INSPECTION REPORT (NON-NEGOTIABLE)

Inspection Report No.: EM18053S1

Work Order No.: EM18053A1

Report Issuance Date: May 24, 2018

Industrial Inspection
61, Kai-Fa Road,
Nanzih Export Processing Zone,
Kaohsiung Taiwan, 81170

Project Name:	---.		
Product Description	UPS		
PO No. :	---	L/C No.:	---
Client/Buyer:	---	Quantity :	7 sets
Supervisor organization:	---	Inspector :	Evan Hsueh
Manufacture:	Cyber Power Systems, Inc. and Other Manufacturers	Inspection Date:	Apr. 19, 2018
Witness Representative:	Cyber Power Systems, Inc. SGS Taiwan Ltd.	Location :	10F., No.26, Jinzhuang Rd., Neihu Dist., Taipei City 114, Taiwan

A. INSPECTION TYPE:

Pre-Shipment Inspection ☐	Final Random Inspection ☐	Sampling Inspection ☐	Witness Inspection ☒
Unpack Inspection ☐	Loading Supervision ☐	Project Inspection ☐	

B. SCOPE OF WORK:	*Requested*			*Performed*	*Comments*
	Inspect	*Witness*	*Review*		
Visual / Appearance Check	☐	☒	☐	☒	
Quantity Check	☐	☒	☐	☒	
Witness Inspection	☐	☒	☐	☒	

C. EQUIPMENT/ GOODS REQUESTED FOR INSPECTION:	UPS x7 sets 1. UPS (CyberPower UT650EG) x1 set 2. Other UPS x6 sets	**Product name deviations found during inspection:** **yes**☐ **No**☒ (if yes, see report details)

D. REFERENCE DOCUMENTS:		*Reference No.*	*Rev.*
1	Test Environment and Procedure	--	--
2	Test report	--	--

E. INSPECTION RESULT: 檢驗結果

- ☐ **satisfactory** 滿意
- ☐ **conditionally accepted** (see report details) 有條件接受(見報告細節)
- ☒ **actual finding** (see report details) 現場記錄
- ☐ **non conforming** (see report details) 不符合(見報告細節)
- ☐ **rejected** (see report details) 拒絕(見報告細節)
- ☐ **aborted inspections** (see report details) 空跑(見報告細節)

F. NCR/Punch list issued: 核發不符合事項/缺失單

- ☒ No 否
- ☐ Yes 是

(see report details) (見報告細節)

Industrial Inspection
61, Kai-Fa Road,
Nanzih Export Processing Zone,
Kaohsiung Taiwan, 81170

G. REPORT DETAILS

G.1 Measuring Equipment Used

Test equipment were in the valid calibration date, Please refer to attached calibration reports.

G.2 Inspection Activities Description and Results

1. Objectives :

   Based on the test procedure and test report which are provided from manufacture Cyber Power Systems, Inc. to conduct the witness UPS test.

2. Location of Inspection/Testing :

   Cyber Power Systems, Inc.
   10F., No.26, Jinzhuang Rd., Neihu Dist., Taipei City 114, Taiwan

3. Execution of Testing :

   Cyber Power Systems, Inc.

4. Name of facility/quantity of inspection

   Listed below 7 sets of UPS(A~G) for witness test , One (UPS A) of them is CyberPower brand UPS.

Test item	Brand	Model	Serial No.
UPS A	CyberPower	UT650EG	3201398O30000021
UPS B	--	--	NBB650BKX2CAZ07035
UPS C	--	--	241712504835
UPS D	--	--	530501143600575
UPS E	--	--	3B1448X12580
UPS F	-	-	1600947003767
UPS G	-	-	2104927536173604807

Industrial Inspection
61, Kai-Fa Road,
Nanzih Export Processing Zone,
Kaohsiung Taiwan, 81170

5. Test Result：

Test Load 0W				
Test item	Input Power (W)	Output Power (W)	Cable Power Consumption (W)	UPS Power Consumption (W)
Connected cable	0	0	0	0
UPS A (CyberPower UT650EG)	2.31	0	0	2.31
UPS B	10.31	0	0	10.31
UPS C	10.78	0	0	10.78
UPS D	9.45	0	0	9.45
UPS E	13.24	0	0	13.24
UPS F	9.32	0	0	9.32
UPS G	9.43	0	0	9.43

Test Load 90W				
Test item	Input Power (W)	Output Power (W)	Cable Power Consumption (W)	UPS Power Consumption (W)
Connected cable	96.18	95.97	0.21	0
UPS A (CyberPower UT650EG)	98.41	95.92	0.21	2.28
UPS B	106.22	95.81	0.21	10.2
UPS C	106.71	95.84	0.21	10.66
UPS D	105.29	95.48	0.21	9.6
UPS E	109.06	95.77	0.21	13.08
UPS F	105.06	95.57	0.21	9.28
UPS G	105.43	95.81	0.21	9.41

Industrial Inspection
61, Kai-Fa Road,
Nanzih Export Processing Zone,
Kaohsiung Taiwan, 81170

Test Load 180W				
Test item	Input Power (W)	Output Power (W)	Cable Power Consumption (W)	UPS Power Consumption (W)
Connected cable	182.33	181.87	0.46	0
UPS A (CyberPower UT650EG)	184.74	181.88	0.46	2.4
UPS B	192.3	181.31	0.46	10.53
UPS C	192.89	181.51	0.46	10.92
UPS D	190.91	180.14	0.46	10.31
UPS E	195.21	181.38	0.46	13.37
UPS F	190.36	180.28	0.46	9.62
UPS G	191.43	181.27	0.46	9.7

Test Load 270W				
Test item	Input Power (W)	Output Power (W)	Cable Power Consumption (W)	UPS Power Consumption (W)
Connected cable	268.27	267.39	0.88	0
UPS A (CyberPower UT650EG)	270.89	267.47	0.88	2.54
UPS B	278.58	266.72	0.88	10.98
UPS C	279.13	267.13	0.88	11.12
UPS D	276.03	263.5	0.88	11.65
UPS E	281.52	267.08	0.88	13.56
UPS F	275.1	264.09	0.88	10.13
UPS G	277.43	266.38	0.88	10.17

Industrial Inspection
61, Kai-Fa Road,
Nanzih Export Processing Zone,
Kaohsiung Taiwan, 81170

Test Load 360W				
Test item	Input Power (W)	Output Power (W)	Cable Power Consumption (W)	UPS Power Consumption (W)
Connected cable	364.52	363.06	1.46	0
UPS A (CyberPower UT650EG)	365.99	361.68	1.46	2.85
UPS B	373.37	360.93	1.46	10.98
UPS C	374.19	361.21	1.46	11.52
UPS D	370.38	355.69	1.46	13.23
UPS E	376.24	360.99	1.46	13.79
UPS F	372.07	359.72	1.46	10.89
UPS G	372.67	360.41	1.46	10.8

- Regarding detailed test results/datum, please see the attached "Witness Test Report."

G.3 Non Conformities

Nil

G.4 Conclusion

The inspection result is actual finding as inspection report, Please refer to G.2 and witness test report for the details.

G.5 Attachments

1. Witness Test Report
2. Test Environment & Procedure
3. Calibration Report

THE ABOVE REFLECTS OUR FINDINGS AT TIME AND PLACE OF INSPECTION. THIS REPORT DOES NOT RELEASE BUYERS OR SELLERS FROM THEIR CONTRACTUAL RESPONSIBILITIES NOR DOES IT PREJUDICE BUYER'S RIGHT OF CLAIM TOWARD SELLERS/SUPPLIERS FOR COMPENSATION FOR ANY APPARENT AND/OR HIDDEN DEFECTS NOT DETECTED DURING OUR INSPECTION OR OCCURRING THEREAFTER.

Industrial Inspection
61, Kai-Fa Road,
Nanzih Export Processing Zone,
Kaohsiung Taiwan, 81170

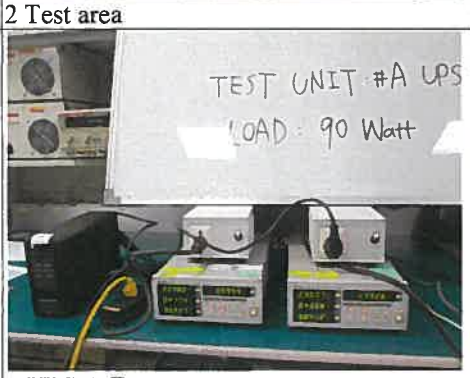
H. INSPECTION PHOTOS

1 UPS A~G

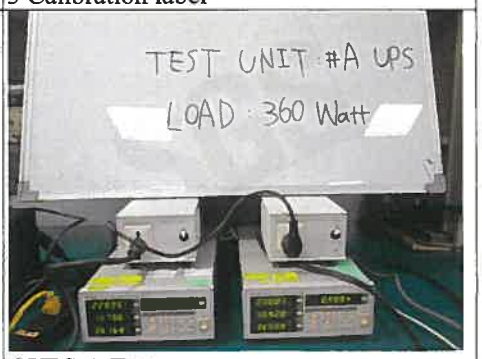
2 Test area

3 Calibration label

4 UPS A Test

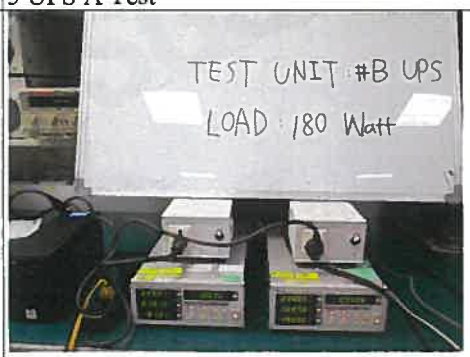


5 UPS A Test

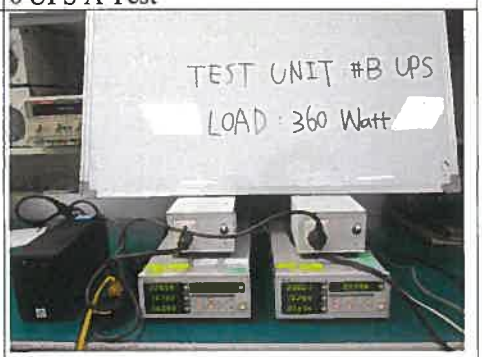


6 UPS A Test

7 UPS B Test



8 UPS B Test



9 UPS B Test

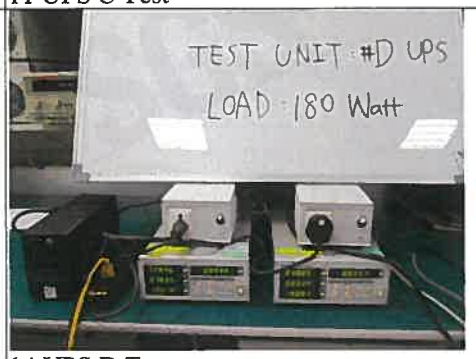
Industrial Inspection
61, Kai-Fa Road,
Nanzih Export Processing Zone,
Kaohsiung Taiwan, 81170

10 UPS C Test

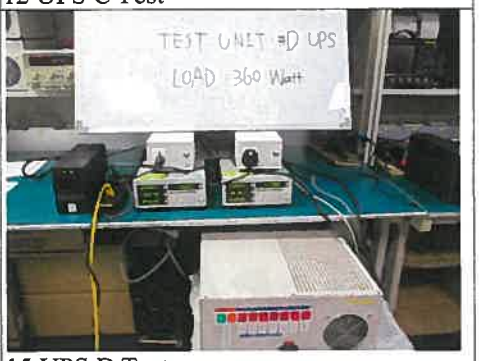
11 UPS C Test

12 UPS C Test

13 UPS D Test

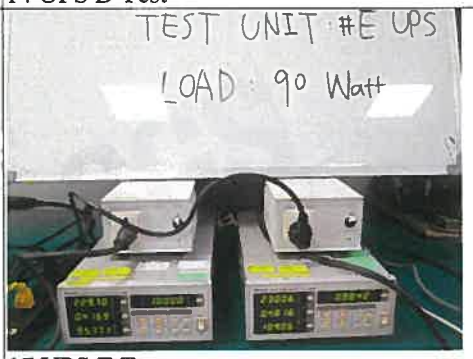


14 UPS D Test

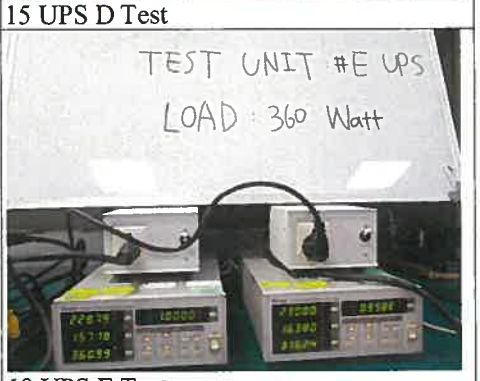


15 UPS D Test

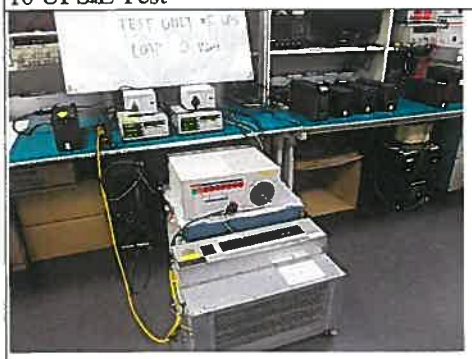
16 UPS_E Test



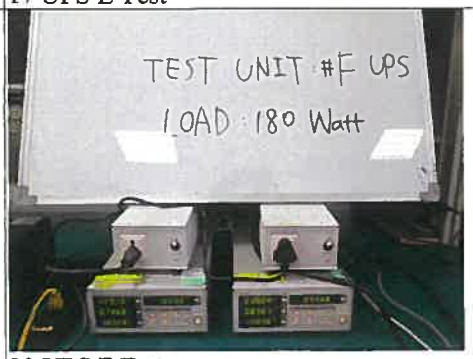
17 UPS E Test



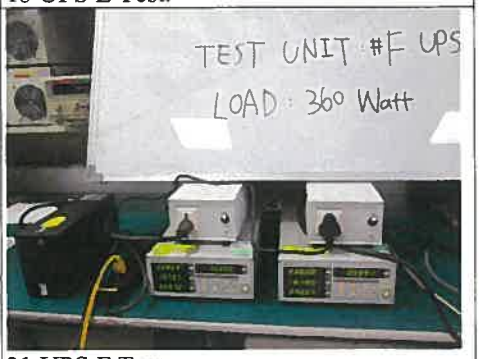
18 UPS E Test.



19 UPS F Test



20 UPS F Test



21 UPS F Test

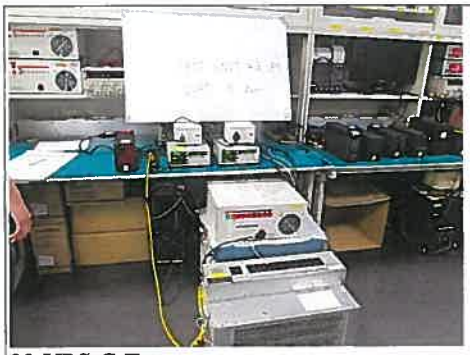
INSPECTION REPORT (NON-NEGOTIABLE)

Inspection Report No.: EM18053S1

Work Order No.: EM18053A1

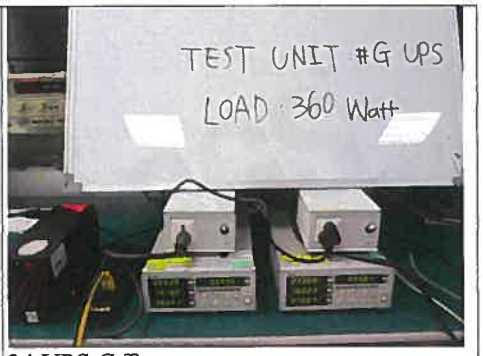
Report Issuance Date: May 24, 2018

Industrial Inspection
61, Kai-Fa Road,
Nanzih Export Processing Zone,
Kaohsiung Taiwan, 81170



22 UPS G Test

23 UPS G Test



24 UPS G Test

SGS TAIWAN LTD.

SGS Taiwan Ltd. 台灣檢驗科技股份有限公司 | No.61, Kai –Fa Road, Nanzih Export Processing Zone, Kaohsiung, Taiwan /高雄市楠梓加工出口區開發路61號
t (886-7) 301-2121 f (886-7) 301-1172 www.sgs.tw

Member of SGS Group

CyberPower

UPS TEST REPORT

TEST DATE：2018.4.19

Test Load 360W

Test item	Brand	Model	Serial No.	Input Power (W)	Output Power (W)	Cable Power Consumption (W)	UPS Power Consumption (W)
Connected cable	-	-	-	364.52	363.06	1.46	0
UPS A	CyberPower	UT650EG	3201398O30000021	365.99	361.68	1.46	2.85
UPS B	-	-	NBB650BKX2CAZ07035	373.37	360.93	1.46	10.98
UPS C	-	-	241712504835	374.19	361.21	1.46	11.52
UPS D	-	-	530501143600575	370.38	355.69	1.46	13.23
UPS E	-	-	3B1448X12580	376.24	360.99	1.46	13.79
UPS F	-	-	1600947003767	372.07	359.72	1.46	10.89
UPS G	-	-	2104927536173604807	372.67	360.41	1.46	10.8

Test Load 270W

Test item	Brand	Model	Serial No.	Input Power (W)	Output Power (W)	Cable Power Consumption (W)	UPS Power Consumption (W)
Connected cable	-	-	-	268.27	267.39	0.88	0
UPS A	CyberPower	UT650EG	3201398O30000021	270.89	267.47	0.88	2.54
UPS B	-	-	NBB650BKX2CAZ07035	278.58	266.72	0.88	10.98
UPS C	-	-	241712504835	279.13	267.13	0.88	11.12
UPS D	-	-	530501143600575	276.03	263.5	0.88	11.65
UPS E	-	-	3B1448X12580	281.52	267.08	0.88	13.56
UPS F	-	-	1600947003767	275.1	264.09	0.88	10.13
UPS G	-	-	2104927536173604807	277.43	266.38	0.88	10.17

Test Load 180W

Test item	Brand	Model	Serial No.	Input Power (W)	Output Power (W)	Cable Power Consumption (W)	UPS Power Consumption (W)
Connected cable	-	-	-	182.33	181.87	0.46	0
UPS A	CyberPower	UT650EG	3201398O30000021	184.74	181.88	0.46	2.4
UPS B	-	-	NBB650BKX2CAZ07035	192.3	181.31	0.46	10.53
UPS C	-	-	241712504835	192.89	181.51	0.46	10.92
UPS D	-	-	530501143600575	190.91	180.14	0.46	10.31
UPS E	-	-	3B1448X12580	195.21	181.38	0.46	13.37
UPS F	-	-	1600947003767	190.36	180.28	0.46	9.62
UPS G	-	-	2104927536173604807	191.43	181.27	0.46	9.7

CyberPower :

2018/4/19

SGS :

SGS No.015
Witness ☐ Reviewed ☐
Signature Apr-19-2018 Date

CyberPower

UPS TEST REPORT

TEST DATE：2018.4.19

Test Load 90W

Test item	Brand	Model	Serial No.	Input Power (W)	Output Power (W)	Cable Power Consumption (W)	UPS Power Consumption (W)
Connected cable	-	-	-	96.18	95.97	0.21	0
UPS A	CyberPower	UT650EG	3201398O30000021	98.41	95.92	0.21	2.28
UPS B	-	-	NBB650BKX2CAZ07035	106.22	95.81	0.21	10.2
UPS C	-	-	241712504835	106.71	95.84	0.21	10.66
UPS D	-	-	530501143600575	105.29	95.48	0.21	9.6
UPS E	-	-	3B1448X12580	109.06	95.77	0.21	13.08
UPS F	-	-	1600947003767	105.06	95.57	0.21	9.28
UPS G	-	-	2104927536173604807	105.43	95.81	0.21	9.41

Test Load 0W

Test item	Brand	Model	Serial No.	Input Power (W)	Output Power (W)	Cable Power Consumption (W)	UPS Power Consumption (W)
Connected cable	-	-	-	0	0	0	0
UPS A	CyberPower	UT650EG	3201398O30000021	2.31	0	0	2.31
UPS B	-	-	NBB650BKX2CAZ07035	10.31	0	0	10.31
UPS C	-	-	241712504835	10.78	0	0	10.78
UPS D	-	-	530501143600575	9.45	0	0	9.45
UPS E	-	-	3B1448X12580	13.24	0	0	13.24
UPS F	-	-	1600947003767	9.32	0	0	9.32
UPS G	-	-	2104927536173604807	9.43	0	0	9.43

CyberPower :

2018/4/19

SGS :

SGS No.015
Witness ☑ Reviewed ☐
Signature Date

校正報告書
Calibration Report

優力國際安全認證有限公司校正實驗室
112台北市北投區大業路260號2,3,4,5樓
2/F, 3/F, 4/F, 5/F, 260 Da-yeh Road, Peitou, Taipei City, Taiwan 112

Date：2018 / 03 / 21
Report No.：EC-Q18020101-26

1. 申 請 者： 碩天科技股份有限公司
(Applicant)
地 址： 台北市內湖區金莊路 26 號 11 樓
(Applicant's Address)

2. 儀器名稱及狀態： Power Analyzer 狀態：☑ 外觀良好 ☑ As Received
(Equipment Name & Condition) ☐ 其他

3. 廠牌機型： Chroma / 66202
(Mfr. / Model No.)

4. 序 號： 662020007914 (E2-003)
(Serial No.)

5. 校驗依據： 17-LO-S0408 (Electrical Measurement Equipment Calibration SOP)
17-LO-S0850 (Time and Frequency Measurement Equipment Calibration SOP)
(Cal. Procedure Used)

6. 校正日期： 2018 / 03 / 20
(Calibration Date)

7. 校正環境： 溫度： (23 ± 3) ℃ 相對濕度： (30 ~ 75) %RH
(Environmental Condition)

8. 校正地址： 台北市北投區大業路 260 號 4 樓
(Calibration Address)

SGS No.015 Witness ☐ Reviewed ☑ Signature Apr-19-2018 Date

工作標準器(Working Standards)

儀器編號 Equipment ID	儀器名稱 Equipment Name	廠牌/型號 Mfr./Model No.	校正單位 Calibration Vendor	報告號碼 Report No.	校正日期 Calibration Date	標準器有效日期 Due Date
MC002	Multi-Product Calibrator	Fluke / 5502A	ITRI (TAF：0016)	10607C04355-1-1-03	2017/12/21	2018/12/31
PA089	Power Analyzer	Tektronix / PA1000	UL (TAF：1990)	IHT-17-PA089-01	2017/07/07	2018/07/31
TM046	Timer	Fotek / SY-4D	SGS (TAF: 0143)	IHT-17-TM046-01	2017/07/31	2018/07/31
EPS001	Electrical Power Standard - Master	Fluke / 6100B	UL(TAF:1990)	IH-17-EPS001-01	2017/10/31	2018/10/31

◎本報告書內容記載之受校儀器已與上列標準器做過比較校正，校正所用之標準器可追溯至上列之追溯單位，再追溯至國家標準實驗室。本校正實驗室的校正系統符合ISO/IEC 17025的要求。
This calibration report hereby certifies that the equipment noted herein has been compared with the above listed standards. The standards used to perform this calibration are traceable to NML/ROC, NIST/USA and other countries. Our calibration system complies with the requirements of ISO/IEC 17025.

◎本報告僅對上述儀器之校正項目有效。
This calibration report is valid only to the items calibrated.

◎未獲得實驗室同意，此校正報告不得摘錄複製，但全文複製除外。
This calibration report shall not be reproduced except in full, without written approval of the laboratory.

校正者： Sylvia Hsu
Calibrated by

報告簽署人：
Approved by

校正報告書
Calibration Report

優力國際安全認證有限公司校正實驗室
112台北市北投區大業路260號2,3,4,5樓
2/F, 3/F, 4/F, 5/F, 260 Da-yeh Road, Peitou, Taipei City, Taiwan 112

Date：2018 / 03 / 21
Report No.：EC-Q18020101-26

校正結果
Calibration Results

瓦時量測 (Wh @ AC, 50 Hz, PF=1.0)

設定值 Setting	標準值 Standard	器示值 Reading	器差 % Deviation %	擴充不確定度 Expanded Uncertainty
120 V / 1 mA / 5 min	10.0 mWh	0.0100 Wh	0.00 %	0.3 mWh

瓦時量測 (Wh @ AC, 60 Hz, PF=1.0)

設定值 Setting	標準值 Standard	器示值 Reading	器差 % Deviation %	擴充不確定度 Expanded Uncertainty
120 V / 1 mA / 5 min	10.0 mWh	0.0099 Wh	-1.00 %	0.3 mWh

瓦時量測 (Wh @ AC, 50 Hz, PF=0.5)

設定值 Setting	標準值 Standard	器示值 Reading	器差 % Deviation %	擴充不確定度 Expanded Uncertainty
120 V / 1 mA / 5 min	5.0 mWh	0.0050 Wh	0.00 %	0.3 mWh
120 V / 5 A / 30 min	151.2 Wh	151.0 Wh	-0.13 %	1.5 Wh
240 V / 5 A / 30 min	301.9 Wh	301.4 Wh	-0.17 %	3.0 Wh

瓦時量測 (Wh @ AC, 60 Hz, PF=0.5)

設定值 Setting	標準值 Standard	器示值 Reading	器差 % Deviation %	擴充不確定度 Expanded Uncertainty
120 V / 1 mA / 5 min	5.0 mWh	0.0050 Wh	0.00 %	0.3 mWh
120 V / 5 A / 30 min	151.3 Wh	151.0 Wh	-0.20 %	1.5 Wh
240 V / 5 A / 30 min	301.9 Wh	301.4 Wh	-0.17 %	3.0 Wh

校正報告書
Calibration Report

優力國際安全認證有限公司校正實驗室
112台北市北投區大業路260號2,3,4,5樓
2/F, 3/F, 4/F, 5/F, 260 Da-yeh Road, Peitou, Taipei City, Taiwan 112

Date：2018 / 03 / 21
Report No.：EC-Q18020101-26

校正結果
Calibration Results

頻率量測 (Hz @ 120 V)

	標準值 Standard	器示值 Reading	器差 % Deviation %	擴充不確定度 Expanded Uncertainty
	50.00 Hz	50.00 Hz	0.00 %	0.06 Hz
	60.00 Hz	60.00 Hz	0.00 %	0.08 Hz
	120.0 Hz	120.0 Hz	0.00 %	0.2 Hz
	240.0 Hz	240.0 Hz	0.00 %	0.3 Hz
	400.0 Hz	400.0 Hz	0.00 %	0.5 Hz

Harmonics Measurement Check (@ rms value 120 V / 50 Hz; Total Harmonics (1^{st} to 50^{th})

標準值 Standard	器示值 Reading	器差 Deviation	擴充不確定度 Expanded Uncertainty
0.10 %	0.11 %	0.01 %	0.1 %
3.00 %	3.00 %	0.00 %	0.1 %
5.00 %	5.01 %	0.01 %	0.1 %

Harmonics Measurement Check (@ rms value 120 V / 60 Hz; Total Harmonics (1^{st} to 50^{th})

標準值 Standard	器示值 Reading	器差 Deviation	擴充不確定度 Expanded Uncertainty
0.10 %	0.11 %	0.01 %	0.1 %
3.00 %	3.00 %	0.00 %	0.1 %
5.00 %	5.01 %	0.01 %	0.1 %

Harmonics Measurement Check (@ rms value 240 V / 50 Hz; Total Harmonics (1^{st} to 50^{th})

標準值 Standard	器示值 Reading	器差 Deviation	擴充不確定度 Expanded Uncertainty
0.10 %	0.11 %	0.01 %	0.1 %
3.00 %	3.00 %	0.00 %	0.1 %
5.00 %	5.01 %	0.01 %	0.1 %

校正報告書
Calibration Report

優力國際安全認證有限公司校正實驗室
112台北市北投區大業路260號2,3,4,5樓
2/F, 3/F, 4/F, 5/F, 260 Da-yeh Road, Peitou, Taipei City, Taiwan 112

Date：2018 / 03 / 21
Report No.：EC-Q18020101-26

校正結果
Calibration Results

Harmonics Measurement Check (@ rms value 240 V / 60 Hz; Total Harmonics (1^{st} to 50^{th})

標準值 Standard	器示值 Reading	器差 Deviation	擴充不確定度 Expanded Uncertainty
0.10 %	0.11 %	0.01 %	0.1 %
3.00 %	3.00 %	0.00 %	0.1 %
5.00 %	5.01 %	0.01 %	0.1 %

校正結果說明：

1. 標準值：校正時使用之標準器，其產生之訊號值稱之標準值。
2. 器示值：待校正之儀器，讀取所產生之訊號讀值3次，計算其平均值即為器示值。
3. 器差 % = [(器示值 - 標準值) / (標準值)] x 100 %。
4. 擴充不確定度：依本實驗室不確定度評估作業程序，在信心水準約 95 %下，涵蓋因子 k = 2 的擴充不確定度表示。

(以下空白)

校正報告書
Calibration Report

優力國際安全認證有限公司校正實驗室
112台北市北投區大業路260號2,3,4,5樓
2/F, 3/F, 4/F, 5/F, 260 Da-yeh Road, Peitou, Taipei City, Taiwan 112

Date：2018 / 03 / 29
Report No.：EC-Q18020101-27

1. 申 請 者： 碩天科技股份有限公司
(Applicant)
地　　址： 台北市內湖區金莊路 26 號 11 樓
(Applicant's Address
2. 儀器名稱及狀態： Power Analyzer　　狀態：☑ 外觀良好　☑ As Received
(Equipment Name & Condition)　　☐ 其他
3. 廠牌機型： Chroma / 66202
(Mfr. / Model No.)
4. 序　　號： 662020007913 (E2-004)
(Serial No.)
5. 校驗依據： 17-LO-S0408 (Electrical Measurement Equipment Calibration SOP)
17-LO-S0850 (Time and Frequency Measurement Equipment Calibration SOP)
(Cal. Procedure Used)
6. 校正日期： 2018 / 03 / 23
(Calibration Date)
7. 校正環境：　　溫度： (23 ± 3) ℃　　相對濕度： (30 ~ 75) %RH
(Environmental Condition)
8. 校正地址： 台北市北投區大業路 260 號 4 樓
(Calibration Address)

SGS No.015
Witness ☐　Reviewed ☑
Signature　Date Apr-19-2018

工作標準器(Working Standards)

儀器編號 Equipment ID	儀器名稱 Equipment Name	廠牌/型號 Mfr./Model No.	校正單位 Calibration Vendor	報告號碼 Report No.	校正日期 Calibration Date	標準器有效日期 Due Date
MC002	Multi-Product Calibrator	Fluke / 5502A	UL (TAF：1990)	10607C04355-1-1-03	2017/12/21	2018/12/31
PA089	Power Analyzer	Tektronix / PA1000	UL (TAF：1990)	IHT-17-PA089-01	2017/07/07	2018/07/31
TM046	TIMER	Fotek / SY-4D	UL (TAF : 1990)	IHT-17-TM046-01	2017/07/31	2018/07/31
EPS001	Electrical Power Standard - Master	Fluke / 6100B	UL(TAF:1990)	IH-17-EPS001-01	2017/10/31	2018/10/31

◎本報告書內容記載之受校儀器已與上列標準器做過比較校正，校正所用之標準器可追溯至上列之追溯單位，再追溯至國家標準實驗室。本校正實驗室的校正系統符合ISO/IEC 17025的要求。
This calibration report hereby certifies that the equipment noted herein has been compared with the above listed standards. The standards used to perform this calibration are traceable to NML/ROC, NIST/USA and other countries. Our calibration system complies with the requirements of ISO/IEC 17025.
◎本報告僅對上述儀器之校正項目有效。
This calibration report is valid only to the items calibrated.
◎未獲得實驗室同意，此校正報告不得摘錄複製，但全文複製除外。
This calibration report shall not be reproduced except in full, without written approval of the laboratory.

校正者： Allen Xu　　報告簽署人：
Calibrated by　　Approved by

校正報告書
Calibration Report

優力國際安全認證有限公司校正實驗室
112台北市北投區大業路260號2,3,4,5樓
2/F, 3/F, 4/F, 5/F, 260 Da-yeh Road, Peitou, Taipei City, Taiwan 112

Date：2018 / 03 / 29
Report No.：EC-Q18020101-27

校正結果
Calibration Results

瓦時量測 (Wh @ AC, 50 Hz, PF=1.0)

設定值 Setting	標準值 Standard	器示值 Reading	器差 % Deviation %	擴充不確定度 Expanded Uncertainty
120 V / 1 mA / 5 min	10.0 mWh	0.0100 Wh	0.00 %	0.3 mWh

瓦時量測 (Wh @ AC, 60 Hz, PF=1.0)

設定值 Setting	標準值 Standard	器示值 Reading	器差 % Deviation %	擴充不確定度 Expanded Uncertainty
120 V / 1 mA / 5 min	10.0 mWh	0.0100 Wh	0.00 %	0.3 mWh

瓦時量測 (Wh @ AC, 50 Hz, PF=0.5)

設定值 Setting	標準值 Standard	器示值 Reading	器差 % Deviation %	擴充不確定度 Expanded Uncertainty
120 V / 1 mA / 5 min	5.0 mWh	0.0050 Wh	0.00 %	0.3 mWh
120 V / 5 A / 30 min	150.4 Wh	150.3 Wh	-0.07 %	1.5 Wh
240 V / 5 A / 30 min	301.4 Wh	301.0 Wh	-0.13 %	3.0 Wh

瓦時量測 (Wh @ AC, 60 Hz, PF=0.5)

設定值 Setting	標準值 Standard	器示值 Reading	器差 % Deviation %	擴充不確定度 Expanded Uncertainty
120 V / 1 mA / 5 min	5.0 mWh	0.0050 Wh	0.00 %	0.3 mWh
120 V / 5 A / 30 min	150.1 Wh	150.1 Wh	0.00 %	1.5 Wh
240 V / 5 A / 30 min	300.3 Wh	300.2 Wh	-0.03 %	3.0 Wh

校正報告書
Calibration Report

優力國際安全認證有限公司校正實驗室
112台北市北投區大業路260號2,3,4,5樓
2/F, 3/F, 4/F, 5/F, 260 Da-yeh Road, Peitou, Taipei City, Taiwan 112

Date：2018 / 03 / 29
Report No.：EC-Q18020101-27

校正結果
Calibration Results

頻率量測 (Hz @120 V)

標準值 Standard	器示值 Reading	器差 % Deviation %	擴充不確定度 Expanded Uncertainty
50.00 Hz	50.00 Hz	0.00 %	0.06 Hz
60.00 Hz	60.00 Hz	0.00 %	0.08 Hz
120.0 Hz	120.0 Hz	0.00 %	0.2 Hz
240.0 Hz	240.0 Hz	0.00 %	0.3 Hz
400.0 Hz	400.0 Hz	0.00 %	0.5 Hz

Harmonics Measurement Check (@ rms value 120 V / 50 Hz; Total Harmonics (1^{st} to 50^{th})

標準值 Standard	器示值 Reading	器差 Deviation	擴充不確定度 Expanded Uncertainty
0.10 %	0.11 %	0.01 %	0.1 %
3.00 %	3.00 %	0.00 %	0.1 %
5.00 %	5.01 %	0.01 %	0.1 %

Harmonics Measurement Check (@ rms value 120 V / 60 Hz; Total Harmonics (1^{st} to 50^{th})

標準值 Standard	器示值 Reading	器差 Deviation	擴充不確定度 Expanded Uncertainty
0.10 %	0.11 %	0.01 %	0.1 %
3.00 %	3.00 %	0.00 %	0.1 %
5.00 %	5.01 %	0.01 %	0.1 %

Harmonics Measurement Check (@ rms value 240 V / 50 Hz; Total Harmonics (1^{st} to 50^{th})

標準值 Standard	器示值 Reading	器差 Deviation	擴充不確定度 Expanded Uncertainty
0.10 %	0.11 %	0.01 %	0.1 %
3.00 %	3.00 %	0.00 %	0.1 %
5.00 %	5.01 %	0.01 %	0.1 %

校正報告書
Calibration Report

優力國際安全認證有限公司校正實驗室
112台北市北投區大業路260號2,3,4,5樓
2/F, 3/F, 4/F, 5/F, 260 Da-yeh Road, Peitou, Taipei City, Taiwan 112

Date：2018 / 03 / 29
Report No.：EC-Q18020101-27

校正結果
Calibration Results

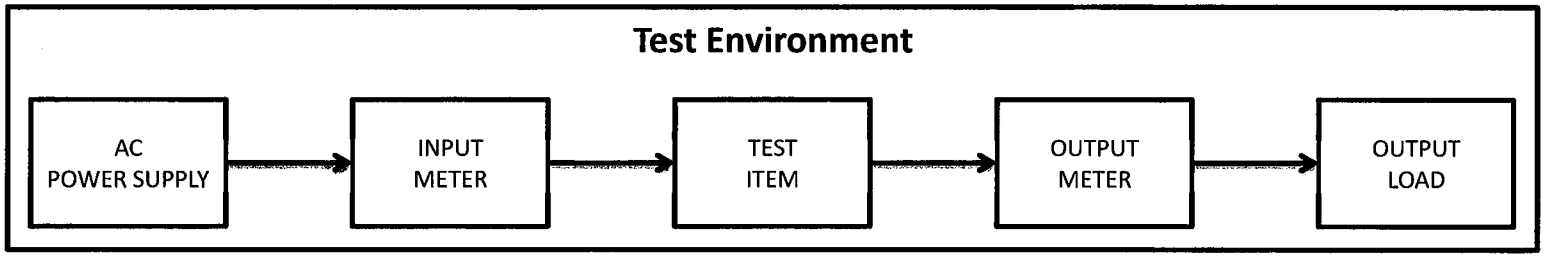
Harmonics Measurement Check (@ rms value 240 V / 60 Hz; Total Harmonics (1^{st} to 50^{th})

標準值 Standard	器示值 Reading	器差 Deviation	擴充不確定度 Expanded Uncertainty
0.10 %	0.11 %	0.01 %	0.1 %
3.00 %	3.00 %	0.00 %	0.1 %
5.00 %	5.01 %	0.01 %	0.1 %

校正結果說明：

1. 標準值：校正時使用之標準器，其產生之訊號值稱之標準值。
2. 器示值：待校正之儀器，讀取所產生之訊號讀值3次，計算其平均值即為器示值。
3. 器差 % = [(器示值 - 標準值) / (標準值)] x 100 %。
4. 擴充不確定度：依本實驗室不確定度評估作業程序，在信心水準約 95 %下，涵蓋因子 k = 2 的擴充不確定度表示。

(以下空白)



Test Procedure	
1	Setup testing environment as system diagram
2	Setup 230V/50Hz as AC source output
3	Configure an output power cord as the only test item
4	Configure output load at 0 watt
5	Record input/output watt from respective meter
6	Configure output load at 90 watt
7	Record input/output watt from respective meter
8	Configure output load at 180 watt
9	Record input/output watt from respective meter
10	Configure output load at 270 watt
11	Record input/output watt from respective meter
12	Configure output load at 360 watt
13	Record input/output watt from respective meter
14	Configure one UPS and an output power cord as test items
15	Record UPS serial number
16	Turn on UPS
17	Configure output load at 0 watt
18	Record input/output watt from respective meter
19	Configure output load at 90 watt
20	Record input/output watt from respective meter
21	Configure output load at 180 watt
22	Record input/output watt from respective meter
23	Configure output load at 270 watt
24	Record input/output watt from respective meter
25	Configure output load at 360 watt
26	Record input/output watt from respective meter
27	Change another UPS and repeat the procedures from step 15 to step 27.