EVM's 3-Phase DUAL PMIC Power Distribution Network (PDN)

(3-Phase Buck supplying VDD_CPU)

"PCB Notes:
For multi-phase Buck converter configs, route remote sense feedback as follows:
1. Pseudo differential pair traces on same layer & next to primarily power plane segment. Avoid routing near to any noisy/switching signals.
2. Connect each trace, as close as possible, to power & Gnd vias or across Dcap in middle of SOC power ball group.
3. Trace widths = 4-8mil & separation distance = 8-50mil, try to keep traces near each other as best as possible while

For single-phase Buck converters, route remote sense feedback as follows:
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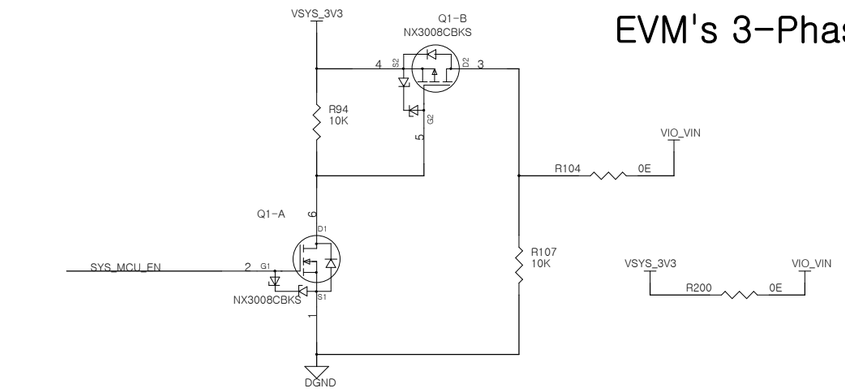
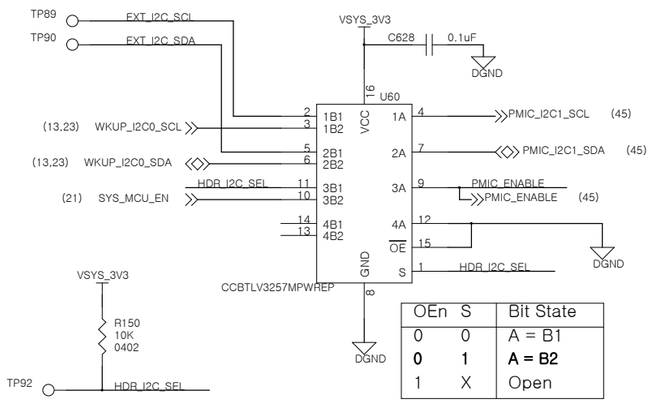
2. Connect each trace, as close as possible, to a power via near in middle of SOC power ball group.
3. Trace widths = 4-8mil"

PMIC- A

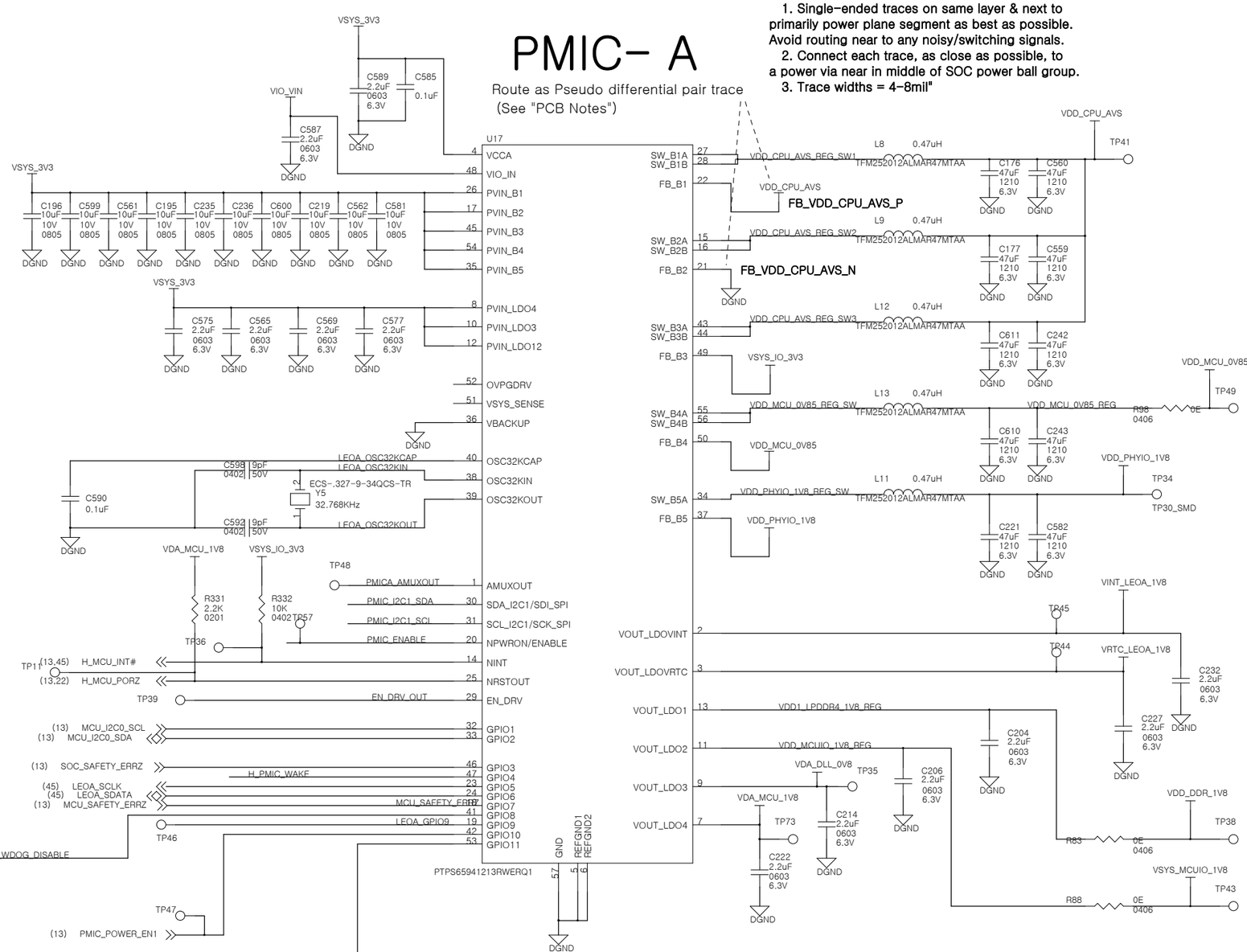
Route as Pseudo differential pair trace
(See "PCB Notes")

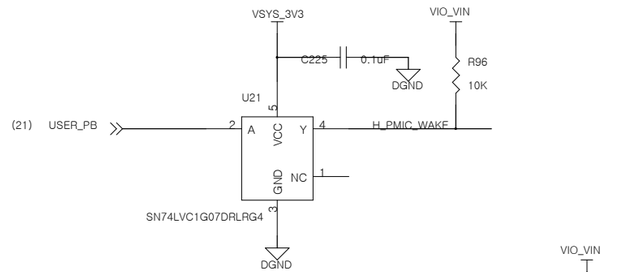


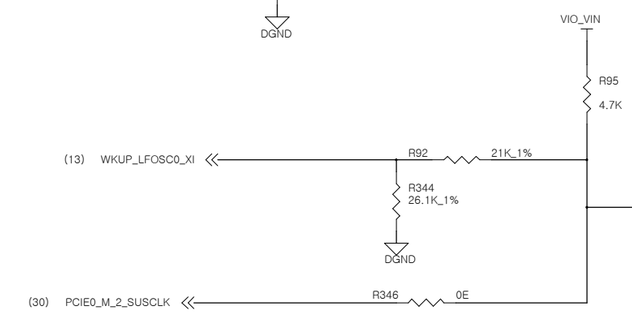


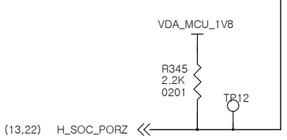
OEn	S	Bit State
0	0	A = B1
0	**1**	**A = B2**
1	X	Open

Install Shunt/Jumpers while programming
PMIC on J21









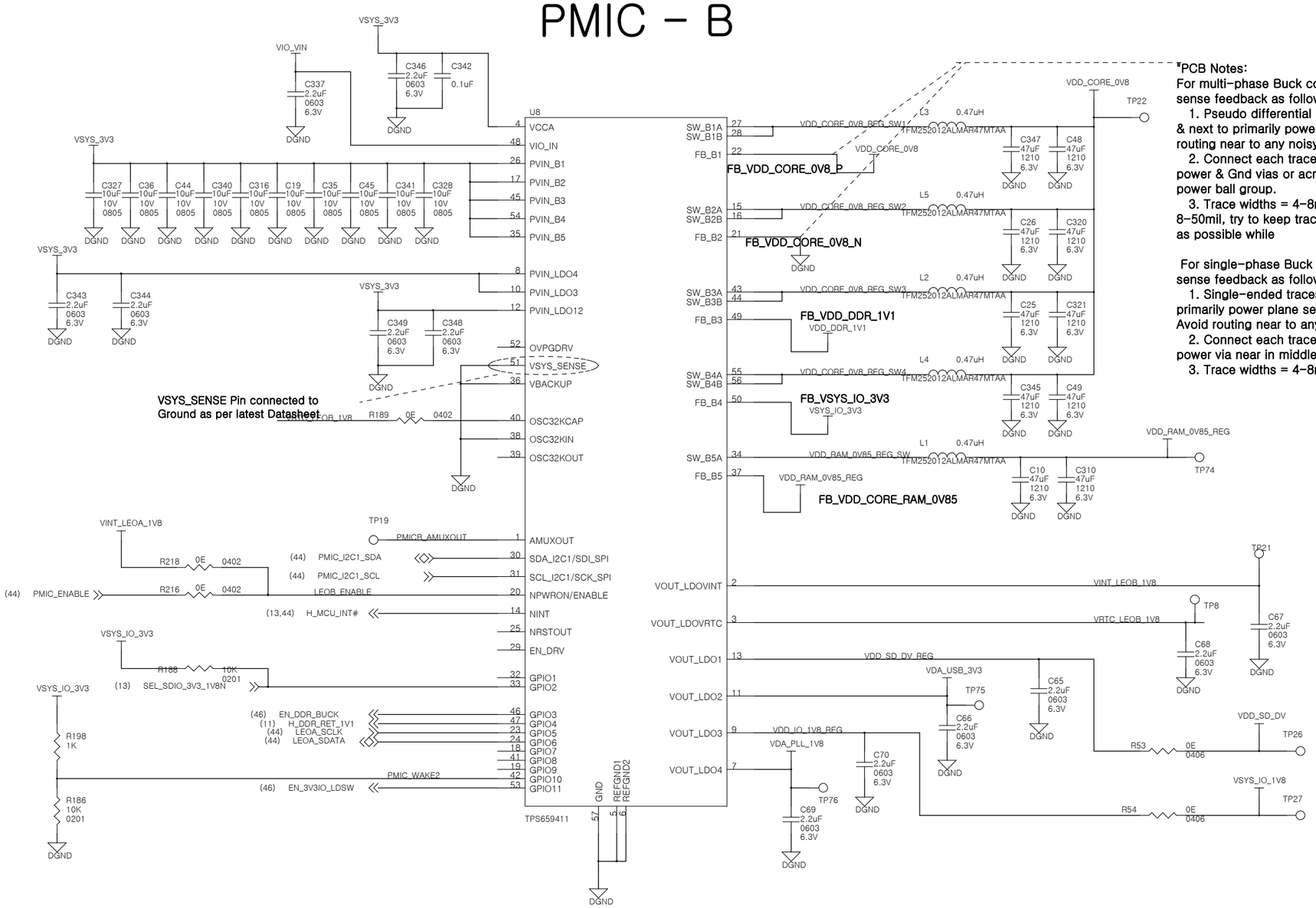
(EVM Bd Setting Default):

LEOA_WDOG_DISABLE	PD (Low)	Enable WDOG
	PU (High)	**Disable WDOG**

PMIC-A uses default I2C ADDR:
0x48, 0x49, 0x4A & 0x4B

Project : AI 기반 공조제어기		Title: PMIC A
		Size: C — <Core Design> — Rev: A
		Date: Sunday, April 27, 2025 — Sheet 37 of 45

PMIC - B



"PCB Notes:
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For single-phase Buck converters, route remote sense feedback as follows:
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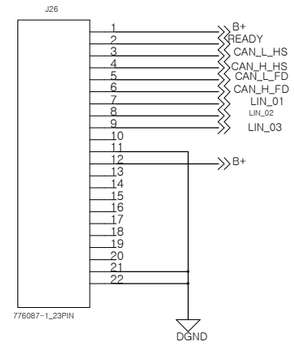
2. Connect each trace, as close as possible, to a power via near in middle of SOC power ball group.
3. Trace widths = 4-8mil"

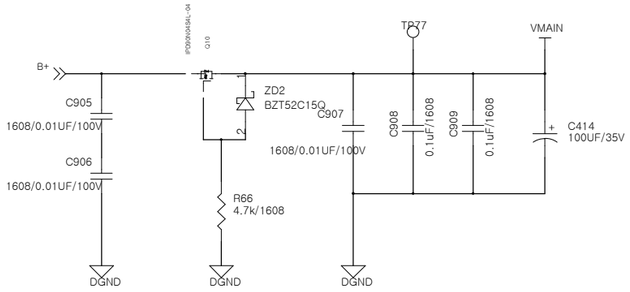
PMIC-B uses NVM to set I2C ADDR:
0x4C, 0x4D, 0x4E & 0x4F

Project : AI 기반 공조제어기		Title: PMIC B
		Size: C — <Core Design> — Rev: A
		Date: Sunday, April 27, 2025 — Sheet 38 of 45

MAIN CONNECTOR (Ext)

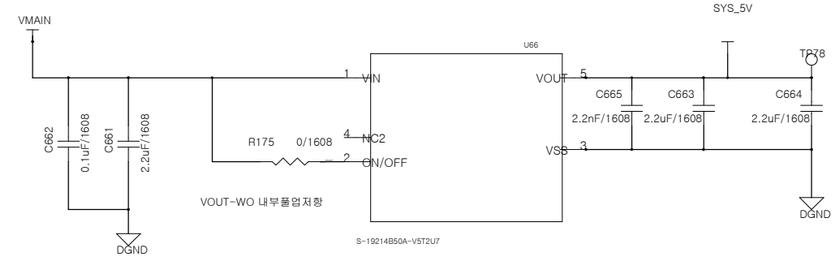


Protection Circuit

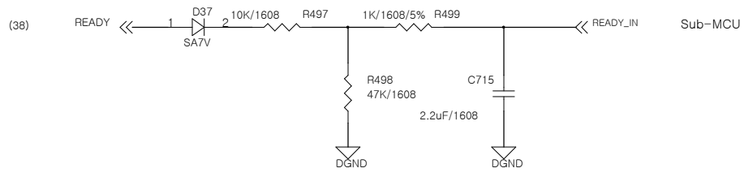


LDO (Main -> VDD_5V)

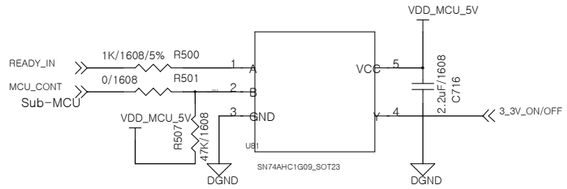
Operating Voltage (9V~16V)
12V -> 5V 1,000mA



Ready Signal



3.3V Regulator Control



3.3V Regulator Control Truth Table(And Gate)

Ready Low	Ready High	
0	0 Pull-Up	Sub-MCU Low
0	1	Sub-MCU Control High

Project : AI 기반 공조제어기		Title: HARDWARE SCHEMATICS
		Size: C — <Core Design> — Rev: A
		Date: Monday, October 25, 2021 — Sheet 1 of 5

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