



RSB-5780

Release Note

Released Version:V10035
Released Date: 2021-03-12

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

Printed in Taiwan 2021-03-12

1. Hardware Information

CPU: RK3399

2. Software Information

Ubuntu18.04

3. Release Version

Rev	Date	Description	Release by
UIV10035	2021-03-12	The first release	Jinmin.xu

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	A72 cat /sys/devices/system/cpu/cpufreq/policy4/cpuinfo_max_freq	PASS
	A53 cat /sys/devices/system/cpu/cpufreq/policy0/cpuinfo_max_freq	PASS
CPU DVFS	cat /sys/devices/system/cpu/cpufreq/policy0/scaling_cur_freq cat /sys/devices/system/cpu/cpufreq/policy4/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://webgl.samples.org	PASS
	Check GPU clock cat /sys/class/devfreq/ff9a0000.gpu/	PASS
VPU	Play video and check decoding mode	PASS
PMIC	1.8V/3.3V/5V voltage,reset,poweroff	PASS

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
SATA	read/write	PASS
SPI Flash	read/write	PASS
I2C	i2cdetect i2cget i2cset	PASS
LAN	RGMII	PASS
UART	ttyS0: cn15	PASS
	ttyS4: com1	PASS
USB2.0	USB disk read/write cat /sys/bus/usb/devices/5-1/speed	PASS
USB3.0	USB disk read/write cat /sys/bus/usb/devices/5-1/speed	PASS
USB OTG	Host mode	PASS
	Slave mode	PASS
HDMI	Audio Play	PASS
	Multiple resolution:720p@60Hz/1080p@60Hz/4K@60Hz...	PASS
DP	Audio Play	PASS
	Multiple resolution:720p@60Hz/1080p@60Hz/4K@60Hz...	PASS
LVDS	Backlight adjustment	PASS
	lvds-g070vw01	PASS
eDP	Backlight adjustment	PASS
	edp-1366x768	PASS
	edp-1920x1080	PASS

MIPI CSI 2	csi : ov8858	PASS
MIPI DSI/CSI	csi : ov8858	PASS
RTC	date 2021-03-01 17:11:22 hwclock -w	PASS
TPM	i2cdetect i2cget i2cset	PASS
Audio	cn39: rt5648	PASS
Codec	cn40:rt5648	PASS
GPIO	GPIO input/output	PASS
Watchdog	cat /dev/watchdog	PASS
Power Button	Power off/Power on	PASS
SW reboot	reboot	PASS
M.2	EWM-W188	PASS
mini PCIE	EC25	PASS
tools	mac_write	PASS
	RKDevTool	PASS
	SDDiskTool	PASS

6. Performance

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 5.89 2D: cpu drawing 1134.78 3D: hdmi only, glmark2 269

lan	throughput: pc: iperf3 -s ARM: iperf3 -c 192.168.1.1 -i 5 -d -t 180	PASS	0.00-180.00 sec 17.9 GBytes 852 Mb/s/sec 0.00-180.00 sec 17.9 GBytes 852 Mb/s/sec
	Packet Lost: pc: iperf3 -s ARM: iperf3 -c 192.168.1.1 -u -b 80M -t 43200 -l 60k	PASS	0.00-43200.00 sec 402 GBytes 80.0 Mb/s/sec 0.197 ms 670/7029997 (0.0095%)
eMMC	read: dd if=/dev/mmcblk1 of=/dev/ram0 bs=1M count=4 conv=fsync write: dd if=/dev/ram0 of=/dev/mmcblk1 bs=1M count=4 conv=fsync	PASS	read: 4194304 bytes (4.2 MB, 4.0 MiB) copied, 0.0288715 s, 145 MB/s write: 4194304 bytes (4.2 MB, 4.0 MiB) copied, 0.0497377 s, 84.3 MB/s
usb2.0	read: dd if=/dev/sdb of=/dev/ram0 bs=1M count=4 conv=fsync write: dd if=/dev/ram0 of=/dev/sdb bs=1M count=4 conv=fsync	PASS	Test with sandisk 16G read: 4194304 bytes (4.2 MB, 4.0 MiB) copied, 0.162943 s, 25.7 MB/s write: 4194304 bytes (4.2 MB, 4.0 MiB) copied, 0.415764 s, 10.1 MB/s
usb3.0	read: dd if=/dev/sdb of=/dev/ram0 bs=1M count=4 conv=fsync write: dd if=/dev/ram0 of=/dev/sdb bs=1M count=4 conv=fsync	PASS	Test with sandisk 16G read: 4194304 bytes (4.2 MB, 4.0 MiB) copied, 0.0928291 s, 45.2 MB/s write: 4194304 bytes (4.2 MB, 4.0 MiB) copied, 0.232361 s, 18.1 MB/s
sata	read: dd if=/dev/sda of=/dev/ram0 bs=1M count=4 conv=fsync write: dd if=/dev/ram0 of=/dev/sda bs=1M count=4 conv=fsync	PASS	Test with Toshiba MQ01ABF032 read: 4194304 bytes (4.2 MB, 4.0 MiB) copied, 0.0163319 s, 257 MB/s write: 4194304 bytes (4.2 MB, 4.0 MiB) copied, 0.102711 s, 40.8 MB/s
BurnIn	Run BurnIn.sh 4H	PASS	