NA2202/03/04_Evaluation Board Manual

1. Board configuration

The board configuration consists of the MCU board, the Main board, and the DUT board, with three types of boards connected (Fig. 1.1).

Please refer to the following document for how to install the driver for the MCU board.

[DriverInstallation_en.pdf]

MCU board: STMicroelectronics' microcontroller board NUCLEO-F411RE

Main board: Board with regulator and other components

DUT board: NA220X (EQFN24-DIP24 conversion board)

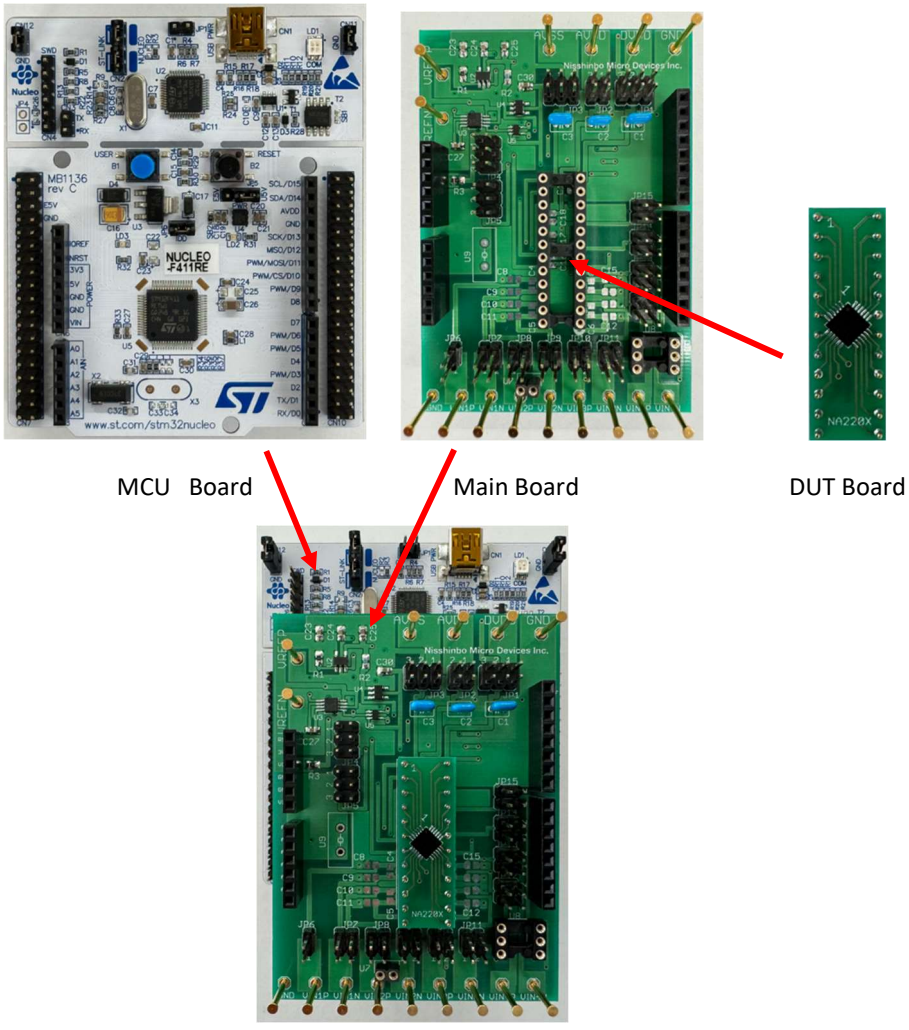


Fig.1.1 Board Configuration

2. Configuration of the Main board

Please refer to Fig.2.1 and Table.2.1 for the jumper pin connection settings of the Main board.

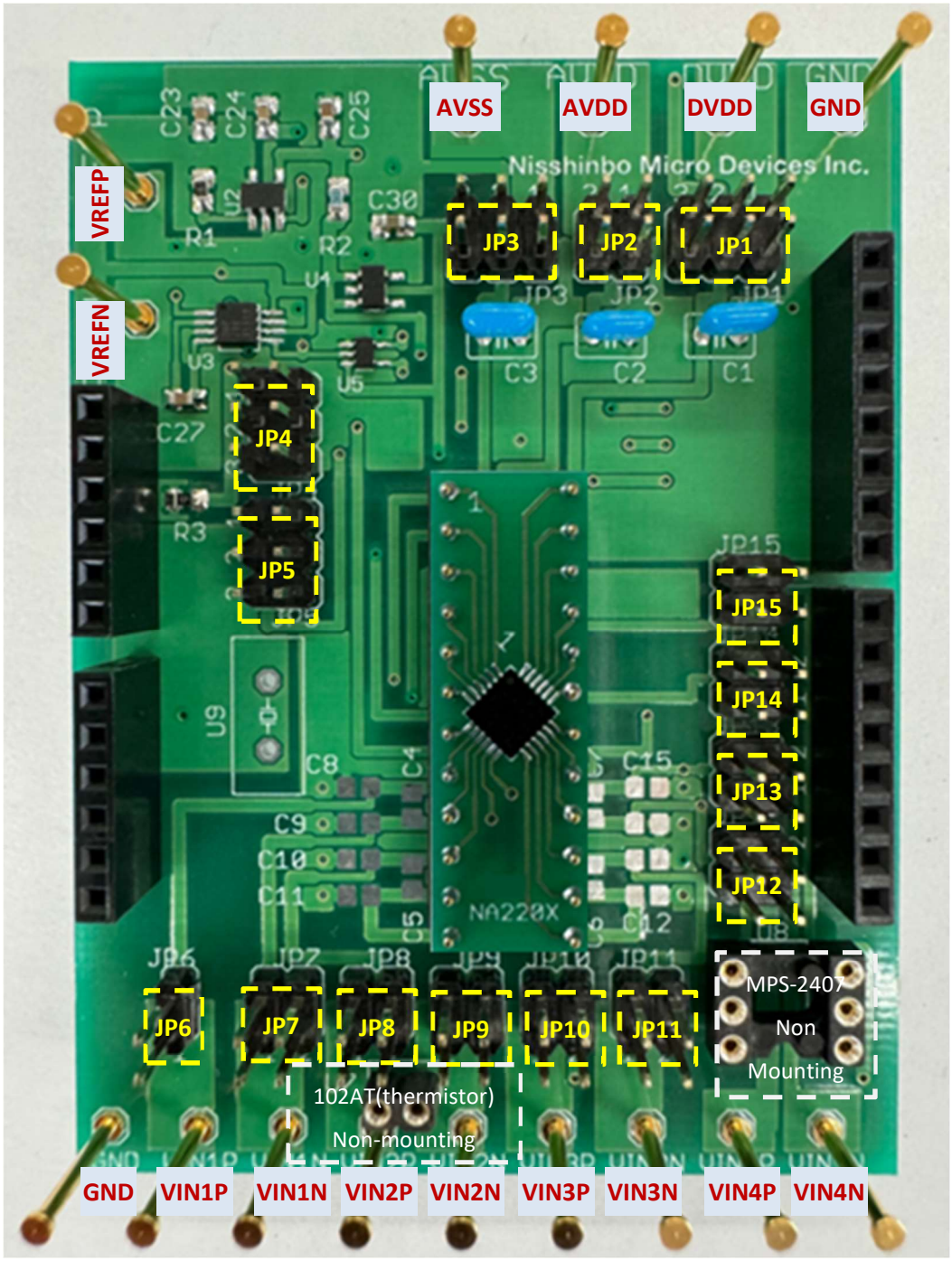
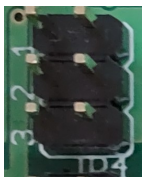
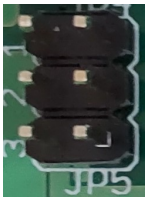
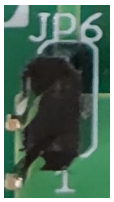
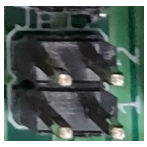
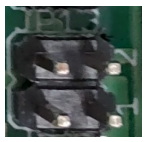


Fig.2.1 Jumper pin placement on the Main board

Table.2.1 Main board Jumper setting

Parts Name	List of settings Please do not connect more than two paths with each jumper setting. Please use the setting within the range of NA2202/03/04 specification when you operate it by applying external voltage from each pin.			
	Pattern Layout	Function	Setting	
JP1		DVDD	jumper switch1	Apply DVDD voltage from DVDD pin
			jumper switch2 (Default Setting)	The DVDD voltage of the NA2202/03/04 is MCU_VDD=3.3V
			jumper switch3	The DVDD voltage of the NA2202/03/04 is NJM2863F33=3.3V
JP2		AVDD	jumper switch1	Apply AVDD voltage from AVDD pin
			jumper switch2 (Default Setting)	The AVDD voltage of the NA2202/03/04 is NJM2863F33=3.3V
JP3		AVSS	jumper switch1	Apply AVSS voltage from AVSS pin
			jumper switch2	AVSS voltage of the NA2202/03/04 is MCU_GND=0V *Negative voltage input is not available.
			jumper switch3 (Default Setting)	AVSS voltage of the NA2202/03/04 is The AVSS voltage of the NJM2829 F3-130 is -1.3V. *Negative voltage input is available.
JP4		VREFP	jumper switch1	Apply VREFP voltage from VREFP pin
			jumper switch2 (Default Setting)	The VREFP voltage of the NA2202/03/04 is NJM2863F33=3.3V
			jumper switch3	The VREFP voltage of the NA2202/03/04 is NJM17431F=1.2V
JP5		VREFN	jumper switch1	Apply VREFN voltage from VREFN pin *Make sure that VREFN≥AVSS.
			jumper switch2	The VREFN voltage of the NA2202/03/04 is MCU_GND=0V *Negative voltage input is not available.
			jumper switch3 (Default Setting)	The VREFN voltage of the NA2202/03/04 is NJM2829 F3-130=-1.3V *Make sure that VREFN≥AVSS.

JP6		VIN1P	jumper switch1	Input any signal from VIN1P pin.
JP7		VIN1N	jumper switch1	Input any signal from VIN1N pin.
			jumper switch2	Used in thermistor (102AT) demonstrations
JP8		VIN2P	jumper switch1	Input any signal from VIN2P pin.
			jumper switch2	Used in thermistor (102AT) demonstrations
JP9		VIN2N	jumper switch1	Input any signal from VIN2N pin.
			jumper switch2	Used in thermistor (102AT) demonstrations
JP10		VIN3P	jumper switch1	Input any signal from VIN3P pin.
			jumper switch2	The OUTP signal of the atmospheric pressure sensor (MPS-2407-015AD) is input.
JP11		VIN3N	jumper switch1	Input any signal from VIN3N pin.
			jumper switch2	The OUTN signal of the atmospheric pressure sensor (MPS-2407-015AD) is input.
JP12		VIN4P	jumper switch1	Input any signal from VIN4P pin.
			jumper switch2	Apply VDD voltage to the barometric pressure sensor (MPS-2407-015AD)
JP13		VIN4N	jumper switch1	Input any signal from VIN4N pin.
			jumper switch2	Apply GND voltage to the barometric pressure sensor (MPS-2407-015AD)

JP14		MPS-2407-015AD VDD	jumper switch1	Set VDD of the barometric pressure sensor (MPS-2407-015AD) to the same voltage as the setting of JP4.
			jumper switch2	Set VDD of the barometric pressure sensor (MPS-2407-015AD) to the same voltage as the setting of JP12.
JP15		MPS-2407-015AD GND	jumper switch1	Set GND of the barometric pressure sensor (MPS-2407-015AD) to the same voltage as the setting of JP5.
			jumper switch2	Set GND of the barometric pressure sensor (MPS-2407-015AD) to the same voltage as the setting of JP13.

3. How to operate the EVA board

Please refer to the user manual **[NA2202_03_04UserManual_en.pdf]** for how to operate the EVA board.

4. Parts list of the Main board

Please refer to Table.4.1 for the list of mounted parts on the Main board.

Table.4.1 Parts List for Main board

Parts Name	Mounting surface	P/N, Constant value	Mounted or not
U2	On Top side	NJM2863F33	√
U3	On Top side	NJW4191R	√
U4	On Top side	NJM17431F	√
U5	On Top side	NJM2829F3-130	√
U7	On Top side	102AT	-
U8	On Top side	MPS-2407-015AD	-
U9	On Top side	HC-49/U-S	-
C1, C2, C3	On Top side	0.1uF	√
C4 to C19 / C20 to C22	On Top/Back side		-
C23, C24 / C29	On Top/Back side	0.1uF	√
C25, C27 / C26, C28	On Top/Back side	1uF	√
C30	On Top side	2.2uF	√
C31	On Back side	0.047uF	√
R1 / R4	On Top/Back side	1k Ohm	√
R2	On Top side	500 Ohm	√
R3	On Top side	100k Ohm	√
R5, R6	On Back side		-
R7, R8, R9, R10, R11	On Back side	47 Ohm	√

5. NA2202/03/04 Evaluation Board Circuit Diagram

Please refer to Fig.5.1 and Table.5.1 for the NA2202/03/04 Evaluation Board Circuit Diagram.

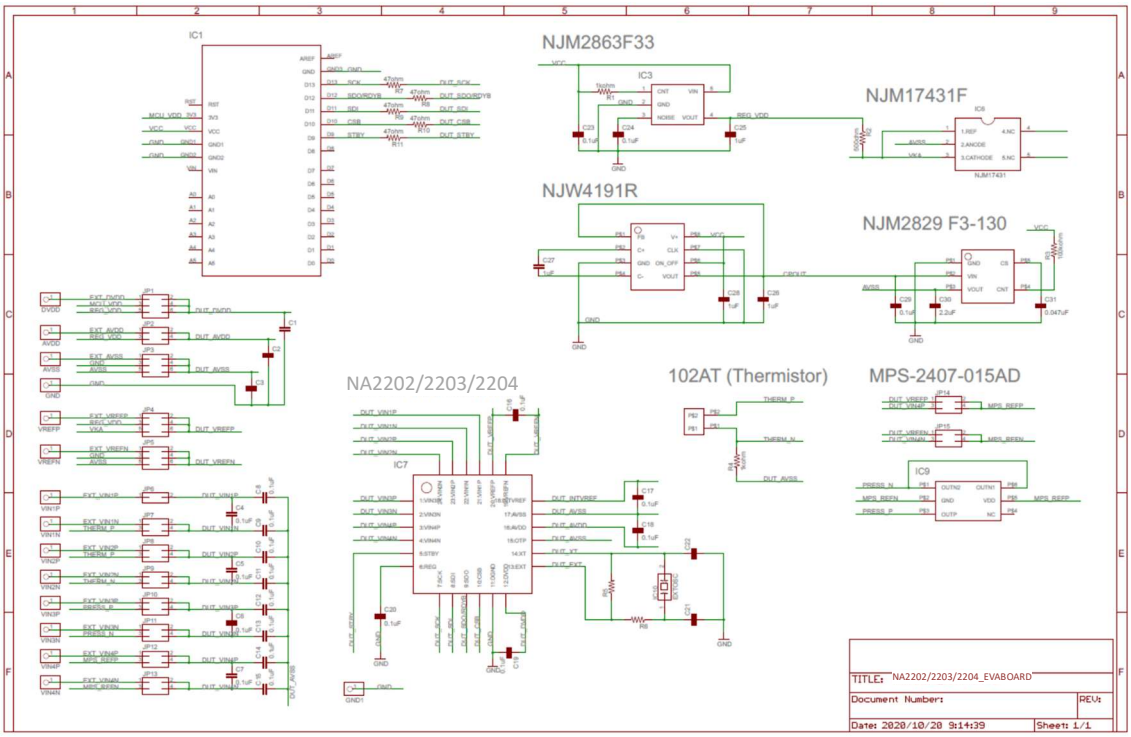


Fig.5.1 NA2202/03/04 Evaluation Board Circuit Diagram

Table.5.1 Parts description

Product Name	Description	Package Outline
NJM2863F33	Ultra Low Noise Low Dropout Voltage Regulator (VOUT=3.3V)	SOT-23-5
NJW4191R	Adjustable Precision Shunt Regulator	SOT-23-5
NJM17431F	Inverting Charge Pump IC	MSOP8 (VSP8)
NJM2829F3-130	Very Low Output Negative Voltage Regulator (VOUT=-1.3V)	SC-88A