

ASUSTeK COMPUTER INC.	RX470 Standard Operation Procedure	Doc. No:	
		Date: Mar.19.2020	
		Revision:1.44	
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Rev.	Modified Chapters	Modification Description	Issued Dept.	Issued by	Revised Date
1.00		First Release	GRTD	Maico_Zhang	Jun.28.2016
1.01		Add new PN(YV09J2-A02)	GRTD	Maico_Zhang	Jul.21.2016
1.02		Add new PN(YV09J2-A16)	GRTD	Maico_Zhang	Sep.14.2016
1.03		Add new PN(YV09J0-A15)	GRTD	Maico_Zhang	Sep.23.2016
1.04		Add new PN(YV09J3-A01)	GRTD	Maico_Zhang	Oct.13.2016
1.05		Add new PN(YV09J4-A01)	GRTD	Maico_Zhang	Oct.13.2016
1.06		Add new PN(YV09J3-A11)	GRTD	Maico_Zhang	Oct.13.2016
1.07		Add new PN(YV09J0-A35)	GRTD	Maico_Zhang	Nov.8.2016
1.08		Add new PN(YV09J2-A36)	GRTD	Maico_Zhang	Nov.8.2016
1.09		Add new PN(YV09J5-A01)	GRTD	Maico_Zhang	Nov.8.2016
1.10		Add new PN(YV0AY0-A01)	GRTD	Maico_Zhang	Jun.26.2017
1.11		Add new PN(YV0AY0-A12)	GRTD	Maico_Zhang	Jul.19.2017
1.12		Add new PN(YV0AJ2-A26)	GRTD	Maico_Zhang	Jul.26.2017
1.13		Add new PN(YV0B70-A01)	GRTD	Maico_Zhang	Aug.9.2017
1.14		Add new PN(YV0AY1-A01)	GRTD	Maico_Zhang	Aug.9.2017
1.15		Add new PN(YV0AY0-B01)	GRTD	Maico_Zhang	Aug.21.2017
1.16		Add new PCBA(YV0AY0-B23)	GRTD	Maico_Zhang	Dec.21.2017
1.17		Add new PCBA(YV0AY0-B33)	GRTD	Maico_Zhang	Dec.21.2017
1.18		Add new PCBA(YV0AY0-B43)	GRTD	Maico_Zhang	Dec.21.2017
1.19		Add new PN(YV0AY2-A02)	GRTD	Maico_Zhang	Jan.25.2018
1.20		Add new PCBA(YV0AY2-A12)	GRTD	Maico_Zhang	Feb.8.2018
1.21		Add new PN(YV0AY3-A01)	GRTD	Maico_Zhang	Jun.19.2018
1.22		Add new PN(YV0AY2-A22)	GRTD	Maico_Zhang	Jul.3.2018
1.23		Add new PCBA(YV0AY6-A01)	GRTD	Maico_Zhang	Apr.9.2019
1.24		Add new PCBA(YV0AY7-A01)	GRTD	Maico_Zhang	Apr.9.2019
1.25		Add new PCBA(YV0AY7-B01)	GRTD	Maico_Zhang	Apr.9.2019
1.26		Add new PN(YV0D60-A01)	GRTD	Maico_Zhang	May.14.2019
1.27		Add new PN(YV0AY6-A13)	GRTD	Maico_Zhang	May.14.2019
1.28		Add new PN(YV0AY5-A05)	GRTD	Maico_Zhang	May.14.2019
1.29		Add new PN(YV0AY5-A15)	GRTD	Maico_Zhang	May.14.2019
1.30		Add new PCBA(YV0AY6-A24)	GRTD	Maico_Zhang	May.14.2019
1.31		Add new PN(YV0AY8-A01)	GRTD	Maico_Zhang	May.14.2019
1.32		Add new PCBA(YV0AY8-A11)	GRTD	Maico_Zhang	May.14.2019

Authorize by		Review by		Originator By	Maico
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1.33		Add new PN(YV0D61-A01)	GRTD	Maico_Zhang	Jun.26.2019
1.34		Add new PN(YV0AY9-A01)	GRTD	Maico_Zhang	Jun.26.2019
1.35		Add new PCBA(YV0AY9-A11)	GRTD	Maico_Zhang	Jun.26.2019
1.36		Add new PN(YV0D62-A01)	GRTD	Maico_Zhang	Jun.26.2019
1.37		Add new PCBA(YV0D63-A01)	GRTD	Maico_Zhang	Jun.26.2019
1.38		Add new PN(YV0AYA-A01)	GRTD	Maico_Zhang	Jun.26.2019
1.39		Add new PN(YV0AY2-B01)	GRTD	Maico_Zhang	Sep.26.2019
1.40		Add new PCBA(YV0AY0-B54)	GRTD	Maico_Zhang	Sep.30.2019
1.41		Add new PCBA(YV0AY0-B64)	GRTD	Maico_Zhang	Sep.30.2019
1.42		Add new PCBA(YV0AY0-B74)	GRTD	Maico_Zhang	Sep.30.2019
1.43		Add new PN(YV09J0-A25)	GRTD	Maico_Zhang	Oct.10.2019
1.44		Add new PN(YV0AYB-A01)	GRTD	Maico_Zhang	Mar.19.2020

1.Objectives

Create test procedure.

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2.Scope

Model: RX470

PN: YV09J0(A01) YV09J2(A02) YV09J2(A16) YV09J0(A15) YV09J3(A01)
YV09J4(A01) YV09J3(A11) YV09J0(A35) YV09J2(A36) YV09J5(A01) YV0AY0(A01)
YV0AY0(A12) YV09J2(A26) YV0B70(A01) YV0AY1(A01) YV0AY0(B01) YV0AY0(B23)
YV0AY0(B33) YV0AY0(B43) YV0AY2(A02) YV0AY2(A12) YV0AY3(A01) YV0AY2(A22)
YV0AY6(A01) YV0AY7(A01/B01) YV0D60(A01) YV0AY6(A13) YV0AY5(A05)
YV0AY5(A15) YV0AY6(A24) YV0AY8(A01) YV0AY8(A11) YV0D61(A01) YV0D62(A01)
YV0D63(A01) YV0AY9(A01) YV0AY9(A11) YV0AYA(A01) YV0AY0(B54) YV0AY0(B64)
YV0AY0(B74) YV0AY2(B01) YV09J0(A25) YV0AYB(A01)

3.Test Item

3.1 Diagnostic test in 14_04_64-bit Linux

4.Relevant Document

None.

5.Definition :

4. RX470 Test Program in 64-bit Linux system.

6. Operation Procedures:

6.1 Attention

- 6.1.1 To avoid damaging devices or M/B, please turn off A/C power then unplug VGA card.
- 6.1.2 While unplugging the card, do it in upright direction to avoid damaging slot & golden finger.
- 6.1.3 If any problem happens, please inform test supervisor. Base on ATX power specification, +5V standby voltage is existed while AC power is connecting. For safety reason, please turn off main power during break time or idling test.
- 6.1.4 Some test items should be tested under Windows environment. (Please install windows test environment by yourself).

6.2 Fixture connect

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6.2.1 Install Intel CPU & CPU Fan.

6.2.2 Install DDR Memory to DIMM1~4.

6.2.3 Plug USB Mouse and Keyboard into MB.

6.2.4 Plug VGA Card RX470 into PCIEX16_1.

6.2.5 If this card has 6 PIN or 8 PIN of Power supply, please connect power con of VGA card & Power supply via bundled power cable.

(6 PIN of Power supply to 6 PIN of VGA card)

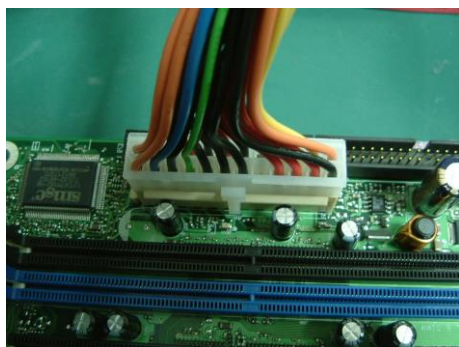
(8 PIN of Power supply to 8 PIN of VGA card)

6.2.6 Connect SATA HDD & SATA con via SATA cable



6.2.7 Plug 4PIN 12V power (a minimum power of 1200W) cable into CON12V.

6.2.8 Plug ATX Power on Power (a minimum power of 1200W) Connector.



6.3 Certain test.

6.3.1 Diagnostic test in 64-bit LINUX system

6.3.1.1 Please connect LCD monitor & card's DVI CON via a DVI cable.



Dual link DVI cable



6.3.1.2 Press Power Switch then turn on power button.

6.3.1.3 Press "Del" to enter CMOS setup menu while boot screen is displaying.

EXIT -> Load Setup Defaults.

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6.3.1.4 Run test program in 64-bit linux system.

Path: rx470\ yv09j0a0
 Path: rx4701\ yv09j2a0
 Path: rx4702\ yv09j2a1
 Path: rx4703\ yv09j0a1
 Path: rx4704\ yv09j3a0
 Path: rx4705\ yv09j4a0
 Path: rx4706\ yv09j3a1
 Path: rx4707\ yv09j0a3
 Path: rx4708\ yv09j2a3
 Path: rx4709\ yv09j5a0
 Path: rx470a\ yv0ay0a0 or yv0ay0b0 or yv0ay0b2 or yv0ay0b3 or yv0ay0b4
 or yv0ay6a0 or yv0ay7a0 or yv0ay7b0 or yv0ay0b5 or yv0ay0b6 or yv0ay0b7
 Path: rx470b\ yv0ay0a1
 Path: rx470c\ yv09j2a2
 Path: rx470d\ yv0b70a0
 Path: rx470e\ yv0ay1a0
 Path: rx470f\ yv0ay2a0 or yv0ay2a1
 Path: rx470g\ yv0ay3a0
 Path: rx470h\ yv0ay2a2
 Path: rx470i\ yv0d60a0
 Path: rx470j\ yv0ay6a1
 Path: rx470k\ yv0ay5a0
 Path: rx470l\ yv0ay5a1 or yv0ay6a2
 Path: rx470m\ yv0ay8a0 or yv0ay8a1
 Path: rx470n\ yv0d61a0
 Path: rx470o\ yv0ay9a0 or yv0ay9a1
 Path: rx470p\ yv0d62a0 or yv0d63a0
 Path: rx470q\ yv0ayaa0
 Path: rx470r\ yv0ay2b0
 Path: rx470s\ yv09j0a2

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Path: rx470t\ yv0ayba0

6.3.1.5 Memory test

If you want to test memory, please run `./tserver -boardtest=memfa` or `./memtest.sh`

Path:rx470\

6.3.1.6 BIOS Version

If you want to see the version of bios,please run `./atiflash -ai 0` or `./biosinfo`.

Path:rx470\

6.3.1.7 BIOS flash

Please use the following command to flash bios and notice the size of character.

Path:rx470\

Command: `./atiflash -p -f 0 xxx.rom` or `./acom_v1.3 0 xx.rom -f`

Notice:

If you can not flash bios because of the bios locked, please use `./atiflash -unlockrom 0` to unlock bios. And then, please use `./atiflash -lockrom 0` to lock bios after updating latest bios.

6.4 Simulate mining test (For spec mining card)

6.4.1 If you want to test mining card function in windows, please unpack ANGPU

Miner_rx470 v9.5 and run 0mining.bat for test.

6.4.2 Wait for 3 minutes, it works out a hashrate to compare with the default value 20.

If higher than the default value, it will show pass, or it will be fail.

*Download site: SIP -> Public Folder -> GRMA -> Test program (Main program & Utilities) -> VGA -> MINING CARD TEST

6.5 Result upload to server (need connect to internet)

6.5.1 Download and copy RMA upload tool to diag folder by model (It don't need copy after 2018.5 uploaded model).

The tool of RMA upload tool includes 3 files:



Check_SN



RMA_Config



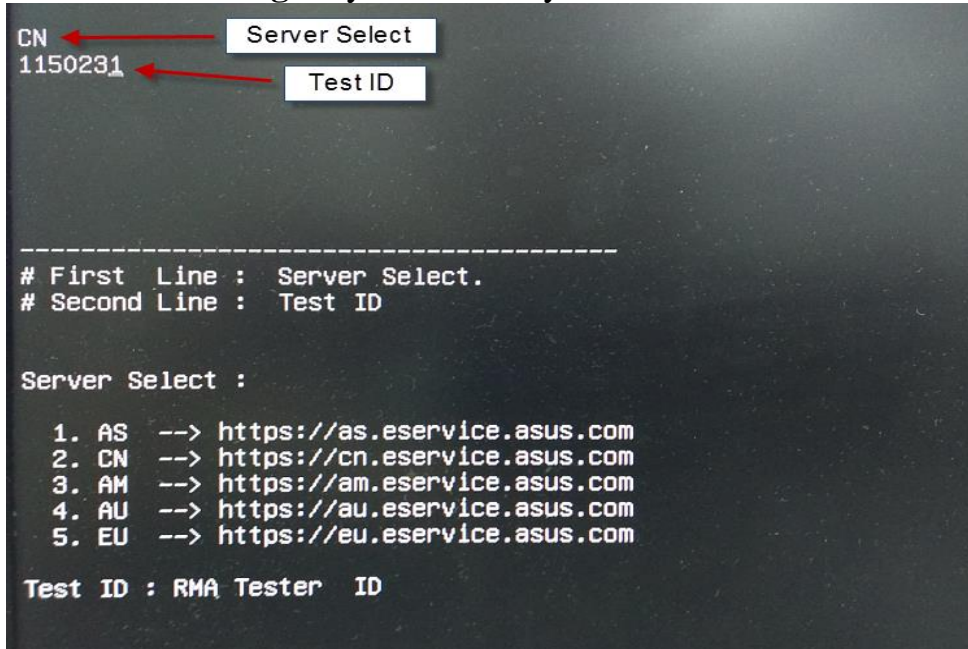
RMAInfo

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6.5.2 Edit **RMA_Config** file:

First line confirms the address of local sever, Second line is Tester ID.

The **RMA_Config** only need modify one time.



```

CN
1150231

-----
# First Line : Server Select.
# Second Line : Test ID

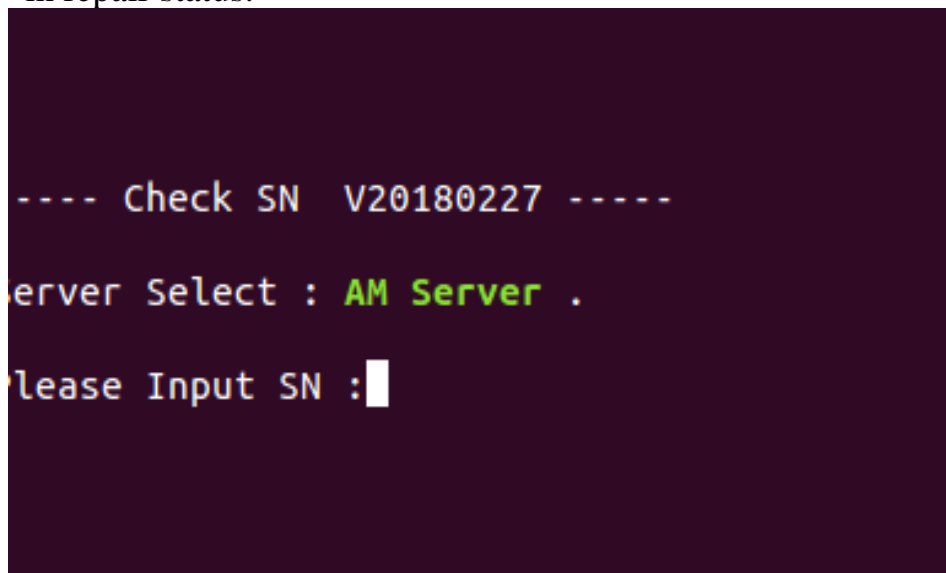
Server Select :

1. AS --> https://as.eservice.asus.com
2. CN --> https://cn.eservice.asus.com
3. AM --> https://am.eservice.asus.com
4. AU --> https://au.eservice.asus.com
5. EU --> https://eu.eservice.asus.com

Test ID : RMA Tester ID

```

6.5.3 Run **Check_SN** and type in your VGA SN which need to be testing. The SN must be in repair status.



```

---- Check SN V20180227 ----

Server Select : AM Server .

Please Input SN : 

```

6.5.4 Run **Diag test** and the diag name is same as the PN of your VGA card.


```

Left      File      Command      Options      Right
<- /mnt/nv/UTinyLinux/gt1030 .[F]> <- /mnt/usbkey

'n      Name      Size      Modify time
*tegraboards.jse      22036      Apr 18 2017
*tegracom~unc.jse      11556      Apr 18 2017
*tegraperf.jse      26572      Apr 18 2017
*test.cfg      2107      Apr 18 2017
*test.sh      42325      Apr 18 2017
*testlist.jse      37240      Apr 18 2017
*thermal.jse      16568      Apr 18 2017
*tofile.jse      5600      Apr 18 2017
*tunetrim.jse      21924      Apr 18 2017
*tunevolt.jse      14036      Apr 18 2017
*vic_data.bin      16384      Apr 18 2017
*vp2_stre.bin      203520      Apr 18 2017
*yv0at0a0.sh      559      Apr 21 2017
*yv0at0a1.sh      559      Apr 21 2017
*yv0at1a0.sh      559      Apr 21 2017
*yv0at1a1.sh      559      Apr 21 2017

*yv0at0a1.sh      44G/75G (59%)

Hint: To use the mouse cut and paste may require holding the s
#
1 Help      2 Menu      3 View      4 Edit      5 Copy      6 RenMov      7 Mkdir      8 Delete

```

6.5.5 After Diag test is finished, run **RMAInfo** and the test result will be sent to server.

```
=====
=          ASUS VGA RMA Infomation          =
=          Rev2018.02.27                    =
=====

Tester ID = 11502YQ
Addr = AM Server .
Problem Code : MNTF01
NV Test Result = PASS
NV Error Code  = 000000000000

Update Data To ASUS VGA Server.....

Update Data:  HAC0YZ268879 PASS 06/03/2018 08:51:59 11502YQ



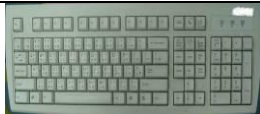






Please Wait For Ther Return Status:

Result:

SUCCESS
-----
```

6.6 If test OK, please NTF test.

7.Appendix

NO#	Equipment Description	ASUS Part#	Supplier	Quantity	Remarks
1	LCD Monitor with HDMI/Display Port 4096 x 2304 @ 60 Hz		local	1	
2	USB MOUSE		local	1	
3	KEYBOARD		local	1	
4	ATX POWER SUPPLY(a minimum power of 700W)		local	1	
5	Intel CPU Intel(R) I5 7500 CPU		local	1	
6	Heat sink + FAN		local	1	
7	DDR4 2400 4G		local	2	
8	TEST HDD		local	1	
9	SATA HDD Cable		local	1	
10	HDMI cable (Buying a local HDMI cable by yourself)		local	1	
11	ASUS Prime B250-plus MB		local	1	
12	Dual link DVI cable (Buying a local DVI cable by yourself)		local	1	
13	Display port cable (Buying a local Display port cable by yourself)		local	1	