

Report No: 19D010013

UPCP-CR-NPL4 (NET-PLUS) with UPC-PLUS

Board Level Product Bulletin Compatibility Test Report

Summary	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail <input type="checkbox"/> Pass with Deviation (Comment: _____)			
Test Results Category				
	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	0
Defect Unsolved	0	0	0	0

Issue date

2019-07-29

QE Supervisor

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Version Released Records

Date	Version	Change History	Note
5/26/2015	C0	1. Add UEFI,GPS,CANBUS,POE, Cold boot test item	
3/22/2016	C1	1. Add issue status 2. Update CTOS devices 3. Add HDMI 5M cable compatibility test 4. Modified boot up without display test 5. Add Touch Function test 6. Add DC adapter compatibility test 7. Add Windows10 compatibility test 8. Update Benchmark tool 9. Update DOS / Windows on/off test rule 10. Add DDR4 SO-DIMM 11. Update Linux to Ubuntu16.04 12. Add Stability Test \ Memory test	
10/21/2016	C2	1. Remove Smartbits test item 2. Update chapter7.2 \ LVDS type support 3. Add chapter9.6. System stability after S3 / S4 / S5 cycles	
01/15/2018	C3	1. Modified PWB test item 2. Update Benchmark test tool 3. Modified wide voltage test item 4. Add Iperf for LAN performance test 5. Defined USB3.0 power status 6. Update POE LAN test item 7. Add PCIe bear card test 8. Define booting time test criteria 9. Add TPM test item 10. Update CTOS compatibility devices	

Note :

For all test items in this report, 3 results have been defined and described as following:

Pass: Functionality work perfectly
 Fail: Functionality failed and must be resolved in the next version
 N/A: Functionality Not Applicable or Not Available

This test report would be updated when re-test completed in product next change version

Specification Validation**Main Specification**

Item		Specification	Result			Note
			Pass	Fail	N/A	
System Interface	PCIe Switch	1x2 channel PCIe Switch	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Ethernet	Config 1: 4x Intel I211-AT Config 2: 4x I210-AT (optional TSN function)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	EEPROM	1x EEPROM on I2C0 4Kb	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
I/O Placement	Internal I/O Ports	1xMinicard with optional mSATA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		1xSIM Card Reader	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		1xSATA (vertical)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		1xDocking Connector1 to UP Core Plus	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		1xDocking Connector2 to UP Core Plus	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Rear I/O Ports	4x RJ45 Ethernet port	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		1x USB 3.0 on the side	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Platform Information

Item	Device Information
Product of department	DMS
I/O Board / Version	NET-PLUS Rev A0.3_0_0
Driver folder	NET-PLUS
Storage	Innodisk 2.5" SATA SSD 64GB - 3MG2-P
Chipset Information	
Ethernet Chipset	Intel ® I210 Gigabit Network Intel ® I211 Gigabit Network
Item	Device Information
Product of department	DMS
PCB Model / Version	UPC-PLUS Rev A0.4_0_0
BIOS / Version	UPC-PLUS R1.0 (UPCPSM10)(02/19/2019)
Driver folder	UPC-PLUS\20181017
CPU Type	Intel ® Atom ™ Processor E3950 @ 1.60GHz
Memory Type	Onboard memory LPDDR4 8GB
USB DVD-ROM	Pioneer DVR-XU01TW
LCD Monitor	DELL U2713HM
Operating System	<input checked="" type="checkbox"/> Windows 10 Enterprise English Version 64Bit (V1703)
Power Supply	FSP040-DHAN3 12V 3.33A
Chipset Information	
SOC Bridge	Intel ® Apollo Lake SoC
Graphics Chipset	Intel ® HD Graphics

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1. Hardware Compatibility

1.1. Install OS to SATA SSD

64bit Driver Information					
LAN Driver	Intel ® I211 Gigabit Network Connection 12.15.184.0 (1/11/2019)				
	Intel ® I211 Gigabit Network Connection #2 12.15.184.0 (1/11/2019)				
	Intel ® I211 Gigabit Network Connection #3 12.15.184.0 (1/11/2019)				
	Intel ® I211 Gigabit Network Connection #4 12.15.184.0 (1/11/2019)				
	Intel ® I210 Gigabit Network Connection 12.15.184.0 (1/11/2019)				
	Intel ® I210 Gigabit Network Connection #2 12.15.184.0 (1/11/2019)				
	Intel ® I210 Gigabit Network Connection #3 12.15.184.0 (1/11/2019)				
	Intel ® I210 Gigabit Network Connection #4 12.15.184.0 (1/11/2019)				
Installation		Result			Note
		Pass	Fail	N/A	
Windows 10 Enterprise English Version 64Bit (V1703)		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

1.2. SATA Compatibility Test

1.2.1. Onboard SATA(AHCI) Test













SATA Device Information (Information and size should show correct value with AHCI mode)		AAEON P/N	Result			Note
			Pass	Fail	N/A	
Main Board project test with 80~100cm SATA cable , typical #1709070800						
SATAII	Seagate 2.5" SATAII ST9120823AS 120GB 5400rpm	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATAII	TOSHIBA 2.5" SATAII MK1676GSX 160GB 5400rpm	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATAIII	WD 2.5" SATA 3 HDD 500GB - WD5000LPVX	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATAIII	TOSHIBA 3.5" SATAIII HDS721010DLE630 1TB 7200rpm	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATAIII	WD 3.5" SATAIII WD20EZRX 2TB 7200rpm	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATAIII	Seagate 3.5" SATAIII ST3000DM001 3TB 7200rpm	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DVD	LITE-ON iHAS 124	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SSD	Transcend ,TS512GSSD420K-AA 512GB MLC	968C512G06	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SSD	Phison SSBP064GTB3C0-S11 64GB ,3D TLC	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SSD	Intel SSD 545s Series 128GB	AP- SS968C128G40	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SSD	Transcend TS32GSSD370 2.5".32GB.SATA III SSD MLC	968C032G2D	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SSD	Innodisk 3MG2-P MLC 16GB DGS25-16GD81BC3SC-26	AP- SS968C016G3K	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SSD	Innodisk 3MG2-P MLC 32GB DGS25-32GD81BC3DC-26	AP- SS968C032G1P	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SSD	Innodisk 3MG2-P MLC 64GB DGS25-64GD81BC3QC-26	968C064G39	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SSD	Innodisk 3MG2-P MLC 128GB DGS25-A28D81BC3QC-26	AP- SS968C128G1P	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SSD	Innodisk 3MG2-P MLC 256GB DGS25-B56D81BC3QC-26	AP- SS968C256G16	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

1.3. Flash Card Compatibility Test

m-SATA Information a. Information and size should show correct value b. R/W and HDD LED should work properly	AAEON P/N	Result			Note
		Pass	Fail	N/A	
Full Size					
Innodisk full size mSATA.8GB 3ME3	CTOS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Innodisk full size mSATA.16GB 3ME3	CTOS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Innodisk full size mSATA.32GB 3ME3	CTOS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Innodisk full size mSATA.64GB 3ME3	CTOS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Innodisk full size mSATA.128GB 3ME3	CTOS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Phison Full size mSATA 64GB, 3D TLC 64 layer, Phison SSEP064GTB3C0-S11	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

2. Basic Function Test

2.1. LAN Function Test

Connect two computers via different speed LAN HUB by using “Ping” instruction (1000 times)									
Command: ping xxx.xxx.xx.xx -l 65500 -n 1000									
1000Mbps LAN HUB			D-Link DGS-1008D						
100Mbps LAN HUB			Accton Desktop-3005						
10Mbps LAN HUB			SVEC FD916H						
OnBoard LAN1		Intel ® I211 Gigabit Network Connection				MAC Address		00-07-32-61-04-67	
OnBoard LAN2		Intel ® I211 Gigabit Network Connection #4				MAC Address		00-07-32-61-04-68	
LAN Speed	Link / Speed LED	Active LED	LAN 1			LAN 2			Note
			Pass	Fail	N/A	Pass	Fail	N/A	
1000Mbps Ping loss≤ 1			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
100Mbps Ping loss≤ 1			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10Mbps Ping loss≤ 1			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Wake On LAN (WOL should work properly when resume from S3/S4/S5)		S3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		S4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		S5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN Boot (PXE) (Boot from LAN should work properly)			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Internet Browser (DHCP Server) (Visit the website should work properly)			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Access 1GB file from ftp (Access file should not stop or error)			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Connect two computers via different speed LAN HUB by using “Ping” instruction (1000 times)									
Command: ping xxx.xxx.xx.xx -l 65500 -n 1000									
1000Mbps LAN HUB			D-Link DGS-1008D						
100Mbps LAN HUB			Accton Desktop-3005						
10Mbps LAN HUB			SVEC FD916H						
OnBoard LAN3		Intel ® I211 Gigabit Network Connection #3				MAC Address		00-07-32-61-04-6A	
OnBoard LAN4		Intel ® I211 Gigabit Network Connection #2				MAC Address		00-07-32-61-04-69	
LAN Speed	Link / Speed LED	Active LED	LAN 3			LAN 4			Note
			Pass	Fail	N/A	Pass	Fail	N/A	
1000Mbps Ping loss≤ 1			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
100Mbps Ping loss≤ 1			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10Mbps Ping loss≤ 1			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Wake On LAN (WOL should work properly when resume from S3/S4/S5)		S3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		S4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		S5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN Boot (PXE) (Boot from LAN should work properly)			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Internet Browser (DHCP Server) (Visit the website should work properly)			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Access 1GB file from ftp (Access file should not stop or error)			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Connect two computers via different speed LAN HUB by using “Ping” instruction (1000 times) Command: ping xxx.xxx.xx.xx -l 65500 -n 1000									
1000Mbps LAN HUB			D-Link DGS-1008D						
100Mbps LAN HUB			Accton Desktop-3005						
10Mbps LAN HUB			SVEC FD916H						
OnBoard LAN1		Intel ® I210 Gigabit Network Connection				MAC Address		00-07-32-60-B2-02	
OnBoard LAN2		Intel ® I210 Gigabit Network Connection #2				MAC Address		00-07-32-60-B2-03	
LAN Speed	Link / Speed LED	Active LED	LAN 1			LAN 2			Note
			Pass	Fail	N/A	Pass	Fail	N/A	
1000Mbps Ping loss ≤ 1			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
100Mbps Ping loss ≤ 1			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10Mbps Ping loss ≤ 1			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Wake On LAN (WOL should work properly when resume from S3/S4/S5)		S3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		S4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		S5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN Boot (PXE) (Boot from LAN should work properly)			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Internet Browser (DHCP Server) (Visit the website should work properly)			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Access 1GB file from ftp (Access file should not stop or error)			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Connect two computers via different speed LAN HUB by using “Ping” instruction (1000 times) Command: ping xxx.xxx.xx.xx -l 65500 -n 1000									
1000Mbps LAN HUB			D-Link DGS-1008D						
100Mbps LAN HUB			Accton Desktop-3005						
10Mbps LAN HUB			SVEC FD916H						
OnBoard LAN3		Intel ® I210 Gigabit Network Connection #3				MAC Address		00-07-32-60-B2-05	
OnBoard LAN4		Intel ® I210 Gigabit Network Connection #4				MAC Address		00-07-32-60-B2-04	
LAN Speed	Link / Speed LED	Active LED	LAN 3			LAN 4			Note
			Pass	Fail	N/A	Pass	Fail	N/A	
1000Mbps Ping loss ≤ 1			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
100Mbps Ping loss ≤ 1			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10Mbps Ping loss ≤ 1			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Wake On LAN (WOL should work properly when resume from S3/S4/S5)		S3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		S4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		S5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAN Boot (PXE) (Boot from LAN should work properly)			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Internet Browser (DHCP Server) (Visit the website should work properly)			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Access 1GB file from ftp (Access file should not stop or error)			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

2.2. USB Port Integration Test

Item	USB Port	USB3.0 ports (under OS)			Note
		Pass	Fail	N/A	
USB HDD:	Transcend TS500GSJ25D3 500GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB2.0 Flash:	ADATA PD4 512MB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB3.0 Flash:	Transcend 32GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Transcend 128GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	ADATA 128GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB DVD ROM:	Pioneer DVR-XU01TW	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB Keyboard:	KINYO KB-14U	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB Mouse:	Microsoft 1113	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB FDD:	Galileo FD-05PUB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB2.0 HUB:	Cliptec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

3. Expansion card and Application Test

3.1. PCI Express Bear Card Test

Test point: Make sure PCIe power, wake# and MLW are correct

Test item		Result			Note
		Pass	Fail	N/A	
Mini PCIe bear card	3.3V, 1.5V, Reset Power LED	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Max Link Width test result GEN2 / x1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

3.2. Expansion Slot Compatibility Test

Test point: Make sure expansion slots are compatible with expansion cards

Full Size Mini PCI Express Card (Test on full size slot)		Result			Note
		Pass	Fail	N/A	
Full size	Quectel UC20 3G Card	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If M/B support SIM slot
Full size	Sierra Wireless AirPrime MC7304 Qualcomm 4G	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If M/B support SIM slot 1. Ping 168.95.1.1 for 1000 cycles, loss<2 times 2. Download 1GB file from website
Full size	AAEON PER-C41C-A10 4 port RS-232	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Half Size Mini PCI Express Card (Test on full size slot)		Result			Note
		Pass	Fail	N/A	
Half size	AzureWave AW-NB159H 802.11b/g/n RTL8723BE combo module	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Half size	AzureWave AW-CB161H 802.11a/b/g/n/ac (PCI-e Wireless+ USB Bluetooth) Realtek RTL8821AE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Half size	Bointec DPE909-AA WIFI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

4. Performance Test

4.1. Performance of Storage Interface Test

SATA Performance				
SATA SSD	Innodisk 2.5" SATA SSD 64GB - 3MG2-P			
CPU	Intel ® Atom ™ Processor E3950 @ 1.60GHz			
Memory	Onboard memory LPDDR4 8GB			
O.S	Windows 10 Enterprise English Version 64Bit (V1703)			
Item	Comment / (unit)	Software	Score	Note
SATAIII port	Maximum Read	ATTO Disk Benchmark	545MB/s	SATAII 150~300MB SATAIII up 300M/B
	Maximum Write		95MB/s	

USB3.0 Performance				
USB Flash	ADATA USB 3.0 128GB			
Item	Comment / (unit)	Software	Transfer Rate (MB/s)	Note
USB3.0 port	Maximum Read	ATTO Disk Benchmark	211MB/s	
	Maximum Write		106MB/s	

mSATA performance				
mSATA	Innodisk mSATA 128GB - 3ME3			
Item	Comment / (unit)	Software	Transfer Rate (MB/s)	Note
mSATA	Maximum Read	ATTO Disk Benchmark	224MB/s	SATAII 150~300MB SATAIII up 300M/B
	Maximum Write		141MB/s	

5. Stability test

Configuration	
CPU	Intel ® Atom ™ Processor E3950 @ 1.60GHz
Memory	Onboard memory LPDDR4 8GB
Storage	Innodisk 2.5" SATA SSD 64GB - 3MG2-P
O.S	Windows 10 Enterprise English Version 64Bit (V1703)
Environment	Under room temperature

5.1. Run In Test

O.S: Windows 10 Enterprise English Version 64Bit (V1703)

Test Item			Result			Note
			Pass	Fail	N/A	
Burn In Test V8.1(1025 above) Duty: 100 Time: over 12 hours <System should not error or hang during testing>	CPU		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	RAM		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Video		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	2D		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	3D		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Disk		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Sound		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Network <Advanced>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	GPGPU		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	USB	3.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	UPC-PLUS X2 NET-PLUS X1