

R&D New Product Go/Ngo Pre-Test UP E-Test Report

Product Model	UPX-ISHI5-A20-08064			
Test Reason	☒ New product ☒ PCB : ISH-WHL01 A0.1_0_0 ☒ BIOS: ISH-WHL01 R0.1 (UISHAM01) (02/12/2020) ☐ Renew product ☐ PCB : ☐ BIOS: ☐ Revision change ☐ PCB : ☐ BIOS: ☐ Component:			
Test Result Summary				
	Critical	Major	Minor	Enhancement
Defect Found	0	0	2	1
Defect Unsolved	0	0	2	1
☐ Pass ☒ Fail ☐ Pass with Deviation Comment: _____ _____				

2020 -02 -21

Yuchen Lin

Chasel Wang

Issued date

Supervisor

Test Engineer

DS Stage -Verification Test Plan Of Version Release Record :

Date	Version	Item	Note
2012/12/12	QD4-101 REV.A0	1.New Report	
2014/07/08	QD4-101 REV.A1	1.Remove LCD ,Touch ,Power Details 2.Memory Transfer Rate Add DDR3L option 3.Added ☐ Skip option 4.Storage Functionality Test Add eMMC , eSATA item 5.I/O Functionality Test Add RS232,RS422,RS485 item 6.Add Network Functionality Test 7.Expansion Slots Functionality Test Add Mini PCI Express (USB) item 8.Particular Functionality Test Add SCR,MSR,NFC,Barcode scanner item 9.Add Tablet Devices Functionality Test 10.Modify O.S Compatibility Test	
2014/12/12	QD4-101 REV.A2	1.Add M.2 NGFF Function Check 2.Add 10GE Function Check 3.Modify 3G Module Function Check => 4G Module Function Check 4.Add Remove VGA Boot Function Check 5.Add DVI/HDMI/DP Hot Swap Function Check 6.Modify Memory Supports Add DDR4 7.Add M.2 Function Check	
2015/12/08	QD4-101 REV.A3	1.Remove BIOS Details, CPU Supports 2.Modify Chipset Details, Memory Supports 3.Modify On-Board Features and Devices 4.Modify Functionality Test	
2019/08/29	QD4-101 REV.A4	1.Add test details 2.Modify Storage Functionality Test 3.Modify I/O Functionality Test 4.Modify Expansion Slots Functionality Test 5.Modify Performance Test	

Specifications Check list

Model Name	UPX-ISHI5-A20-08064
Form Factor	Intel ISH ODM project (Whiskey Lake)
Power Supply	☐ ATX ☐ AT ☐ AC___V ☒ Adapter DC _24_V

Chipset Details :

Chipset Vendor / Model	Intel® WHL-U (Core i5)
I/O Chipset Vendor / Model	Fintech F81801
EC Chipset Vendor / Model	N/A
Graphics Chipset Vendor / Model	Intel(R) Graphics
Display type Support	☐ VGA ☐ DVI ☒ HDMI ☐ LVDS ☒ Display Port ☒ eDP ☐ TTL ☐ TV
Audio Chipset Vendor / Model	Realtek ALC892
LAN Chipset Vendor / Model	Intel i210
LAN Transfer Rate	☐ 10 Mbps ☐ 10/100 Mbps ☒ 10/100/1000 Mbps

Memory Supports:

Maximum Memory Support	_16_ GB
Type of Memory Support	☐ 204-Pin SODDDR3 ☒ 260-Pin SODDDR4 ☐ 240-Pin DDR3 ☐ 288-Pin DDR4 ☐ Other_____
Number of Memory Slots	☒ DIMM _1_ ☐ On board _____ MB
Memory Transfer Rate	☐ DDR3 800 ☐ DDR3 1066 ☐ DDR3 1333 ☐ DDR3 1600 ☐ DDR3L 1066 ☐ DDR3L 1333 ☐ DDR3L 1600 ☒ DDR4 2133 ☐ DDR4 2400 ☐ DDR4 2666 ☐ Other_____

On-Board Features and Devices

Expansion Slots	☐ PCI ☐ Mini-PCI ☐ PCI-E x16 ☐ PCI-E x8 ☐ PCI-E x4 ☐ PCI-E x1 ☐ Mini-PCI E ☐ PC/104 ☐ PCI/104 ☐ PC/104+ ☐ PCI-104 Express ☒ M.2 E-Key ☐ SIM ☒ Other _40 pin HAT_
USB Speed Support	☒ USB 2.0 ☐ USB 3.1 Gen1 ☒ USB 3.1 Gen2 ☐ USB Type C
Storage Support	☒ Serial ATA ☐ SD/Micro SD ☐ CFast ☐ mSATA ☒ M.2 M-key ☒ M.2 B-key ☐ eMMC ☐ Other _____
Digital I/O Support	☒ Support ☐ NO Support ☐ Other _HAT_
Watchdog Support	☒ Support ☐ NO Support ☐ Other _____
TPM Support	☒ Support ☐ NO Support ☐ Other _____
iAMT Support	☐ Support ☒ NO Support ☐ Other _____

System Hardware Functions Test

Test Platform	Windows Professional <u>10 x64</u>
Main board PCB Model & Version	ISH-WHL01 A0.1_0_0
Carrier board PCB Model & Version	N/A
CPU Type & FSB	Intel(R) Core™ i5-8365UE CPU @ 1.60GHz
HD Type & Size	Transcend TS128GSSD370 128GB, 2.5" SSD SATA 6Gb/s
Memory Type & Size	DSL D4SS12161SH24A-B DDR4-2400 4GB
VGA Card & Driver Version	Intel(R) UHD Graphics 620 / 25.20.100.6577
LAN Card & Driver Version	Intel(R) I210 Gigabit Network Connection / 12.15.184.1
Audio Card & Driver Version	Realtek High Definition Audio / 6.0.1.8186
Power Supply Type	FSP FSP060-DAAN2_24.0V_2.5A MAX.
VGA Display Type	N/A
DVI/HDMI/DP Display Type	HDMI: Asus ProArt PA238 [23"ISP LCD] (E8LMTF176638) DP: HP LP2475w [24" LCD] (CNC9290YK3)
LCD/eDP Panel Type	eDP: AUO G156HAT01.0 1920x1080 a-si TFT-LCD 15.6"
TV Display Type	N/A
PCI Device	N/A
PCI-E x1/x4 Device	N/A
PCI-E x8/x16 Device	N/A
Mini Card Device	N/A
M.2 Device	M.2: Intel 3165NGW (USB:BT/PCIE:WLAN)
External storage device	M.2(PCle): Intel 760p Series NVMe PCle M.2 128GB M.2(SATA): M.2(S42)3ME3 SATA3 128GB
Other Device	N/A

Processor Functionality Test			Defect No
P-1	CPU Type / Bus Rate Function Check (Information and frequency should show correct value)	☒ Pass ☐ Fail ☐ Skip ☐ N/A	

Memory Functionality Test			Defect No
R-1	System Memory Size Check (a. Information and frequency should show correct value.) (b. System should boot up and into OS normally.)	☒ Pass ☐ Fail ☐ Skip ☐ N/A	
R-2	MEMTest 86+ Run 12 hrs Check (Memtest result should not error or hang)	☒ Pass ☐ Fail ☐ Skip ☐ N/A	

Storage Functionality Test			Defect No
S-1	Serial ATA Device Check (a. Information and size should show correct value) (b. R/W and HDD LED should work properly)	☒ Pass ☐ Fail ☐ Skip ☐ N/A	
S-2	CFAST Function Check (a. Information and size should show correct value) (b. R/W and HDD LED should work properly)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
S-3	SD/Micro SD Function Check (a. Information and size should show correct value) (b. R/W should work properly)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
S-4	RAID Function Check (RAID 0/1 function should work properly)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
S-5	mSATA Function Check (CN_____) (a. Information and size should show correct value) (b. R/W and HDD LED should work properly)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	

S-6	eMMC Function Check (a. Information and size should show correct value) (b. R/W and HDD LED should work properly)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
S-7	M.2 (SATA) Function Check (CN _4_) (a. Information and size should show correct value) (b. R/W and HDD LED should work properly)	☒ Pass ☐ Fail ☐ Skip ☐ N/A	
S-8	M.2 (NVMe) Function Check (CN _4_) (a. Information and size should show correct value) (b. R/W and HDD LED should work properly)	☒ Pass ☐ Fail ☐ Skip ☐ N/A	
S-9	Other_____Function Check	☐ Pass ☐ Fail ☐ Skip ☒ N/A	

Display Functionality Test			Defect No
D-1	VGA Display Function Check (a. Monitor should display under DOS and OS environment) (b. Monitor should not appear ghost or ripples)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
D-2	DVI Display Function Check (a. Monitor should display under DOS and OS environment) (b. Monitor should not appear ghost or ripples)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
D-3	HDMI Display Function Check (a. Monitor should display under DOS and OS environment) (b. Monitor should not appear ghost or ripples)	☒ Pass ☐ Fail ☐ Skip ☐ N/A	
D-4	Display Port Display Function Check (a. Monitor should display under DOS and OS environment) (b. Monitor should not appear ghost or ripples)	☒ Pass ☐ Fail ☐ Skip ☐ N/A	
D-5	TV Display Function Check (a. Monitor should display under DOS and OS environment) (b. Monitor should not appear ghost or ripples)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
D-6	LCD/eDP Panel Function Check (LVDS/eDP display should full screen and no flicker)	☒ Pass ☐ Fail ☐ Skip ☐ N/A	
D-7	Inverter Function Check (Inverter voltage jumper support 5V / 12V selection.)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
D-8	Boot up Without Display Test (1. BIOS disable LVDS. 2. Power on without inserting any Display connector until system reaches Windows desktop 3. Plug VGA connector into test machine while system reaches Windows then check Graphics driver and display. 4. Check VGA output Brightness is normal and it shows "Ghost Image" / "flicker" or not 5. Repeat step2~4 for DVI / HDMI / DP testing)	☒ Pass ☐ Fail ☐ Skip ☐ N/A	

I/O Functionality Test			Defect No
I-1	RTC Function Check (RTC Clock in Power Off Mode Time Interval 24H Criteria +/-2 sec)	☒ Pass ☐ Fail ☐ Skip ☐ N/A	
I-2	PS2 Keyboard and Mouse Function Check (keyboards and mouse function should work properly)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
I-3	RS232 Function Check x _2_ Port (Serial MOUSE function should work properly)	☒ Pass ☐ Fail ☐ Skip ☐ N/A	
I-4	RS422 Function Check x _2_ Port (Loopback function should work properly)	☒ Pass ☐ Fail ☐ Skip ☐ N/A	
I-5	RS485 Function Check x _2_ Port (ADAM-4011 function should work properly)	☒ Pass ☐ Fail ☐ Skip ☐ N/A	
I-6	Parallel Port Function Check (Loopback function should work properly)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
I-7	USB 2.0 Port Function Check x _1_ Port (USB 2.0 R/W should work properly)	☒ Pass ☐ Fail ☐ Skip ☐ N/A	

I-8	USB 3.1 Gen1/ Gen 2 Port Function Check Type A x <u>4</u> Port / Type C x <u>0</u> Port (USB 3.1 Gen1/2 R/W should work properly)	☒ Pass ☐ Fail ☐ Skip ☐ N/A	
I-9	USB 2.0 / 3.1 Gen1 Loopback Check (Burnintest Loopback result should not error or hang)	☒ Pass ☐ Fail ☐ Skip ☐ N/A	
I-10	Audio Function Check (CN <u>24</u>) (LINE IN/OUT/MIC function should work properly)	☒ Pass ☐ Fail ☐ Skip ☐ N/A	
I-11	Front Panel Function Check (SW <u>2</u> , CN <u>27</u>) (Power/HDD LED &Power/Reset button & pc buzzer function should work properly)	☒ Pass ☐ Fail ☐ Skip ☐ N/A	
I-12	Digital In/Out Function (HAT) (Dynamic Digital IO function should work properly with Hi-Safe)	☐ Pass ☐ Fail ☒ Skip ☐ N/A	
I-13	Watchdog Timer Function (WDTShell.efi) (40/60/255 5 sec Time-Out Interval Criteria +/- 10% with-Hi-Safe)	☒ Pass ☐ Fail ☐ Skip ☐ N/A	
I-14	TPM Function Check (BitLocker UEFI mode function should work properly)	☒ Pass ☐ Fail ☐ Skip ☐ N/A	
I-15	iAMT Function Check (Control Power on/off function should work properly)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
I-16	USB Device Plug in / out Test (Plug in two USB devices at the same time for plugging and unplugging action.)	☒ Pass ☐ Fail ☐ Skip ☐ N/A	
I-17	Other HDMI / DP Audio Function Check (HDMI /DP audio function should work properly)	☐ Pass ☒ Fail ☐ Skip ☐ N/A	DR-0000090

Network Functionality Test			Defect No
N-1	LAN 100MB/1000MB Function Check (Upload/Download function should work properly with lperf)	☒ Pass ☐ Fail ☐ Skip ☐ N/A	
N-2	LAN LED Function Check (Link/Speed LED&ActiveLED function should work properly)	☒ Pass ☐ Fail ☐ Skip ☐ N/A	
N-3	Wake on LAN Function Check (WOL should work properly when resume from S5)	☒ Pass ☐ Fail ☐ Skip ☐ N/A	
N-4	SIM Slot Function Check (SIM1 with CN5) (Sierra Wireless MC734 function should work properly)	☐ Pass ☐ Fail ☒ Skip ☐ N/A	DR-0000091
N-5	POE Function Check (CERIO POE-PD02S+ function should work properly)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	

Expansion Slots Functionality Test			Defect No
E-1	Mini PCI Interface Check (AAEON PER-C10L LAN function should work properly)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
E-2	Mini Card (PCI-E) Interface Check (CN ____) (AAEON PER-C11L LAN function should work properly)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
E-3	Mini Card (USB) Interface Check (CN ____) (AAEON PER-C11L USB function should work properly)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
E-4	PCI Express x16 Interface Check (SPARKLE SX210L1024HCPB Graphics Card function should work properly)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
E-5	PCI Express x4 Interface Check (PEE4X31 USB Card function should work properly)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
E-6	PCI Express x1 Interface Check (TP-Link G-3468 LAN CARD function should work properly)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
E-7	PCI Interface Check (RTL8169SC LAN Card function should work properly)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	

E-8	M.2 Function (PCI-E) Check (CN _3_) (Intel 8260NGW WLAN function should work properly)	☒ Pass ☐ Fail ☐ Skip ☐ N/A	
E-9	M.2 Function (USB) Check (CN _3_) (Intel 8260NGW BT function should work properly)	☒ Pass ☐ Fail ☐ Skip ☐ N/A	
E-10	Other_____Function Check	☐ Pass ☐ Fail ☐ Skip ☒ N/A	

Particular Functionality Test			Defect No
P-1	Touch Screen Function Check (Drawing test result is precise enough.)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
P-2	Bluetooth Function Check (Speaker SP-B1000 function should work properly)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
P-3	Can Bus Function Check (ICP I-7565-H2-G CR function should work properly)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
P-4	RFID Function Check (FIME Test Card function should work properly)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
P-5	SCR Function Check (FIME Test Card function should work properly)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
P-6	MSR Function Check (FIME Test Card function should work properly)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
P-7	NFC Function Check (FIME Test Card function should work properly)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
P-8	Barcode scanner Function Check (Check the bar code number scanning result is correct)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
P-9	2.4G / 5G Wi-Fi Function Check (Upload/Download function should work properly with lperf)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
P-10	OSD Function Check (OSD button function should work properly)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
P-11	Other_____Function Check	☐ Pass ☐ Fail ☐ Skip ☒ N/A	

Mechanical Visual Inspections of Layout			Defect No
M-1	Connector Placement in PCB (Check the connector for no mechanical interference)	☒ Pass ☐ Fail ☐ Skip ☐ N/A	
M-2	Jumper Placement in PCB (Check the Jumper for no mechanical interference)	☒ Pass ☐ Fail ☐ Skip ☐ N/A	

Network Appliances Functionality Test			Defect No
NA-1	Status LED (Check LED Color/flashing speed is correct)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
NA-2	LCM Function (LCM Display/button function should work properly)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
NA-3	Software Button (Check Software Button High or low is normal)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
NA-4	LAN Bypass Function (Power on/off & WDT LAN Bypass function should work properly)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
NA-5	Console Redirection (Console function should work properly with Putty)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
NA-6	LAN 1Gb Fiber Function (Upload/Download function should work properly with lperf)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
NA-7	LAN 10Gb Fiber Function (Upload/Download function should work properly with lperf)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
NA-8	Other_____Function Check	☐ Pass ☐ Fail ☐ Skip ☒ N/A	

Tablet Devices Functionality Test			Defect No
T-1	GPS Function (Positioning function should work properly)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
T-2	P-Sensor Function (Proximity Sensor function should work properly)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
T-3	G-Sensor Function (Screen automatically rotates function should work properly)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
T-4	E-Compass Function (Compass function should work properly)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
T-5	Light Sensor Function (Automatic brightness adjustment function should work properly)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
T-6	Camera Function (Photo & flash function should work properly)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
T-7	Other _____ Function Check	☐ Pass ☐ Fail ☐ Skip ☒ N/A	

Battery Function Check			Defect No
B-1	Charge / Discharge Function (Charge / Discharge function should work properly)	☐ Pass ☐ Fail ☐ Skip ☒ N/A	
B-2	Max Charge Percentage (Check max Percentage)	_____ %	

O.S Compatibility Test			Defect No
O-1	Windows 10 x64 (OS installation must be done without problem. Including driver installation. Also for Windows OS, there should be no yellow mark in device manager.)	☐ Pass ☒ Fail ☐ N/A	DR-0000089
O-2	Linux _____ (OS installation must be done without problem.)	☐ Pass ☐ Fail ☒ N/A	
O-3	Other _____	☐ Pass ☐ Fail ☒ N/A	

Performance Test				Defect No
P-1	Super PI for Windows v1.1	1M Time	9.686s	
P-2	3DMark 2006 Build 1.1.0	3DMarks Score	8563	
		SM2.0 Score	2803	
		HDR/SM3.0 Score	3552	
		CPU Score	6143	

UPX-ISHI5-A20-08064 在USB全負載狀態下各端點所量測出的電壓數值

Power Supply : FSP FSP060-DAAN2 24.0V 2.5A MAX.

<u>UPX-ISHI5-A20-08064</u> 於 Power 端 所量測出的數值	
<u>UPX-ISHI5-A20-08064</u>	24V Power
全負載	24.3V (CN20)

<u>UPX-ISHI5-A20-08064</u> 於負載機端 所量測出的數值						
<u>UPX-ISHI5-A20-08064</u>	1 Port/CN4_1	2 Port/CN4_2	3 Port/CN15_1	4 Port/CN15_2	5 Port /CN16	
全負載	5.04V / 0.90A	5.03V / 0.90A	5.04V / 0.90A	5.01V / 0.90A	5.11V / 0.50A	

Defect No :

Specification

USB3.0 : **4.45V ~ 5.25V 0.9A**

USB2.0 : **4.75V ~ 5.25V 0.5A**

11.4.5 Vbus Electrical Characteristics

Table 11-2. DC Electrical Characteristics

Parameter	Symbol	Conditions	Min.	Max.	Units
Supply Voltage:					
Port (downstream connector)	V _{BUS}		4.45	5.25	V
Port (upstream connector)	V _{BUS}		4.0		V
Supply Current:					
High-power Hub Port (out)	ICCPRT		900		mA
Low-power Hub Port (out)	ICCUPT		150		mA

7.3.2 Bus Timing/Electrical Characteristics

Table 7-7. DC Electrical Characteristics

Parameter	Symbol	Conditions	Min.	Max.	Units
Supply Voltage:					
High-power Port	V _{BUS}	Note 2, Section 7.2.1	4.75	5.25	V
Low-power Port	V _{BUS}	Note 2, Section 7.2.1	4.40	5.25	V
Supply Current:					
High-power Hub Port (out)	ICCPRT	Section 7.2.1	500		mA
Low-power Hub Port (out)	ICCUPT	Section 7.2.1	100		mA

Problem List :

Defect No	Defect Level	BIOS	Device Type	Problem description	Status
DR-0000089	3	R0.1	Yellow Mark	Some yellow mark in device manager. 	NF
DR-0000090	3	R0.1	HDMI Audio	HDMI Audio Function Failed.	NF
DR-0000091	4	R0.1	M.2 3042/3052 B-key	M.2 3042/3052 B-key (CN30) 目前沒有能夠使用的 Device, 未測試。	SKIP

<Defect Level>

1. Critical: 產品重大問題, 有導致機板功能完全失效或危及使用安全考量之
2. Major: 產品主要之單一功能(規格書中開列規格)完全或間歇性失效調之.
3. Minor: 產品主要之單一功能(規格書中開列規格)效能未達標準或較同類型機種弱者.
4. For enhancement: 產品非主要之單一功能(非規格書中開列規格)完全或間歇性失效, 雖不抵觸規格, 但效能未達同類型機種調之, 仍建議改善.

<Status>

<NF(None FIXED)> The problem has not been fixed

<F(FIXED)> The problem has been fixed

<WAIT> Next version fixed

<FYI> For Your Information

<SKIP> This stage is not tested