

ASUSTeK COMPUTER INC.	GTX1070 Standard Operation Procedure	Doc. No:	
		Date:Jul.19.2018	
		Revision:1.69	
		Page: 9	Grade:

0Rev.	Modified Chapters	Modification Description	Issued Dept.	Issued by	Revised Date
1.00		First release	GRTD	Maico_Zhang	Jun.8.2016
1.01		Add new P/N(YV09N0-A01)	GRTD	Maico_Zhang	Jun.15.2016
1.02		Add new P/N(YV09N2-A01)	GRTD	Maico_Zhang	Jun.15.2016
1.03		Add new P/N(YV09T0-A06)	GRTD	Maico_Zhang	Jun.22.2016
1.04		Add new P/N(YV09P0-A02)	GRTD	Maico_Zhang	Jun.29.2016
1.05		Add new PCBA(YV09T1-A01)	GRTD	Maico_Zhang	Jul.1.2016
1.06		Add new PCBA(YV09T3-A01)	GRTD	Maico_Zhang	Jul.1.2016
1.07		Add new PCBA(YV09T2-A01)	GRTD	Maico_Zhang	Jul.5.2016
1.08		Add new PCBA(YV09T4-A01)	GRTD	Maico_Zhang	Jul.13.2016
1.09		Add new P/N(YV09N3-A01)	GRTD	Maico_Zhang	Jul.13.2016
1.10		Add new P/N(YV09N1-A05)	GRTD	Maico_Zhang	Jul.13.2016
1.11		Add new P/N(YV09N4-A03)	GRTD	Maico_Zhang	Jul.13.2016
1.12		Add new P/N(YV09N0-A16)	GRTD	Maico_Zhang	Jul.22.2016
1.13		Add new P/N(YV09N2-A15)	GRTD	Maico_Zhang	Jul.22.2016
1.14		Add new PCBA(YV09T0-A17)	GRTD	Maico_Zhang	Jul.22.2016
1.15		Add new PCBA(YV09T5-A01)	GRTD	Maico_Zhang	Jul.22.2016
1.16		Add new PCBA(YV09T1-A11)	GRTD	Maico_Zhang	Jul.27.2016
1.17		Add new PCBA(YV09T2-A12)	GRTD	Maico_Zhang	Jul.27.2016
1.18		Add new PCBA(YV09T3-A12)	GRTD	Maico_Zhang	Jul.27.2016
1.19		Add new PCBA(YV09T4-A11)	GRTD	Maico_Zhang	Jul.27.2016
1.20		Add new PCBA(YV09T5-A12)	GRTD	Maico_Zhang	Jul.27.2016
1.21		Add new PCBA(YV09N3-A15)	GRTD	Maico_Zhang	Aug.8.2016
1.22		Add new PN(YV09P0-A16)	GRTD	Maico_Zhang	Aug.8.2016
1.23		Add new PCBA(YV09T1-U12)	GRTD	Maico_Zhang	Aug.26.2016
1.24		Add new PCBA(YV09N4-A15)	GRTD	Maico_Zhang	Aug.26.2016
1.25		Add new PCBA(YV09N1-A17)	GRTD	Maico_Zhang	Aug.26.2016
1.26		Add new PCBA(YV0AE0-A01)	GRTD	Maico_Zhang	Nov.17.2016
1.27		Add new PCBA(YV0AE1-A01)	GRTD	Maico_Zhang	Nov.17.2016
1.28		Add new PCBA(YV0AE0-A11)	GRTD	Maico_Zhang	Feb.15.2016
1.29		Add new PCBA(YV0AE1-A11)	GRTD	Maico_Zhang	Feb.15.2016
1.30		Add new PCBA(YV09T6-A01)	GRTD	Maico_Zhang	Dec.28.2016
1.31		Add new PCBA(YV09T7-A01)	GRTD	Maico_Zhang	Dec.28.2016
1.32		Add new PCBA(YV0AS0-A01)	GRTD	Maico_Zhang	Aug.1.2017

Authorize by		Review by		Originator By	Maico
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1.33		Add new PCBA(YV0AS1-A01)	GRTD	Maico_Zhang	Aug.1.2017
1.34		Add new PCBA(YV09N0-A2A)	GRTD	Maico_Zhang	Aug.16.2017
1.35		Add new PCBA(YV09N2-A29)	GRTD	Maico_Zhang	Aug.16.2017
1.36		Add new PCBA(YV09T0-A2B)	GRTD	Maico_Zhang	Sep.11.2017
1.37		Add new PCBA(YV09T3-A25)	GRTD	Maico_Zhang	Sep.11.2017
1.38		Add new P/N(YV0BI0-A01)	GRTD	Maico_Zhang	Oct.5.2017
1.39		Add new P/N(YV0BI1-A01)	GRTD	Maico_Zhang	Oct.27.2017
1.40		Add new P/N(YV0BJ0-A01)	GRTD	Maico_Zhang	Oct.27.2017
1.41		Add new P/N(YV0BJ1-A01)	GRTD	Maico_Zhang	Nov.16.2017
1.42		Add new PCBA(YV0BJ2-A01)	GRTD	Maico_Zhang	Dec.1.2017
1.43		Add new PCBA(YV0BK1-A01)	GRTD	Maico_Zhang	Dec.1.2017
1.44		Add new PCBA(YV0BJ1-A12)	GRTD	Maico_Zhang	Dec.20.2017
1.45		Add new PCBA(YV0BJ0-A22)	GRTD	Maico_Zhang	Dec.20.2017
1.46		Add new PCBA(YV0BI0-A13)	GRTD	Maico_Zhang	Dec.20.2017
1.47		Add new PCBA(YV0BI1-A13)	GRTD	Maico_Zhang	Dec.20.2017
1.48		Add new P/N(YV0BJ0-A32)	GRTD	Maico_Zhang	Feb.8.2018
1.49		Add new PCBA(YV0BI0-A33)	GRTD	Maico_Zhang	Feb.8.2018
1.50		Add new PCBA(YV0BI1-A32)	GRTD	Maico_Zhang	Feb.8.2018
1.51		Add new PCBA(YV0BJ1-A22)	GRTD	Maico_Zhang	Feb.8.2018
1.52		Add new PCBA(YV0BJ1-A32)	GRTD	Maico_Zhang	Feb.8.2018
1.53		Add new PCBA(YV0BJ2-A12)	GRTD	Maico_Zhang	Feb.8.2018
1.54		Add new PCBA(YV0BJ2-A22)	GRTD	Maico_Zhang	Mar.14.2018
1.55		Add new PCBA(YV0BI0-A43/A53)	GRTD	Maico_Zhang	May.11.2018
1.56		Add new PCBA(YV0BI1-A43/A53)	GRTD	Maico_Zhang	May.11.2018
1.57		Add new PCBA(YV0AE0-A25)	GRTD	Maico_Zhang	May.11.2018
1.58		Add new PCBA(YV0AE1-A25)	GRTD	Maico_Zhang	May.11.2018
1.59		Add new PCBA(YV0BJ1-A42)	GRTD	Maico_Zhang	May.11.2018
1.60		Add new PCBA(YV0BJ2-A42)	GRTD	Maico_Zhang	May.11.2018
1.61		Add new P/N(YV09T6-A17)	GRTD	Maico_Zhang	May.11.2018
1.62		Add new P/N(YV09T7-A17)	GRTD	Maico_Zhang	May.11.2018
1.63		Add new PCBA(YV0BK0-A01)	GRTD	Maico_Zhang	Jun.13.2018
1.64		Add new PCBA(YV0BK0-A15)	GRTD	Maico_Zhang	Jun.13.2018
1.65		Add new PCBA(YV0BK1-A14)	GRTD	Maico_Zhang	Jun.13.2018
1.66		Add new P/N(YV0BY0-A04)	GRTD	Maico_Zhang	Jul.19.2018
1.67		Add new PCBA(YV0BY0-A14)	GRTD	Maico_Zhang	Jul.19.2018
1.68		Add new P/N(YV0BY1-A01)	GRTD	Maico_Zhang	Jul.19.2018
1.69		Add new PCBA(YV0BY1-A11)	GRTD	Maico_Zhang	Jul.19.2018

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1.Objectives

Create test procedure.

2.Scope

Model:GTX1070

PN: YV09V0(A01) YV09N0(A01) YV09N2(A01) YV09T0(A06)
YV09P0(A02) YV09T1(A01) YV09T3(A01) YV09T2(A01) YV09T4(A01)
YV09N3(A01) YV09N1(A05) YV09N4(A03) YV09N0(A16) YV09N2(A15)
YV09T0(A17) YV09T5(A01) YV09T1(A11) YV09T2(A12)YV09T3(A12)
YV09T4(A11) YV09T5(A12) YV09N3(A15) YV09P0(A16) YV09T1(U12)
YV09N4(A15) YV09N1(A17) YV0AE0(A01) YV0AE1(A01) YV0AE0(A11)
YV0AE1(A11) YV09T6(A01) YV09T7(A01) YV0AS0(A01) YV0AS1(A01)
YV09N0(A2A) YV09N2(A29) YV09T0(A2B) YV09T3(A25) YV0BI0(A01)
YV0BI1(A01) YV0BJ0(A01) YV0BJ1(A01) YV0BJ2(A01) YV0BK1(A01)
YV0BJ1(A12) YV0BJ0(A22) YV0BI0(A13) YV0BI1(A12) YV0BJ0(A32)
YV0BI0(A33) YV0BI1(A32) YV0BJ1(A22) YV0BJ1(A32) YV0BJ2(A12)
YV0BJ2(A12) YV0BI0(A43/A53) YV0BI1(A43/A53) YV0AE0(A25) YV0AE1(A25)
YV0BJ1(A42) YV0BJ2(A42) YV09T6(A17) YV09T7(A17) YV0BK0(A01)
YV0BK0(A15) YV0BK1(A14) YV0BY0(A04/A14) YV0BY1(A01/A11)

3.Test Item

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3.1 Diagnostic test in Tiny Linux

4.Relevant Document

None.

5.Definition : 1. If the model name contains P, please test HDCP function.

Ex: EAH***/HTDP/512M/A

2. If you test HDMI already, it's unnecessary to test HDCP. The HDMI contains HDCP function.

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 7 test environment by yourself).

6.2 Fixture connect

6.2.1 Install Intel P7 CPU & CPU Fan.

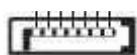
6.2.2 Install DDR3 Memory to DIMM1~4..

6.2.3 Plug USB Mouse and PS/2 Keyboard into MB.

6.2.4 Plug VGA Card GTX1070 into PCIEX16.

6.2.5 Connect power con of VGA card & Power supply via bundled power cable.

6.2.6 Connect SATA HDD with SATA CON.

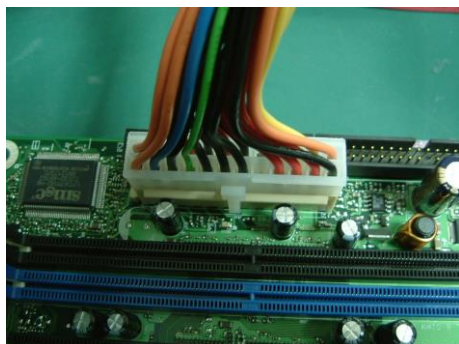


SATA1



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

6.2.8 Plug ATX Power (1200W) on Power Connector.



6.3 Diagnostic test in Tiny Linux.

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



Dual link DVI cable



6.3.2 Press Power Switch then turn on power button.

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

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EXIT -> Load Setup Defaults.



6.3.4 System will reboot, select Linux to run test program.

Path:GTX1070\yv09v0a0.sh

Path:GTX10701\yv09n0a0.sh

Path:GTX10702\yv09n2a0.sh

Path:GTX10703\yv09t0a0.sh or yv09t1a0.sh or yv09t3a0.sh or yv09t2a0.sh or yv09t4a0.sh or yv09t0a1.sh or yv09t5a0.sh or yv09t1a1.sh or yv09t2a1.sh or yv09t3a1.sh or yv09t4a1.sh or yv09t5a1.sh or yv09t1u12.sh or yv09t6a0.sh or yv09t7a0.sh or yv09t0a2.sh or yv09t3a2.sh

Path:GTX10704\yv09p0a0.sh

Path:GTX10705\yv09n3a0.sh or yv09n3a1.sh

Path:GTX10706\yv09n1a0.sh or yv09n1a1.sh

Path:GTX10707\yv09n4a0.sh or yv09n4a1.sh

Path:GTX10708\yv09n0a1.sh or yv0ae0a0.sh or yv0ae0a1.sh or yv0as0a0.sh or yv09n0a2.sh or yv0ae0a2.sh

Path:GTX10709\yv09n2a1.sh or yv0ae1a0.sh or yv0ae1a1.sh or yv0as1a0.sh or yv09n2a2.sh or yv0ae1a2.sh

Path:GTX1070a\yv09p0a1.sh

Path:GTX1070b\yv0bi0a0.sh or yv0bi0a1.sh or yv0bi0a3.sh or yv0bi0a4.sh or yv0bi0a5.sh

Path:GTX1070c\yv0bila0.sh or yv0bila1.sh or yv0bila3.sh or yv0bila4.sh or yv0bila5.sh

Path:GTX1070d\yv0bj0a0.sh or yv0bj0a2.sh or yv0bk0a0.sh or yv0bk0a1.sh

Path:GTX1070e\yv0bj1a0.sh or yv0bj2a0.sh or yv0bk1a0.sh or yv0bj1a1.sh or yv0bj1a2.sh or yv0bj1a3.sh or yv0bj2a1.sh or yv0bj2a2.sh or yv0bj1a4.sh or yv0bj2a4.sh or yv0bk1a0.sh or yv0bk1a1.sh

Path:GTX1070f\yv0bj0a3.sh

Path:GTX1070g\yv0bt6a1.sh

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Path:GTX1070h\yv0bt7a1.sh
 Path:GTX1070i\ yv0by0a0.sh or yv0by0a1.sh
 Path:GTX1070j\ yv0by1a0.sh or yv0by1a1.sh

Run the test program refer to the prompt.

6.3.5 Memory test

If you want to test memory, please run **./mats -e xx** or **./mats -c xx**

Where, -c xx----- only xx% of frame buffer is detected.

Path:GTX1070\

6.3.7 BIOS flash

If you want to check Vbios infor, Please run **biosinfo**

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

Path: Path:GTX1070\

Command: **nvflash xxx.rom -6 -A** or **iromflsh xxx.rom**

Notice:

If you can not flash bios because of the bios locked, please use **nvflash.exe /r** or **nvflash.exe -r** to unlock bios. And then, please use **nvflash.exe /w** or **nvflash.exe -w** to lock bios after updating latest bios.

6.3.8 Please connect LCD monitor & card's the other DVI CON via a DVI cable.

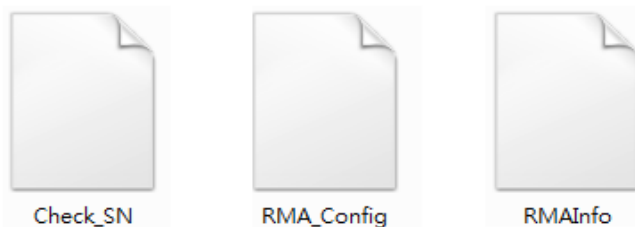
(Please refer to step 6.3.2&6.3.4)



6.4 Result upload to server (need connect to internet)

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

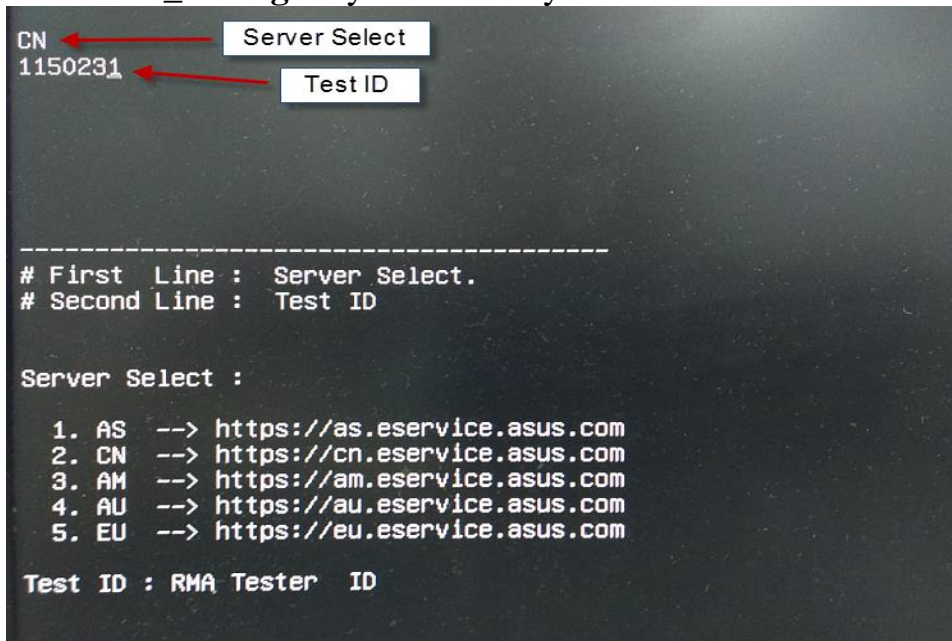
The tool of RMA upload tool include 3 files:



6.4.2 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 ← Server Select
1150231 ← Test ID

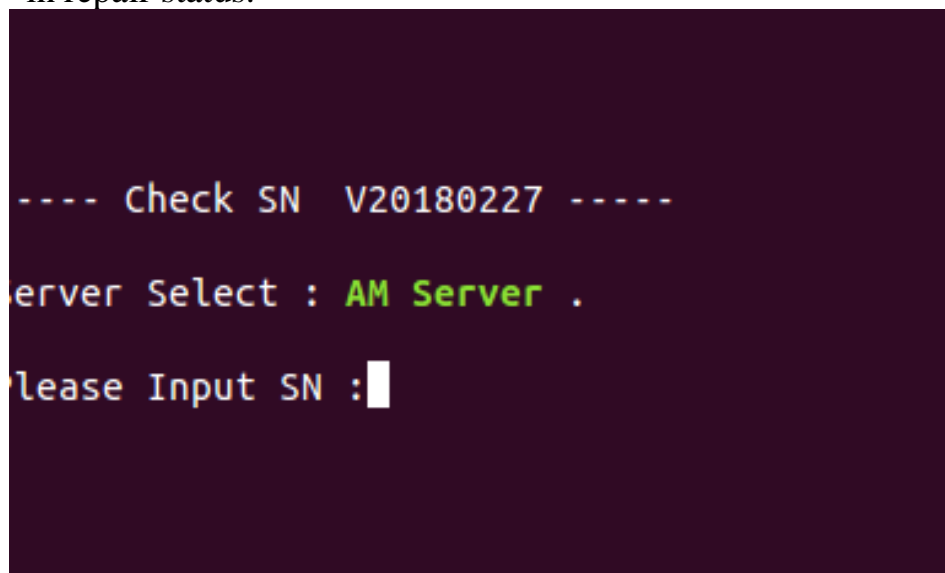
-----
# First Line : Server Select.
# Second Line : Test ID

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
```

6.4.3 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 : █
```

6.4.4 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 .[^>
'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

```

6.4.5 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
```

6.5 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 800W)		local	1	
5	Intel CPU Intel(R) I5 7500 CPU		local	1	
6	Heat sink + FAN		local	1	
7	DDR4 2400 4G		local	4	
8	TEST HDD		local	1	
9	SATA HDD Cable		local	1	
10	Dual link DVI cable (Buying a local DVI cable by yourself)		local	1	
11	HDMI extend cable (Buying a local HDMI cable by yourself)		local	1	
12	ASUS Prime B250-PLUS MB		local	1	
13	Display port cable (Buying a local Display port cable by yourself)		local	1	