

nuvoTon Technology Corp.

Title				
NUC975 Reference Circuit				
Size A	Document Number			Rev 1.0
System Block				
Date:	Monday, January 09, 2017		Sheet	1 of 10

PIN	FUNCTION
PA0	PwrOnSet_0
PA1	PwrOnSet_1
PA2	PwrOnSet_2
PA3	PwrOnSet_3
PA4	PwrOnSet_4
PA5	PwrOnSet_5
PA6	PwrOnSet_6
PA7	PwrOnSet_7
PA8	PwrOnSet_8
PA9	PwrOnSet_9

PIN	FUNCTION
PJ0	JTAG_TCK
PJ1	JTAG_TMS
PJ2	JTAG_TDI
PJ3	JTAG_TDO
PJ4	JTAG_NTRST

PIN	FUNCTION
PH0	USB0_VBUSVLD
PH1	USB1_OVC
PH12	232_8_TXD
PH13	232_8_RXD

PIN	FUNCTION
PB0	232_5_TXD
PB1	232_5_RXD
PB6	SPI0_SS0
PB7	SPI_CLK
PB8	SPI_DO (DATA0)
PB9	SPI_DI (DATA1)
PB10	SPI_DATA2
PB11	SPI_DATA3
PB12	SPI1_SS0
PB13	TBD

PIN	FUNCTION
PG0	I2C0_SCL
PG1	I2C0_SDA
PG4	232_7_TXD
PG5	232_7_RXD
PG10	TBD
PG11	232_6_TXD
PG12	232_6_RXD
PG13	232_6_RTS
PG14	232_6_CTS

PIN	FUNCTION
PC10	485_4_TXD
PC11	485_4_RXD
PC12	485_4_RTS
PC13	TBD

PIN	FUNCTION
PI1	NAND_CS0
PI2	NAND_WP
PI3	NAND_ALE
PI4	NAND_CLE
PI5	NAND_WE
PI6	NAND_RE
PI7	NAND_RDY0
PI8	NAND_D0
PI9	NAND_D1
PI10	NAND_D2
PI11	NAND_D3
PI12	NAND_D4
PI13	NAND_D5
PI14	NAND_D6
PI15	NAND_D7

PIN	FUNCTION
PD0	SD0_CMD
PD1	SD0_CLK
PD2	SD0_DATA0
PD3	SD0_DATA1
PD4	SD0_DATA2
PD5	SD0_DATA3
PD6	SD0_CD
PD14	232_9_TXD
PD15	232_9_RXD

PIN	FUNCTION
PE0	232_0_TXD
PE1	232_0_RXD
PE2	485_1_TXD
PE3	485_1_RXD
PE4	485_1_RTS
PE5	TBD

PIN	FUNCTION
PF0	RMII0_MDC
PF1	RMII0_MDIO
PF2	RMII0_TXD0
PF3	RMII0_TXD1
PF4	RMII0_TXEN
PF5	RMII0_REFCLK
PF6	RMII0_RXD0
PF7	RMII0_RXD1
PF8	RMII0_CRSDV
PF9	RMII0_RXERR
PF10	USB1_PWREN
PF11	485_2_TXD
PF12	485_2_RXD
PF13	485_2_RTS
PF14	TBD

#### FUNCTION:

**NAND Flash x1**

**SPI Flash x2**

**SD x1**

**ICE x1**

**ADC CH x4**

**I2C x1**

**LAN x1**

**GPIO x5**

**USB Device x1**

**USB HOST x1**

**RS485 half-duplex x3**

**RS232 data flow x1**

**RS232 normal x5**

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Title

**NUC975 Reference Circuit**

Size  
A

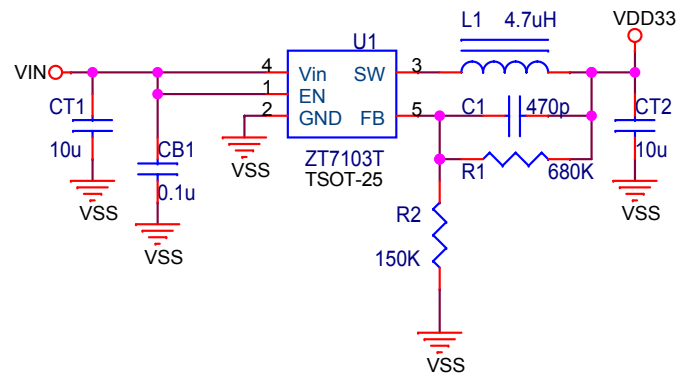
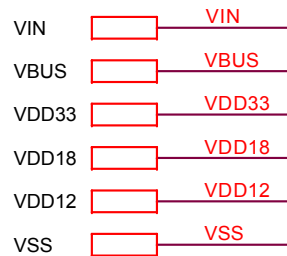
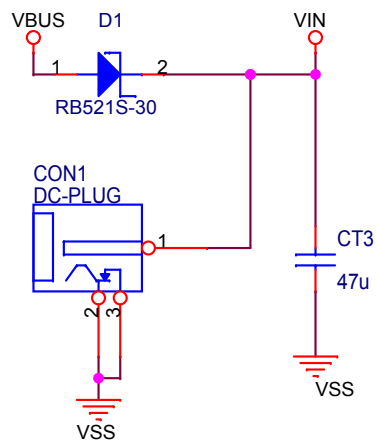
Document Number

**GPIO List**

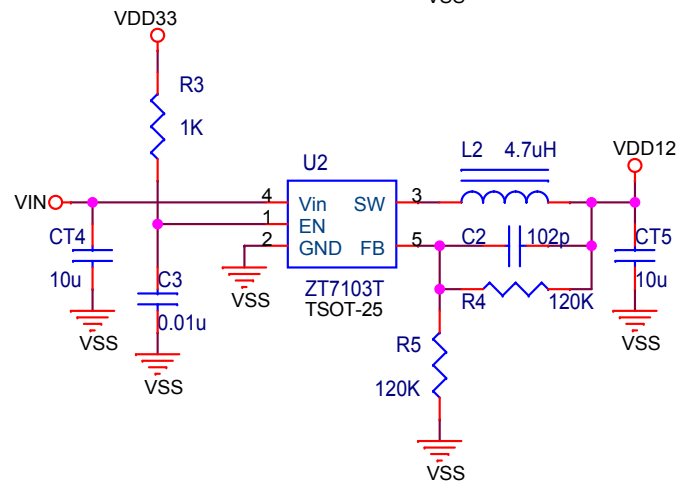
Rev  
1.0

Date: Monday, January 09, 2017

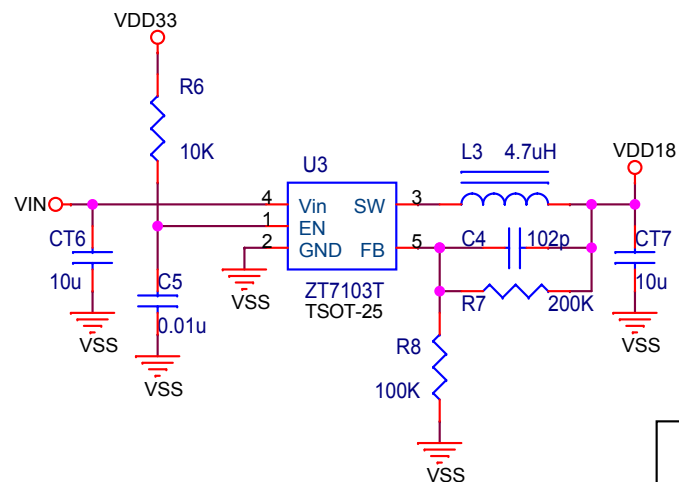
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**3.3V I/O Power**



**1.2V Core Power**



**1.8V DRAM Power**

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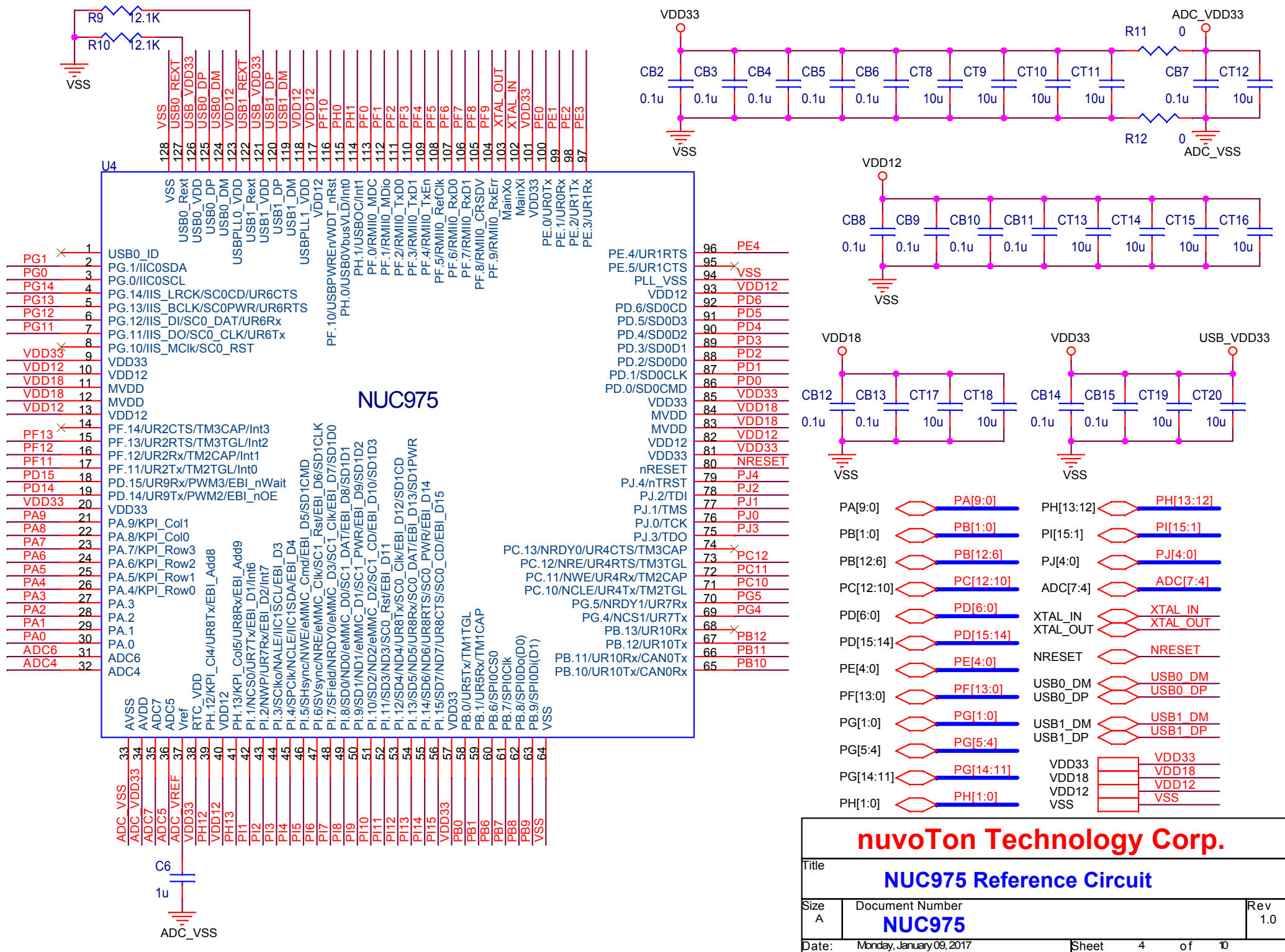
Title  
**NUC975 Reference Circuit**

Size A Document Number  
**Power**

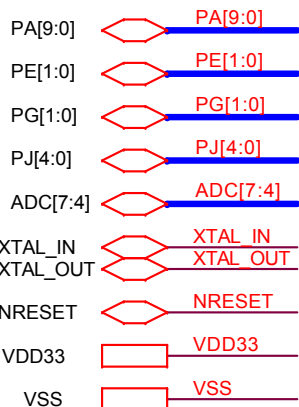
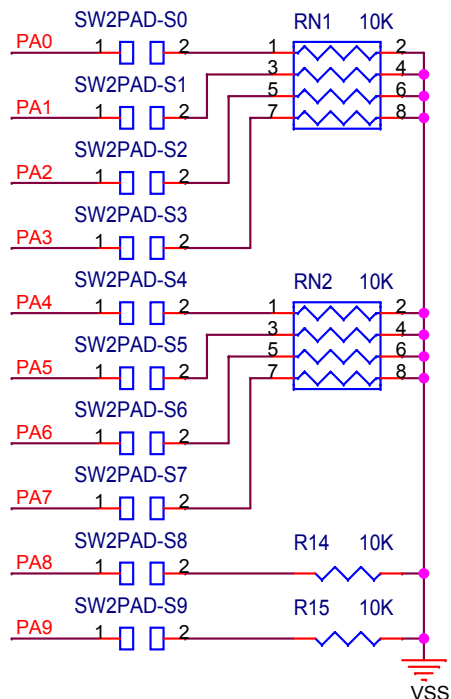
Rev  
1.0

Date: Monday, January 09, 2017

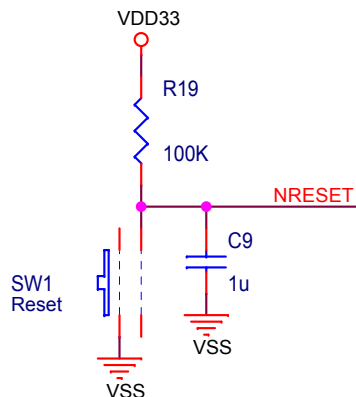
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## Power On Setting



## System Reset



S1(A1)	S0(A0)	Bootting from
ON	ON	USB.
ON	OFF	eMMC Flash.
OFF	ON	NAND Flash.
OFF	OFF	SPI Flash.

S2(A2)	System Clock from
ON	12MHz crystal.
OFF	UPLL output.

S3(A3)	Watch Dog Setting
ON	OFF after power on.
OFF	ON after power on.

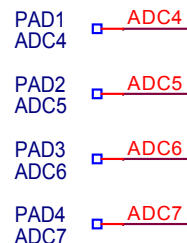
S4(A4)	Setting PJ[4:0]
ON	As GPIO pin.
OFF	As JTAG interface.

S5(A5)	UART Debug Message
ON	Output turn ON.
OFF	Output turn OFF.

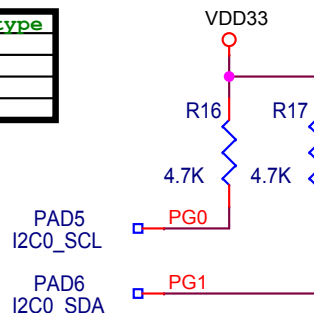
S7(A7)	S6(A6)	NAND Flash Page Size
ON	ON	2KB
ON	OFF	4KB
OFF	ON	8KB
OFF	OFF	None

S9(A9)	S8(A8)	NAND Flash ECC type
ON	ON	BCH T12.
ON	OFF	BCH T15.
OFF	ON	BCH T24.
OFF	OFF	None

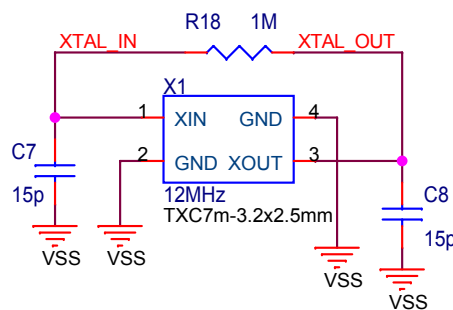
## ADC



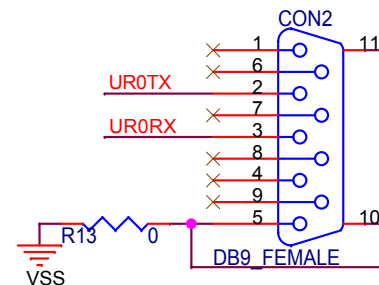
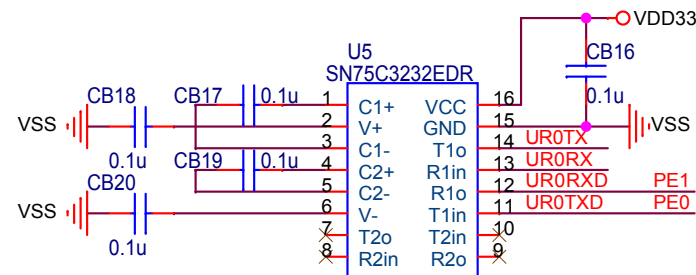
## I2C



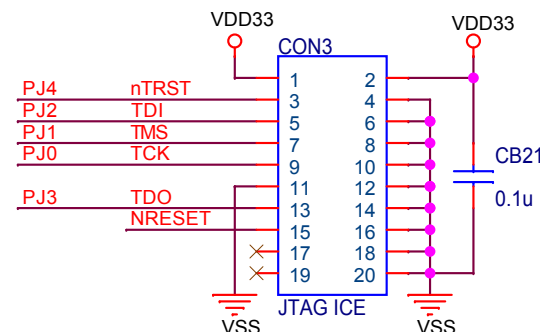
## 12MHz Crystal



## RS232\_0 Debug message



## ICE I/F



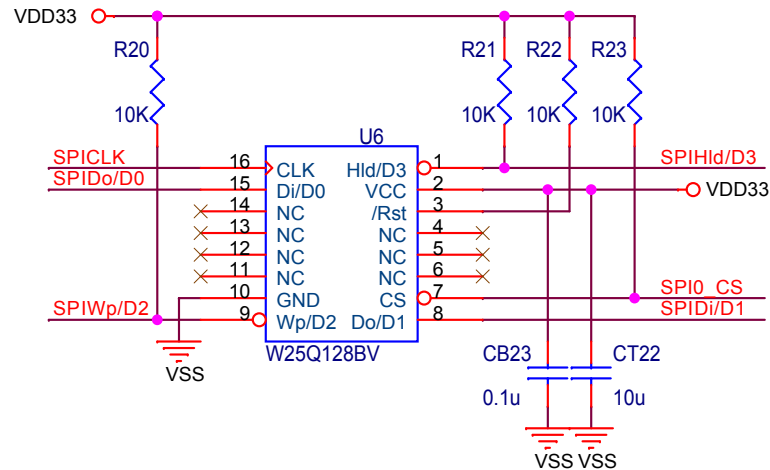
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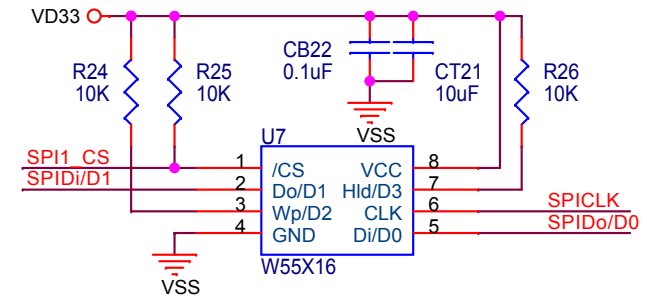
## SPI Flash

### SPI0

PB6	SPI0_CS
PB12	SPI1_CS
PB7	SPICLK
PB8	SPIDo/D0
PB9	SPIDi/D1
PB10	SPIWp/D2
PB11	SPIHid/D3



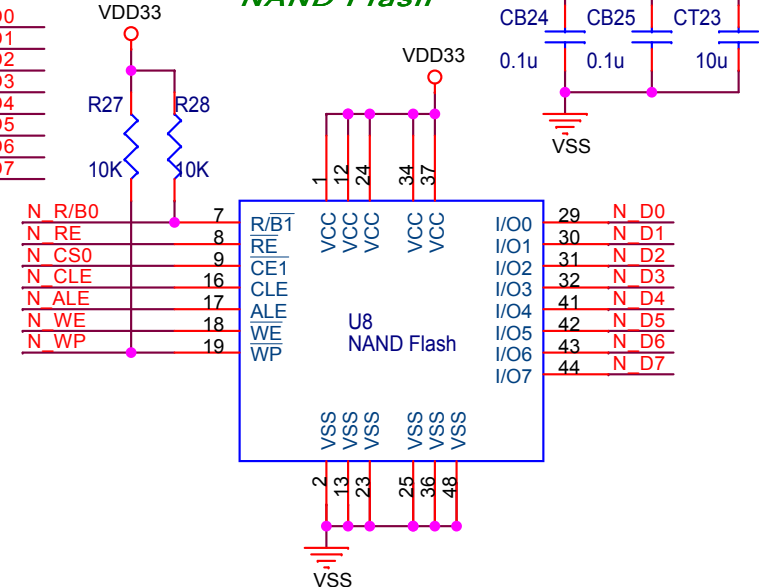
### SPI1



PB[12:6]	PB[12:6]
PD[6:0]	PD[6:0]
PI[15:1]	PI[15:1]
VDD33	VDD33
VSS	VSS

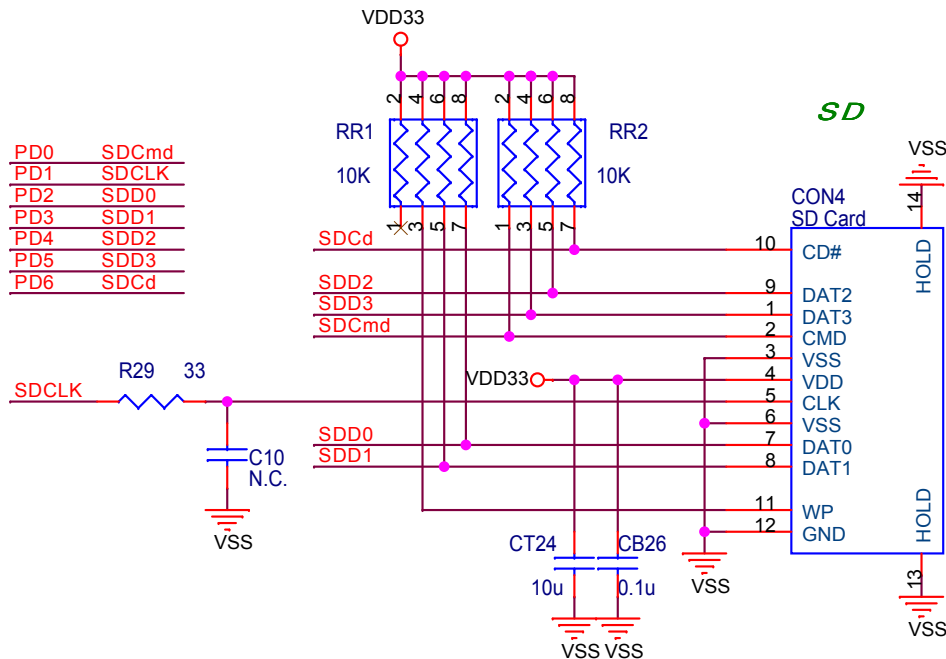
PI1	N CS0	PI8	N D0
PI2	N WP	PI9	N D1
PI3	N ALE	PI10	N D2
PI4	N CLE	PI11	N D3
PI5	N WE	PI12	N D4
PI6	N RE	PI13	N D5
PI7	N R/B0	PI14	N D6
		PI15	N D7

## NAND Flash



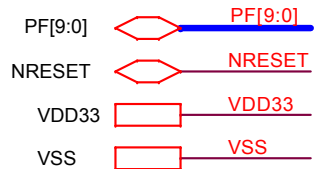
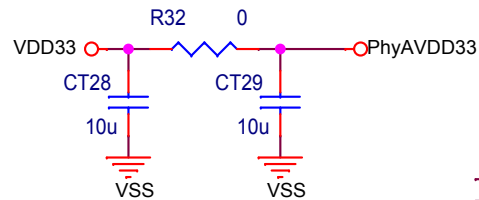
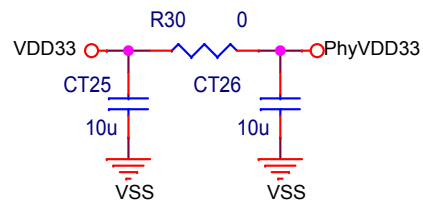
## SD

PD0	SDCmd
PD1	SDCLK
PD2	SDD0
PD3	SDD1
PD4	SDD2
PD5	SDD3
PD6	SDCd

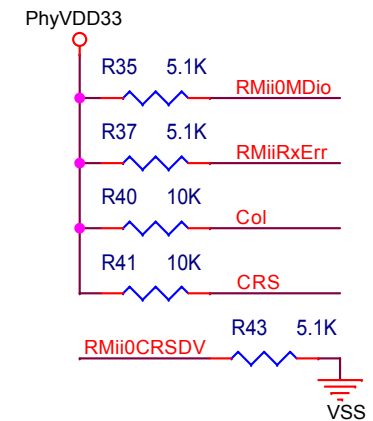
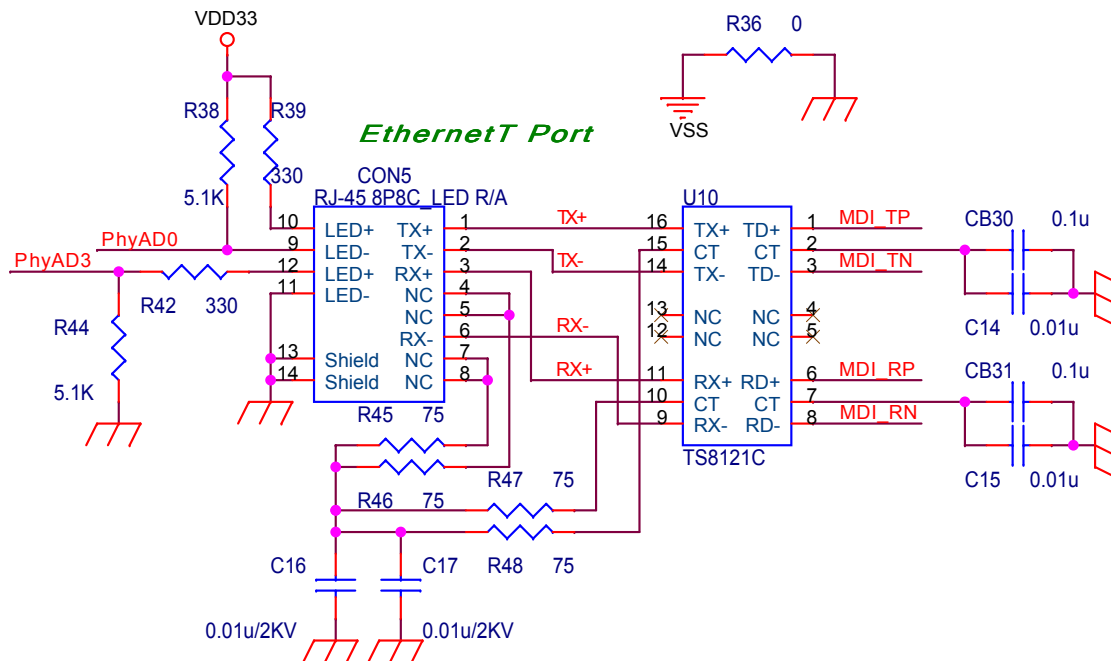
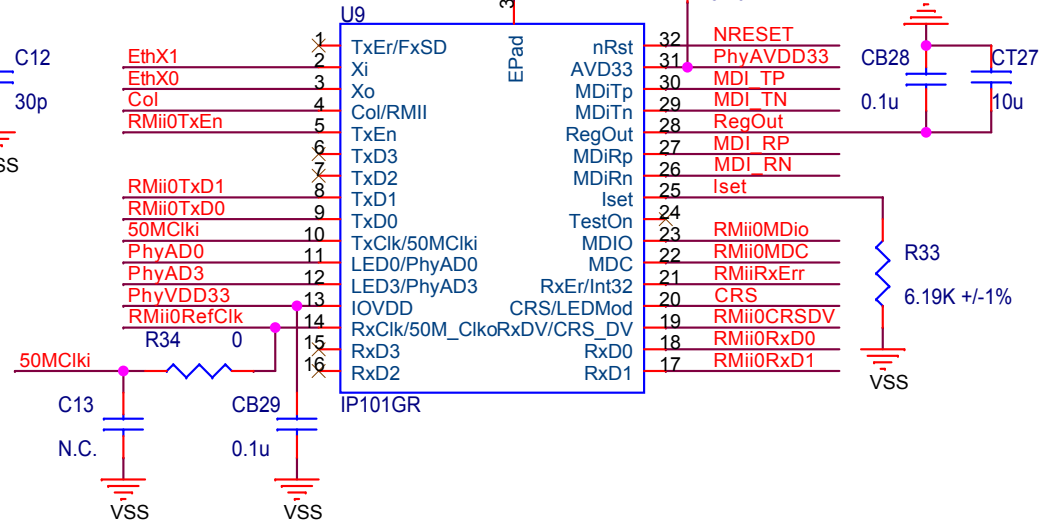
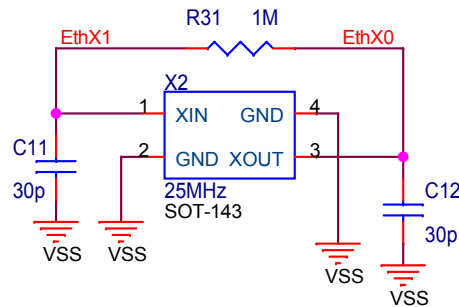


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PF0	RMii0MDC
PF1	RMii0MDio
PF2	RMii0TxD0
PF3	RMii0TxD1
PF4	RMii0TxEn
PF5	RMii0RefClk
PF6	RMii0RxD0
PF7	RMii0RxD1
PF8	RMii0CRSDV
PF9	RMiiRxErr



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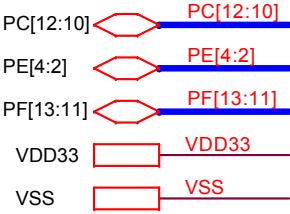
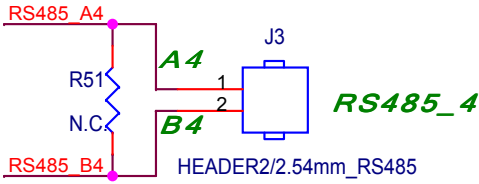
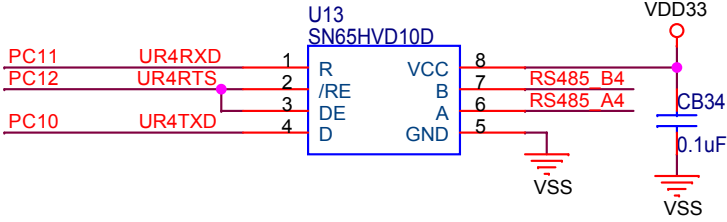
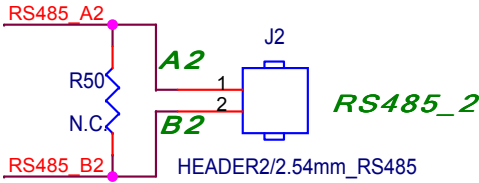
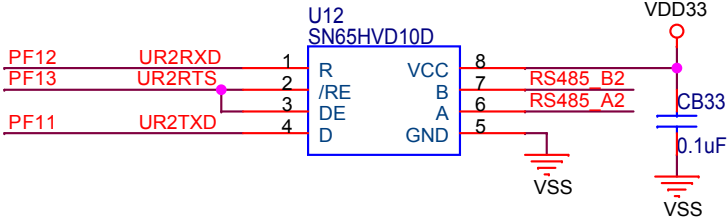
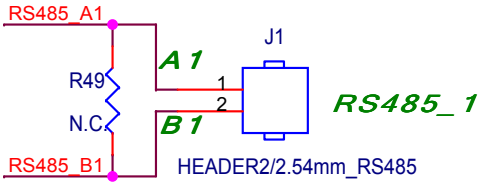
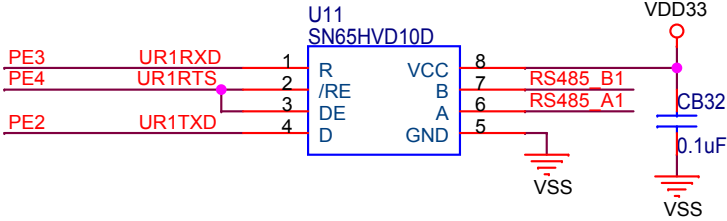
Title: **NUC975 Reference Circuit**

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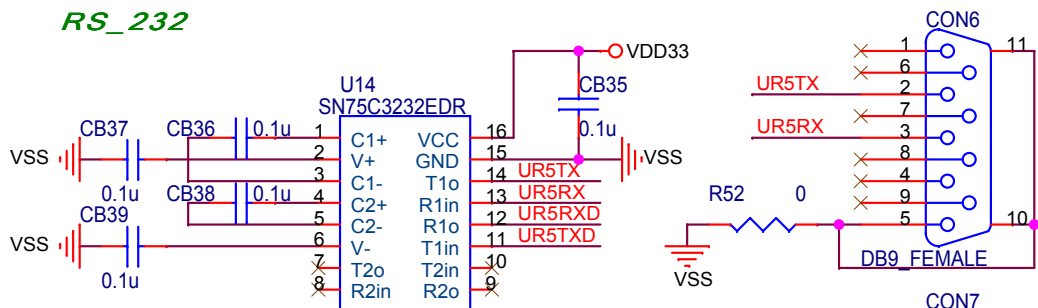
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NUC975 Reference Circuit

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	RS_485	

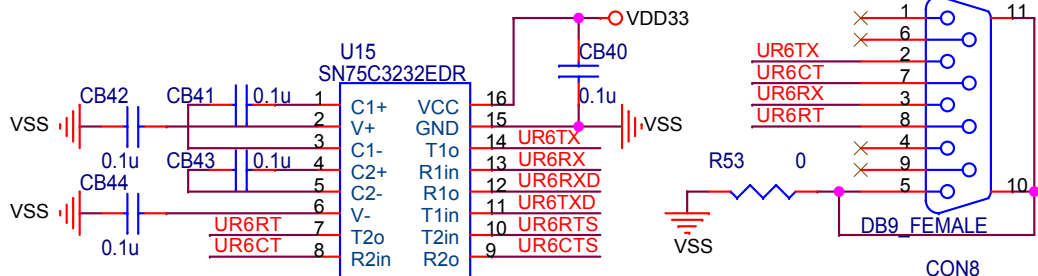


# RS\_232



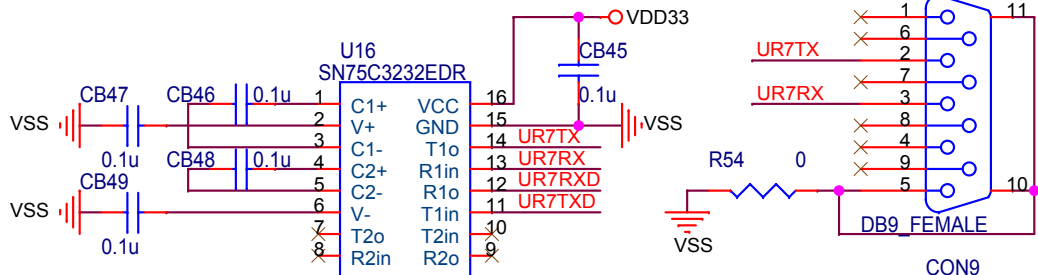
RS232\_5

UR5RXD PB1  
UR5TXD PB0



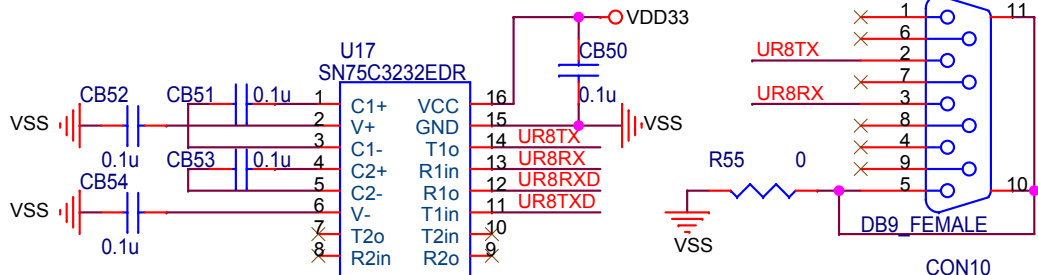
RS232\_6  
C.F.

UR6CTS PG14  
UR6RTS PG13  
UR6RXD PG12  
UR6TXD PG11



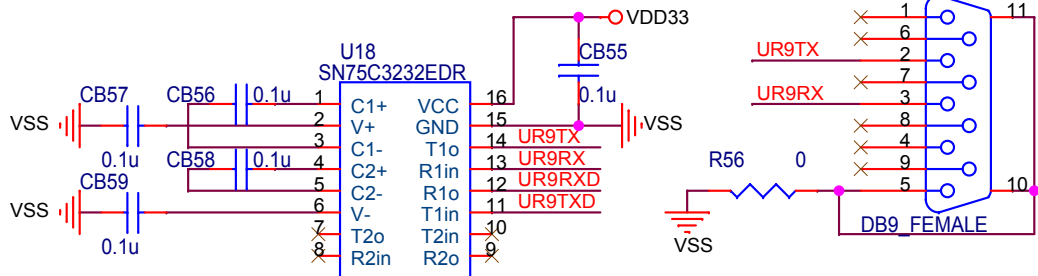
RS232\_7

UR7RXD PG5  
UR7TXD PG4



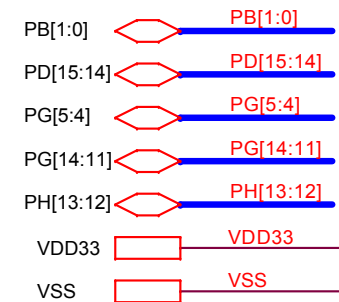
RS232\_8

UR8RXD PH13  
UR8TXD PH12



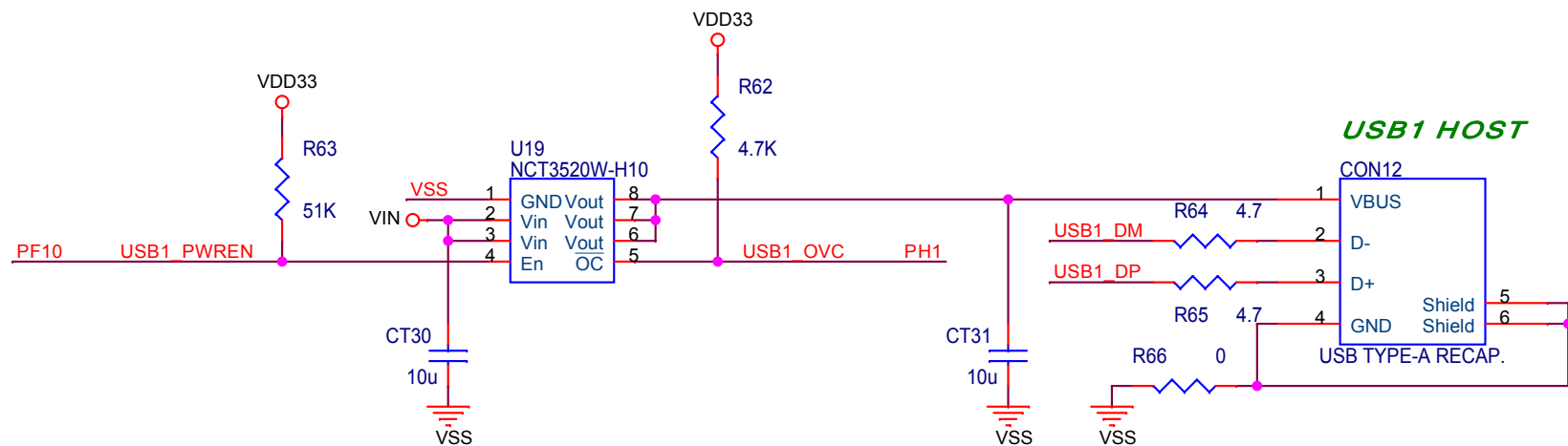
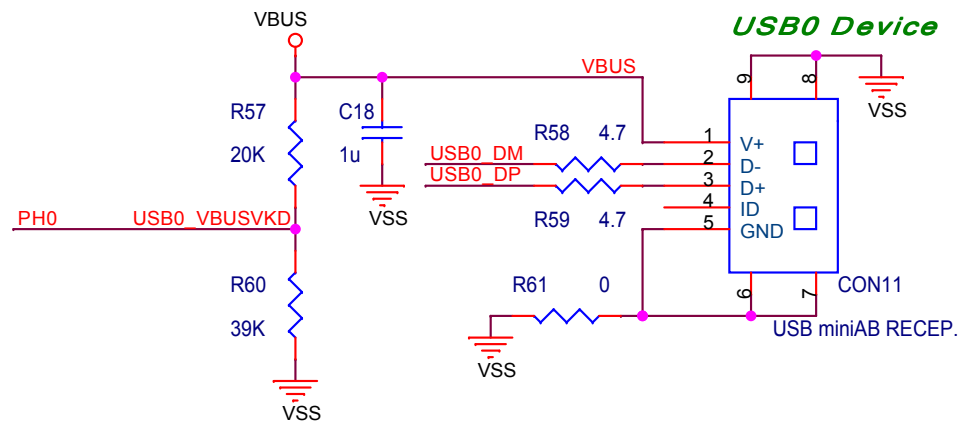
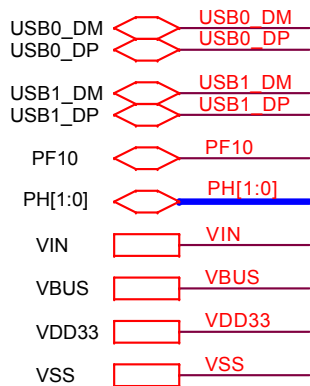
RS232\_9

UR9RXD PD15  
UR9TXD PD14



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Size A Document Number **USB**

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