

## TEST REPORT

Reliability Laboratory

Report No.: HC10090/2023

Page: 1 of 13

Date: February 4, 2023

APACER TECHNOLOGY INC.  
1F, NO.32, ZHONGCHENG RD., TUCHENG DIST.,  
NEW TAIPEI CITY, TAIWAN, R.O.C.

The following merchandise was submitted and identified by the vendor as:

Product Description: SATA Flash Drive  
Style/ Item No.: SX180-25/ No.1  
Quantity: Total 1 piece  
Testing Period: Jan. 16, 2023 to Jan. 19, 2023

We have tested the submitted sample(s) as requested and the following results were obtained:

Test Required: (According to client's test specification, please see following sheets in detail.)

1. Non-Operating Mechanical Shock Test
2. Operating Mechanical Shock Test
3. Non-Operating Vibration Test
4. Operating Vibration Test

Test Results: -PLEASE SEE ATTACHED SHEETS-

Signed for and on behalf of  
SGS TAIWAN Ltd.



Alex Chen  
Asst. Supervisor

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留 90 天。本報告未經本公司書面許可，不可部份複製。  
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com.tw/Terms-and-Conditions](http://www.sgs.com.tw/Terms-and-Conditions) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/en/terms-and-conditions/terms-e-document](http://www.sgs.com/en/terms-and-conditions/terms-e-document). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

# TEST REPORT

Report No.: HC10090/2023

Page: 2 of 13

## 1. Non-Operating Mechanical Shock Test:

### Test Equipment:

Name	Brand	Model	Serial No.
Shock Test System	LANSMONT	M-23D	M-15624
Data Acquisition & Analysis System	LANSMONT	103571-1-B	1011-85
ICP Accelerometer	PCB	350B04	35365

### Lab Environmental Conditions:

Ambient temperature:  $(25 \pm 3) ^\circ\text{C}$

Ambient humidity:  $(55 \pm 20) \% \text{RH}$

### Test Location:

No.31, Wu Chyuan Road, New Taipei Industrial Park, WuKu District,  
New Taipei City, Taiwan

### Test Method/ Specification:

Test method: MIL-STD-883K w/CHANGE 2, Method 2002.5

Sample condition: Non-Operating

Pulse shape: Half-sine

Acceleration: 1500 g

Pulse duration: 0.5 ms

Shock direction: 6 faces ( $\pm X, \pm Y, \pm Z$  axes, see photo 3 ~ 8)

No. of shock: 3 shocks/ face (total 18 shocks)

- Examine the appearance of specimen(s) by visual check and perform functional check after this test.
- Functional check: Turn on the power of specimen then execute test program "Burn-In Test" while performing functional check.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留 90 天。本報告未經本公司書面許可，不可部份複製。  
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com.tw/Terms-and-Conditions](http://www.sgs.com.tw/Terms-and-Conditions) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/en/terms-and-conditions/terms-e-document](http://www.sgs.com/en/terms-and-conditions/terms-e-document). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

## TEST REPORT

Report No.: HC10090/2023

Page: 3 of 13

**Specimen:**

Style/ Item No.: SX180-25/ No.1

Quantity: Total 1 piece

**Test Result:**

Check Item Style/ Item No.	Appearance Check (Visual check)	Functional Check
SX180-25/ No.1	No visible damage	Normal

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留 90 天。本報告未經本公司書面許可，不可部份複製。  
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com.tw/Terms-and-Conditions](http://www.sgs.com.tw/Terms-and-Conditions) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/en/terms-and-conditions/terms-e-document](http://www.sgs.com/en/terms-and-conditions/terms-e-document). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

## 2. Operating Mechanical Shock Test:

### Test Equipment:

Name	Brand	Model	Serial No.
Shock Test System	LANSMONT	95/115D	M-17656
Data Acquisition & Analysis System	LANSMONT	TP4 8A-CH SML 1115-001	1115-001
ICP Accelerometer	PCB	353M288	190564

### Lab Environmental Conditions:

Ambient temperature:  $(25 \pm 3) ^\circ\text{C}$

Ambient humidity:  $(55 \pm 20) \% \text{RH}$

Test Location: No.33, Wu Chyuan Road, New Taipei Industrial Park, WuKu District, New Taipei City, Taiwan

### Test Method/ Specification:

Test method: MIL-STD-202G, Method 213B

Sample condition: Operating

Pulse shape: Half-sine

Acceleration: 50 g

Pulse duration: 11 ms

Shock direction: 6 faces ( $\pm X$ ,  $\pm Y$ ,  $\pm Z$  axes, see photo 9 ~ 14)

No. of shock: 3 shocks/ face (total 18 shocks)

- Examine the appearance of specimen(s) by visual check and perform functional check during this test.
- Functional check: Turn on the power of specimen then execute test program "Burn-In Test" while performing functional check.

# TEST REPORT

Report No.: HC10090/2023

Page: 5 of 13

**Specimen:**

Style/ Item No.: SX180-25/ No.1

Quantity: Total 1 piece

**Test Result:**

<div style="text-align: right;"><b>Check Item</b></div> <div style="text-align: left;"><b>Style/ Item No.</b></div>	<b>Appearance Check (Visual check)</b>	<b>Functional Check</b>
<b>SX180-25/ No.1</b>	No visible damage	Normal

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留 90 天。本報告未經本公司書面許可，不可部份複製。  
 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com.tw/Terms-and-Conditions](http://www.sgs.com.tw/Terms-and-Conditions) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/en/terms-and-conditions/terms-e-document](http://www.sgs.com/en/terms-and-conditions/terms-e-document). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

# TEST REPORT

### 3. Non-Operating Vibration Test:

#### Test Equipment:

Name	Brand	Model	Serial No.
Vibration Tester	UNHOLTZ-DICKIE	SAI60-H560BAC/2/ST	474
Controller	Dactron	LASER	7110357
Control Accelerometer	PCB	353B34	LW228242

#### Lab Environmental Conditions:

Ambient Temperature :  $(25 \pm 3) ^\circ\text{C}$

Ambient humidity :  $(55 \pm 20) \% \text{RH}$

#### Test Location:

No.31, Wu Chyuan Road, New Taipei Industrial Park, WuKu District, New Taipei City, Taiwan

#### Test Method/ Specification:

Test method: MIL-STD-810G, Method 514.6, Category 7

Sample condition: Non-Operating

Wave form: Random

Frequency: (15 ~ 2000) Hz

Frequency (Hz)	Left Slope (dB/Oct.)	PSD ( $\text{g}^2/\text{Hz}$ )	Right Slope (dB/Oct.)
15	-	0.01	0
105.94	0	0.01	6
150	6	0.02	0
500	0	0.02	-6
2000	-6	0.0012	-

⇔ equivalent to 4.02 Grms

Direction: X, Y, Z axes (see photo 15 ~ 17)

Test duration: 1 hour/ axis

- Examine the appearance of specimen(s) by visual check and perform functional check after this test.
- Functional check: Turn on the power of specimen then execute test program "Burn-In Test" while performing functional check.

# TEST REPORT

Report No.: HC10090/2023

Page: 7 of 13

**Specimen:**

Style/ Item No.: SX180-25/ No.1

Quantity: Total 1 piece

**Test Result:**

<div style="text-align: right;"><b>Check Item</b></div> <div style="text-align: left;"><b>Style/ Item No.</b></div>	<b>Appearance Check (Visual check)</b>	<b>Functional Check</b>
<b>SX180-25/ No.1</b>	No visible damage	Normal

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留 90 天。本報告未經本公司書面許可，不可部份複製。  
 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com.tw/Terms-and-Conditions](http://www.sgs.com.tw/Terms-and-Conditions) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/en/terms-and-conditions/terms-e-document](http://www.sgs.com/en/terms-and-conditions/terms-e-document). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

# TEST REPORT

## 4. Operating Vibration Test:

### Test Equipment:

Name	Brand	Model	Serial No.
Vibration Tester	UNHOLTZ-DICKIE	SAI60-H560BAC/2/ST	474
Controller	Dactron	LASER	7110357
Control Accelerometer	PCB	353B34	LW228242

### Lab Environmental Conditions:

Ambient Temperature :  $(25 \pm 3) ^\circ\text{C}$

Ambient humidity :  $(55 \pm 20) \% \text{RH}$

### Test Location:

No.31, Wu Chyuan Road, New Taipei Industrial Park, WuKu District,  
New Taipei City, Taiwan

### Test Method/ Specification:

Test method: MIL-STD-810G, Method 514.6, Category 24

Sample condition: Operating

Wave form: Random

Frequency: (20 ~ 2000) Hz

Frequency (Hz)	Left Slope (dB/Oct.)	PSD ( $\text{g}^2/\text{Hz}$ )	Right Slope (dB/Oct.)
20	-	0.04	0
1000	0	0.04	-6
2000	-6	0.01	-

⇨ equivalent to 7.69 Grms

Direction: X, Y, Z axes (see photo 18 ~ 20)

Test duration: 1 hour/ axis

- Examine the appearance of specimen(s) by visual check and perform functional check during this test.
- Functional check: Turn on the power of specimen then execute test program "Burn-In Test" while performing functional check.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留 90 天。本報告未經本公司書面許可，不可部份複製。  
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com.tw/Terms-and-Conditions](http://www.sgs.com.tw/Terms-and-Conditions) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/en/terms-and-conditions/terms-e-document](http://www.sgs.com/en/terms-and-conditions/terms-e-document). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

# TEST REPORT

Report No.: HC10090/2023

Page: 9 of 13

**Specimen:**

Style/ Item No.: SX180-25/ No.1


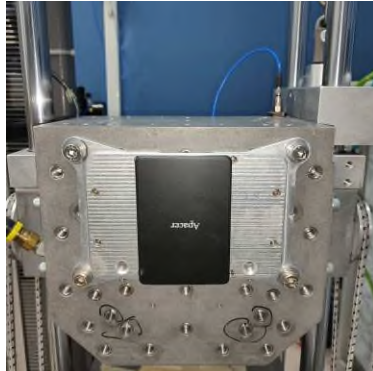
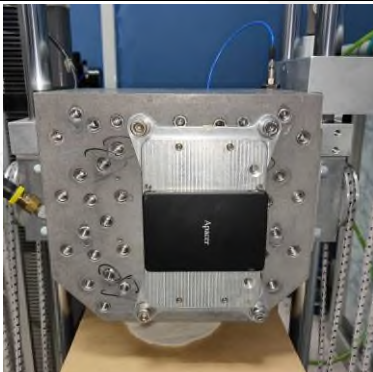
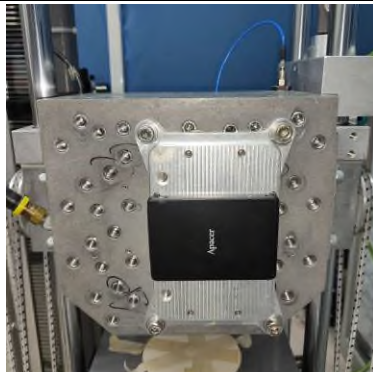
Quantity: Total 1 piece

**Test Result:**

<div style="text-align: right;"><b>Check Item</b></div> <div style="text-align: left;"><b>Style/ Item No.</b></div>	<b>Appearance Check (Visual check)</b>	<b>Functional Check</b>
<b>SX180-25/ No.1</b>	No visible damage	Normal

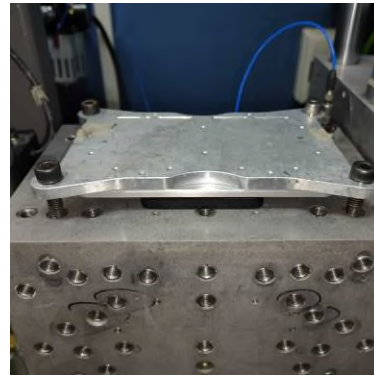
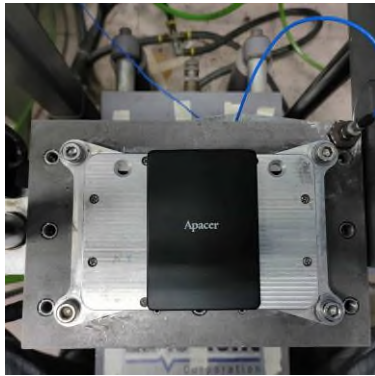
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留 90 天。本報告未經本公司書面許可，不可部份複製。  
 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com.tw/Terms-and-Conditions](http://www.sgs.com.tw/Terms-and-Conditions) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/en/terms-and-conditions/terms-e-document](http://www.sgs.com/en/terms-and-conditions/terms-e-document). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

Test Photos:

	
<p>1. Appearance of specimen</p>	<p>2. Appearance of specimen</p>
	
<p>3. Non-Operating Mechanical Shock Test (+X axis)</p>	<p>4. Non-Operating Mechanical Shock Test (-X axis)</p>
	
<p>5. Non-Operating Mechanical Shock Test (+Y axis)</p>	<p>6. Non-Operating Mechanical Shock Test (-Y axis)</p>

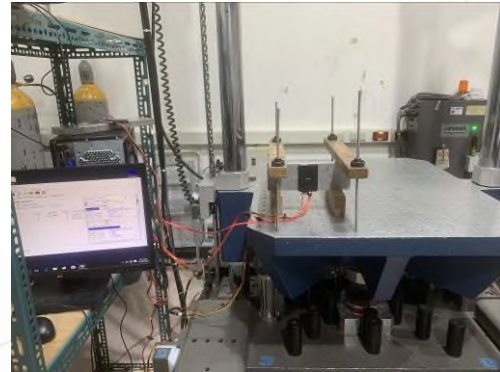
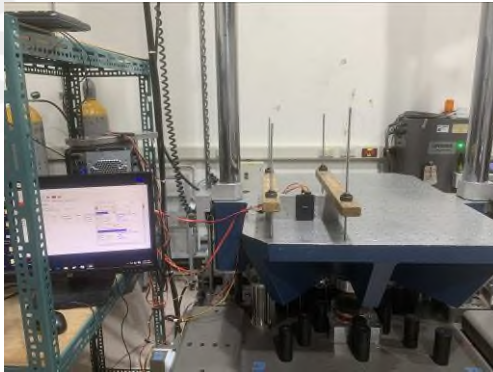
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留 90 天。本報告未經本公司書面許可，不可部份複製。 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com.tw/Terms-and-Conditions](http://www.sgs.com.tw/Terms-and-Conditions) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/en/terms-and-conditions/terms-e-document](http://www.sgs.com/en/terms-and-conditions/terms-e-document). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

Test Photos--Continued:



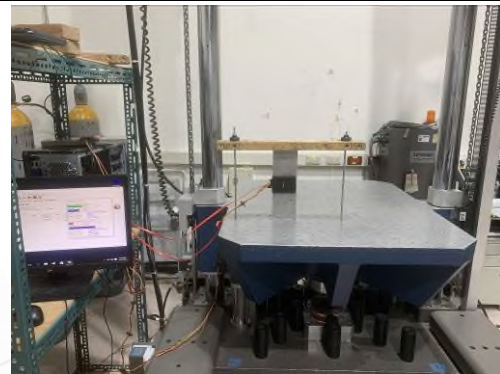
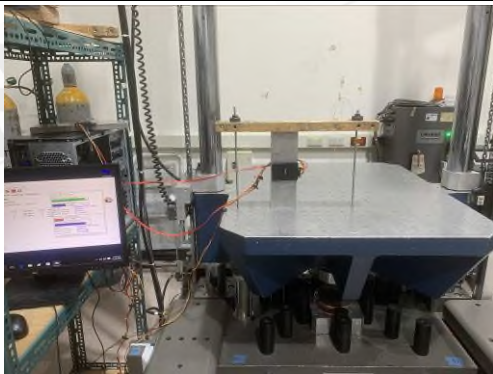
7. Non-Operating Mechanical Shock Test (+Z axis)

8. Non-Operating Mechanical Shock Test (-Z axis)



9. Operating Mechanical Shock Test (+X axis)

10. Operating Mechanical Shock Test (-X axis)

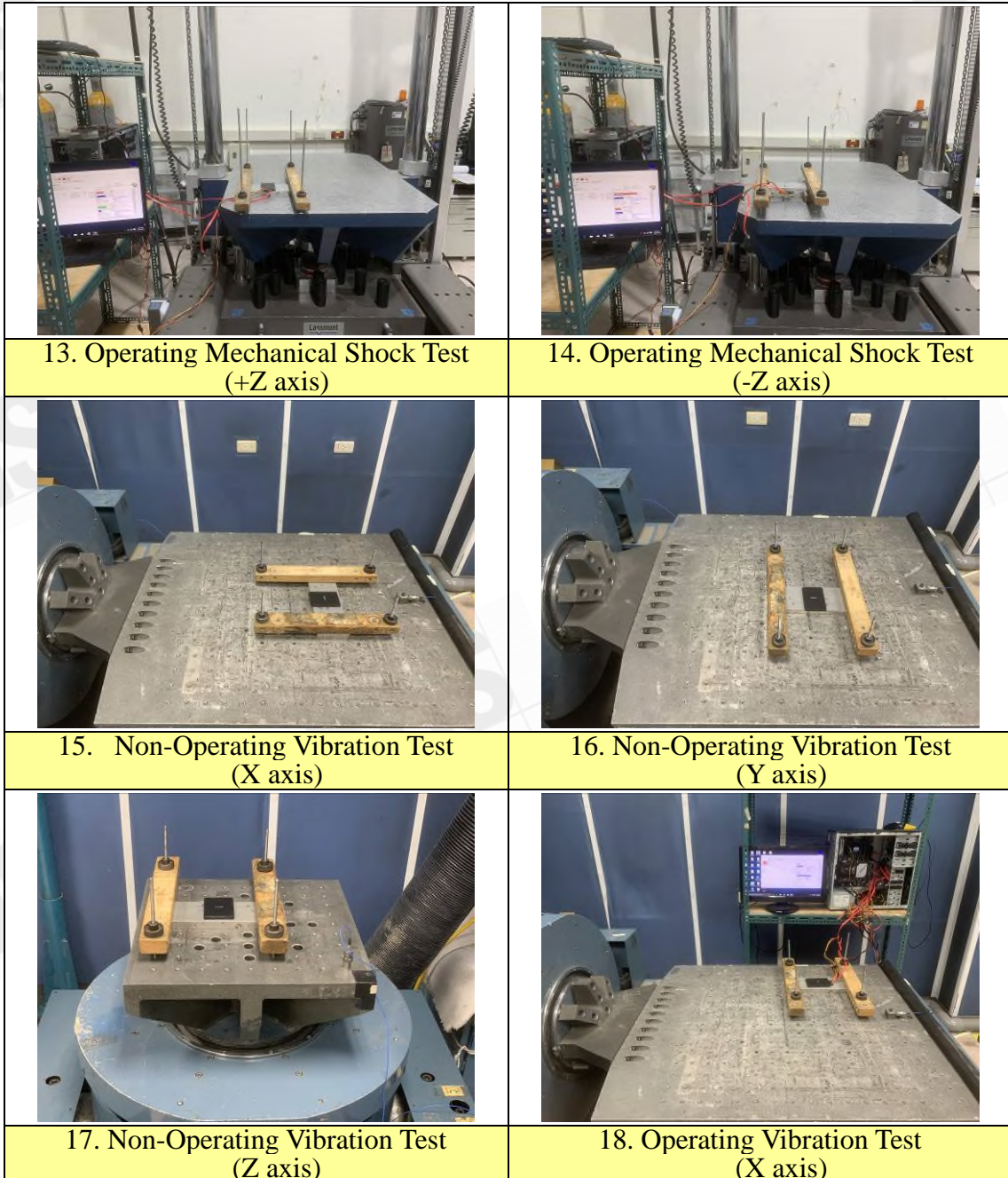


11. Operating Mechanical Shock Test (+Y axis)

12. Operating Mechanical Shock Test (-Y axis)

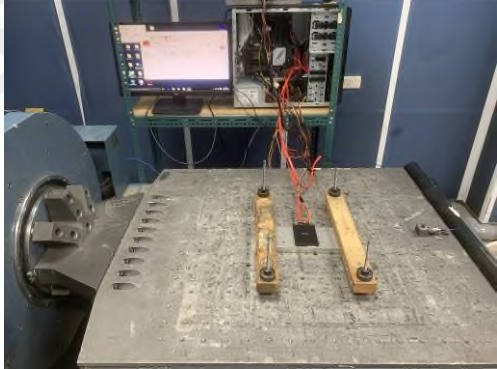


Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留 90 天。本報告未經本公司書面許可，不可部份複製。 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com.tw/Terms-and-Conditions](http://www.sgs.com.tw/Terms-and-Conditions) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/en/terms-and-conditions/terms-e-document](http://www.sgs.com/en/terms-and-conditions/terms-e-document). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

Test Photos--Continued:



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留 90 天。本報告未經本公司書面許可，不可部份複製。  
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com.tw/Terms-and-Conditions](http://www.sgs.com.tw/Terms-and-Conditions) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/en/terms-and-conditions/terms-e-document](http://www.sgs.com/en/terms-and-conditions/terms-e-document). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

Test Photos--Continued:

	
<p>19. Operating Vibration Test (Y axis)</p>	<p>20. Operating Vibration Test (Z axis)</p>
	
<p>21. Functional Check</p>	

— — — The End of Test Report — — —

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留 90 天。本報告未經本公司書面許可，不可部份複製。  
 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com.tw/Terms-and-Conditions](http://www.sgs.com.tw/Terms-and-Conditions) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/en/terms-and-conditions/terms-e-document](http://www.sgs.com/en/terms-and-conditions/terms-e-document). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.