Report No: 17D010016

AIOT-MSSP01
(AIOT-VSSP01)
Mini SSP Project

P5
Compatibility Test Report

Summary	☒ Pass ☐ Fail ☐ 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	QE Manager	Test Engineer
2017-12-21	KJ Wang	Aslen Hsieh

Specification Validation

Main Specification

Item	Specification	Result			Note
		Pass	Fail	N/A	
PCB Dimension	150 x 140 (H x W)	☒	☐	☐	
Mini SSP I/O board [Internal Connector]	1 x 8 pin MDB (CN2)	☒	☐	☐	
	1 x 4 pin 1-WIRE interface wafer box (CN15)	☒	☐	☐	
	1 x 4 pin DEX wafer box (CN13)	☒	☐	☐	
	1 x 6 pin Protocol A(EXE) wafer box (CN12)	☒	☐	☐	
	1 x 10 pin Keypad wafer box (CN14)	☒	☐	☐	
	1 x 20 pin LCD wafer box (CN18)	☒	☐	☐	
	1 x 6 pin ADC wafer box (CN8)	☒	☐	☐	
	1 x 8 pin Relay GPIO for 12V & 5V by switch (CN1) (JP1)	☒	☐	☐	
	2 x 10 pin *2 GPIO wafer box (5V Output) (CN16)	☒	☐	☐	
	2 x 8 pin 24V GPIO (24V vending input) (CN11)	☒	☐	☐	
	1 x 6 pin power input (CN4)	☒	☐	☐	
	1 x 3 pin select motor 24Vdc or 12Vdc switch (Motor supports GPIO, DC, PWM type) (JP4)	☒	☐	☐	
	2 x 12 pin ATX power connector (full bridge motor) (CN19)	☒	☐	☐	
	2 x 10 pin ATX power connector (low side motor) (CN20)	☒	☐	☐	
	1 x Home position (JP5 ,JP6)	☒	☐	☐	
	2 x 20 pin * 2 PCB header	☒	☐	☐	
	1 x 2 pin wafer box for 12V Supply (CN3)	☒	☐	☐	
	1 x 6 pin 24V Power Input(CN4)	☒	☐	☐	
Mini SSP Mainboard [Connectors]	1 x Micro USB 2.0 type B female connector (CN11)	☒	☐	☐	
	1 x 5-EXT USB 2.0 type A connector (via USB Hub) (CN12 ~ CN16)	☒	☐	☐	
	1 x 6 pin drop sensor for MVC600 & CST539 (vending detect) (CN2)	☒	☐	☐	
	1 x 2 pin wafer box for 5V UP board power input (CN2)	☒	☐	☐	

O.S. Support

Item	Specification	Result			Note
		Pass	Fail	N/A	
Microsoft Windows	Windows10 English 64bit	☒	☐	☐	

Platform Information:

Item	Device Information
System Model / Version	AIOT-VSSP01 with UP-APL01 A0.2
PCB Model / Version	AIOT-VSSP01-MB Ver A0.3 / AIOT-VSSP01-IO ver A0.3
MCU Type	MCU PIC32MX795F512L-80I Module
AIOT-VSSP01 Firmware Release	Intel Reference Design 3.5.10.0 Intel Reference Design 3.5.9.0
UP-APL01 BIOS / Version	UP-APL01 R1.3 (UPA1AM13)(04/24/2017)
CPU Type	Intel® Pentium® Processor N4200 (2M Cache, up to 2.5 GHz)
Memory Type	Onboard LPDDR4 memory 4GB
Storage	eMMC Onboard 32GB [Kingston EMMC32G-M525]
LCD Monitor	LG Flatron E2260 / 1920*1080 / 22” monitor
O.S	Windows10 English 64bit
DC adapter	EDAC EDACPOWER ELEC / EA11001F-240 24V /5.0A

1. Basic Function Test

1.1. MDB Function Test

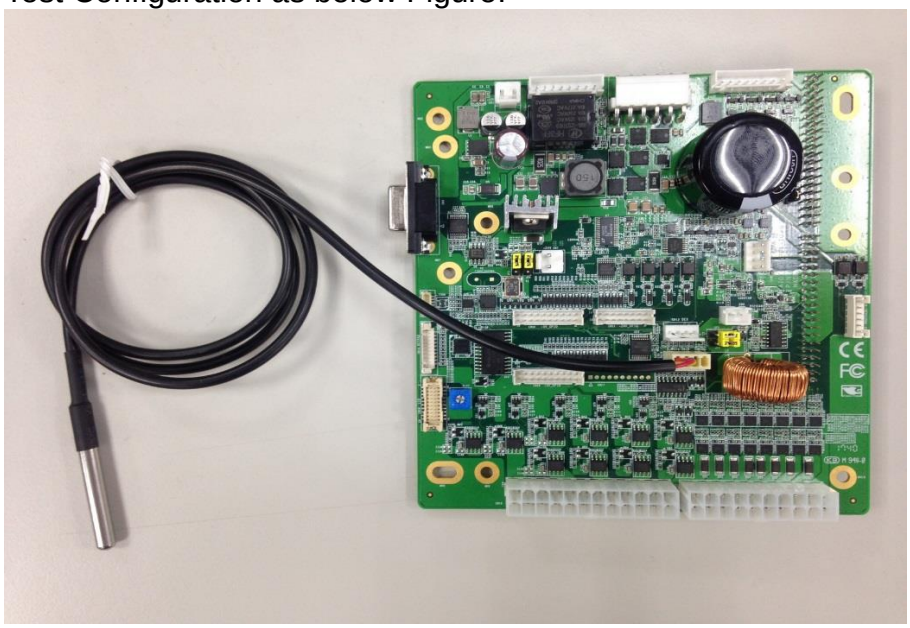
App tool : Intel LLAPI test suite

Test item	Criteria	Result			Note
		Pass	Fail	N/A	
MDB Function Test	USB CHANNEL IS SELECTED Firmware Version : 08.82 Bootloader Version : 08.42 MDB TEST SUITE MDB Sanity Test Started... MDB SAN 001 RESET CA TEST PASS MDB SAN 001 RESET CA MDB SAN 001 Ena CA TEST PASS MDB SAN 001 Ena CA MDB Sanity Test Completed	☒	☐	☐	

1.2. One-Wire interface Test

App tool : Intel LLAPI test suite

Test Configuration as below Figure:



Test item	Criteria	Result			Note
		Pass	Fail	N/A	
1-WIRE interface Test	START NEW TEST ONE_WIRE TEST SUITE ONE WIRE Sanity Test started... ONE WIRE SAN 001 One Wire Acquire Handle SUCCESSFUL One Wire Search Devices SUCCESSFUL. Total Number Of Connected Devices are 1 Device's Address are 0xd3041771b3f2ff28 One Wire RESET SUCCESSFUL. One Wire Write SUCCESSFUL. One Wire RESET SUCCESSFUL. One Wire Write SUCCESSFUL. One Wire Write SUCCESSFUL. One Wire Read SUCCESSFUL. Termperature is 30.5625 One Wire Release Handle SUCCESSFUL TEST PASS ONE WIRE SAN 001 ONE WIRE Sanity Test Completed	☒	☐	☐	

1.3. DEX Function Test

App tool : Intel HLAPI test suite

Test Configuration as below Figure:

Test item	Criteria	Result			Note
		Pass	Fail	N/A	
DEX Function Test	DEX device Open Successfully DEX Device Enable SetProperty Successfully DEX device Event Register Callback Function Successfully DEX Sanity Test Started. No Test Case Available. Please Check Test Number DEX Sanity Test Completed DEX Functional Test Started. DEX_FUNC_002 started [DEX Status] : disconnected [DEX Status] : connected [DEX Status] : send audit data Audit Data send Successfully DEX Write Data : DXS*0123456789*VA*V0/6*1 ST*001*0001 ID1*ABC98765*****12234 VA1*4550*2450 VA3*91*49 CA3*****2700*225*475*2000 CA4***250*0 EA2*EGS****0 EA3*********24*10 G85*=0; SE*10*0001 DXE*1*1 DEX_FUNC_002 completed DEX Functional Test Completed Close DEX Device Successfully	☒	☐	☐	

1.4. Protocol A(EXE) Function Test

App tool : Intel HLAPI test suite

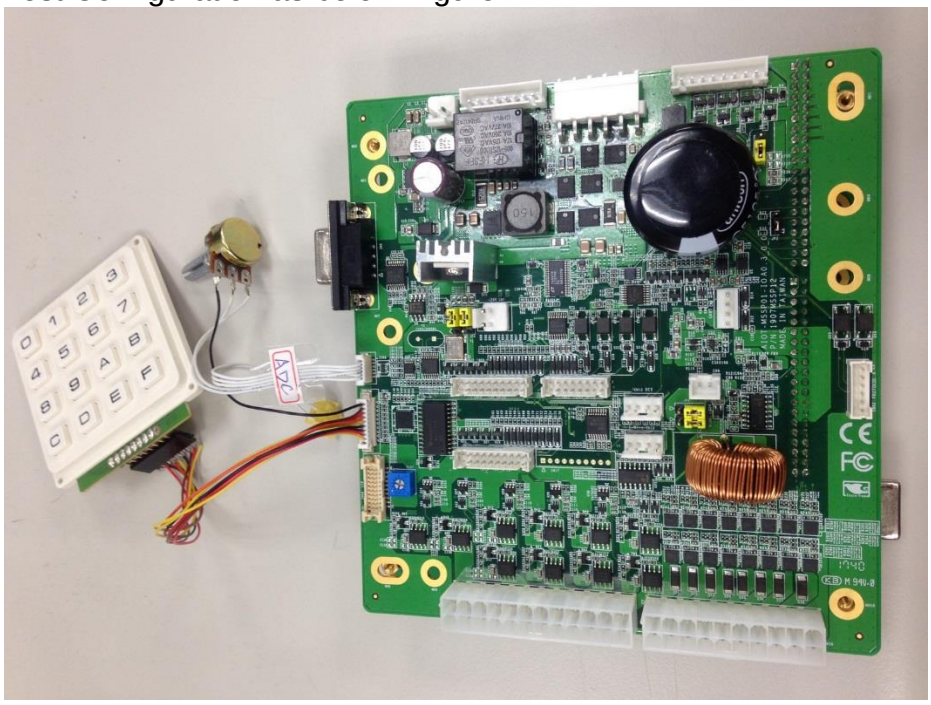
Test item	Criteria	Result			Note
		Pass	Fail	N/A	

Protocol A Test	Case Number ：2	CA_SAN_002 NOTE: For ProtocolA expected credit is 50 cents. Event Generated for CREDIT updated to 50 with exact change set to 1 50 cents has been accepted! Thank you. Event Generated for CREDIT updated to 0 with exact change set to 1 Event Generated for CREDIT updated to 0 with exact change set to 1 Disabling CoinMech... CA_SAN_002 Completed.	☒	☐	☐	
	Case Number ：3	START HLAPI TEST CA_SAN_003 Started. CA_SAN_003 This test expects more than 50 cents. All money will be returned for this test. Event Generated for CREDIT updated to 20 with exact change set to 1 Event Generated for CREDIT updated to 20 with exact change set to 1 Event Generated for CREDIT updated to 70 with exact change set to 1 More than 50 cents found: 70. Thank you. Event Generated for CREDIT updated to 20 with exact change set to 1 Event Generated for CREDIT updated to 20 with exact change set to 1 Event Generated for CREDIT updated to 0 with exact change set to 1 Current credit remaining is : 0 Push return lever on CoinMech to return money... CA_SAN_003 Completed.	☒	☐	☐	

1.5. Keypad Function Test

App tool : Intel LLAPI test suite

Test Configuration as below Figure:



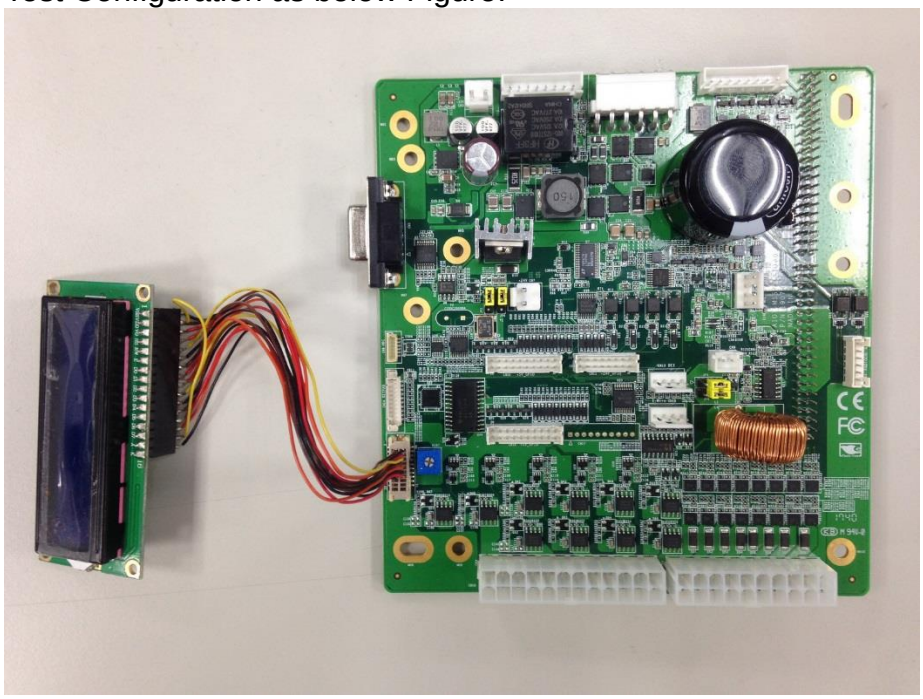
Test item	Criteria	Result	Note

		Pass	Fail	N/A	
Keypad Function Test	START NEW TEST KEYPAD TEST SUIT Keypad Sanity test started.. keypad SAN 001 started Keypad Acquired Handle SUCCESSFUL Keypad Enable SUCCESSFUL Event Type : 0 Event ID = 12 KEYPAD_KEY_PRESS_DATA Key pressed location is:: Command frame : 0X11 Keypad Matrix : 1X1 Event Type : 0 Event ID = 12 KEYPAD_KEY_PRESS_DATA Key pressed location is:: Command frame : 0X11 Keypad Matrix : 1X1 Keypad Disable SUCCESSFUL Keypad Release Handle SUCCESSFUL keypad SAN 001 SUCCESSFULL Keypad Sanity Test Completed	☒	☐	☐	

1.6. LCD Function Test

App tool : Intel LLAPI test suite

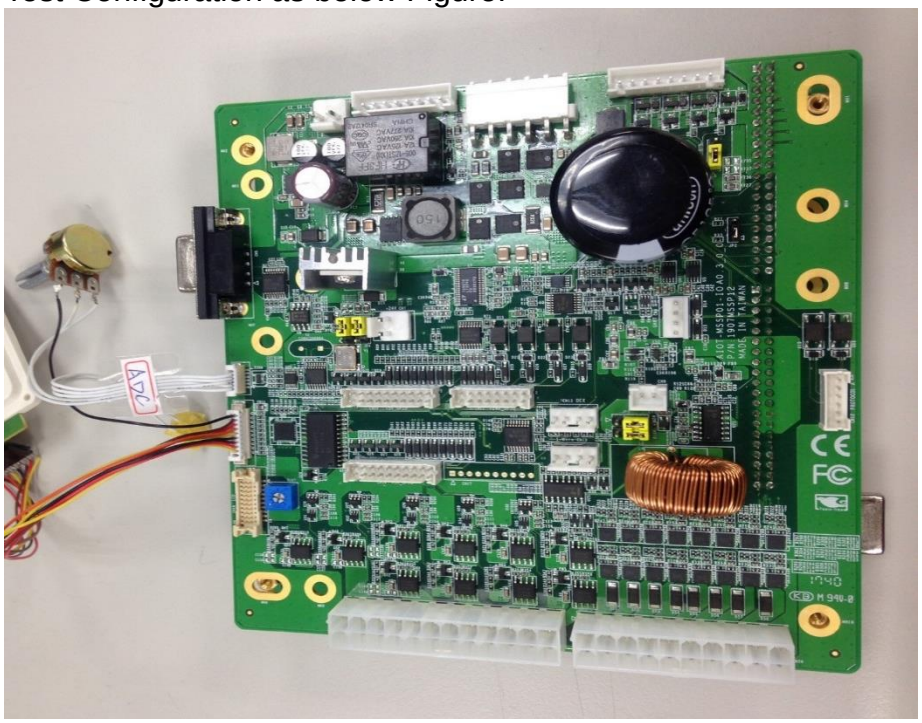
Test Configuration as below Figure:



Test item	Criteria	Result			Note
		Pass	Fail	N/A	
LCD Function Test	START NEW TEST Lcd TEST SUIT LCD Sanity Test started... ---------LCD SAN 001--------- Lcd Acquired Handle SUCCESSFUL Lcd Enable Disable SUCCESSFUL Lcd Release Handle SUCCESSFUL LCD OPEN SUCCESSFULLY Lcd Acquired Handle SUCCESSFUL Lcd Write Data SUCCESSFUL Lcd Data : HELLO Lcd Release Handle SUCCESSFUL LCD SAN 001 Write Successfull Lcd Acquired Handle SUCCESSFUL Lcd Clear SUCCESSFUL Lcd Release Handle SUCCESSFUL LCD SAN 001 LCD Clear SUCCESSFULLY Lcd Acquired Handle SUCCESSFUL Lcd Enable Disable SUCCESSFUL Lcd Release Handle SUCCESSFUL LCD SAN 001 LCD DISABLE SUCCESSFULLY Lcd Sanity Test Completed	☒	☐	☐	LCD display “HELLO”

1.7. ADC Function Test

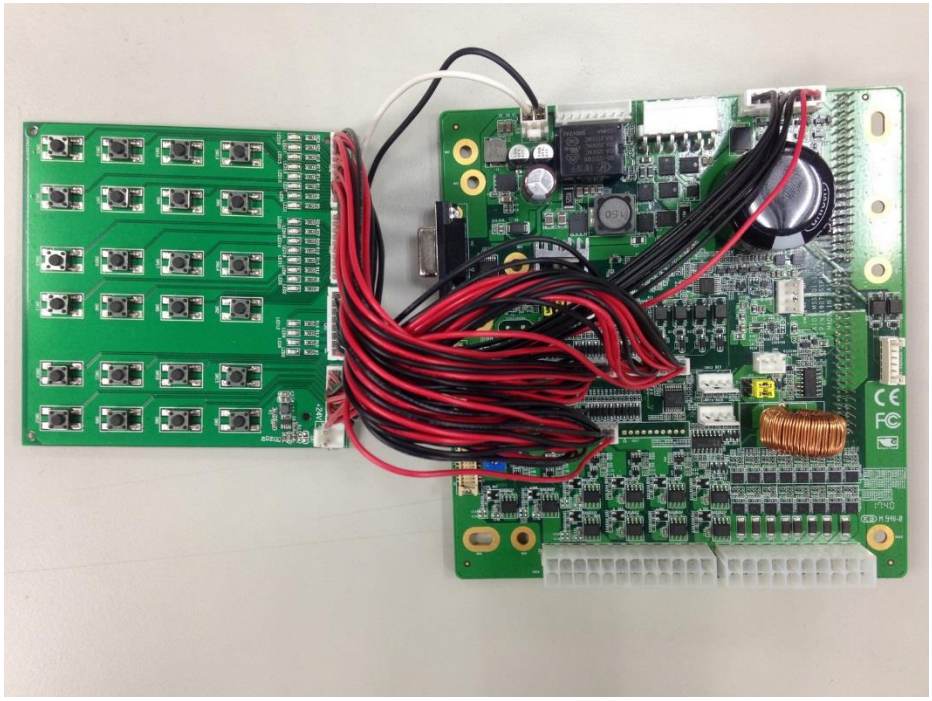
App tool : Intel HLAPI test suite
Test Configuration as below Figure:



Test item	Criteria	Result			Note
		Pass	Fail	N/A	
ADC Function Test	Sensor Sanity Test Started. SEN_SAN_001 started Sensor Get Value Successful SPI Temperature value SPM formula = 255 15 Sensor Get Value Successful SPI Temperature value SPM formula = 255 15 Sensor Get Value Successful SPI Temperature value SPM formula = 163 14 Sensor Get Value Successful SPI Temperature value SPM formula = 61 13 Sensor Get Value Successful SPI Temperature value SPM formula = 155 1 Sensor Get Value Successful SPI Temperature value SPM formula = 133 1 Sensor Get Value Successful SPI Temperature value SPM formula = 2 0 Sensor Get Value Successful SPI Temperature value SPM formula = 148 7 Sensor Get Value Successful SPI Temperature value SPM formula = 158 9 Sensor Get Value Successful SPI Temperature value SPM formula = 255 15 SEN_SAN_001 completed Sensor Sanity Test Completed	☒	☐	☐	

1.8. Relay GPIO / 5V & 24V GPIO Function Test

App tool : Intel LLAPI test suite
Test Configuration as below Figure:

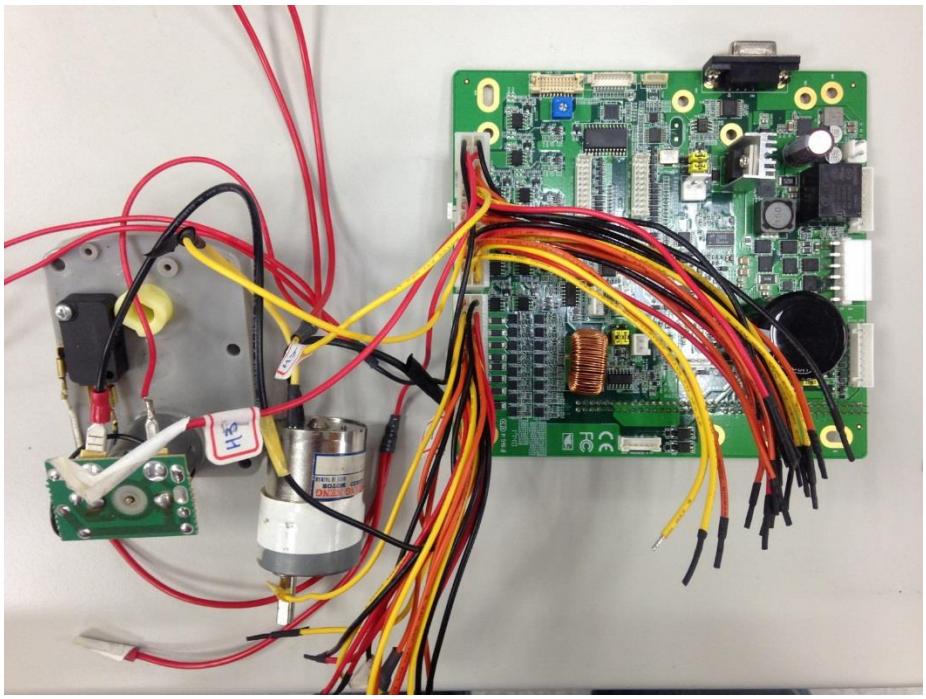


Test item	Criteria	Result			Note
		Pass	Fail	N/A	
GPIO Function Test	START NEW TEST GPIO TEST SUITE GPIO SAN 001 GPO_1 GPO PIN NUMBER : 1 GPO Acquired Handle SUCCESSFUL GPO Write SUCCESSFUL Write Value : 1 GPO Release Handle SUCCESSFUL TEST PASS GPIO SAN 001 GPO_1 for pin 1 GPO PIN NUMBER : 2 GPO Acquired Handle SUCCESSFUL GPO Write SUCCESSFUL Write Value : 1 GPO Release Handle SUCCESSFUL TEST PASS GPIO SAN 001 GPO_1 for pin 2 GPO PIN NUMBER : 3 GPO Acquired Handle SUCCESSFUL GPO Write SUCCESSFUL Write Value : 1 GPO Release Handle SUCCESSFUL TEST PASS GPIO SAN 001 GPO_1 for pin 3	☒	☐	☐	

1.9. Full bridge motor / Low side motor Test

App tool : Intel LLAPI test suite

Test Configuration as below Figure:



Test item	Criteria	Result			Note
		Pass	Fail	N/A	
Full bridge motor / Low side motor Function Test	MOTOR TEST SUITE Motor Sanity Test Started... MTR SAN 001 TEST PASS MTR SAN 001 Motor Sanity Test Completed START NEW TEST MOTOR TEST SUITE Motor Sanity Test started... MTR SAN 001 MOTOR Acquired Handle SUCCESSFUL Set Configure MOTOR SUCCESSFUL MtrUpThresholdVoltage : 46000 MtrDowmThresholdVoltage : 0 MtrUpThresholdCurrent : 2500 MtrDowmThresholdCurrent : 0 MtrHomeSenseVal : 0 Get Configure MOTOR SUCCESSFUL MtrUpThresholdVoltage : 46000 MtrDowmThresholdVoltage : 0 MtrUpThresholdCurrent : 2500 MtrDowmThresholdCurrent : 0 MtrHomeSenseVal : 0 Get Configuration = Set Configuration MOTOR ON SUCCESSFUL GpioOnFor : 5000 GpioPinNumber : 1 3 5 7 9 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 GpioOnCondition : 0 NoOfGpio : 21 GpiInterruptPinNumber : 1 Motor Voltage = 0volt Motor Current = 0.371Amp. Motor Voltage = 0volt Motor Current = 0.368Amp. Motor Voltage = 0volt Motor Current = 0.368Amp	☒	☐	☐	

1.10. Drop sensor for MVC600 & CST539(vending detect) Test

App tool : Intel HLAPI test suite

Test item	Criteria	Result			Note
		Pass	Fail	N/A	

Drop sensor Function Test	Drop sensor	Sensor Sanity Test Started. SEN_SAN_001 started Sensor Get Value Successful Get value = 0 Sensor Get Value Successful Get value = 0 Sensor Get Value Successful Get value = 0 Sensor Get Value Successful Get value = 0 Sensor Get Value Successful Get value = 0 Sensor Get Value Successful Get value = 0 Sensor Get Value Successful Get value = 0 Sensor Get Value Successful Get value = 0 Sensor Get Value Successful Get value = 0 Sensor Get Value Successful Get value = 0 SEN_SAN_001 completed Sensor Sanity Test Completed GPI Event 1 generated with Timestamp in Day MM/DD/YY HH:MM:SS:sss format: Sunday 00/00/00 00:00:00:000	☒	☐	☐	
	Drop sensor Alarm	Sensor Sanity Test Started. SEN_SAN_001 started Sensor Get Value Successful Get value = 0 Sensor Get Value Successful Get value = 0 Sensor Get Value Successful Get value = 0 Sensor Get Value Successful Get value = 0 Sensor Get Value Successful Get value = 0 Sensor Get Value Successful Get value = 0 Sensor Get Value Successful Get value = 0 Sensor Get Value Successful Get value = 0 Sensor Get Value Successful Get value = 0 Sensor Get Value Successful Get value = 0 SEN_SAN_001 completed Sensor Sanity Test Completed GPI Event 1 generated with Timestamp in Day MM/DD/YY HH:MM:SS:sss format: Tuesday 11/21/17 11:40:35:927 GPI Event 1 generated with Timestamp in Day MM/DD/YY HH:MM:SS:sss format: Tuesday 11/21/17 11:40:35:927 GPI Event 1 generated with Timestamp in Day MM/DD/YY HH:MM:SS:sss format: Tuesday 11/21/17 11:40:35:927				

2.11. USB 2.0 type A connector (via USB Hub) Function Test

Under Room Temperature:

OS: Windows 10 Enterprise English 64bit

Test Item			Result			Note
			Pass	Fail	N/A	
Burn In Test V8.1(1020 above) Duty: 100 Time: over 12 hours <System should not error or hang during testing.>	CPU		☐	☐	☒	
	RAM		☐	☐	☒	
	COM		☐	☐	☒	
	Network <Advanced>		☐	☐	☒	
	Parallel		☐	☐	☒	
	USB	2.0	☒	☐	☐	USB 2.0 x 5 port
		3.0	☐	☐	☒	