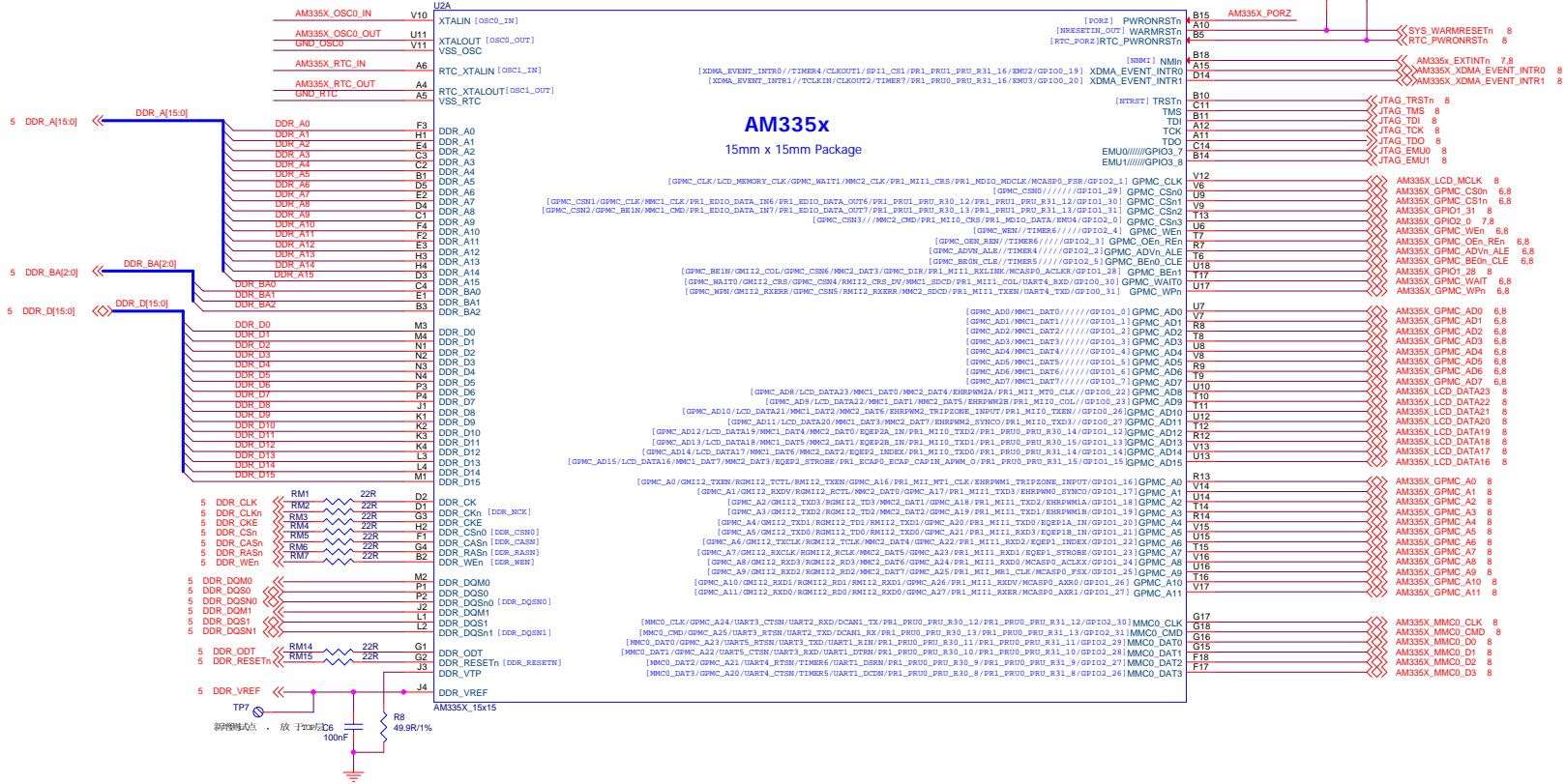
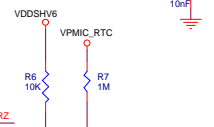
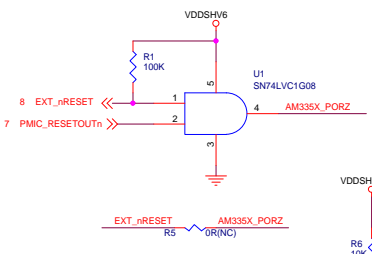
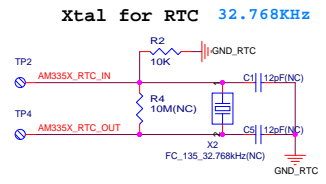
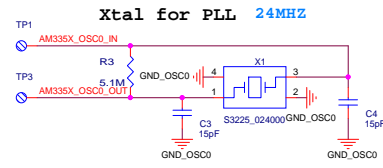
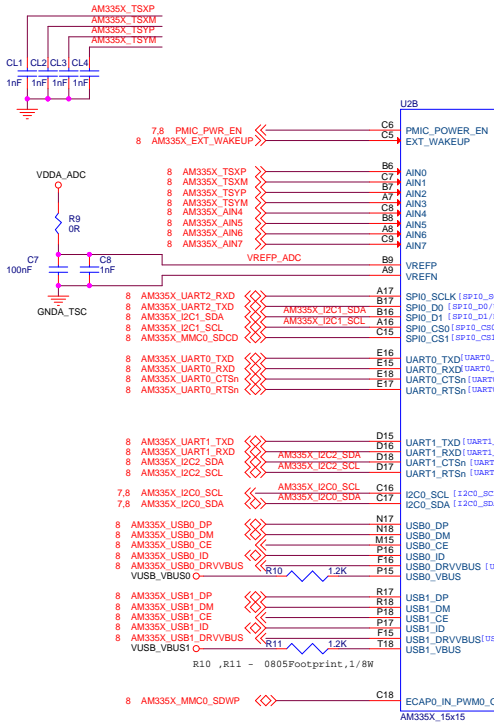


**ARM MPU AM335X CORE  
ZCZ Package 15mm X 15mm**

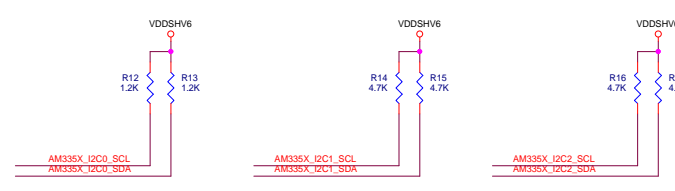
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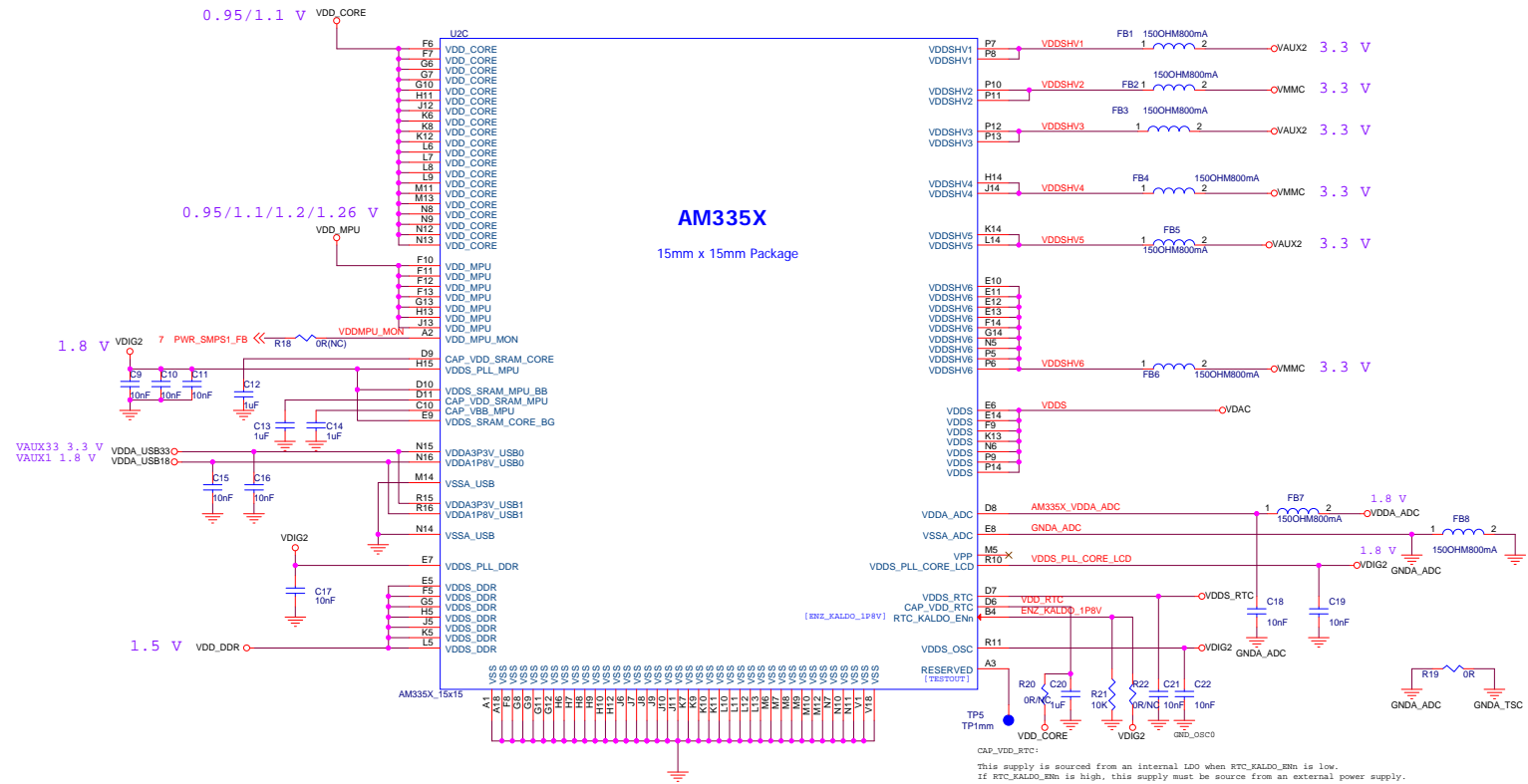




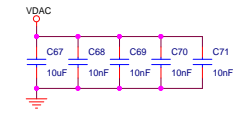
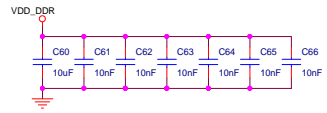
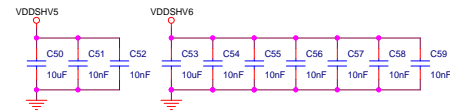
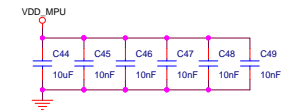
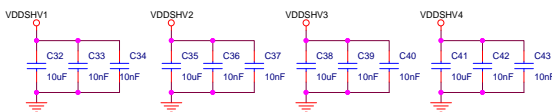
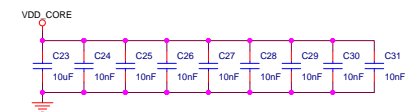
Pin	Signal	Internal Function
C6	PMIC_POWER_EN	[GM11_TXCLK/UART2_RXD/RM111_SCLK/MMCO_DATA7/MMC1_DATA0/UART1_CTSn/MCASPO_ACLKX/GP103_9]
C7	EXT_WAKEUP	[GM11_TXD0/RM111_TXD0/RM111_TDO/MCASP1_AKR2/MCASP1_ACLR/MCASP1_CLK/GP100_28]
B6	AIN0	[GM11_TXD1/RM111_TXD1/RM111_TD1/MCASP1_FSR/MCASP1_AKR1/RQEP0A_IN/MMC1_CMD/GP100_21]
B7	AIN1	[GM11_TXD2/DCAN0_RX/RM111_TDO/UART2_TXD/MCASP1_AKR0/MCASP1_ACLR/MCASP1_AKR1/MCASP1_AKR2/GP103_17]
B8	AIN2	[GM11_TXD3/DCAN0_TX/RM111_TD3/UART4_RXD/MCASP1_FSR/MMC1_DAT1/MCASPO_FSR/GP100_16]
B9	AIN3	[GM11_TXEN/RM111_TXEN/RM111_TCTL/TIMER4/MCASP1_AKR0/RQEP0_INDEX/MMC2_CMD/GP103_3]
A17	SP10_SCLK	[GM11_CRS/RM111_CRS_DV/SP11_D0/I2C1_SDA/MCASP1_ACLR/UART5_CTSn/UART2_RXD/GP103_11]
B16	SP10_D0	[GM11_CDR/RM12_REFCLK/SP11_SCLK/UART5_TXD/MCASP1_AKR2/MMC2_DAT3/MCASPO_AKR2/GP103_0]
B17	SP10_D1	[GM11_RXCLK/UART2_TXD/RM111_SCLK/MMCO_DATA6/MMC1_DATA1/UART1_DTSn/MCASPO_FSR/GP103_10]
B18	SP10_CS0	[GM11_RXD0/RM111_RXD0/RM111_RDO/MCASP1_AHCLKX/MCASP1_AHCLKR/MCASP1_AKR3/GP102_21]
B19	SP10_CS1	[GM11_RXD1/RM111_RXD1/RM111_RD1/MCASP1_AKR3/MCASP1_FSR/RQEP0_STROBE/MMC2_CLK/GP102_20]
A18	SP10_CS2	[GM11_RXD2/UART3_TXD/RM111_RXD2/MMCO_DATA4/MMC1_DATA2/UART1_RTSn/MCASPO_AKR3/GP102_19]
A19	SP10_CS3	[GM11_RXD3/UART3_RXD/RM111_RXD3/MMCO_DATA5/MMC1_DATA2/UART1_DTSn/MCASPO_AKR0/GP102_18]
E16	UART0_TXD	[GM11_RXERR/RM111_RXERR/SP11_D1/I2C1_SCL/MCASP1_FSR/UART5_RTSn/UART2_TXD/GP102_2]
E17	UART0_RXD	[GM11_RXD3V/LCD_MEMORY_CLK/RM111_TCTL/UART5_TXD/MCASP1_ACLR/MMC2_DATA/MCASPO_ACLR3/GP102_4]
E18	UART0_CTSn	[RM111_REFCLK/XDMA_EVENT_INTR2/SP11_CS0/UART5_TXD/MCASP1_AKR1/MMC2_POW/MCASP1_AHCLKX/GP100_29]
E19	UART0_RTSn	[RM111_REFCLK/XDMA_EVENT_INTR2/SP11_CS0/UART5_TXD/MCASP1_AKR1/MMC2_POW/MCASP1_AHCLKX/GP100_29]
D15	I2C0_SCL	[MDIO_CLK/TIMER6/UART5_TXD/UART3_RTSn/MMCO_SDWP/MMC1_CLK/MMC2_CLK/GP100_1]
D16	I2C0_SDA	[MDIO_DATA/TIMER6/UART5_RXD/UART3_CTSn/MMCO_SDWD/MMC1_CMD/MMC2_CMD/GP100_0]
D17	I2C0_SDA	[LCD_DATA0/GPMC_A0/PR1_M10_CLK/ERRPWRG0/PR1_PRU1_PRU_R30_0/PR1_PRU1_PRU_R31_0/GP102_6]
D18	I2C0_SDA	[LCD_DATA1/GPMC_A1/PR1_M10_TDO/ERRPWRG0/PR1_PRU1_PRU_R30_1/PR1_PRU1_PRU_R31_1/GP102_7]
D19	I2C0_SDA	[LCD_DATA2/GPMC_A2/PR1_M10_TD3/ERRPWRG2_TRIPZONE_INOUT/PR1_PRU1_PRU_R30_2/PR1_PRU1_PRU_R31_2/GP102_8]
D17	I2C0_SDA	[LCD_DATA3/GPMC_A3/PR1_M10_TD2/ERRPWRG2_STROBE/PR1_PRU1_PRU_R30_3/PR1_PRU1_PRU_R31_3/GP102_9]
D16	I2C0_SDA	[LCD_DATA4/GPMC_A4/PR1_M10_TD1/RQEP0A_IN/PR1_PRU1_PRU_R30_4/PR1_PRU1_PRU_R31_4/GP102_10]
D15	I2C0_SDA	[LCD_DATA5/GPMC_A5/PR1_M10_TDO/RQEP2B_IN/PR1_PRU1_PRU_R30_5/PR1_PRU1_PRU_R31_5/GP102_11]
D14	I2C0_SDA	[LCD_DATA6/GPMC_A6/PR1_M10_TDO/RQEP2_INDEX/PR1_PRU1_PRU_R30_6/PR1_PRU1_PRU_R31_6/GP102_12]
D13	I2C0_SDA	[LCD_DATA7/GPMC_A7/PR1_M10_TDO/RQEP2_INDEX/PR1_PRU1_PRU_R30_7/PR1_PRU1_PRU_R31_7/GP102_13]
D12	I2C0_SDA	[LCD_DATA8/GPMC_A8/ERRPWRG1_TRIPZONE_INOUT/MCASPO_ACLR/UART5_TXD/PR1_M10_RXD3/UART2_CTSn/GP102_14]
D11	I2C0_SDA	[LCD_DATA9/GPMC_A9/ERRPWRG1_TRIPZONE_INOUT/MCASPO_FSR/UART5_RXD/PR1_M10_RXD2/UART2_RTSn/GP102_15]
D10	I2C0_SDA	[LCD_DATA10/GPMC_A10/ERRPWRG1_TRIPZONE_INOUT/MCASPO_AKR0/PR1_M10_RXD1/UART5_CTSn/GP102_16]
D9	I2C0_SDA	[LCD_DATA11/GPMC_A11/ERRPWRG18/MCASPO_ACLR/MCASPO_AKR2/PR1_M10_RXD0/UART3_RTSn/GP102_17]
D8	I2C0_SDA	[LCD_DATA12/GPMC_A12/RQEP1A_IN/MCASPO_ACLR/MCASPO_AKR2/PR1_M10_RXLINE/UART4_CTSn/GP100_8]
D7	I2C0_SDA	[LCD_DATA13/GPMC_A13/RQEP1A_IN/MCASPO_FSR/MCASPO_AKR3/PR1_M10_RXERR/UART4_RTSn/GP100_9]
D6	I2C0_SDA	[LCD_DATA14/GPMC_A14/RQEP1_INDEX/MCASPO_AKR1/UART5_RXD/PR1_M10_CLK/UART5_CTSn/GP100_10]
D5	I2C0_SDA	[LCD_DATA15/GPMC_A15/RQEP1_INDEX/MCASPO_AKR1/UART5_RXD/PR1_M10_RXD0/UART5_RTSn/GP100_11]
N17	USB0_DP	[LCD_PCLK/GPMC_A10/PR1_M10_CRS/PR1_EDIO_DATA_IN4/PR1_PRU1_PRU_R30_10/PR1_PRU1_PRU_R31_10/GP102_24]
N18	USB0_DM	[LCD_VSYNC/GPMC_A8/PR1_EDIO_DATA_IN2/PR1_EDIO_DATA_OUT2/PR1_PRU1_PRU_R30_8/PR1_PRU1_PRU_R31_8/GP102_22]
M15	USB0_CE	[LCD_VSYNC/GPMC_A9/PR1_EDIO_DATA_IN3/PR1_EDIO_DATA_OUT3/PR1_PRU1_PRU_R30_9/PR1_PRU1_PRU_R31_9/GP102_23]
F16	USB0_DRVVBUS	[LCD_AC_BIAS_EN/GPMC_A11/PR1_M11_CRS/PR1_EDIO_DATA_IN5/PR1_EDIO_DATA_OUT5/PR1_PRU1_PRU_R30_11/PR1_PRU1_PRU_R31_11/GP102_25]
F15	USB0_ID	[MCASP0_AHCLKX/RQEP0_STROBE/MCASPO_AKR3/MCAPE1_AKR1/RM111/PR1_PRU0_PRU_R30_7/PR1_PRU0_PRU_R31_7/GP103_21]
F16	USB0_ID	[MCASP0_ACLR/ERRPWRG0/SP11_D0/MMC2_SDCD/PR1_PRU0_PRU_R30_0/PR1_PRU0_PRU_R31_0/GP103_14]
F15	USB0_ID	[MCASP0_FSR/ERRPWRG0/SP11_D0/MMC2_SDCD/PR1_PRU0_PRU_R30_1/PR1_PRU0_PRU_R31_1/GP103_15]
F15	USB0_ID	[MCASP0_AKR0/ERRPWRG0_TRIPZONE_INOUT/SP11_D1/MMC2_SDCD/PR1_PRU0_PRU_R30_2/PR1_PRU0_PRU_R31_2/GP103_16]
F15	USB0_ID	[MCASP0_ACLR/ERRPWRG0_STROBE/MCASPO_AKR0/MCASPO_AKR2/PR1_PRU0_PRU_R30_3/PR1_PRU0_PRU_R31_3/GP103_17]
F15	USB0_ID	[MCASP0_ACLR/ERRPWRG0_STROBE/MCASPO_AKR2/MCASP1_ACLR/MMC2_DATA/MCASPO_AKR3/PR1_PRU0_PRU_R30_4/PR1_PRU0_PRU_R31_4/GP103_18]
F15	USB0_ID	[MCASP0_FSR/RQEP0B_IN/MCASPO_AKR3/MCASP1_FSR/ERRPWRG0/PR1_PRU0_PRU_R30_5/PR1_PRU0_PRU_R31_5/GP103_19]
F15	USB0_ID	[MCASP0_AKR1/RQEP0_INDEX/MCASP1_AKR0/ERRPWRG0/PR1_PRU0_PRU_R30_6/PR1_PRU0_PRU_R31_6/GP103_20]
C18	ECAP0_IN_PWM0_OUT	[ECAP0_IN_PWM0_OUT/UART3_TXD/SP11_CS1/PR1_ECAP0_RCAP_CAPIN_APWM_0/SP11_SCLK/MMCO_SDWP/XDMA_EVENT_INTR2/GP100_7]

Pin	Signal	Internal Function
K18	TXCLK	MHI_TXCLK
K17	TXD0	MM335X_GM11_TXCLK 8
K16	TXD1	MM335X_GM11_TXD0 8
K15	TXD2	MM335X_GM11_TXD1 8
J18	TXD3	MM335X_GM11_TXD2 8
J17	TXEN	MM335X_GM11_TXD3 8
H17	CRS	MM335X_GM11_TXEN 8
H16	COL	MM335X_GM11_CRS 8
H15	COL	MM335X_GM11_COL 8
L18	RXCLK	MM335X_GM11_RXCLK 8
L17	RXD0	MM335X_GM11_RXD0 8
L16	RXD1	MM335X_GM11_RXD1 8
L15	RXD2	MM335X_GM11_RXD2 8
L14	RXD3	MM335X_GM11_RXD3 8
J17	RXERR	MM335X_GM11_RXERR 8
J16	RXD0	MM335X_GM11_RXD0 8
H18	REFCLK	MM335X_SPI0_CRS 8
H17	MDIO_CLK	MM335X_GM11_MDIO_CLK 8
H17	MDIO_DATA	MM335X_GM11_MDIO_DATA 8
R1	LCD_DATA0	AM335X_LCD_DATA0 8
R2	LCD_DATA1	AM335X_LCD_DATA1 8
R3	LCD_DATA2	AM335X_LCD_DATA2 8
R4	LCD_DATA3	AM335X_LCD_DATA3 8
R1	LCD_DATA4	AM335X_LCD_DATA4 8
R2	LCD_DATA5	AM335X_LCD_DATA5 8
R3	LCD_DATA6	AM335X_LCD_DATA6 8
R4	LCD_DATA7	AM335X_LCD_DATA7 8
R1	LCD_DATA8	AM335X_LCD_DATA8 8
R2	LCD_DATA9	AM335X_LCD_DATA9 8
R3	LCD_DATA10	AM335X_LCD_DATA10 8
R4	LCD_DATA11	AM335X_LCD_DATA11 8
R1	LCD_DATA12	AM335X_LCD_DATA12 8
R2	LCD_DATA13	AM335X_LCD_DATA13 8
R3	LCD_DATA14	AM335X_LCD_DATA14 8
R4	LCD_DATA15	AM335X_LCD_DATA15 8
V5	LCD_PCLK	AM335X_LCD_PCLK 8
V6	LCD_VSYNC	AM335X_LCD_VSYNC 8
R5	LCD_HSYNC	AM335X_LCD_HSYNC 8
R6	LCD_AC_BIAS_EN	AM335X_LCD_AC_BIAS_EN 8
A14	MCASP0_AHCLKX	AM335X_MCASP1_AKR1 8
A13	MCASP0_ACLR	AM335X_SPI1_SCLK 8
B13	MCASP0_FSR	AM335X_MCASP1_D1 8
C12	MCASP0_AKR0	AM335X_SPI1_D0 8
B12	MCASP0_ACLR	AM335X_ECAP2_IN_PWM2_OUT 8
C13	MCASP0_FSR	AM335X_MCASP1_ACLRCK 8
D13	MCASP0_AKR1	AM335X_MCASP1_FSR 8
D13	MCASP0_AKR1	AM335X_MCASP1_AKR0 8



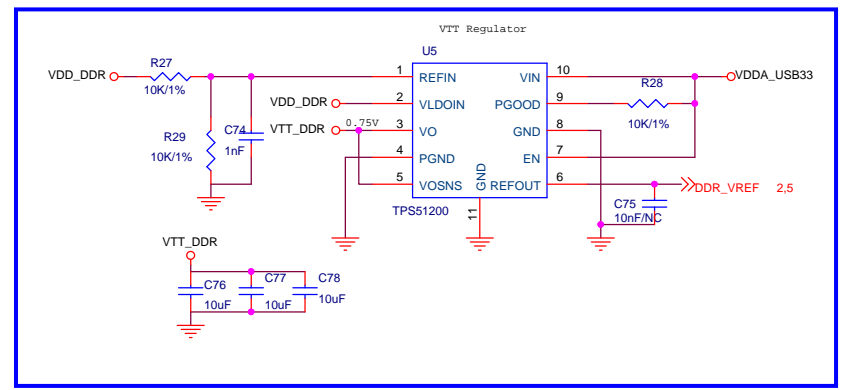
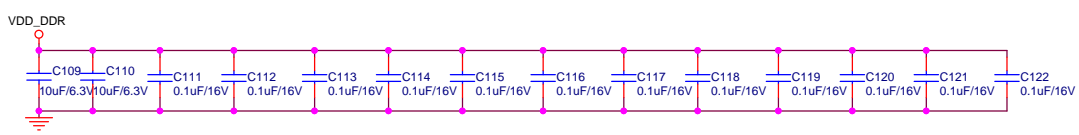
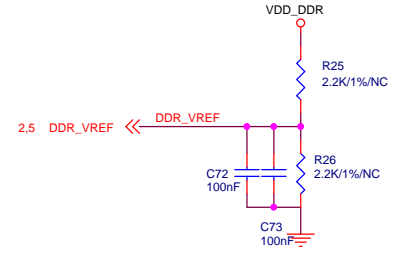
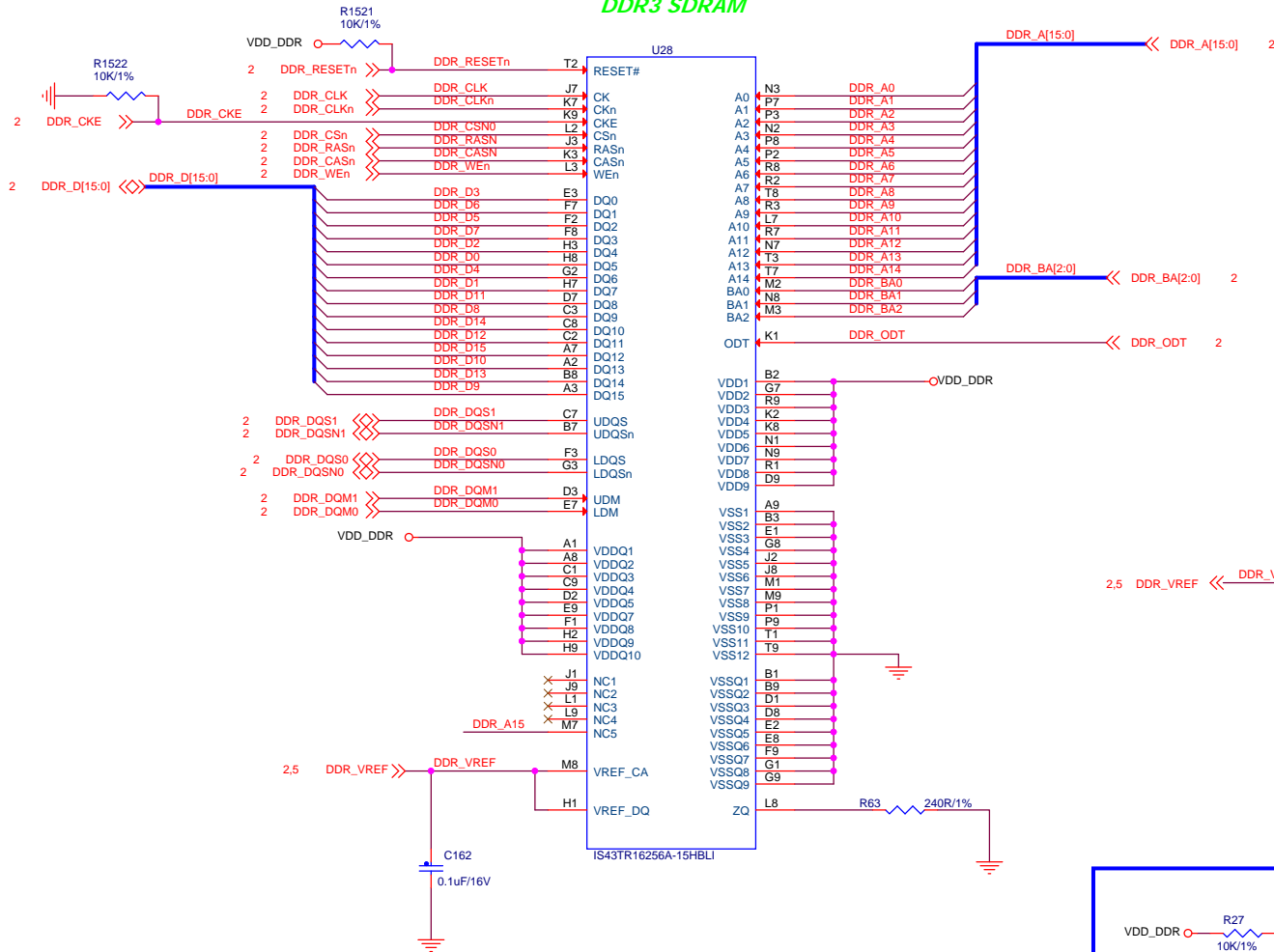


CAP\_VDD\_RTC:  
This supply is sourced from an internal LDO when RTC\_KALDO\_ENn is low.  
If RTC\_KALDO\_ENn is high, this supply must be source from an external power supply.

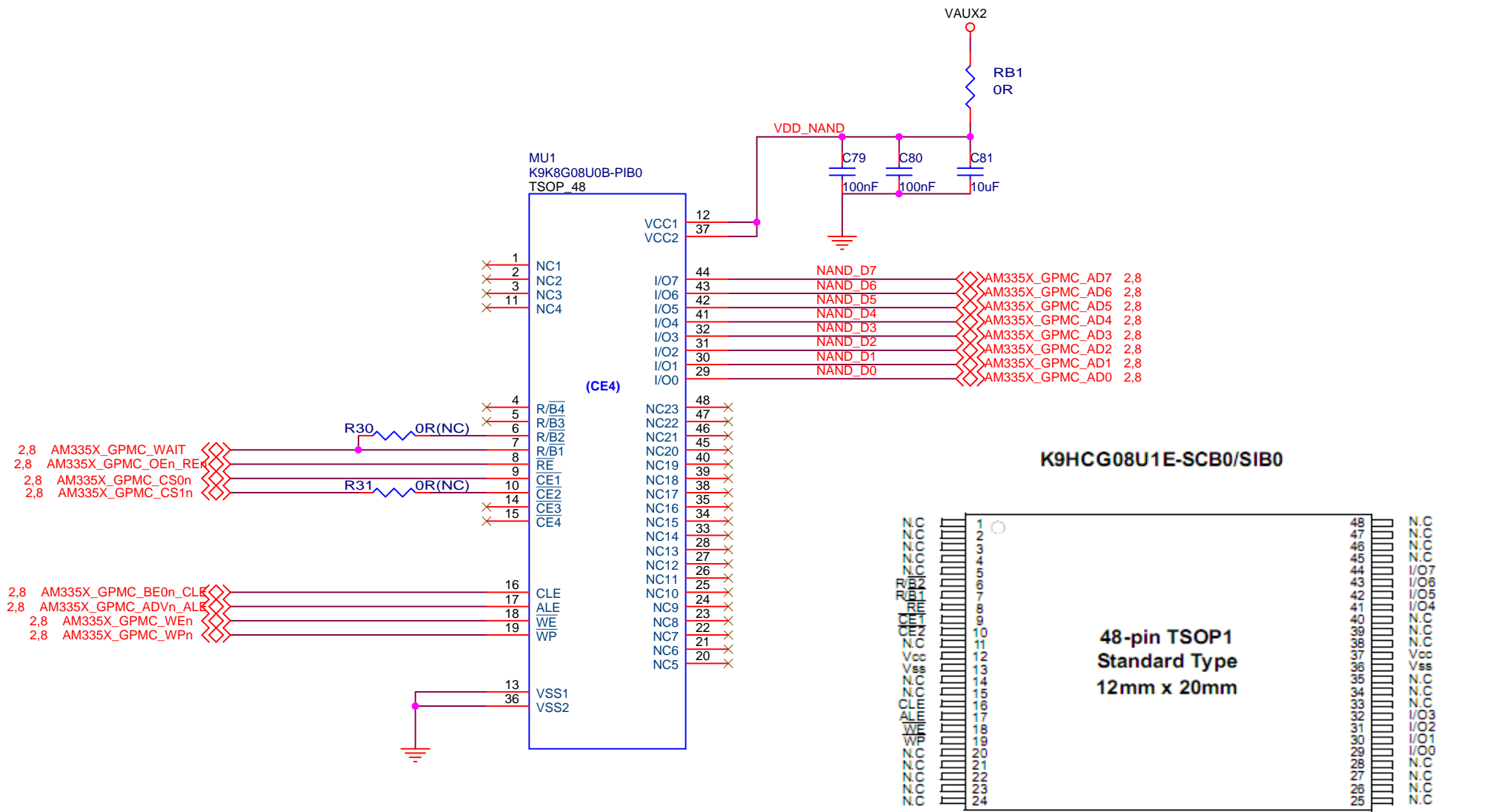


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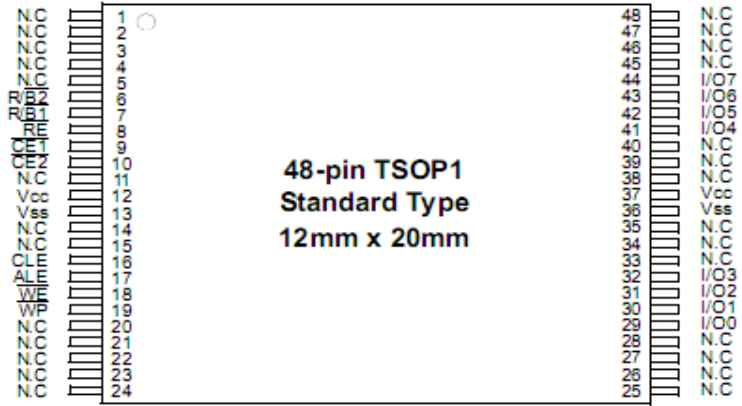
# DDR3 SDRAM



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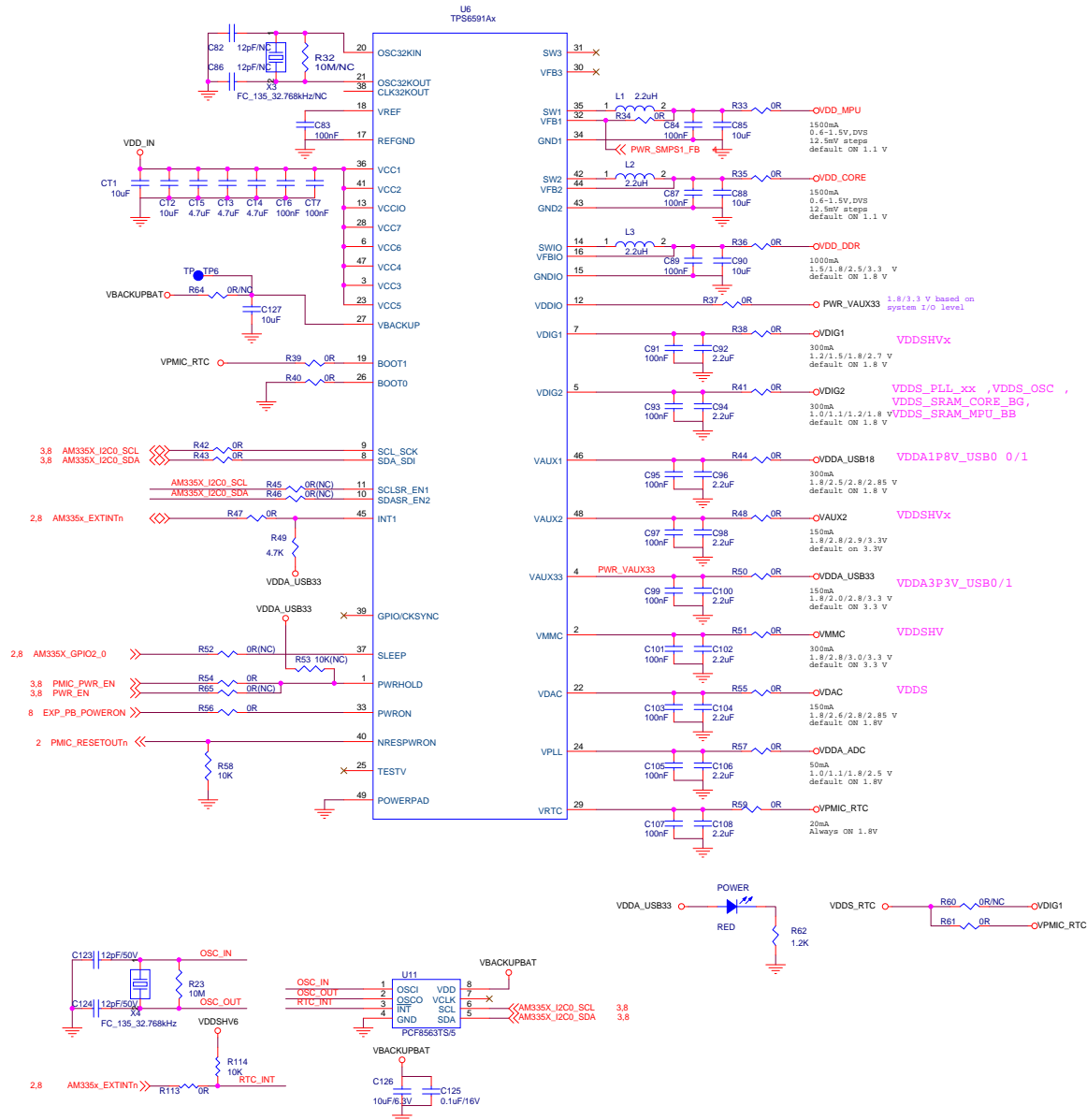
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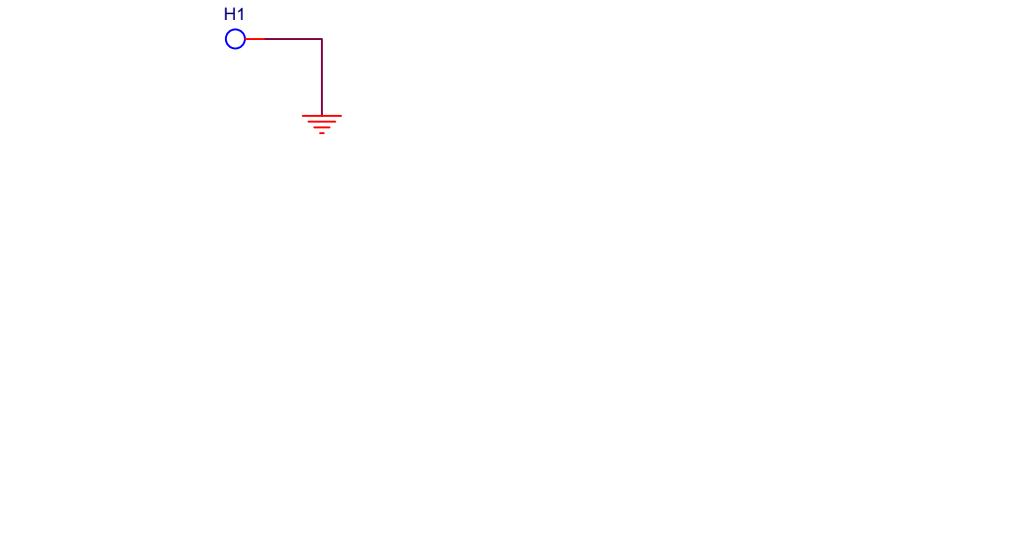
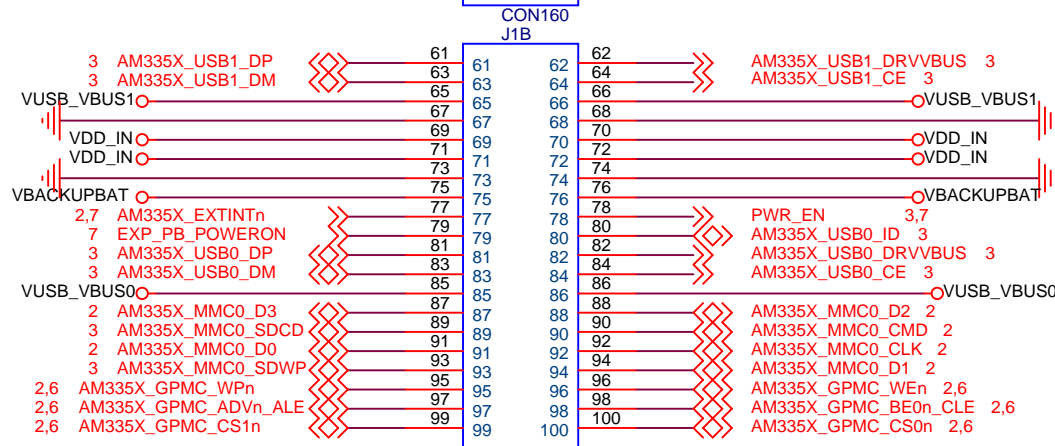
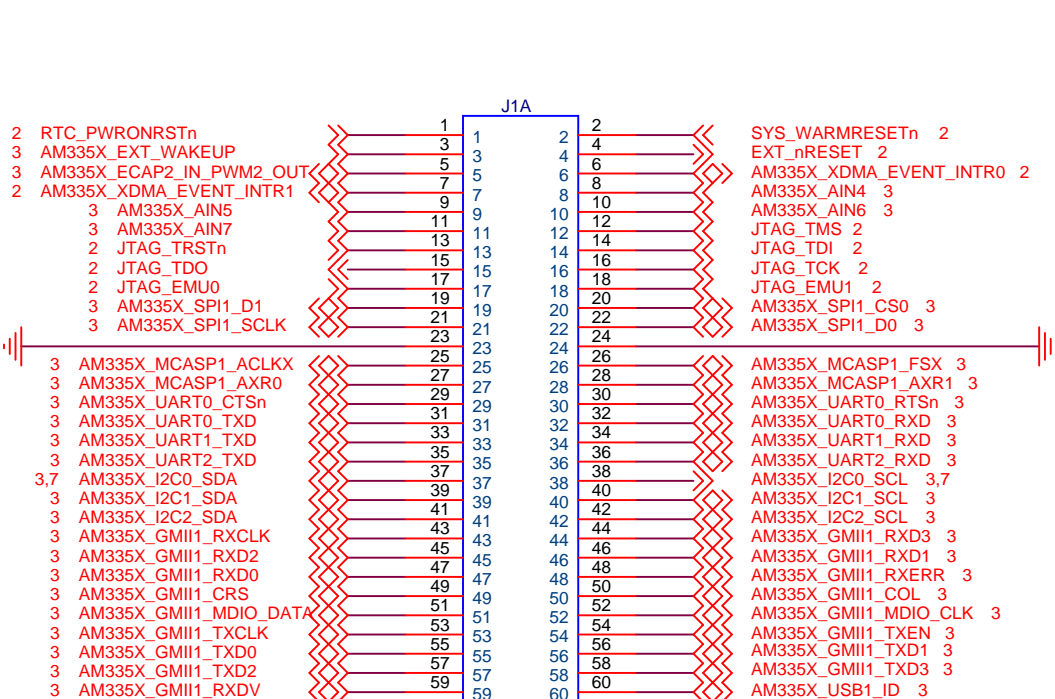
Table 3-5. Operating Performance Points for ZCZ Package<sup>(1)</sup>

OPP	VDD_MPU <sup>(2)</sup>	VDD_CORE <sup>(2)</sup>	ARM (A8)	DDR3	DDR2	mDDR	L3/L4
Turbo	1.26 V ±4%	1.1 V ±4%	720 MHz	303 MHz	200 MHz	180 MHz	200/100 MHz
OPP120	1.2 V ±4%	1.1 V ±4%	600 MHz	303 MHz	200 MHz	180 MHz	200/100 MHz
OPP100	1.1 V ±4%	1.1 V ±4%	500 MHz	303 MHz	200 MHz	180 MHz	200/100 MHz
OPP50	0.95 V ±4%	0.95 V ±4%	275 MHz	-	125 MHz	90 MHz	100/50 MHz

Table 3-4. Recommended Operating Conditions

PARAMETER		MIN	NOM	MAX	UNIT
SUPPLY NAME	DESCRIPTION				
VDD_CORE	Supply voltage range for core domain; TURBO	1.06	1.1	1.15	V
VDD_MPU <sup>(1)</sup>	Supply voltage range for MPU domain; TURBO	1.21	1.26	1.31	V
	Supply voltage range for MPU domain; OPP120	1.15	1.2	1.25	
	Supply voltage range for MPU domain; OPP100	1.06	1.1	1.15	
	Supply voltage range for MPU domain; OPP50	0.91	0.95	0.99	
CAP_VDD_RTC <sup>(2)</sup>	Supply voltage range for RTC domain input/LDO output	1.06	1.1	1.15	V
VDD5_RTC	Supply voltage range for RTC domain	1.71	1.8	1.89	V
VDD5_DDR	Supply voltage range for DDR IO domain (DDR2)	1.71	1.8	1.89	V
VDD5_DDR	Supply voltage range for DDR IO domain (DDR3)	1.43	1.5	1.58	
VDD5 <sup>(3)</sup>	Supply voltage range for all Dual Voltage IO domains	1.71	1.8	1.89	V
VDD5_SRAM_CORE_BG	Supply voltage range for Core SRAM LDOs, Analog	1.71	1.8	1.89	V
VDD5_SRAM_MPU_BB	Supply voltage range for MPU SRAM LDOs, Analog	1.71	1.8	1.89	V
VDD5_PLL_DDR	Supply voltage range for DPLL DDR, Analog	1.71	1.8	1.89	V
VDD5_PLL_CORE_LCD	Supply voltage range for DPLL CORE and LCD, Analog	1.71	1.8	1.89	V
VDD5_PLL_MPU	Supply voltage range for DPLL MPU, Analog	1.71	1.8	1.89	V
VDD5_OSC	Supply voltage range for system oscillator I/Os, Analog	1.71	1.8	1.89	V
VDDA1P8V_USB0	Supply voltage range for USB PHY, Analog, 1.8V	1.71	1.8	1.89	V
VDDA1P8V_USB1 <sup>(4)</sup>	Supply voltage range for USB PHY, Analog, 1.8V	1.71	1.8	1.89	V
VDDA3P3V_USB0	Supply voltage range for USB PHY, Analog, 3.3V	3.14	3.3	3.47	V
VDDA3P3V_USB1 <sup>(4)</sup>	Supply voltage range for USB PHY, Analog, 3.3V	3.14	3.3	3.47	V
VDDA_ADC	Supply voltage range for ADC, Analog	1.71	1.8	1.89	V
VDDSHV1	Supply voltage range for Dual Voltage IO domain (1.8-V operation)	1.71	1.8	1.89	V
VDDSHV2 <sup>(4)</sup>	Supply voltage range for Dual Voltage IO domain (1.8-V operation)	1.71	1.8	1.89	V
VDDSHV3 <sup>(4)</sup>	Supply voltage range for Dual Voltage IO domain (1.8-V operation)	1.71	1.8	1.89	V
VDDSHV4	Supply voltage range for Dual Voltage IO domain (1.8-V operation)	1.71	1.8	1.89	V
VDDSHV5	Supply voltage range for Dual Voltage IO domain (1.8-V operation)	1.71	1.8	1.89	V
VDDSHV6	Supply voltage range for Dual Voltage IO domain (1.8-V operation)	1.71	1.8	1.89	V
VDDSHV1	Supply voltage range for Dual Voltage IO domain (3.3-V operation)	3.14	3.3	3.47	V
VDDSHV2 <sup>(4)</sup>	Supply voltage range for Dual Voltage IO domain (3.3-V operation)	3.14	3.3	3.47	V
VDDSHV3 <sup>(4)</sup>	Supply voltage range for Dual Voltage IO domain (3.3-V operation)	3.14	3.3	3.47	V
VDDSHV4	Supply voltage range for Dual Voltage IO domain (3.3-V operation)	3.14	3.3	3.47	V
VDDSHV5	Supply voltage range for Dual Voltage IO domain (3.3-V operation)	3.14	3.3	3.47	V
VDDSHV6	Supply voltage range for Dual Voltage IO domain (3.3-V operation)	3.14	3.3	3.47	V
DDR_VREF	Voltage range for DDR SBL/HSTL reference input (DDR2/DDR3)	0.49*VDD5_DDR	0.50*VDD5_DDR	0.51*VDD5_DDR	V
USB0_VBUS	Voltage range for USB VBUS comparator input	0		5	V
USB1_VBUS <sup>(4)</sup>	Voltage range for USB VBUS comparator input	0		5	V
USB0_ID	Voltage range for the USB ID input	1.71	1.8	1.89	V
USB1_ID <sup>(4)</sup>	Voltage range for the USB ID input	1.71	1.8	1.89	V





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