NuTiny-SDK- NUC472 User Manual

for NuMicro™ NUC472 Series

For additional information or questions, please contact: Nuvoton Technology Corporation.

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1 Overview

The NuTiny-SDK-NUC472 is a specific development tool for NuMicro™ NUC472 series. User can use NuTiny-SDK-NUC472 to develop and verify the application program easily. The NuTiny-SDK-NUC472 includes two parts: NuTiny-EVB-NUC472 and Nu-Link-Me. The NuTiny-EVB-NUC472 is the evaluation board and Nu-Link-Me is its Debug Adaptor. Therefore, user does not need other additional ICE or debug equipment.

2 Introduction to NuTiny-SDK-NUC472

The NuTiny-SDK-NUC472 uses the NUC472HI8AE as the target microcontroller. Figure 2-1 shows the NuTiny-SDK-NUC472 for NUC472 series, in which the left portion is called NuTiny-EVB-NUC472 and the right portion is called Nu-Link-Me.

The NuTiny-EVB-NUC472 is similar to other development boards. User can use it to develop and verify applications to emulate the real behavior. The on-board chip covers NUC472 series features. The NuTiny-EVB-NUC472 can be a real system controller to design user's target systems.

The Nu-Link-Me is a Debug Adaptor, which connects your PC's USB port to your target system (via Serial Wired Debug port) and allows you to program and debug embedded programs on the target hardware. To use the Nu-Link-Me Debug Adaptor with IAR or Keil, please refer to the "Nuvoton NuMicro™ IAR ICE Driver User Manual or "Nuvoton NuMicro™ Keil ICE Driver User Manual" for details. The two documents will be stored in the local hard disk when each driver is installed.

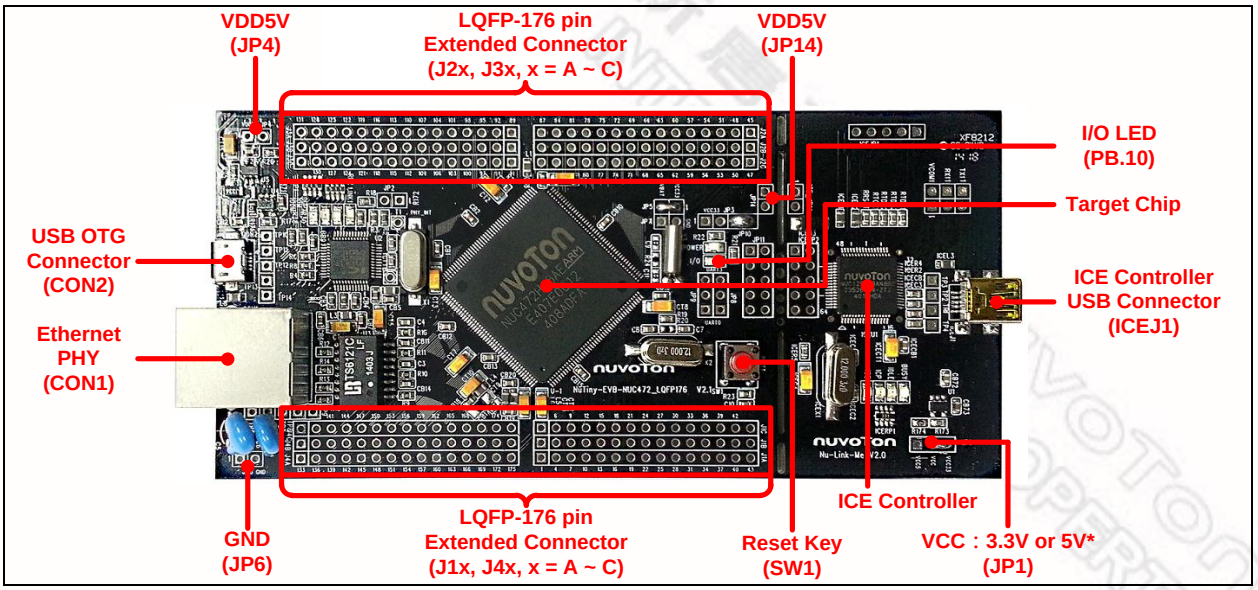


Figure 2-1 NuTiny-SDK-NUC472 (Black PCB Board)

* NOTE: Make sure the VCC (JP1) is shorted on VCC33 (default), and don't change it to protect all the Ethernet 3.3V devices in the NuTiny-EVB-NUC472 when debugging this target NUC472 system via this Nu-Link-Me board.

2.1 NuTiny-SDK-NUC472 Jumper Description

2.1.1 Power Settings

- **ICEJ1**: USB port in Nu-Link-Me
- **CON2**: USB port in NuTiny-EVB-NUC472
- **JP4/JP14**: VDD5V voltage connector in NuTiny-EVB-NUC472

POWER Mode	ICEJ1 USB Port (Mini)	CON2 USB Port (Micro)	JP4/JP14 VDD5V	MCU Voltage	Comment
Mode 1	Connected to PC	X	DC 5V Output	DC 3.3 V	ICEJ1 (from PC) supplies the power.
Mode 2	X	Connect to PC (USB port is device)	DC 5V Output	DC 3.3 V	CON2 (from PC) supplies the power when TP10 is wired to JP4 or JP14.
Mode 3	X	Connect to PC (USB port is host)	DC 5V Input	DC 3.3V	JP4 or JP14 supplies the power.

X: Unused.

2.1.2 Debug Connectors

- **JP11**: The connector in the target board (NuTiny-EVB-NUC472) for connecting with Nuvoton ICE adaptor (Nu-Link, Nu-Link-Pro or Nu-Link-Me)
- **ICEJP2**: The connector in the ICE adaptor (Nu-Link-Me) for connecting with a target board (e.g. NuTiny-EVB-NUC472)

2.1.3 USB Connectors

- **ICEJ1**: Mini USB connector in Nu-Link-Me connected to a PC USB port

2.1.4 USB OTG Host/Device Connector

- **CON2**: Micro USB connector in NuTiny-EVB-NUC472 for application use

2.1.5 Extended Connectors

- **J1x**, **J2x**, **J3x** and **J4x** (**x** = **A** ~ **C**) : Show all chip pins in NuTiny-EVB-NUC472

2.1.6 Reset Button

- **SW1**: Reset button in NuTiny-EVB-NUC472. Press this key to reset the target chip NUC472HI8AE.

2.1.7 Power Connectors

- **JP3**: VCC33 connector in NuTiny-EVB-NUC472 to supply the 3.3V voltage input to target board
- **JP10**: An option to select whether the 3.3V voltage input supplied by the ICE bridge (default)
- **VBAT**: The VBAT connector in NuTiny-EVB-NUC472 to supply an extra battery power. The default is shorted with VCC33.
- **JP4/JP14**: VDD5V connector in NuTiny-EVB-NUC472 to supply 5V voltage input from an extra power supplier.
- **JP6**: GND connector in NuTiny-EVB-NUC472

2.1.8 10/100 Mbps Fast Ethernet PHY

- **CON1**: Ethernet connector in NuTiny-EVB-NUC472 for application use.

2.2 Pin Assignment for Extended Connectors

The NuTiny-EVB-NUC472 provides the NUC472HI8AE target chip on board and the extended connectors **J1x**, **J2x**, **J3x**, and **J4x** (**x** = **A** ~ **C**) for LQFP 176-pin.

No	Pin Name	No	Pin Name
1	PE.12/ADC1_4/ACMP1_P3/ACMP2_P2/ EBI_ncs1/HS	21	PD.0/SPI1_MISO0/SC4_CLK/SD1_DAT2/ CAP_DATA3/EBI_A4/INT3/HS
2	PE.13/ADC1_5/ACMP2_P1/EBI_nCS2/HS	22	PD.1/SPI1_CLK/TM0_CNT_OUT/SD1_DAT1/ CAP_DATA2/EBI_A5/HS
3	PE.14/ADC1_6/ACMP2_P0/EBI_nCS3/HS	23	PD.2/STADC/I2C3_SCL/SD1_DAT0/CAP_DATA1/ EBI_A6/HS
4	PE.15/ADC1_7/ACMP2_N	24	PH.11/UART3_RXD
5	PF.9/OPA0_IN+/PWM0_0/HS	25	PH.12/UART3_TXD
6	PF.10/OPA0_IN-/PWM0_1/HS	26	PH.13/UART3_RTS
7	PF.11/OPA0_O/UART1_RTS	27	PH.14/UART3_CTS
8	PF.12/OPA1_IN+/UART1_CTS	28	PD.3/SC5_CLK/I2C3_SDA/ACMP2_O/SD0_CDn/ CAP_DATA0/EBI_A7/HS
9	PF.13/OPA1_IN-/UART1_TXD	29	PD.4/SC5_CD/UART3_RXD/ACMP1_O/ CAP_SCLK/EBI_A8/HS
10	PF.14/OPA1_O/UART1_RXD	30	PD.5/SC5_RST/UART3_TXD/CAP_VSYNC/ EBI_A9/HS
11	VSS	31	PD.6/SC5_PWR/UART3_RTS/SD0_CMD/ CAP_HSYNC/EBI_A10/HS
12	VDD	32	PD.7/SC5_DAT/UART3_CTS/SD0_CLK/ CAP_PIXCLK/EBI_A11/HS
13	PF.15/UART0_RTS	33	PH.15/SC5_CLK
14	PG.0/UART0_CTS/INT6	34	PI.0/SC5_RST
15	PG.1/UART0_RXD	35	PI.1/SC5_PWR
16	PG.2/UART0_TXD	36	PI.2/SC5_DAT
17	PC.12/SPI1_SS0/SC4_CD/SD1_CDn/CAP_DATA7/ EBI_A0/HS	37	PG.13/XT1_IN
18	PC.13/SPI1_MOSI1/SC4_RST/SD1_CMD/ CAP_DATA6/EBI_A1/HS	38	PG.12/XT1_OUT
19	PC.14/SPI1_MISO1/SC4_PWR/TM3_EXT/ SD1_CLK/CAP_DATA5/EBI_A2/HS	39	nRESET
20	PC.15/SPI1_MOSI0/SC4_DAT/SD1_DAT3/ CAP_DATA4/EBI_A3/HS	40	LDO_CAP

41	VSS	64	PG.4/PS2_DAT/I2S1_DI/SC1_PWR
42	VDD	65	PG.5/I2S1_BCLK/SC1_DAT
43	PG.10/ICE_CLK	66	PG.6/I2S1_LRCK/SC1_CLK
44	PG.11/ICE_DAT	67	VDD
45	PG.15/X32K_IN/I2C1_SCL	68	VSS
46	PG.14/X32K_OUT/I2C1_SDA	69	PA.7/SC0_CLK/SPI3_SS0/PWM1_3/EPWM0_5/ EBI_A17/HS
47	VBAT	70	PA.8/SC0_RST/SPI3_CLK/PWM1_2/EPWM0_4/ EBI_A18/HS
48	PA.0/TAMPER0/SC0_CD/CAN1_RXD/INT0	71	PA.9/SC0_PWR/SPI3_MISO0/PWM1_1/EPWM0_3 /EBI_A19/HS
49	PA.1/TAMPER1/SC5_CD/CAN1_TXD/EBI_A22	72	PA.10/SC0_DAT/SPI3_MOSI0/PWM1_0/ EPWM0_2/EBI_A20/HS
50	PI.3/SPI3_SS0/HS	73	PA.11/UART0_RTS/SPI3_MISO1/PWM0_5/ EPWM0_1/EBI_AD0/HS
51	PI.4/SPI3_CLK/HS	74	PA.12/UART0_CTS/SPI3_MOSI1/PWM0_4/ EPWM0_0/EBI_AD1/HS
52	PI.5/SPI3_MISO0/HS	75	PA.13/UART0_RXD/SC3_DAT/PWM1_4/EBI_AD2/ HS
53	PI.6/SPI3_MOSI0/HS	76	PA.14/UART0_TXD/SC3_CLK/PWM1_5/EBI_AD3/ HS
54	PD.8/SPI3_MISO1/I2C0_SCL/HS	77	PI.9/I2C4_SCL
55	PD.9/SPI3_MOSI1/I2C0_SDA/HS	78	PI.10
56	PA.2/SC2_DAT/SPI3_MISO0/I2S0_MCLK/ BRAKE11/CAP_SFIELD/EBI_A12/HS	79	PD.10/SC3_DAT/I2C4_SCL
57	PA.3/SC2_CLK/SPI3_MOSI0/I2S0_DO/BRAKE10/ EBI_A13/HS	80	PD.11/SC3_RST/TM3_CNT_OUT
58	PA.4/SC2_PWR/SPI3_CLK/I2S0_DI/QEI1_Z/ EBI_A14/ECAP1_IC2/HS	81	PD.12/SC3_CLK/I2C4_SDA
59	PA.5/SC2_RST/SPI3_SS0/I2S0_BCLK/PWM0_0/ QEI1_B/EBI_A15/ECAP1_IC1/HS	82	PA.15/SC3_PWR/UART2_RTS/I2C0_SCL/ EBI_A21/HS
60	PA.6/SC2_CD/I2S0_LRCK/PWM0_1/QEI1_A/ CAN1_TXD/EBI_A16/ECAP1_IC0/HS	83	PC.9/STADC/UART2_CTS/SC3_RST/I2C0_SDA/ CAP_DATA1/I2C3_SCL/EBI_A22/SD1_DAT0/ EBI_A6/HS
61	PI.7/I2C2_SCL/SPI3_MISO1/HS	84	PC.10/SC3_CD/UART2_RXD/PWM0_2/EBI_A23/ EBI_AD2/HS
62	PI.8/I2C2_SDA/SPI3_MOSI1/HS	85	PC.11/UART2_TXD/PWM0_3/EBI_A24/EBI_AD3/ HS
63	PG.3/PS2_CLK/I2S1_DO/SC1_RST	86	LDO_CAP

87	VSS	110	PF.1/SPI2_MOSI1/HS
88	VDD	111	VDD
89	PD.13/SPI1_SS0/UART5_CTS/ECAP0_IC2/HS	112	VSS
90	PD.14/SPI1_CLK/UART5_RTS/ECAP0_IC1/HS	113	PB.2/UART1_RXD/SPI2_SS0/USB1_D-/ EBI_AD4/HS
91	PD.15/SPI1_MISO0/UART5_TXD/ECAP0_IC0/HS	114	PB.3/UART1_TXD/SPI2_CLK/USB1_D+/EBI_AD5/ HS
92	PF.0/SPI1_MOSI0/UART5_RXD/INT5/HS	115	PB.4/UART1_RTS/SPI2_MISO0/UART4_RXD/ TM0_CNT_OUT/EBI_AD6/HS
93	VRES	116	PB.5/UART1_CTS/SPI2_MOSI0/UART4_TXD/ EBI_AD7/HS
94	VBUS	117	PB.6/I2C2_SCL/BRAKE01/UART4_RTS/PWM1_4/ EPWM1_0/EBI_AD8/HS
95	USB_VDD33_CAP	118	PB.7/I2C2_SDA/BRAKE00/UART4_CTS/PWM1_5/ EPWM1_1/ EBI_AD9/HS
96	VSSA	119	PB.8/UART5_CTS/EPWM1_2/ EBI_AD10/HS
97	USB0_D-	120	PB.9/UART5_RTS/EPWM1_3/ EBI_AD11/HS
98	USB0_D+	121	PB.10/UART5_TXD/EPWM1_4/ EBI_AD12/HS
99	USB0_OTG_ID	122	PB.11/UART5_RXD/EPWM1_5/ EBI_AD13/HS
100	PB.0/USB0_VBUS_ST/I2C4_SCL/INT1	123	PH.0/I2C1_SCL/UART4_RXD/CAN1_RXD/INT7
101	PB.1/USB0_VBUS_EN/I2C4_SDA/TM1_CNT_OUT	124	PH.1/UART4_TXD/I2C1_SDA/CAN1_TXD
102	PG.7/SPI2_MISO0/I2S1_MCLK/SC1_CD/ SC3_RST/HS	125	PB.12/UART4_RTS/SPI2_MISO1/CAN0_RXD/ EMAC_MII_MDC/EBI_AD14/HS
103	PG.8/SPI2_MOSI0/I2S1_DO/UART4_RTS/ SC3_DAT/HS	126	PB.13/UART4_CTS/SPI2_MOSI1/CAN0_TXD/ EMAC_MII_MDIO/EBI_AD15/HS
104	PG.9/SPI2_CLK/I2S1_DI/UART4_CTS/SC3_CLK/ HS	127	PB.14/I2S1_MCLK/SC1_RST/BRAKE01/ EMAC_MII_MDC/HS
105	PI.11/SPI2_SS0/I2S1_BCLK/I2C4_SCL/SC3_PWR/ HS	128	PB.15/I2S1_DO/SC1_DAT/BRAKE00/ EMAC_MII_MDIO/HS
106	PI.12/SPI2_MISO1/I2S1_LRCK/I2C4_SDA/ SC3_CD	129	VDD
107	PI.13	130	VSS
108	PI.14	131	LDO_CAP
109	PI.15	132	PC.0/I2S1_DI/SC1_DAT/UART4_RXD/ EMAC_REFCLK/EBI_MCLK/INT2/HS

133	PC.1/I2S1_BCLK/SC1_CLK/UART4_TXD/ TM3_CNT_OUT/EMAC_MII_RXERR/EBI_AD13/HS	155	PH.7/SPI2_MISO0/HS
134	PC.2/I2S1_LRCK/SC1_PWR/UART4_RTS/ SPI0_SS0/EMAC_MII_RXDV/EBI_AD12/HS	156	PH.8/SPI2_MOSI0/HS
135	PC.3/I2S1_MCLK/SC1_CD/UART4_CTS/ SPI0_MISO1/QEI0_Z/EMAC_MII_RXD1/EBI_AD11/ ECAP0_IC2/HS	157	PH.9/SPI2_MISO1/HS
136	PC.4/I2S1_DO/SC1_RST/SPI0_MOSI1QEI0_B/ EMAC_MII_RXD0/EBI_AD10/ECAP0_IC1/HS	158	PH.10/SPI2_MOSI1/HS
137	PC.5/CLKO/QEI0_A/EMAC_MII_RXCLK/ EBI_MCLK/ECAP0_IC0/HS	159	LDO_CAP
138	PC.6/TM2_EXT/SPI0_MISO0/TM2_CNT_OUT/ EMAC_MII_TXD0/EBI_AD9/HS	160	VSS
139	PC.7/TM1_EXT/SPI0_MOSI0/EMAC_MII_TXD1/ EBI_AD8/HS	161	VDD
140	PC.8/TM0_EXT/SPI0_CLK/EMAC_MII_TXEN/HS	162	PE.0/ADC0_0/INT4
141	PF.2/SPI3_SS0/SD0_DAT3/EMAC_MII_RXD3/HS	163	PE.1/ADC0_1/TM2_CNT_OUT
142	PF.3/SPI3_CLK/SD0_DAT2/EMAC_MII_RXD2/HS	164	PE.2/ADC0_2/ACMP0_O/SPI0_MISO0/HS
143	PF.4/SPI3_MISO0/SD0_DAT1/EMAC_MII_COL0/ HS	165	PE.3/ADC0_3/ACMP0_P3/SPI0_MOSI0/HS
144	PF.5/SPI3_MOSI0/SD0_DAT0/EMAC_MII_CRS/HS	166	PE.4/ADC0_4/ACMP0_P2/SPI0_SS0/HS
145	VSS	167	PE.5/ADC0_5/ACMP0_P1/SPI0_CLK/SD0_CDn/HS
146	VDD	168	PE.6/ADC0_6/ACMP0_P0/SPI0_MISO0/ SD0_CMD/EBI_nWR/HS
147	PF.6/UART2_RXD/SD0_CDn/EMAC_MII_TXCLK/ HS	169	PE.7/ADC0_7/ACMP0_N/SPI0_MOSI0/SD0_CLK/ EBI_nRD/HS
148	PF.7/UART2_TXD/SD0_CMD/EMAC_MII_TXD3/ HS	170	AVSS
149	PF.8/UART2_RTS/SD0_CLK/EMAC_MII_TXD2/HS	171	Vref
150	PH.2/UART2_CTS	172	AVDD
151	PH.3/I2C3_SCL	173	PE.8/ADC1_0/ADC0_8/ACMP1_N/ TM1_CNT_OUT/SD0_DAT3/EBI_ALE/HS
152	PH.4/I2C3_SDA	174	PE.9/ADC1_1/ADC0_9/ACMP1_P0/SD0_DAT2/ EBI_nWRH/HS
153	PH.5/SPI2_SS0/HS	175	PE.10/ADC1_2/ADC0_10/ACMP1_P1/ SPI0_MISO1/SD0_DAT1/EBI_nWRL/HS
154	PH.6/SPI2_CLK/HS	176	PE.11/ADC1_3/ADC0_11/ACMP1_P2/ SPI0_MOSI1/SD0_DAT0/ACMP2_P3/EBI_nCS0/ HS

Table 2-1 NUC472HI8AE LQFP 176-pin Assignment for Extended Connectors

2.3 NuTiny-SDK-NUC472 PCB Placement

The following figure shows the NuTiny-SDK-NUC472 PCB placement.

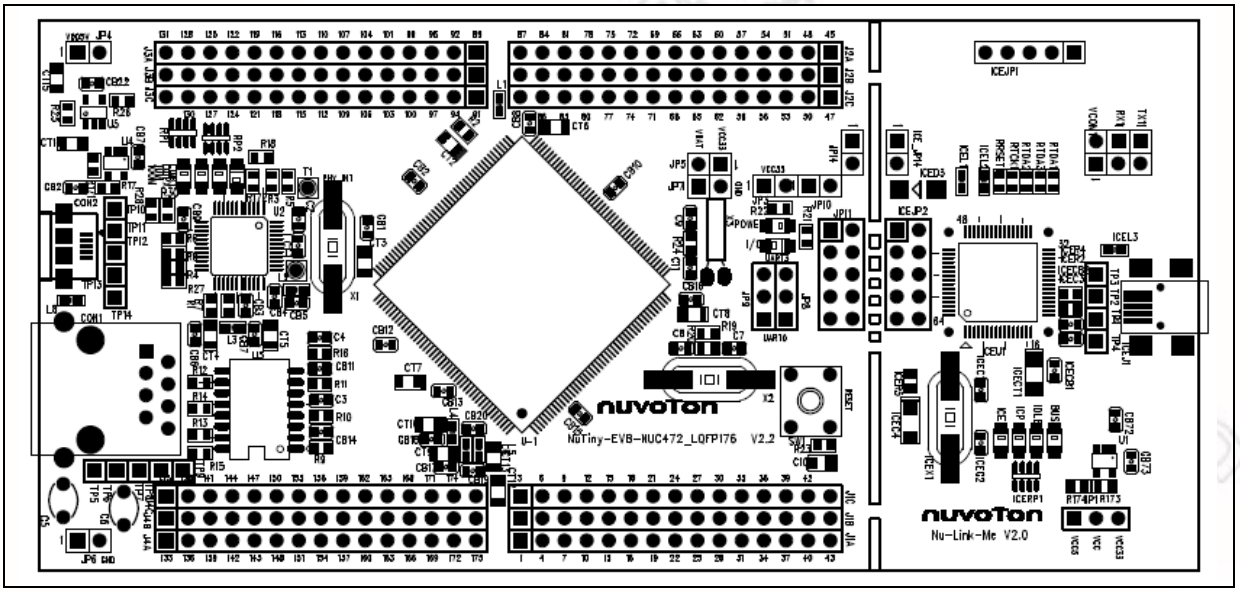


Figure 2-2 NuTiny-SDK-NUC472 PCB Placement

3 Starting to Use NuTiny-SDK-NUC472 on the Keil µVision® IDE

3.1 Downloading and Installing Keil µVision® IDE Software

Please connect to the Keil company website (http://www.keil.com) to download the Keil µVision® IDE and install the RVMDK.

3.2 Downloading and Installing Nuvoton Nu-Link Driver

Please connect to Nuvoton NuMicro™ website (http://www.nuvoton.com/NuMicro) to download the "*NuMicro™ Keil µVision® IDE driver*" file. Please refer to *section 6.1* for the detailed download flow. After the Nu-Link driver is downloaded, please unzip the file and execute the "*Nu-Link_Keil_Driver.exe*" to install the driver.

3.3 Hardware Setup

The hardware setup is shown in the following figure.

Figure 3-1 NuTiny-SDK-NUC472 Hardware Setup

3.4 Example Program

This example, as shown in the directory in Figure 3-2, demonstrates downloading and debugging an application on a NuTiny-SDK-NUC472 board. The example file can be downloaded from Nuvoton NuMicro™ website as described in *section 6.3*.

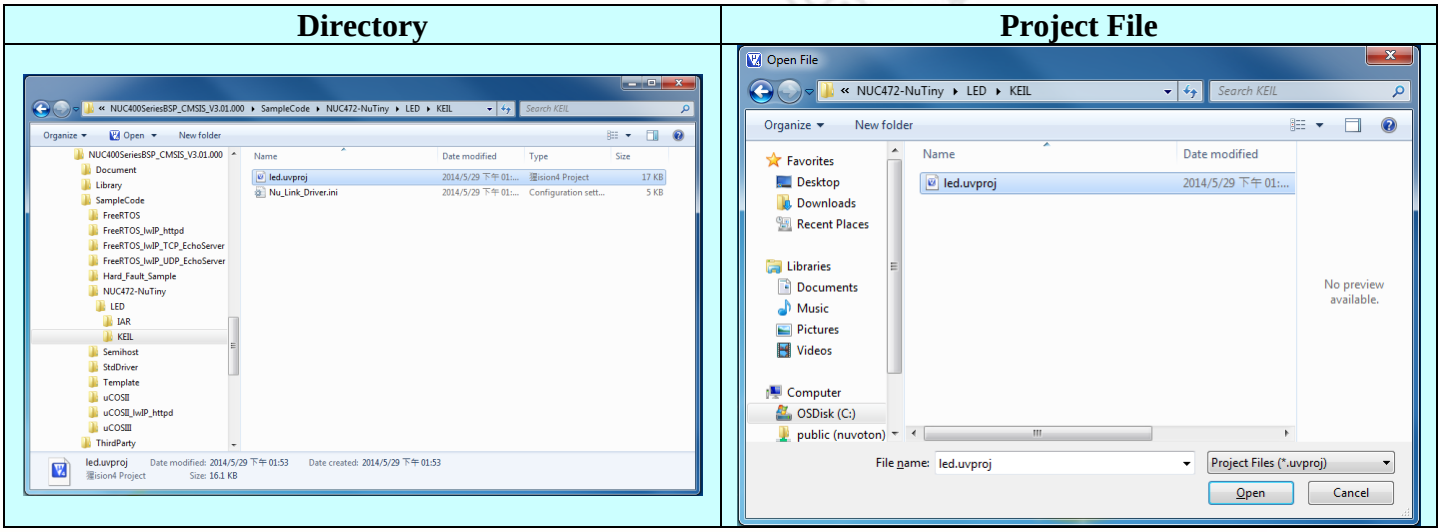


Figure 3-2 Example Directory

To use the example:
The I/O LED on the NuTiny-EVB-NUC472 board will be toggled on.

- **Start µVision®**
- **Project – Open**
  Open the led.uvproj project file
- **Project – Build**
  Compile and link the LED application
- **Flash – Download**
  Program the application code into on-chip Flash ROM
- **Start Debug mode**
  When using the debugger commands, you may:
  - Review variables in the watch window
  - Single step through code
  - Reset the device
  - Run the application

4 Starting to Use NuTiny-SDK-NUC472 on the IAR Embedded Workbench

4.1 Downloading and Installing IAR Embedded Workbench Software

Please connect to IAR company website (http://www.iar.com) to download the IAR Embedded Workbench and install the EWARM.

4.2 Downloading and Installing Nuvoton Nu-Link Driver

Please connect to Nuvoton Company NuMicro™ website (http://www.nuvoton.com/NuMicro) to download "NuMicro™ IAR EWARM Driver" file. Please refer to *section 6.2* for the detail download flow. After the Nu-Link driver is downloaded, please unzip the file and execute the "Nu-Link_IAR_Driver.exe" to install the driver.

4.3 Hardware Setup

The hardware setup is shown in the following figure.

Figure 4-1 NuTiny- SDK-NUC472 Hardware Setup

4.4 Example Program

This example, as shown in the directory in Figure 4-2, demonstrates downloading and debugging an application on a NuTiny-SDK-NUC472 board. The example file can be downloaded from Nuvoton NuMicro™ website as described in *section 6.3*.

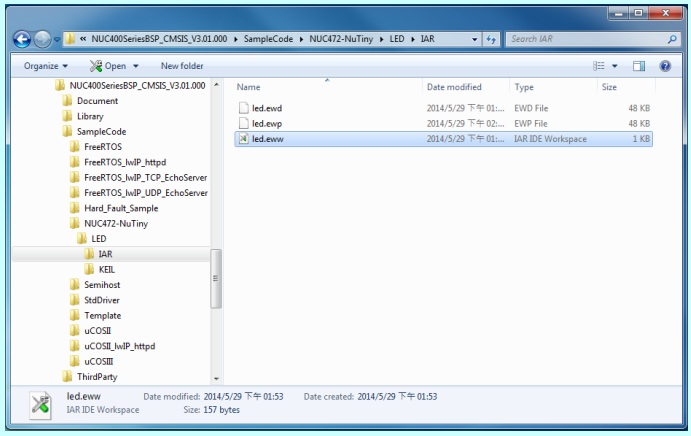
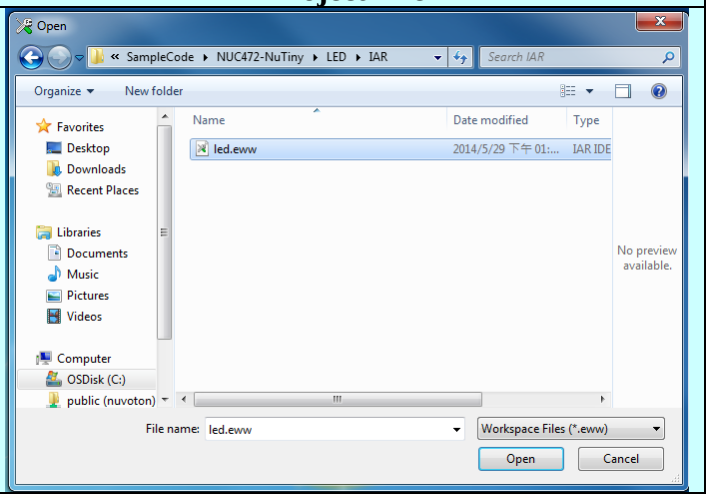
Directory	Project File
	

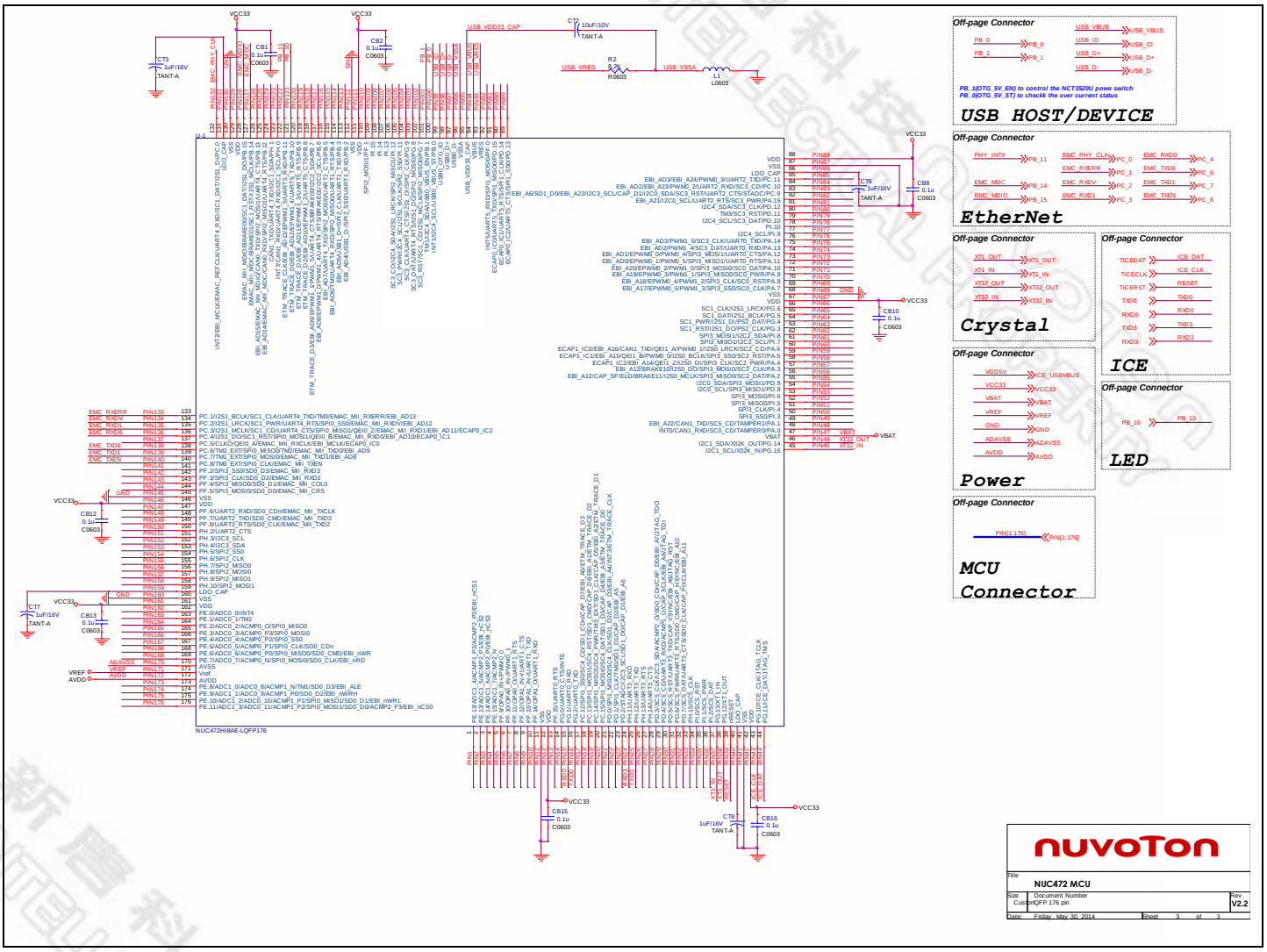
Figure 4-2 Example Directory

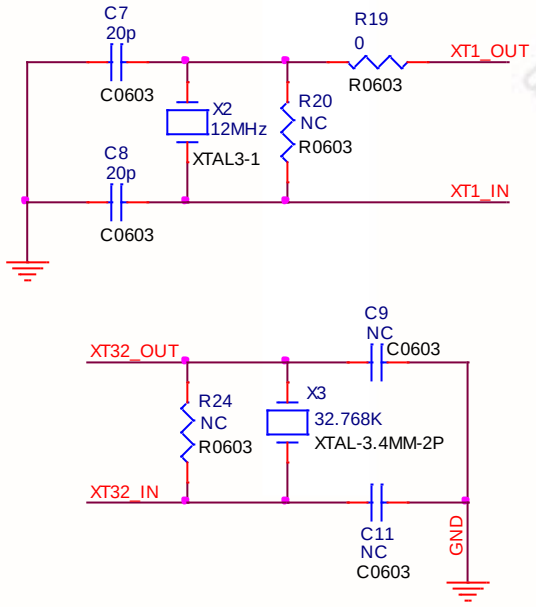
To use the example:
The I/O LED on the NuTiny-EVB-NUC472 board will be toggled on.

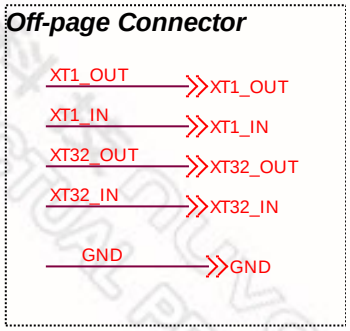
- **Start IAR Embedded Workbench**
- **File-Open-Workspace**
  Open the led.eww workspace file
- **Project - Make**
  Compile and link the LED application
- **Project – Download and Debug**
  Program the application code into on-chip Flash ROM
  - Single step through code
  - Reset the device
  - Run the application

5 NuTiny-EVB-NUC472 Schematics

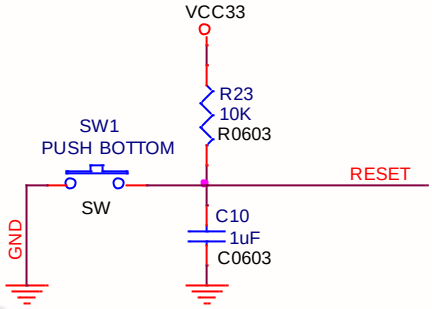
5.1 NuTiny-EVB-NUC472 Schematic

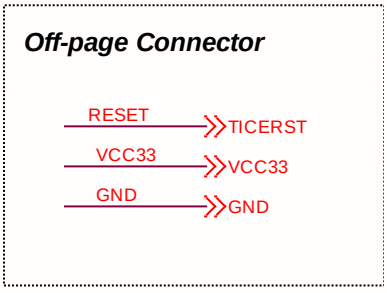




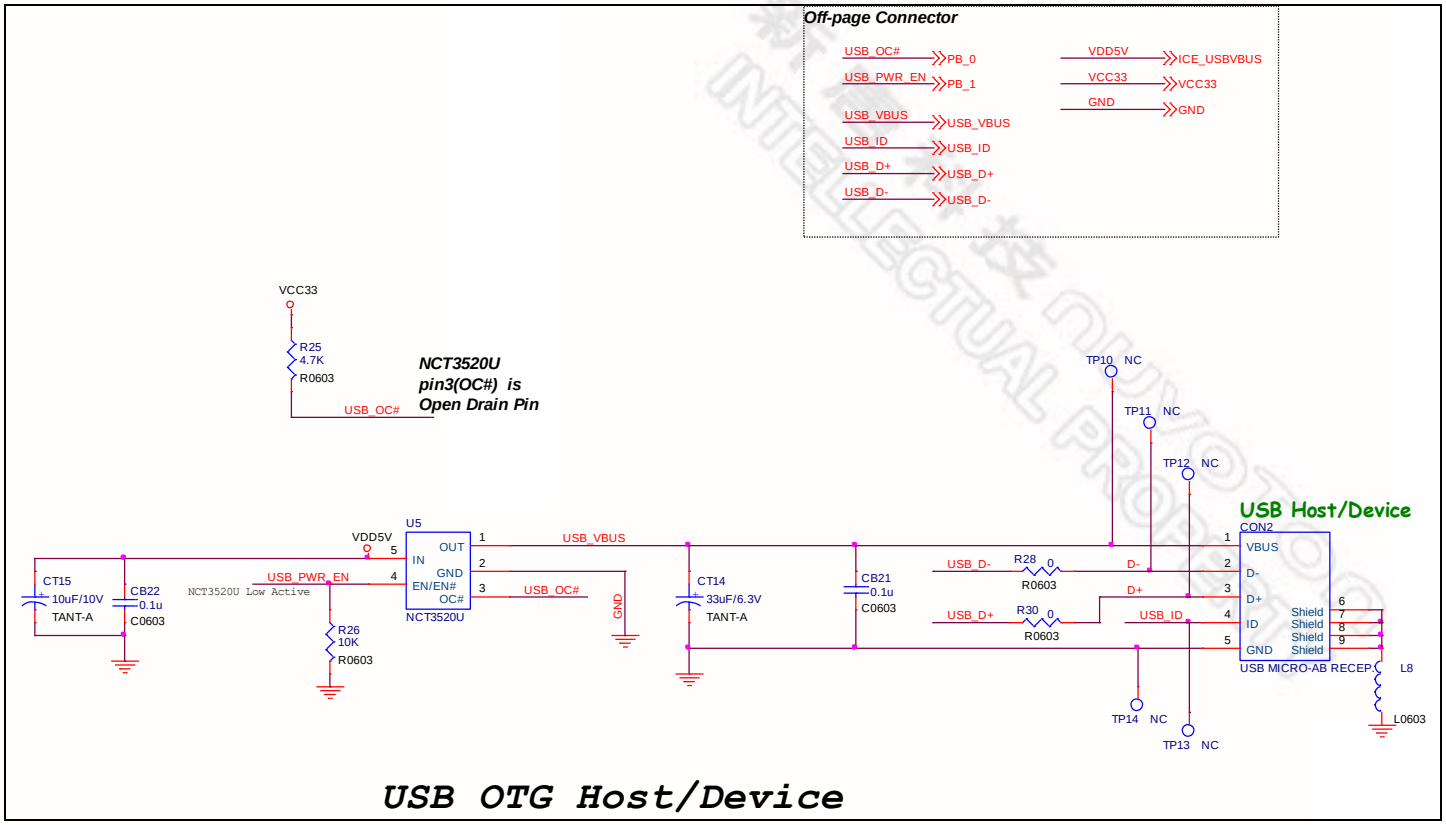


CRYSTAL

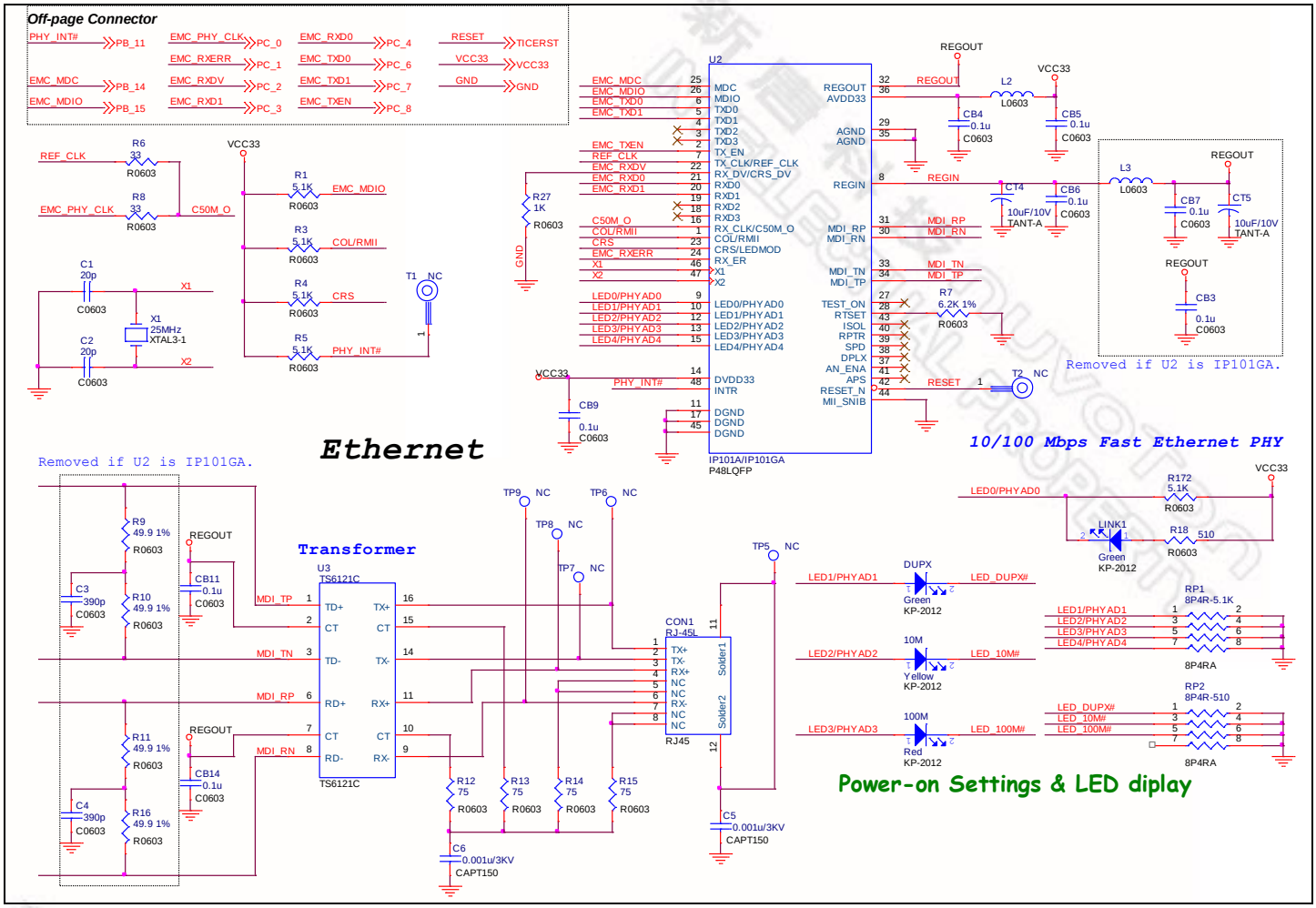


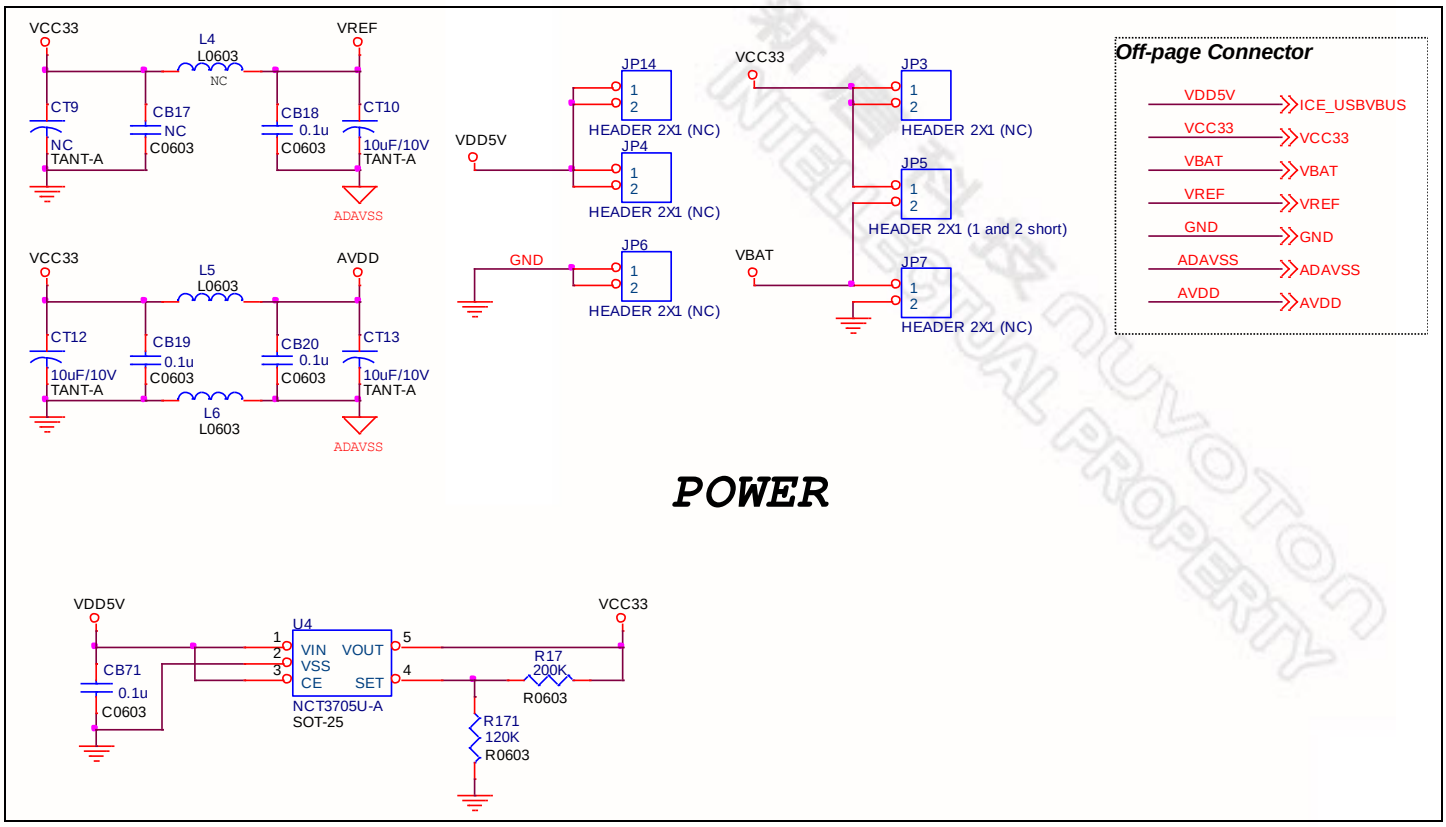


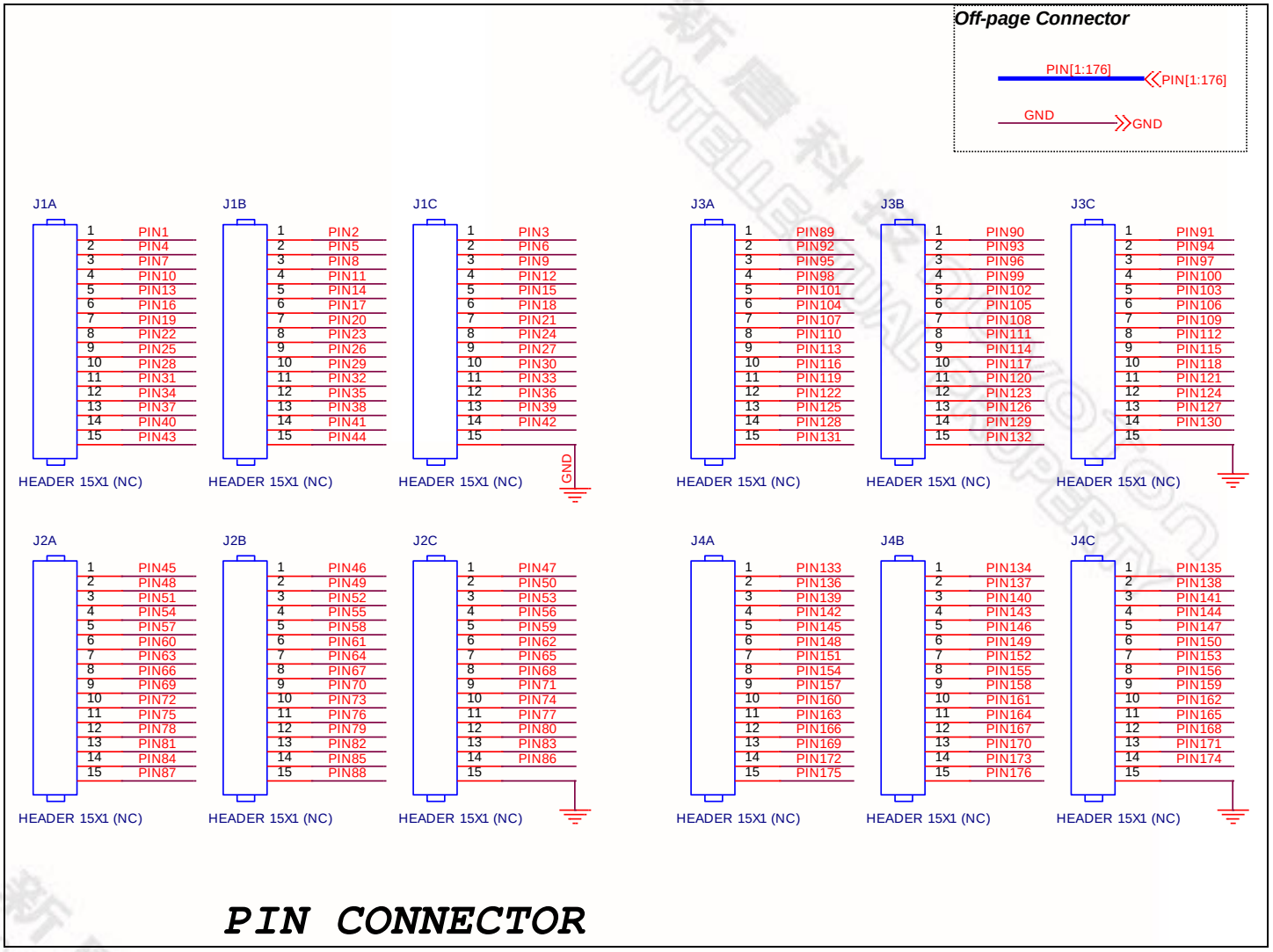
RESET



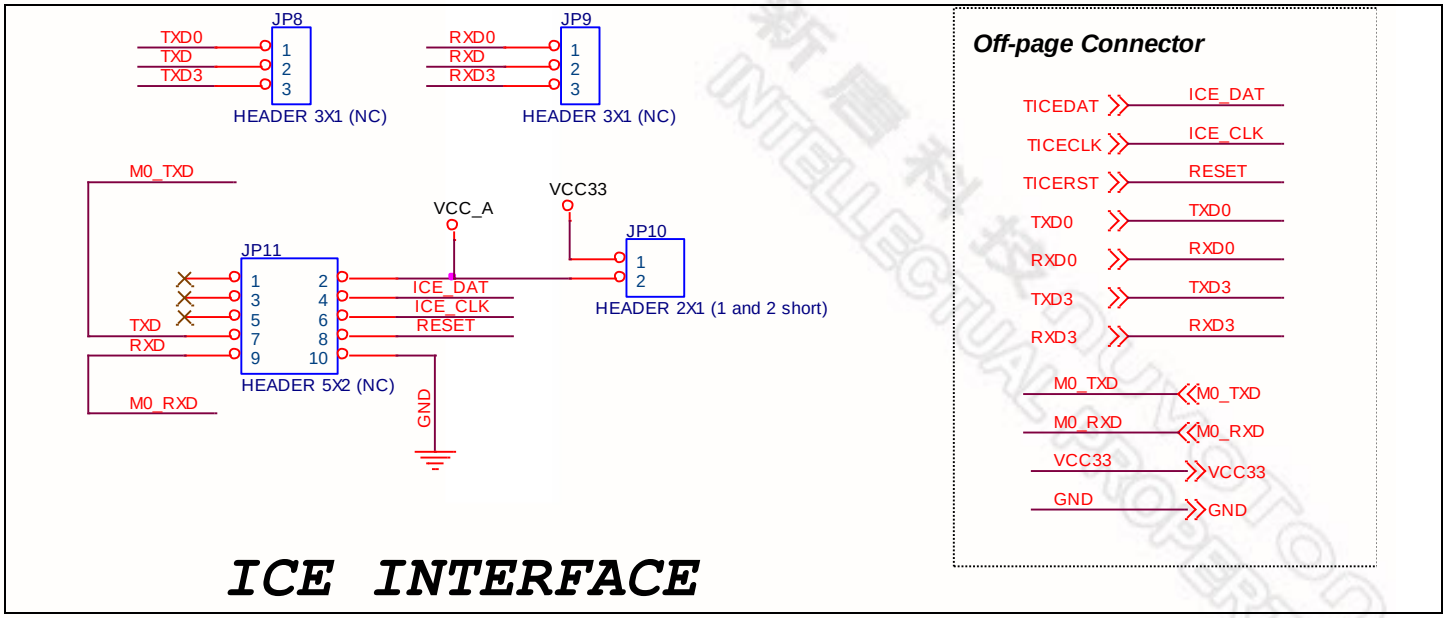
USB OTG Host/Device

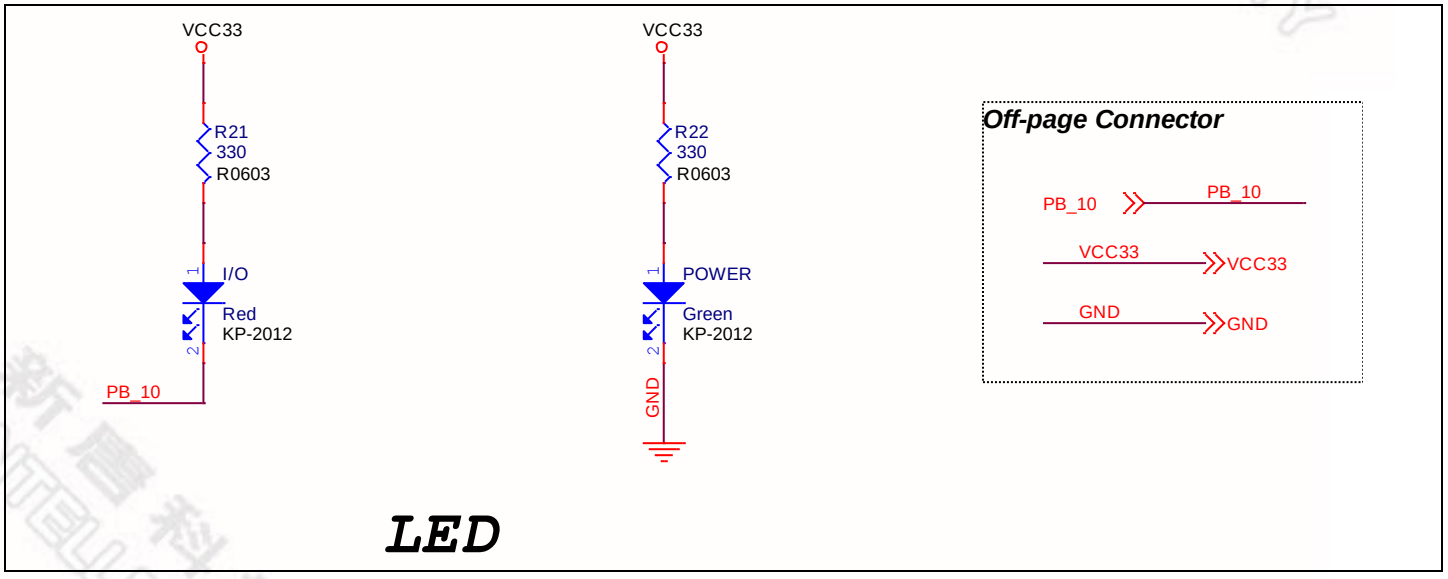

Off-page Connector
Ethernet
Transformer
10/100 Mbps Fast Ethernet PHY
Power-on Settings & LED diplay
Removed if U2 is IP101GA.
Removed if U2 is IP101GA.
IP101A/IP101GA
P48LQFP
TS6121C
RJ45


VCC33
L4
L0603
NC
VREF
CT9
NC
TANT-A
CB17
NC
C0603
CB18
0.1u
C0603
CT10
10uF/10V
TANT-A
ADAVSS
VCC33
L5
L0603
AVDD
CT12
10uF/10V
TANT-A
CB19
0.1u
C0603
CB20
0.1u
C0603
CT13
10uF/10V
TANT-A
L6
L0603
ADAVSS
VDD5V
JP14
HEADER 2X1 (NC)
JP4
HEADER 2X1 (NC)
GND
JP6
HEADER 2X1 (NC)
VCC33
JP3
HEADER 2X1 (NC)
JP5
HEADER 2X1 (1 and 2 short)
VBAT
JP7
HEADER 2X1 (NC)
Off-page Connector
VDD5V
ICE_USBVBUS
VCC33
VCC33
VBAT
VBAT
VREF
VREF
GND
GND
ADAVSS
ADAVSS
AVDD
AVDD
POWER
VDD5V
CB71
0.1u
C0603
U4
VIN
VSS
CE
VOUT
SET
NCT3705U-A
SOT-25
VCC33
R17
200K
R0603
R171
120K
R0603

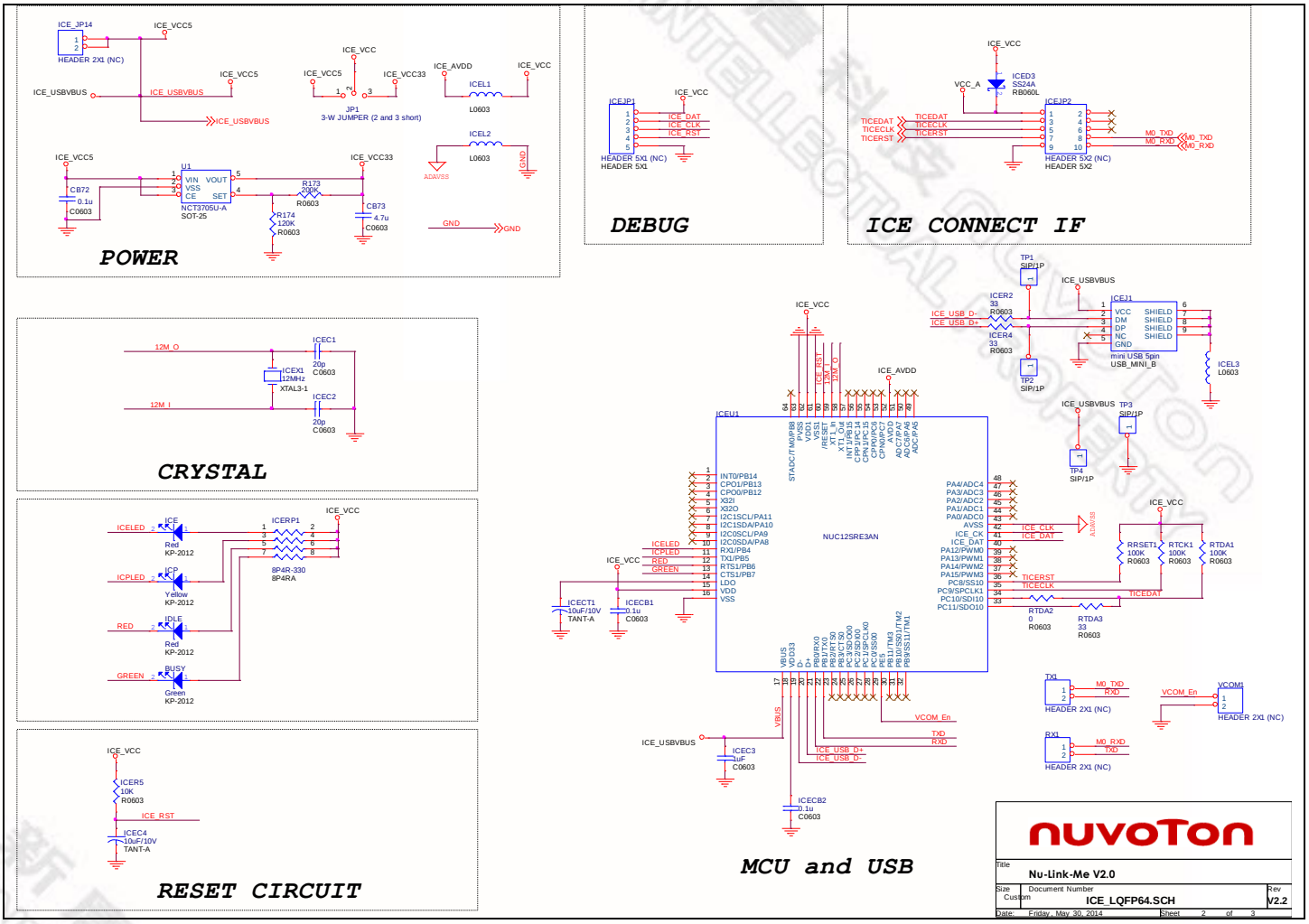


PIN CONNECTOR


JP8
TXD0
TXD
TXD3
1
2
3
HEADER 3X1 (NC)
JP9
RXD0
RXD
RXD3
1
2
3
HEADER 3X1 (NC)
M0_TXD
VCC_A
VCC33
JP11
JP10
1
2
HEADER 2X1 (1 and 2 short)
ICE_DAT
ICE_CLK
RESET
TXD
RXD
M0_RXD
HEADER 5X2 (NC)
GND
Off-page Connector
TICEDAT
ICE_DAT
TICECLK
ICE_CLK
TICERST
RESET
TXD0
TXD0
RXD0
RXD0
TXD3
TXD3
RXD3
RXD3
M0_TXD
M0_TXD
M0_RXD
M0_RXD
VCC33
VCC33
GND
GND
ICE INTERFACE

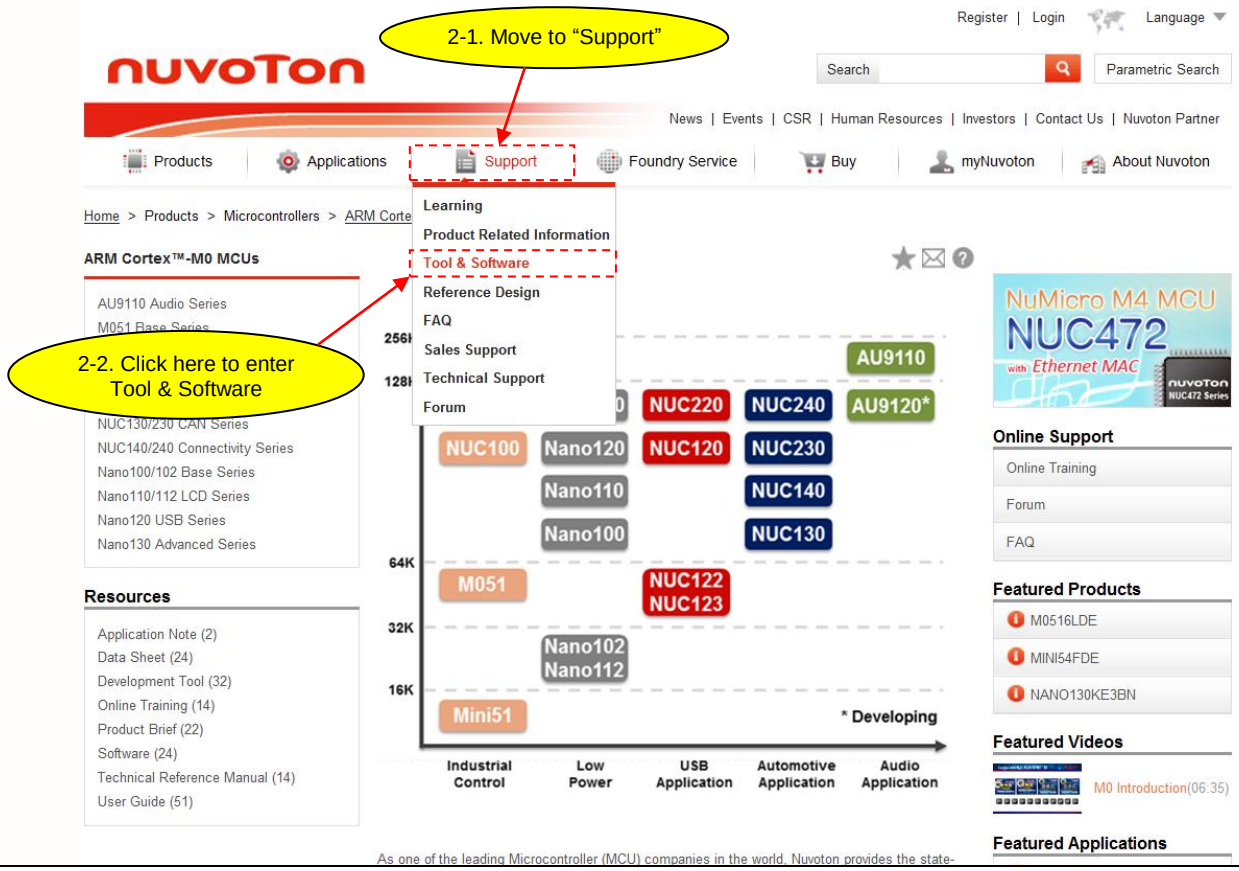

VCC33
R21
330
R0603
I/O
Red
KP-2012
PB_10
VCC33
R22
330
R0603
POWER
Green
KP-2012
GND
Off-page Connector
PB_10
PB_10
VCC33
VCC33
GND
GND
LED

5.2 Nu-Link-Me Schematic



6 Downloading NuMicro™ Related Files from Nuvoton Website

6.1 Downloading NuMicro™ Keil µVision® IDE Driver

Step1	Visit the Nuvoton NuMicro™ website: **http://www.nuvoton.com/NuMicro**.
Step2	

Step3

Step4

Programmer Software Tools Package

File name	Description	Version	Date
ICP Programming Tool V1.25.6287.zip Revision History	NuMicro ICP tool & user manual	V1.25.6287	2014-01-16
ISP Programming Tool V1.44.zip Revision History	NuMicro ISP Programming Tool & user manual	V1.44	2014-01-20
NuGang Programmer V6.21.zip Revision History	ware & user manual	V6.21	2014-01-24

Click here to download the file.

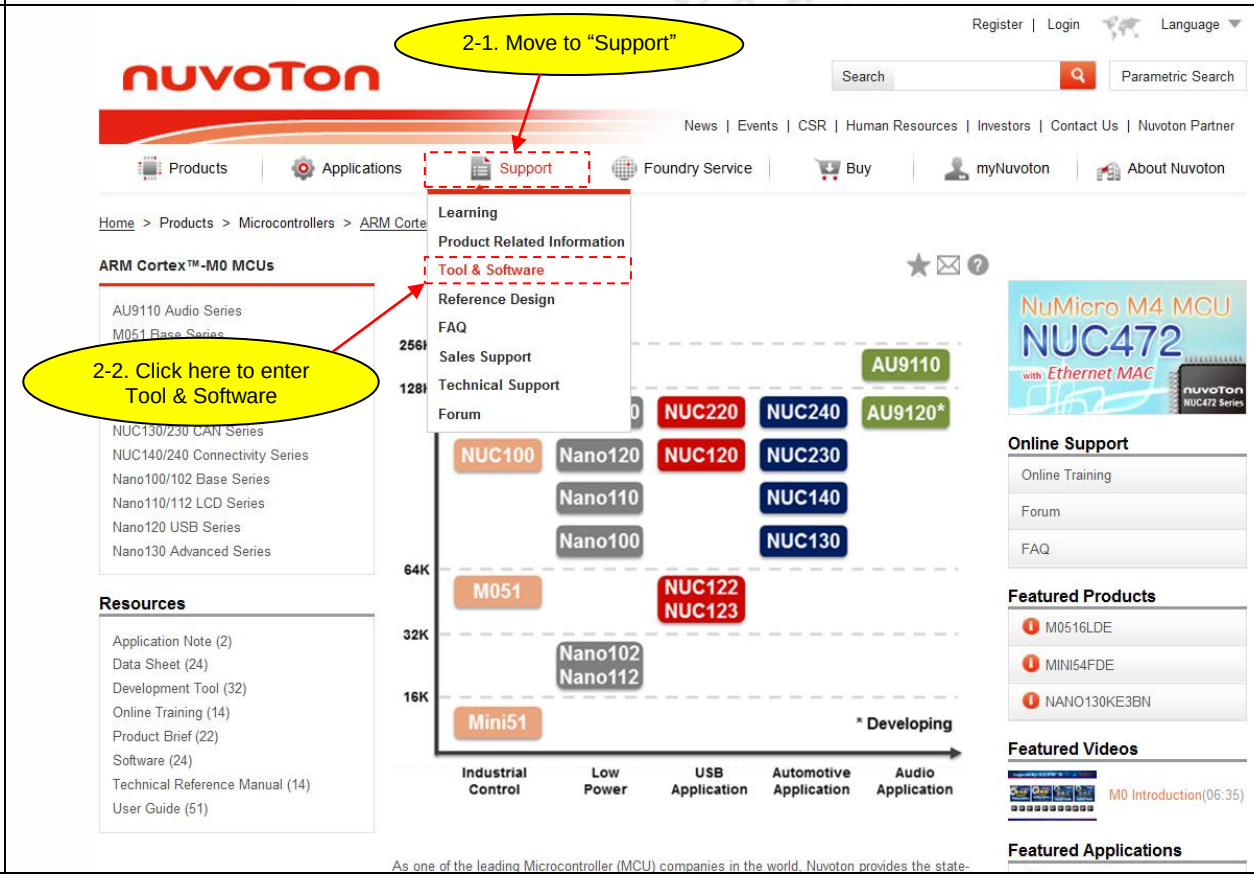
Nu-Link Driver

File name	Description	Version	Date
Nu-Link Driver for Keil RVMDK V1.25.6287.zip Revision History	This driver is to support Nu-Link to work under Keil RVMDK Development Environment for all NuMicro Family Devices.	V1.25.6287	2014-01-16
Nu-Link Driver for IAR EWARM V1.25.6287.zip Revision History	This driver is to support Nu-Link to work under IAR EWARM Development Environment for all NuMicro Family Devices.	V1.25.6287	2014-01-16

User Feedback ↑ TOP

Step5 Download the NuMicro™ Keil µVision® IDE driver.

6.2 Downloading NuMicro™ IAR EWARM Driver

Step1	Visit the Nuvoton NuMicro™ website: **http://www.nuvoton.com/NuMicro**.
Step2	

Step3

Step4

Programmer Software Tools Package

File name	Description	Version	Date
ICP Programming Tool V1.25.6287.zip Revision History	NuMicro ICP tool & user manual	V1.25.6287	2014-01-16
ISP Programming Tool V1.44.zip Revision History	NuMicro ISP Programming Tool & user manual	V1.44	2014-01-20
NuGang Programmer V6.21.zip Revision History	NuGang Programmer software & user manual	V6.21	2014-01-24

Nu-Link Driver

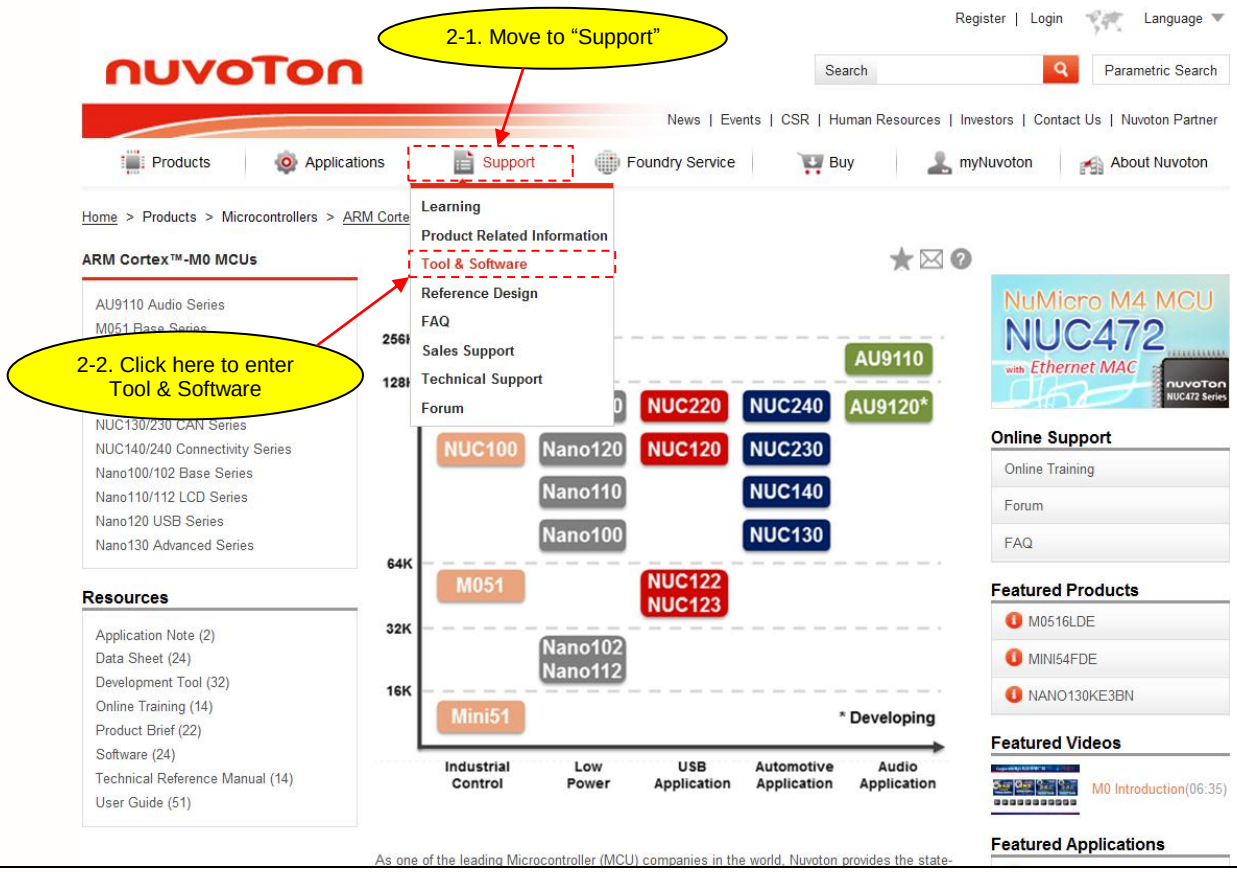
Click here to download the file.

File name	Description	Version	Date
Nu-Link Driver for Keil RVMDK V1.25.6287.zip Revision History	This driver is to support Nu-Link to work under Keil RVMDK Development Environment for all NuMicro Family Devices.	V1.25.6287	2014-01-16
Nu-Link Driver for IAR EWARM V1.25.6287.zip Revision History	This driver is to support Nu-Link to work under IAR EWARM Development Environment for all NuMicro Family Devices.	V1.25.6287	2014-01-16

User Feedback ↑ TOP

Step5 Download the NuMicro™ IAR EWARM driver.

6.3 Downloading NuMicro™ NUC472 Series BSP Software Library

Step1	Visit the Nuvoton NuMicro™ website: **http://www.nuvoton.com/NuMicro**.
Step2	

Step3	
Step4	Download the NuMicro™ NUC442_472 Series CMSIS BSP.

7 Revision History

Revision	Date	Description
1.01	July 02, 2014	Update *section 6 Downloading NuMicro™ Related Files from Nuvoton Website* download path.
1.00	May 09, 2014	Initially release.

Important Notice

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