MCIMX8M-EVKB (i.MX8M Customer Board)

Schematics DevBoard

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1. Unless Otherwise Specified:

All resistors are in ohms, 10%, 1/8 Watt,0603 All capacitors are in uF, 20%, 50V,0603 All voltages are DC All polarized capacitors are aluminum electrolytic

2. Interrupted lines coded with the same letter or letter combinations are electrically connected.

Revision History

Rev. Code	Date	Ву	Description
Α	2018-09-06	Javen	1 Revision preliminary version
A1	2019-03-12	Javen	1 Replace PTN5110DHQ with PTN5110NHQZ for U907 Replace PTN36043BX with PTN36043ABX for U901 DNP R905,R909,R910,R911 DNP 280-76498(BH1401-BH1404) Update U101 with new PN MIMXBMQ6DVAJZAB Update U101602 to IRM-V538M3/TR1
A2	2021-04-12	Joshua	Add a note for PCIE_VPH supply voltage to page C-04

- 3. Device type number is for reference only. The number varies with the manufacturer.
- 4. Special signal usage: B Denotes - Active-Low Signal <> or [] Denotes - Vectored Signals
- 5. Interpret diagram in accordance with American National Standards Institute specifications, current revision, with the exception of logic block symbology.

Preliminary - Subject to Change without Notice!

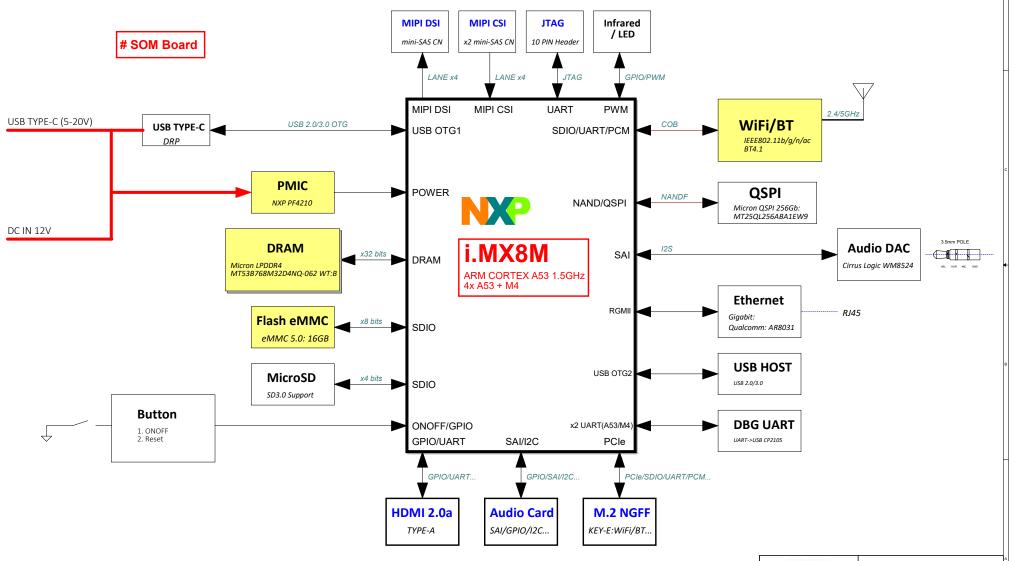
This board was designed for maximum flexibility in software development and demonstrates multiple functions possible with i.MX processors. Although best design practices have been applied, some areas may not be suitable for a mass-production design.

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i.MX8M EVK BLOCK DIAGRAM

MCIMX8M-EVKB

SoC: MIMX8MQ6DVAJZAA



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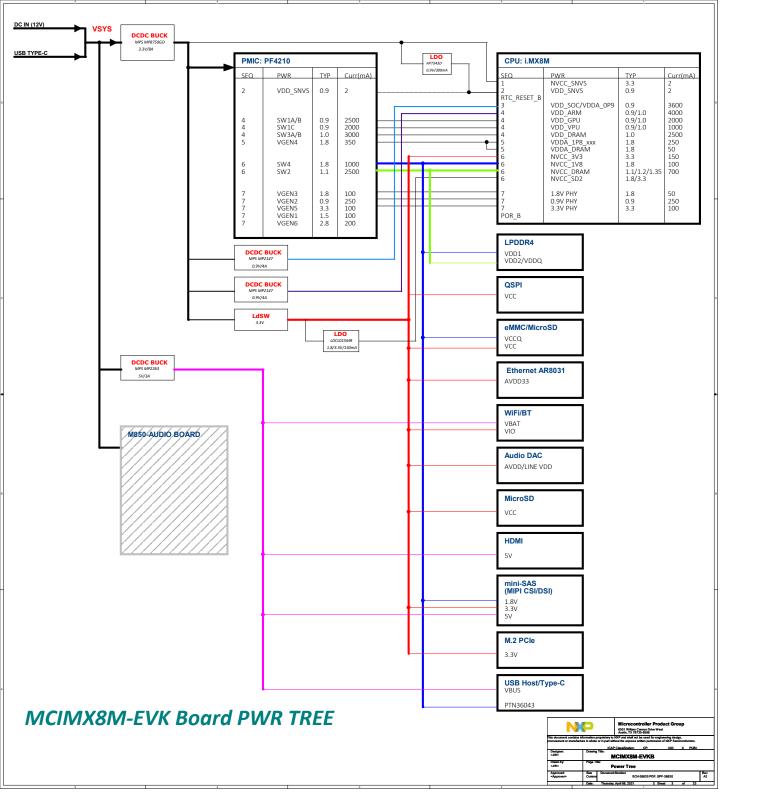
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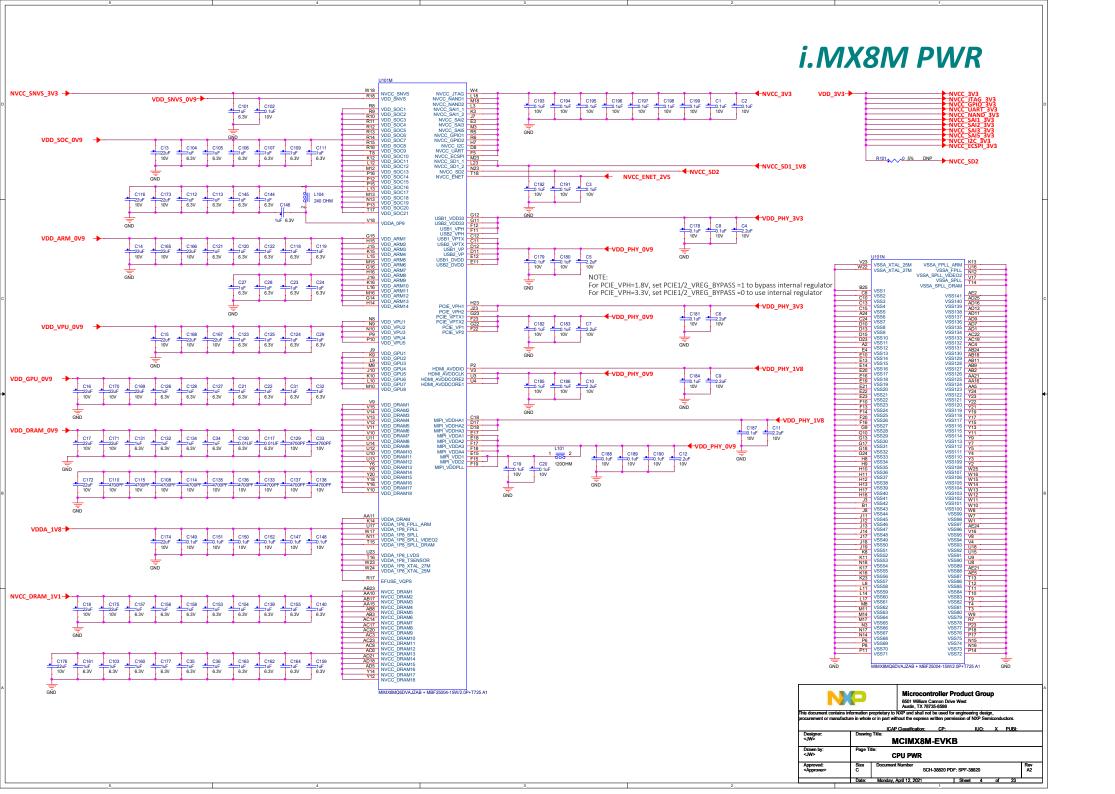
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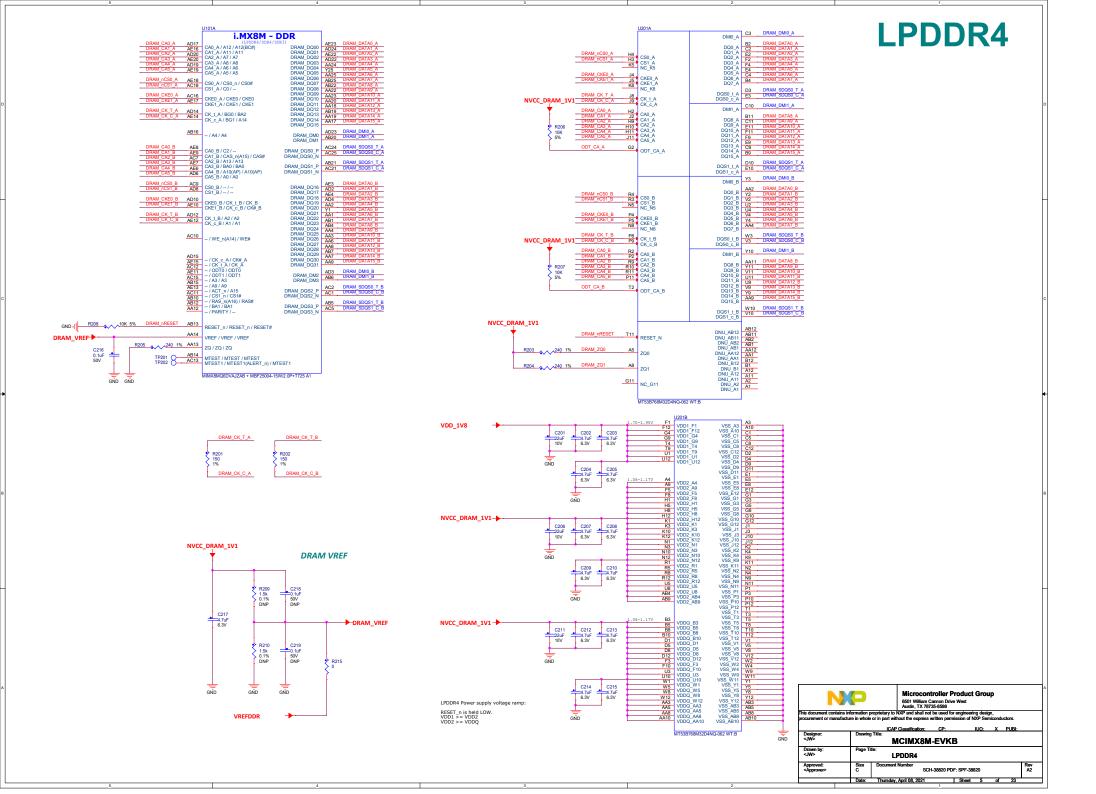
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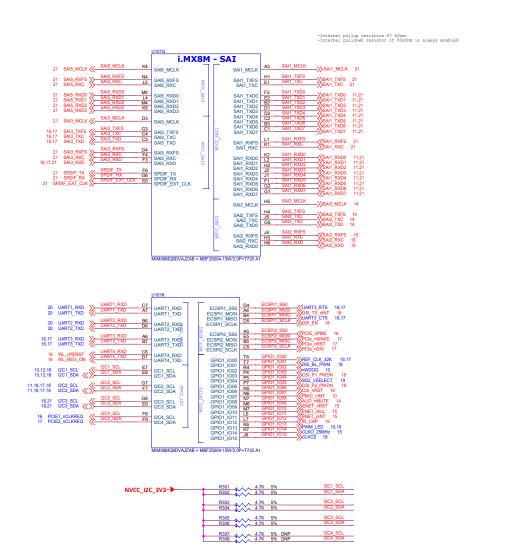
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- Ny- Block Diagram

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- Date: Thursdey, April 68, 2021 | Sheet 2 of 23











MIMX8MQ6DVAJZAA

NAND_CE0_B NAND_CE1_B NAND_CE2_B NAND_CE3_B

NAND_DATA05 NAND_DATA06 NAND_DATA07 MIMX8MQ6DVAJZAB + MBF25004-15W/2.0P+T725 A1

i.MX8M - eNET

MIMX8MQ6DVAJZAB + MBF25004-15W/2.0P+T725 A1

NAND_DQS M20 NAND_DQS

| NAND_DATA0|
| NAND_DATA0|
| NAND_DATA00|
| NAND_DATA01|
| NAND_DATA02|
| NAND_DATA02|
| NAND_DATA03|
| NAND_DATA03|
| NAND_DATA04|
| NAND_DATA05|
| NAND_DATA05|
| NAND_DATA06|
| NAND_D

9,21 NAND_DATA[7:0]

ENET_MOID
ENET_TX_CTL
ENET_TX_

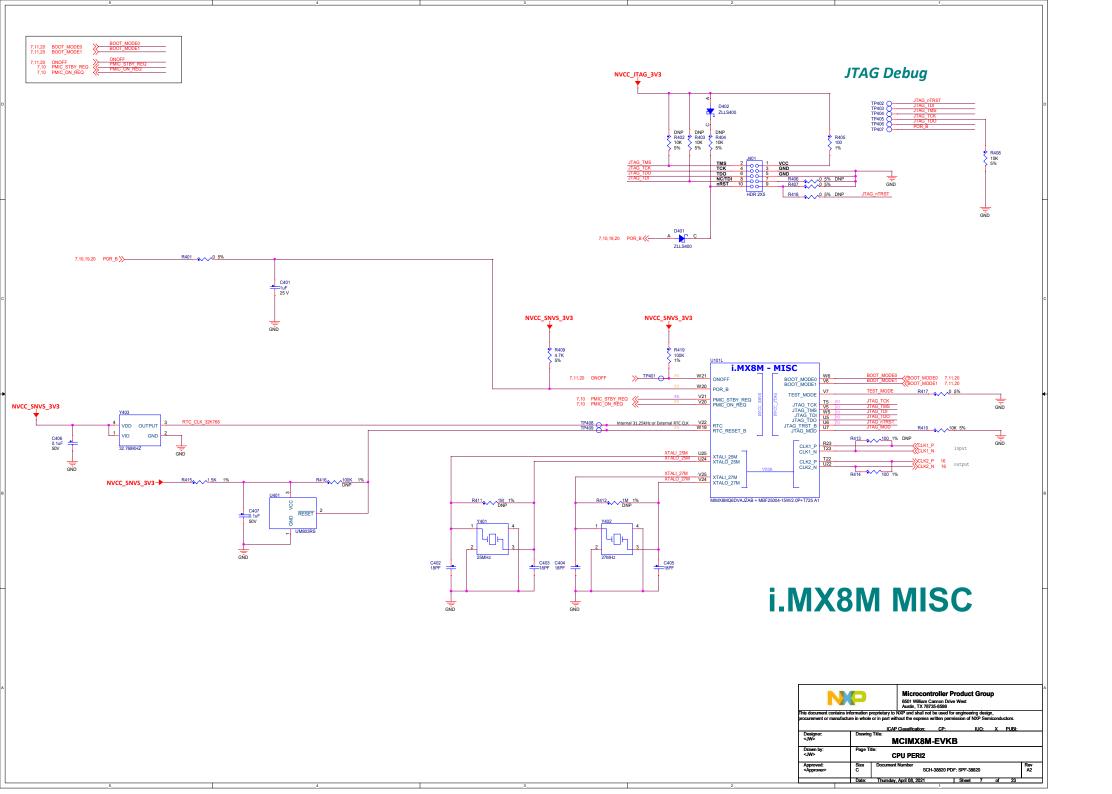
i.MX8M - NAND

NAND/QSPI

____(BT_HOST_WAKE 16

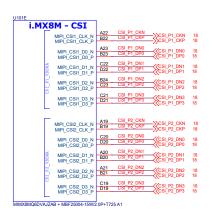
NGSPIA_SCLK 9 R309 0 5% DNP NPOD nRST 11

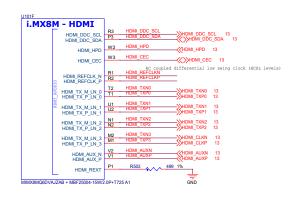
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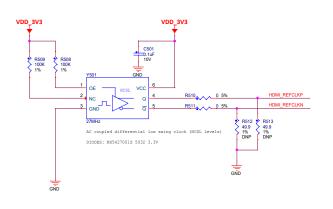


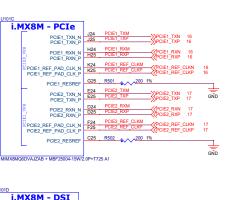
i.MX8M PHY

USB REREF: Attach a 200-0 1% 100-ppm/C precision resistor-to-ground on the board MPFDSI REVT. 15M-0 PCIE: 700-011% 100 ppm/°C precision resistor to-ground on the board. BDMI:a 9890 [41% tolerance] resistor to-ground on the board.

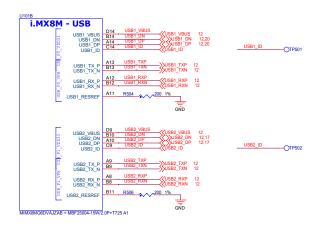






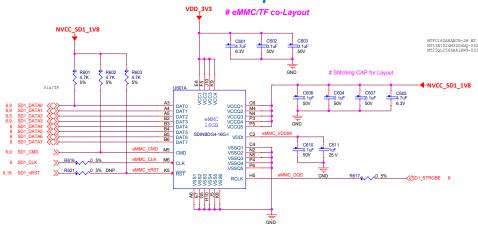




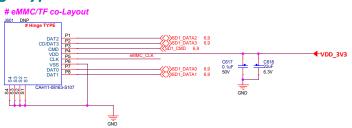


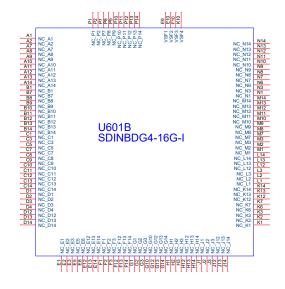
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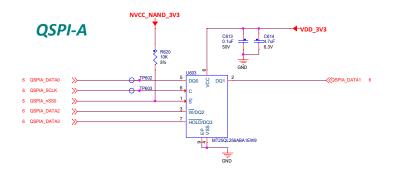
eMMC 5.0 Footprint



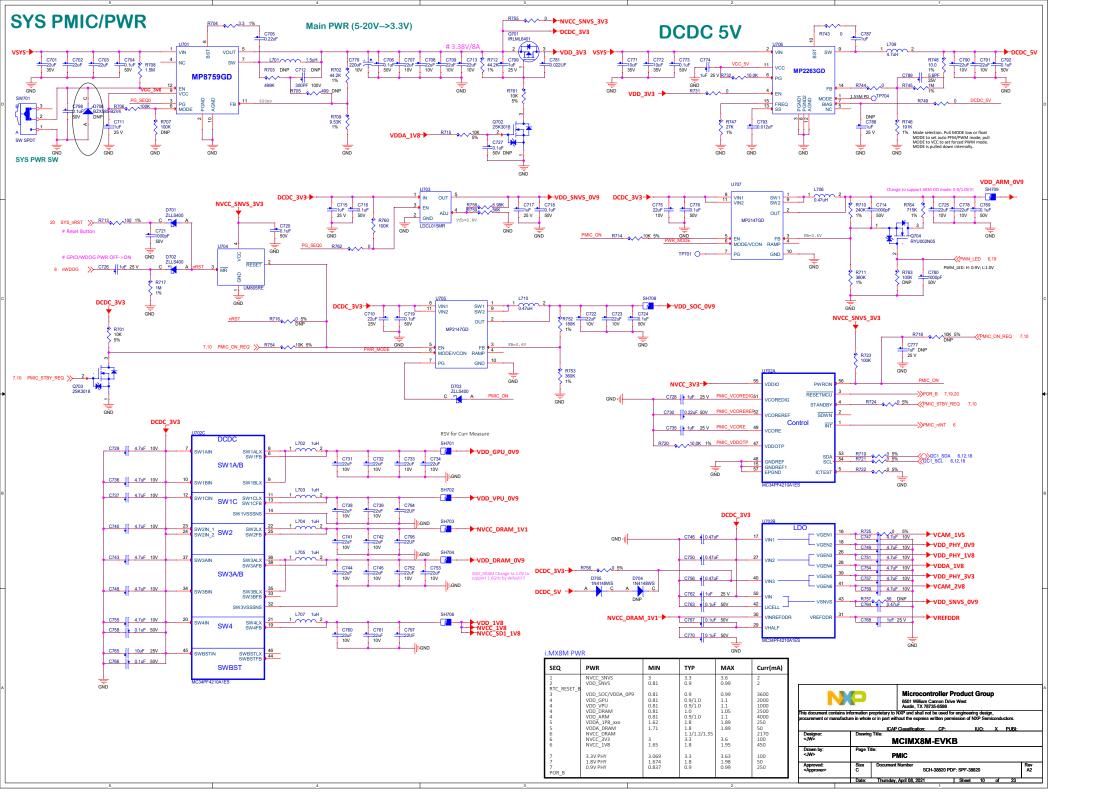
Hinge Type MicroSD

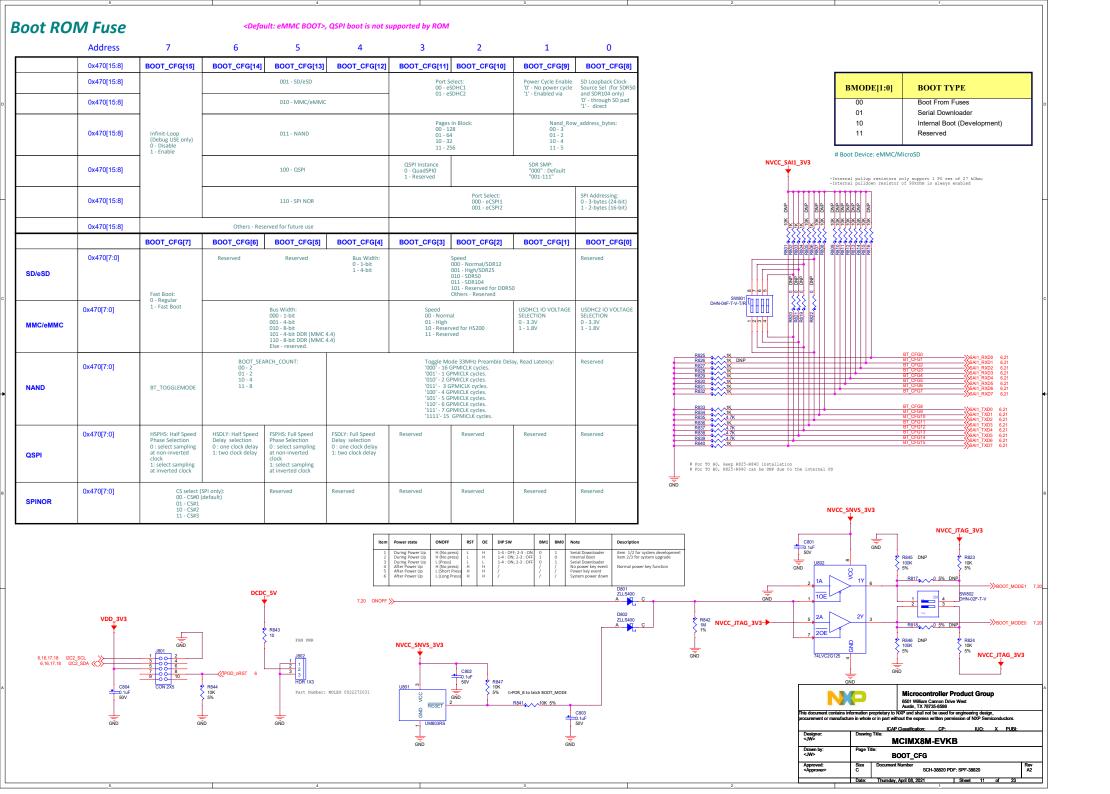


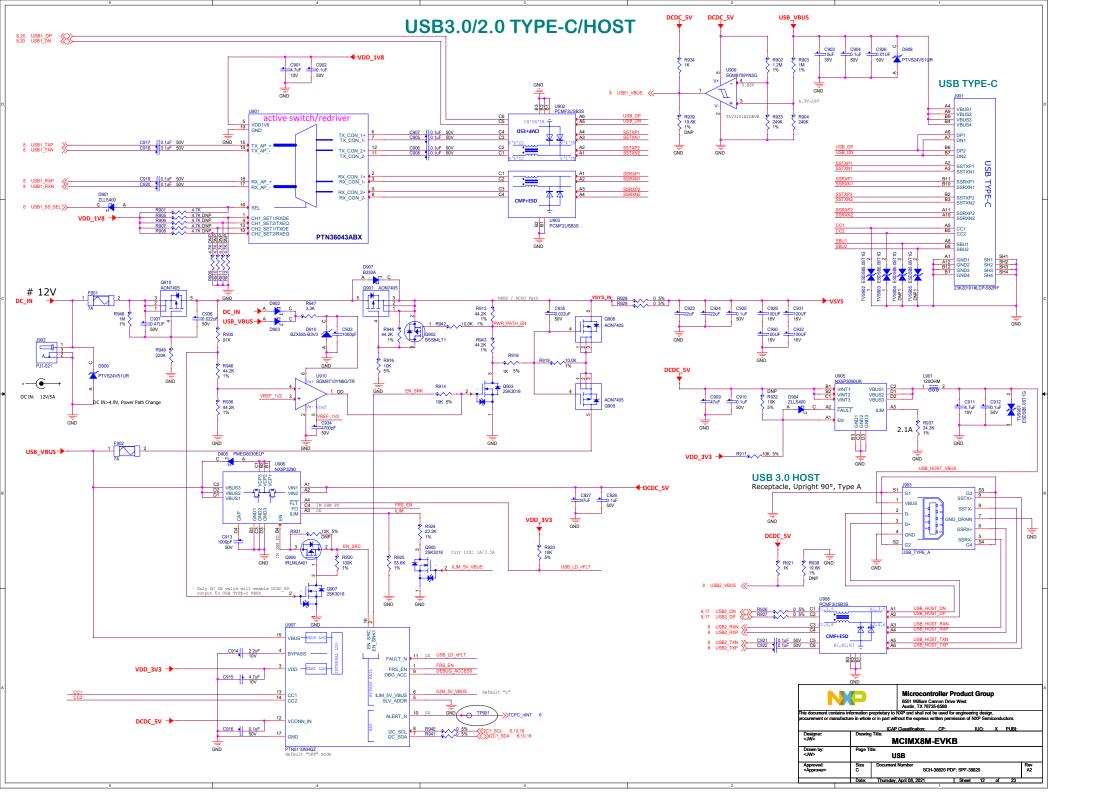




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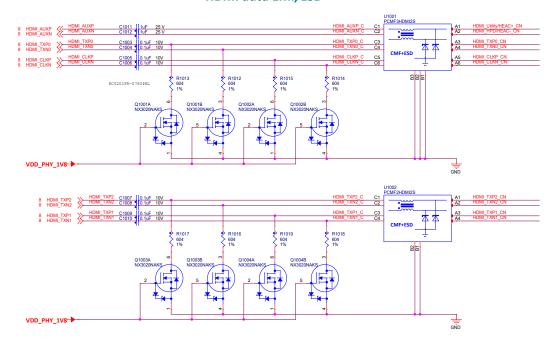


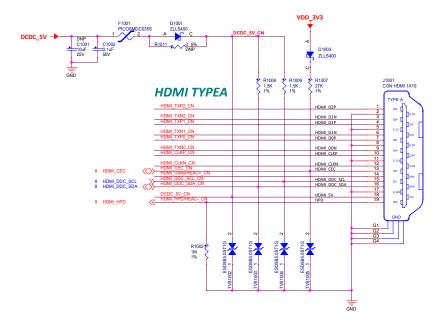




HDMI 2.0a TX

HDMI data EMI/ESD





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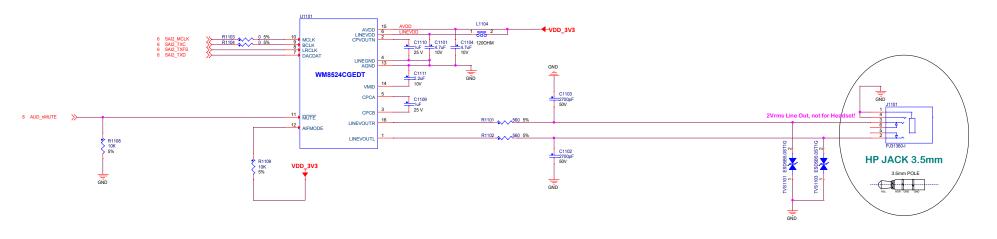
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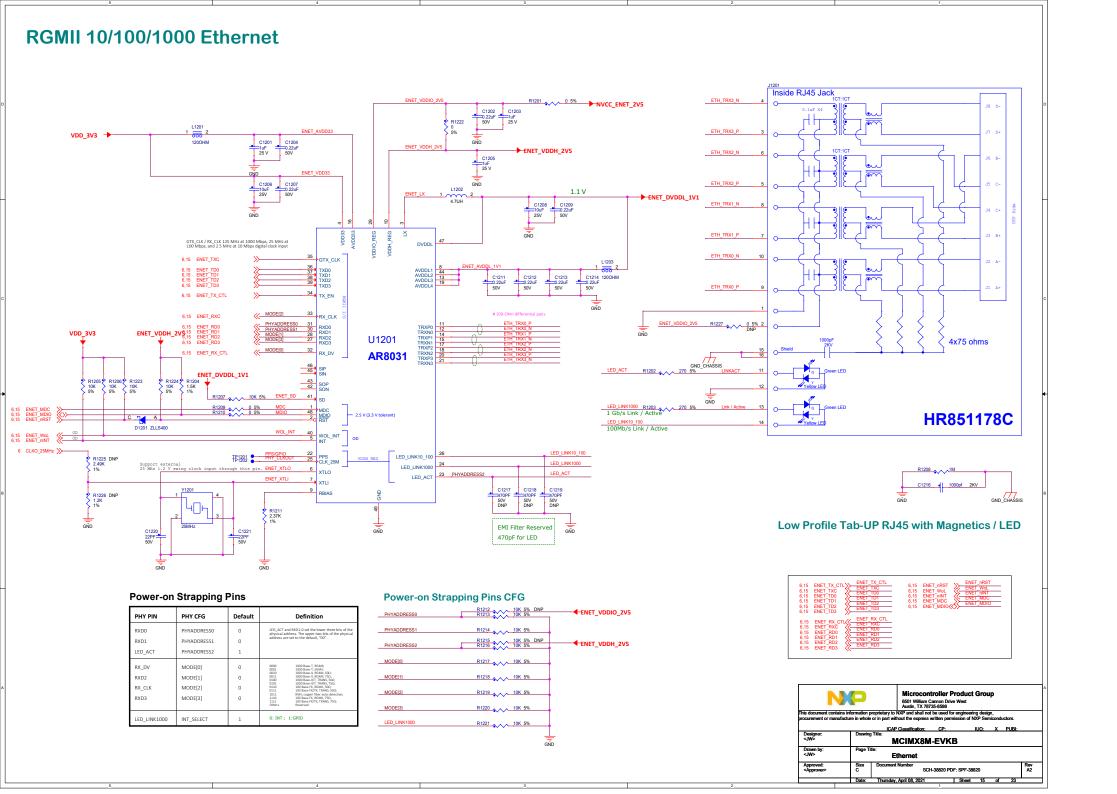
Sheet 13 of 23

Audio DAC

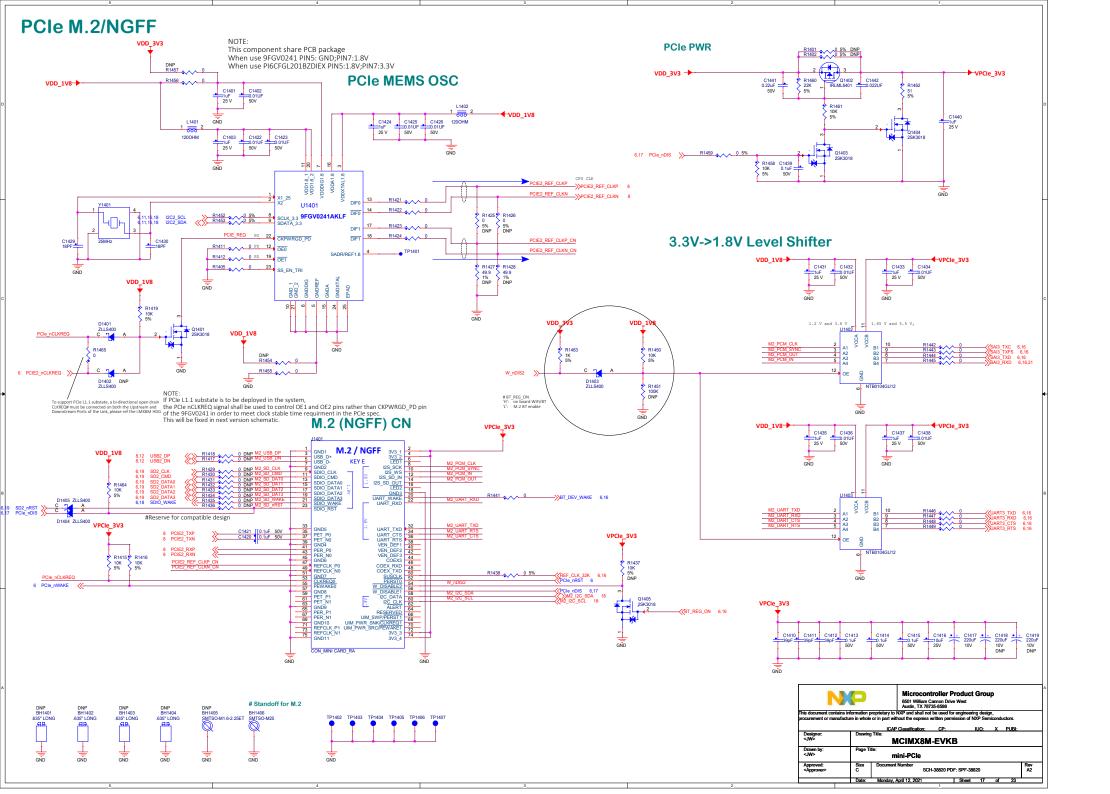
24-bit 192kHz Stereo DAC 2Vrms Line Out

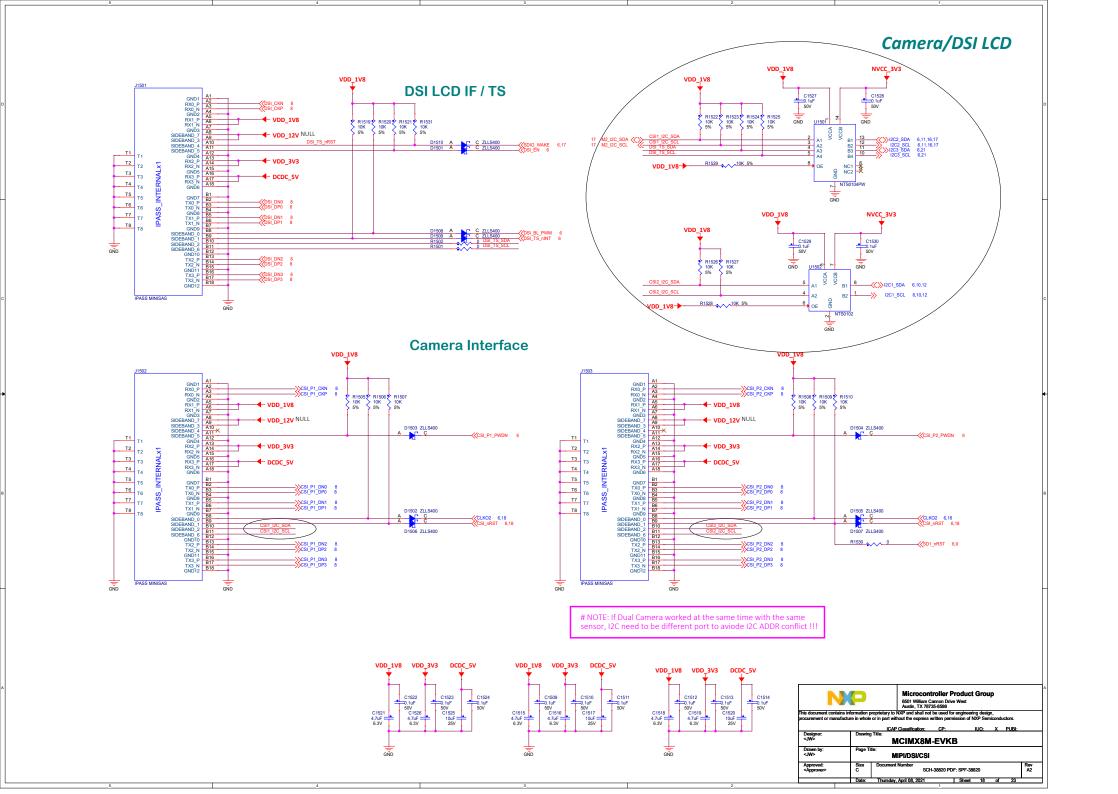


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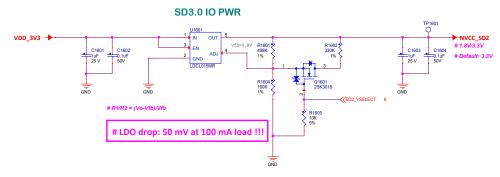


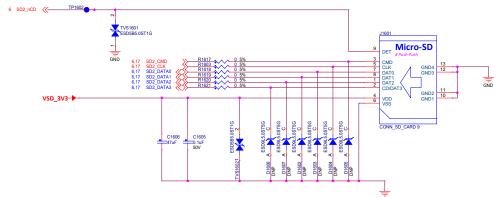
WiFi/BT 802.11a/b/g/n/ac + Bluetooth 4.1/ EDR GND_1 1 GND R1307 0 5% GND_2 2 GND R1308 0 5% ACM3-5036-A1-CC-S L1303 1nH DNP GND_1 1 GND R1310 0 5% FEED_1 GND_2 2 GND R1311 0 5% O 5% L1305 1nH DNP 6,17 REF_CLK_32K >> R1305 PERST_L WL_REG_ON JTAG SEL I BEHSUI 1CX-TEMP-D This component share PCB package When use 9FGV0241 PIN5: GND:PIN7:1.8V VDD_3V3 When use PI6CFGL201BZDIEX PIN5:1.8V;PIN7:3.3V **PCIe MEMS OSC** VDD_1V8→ **▼**VDD_1V8 C1320 C1321 C1322 1200HM VBAT_LDO1 VBAT_LDO2 VBAT_SR 120OHM C1317 =1uF 25 V C1318 0.01UF 50V 1 2.2uH 2 SR_VLX 22 PCIE1_REF_CLKP >>>PCIE1_REF_CLKP SR VLX PCIE1_REF_CLKN >>>PCIE1_REF_CLKN C1309 4.7uF 10V GND VDD_3V3 → > 0 > 0 > 5% > 5% [DNP [DNP WIFI_PCIE_CLKP R1328 0 PD 12 OE0 R1329 0 PD 19 OE1 GND R1330 0 23 SS EN TRI R1340 R1341 49.9 1% DNP 1% DNP 95 GND46 94 GND45 70 GND44 46 GND43 93 GND42 69 GND41 69 GND41 68 GND39 91 GND38 GND37 VDD_3V3 GND R1322 R1323 470 470 1% 1% DNP DNP R1343 10K 5% D1303 ZLLS400 C VDD_1V8 R1345 0 0 Ę GND R1324 R1325 56 56 1% 1% DNP R1357 # CLK2 can be used as PCIe REF CLK 6 PCIE1 nCLKREQ S Microcontroller Product Group rietary to NXP and shall not be used for engine MCIMX8M-EVKB WiFi/RT SCH-38820 PDF: SPF-38820

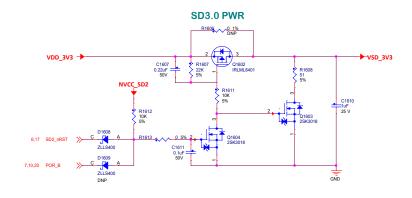


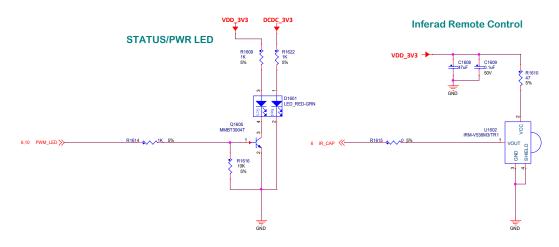


MicroSD/Infrared/LED



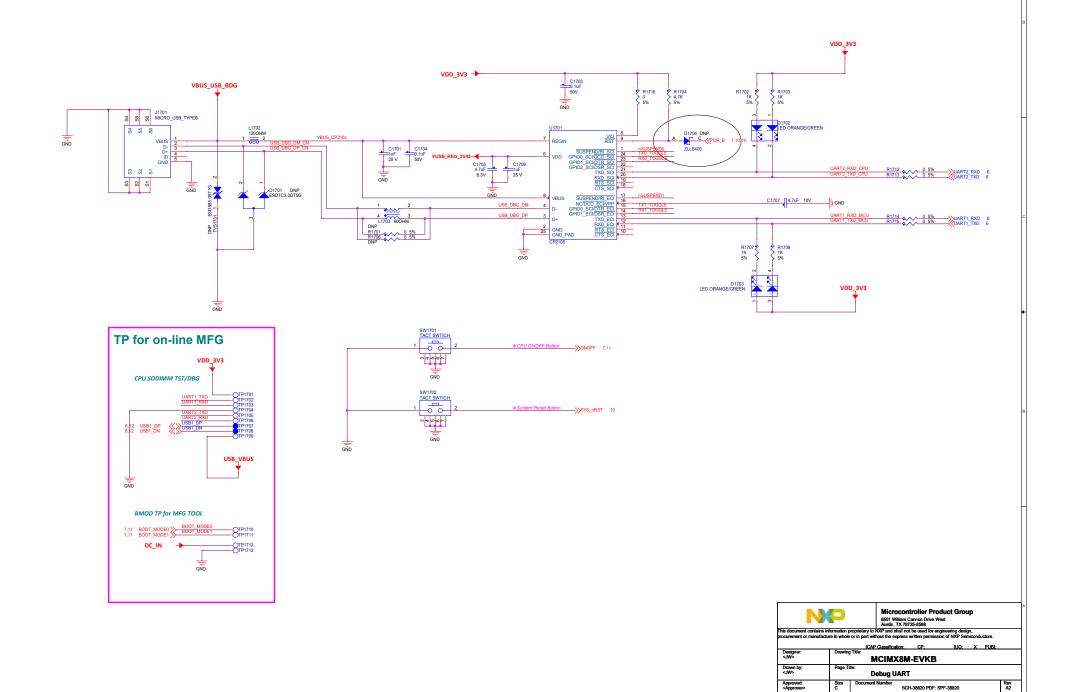






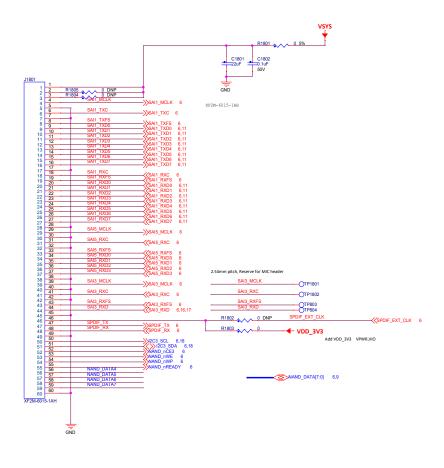
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UART-USB DBG



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i.MX8M IOMUX

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SD1_DATAS SD1_DATAS SD1_DATAS SD1_ESET_B SD1_ETROBE SD2_ETROBE SD2_CLK SD2_CHMAN SD2_CHMAN SD2_DATAS	Sept. 1.0 (15) Sept. 1.0 (17) Sept.	usifice_2 DATAD usifice_2 DATA	9501.A. SCU 8 9501.A. SCU 8 9501.A. SCU 8 9501.A. SCU 8 9501.A. SCU 8 9501.B. SCU 9 9501.B. SCU 9 9501.A. SCU 9 95				0002.10 (01) 0002	consergents (JBSEN/O consergen	\$\$4.50, @ucc3_res[14]	observe, mar. OUTI 0) observe, mar. OUTI 0) observe, mar. OUTI 1) observe, mar. OUTI 1) observe, mar. OUTI 4) observe, mar. OUTI 6) observe, mar. OUTI 6) observe, mar. OUTI 6) observe, mar. OUTI 7) observe, mar. MoDOR 10 observe, mar. MoDOR 11 observe, mar. MoDOR 13 observe, mar. MoDOR 14 observe, mar. MoDOR 14 observe, mar. MoDOR 12 observe, mar. MoDOR 14 observe, mar. MoDOR 12 observe, mar.	s(c.s)c.gourt.reg(11) s(c.s)c.gourt.reg(11) s(c.s)c.gourt.reg(11) s(c.s)c.gourt.reg(11) s(c.s)c.gourt.reg(11) s(c.s)c.gourt.reg(11) s(c.s)c.gourt.reg(11) s(c.s)c.gourt.reg(11) s(c.s)c.gourt.reg(11) s(c.s)c.gourt.reg(11) s(c.s)c.gourt.reg(11) s(c.s)c.gourt.reg(11) s(c.s)c.gourt.reg(11) s(c.s)c.gourt.reg(11) s(c.s)c.gourt.reg(11) s(c.s)c.gourt.reg(11) s(c.s)c.gourt.reg(11) s(c.s)c.gourt.reg(11) s(c.s)c.gourt.reg(11)
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PIN LIST

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