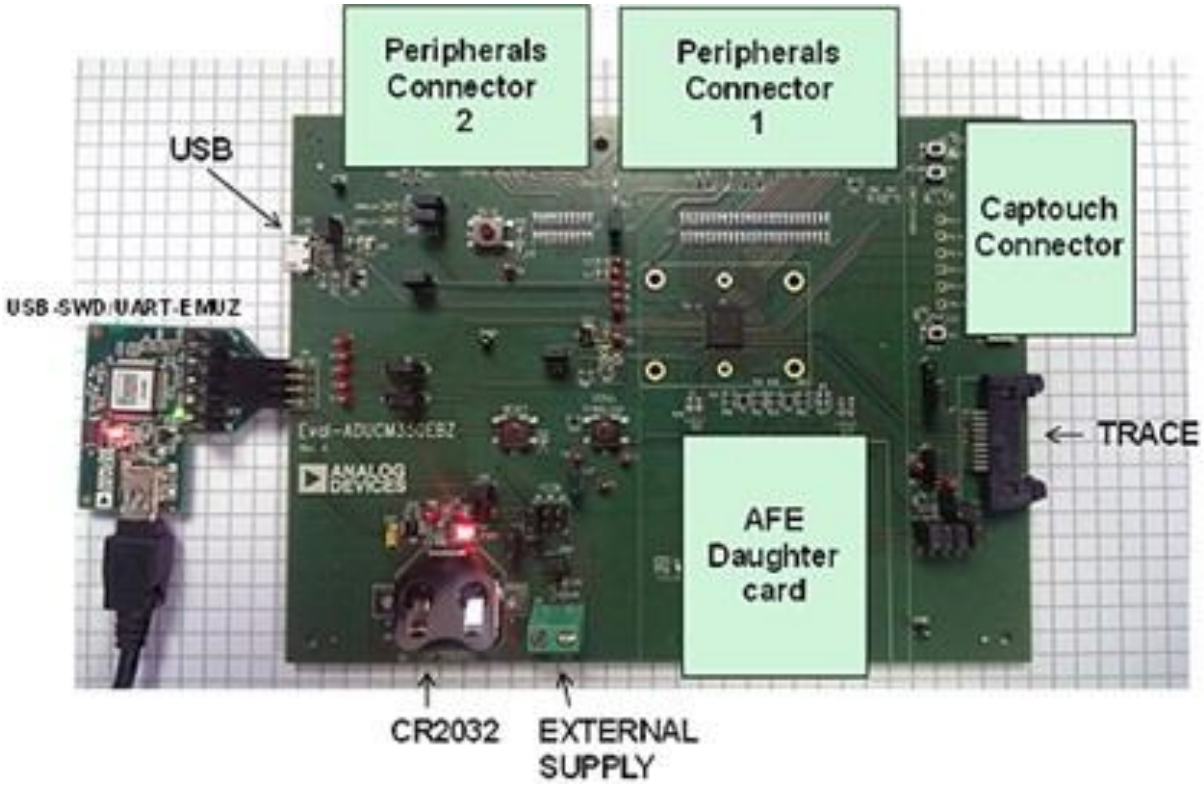
Evaluation Board: ADUCM350



Characteristics:

3 Power supply options: (Indicated Using an LED)

- 2.5 to 3.6 v from external power supply
- 5 v interface/emulator board
- CR2034 Battery connection

Analog Performance :

- 160 kSPS, 16-bit, precision analog-to-digital converter (ADC)
- 12-bit digital-to-analog converter (DAC)

Connection: UART and Serial wire through 8-pin J-link OB Connector Trace capability.

Processor: 16MHZ ARM-cortex-M3 with a high precision AFE Specifically for high precision DAQ.

Memory: 384 KB of Flash, 32 KB of SRAM and 16 KB of Flask configuration as an EEPROM.

ANALOG FRONT END:

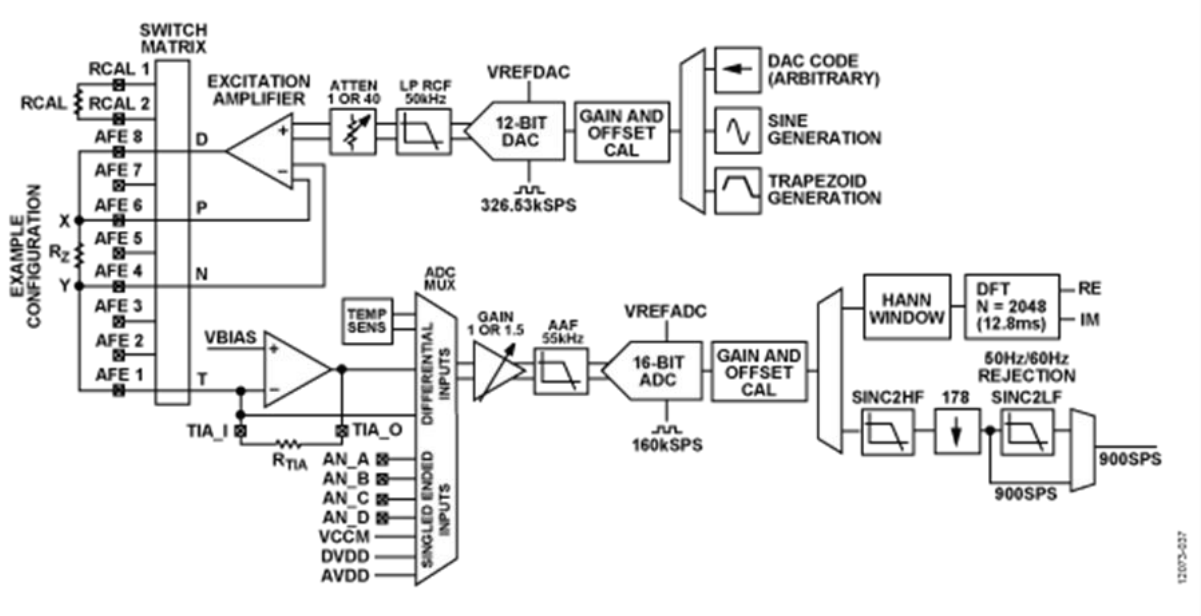


Fig: AFE System Block Diagram

Impedance Measurement:

Parameter	Max	Unit	Test Conditions
Accuracy:			
i. Magnitude	0.33	%	Std. Deviation as a % of Z
ii. Phase	0.17	Degrees	Std. Deviation of Z
Precision:			
i. Magnitude	0.17	%	Std. Deviation as a % of Z
ii. Phase	0.08	Degrees	Std. Deviation of Z

Working Range:

This board is best suited for measuring impedance over a wide range of frequencies. *Min freq: 80 Hz to a Max freq: 75 kHz approx.*

Impedance Measurement Method:

- 2 wire method
- 4 wire method

Connecting DUT's for measuring impedance:

- Connect the AFE daughter card to the main board
- Connect the unknown impedance of the DUT/ Sensor to the daughter board using the 2/ 4 wire method
- Once the DUT/ Sensor is connected, use the software to obtain the required plot
- From the plot obtained calculate the impedance (Magnitude and Phase) of the circuit
- Compare the result with value measured using the Agilent
- Also compare the parameters (Accuracy and Precision) with the other boards

Software:

i. Open the Software (IAR).

ii. Go to File-Examples and Select 2-Wire measurement (Example).

iii. Download it to the Development Board.

iv. Graph is automatically plotted in customized **LabView software**.