

ASM105x SeriesMP Tool User Manual

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Environmentally hazardous materials are not used in this product.

Revision History

Rev.	Date	Description
1.13	Jun 9, 2023	Update description
1.12	Jun 1, 2023	Update description
1.11	Jun 13, 2022	Update description
1.10	Feb 22, 2022	Add command line time out ini setting
1.9	Dec 14, 2021	Add MP rom description
1.8	Oct 01, 2021	Update last command line description
1.7	Aug 25, 2021	Update operation procedure
1.6	Jan 17, 2020	Update UI and configurations with MP Tool v3.7.1.5
1.5	Aug 31, 2016	Update UI and configurations with MP Tool v3.6.0.0
1.4	Nov 27, 2014	Update UI and configurations with MP Tool v2.1.22.1
1.3	Jun 11, 2012	Add HDDSN/WHCK/HDDPC description.
1.2	May 02, 2012	Update UI and configurations with MP Tool v2.01.
1.1	Jun 02, 2011	Add more configurations and preload file.
1.0	Mar 12, 2010	Formal release
0.4	Mar 11, 2010	Update description
0.3	Mar 09, 2010	Feature description update.
0.2	Mar 08, 2010	Revision Update
0.1	Feb 11, 2010	Initial Release

Scope:

Customers can easily manufacture Asmedia's ASM105x related products.

Operation environment:

Win XP / Win7 / Win8 / Win10.

MP Tool Interface Overview

The screenshot displays the Asmedia 105x MP Tool interface, version 3, 7, 1, 5 (1.1.2.2). The interface is divided into several sections:

- Area D (Top Bar):** Contains the Asmedia logo, a 'Loc IN' button, a 'Set IN' button, and a 'D' label.
- Area A (Device Configuration):** Includes fields for 'Format' (TYPE1), 'Vendor ID' (174C), 'Product ID' (55AA), and 'Device Revision' (0100). It also has a 'Device Configuration' section with 'Serial Number' (AAAA BBBB CCCC 0003), 'SN Edit Type' (0.User define), and 'S/N CHK HEX'. Below this are 'EP0 M.String' (A SMT), 'EP0 P.String' (A SMT105x), and 'Idle Timer' (Never). A 'More Config' button is also present.
- Area B (Device Function):** Features a 'Device Function' section with 'USB Status' (USB 3.0), 'MP Auto Mode' (1), 'Update FW', 'Reload FW', and 'Config Check'. It also includes 'Partition / Format' settings (Partition Type: GPT, Format Type: exFAT, Drive Label: MyDisk), 'Capacity Check' (0 GB), 'W/R Test', 'Preload Files', 'Speed Test' (Read: 0, Write: 0), and 'Auto Safe Remove After' (0 Seconds).
- Area C (Test Results Table):** A table showing test results for various ports. The table has columns: Port#, Status, VID, PID, Serial Number, FW Version, CC, Capacity, Update, ReLink, Partition, R/W Test, and Preload. The first row shows '0 SUPER 174C 55AA ZZZZXXX0002 170907d10000 2'. Below the table is a 'Progress Bar' showing 0% completion.
- Area D (Bottom Bar):** Contains a 'FW Browser' with a file selection dropdown (.171120_D1_00_00.bin), a 'Preload Browser' with a file selection dropdown (D:\temp), and a 'USB Searching' status bar showing 100%.

MP tool have 4 major function areas.

Area A: Configure device information.

Area B: Select device function test items.

Area C: Show the test status and results.

Area D: Switch configures mode or un-configures mode and save/load ini file.

Area A: Device Configuration and Device Firmware

1. Vendor ID, Product ID and Device Revision:

You can type 4 characters. ("0"~"9" and "A"~"F")

2. Serial Number :

You can type 12~20 characters.

2-1. Drop-down menu:

2-1-0. **User define:** (printable characters)

The serial number is what you type

2-1-1. **Increase HEX:** ("0"~"9" and "A"~"F")

The serial number will be auto increased by Hex

2-1-2. **Increase DEC:** ("0"~"9")

The serial number will be auto increased by Dec

2-1-3. **From Barcode:**

input serial number by barcode scanner. There is a limitation is that it is only support one device operation. When device plug in, MP tool will pop up a edit box and wait serial number input from barcode scanner

2-1-4. **From HDD SN:**

MP tool will use HDD's serial number as device's serial number

2-2. S/N CHK HEX:

The radio is a function that MPTool will check S/N number is valid or not.

3. Manufacturer String and Product String (EP0 M.String and EP0 P.String):

All characters are allowed.

4. Device Firmware:

The FW directory must be selected if update FW in area B is checked.

The Preload path must be selected if preload file in area B is checked.

5. Idle Timer:

It allows user to select idle timer to trigger the function of HDD standby.

Please refer to

Area B: Device Function

Device Function

☐ USB Status **USB 3.0** ☐ MP Auto Mode **1**

☒ Update FW ☒ Reload FW

☐ Config Check

☐ Partition / Format

Partition Type **GPT** Format Type **NTFS**

Drive Label **MyDisk**

☐ Capacity Check **0** GB

☐ W/R Test ☐ Preload Files

☐ Speed Test Read: **00** Write: **50**

☐ Auto Safe Remove After **0** Seconds

1. USB Status:

Check device status.

2. MP Auto Mode:

MP Auto Mode, support maximum 16 devices.

3. Update FW:

Update new firmware and configuration setting.

4. Reload FW:

Reload new firmware and new configuration.

5. Config Check:

Check device's PID、VID、Manufacture string、Product String, and Serial number are same with MP tool's setting.

6. Format Type:

You can select format type **NTFS**、**FAT32** or **EXFAT**

Drive Label support **11** characters in FAT32 type, **32** characters in NTFS type.

7. Partition Type

You can select MBR or GPT.

8. Capacity Check

Check HDD capacity.

9. W/R Test:

MP tool will Write, Read and compare test file on HDD.

The limit size of test pattern file is 180MB.

The file name of test pattern is "rwtest.bin".

10. Speed Test:

Test for device read/write speed.

11. Preload Files:

MP tool will copy the files to the HDD.

12. Auto Safe remove after ?? second:

this function will auto safely remove after a few second after MP operation success.

Area C: Status and Results

Port#	Status	VID	PID	Serial Number	FW Version	Capacity	Update	ReLink	Partition	R/W Test	Preload
0	SUPER	174C	55AA	00000000009C	141126a10000	931 GB					
1											
2											
3											
4											
5											
6											
7											
8											
9											




Pass	Fail	Total
0	0	0



Progress Bar

0%

ASM105xMPTool will show basic information such as Port Number, Status, PID, VID, Serial Number, FW Version and Capacity and test results.

Area D: Mode select



Lock Mode:

Initially, ASM105xMPTool work in Lock Mode. It will load INI file and ready to run.

Unlock Mode:

If you want to enter into Unlock Mode, you must key in password. Password is "asmedia". When you are in Unlock Mode, you can modify Device Configuration, Device Function, Device Firmware, clean test result and save INI.

Password is "asmedia"

Operation Procedure:

ASM105xMPTool will auto load configuration from "as_mp_tool v0.5.ini". You can edit "as_mp_tool v0.5.ini" by notepad or other edit tool. Please refer to Appendix A.

The standard Operation Procedure is described as followed.

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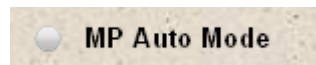
Step1. Please open ASM105xMPTool and press Unlock button to modify setting.

Step2. ASM105xMPTool will show Login Dialog. Please key in "asmedia".

Step3. You can modify configuration or clean test result.

Step4. Check test configuration items when you begin to test.

Manual Mode

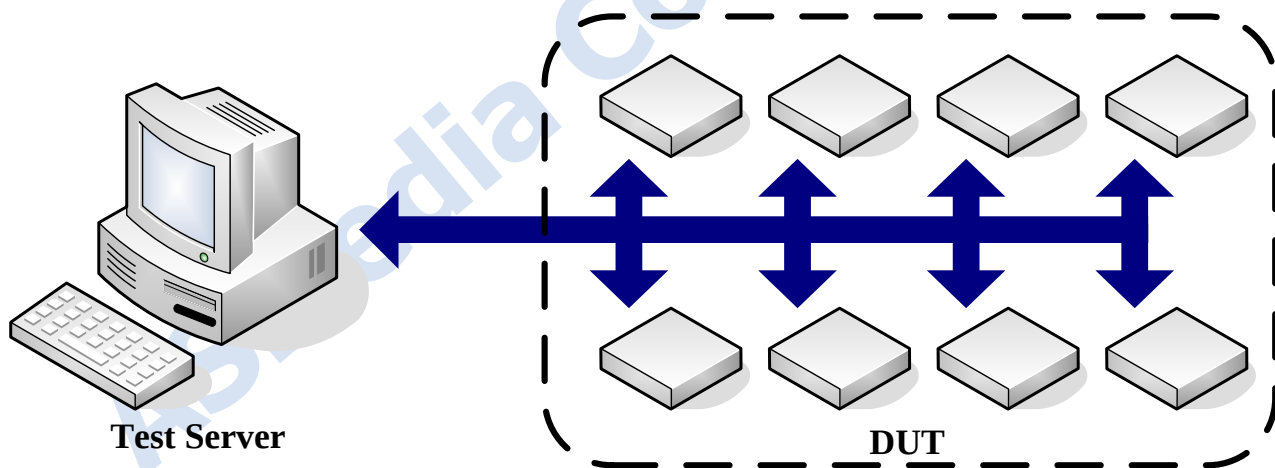


If MP Auto Mode item is not selected, ASM105xMPTool will run in Manual Mode.

In Manual Mode, It support Max 16 DUT to test at the same time.

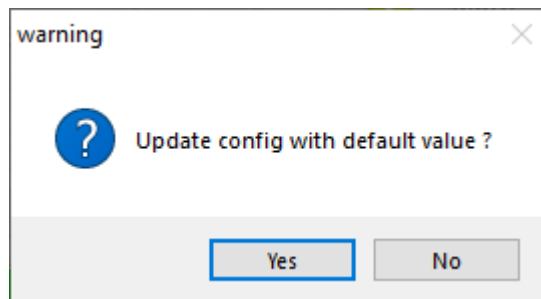
All of USB2.0/3.0 Port **can't** connect any other **Mass Storage Device** on test server.

1.1 Connect DUT to platform.



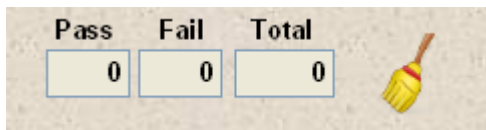
1.2 Press **start** in bottom left.

1.2.1 if user didn't change the default config setting, tool will pop-up warning msg box.



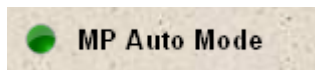
It is not recommended to use default value for config setting.

- 1.3 The progress can be monitored from Progress Bar or % in bottom right.
- 1.4 When the test is finished, users can see pass count, fail count and total count in the screen.



- 1.5 Press safely Remove and change next DUT
- 1.6 ASM105xMPTool will save the test result in file named "YYYYMMDD.log"

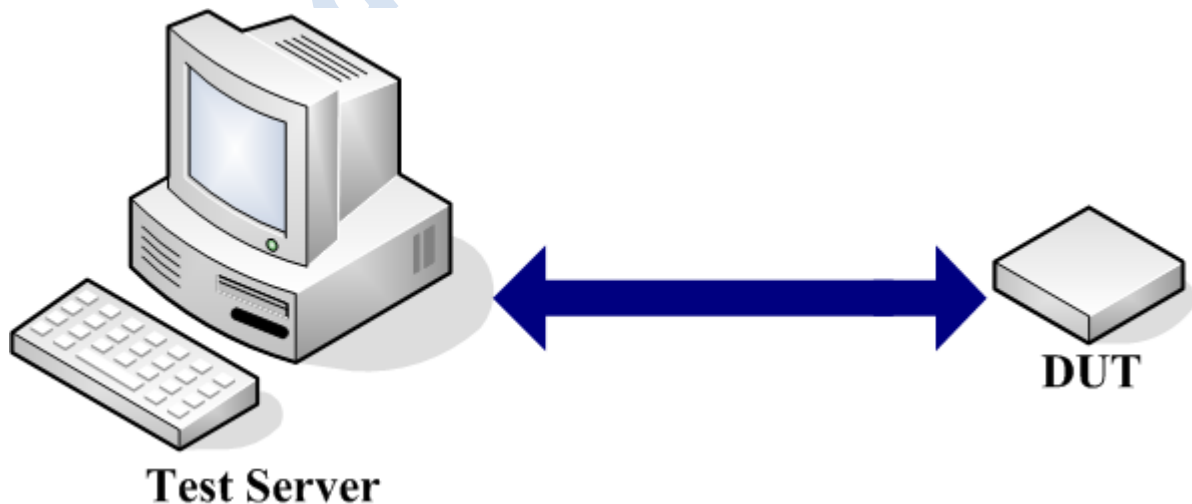
Auto Mode



If MP Auto Mode is selected, ASM105xMPTool will run in Auto Mode.

In Auto Mode, All of USB2.0/3.0 Port **can't** connect any other **Mass Storage Device** on test server.

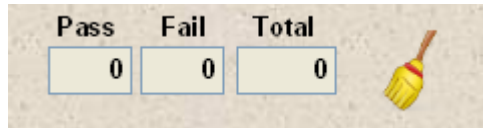
- 2.1 Plug DUT to USB port, after entered MPtool window.



- 2.2 ASM105xMPTool will automatically test when the usb device is plugged into test server.

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- 2.3 You can monitor the progress through Progress Bar or % in bottom right.
- 2.4 When the test is finished, users can see pass count, fail count and total count in the screen.



- 2.5 Press safely remove and change next DUT
- 2.6 ASM105xMPTool will save the test result in file named "YYYYMMDD.log"

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Appendix A:

INI file Description:

=====INI file Start=====

INI file Description:

[usb_func]

format_enable=0	//0: Disable; 1: Enable Format disk
format_drive_type=0	//0: NTFS; 1: FAT32; 2: exFAT
partition_drive_type=0	//0: MBR; 1:GPT
drive_label_name=NEW DISK	//Setup Disk label name
wr_test_enable=0	//0: Disable; 1: Enable Read/Write test
wr_test_binary_name=rwtest.bin	//File name for read/write test
wr_test_count=1	//Loop count for read/write test
auto_mp=0	//0: Disable; 1: Enable Auto MP mode
auto_mp_DevNum=1	//1~8: When Auto MP mode enable, determine how many devices plug-in will trigger MP process
preload_enable=0	//0: Disable; 1: Enable Preload load file
preload_folder_path=C:\test	//File folder path for preload
Check_USBStatus_enable=0	//0: Disable; 1: Enable Check USB status
Check_USBStatus=1	//0: USB2.0; 1: USB3.0; 2: USB3.1
Check_SerialNumber=0	//0: Disable; 1: Enable check input serial number is hex
Auto_Safe_Remove=0	//0: Disable; 1: Enable auto safe remove after MP process
Scan_BarCode=0	//this item is not used currently
Speed_test_enable=0	//0: Disable; 1: Enable read write speed test
Scan_HDDSN=0	//this item is not used currently
check_config=0	//0: Disable; 1: Enable check PID,VID,Manufacture string, Product string, and Serial number
HDDCapacityCheck=0	//0: Disable; 1: Enable HDD capacity check
HDDCapacity_Threshold=0	//the threshold of HDD capacity (unit: GB)
SN_EditType=1	//input serial number edit type: 0: user define; 1: Increase Hex; 2: Increase Dec; 3: serial number from barcode scanner; 4: serial number from HDD SN
port_mapping_enable=0	//0: Disable; 1: Enable port mapping feature, MP tool will assign different to every USB port, and display on Area:C

CmdLineTimeOut=35 //the timeout while executing tool by command line(unit:second)

[usb_fw]

fw_enable=1 //0: Firmware update disable ; 1: Firmware update enable
 fw_binary_name=.\\120416_11_11_06.bin // Firmware file path for Firmware update
 fw_reload=1 //0: Device relink disable ; 1: Device relink enable
 rescan_after_relink=0 //Delay time for device rescan after relink(ms)
 ext_fw_enable=0 //Only for Asmedia internal test always set to 0
 pd_fw_enable=0 //Only for Asmedia internal test always set to 0
 mcu_fw_enable=0 //Only for Asmedia internal test always set to 0
 pd_binary_name= //Only for Asmedia internal test always set to NULL
 mcu_binary_name= //Only for Asmedia internal test always set to NULL

[usb_config]

config_format=1 //Only for Asmedia internal test always set to 1
 vendor_id=174C //Setup for vender ID
 product_id=55AA //Setup for product ID
 device_revision=0100 //Setup for revision
 manufacturer_string=ASMT //Setup for manufacturer string
 product_string=ASMT105x //Setup for product string
 serial_number=AAAABBBB0001 //Setup for serial number, in USB specification, serial
 number shall contain 12 ~ 20 valid digits
 serial_number_increase=0 //0: Device serial number increase disable ;
 1: serial number increase enable
 serial_number_increase_HEX=0 //this item is not used currently
 serial_number_increase_DEC=0 //this item is not used currently
 SN_fix_length=0 //0~20: tool will check if input serial number's length is equal
 the setting before MP process
 SN_remain_value_enable=0 //0: Disable ; 1: Enable the serial number remain value length
 feature when SN_EditType = 1 or 2 (increase Hex or Dec)
 SN_remain_value_length=8 // if SN_EditType = 1 or 2, and SN_remain_value_enable = 1,
 MP tool will auto increase the serial number without the setting
 digits
 e.g. SN_EditType=1, serial_number=AABBCCDD0000,
 SN_remain_value_length=8, MP tool will keep the 8 digits

value “AABBCCDD”, and increase the last 4 digits, from 0000 to FFFF

standby_timer=0	//Only for Asmedia internal test always set to 0
hdd_standby=0	//Only for Asmedia internal test always set to 0
customized_string=1	//Only for Asmedia internal test always set to 1
eup_enable=0	//Only for Asmedia internal test always set to 0
two_leds=0	//Only for Asmedia internal test always set to 0
U1U2=0	//Only for Asmedia internal test always set to 0
low_power_mode=0	//Only for Asmedia internal test always set to 0
2TB=0	//Only for Asmedia internal test always set to 0
image0=1	//Only for Asmedia internal test always set to 1
image1=0	//Only for Asmedia internal test always set to 0
crc32=0	//Only for Asmedia internal test always set to 0
slow_enumeration=0	//Only for Asmedia internal test always set to 0
Win8WTG=0	//Only for Asmedia internal test always set to 0
HDDPC=0	//Only for Asmedia internal test always set to 0
QD32=0	//Only for Asmedia internal test always set to 0

[usb_mode]

cd_rom_mode=0	//0: Disable; 1: Enable ODD device
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[Target_Chip]

target_chip=0	//Only for Asmedia internal test always set to 0
---------------	--

=====INI file End=====

Appendix B:

MPTool in command line mode:

User can execute MP tool without GUI by using command line window

Currently available commands as below:

/? , /DBG, /S, /S:AAAABBBB0001, /C:YYMMDDAABBCC, /LED:xx, /SPD, /PROT, /CC, /IC

/? // Pop-up a message box, to show the available commands
// e.g. ASM105xMPTool.exe /?

/DBG // Set the debug message level(0~4)
It will display GUI and user can monitor the debug message by
DebugView.exe(a windows tool to capture debug messages)
// e.g. ASM105xMPTool.exe /DBG 4

/S // Execute the MP tool without GUI
Tool setting depend on ini
return 0 if success
// e.g. ASM105xMPTool.exe /S

/S:AAAABBBB0001 // Execute the MP tool without GUI, and update SN
When ini setting fw_enable=1, auto_mp=1, auto_mp_DevNum=how
many devices you want to update in the same time
execute this command then plug-in device, MP tool will update serial
number as AAAABBBB0001 and FW
SN should contain 12 ~ 20 characters
you can set SN_EditType=1 or 2, MPTool will auto increase SN
when update multiple devices, but all SN's characters should be all
hexadecimal or decimal
return 0 if success
// e.g. ASM105xMPTool.exe /S:AAAABBBB0001

/C:YYMMDDAABBCC // Check FW version if equal YYMMDDAABBCC
Return 0 if same FW version, return -2 if FW unmatched
// e.g. ASM105xMPTool.exe /C:170907D10000

/LED:xx // Set LED status, x=0: off, x=1: on
LED:00-> LED1 and LED2 off, LED:01->LED1 off LED2 on, some
chip unsupported this command
return 0 if success
// e.g. ASM105xMPTool.exe /LED:01

/SPD // Get USB speed
Return value:
6: full speed
7: high speed
8: super Gen1 x 1
// e.g. ASM105xMPTool.exe /SPD

/PROT // Get USB protocol
Return value:
2: UAS
3: BOT
// e.g. ASM105xMPTool.exe /PROT

/CC // Get USB CC orientation
Return value:
4: CC 1
5: CC 2
// e.g. ASM105xMPTool.exe /CC

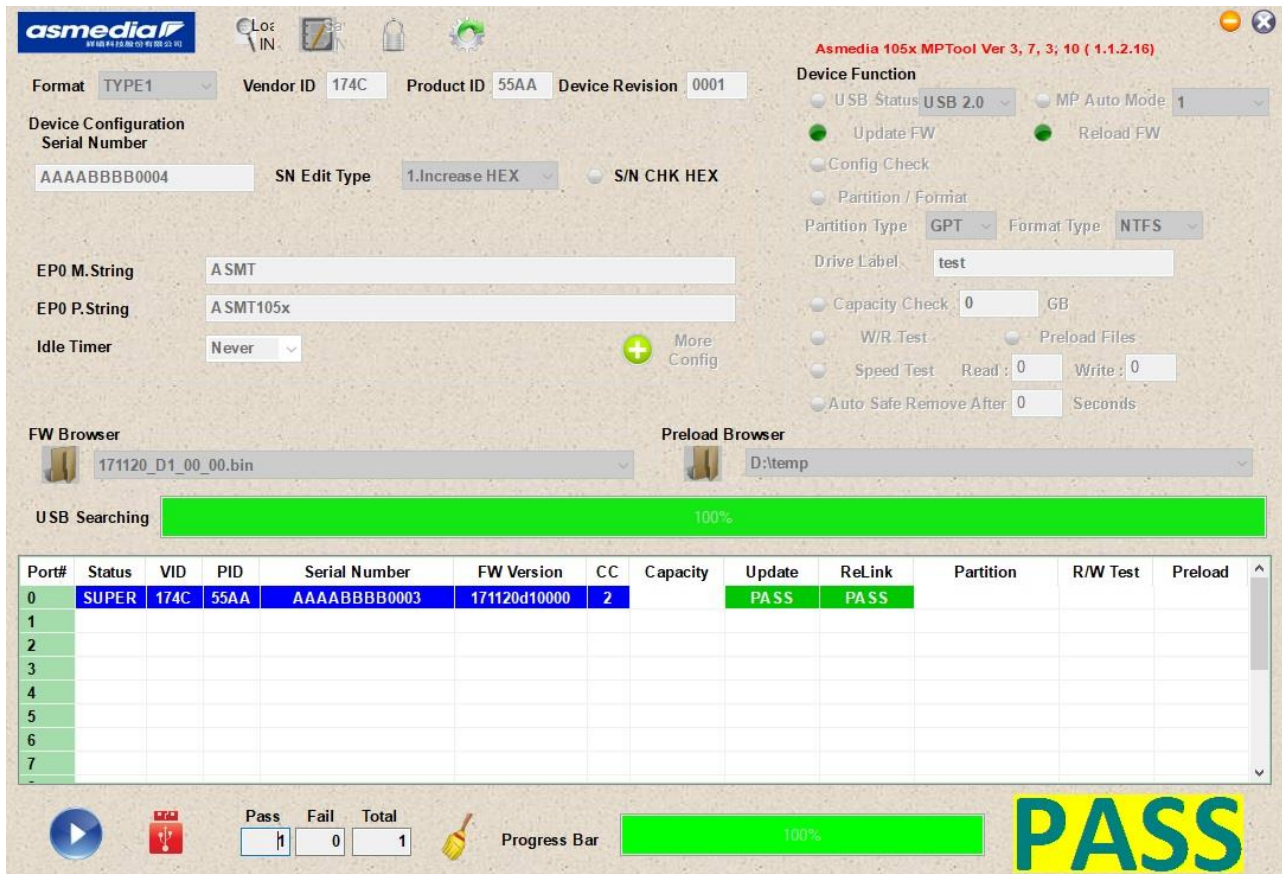
```
/IC                                // Get chip name
                                   Return value:
                                   0: ASM 1051
                                   1: ASM 1053
                                   2: ASM 1153
                                   3: ASM 1351
                                   4: ASM 1352
                                   5: ASM 235CM
                                   255: unknown
                                   // e.g. ASM105xMPTool.exe /IC
```

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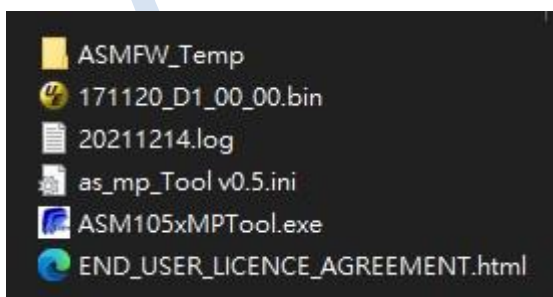
Appendix C:

MP rom generation:

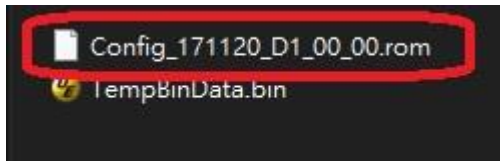
1. Set the Vendor ID, Product ID, Device Revision, EP0 M.String, EP0 P.String and FW bin file, then press start button to update FW.



2. MPTool will generate a folder “ASMPFW_Temp” in the same folder after MP process finish, do not click the close button on the upper right of MPTool.



3. In ASMFw_Temp folder, you can find the Config_YYMMDD_SS_CC_TT.rom



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