



# **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 2021-03-18

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## 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
<b>CPU Cores</b>	CPUinfo under kernel cat /proc/cpuinfo  grep "processor"  wc -l	<b>PASS</b>
<b>CPU Speed</b>	A72 cat /sys/devices/system/cpu/cpufreq/policy4/cpuinfo_max_freq	<b>PASS</b>
	A53 cat /sys/devices/system/cpu/cpufreq/policy0/cpuinfo_max_freq	<b>PASS</b>
<b>CPU DVFS</b>	cat /sys/devices/system/cpu/cpufreq/policy0/scaling_cur_freq cat /sys/devices/system/cpu/cpufreq/policy4/scaling_cur_freq	<b>PASS</b>
<b>memeory</b>	check meminfo capacity cat /proc/meminfo	<b>PASS</b>
	Check memory clock under kernel cat /sys/class/devfreq/dmc/cur_freq	<b>PASS</b>
	memtester 1000M 5	<b>PASS</b>
<b>GPU</b>	check gpu working using benchmark or web <a href="http://webglsamples.org">http://webglsamples.org</a>	<b>PASS</b>
	Check GPU clock cat /sys/class/devfreq/ff9a0000.gpu/	<b>PASS</b>
<b>VPU</b>	Play video and check decoding mode	<b>PASS</b>
<b>PMIC</b>	1.8V/3.3V/5V voltage,reset,poweroff	<b>PASS</b>

<b>DEBUG</b>	config as normal uart port	<b>PASS</b>
<b>UART</b>	System debug message output and input	<b>PASS</b>
<b>SD</b>	SD card read/write	<b>PASS</b>
<b>eMMC</b>	emmc read/write	<b>PASS</b>
<b>SATA</b>	read/write	<b>PASS</b>
<b>SPI Flash</b>	read/write	<b>PASS</b>
<b>I2C</b>	i2cdetect i2cget i2cset	<b>PASS</b>
<b>LAN</b>	RGMII	<b>PASS</b>
<b>UART</b>	ttyS0: cn15	<b>PASS</b>
	ttyS4: com1	<b>PASS</b>
<b>USB2.0</b>	USB disk read/write cat /sys/bus/usb/devices/5-1/speed	<b>PASS</b>
<b>USB3.0</b>	USB disk read/write cat /sys/bus/usb/devices/5-1/speed	<b>PASS</b>
<b>USB OTG</b>	Host mode	<b>PASS</b>
	Slave mode	<b>PASS</b>
<b>HDMI</b>	Audio Play	<b>PASS</b>
	Multiple resolution:720p@60Hz/1080p@60Hz/4K@60Hz...	<b>PASS</b>
<b>DP</b>	Audio Play	<b>PASS</b>
	Multiple resolution:720p@60Hz/1080p@60Hz/4K@60Hz...	<b>PASS</b>
<b>LVDS</b>	Backlight adjustment	<b>PASS</b>
	lvds-g070vw01	<b>PASS</b>
<b>eDP</b>	Backlight adjustment	<b>PASS</b>
	edp-1366x768	<b>PASS</b>
	edp-1920x1080	<b>PASS</b>

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

## 6. Performance

Module	Test Steps	Result	Remark
<b>Benchmark</b>	apt install hardinfo cpu:benchmarks---cpu blowfish(eg:5.91s) 2D:benchmarks---gpu drawing(eg:5418) 3D:taskset -c 4-5 glmark2-es2	<b>PASS</b>	CPU: blowfish 5.89 2D: cpu drawing 1134.78 3D: hdmi only, glmark2 269

<b>lan</b>	throughput: pc: iperf3 -s ARM: iperf3 -c 192.168.1.1 -i 5 -d -t 180	<b>PASS</b>	0.00-180.00 sec 17.9 GBytes 852 Mbits/sec 0.00-180.00 sec 17.9 GBytes 852 Mbits/sec
	Packet Lost: pc: iperf3 -s ARM: iperf3 -c 192.168.1.1 -u -b 80M -t 43200 -l 60k	<b>PASS</b>	0.00-43200.00 sec 402 GBytes 80.0 Mbits/sec 0.197 ms 670/7029997 (0.0095%)
<b>eMMC</b>	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	<b>PASS</b>	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
<b>usb2.0</b>	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	<b>PASS</b>	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
<b>usb3.0</b>	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	<b>PASS</b>	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
<b>sata</b>	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	<b>PASS</b>	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
<b>BurnIn</b>	Run BurnIn.sh 4H	<b>PASS</b>	

**NOTE:Fix cpu/ddr/gpu to performance governor when test performance:**

**echo performance | tee \$(find /sys/ -name \*governor)**