



Performance Test Report

NV200-2LGS16

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Performance Test

NV200-2LGS16



INDEX

1. SPECIFICATION.....	3
1-1. SYSTEM CONFIGURATION.....	3
1-2. PRODUCT INTERIOR PHOTOS.....	4
2. TEST PLAN	5
2-1. THERMAL MEASUREMENT PROCESS	5
2-2. TEST RESULT.....	6
2-2-1. Temperature Cycle.....	6
2-2-2. I/O Function	7
2-2-3. LOW-TEMPERATURE & BOOT-UP.....	8
3. TEST PHOTO IN LAB.....	9
3-1. THERMOCOUPLE PLACEMENT	9
3-2. ENVIRONMENTAL TEMPERATURE TEST	10
4. THERMAL TEST RESULT(-25°C ~ +60°C).....	16
5. I/O FUNCTION TEST	19
5-1. LAN (1GBPS)	19
5-2. HDMI.....	21
5-3. SERIAL PORT (RS232/RS422/485/CANBus)	22
5-4. GMSL CAMERA	25
5-5. SDI CAMERA	26

1. SPECIFICATION

1-1. SYSTEM CONFIGURATION

Motherboard	Orin NX 16GB for DSBOARD-ORNX Board Serial Number: 1422424333981 BIOS Firmware Version: 36.3.0-gcid-36191598
CPU	Product: ARMv8 Vendor: NVIDIA Model name: Cortex-A78AE CPU max (MHz): 1984.0 CPU min (MHz): 115.2
Memory	ONX 16GB (2x 8GB) memory with 128bit LPDDR5 DRAM
Storage	M.2 NVMe SSD product: SP010TIMEM3M5EV0 Flash Technology: 3D TLC Size: 1TB Operating Temp. (Standard): -20°C~75°C
GMSL	GMSL Multimedia controller Module
SDI	SDI Multimedia controller Module

1-2. PRODUCT INTERIOR PHOTOS



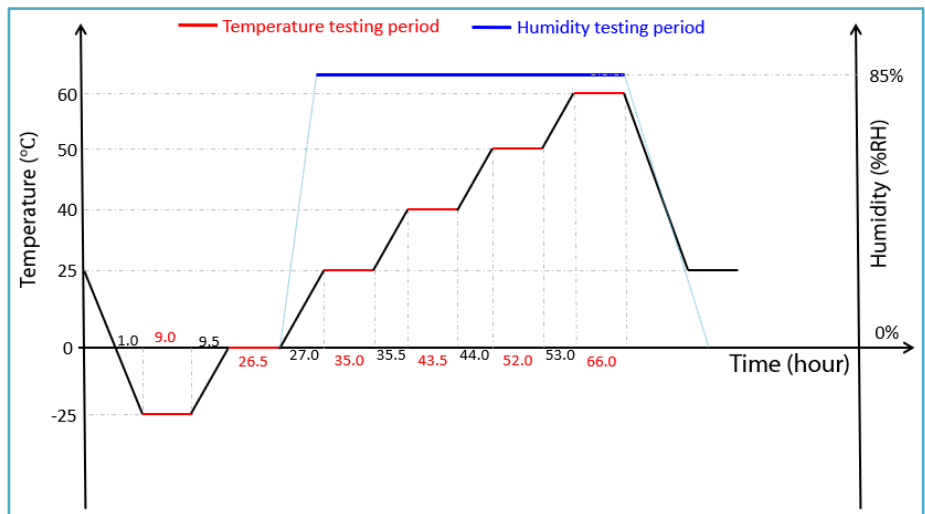
2. TEST PLAN

2-1. THERMAL MEASUREMENT PROCESS

Test Purpose	The purpose of performing thermal profile testing is to identify potential thermal issues with the EUT. Considering that semiconductor failure rates rise rapidly with increasing junction temperature, it can aid product reliability assessment. As the system cools down, the mode will change with stack selection, temperature/heat. Mapping can help develop the best tracking arrangements.
Test Equipment	1. KSON THS-B4T-150 Chamber.
Quantity Tested	Minimum 1 Set
Test Software	1. Stress CPU: Stress-ng 2. Stress GPU: glmark2 3. LAN Speed: iPerf3
Test Procedure	<ol style="list-style-type: none"> Thermal pre-scan measurement: Temperature: -25°C ~60°C Humidity: 85%RH Actual thermal measurement: <ol style="list-style-type: none"> Select the test point based on the infrared photo and connect the thermocouple to the hot spot. Place the EUT into the hot chamber and set the test temperature curve Specification. Open the hot cell and power up the EUT, enter the Ubuntu 22.04.4 LTS and perform a maximum power test + stress application. After the EUT executes the test software for 8 hours, record the maximum heat generation of each thermocouple point. Turn off the hot cell and EUT. Verify and check that the recorded information for each component complies with the operating temperature range listed in the specification/approval sheet for each component being tested. For the Operating system software compatibility testing: <ol style="list-style-type: none"> open the thermal chamber and power on the device under test. Enter the Ubuntu 24.02 LTS environment and perform the maximum power test and stress test.

Environment defines for 66 hours.

Test Diagram of Curves



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NV200-2LGS16

2-2. TEST RESULT

2-2-1. Temperature Cycle

Aging test of various parts at different temperatures under maximum load and full load conditions.

Test Temperature	Test Result
-25°C	PASS
0°C	PASS
25°C / 85%RH	PASS
40°C / 85%RH	PASS
50°C / 85%RH	PASS
60°C / 85%RH	PASS

Performance Test

NV200-2LGS16

2-2-2. I/O Function

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

Item	Test Criteria	Result
LAN Port (1Gbps)	Connecting to a LAN switch/hub for data transmission test works properly.	PASS
LAN Port (1Gbps)	Connecting to a LAN switch/hub for data transmission test works properly.	PASS
Serial Port (RS232)	The two devices RS232 are connected to each other, and the data transmission test shows no loss, functioning properly.	PASS
Serial Port (RS422/485)	The two devices RS422/485 are connected to each other, and the data transmission test shows no loss, functioning properly.	PASS
CANBus	The two devices' CAN Bus are connected to each other, and the data transmission test shows no loss, functioning properly.	PASS
Type-C	Connect Loopback Plugs for testing, it can work normally.	PASS
Type-C	Connect Loopback Plugs for testing, it can work normally.	PASS
HDMI	Check work well. (Resolution:1920 x 1080)	PASS
SDI	Connecting the SDI camera will display the captured objects on the monitor, indicating that the SDI function is working properly.	PASS
GMSL	Connecting the GMSL camera will display the captured objects on the monitor, indicating that the GMSL function is working properly.	PASS

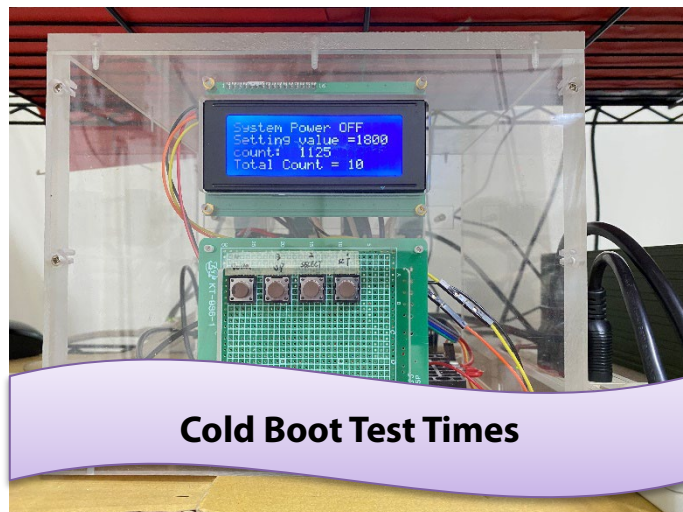
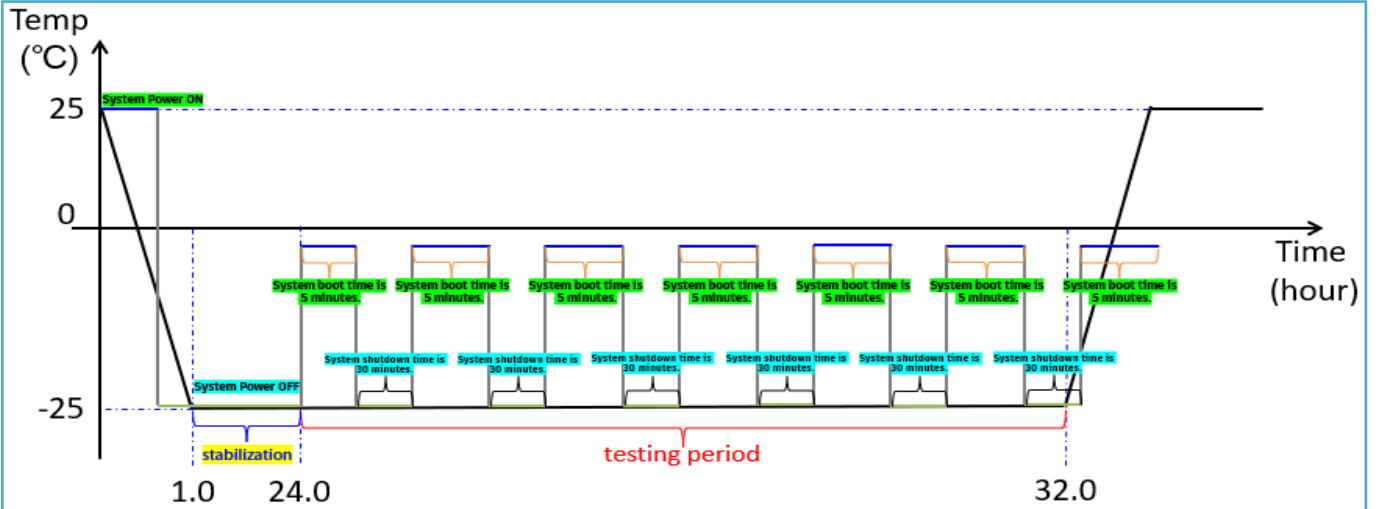
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NV200-2LGS16

2-2-3. Low-temperature & Boot-up

#Power supply under -25°C and ensure that the system boot up properly

Ambient Temp.	Cold Boot Test Times	Test Result
-25°C	10 times	PASS

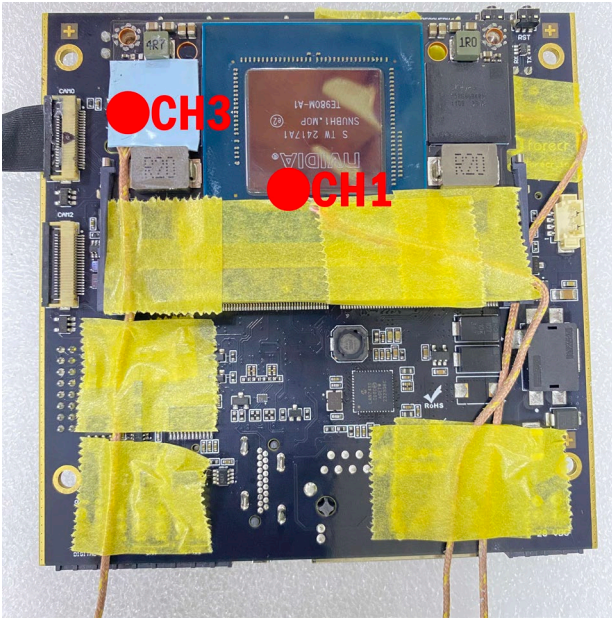


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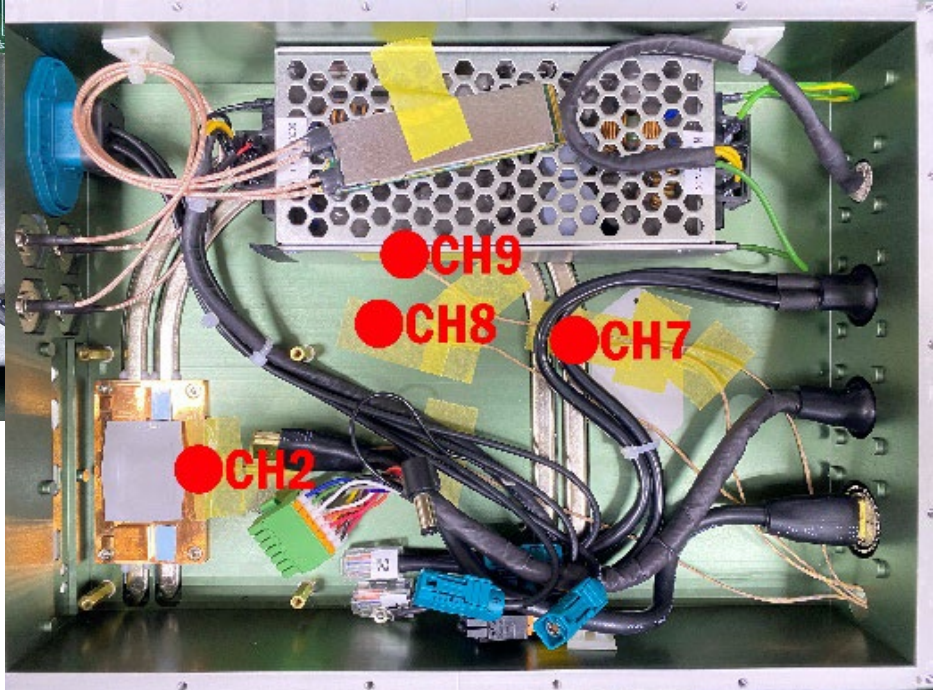
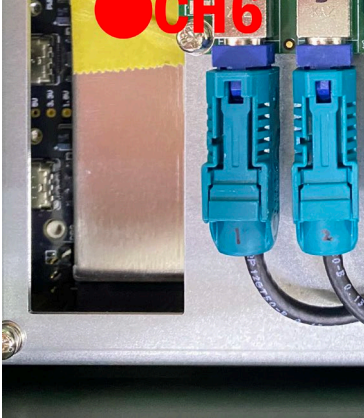
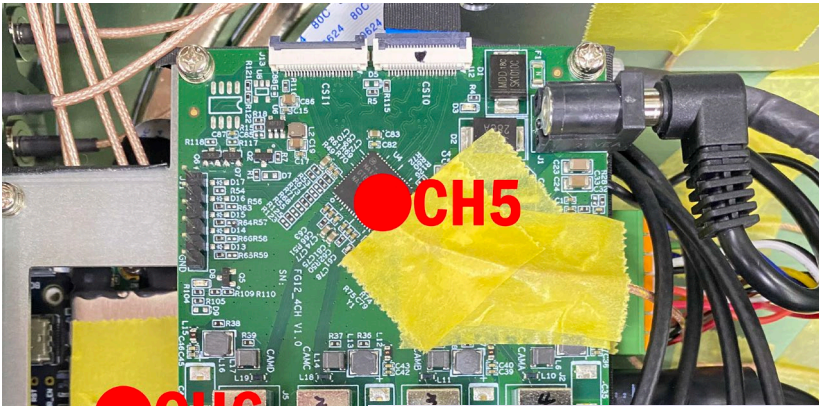
NV200-2LGS16

3. TEST PHOTO IN LAB

3-1. Thermocouple Placement



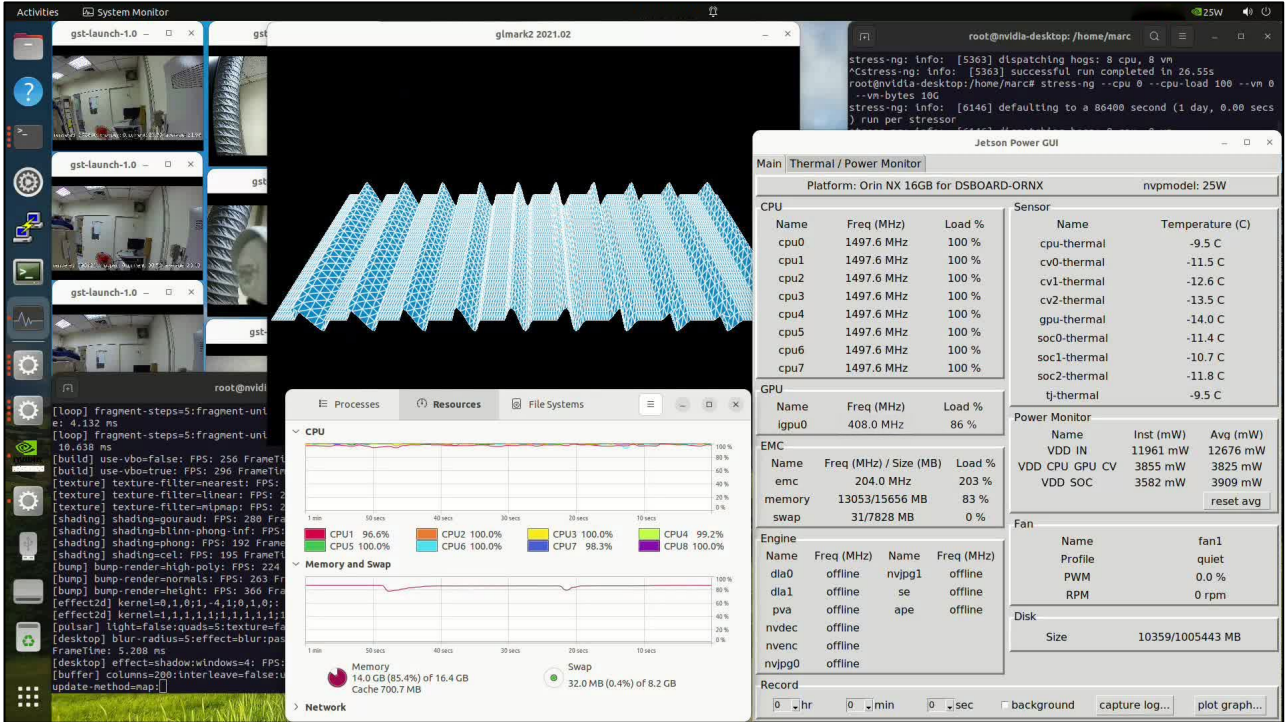
OVERVIEW							
EVENT 1hour							
1	CPU	7	Heat PIPE	13	19	-Over	-Over
2	CPU HS	8	Heat Sink	14	20	-Over	-Over
3	DRAM	9	Power Module	15	21	-Over	-Over
4	M.2 SSD	10	-Over	16	22	-Over	-Over
5	GMSL Capture Card	11	-Over	17	23	-Over	-Over
6	SDI Capture Card	12	-Over	18	24	-Over	-Over



Performance Test NV200-2LGS16

3-2. ENVIRONMENTAL TEMPERATURE TEST

- Chamber in -25°C

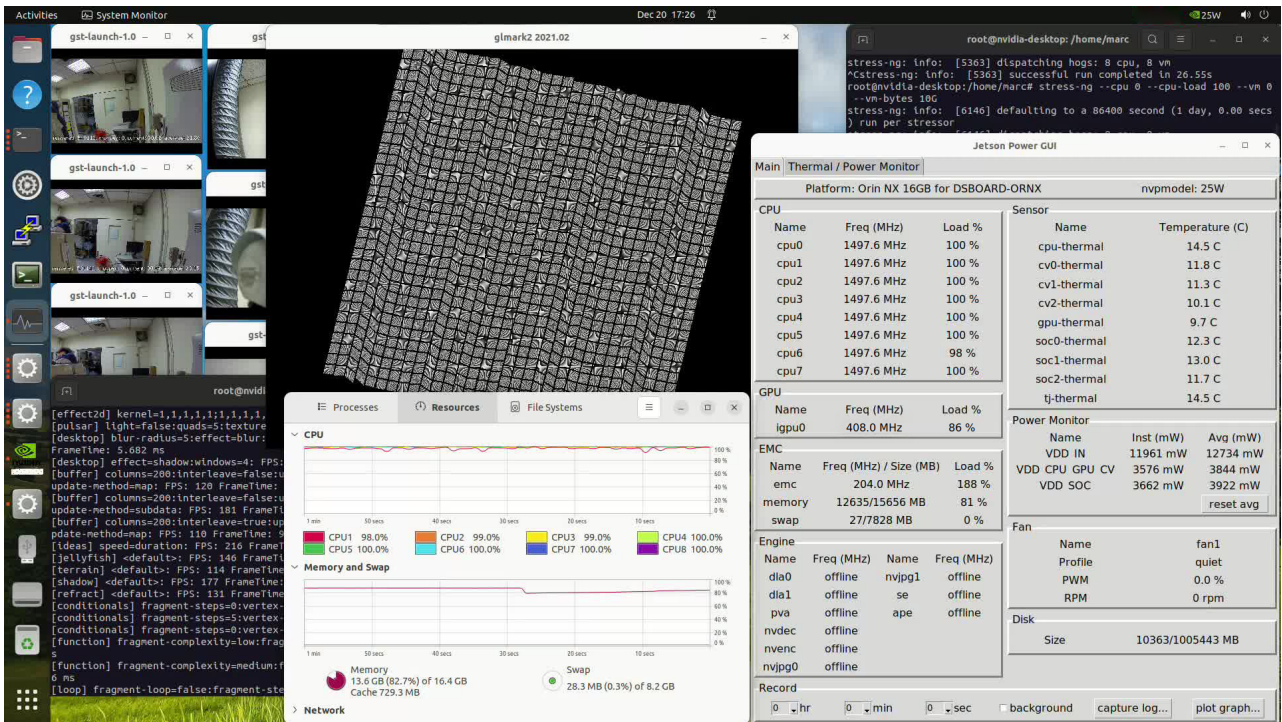


Measuring Point	Ambient Temp.	-25°C
	CPU Cores Max Temperature	-9.5 °C
	CPU Cores Frequency (Unit: MHz)	1497.60 MHz
	GPU Temperature	-14.0 °C
	GPU Frequency (Unit: MHz)	408.0 MHz
CH1	CPU	-18.7 °C
CH2	CPU Heat Sink	-19.8 °C
CH3	DRAM	-19.1 °C
CH4	M.2 SSD	-15.8 °C
CH5	GMSL Capture Card	5.5 °C
CH6	SDI Capture Card	-18.7 °C
CH7	Heat PIPE	-22.3 °C
CH8	Heat Sink	-21.8 °C
CH9	Power Module	-20.7 °C



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- Chamber in 0°C



OVERVIEW					
2024/12/20 17:23:24					
1	5.2	7	3.2	13	19
2	4.6	8	3.3	14	20
3	5.0	9	4.3	15	21
4	8.3	10	-0ver	16	22
5	30.9	11	-0ver	17	23
6	6.3	12	-0ver	18	24

Measuring Point	Ambient Temp.	0°C
	CPU Cores Max Temperature	14.5 °C
	CPU Cores Frequency (Unit: MHz)	1497.60 MHz
	GPU Temperature	9.7 °C
	GPU Frequency (Unit: MHz)	408.0 MHz
CH1	CPU	5.2 °C
CH2	CPU Heat Sink	4.6 °C
CH3	DRAM	5.0 °C
CH4	M.2 SSD	8.3 °C
CH5	GMSL Capture Card	30.9 °C
CH6	SDI Capture Card	6.3 °C
CH7	Heat PIPE	3.2 °C
CH8	Heat Sink	3.3 °C
CH9	Power Module	4.3 °C



Performance Test NV200-2LGS16

- Chamber in 25°C

The screenshot shows a Linux desktop with the following components:

- Terminal:** Running stress-ng tests. Output includes:


```
stress-ng: info: [3425] dispatching hogs: 8 cpu, 8 vm
      stress-ng: info: [3425] successful run completed in 29591.62s (8 hours, 13 min, 11.62 secs)
      stress-ng: info: [180944] defaulting to a 86400 second (1 day, 0.00 secs) run p
```
- Jetson Power GUI:**
 - Platform:** Orin NX 16GB for DSBOARD-ORNX, nvpmode: 25W
 - CPU:** All 8 cores (cpu0-cpu7) at 1497.6 MHz and 100% load.
 - GPU:** lgpu0 at 408.0 MHz and 86% load.
 - EMC:** emc at 204.0 MHz and 261% load; memory at 13745/15656 MB (88%); swap at 613/7828 MB (8%).
 - Sensors:**
 - cpu-thermal: 39.7 C
 - cv0-thermal: 36.8 C
 - cv1-thermal: 36.2 C
 - cv2-thermal: 35.2 C
 - gpu-thermal: 35.0 C
 - soc0-thermal: 37.2 C
 - soc1-thermal: 38.6 C
 - soc2-thermal: 36.9 C
 - tj-thermal: 39.7 C
 - Power Monitor:**
 - VDD IN: 12679 mW
 - VDD CPU GPU CV: 3775 mW
 - VDD SOC: 3702 mW
 - Fan:** fan1, Profile: quiet, PWM: 100.0%, RPM: 0 rpm.
 - Disk:** Size: 10360/1005443 MB.
- Resources:** CPU usage graph showing 100% for all cores. Memory usage: 14.5 GB (88.6% of 16.4 GB). Swap: 643.0 MB (7.8% of 8.2 GB).

OVERVIEW				
2024/12/24 09:02:44				
1	7	13	19	
30.1	28.7	-0ver	-0ver	
2	8	14	20	
29.5	28.7	-0ver	-0ver	
3	9	15	21	
30.1	29.5	-0ver	-0ver	
4	10	16	22	
33.3	-0ver	-0ver	-0ver	
5	11	17	23	
55.4	-0ver	-0ver	-0ver	
6	12	18	24	
31.4	-0ver	-0ver	-0ver	

Measuring Point	Ambient Temp.	25°C
	CPU Cores Max Temperature	39.7 °C
	CPU Cores Frequency (Unit: MHz)	1497.6 MHz
	GPU Temperature	35.0 °C
	GPU Frequency (Unit: MHz)	408.0 MHz
CH1	CPU	30.1 °C
CH2	CPU Heat Sink	29.5 °C
CH3	DRAM	30.1 °C
CH4	M.2 SSD	33.3 °C
CH5	GMSL Capture Card	55.4 °C
CH6	SDI Capture Card	31.4 °C
CH7	Heat PIPE	28.7 °C
CH8	Heat Sink	28.7 °C
CH9	Power Module	29.5 °C



Performance Test NV200-2LGS16

- Chamber in 40°C

The screenshot displays a Linux desktop with several windows open. A terminal window shows the execution of stress-ng, indicating a successful run. The 'Jetson Power GUI' window provides a detailed overview of the system's thermal and power status, including CPU and GPU temperatures, frequencies, and power consumption. The 'Resources' window shows real-time performance graphs for CPU, memory, and swap usage.

OVERVIEW				
2024/12/25 09:50:35				
1	44.9	43.3	-Over	19
2	44.3	43.3	-Over	20
3	44.6	44.2	-Over	21
4	48.0	-Over	-Over	22
5	78.2	-Over	-Over	23
6	46.4	-Over	-Over	24

Measuring Point	Ambient Temp.	40°C
	CPU Cores Max Temperature	54.4 °C
	CPU Cores Frequency (Unit: MHz)	1497.6 MHz
	GPU Temperature	49.4 °C
	GPU Frequency (Unit: MHz)	408.0 MHz
CH1	CPU	44.9 °C
CH2	CPU Heat Sink	44.3 °C
CH3	DRAM	44.6 °C
CH4	M.2 SSD	48.0 °C
CH5	GMSL Capture Card	70.2 °C
CH6	SDI Capture Card	46.4 °C
CH7	Heat PIPE	43.3 °C
CH8	Heat Sink	43.3 °C
CH9	Power Module	44.2 °C



Performance Test NV200-2LGS16

- Chamber in 50°C

The screenshot shows a Linux desktop with the following components:

- Terminal:** Running stress-ng tests. Output includes:


```
stress-ng: Info: [180944] dispatching hogs: 8 cpu, 8 vm
stress-ng: Info: [180944] successful run completed in 79674.86s (22 hours, 7 mins, 54.86 secs)
root@nvidia-desktop:/home/marc# stress-ng --cpu 0 --cpu-load 100 --vm 0 --vm-bytes 12G -t 400000
stress-ng: Info: [656357] setting to a 400000 second (4 days, 15 hours, 6 mins,
```
- Jetson Power GUI:**
 - Platform:** Orin NX 16GB for DSBOARD-ORNX, nvpmode: 25W
 - CPU:** All 8 cores (cpu0-cpu7) at 1497.6 MHz, 100% load.
 - GPU:** igpu0 at 408.0 MHz, 86% load.
 - Sensors:** Temperatures range from 64.7°C (cpu-thermal) to 64.7°C (tj-thermal).
 - Power Monitor:** VDD IN: 13136 mW, VDD CPU: 3888 mW, VDD GPU: 3940 mW, VDD SOC: 3702 mW.
 - Fan:** fan1 profile is 'quiet' at 0 rpm.
- Resources:** CPU usage graph showing 95.2% for CPU1, 98.1% for CPU2, 99.0% for CPU3, 100.0% for CPU4, 99.0% for CPU5, 99.0% for CPU6, 99.0% for CPU7, and 99.0% for CPU8. Memory usage is 15.6 GB (95.1%) of 16.4 GB.

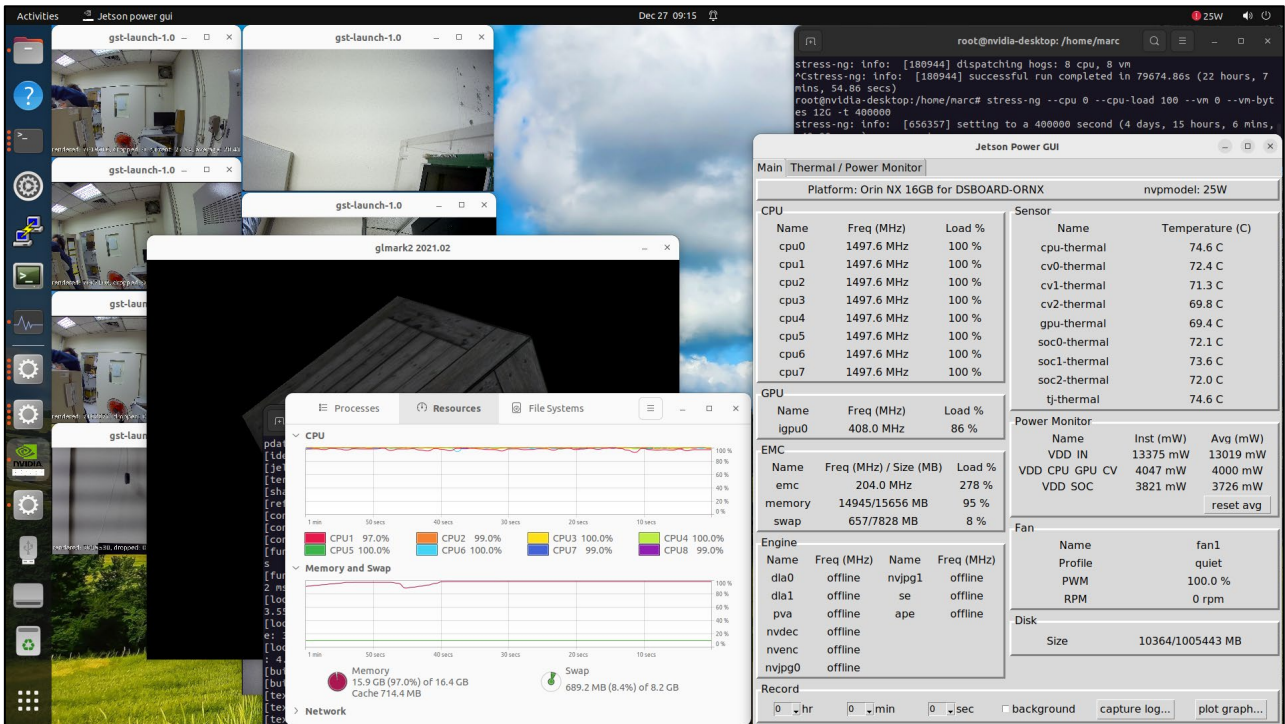
OVERVIEW				
2024/12/26 09:07:04				
1	55.2	7	53.4	13
2	54.4	8	53.4	14
3	54.7	9	54.2	15
4	58.3	10	-Over	16
5	80.4	11	-Over	17
6	56.5	12	-Over	18
				19
				20
				21
				22
				23
				24
				-Over
				-Over

Measuring Point	Ambient Temp.	50°C
	CPU Cores Max Temperature	64.7 °C
	CPU Cores Frequency (Unit: MHz)	1497.6 MHz
	GPU Temperature	59.8 °C
	GPU Frequency (Unit: MHz)	408.0 MHz
CH1	CPU	55.2 °C
CH2	CPU Heat Sink	54.4 °C
CH3	DRAM	54.7 °C
CH4	M.2 SSD	58.3 °C
CH5	GMSL Capture Card	80.4 °C
CH6	SDI Capture Card	56.5 °C
CH7	Heat PIPE	53.4 °C
CH8	Heat Sink	53.4 °C
CH9	Power Module	54.2 °C



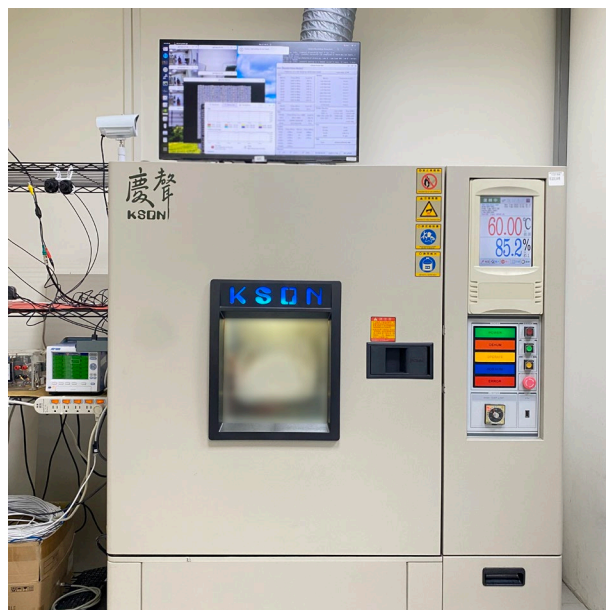
Performance Test NV200-2LGS16

- Chamber in 60°C



OVERVIEW				
2024/12/27 09:04:13				
1	65.3	7	63.7	13
2	64.6	8	63.5	14
3	64.9	9	64.5	15
4	68.6	10	-Over	16
5	91.1	11	-Over	17
6	66.8	12	-Over	18
				19
				20
				21
				22
				23
				24

Measuring Point	Ambient Temp.	60°C
	CPU Cores Max Temperature	74.6 °C
	CPU Cores Frequency (Unit: MHz)	1497.6 MHz
	GPU Temperature	69.4 °C
	GPU Frequency (Unit: MHz)	408.0 MHz
CH1	CPU	65.3 °C
CH2	CPU Heat Sink	64.6 °C
CH3	DRAM	64.9 °C
CH4	M.2 SSD	68.6 °C
CH5	GMSL Capture Card	91.1 °C
CH6	SDI Capture Card	66.8 °C
CH7	Heat PIPE	63.7 °C
CH8	Heat Sink	63.6 °C
CH9	Power Module	64.5 °C



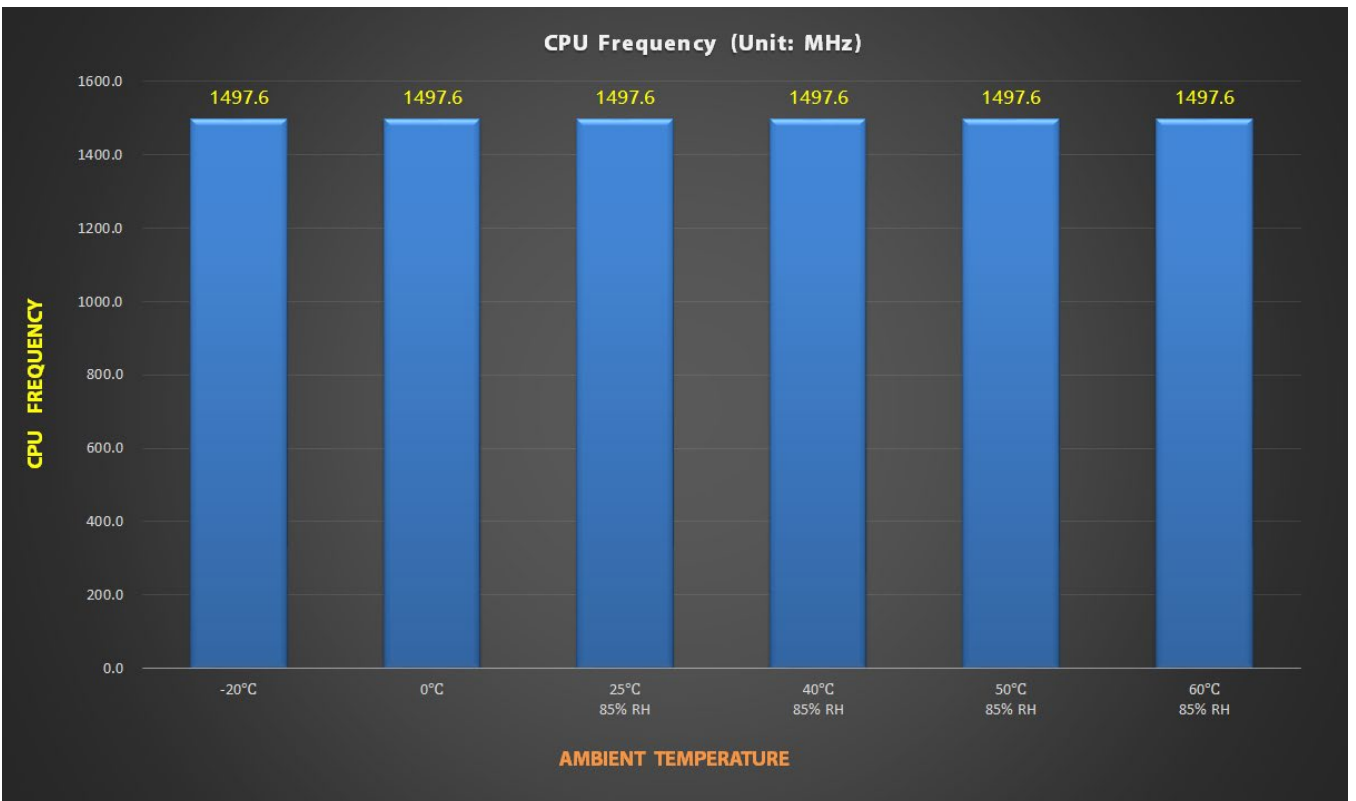
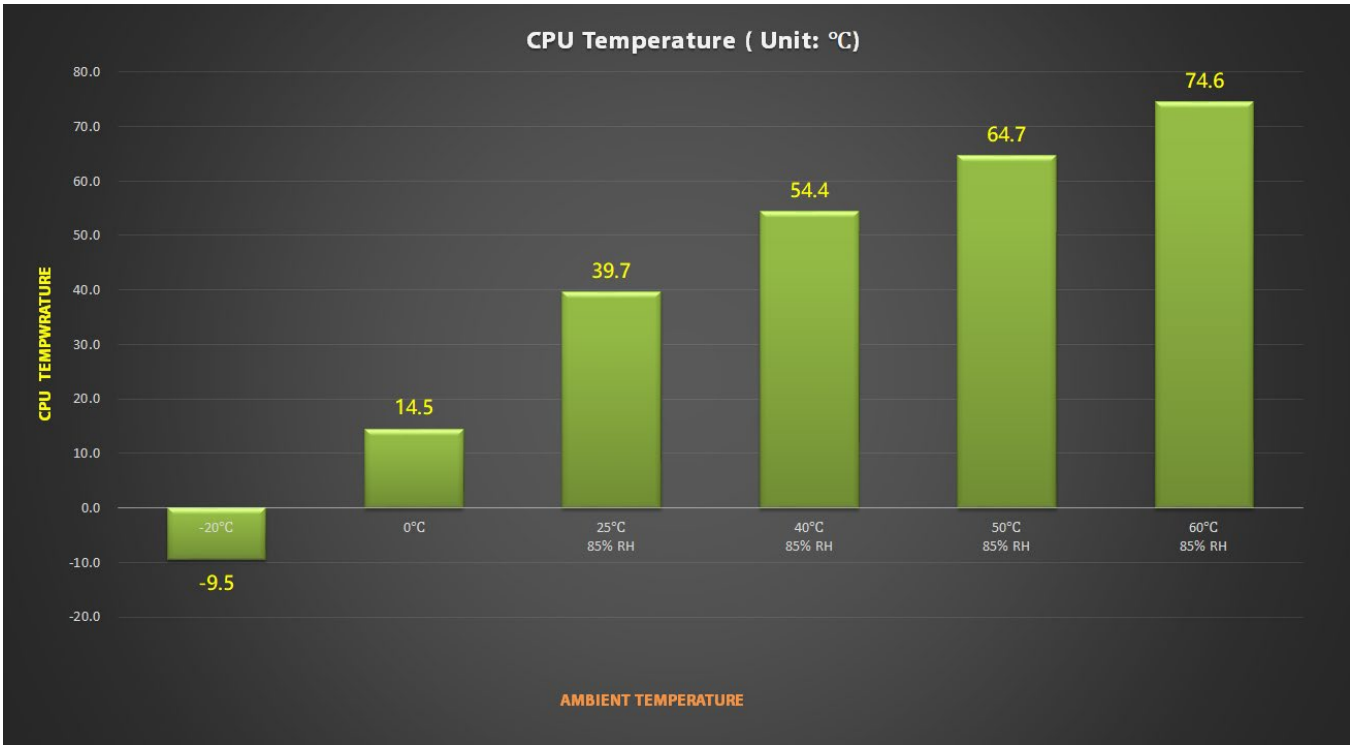
4. THERMAL TEST RESULT(-25°C ~ +60°C)

Temperature & Frequency / Thermocouple Measurements

Temperature / Frequency		Ambient Temp.	-25°C	0°C	25°C 85% RH	40°C 85% RH	50°C 85% RH	60°C 85% RH
CPU Cores Max Temperature (Unit: °C)			-9.5	14.5	39.7	54.4	64.7	74.6
CPU Cores Frequency (Unit: MHz)			1497.6	1497.6	1497.6	1497.6	1497.6	1497.6
Temperature / Frequency		Ambient Temp.	-25°C	0°C	25°C 85% RH	40°C 85% RH	50°C 85% RH	60°C 85% RH
GPU Temperature (Unit: °C)			-14.0	9.7	35.0	49.4	59.8	69.4
GPU Frequency (Unit: MHz)			408.0	408.0	408.0	408.0	408.0	408.0
Thermocouple measuring point		Ambient Temp.	-25°C	0°C	25°C 85% RH	40°C 85% RH	50°C 85% RH	60°C 85% RH
CH1	CPU		-18.7	5.2	30.1	44.9	55.2	65.3
CH2	CPU Heat Sink		-19.8	4.6	29.5	44.3	54.4	64.6
CH3	DRAM		-19.1	5.0	30.1	44.6	54.7	64.9
CH4	M.2 SSD		-15.8	8.3	33.3	48.0	58.3	68.6
CH5	GMSL Capture Card		5.5	30.9	55.4	70.2	80.4	91.1
CH6	SDI Capture Card		-18.7	6.3	31.4	46.4	56.5	66.8
CH7	Heat PIPE		-22.3	3.2	28.7	43.3	53.4	63.7
CH8	Heat Sink		-21.8	3.3	28.7	43.3	53.4	63.6
CH9	Power Module		-20.7	4.3	29.5	44.2	54.2	64.5

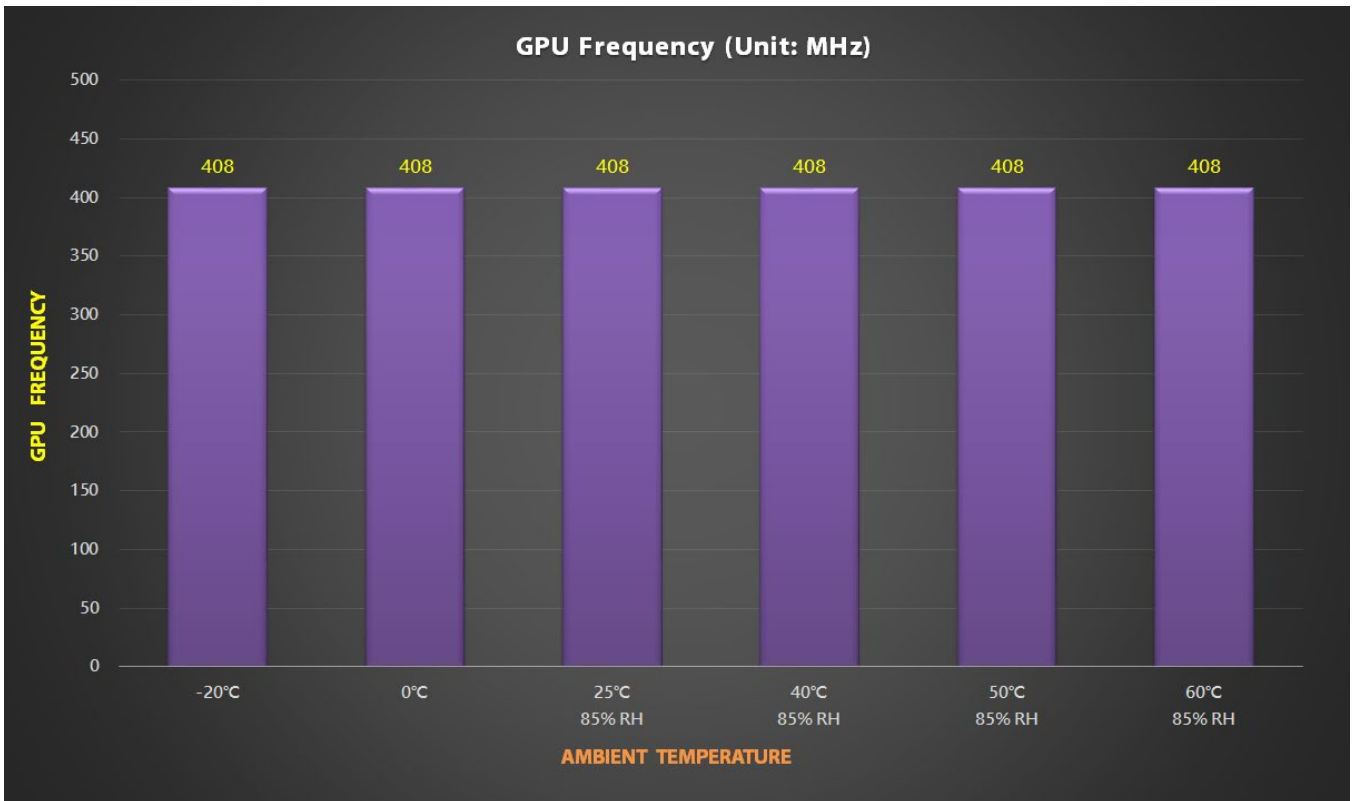
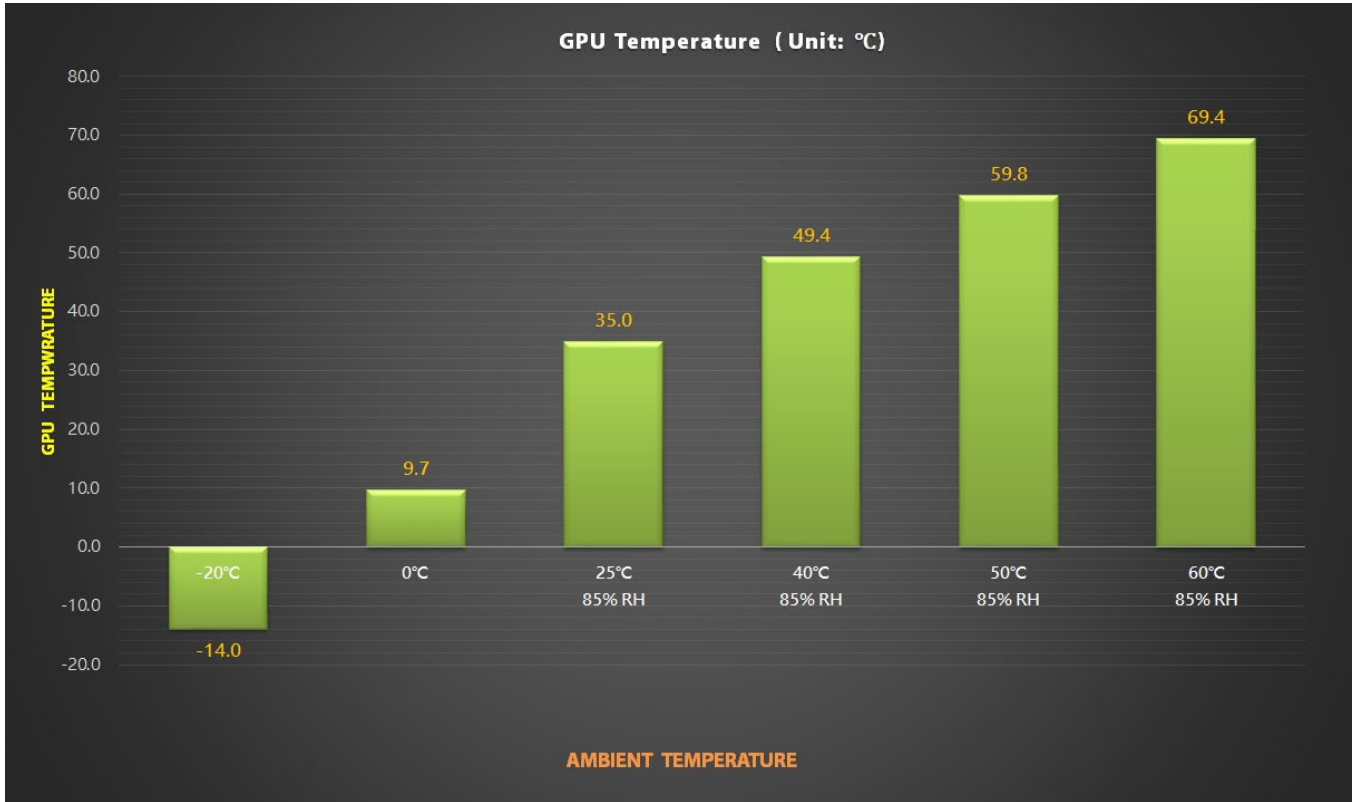
Performance Test

NV200-2LGS16



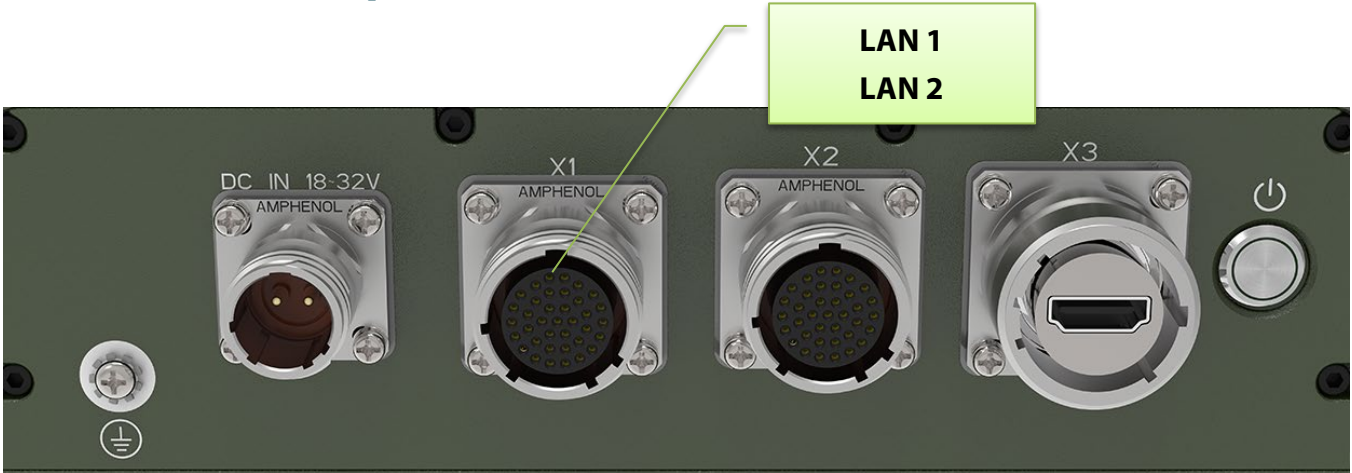
Performance Test

NV200-2LGS16



5. I/O FUNCTION TEST

5-1. LAN (1Gbps)



```
root@NV200: /home/user [ 5] 953.00-954.00 sec 111 MBytes 932 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2548 ttl=128 time=0.496 ms
[ 5] 954.00-955.00 sec 110 MBytes 924 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2549 ttl=128 time=0.494 ms
[ 5] 955.00-956.00 sec 109 MBytes 917 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2550 ttl=128 time=0.506 ms
[ 5] 956.00-957.00 sec 110 MBytes 923 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2551 ttl=128 time=0.491 ms
[ 5] 957.00-958.00 sec 110 MBytes 924 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2552 ttl=128 time=0.496 ms
[ 5] 958.00-959.00 sec 111 MBytes 930 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2553 ttl=128 time=0.504 ms
[ 5] 959.00-960.00 sec 111 MBytes 927 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2554 ttl=128 time=0.495 ms
[ 5] 960.00-961.00 sec 110 MBytes 920 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2555 ttl=128 time=0.504 ms
[ 5] 961.00-962.00 sec 111 MBytes 929 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2556 ttl=128 time=0.502 ms
[ 5] 962.00-963.00 sec 110 MBytes 921 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2557 ttl=128 time=0.504 ms
[ 5] 963.00-964.00 sec 110 MBytes 920 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2558 ttl=128 time=0.502 ms
[ 5] 964.00-965.00 sec 111 MBytes 931 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2559 ttl=128 time=0.502 ms
[ 5] 965.00-966.00 sec 111 MBytes 927 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2560 ttl=128 time=0.501 ms
[ 5] 966.00-967.00 sec 109 MBytes 918 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2561 ttl=128 time=0.494 ms
[ 5] 967.00-968.00 sec 111 MBytes 929 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2562 ttl=128 time=0.502 ms
[ 5] 968.00-969.00 sec 109 MBytes 919 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2563 ttl=128 time=0.492 ms
[ 5] 969.00-970.00 sec 111 MBytes 930 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2564 ttl=128 time=0.395 ms
[ 5] 970.00-971.00 sec 110 MBytes 924 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2565 ttl=128 time=0.506 ms
[ 5] 971.00-972.00 sec 110 MBytes 920 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2566 ttl=128 time=0.511 ms
[ 5] 972.00-973.00 sec 111 MBytes 927 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2567 ttl=128 time=0.504 ms
[ 5] 973.00-974.00 sec 110 MBytes 923 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2568 ttl=128 time=0.513 ms
[ 5] 974.00-975.00 sec 111 MBytes 928 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2569 ttl=128 time=0.501 ms
[ 5] 975.00-976.00 sec 111 MBytes 928 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2570 ttl=128 time=0.510 ms
[ 5] 976.00-977.00 sec 110 MBytes 921 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2571 ttl=128 time=0.490 ms
[ 5] 977.00-978.00 sec 110 MBytes 921 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2572 ttl=128 time=0.473 ms
[ 5] 978.00-979.00 sec 111 MBytes 930 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2573 ttl=128 time=0.496 ms
[ 5] 979.00-980.00 sec 110 MBytes 920 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2574 ttl=128 time=0.296 ms
[ 5] 980.00-981.00 sec 110 MBytes 924 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2575 ttl=128 time=0.496 ms
[ 5] 981.00-982.00 sec 110 MBytes 925 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2576 ttl=128 time=0.507 ms
[ 5] 982.00-983.00 sec 111 MBytes 930 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2577 ttl=128 time=0.513 ms
[ 5] 983.00-984.00 sec 110 MBytes 924 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2578 ttl=128 time=0.404 ms
[ 5] 984.00-985.00 sec 110 MBytes 923 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2579 ttl=128 time=0.494 ms
[ 5] 985.00-986.00 sec 111 MBytes 930 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2580 ttl=128 time=0.390 ms
[ 5] 986.00-987.00 sec 110 MBytes 920 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2581 ttl=128 time=0.279 ms
[ 5] 987.00-988.00 sec 111 MBytes 929 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2582 ttl=128 time=0.371 ms
[ 5] 988.00-989.00 sec 109 MBytes 919 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2583 ttl=128 time=0.490 ms
[ 5] 989.00-990.00 sec 111 MBytes 928 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2584 ttl=128 time=0.400 ms
[ 5] 990.00-991.00 sec 110 MBytes 925 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2585 ttl=128 time=0.262 ms
[ 5] 991.00-992.00 sec 110 MBytes 919 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2586 ttl=128 time=0.378 ms
[ 5] 992.00-993.00 sec 111 MBytes 927 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2587 ttl=128 time=0.265 ms
[ 5] 993.00-994.00 sec 110 MBytes 923 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2588 ttl=128 time=0.795 ms
[ 5] 994.00-995.00 sec 110 MBytes 923 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2589 ttl=128 time=0.494 ms
[ 5] 995.00-996.00 sec 111 MBytes 931 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2590 ttl=128 time=0.510 ms
[ 5] 996.00-997.00 sec 110 MBytes 922 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2591 ttl=128 time=0.490 ms
[ 5] 997.00-998.00 sec 110 MBytes 923 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2592 ttl=128 time=0.483 ms
[ 5] 998.00-999.00 sec 110 MBytes 923 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2593 ttl=128 time=0.275 ms
[ 5] 999.00-1000.00 sec 111 MBytes 931 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2594 ttl=128 time=0.474 ms
[ 5] 999.00-1000.00 sec 111 MBytes 931 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2595 ttl=128 time=0.261 ms
[ 5] 999.00-1000.00 sec 111 MBytes 931 Mbits/sec 0 539 KBytes 64 bytes from 192.168.100.1: icmp_seq=2596 ttl=128 time=0.498 ms
[ ID] Interval Transfer Bitrate Retr sender receiver
[ 5] 0.00-1000.00 sec 108 GBytes 924 Mbits/sec 0
[ 5] 0.00-999.98 sec 108 GBytes 924 Mbits/sec 0
iperf Done.
root@NV200: /home/user#
```

LAN Speed Test Result: Pass
LAN Data-Packet Test Result: 0 Lost (0% loss)

Performance Test

NV200-2LGS16

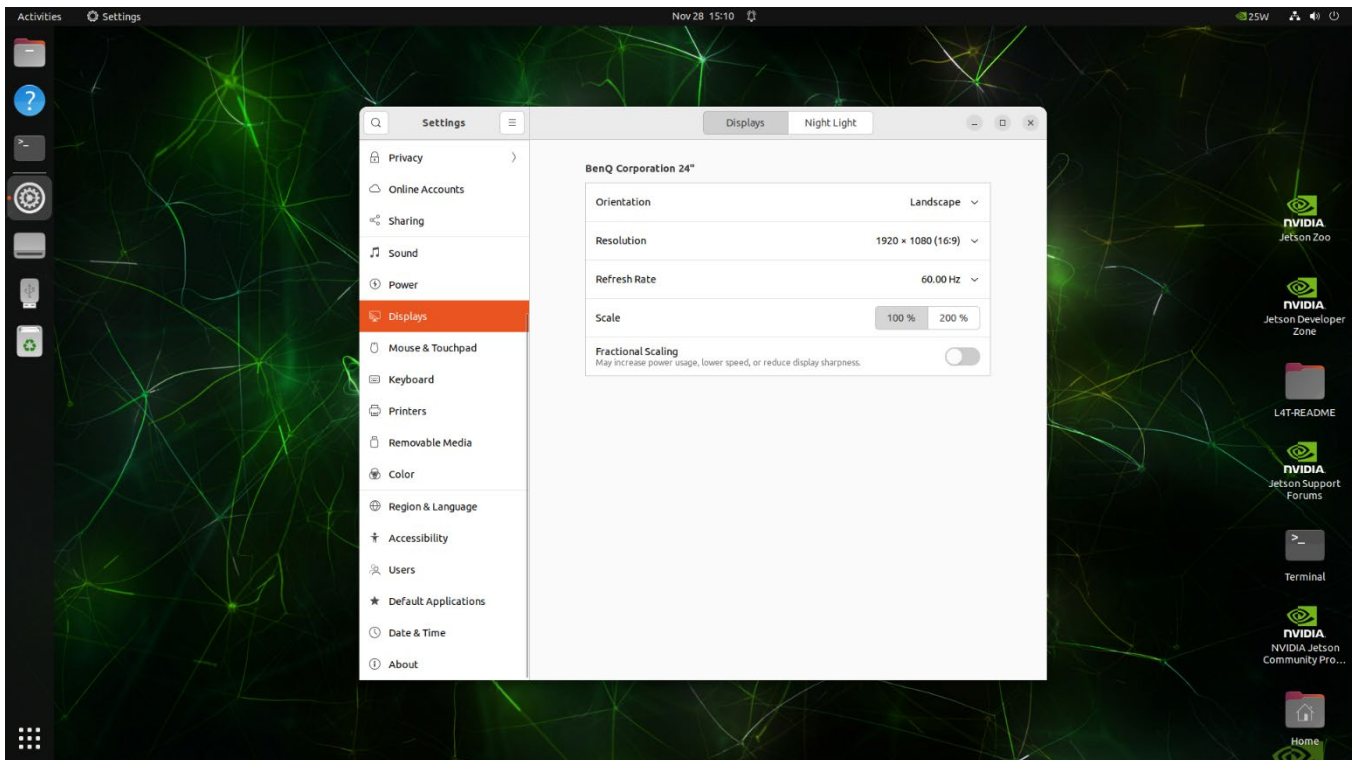
LAN 2

```
root@NV200:/home/user [ 5] 953.00-954.00 sec 110 MBytes 921 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2190 ttl=128 time=0.400 ms
[ 5] 954.00-955.00 sec 110 MBytes 923 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2191 ttl=128 time=0.400 ms
[ 5] 955.00-956.00 sec 111 MBytes 927 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2192 ttl=128 time=0.507 ms
[ 5] 956.00-957.00 sec 111 MBytes 927 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2193 ttl=128 time=0.373 ms
[ 5] 957.00-958.00 sec 110 MBytes 924 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2194 ttl=128 time=0.266 ms
[ 5] 958.00-959.00 sec 109 MBytes 919 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2195 ttl=128 time=0.385 ms
[ 5] 959.00-960.00 sec 110 MBytes 924 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2196 ttl=128 time=0.300 ms
[ 5] 960.00-961.00 sec 111 MBytes 928 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2197 ttl=128 time=0.382 ms
[ 5] 961.00-962.00 sec 110 MBytes 923 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2198 ttl=128 time=0.272 ms
[ 5] 962.00-963.00 sec 111 MBytes 928 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2199 ttl=128 time=0.386 ms
[ 5] 963.00-964.00 sec 110 MBytes 923 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2200 ttl=128 time=0.276 ms
[ 5] 964.00-965.00 sec 110 MBytes 921 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2201 ttl=128 time=0.359 ms
[ 5] 965.00-966.00 sec 110 MBytes 923 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2202 ttl=128 time=0.474 ms
[ 5] 966.00-967.00 sec 111 MBytes 927 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2203 ttl=128 time=0.285 ms
[ 5] 967.00-968.00 sec 110 MBytes 925 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2204 ttl=128 time=0.484 ms
[ 5] 968.00-969.00 sec 110 MBytes 923 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2205 ttl=128 time=0.496 ms
[ 5] 969.00-970.00 sec 110 MBytes 924 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2206 ttl=128 time=0.499 ms
[ 5] 970.00-971.00 sec 110 MBytes 922 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2207 ttl=128 time=0.494 ms
[ 5] 971.00-972.00 sec 110 MBytes 923 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2208 ttl=128 time=0.491 ms
[ 5] 972.00-973.00 sec 111 MBytes 931 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2209 ttl=128 time=0.494 ms
[ 5] 973.00-974.00 sec 110 MBytes 919 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2210 ttl=128 time=0.493 ms
[ 5] 974.00-975.00 sec 110 MBytes 924 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2211 ttl=128 time=0.492 ms
[ 5] 975.00-976.00 sec 110 MBytes 925 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2212 ttl=128 time=0.385 ms
[ 5] 976.00-977.00 sec 110 MBytes 921 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2213 ttl=128 time=0.489 ms
[ 5] 977.00-978.00 sec 110 MBytes 925 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2214 ttl=128 time=0.492 ms
[ 5] 978.00-979.00 sec 110 MBytes 925 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2215 ttl=128 time=0.494 ms
[ 5] 979.00-980.00 sec 111 MBytes 928 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2216 ttl=128 time=0.495 ms
[ 5] 980.00-981.00 sec 110 MBytes 920 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2217 ttl=128 time=0.485 ms
[ 5] 981.00-982.00 sec 111 MBytes 929 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2218 ttl=128 time=0.488 ms
[ 5] 982.00-983.00 sec 110 MBytes 923 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2219 ttl=128 time=0.498 ms
[ 5] 983.00-984.00 sec 110 MBytes 925 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2220 ttl=128 time=0.285 ms
[ 5] 984.00-985.00 sec 109 MBytes 919 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2221 ttl=128 time=0.483 ms
[ 5] 985.00-986.00 sec 111 MBytes 930 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2222 ttl=128 time=0.266 ms
[ 5] 986.00-987.00 sec 110 MBytes 923 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2223 ttl=128 time=0.494 ms
[ 5] 987.00-988.00 sec 110 MBytes 923 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2224 ttl=128 time=0.270 ms
[ 5] 988.00-989.00 sec 111 MBytes 927 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2225 ttl=128 time=0.487 ms
[ 5] 989.00-990.00 sec 110 MBytes 922 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2226 ttl=128 time=0.496 ms
[ 5] 990.00-991.00 sec 110 MBytes 925 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2227 ttl=128 time=0.491 ms
[ 5] 991.00-992.00 sec 110 MBytes 921 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2228 ttl=128 time=0.495 ms
[ 5] 992.00-993.00 sec 111 MBytes 928 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2229 ttl=128 time=0.517 ms
[ 5] 993.00-994.00 sec 110 MBytes 925 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2230 ttl=128 time=0.490 ms
[ 5] 994.00-995.00 sec 110 MBytes 923 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2231 ttl=128 time=0.498 ms
[ 5] 995.00-996.00 sec 110 MBytes 921 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2232 ttl=128 time=0.486 ms
[ 5] 996.00-997.00 sec 111 MBytes 929 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2233 ttl=128 time=0.499 ms
[ 5] 997.00-998.00 sec 110 MBytes 924 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2234 ttl=128 time=0.471 ms
[ 5] 998.00-999.00 sec 110 MBytes 924 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2235 ttl=128 time=0.294 ms
[ 5] 999.00-1000.00 sec 110 MBytes 921 Mbits/sec 0 444 KBytes 64 bytes from 192.168.100.1: icmp_seq=2236 ttl=128 time=0.498 ms
[ 5] 64 bytes from 192.168.100.1: icmp_seq=2237 ttl=128 time=0.272 ms
[ 5] 64 bytes from 192.168.100.1: icmp_seq=2238 ttl=128 time=0.390 ms
[ ID] Interval Transfer Bitrate Retr sender receiver
[ 5] 0.00-1000.00 sec 108 GBytes 924 Mbits/sec 0
[ 5] 0.00-999.98 sec 108 GBytes 924 Mbits/sec
iperf Done.
root@NV200:/home/user# user@NV200:~$
```

LAN Speed Test Result: Pass
LAN Data-Packet Test Result: 0 Lost (0% loss)

Performance Test NV200-2LGS16

5-2. HDMI

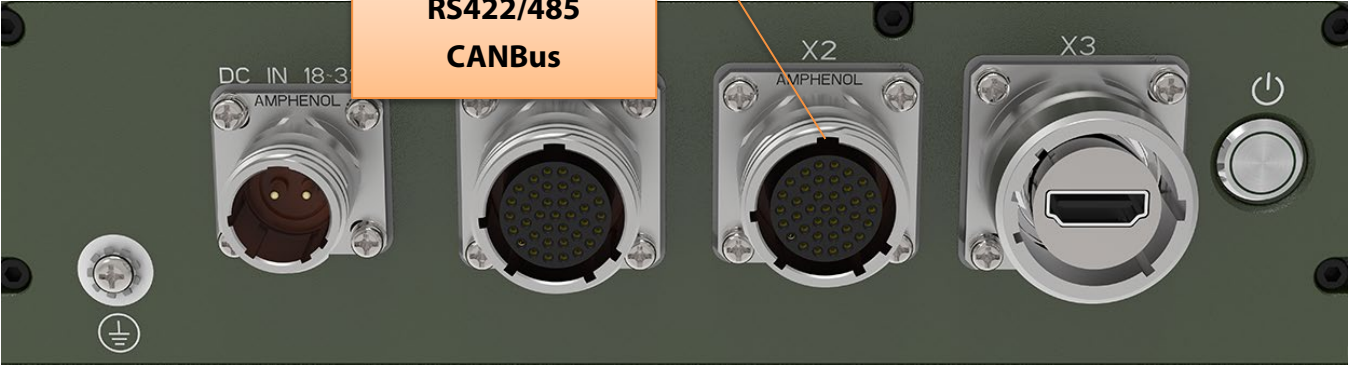


Performance Test

NV200-2LGS16

5-3. Serial Port (RS232/RS422/485/CANBus)

RS232
RS422/485
CANBus

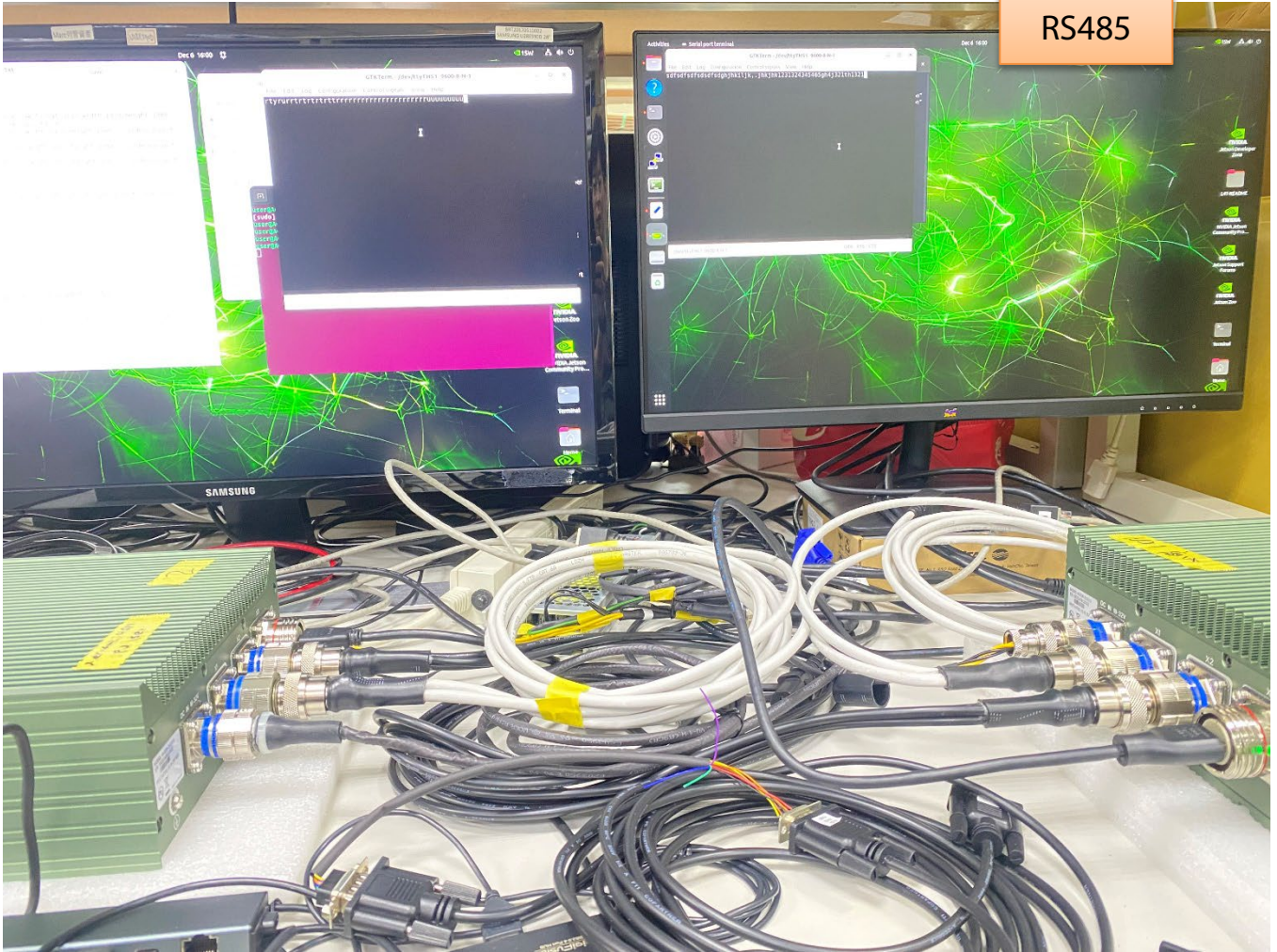


RS232



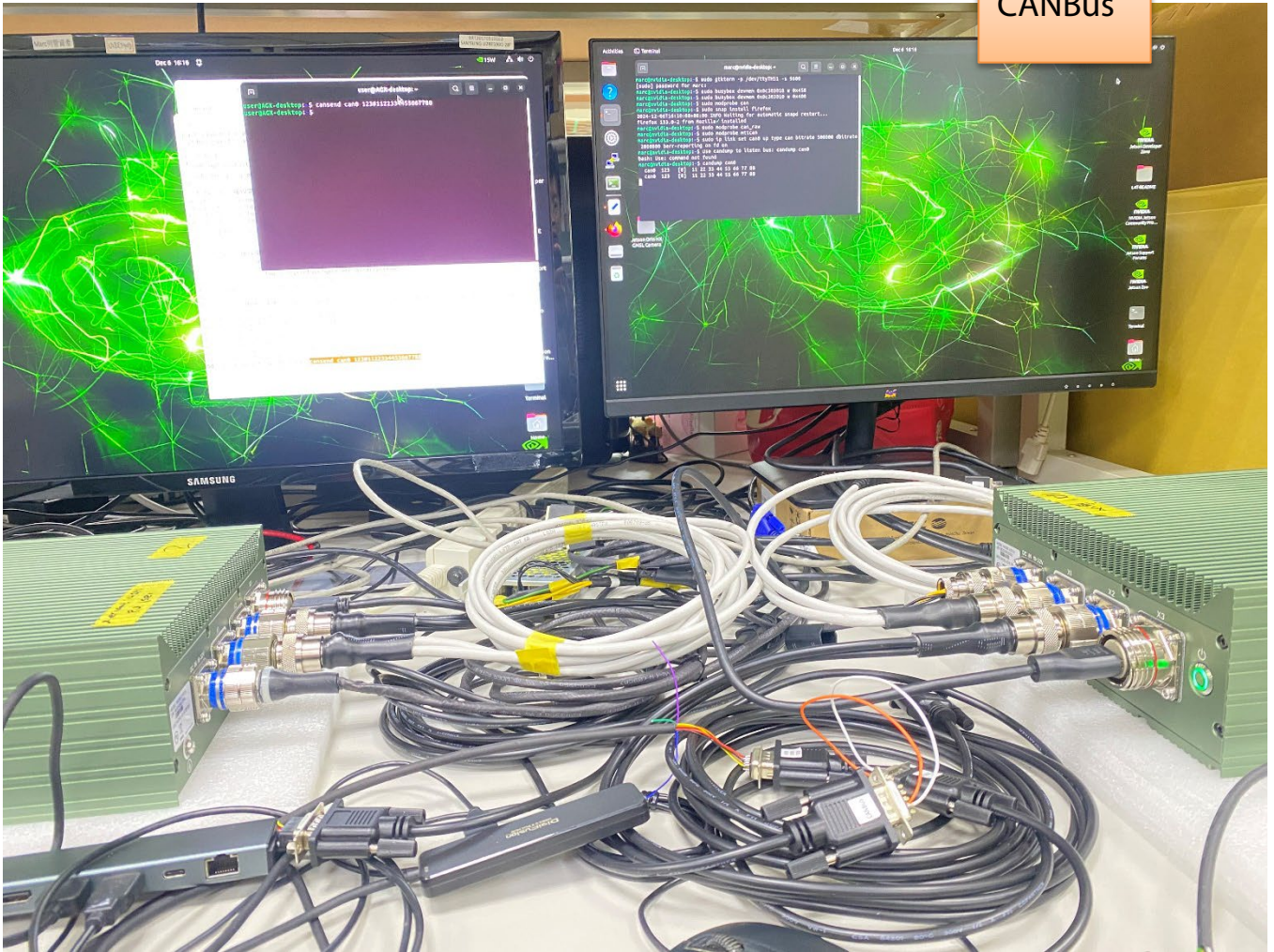
Performance Test NV200-2LGS16

RS422
RS485



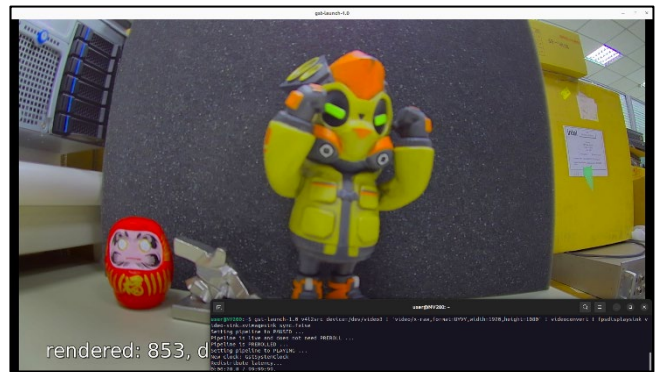
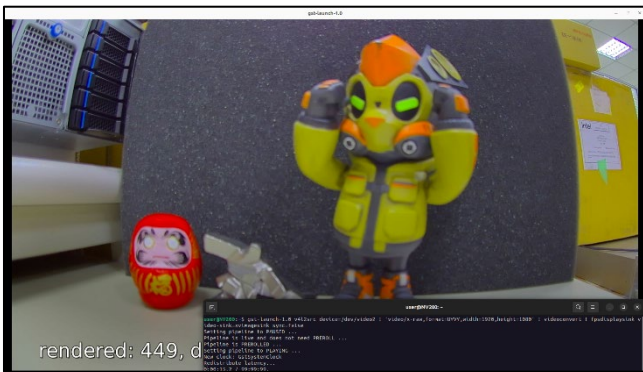
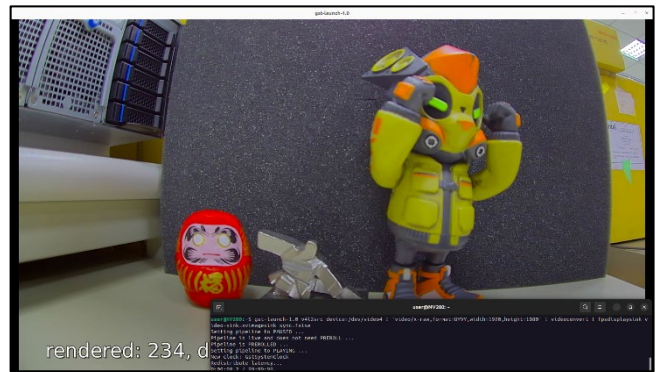
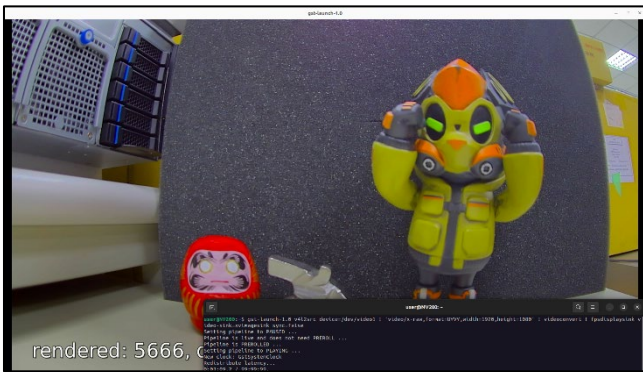
Performance Test NV200-2LGS16

CANBus



Performance Test NV200-2LGS16

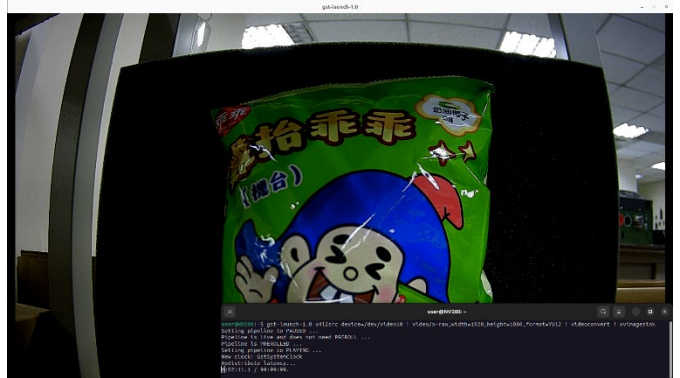
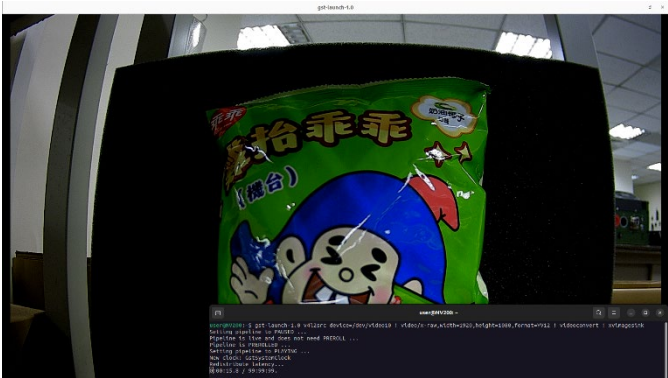
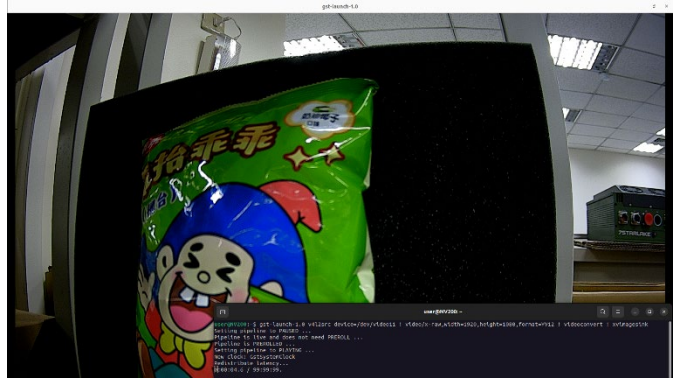
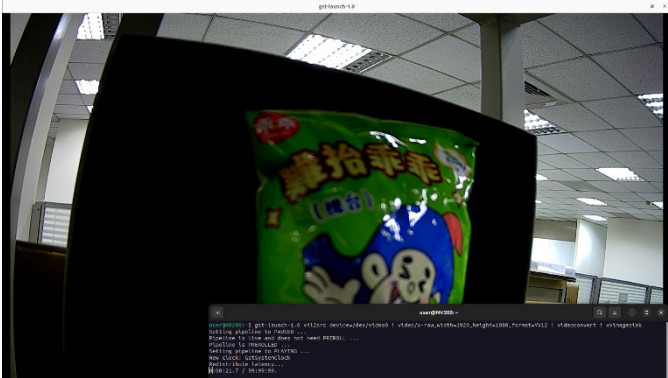
5-4. GMSL Camera



Performance Test

NV200-2LGS16

5-5. SDI Camera



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