AV710-X3

SYSTEM TEST REPORT

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Test Report

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1. SYSTEM SPEC

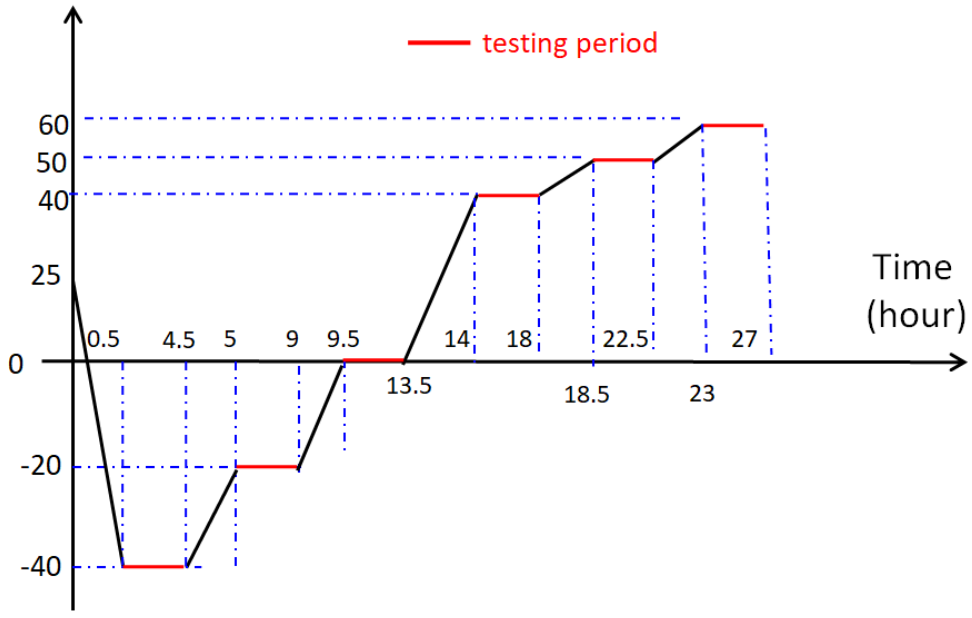
1-1. PRODUCT PHOTOS

1-2. SYSTEM COFIGURATION

System Configuration	
Motherboard	SK515
CPU	Xeon® D1577 1.3/2.1GHz 24MB, 45W (16C)
Memory	SAMSUNG 32GB DDR4 SODIMM*2
SSD	SATAIII SSD, Phison (7SLSSB960GMLEX-D2C-8) 960GB*2
GPU	NVIDIA RTX5000
X1	Intel® Ethernet Connection i210-LM
X2~X3	Intel® X710-BM2 Controller
X4	DVI-D
X5	COM

2. Test Plan

2-1. Thermal Measurement Process

Test Purpose	The purpose of performing thermal profile test is to identify potential thermal problem of the EUT. And it is to aid products in reliability assessment considering that semiconductor failure rates rise rapidly with increasing junction temperature In case of systems cooling, patterns will vary with stacking choices, temperature/thermal mapping can aid in the development of optimum tacking arrangements
Test Equipment	1. KSON THS-B4T-150 Chamber 2. YOKOGAWA MV1000, Thermometer (FLUKE50D K/J)
Quantity Tested	Minimum 1 Set
Test Software	Passmark Burn-In Test under Windows 10
Test Procecedure	1. Thermal pre-scan measurement: Temperature: -40~60℃/85%RH 2. Thermal actual measurement: a. Select the test points according to the IR photo and attach thermocouples to the hot points b. Put the EUT in thermal chamber and set the temperature profile of as test specification c. Turn on the thermal chamber and power on the EUT to enter windows environment to run Max Power Test + 3DMARK 2003 application program d. After the EUT executing the test software for 4 hours, record thermal maximum value for each thermocouples point. e. Turn off the thermal chamber and EUT f. Verify and check recorded figure of each components to its' operating temperature range listed in specification/approval sheet of each measured component
Test diagram of curves	

2-2. AV710-X3 TEST RESULT

TEST ITEM:

2-2.1 TEMPERATURE CYCLE

Burn-in test under each temperature with maximum quantity of external devices on all I/O connected and full loading status on each device

Test Temperature	Test Result
-40℃	PASS
-20℃	PASS
0℃	PASS
40℃	PASS
50℃	PASS
60℃	PASS

2-2.2 I/O FUNCTION

#Confirm the system specifications and I/O connection to ensure that they are functioning properly

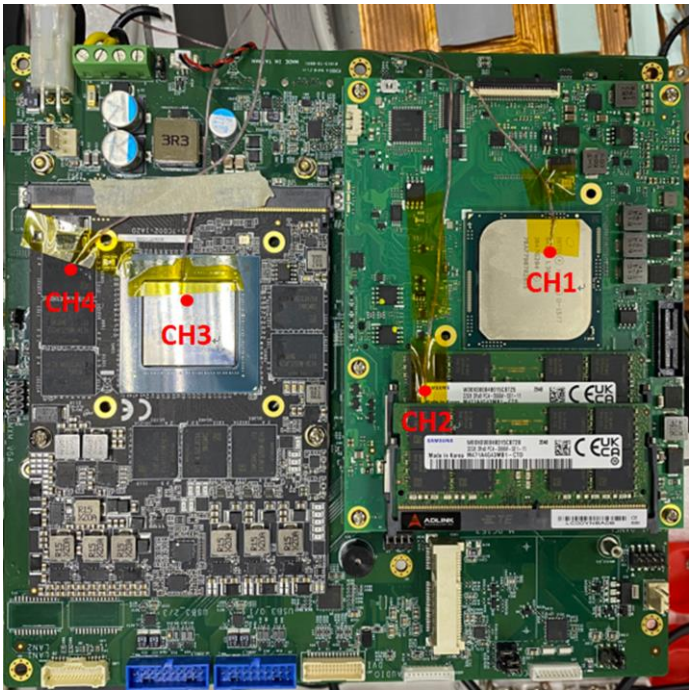
Item	Criteria	Result
X1	LAN	PASS
X2~X3	LAN.	PASS
X4	DVI	PASS
X5	COM	PASS

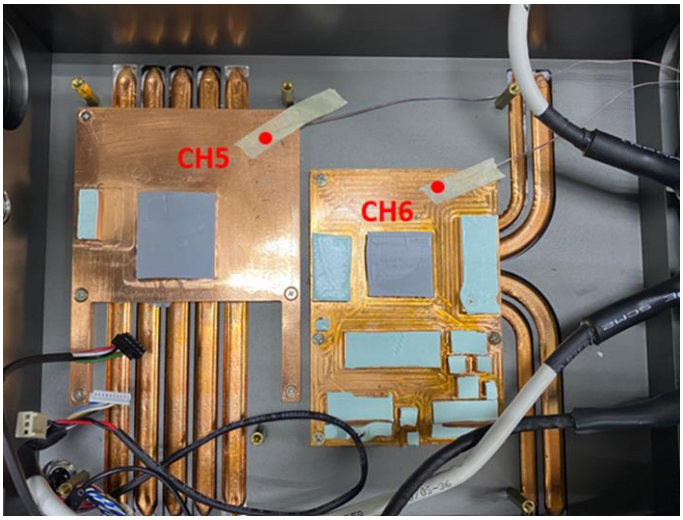
2-2.3 LOW-TEMP. BOOT-UP

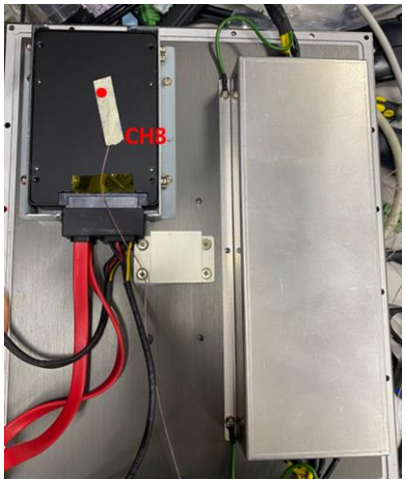
#Power supply under -40℃ and ensure that the system boot up properly

Ambient Temp.	Test Result
-40℃	PASS

3. Thermal Test Point



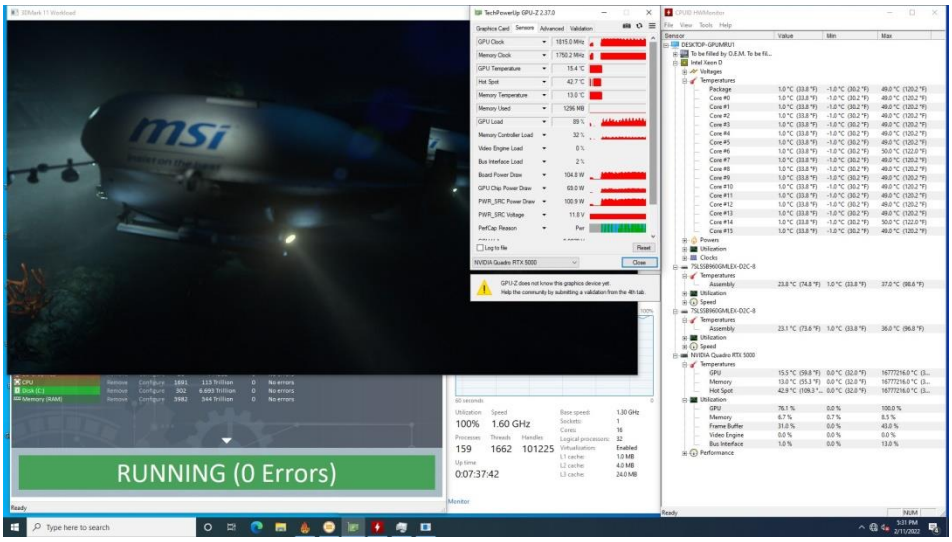




TEST POINT NO.	Test Point
1	CPU
2	DRAM
3	GPU
4	GPU RAM
5	CPU Heatsink
6	GPU Heatsink
7	Power(SK502)
8	SSD

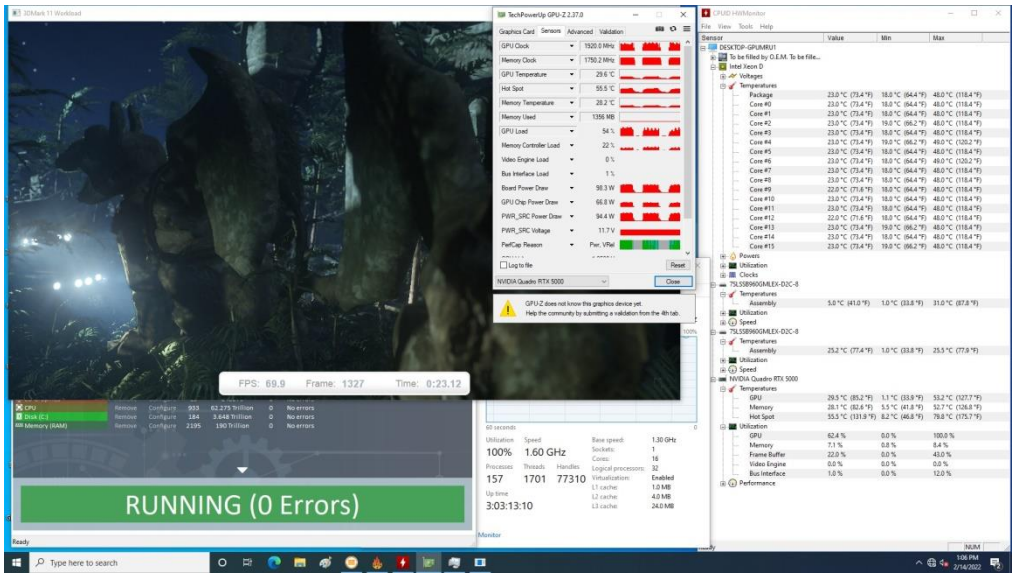
4. Test Photo in LAB

- Chamber in -40℃



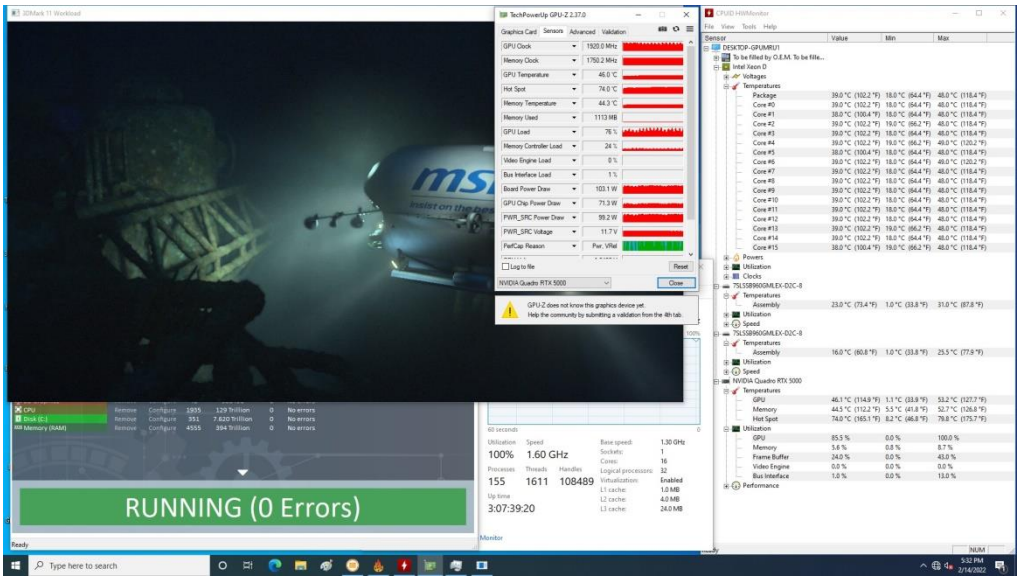
Test Point / Ambient Temp	-40° C
CPU	-14.6
DRAM	19.5
GPU	-9
GPU RAM	-17.5
CPU Heatsink	27.1
GPU Heatsink	22.9
Power(SK502)	-21.4
SSD	-22.1

- Chamber in -20℃



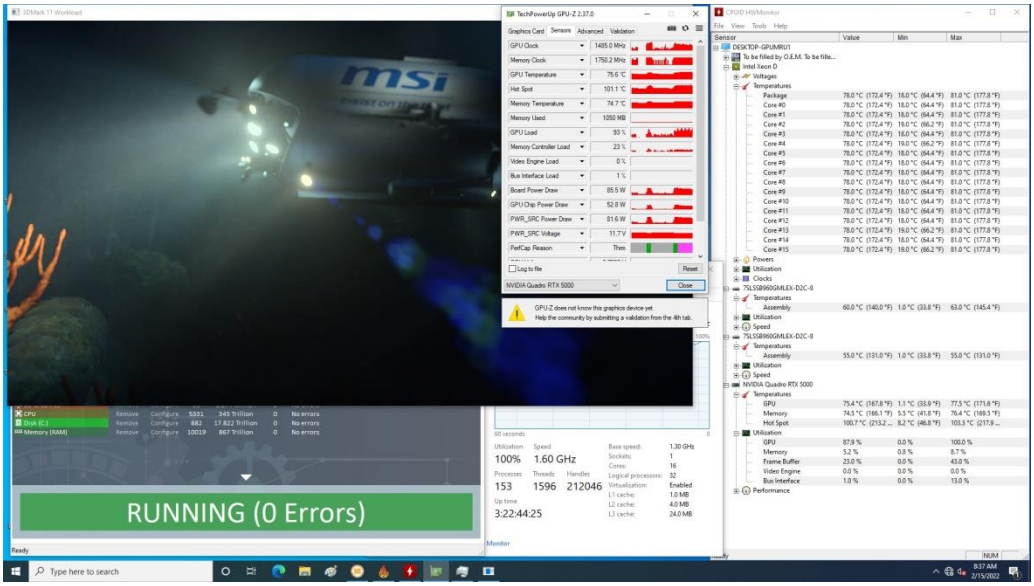
Test Point / Ambient Temp	-20° C
CPU	5.8
DRAM	39.5
GPU	0.2
GPU RAM	-2.8
CPU Heatsink	-5.9
GPU Heatsink	-4.3
Power(SK502)	0.1
SSD	-5.6

- Chamber in 0℃



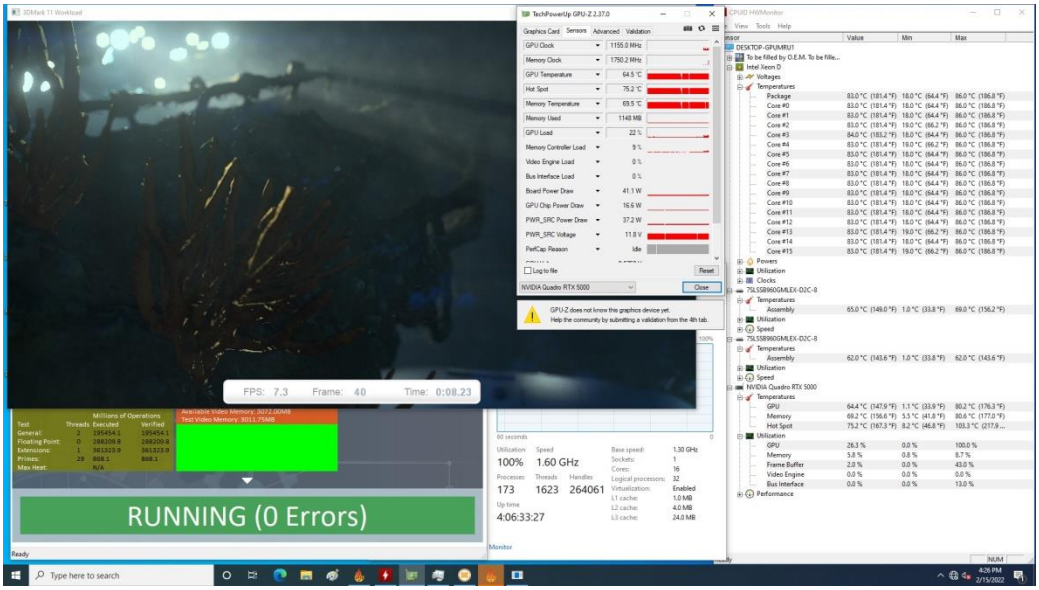
Test Point / Ambient Temp	0° C
CPU	22.8
DRAM	56.8
GPU	29.5
GPU RAM	18.1
CPU Heatsink	12.8
GPU Heatsink	14.8
Power(SK502)	19.7
SSD	10.8

- Chamber in 40℃



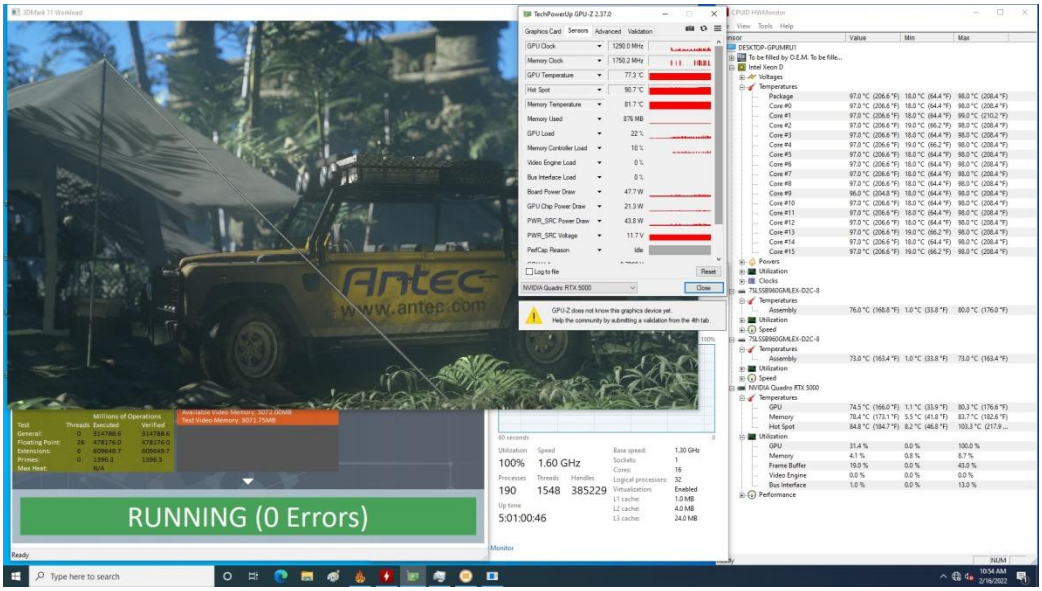
Test Point / Ambient Temp	40° C
CPU	63.2
DRAM	93.2
GPU	68.5
GPU RAM	58.3
CPU Heatsink	51.7
GPU Heatsink	54.3
Power(SK502)	59.7
SSD	56

- Chamber in 50℃



Test Point / Ambient Temp	50° C
CPU	71.1
DRAM	97.5
GPU	63.1
GPU RAM	59.6
CPU Heatsink	60.4
GPU Heatsink	58.7
Power(SK502)	66.1
SSD	60.5

- Chamber in 60℃



Test Point / Ambient Temp	60° C
CPU	81.9
DRAM	99
GPU	74.6
GPU RAM	70.6
CPU Heatsink	71.1
GPU Heatsink	69.6
Power(SK502)	78.1
SSD	74.4

Low Temperature SYSTEM Boot up Test

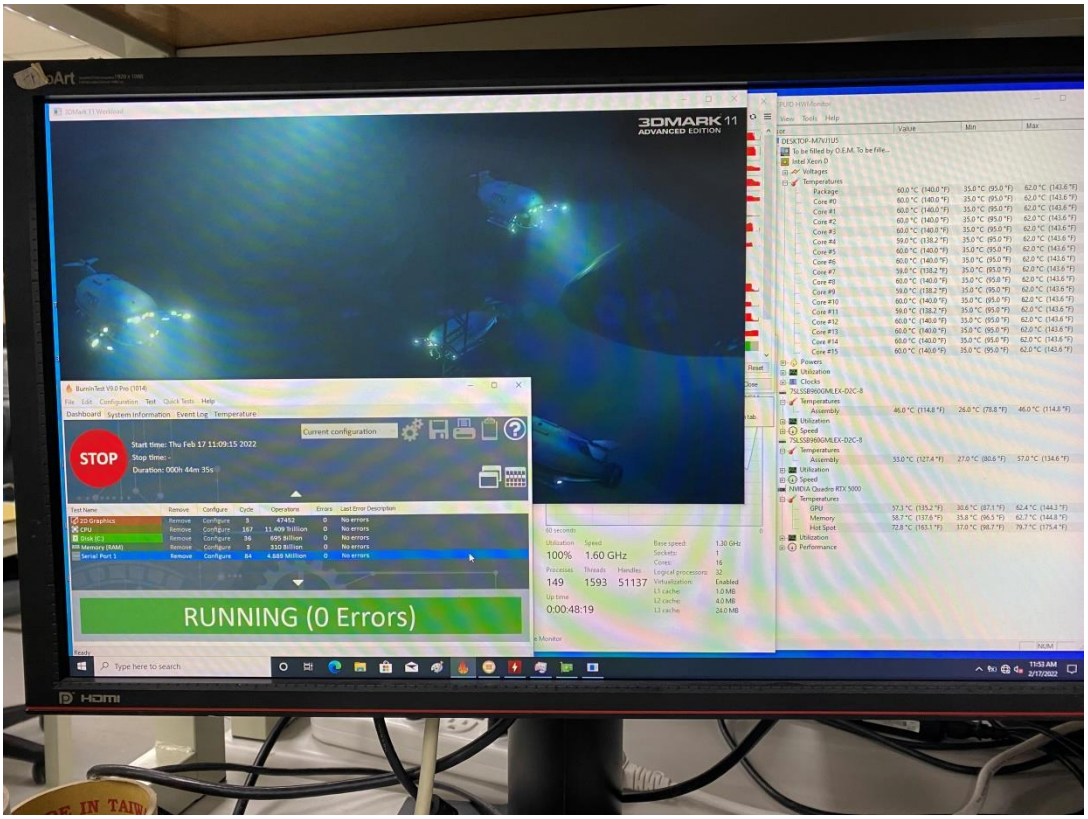
- Ambient Temp. -40℃

5. AV710-X3 THERMAL TEST RESULT (40~60 DEGREE)

TEST POINT NO.	Ambient Temp. / Test Point	-40° C	-20° C	0° C	40° C	50° C	60° C
1	**CPU**	-14.6	5.8	22.8	63.2	71.1	81.9
2	**DRAM**	19.5	39.5	56.8	93.2	97.5	99
3	**GPU**	-9	0.2	29.5	68.5	63.1	74.6
4	**GPU RAM**	-17.5	-2.8	18.1	58.3	59.6	70.6
5	**CPU Heatsink**	27.1	-5.9	12.8	51.7	60.4	71.1
6	**GPU Heatsink**	22.9	-4.3	14.8	54.3	58.7	69.6
7	**SK502**	-21.4	0.1	19.7	59.7	66.1	78.1
8	**SSD**	-22.1	-5.6	10.8	56	60.5	74.4
	CPU TJ	1	23	39	75	83	97
	CPU FRQ	1.6GHz	1.6GHz	1.6GHz	1.6GHz	1.6GHz	1.6GHz
	GPU TJ	15.5	29.5	46.1	70.4	64.4	74.5
	GPU (MHZ)	1815MHz	1920MHz	1920MHz	1575MHz	1155MHz	1290MHz

6. I/O FUNCTION TEST

(1) COM TEST



(2) LAN TEST