DAQ-AIMC3421-1810E

High Performance Desktop DAQ Starter Kit

Features

- DAQ Card
  - 12-bit, 800KS/s, 16 ch analog input
  - 24-ch digital input/output
  - Advantech DAQNavi (Data Acquisition Software)
  - Cables and Wiring Board
- Intel® H81 Platform
  - Intel® 4th generation Core i CPU (LGA1150)
  - Two PCIe (x16/x1) & two PCI Expansion Slots
- Compact & Rich I/O Configuration
  - One internal 3.5" SATA HDD bays with shock-resistant
  - Optional front removable 2.5" HDD bay
  - VGA, 2 GbE LAN, 4 USB2.0, 2 COM
  - – Easy-to-maintain system fan and reusable filter
- Energy Savings
  - – 300W 80Plus PSU

System Specifications

Processor System 1.5U CPU Cooler 3 Expansion slot 0 ~ 40° C	CPU	i7-4790S	I7-4770S	i5-4590S	I5-4570S	i3-4360						
	Core	4/8	4/8	4/4	4/4	4/4						
	Base Frequency	3.2 GHz	3.1GHz	3.0 GHz	2.9GHz	3.7 GHz						
	L3 Cache	8 MB	8MB	6 MB	6MB	4 MB						
	Chipset	H81										
	BIOS	AMI 128Mb SPI Flash										
Processor System 1U CPU Cooler 4 Expansion slots 0 ~ 45° C	CPU	I7-4790T	i7-4770TE	i5-4590T	I5-4570TE	I3-4360	i3-4350T	I3-4330TE	I3-4330	G3420	G3320TE	G1820	G1820TE
	Core	4/8	4/8	4/4	2/4	2/4	2/4	2/4	2/4	2/2	2/2	2/2	2/2
	Base Frequency	2.7GHz	2.3 GHz	2.0 GHz	2.7GHz	3.7GHz	3.1 GHz	2.6 GHz	3.5GHz	3.2 GHz	2.3 GHz	2.7 GHz	2.2 GHz
	L3 Cache	8MB	8 MB	6 MB	4MB	4MB	4 MB	4 MB	4MB	3 MB	3 MB	2 MB	2 MB
	Chipset	H81											
	BIOS	AMI 128Mb SPI Flash											
Memory	Technology	Dual Channel DDR3 1066/1333/1600 MHz (Non ECC)											
	Max. Capacity	16 GB (8 GB per DIMM)											
	Socket	204-pin SO-DIMM x 2											
Graphics	Chipset Integrated	Integrated Intel HD Graphics											
Expansion slot	PCI Express x16	1; Full-Height: 107 mm / Length: Max. 196 mm											
	PCI Express x1	1; Full-Height: 107 mm / Length: Max. 196 mm (Populated with PCIE-1810-AE)											
	PCI	2; Full-Height: 107 mm / Length: Max. 196 mm; When using 2 PCI slots, only supports 1U CPU Cooler											
Ethernet	Interface	10/100/1000 Mbps											
	Controller	LAN1: Intel I217V, LAN2: Intel I211AT											
SATA	Max Data Transfer Rate	600 MB/s (SATA 3.0)											
	HDD Bay	1 internal 3.5"											
I/O Interface	Display	VGA											
	USB	4 (USB 2.0 compliant, 2 in front, 1 in rear, 1 internal type-A for software key)											
	Serial	2 RS-232											
	PS/2	1 (PS/2 Y cable supports 1 x keyboard and 1 x mouse)											
Watchdog Timer	Output	System reset											
	Interval	Programmable 1 ~ 255 sec/min											
Power Supply	Output Rating	AC 300W, ATX											
	Input Voltage	100 V_{AC} ~ 240 V_{AC}											
Cooling	System Fan	1 (9cm / 53 CFM)											
	Air Filter	Yes											
Miscellaneous	LED Indicators	Power, HDD, Temp, Fan											
	Control	Power on/off switch, Reset button											
Environment		Operating						Non-operating					
	Temperature	0 ~ 40° C (32 ~ 104° F)						-20 ~ 60° C (-4 ~ 140° F)					
	Humidity	10 ~ 85% @ 40° C, non-condensing						10 ~ 95% @ 40° C, non-condensing					
	Vibration	1Grms, random, 5~500Hz, 3 axes, 1 hr/axis						2Grms, sine wave, 5~500Hz, 3 axes, 1 hr/axis					
	Shock	10G, half sine wave, 11 ms duration											
	EMC	CE/FCC, CCC, BSMI											
	Safety	UL/CB, CCC, BSMI											
Physical Characteristics	Dimension (W x H x D)	150 x 222 x 270 mm											
	Weight	5 kg											

Last updated : 13-May-2016

DAQ Card Specifications

Analog Input

- **Channels Single-end** 16-ch Differential 8-ch
- **Resolution** 12 bits
- **Sample Rate** Single Channel 800 kS/s max.
  Multi-Channel 500 kS/s max.
  Note: The sampling rate for each channels will be affected by used channel number.
  For example, if 4 channels of PCIE-1810 are used, the sampling rate is 500k/4 = 125 kS/s per channel.
- **Trigger Reference** Digital Trigger,Analog Trigger
- **Trigger Mode** Start trigger, Delay to Start triggerStop trigger, Delay to Stop trigger
- **FIFO Size** 4k samples
- **Overvoltage Protection** 30 Vp-p
- **Input Impedance** 1 GΩ
- **Sampling Modes** Software and external clock
- **Input Range Software programmable**

Gain	0.5	1	2	4	8
Unipolar	NA	0~10	0~5	0~2.5	0~1.25
Bipolar	±10	±5	±2.5	±1.25	±0.625
Gain Error (%FSR)	0.1	0.1	0.2	0.2	0.4

Analog Output

- **Channels** 2
- **Resolution** 12 bits
- **Output Rate** Static- Software Polling500 KS/s max.
- **Output Range** Software programmable

Output Range	Internal Reference	0V~5V, 0V~10V, ±5V, ±10V	
	External Reference	Reference Input	Maximum Range
	Unipolar	-10V ≦ x ≦ 10V	0 ~ x V
	Bipolar		-x V ~ x V

- **Slew Rate** 20 V/μs
- **Driving Capability** 5 mA
- **Operation Mode** Static update, Waveform generation
- **Accuracy** INLE: ± 1 LSB, DNLE: ± 1 LSB

Digital I/O

- **Channels** 24
- **Compatibility** 5 V/TTL
- **Input Voltage** Logic 0: 0.8 V max.
  Logic 1: 2.0 V min.
- **Output Voltage** Logic 0: 0.8 V max.
  Logic 1: 2.0 V min.
- **Output Capability** Sink: 15 mA @ 0.8 V
  Source: 15 mA @ 2.0 V

Counter

- **Channels** 2
- **Resolution** 32 bits
- **Compatibility** 5 V/TTL
- **Max. Input Frequency** 10 MHz
- **Pulse Generation** Yes
- **Timebase Stability** 50 ppm

Dimensions

Unit: mm [inch]