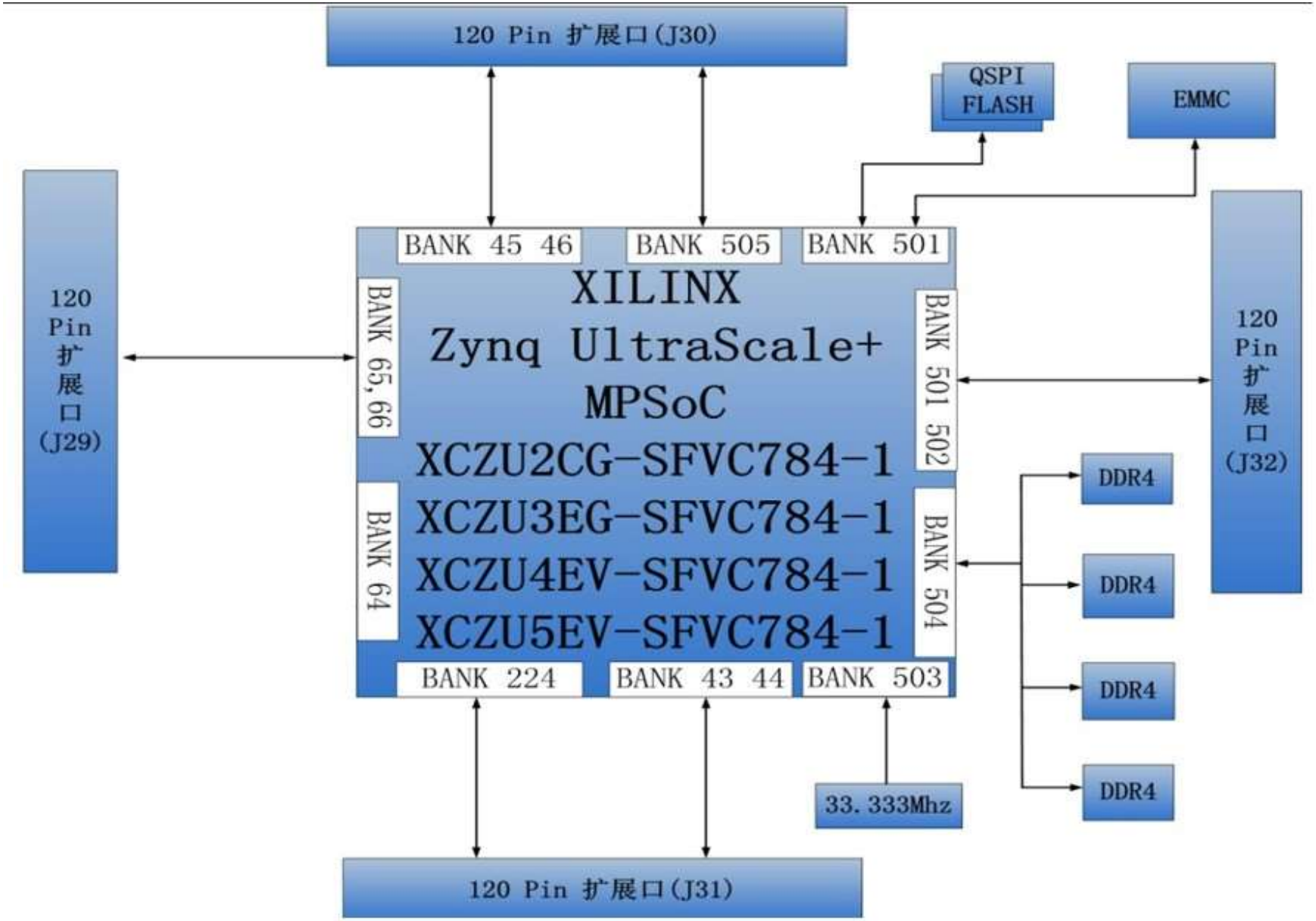
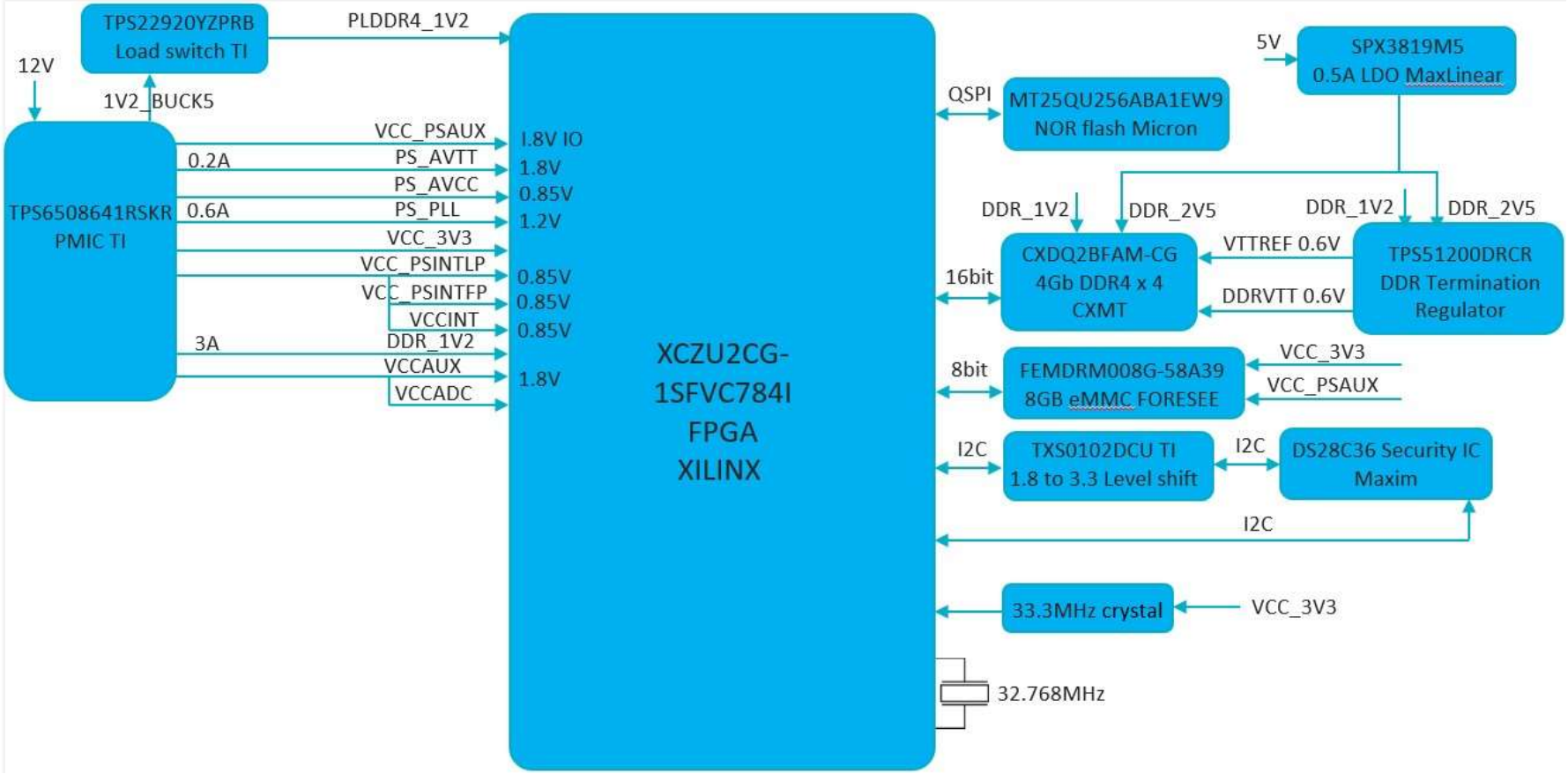
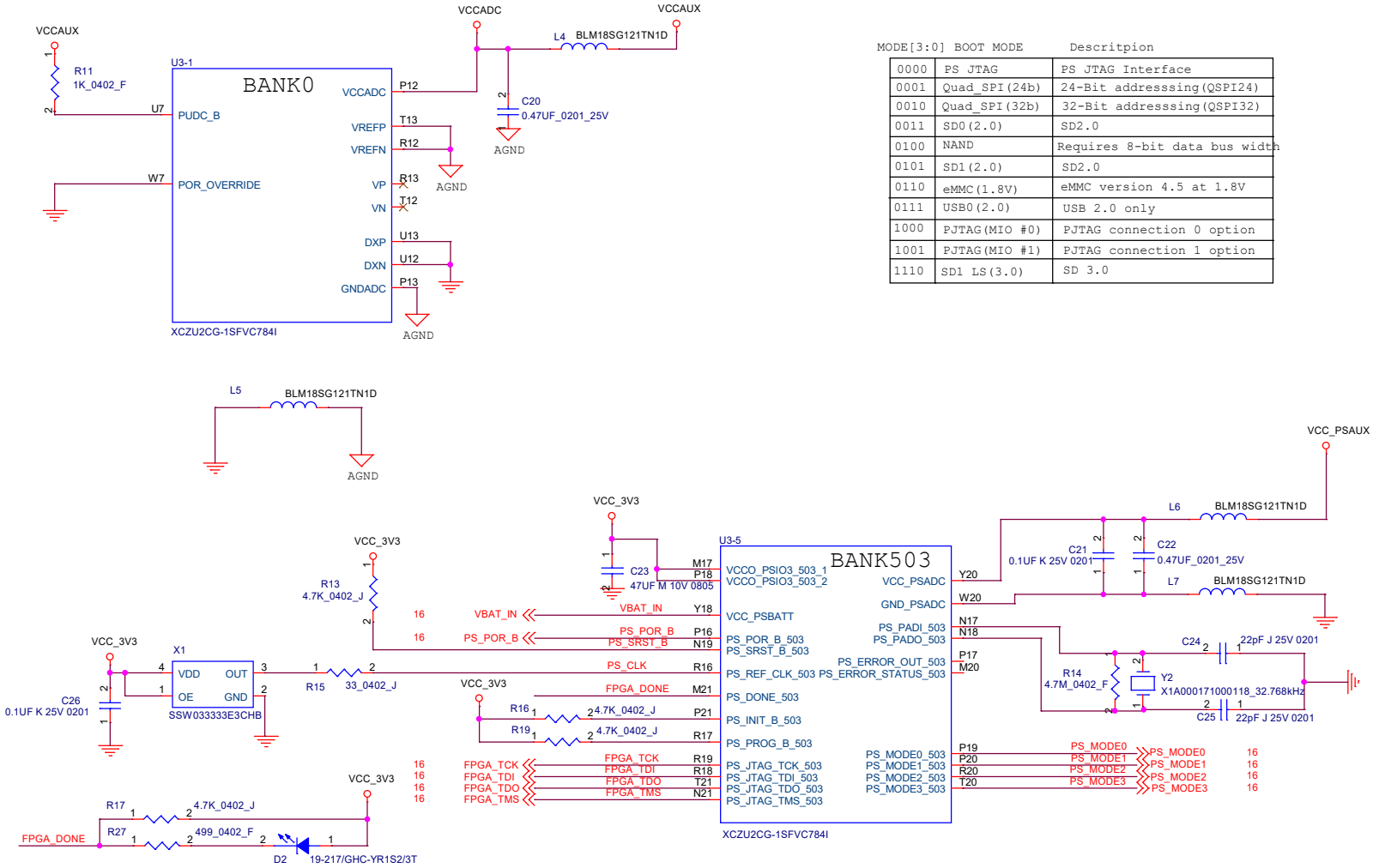


Compal Electronics, Inc./SDBG	
Title	SCHEMATIC, M/B GA-641 (Block Diagram)
Size: A3	Document Number: 601K39
Rev: BI	
Date: Monday, March 04, 2024	Sheet 3 of 17



Compal Electronics, Inc./SDBG

Title	SCHEMATIC, M/B GA-641 (Power Tree)	
Size: A3	Document Number: 601K39	Rev: BI
Date: Monday, March 04, 2024	Sheet 4 of 17	



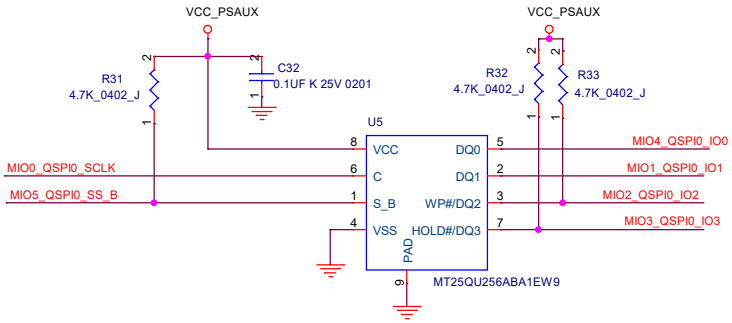
MODE[3:0]	BOOT MODE	Descritpion
0000	PS JTAG	PS JTAG Interface
0001	Quad_SPI(24b)	24-Bit addresssing(QSPI24)
0010	Quad_SPI(32b)	32-Bit addresssing(QSPI32)
0011	SD0(2.0)	SD2.0
0100	NAND	Requires 8-bit data bus width
0101	SD1(2.0)	SD2.0
0110	eMMC(1.8V)	eMMC version 4.5 at 1.8V
0111	USB0(2.0)	USB 2.0 only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

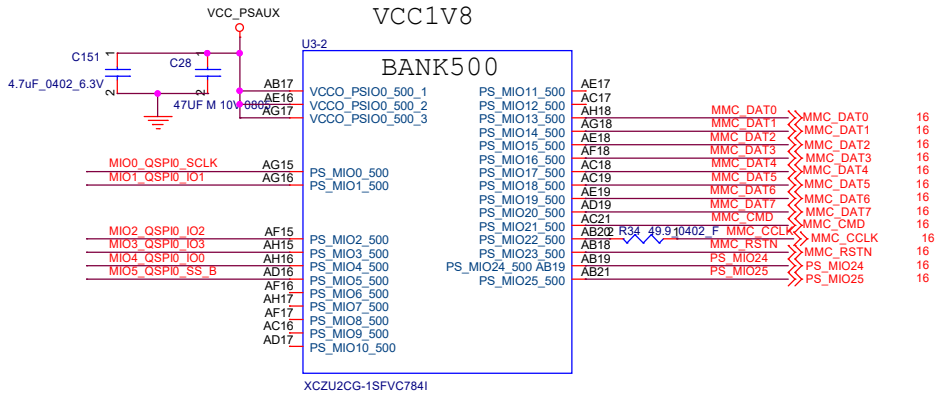
Compal Electronics, Inc./SDBG

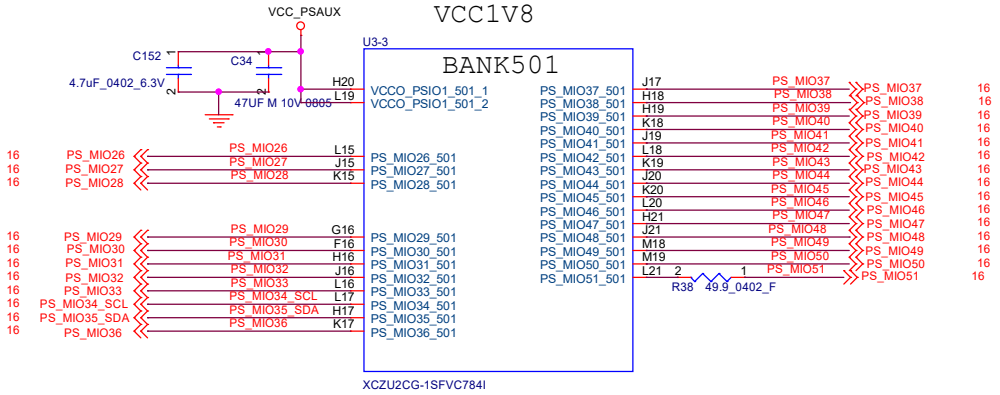
Title: SCHEMATIC, M/B GA-641 (DBB-2)

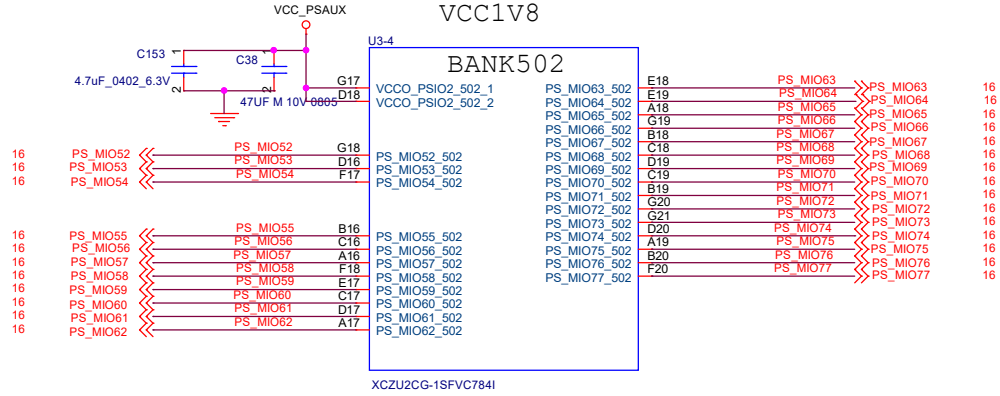
Size: A3 | Document Number: 601K30 | Rev: D1

Date: Monday, March 04, 2024 | Sheet 5 of 17

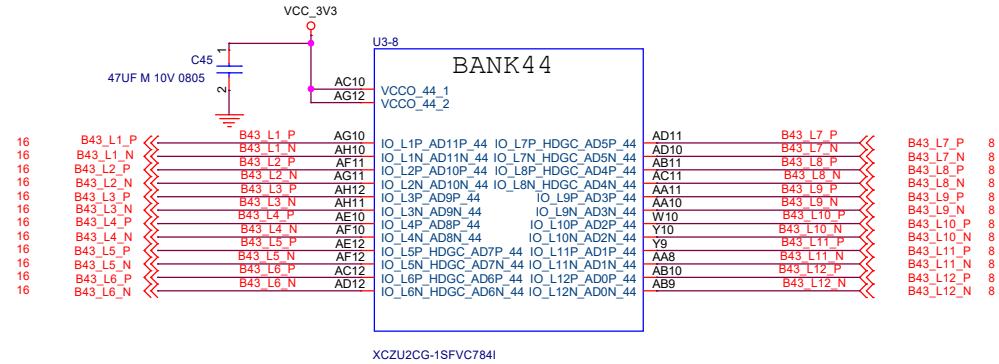


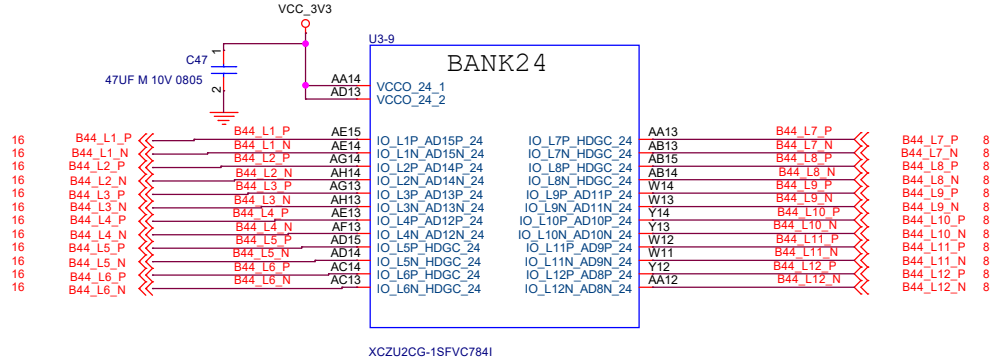


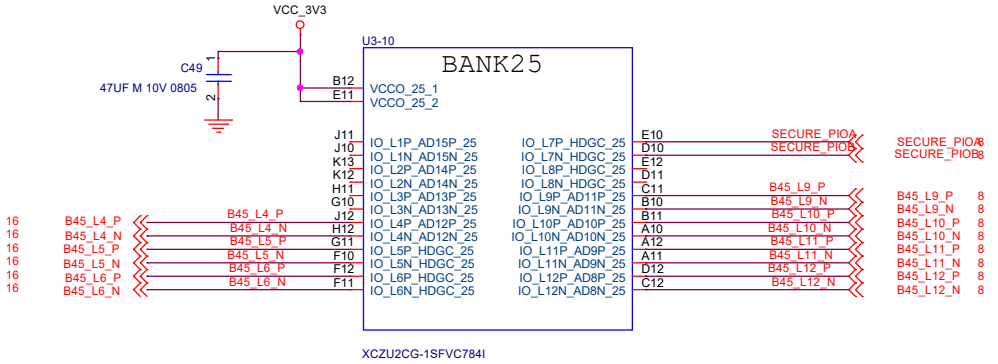


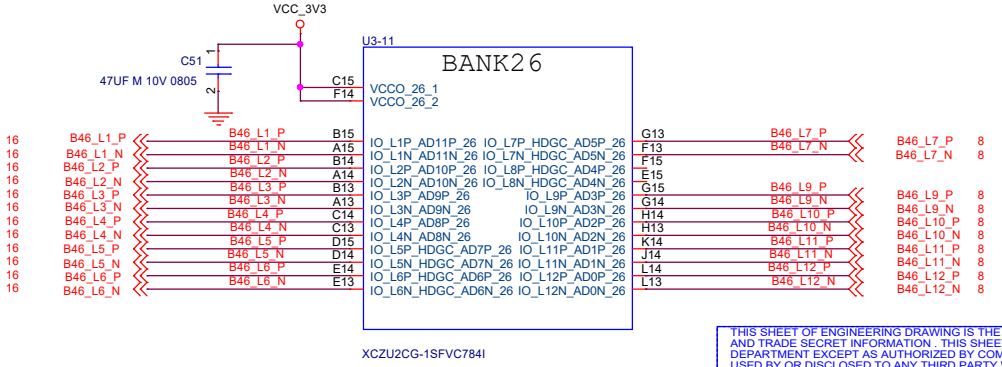


Compal Electronics, Inc./SDBG		
Title	SCHEMATIC, M/B GA-641 (DBB-2)	
Size: A3	Document Number: 601K39	Rev: BI
Date: Monday, March 04, 2024	Sheet 6 of 17	

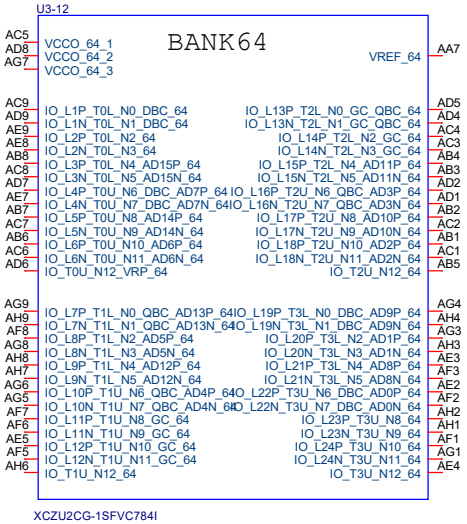




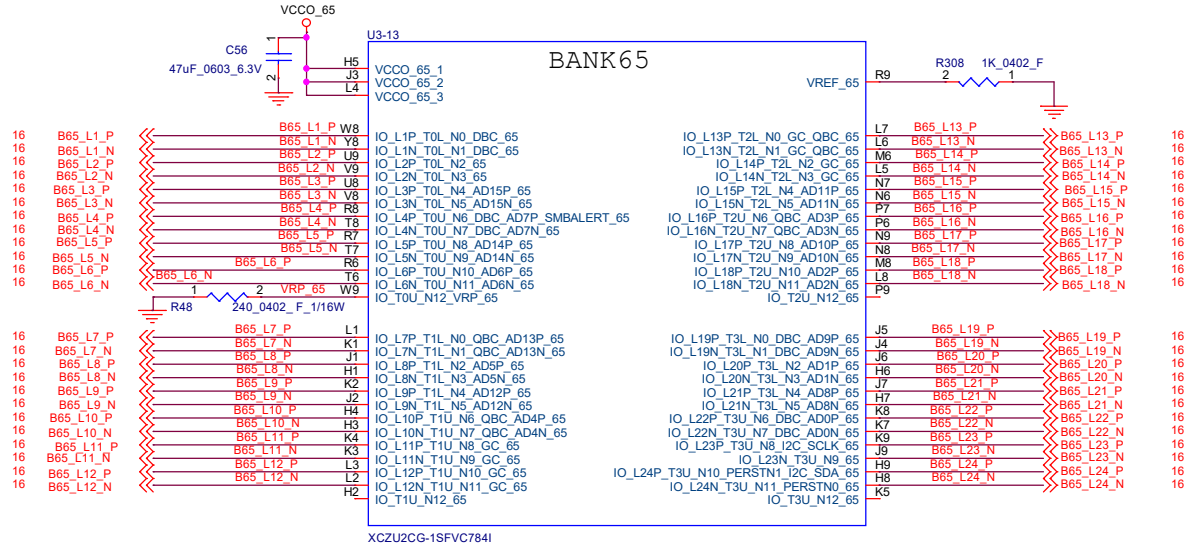


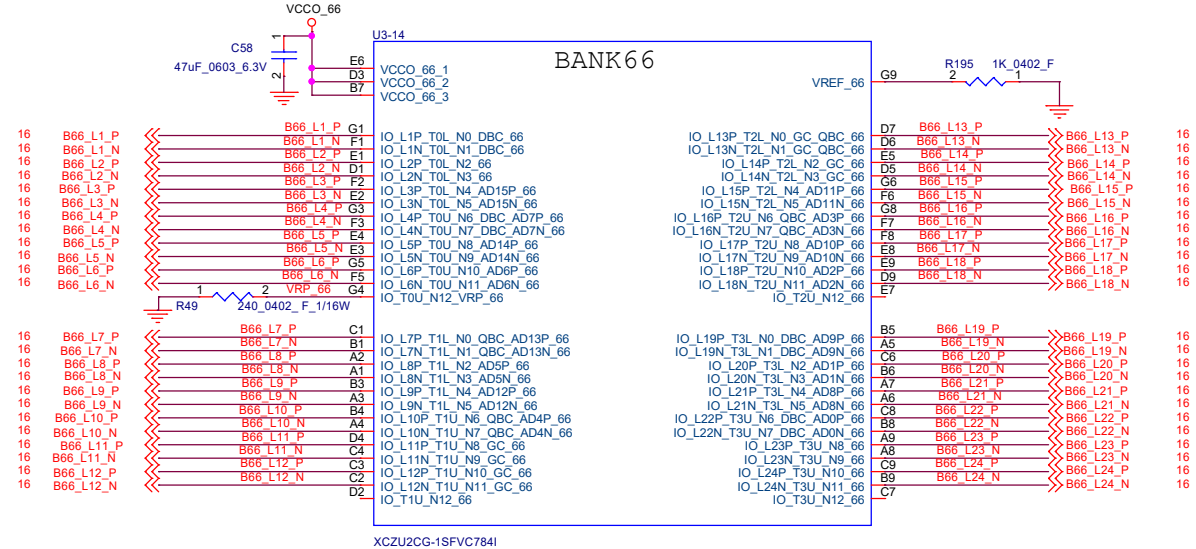


Compal Electronics, Inc./SDBG	
Title	SCHEMATIC, M/B GA-641 (DBB-3)
Size	A3
Document Number	601K39
Rev	BI
Date:	Monday, March 04, 2024
Sheet	7 of 17

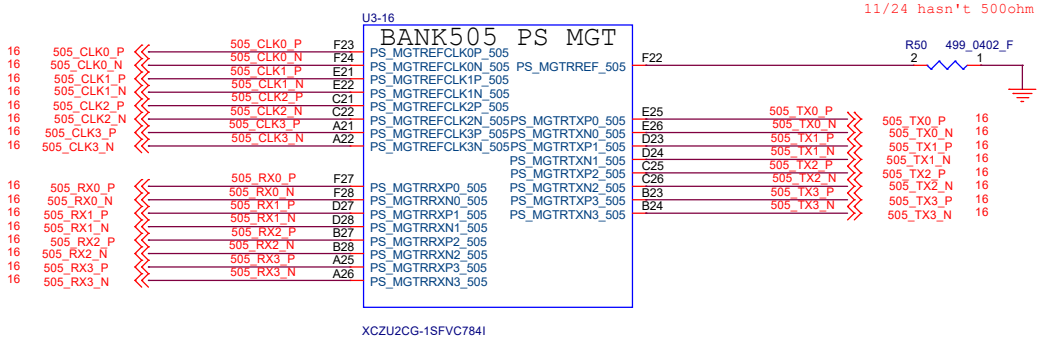


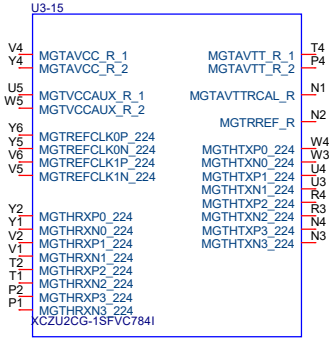
Compal Electronics, Inc./SDBG		
Title	SCHEMATIC, M/B GA-641 (DDR3)	
Size: A3	Document Number: 601K39	Rev: BI
Date: Monday, March 04, 2024	Sheet 8 of 17	





Compal Electronics, Inc./SDBG		
Title: SCHEMATIC, M/B GA-641 (PMIC)		
Size: A3	Document Number: 601K39	Rev: B1
Date: Monday, March 04, 2024	Sheet 9 of 117	



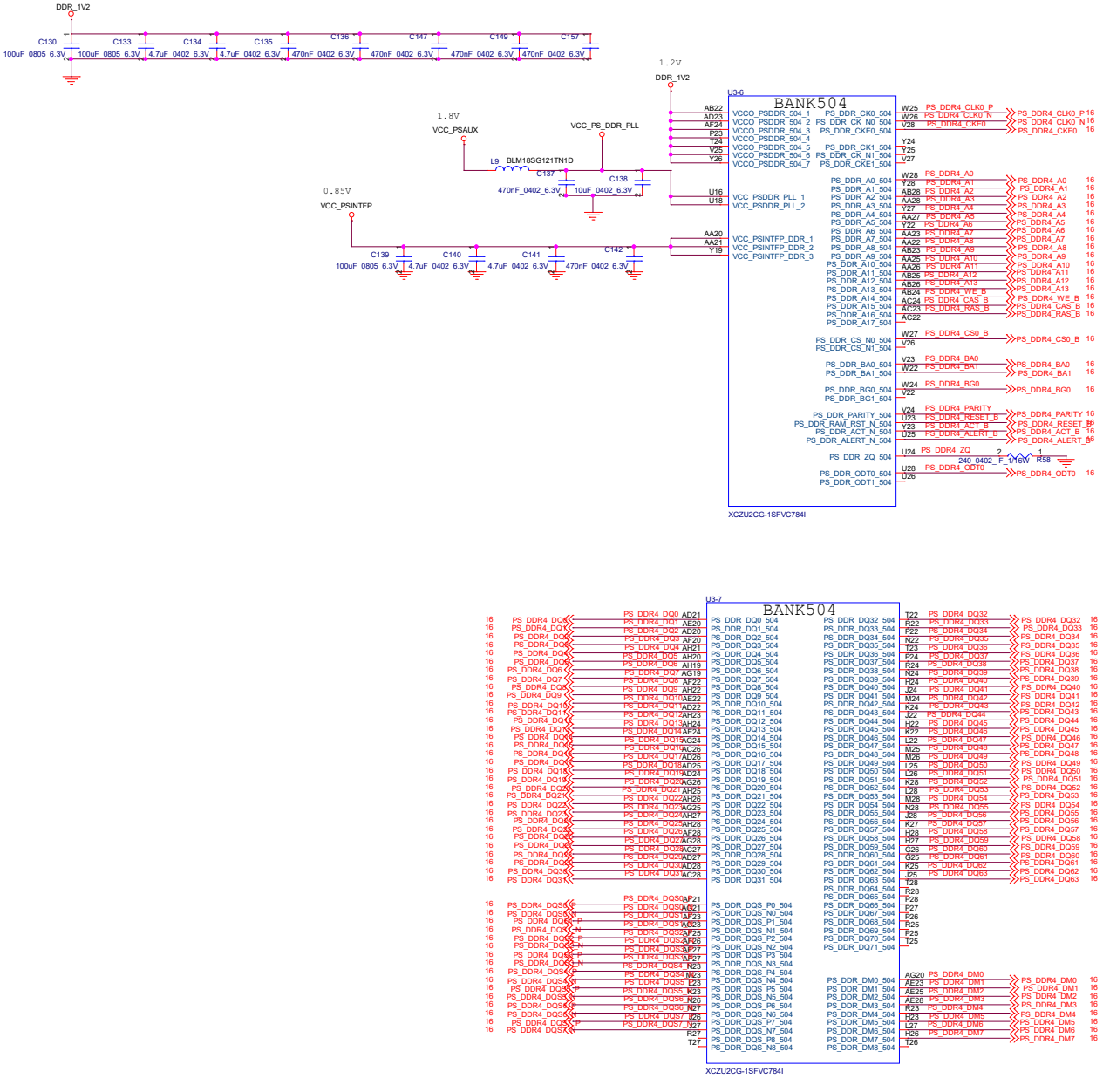


Compal Electronics, Inc./SDBG

Title: SCHEMATIC, M/B GA-641 (MEMORY-1)

Size	Document Number	Rev
A3	601K39	BI

Date: Monday, March 04, 2024 Sheet 10 of 17

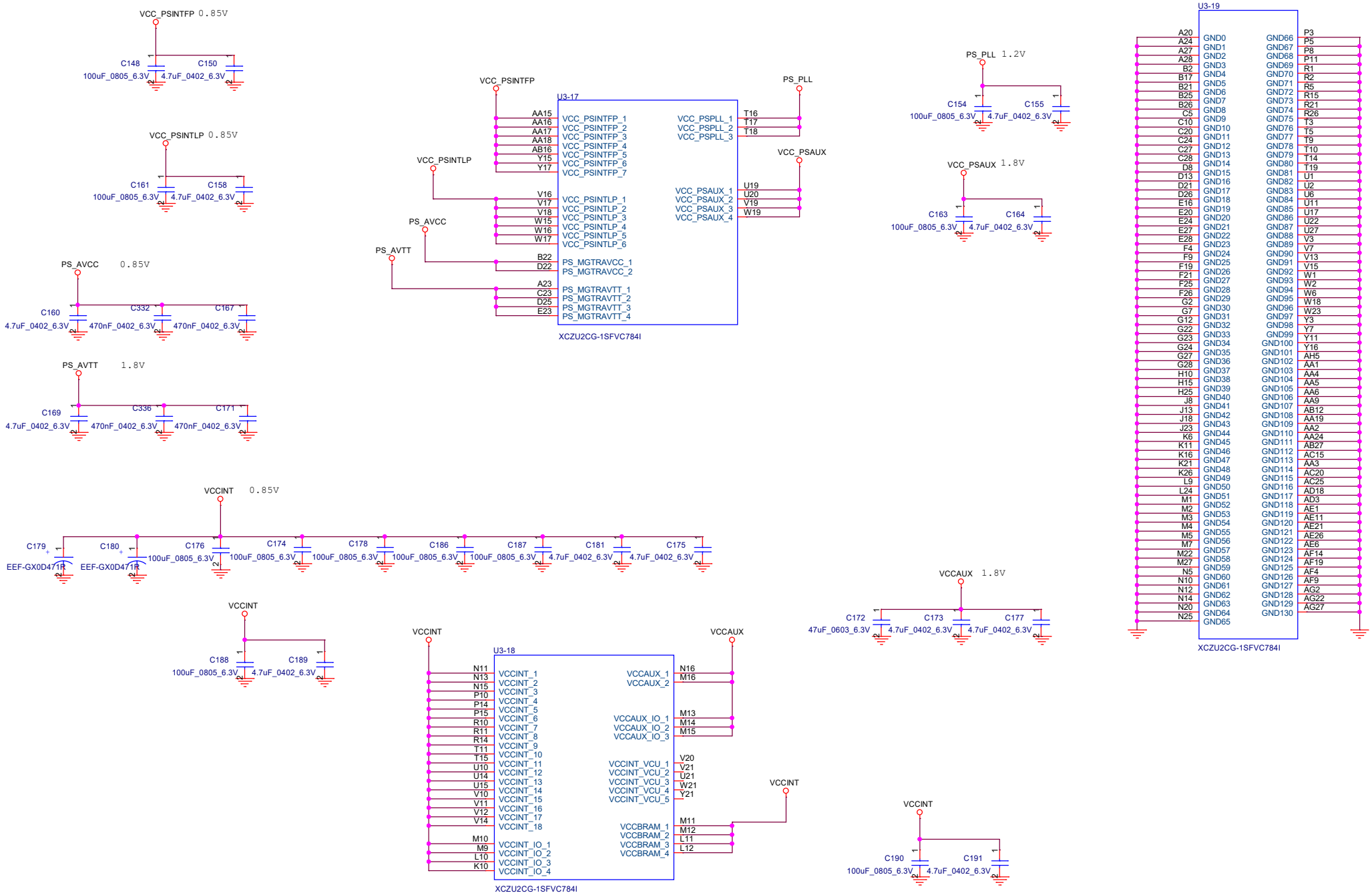


Compal Electronics, Inc./SDBG

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

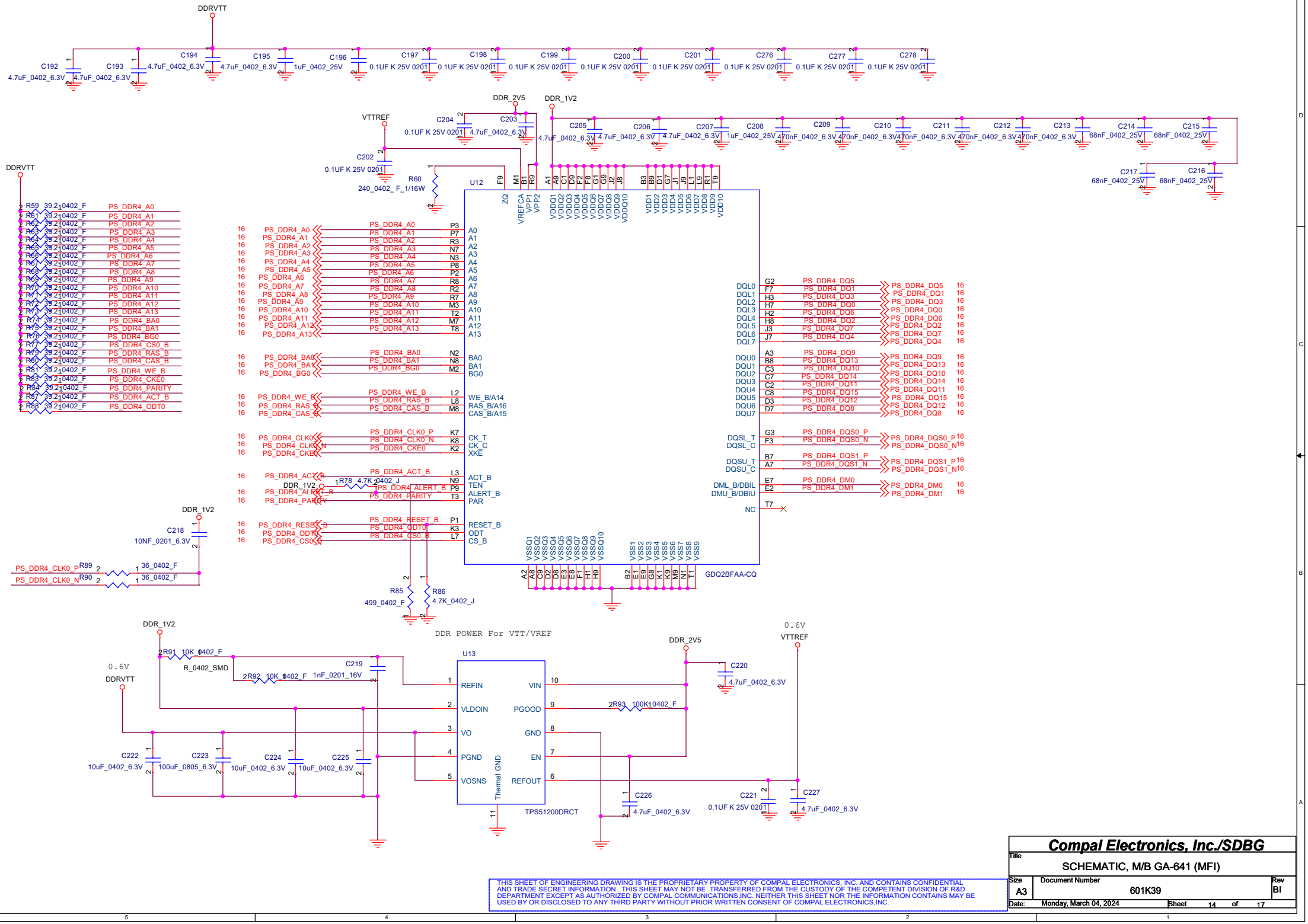
Size	Document Number	Rev
A2	601K39	BI

Date: Monday, March 04, 2024 Sheet 12 of 17



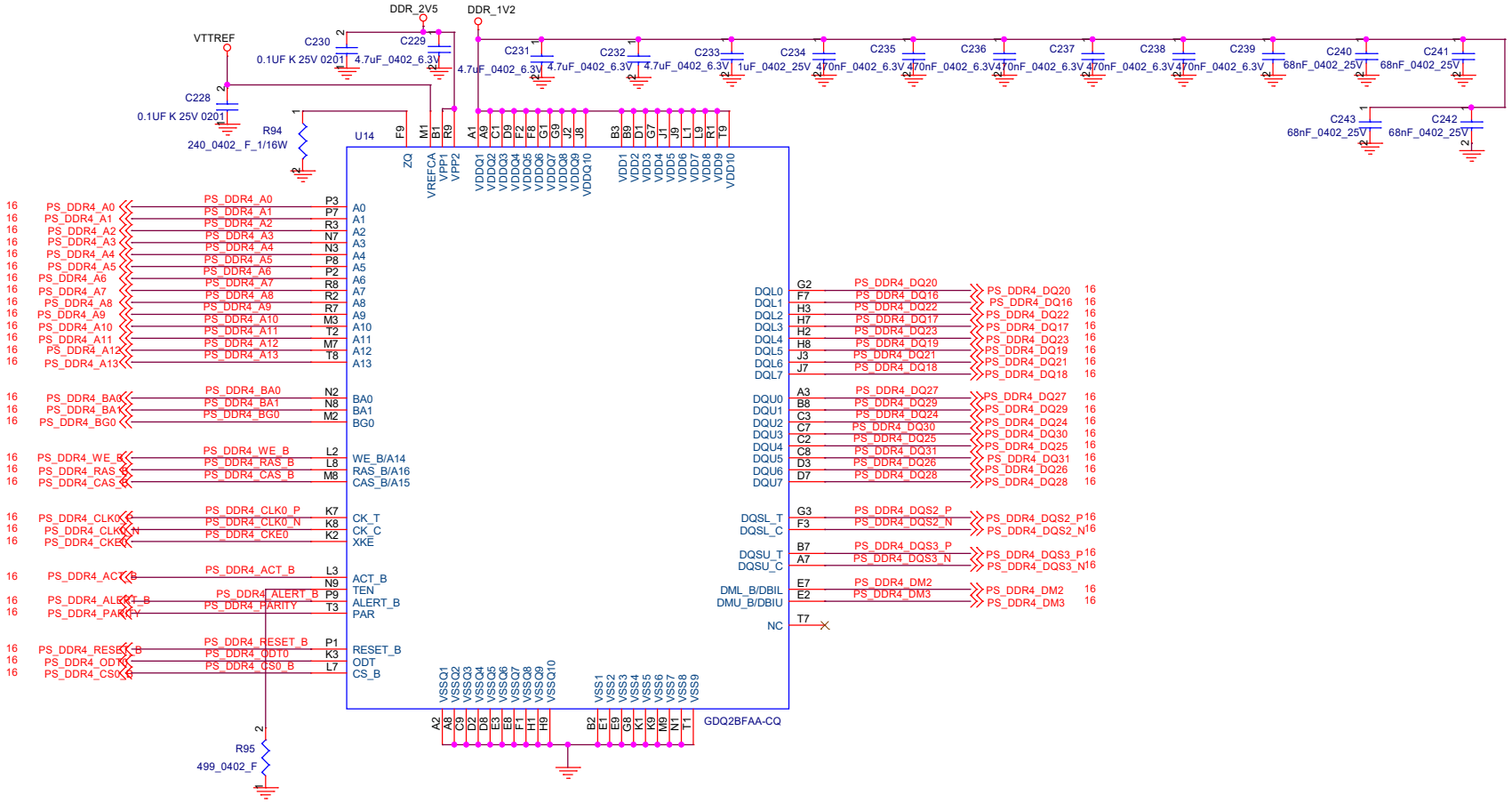
Compal Electronics, Inc./SDBG

Title	SCHEMATIC, M/B GA-641 (BT/WIFI)	
Size: A3	Document Number: 601K39	Rev: BI
Date: Monday, March 04, 2024	Sheet 13 of 17	



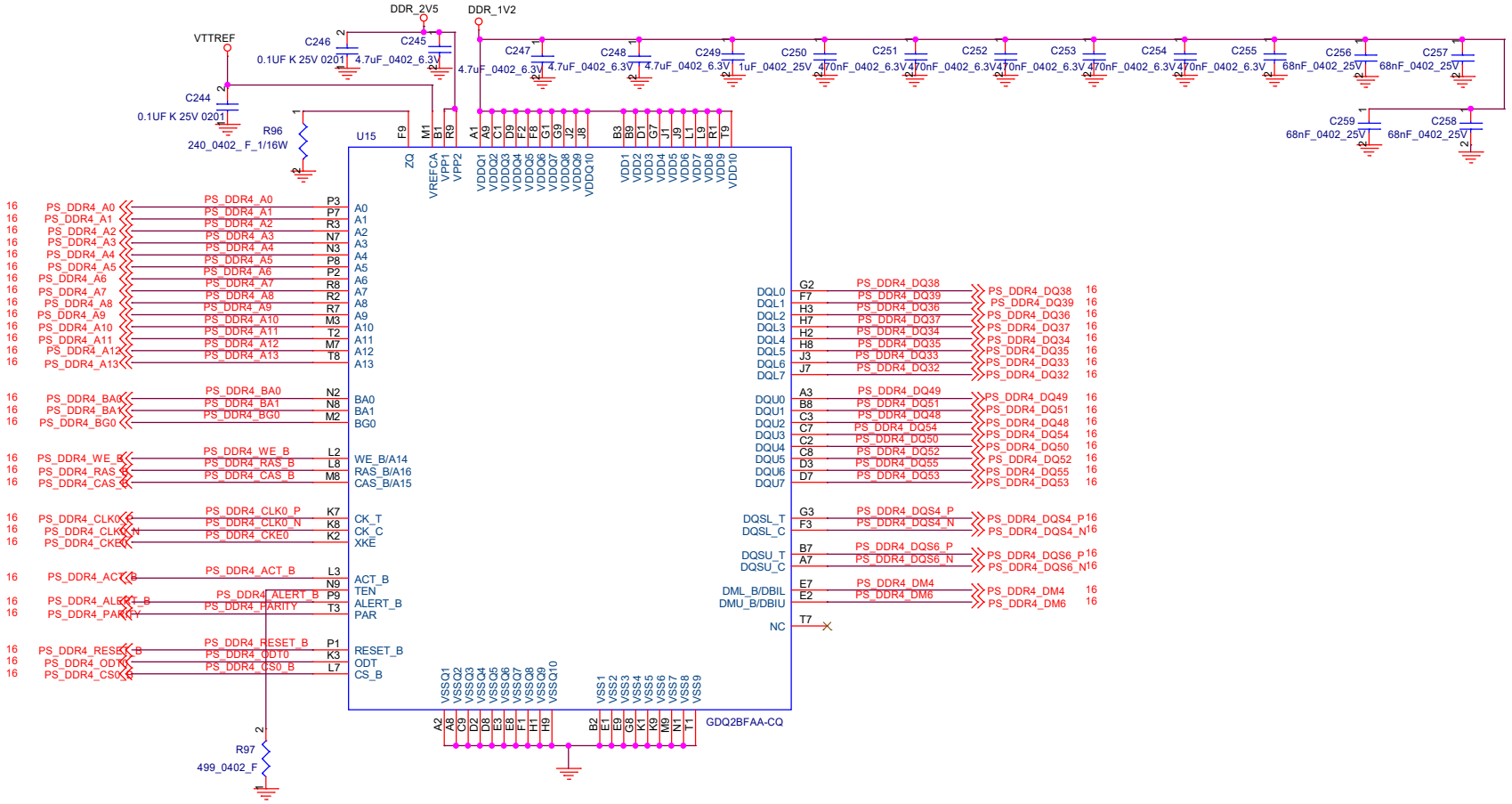
Compal Electronics, Inc./SDBG

Title	SCHEMATIC, M/B GA-641 (MFI)	
Size A3	Document Number 601K39	Rev BI
Date: Monday, March 04, 2024	Sheet 14 of 17	



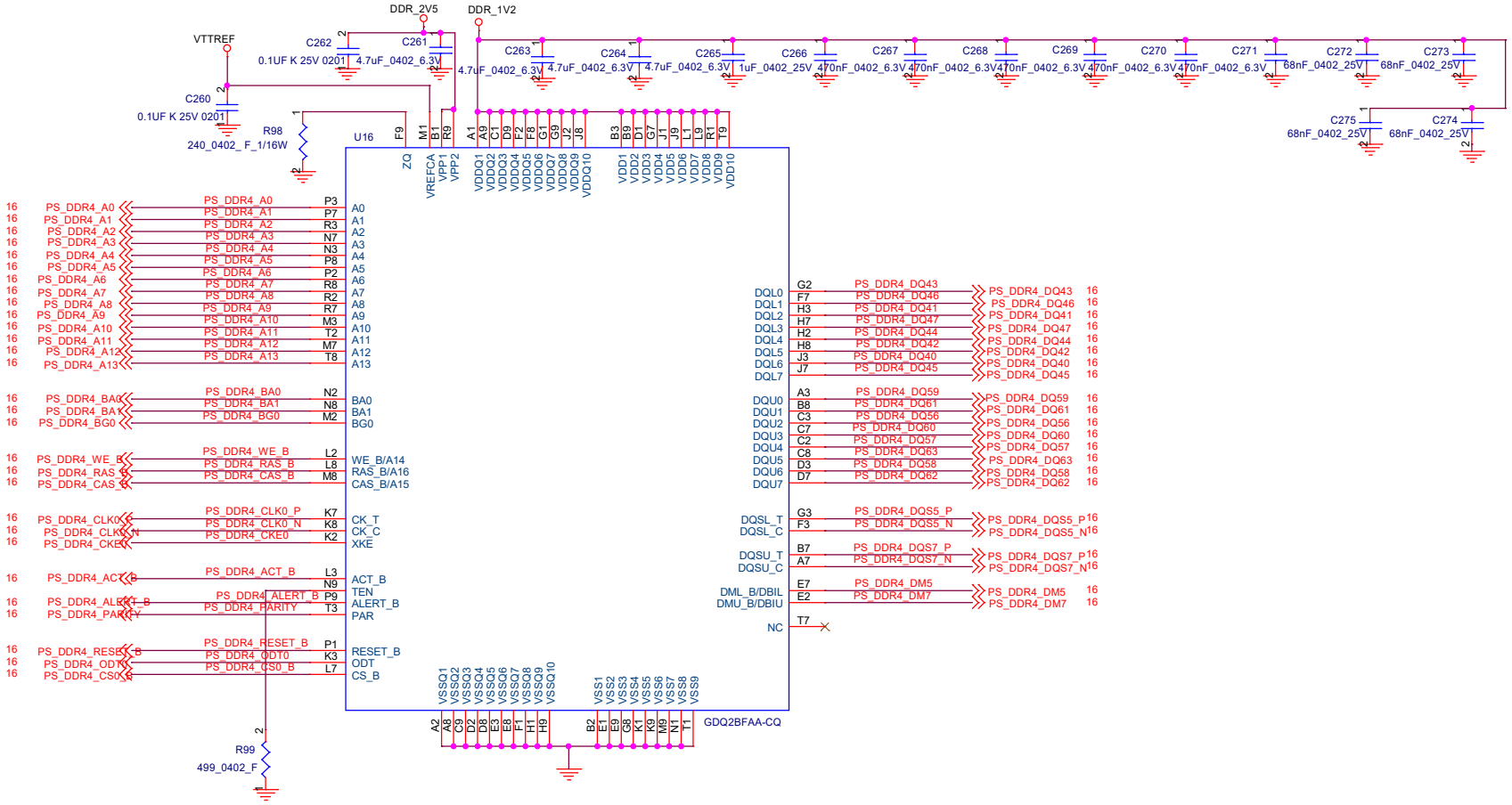
Compal Electronics, Inc./SDBG

Title	SCHEMATIC, M/B GA-641 (MFI)	
Size: A3	Document Number: 601K39	Rev: BI
Date: Monday, March 04, 2024	Sheet 14 of 17	



Compal Electronics, Inc./SDBG

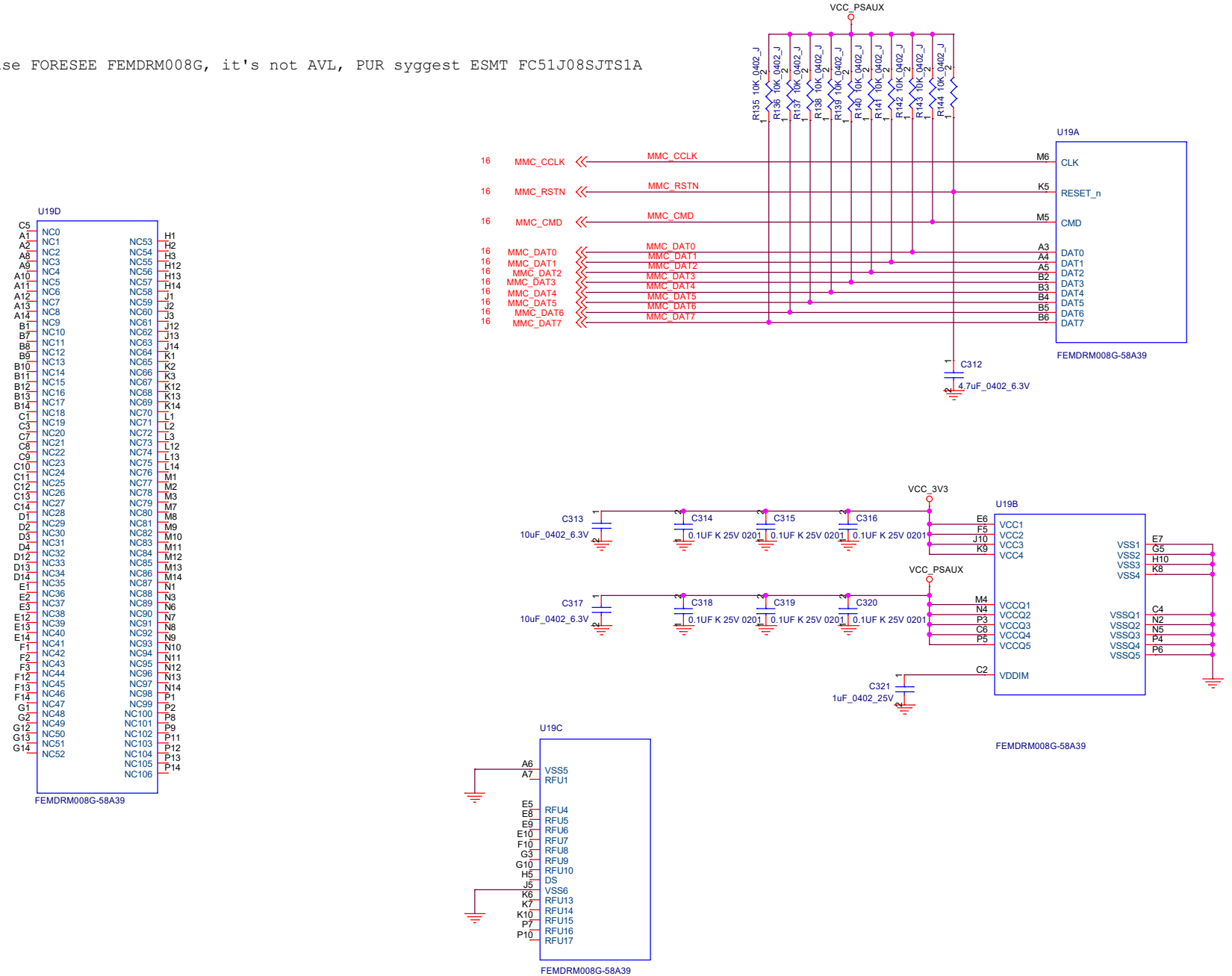
Title	SCHEMATIC, M/B GA-641 (MFI)	
Size: A3	Document Number: 601K39	Rev: BI
Date: Monday, March 04, 2024	Sheet 14 of 17	



Compal Electronics, Inc./SDBG

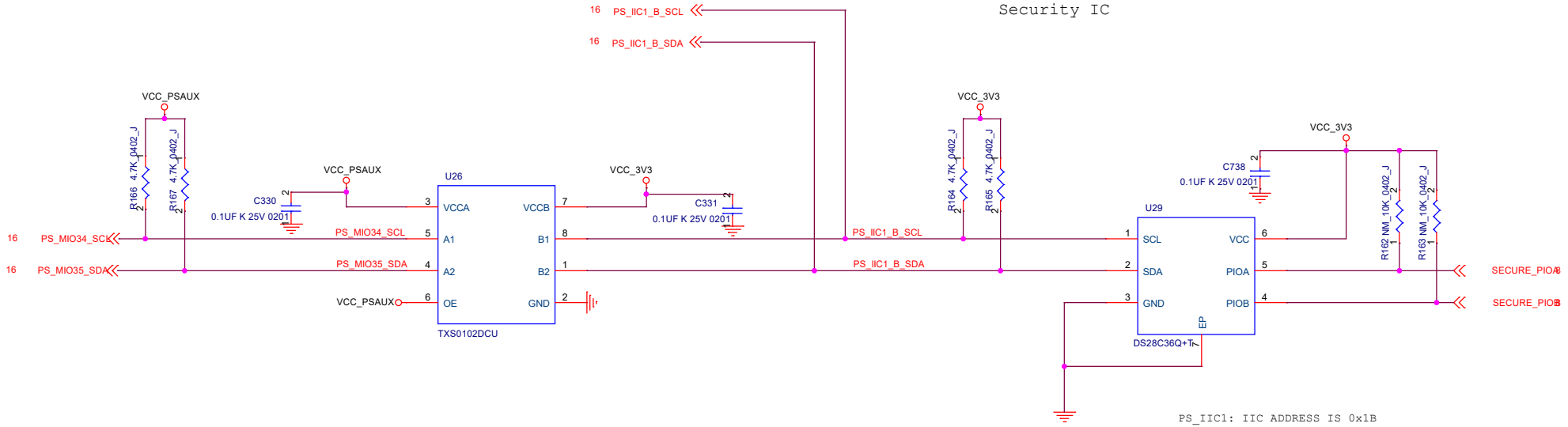
Title	SCHEMATIC, M/B GA-641 (MFI)	
Size: A3	Document Number: 601K39	Rev: BI
Date: Monday, March 04, 2024	Sheet 14 of 17	

11/16 reference use FORESEE FEMDRM008G, it's not AVL, PUR syggest ESMT FC51J08SJTS1A



Compal Electronics, Inc./SDBG

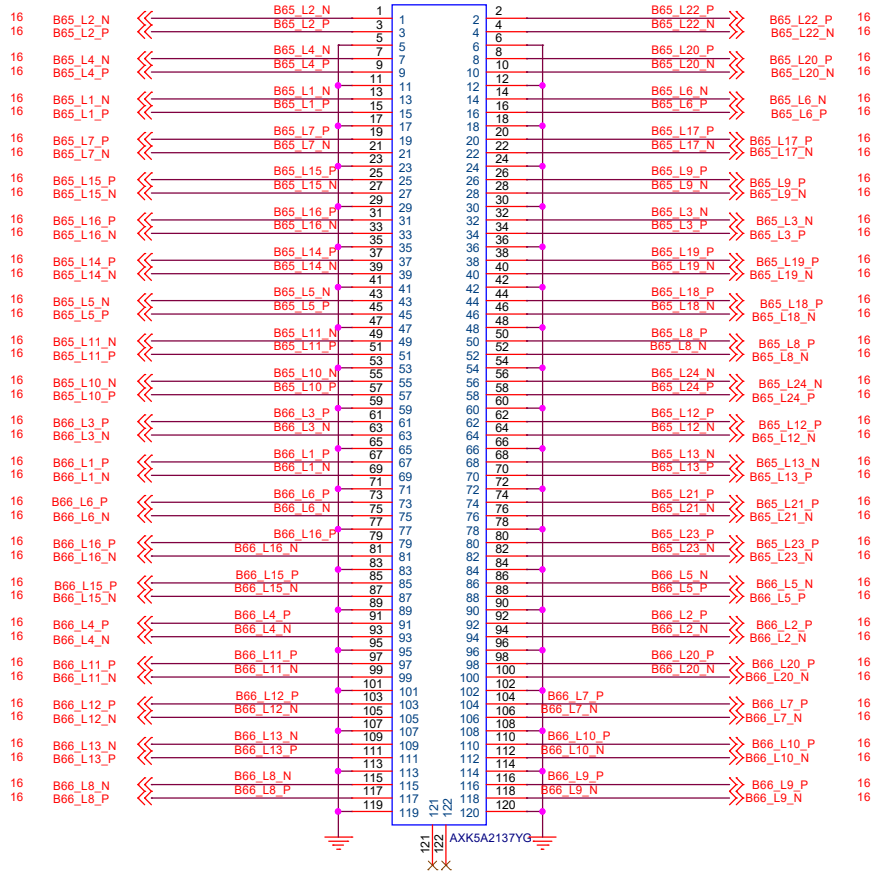
Title	SCHEMATIC, M/B GA-641 (MFI)	
Size: A3	Document Number: 601K39	Rev: BI
Date: Monday, March 04, 2024	Sheet 14 of 17	



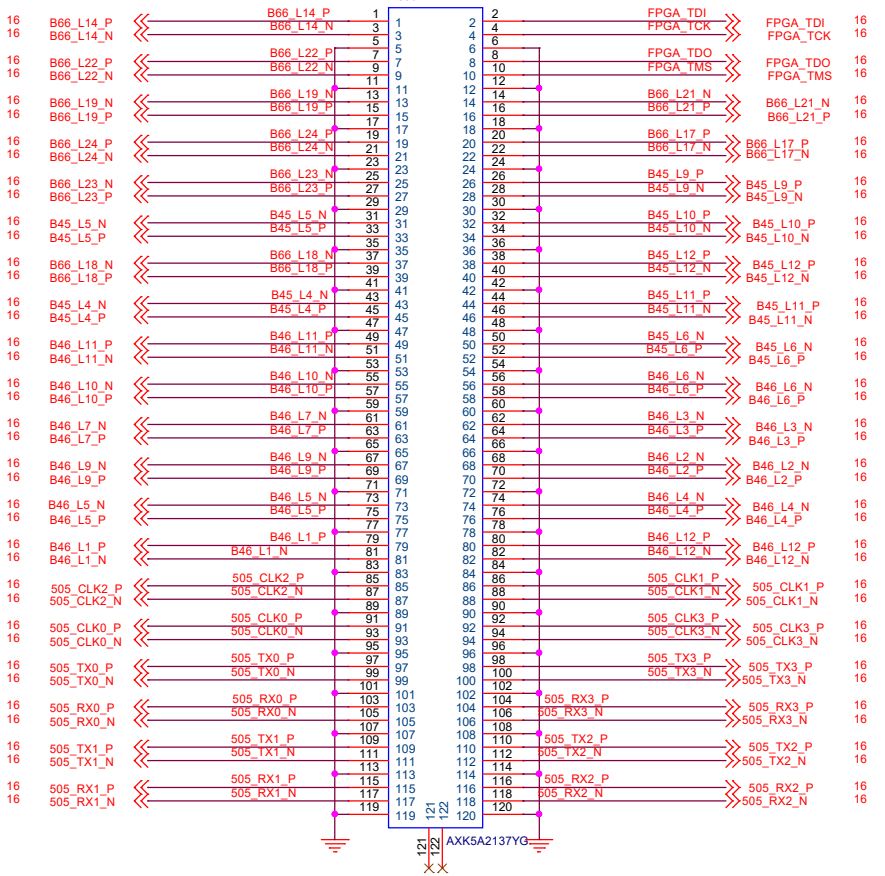
Compal Electronics, Inc./SDBG

Title	SCHEMATIC, M/B GA-641 (MFI)	
Size: A3	Document Number: 601K39	Rev: BI
Date: Monday, March 04, 2024	Sheet 14 of 17	

BANK65, BANK66 IO Voltage can not exceed +1.8V



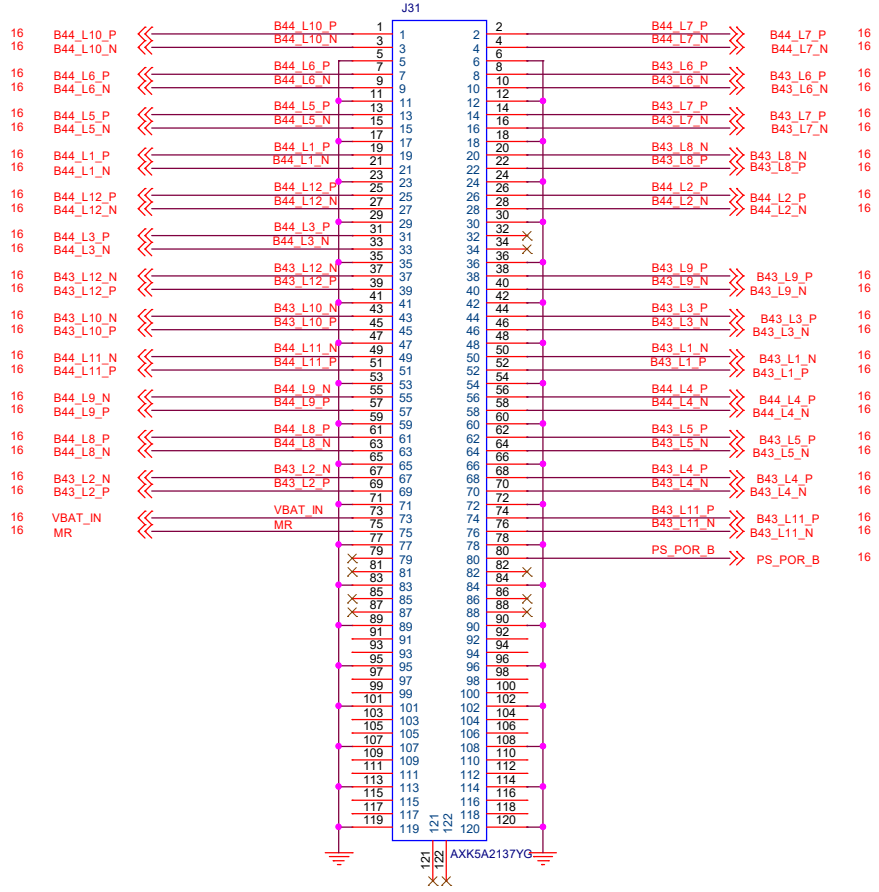
BANK45, BANK46 IO Voltage is +3.3V Standard



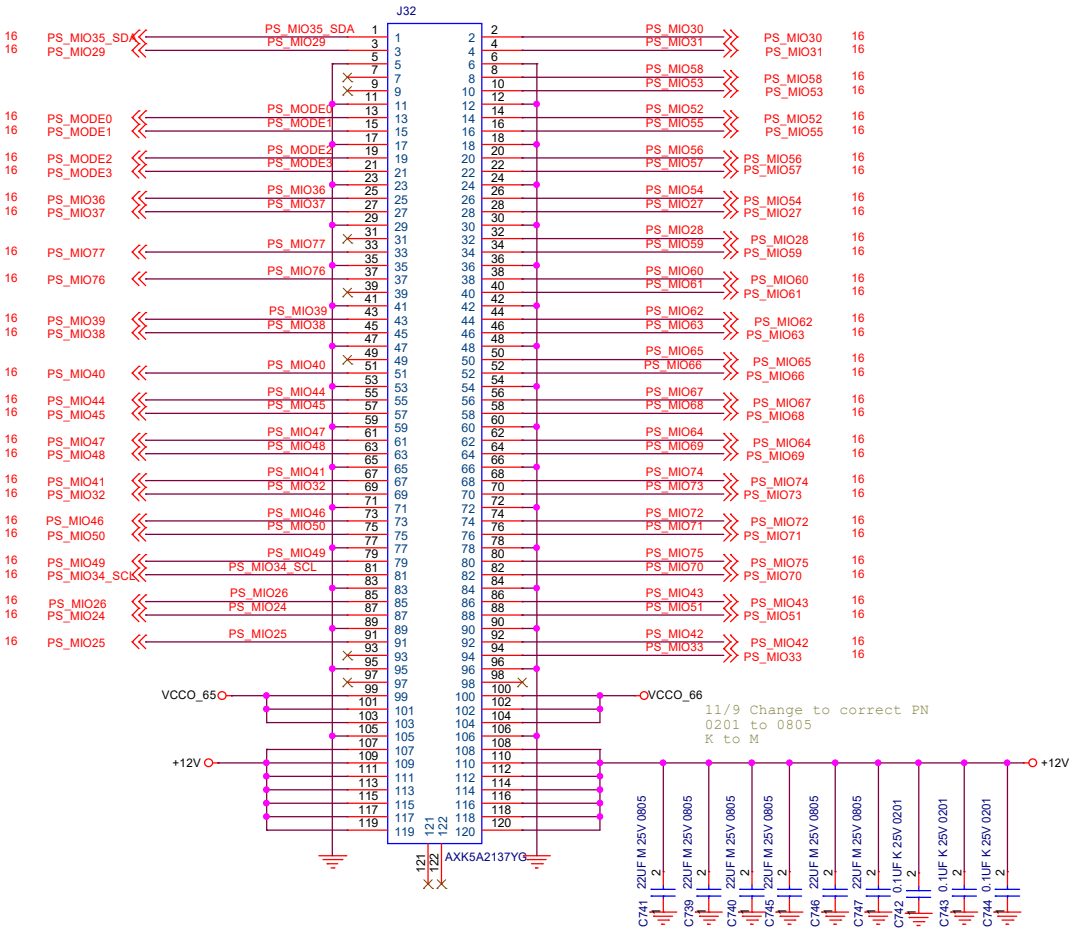
Compal Electronics, Inc./SDBG

Title	SCHEMATIC, M/B GA-641 (MFI)	
Size: A3	Document Number: 601K39	Rev: BI
Date: Monday, March 04, 2024	Sheet 14 of 17	

BANK43, BANK44 IO Voltage is +3.3V Standard

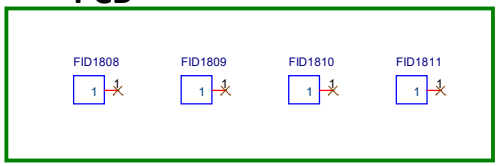


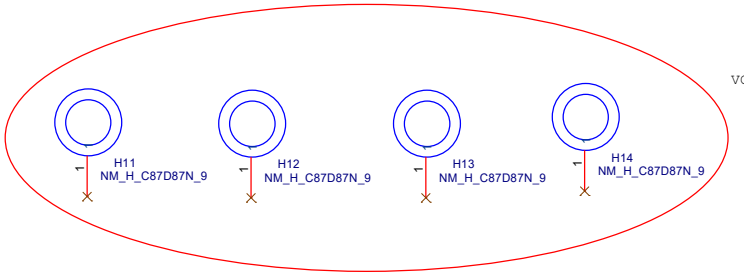
The MIO Voltage is +1.8V Standard



ORIENTATION HOLE

PCB





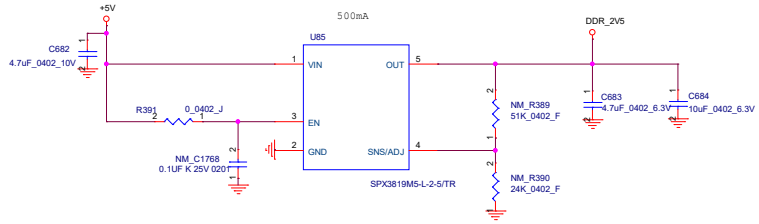
VCCO_65 VCCO_66 Power supply can not exceed 1.8V

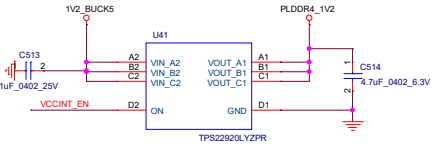
Compal Electronics, Inc./SDBG		
Title: SCHEMATIC, M/B GA-641 (MFI)		
Size: A3	Document Number: 601K39	Rev: BI
Date: Monday, March 04, 2024	Sheet 14 of 17	

U85 select

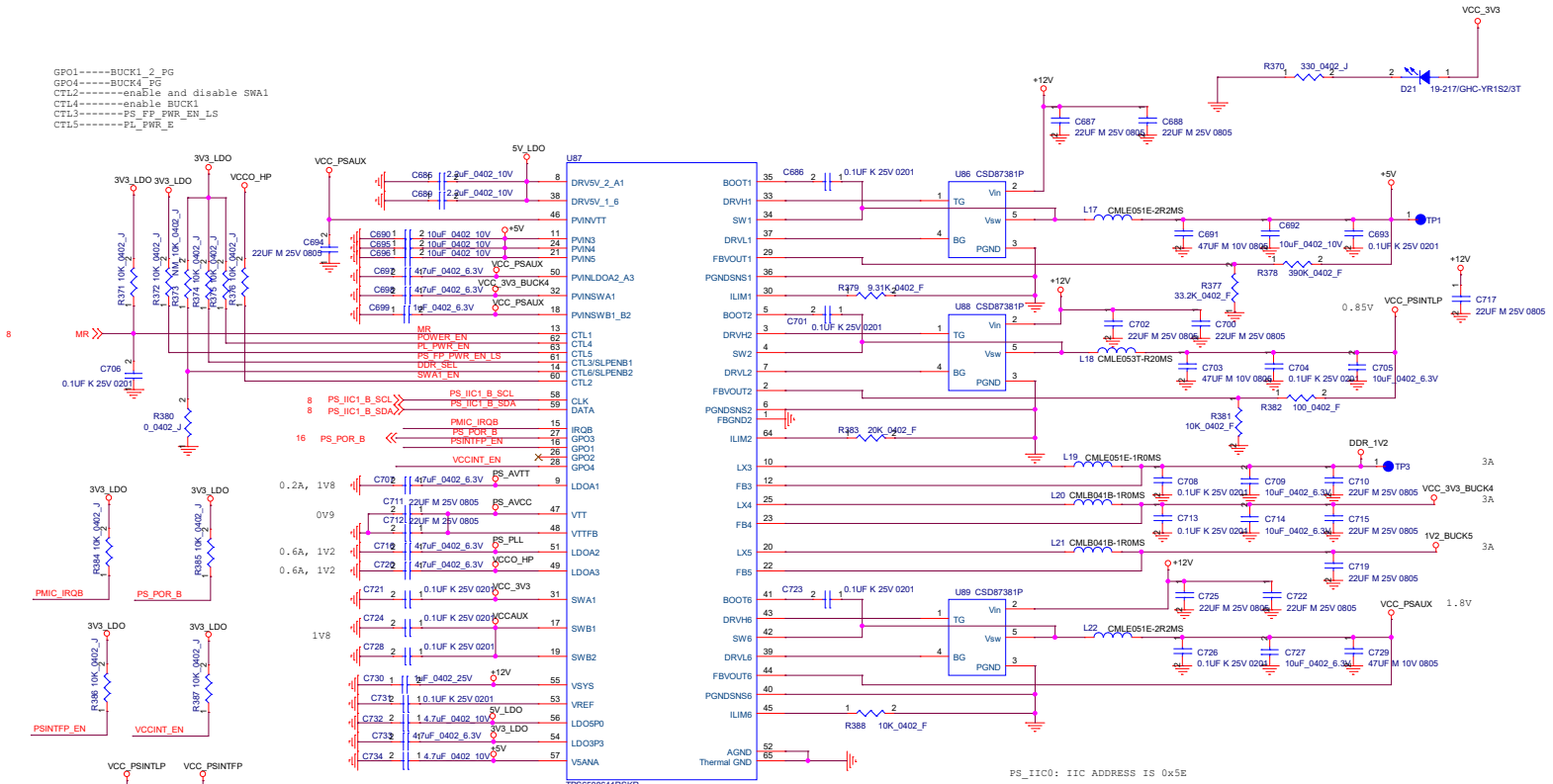
	R389	R390	R391	C1768
RT9080N-08GJ5	51K	24K	10K	0.1uF
SPX3819M5-L-2-5	NM	NM	0	NM

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





GPO1-----BUCK1_2_PG
GPO4-----BUCK4_PG
CTL2-------enable and disable SWA1
CTL4-------enable BUCK1
CTL3-------PS_FP_PWR_EN_LS
CTL5-------PL_PWR_E



Compal Electronics, Inc./SDBG			
Title	SCHEMATIC, M/B GA-641 (MFI)		
Size	Document Number		Rev
A2	601K39		BI
Date: Monday, March 04, 2024	Sheet 14 of 17		