Thank you for purchasing SDLink. Before applying this module, please confirm the [Package Contents], and read the user manual. An update documents of SDLink including data sheet and application note are placed on URL below. Please download the necessary documents.

[URL]   http://www.dgway.com/products/SDLink

```
[Package Contents ]
☐    SDLink module                    1 pc
☐    microSD card                     1 pc
```

[Ver1.6E]

Q & A

◆ Software

Q1: Cannot find download site of SDLink software. What should be checked?

A1: Check the spelling of URL:
        http://www.dgway.com/products/SDLink   <= "SDL" are capital letters.

   Please always use the latest version.

Q2: SDLink software does not detect microSD card. What should be checked?

A2: Check that inserted microSD card can be detected as "USB Mass Storage Device" by Windows on the task bar. Another way, you can check [MyComputer] –> [Removable Disk (*:)]. If there is no detection by Windows, please try following steps.
   (1) Check that microSD card is inserted into card reader correctly.
   (2) Remove microSD (or card reader) from PC and insert (or plug) again.

Q3: Which OS does SDLink software support?

A3:   WindowsXP , Windows Vista and Windows 7. For Windows Vista and 7, please always run SDLink software as administrator (more details are described in Software Manual "2.4. Using on Windows Vista").

Q4: How does used space on microSD relate to selection of configuration file?

A4:   In case of serial configuration mode
      File selection is in File#1-4: used disk space will be 4 times of the largest file size.
      File selection is in File#5-8: used disk space will be 8 times of the largest file size.
      In case of parallel configuration mode, used disk space will be slightly larger than configuration file size.

◆ Hardware

Q1: LED on SDLink does not turn on. What should be checked?

A1：

    (1) Check that SDLink is inserted on user board in the correct direction.

    (2) Check that SDLink receives power supply for both microSD (+3.3V) and FPGA configuration (+1.8V, +2.5V or +3.3V). FPGA configuration power supply must be used the same voltage as I/O level.

    (3) See SL-AN01 (User board design for SDLink) to check pin assignment and PCB wiring.

Q2: LED on SDLink is blinking in red. What should be checked?

A2:

    (1) Check that your microSD card is not SDHC type. SDLink does not support SDHC microSD card.

    (2) Check that microSD card inserted in SDLink has already initialized and programmed with configuration data for SDLink. You can check data in microSD by [Check Info] button on SDLink software.

Q3: LED on SDLink is red. What should be checked?

A3:

    (1) Check that the configuration data programmed in microSD card is correct for target FPGA.

    (2) Check configuration data by executing [Verify] on software to verify that data is really correct.

Q4: LED on SDLink is orange. What should be checked?

A4:   Check that microSD is inserted to SDLink correctly. microSD must be inserted to microSD socket until you hear clicking sound.

Q5: LED on SDLink is blinking in orange and then turning in red. What should be checked?

A5:   After configuration starts for a while (depends on configuration data length) and DONE=High still not be detected, SDLink will be time out. In this case, please check following points:

    (1) Location of file selection on software must be matched with FPGA pin mapping for both single and multiple FPGA case (e.g. File#1->DATA0/DIN0, File#2->DATA1/DIN1).

    (2) When generating the configuration file, please check mode setting from Xilinx/Altera software (configuration mode, data compression is OFF, StartUpClock etc.). More details are described in Software Manual "6. Appendix".

    (3) In some wiring conditions or power supply environments, power up of target board cannot catch up configuration starting time of SDLink. Please try to adjust configuration start time by [Hardware Settings] -> [Additional Delay Time] on SDLink software.

    (4) In case of multiple targets, configuration of either one of FPGAs may be unsuccessful. Check configuration result of each FPGA by JTAG configuration or manual configuration without SDLink first.

    In case of multiple targets, There is reference circuit design for effective troubleshooting in SL-AN01.

Q6: Does SDLink support Pb-free? And is it RoHS compliant?

A6:   Yes. This product including attached microSD is Pb-free product and RoHS compliant.

◆ microSD card

Q1: What is the difference between "High-speed type" microSD and normal microSD card?

A1:   "High-speed type" microSD card is based on SD card standard Ver1.1 (and newer) and operated by 50MHz clock. It is possible to do higher-speed data transmission than normal speed one. Normally their packages are labeled "High-speed 22.5MB/s" or "x150".

Q2: Can SDHC microSD card be used?

A2: No, please use any microSD except SDHC type (capacity is not greater than 2GB).

Q3: How does initializing time of microSD effect the configuration starting time?

A3 :   microSD card needs "initialization" to establish communication after PowerON and then ready to use. Time of "Initializing microSD card" depends on each microSD card. The SD card standard specifies that this time must be within 1000 msec (1sec). Normally microSD card takes around 300-400msec for initialization.

   SDLink will start configuration after microSD card initialization finish (300～400msec after powerON). By [Hardware Settings] -> [Additional Delay Time] on SDLink software, user can set additional configuration delay time after microSD card initialization.

Q4: I want to use other microSD card which is not the attached one. Is there any caution?

A4: No, you can use any microSD except SDHC type. For high-speed configuration, "High-speed type" microSD card is necessary (about "High-speed type" microSD card, see Q1).

Q5: I set high-speed configuration with attached microSD card by SDLink software. Any problem?

A5: No problem. SDLink still can configure FPGA correctly. However, attached microSD card may be normal speed type, so actual configuration speed will be the same as the case that high-speed option is disabled.

◆ Functions

Q1: Because power up is slow for large scale FPGA system, I want to delay configuration starting time. How?
A1: By [Hardware Settings] -> [Additional Delay Time] on SDLink software, you can set more configuration delay time between +0 and 2.55sec by 10msec step.

Q2: What does configuration starting time depend on? Could it be adjusted?
A2: SDLink will start configuration after microSD card initialization. Time of "Initializing microSD card" depends on microSD card. The SD card standard specifies that this time must be within 1000msec (1sec). Normally microSD card takes around 300-400msec for initialization. With [Hardware Settings] -> [Additional Delay Time] on SDLink software, user can adjust additional configuration delay time between +0 and 2.55sec by 10msec step.

Q3: I want higher configuration speed. How to do it?
A3: Prepare "High-speed type" microSD card. And set "High-speed configuration" in software to be ON.

Q4: How is the number of retry of configuration set?
A4: To avoid accidental configuration error, SDLink has retry function when configuration fails. Default retry is 4 times, but user can set it between 0 and 15 by software. This adjustment function is useful for such as noisy environment. Increasing the number of retry does not make configuration time longer.