



RSB-4680

Release Note

Released Version:V230009
Released Date: 2021-04-13

Advantech Co., Ltd.

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ABSTRACT

This document describes how to use diagnostic tool for board functionality verification.

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Part No.

Version: 1.00

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1. Hardware Information

CPU: RK3288

2. Software Information

Debian10

3. Release Version

Rev	Date	Description	Release by
DIV230008	2021-04-02	The first release	Yunjin.Jiang
DIV230009	2021-04-13	Update phy delay	Yunjin.Jiang

4. Add New Features

5. Function Test

Module	Test Steps	Result
CPU Cores	CPUinfo under kernel cat /proc/cpuinfo grep "processor" wc -l	PASS
CPU Speed	A53 cat /sys/devices/system/cpu/cpufreq/policy0/cpuinfo_max_freq	PASS
CPU DVFS	cat /sys/devices/system/cpu/cpufreq/policy0/scaling_cur_freq	PASS
memeory	check meminfo capacity cat /proc/meminfo	PASS
	Check memory clock under kernel cat /sys/class/devfreq/dmc/cur_freq	PASS
	memtester 1000M 5	PASS
GPU	check gpu working using benchmark or web http://webglsamples.org	PASS
	Check GPU clock /sys/class/devfreq/ffa30000.gpu/cur_freq	PASS
VPU	Play video and check decoding mode	PASS
PMIC	1.8V/3.3V/5V voltage,reset,poweroff	N/A
DEBUG	config as normal uart port	PASS

UART	System debug message output and input	PASS
SD	SD card read/write	PASS
eMMC	emmc read/write	PASS
SPI Flash	On Board read/write	PASS
	PIN header	N/A
I2C	i2cdetect i2cget i2cset	N/A
LAN	RGMII ping -c 500 172.21.170.48	PASS
UART	ttySx: rs232_loop /dev/ttyS0 /dev/ttyS1 115200 h 100 /dev/ttyS1 OK /dev/ttyS2 OK /dev/ttyS3 OK /dev/ttyS4 OK	PASS
	ttyUSBx: rs232_loop /dev/ttyUSB0 /dev/ttyUSB1 115200 h 100	PASS
USB2.0	USB disk read/write cat /sys/bus/usb/devices/5-1/speed	PASS
	UVC camera preview/capture/video	PASS
USB OTG	Host mode	PASS
	Slave mode	PASS
HDMI	Audio Play	PASS
	Multiple resolution:720p@60Hz/1080p@60Hz/4k@30Hz/	PASS
LVDS	Backlight adjustment	PASS
	lvds-g070vw01	PASS

	lvds-g150xgel05	N/A
	lvds-g215hvn01	N/A
VGA		PASS
RTC	date 2021-03-01 17:11:22 hwclock -w	PASS
Audio Codec	play and record	PASS
GPIO	GPIO input/output	PASS
Watchdog	cat /dev/watchdog	PASS
Power Button	Power off	PASS
SW reboot	reboot	PASS
M.2		N/A
		N/A
mini PCIE	EC25	PASS
	WIFI & BT W172	PASS
tools	mac_write	PASS
	RKDevTool	PASS
	SDDiskTool	PASS

6. Performance Test

Module	Test Steps	Result	Remark
Benchmark	apt install hardinfo cpu:benchmarks---cpu blowfish(eg:5.91s) 2D:benchmarks---gpu drawing(eg:5418) 3D:taskset -c 4-5 glmark2-es2	PASS	cpu: blowfish 6.33 2D: cpu drawing 4030.37 3D: hdmi only, glmark2 52

lan	throughput: pc: iperf3 -s ARM: iperf3 -c 192.168.1.1 -i 5 -t 180	PASS	[5] 0.00-180.00 sec 19.7 GBytes 941 Mbits/sec sender [5] 0.00-180.00 sec 19.7 GBytes 941 Mbits/sec receiver
	Packet Lost: pc: iperf3 -s ARM: iperf3 -c 192.168.1.1 -u -b 80M -t 43200 -l 60k	PASS	[ID] Interval Transfer Bitrate Jitter Lost/Total Datagrams [5] 0.00-43200.00 sec 167 GBytes 33.1 Mbits/sec 0.000 ms 0/2911168 (0%) sender [5] 0.00-43200.00 sec 167 GBytes 33.1 Mbits/sec 0.131 ms 0/2911168 (0%) receiver
SD	read: dd if=/dev/sd of=/dev/zero bs=1M count=4 conv=fsync write: dd if=/dev/zero of=/dev/sd bs=1M count=4 conv=fsync	PASS	4194304 bytes (4.2 MB, 4.0 MiB) copied, 0.193995 s, 21.6 MB/s 4194304 bytes (4.2 MB, 4.0 MiB) copied, 0.429177 s, 9.8 MB/s
eMMC	read: dd if=/dev/mmcblk0 of=/dev/zero bs=1M count=4 conv=fsync write: dd if=/dev/zero of=/dev/mmcblk0px bs=1M count=4 conv=fsync	PASS	4194304 bytes (4.2 MB, 4.0 MiB) copied, 0.0182596 s, 230 MB/s 4194304 bytes (4.2 MB, 4.0 MiB) copied, 0.103465 s, 40.5 MB/s
usb2.0	read: dd if=/dev/sda of=/dev/zero bs=1M count=4 conv=fsync write: dd if=/dev/zero of=/dev/sda bs=1M count=4 conv=fsync	PASS	4194304 bytes (4.2 MB, 4.0 MiB) copied, 0.128409 s, 32.7 MB/s 4194304 bytes (4.2 MB, 4.0 MiB) copied, 0.254651 s, 16.5 MB/s
	UVC Camera Power on detect 200 times Preview 2 hours	PASS	
BurnIn	Run BurnIn.sh 4H	PASS	