



測試報告 / TEST REPORT



Testing Laboratory
2757

報告編號 / Report No. :	PWCTD0100005690
承辦日期 / Date of Receipt :	Aug. 01, 2019
測試日期 / Date of Testing :	Sep. 23, 2019
報告日期 / Date of Report :	Sep. 23, 2019
委託公司 / Customer :	瑞利軍工股份有限公司 MITWELL, Inc.
地址 / Address :	新北市樹林區博愛街 242 號 9 樓 9F., No. 242, Bo-Ai Street, Shu-Lin Dist., New Taipei City, Taiwan, R.O.C
電話 / Tel :	(02)7739-5566 # 8648
傳真 / Fax :	(02)7715-0690
產品名稱 / Product Description :	IPC
產品型號 / Model Name. :	Kuber-2110-E222 (S/N: N/A)
原產國 / Country of Origin :	Taiwan
數量 / Quantity :	Total 1 piece
委託試驗要求 / Test Required: 依照客戶提供之測試規格進行試驗，詳細內容請參照附頁。 (According to client's test specification, please see following sheets in detail.) 1. Vibration Test	
測試結果 / Test Results : 如附頁所示 (PLEASE SEE ATTACHED SHEETS)	
1. 本測試實驗室符合 ISO/IEC 17025 之規定。 / The testing laboratory comply with ISO / IEC 17025. 2. 送測樣品及相關訊息均由客戶提供並已經由客戶確認無誤。 / Any sample(s) and its information listed this document are provided and identified by clients. 3. 本報告僅對測試樣品負責。 / This report only refers to the specimen(s); it does not imply the result of production to tested sample(s). 4. 非經本實驗室同意，本報告內容不得以任何方式摘錄影印。 This Test Report cannot be reproduced, without prior written permission of the laboratory.	

實驗室主管 Laboratory Head	報告簽署人 Approval Signatory	測試工程師 Test Engineer
張銘琦	張銘琦	吳雲封

LR-07-06-01A



測試報告 / TEST REPORT

1. Vibration Test :

試驗設備 / Test Equipment:

名稱 / Name	廠牌 / Brand	型號 / Model	序號 / Serial No.	校正日期 / Calibration Date
振源試驗機 Vibration Tester	Vibration Source	VS-1000VH-51	0F99	Apr. 15, 2019
系統加速規 Control Accelerometer	PCB	J353B34	132588	Apr. 10, 2019
溫濕度 / 大氣壓力	Lutron	MHB-382SD	AI.91160	Apr. 12, 2019

Note: 上述測試儀器的校正週期為 12 個月，該校準可溯源到中華民國國家度量衡標準實驗室。

(The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC.)

實驗室環境條件 / Lab Environmental Conditions:

環境溫度 / Ambient temperature: 22.7 °C

相對濕度 / Relative humidity: 53.8 %RH

大氣壓力 / Atmospheric Pressure: 1016.5 hPa

試驗方法 / Test Method:

依照MIL-STD-810G w/Change 1:2014 Table 514.7C-V. Category – 4 – Composite wheeled vehicle vibration exposure進行試驗。 / According to MIL-STD-810G w/Change 1:2014 Table 514.7C-V. Category – 4 – Composite wheeled vehicle vibration exposure specification.

試驗規格 / Specification:

樣品條件 / Sample condition:

Operating

振動模式 / Wave form:

Random

頻率範圍 / Frequency :

加速度 / PSD:

有效值 / Acceleration:

Vertical		Transverse		Longitudinal	
Frequency, Hz	ASD, g ¹ /Hz	Frequency, Hz	ASD, g ¹ /Hz	Frequency, Hz	ASD, g ¹ /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	0.00142	165	0.00151
rms = 2.24 g		rms = 1.45 g		221	0.00333
				455	0.00296
				500	0.00204
				rms = 1.32 g	

測試方向 / Direction:

X, Y, Z axes (as shown in photo 3 ~ 8)

試驗時間 / Duration:

1 h for each axis , 3 h in total



測試報告 / TEST REPORT

- ◆ 試驗後以目視方式檢查樣品外觀。／Examine the appearance of specimen(s) by visual check and perform check after this test.
- ◆ 功能檢查:將樣品連接符合額定功率之電源，然後確認顯示功能是否正常工作。／Functional check :Connect the specimen with rated power then examine whether the display function of specimen could be work normally or not.

樣品 / Specimen :

產品型號／Model Name.: Kuber-2110-E222 (S/N: N/A)

數量／Quantity: Total 1 piece

架設方式／Erection way : Wall Mount

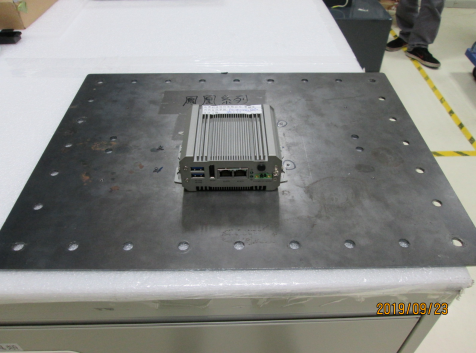
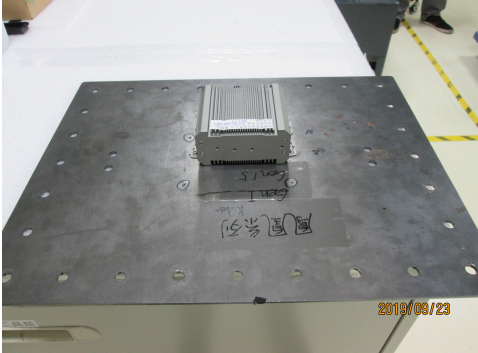
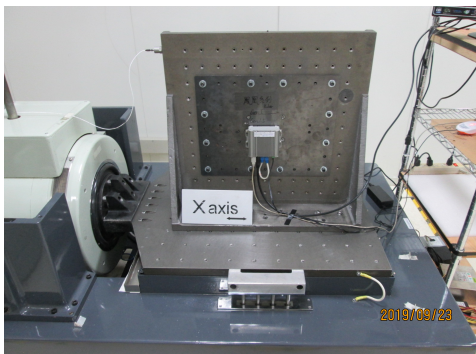
測試結果 / Test Result :

檢查項目 Check Item 產品型號 Model Name	外觀檢查 Appearance check (目視檢查／Visual check)	功能檢查 Functional check
Kuber-2110-E222 (S/N: N/A)	無損壞 No visible damage	正常 Normal



測試報告 / TEST REPORT

試驗照片 / Test Photos :

 2019/09/23	 2019/09/23
1. 樣品外觀 / Appearance of specimen	2. 樣品外觀 / Appearance of specimen
 2019/09/23	 2019/09/23
3. Vibration Test -- (X axis)	4. Vibration Test -- (X axis)
 2019/09/23	 2019/09/23
5. Vibration Test -- (Y axis)	6. Vibration Test -- (Y axis)
 2019/09/23	 2019/09/23
7. Vibration Test -- (Z axis)	8. Vibration Test -- (Z axis)



測試報告 / TEST REPORT

X Axis test screen:

能量/Level: 100 %

目標有效值/Demand RMS: 1.31427 g

控制有效值/Control RMS: 1.31366 g

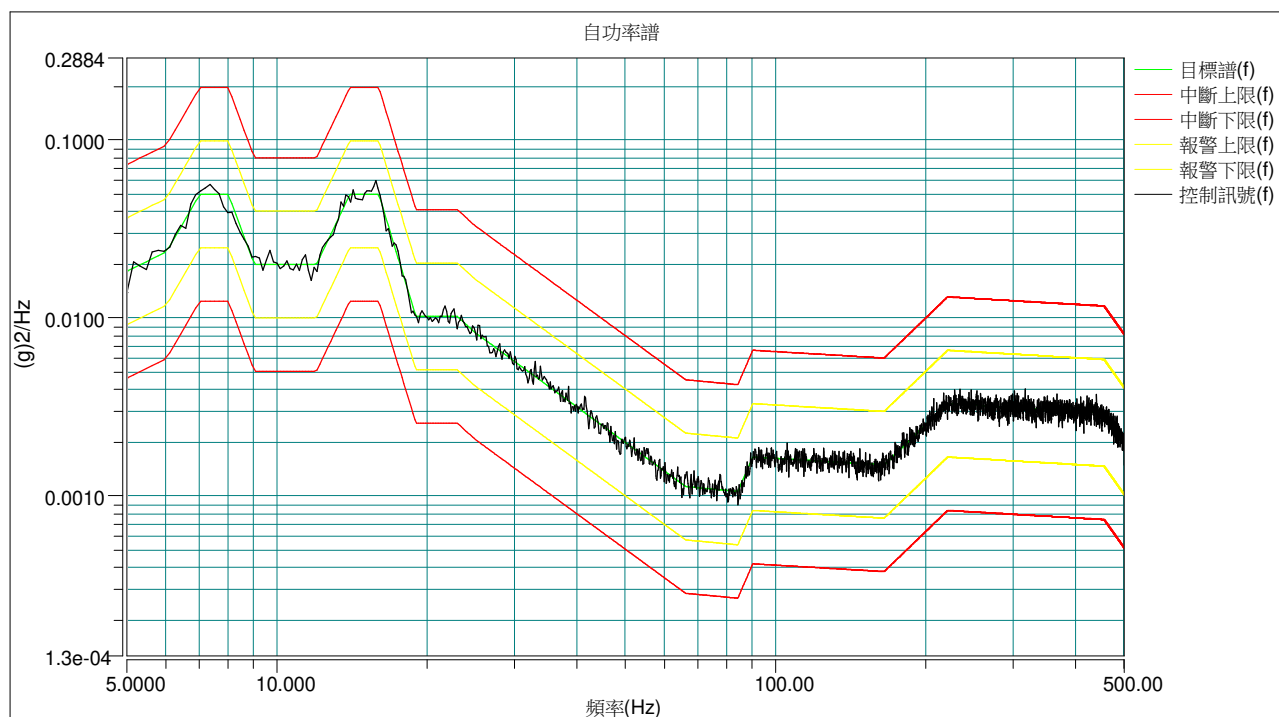
線數/Lines: 3200

自由度/DOF: 150

頻率解析度/dF: 0.156250 Hz

擷取時間/Frame Time: 6.400000 s

總執行時間/Total Elapsed Time: 00:59:57 剩餘時間/Remaining Time: 00:00:00





測試報告 / TEST REPORT

Y Axis test screen:

能量/Level: 100 %

目標有效值/Demand RMS: 1.44543 g

控制有效值/Control RMS: 1.44887 g

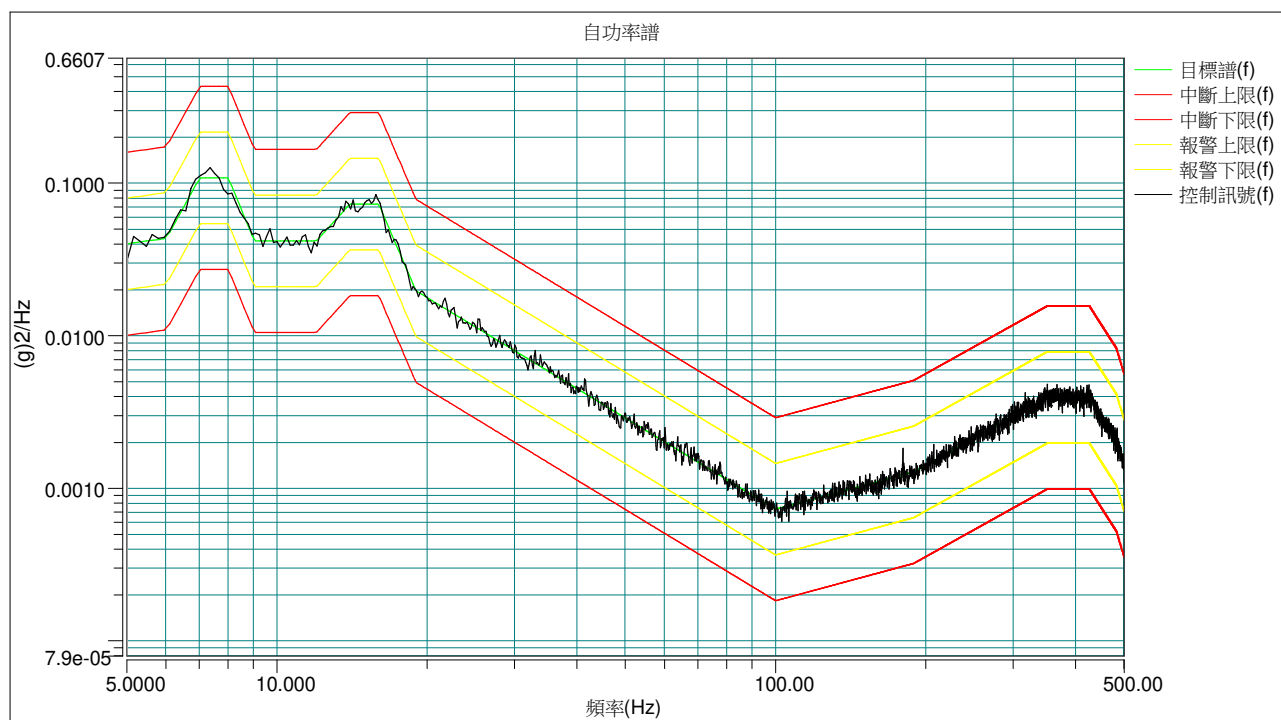
線數/Lines: 3200

自由度/DOF: 150

頻率解析度/dF: 0.156250 Hz

擷取時間/Frame Time: 6.400000 s

總執行時間/Total Elapsed Time: 00:59:57 剩餘時間/Remaining Time: 00:00:00





測試報告 / TEST REPORT

Z Axis test screen:

能量/Level: 100 %

目標有效值/Demand RMS: 2.23122 g

控制有效值/Control RMS: 2.23221 g

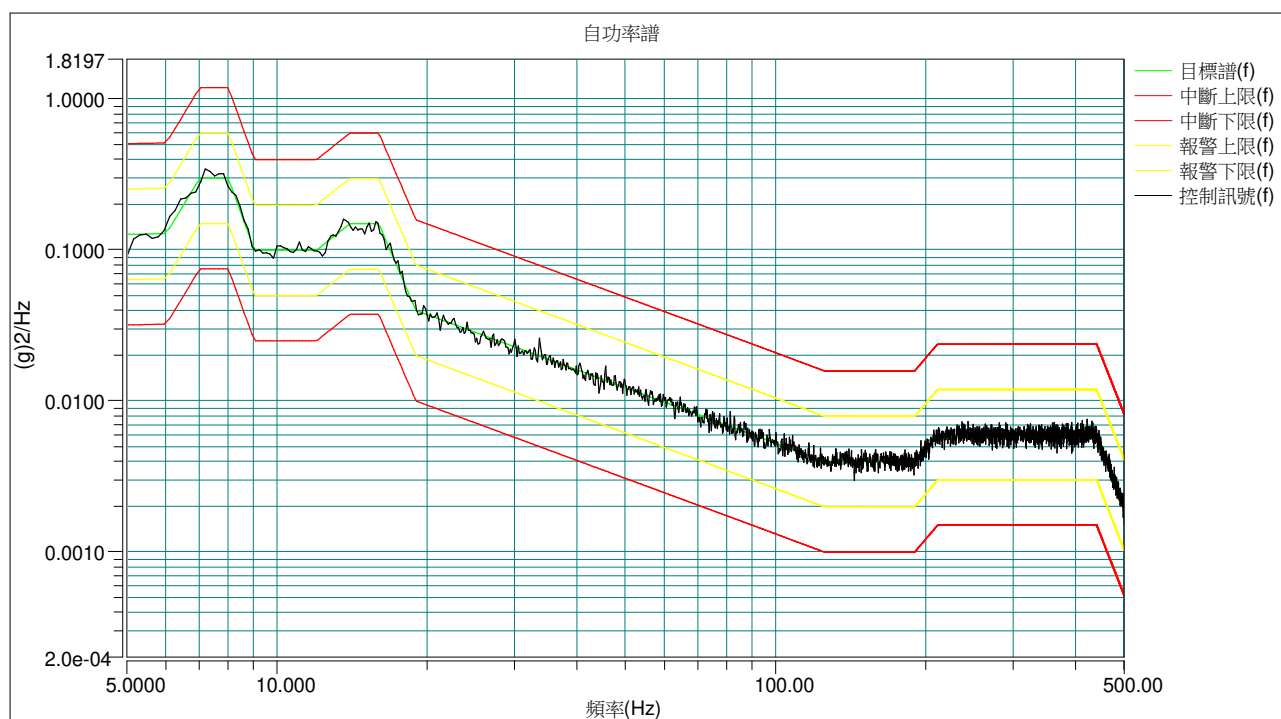
線數/Lines: 3200

自由度/DOF: 150

頻率解析度/dF: 0.156250 Hz

擷取時間/Frame Time: 6.400000 s

總執行時間/Total Elapsed Time: 00:59:57 剩餘時間/Remaining Time: 00:00:00



End of Report