

SD/eMMC ANALYZER SGDK330 A

SD Ver3.00
SDIO Ver3.00
eMMC Ver4.51



SGDK330 A

SGDK330A is protocol analyzer to let engineer be able to capture and analyze bus state and performance of SD, SDIO and eMMC.

Feature

SGDK330A supports up-to-date media in the market.
SGDK330A provides simple and straightforward user interface to operate.
Application software on Windows PC is very easy to use, and downloadable to see Log file.
SGDK330A is ideal analyzer for anyone developing SD/SDIO/eMMC host products.

Supported media

[SD card ver3.00]

- SDSC up to 2GB
- SDHC up to 32GB
- SDXC up to 2TB
- SDR12/SDR25/SDR50/DDR50/SDR104

[SDIO card ver3.00]

- 1bit/4bit/8bit
- UHS-I (208MHz)
- 2KB block length / Interrupt

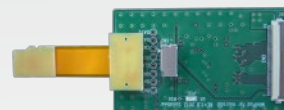
[eMMC ver4.51]

- 1bit/4bit/8bit
- HS200 (200MHz)
- Boot operation

Mini PODs



Mini POD for SD card



Mini POD for micro SD card



Mini POD for eMMC/SDIO wire type



Mini POD for eMMC socket type

Sample Log

```
002 ms CMD18(... ARG:0002A140 CRC:60 SC:8 IO=1.8V SD :211.2MHZ Nrc:24
000 us R1 RSP:1200000900D3 [47:0] - SD :- Ncr:10
186 us Read 2E202020 20202020 202020... waitTime:186us SD :4bit Nac:38225
005 us Read 00000000 00000000 000000... waitTime:0us SD :4bit Nac:38
005 us Read 00000000 00000000 000000... waitTime:0us SD :4bit Nac:38
005 us Read 00000000 00000000 000000... waitTime:0us SD :4bit Nac:39
005 us Read 00000000 00000000 000000... waitTime:0us SD :4bit Nac:39
005 us Read 00000000 00000000 000000... waitTime:0us SD :4bit Nac:39
005 us Read 00000000 00000000 000000... waitTime:0us SD :4bit Nac:39
005 us Read 00000000 00000000 000000... waitTime:0us SD :4bit Nac:39
076 us CMD12(... ARG:00000000 CRC:30 SC:8 fromCMD:3... SD :198.0MHZ Nrc:65153
000 us Read 00000000 00000000 000000... waitTime:0us SD :4bit Nac:27
000 us R1b RSP:0C00000B007F [47:0] - SD :- Ncr:6
005 s CMD13(... ARG:35D00000 CRC:27 - IO=1.8V SD :211.2MHZ Nrc:24
000 us R1 RSP:0D000009003F [47:0] - SD :- Ncr:6
```

[SD card UHS-I 208MHz]

```
718 ms CMD52(IO_RW... ARG:80000E03 CRC:0A write FN0 Ad... SD :51.1MHZ Nrc:Ove
001 us R5 RSP:340000100749 [47:0] Data:07 SD :- Ncr:7
001 ms int assert - - SD :- -
018 ms CMD53(IO_RW... ARG:28024610 CRC:36 Read Block F... SD :51.1MHZ Nrc:Ove
000 us int negate - - SD :- -
001 us R5 RSP:35000010005B [47:0] Data:00 SD :- Ncr:7
000 us Read 21230000 21230001 21230... waitTime:1us SD :8bit Nac:57
004 us Read 21230100 21230101 21230... waitTime:1us SD :8bit Nac:65
004 us Read 21230200 21230201 21230... waitTime:1us SD :8bit Nac:65
004 us Read 21230300 21230301 21230... waitTime:1us SD :8bit Nac:65
004 us Read 21230400 21230401 21230... waitTime:1us SD :8bit Nac:65
```

[SDIO 8bit]

```
152 us CMD23(SET_BL... ARG:00000010 CRC:0E - MMC:211.2MHZ Nrc:58099
000 us R1 RSP:17000009001D [47:0] - MMC:- Ncr:8
000 us CMD18(READ_M... ARG:00C66600 CRC:1D SC:16 MMC:211.2MHZ Nrc:17
000 us R1 RSP:1200000900D3 [47:0] - MMC:- Ncr:10
111 us Read 28421800 50000000 2E010... waitTime:111us MMC:8bit Nac:22275
002 us Read 00000082 0700008F 07000... waitTime:0us MMC:8bit Nac:28
002 us Read 6E746966 69657320 74686... waitTime:0us MMC:8bit Nac:28
002 us Read 4F532069 73205570 67726... waitTime:0us MMC:8bit Nac:29
002 us Read 32352220 2F312E32 4D422... waitTime:0us MMC:8bit Nac:28
002 us Read 69732073 7570706F 72746... waitTime:0us MMC:8bit Nac:28
002 us Read 656E7420 42494F53 206C6... waitTime:0us MMC:8bit Nac:29
002 us Read 0000A00 00800308 00000... waitTime:0us MMC:8bit Nac:29
```

[eMMC HS200]

Reference Specifications

SD Memory Card Physical Layer Specification Version 3.00

SDIO Specification Version 3.00

Embedded Multimedia Card (eMMC) Electrical Standard 4.51

SGDK330 Set

Main BOX

Log trace memory: 256MB, USB2.00

Mini POD (SD, microSD, eMMC/SDIO wire type and socket type)

5V output AC Adaptor (100-240V)

POD cable, USB cable

Application software for Windows(CR-ROM)

Recommended Control PC

Windows 7/Vista/XP/2000 (32bit/64bit version)

Intel Pentium4 2GHz and more

1GB RAM

USB 2.00 port

For further Information



SolidGear Corporation

ShinYokohama Kaneko Bldg 8F
2-3-9 ShinYokohama, Kohoku-ku, Yokohama,
222-0033 Japan

info@solidgear.co.jp

Tel +81-45-470-4511 Fax +81-45-470-4311

www.solidgear.co.jp