

Nu_EVB_001 Board Rev 2.0 User's Manual



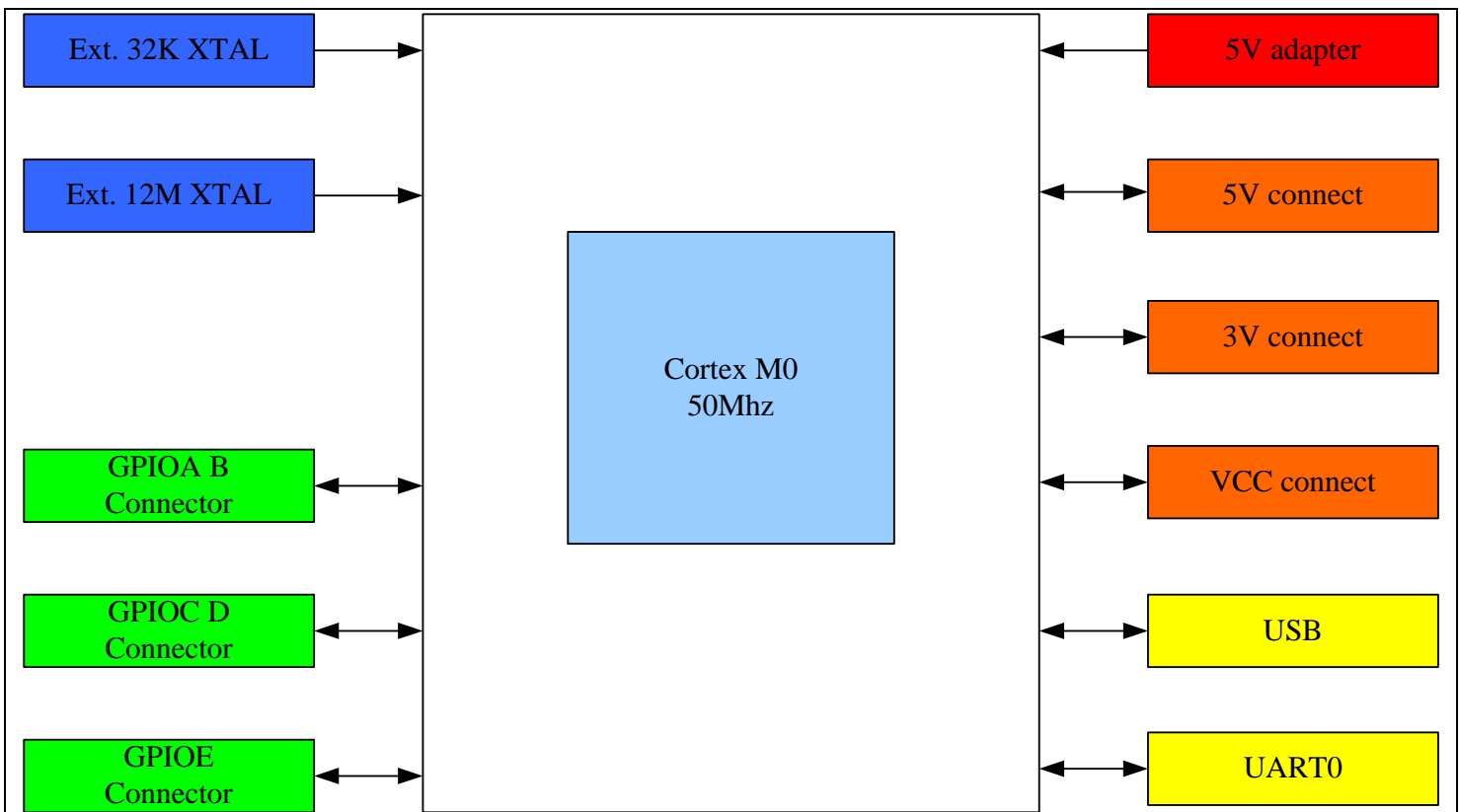
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1. Overview

The NUC1XX series are ARM® Cortex™-M0 core embedded microcontroller for industrial control and the applications which needed Rich communication functions. The Cortex™-M0 is the newest ARM embedded processor with 32-bit performance and at a cost equivalent traditional 8-bit microcontroller.

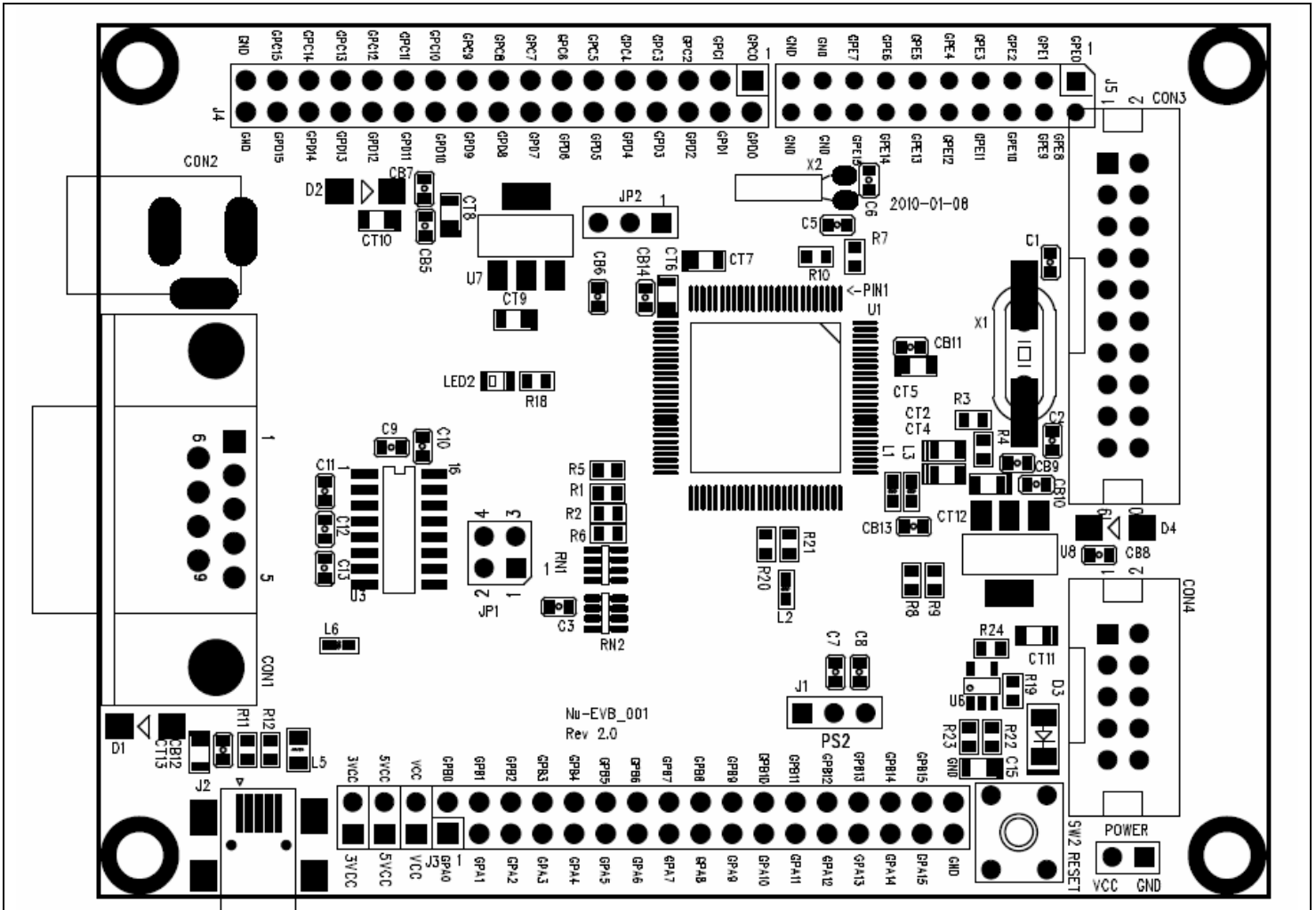
The NUC1XX series with Cortex™-M0 core runs up to 50MHz, up to 32K/64K/128K-byte embedded flash, and 4K/8K/16K-byte embedded SRAM, it also integrates Timers, Watchdog Timer, RTC, PDMA, UART, SPI/SSP, I2C, PWM Timer, GPIO, LIN, CAN, USB 2.0 FS Device, 12-bit ADC, Analog Comparator, Low Voltage Detector and Brown-out detector.

2. EVB Board Block Diagram





3. PCB Placement



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4. System Configuration

POWER ON Setting

CON2 : Power Jack + 5V DC IN.
 VCC: power for MCU.
 5VCC: Power support 5V.
 3VCC: Power support 3V.
 Power: VCC power is MCU power.

POWER model	USB	CON2	VCC	5VCC	3VCC
Model 1	OFF	Power Jack + 5V DC IN.	Select by JP1 and JP2	5V output	3V output
Model 2	OFF	OFF	Select by JP1 and JP2	5VCC input power 5V	3V output
Model 3	OFF	OFF	JP1 and JP2 use 2-3 on	OFF	3VCC input power 3V
Model 4	OFF	OFF	2.8V-5.5V input power, JP1 and JP2 off	OFF	OFF
Model 5	Connect to PC USB port	OFF	Select by JP1 and JP2	5V output	3V output

JP1 ,JP2 : Device voltage select

1-2 Use 5V device
 2-3 Use 3.3V device

LED2 : Power LED

SW2 : Reset button

Debug Setting

CON3 : ULINK Connector
 CON4 : Nuvoton ICE Connector
 CON1 : UART 0
 JP1 1-2 ,3-4 short



5. Multi function select

JP1 Setting

JP1 setting	Function	Output port
1-2 ON	UART 0 RXD	CON1
3-4 ON	UART 0 TXD	CON1

GPIO Output port

GPIO A

J3	Define		
1	GPIOA0	ADC0	
3	GPIOA1	ADC1	
5	GPIOA2	ADC2	
7	GPIOA3	ADC3	
9	GPIOA4	ADC4	
11	GPIOA5	ADC5	
13	GPIOA6	ADC6	
15	GPIOA7	ADC7	SPI_SS21
17	GPIOA8	I2C0SDA	
19	GPIOA9	I2C0SCL	
21	GPIOA10	I2C1SDA	
23	GPIOA11	I2C1SCL	
25	GPIOA12	PWM0	
27	GPIOA13	PWM1	
29	GPIOA14	PWM2	
31	GPIOA15	PWM3	
33	GND		

GPIO B

J3	DEFINE		
2	GPIOB0	RX0	
4	GPIOB1	TX0	
6	GPIOB2	RTS0	
8	GPIOB3	CTS0	
10	GPIOB4	RX1	
12	GPIOB5	Tx1	

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14	GPIOB6	RTS1	
16	GPIOB7	CTS1	
18	GPIOB8	TM0	STADC
20	GPIOB9	TM1	SPI_SS11
22	GPIOB10	TM2	SPI_SS01
24	GPIOB11	TM3	
26	GPIOB12	CPO0	
28	GPIOB13	CPO1	
30	GPIOB14	INT0	SPI_SS31
32	GPIOB15	INT1	
34	GND		

GPIO C

J4	DEFINE	
1	GPIOC0	SPI_SS00
3	GPIOC1	SPICLK0
5	GPIOC2	SDI00
7	GPIOC3	SDO00
9	GPIOC4	SDI01
11	GPIOC5	SDO01
13	GPIOC6	CPP0
15	GPIOC7	CPN0
17	GPIOC8	SPI_SS10
19	GPIOC9	SPICLK1
21	GPIOC10	SDI10
23	GPIOC11	SDO10
25	GPIOC12	SDI11
27	GPIOC13	SDO11
29	GPIOC14	CPP1
31	GPIOC15	CPN1
33	GND	

GPIO D

J4	DEFINE	
2	GPIOD0	SPI_SS20
4	GPIOD1	SPICLK2
6	GPIOD2	SDI20



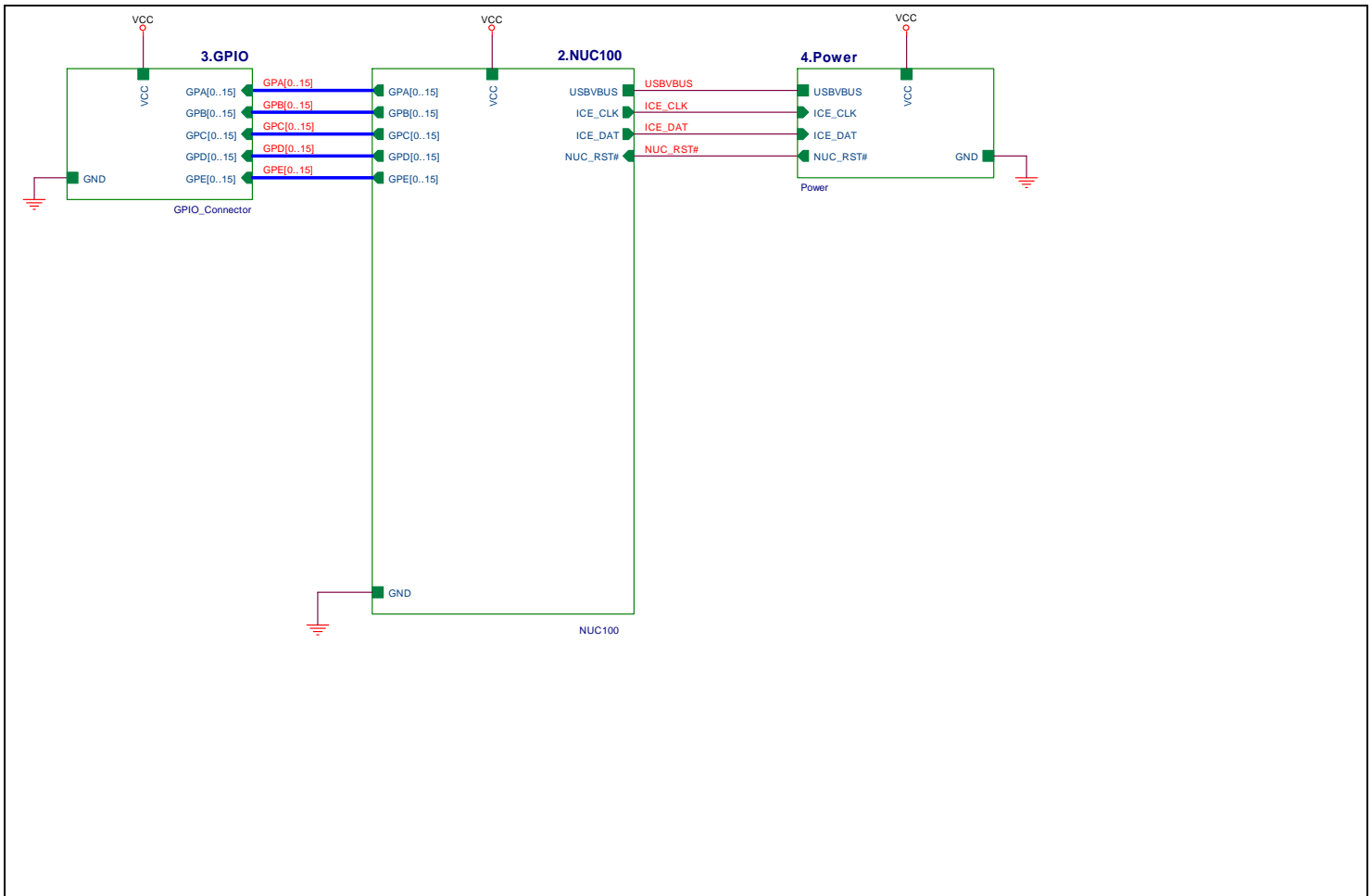
8	GPIOD3	SDO20
10	GPIOD4	SDI21
12	GPIOD5	SDO21
14	GPIOD6	CAN0_RX
16	GPIOD7	CAN0_TX
18	GPIOD8	SPI_SS30
20	GPIOD9	SPICLK3
22	GPIOD10	SDI30
24	GPIOD11	SDO30
26	GPIOD12	SDI31
28	GPIOD13	SDO31
30	GPIOD14	CAN1_RX
32	GPIOD15	CAN1_TX
34	GND	

GPIO E

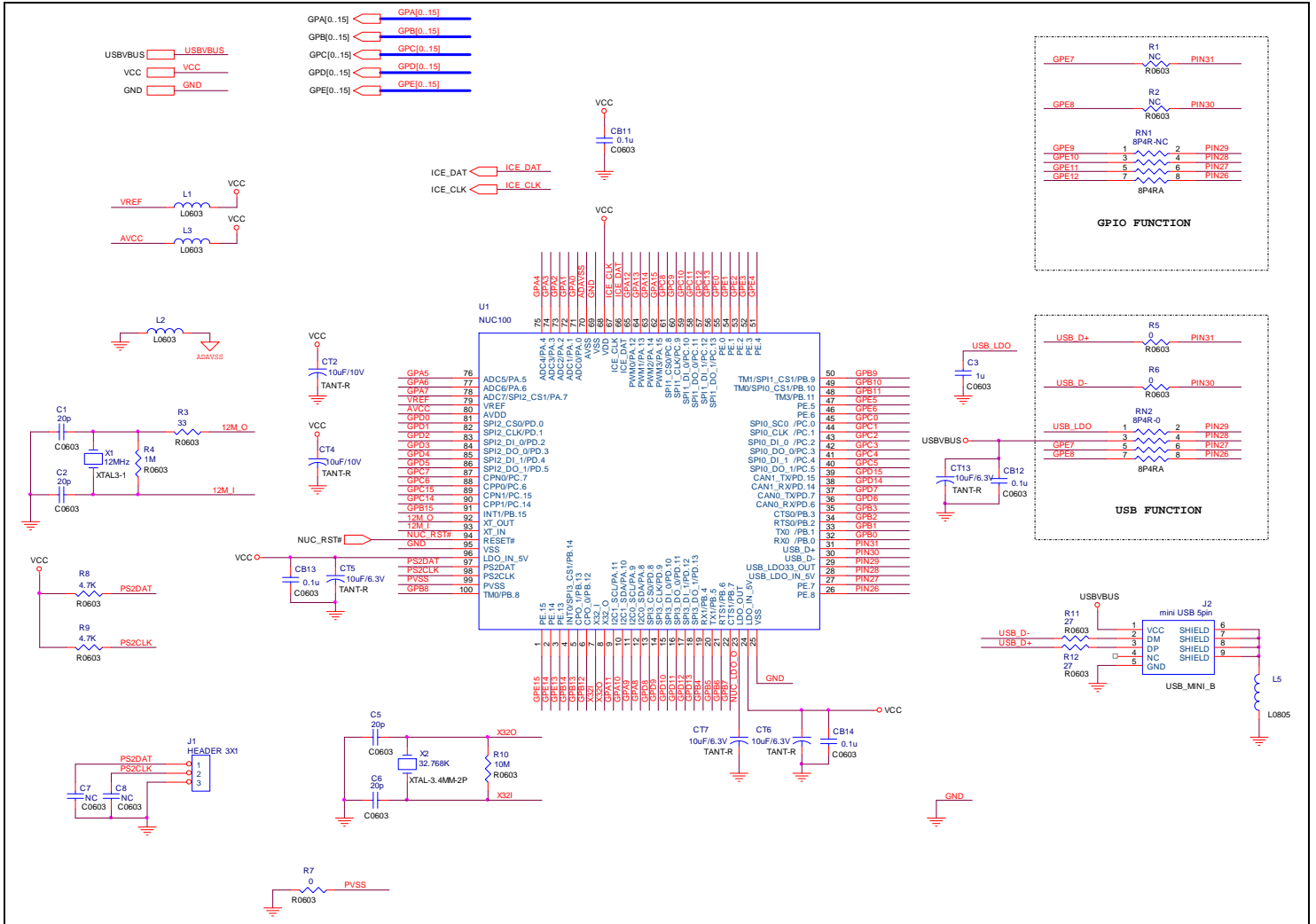
J5	DEFINE
1	GPIOE0
3	GPIOE1
5	GPIOE2
7	GPIOE3
9	GPIOE4
11	GPIOE5
13	GPIOE6
15	GPIOE7
17	GND
19	GND
2	GPIOE8
4	GPIOE9
6	GPIOE10
8	GPIOE11
10	GPIOE12
12	GPIOE13
14	GPIOE14
16	GPIOE15
18	GND
20	GND



6. Schematic

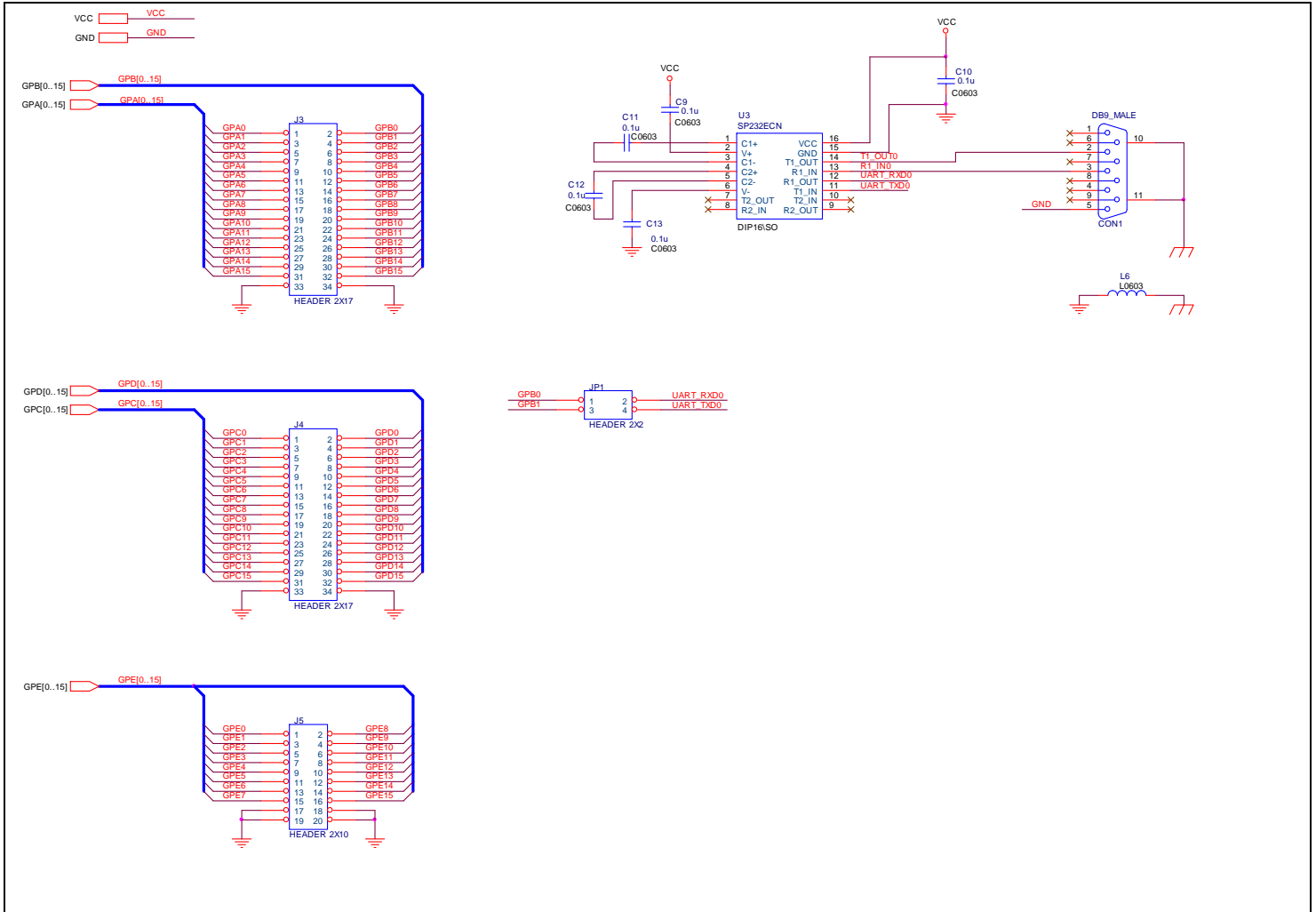


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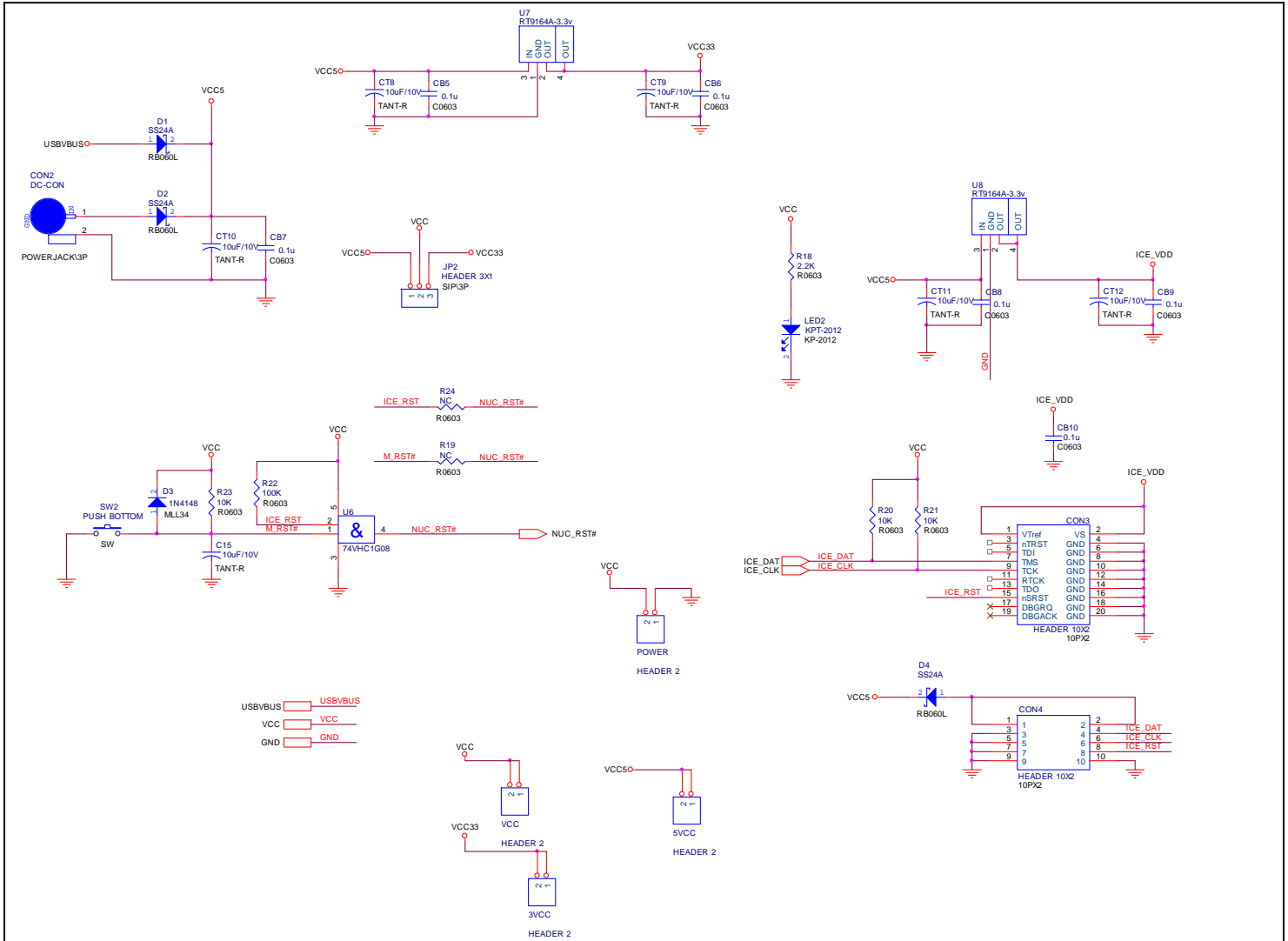
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7. Revision history

version	date	page	description
2.0	Mar 22, 2009	-	Rename "Nu_EVB_001"
1.4	Jan 8,2009	-	Remove SW1, PS2, BUZZER function
1.3	Nov 21, 2009	-	Update MCU package
1.0	Nov 11, 2009	--	Initial Issued