Product Validation Report

Product Name : TSD-PT241W-1AH

Model Name : TSD-PT241W-1AH

Product Stage : MP

Product No. : 1A2A24232101900

Revision : 0

Prepared By : Jack Lu **Date** : 2026/08/20

Approved By : Rongchi_Liao **Date** : 2026/08/20

Index & Content			
Part	**Test Item**	**Descriptions**	**Result**
F/W	1. Touch Function Test	To measure the performance of touch sensors quantitatively. Also to check their operability. Criteria: After the position compensation (calibration), the cursor shall move to the position pressed with finger, and the operability shall be proper.	PASS
Reliability	2. Cold Start	To check the suitability and characteristics of the product in low temperature to which it may be exposed. Criteria: It shall normally start up and operate.	PASS
Reliability	3. Hot Start	To check the suitability and characteristics of the product in low temperature to which it may be exposed. Criteria: It shall normally start up and operate.	PASS
Reliability	4. Temperature Drift	To check that the characteristics of product is proper when it is exposed to possible temperature when starting-up and during operation. Criteria The screen width, position, brightness, and other items shall be checked. The screen quality including video characteristics, noise, and screen functions shall not deteriorate. The specification shall be satisfied.	PASS

1. Touch Function Test

Test Engineer	Jack Lu	Date	2026/8/13~2026/8/14	Stage	Result
				MP	PASS

Test Propose

To measure the performance of touch sensors quantitatively. Also to check their operability.

Evaluation Unit Level

Temperature	25ºC±2ºC
Reltative Humidity	50%±10%(RH)

Evaluation Equipment

Processor	Intel ® Core ™ i5-6400 CPU @ 2.70 GHz	13th Gen Intel® Core™ i5-13400F 2.50GHz	
Graphics Card	NVIDIA GeForce GTX 980- Driver 388.16	NVIDIA GeForce GTX 1660 SUPER -Driver 32.0.15.6094	
O.S.	Windows 10 64bit	Windows 11 Pro 64bit	

Description Of Replacement Parts

Description Of Change	Description	Old	New
	RS232F&MINI-9PF CABLE (13-210-E009,JAWS)	CJ-MD9-M13	GT-MD-029
	RS232M&MINI-9PF CABLE (13-210-E008,JAWS)	CJ-MD9A-P01	GT-MD-030

Evaluation Unit Level

LCD Type	AUO type: G240HW01 V1
Power Adapter	DIVA type: DMP5012G
F/W Version	TSD-PT241W-1A_250930R1V01
Main Board	2AAD473R238
Touch Panel	DMC P-CAP (C3ZTSPPP0600019)
Touch Controller	C3ZTPCDP0C00019 (COMBO,PCT,40C753153,MEE)
Interface Option	HDMI/DP/Audio/RS-232/USB HUB
Serial Number	RD181128002

Test Standard

Touch Function Test Specification

Test Condition

Standard operation according to the applicable product specification separately provided Apply it to Windows 10/11 and other typical OS. In case the SAW system, use “kcheck” program to check the waveform.

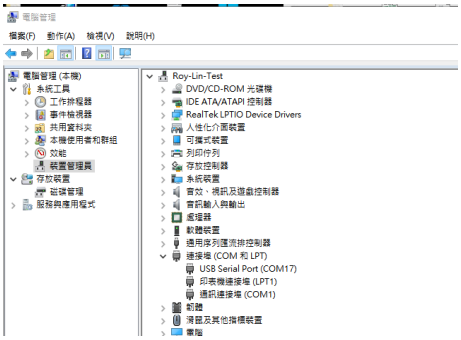
Criteria

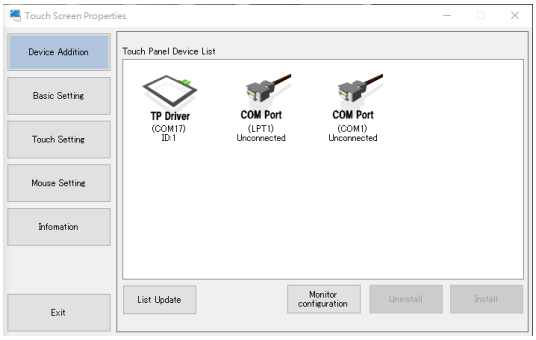
After the position compensation (calibration), the cursor shall move to the position pressed with finger, and the operability shall be proper.

Windows 10 OS RS-232 Touch Function Check						
Test Procedure					**Result**	**Note**
1. Burn in more than 30min.					**Pass**	
2. Confirm connect RS-232 touch cable to the monitor .					**Pass**	
3. Confirm install touch driver software , make sure it is installed completely.					**Pass**	
4. Confirm that the Touch function is working properly.					**Pass**	
Test Condition						
Applied Voltage	110V/60Hz	**Resolution**	1920x1080/60Hz(DVI)	**Test Pattern**	General Pattern	
Touch Software	PT Touch Panel Driver:	**Touch Type**	COM Port			
Test Information	**Description**					**Note**
Function Check						
Test Item	**Description**				**Result**	**Note**
Function Check	1. Check.RS-232 serial com port device.				**Pass**	
	2. Confirm setup the PT Touch Panel Driver: 1.5				**Pass**	
	3. Check Touch Panel Device List (TP Driver) and select Monitor configuration.				**Pass**	
	4. Check RS-232 touch operation normal.				**Pass**	
	5. Check Power AC On/Off and RS-232 touch check.				**Pass**	
	6. Check Power DC On/Off and RS-232 touch check.				**Pass**	
	7. Check Power Saving On/Off and RS-232 touch check.				**Pass**	

PHOTO OF TEST

Change RS-232 MINI DIN 9P Supplier		Note
		

System Information	Check Serial COM Port	Note
		

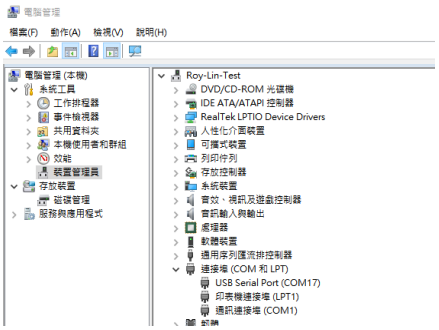
Touch Panel Device Check	Test Condition	Note
		

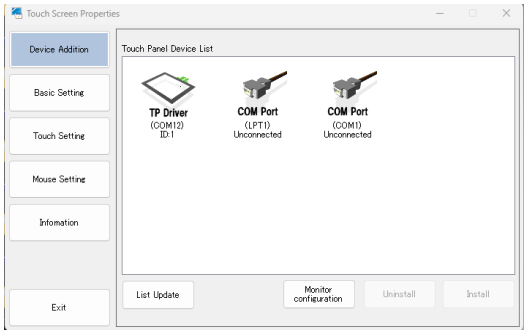
Touch Function Check		Note
		

Windows 11 OS RS-232 Touch Function Check						
Test Procedure					**Result**	**Note**
1. Burn in more than 30min.					**Pass**	
2. Confirm connect RS-232 touch cable to the monitor .					**Pass**	
3. Confirm install touch driver software , make sure it is installed completely.					**Pass**	
4. Confirm that the Touch function is working properly.					**Pass**	
Test Condition						
Applied Voltage	110V/60Hz	**Resolution**	1920x1080/60Hz(DVI)	**Test Pattern**	General Pattern	
Touch Software	PT Touch Panel Driver: 1.5	**Touch Type**	COM Port			
Test Information	**Description**					**Note**
Function Check						
Test Item	**Description**				**Result**	**Note**
Function Check	1. Check.RS-232 serial com port device.				**Pass**	
	2. Confirm setup the PT Touch Panel Driver: 1.5				**Pass**	
	3. Check Touch Panel Device List (TP Driver) and select Monitor configuration.				**Pass**	
	4. Check RS-232 touch operation normal.				**Pass**	
	5. Check Power AC On/Off and RS-232 touch check.				**Pass**	
	6. Check Power DC On/Off and RS-232 touch check.				**Pass**	
	7. Check Power Saving On/Off and RS-232 touch check.				**Pass**	

PHOTO OF TEST

Change RS-232 MINI DIN 9P Supplier		Note
		

System Information	Check Serial COM Port	Note
		

Touch Panel Device Check	Test Condition	Note
		

Touch Function Check		Note
		

2. Cold Start

Test Engineer	Jack Lu	Date	2026/8/17	Stage	Result
				MP	PASS

Test Propose

To check the suitability and characteristics of the product in low temperature to which it may be exposed.

Evaluation Environment

Temperature	-5ºC

Evaluation Equipment

Processor	Intel ® Core ™ i5-6400 CPU @ 2.70 GHz		
Graphics Card	NVIDIA GeForce GTX 980- Driver 388.16		
O.S.	Windows 10 64bit		
Test Equipment	EXTECH POWER SOURCE CFW-105	Chamber TERCHY MHG-408L	N/A

Description Of Replacement Parts

Description Of Change	Description	Old	New
	RS232F&MINI-9PF CABLE (13-210-E009,JAWS	CJ-MD9-M13	GT-MD-029
	RS232M&MINI-9PF CABLE (13-210-E008,JAWS	CJ-MD9A-P01	GT-MD-030

Evaluation Unit Level

LCD Type	AUO type: G240HW01 V1
Power Adapter	DIVA type: DMP5012G
F/W Version	TSD-PT241W-1A_250930R1V01
Main Board	2AAD473R238
Touch Panel	DMC P-CAP (C3ZTSPPP0600019)
Touch Controller	C3ZTPCDP0C00019 (COMBO,PCT,40C753153,MEE)
Interface Option	HDMI/DP/Audio/RS-232/USB HUB
Serial Number	RD181128002

Test Standard

MEE Reliability Analysis Specification

Criteria

It shall normally start up and operate.

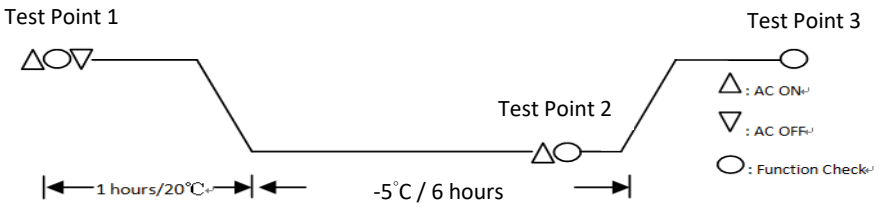
Cold Start

Test Procedure	Result	Note
1. Confirm the low temperature startup function In a low temperature environment.	Pass	
2. Place the test display in the constant chamber and set temperature inside the chamber to the specified temperature.	Pass	
3. Confirm after leaving it the lowest acceptable temperature, -5°C for 6 hours as it is, and immediately start it.	Pass	
4. After test , check the OSD function should operate normally.	Pass	

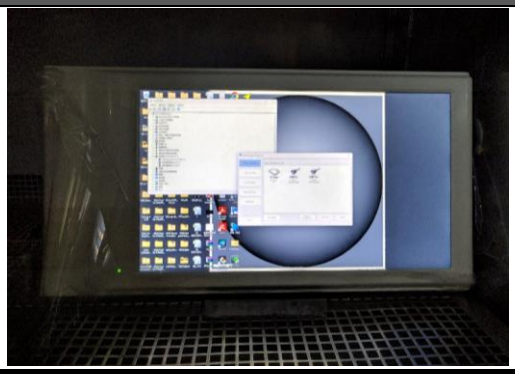
Test Condition

Applied Voltage	90V/60Hz	Temperature	-5ºC	Resolution	1920x1080/60Hz(DVI)
COM Port	USB Serial Port (COM12)	Touch Software	PT Touch Panel Driver:	Test Pattern	General Pattern
Test Duration	6 hours				
Condition	Not in operation, After leaving it the lowest acceptable temperature, -5°C for 6 hours as it is, immediately start it.				

Test Environment Curve



Function Check			Test Point 1	Test Point 2	Test Point 3	Note
Electronic	OSD Control Check	Brightness	Pass	Pass	Pass	
		Contrast	Pass	Pass	Pass	
		Color Mode	Pass	Pass	Pass	
		OSD Display	Pass	Pass	Pass	
		Recall	Pass	Pass	Pass	
Image Quality	Check SMPTE Test Pattern		Pass	Pass	Pass	
	Check ColorBar Test Pattern		Pass	Pass	Pass	
	Check GrayScale Test Pattern		Pass	Pass	Pass	
	Check Raster Test Pattern		Pass	Pass	Pass	
Touch Function Check	check. RS-232 serial com port device		Pass	Pass	Pass	
	Confirm setup the PT Touch Panel Driver: 1.5		Pass	Pass	Pass	
	Check RS-232 touch function.		Pass	Pass	Pass	
	Check Power AC On/Off and RS-232 touch operation normal.		Pass	Pass	Pass	
	Check Power DC On/Off and RS-232 touch operation normal.		Pass	Pass	Pass	
	Check Power Saving On/Off and RS-232 touch operation normal.		Pass	Pass	Pass	
Screen State Check	Check Not abnormal screen		Pass	Pass	Pass	
	Check Not noise screen		Pass	Pass	Pass	
	Check Not black screen		Pass	Pass	Pass	
	Check Not flicker screen		Pass	Pass	Pass	

PHOTO OF TEST		
Change RS-232 MINI DIN 9P Supplier		Note
		
Before Test (Not In Operation)	Before Test	Note
		
Test Condition	After Test	Note
		
Function Check	Touch Function Check	Note
		

3. Hot Start

Test Engineer	Jack Lu	Date	2026/8/18	Stage	Result
				MP	PASS

Test Propose

To check the suitability and characteristics of the product in low temperature to which it may be exposed..

Evaluation Environment

Temperature	45ºC
Relative Humidity	50%RH

Evaluation Equipment

Evaluation Equipment

Processor	Intel ® Core ™ i5-6400 CPU @ 2.70 GHz		
Graphics Card	NVIDIA GeForce GTX 980- Driver 388.16		
O.S.	Windows 10 64bit		
Test Equipment	EXTECH POWER SOURCE CFW-105	Chamber TERCHY MHG-408L	N/A

Description Of Replacement Parts

Description Of Change	Description	Old	New
	RS232F&MINI-9PF CABLE (13-210-E009,JAWS	CJ-MD9-M13	GT-MD-029
	RS232M&MINI-9PF CABLE (13-210-E008,JAWS	CJ-MD9A-P01	GT-MD-030

Evaluation Unit Level

LCD Type	AUO type: G240HW01 V1
Power Adapter	DIVA type: DMP5012G
F/W Version	TSD-PT241W-1A_250930R1V01
Main Board	2AAD473R238
Touch Panel	DMC P-CAP (C3ZTSPPP0600019)
Touch Controller	C3ZTPCDP0C00019 (COMBO,PCT,40C753153,MEE)
Interface Option	HDMI/DP/Audio/RS-232/USB HUB
Serial Number	RD181128002

Test Standard

MEE Reliability Analysis Specification

Criteria

It shall normally start up and operate.

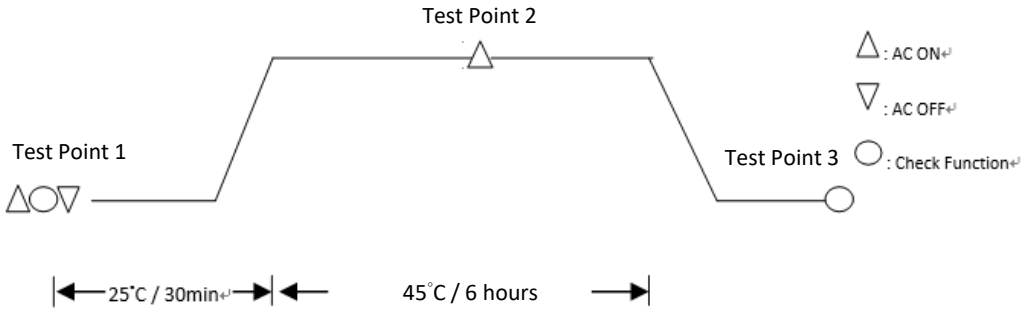
Hot Start

Test Procedure	Result	Note
1. Confirm the low temperature startup function In a low temperature environment.	Pass	
2. Place the test display in the constant chamber and set temperature inside the chamber to the specified temperature.	Pass	
3. Confirm after leaving it the lowest acceptable temperature, 45°C for 6 hours as it is, and immediately start it.	Pass	
4. After test , check the OSD function should operate normally.	Pass	

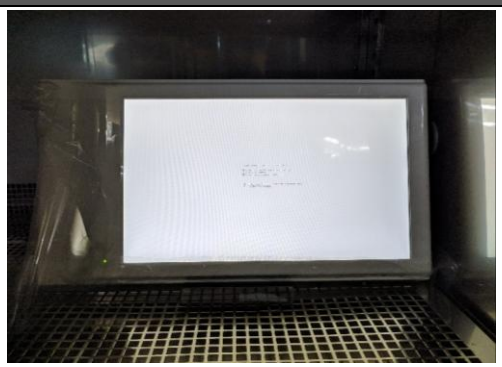
Test Condition

Applied Voltage	90V/60Hz	Temperature	45ºC	Resolution	1920x1080/60Hz(DVI)
COM Port	USB Serial Port (COM12)	Touch Software	PT Touch Panel Driver	Test Pattern	General Pattern
Test Duration	6 hours				
Condition	Not in operation, After leaving it the highest acceptable temperature, +5°C for 6 hours as it is, immediately start it.				

Test Environment Curve



Function Check			Test Point 1	Test Point 2	Test Point 3	Note
Electronic	OSD Control Check	Brightness	Pass	Pass	Pass	
		Contrast	Pass	Pass	Pass	
		Color Mode	Pass	Pass	Pass	
		OSD Display	Pass	Pass	Pass	
		Recall	Pass	Pass	Pass	
Image Quality	Check SMPTE Test Pattern		Pass	Pass	Pass	
	Check ColorBar Test Pattern		Pass	Pass	Pass	
	Check GrayScale Test Pattern		Pass	Pass	Pass	
	Check Raster Test Pattern		Pass	Pass	Pass	
Touch Function Check	check.RS-232 serial com port device		Pass	Pass	Pass	
	Confirm setup the PT Touch Panel Driver: 1.5		Pass	Pass	Pass	
	Check RS-232 touch function.		Pass	Pass	Pass	
	Check Power AC On/Off and RS-232 touch operation normal.		Pass	Pass	Pass	
	Check Power DC On/Off and RS-232 touch operation normal.		Pass	Pass	Pass	
	Check Power Saving On/Off and RS-232 touch operation normal.		Pass	Pass	Pass	
Screen State Check	Check Not abnormal screen		Pass	Pass	Pass	
	Check Not noise screen		Pass	Pass	Pass	
	Check Not black screen		Pass	Pass	Pass	
	Check Not flicker screen		Pass	Pass	Pass	

PHOTO OF TEST		
Change RS-232 MINI DIN 9P Supplier		Note
		
Before Test (Not In Operation)	Before Test	Note
		
Test Condition	After Test	Note
		
Function Check	Touch Function Check	Note
		

4. Temperature Drift

Test Engineer	Jack Lu	Date	2025/4/14~2025/4/17	Stage	Result
				MP	PASS

Test Propose

To check that the characteristics of product is proper when it is exposed to possible temperature when starting-up and during operation.

Evaluation Environment

Temperature	0ºC/25ºC/40ºC

Evaluation Equipment

Processor	13th Gen Intel® Core™ i5-13400F 2.50GHz		
Graphics Card	NVIDIA GeForce GTX 1660 SUPER -Driver 32.0.15.609		
O.S.	Windows 11 Pro 64bit		
Test Equipment	EXTECH POWER SOURCE CFW-105	Chamber TERCHY MHE-1728JDA	N/A

Description Of Replacement Parts

Description Of Change	Description	Old	New
	RS232F&MINI-9PF CABLE (13-210-E009,JAWS)	CJ-MD9-M13	GT-MD-029
	RS232M&MINI-9PF CABLE (13-210-E008,JAWS	CJ-MD9A-P01	GT-MD-030

Evaluation Unit Level

LCD Type	AUO type: G240HW01 V1
Power Adapter	DIVA type: DMP5012G
F/W Version	TSD-PT241W-1A_250930R1V01
Main Board	2AAD473R238
Touch Panel	DMC P-CAP (C3ZTSPPP0600019)
Touch Controller	C3ZTPCDP0C00019 (COMBO,PCT,40C753153,MEE)
Interface Option	HDMI/DP/Audio/RS-232/USB HUB
Serial Number	RD181128002

Test Standard

MEE Reliability Analysis Specification

Criteria

The screen width, position, brightness, and other items shall be checked.
The screen quality including video characteristics, noise, and screen functions shall not deteriorate.
The specification shall be satisfied.

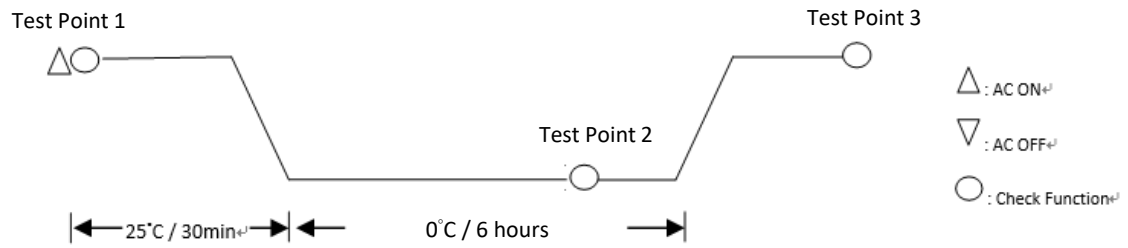
Temperature Drift (Temperature: 0˚C)

Test Procedure	Result	Note
1. Confirm that the test display has normal functions and no scratches before test.	Pass	
2. Confirm turn on the display , and set it according to the test conditions and put it in 0°C for 6 hours.	Pass	
3. After test, check the screen and operation normal.	Pass	

Test Condition

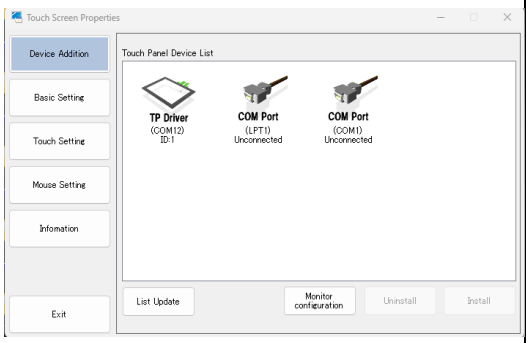
Temperature	0ºC	Applied Voltage	100V/50Hz	Resolution	1920x1080/60Hz(DVI)
Sample Condition	Operation Normal	COM Port	USB Serial Port (COM12)	Touch Software	PT Touch Panel Driver:
Test Pattern	General Pattern	Test Duration	6 hours		

Environment Curve



Function Check		Test Point 1	Test Point 2	Test Point 3	Note
Touch Function Check	Check RS-232 serial com port device.	Pass	Pass	Pass	
	Confirm setup the PT Touch Panel Driver.	Pass	Pass	Pass	
	Check RS-232 touch function.	Pass	Pass	Pass	
	Check Power AC On/Off and RS-232 touch operation normal.	Pass	Pass	Pass	
	Check Power DC On/Off and RS-232 touch operation normal.	Pass	Pass	Pass	
	Check Power Saving On/Off and RS-232 touch operation normal.	Pass	Pass	Pass	
Power Management	Check Power AC On/Off 10 times and Operation Normal	Pass	Pass	Pass	
	Check Power DC On/Off 10 times and Operation Normal	Pass	Pass	Pass	
	Check Power Saving On/Off 10 times and Operation Normal	Pass	Pass	Pass	
Display Screen Check	Check Not abnormal screen	Pass	Pass	Pass	
	Check Not black screen	Pass	Pass	Pass	
	Check Not noise screen	Pass	Pass	Pass	
	Check Not flicker screen	Pass	Pass	Pass	

PHOTO OF TEST

Change RS-232 MINI DIN 9P Supplier		Note
		
Before Test	**Before Test (1)**	**Note**
		
Check Serial COM Port	**Check TP Driver (COM12)**	**Note**
		
Test Condition	**After Test**	**Note**
		

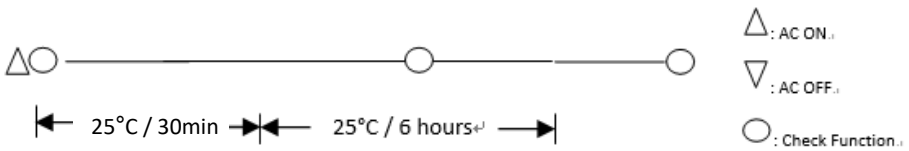
Temperature Drift (Temperature: 25°C)

Test Procedure	Result	Note
1. Confirm that the test display has normal functions and no scratches before test.	Pass	
2. Confirm turn on the display , and set it according to the test conditions and put it in 25°C for 6 hours	Pass	
3. After test, check the screen and operation normal.	Pass	

Test Condition

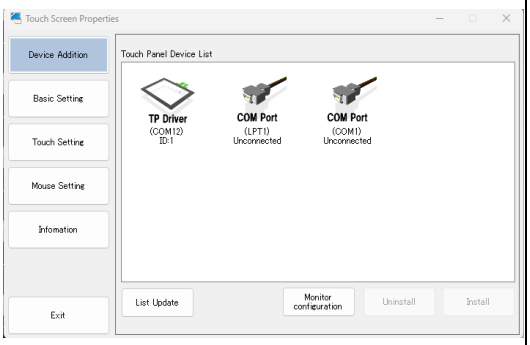
Temperature	25ºC	Applied Voltage	100V/50Hz	Resolution	1920x1080/60Hz(DVI)
Sample Condition	Operation Normal	COM Port	USB Serial Port (COM12)	Touch Software	PT Touch Panel Driver:
Test Pattern	General Pattern	Test Duration	6 hours		

Environment Curve



Function Check		Test Point 1	Test Point 2	Test Point 3	Note
Touch Function Check	Check RS-232 serial com port device.	Pass	Pass	Pass	
	Confirm setup the PT Touch Panel Driver.	Pass	Pass	Pass	
	Check RS-232 touch function.	Pass	Pass	Pass	
	Check Power AC On/Off and RS-232 touch operation normal.	Pass	Pass	Pass	
	Check Power DC On/Off and RS-232 touch operation normal.	Pass	Pass	Pass	
	Check Power Saving On/Off and RS-232 touch operation normal.	Pass	Pass	Pass	
Power Management	Check Power AC On/Off and Operation Normal	Pass	Pass	Pass	
	Check Power DC On/Off and Operation Normal	Pass	Pass	Pass	
	Check Power Saving On/Off and Operation Normal	Pass	Pass	Pass	
Display Screen Check	Check Not abnormal screen	Pass	Pass	Pass	
	Check Not black screen	Pass	Pass	Pass	
	Check Not noise screen	Pass	Pass	Pass	
	Check Not flicker screen	Pass	Pass	Pass	

PHOTO OF TEST

Change RS-232 MINI DIN 9P Supplier		Note
		
Before Test	**Before Test (1)**	**Note**
		
Check Serial COM Port	**Check TP Driver (COM12)**	**Note**
		
Test Condition (1)	**After Test**	**Note**
		

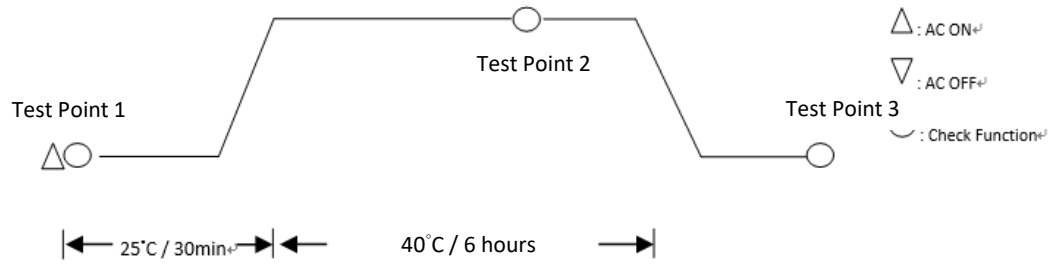
Temperature Drift (Temperature: 40°C)

Test Procedure	Result	Note
1. Confirm that the test display has normal functions and no scratches before test.	Pass	
2. Confirm turn on the display , and set it according to the test conditions and put it in 40°C for 6 hours.	Pass	
3. After test, check the screen and operation normal	Pass	

Test Condition

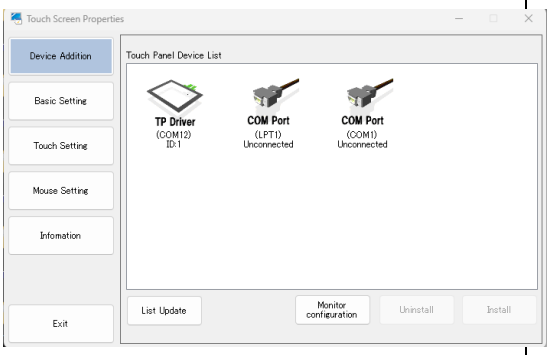
Temperature	40ºC	Applied Voltage	100V/50Hz	Resolution	1920x1080/60Hz(DVI)
Sample Condition	Operation Normal	COM Port	USB Serial Port (COM12)	Touch Software	PT Touch Panel Driver:
Test Pattern	General Pattern	Test Duration	6 hours		

Environment Curve



Function Check		Test Point 1	Test Point 2	Test Point 3	Note
Touch Function Check	Check RS-232 serial com port device.	Pass	Pass	Pass	
	Confirm setup the PT Touch Panel Driver:.	Pass	Pass	Pass	
	Check RS-232 touch function.	Pass	Pass	Pass	
	Check Power AC On/Off and RS-232 touch operation normal.	Pass	Pass	Pass	
	Check Power DC On/Off and RS-232 touch operation normal.	Pass	Pass	Pass	
	Check Power Saving On/Off and RS-232 touch operation normal.	Pass	Pass	Pass	
Power Management	Check Power AC On/Off and Operation Normal	Pass	Pass	Pass	
	Check Power DC On/Off and Operation Normal	Pass	Pass	Pass	
	Check Power Saving On/Off and Operation Normal	Pass	Pass	Pass	
Display Screen Check	Check Not abnormal screen	Pass	Pass	Pass	
	Check Not black screen	Pass	Pass	Pass	
	Check Not noise screen	Pass	Pass	Pass	
	Check Not flicker screen	Pass	Pass	Pass	

PHOTO OF TEST

Change RS-232 MINI DIN 9P Supplier		Note
		
Before Test	**Before Test (1)**	**Note**
		
Check Serial COM Port	**Check TP Driver (COM12)**	**Note**
		
Test Condition	**After Test**	**Note**
		