



# **RSB-3710**

## **Release Note**

Released Version: DIV251013  
Released Date: 2021-04-15

**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.

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## 1. Hardware Information

CPU: RK3399

## 2. Software Information

Debian10

## 3. Release Version

Rev	Date	Description	Release by
DIV251013	2021-04-15	The first release	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	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 <a href="http://webglsamples.org">http://webglsamples.org</a>	PASS
	Check GPU clock cat /sys/class/devfreq/ff9a0000.gpu/cur_freq	PASS
VPU	Play video and check decoding mode	PASS
PMIC	1.8V/3.3V/5V voltage,reset,poweroff	N/A

<b>DEBUG UART</b>	config as normal uart port	<b>FAILED</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>I2C</b>	i2cdetect i2cget i2cset	<b>PASS</b>
<b>LAN</b>	RGMII	<b>PASS</b>
	USB	<b>PASS</b>
<b>UART</b>	ttyS0: rs232_loop /dev/ttyS0 /dev/ttyS1 115200 h 100	<b>PASS</b>
	ttyS4: rs232_loop /dev/ttyS0 /dev/ttyS1 115200 h 100	<b>PASS</b>
<b>USB2.0</b>	USB disk read/write cat /sys/bus/usb/devices/5-1/speed	<b>PASS</b>
	UVC camera preview/capture/video	<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>LVDS</b>	Backlight adjustment	<b>PASS</b>
	lvds-g070vw01	<b>PASS</b>
	lvds-g150xgel05	<b>N/A</b>
	lvds-g215hvn01	<b>N/A</b>
<b>eDP</b>	Backlight adjustment	<b>PASS</b>
	edp-1366x768	<b>PASS</b>
	edp-1920x1080	<b>PASS</b>

<b>RTC</b>	date 2021-03-01 17:11:22 hwclock -w	<b>PASS</b>
<b>Audio Codec</b>	play and record	<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/sleep by OS	<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>UIO</b>	UIO-4030	<b>PASS</b>
	UIO-4032	<b>PASS</b>
	UIO-4034	<b>PASS</b>
	UIO-4036	<b>PASS</b>
<b>tools</b>	mac_write	<b>PASS</b>
	RKDevTool	<b>PASS</b>
	SDDiskTool	<b>PASS</b>

## 6. Performance Test

Module	Test Steps	Result	Remark
<b>Benchmark</b>	apt install hardinfo/glmark2 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 5.78 2D: cpu drawing 5765.80 3D: hdmi only, glmark2 60
<b>lan</b>	throughput: pc: iperf3 -s ARM: iperf3 -c 172.21.171.106 -i 5 -t 180	<b>PASS</b>	[ 5] 0.00-180.00 sec 19.7 GBytes 941 Mbits/sec 206

			sender [ 5] 0.00-180.00 sec 19.7 GBytes 941 Mbits/sec receiver
	Packet Lost: pc: iperf3 -s ARM: iperf3 -c 172.21.171.106 -u -b 80M -t 43200 -l 60k	<b>PASS</b>	[ 5] 0.00-43200.00 sec 402 GBytes 80.0 Mbits/sec 0.000 ms 0/7031250 (0%) sender [ 5] 0.00-43200.00 sec 402 GBytes 80.0 Mbits/sec 0.136 ms 6/7031250 (8.5e-05%) receiver
<b>Lan2</b>	throughput: pc: iperf3 -s ARM: iperf3 -c 172.21.171.106 -i 5 -t 180	<b>PASS</b>	[ 5] 0.00-180.00 sec 4.29 GBytes 205 Mbits/sec 0 sender [ 5] 0.00-180.00 sec 4.29 GBytes 205 Mbits/sec receiver
	Packet Lost: pc: iperf3 -s ARM: iperf3 -c 172.21.171.106 -u -b 80M -t 43200 -l 60k	<b>PASS</b>	[ 5] 0.00-43200.00 sec 402 GBytes 80.0 Mbits/sec 0.000 ms 0/7031250 (0%) sender [ 5] 0.00-43200.00 sec 402 GBytes 80.0 Mbits/sec 0.029 ms 0/7031250 (0%) receiver
<b>SD</b>	read: dd if=/dev/mmcblk0p1 of=/dev/zero bs=1M count=4 conv=fsync write: dd if=/dev/zero of=/dev/mmcblk0p1 bs=1M count=4 conv=fsync	<b>PASS</b>	4194304 bytes (4.2 MB, 4.0 MiB) copied, 0.195891 s, 21.4 MB/s 4194304 bytes (4.2 MB, 4.0 MiB) copied, 0.456608 s, 9.2 MB/s

<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>	4194304 bytes (4.2 MB, 4.0 MiB) copied, 0.0295523 s, 142 MB/s 4194304 bytes (4.2 MB, 4.0 MiB) copied, 0.0513169 s, 81.7 MB/s
<b>usb2.0</b>	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	<b>PASS</b>	4194304 bytes (4.2 MB, 4.0 MiB) copied, 0.156817 s, 26.7 MB/s 4194304 bytes (4.2 MB, 4.0 MiB) copied, 0.290488 s, 14.4 MB/s
	UVC Camera Power on detect 200 times Preview 2 hours	<b>PASS</b>	
<b>usb3.0</b>	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	<b>PASS</b>	4194304 bytes (4.2 MB, 4.0 MiB) copied, 0.0551679 s, 76.0 MB/s 4194304 bytes (4.2 MB, 4.0 MiB) copied, 0.172236 s, 24.4 MB/s
<b>BurnIn</b>	Run BurnIn.sh 4H	<b>PASS</b>	