THE DATASHEET OF

EVAL-M355-ARDZ-INT

www.win-source.net 0086-755-83957316

ANALOG DEVICES

AHEAD OF WHAT'S POSSIBLE™

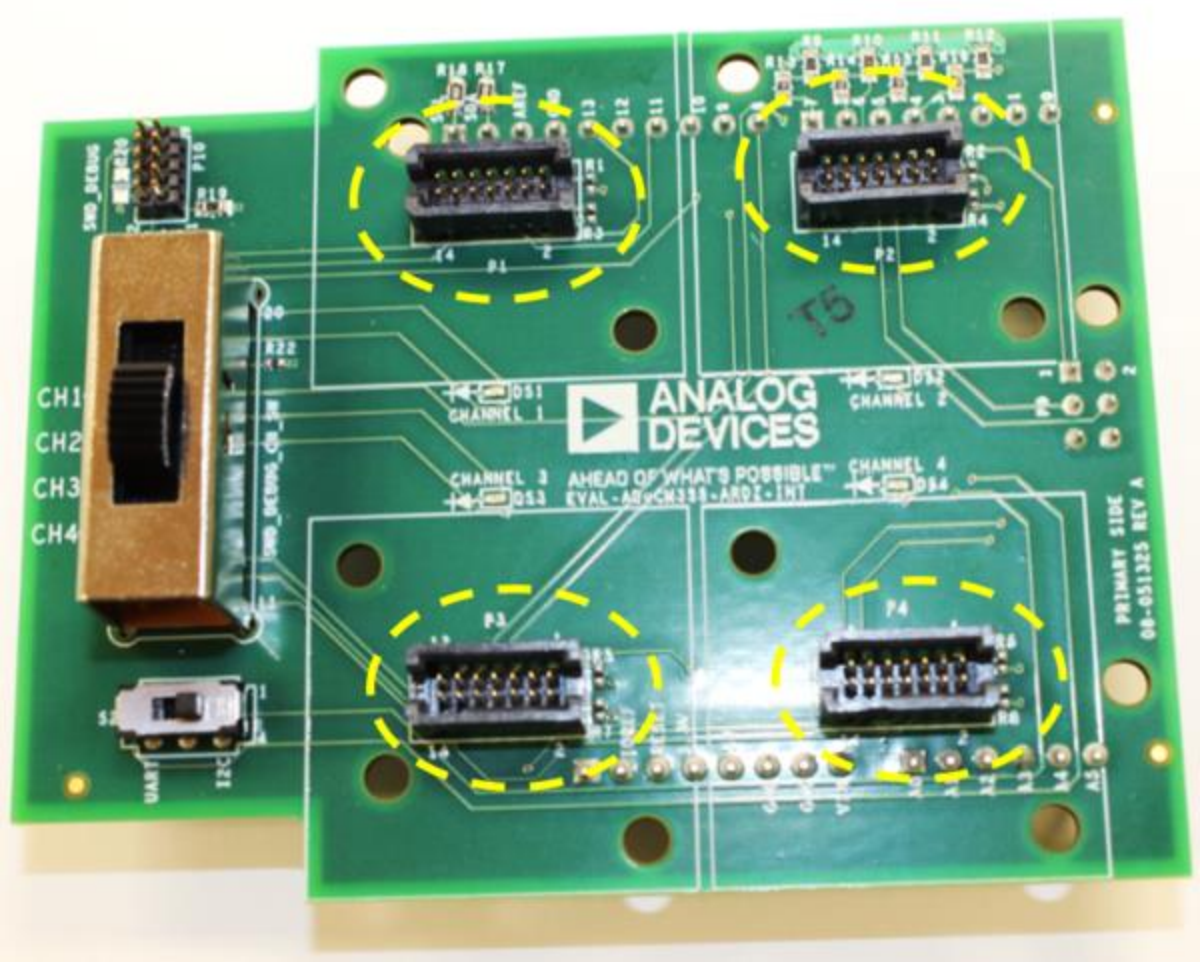
ADuCM355 Arduino Interposer

Description

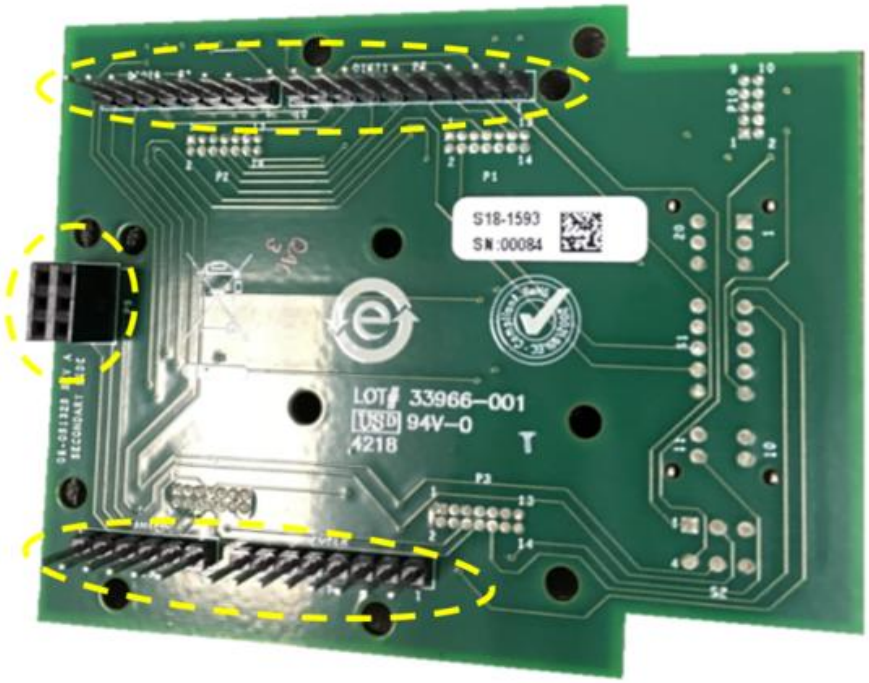
The Arduino interface can be found on many microprocessor development platforms and are a great way to begin prototyping a design. The EVAL-M355-ARDZ-INT was developed to enable quick and easy connection of the ADuCM355 based sensor boards to the EVAL-ADICUP3029 development board or any equivalent Arduino MCU controller boards. This allows for testing the functionality as well as the performance of the circuit using a controlled evaluation environment.

Product Overview

ADuCM355 base Sensor Shield Board Interface Connectors:



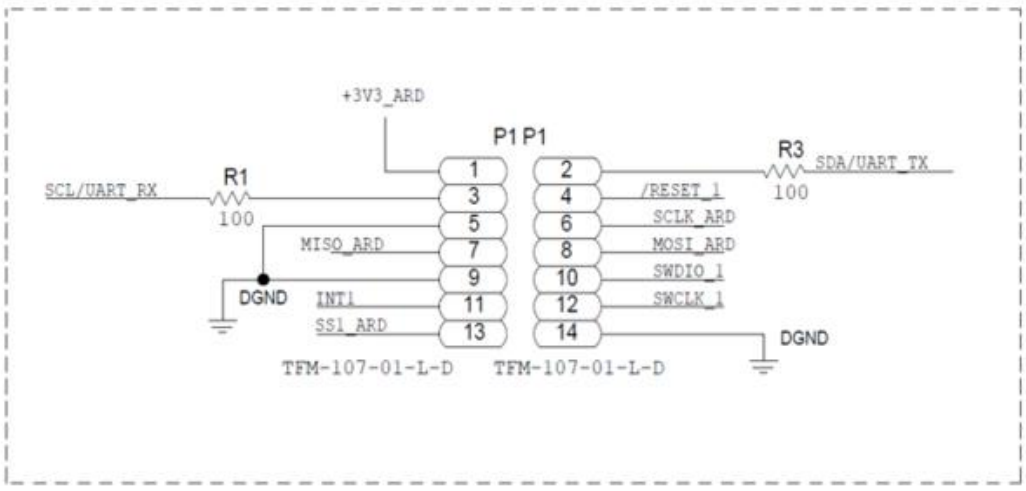
Arduino Shield Board Interface Connectors:



Pictured above is the EVAL-M355-ARDZ-INT interposer board which was developed to quickly and easily connect ADICUP3029 development board or any equivalent Arduino MCU controller boards.

EVAL-M355-ARDZ-INT Sensor Connector

The EVAL-M355-ARDZ-INT takes customized connectors to the ADuCM355 sensor surf boards, and allows up to four channels of sensor boards to be used with the EVAL-ADICUP3029 platform. Because the ADICUP3029 is an Arduino form factor compatible development board, many other equivalent Arduino form factor compatible development board can also be used simply by writing custom code. Below is the pinout of the custom connector of the sensor surf boards.

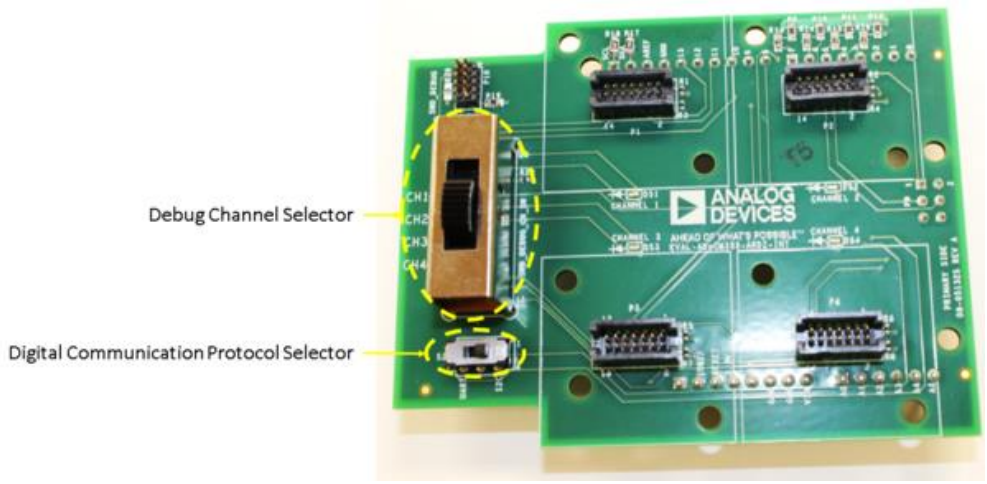


DAUGHTER BOARD CONNECTOR 1

EVAL-M355-ARDZ-INT Power Rails

EVAL-M355-ARDZ-INT provides 3.3V power supply to an ADuCM355 base sensor shield board modules from ADICUP3029 development board or any equivalent Arduino MCU controller boards.

Switch Matrix

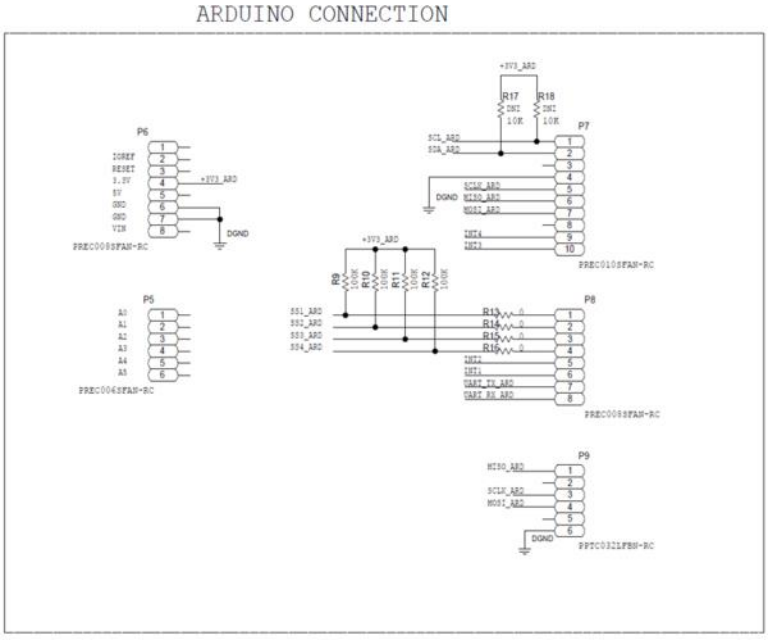


Digital Communication Interfaces Supported

The EVAL-M355-ARDZ-INT can accommodate up to four ADuCM355 sensor surf board at the same time. The software and hardware support communications via:

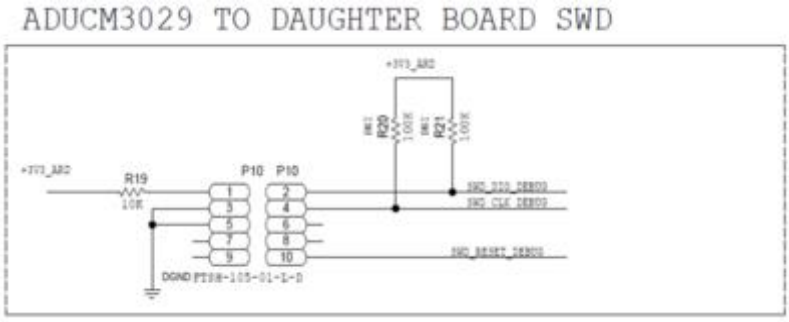
- SPI - Available on P7 and P9
- I2C - Available on P7
- UART - Available on P8

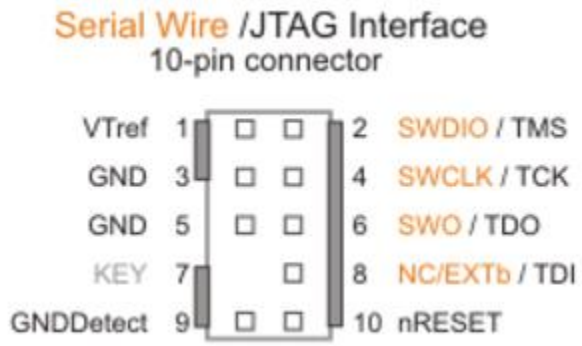
Arduino shield boards follow a standard pinout for the Arduino form factor compatible development boards.

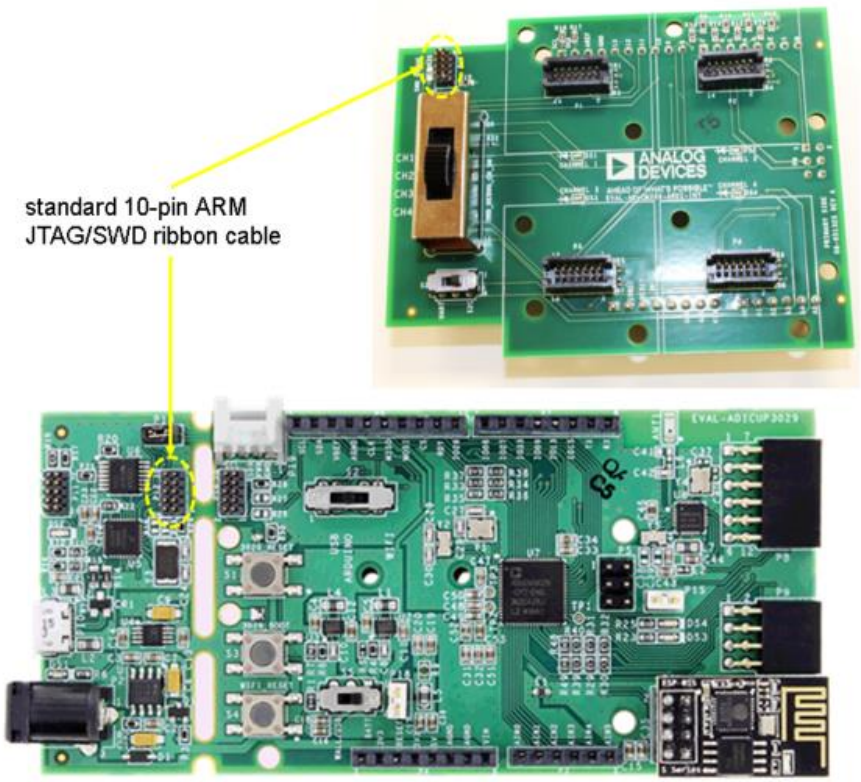


SWD/JTAG Connector

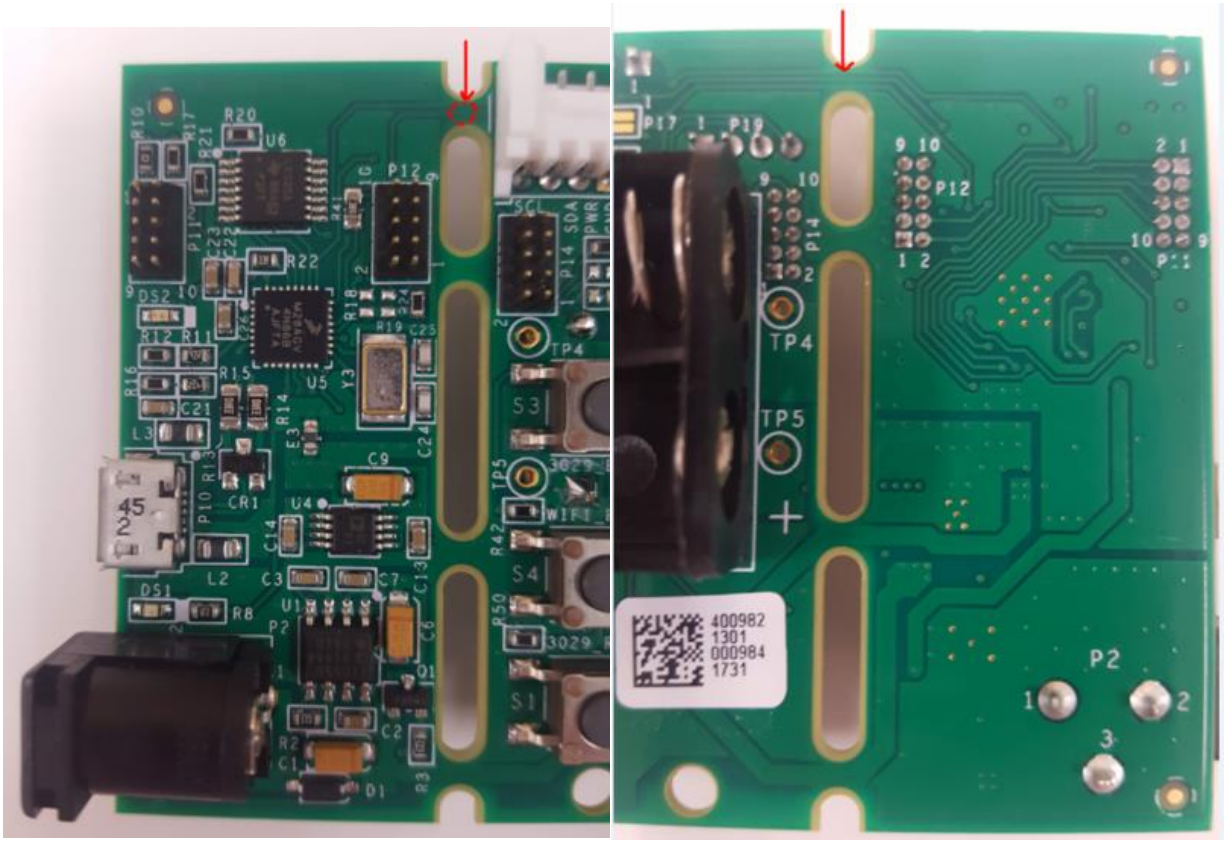
The debugger from the ADICuP3029 can be used and can be linked to the interposer board through the SWD_DEBUG (P10). The user can use a standard 10-pin ARM JTAG/SWD ribbon cable to connect to the ADICuP3029 debugger to the interposer board.







There is a way to cut the SWD traces on the ADICUP3029 board right at the break away section of the board. By cutting the trace for the SWD_DIO, SWD_CLK and SWD_RST located near P12. There are two(2) traces on the top of the board that must be cut using a knife, and one(1) trace found at the bottom of ADICUP3029 (the outter most trace), This allows customers to program both the ADICUP3029 and M355-INT boards without losing the ability to stream serial data back to the USB port.



Debug/Programming Channel Selector for ADuCM355 Sensor Surf Boards

The EVAL-M355-ARDZ-INT can accommodate up to four ADuCM355 sensor surf board and communicate to these boards at the same time through SPI communication protocol. Debugging and programming is being done independently for each channel by configuring the following switch matrix labeled SWD_DEBUG_CH_SW (S1) found on the silkscreen of the interposer board and with a corresponding LED indicator of which senor board is being accessed.

SWD_DEBUG_CH_SW	LED
CH1	DS1
CH2	DS2
CH3	DS3
CH4	DS4

Digital Communication Protocol Selector

By default the ADuCM355 sensor surf boards come preloaded with SPI communication protocol back to the ADICUP3029.

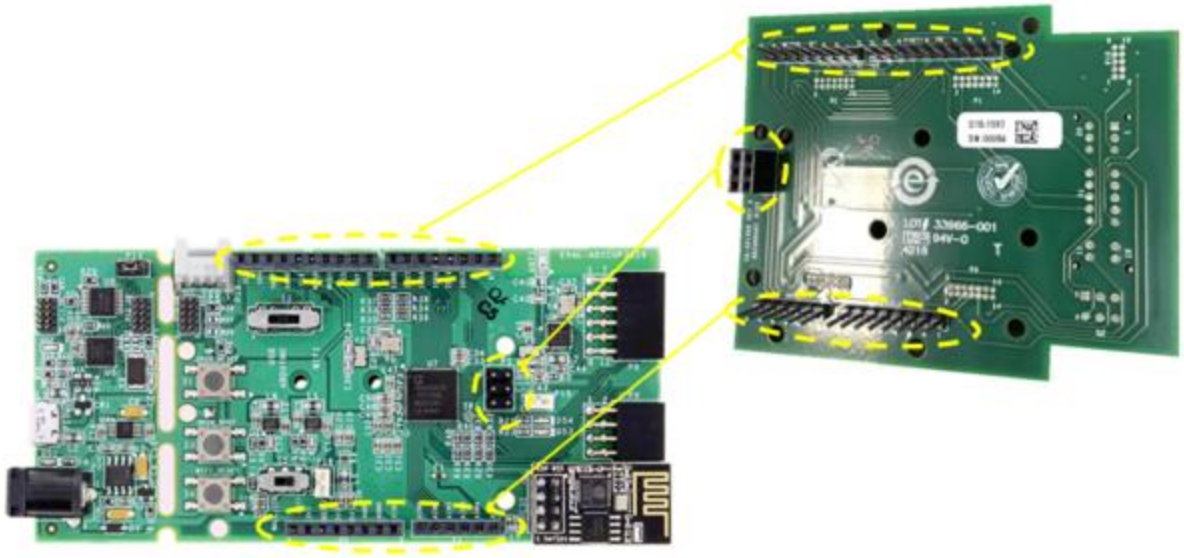
Sensor shield board can also communicated either through UART or I2C depending on the firmware loaded on the sensor surf board and on the switch (S2) located on the EVAL-M355-ARDZ-INT.

It's important that the software and the hardware are set to the same digital communication protocol, so you receive and display data.

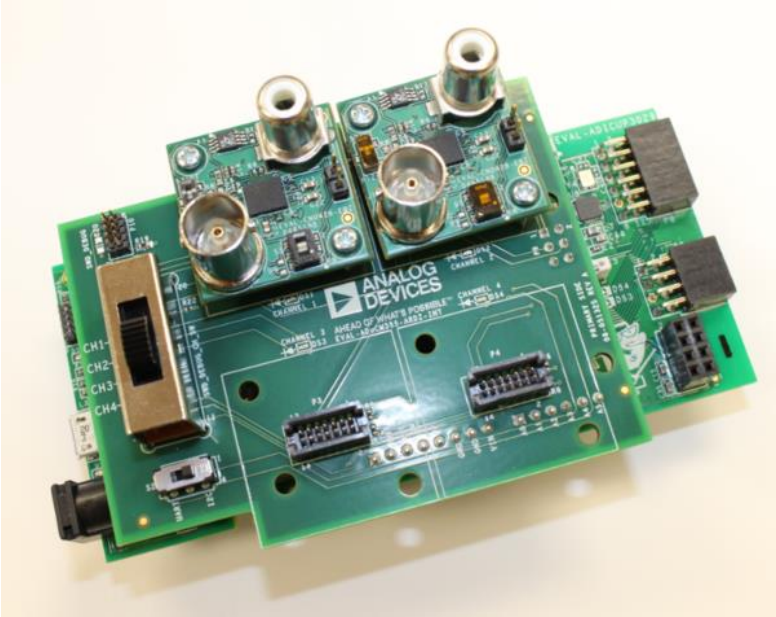
Hardware Setup Procedure

If you are using the ADICUP3029 development board with the EVAL-M355-ARDZ-INT adaptor board, please use the following setup procedure:

1. Set the SWD_DEBUG_CH_SW(S1) of EVAL-M355-ARDZ-INT initially at CH1
2. Set the UART switch(S2) on the EVAL-ADICUP3029 to the “USB” position in order to stream data back to the serial terminal.
3. Place EVAL-M355-ARDZ-INT on top of the EVAL-ADICUP3029



4. Placed on the desired number of ADuCM355 sensor daughter board on top of the interposer board (up to 4)



5. Plug in EVAL-ADICUP3029 into USB port of computer using the micro USB cable. (You may need to wait for the ADICUP3029 device drivers to install if this is the first time the device was plugged in.)

ADuCM355 Compatible Boards

Following is a table of current ADuCM355 base Sensor Shield Board offered by Analog Devices, and will connect to the EVAL-M355-ARDZ-INT adaptor board.

Webpage	**Application**	**EVAL-ADICUP3029 Software Available**
CN0428	Water Quality	Yes
CN0429	Gas Sensor	Yes

Software Available

EVAL-ADICUP3029 Source Code for CN0428 and CN0429

Schematic, PCB Layout, Bill of Materials

EVAL-M355-ARDZ-INT Design & Integration Files

- Schematics
- Bill of Materials
- Gerber Files
- Assembly Files

End of Document

Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

- View EVAL-M355-ARDZ-INT on WIN SOURCE
- Analog Devices Inc. Information

Optimize Your Supply Chain with WIN SOURCE Solutions

- Global Sourcing Solution
- Obsolete Management
- Cost Control Management
- Shortage Management
- Alternative Solution
- Excess Inventory Management