

JAPAN BUSINESS LOGISTICS PACKAGING TEST REPORT

TEST PURPOSE : ISTA 6 FedEx- A
Evaluation test for the product & packaging

CLIENT : Panasonic Corporation

SPECIMEN : VIXELL : AE-V12UXR/AE-V12C5R

TEST LABORATORY : Japan Business Logistics Co., Ltd.

TEST DATE : Mar. 4, 2022

ISSUE DATE : Mar. 31, 2022

OPERATOR : Takehiko Iwahori


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Packaging Solution
Japan Business Logistics Co., Ltd.

Approved by : K. Omata
K. Omata
Manager of Packaging Solution
Japan Business Logistics Co., Ltd.

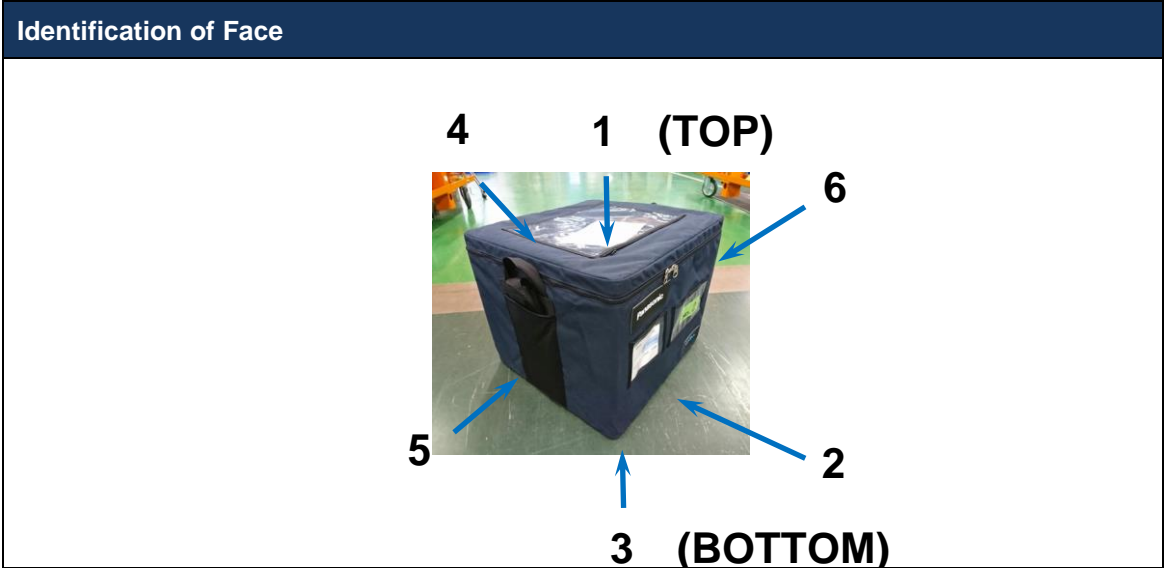


Member ID: ST-9785

1.0 TEST DESCRIPTION

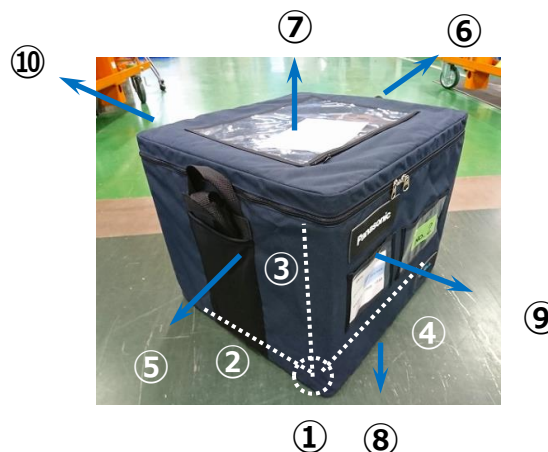
TEST PURPOSE	To assess the capability of the product & packaging to withstand types of vibration and shock levels encountered during the normal shipping cycle in accordance with ISTA 6 FedEx- A	
TEST SPECIMENS	VIXELL : AE-V12UXR/AE-V12C5R	
	Package Type : Plastic Case	<p style="text-align: center;">TEST SPECIMEN</p> 
	Packaged Size: 480 x 350 x 355(H) mm	
	Packaged-Weight : 12.6 kg	
	Number of Test Specimen : 1 pc	
TEST SEQUENCE	TEST STANDARD : ISTA 6 FedEx-A	
	1、 Shock (Drop)	
	2、 Compression	
	3、 Vibration	
	4、 Shock (Drop)	
Acceptance Criteria	Criteria	Product is damage-free
	Method used to determine Pass/Fail	Pass/fail result will be determined by visual inspection and function test after the all test schedule is conducted.
	Decision Person	Panasonic Corporaion

2.0 TEST DESCRIPTION



1.0 Shock (Drop)				
Number of drops	10 times			
Conditions	Drop No,	Drop Height (mm)	Orientation	
	No.1	762	Most fragile corner	Corner 2-3-5
	No.2	762	Shortest edge radiating from the drop corner	Edge 2-5
	No.3	762	Medium edge radiating from the drop corner	Edge 3-5
	No.4	762	Longest edge radiating from the drop corner	Edge 2-3
	No.5	762	Flat one of the smallest faces	Face 5
	No.6	762	Flat one of the opposite small face	Face 6
	No.7	762	Flat one of the medium faces	Face 2
	No.8	762	Flat one of the opposite medium face	Face 4
	No.9	762	Flat one of the largest faces	Face 1
	No.10	762	Flat one of the opposite large face	Face 3
Test Date	Mar. 4, 2022			
Equipment	Free Fall Drop Tester (Lansmont Model: PDT-56ED)			
Calibration date	Nov 24, 2021 (Calibration due: Nov 24, 2022)			

① ~ ⑩ : Drop Number



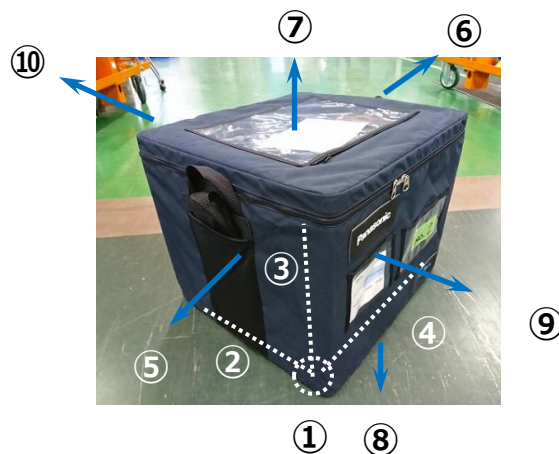
2.0 Compression	
Number of Compression	1 time
Direction	Vertical
Speed	12.7 mm / min (0.5 in / min)
Compression Load	<p><u>Compression Load (pounds) = 0.007 × (108-H) × L × W × F</u></p> <p>H: Height of shipping unit (inches) L: Length of shipping unit (inches) W: Width of shipping unit (inches) F: factor = "3"</p> <p>= 0.007 × (108-17.7) × 21.5 × 19.5 × 3 = 795 pounds = 361 kgf</p>
Test Date	Mar. 4, 2022
Equipment	Orientec CTM-1-5000
Calibration date	Oct. 25, 2021 (Calibration due: Oct. 25, 2022)

3.0 Vibration																
Test Method	ASTM D4728-2017															
Truck PSD	<table border="1"> <thead> <tr> <th>Frequency (Hz)</th> <th>ASD/PSD (G²/Hz)</th> </tr> </thead> <tbody> <tr><td>1</td><td>0.00005</td></tr> <tr><td>4</td><td>0.01</td></tr> <tr><td>16</td><td>0.01</td></tr> <tr><td>40</td><td>0.001</td></tr> <tr><td>80</td><td>0.001</td></tr> <tr><td>200</td><td>0.00001</td></tr> </tbody> </table> <p>0.52 Grms</p>	Frequency (Hz)	ASD/PSD (G ² /Hz)	1	0.00005	4	0.01	16	0.01	40	0.001	80	0.001	200	0.00001	
	Frequency (Hz)	ASD/PSD (G ² /Hz)														
1	0.00005															
4	0.01															
16	0.01															
40	0.001															
80	0.001															
200	0.00001															
	Duration : 30 minutes	Direction : Vertical														
Air PSD	<table border="1"> <thead> <tr> <th>Frequency (Hz)</th> <th>ASD/PSD (G²/Hz)</th> </tr> </thead> <tbody> <tr><td>2</td><td>0.0002</td></tr> <tr><td>12</td><td>0.01</td></tr> <tr><td>100</td><td>0.01</td></tr> <tr><td>300</td><td>0.00001</td></tr> </tbody> </table> <p>1.06 Grms</p>	Frequency (Hz)	ASD/PSD (G ² /Hz)	2	0.0002	12	0.01	100	0.01	300	0.00001					
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80	0.001															
200	0.00001															
	Duration : 30 minutes	Direction : Vertical														

Duration	<u>International Shipments_Regular</u> 90 minutes (Truck_30 min. → Air_30 min. → Truck_30min.)
Test Date	Mar. 4, 2022
Equipment	Vibration Tester (Shinken Co.,Ltd. Model: G-9250L)
Calibration date	Jul. 28, 2021 (Calibration due: Jul. 28, 2022)

4.0 Shock (Drop)				
Number of drops	10 times			
Conditions	Drop No,	Drop Height (mm)	Orientation	
	No.1	762	Most fragile corner	Corner 2-3-5
	No.2	762	Shortest edge radiating from the drop corner	Edge 2-5
	No.3	762	Medium edge radiating from the drop corner	Edge 3-5
	No.4	762	Longest edge radiating from the drop corner	Edge 2-3
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	No.9	762	Flat one of the largest faces	Face 1
	No.10	762	Flat one of the opposite large face	Face 3
Test Date	Mar. 4, 2022			
Equipment	Free Fall Drop Tester (Lansmont Model: PDT-56ED)			
Calibration date	Nov 24, 2021 (Calibration due: Nov 24, 2022)			

② ~ ⑩ : Drop Number



3.0 TEST RESULT

<p>PACKAGE Condition after testing</p>	<p>Visual inspection was conducted after all test schedules were completed. No physical damage was found on the plastic case.</p>
<p>PRODUCT Condition after testing</p>	<p>Final inspection will be conducted by Panasonic Corporation.</p>
<p>Test result</p>	<p>After the final inspection by Panasonic Corporation, the result was a pass.</p>

Inspection results



Before test



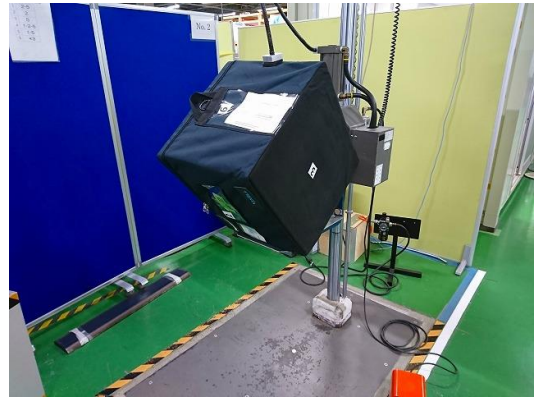
After test

4.0 PHOTO

Shock (Drop)



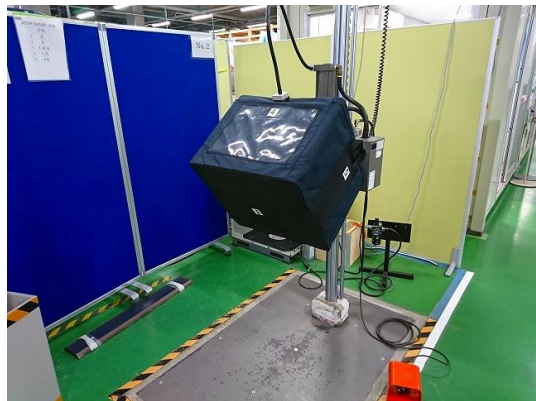
Drop No. 1



Drop No. 2



Drop No. 3



Drop No. 4



Drop No. 5



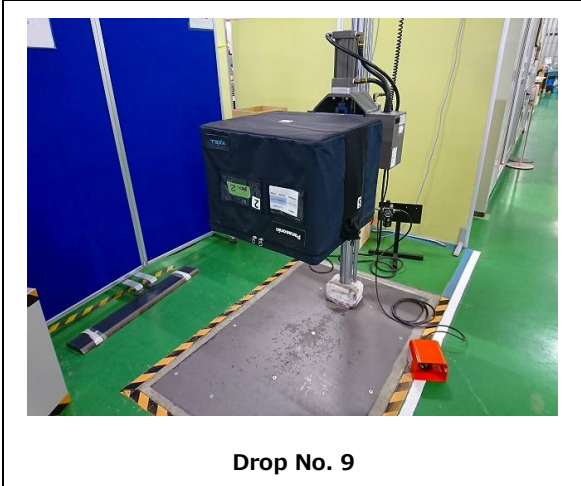
Drop No. 6



Drop No. 7



Drop No. 8

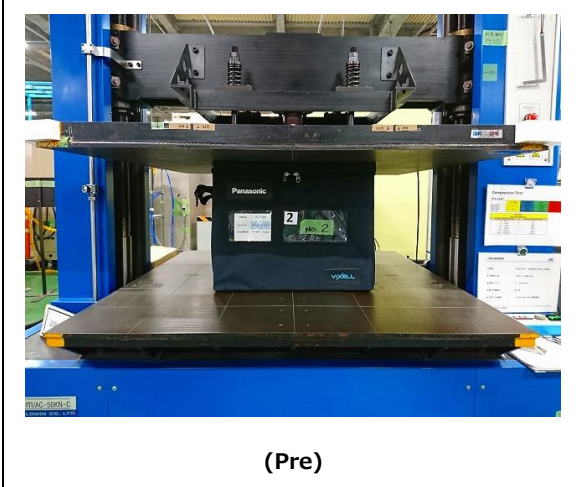


Drop No. 9



Drop No. 10

Compression



(Pre)



(Test)

Vibration



After Test

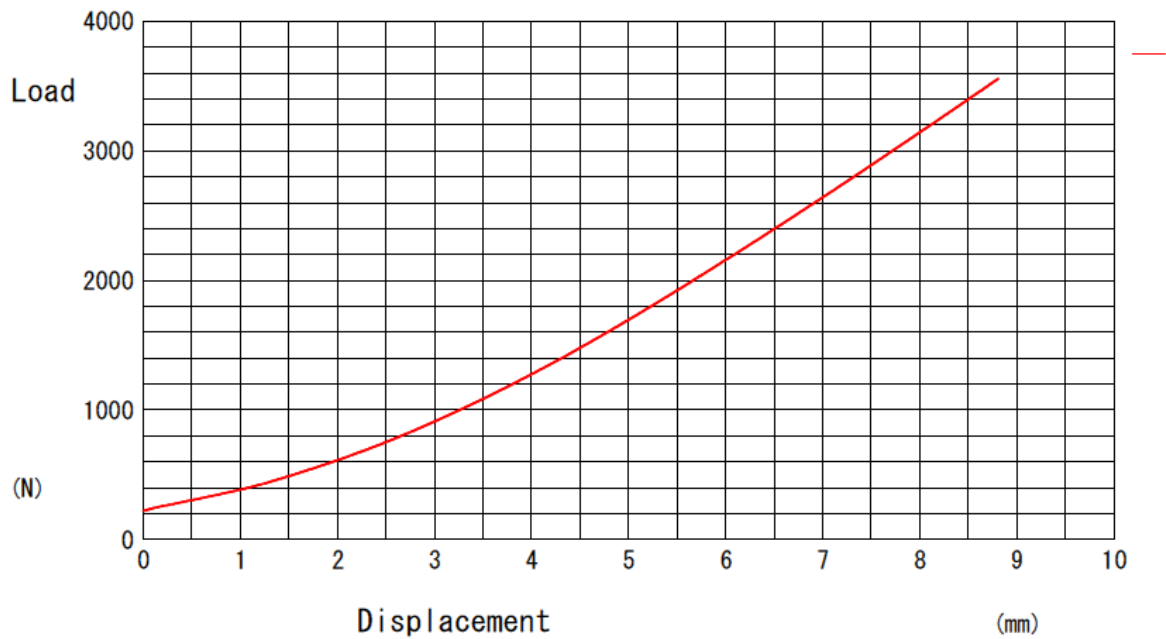


5.0 TEST DATA

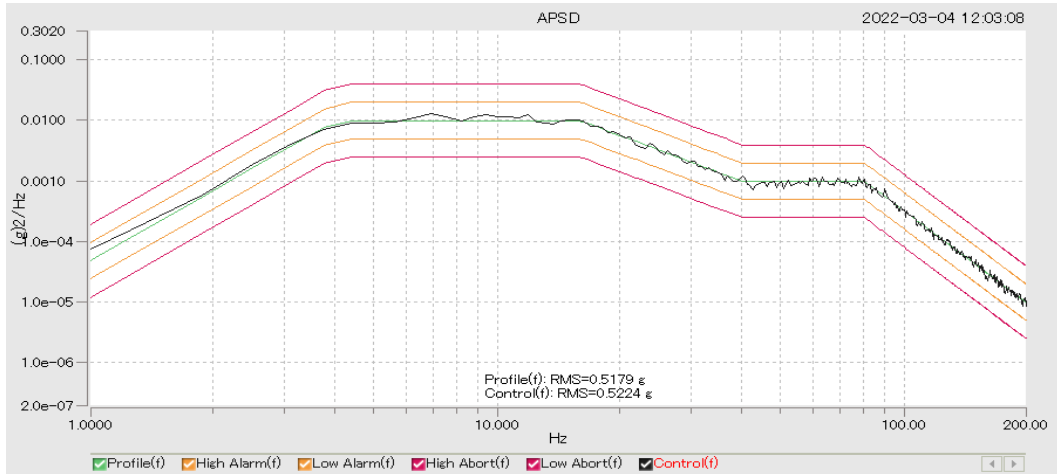
Compression

Name	AE-V12UXR/AE-V12C5R		Lot	Apply & Release
Date	2022年03月04日 10:51	File No.	S28-044	Tester S.Kojima

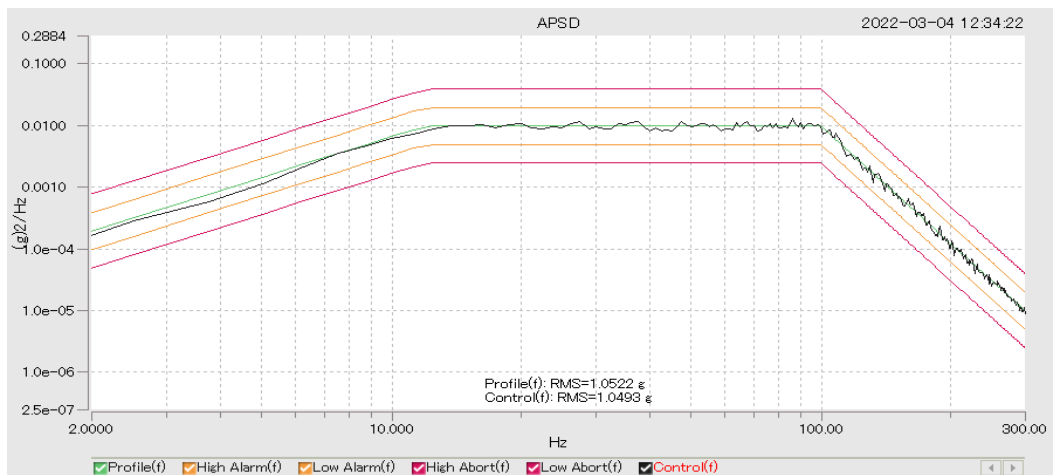
No.	Max Load (kgf)	Max Load (N)	Max Displacement (mm)
1	362.88	3558.7	8.8100



Vibration Truck Random (30 min)



Air Random (30 min)



Truck Random (30 min)

