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Design Notes

1. Wireless Connectivity is removed for the sake of simplicity and testing purposes.
2. Seperate development boards are made for Wireless to test on STM31MP157C-DK2.

Important Note:

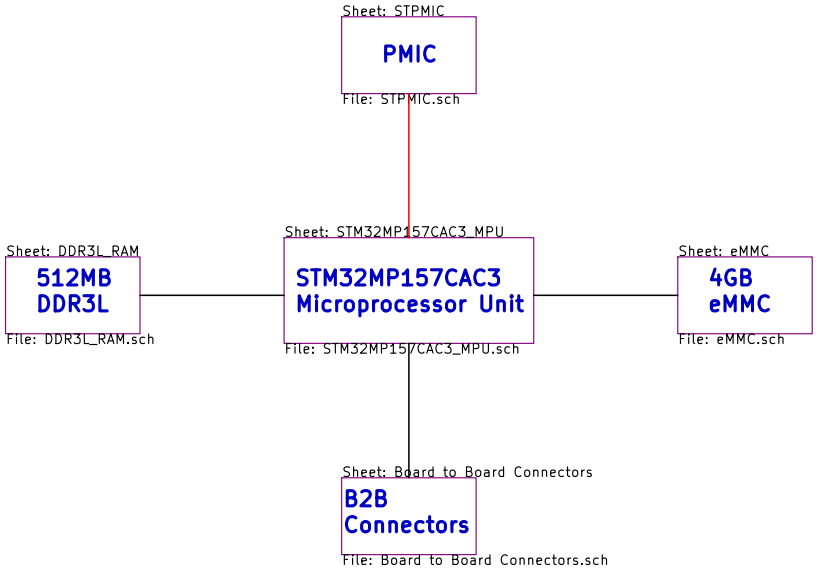
Always match the compatible revision numbers carfully.

PCB Revision number – 1.0.0
BOM Revision number – 1.0.0
Assembly docs Rev number – 1.0.0
Fabrication file Rev number – 1.0.0

Reference Docs

1. Reference schematic details:
   - Reference: MB1272
   - Project: STM32MP15-Disco
   - Variant: DK2
   - Revision: C-01
   - Date: 12-SEP-18
2. STM32MP157C/F Datasheet
3. AN5031 Appilication Note
4. AN5122 Application Note

BLOCK DIAGRAM

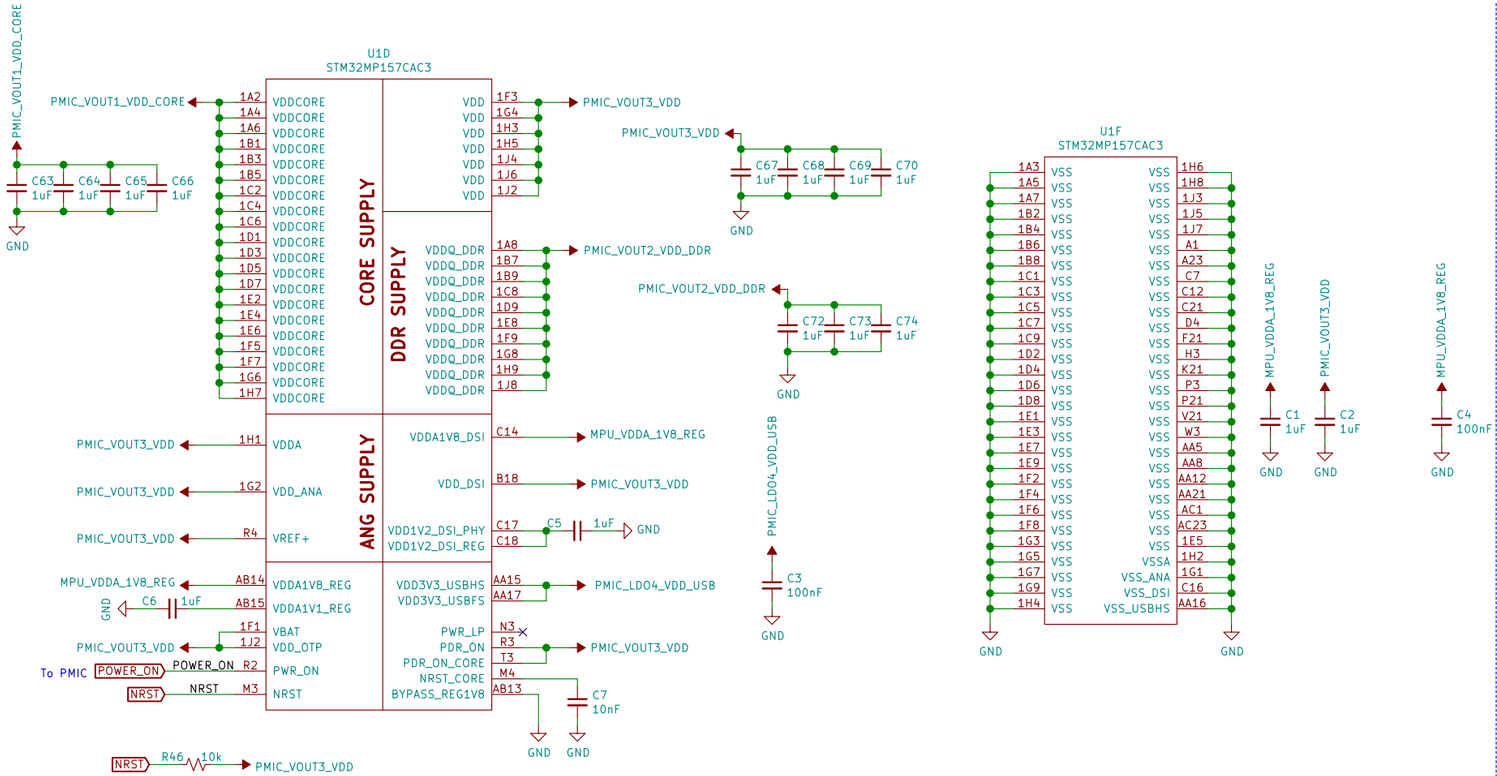


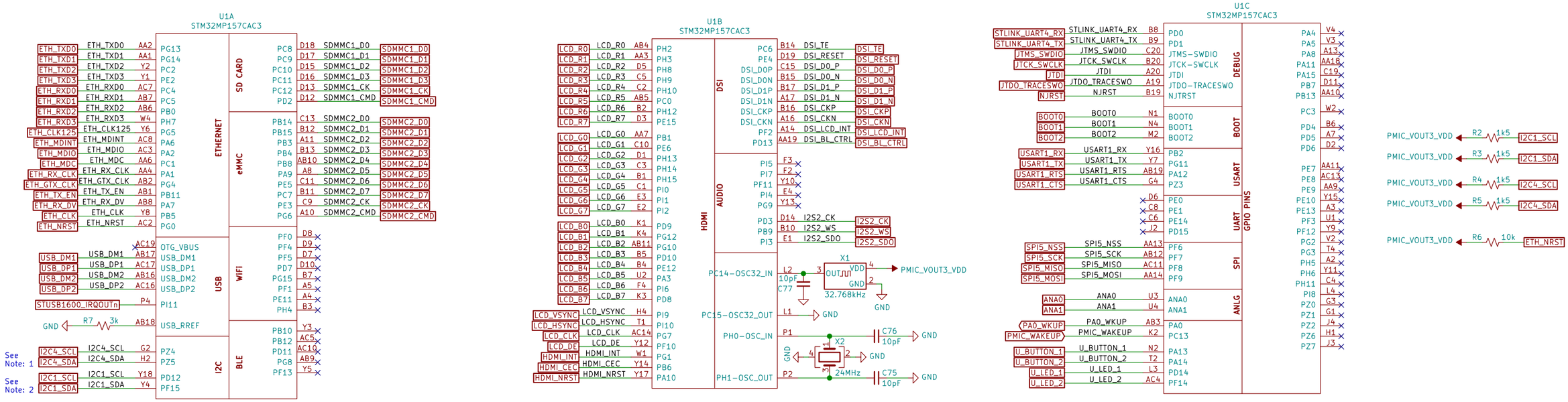
LOGIC BOARD 1A TOP PAGE (LB1A_DCA7M4_R512MB_F4GB)

Sheet: /
File: LB1A_DCA7M4_R512MB_F4GB.sch

Title: LOGIC BOARD 1A (LB1A_DCA7M4_R512MB_F4GB)

Size: A4	Date: 2021-06-02	**Rev: 1.0.0**
KiCad E.D.A. kicad (5.1.10-1-10_14)		Id: 1/6





Notes

1. Used for PMIC & USB-C
2. Used for DSI, HDMI & RPi Header

STM32MP157CAC3 MPU

Sheet: /STM32MP157CAC3_MPU/
File: STM32MP157CAC3_MPU.sch

Title: LOGIC BOARD 1A (LB1A_DCA7M4_R512MB_F4GB)

Size: A3	Date: 2021-06-02	**Rev: 1.0.0**
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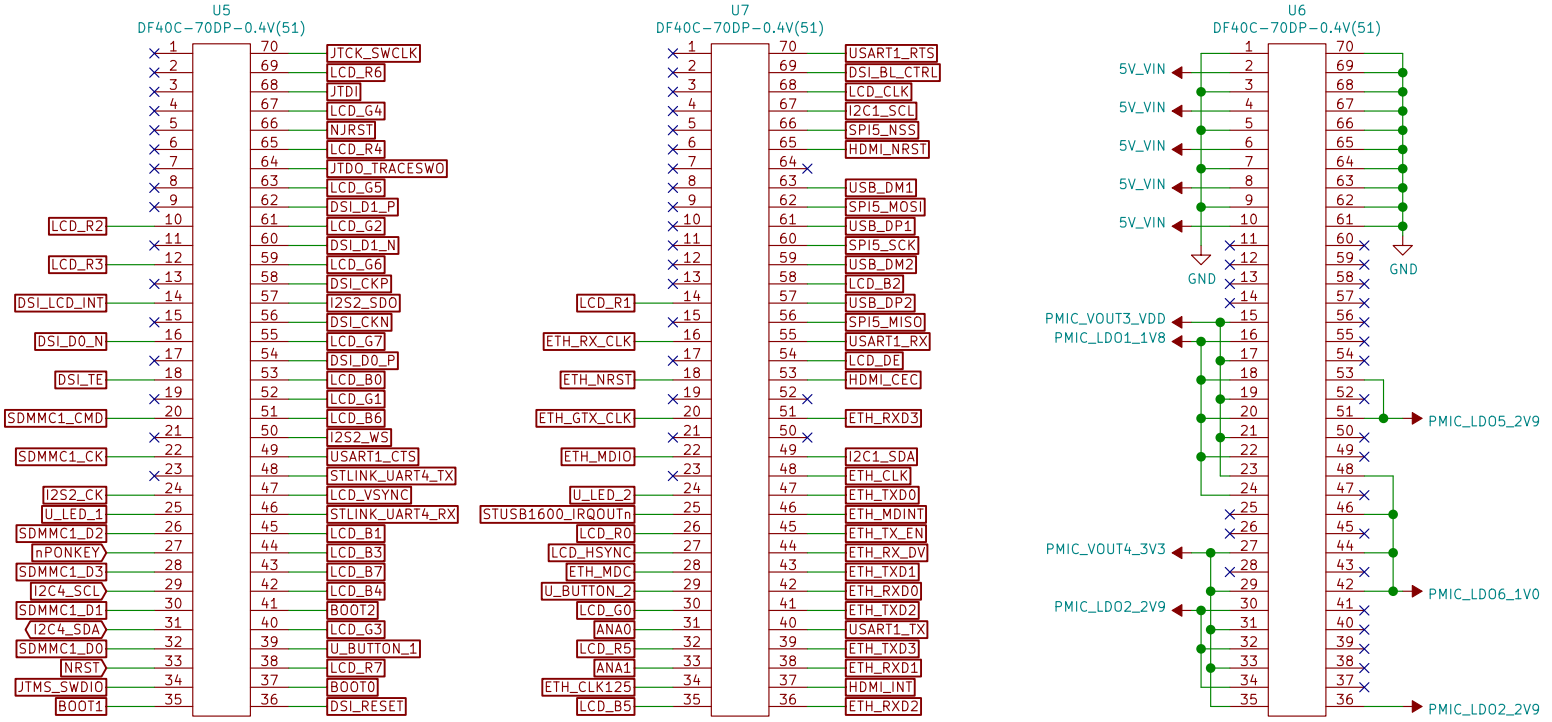

H1 H2 H3 H4

FID1 FID2 FID3

FID4 FID5 FID6

BOARD TO BOARD CONNECTORS

Sheet: /Board to Board Connectors/
File: Board to Board Connectors.sch

Title: LOGIC BOARD 1A (LB1A_DCA7M4_R512MB_F4GB)

Size: A4	Date: 2021-06-02	**Rev: 1.0.0**
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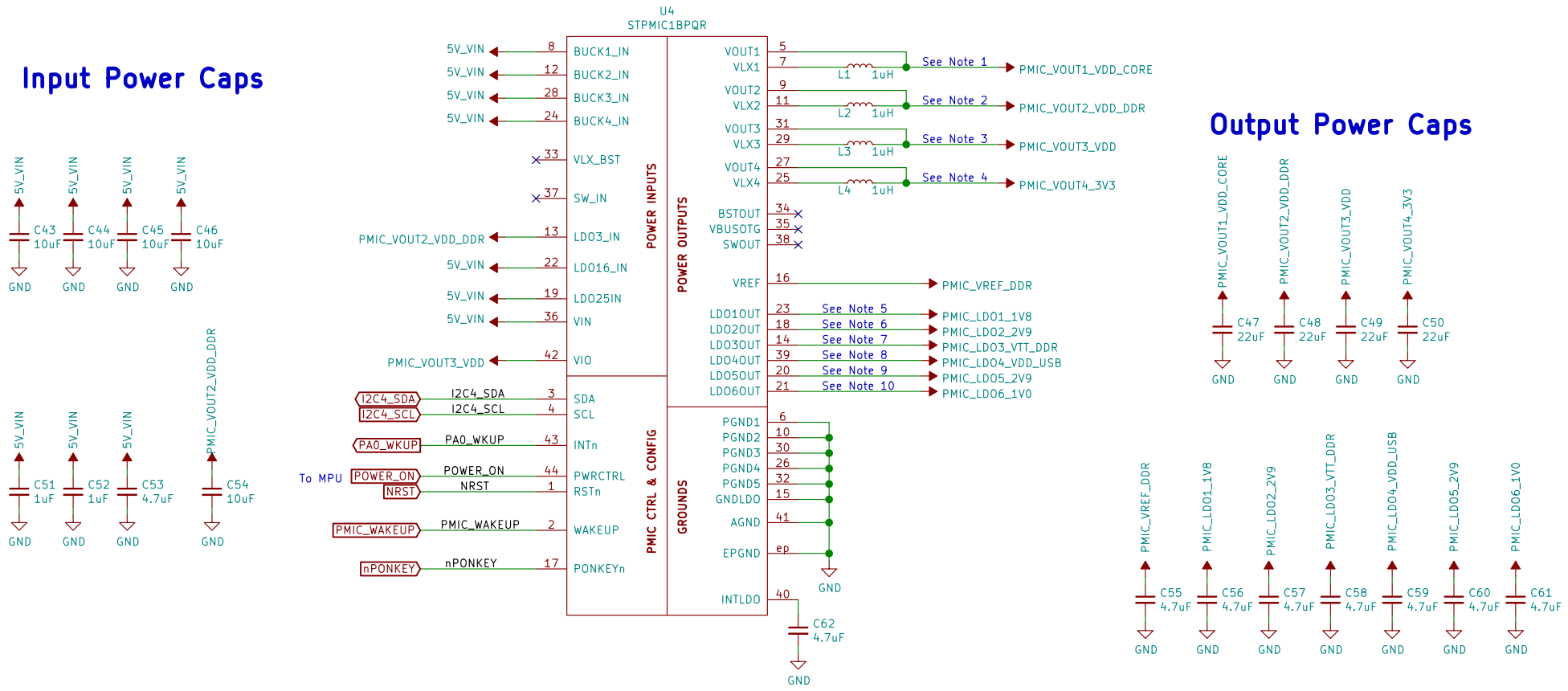
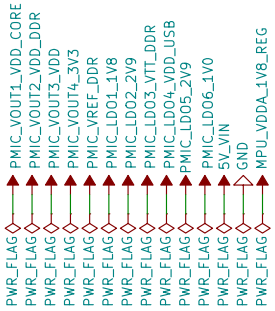


ERC Power Flags



Notes

PMIC Power On Sequence:
PWR_ON_RESET –> BUCK3 –> BUCK1, BUCK4, LDO2, LDO5 –> LDO4
BUCK2, LDO1, LDO3, LDO6, REFDDR enable by I2C

BUCK Converters

1. Default = 1.2V; Imax = 2000mA; Application = CORE
2. Default = 1.1V; Imax = 1600mA; NOT ON BY DEFAULT; Application = DDR3L RAM
3. Default = 1.8V; Imax = 1000mA; Application = VIO
4. Default = 3.3V; Imax = 3000mA; Application = Application CPU or GP

LDOs

5. Default = 1.8V; Imax = 800mA; NOT ON BY DEFAULT; Application = GP
6. Default = 2.9V; Imax = 800mA; Application = SD-Card or GP
7. Default = 1.8V; Imax = 150mA; NOT ON BY DEFAULT; Application = DDR3 Termination
8. Default (fixed) = 3.3V; Imax = 200mA; Application = USB PHY
9. Default = 2.9V; Imax = 800mA; Application = Flash Memory or GP
10. Default = 1.0V; Imax = 350mA; NOT ON BY DEFAULT; Application = GP

POWER MANAGEMENT IC

Sheet: /STPMIC/
File: STPMIC.sch

Title: LOGIC BOARD 1A (LB1A_DCA7M4_R512MB_F4GB)

Size: A4	Date: 2021-06-02	**Rev: 1.0.0**
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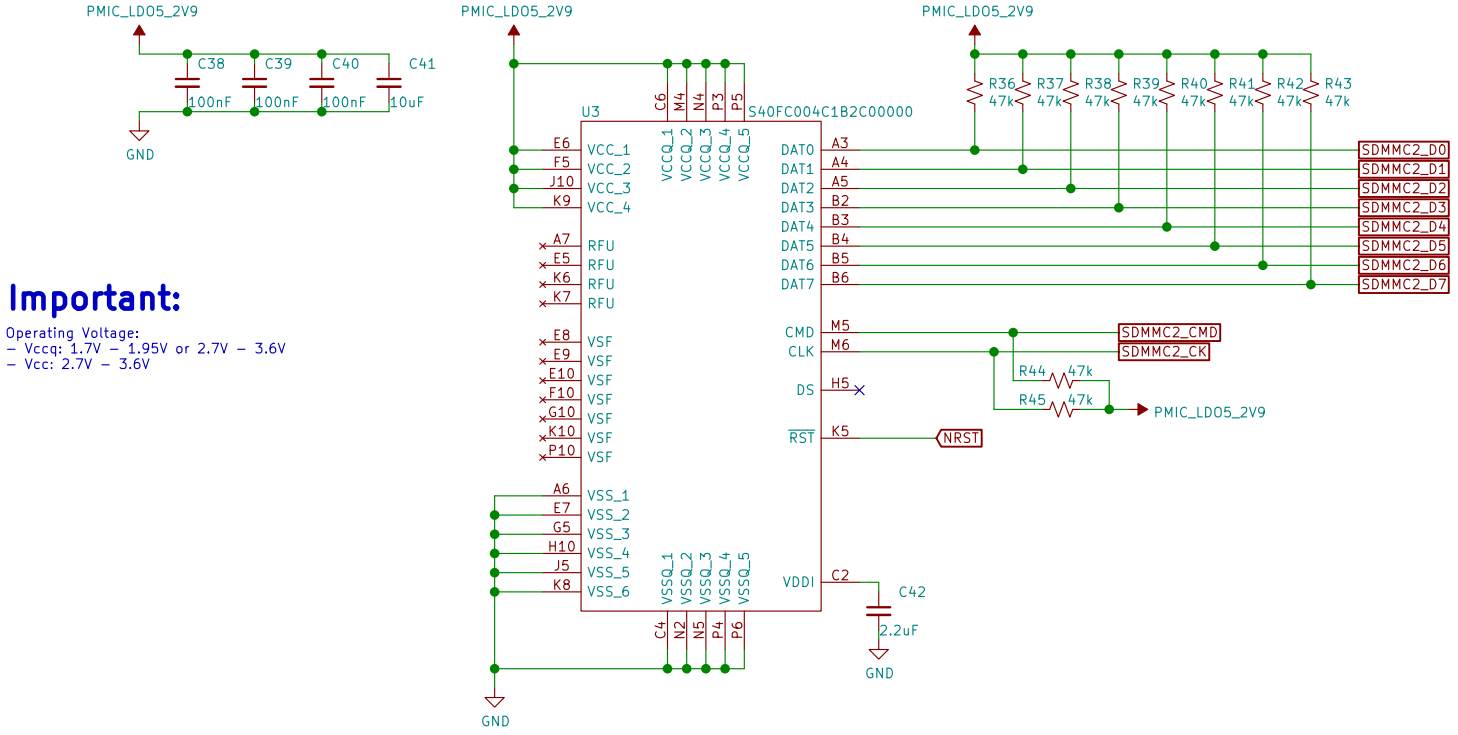

Important:

Operating Voltage:
– Vccq: 1.7V – 1.95V or 2.7V – 3.6V
– Vcc: 2.7V – 3.6V

4GB eMMC STORAGE

Sheet: /eMMC/		
File: eMMC.sch		
Title: LOGIC BOARD 1A (LB1A_DCA7M4_R512MB_F4GB)		
Size: A4	Date: 2021-06-02	**Rev: 1.0.0**
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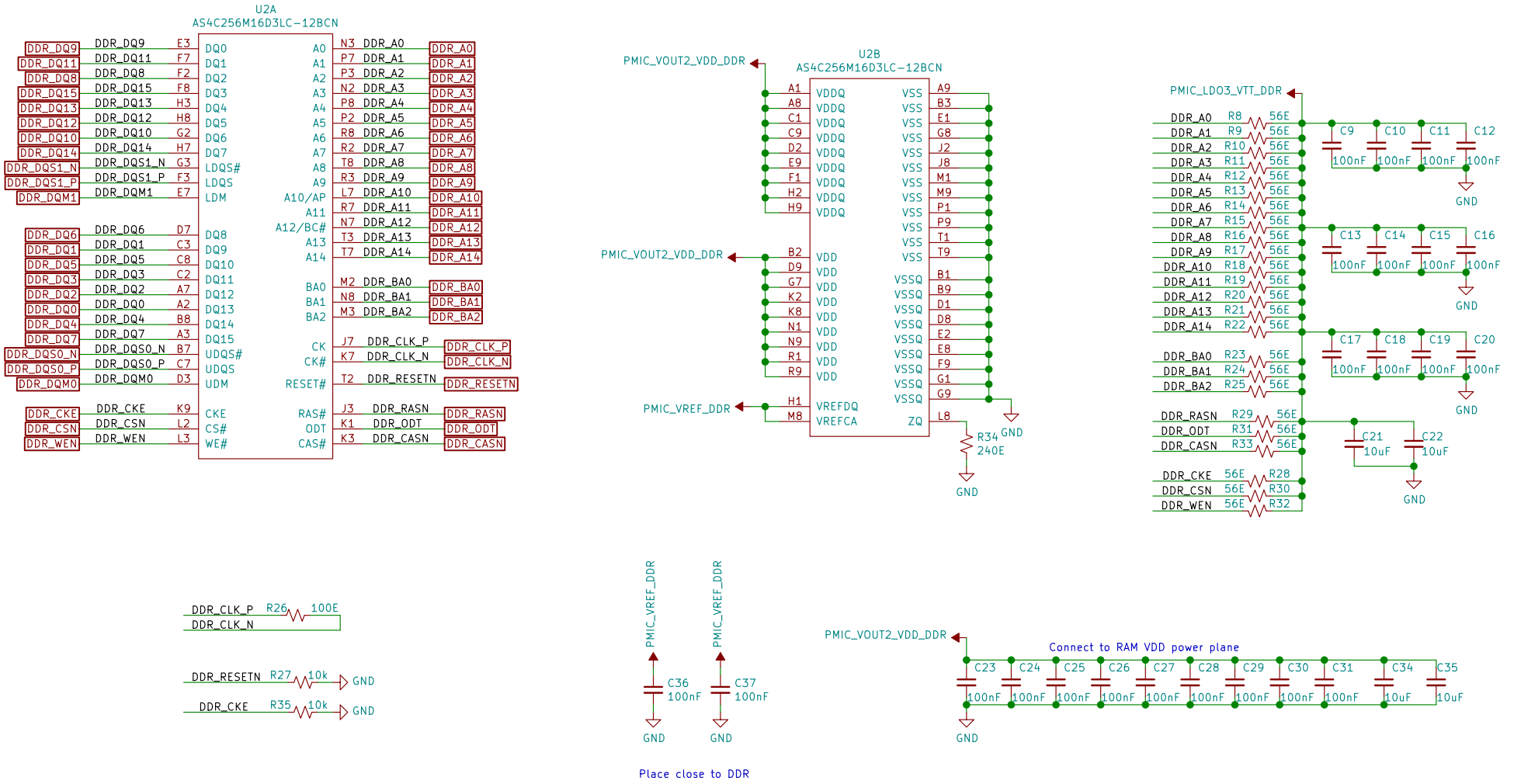

512MB DDR3L SDRAM

Sheet: /DDR3L_RAM/
File: DDR3L_RAM.sch

Title: LOGIC BOARD 1A (LB1A_DCA7M4_R512MB_F4GB)

Size: A4	Date: 2021-06-02	**Rev: 1.0.0**
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