Allegro 1330 and ASEK21

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Revision History

Revision	Date	Comment	Responsible
-	20 May 2016	Initial Release	K. Robert Bate
1.0.1	31 January 2018	Fixing the executive summary	K. Robert Bate

Table 1: Revisions

Executive Summary

Allegro MicroSystem's ASEK21 is a programming solution suitable for customer modules. Users must register for Allegro MicroSystem's software portal to access programming software and documentation for ASEK21 and Allegro devices.

Visit the software portal at: https://registration.allegromicro.com/login

Contents

Device Pin-out and Application Circuit
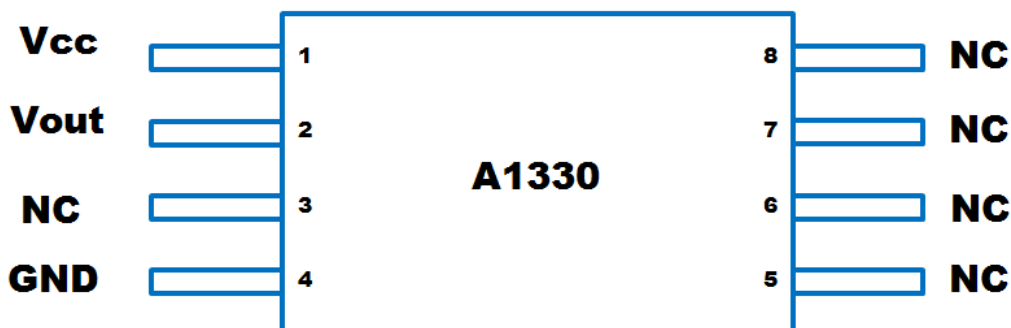
Figure 1: Pin-out of A1330 Single Die

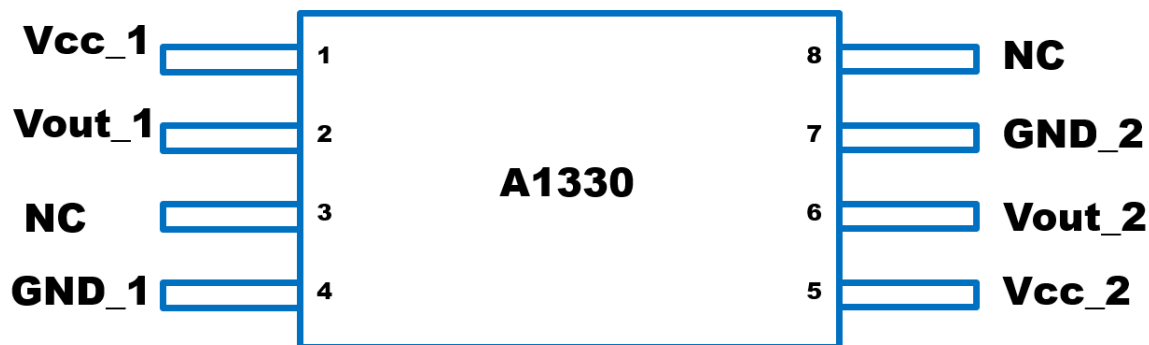| Pin Number	Pin Name	Description
1	Vcc	Input power supply. Also used for communication
2	Vout	Output. Also used for EEPROM programming
3,5,6,7,8	NC	Not Connected. Connect to GND for optimal ESD performance
4	GND	Ground

Table 2: Single Die Pin-out Description

Figure 2: Pin-out of A1330 Dual Die

Pin Number	Pin Name	Description
1	Vcc_1	Input power supply. Also used for communication (Die 1)
2	Vout_1	Output. Also used for EEPROM programming (Die 1)
3, 8	NC	Not Connected. Connect to GND for optimal ESD performance
4	GND_1	Ground (Die 1)
5	Vcc_2	Input power supply. Also used for communication (Die 2)
6	Vout_2	Output. Also used for EEPROM programming (Die 2)
7	GND_2	Ground (Die 2)

Table 3: Dual Die Pin-out Description

For connecting the A1330 to ASEK21 refer to the schematics below in Figure 4. Initially the ASEK21 proto-board can be used for debugging connections.

Ultimately, the customer's module and ASEK21 should interface each other with a harness that plugs directly into the DSUB62 connector on ASEK21. Pin names and numbers from DSUB62 are listed on the schematics below in Figure 3 and Figure 4.
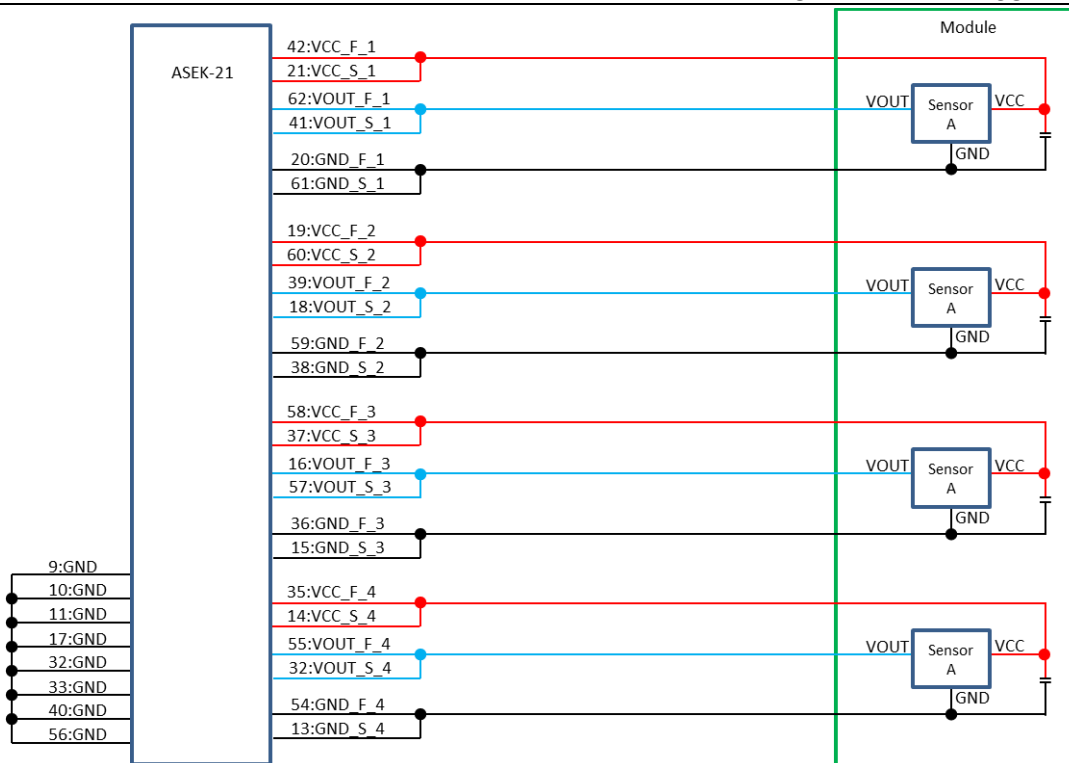
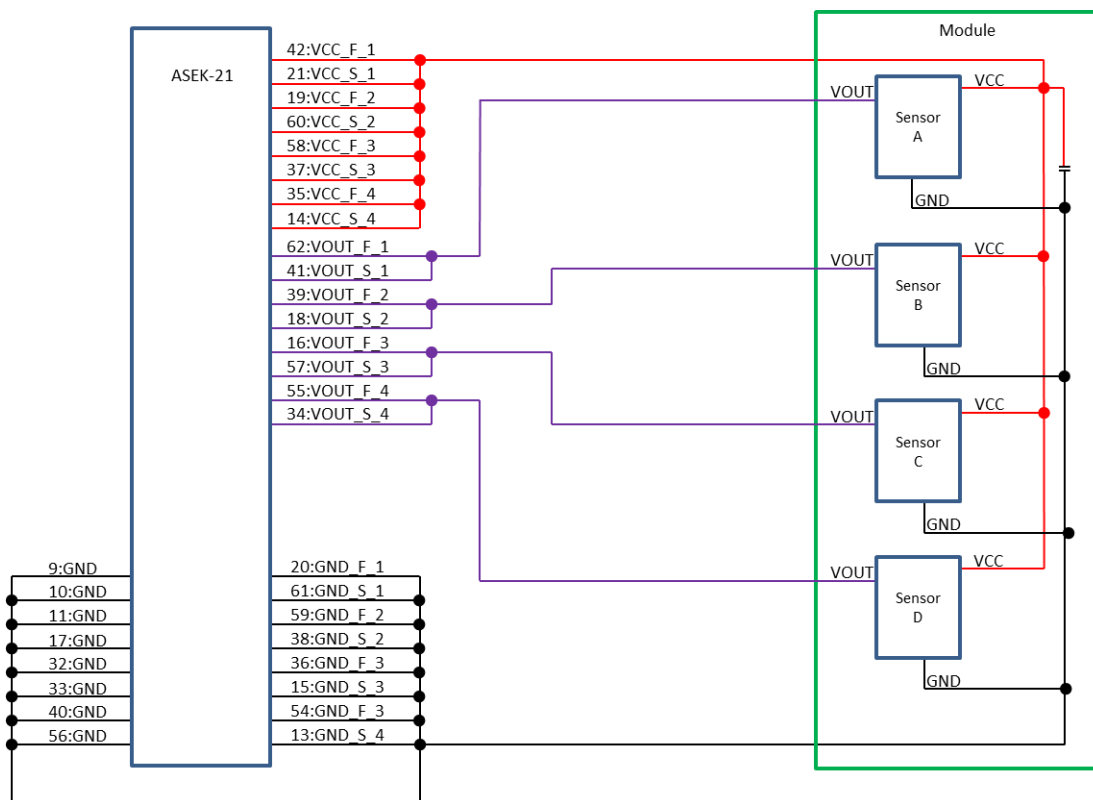*Figure 3: Application Circuit for A1330 with ASEK21.*

Figure 4: Application Circuit for A1330 with ASEK21 with shared Vcc.

ASEK21 Proto-board, Kit and Connections

Refer to the block of analog test points in Figure 5. Analog pins are relevant for the A1330 application.
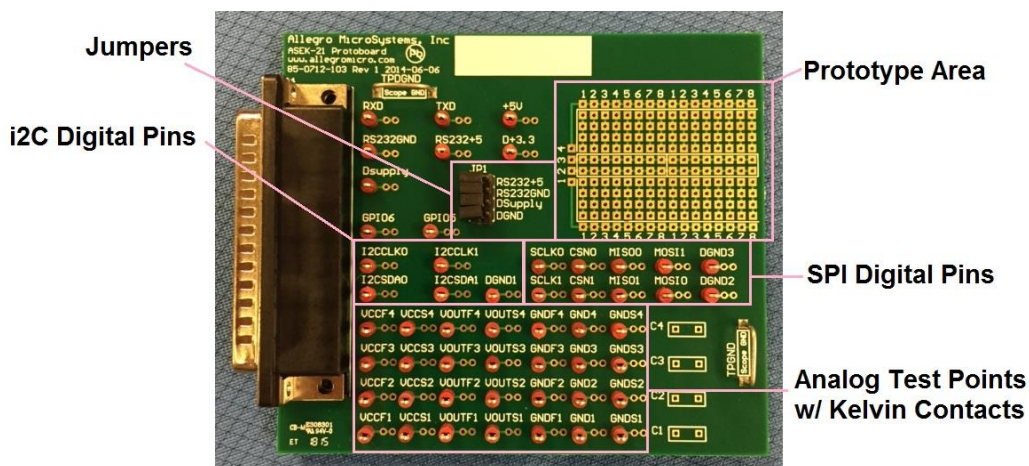

Figure 5: ASEK21 Proto-daughter board pin descriptions

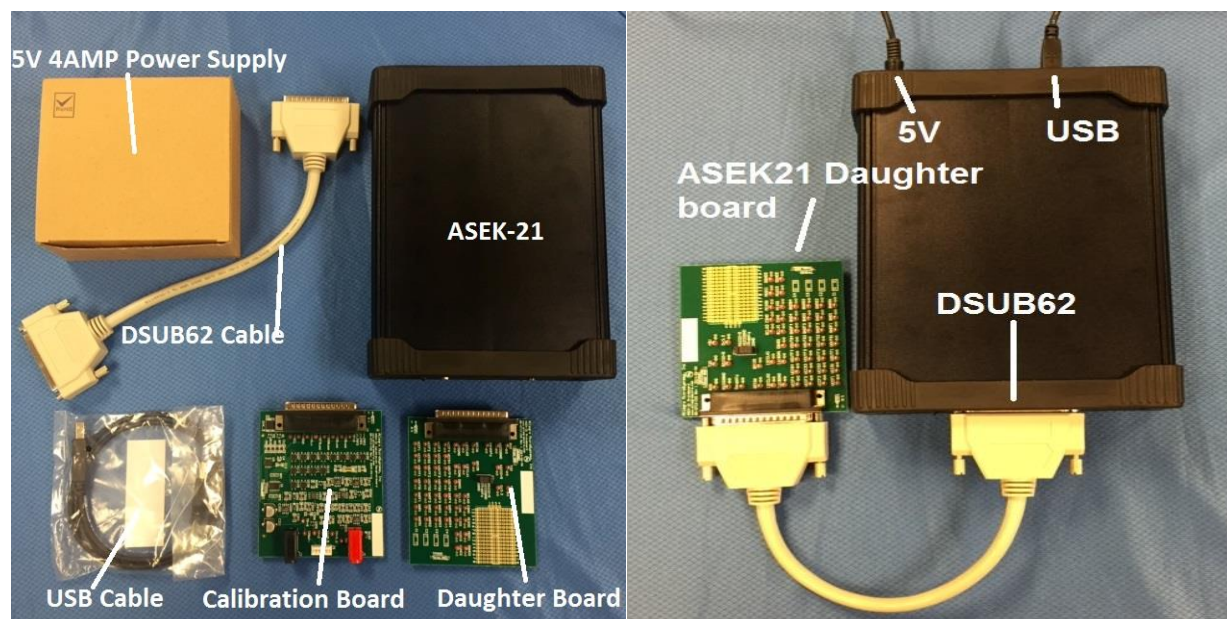Photos below show contents of ASEK-21 and top level connections.

Figure 6: ASEK21 kit and top level connections

ASEK21 includes a proto-daughter board for debugging and prototyping connections to the customer's module. To aid in setup and debugging, the Kelvin contacts can be shorted/soldered together on the proto-board itself for this application. Soldered connections are shown below in Figure 7.
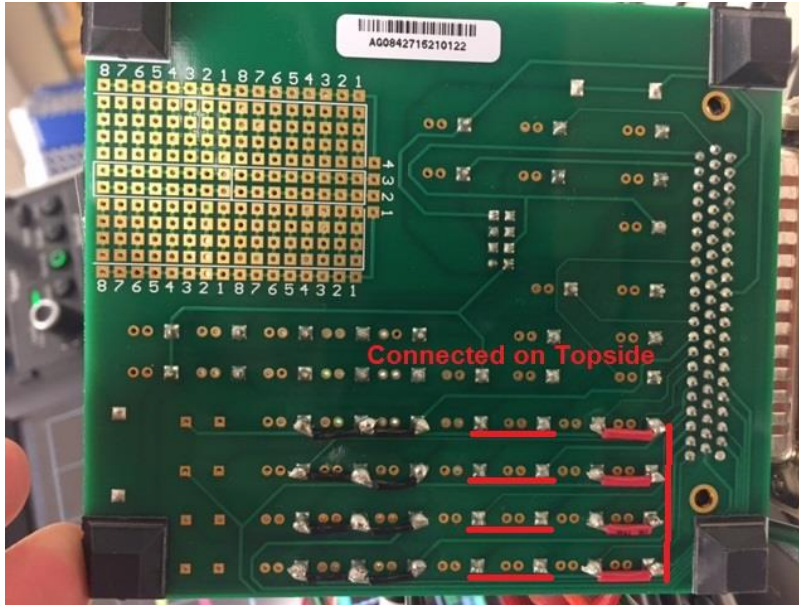
Figure 7: Soldered low level connections on ASEK21 protoboard. Note: Red lines indicate topside connections

Additional information regarding ASEK21 can be found in the ASEK21 design guide. Register for the ASEK21 Programmer on Allegro's software portal to access the ASEK21 design guide and firmware updater.

Software and Settings

Visit Allegro MicroSystem's software portal at https://registration.allegromicro.com/login to register and download the latest software for A1330. The Allegro A1330 Samples Programmer is designed to work with ASEK20 and ASEK21.

The Allegro A1330 Samples Programmer will have to be configured to communicate with ASEK21. The settings panel below shows options for using the programmer with ASEK21, with important options highlighted in red. The COM port for each ASEK20 may be unique. This COM port number can be found by using the device manager within windows.
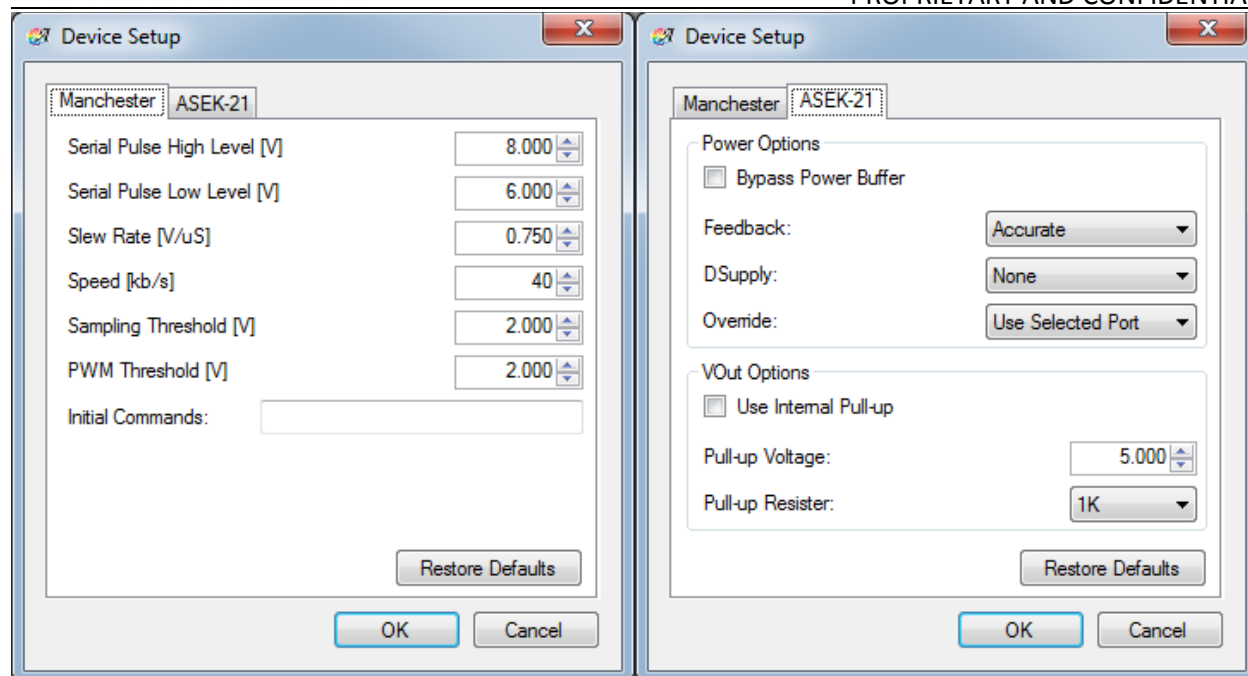
Figure 8: A1330 Samples Programmer configuration for use with ASEK21.

Individual devices are programmed via "ports" on the ASEK21. The option to select ports is added to the bottom right corner of the Allegro A1330 Samples Programmer. Each port number corresponds to a row of Analog test pins on the ASKE21 proto-daughterboard. Refer back to Figure 5 for more information.
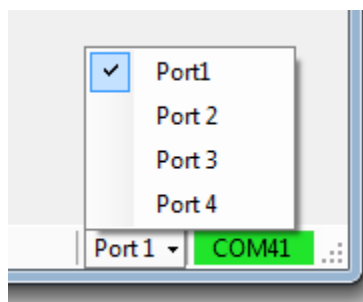

Figure 9: ASEK-21 Port Menu