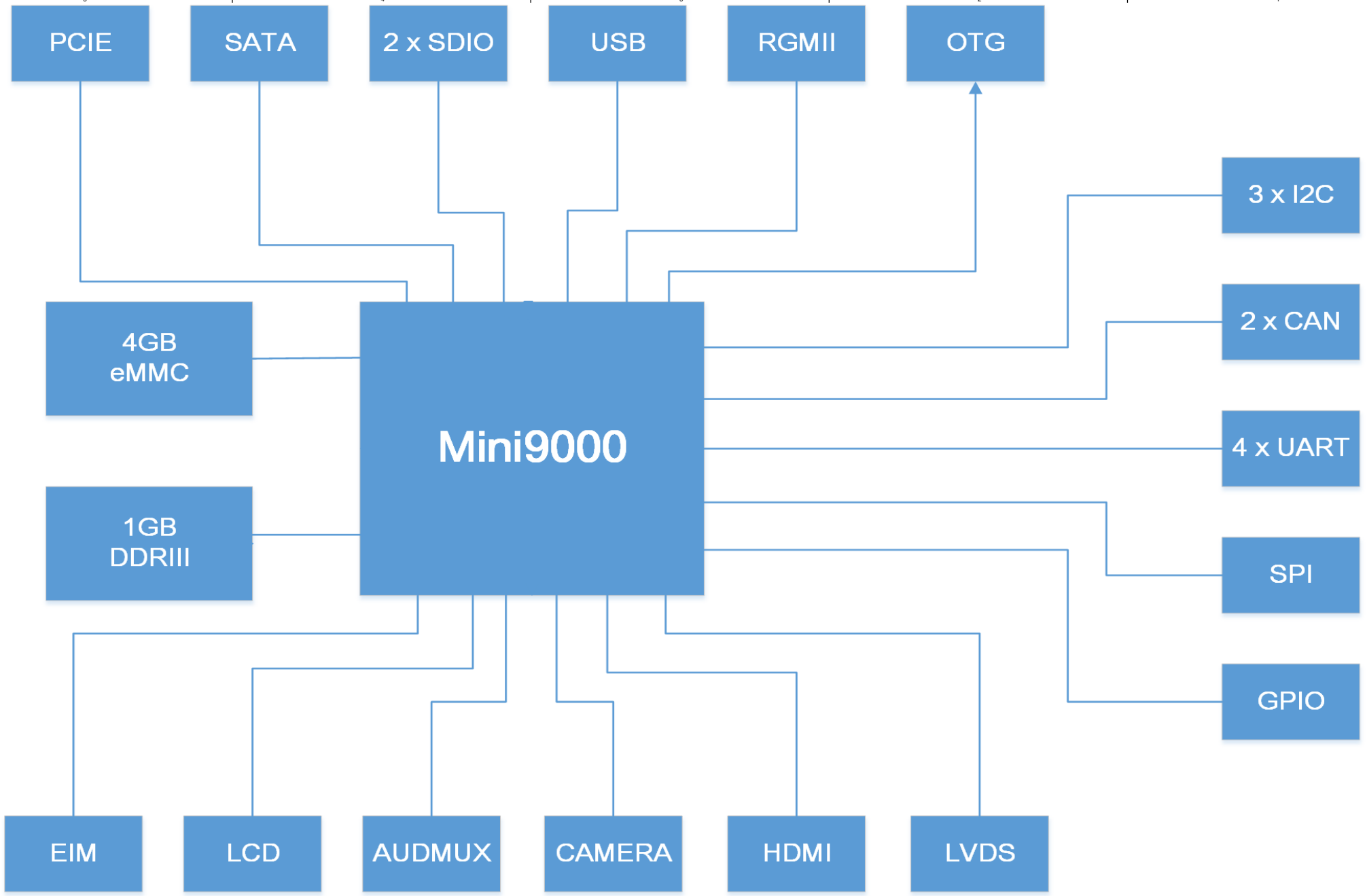

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Review	<review>	Title Mini9000	
Authorize	<authorize>	Size A3	Doc Name 01 Conver Page / Ver. X1
Standardize	<standardize>	Date Tuesday, January 27, 2015	Sheet 1 of 13

Schematic History

2014-07-25

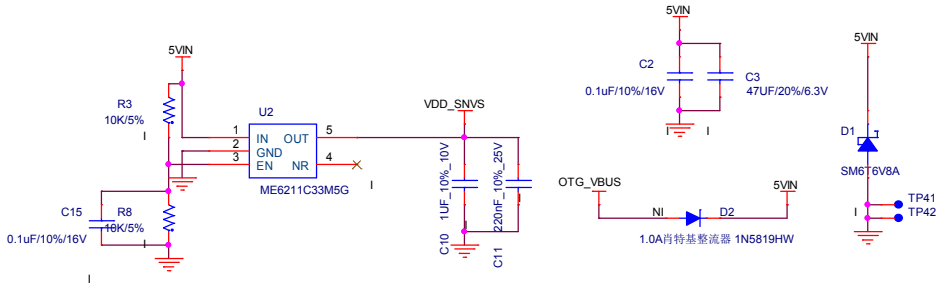
Delete D2
Add GND test point
Interchange net name of PWM3 and PWM4
Add R104 and R105
Change P/N of L1,L2,L3 and L4
Modify package of R66

2014-09-22

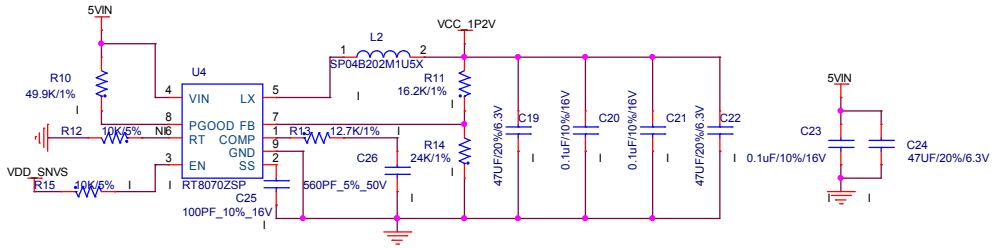
Add mechanical holes
Add a power connector for test

Design	<design>	**Embest Tech Co. LTD**	
Review	<review>	Title Mini9000	
Authorize	<authorize>	Size A3	Doc Name 02 Schematic History / Ver. X1
Standardize	<standardize>	Date Tuesday, January 27, 2015	Sheet 2 of 13

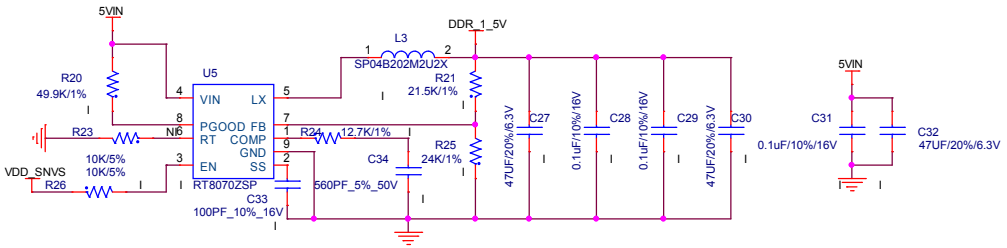
VDD_SNVS



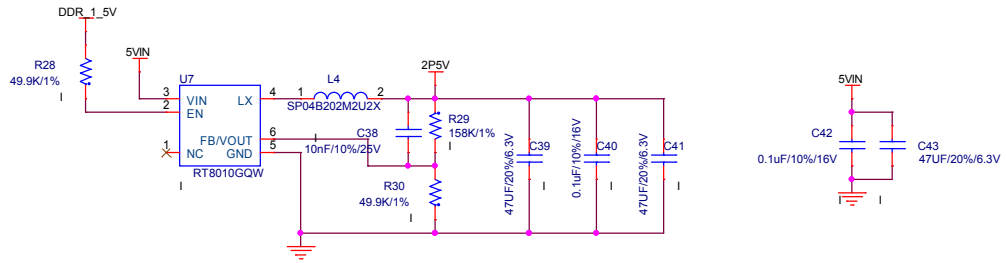
VCC_1P2V



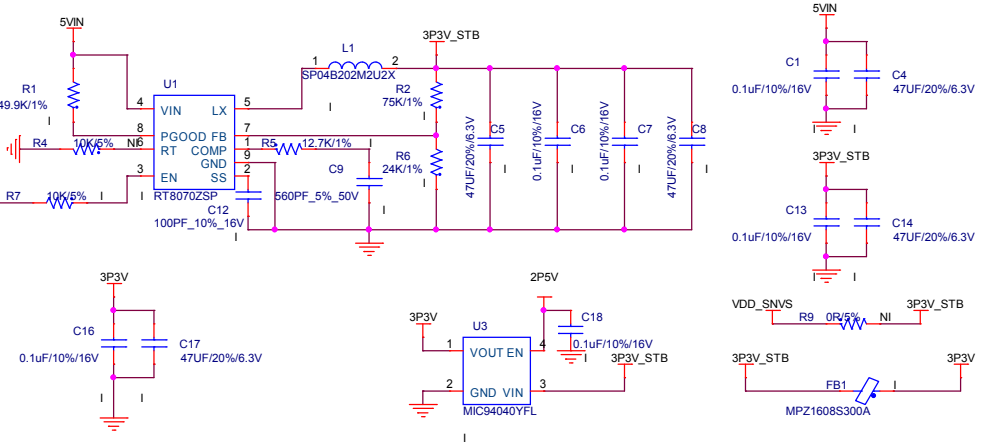
DDR_1_5V



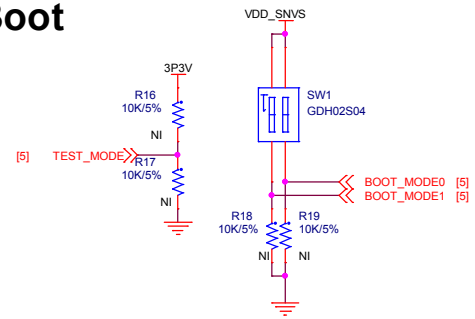
2P5V



3P3V

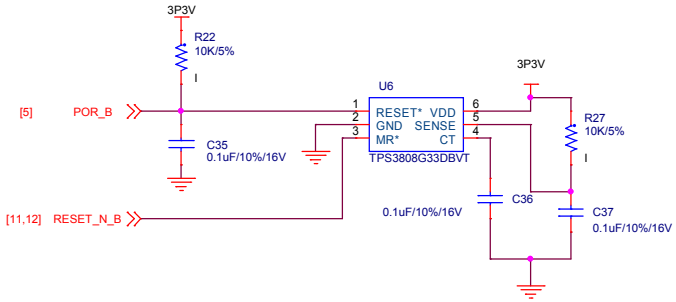


Boot



BOOT_MODE[1 : 0]	Boot Type
00	Boot From Fuses
01	Serial Downloader
10	Internal Boot
11	Reserved

HW Monitor



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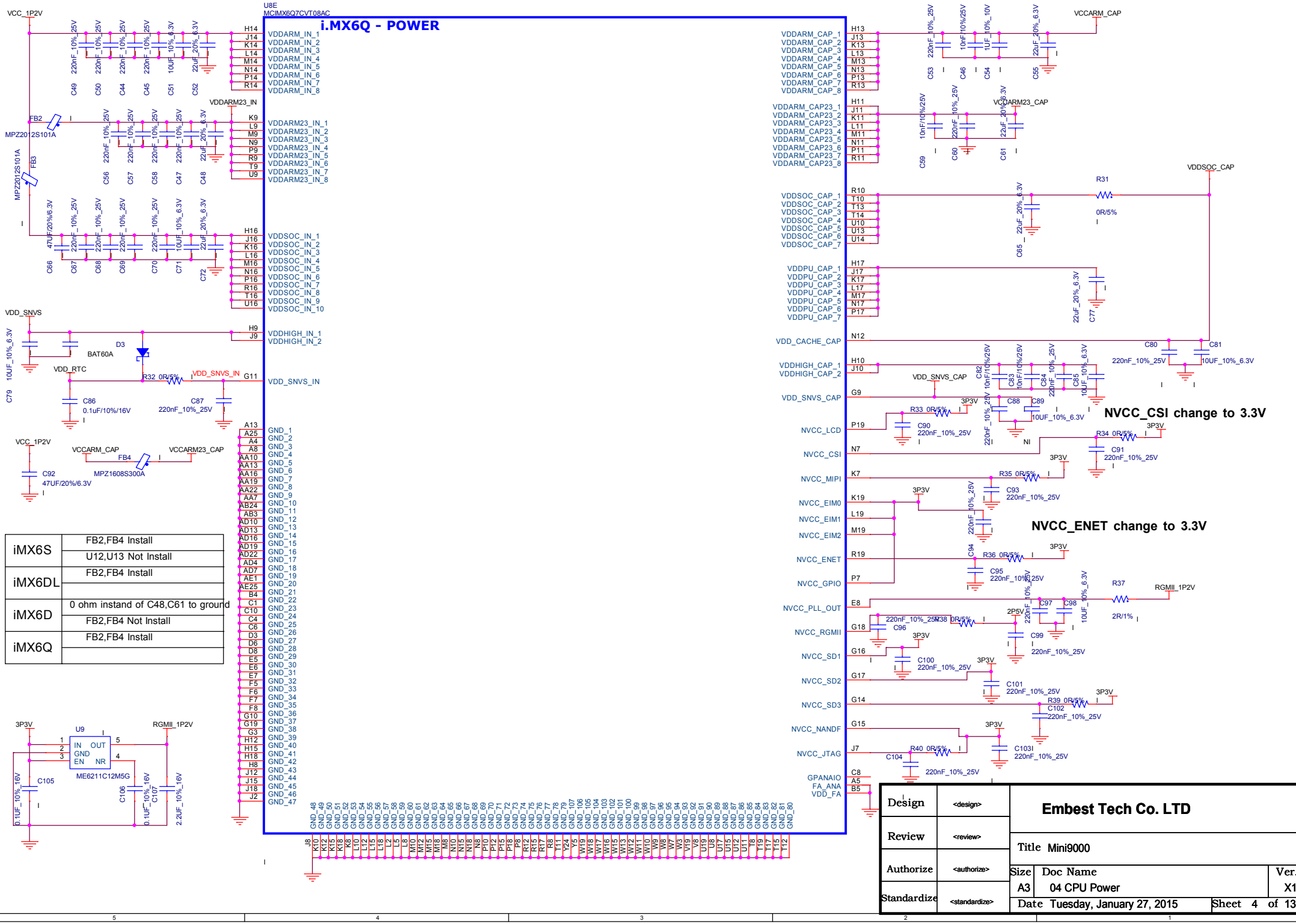
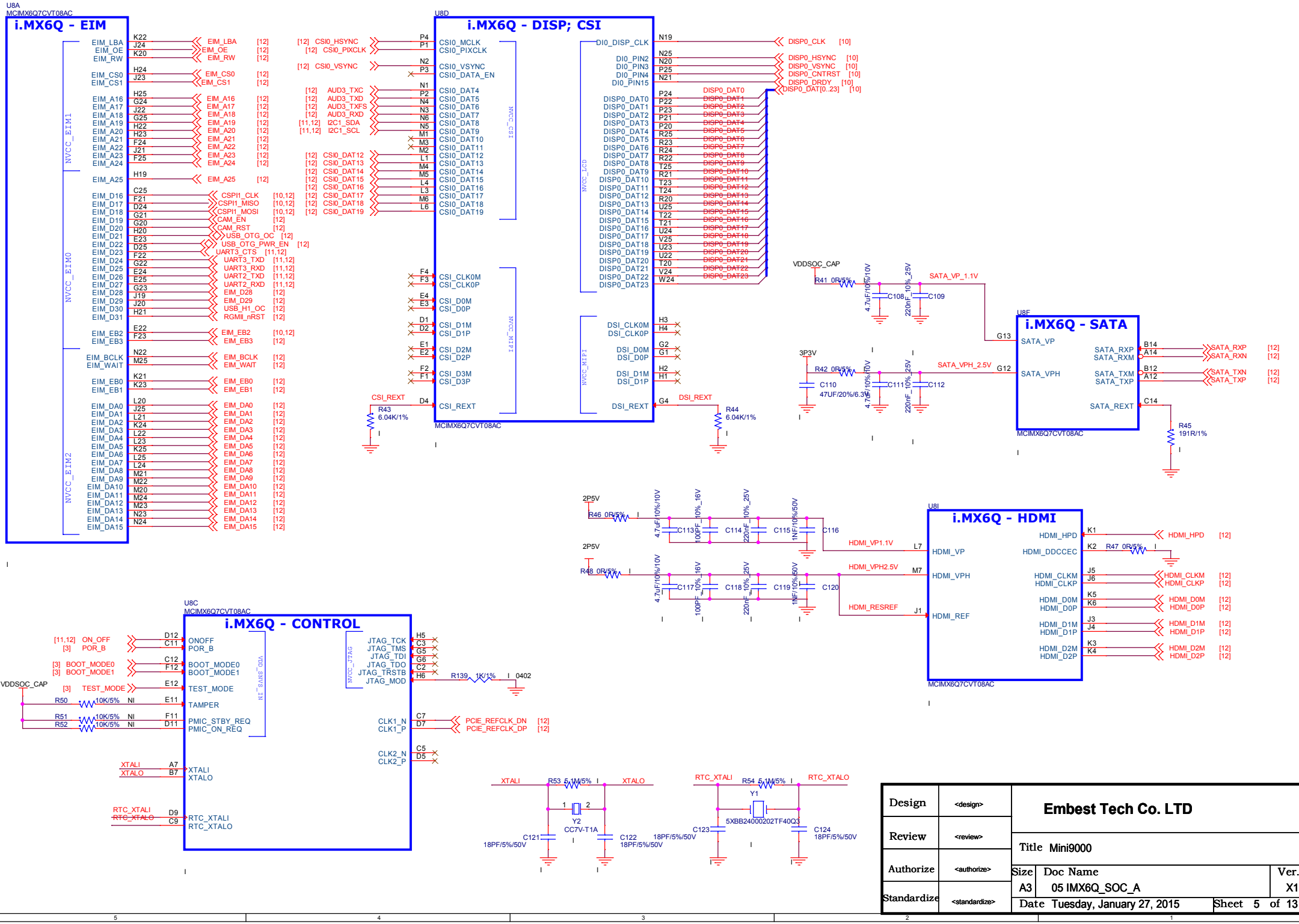
Review	<review>	Title Mini9000	
Authorize	<authorize>	Size A3	Doc Name 03 System Power
Standardize	<standardize>	Date Tuesday, January 27, 2015	Sheet 3 of 13

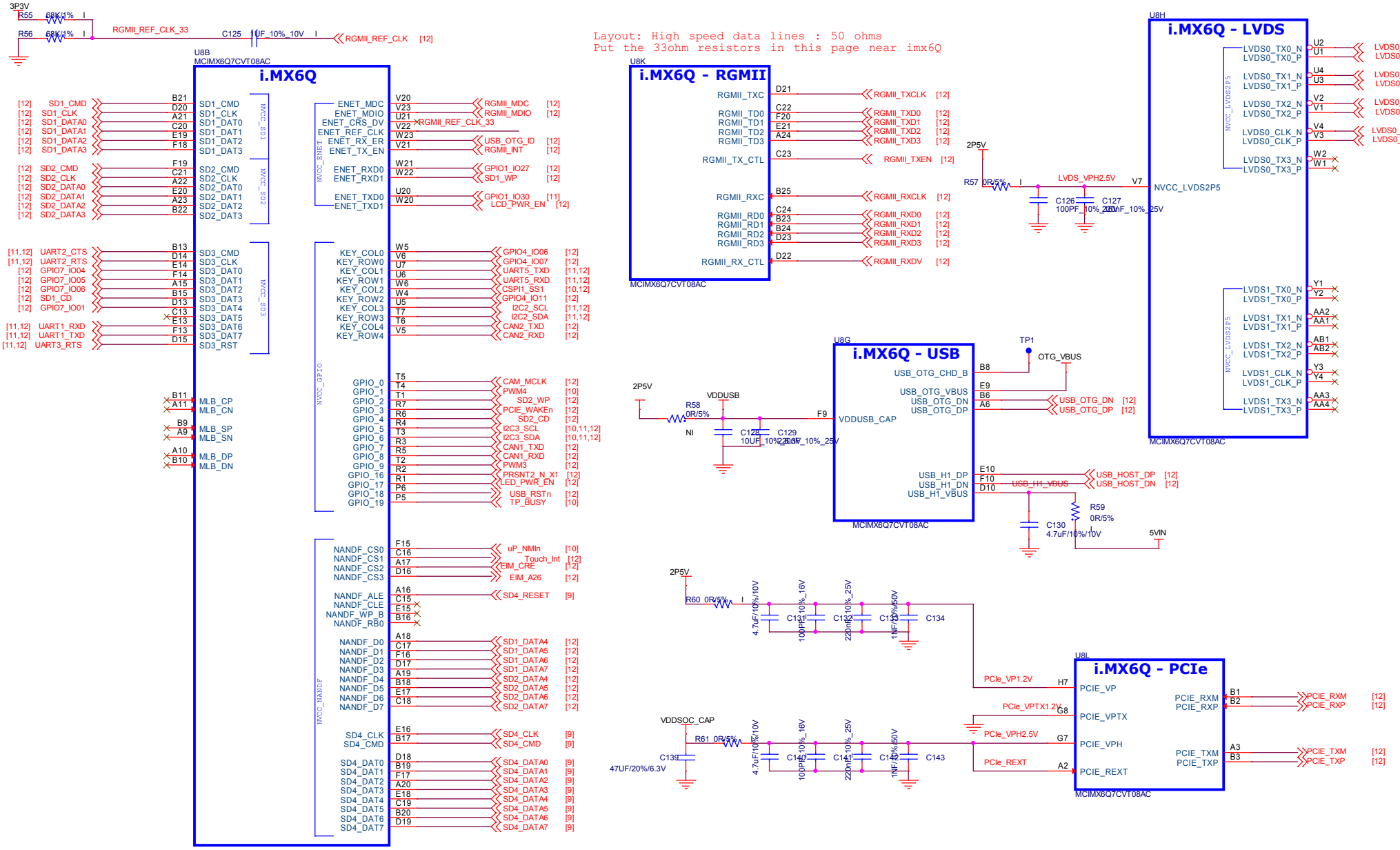
Ver. X1



iMX6S	FB2,FB4 Install
	U12,U13 Not Install
iMX6DL	FB2,FB4 Install
iMX6D	0 ohm instand of C48,C61 to ground
	FB2,FB4 Not Install
iMX6Q	FB2,FB4 Install

Design	<design>	Embest Tech Co. LTD	
Review	<review>	Title Mini9000	
Authorize	<authorize>	Size A3	Doc Name 04 CPU Power
Standardize	<standardize>	Date Tuesday, January 27, 2015	Sheet 4 of 13


U8A
MCIMX6Q7CVT08AC
i.MX6Q - EIM
NVCC_EIM1
NVCC_EIM0
NVCC_EIM2
EIM_LBA K22
EIM_OE J24
EIM_RW K20
EIM_CS0 H24
EIM_CS1 J23
EIM_A16 H25
EIM_A17 G24
EIM_A18 J22
EIM_A19 G25
EIM_A20 H22
EIM_A21 H23
EIM_A22 F24
EIM_A23 J21
EIM_A24 F25
EIM_A25 H19
EIM_D16 C25
EIM_D17 F21
EIM_D18 D24
EIM_D19 G21
EIM_D20 G20
EIM_D21 H20
EIM_D22 E23
EIM_D23 D25
EIM_D24 F22
EIM_D25 G22
EIM_D26 E24
EIM_D27 E25
EIM_D28 G23
EIM_D29 J19
EIM_D30 J20
EIM_D31 H21
EIM_EB2 E22
EIM_EB3 F23
EIM_BCLK N22
EIM_WAIT M25
EIM_EB0 K21
EIM_EB1 K23
EIM_DA0 L20
EIM_DA1 J25
EIM_DA2 L21
EIM_DA3 K24
EIM_DA4 L22
EIM_DA5 L23
EIM_DA6 K25
EIM_DA7 L25
EIM_DA8 L24
EIM_DA9 M21
EIM_DA10 M22
EIM_DA11 M20
EIM_DA12 M24
EIM_DA13 M23
EIM_DA14 N23
EIM_DA15 N24
U8D
i.MX6Q - DISP; CSI
NVCC_CSI
NVCC_LCD
NVCC_MIPI
CSI0_MCLK P4
CSI0_PIXCLK P1
CSI0_VSYNC N2
CSI0_DATA_EN P3
CSI0_DAT4 N1
CSI0_DAT5 P2
CSI0_DAT6 N4
CSI0_DAT7 N3
CSI0_DAT8 N6
CSI0_DAT9 N5
CSI0_DAT10 M1
CSI0_DAT11 M3
CSI0_DAT12 M2
CSI0_DAT13 L1
CSI0_DAT14 M4
CSI0_DAT15 M5
CSI0_DAT16 L4
CSI0_DAT17 L3
CSI0_DAT18 M6
CSI0_DAT19 L6
CSI_CLK0M F4
CSI_CLK0P F3
CSI_D0M E4
CSI_D0P E3
CSI_D1M D1
CSI_D1P D2
CSI_D2M E1
CSI_D2P E2
CSI_D3M F2
CSI_D3P F1
CSI_REXT D4
DI0_DISP_CLK N19
DI0_PIN2 N25
DI0_PIN3 N20
DI0_PIN4 P25
DI0_PIN15 N21
DISP0_DAT0 P24
DISP0_DAT1 P22
DISP0_DAT2 P23
DISP0_DAT3 P21
DISP0_DAT4 P20
DISP0_DAT5 R25
DISP0_DAT6 R23
DISP0_DAT7 R24
DISP0_DAT8 R22
DISP0_DAT9 T25
DISP0_DAT10 R21
DISP0_DAT11 T23
DISP0_DAT12 T24
DISP0_DAT13 R20
DISP0_DAT14 U25
DISP0_DAT15 T22
DISP0_DAT16 T21
DISP0_DAT17 U24
DISP0_DAT18 V25
DISP0_DAT19 U23
DISP0_DAT20 U22
DISP0_DAT21 T20
DISP0_DAT22 V24
DISP0_DAT23 W24
DSI_CLK0M H3
DSI_CLK0P H4
DSI_D0M G2
DSI_D0P G1
DSI_D1M H2
DSI_D1P H1
DSI_REXT G4
R43 6.04K/1%
R44 6.04K/1%
U8F
i.MX6Q - SATA
SATA_VP G13
SATA_VPH G12
SATA_RXP B14
SATA_RXM A14
SATA_TXM B12
SATA_TXP A12
SATA_REXT C14
R45 191R/1%
U8I
i.MX6Q - HDMI
HDMI_VP L7
HDMI_VPH M7
HDMI_REF J1
HDMI_HPD K1
HDMI_DDCCEC K2
HDMI_CLKM J5
HDMI_CLKP J6
HDMI_D0M K5
HDMI_D0P K6
HDMI_D1M J3
HDMI_D1P J4
HDMI_D2M K3
HDMI_D2P K4
U8C
MCIMX6Q7CVT08AC
i.MX6Q - CONTROL
ONOFF D12
POR_B C11
BOOT_MODE0 C12
BOOT_MODE1 F12
TEST_MODE E12
TAMPER E11
PMIC_STBY_REQ F11
PMIC_ON_REQ D11
XTALI A7
XTALO B7
RTC_XTALI D9
RTC_XTALO C9
JTAG_TCK H5
JTAG_TMS C3
JTAG_TDI G5
JTAG_TDO G6
JTAG_TRSTB C2
JTAG_MOD H6
CLK1_N C7
CLK1_P D7
CLK2_N C5
CLK2_P D5
R139 1K/1%
R50 10K/5%
R51 10K/5%
R52 10K/5%
VDDSOC_CAP
R41 0R/5%
R42 0R/5%
R46 0R/5%
R48 0R/5%
2P5V
3P3V
SATA_VP_1.1V
SATA_VPH_2.5V
HDMI_VP1.1V
HDMI_VPH2.5V
HDMI_RESREF
R47 0R/5%
Y2
CC7V-T1A
Y1
5XBB24000202TF40Q3
18PF/5%/50V
Embest Tech Co. LTD
Design
Review
Authorize
Standardize
Title Mini9000
Size A3
Doc Name 05 IMX6Q_SOC_A
Ver. X1
Date Tuesday, January 27, 2015
Sheet 5 of 13



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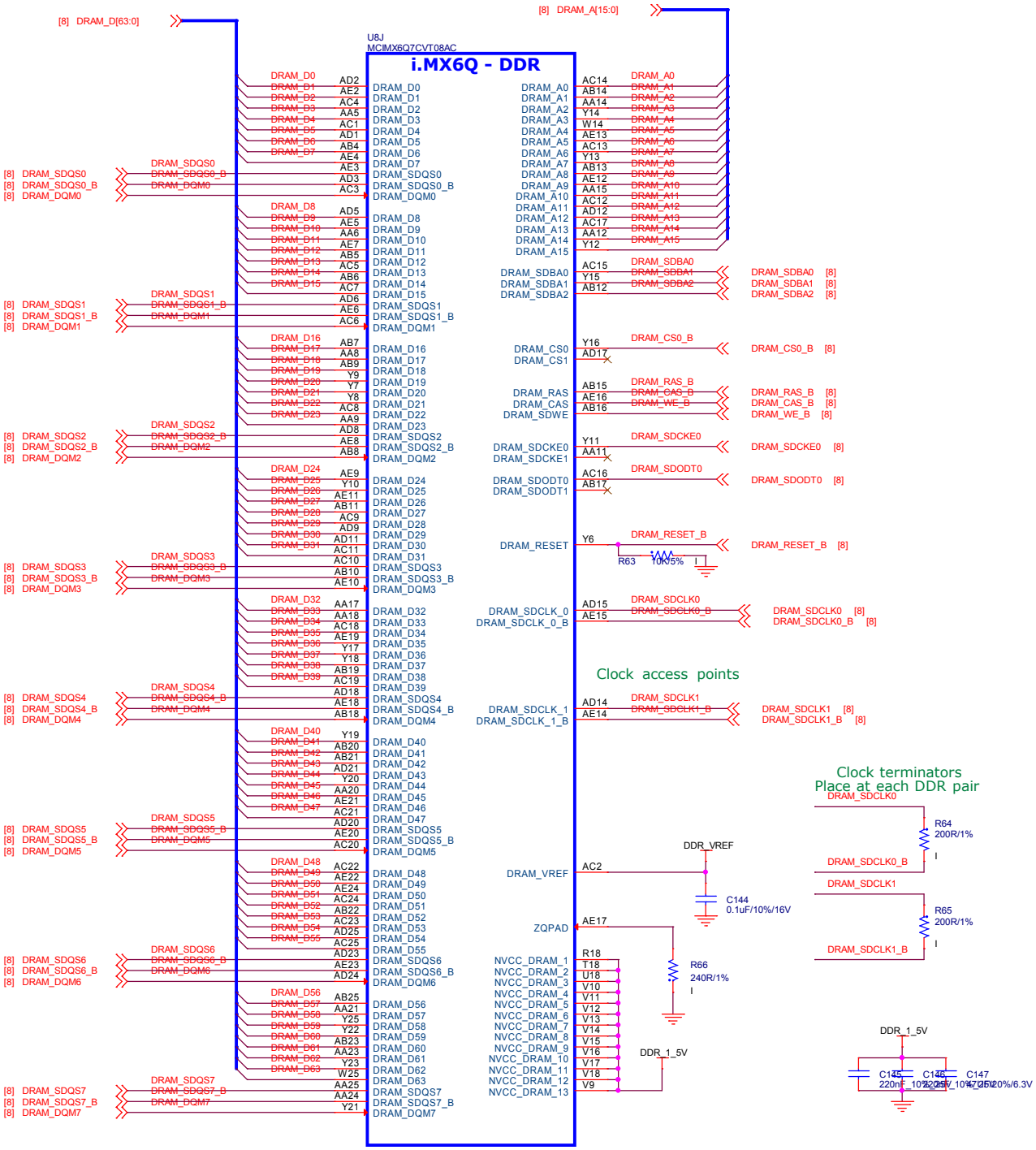
Review	<review>	Title Mini9000	
Authorize	<authorize>	Size A3	Doc Name 06 IMX6Q_SOC_B
Standardize	<standardize>	Ver. X1	
		Date Tuesday, January 27, 2015	Sheet 6 of 13



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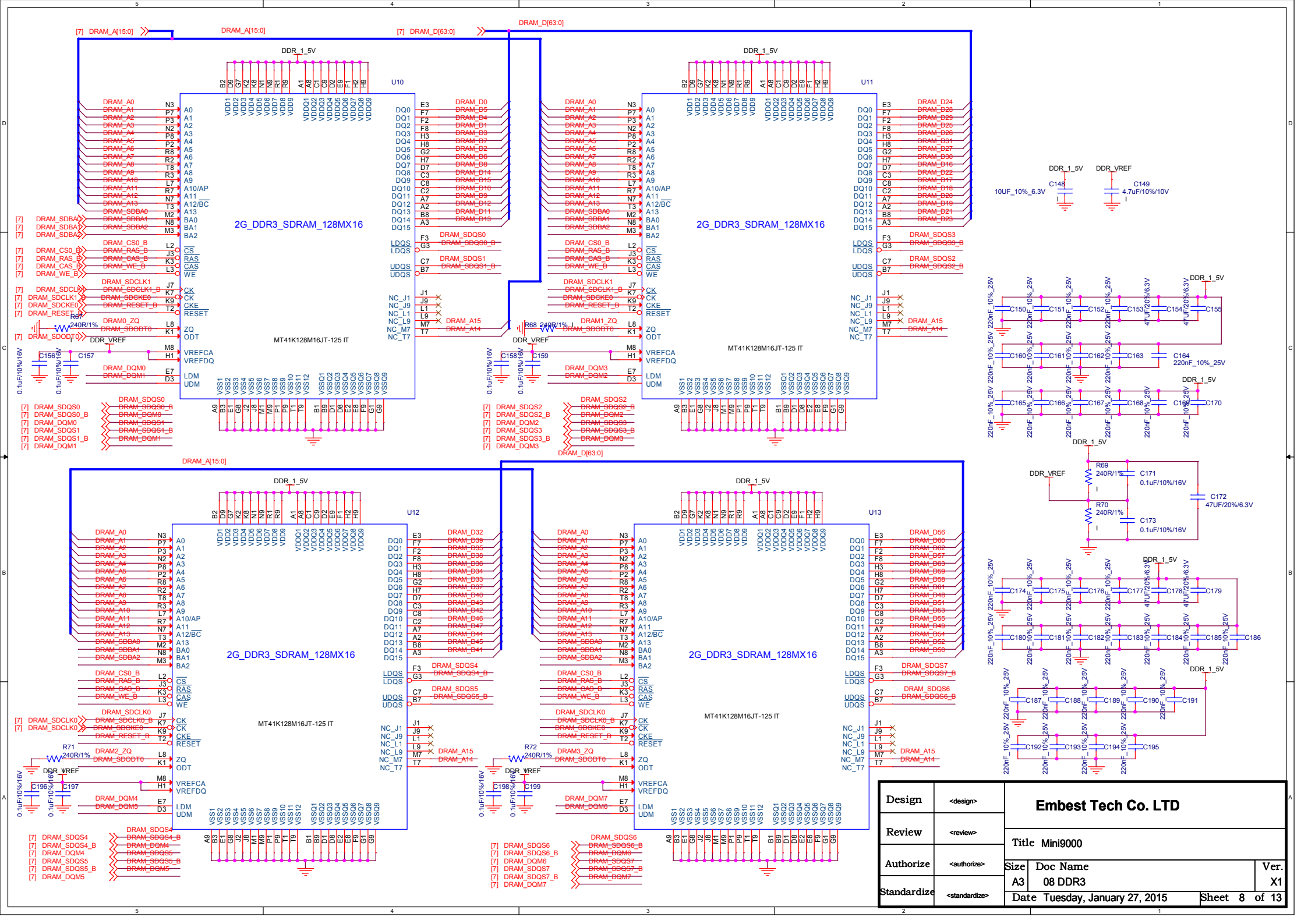
Standardize	<standardize>	Ver. X1	
		Date Tuesday, January 27, 2015	Sheet 7 of 13



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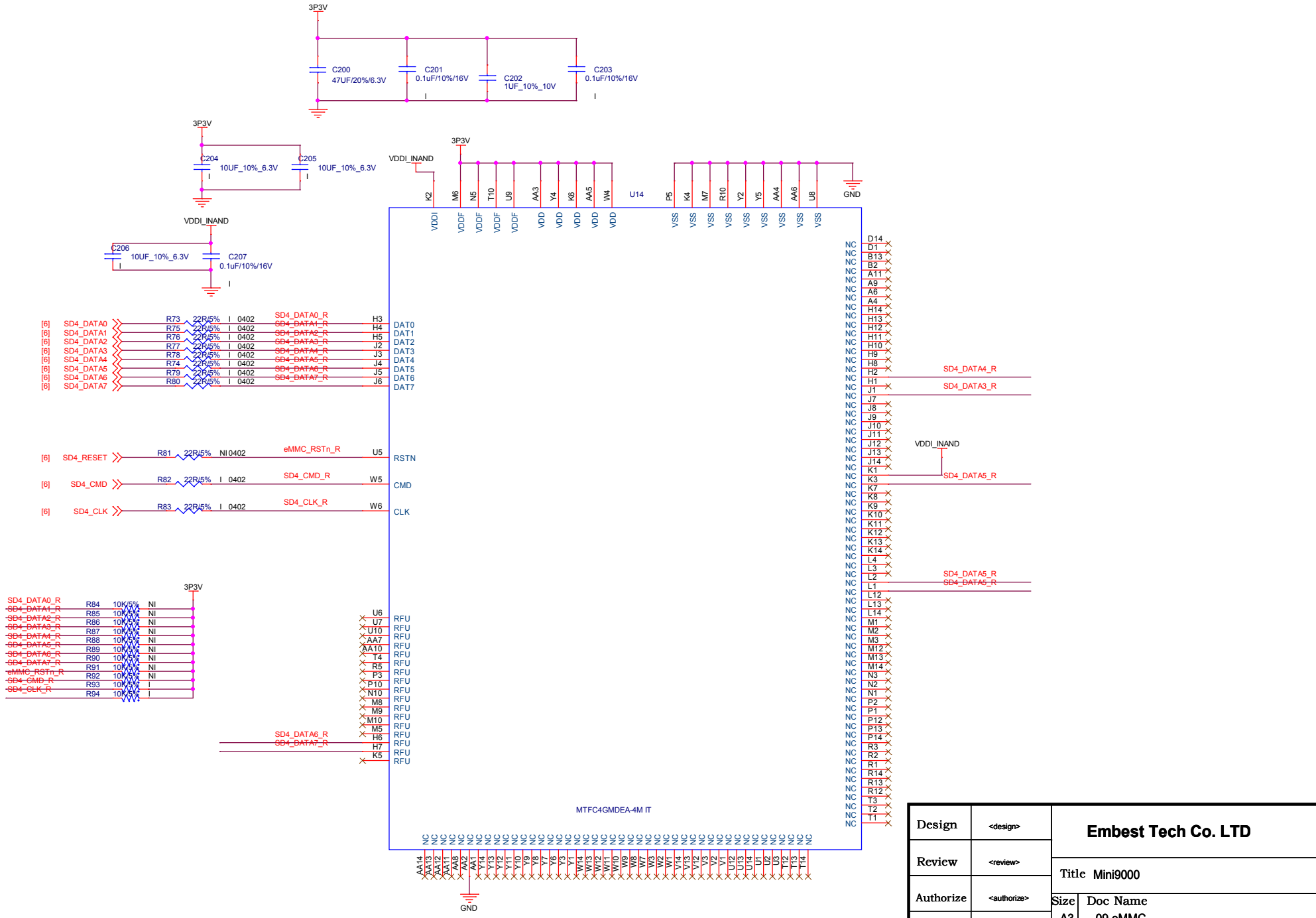
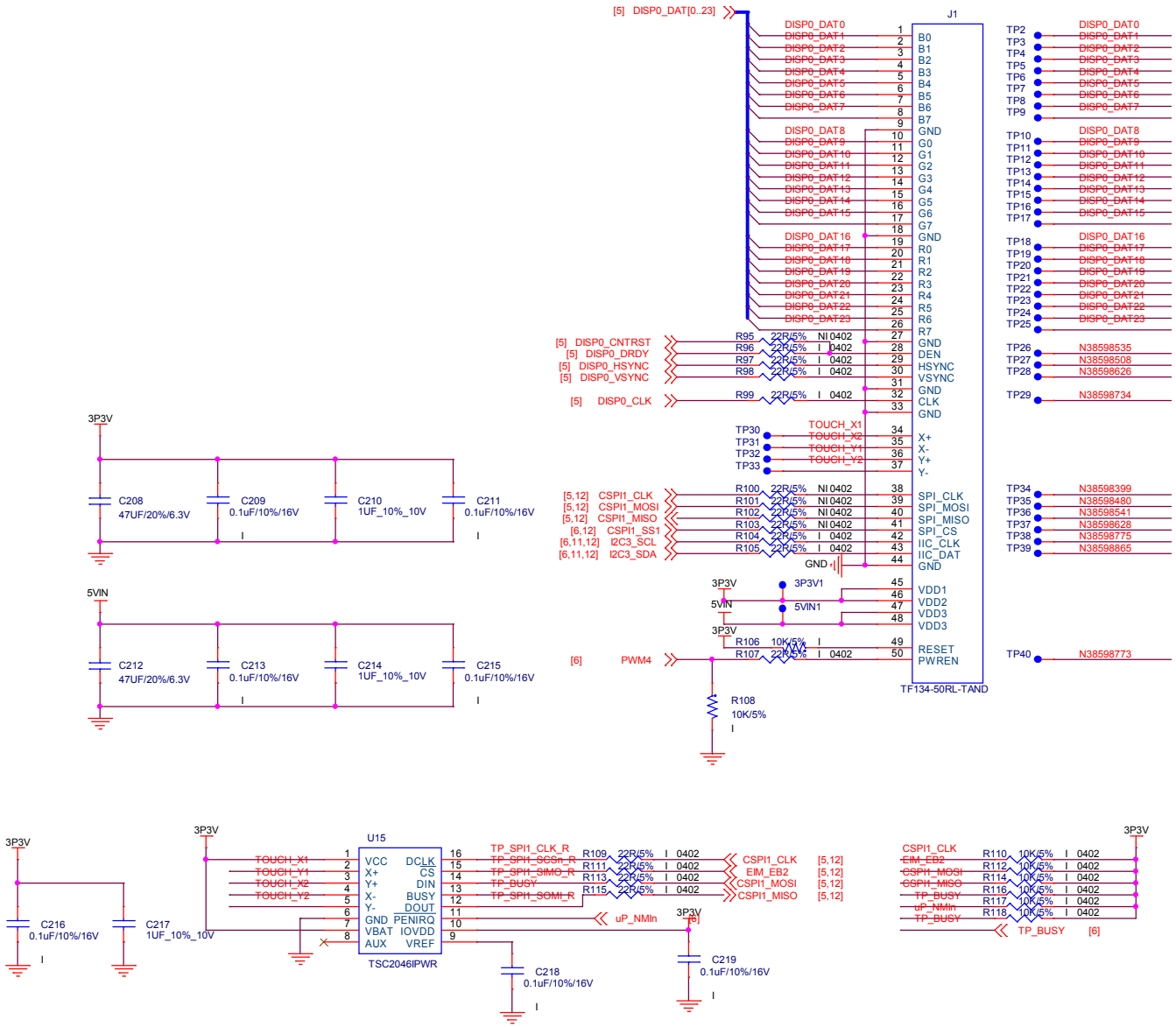
Standardize	<standardize>	Date Tuesday, January 27, 2015	Sheet 8 of 13

Ver. X1


3P3V
C200 47UF/20%/6.3V
C201 0.1uF/10%/16V
C202 1UF_10%_10V
C203 0.1uF/10%/16V
C204 10UF_10%_6.3V
C205 10UF_10%_6.3V
C206 10UF_10%_6.3V
C207 0.1uF/10%/16V
VDDI_INAND
GND
U14
MTFC4GMDEA-4M IT
SD4_DATA0
SD4_DATA1
SD4_DATA2
SD4_DATA3
SD4_DATA4
SD4_DATA5
SD4_DATA6
SD4_DATA7
SD4_RESET
SD4_CMD
SD4_CLK
eMMC_RSTn_R
SD4_CMD_R
SD4_CLK_R
SD4_DATA0_R
SD4_DATA1_R
SD4_DATA2_R
SD4_DATA3_R
SD4_DATA4_R
SD4_DATA5_R
SD4_DATA6_R
SD4_DATA7_R
DAT0
DAT1
DAT2
DAT3
DAT4
DAT5
DAT6
DAT7
RSTN
CMD
CLK
RFU
Design <design>
Review <review>
Authorize <authorize>
Standardize <standardize>
Embest Tech Co. LTD
Title Mini9000
Size A3
Doc Name 09 eMMC
Ver. X1
Date Tuesday, January 27, 2015
Sheet 9 of 13



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Standardize	<standardize>	Date Tuesday, January 27, 2015	Sheet 10 of 13

Audio

[5,12] AUD3_TXC
[5,12] AUD3_TXD
[5,12] AUD3_TXFS
[5,12] AUD3_RXD
[5,12] I2C1_SDA
[5,12] I2C1_SCL
[6,12] CAM_MCLK

Camera

[5,12] CSI0_DAT12
[5,12] CSI0_DAT13
[5,12] CSI0_DAT14
[5,12] CSI0_DAT15
[5,12] CSI0_DAT16
[5,12] CSI0_DAT17
[5,12] CSI0_DAT18
[5,12] CSI0_DAT19
[5,12] CSI0_PIXCLK
[5,12] CSI0_HSYNC
[5,12] CSI0_VSYNC
[6,12] CAM_MCLK
[5,12] CAM_RST
[5,12] CAM_EN
[5,12] I2C1_SCL
[5,12] I2C1_SDA

CAN

[6,12] CAN1_TXD
[6,12] CAN1_RXD

[6,12] CAN2_TXD
[6,12] CAN2_RXD

LVDS

[6,12] LVDS0_TX2_N
[6,12] LVDS0_TX2_P
[6,10,12] I2C3_SCL
[6,10,12] I2C3_SDA
[6,12] LVDS0_TX1_N
[6,12] LVDS0_TX1_P
[6,12] LCD_PWR_EN
[6,12] PWM3
[6,12] LVDS0_TX0_N
[6,12] LVDS0_TX0_P
[6,12] Touch_Int
[6,12] LVDS0_CLK_P
[6,12] LVDS0_CLK_N
[6,12] LED_PWR_EN

GPIO

[6,12] GPIO4_IO07
[6,12] GPIO1_IO27
[6,12] GPIO7_IO05
[6,12] GPIO7_IO04
[6,12] GPIO7_IO06
[6,12] GPIO4_IO06
[6,12] GPIO4_IO11

HDMI

[5,12] HDMI_D2P
[5,12] HDMI_D2M
[5,12] HDMI_D1P
[5,12] HDMI_D1M
[5,12] HDMI_D0P
[5,12] HDMI_D0M
[5,12] HDMI_CLKP
[5,12] HDMI_CLKM
[5,12] HDMI_HPD
[6,12] I2C2_SCL
[6,12] I2C2_SDA

I2C

3P3V
R119 10K/5%
R120 10K/5%
[5,12] I2C1_SDA
[5,12] I2C1_SCL

3P3V
R125 10K/5%
R126 10K/5%
[6,12] I2C2_SCL
[6,12] I2C2_SDA

3P3V
R129 10K/5%
R130 10K/5%
[6,10,12] I2C3_SCL
[6,10,12] I2C3_SDA

EIM

[5,12] EIM_DA0
[5,12] EIM_DA1
[5,12] EIM_DA2
[5,12] EIM_DA3
[5,12] EIM_DA4
[5,12] EIM_DA5
[5,12] EIM_DA6
[5,12] EIM_DA7
[5,12] EIM_DA8
[5,12] EIM_DA9
[5,12] EIM_DA10
[5,12] EIM_DA11
[5,12] EIM_DA12
[5,12] EIM_DA13
[5,12] EIM_DA14
[5,12] EIM_DA15
[5,12] EIM_A16
[5,12] EIM_A17
[5,12] EIM_A18
[5,12] EIM_A19
[5,12] EIM_A20
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[5,12] EIM_A23
[5,12] EIM_A24
[5,12] EIM_A25
[6,12] EIM_A26
[5,12] EIM_BCLK
[6,12] EIM_CRE
[5,12] EIM_CS0
[5,12] EIM_CS1
[5,12] EIM_D28
[5,12] EIM_D29
[5,12] EIM_WAIT
[5,12] EIM_EB0
[5,12] EIM_EB1
[5,10,12] EIM_EB2
[5,12] EIM_EB3
[5,12] EIM_LBA
[5,12] EIM_OE
[5,12] EIM_RW

RGMII

[5,12] RGMII_nRST
[6,12] RGMII_REF_CLK
[6,12] RGMII_RXD0
[6,12] RGMII_RXD1
[6,12] RGMII_RXD2
[6,12] RGMII_RXD3
[6,12] RGMII_RXDV
[6,12] RGMII_RXCLK
[6,12] RGMII_TXCLK
[6,12] RGMII_TXEN
[6,12] RGMII_TXD0
[6,12] RGMII_TXD1
[6,12] RGMII_TXD2
[6,12] RGMII_TXD3
[6,12] RGMII_MDIO
[6,12] RGMII_MDC
[6,12] RGMII_INT

PCIe

[6,12] PCIE_RXM
[6,12] PCIE_RXP
[6,12] PCIE_TXM
[6,12] PCIE_TXP
[5,12] I2C1_SDA
[5,12] I2C1_SCL
[6,12] PRSNT2_N_X1
[6,12] PCIE_WAKEn
[5,12] PCIE_REFCLK_DN
[5,12] PCIE_REFCLK_DP

SATA

[5,12] SATA_RXP
[5,12] SATA_RXN
[5,12] SATA_TXN
[5,12] SATA_TXP

SDIO

[6,12] SD2_DATA0
[6,12] SD2_DATA1
[6,12] SD2_DATA2
[6,12] SD2_DATA3
[6,12] SD2_DATA4
[6,12] SD2_DATA5
[6,12] SD2_DATA6
[6,12] SD2_DATA7
[6,12] SD2_CMD
[6,12] SD2_CLK
[6,12] SD2_WP
[6,12] SD2_CD

[6,12] SD1_DATA0
[6,12] SD1_DATA1
[6,12] SD1_DATA2
[6,12] SD1_DATA3
[6,12] SD1_DATA4
[6,12] SD1_DATA5
[6,12] SD1_DATA6
[6,12] SD1_DATA7
[6,12] SD1_CMD
[6,12] SD1_CLK
[6,12] SD1_WP
[6,12] SD1_CD

USB

[6,12] USB_HOST_DN
[6,12] USB_HOST_DP
[6,12] USB_RSTn

SPI

[5,10,12] CSPI1_CLK
[5,10,12] CSPI1_MISO
[5,10,12] CSPI1_MOSI
[6,10,12] CSPI1_SS1

UART

3P3V
R121 10K/5%
R122 10K/5%
R123 10K/5%
R124 10K/5%
[6,12] UART2_CTS
[6,12] UART2_RTS
[5,12] UART2_TXD
[5,12] UART2_RXD

3P3V
R127 10K/5%
R128 10K/5%
[6,12] UART1_RXD
[6,12] UART1_TXD

3P3V
R131 10K/5%
R132 10K/5%
R133 10K/5%
R134 10K/5%
[6,12] UART3_RTS
[5,12] UART3_CTS
[5,12] UART3_TXD
[5,12] UART3_RXD

3P3V
R135 10K/5%
R136 10K/5%
[6,12] UART5_TXD
[6,12] UART5_RXD

OTG

[6,12] USB_OTG_DN
[6,12] USB_OTG_DP
[6,12] USB_OTG_ID
[5,12] USB_H1_OC
[5,12] USB_OTG_PWR_EN
[5,12] USB_OTG_OC

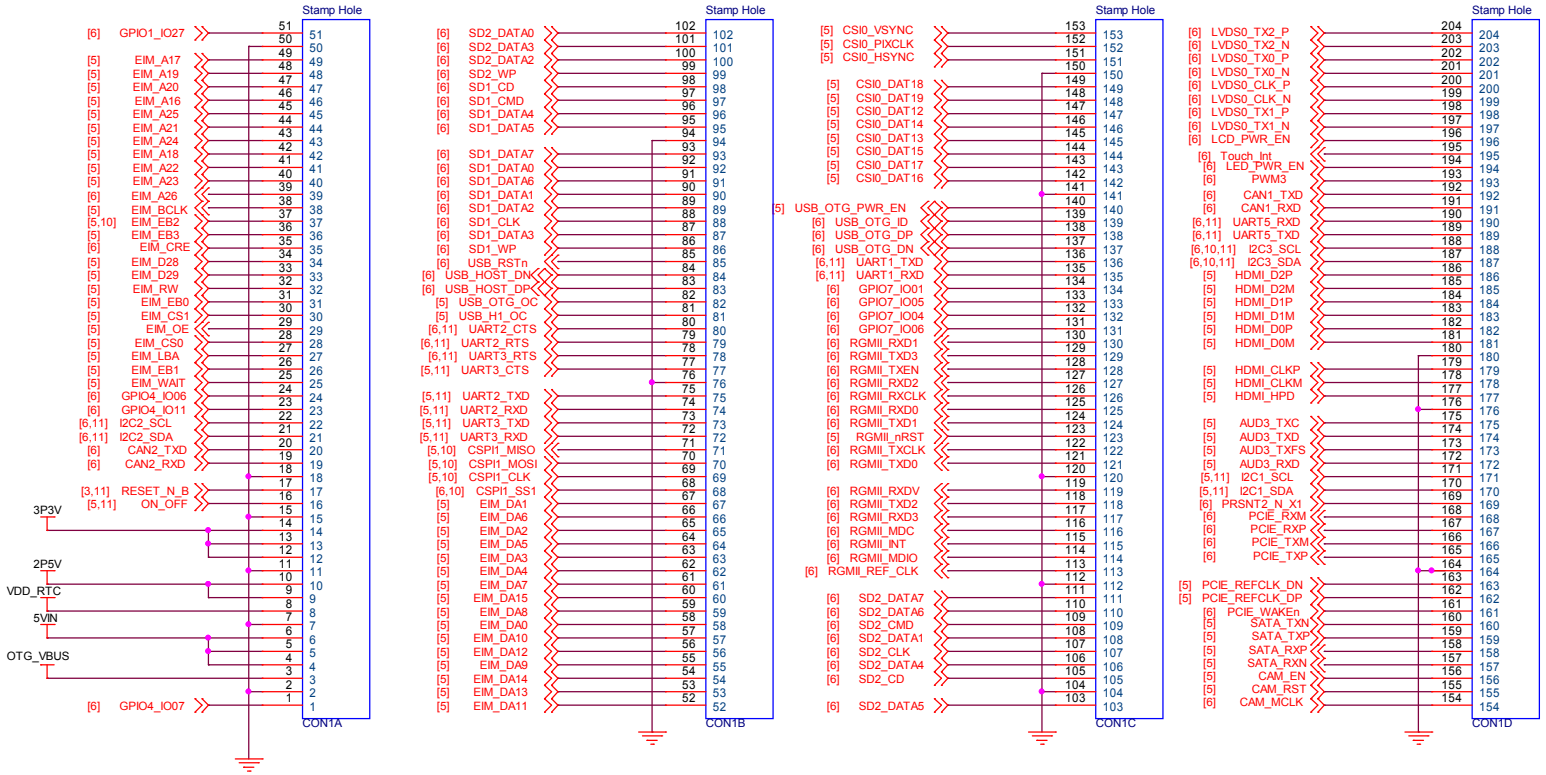
LEDs

3P3V
[6] GPIO1_IO30
R137 1K/1% 0402
Green
D4
R138 1K/1% 0402
Green
D5

Design	<design>	Embest Tech Co. LTD	
Review	<review>	Title Mini9000	
Authorize	<authorize>	Size A3	Doc Name 11 Signal Group & LEDs
Standardize	<standardize>	Date Tuesday, January 27, 2015	Sheet 11 of 13

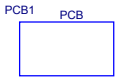
Ver. X1

Stamp Holes



PCB

Fiducials



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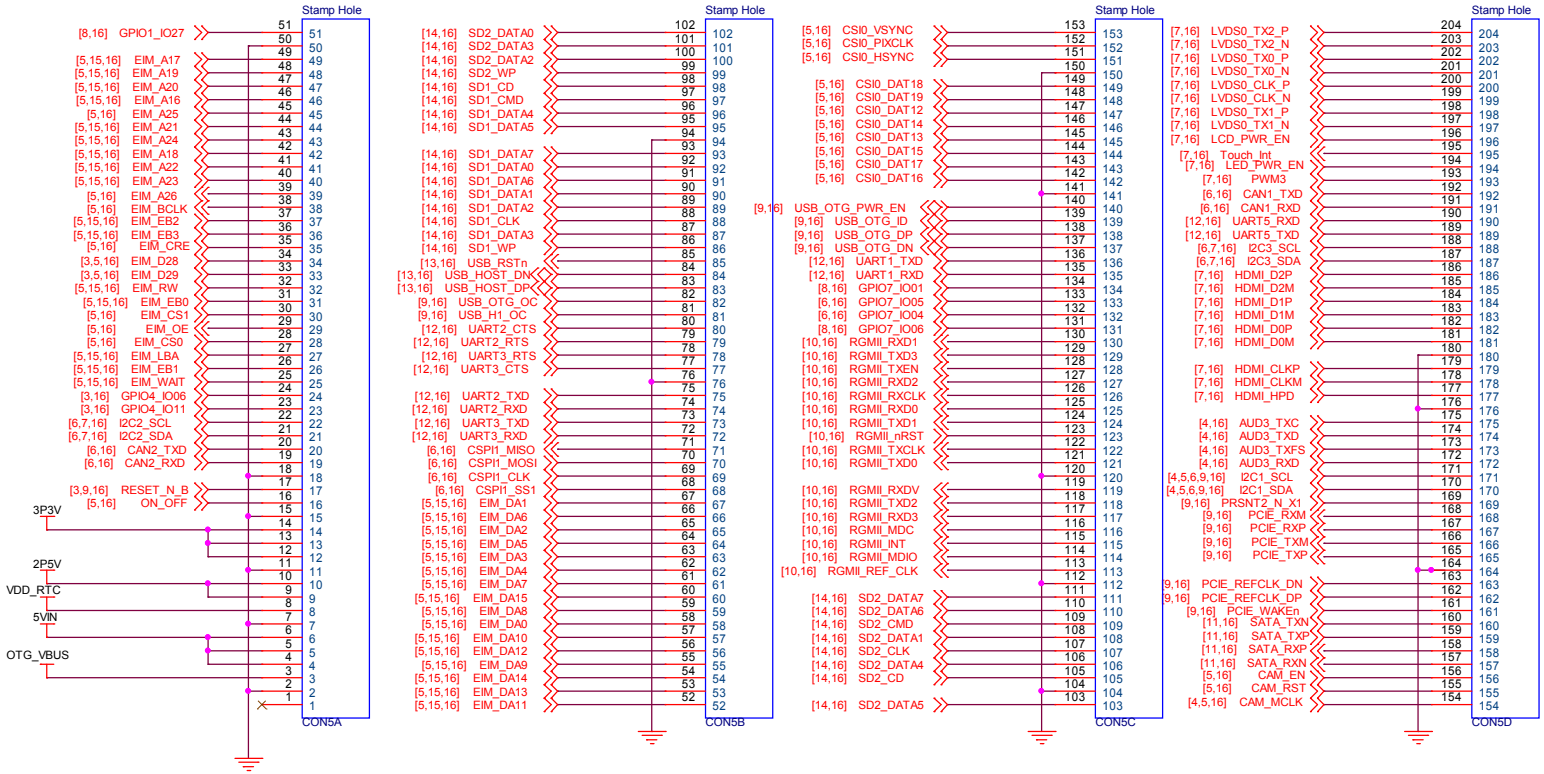

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