

- 2/4 channel synchronous sampling
- 2Gsps per channel, 14bit
- Input bandwidth 500KHz-2GHz
- Input range:  $\pm 2V$
- Input impedance:  $50\Omega$
- PCIe x8 Gen3 communication interface
- support FPGA secondary development
- Software development package supports C/C++, LabVIEW, Matlab etc



| Series       | Bus          | Resolution | Channel    | Sampling Rate | Bandwidth    | Storage depth | System support   |
|--------------|--------------|------------|------------|---------------|--------------|---------------|------------------|
| LD817xA-2G14 | PCIe x8 Gen3 | 14bit      | 2/4channel | 2Gsps         | 500KHz-2G Hz | 8GB           | Windows<br>Linux |

### Brief introduction

- LD817xA-2G14 is Mysoow's "Agile" series PCIe acquisition card, supporting 2/4 channel, 14bit , achieving 2Gsps synchronous sampling , On board DDR4 memory granules, featuring a 128-bit bus width and 8GB storage volume, larger volume customization is also supported.
- PCIe x8 Gen3 bus interface, supporting the data speed up to 48Gbps.
- Support multiple triggering modes including hardware , triggering, software triggering and manual triggering etc. Continuous sampling mode is also supported.
- Support the secondary development for users, providing DLL dynamic link pool.
- Equipped with host computer Demo software, supporting the configuration of board and real-time display and storage of data.

### Typical applications

- Optical Coherence Tomography (OCT)
- Non-destructive detection
- Ware form recorder
- Multi-channel transient recorder
- Life science
- Particle physics
- Mass spectrometry analysis
- Communication
- Bandwidth signal analysis

## Detailed parameters

| Terminal                             |  |     |       |      |      |  |
|--------------------------------------|--|-----|-------|------|------|--|
| Simulated input                      | 2/4 channel, SMA   |     |       |      |      |  |
| Triggered input                      | 1 way wide range triggered input, SSMC   |     |       |      |      |  |
| Triggered output                     | 1 way SSMC   |     |       |      |      |  |
| Reference clock input                | 1 way SSMC   |     |       |      |      |  |
| Reference clock output               | 1 way SSMC   |     |       |      |      |  |
| Communication bus                    | PCIe x8 Gen3   |     |       |      |      |  |
| JTAG secondary development interface | 2.0mm 2x14 box, internal   |     |       |      |      |  |
| UART serial port                     | 2.0mm 3P socket, internal  |     |       |      |      |  |
| Other characteristics                | 2 way PWM output, 1 way pulse counter input, 2 way IO, adjustable voltage level, Digital IQ Demodulation |     |       |      |      |  |
| Acquisition system                   |  |     |       |      |      |  |
| Resolution                           | 14bit  |     |       |      |      |  |
| Bandwidth                            | 500KHz-2GHz  |     |       |      |      |  |
| Input channel                        | 2/4 channel synchronous sampling   |     |       |      |      |  |
| Sampling rate                        | up to 2Gsps  |     |       |      |      |  |
| Sampling mode                        | finite point sampling  |     |       |      |      |  |
| Full range input scope               | $\pm 2V$   |     |       |      |      |  |
| Input coupling                       | Balun coupling   |     |       |      |      |  |
| Input impedance                      | 50 $\Omega$  |     |       |      |      |  |
| Extreme input                        | $\pm 2.1V_{max}$   |     |       |      |      |  |
| Storage                              |  |     |       |      |      |  |
| Storage volume                       | 8GB  |     |       |      |      |  |
| Recording capability                 | Can be set up by software, the overall volume does not exceed memory space                               |     |       |      |      |  |
| Trigger depth                        | Can be set up by software, the overall volume does not exceed memory space                               |     |       |      |      |  |
| Index parameter                      |  |     |       |      |      |  |
| Input impedance                      | Range  | SNR | SINAD | SFDR | ENOB | Test conditions  |
| 50 $\Omega$                          | $\pm 2.0V$   | 53  | 52    | 70   | 8.3  | Input signal amplitude-1dBFS, frequency 70MHz, sampling rate 2Gsps |
| Trigger Input System                 |  |     |       |      |      |  |

|                                    |   |
|------------------------------------|---|
| Trigger source                     | Software trigger, threshold(channel) trigger, external(simulation and digital) trigger                                  |
| Channel number                     | 1 channel, supporting simulation and digital TTL, LVTTTL, Input impedance 50Ω   |
| Trigger input level                | Simulation input $\pm 0.2V \sim \pm 5V$ , standard digital TTL, LVTTTL level, square wave/pulse wave/trapezoidal wave   |
| Trigger frequency                  | $\leq 2\text{MHz}$  |
| Trigger mode                       | post-trigger, pre-trigger   |
| Trigger direction                  | Rising edge trigger, falling edge trigger, double-sided edge trigger  |
| Trigger threshold adjustment       | $\pm 0.1V \sim \pm 5V$ precisely adjustable   |
| Trigger input width                | $\geq 50\text{ns}$  |
| Trigger delay                      | $0 \sim 2^{31}$ sampling cycle  |
| Trigger output                     |   |
| Trigger output level               | LVTTTL, output current 10mA   |
| Trigger output width               | $\geq 50\text{ns}$ , adjustable pulse width   |
| Clock system                       |   |
| Clock source                       | Internal/external clock source  |
| Internal clock resource            | 10MHz, $\pm 1.5\text{ppm}$ , $\pm 10\text{ppb}$ optional  |
| External input clock amplitude     | 0.2Vpp ~ 3.3Vpp sine wave or square wave  |
| External input impedance           | 50Ω   |
| External input coupling mode       | AC coupling   |
| External reference clock frequency | 10MHz, other frequencies can be customized  |
| Power requirements                 |   |
| Power supply mode                  | PCIe insertion socket power supply, 5557-2×3P connector power supply  |
| Power requirement                  | 12V/3A  |
| Size and weight                    |   |
| Size                               | Standard full height & full length PCIe board, occupying 1 bit PCIe insertion socket, length×width×height: 190×20×111mm |
| Weight                             | ~0.46kg   |
| Environment parameters             |   |
| Working temperature                | 0°C ~ +50°C   |

|                           |                              |
|---------------------------|------------------------------|
| Relative working humidity | 10% ~ 90%RH, no condensation |
| Storage temperature       | -40°C ~ +85°C                |
| Relative storage humidity | 5% ~ 95%RH, no condensation  |

## System requirements

- 1> PCIe x8 Gen3 interface;
- 2> larger than 4GB memory, 1GB hard-disk space;
- 3> Display screen resolution larger than 1280x1024;
- 4> Operation system supports Windows, Linux and domestically produced operation system;

## Software Development Package

Provide software development package to help users to quickly accomplish application development and integration. MSDK software development package is applicable for Windows, Linux and other operation system, supporting the secondary integration and development for C/C++, Matlab, Labview, Python, C#, QT and other software, including host computer software, interface pool, DEMO routine and development description documents etc.

## Ordering information

| Ordering Information |  |
|----------------------|--|
| Model                | Description  |
| LD8172A-2G14         | 2 channel 14bit, 2Gsp/s, PCIe x8 Gen3, bandwidth 500KHz-2GHz |
| LD8174A-2G14         | 4 channel 14bit, 2Gsp/s, PCIe x8 Gen3, bandwidth 500KHz-2GHz |

### Note:

The product is not equipped with coaxial cables by default, and our company can provide customized wire services

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