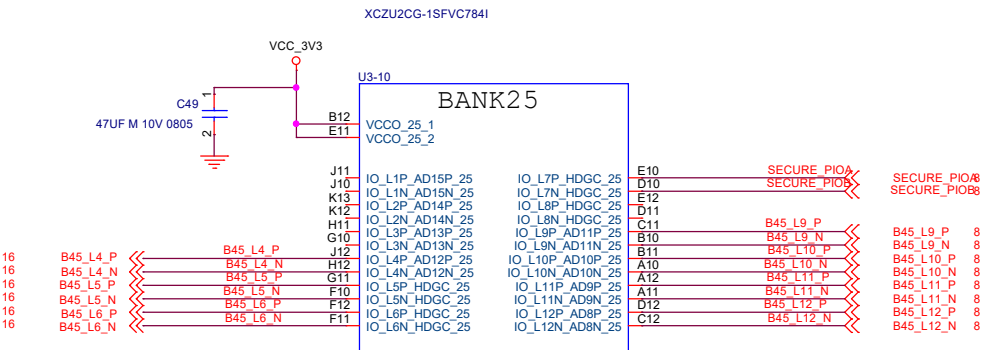
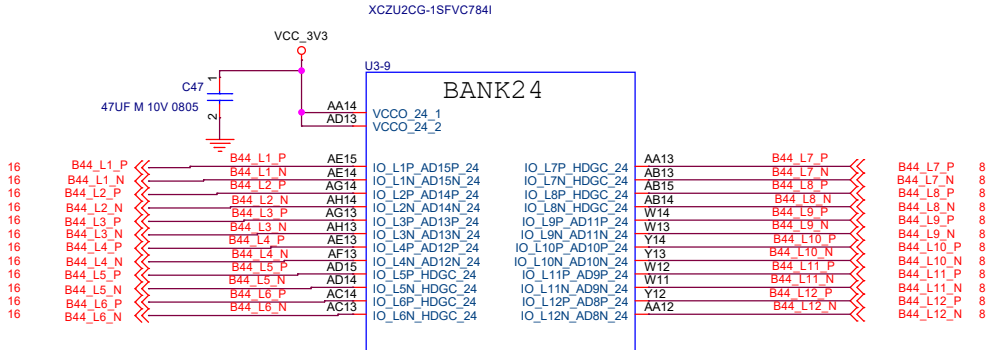
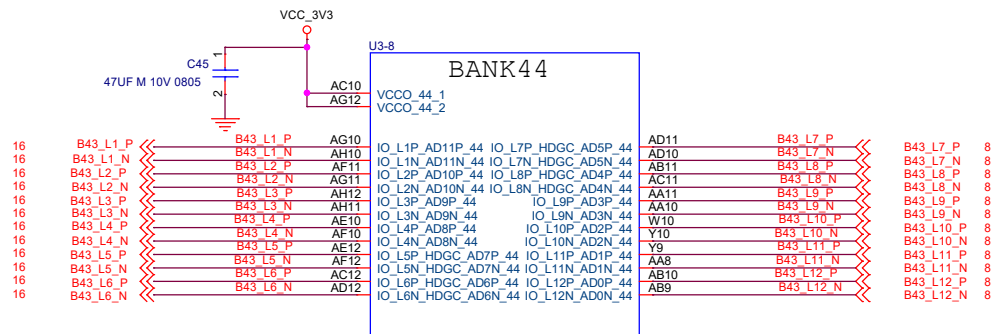
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Size A3	Document Number 601K39	Rev BI
Date: Friday, March 01, 2024	Sheet 6	of 17



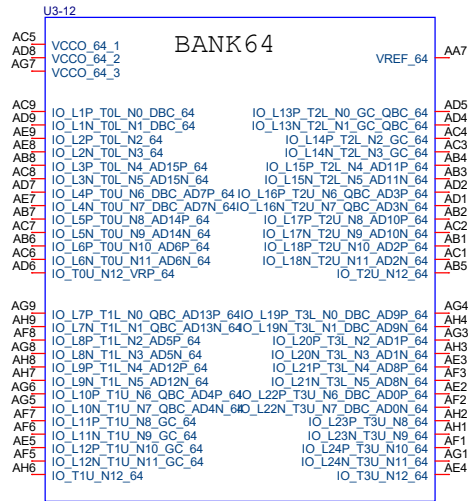
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Title: SCHEMATIC, M/B GA-641 (DBB-3)

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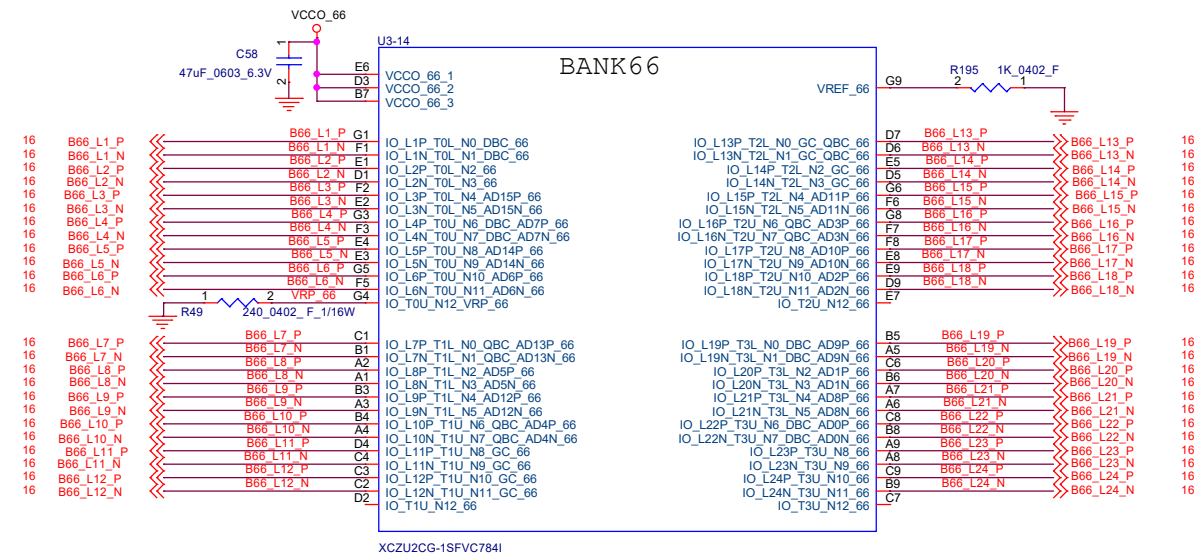
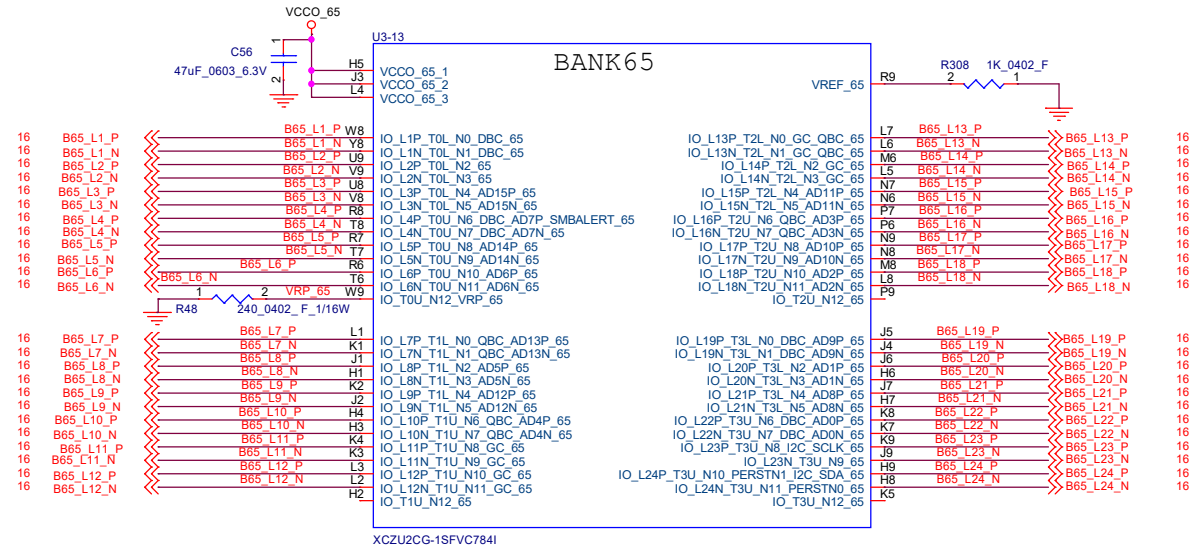
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Size	Document Number	601K39	Rev
A3			B1
Date:	Friday, March 01, 2024	Sheet	8 of 17



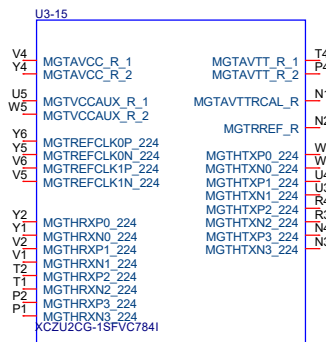
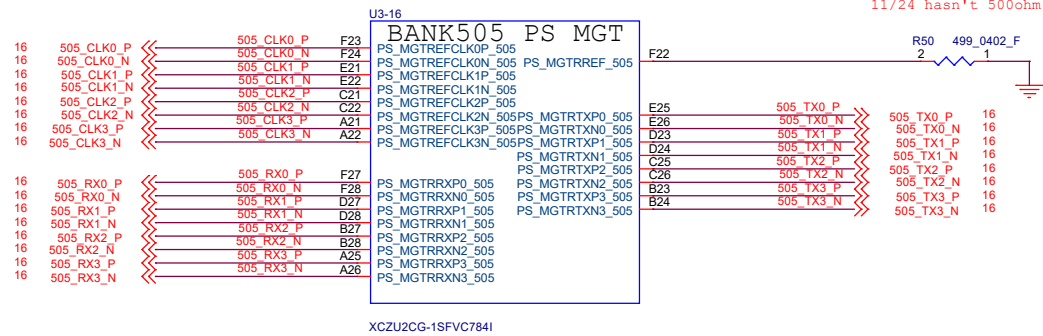
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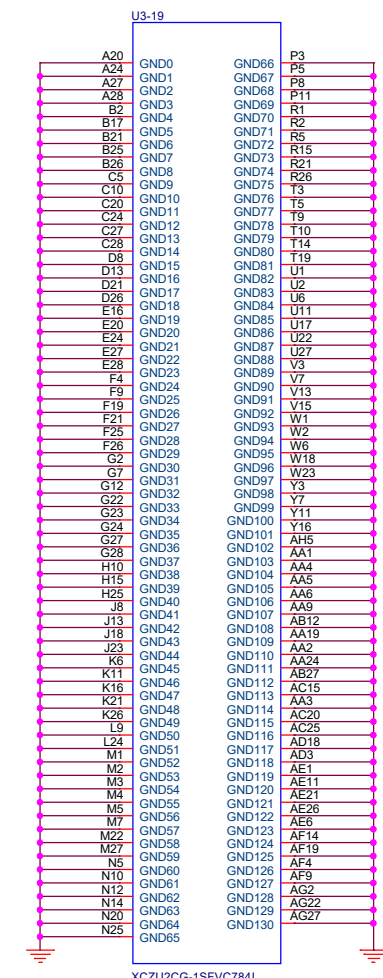
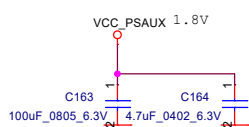
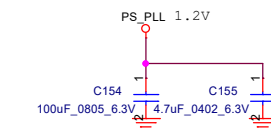
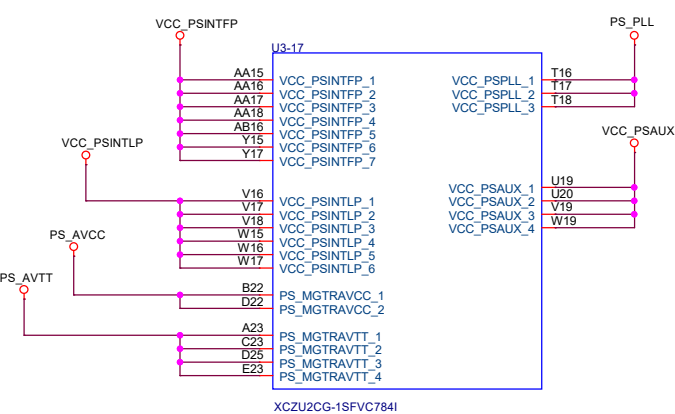
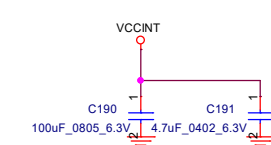
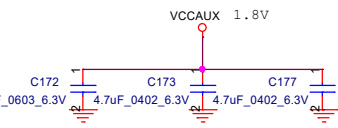
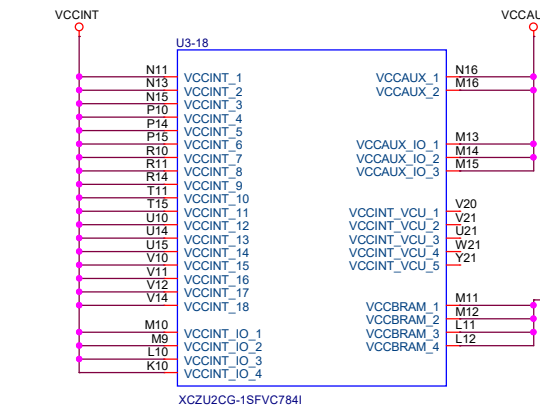
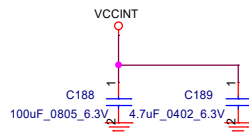
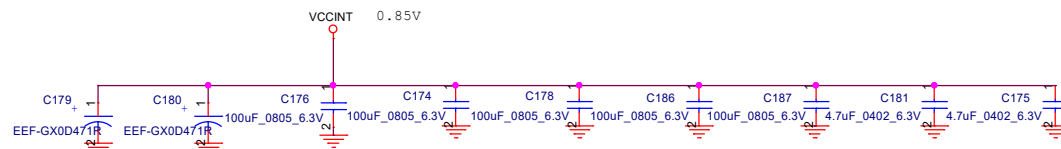
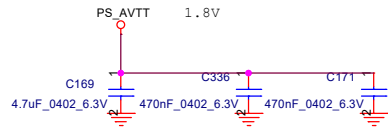
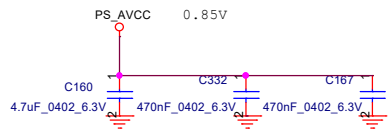
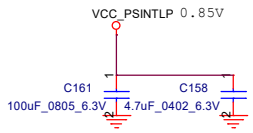
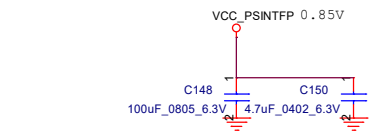
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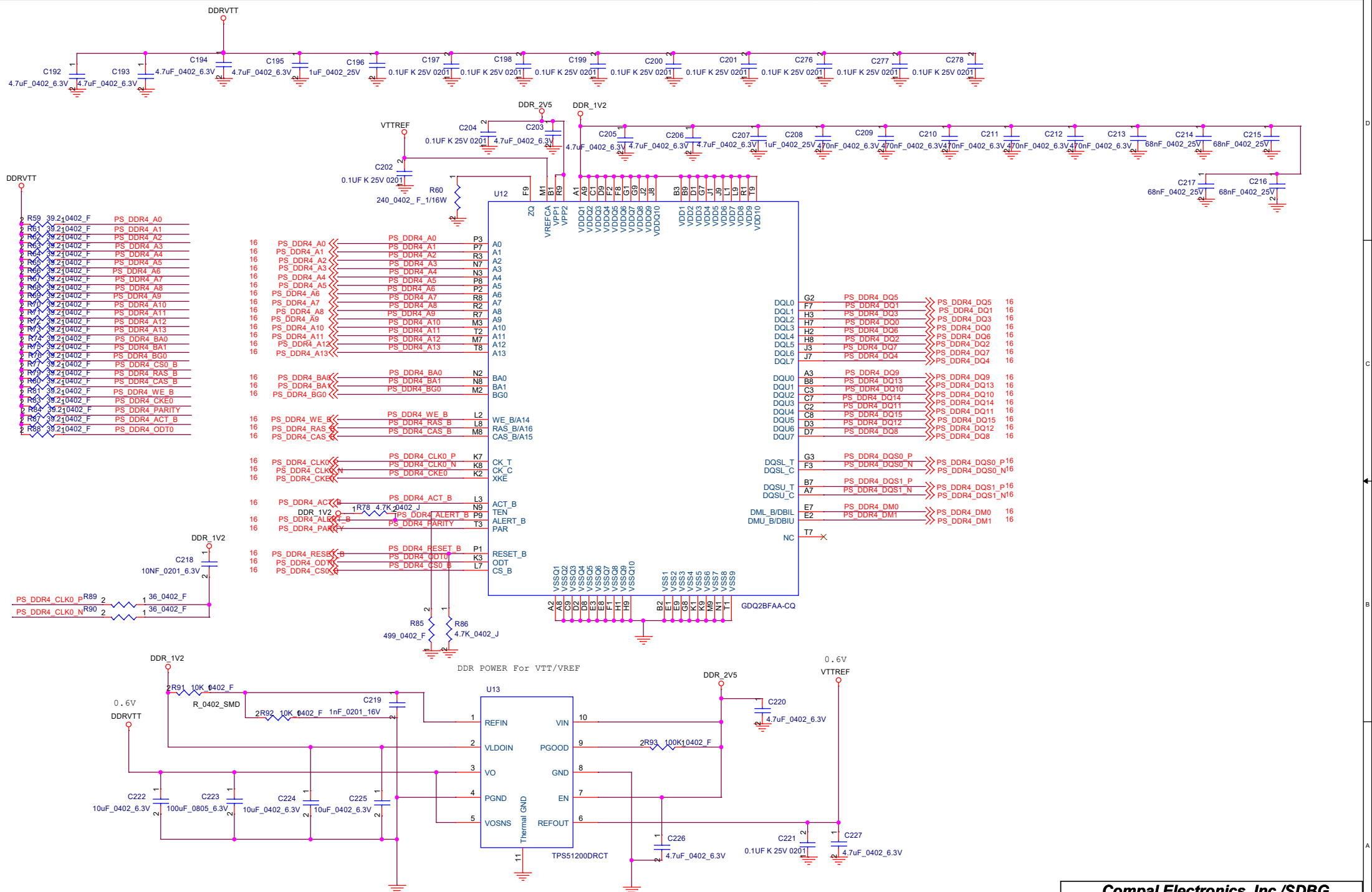
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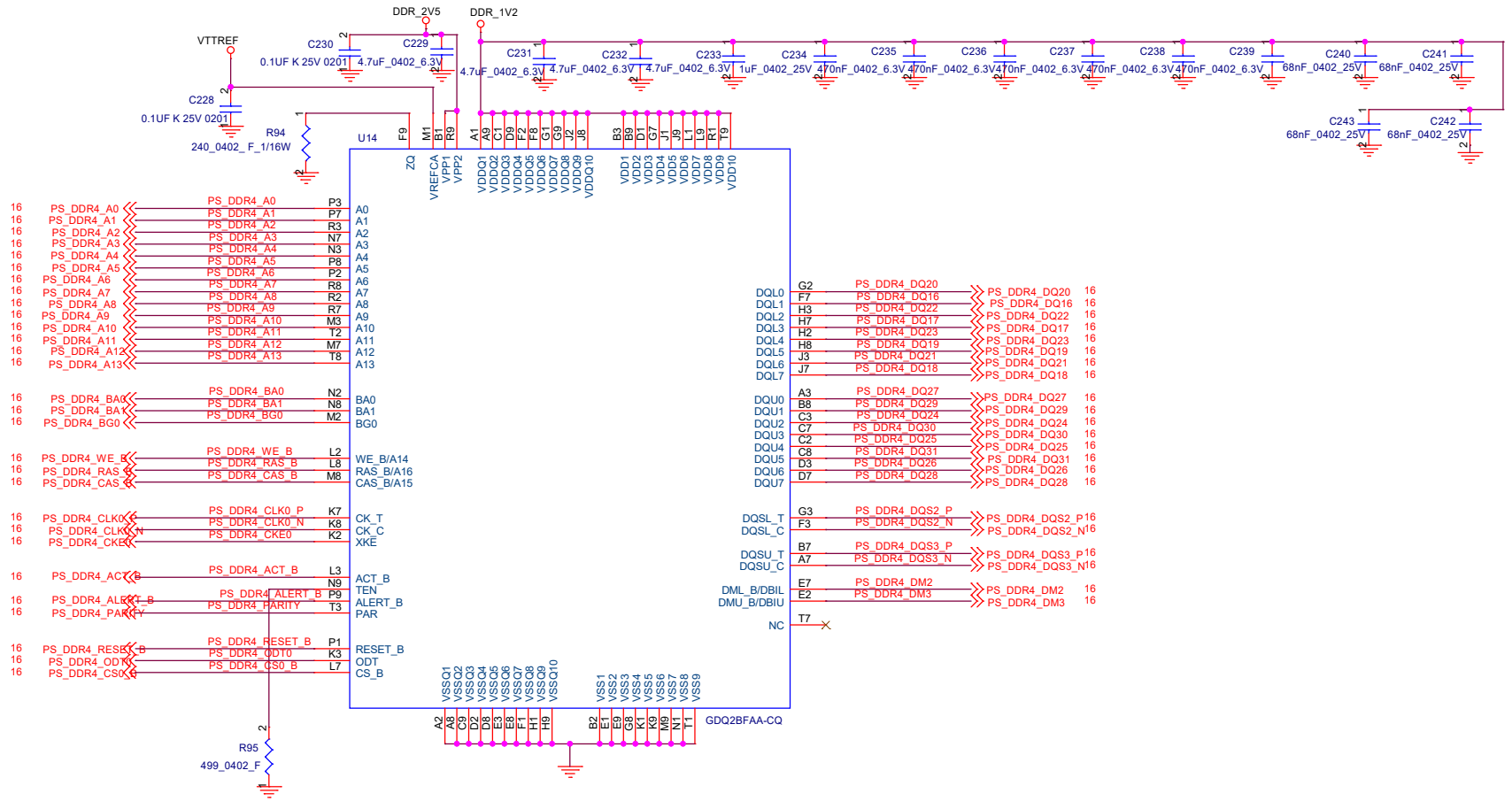
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Size	Document Number	Rev	Bl
A3	601K39		
Date:	Friday, March 01, 2024	Sheet	13 of 17



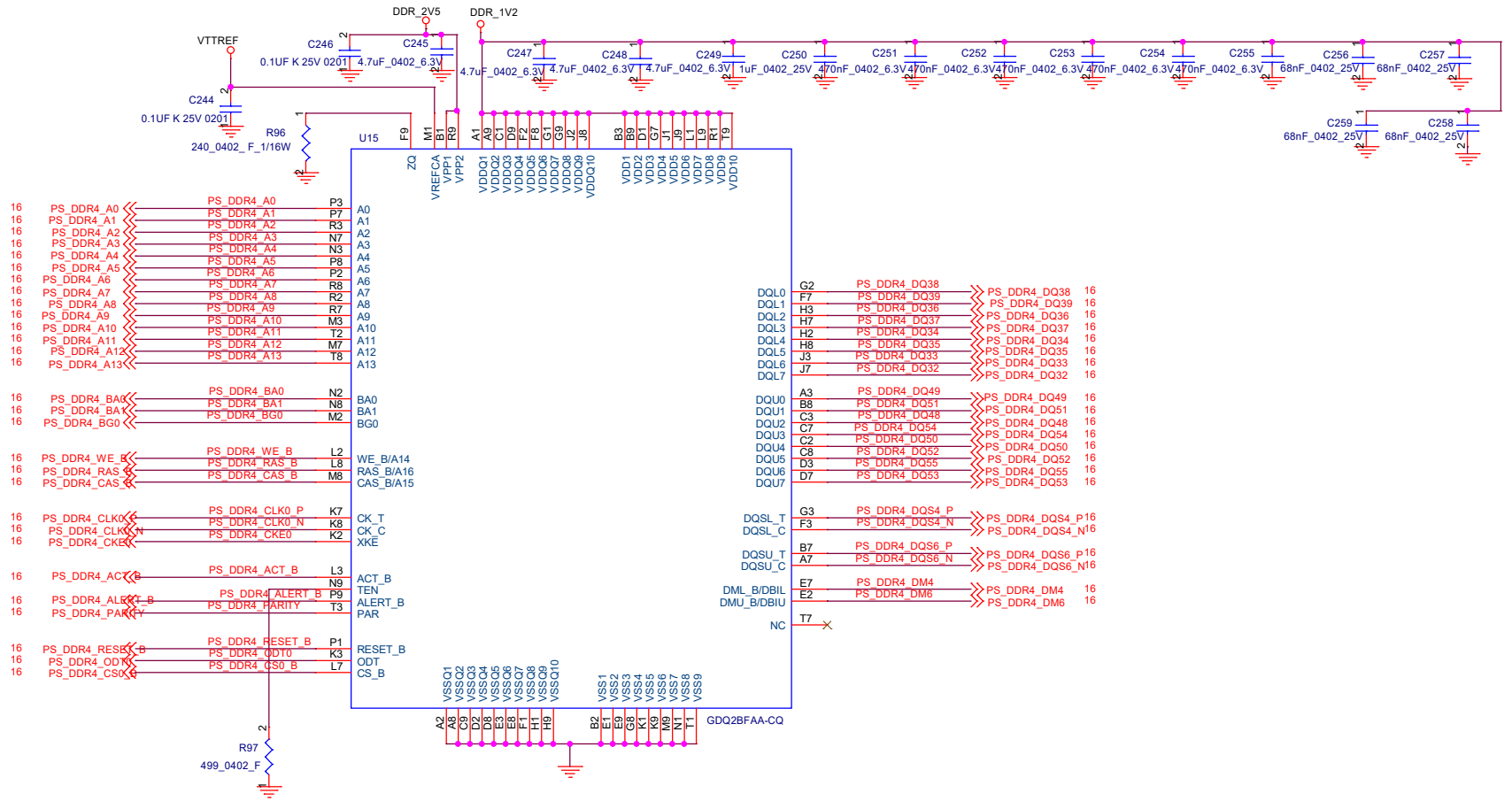
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Title	SCHEMATIC, M/B GA-641 (MFI)		
Size	Document Number	601K39	Rev
A3			B1
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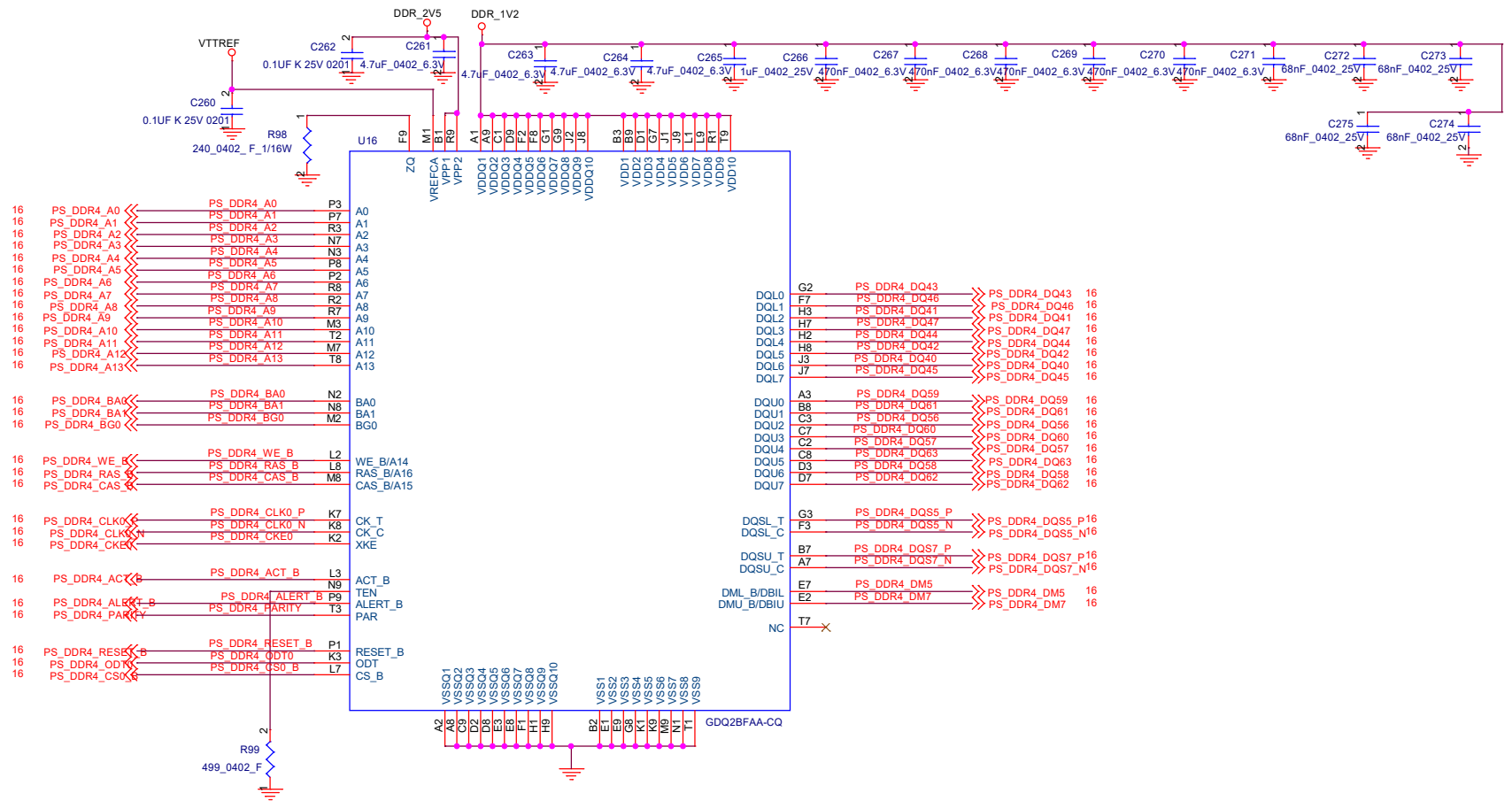
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Size A3	Document Number 601K39	Rev B1	
Date: Friday, March 01, 2024	Sheet 14 of 17		

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Size A3	Document Number 601K39	Rev B1
Date: Friday, March 01, 2024	Sheet 14	of 17

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- 16 PS_DDR4_A2 << PS_DDR4_A2 R3 A2
- 16 PS_DDR4_A3 << PS_DDR4_A3 N7 A3
- 16 PS_DDR4_A4 << PS_DDR4_A4 N3 A4
- 16 PS_DDR4_A5 << PS_DDR4_A5 P8 A5
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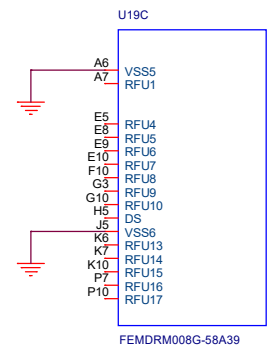
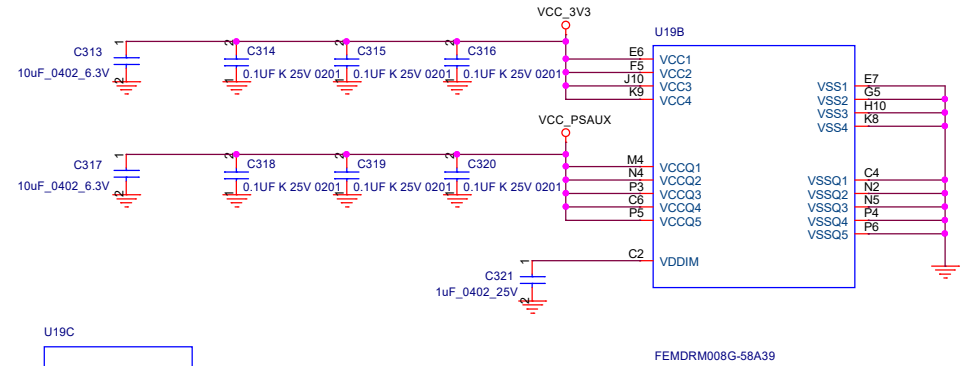
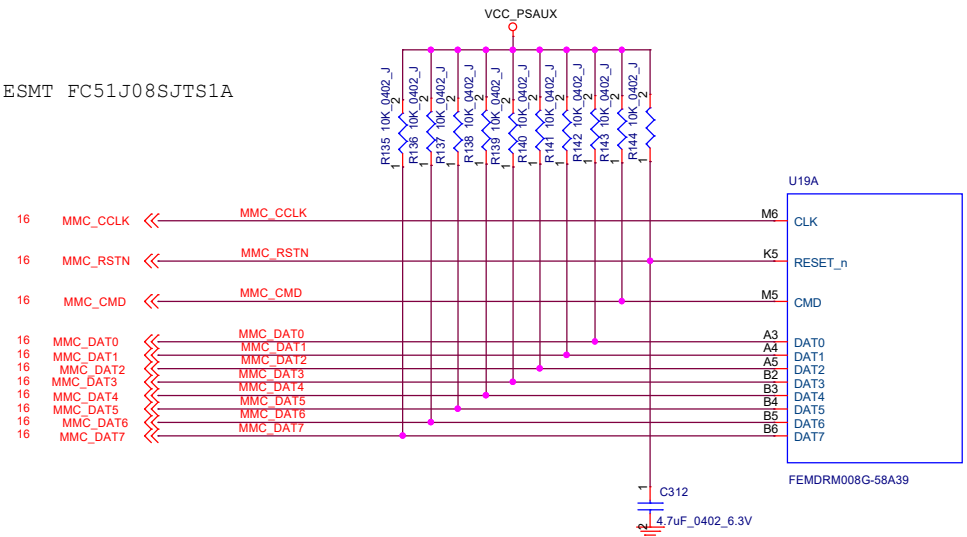
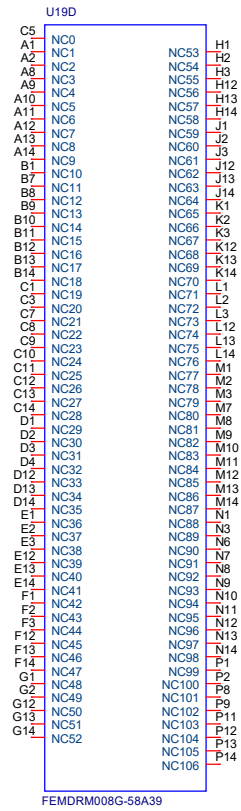
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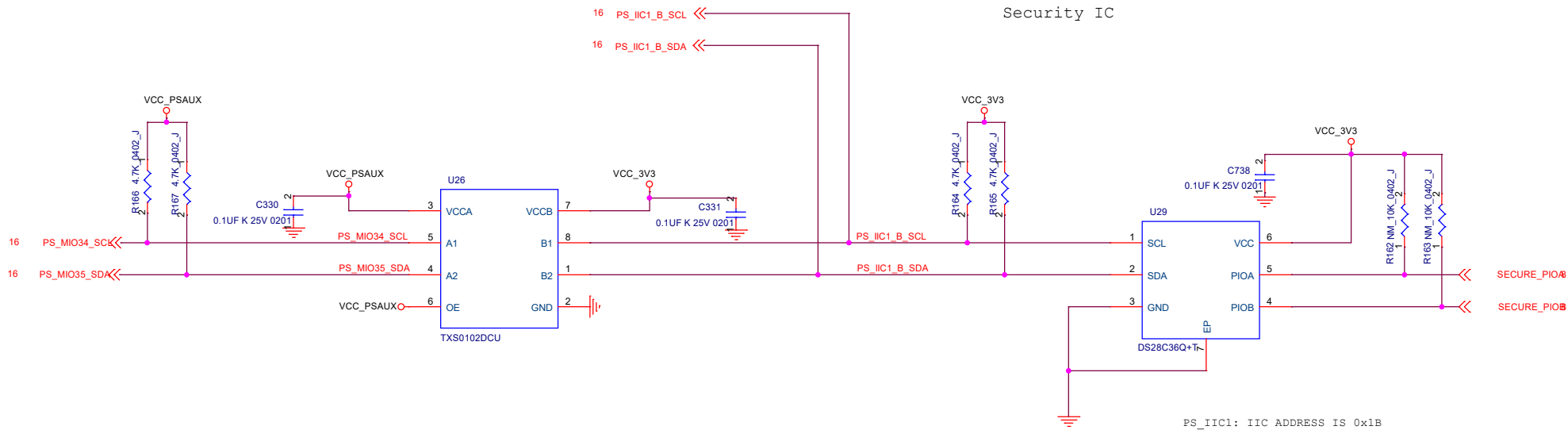
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Size A3	Document Number 601K39	Rev B1	
Date: Friday, March 01, 2024	Sheet 14	of 17	

11/16 reference use FORESEE FEMDRM008G, it's not AVL, PUR syggest ESMT FC51J08SJS1a



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Size	Document Number		Rev
A3	601K39		B1
Date:	Friday, March 01, 2024	Sheet	14 of 17

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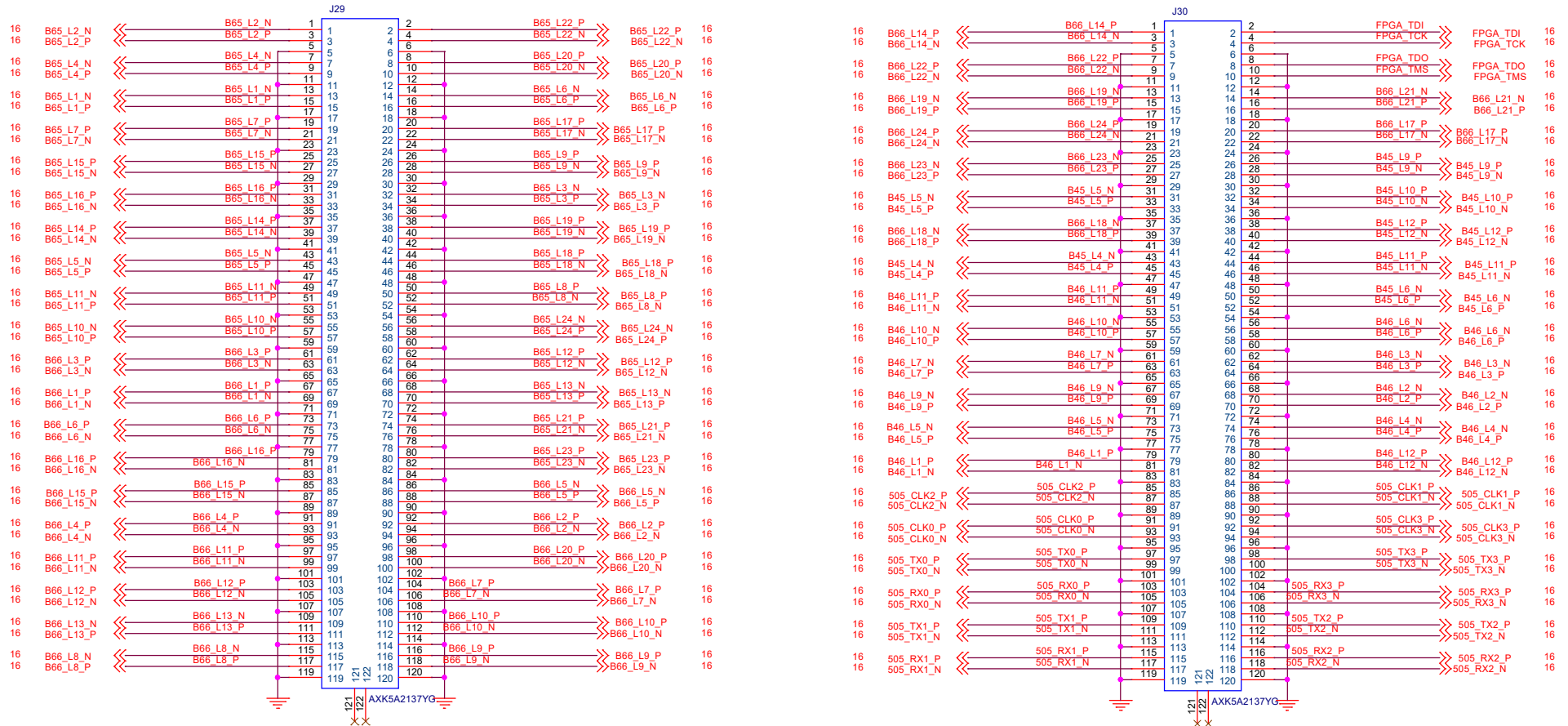
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Title			
SCHEMATIC, M/B GA-641 (MFI)			
Size	Document Number	Rev	
A3	601K39	B1	
Date:	Friday, March 01, 2024	Sheet	14 of 17

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BANK45, BANK46 IO Voltage is +3.3V Standard

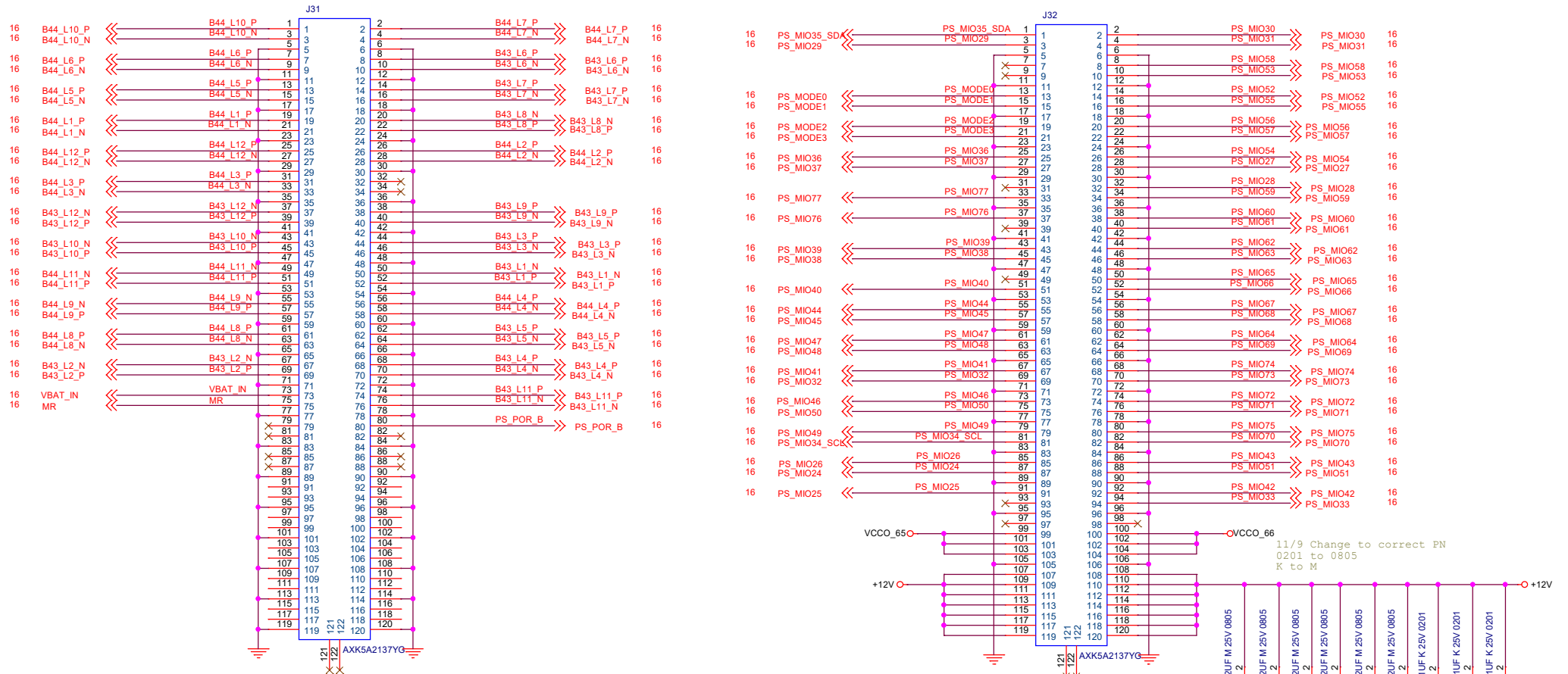


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Date:	Friday, March 01, 2024	Sheet	14 of 17

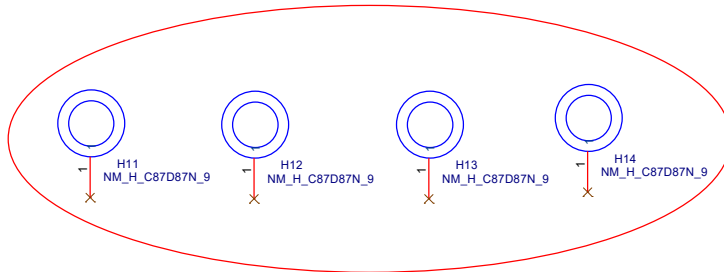
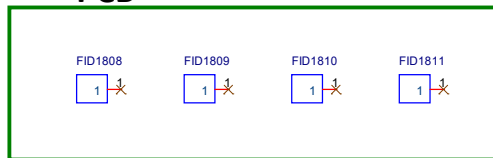
BANK43, BANK44 IO Voltage is +3.3V Standard

The MIO Voltage is +1.8V Standard



ORIENTATION HOLE

PCB



VCCO_65 VCCO_66 Power supply can not exceed 1.8V

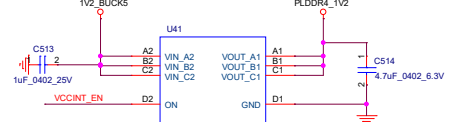
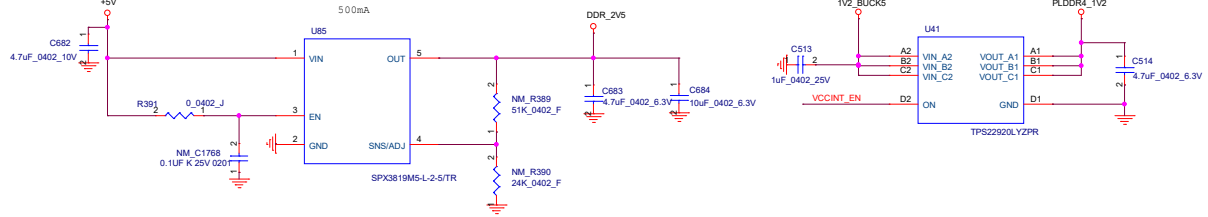
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Title SCHEMATIC, M/B GA-641 (MFI)			
Size A3	Document Number 601K39	Rev B1	
Date: Friday, March 01, 2024	Sheet 14	of 17	

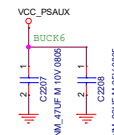
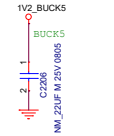
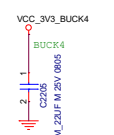
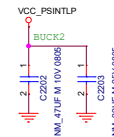
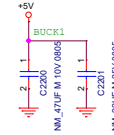
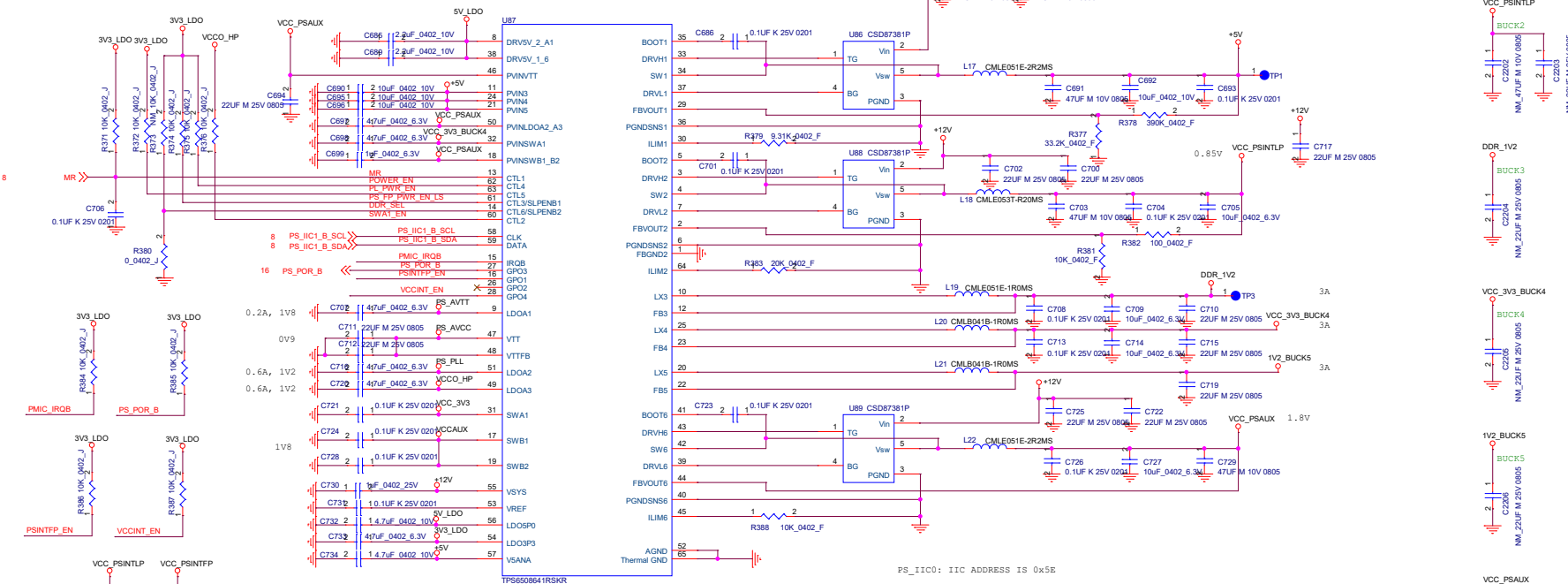
UBS select

	R389	R390	R391	C1768
RT9080N-08GJ5	51K	24K	10K	0.1uF
SPX3819M5-L-2-5	NM	NM	0	NM

11/24 原本是SPX3819M5-L-2-5不是我們AVL, PUR建議用RT9080N-08GJ5 performance差不多且pin to pin



GPO1-----BUCK1_2_PG
 GPO4-----BUCK4_PG
 CTL2-----enable and disable SWA1
 CTL4-----enable BUCK1
 CTL3-----PS_PP_PWR_EN_LS
 CTL5-----PL_PWR_B



- PS_AVTT0 1 TP5
- VCC_3V30 1 TP6
- PS_AVCC0 1 TP10
- DDR_2V5D 1 TP11

PS_IIC0: IIC ADDRESS IS 0x5E

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