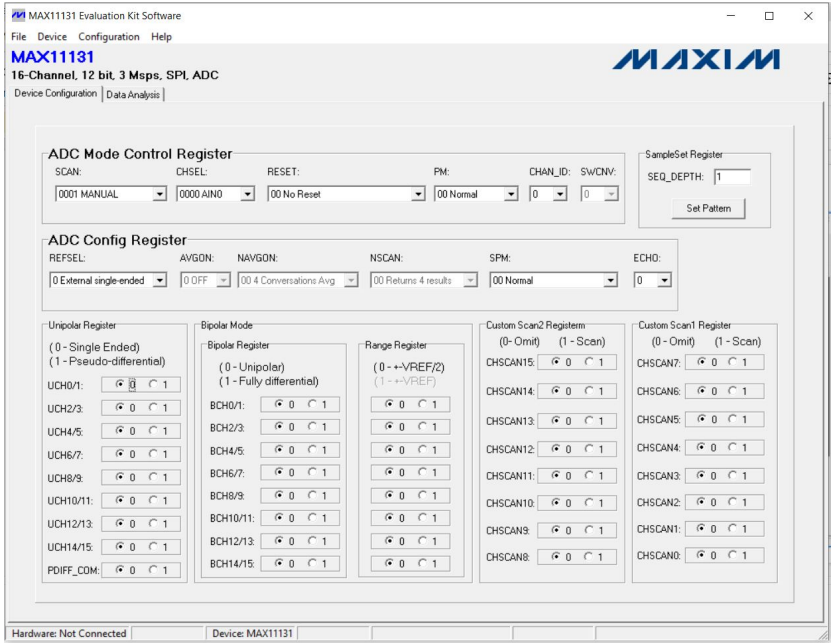
# 1. MAX11131 Evaluation Kit

- https://www.digikey.com/en/products/detail/maxim-integrated/MAX11131EVKIT/2773792

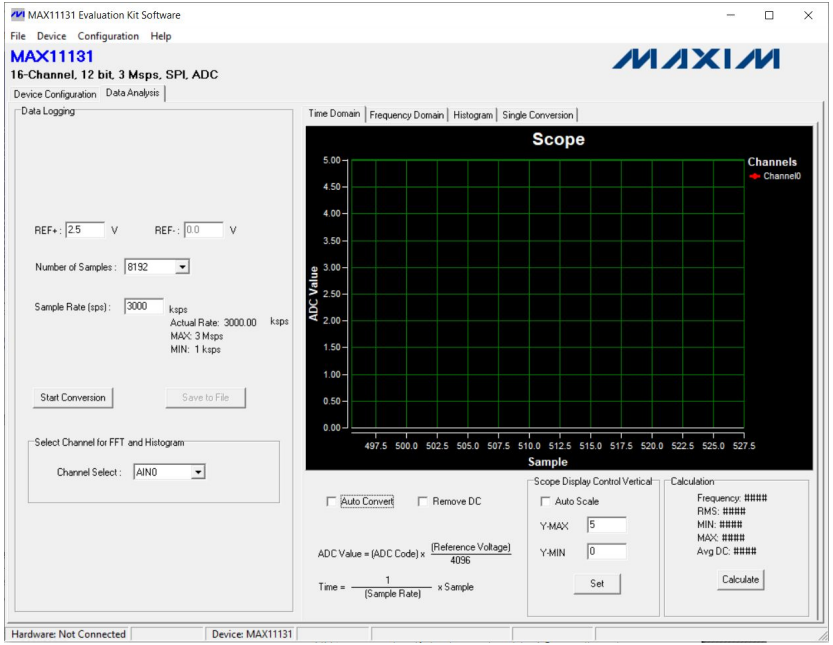
- Sample rate = 1 KSPS - 3 MSPS
- Resolution = 12 bits
- Channels = 16
- Cost = $ 224.1
- Supply voltage = 5V
  - Positive terminal : Vin Test Point
  - Negative terminal : GND Point
- Input = (0V - 2.4V)
  - SMA female connector inputs = 4
  - 2 Jumper options = 12
- OS requirement for **MAX11131 Evaluation Kit Software**
  - Windows XP, Vista, 7

# Software Setup

- Reference, number of samples, sample rate(minimum = 1KSPS & maximum = 3 MSPS) can be set in data analysis tab.
- Time domain, frequency domain and histogram(ADC code) types of visualization are possible
- Sequence of sampling can be set using Set Pattern in configuration tab

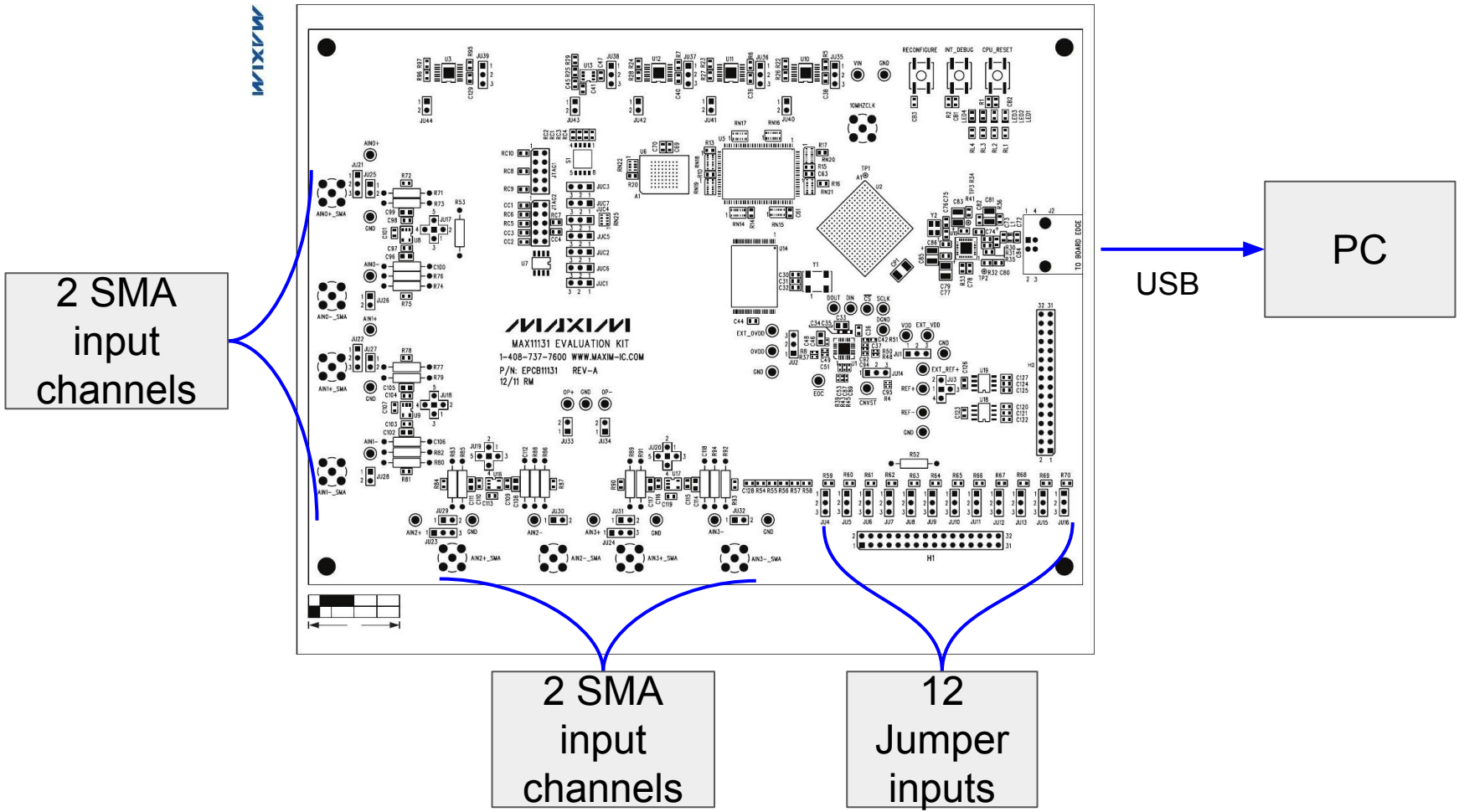



Configuration




Data analysis

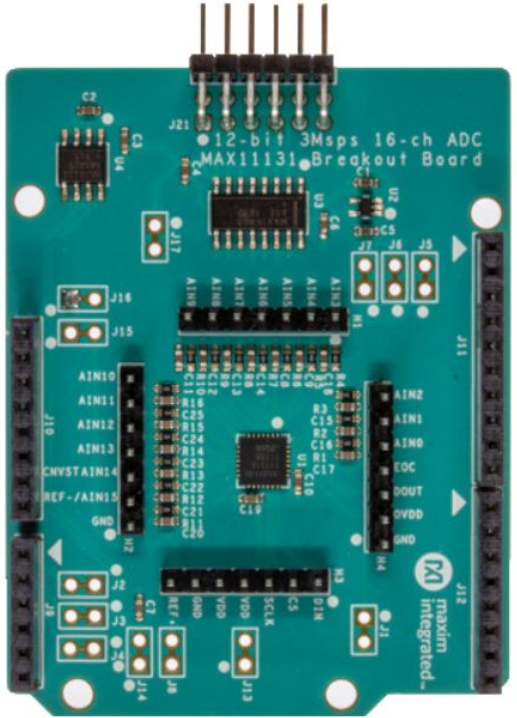
# Hardware Setup



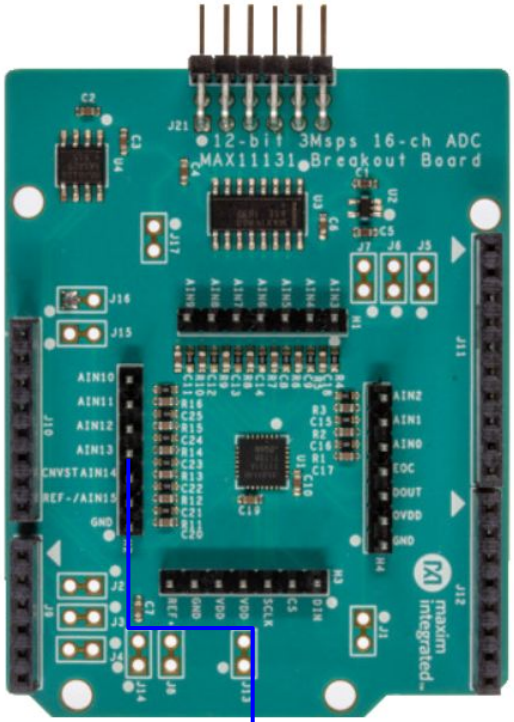
# 2. MAX11131 Breakout Board

- https://www.maximintegrated.com/en/products/analog/data-converters/analog-to-digital-converters/MAX11131BOB.html#:~:text=The%20MAX11131BOB%20Breakout%20Board%20provides%20for%20rapid%20prototyping,system%20with%20expansion%20ports%20configurable%20for%20SPI%20communication.

- Sample rate = 1 KSPS - 3 MSPS
- Resolution = 12 bits
- Channels = 12
- Cost = $ 50
- Input
  - Jumper wire header
- SPI logic levels in the range 3.0 to 5.5 V
- Interfacing with appropriate Arduino and mbed.org board



# Hardware Setup





PC

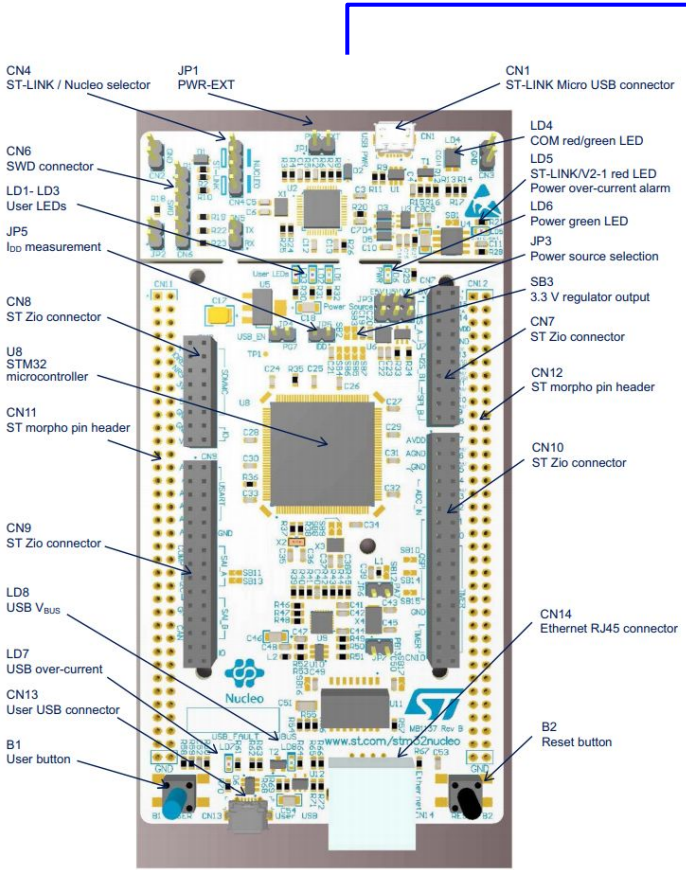
16 Input jumper wire connections

# 3. STM 32 NUCLEO - 144 Board

- STM32 Nucleo-144 boards (MB1137) - User manual

- Sample rate = 2.4 MSPS
- Resolution = 12 bits
- Channels = 24
- Cost = $ 23.5
- Board connection
  - USB with Micro-AB
  - Ethernet
  - ST Zio expansion connector
  - ST morpho expansion connector
- Power supply from USB-AB
- Development Environment OSs: Windows, Linux, MacOS
- Development toolchains
  - IAR Embedded Workbench, Keil, STM32CubeIDE

# Hardware Setup



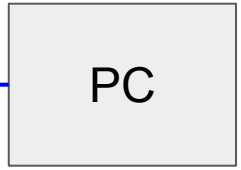




**Table 2. Codification explanation**

| NUCLEO-TXXXZY | Description | Example: NUCLEO-F446ZE |
|---|---|---|
| TXXX | MCU product line in STM32 32-bit Arm Cortex MCUs | STM32F446 |
| Z | STM32 package pin count | 144 pins |
| Y | STM32 Flash memory size<br>– E for 512 Kbytes<br>– G for 1 Mbyte<br>– H for 1.5 Mbytes<br>– I for 2 Mbytes | 512 Kbytes |