

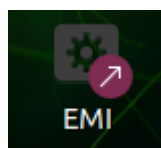
## AIR-030 Burning Test

Date	10/20/2022	Release Ver.	V1.0
Category	<input type="checkbox"/> FAQ <input checked="" type="checkbox"/> SOP	Release Note	<input checked="" type="checkbox"/> Internal <input type="checkbox"/> External
Related OS	Ubuntu 20.04		
Abstract	AIR-030 Burning Test 介紹		
Keyword	AIR-030, Burning Test		
Related Product	AIR-030, AGX-ORIN		

### ■ 描述:

描述 AIR-030 上 Burning Test 各項測項的介紹，點選桌面上的 EMI 圖示執行，或是在 Terminal 視窗執行：

```
$ /home/ubuntu/tools/emi/burnin.sh
```



### ■ 測試項目:

#### (一)CPU test

1.測試指令：(AIR-030 使用 30)

```
$ stress -c 30
```

對兩個 CPU 不停做壓力測試

2.測試結果：[可以參考 jtop 監控視窗](#)

```
root@linux:~# stress -c 2
stress: info: [11783] dispatching hogs: 2 cpu, 0 io, 0 vm, 0 hdd
```

#### (二)Memory Test

1.測試指令：(AIR-030 使用 26，太大會導致系統 kill memory 的發生)

```
$ sudo memtester 4G
```

挖一塊 4GB 大小的記憶體區塊持續做燒機測試

2.測試結果：[可以參考 jtop 監控視窗](#)

```
root@linux:~# sudo memtester 4G
memtester version 4.3.0 (64-bit)
Copyright (C) 2001-2012 Charles Cazabon.
Licensed under the GNU General Public License version 2 (only).

pagesize is 4096
pagesizemask is 0xffffffffffff000
want 4096MB (4294967296 bytes)
got 4096MB (4294967296 bytes), trying mlock ...locked.
Loop 1:
  Stuck Address      : setting 11
```

### (三)GPU Test


1.測試指令：

```
$ sudo glmark2 -run-forever
```

持續撥放 3D 動畫對 GPU 做壓力測試

2.測試結果：

```
root@linux: ~
root@linux:~# glmark2 --run-forever
=====
glmark2 2014.03+git20150611.fa71af2d
=====
OpenGL Information
GL_VENDOR:    NVIDIA Corporation
GL_RENDERER:  NVIDIA Tegra Xavier (nvgpu)/integrated
GL_VERSION:   4.6.0 NVIDIA 32.5.2
=====
[build] use-vbo=false: FPS: 2472 FrameTime: 0.405 ms
[build] use-vbo=true: [ ]
glmark2 2014.03+git20150611.fa71af2d
```



#### (四)COM Test

1.測試指令：測試 COM1、COM2、COM5

```
$ ./burnin_comport.sh 0 ttyTHS0
```

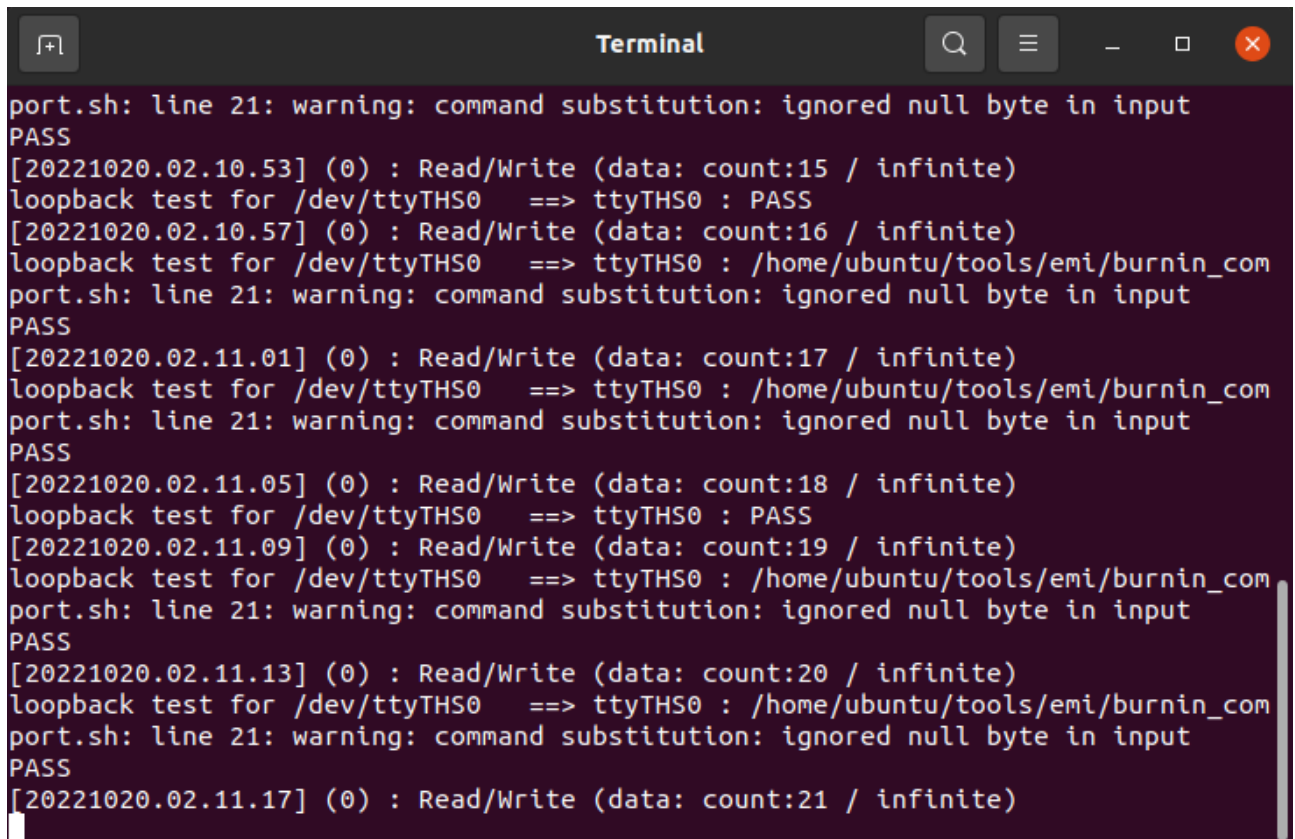
```
$ ./burnin_comport.sh 0 ttyTHS4
```

```
$ ./burnin_comport.sh 0 ttyTHS1
```

持續對 COM1 做 loopback 無限次數測試

2.測試結果：

倘若成功，會出現”PASS”，失敗會出現”FAIL”



```
Terminal
port.sh: line 21: warning: command substitution: ignored null byte in input
PASS
[20221020.02.10.53] (0) : Read/Write (data: count:15 / infinite)
loopback test for /dev/ttyTHS0 ==> ttyTHS0 : PASS
[20221020.02.10.57] (0) : Read/Write (data: count:16 / infinite)
loopback test for /dev/ttyTHS0 ==> ttyTHS0 : /home/ubuntu/tools/emi/burnin_com
port.sh: line 21: warning: command substitution: ignored null byte in input
PASS
[20221020.02.11.01] (0) : Read/Write (data: count:17 / infinite)
loopback test for /dev/ttyTHS0 ==> ttyTHS0 : /home/ubuntu/tools/emi/burnin_com
port.sh: line 21: warning: command substitution: ignored null byte in input
PASS
[20221020.02.11.05] (0) : Read/Write (data: count:18 / infinite)
loopback test for /dev/ttyTHS0 ==> ttyTHS0 : PASS
[20221020.02.11.09] (0) : Read/Write (data: count:19 / infinite)
loopback test for /dev/ttyTHS0 ==> ttyTHS0 : /home/ubuntu/tools/emi/burnin_com
port.sh: line 21: warning: command substitution: ignored null byte in input
PASS
[20221020.02.11.13] (0) : Read/Write (data: count:20 / infinite)
loopback test for /dev/ttyTHS0 ==> ttyTHS0 : /home/ubuntu/tools/emi/burnin_com
port.sh: line 21: warning: command substitution: ignored null byte in input
PASS
[20221020.02.11.17] (0) : Read/Write (data: count:21 / infinite)
```

## (五)Lan Test

1.測試指令：(請透過)

```
$ ping -I ${eth0_ip} $ETH0_PING_TO_IP  
$ ping -I ${eth1_ip} $ETH1_PING_TO_IP  
$ ping -I ${eth2_ip} $ETH2_PING_TO_IP
```

測試方式：eth0 ping192.168.0.1, eth1 ping192.168.0.2, eth2 ping192.168.0.3，若要修改目的 IP，請

修改/home/ubuntu/tools/emi/burnin.sh 最上方數值

```
ETH0_PING_TO_IP="192.168.0.1"  
ETH1_PING_TO_IP="192.168.0.2"  
ETH2_PING_TO_IP="192.168.0.3"
```

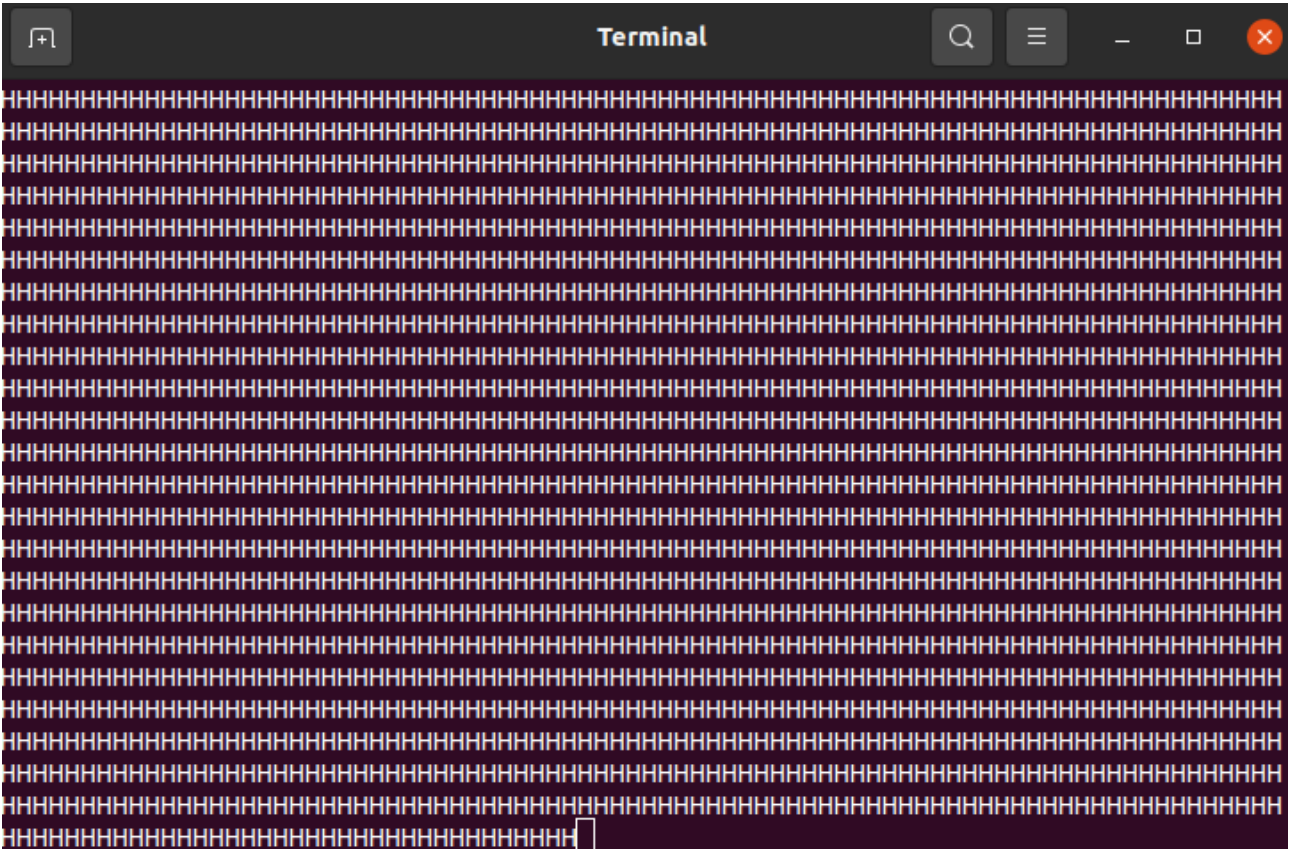
2.測試結果：

假如成功會出現底下紅框的字眼

```
root@localhost:~# ping -I 172.22.28.222 8.8.8.8  
PING 8.8.8.8 (8.8.8.8) from 172.22.28.222 : 56(84) bytes of data.  
64 bytes from 8.8.8.8: icmp_seq=1 ttl=56 time=2.93 ms  
64 bytes from 8.8.8.8: icmp_seq=2 ttl=56 time=2.65 ms  
64 bytes from 8.8.8.8: icmp_seq=3 ttl=56 time=3.36 ms  
^C  
--- 8.8.8.8 ping statistics ---  
3 packets transmitted, 3 received, 0% packet loss, time 2002ms  
rtt min/avg/max/mdev = 2.654/2.984/3.361/0.290 ms
```

**(六)H -Pattern**

開始測試後，其中一個視窗會填滿 H 字元，請最大化視窗測試



## (七)JTOP

這是一個監測目前系統狀態的功用程式，列出了 CPU、GPU、Memory 等資訊，並可以看到系統目前處於最大 Power 輸出-50W。

1.指令：

```
$ sudo jtop
```

```

jtop UNKNOWN - JC: Inactive - 50W
NVIDIA Jetson UNKNOWN - Jetpack UNKNOWN [L4T 35.1.0]
CPU1 [|||||||Schedutil - 100%] 1.5GHz CPU5 [|||||||Schedutil - 100%] 1.5GHz
CPU2 [|||||||Schedutil - 100%] 1.5GHz CPU6 [|||||||Schedutil - 100%] 1.5GHz
CPU3 [|||||||Schedutil - 100%] 1.5GHz CPU7 [|||||||Schedutil - 100%] 1.5GHz
CPU4 [|||||||Schedutil - 100%] 1.5GHz CPU8 [|||||||Schedutil - 100%] 1.5GHz

Mem [|||||||29.2G/31.3GB] (lfb 263x4MB)
Swp [|||||||0.0GB/15.3GB] (cached 0MB)
EMC [|||4%] 665MHz

GPU [|||||||0%] 305MHz
Dsk [#####7.6GB/53.9GB]

[info]
UpT: 0 days 0:7:40
FAN [ DISABLED ]
Jetson Clocks: inactive
NV Power[3]: 50W

[HW engines]
APE: 233MHz
NVENC: [OFF] NVDEC: [OFF]
NVJPG: [OFF]

[Sensor] [Temp]
Tboard 34.00C
Tdiode 36.00C

1ALL 2GPU 3CPU 4MEM 5CTRL 6INFO Quit Raffaello Bonghi
  
```

■ Reference: