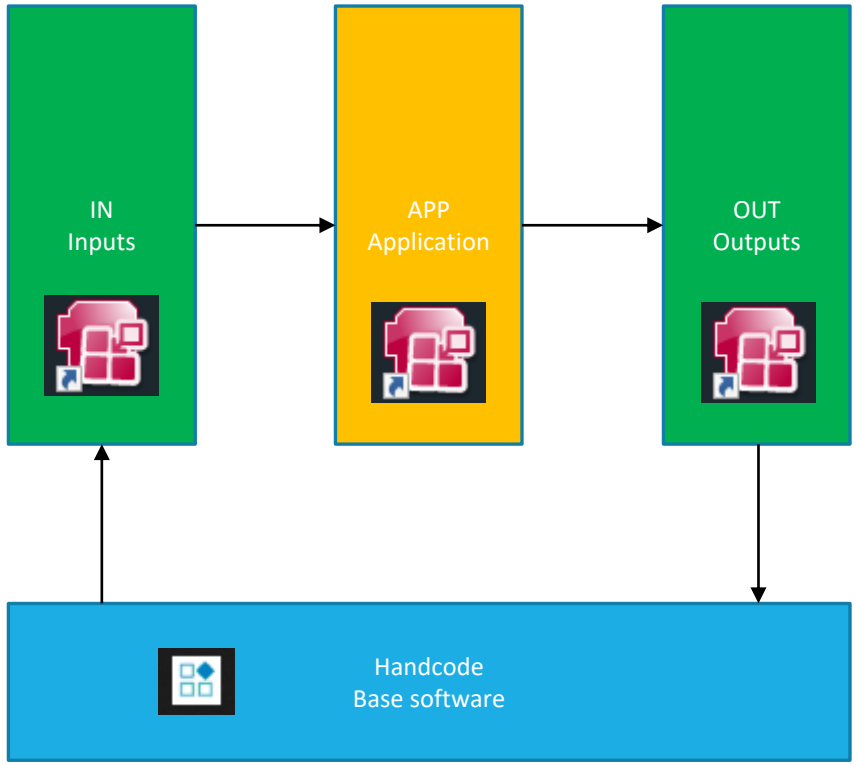
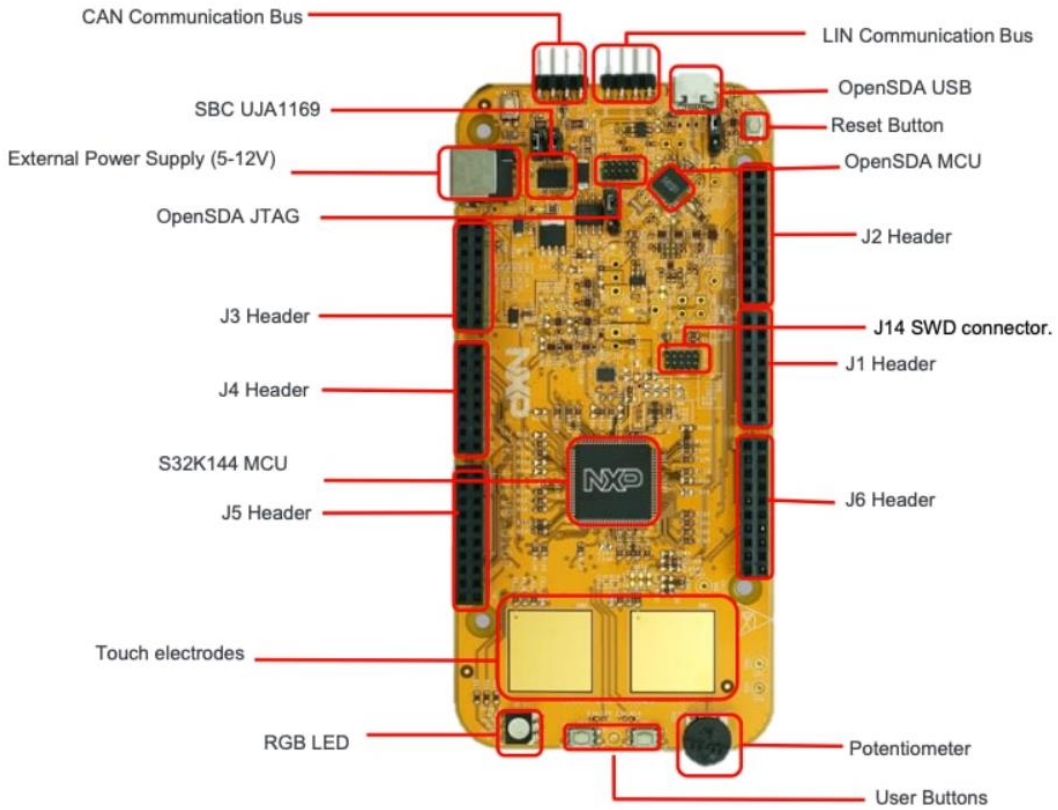
NXP S32K144EVB Example Project
ETAS ASCET into Arm Development Studio IDE

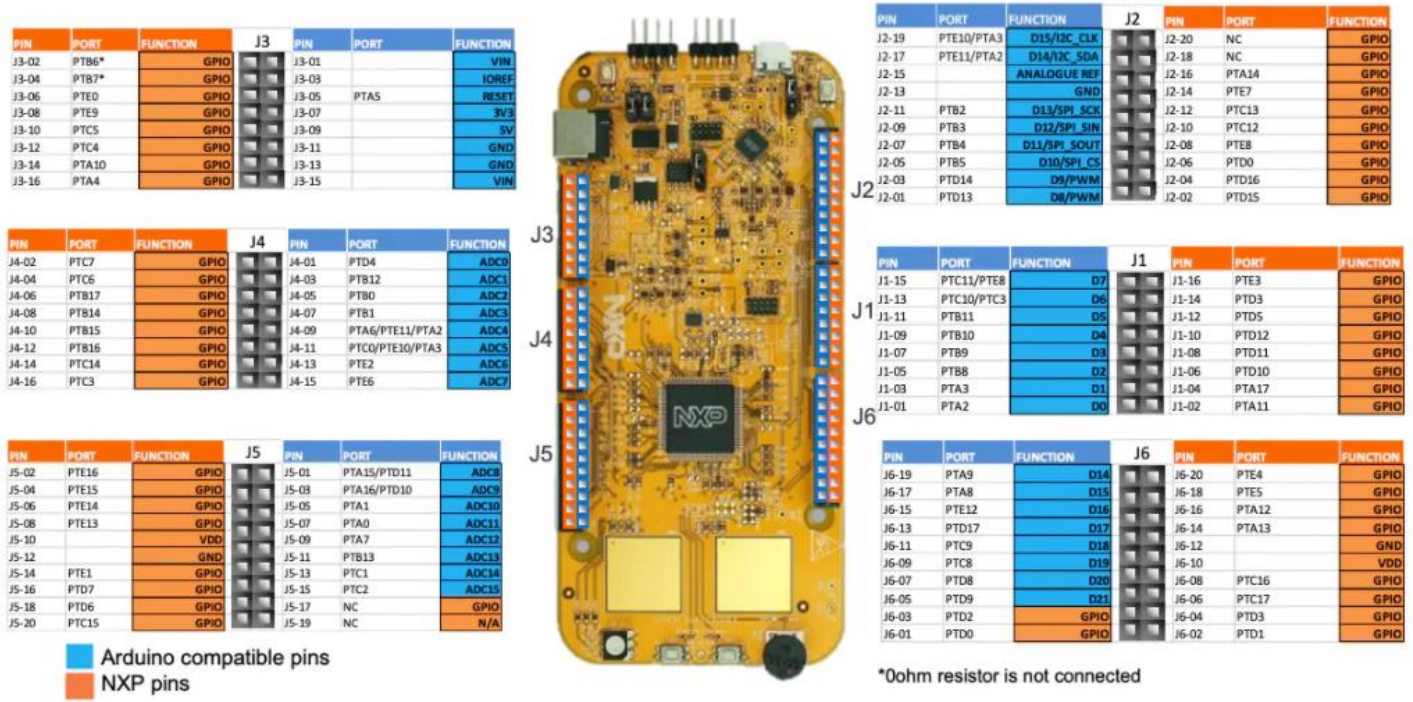
High Level Overview





https://www.nxp.com/document/guide/get-started-with-the-s32k144evb:NGS-S32K144EVB

S32K144EVB - Pinout



PIN	PORT	FUNCTION	J3	PIN	PORT	FUNCTION
J3-02	PTB6*	GPIO		J3-01		VIN
J3-04	PTB7*	GPIO		J3-03		IOREF
J3-06	PTE0	GPIO		J3-05	PTA5	RESET
J3-08	PTE9	GPIO		J3-07		3V3
J3-10	PTC5	GPIO		J3-09		5V
J3-12	PTC4	GPIO		J3-11		GND
J3-14	PTA10	GPIO		J3-13		GND
J3-16	PTA4	GPIO		J3-15		VIN

PIN	PORT	FUNCTION	J4	PIN	PORT	FUNCTION
J4-02	PTC7	GPIO		J4-01	PTD4	ADC0
J4-04	PTC6	GPIO		J4-03	PTB12	ADC1
J4-06	PTB17	GPIO		J4-05	PTB0	ADC2
J4-08	PTB14	GPIO		J4-07	PTB1	ADC3
J4-10	PTB15	GPIO		J4-09	PTA6/PTE11/PTA2	ADC4
J4-12	PTB16	GPIO		J4-11	PTC0/PTE10/PTA3	ADC5
J4-14	PTC14	GPIO		J4-13	PTE2	ADC6
J4-16	PTC3	GPIO		J4-15	PTE6	ADC7

PIN	PORT	FUNCTION	J5	PIN	PORT	FUNCTION
J5-02	PTE16	GPIO		J5-01	PTA15/PTD11	ADC8
J5-04	PTE15	GPIO		J5-03	PTA16/PTD10	ADC9
J5-06	PTE14	GPIO		J5-05	PTA1	ADC10
J5-08	PTE13	GPIO		J5-07	PTA0	ADC11
J5-10		VDD		J5-09	PTA7	ADC12
J5-12		GND		J5-11	PTB13	ADC13
J5-14	PTE1	GPIO		J5-13	PTC1	ADC14
J5-16	PTD7	GPIO		J5-15	PTC2	ADC15
J5-18	PTD6	GPIO		J5-17	NC	GPIO
J5-20	PTC15	GPIO		J5-19	NC	N/A

Arduino compatible pins
NXP pins

PIN	PORT	FUNCTION	J2	PIN	PORT	FUNCTION
J2-19	PTE10/PTA3	D15/I2C_CLK		J2-20	NC	GPIO
J2-17	PTE11/PTA2	D14/I2C_SDA		J2-18	NC	GPIO
J2-15		ANALOGUE REF		J2-16	PTA14	GPIO
J2-13		GND		J2-14	PTE7	GPIO
J2-11	PTB2	D13/SPI_SCK		J2-12	PTC13	GPIO
J2-09	PTB3	D12/SPI_SIN		J2-10	PTC12	GPIO
J2-07	PTB4	D11/SPI_SOUT		J2-08	PTE8	GPIO
J2-05	PTB5	D10/SPI_CS		J2-06	PTD0	GPIO
J2-03	PTD14	D9/PWM		J2-04	PTD16	GPIO
J2-01	PTD13	D8/PWM		J2-02	PTD15	GPIO

PIN	PORT	FUNCTION	J1	PIN	PORT	FUNCTION
J1-15	PTC11/PTE8	D7		J1-16	PTE3	GPIO
J1-13	PTC10/PTC3	D6		J1-14	PTD3	GPIO
J1-11	PTB11	D5		J1-12	PTD5	GPIO
J1-09	PTB10	D4		J1-10	PTD12	GPIO
J1-07	PTB9	D3		J1-08	PTD11	GPIO
J1-05	PTB8	D2		J1-06	PTD10	GPIO
J1-03	PTA3	D1		J1-04	PTA17	GPIO
J1-01	PTA2	D0		J1-02	PTA11	GPIO

PIN	PORT	FUNCTION	J6	PIN	PORT	FUNCTION
J6-19	PTA9	D14		J6-20	PTE4	GPIO
J6-17	PTA8	D15		J6-18	PTE5	GPIO
J6-15	PTE12	D16		J6-16	PTA12	GPIO
J6-13	PTD17	D17		J6-14	PTA13	GPIO
J6-11	PTC9	D18		J6-12		GND
J6-09	PTC8	D19		J6-10		VDD
J6-07	PTD8	D20		J6-08	PTC16	GPIO
J6-05	PTD9	D21		J6-06	PTC17	GPIO
J6-03	PTD2	GPIO		J6-04	PTD3	GPIO
J6-01	PTD0	GPIO		J6-02	PTD1	GPIO

*0ohm resistor is not connected

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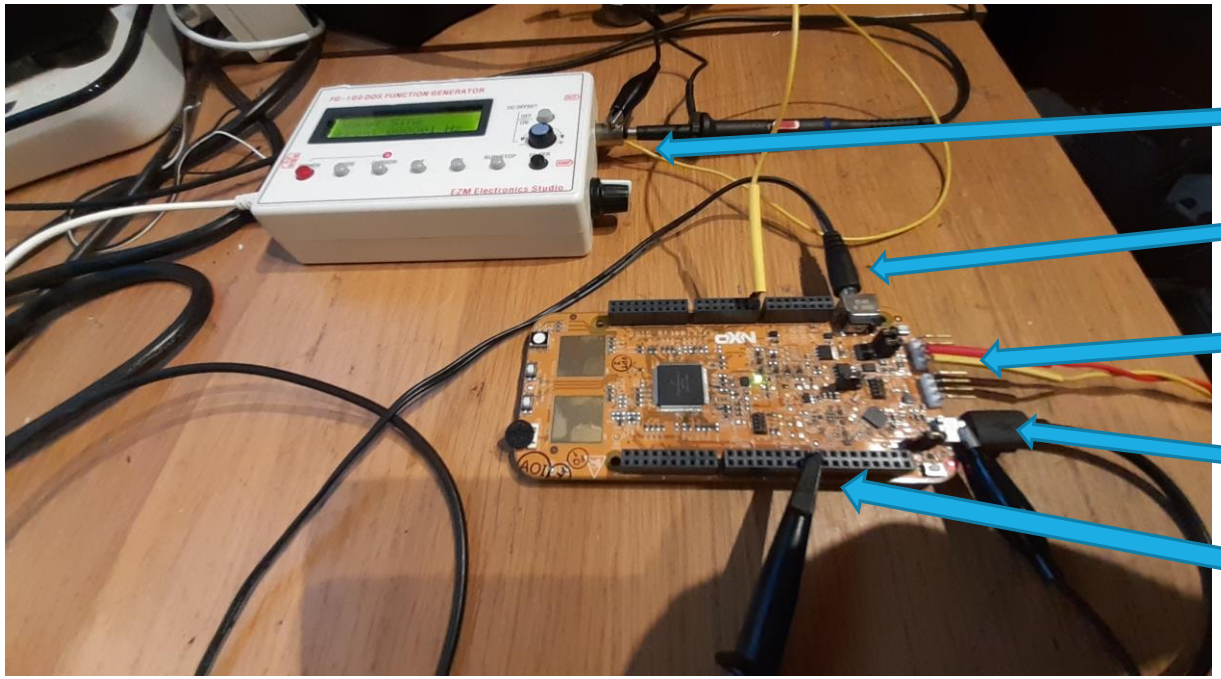
Bench Test - Layout



Signal Generator

12V external power (required for CAN)

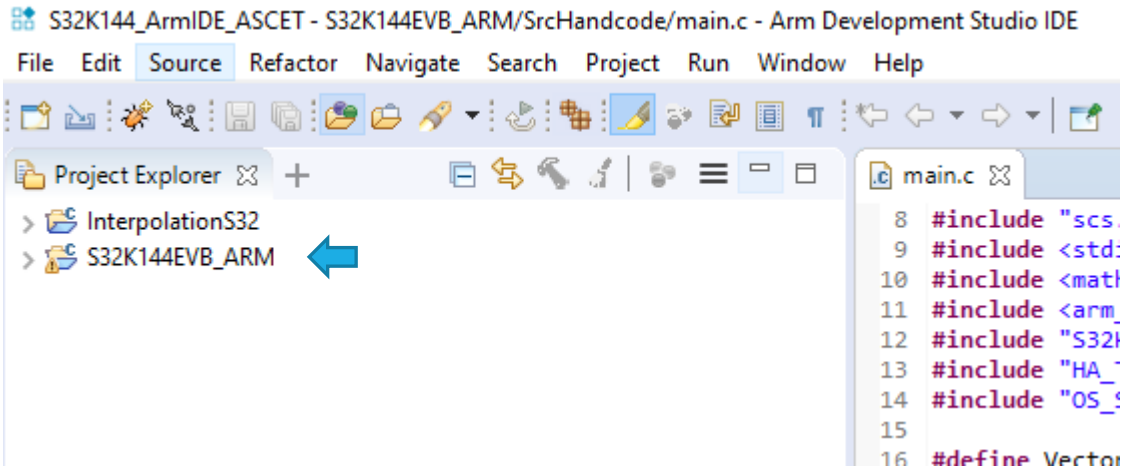
CAN link (J13 Pin 1 High, Pin 2 Low)

USB debugger (on board CMSIS-DAP)

Oscilloscope (with 1kHz stimulus)

Procedure – Arm DS IDE/EVB

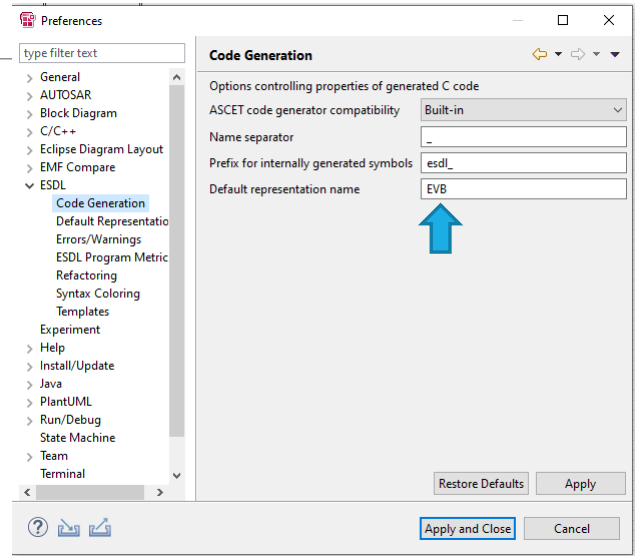
1. Unzip the project into a suitable empty directory
2. Open the Arm Development Studio IDE, and point to the S32K144_ArmIDE_ASCET workspace. This should show two projects as shown below.
3. Reflash EVB Debug processor to CMSIS-DAP as described here on page 8: https://www.keil.com/appnotes/files/apnt_299_v1.2.pdf
4. Connect the USB cable from your PC to the board.
5. Move jumper J107 to connect pins 1 and 2 (instead of 2 and 3)
6. Provide a 12V supply on the IN 12V socket
7. Clean and build the S32K144EVB_ARM project
8. Debug the project using the settings given



Procedure – ASCET

1. Unzip the project into a suitable empty directory
2. Open the ASCET DEVELOPER IDE, and point to the ASCET directory as a workspace.

3. Under Window..Preferences..ESDL..Code Generation, change ‘Default Representation Name’ to EVB
4. Under Run…Run Configurations, change the folder shown to match the project in your Arm DS IDE
5. Click ‘Apply’
6. Click ‘Run’



The code will now be autogenerated into your Arm DS IDE project, within the ./src folder