

TEST REPORT

Reliability Laboratory

Report No.: HX10005/2024

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Date: March 14, 2024

WISTRON CORPORATION
21F., NO. 88, SEC. 1, XINTAI 5TH RD.,
XIZHI DIST., NEW TAIPEI CITY, TAIWAN, R.O.C.

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

Product Description: Notebook
Style/ Item No.: ThinkBook 16 G7 ARP/ No.1 ~ No.17, No.21 ~ No.24
Manufacturer/Vendor: Wistron Corporation
Country of Origin: China
Quantity: Total 21 sets
Testing Period: Jan. 15, 2024 to Feb. 18, 2024

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. Altitude Test--I | 16. Vibration Test--I |
| 2. Altitude Test--II | 17. Vibration Test--II |
| 3. High Temperature Test--I | 18. Vibration Test--III |
| 4. High Temperature Test--II | 19. Vibration Test--IV |
| 5. High Temperature Test--III | 20. Functional Shock Test |
| 6. Low Temperature Test--I | 21. Transportation Shock Test |
| 7. Low Temperature Test--II | 22. Transit Drop Test |
| 8. Thermal Shock Test--I | 23. Crash Hazard Shock Test |
| 9. Thermal Shock Test--II | 24. Bench Handling Test |
| 10. Solar Radiation Test--I | 25. Freeze/ Thaw Test |
| 11. Solar Radiation Test--II | 26. Environmental Vibration Test |
| 12. Humidity Test | |
| 13. Blowing Dust Test | |
| 14. Blowing Sand Test | |
| 15. Explosive Atmosphere Test | |

Test Results: – PLEASE SEE ATTACHED SHEETS –

Signed for and on behalf of
SGS TAIWAN Ltd.



Sandra Chen
Asst. Supervisor

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Test Summary:

Test Item	Test Method	Test Result
Altitude Test--I	MIL-STD-810H: 2019, Method 500.6, Procedure I and client's request	Pass
Altitude Test--II	MIL-STD-810H: 2019, Method 500.6, Procedure II and client's request	Pass
High Temperature Test--I	MIL-STD-810H: 2019, Method 501.7, Procedure I and client's request	Pass
High Temperature Test--II	MIL-STD-810H: 2019, Method 501.7, Procedure II and client's request	Pass
High Temperature Test--III	MIL-STD-810H: 2019, Method 501.7, Procedure III - Tactical-Standby to Operational and client's request	Pass
Low Temperature Test--I	MIL-STD-810H: 2019, Method 502.7, Procedure I and client's request	Pass
Low Temperature Test--II	MIL-STD-810H: 2019, Method 502.7, Procedure II and client's request	Pass
Thermal Shock Test--I	MIL-STD-810H: 2019, Method 503.7, Procedure I-A and client's request	Pass
Thermal Shock Test--II	MIL-STD-810H: 2019, Method 503.7, Procedure I-B and client's request	Pass
Solar Radiation Test--I	MIL-STD-810H: 2019, Method 505.7, Procedure I, Cycle A1 and client's request	Pass
Solar Radiation Test--II	MIL-STD-810H: 2019, Method 505.7, Procedure II, Condition A1 and client's request	Pass
Humidity Test	MIL-STD-810H: 2019, Method 507.6, Procedure II - Aggravated Cycle and client's request	Pass
Blowing Dust Test	MIL-STD-810H: 2019, Method 510.7, Procedure I and client's request	Pass
Blowing Sand Test	MIL-STD-810H: 2019, Method 510.7, Procedure II and client's request	Pass
Explosive Atmosphere Test	MIL-STD-810H: 2019, Method 511.7, Procedure I and client's request	Pass
Vibration Test--I	MIL-STD-810H: 2019, Method 514.8, Procedure I, Table 514.8C-I, Category 4 - Common carrier and client's request	Pass

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Test Summary--Continued:

Test Item	Test Method	Test Result
Vibration Test--II	MIL-STD-810H: 2019, Method 514.8, Procedure I, Table 514.8 C-VII, Category 4 - Composite wheeled vehicle vibration exposure and client's request	Pass
Vibration Test--III	MIL-STD-810H: 2019, Method 514.8, Procedure II, Figure 514.8C-8, Category 5 - Truck/Trailer - Loose Cargo and client's request	Pass
Vibration Test--IV	MIL-STD-810H: 2019, Method 514.8, Procedure I, Figure 514.8E-1, Category 24 - General minimum integrity exposure and client's request	Pass
Functional Shock Test	MIL-STD-810H: 2019, Method 516.8, Procedure I, Table 516.8-IV, Terminal peak sawtooth pulse test parameters and client's request	Pass
Transportation Shock Test	MIL-STD-810H: 2019, Method 516.8, Procedure II, Table 516.8-VII and client's request	Pass
Transit Drop Test	MIL-STD-810H: 2019, Method 516.8, Procedure IV and client's request	Pass
Crash Hazard Shock Test	MIL-STD-810H: 2019, Method 516.8, Procedure V - Crash Hazard Shock, Table 516.8-XIII, Terminal peak sawtooth default test parameters and client's request	Pass
Bench Handling Test	MIL-STD-810H: 2019, Method 516.8, Procedure VI and client's request	Pass
Freeze/ Thaw Test	MIL-STD-810H: 2019, Method 524.1, Procedure III and client's request	Pass
Environmental Vibration Test	MIL-STD-810H: 2019, Method 528.1, Procedure I (Type I) and client's request	Pass
Note: "PASS" means no function defect after test. Please see following test specification of each test item in detail.		

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1. Altitude Test--I:

Test Equipment:

Name	Brand	Model	Serial No.
Altitude Chamber	GIANT FORCE	GTP-1260-50-CP-AR	MAF1206-008

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, TaiwanTest Method/ Specification:Test method: MIL-STD-810H: 2019, Method 500.6, Procedure I and client's requestSample condition: Non-OperatingTest temperature: 25 °CAltitude: 15,000 feetDuration: 1 hour

- Examine the appearance of specimen(s) by visual check and perform functional check after this test.
- Functional check: Turn on the power of specimen(s) then examine whether the booting function of specimen(s) could be work normally or not.

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Specimen:

Style/ Item No.: ThinkBook 16 G7 ARP/ No.22

Quantity: Total 1 set

Test Result:

Style/ Item No.	Check Item	Appearance Check (Visual Check)	Functional Check
	ThinkBook 16 G7 ARP/ No.22	No visible damage	Normal

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2. Altitude Test--II:

Test Equipment:

Name	Brand	Model	Serial No.
Altitude Chamber	GIANT FORCE	GTP-1260-50-CP-AR	MAF1206-008

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, TaiwanTest Method/ Specification:Test method: MIL-STD-810H: 2019, Method 500.6, Procedure II and client's requestSample condition: OperatingTest temperature: 25 °CAltitude: 15,000 feetDuration: 1 hour

- Examine the appearance of specimen(s) by visual check and perform functional check after this test.
- Functional check: Turn on the power of specimen(s) then examine whether the booting function of specimen(s) could be work normally or not.

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Specimen:

Style/ Item No.: ThinkBook 16 G7 ARP/ No.22

Quantity: Total 1 set

Test Result:

Style/ Item No.	Check Item	Appearance Check (Visual Check)	Functional Check
	ThinkBook 16 G7 ARP/ No.22	No visible damage	Normal

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3. High Temperature Test--I:

Test Equipment:

Name	Brand	Model	Serial No.
Programmable Temperature & Humidity Chamber	GIANT FORCE	GTH-800-40-CP-AR	MAA2001-011

Lab Environmental Conditions:Ambient temperature: $(25 \pm 3) ^\circ\text{C}$ Ambient humidity: $(55 \pm 20) \% \text{ RH}$ Test Location:

No.17, Wu Chyuan 8th Road, New Taipei Industrial Park, WuKu District,
New Taipei City, Taiwan

Test Method/ Specification:Test method: MIL-STD-810H: 2019, Method 501.7, Procedure I and client's requestSample condition: Non-OperatingTest temperature: 63 °CDuration: 24 hours

- Examine the appearance of specimen(s) by visual check and perform functional check after this test.
- Functional check: Turn on the power of specimen(s) then examine whether the booting function of specimen(s) could be work normally or not.

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Specimen:

Style/ Item No.: ThinkBook 16 G7 ARP/ No.2Quantity: Total 1 set

Test Result:

Style/ Item No.	Check Item	Appearance Check (Visual Check)	Functional Check
	ThinkBook 16 G7 ARP/ No.2	The housing of specimen was deformed after test. (See photo 9)	Normal

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4. High Temperature Test--II:

Test Equipment:

Name	Brand	Model	Serial No.
Programmable Temperature & Humidity Chamber	GIANT FORCE	GTH-800-40-CP-AR	MAA2001-011

Lab Environmental Conditions:Ambient temperature: $(25 \pm 3) ^\circ\text{C}$ Ambient humidity: $(55 \pm 20) \% \text{ RH}$ Test Location:

No.17, Wu Chyuan 8th Road, New Taipei Industrial Park, WuKu District,
New Taipei City, Taiwan

Test Method/ Specification:Test method: MIL-STD-810H: 2019, Method 501.7, Procedure II and client's requestSample condition: OperatingTest temperature: 43 °CDuration: 8 hours

- Examine the appearance of specimen(s) by visual check and perform functional check after this test.
- Functional check: Turn on the power of specimen(s) then examine whether the booting function of specimen(s) could be work normally or not.

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Specimen:

Style/ Item No.: ThinkBook 16 G7 ARP/ No.2Quantity: Total 1 set

Test Result:

Style/ Item No.	Check Item	Appearance Check (Visual Check)	Functional Check
	ThinkBook 16 G7 ARP/ No.2	The housing of specimen was deformed after test. (See photo 14)	Normal

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5. High Temperature Test--III:Test Equipment:

Name	Brand	Model	Serial No.
Programmable Temperature & Humidity Chamber	GIANT FORCE	GTH-800-40-CP-AR	MAA2001-011

Lab Environmental Conditions:Ambient temperature: $(25 \pm 3) ^\circ\text{C}$ Ambient humidity: $(55 \pm 20) \% \text{ RH}$ Test Location:

No.17, Wu Chyuan 8th Road, New Taipei Industrial Park, WuKu District,
New Taipei City, Taiwan

Test Method/ Specification:

Test method: MIL-STD-810H: 2019, Method 501.7, Procedure III - Tactical-Standby to
Operational and client's request

Step	Temperature ($^\circ\text{C}$)	Time (minutes)	Sample condition
1	25→63	-	Non-Operating
2	63	180	Non-Operating
3	63→43	-	Non-Operating
4	43	20	Operating
Test cycle: Total 3 cycles			

- Examine the appearance of specimen(s) by visual check and perform functional check after this test.
- Functional check: Turn on the power of specimen(s) then examine whether the booting function of specimen(s) could be work normally or not.

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Specimen:

Style/ Item No.: ThinkBook 16 G7 ARP/ No.23

Quantity: Total 1 set

Test Result:

Style/ Item No.	Check Item	Appearance Check (Visual Check)	Functional Check
	ThinkBook 16 G7 ARP/ No.23	No visible damage	Normal

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6. Low Temperature Test--I:

Test Equipment:

Name	Brand	Model	Serial No.
Programmable Temperature & Humidity Chamber	GIANT FORCE	GTH-800-40-CP-AR	MAA2003-003

Lab Environmental Conditions:Ambient temperature: $(25 \pm 3) ^\circ\text{C}$ Ambient humidity: $(55 \pm 20) \% \text{ RH}$ Test Location:

No.17, Wu Chyuan 8th Road, New Taipei Industrial Park, WuKu District,
New Taipei City, Taiwan

Test Method/ Specification:Test method: MIL-STD-810H: 2019, Method 502.7, Procedure I and client's requestSample condition: Non-OperatingTest temperature: -25 $^\circ\text{C}$ Duration: 24 hours

- Examine the appearance of specimen(s) by visual check and perform functional check after this test.
- Functional check: Turn on the power of specimen(s) then examine whether the booting function of specimen(s) could be work normally or not.

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Reliability Laboratory

TEST REPORT

Report No.: HX10005/2024

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Specimen:

Style/ Item No.: ThinkBook 16 G7 ARP/ No.1

Quantity: Total 1 set

Test Result:

Style/ Item No.	Check Item	Appearance Check (Visual Check)	Functional Check
	ThinkBook 16 G7 ARP/ No.1	No visible damage	Normal

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7. Low Temperature Test--II:Test Equipment:

Name	Brand	Model	Serial No.
Programmable Temperature & Humidity Chamber	GIANT FORCE	GTH-800-40-CP-AR	MAA2003-003

Lab Environmental Conditions:Ambient temperature: $(25 \pm 3) ^\circ\text{C}$ Ambient humidity: $(55 \pm 20) \% \text{ RH}$ Test Location:No.17, Wu Chyuan 8th Road, New Taipei Industrial Park, WuKu District,
New Taipei City, TaiwanTest Method/ Specification:Test method: MIL-STD-810H: 2019, Method 502.7, Procedure II and client's requestSample condition: OperatingTest temperature: -21 °CDuration: 8 hours

- Examine the appearance of specimen(s) by visual check and perform functional check after this test.
- Functional check: Turn on the power of specimen(s) then examine whether the booting function of specimen(s) could be work normally or not.

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TEST REPORT

Report No.: HX10005/2024

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Specimen:

Style/ Item No.: ThinkBook 16 G7 ARP/ No.1Quantity: Total 1 set

Test Result:

Style/ Item No.	Check Item	Appearance Check (Visual Check)	Functional Check
	ThinkBook 16 G7 ARP/ No.1	The housing of specimen was deformed after test. (See photo 15)	Normal

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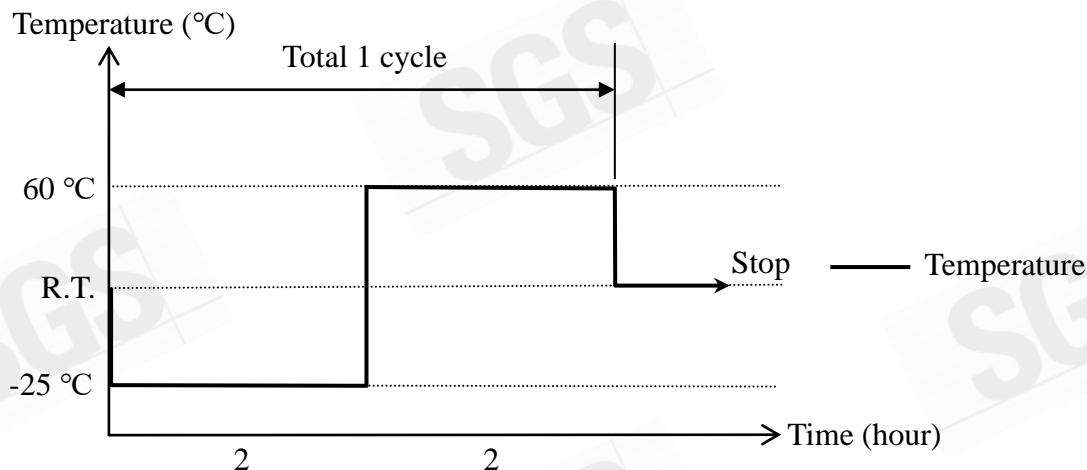
8. Thermal Shock Test--I:

Test Equipment:

Name	Brand	Model	Serial No.
Thermal Shock Testing Chamber	ESPEC	TSD-101-W	141000272

Lab Environmental Conditions:Ambient temperature: $(25 \pm 3) ^\circ\text{C}$ Ambient humidity: $(55 \pm 20) \% \text{ RH}$ Test Location:

No.17, Wu Chyuan 8th Road, New Taipei Industrial Park, WuKu District,
New Taipei City, Taiwan

Test Method/ Specification:Test method: MIL-STD-810H: 2019, Method 503.7, Procedure I-A and client's requestSample condition: Non-Operating

- The temperature transition time shall be less than 1 minute.
- Examine the appearance of specimen(s) by visual check and perform functional check after this test.
- Functional check: Turn on the power of specimen(s) then examine whether the booting function of specimen(s) could be work normally or not.

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Specimen:

Style/ Item No.: ThinkBook 16 G7 ARP/ No.3Quantity: Total 1 set

Test Result:

Style/ Item No.	Check Item	Appearance Check (Visual Check)	Functional Check
	ThinkBook 16 G7 ARP/ No.3	The housing of specimen was deformed after test. (See photo 20)	Normal

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TEST REPORT

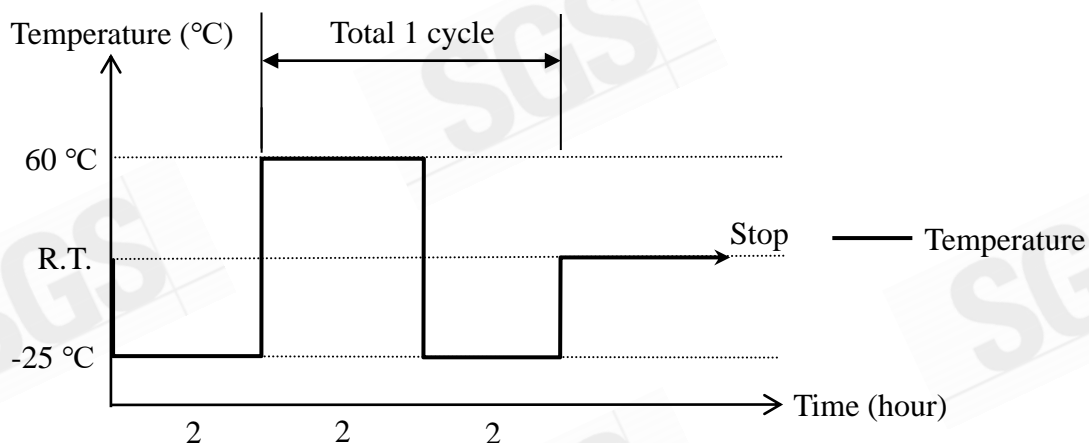
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9. Thermal Shock Test--II:

Test Equipment:

Name	Brand	Model	Serial No.
Thermal Shock Testing Chamber	ESPEC	TSD-101-W	141000272

Lab Environmental Conditions:Ambient temperature: $(25 \pm 3) ^\circ\text{C}$ Ambient humidity: $(55 \pm 20) \% \text{ RH}$ Test Location:No.17, Wu Chyuan 8th Road, New Taipei Industrial Park, WuKu District,
New Taipei City, TaiwanTest Method/ Specification:Test method: MIL-STD-810H: 2019, Method 503.7, Procedure I-B and client's requestSample condition: Non-Operating

- The temperature transition time shall be less than 1 minute.
- Examine the appearance of specimen(s) by visual check and perform functional check after this test.
- Functional check: Turn on the power of specimen(s) then examine whether the booting function of specimen(s) could be work normally or not.

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Specimen:

Style/ Item No.: ThinkBook 16 G7 ARP/ No.3

Quantity: Total 1 set

Test Result:

Style/ Item No.	Check Item	Appearance Check (Visual Check)	Functional Check
	ThinkBook 16 G7 ARP/ No.3	No visible damage	Normal

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10. Solar Radiation Test--I:

Test Equipment:

Name	Brand	Model	Serial No.
Solar Simulation Chamber	GIANT FORCE	GUVT-2000-40-CP-AR	MAZ2111-001

Lab Environmental Conditions:Ambient temperature: $(25 \pm 3) ^\circ\text{C}$ Ambient humidity: $(55 \pm 20) \% \text{ RH}$ Test Location: No. 115-1, Sanjun Street., Shulin District., New Taipei City, TaiwanTest Method/ Specification:

Test method: MIL-STD-810H: 2019, Method 505.7, Procedure I, Cycle A1 and client's request

Sample condition: Non-Operating

Radiation source: Metal halide lamp

Irradiance: $730 \text{ W/m}^2 \sim 1120 \text{ W/m}^2$ at (300 ~ 3000) nmChamber temperature: $(32 \sim 49) ^\circ\text{C}$

Test duration: 3 cycles

- Examine the appearance of specimen(s) by visual check and perform functional check after this test.
- Functional check: Turn on the power of specimen(s) then examine whether the booting function of specimen(s) could be work normally or not.



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Specimen:

Style/ Item No.: ThinkBook 16 G7 ARP/ No.4

Quantity: Total 1 set

Test Result:

Style/ Item No.	Check Item	Appearance Check (Visual Check)	Functional Check
	ThinkBook 16 G7 ARP/ No.4	No visible damage	Normal

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11. Solar Radiation Test--II:

Test Equipment:

Name	Brand	Model	Serial No.
Solar Simulation Chamber	GIANT FORCE	GUVT-2000-40-CP-AR	MAZ2111-001

Lab Environmental Conditions:Ambient temperature: $(25 \pm 3) ^\circ\text{C}$ Ambient humidity: $(55 \pm 20) \% \text{ RH}$ Test Location: No. 115-1, Sanjun Street., Shulin District., New Taipei City, TaiwanTest Method/ Specification:

Test method: MIL-STD-810H: 2019, Method 505.7, Procedure II, Condition A1 and client's request

Sample condition: Non-Operating

Radiation source: Metal halide lamp

Irradiance: Spectral irradiance of $(1120 \pm 47) \text{ W/m}^2$ at $(300 \sim 3000) \text{ nm}$ Chamber temperature: $49 ^\circ\text{C}$

Exposing duration: 20 hours irradiation and 4 hours darkness per a 24-hour cycle

Test duration: 4 cycles

- Examine the appearance of specimen(s) by visual check and perform functional check after this test.
- Functional check: Turn on the power of specimen(s) then examine whether the booting function of specimen(s) could be work normally or not.

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TEST REPORT

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Specimen:

Style/ Item No.: ThinkBook 16 G7 ARP/ No.5

Quantity: Total 1 set

Test Result:

Style/ Item No.	Check Item	Appearance Check (Visual Check)	Functional Check
	ThinkBook 16 G7 ARP/ No.5	No visible damage	Normal

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12. Humidity Test:

Test Equipment:

Name	Brand	Model	Serial No.
Programmable Temperature & Humidity Chamber	GIANT FORCE	GTH-800-40-CP-AR	MAA2001-012

Lab Environmental Conditions:

Ambient temperature: $(25 \pm 3) ^\circ\text{C}$ Ambient humidity: $(55 \pm 20) \% \text{ RH}$

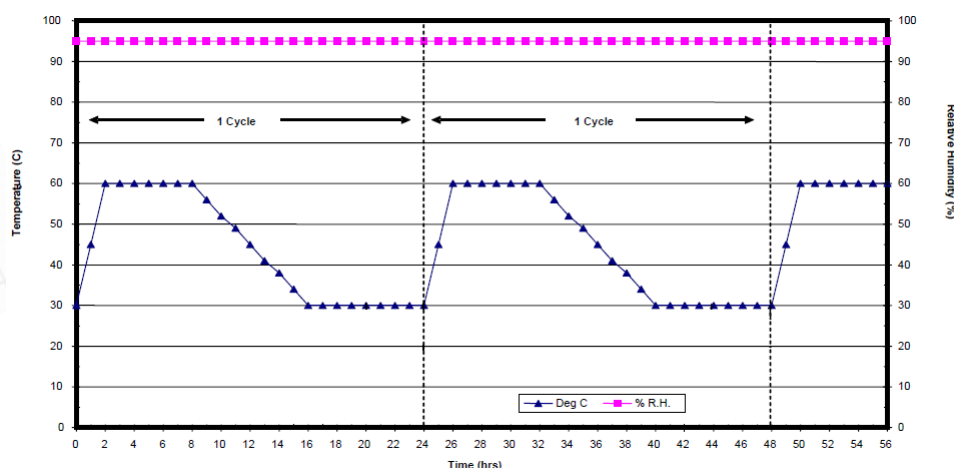
Test Location:

No.17, Wu Chyuan 8th Road, New Taipei Industrial Park, WuKu District,
New Taipei City, Taiwan

Test Method/ Specification:

Test method: MIL-STD-810H: 2019, Method 507.6, Procedure II - Aggravated Cycle and
client's request

Sample condition: Non-Operating



- Test cycle: Total 10 cycles
- Examine the appearance of specimen(s) by visual check and perform functional check after 5th and 10th test cycles.
- Functional check: Turn on the power of specimen(s) then examine whether the booting function of specimen(s) could be work normally or not.

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Specimen:Style/ Item No.: ThinkBook 16 G7 ARP/ No.6Quantity: Total 1 setTest Result:

Check Item		Appearance Check (Visual Check)	Functional Check
Style/ Item No.			
ThinkBook 16 G7 ARP/ No.6	5 th cycles	The housing of specimen was deformed after test. (See photo 9)	Normal
	10 th cycles	The housing of specimen was got water marks after test. (See photo 10)	Normal

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13. Blowing Dust Test:

Test Equipment:

Name	Brand	Model	Serial No.
Chamber	ACS	SD 8000 MIL	TT02038
Anemometer	INNPITRON	RG4000WS	FS22082507
Concentration meter	SICK	DHT-T00	16488579

Test Method/ Specification:

Test method: MIL-STD-810H: 2019, Method 510.7, Procedure I and client's request

Sample condition: 1. Non-Operating at $(25 \pm 2) ^\circ\text{C}$ 2. Operating at $(60 \pm 2) ^\circ\text{C}$ Test temperature: 1. $(25 \pm 2) ^\circ\text{C}$ 2. $(60 \pm 2) ^\circ\text{C}$ Dust concentration: $(10.6 \pm 7) \text{ g/m}^3$

Air flow velocity: 8.9 m/s which is approximately 20 mph.

Test duration: 12 hours [6 hours for $(25 \pm 2) ^\circ\text{C}$ and 6 hours for $(60 \pm 2) ^\circ\text{C}$]

- Examine the appearance of specimen(s) by visual check and perform functional check after this test.
- Functional check: Turn on the power of specimen(s) then examine whether the booting function of specimen(s) could be work normally or not.



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Report No.: HX10005/2024

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Specimen:

Style/ Item No.: ThinkBook 16 G7 ARP/ No.7

Quantity: Total 1 set

Test Result:

Style/ Item No.	Check Item	Appearance Check (Visual Check)	Functional Check
	ThinkBook 16 G7 ARP/ No.7	No visible damage	Normal

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14. Blowing Sand Test:

Test Equipment:

Name	Brand	Model	Serial No.
Chamber	ACS	SD 8000 MIL	TT02038
Anemometer	INNPITRON	RG4000WS	FS22082507
Concentration meter	SICK	DHT-T00	16488579

Test Method/ Specification:

Test method: MIL-STD-810H: 2019, Method 510.7, Procedure II and client's request

Sample condition: Non-Operating

Test temperature: 65 °C

Dust concentration: (0.18 ± 0.2) g/m³

Air flow velocity: 18 m/s which is approximately 40 mph.

Test duration: 180 minutes (90 minutes for FAN indrawn face and 90 minutes for FAN exhaust face)

- Examine the appearance of specimen(s) by visual check and perform functional check after this test.
- Functional check: Turn on the power of specimen(s) then examine whether the booting function of specimen(s) could be work normally or not.



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Specimen:

Style/ Item No.: ThinkBook 16 G7 ARP/ No.8

Quantity: Total 1 set

Test Result:

Style/ Item No.	Check Item	Appearance Check (Visual Check)	Functional Check
	ThinkBook 16 G7 ARP/ No.8	No visible damage	Normal

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15. Explosive Atmosphere Test:Test Equipment:

Name	Brand	Model	Serial No.
100 ml Graduated Cylinder	Corning	3026-100	193-008
Hexane - anhydrous, 99%	Cole-Parmer	C1213900	186-007S
Temperature/ Humidity Paperless Recorder	Extech Instruments	RH520	200-296
Explosion/ Altitude Chamber	Environ	E-3	502-015
Pressure Transmitter	WIKA	S-10	715-140
NetDAQ	Fluke Electronics	2645A	950-083

Test Method/ Specification:

Test method:

MIL-STD-810H: 2019, Method 511.7, Procedure I and client's request
The chamber controls were energized and set for 35°C. The chamber and test unit were stabilized at this temperature.

The test unit was subjected to explosive atmosphere tests at 15,000 feet altitude and ground level. The chamber was evacuated for the first run to an altitude of 2000 meters (6600 feet) above 15,000 feet. Air was introduced into the chamber at a descent rate no faster than 100 meters (330 feet) per minute. Time allowed to vaporize and disperse the fuel was 3 minutes.

Chamber altitude was held at 1000 meters (3300 feet) above the nominal test altitude of 15,000 feet. The chamber air-vapor mixture was successfully sampled.

The test unit continuously operated as chamber altitude was slowly reduced to 1000 meters (3300 feet) below the test altitude by admitting air to the chamber. The chamber altitude was reduced over 20 minutes (at a rate no greater than 100 meters (330 feet) per minute). The air leak was continued until the chamber reached 1000 meters (3300 feet) below the test altitude. Another sample of the chamber air-vapor mixture was exploded.

Chamber altitude was reduced to 2000 meters (6600 feet) above site pressure (ground level). Chamber altitude was reduced to 1000 meters (3300 feet) above ground level over 3 minutes. The air-vapor mixture was successfully sampled.

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Test Method/ Specification--Continued:

Test method:

The test unit continuously operated as chamber altitude was reduced to local ambient pressure (ground level) over 10 minutes (at a rate no greater than 100 meters (330 feet) per minute). The chamber air-vapor mixture was successfully sampled at ground level.

The test unit was de-energized. The chamber was purged of fuel vapor and opened. The test unit was removed from the chamber and visually inspected.

- Examine the appearance of specimen(s) by visual check and perform functional check after this test.
- Functional check: Turn on the power of specimen(s) then examine whether the booting function of specimen(s) could be work normally or not.
- This test was subcontracted to Element Materials Technology. (Report No.: 65173-1).

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Specimen:

Style/ Item No.: ThinkBook 16 G7 ARP/ No.9

Quantity: Total 1 set

Test Result:

Check Item Style/ Item No.	Appearance Check (Visual Check)	Functional Check	Does the operation of the test unit in the explosive atmosphere cause an explosion?
ThinkBook 16 G7 ARP/ No.9	No visible damage	Normal	No

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16. Vibration Test--I:

Test Equipment:

Name	Brand	Model	Serial No.
Vibration Test System	Vibration Source	VS-100VH-76	E01711
Controller	ECON	VT-9002	293884999
Control Accelerometer	PCB	353B34	LW242805

Lab Environmental Conditions:Ambient temperature: $(25 \pm 3) ^\circ\text{C}$ Ambient humidity: $(55 \pm 20) \% \text{ RH}$ Test Location: No.19-3, Zhonghua Rd. Xinshi Dist., Tainan City, TaiwanTest Method/ Specification:

Test method: MIL-STD-810H: 2019, Method 514.8, Procedure I, Table 514.8C-I

Category 4 - Common carrier and client's requestSample condition: OperatingWave form: RandomFrequency: $(5 \sim 500) \text{ Hz}$ (Test Spectrums as shown in the following sheets in detail)Direction: X, Y, Z axesDuration: 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(s) then examine whether the booting function of specimen(s) could be work normally or not.

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Test Method/ Specification--Continued:

Test Spectrums:

Vertical - Z axis		Transverse - X axis		Longitudinal - Y axis	
Frequency (Hz)	PSD (g^2/Hz)	Frequency (Hz)	PSD (g^2/Hz)	Frequency (Hz)	PSD (g^2/Hz)
5	0.01500	5	0.00013	5	0.00650
40	0.01500	10	0.00013	20	0.00650
500	0.00015	20	0.00065	120	0.00020
\Rightarrow equivalent to 1.08 G_{rms}		30	0.00065	121	0.00300
		78	0.00002	200	0.00300
		79	0.00019	240	0.00150
		120	0.00019	340	0.00003
		500	0.00001	500	0.00015
		\Rightarrow equivalent to 0.21 G_{rms}		\Rightarrow equivalent to 0.76 G_{rms}	

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Specimen:

Style/ Item No.: ThinkBook 16 G7 ARP/ No.10

Quantity: Total 1 set

Test Result:

Style/ Item No.	Check Item	Appearance Check (Visual Check)	Functional Check
	ThinkBook 16 G7 ARP/ No.10	No visible damage	Normal

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17. Vibration Test--II:

Test Equipment:

Name	Brand	Model	Serial No.
Vibration Test System	Vibration Source	VS-100VH-76	E01711
Controller	ECON	VT-9002	293884999
Control Accelerometer	PCB	353B34	LW242805

Lab Environmental Conditions:Ambient temperature: $(25 \pm 3) ^\circ\text{C}$ Ambient humidity: $(55 \pm 20) \% \text{ RH}$ Test Location: No.19-3, Zhonghua Rd. Xinshi Dist., Tainan City, TaiwanTest Method/ Specification:

Test method: MIL-STD-810H: 2019, Method 514.8, Procedure I, Table 514.8 C-VII.
Category 4 - Composite wheeled vehicle vibration exposure and client's request

Sample condition: Non-Operating

Wave form: Random

Frequency: $(5 \sim 500) \text{ Hz}$ (Test Spectrums as shown in the following sheets in detail)

Direction: X, Y, Z axes

Duration: 40 minutes/ 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(s) then examine whether the booting function of specimen(s) could be work normally or not.

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Test Method/ Specification--Continued:

Test Spectrums:

Vertical - Z axis		Transverse - X axis		Longitudinal - Y axis	
Frequency (Hz)	PSD (g ² /Hz)	Frequency (Hz)	PSD (g ² /Hz)	Frequency (Hz)	PSD (g ² /Hz)
5	0.12765	5	0.04070	5	0.01848
6	0.12926	6	0.04415	6	0.02373
7	0.30000	7	0.11000	7	0.05000
8	0.30000	8	0.11000	8	0.05000
9	0.10000	9	0.04250	9	0.02016
12	0.10000	12	0.04250	12	0.02016
14	0.15000	14	0.07400	14	0.05000
16	0.15000	16	0.07400	16	0.05000
19	0.04000	19	0.02000	19	0.01030
90	0.00600	100	0.00074	23	0.01030
125	0.00400	189	0.00130	25	0.00833
190	0.00400	350	0.00400	66	0.00114
211	0.00600	425	0.00400	84	0.00107
440	0.00600	482	0.00210	90	0.00167
500	0.00204	500	0.0142	165	0.00151
⇒ equivalent to 2.24 G _{rms}		⇒ equivalent to 1.45 G _{rms}		221	0.00333
				455	0.00296
				500	0.00204
				⇒ equivalent to 1.32 G _{rms}	

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Specimen:

Style/ Item No.: ThinkBook 16 G7 ARP/ No.11

Quantity: Total 1 set

Test Result:

Style/ Item No.	Check Item	Appearance Check (Visual Check)	Functional Check
	ThinkBook 16 G7 ARP/ No.11	No visible damage	Normal

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18. Vibration Test--III:

Test Equipment:

Name	Brand	Model	Serial No.
Vibration Tester	CHUN-YEN	CY-6120P	1999-12

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, TaiwanTest Method/ Specification:Test method: MIL-STD-810H: 2019, Method 514.8, Procedure II, Figure 514.8C-8,
Category 5 - Truck/Trailer - Loose Cargo and client's requestSample condition: Non-OperatingVibration mode: 1" peak to peak orbital motionFrequency: 5 HzTest orientation: 1. Place the specimen upright (Bottom faced down)
2. Horizontal rotation of 90° Duration: Total 134 minutes (67 minutes/ orientation)

- Examine the appearance of specimen(s) by visual check and perform functional check after this test.
- Functional check: Turn on the power of specimen(s) then examine whether the booting function of specimen(s) could be work normally or not.

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Specimen:

Style/ Item No.: ThinkBook 16 G7 ARP/ No.12

Quantity: Total 1 set

Test Result:

Style/ Item No.	Check Item	Appearance Check (Visual Check)	Functional Check
	ThinkBook 16 G7 ARP/ No.12	No visible damage	Normal

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19. Vibration Test--IV:

Test Equipment:

Name	Brand	Model	Serial No.
Vibration Test System	Vibration Source	VS-100VH-76	E01711
Controller	ECON	VT-9002	293884999
Control Accelerometer	PCB	353B34	LW242805

Lab Environmental Conditions:Ambient temperature: $(25 \pm 3) ^\circ\text{C}$ Ambient humidity: $(55 \pm 20) \% \text{ RH}$ Test Location: No.19-3, Zhonghua Rd. Xinshi Dist., Tainan City, TaiwanTest Method/ Specification:Test method: MIL-STD-810H: 2019, Method 514.8, Procedure I, Figure 514.8E-1,
Category 24 - General minimum integrity exposure and client's request

Sample condition: Non-Operating

Wave form: Random

Frequency: $(20 \sim 2000) \text{ Hz}$

Frequency (Hz)	Left Slope (dB/Oct.)	PSD (g^2/Hz)	Right Slope (dB/Oct.)
20	—	0.04	0
1000	0	0.04	-6
2000	-6	0.01	—
⇨ equivalent to 7.7 G_{rms}			

Direction: X, Y, Z axes

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(s) then examine whether the booting function of specimen(s) could be work normally or not.

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Specimen:

Style/ Item No.: ThinkBook 16 G7 ARP/ No.13Quantity: Total 1 set

Test Result:

Style/ Item No.	Check Item	Appearance Check (Visual Check)	Functional Check
	ThinkBook 16 G7 ARP/ No.13	No visible damage	Normal

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20. Functional Shock Test:Test Equipment:

Name	Brand	Model	Serial No.
Vibration Test System	IMV	J260	14102010
Controller	IMV	K2+	14102010
Control Accelerometer	IMV	VP-32	6338V
Control Accelerometer	IMV	VP-32	6340V

Lab Environmental Conditions:Ambient temperature: $(25 \pm 3) ^\circ\text{C}$ Ambient humidity: $(55 \pm 20) \% \text{ RH}$ Test Location: No.19-3, Zhonghua Rd. Xinshi Dist., Tainan City, TaiwanTest Method/ Specification:

Test method: MIL-STD-810H: 2019, Method 516.8, Procedure I, Table 516.8-IV,

Terminal peak sawtooth pulse test parameters and client's requestSample condition: OperatingPulse shape: SawtoothAcceleration: 20 gPulse duration: 11 msShock direction: 6 faces ($\pm X$, $\pm Y$, $\pm Z$ axes)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(s) then examine whether the booting function of specimen(s) could be work normally or not.

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Specimen:

Style/ Item No.: ThinkBook 16 G7 ARP/ No.14Quantity: Total 1 set

Test Result:

Style/ Item No.	Check Item	Appearance Check (Visual Check)	Functional Check
	ThinkBook 16 G7 ARP/ No.14	No visible damage	Normal

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21. Transportation Shock Test:

Test Equipment:

Name	Brand	Model	Serial No.
Vibration Test System	IMV	J260	14102010
Controller	IMV	K2+	14102010
Control Accelerometer	IMV	VP-32	6338V
Control Accelerometer	IMV	VP-32	6340V

Lab Environmental Conditions:Ambient temperature: $(25 \pm 3) ^\circ\text{C}$ Ambient humidity: $(55 \pm 20) \% \text{ RH}$ Test Location: No.19-3, Zhonghua Rd. Xinshi Dist., Tainan City, TaiwanTest Method/ Specification:

Test method: MIL-STD-810H: 2019, Method 516.8, Procedure II, Table 516.8-VII and client's request

Sample condition: Non-Operating

Pulse shape: Sawtooth

Acceleration (g)	Number of Shocks	Acceleration (g)	Number of Shocks
5.1	42	10.2	42
6.4	21	12.8	21
7.6	3	15.2	3
Pulse duration: 11 ms		Pulse duration: 5 ms	

Shock direction: $6 \text{ faces } (\pm X, \pm Y, \pm Z \text{ axes})$

- Examine the appearance of specimen(s) by visual check and perform functional check after this test.
- Functional check: Turn on the power of specimen(s) then examine whether the booting function of specimen(s) could be work normally or not.

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Specimen:

Style/ Item No.: ThinkBook 16 G7 ARP/ No.15

Quantity: Total 1 set

Test Result:

Style/ Item No.	Check Item	Appearance Check (Visual Check)	Functional Check
	ThinkBook 16 G7 ARP/ No.15	No visible damage	Normal

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22. Transit Drop Test:

Test Equipment:

Name	Brand	Model	Serial No.
Drop Tester	Vibration Source	VS-1018	0C03

Lab Environmental Conditions:Ambient temperature: $(25 \pm 3) ^\circ\text{C}$ Ambient humidity: $(55 \pm 20) \% \text{ RH}$ Test Location:No.17, Wu Chyuan 8th Road, New Taipei Industrial Park, WuKu District,
New Taipei City, TaiwanTest Method/ Specification:Test method: MIL-STD-810H: 2019, Method 516.8, Procedure IV and client's requestSample condition: Packaged with bag & OperatingDrop height: 122 cmDrop sequence: 6 faces, 12 edges and 8 corners (Total 26 drops, as shown in photo 41 ~ 43)Test surface: 2 inches of plywood over concrete

- Examine the appearance of specimen(s) by visual check and perform functional check after this test.
- Functional check: Turn on the power of specimen(s) then examine whether the booting function of specimen(s) could be work normally or not.

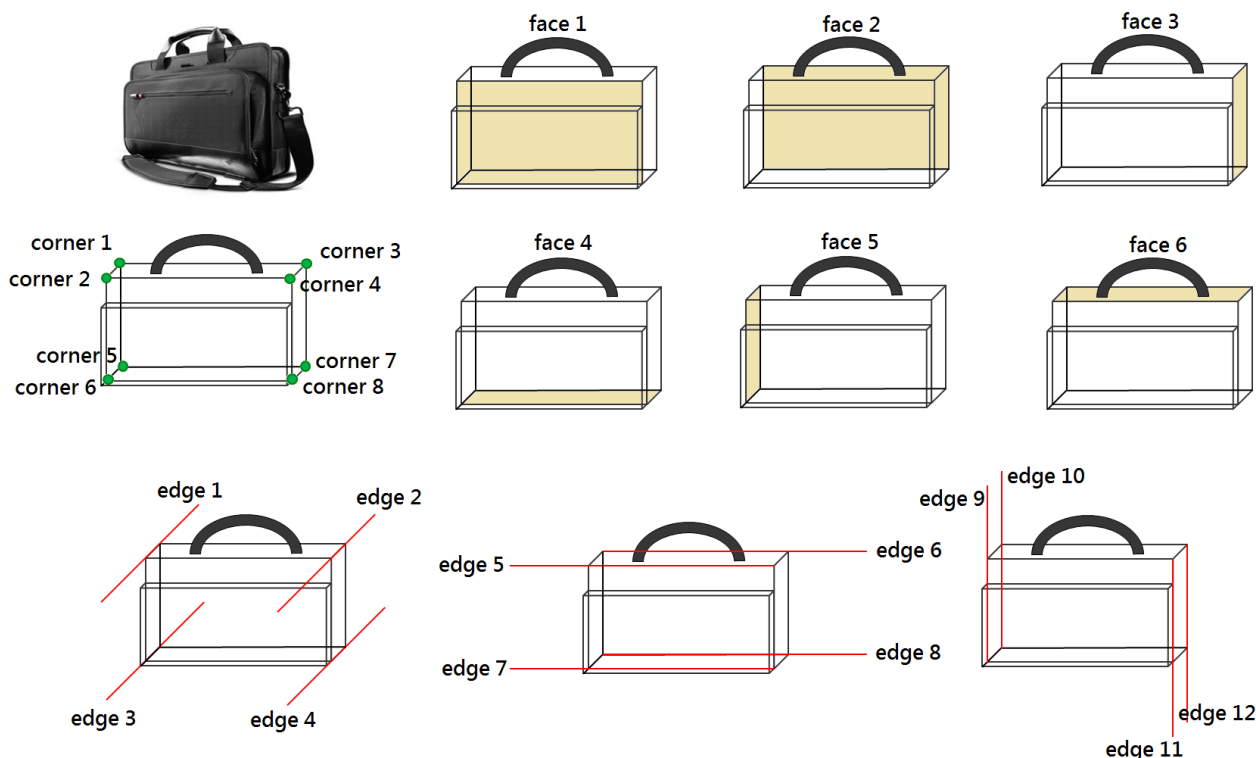
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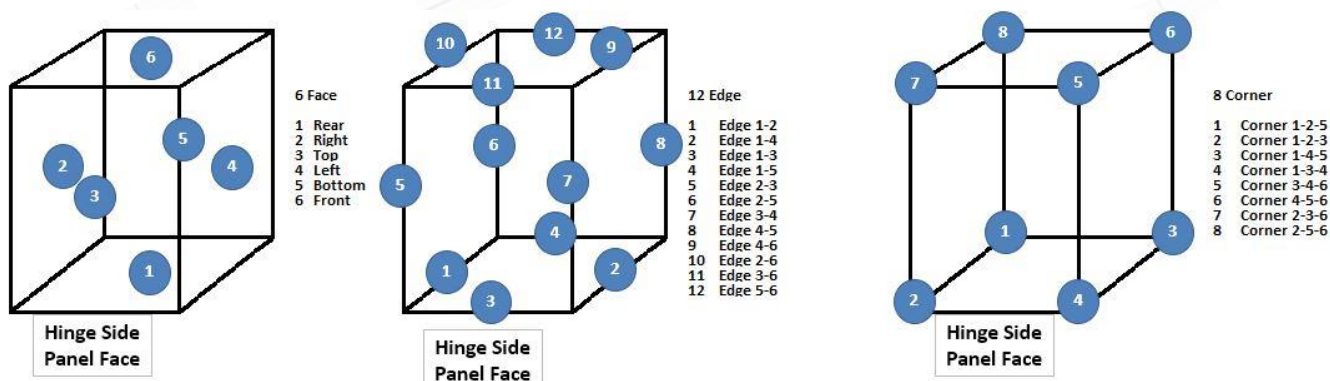
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Appendix I - Drop sequence:

Laptop bag:



Notebook:



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Specimen:

Style/ Item No.: ThinkBook 16 G7 ARP/ No.16, 17

Quantity: Total 2 sets

Test Result:

Style/ Item No.	Check item		Appearance Check (Visual Check)	Functional Check
	Drop sequence			
ThinkBook 16 G7 ARP/ No.16	Laptop bag	Notebook		
	Face 4	Rear	The housing of specimen was cracked and deformed after this drop. (See photo 52)	Normal
	Face 5	Right	No further damage	Normal
	Face 1	Top	No further damage	Normal
	Face 3	Left	The housing of specimen was deformed after this drop. (See photo 44)	Normal
	Face 2	Bottom	No further damage	Normal
	Face 4	Front	The housing of specimen was cracked after this drop. (See photo 45)	Normal
	Edge 3	Edge 1-2	The housing of specimen was cracked and deformed after this drop. (See photo 47 ~ 49)	Normal
	Edge 4	Edge 1-4	The housing of specimen was deformed after this drop. (See photo 47, 48)	Normal
	Edge 7	Edge 1-3	No further damage	Normal
	Edge 8	Edge 1-5	No further damage	Normal
	Edge 9	Edge 2-3	No further damage	Normal

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Test Result:

Style/ Item No. Drop sequence		Check item	Appearance Check (Visual Check)	Functional Check
		Laptop bag Notebook		
ThinkBook 16 G7 ARP/ No.16	Edge 10	Edge 2-5	No further damage	Normal
	Edge 11	Edge 3-4	No further damage	Normal
	Edge 12	Edge 4-5	The housing of specimen was deformed after this drop. (See photo 49)	Normal
ThinkBook 16 G7 ARP/ No.17	Edge 3	Edge 4-6	No further damage	Normal
	Edge 4	Edge 2-6	No further damage	Normal
	Edge 7	Edge 3-6	No further damage	Normal
	Edge 8	Edge 5-6	No further damage	Normal
	Corner 5	Corner 1-2-5	No further damage	Normal
	Corner 6	Corner 1-2-3	No further damage	Normal
	Corner 7	Corner 1-4-5	No further damage	Normal
	Corner 8	Corner 1-3-4	The touch panel of specimen was deformed after this drop. (See photo 44)	Normal
	Corner 6	Corner 3-4-6	The housing of specimen was moved after this drop. (See photo 49)	Normal
	Corner 5	Corner 4-5-6	The housing of specimen was deformed after this drop. (See photo 49)	Normal
	Corner 8	Corner 2-3-6	No further damage	Normal
	Corner 7	Corner 2-5-6	No further damage	Normal

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23. Crash Hazard Shock Test:Test Equipment:

Name	Brand	Model	Serial No.
Shock Test System	LANSMONT	65-81 TTSII	M-13418
Data Acquisition & Analysis System	LANSMONT	103570-2-B	0503-73
ICP Accelerometer	PCB	353B14	79713

Lab Environmental Conditions:Ambient temperature: $(25 \pm 3) ^\circ\text{C}$ Ambient humidity: $(55 \pm 20) \% \text{ RH}$ Test Location:

No.17, Wu Chyuan 8th Road, New Taipei Industrial Park, WuKu District,
New Taipei City, Taiwan

Test Method/ Specification:

Test method: MIL-STD-810H: 2019, Method 516.8, Procedure V - Crash Hazard Shock,
Table 516.8-XIII, Terminal peak sawtooth default test parameters and
client's request

Sample condition: Non-OperatingPulse shape: SawtoothAcceleration: 75 gPulse duration: 6 msShock direction: 6 faces ($\pm X$, $\pm Y$, $\pm Z$ axes)No. of shock: 2 shocks/ face (Total 12 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(s) then examine whether the booting function of specimen(s) could be work normally or not.

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Specimen:

Style/ Item No.: ThinkBook 16 G7 ARP/ No.21

Quantity: Total 1 set

Test Result:

Style/ Item No.	Check Item	Appearance Check (Visual Check)	Functional Check
	ThinkBook 16 G7 ARP/ No.21	No visible damage	Normal

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24. Bench Handling Test:

Test Equipment:

Name	Brand	Model	Serial No.
Tape Measure	Tajima	3.6m	002

Lab Environmental Conditions:Ambient temperature: $(25 \pm 3) ^\circ\text{C}$ Ambient humidity: $(55 \pm 20) \% \text{ RH}$ Test Location:No.17, Wu Chyuan 8th Road, New Taipei Industrial Park, WuKu District,
New Taipei City, TaiwanTest Method/ Specification:Test method: MIL-STD-810H: 2019, Method 516.8, Procedure VI and client's requestSample condition: Non-Operating & without D-coverDrop height: The lifted edge of the chassis has been raised 100 mm (4 in) above the
horizontal bench topTest edge: Front edge, Back edge, Left edge, Right edge (Top down)Test cycles: Each edge 2 drops (Total 8 drops)Test surface: 2 inches of plywood

- Examine the appearance of specimen(s) by visual check and perform functional check after this test.
- Functional check: Turn on the power of specimen(s) then examine whether the booting function of specimen(s) could be work normally or not.



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Specimen:

Style/ Item No.: ThinkBook 16 G7 ARP/ No.22

Quantity: Total 1 set

Test Result:

Style/ Item No.	Check Item	Appearance Check (Visual Check)	Functional Check
	ThinkBook 16 G7 ARP/ No.22	No visible damage	Normal

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25. Freeze/ Thaw Test:Test Equipment:

Name	Brand	Model	Serial No.
Programmable Temperature & Humidity Chamber	GIANT FORCE	GTH-800-40-CP-AR	MAA2003-004
Programmable Temperature & Humidity Chamber	GIANT FORCE	GTH-800-40-CP-AR	MAA2001-011

Lab Environmental Conditions:Ambient temperature: $(25 \pm 3) ^\circ\text{C}$ Ambient humidity: $(55 \pm 20) \% \text{ RH}$ Test Location:

No.17, Wu Chyuan 8th Road, New Taipei Industrial Park, WuKu District,
New Taipei City, Taiwan

Test Method/ Specification:

Test method: MIL-STD-810H: 2019, Method 524.1, Procedure III and client's request

Sample condition: Non-Operating

Step	Temperature ($^\circ\text{C}$)	Humidity (%RH)	Time (minutes)
1	25	95	120
2	25 \rightarrow -10	95 \rightarrow —	<5
3	-10	—	120*
4	-10 \rightarrow 25	— \rightarrow 95	<5
5	25	95	120
6	25 \rightarrow -10	95 \rightarrow —	<5
7	-10	—	120*
8	-10 \rightarrow 25	— \rightarrow 95	<5
9	25	95	120
10	25 \rightarrow -10	95 \rightarrow —	<5
11	-10	—	120*
12	-10 \rightarrow 25	95 \rightarrow 55	—*

Test cycles: Total 1 cycle

Note *: Perform functional check at the end of step 3, step 7, step 11 and after test.

- Examine the appearance of specimen(s) by visual check and perform functional check after this test.
- Functional check: Turn on the power of specimen(s) then examine whether the booting function of specimen(s) could be work normally or not.

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Reliability Laboratory

TEST REPORT

Report No.: HX10005/2024

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Specimen:

Style/ Item No.: ThinkBook 16 G7 ARP/ No.23

Quantity: Total 1 set

Test Result:

Style/ Item No.	Check Item	Appearance Check (Visual Check)	Functional Check
	ThinkBook 16 G7 ARP/ No.23	No visible damage	Normal

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26. Environmental Vibration Test:Test Equipment:

Name	Brand	Model	Serial No.
Vibration Test System	UNHOLTZ-DICKIE	SAI60-H560BAC/2/ST	474
Controller	Dactron	LASER	7110357
Control Accelerometer	PCB	353B34	LW249959
Triaxial Isotron Accelerometer	PCB	356A24	162319

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-810H: 2019, Method 528.1, Procedure I (Type I) and client's request

1. Exploratory vibration test:Sample condition: OperatingWave form: SinusoidalFrequency: (4 ~ 33) HzAmplitude (D_{0-p}): 0.01 inchSweep type: LinearSweep rate: 7.25 minutes/ sweepDirection: X, Y, Z axesTest duration: 1 sweep/ axis

- Measuring accelerometer is attached on the designated position of specimen in each axis for Resonance search.
- Examine the appearance of specimen(s) by visual check and perform functional check after this test.

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Test Method/ Specification--Continued:

- Functional check: Turn on the power of specimen(s) then examine whether the booting function of specimen(s) could be work normally or not.

2. Variable frequency test:

Sample condition: Operating
Wave form: Sinusoidal (Dwell)
Frequency: (4 ~ 33) Hz at each integral frequency
Amplitude (D_{0-p}): 0.03 inch for (4 ~ 15) Hz;
0.02 inch for (16 ~ 25) Hz;
0.01 inch for (26 ~ 33) Hz
Direction: X, Y, Z axes
Test duration: 5 minutes/ Frequency

- Measuring accelerometer is attached on the designated position of specimen in each axis for Resonance search.
- Examine the appearance of specimen(s) by visual check and perform functional check after this test.
- Functional check: Turn on the power of specimen(s) then examine whether the booting function of specimen(s) could be work normally or not.

3. Endurance test:

Sample condition: Operating
Wave form: Sinusoidal (Dwell)
Frequency: 33 Hz
Amplitude (D_{0-p}): 0.01 inch
Direction: X, Y, Z axes
Test duration: 2 hours/ 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(s) then examine whether the booting function of specimen(s) could be work normally or not.

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Specimen:

Style/ Item No.: ThinkBook 16 G7 ARP/ No.24

Quantity: Total 1 set

Test Result:

1. Exploratory vibration test:

I. Resonance Search Result:

Test Item		Major Resonance Search		
Direction		X axis	Y axis	Z axis
Style/ Item No.				
ThinkBook 16 G7 ARP/ No.24	Frequency (Hz)	— *	— *	— *
	Acceleration (g)	— *	— *	— *
Note *: No resonance frequency was found.				

II. Examination of Specimen:

Check Item	Appearance Check (Visual Check)	Functional Check
Style/ Item No.		
ThinkBook 16 G7 ARP/ No.24	No visible damage	Normal

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Test Result--Continued:

2. Variable frequency test:

I. Resonance Search Result:

Test Item		Major Resonance Search		
Direction		X axis	Y axis	Z axis
Style/ Item No.				
ThinkBook 16 G7 ARP/ No.24	Frequency (Hz)	—*	—*	—*
	Acceleration (g)	—*	—*	—*
Note *: No resonance frequency was found.				

II. Examination of Specimen:

Check Item	Appearance Check (Visual Check)	Functional Check
Style/ Item No.		
ThinkBook 16 G7 ARP/ No.24	No visible damage	Normal

3. Endurance test:

Check Item	Appearance Check (Visual Check)	Functional Check
Style/ Item No.		
ThinkBook 16 G7 ARP/ No.24	No visible damage	Normal

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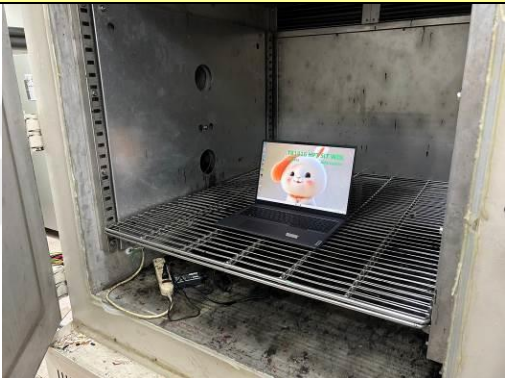

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Test Photos:

	
1. Appearance of specimen	2. Appearance of specimen
	
3. Altitude Test--I	4. Altitude Test--I
	
5. Altitude Test--II	6. Altitude Test--II

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Test Photos--Continued:

7. High Temperature Test--I/ Low Temperature Test--I/ Humidity Test Freeze/ Thaw Test	8. High Temperature Test--I/ Low Temperature Test--I/ Humidity Test Freeze/ Thaw Test
9. Appearance of specimen after high temperature test--I	10. Appearance of specimen after humidity test
11. Appearance of specimen after humidity test	12. High Temperature Test--II/ Low Temperature Test--II







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Test Photos--Continued:

	
13. High Temperature Test--II/ Low Temperature Test--II	14. Appearance of specimen after high temperature test--II
	
15. Appearance of specimen after low temperature test--II	16. High Temperature Test--III
	
17. High Temperature Test--III	18. Thermal Shock Test--I/ II






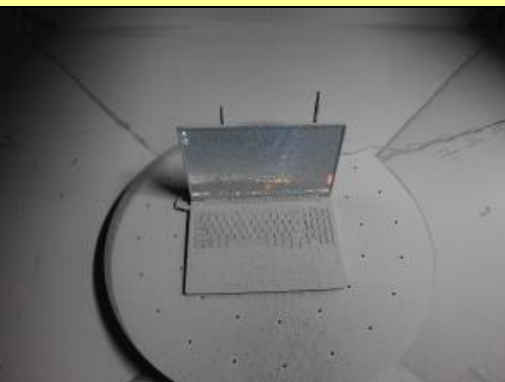
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Test Photos--Continued:

	
<p>19. Thermal Shock Test--I/ II</p>	<p>20. Appearance of specimen after thermal shock test--I</p>
	
<p>21. Solar Radiation Test--I/ II</p>	<p>22. Solar Radiation Test--I/ II</p>
	
<p>23. Blowing Dust Test</p>	<p>24. Blowing Dust Test</p>

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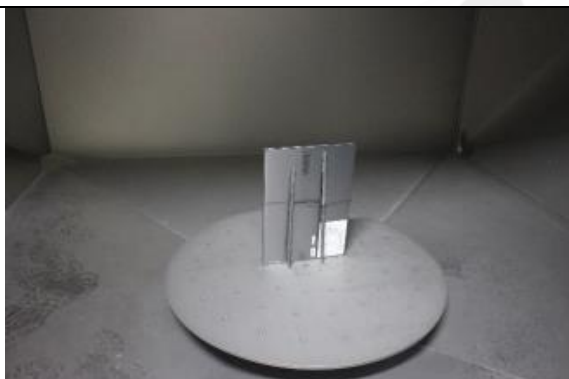
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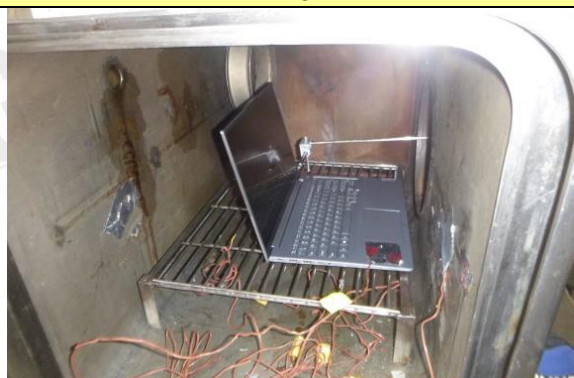
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Test Photos--Continued:

25. Blowing Sand Test



26. Blowing Sand Test



27. Explosive Atmosphere Test



28. Vibration Test--I: X axis



29. Vibration Test--I: Y axis



30. Vibration Test--I: Z axis

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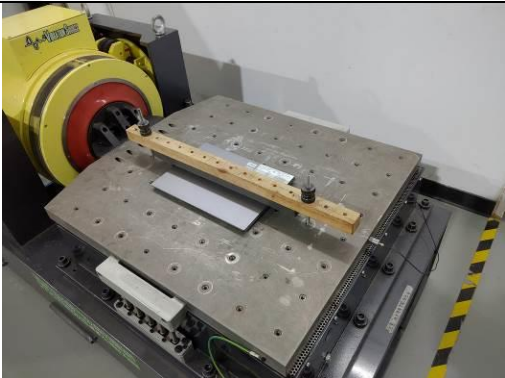
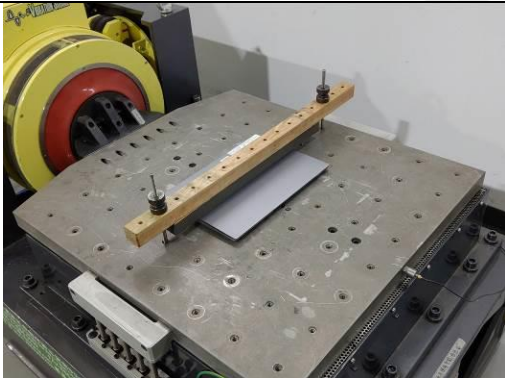
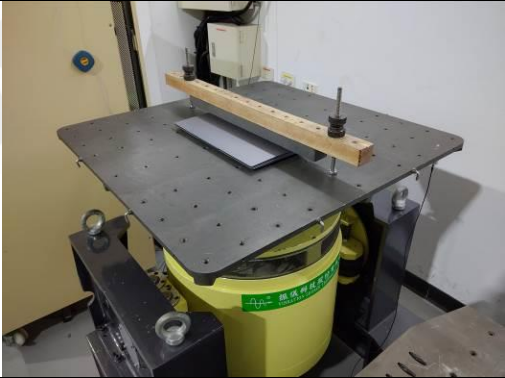



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Test Photos--Continued:

	
31. Vibration Test--II/ IV: X axis	32. Vibration Test--II/ IV: Y axis
	
33. Vibration Test--II/ IV: Z axis	34. Vibration Test--III
	
35. Vibration Test--III	36. Functional Shock Test: \pm X axis


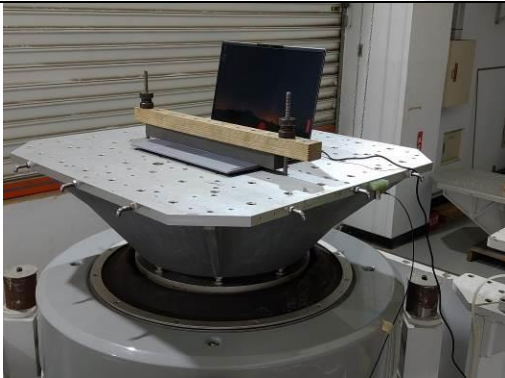
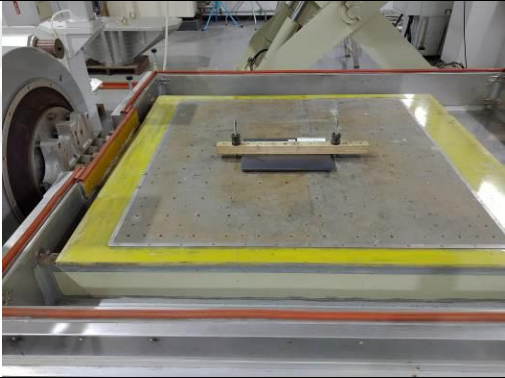
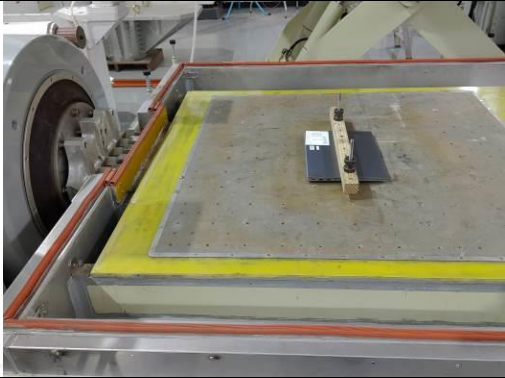


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Test Photos--Continued:

	
37. Functional Shock Test: $\pm Y$ axis	38. Functional Shock Test: $\pm Z$ axis
	
39. Transportation Shock Test: $\pm X$ axis	40. Transportation Shock Test: $\pm Y$ axis
	
41. Transportation Shock Test: $\pm Z$ axis	42. Transit Drop Test: Face







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Test Photos--Continued:

	
43. Transit Drop Test: Edge	44. Transit Drop Test: Corner
	
45. Appearance of specimen after transit drop test	46. Appearance of specimen after transit drop test
	
47. Appearance of specimen after transit drop test	48. Appearance of specimen after transit drop test

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Test Photos--Continued:

	
49. Appearance of specimen after transit drop test	50. Appearance of specimen after transit drop test
	
51. Appearance of specimen after transit drop test	52. Appearance of specimen after transit drop test
	
53. Appearance of specimen after transit drop test	54. Appearance of specimen after transit drop test







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Test Photos--Continued:

	
55. Appearance of specimen after transit drop test	56. Appearance of specimen after transit drop test
	
57. Crash Hazard Shock Test: +X axis	58. Crash Hazard Shock Test: -X axis
	
59. Crash Hazard Shock Test: +Y axis	60. Crash Hazard Shock Test: -Y axis

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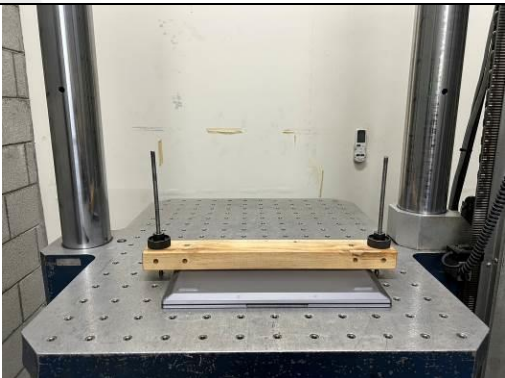





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Test Photos--Continued:

	
61. Crash Hazard Shock Test: +Z axis	62. Crash Hazard Shock Test: -Z axis
	
63. Bench Handling Test: Front edge	64. Bench Handling Test: Back edge
	
65. Bench Handling Test: Left edge	66. Bench Handling Test: Right edge

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Test Photos--Continued:

	
67. Location of measuring accelerometer attached	68. Environmental Vibration Test: X axis
	
69. Environmental Vibration Test: Y axis	70. Environmental Vibration Test: Z axis
	
71. Functional Check	

— — — The End of Test Report — — —

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