此料號只用頭一批貨500pcs,後續訂單要用PS-B00000145_A02

SDD1
'21.02.01
梁連法

已批准
Rabe Hsiung 21/02/01, 13:48

康舒科技
ACBEL POLYTECH INC.

Approval Sheet

Model No. : **FSK003 Option 4QAG**
MKT Model No. : **FLXA4251 Option B4QA**
Hardware Rev. : **0S3**

Customer : **PCICase UK LTD.**
Customer PN : **PS-A00000145_A01**

Approval by : *Smith Lu*

Prepare by : **Sonia Chuang**

SDD
2021.02.01
RabeHsiung

SDD1
'21.02.01
梁連法

Date: 01/29/2021

康舒科技
ACBEL POLYTECH INC.

Contents

康舒科技
ACBEL POLYTECH INC.

Specification

ACBEL ELECTRONIC (DONGGUAN) CO.,LTD
NO.17-28(Hong Yed Rd) Hong Yed Industrial
District ,Tang Xia Town, Dong Guan City
Guang Dong Province,China, Zipcode: 523710
Tel: 86-769-8791 5950
Fax: 86-769-8791 3472-36994

Specification for 250W
FLEX 250 Power Supply

Marketing P/N: FLXA4251A
AcBel P/N: FSK003-000G

Revision: S6
Date: 2020/10/20

Prepared By: Yangxj
Approved By: Well

ACBEL ELECTRONIC (DONGGUAN) CO.,LTD
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Revision History

Revision	Description	Date
S1	Original of power supply spec.	2020/01/07
S2	Change EFF load.	2020/04/28
S3	Change EFF define and test load, change OCP define change Operation ambient. Define short condition.	2020/05/12
S4	Change max load（3.3V&5V）& rise time.	2020/08/03
S5	Change EFF Load	2020/8/20
S6	Change 2.2 note, change 2.2 cross load table Change output 5.1V to 5V Change output 5.1vs to 5VS Change AC input current to 4A	2020/10/20

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1. Input Requirements

1-1. Input condition:

Range Select	Nominal	Units
Vin	100 ~ 240	VAC
Frequency	60 - 50	Hz
AC input current	4	AMPS

1-2. Inrush Current

Maximum inrush current from power-on (with power on at any point on the AC sine) shall be limited to the peak surge current of the input line cord, bridge diode, fuse and EMI filter components according to I^2t. Receptive ON/OFF cycling of the AC input voltage shall not damage the PSU or cause the input fuse to blow.

1-3. Efficiency

The power supply efficiency at 25 °C shall be 90% (-/+1%) minimum efficiency at 50% of rated output and 87% (-/+1%) minimum efficiency at 20% and 100% of rated output, to meet 80Plus requirement at 115Vac/60Hz.

It is better to meet the 80 plus requirement .as the web site as follow:
http://www.80plus.org/
Efficiency test condition as below:

Load	+5V	+3.3V	+12V	-12V	+5Vs	Efficiency (%)
20%	1.56	1.34	2.97	0.03	0.35	87% (-/+1%)
50%	3.9	3.35	7.42	0.09	0.87	90% (-/+1%)
100%	7.81	6.69	14.84	0.17	1.75	87% (-/+1%)

1-4. Harmonic Current Compliance with EN 61000-3-2

The power supply shall comply with harmonic input current requirements as detailed in EN61000-3-2 and The harmonic input current requirements must be met under the following operating conditions, should be Passed from 30% output load to 100% output load condition:
Load Requirements: 50% Load , 100% Load and 75W input power
Input Voltage: 230Vac/50Hz.

1-5. ERP

In standby mode, 5Vsb efficiency should perform as below:

The PSU input power must be under 0.5Watt.When 5Vsb output is 0.045A at 115Vac/60Hz , 230Vac/50Hz.

1-6. Output Voltage and Ripple Noise Requirements

Output Voltage	MIN	MAX	Regulation (%)	Ripple Max
+5V	4.75	5.25	+5% ~ -5%	50mV
+3.3V	3.135	3.465	+5% ~ -5%	50mV
+12V	11.4	12.6	+5% ~ -5%	120mV
-12V	10.8	13.2	+10% ~ -10%	120mV
+5Vs	4.75	5.25	+5% ~ -5%	50mV

Note: 1). The output voltage should be measured at output connector terminals.
2). The output Ripple Noise should be tested with 0.1uf ceramic disk capacitors and 10uf tantalum capacitor at the point of load.and scope bandwith set at 20Mhz
3). The output voltage tolerance is ±10% during surge conditions

2. Output Requirements

2-1. DC Load Requirements

Output Voltage（V）	Output current(A)		Peak（A）	Combined	Ripple and noise（mV）
	Min.	Max.			
+12V	0.1	17A	19A(8S)	±5%	120 mVp-p
+5V	0	14A	17A(8S)	±5%	50 mVp-p
+3.3V	0	12A	14A(3S)	±5%	50 mVp-p
-12V	0	0.2A		±10%	120 mVp-p
5VSB	0	2A		±5%	50 mVp-p

Note Surge power and current loading shall be supported for a minimum of 8 seconds.
The output voltage tolerance is ±10% during surge conditions.

2-2. Cross Regulation

The cross regulation is defined in the matrix below:

LOAD	+5V	+3.3V	+12V	-12V	+5VS	Poutput(w)
1(Min load)	0	0	0.1	0	0	3.6
2(5V Max)	14	0	13.9	0.2	2	250
3(3.3V Max)	6	12	14	0.2	2	250
4(12V Max)	4.2	6.4	17	0.1	0.5	250
5(Half load)	4.2	3.6	7.2	0.1	0.8	125
6	14	1	10	0.1	0.5	197
7	7.1	6.1	12.2	0.1	1.4	212

8(5V Surge)	17	0	13.5	0.2	0.5	250
9(3.3V Surge)	4.7	14	14.6	0.2	0.5	250
10(12V Surge)	4.5	0	19	0.2	0.5	250

Note: 1. +3.3V and+5V load total Max power 70W

2. Maximum surge load total DC output power should not exceed 250W at 55°C Measurements are performed at 115/230Vac input.
3. Note Surge power and current loading shall be supported for a minimum of 8 seconds,The output voltage tolerance is ±10% during surge conditions.

2-3. Output Transient Response

- The output voltage will remain within the regulation after applying following load changes.
- Simultaneous load step on the +5V, +3.3V,and +12V outputs.(all steps occurring in the same direction.)
- Load – changing repetition rate of 50Hz to 10K Hz.

output	Output current	output range	Load step	Slew rate	Test conation	Capacitive load
+12V	0.3 to 7.1A	10.2A to 17A	60%	1A/ usec	Typical	2200uF
+5V	0.1 to 7.6A	7.5A to 15A	50%	1A/ usec	Typical	2200uF
+3.3V	0.1 to 6.1A	6A to 12A	50%	1A/ usec	Typical	2200uF
+5VS	0.1A to 1.1A	1A to 2A	50%	1A/ usec	Typical	1000uF

The dynamic load transient response test must follow 2-2 Cross Regulation table.

2-4. Output Closed-loop Stability

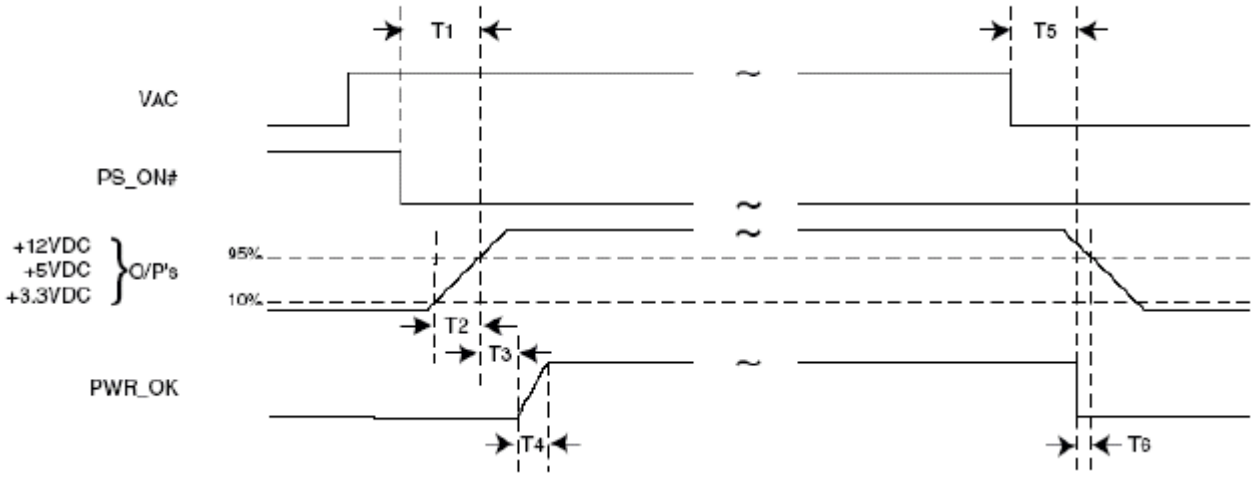
The power supply shall be unconditionally stable under all line/load conditions including capacitive loads. A minimum of 45 degrees phase margin and 10dB gain is recommended at both the maximum and minimum load.

2-5. Over Shoot

The output voltage overshoot upon the application or removal of the input voltage, or the assertion /de-assertion of PS_ON#, under the condition specified in 1-6 Output Voltage table, shall be less than 10% above the nominal voltage. No voltage of opposite polarity shall be present on any output during turn-on or turn-off

3. Timing

- ***3-1. Power supply Time:***



Parameter	Description	Value
T1	Power-on time	<500mS
T2	Rise time	0.01 – 20mS
T3	PWR_OK delay time	100 – 500mS
T4	PWR_OK rise time	<10mS
T5	AC loss to PWR_OK hold-up time	>10mS
T6	Power-down warning	>1mS

- ***3-2. Hold-up Time***

The power supply with 70% load at 115V/60Hz or 230V/50Hz, should supply regulated output for at least 10mS after the loss of the PWR_OK voltage.

Test load condition as below.

Load	+5V	+3.3V	+12V	-12V	+5Vs	Total (W)
Max. Load	5.887	5.047	10.087	0.14	1.155	175W

4. Power Good Signal

4-1. Power Good Signal

The power supply should provide a “Power-Good” signal to reset system logic, indicate proper operation of the power supply and give advance warning of impending loss of regulation at turn off.

It should be an up level during normal operation or a down level when fault conditions occur or during turn off. When the power supply is turned off for a minimum of 3.0 sec. and then turned on the power good signal should be generated.

4-2. Power Good Signal Characteristics

Signal Type	+5V TTL compatible
Logic level low	< 0.4V while sinking 4mA
Logic level high	Between 2.4V and 5V output while sourcing 200uA
High-state output impedance	1k ohms from output to common

Note: Scope bandwidth set at 20MHz when test PG signal.

5. Protections

5-1. Over Voltage Protection

OVP	Max.
12V	16.0V
5V	7.0V
3.3V	4.5V

5-2. Over Current Protection

The power supply should provide +5V, +3.3Vand +12V OCP and should shutdown of each output power.

Voltage	Over Current Limit.
	Minimum
12V	22A
5V	20A
3.3V	18A

5-3. Short Circuit Protection

The short circuit placed on +3.3V, +5V, + 12V and –12V output shall cause no damage and the power supply shall shut down and latch (short resistor <0.01OHM).

5-4. Protection Reset

When the power supply latches into shutdown condition due to a fault on output (Over-Current, Over-Voltage, Short circuit) and over temperature protection (OTP), the protection latch must reset at after the fault has been removed and the on/off signal has switched state.

6. No Load Operation

No damage or hazardous condition will occur with all the DC output connectors disconnected from the load. The power supply may latch into the shutdown state.

7. Fan Speed Control

The power supply shall contain a thermal sensing circuitry capable of varying fan speed.

8. Environment

8-1. Operating Temperature Range

Operation ambient: 0 ℃ to +55 ℃
Non-operating ambient : -40℃ ～ +70℃
200W at 35°C and measurements are performed at 115/230Vac input.
180W at 50°C and measurements are performed at 115/230Vac input. Thermal de-rating 1.33W/℃
Maximum surge load total is 250W at 25°C, only supported for minimum of 8 seconds. Measurements are performed at 115/230Vac input.

8-2. Thermal Shock (Shipping)

Non-operating : -40 ～ 70℃ (15℃/min≦dT/dt≦30℃/min)

8-3. Altitude

Operating	To 10,000 ft
Non operating	To 50,000 ft

8-4. Random Vibration

0.01g²/Hz at 5Hz, sloping to 0.02g²/Hz at 20Hz, and maintaining 0.02g²/Hz from 20Hz to 500Hz.the area under the PSD curve is 3.13gRMS. The duration shall be 10minutes per axis for all three axes on all samples.(non-operating)

8-5. MTBF

100,000 hours “80% Load 25℃” at 115V / 60Hz.

8-6. Mechanical Shock

50g, trapezoidal input; velocity change≧170 in/s. Three drops on each of six faces are applied to each sample.(non-operating)

9. Safety

The power supply will have the following safety approvals with most current editions shipping:

9-1. TUV + CB
9-2. UL/CUL
9-3. CCC 5000M
9-4. CE UL60950-1，62368
9-5. BSMI
9-6. RCM
9-7. BIS
9-8. KC
9-9. FCC

10. EMI Requirements

The power supply shall comply with CISPR 22, Class B. Tests shall be conducted using a shielded DC output cable to a shielded load. The load shall be adjusted as follows condition: Test with system; Tests will be performed at 220VAC/50Hz.

11. Electrostatic Discharge Requirement (ESD)

The objective of ESD test is to determine the susceptibility and immunity of products to electrostatic discharge to which the products may be exposed, when operating under all potential environmental conditions.

11-1. Air Discharge:

Test Volt	Requirements
8KV	No allowed error
12.5KV	Restart & damage error are not allowed
15KV	Damage error is not allowed restart is allowed

Contact Discharge:

Test Volt	Requirements

2~4KV	No allowed error
4KV	Restart & damage error are not allowed
8KV	Damage error is not allowed restart is allowed

11-2. The above test discharge time is 1 time / sec. and repeat each test ten times.

12. Lightning Surge Immunity

The purpose of lightning surge immunity test is to verify if the power supply can withstand Lightning surge wave. This is to follow the norm of IEC61000-4-5 requirements.

13. Hi-Pot test:

100% production testing for Hi-pot and Ground continuity must be performed, Units passing these tests must be mark accordingly.

康舒科技
ACBEL POLYTECH INC.

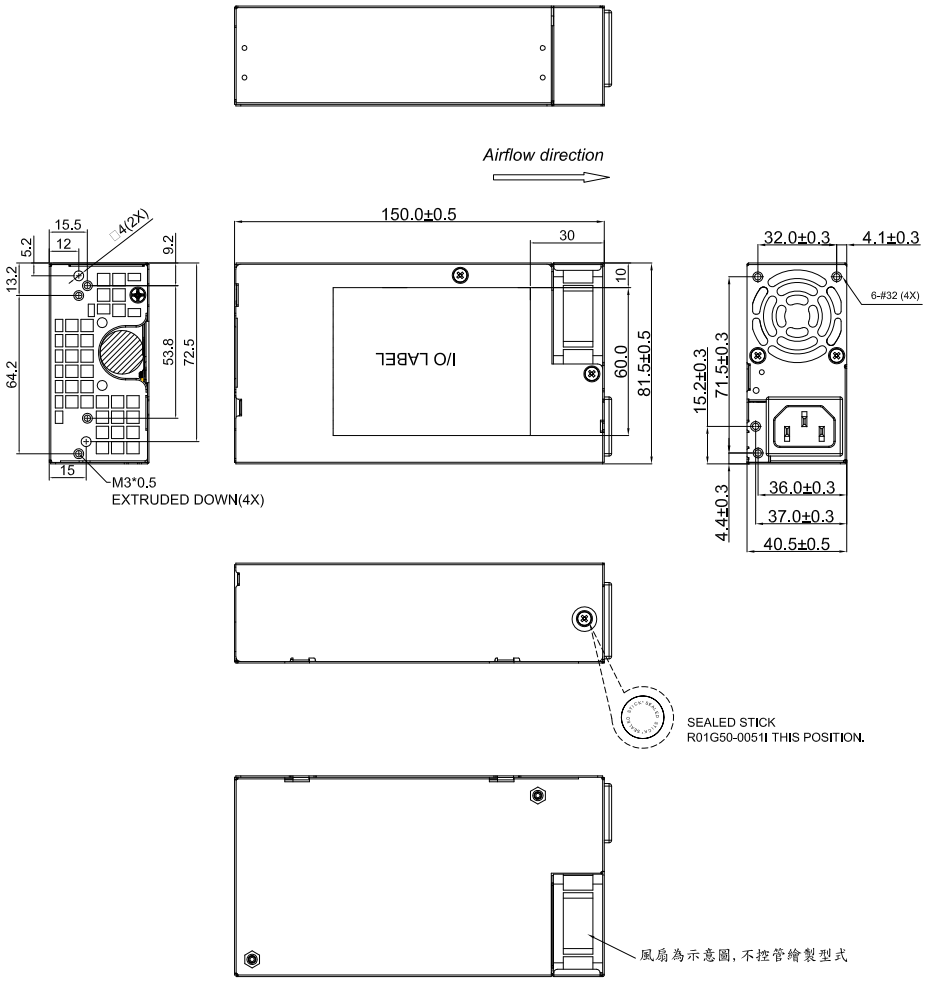
Mechanical Outline Drawing

NOTE :

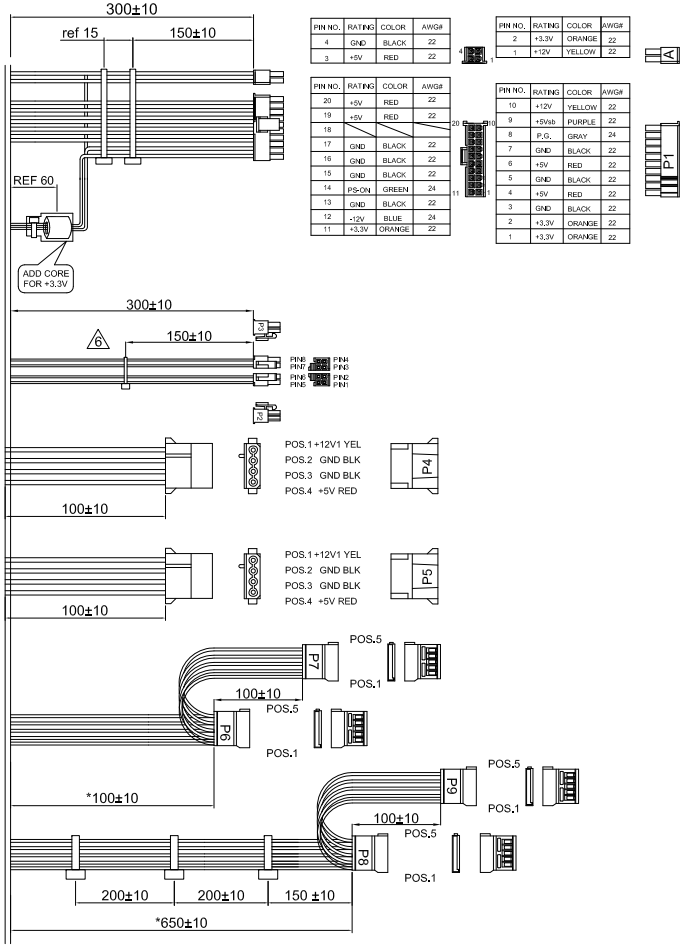
1. UNIT : MM. 單位 : 毫米
2. CONNECTOR PIN ASSIGNMENT : SEE CHART
   連接器各孔位線材顏色及輸出定義：參閱表格

	CONN. NO.	RATING	WIRE COLOR	WIRE GAUGE
P1	POS.1	+3.3V	ORANGE	22
	POS.2	+3.3V	ORANGE	22
	POS.3	GND	BLACK	22
	POS.4	+5V	RED	22
	POS.5	GND	BLACK	22
	POS.6	+5V	RED	22
	POS.7	GND	BLACK	22
	POS.8	P.G	GRAY	24
	POS.9	+5Vsb	PURPLE	22
	POS.10	+12V	YELLOW	22
	POS.11	+3.3V	ORANGE	22
	POS.12	-12V	BLUE	24
	POS.13	GND	BLACK	22
	POS.14	PS-ON	GREEN	24
	POS.15	GND	BLACK	22
	POS.16	GND	BLACK	22
	POS.17	GND	BLACK	22
	POS.18			
	POS.19	+5V	RED	22
	POS.20	+5V	RED	22
	A-POS1	+12V	YELLOW	22
	A-POS2	+3.3V	ORANGE	22
	A-POS3	+5V	RED	22
	A-POS4	GND	BLACK	22
P2	P2/POS.1	GND	BLACK	18
	P2/POS.2	GND	BLACK	18
	P3/POS.3	GND	BLACK	18
	P3/POS.4	GND	BLACK	18
P3	P2/POS.5	+12V	YELLOW	18
	P2/POS.6	+12V	YELLOW	18
	P3/POS.7	+12V	YELLOW	18
	P3/POS.8	+12V	YELLOW	18
P4	POS.1	+12V	YELLOW	20
	POS.2	GND	BLACK	20
P5	POS.3	GND	BLACK	20
	POS.4	+5V	RED	20
P6	POS.1	N/A	N/A	N/A
P7	POS.2	GND	BLACK	20
P8	POS.3	+5V	RED	20
P9	POS.4	GND	BLACK	20
	POS.5	+12V	YELLOW	20

3. NET WEIGHT: 0 GRAMS±3%
   淨重 : 0 克 ± 3%
4. " * " CRITICAL DIMENSION. THE SUPPLIER MUST BE INSPECTED THIS DIMENSION FOR EVERY SHIPMENT.
   " * " 表示該(尺寸/位置)為設計之重點尺寸,供應商每次出貨前必須檢驗合格後,方可出貨.
5. THESE MATERIAL/PART/ASSEMBLY MUST COMPLY TO ACBEL SPEC "CRITERIA FOR ENVIRONMENT-RELATED SUBSTANCES" .
   材質/零件/製程均必須符合康舒"環境管理物質規範".
6. 出貨超過3個月以上的PSU切斷面生銹可以允收



7. 因供應商眾多,機構圖面樣式僅供參考.



REV	DESCRIPTION	BY	DATE
6	調整束線	TIMI	08/10/20'
5	取消單獨條碼標籤	TIMI	07/28/20
4	變更下蓋鎖支架的螺絲孔	TIMI	07/27/20
3	1 變更線材 2 變更inlet 方向 3 變更下蓋	TIMI	05/27/'20
2	變更 INLET 方向.	TIMI	05/27/'20
1	PRIMARILY	TIMI	03/25/'20

NON-RELEASE			
非正式發行圖面		REV:	6
ENG.	TIMI	APPR.	ARLO

ACBEL ELECTRONIC (DONG GUAN) CO., Ltd.

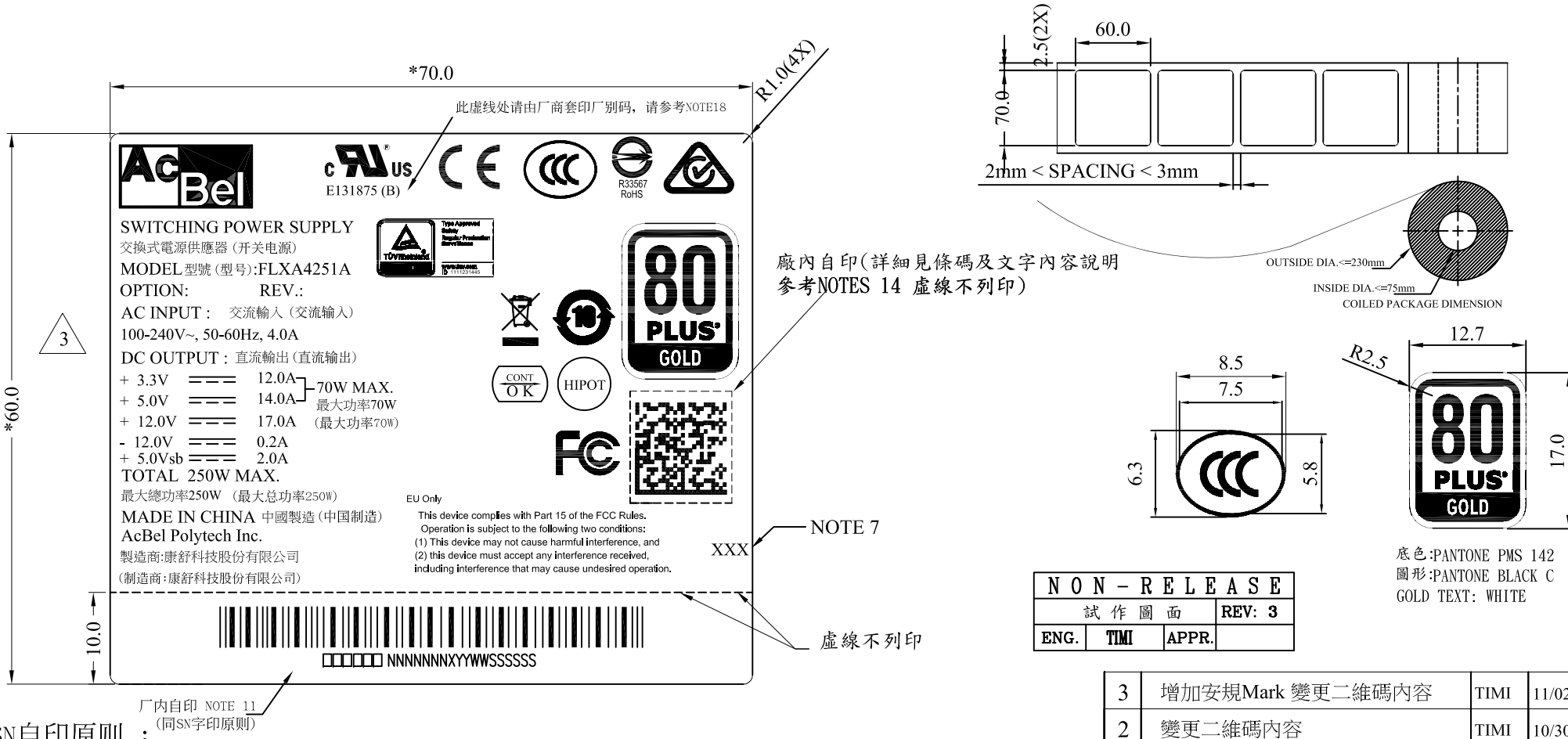
MODEL NO.	FSK003-4QAG
PART NO.	MO-FSK003-4QAG
DWG NO.	MO-FSK003-4QAG_6
TITLE	MECHANICAL OUTLINE 250W

SI Metric A1 | mm 0 25 | THIRD ANGLE PROJECTION

SCALE	NONE	SHEET 1 OF 1	
DESIGNER	TIMI	08/10/20	
CHECKED			
APPROVED	ARLO	08/10/20	

康舒科技
ACBEL POLYTECH INC.

I/O Label Drawing



SN自印原则 :

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

□□□□□□NNNNXYYWWSSSSSS

- SERIAL NO 000001~999999
- DATE CODE(YY : YEAR WW:WEEK
  FOR EXAMPLE : 2020 33TH WEEK 则此4栏位为"2033")
- MFG. FACTORY CODE:
  (东莞康舒印: B ; 东莞康展印: T ; 武汉康舒印: W)
- ID CODE (Ex.: 若机种FSK003-4QAG 印4QAG)
- API REVISION CONTROL CODE(S1印 : 0S1 ; S2印 : 0S2 ; A印 : A00)
- API PART NUMBER (Ex. : 若机种FSK003-4QAG, 则印制"FSK003"於此6个栏位)

NON-RELEASE			
試作圖面		REV: 3	
ENG.	TIMI	APPR.	

REV	DESCRIPTION	BY	DATE
3	增加安規Mark 變更二維碼內容	TIMI	11/02/20
2	變更二維碼內容	TIMI	10/30/20
1	PRIMARILY	TIMI	10/09/20

ACBEL POLYTECH INC.

MODEL NO.	FSK003-4QAG
PART NO.	P01AAA-3458I
DWG. NO :	P01AAA-3458I_3
TITLE	I/O LABEL (COMPLY TO RoHS)

SI Metric A3 | 0 mm 25 | THIRD ANGLE PROJECTION

DESIGNER	TIMI	11/02/20
CHECKED		
APPROVED	ARLO	11/02/20

SCALE NONE | SHEET 1 OF 2

NOTES:

1. UNIT : MM.
   單位 : 毫米.
2. MATERIAL :
   2.1 FACE STOCK底材:
   WHITE POLYESTER,THICKNESS = 0.05 MM.
   白色麥拉片,厚度= 0.05毫米
   2.2 OVERLAMINATION :保護膜
   □ A TRANSPARENT FILM 透明膠膜 ☒ NONE 無
   2.3 ADHESIVE背膠 : PRESSURE SENSITIVE ACRYLIC 壓克力壓膜膠
   THICKNESS 厚度 = 0.025 MM
   2.4 BACKED WITH RELEASE LINER. 背面附離型紙
   2.5 LABEL TO BE AFFIXED TO AND MAXIMUM
   TEMPERATURE RATING貼紙所貼附之材質與最大耐溫等級
   GAL☒ VANIZED STEEL 鍍鋅鋼 □ ALUMINUM 鋁
   □ NICKEL PLATED METAL 鍍鎳金屬
   □ ZINC PLATED METAL WITH CHROMATE POST TREATMENT 後處理之鍍鉻酸鋅金屬
   ☒ 100°C 攝氏100度
   2.6 MATERIAL MUST BE UL RECOGNIZED AND COMPLY TO UL 969 STANDARD.
   材質必須符合 UL 認證,並且遵 UL 969 標準.
3. LABEL MUST BE MADE BY A UL RECOGNIZED AND CSA APPROVED VENDOR.
   貼紙之製造商必須是 UL 與 CSA 所認證.
4. TOLERANCE : XX = +/- 0.5 XX.X = +/- 0.2
   XX.XX = +/- 0.15
   公差 XX = +/- 0.5 XX.X = +/- 0.2
   XX.XX = +/- 0.15
5. "*"CRITICAL DIMENSION SYMBOL,SUPPLIER MUST INSPECT THIS DIMENSION FOR EVERY SHIPMENT
   "*"表示該(尺寸/位置)為設計之重點尺寸,供應商每次出貨前必須檢驗合格後方可出貨.
6. ALL PRODUCTS MUST BE THE SAME AS ENGINEERING API MECHANICAL ENGINEERING APPROVED SAMPLES,ANY MODIFICATION MUST BE APPROVED BY ACBEL MECHANICAL ENGINEERING SECTION.
   所有產品必須與認可的樣品一致,任何的修改都必須經由康舒機構工程師同意及認可.
7. LABEL MUST CONTAIN THE VENDOR'S ID MARK LOCATED IN THE AREA INDICATED. ID MARK LETTER HEIGHT TO BE 1.5MM.
   貼紙必須印製廠商代碼，代碼字高為 1.5 毫米.
8. CHARACTER HEIGHT : 1.5 MM ,UNLESS OTHERWISE SPECIFIED.
   圖面未標示之字體高度皆為 1.5 毫米
9. PRINTED COLOR :
   BLACK - TEXT, GRAPHICS, IMAGE, LOGO SURROUND SHAPE.
   WHITE - BACKGROUND.
   列印顏色 :
   黑色 - 文字、圖形、圖像、標誌、外圍圖形 白色 - 背景
10. THESE MATERIAL/PART/ASSEMBLY MUST COMPLY TO ACBEL SPEC"CRITERIA FOR ENVIRONMENT-RELATED SUBSTANCES".
    材質/零件/製程均必須符合康舒"環境管理物質規範".
11. BAR CODE FORMAT: CODE 128 / CPI : 13.64
    THE NARROW ELEMENT DIMENSION (X DIMENSION)
    SHOULD BE WITHIN A RANGE OF 0.170MM(0.0067 INCH)
    條碼格式 : CODE 128 / CPI 13.64 寬/窄比 : 0.17毫米(0.0067英吋)
12. REV : XXX (S1印 : 0S1 ; S2印 : 0S2 ; A印 : A00)
13. DATE : XYYWW 為廠內自印，4碼 YYWW為製造週期，X為工廠代碼*
    工廠代碼 : 康舒東莞廠印B，康展東莞廠印T，康舒武漢廠印W
14. 2D條碼自印原則

15. THESE MATERIALS/PARTS/ASSEMBLIES MUST COMPLY TO ACBEL SPEC "CRITERIA FOR ENVIRONMENT-RELATED SUBSTANCES" EXCEPT PVC(POLYVINYL CHLORIDE)AND PVC BLENDS.
    除了PVC以及含PVC混合物的材質以外,所有用料,製程等皆須符合ACBEL關於 禁止使用對於環境有害物質的規範.
16. USES OF EU RoHS & RoHS 2.0 (HBCDD/DEHP/BBP/DBP) MATERIAL IS PROHIBITED.
    禁止使用EU RoHS & RoHS 2.0 (HBCDD/DEHP/BBP/DBP)物質.
17. USES OF RED PHOSPHORUS MATERIAL IS PROHIBITED.
    禁止使用含紅磷材料.
18. 加入工廠代碼，如康舒東莞廠生產即印製 (B) 如圖示，如康展東莞廠生產即印製 (T) ; 如康舒武漢廠生產即印製 (W)

NON-RELEASE			
試作圖面			REV: 3
ENG.	TIMI	APPR.	

ACBEL ELECTRONIC (DONG GUAN) CO., Ltd.

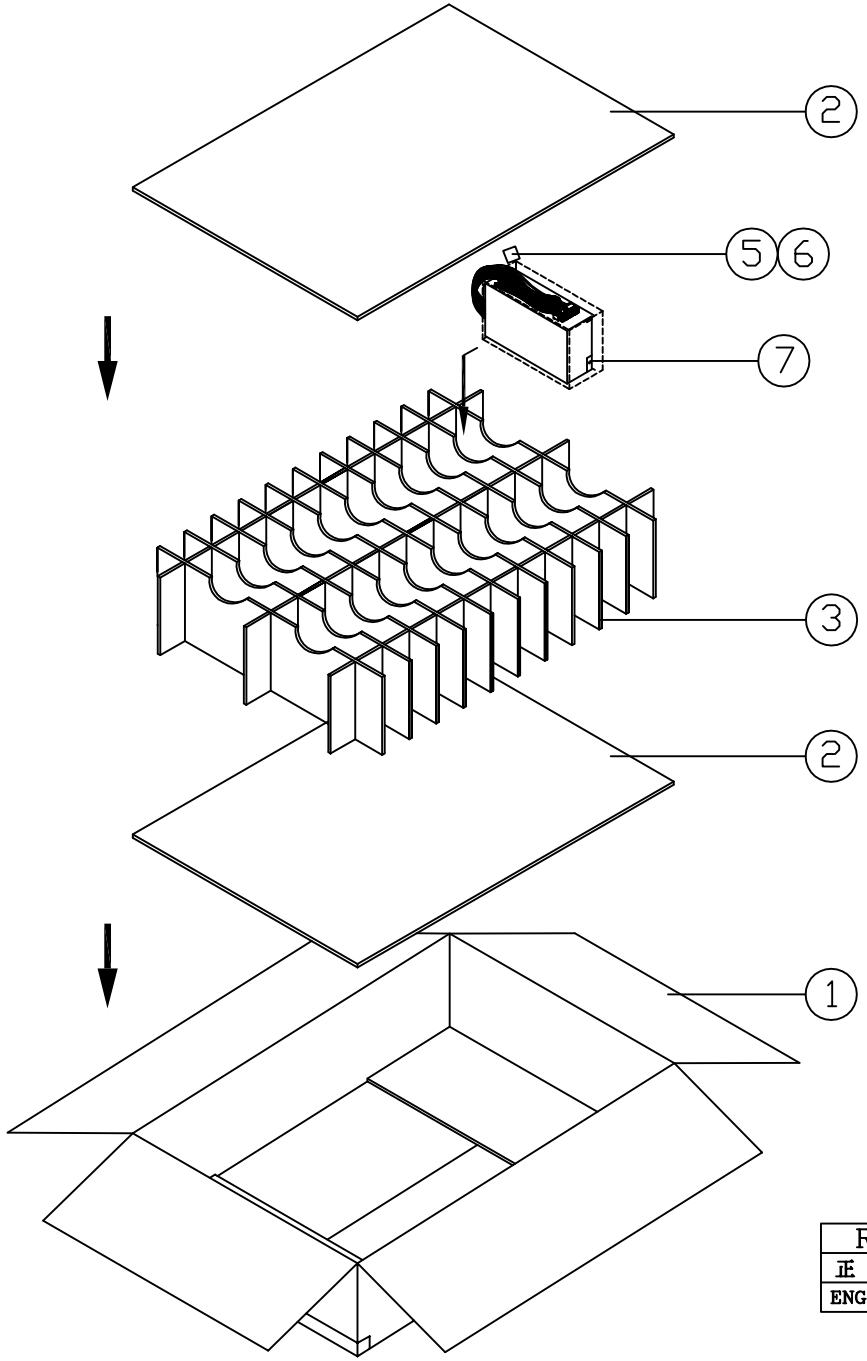
MODEL NO.	FSK003-4QAG
PART NO.	P01AAA-3458I
DWG. NO :	P01AAA-3458I_3
TITLE	I/O LABEL (COMPLY TO RoHS)
SI Metric A3	0 mm 25 THIRD ANGLE PROJECTION
SCALE NONE	SHEET 2 OF 2

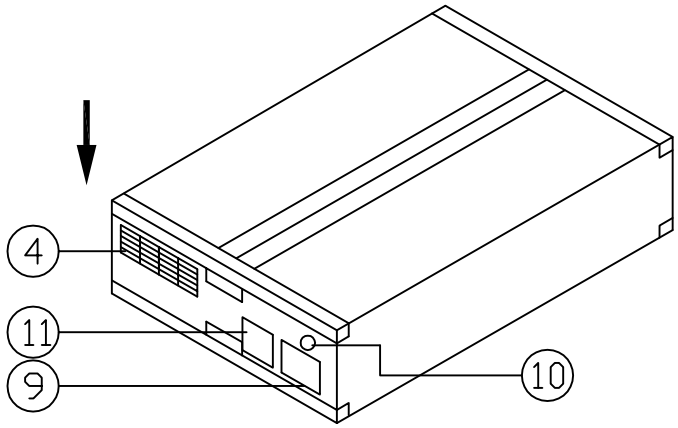
DESIGNER	TIMI	11/02/20
CHECKED		
APPROVED	Arlo	11/02/20

康舒科技
ACBEL POLYTECH INC.

Carton Drawing

NOTES: 1.線材不包於PE BAG內,不需要膠紙封口
2.FINISHED CARTON SIZE IS(成品紙箱尺寸是):
L58.6 * W48.3 *17.7 CM.(+/-0.5CM)





NO.	Q'TY	PART NO.	DESCRIPTION
11	1	X01H00-1947I	CARTON LABEL (AIC)
10	1	R01951-0204I	G/P LABEL
9	1	X01H00-1749I	CARTON LABEL
8			
7	20	R1008-B9593I	PE BAG
6	20	R1008-6605I	DESICCATIVE
5	20	FSK003-4QAG	POWER SUPPLY
4	20	X01H00-2035I	BARCODE LABEL
3	1	X1008-A9452I	PARTITION
2	2	R1008-C6947I	PAPER BOARD
1	1	R1008-C4436I	CARTON

REVISIONS			
REV	DESCRIPTION	BY	DATE
1	PRIMARILY	WISH	07/28/'20
A	RELEASE	WISH	07/28/'20

RELEASE			
正式發行圖面		REV: A	
ENG.	WISH	APPR.	ARIO

ACBEL POLYTECH INC.

MODEL NO. FSK003-4QAG
PART NO. CA-FSK003-4QAG
DWG. NO : CA-FSK003-4QAG_A

SI
Metric
A2

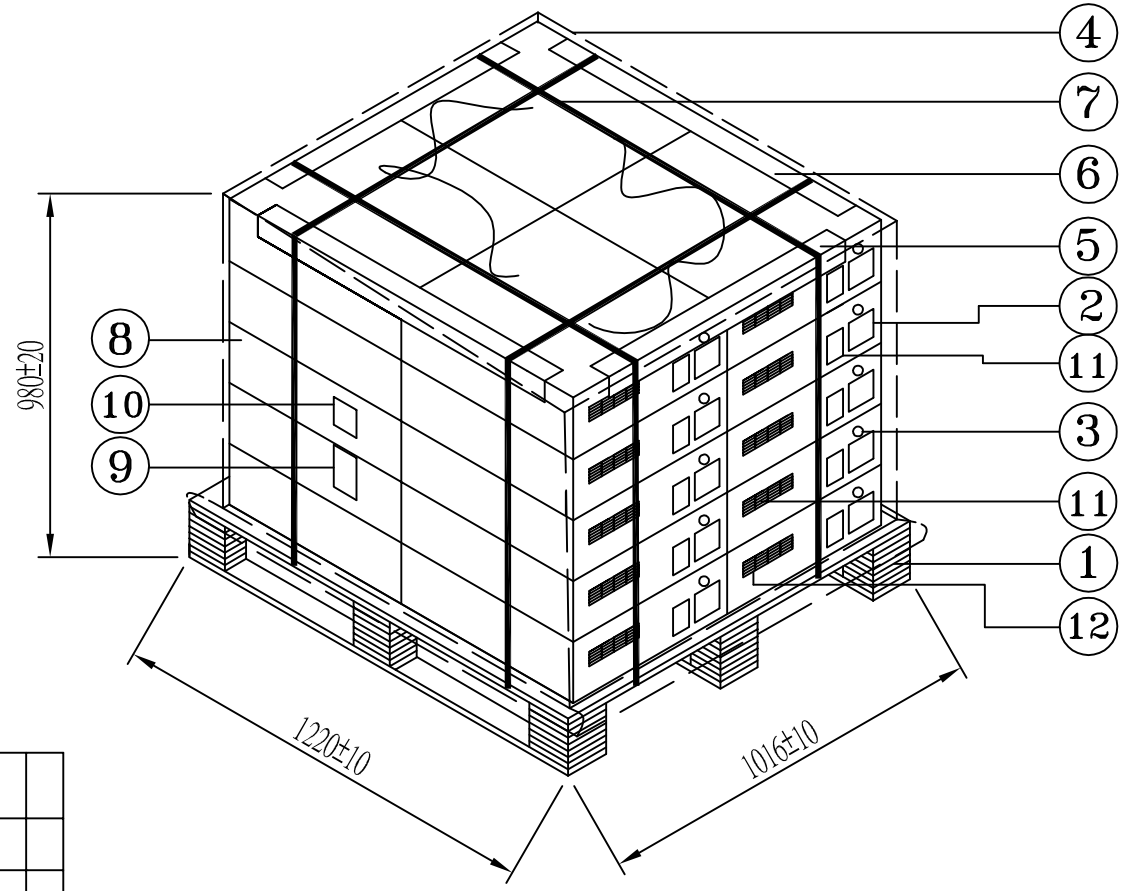
0 mm 25
THIRD ANGLE PROJECTION

TITLE :
CARTON ASS'Y
FOR FSK003-4QAG

DESIGNER	WISH	07/28/'20
CHECKED		
APPROVED	ARIO	07/28/'20

SCALE NONE
SHEET 1 OF 1

NOTES: 1. 20 UNITS / CARTON （台 / 箱）
2. 4 CARTONS / LAYER（箱 / 層）
3. 5 LAYERS / PALLET（層 / 板）
4. FINISHED CARTON SIZE IS(成品紙箱尺寸是)：
L58.6 * W48.3 *17.7 CM.(+/-0.5CM)



NO.	Q'TY	PART NO.	DESCRIPTION
12	400	X01H00-2035I	BARCODE LABEL
11	20	X01H00-1947I	CARTON LABEL AIC
10	2	R01G50-0012I	WARNING LABEL
9	2	X01C32-1198I	SHIPPING LABEL
8	20	R1008-C4436I	CARTON
7	20M	R1008-T9998I	STRIP PLASTIC
6	2	R1008-C8850I	EDGE PROTECTOR
5	2	R1008-C8852I	EDGE PROTECTOR
4	50M	R1008-8064I	PE FILM
3	20	R01951-0204I	RoHS LABEL
2	20	X01H00-1749I	CARTON LABEL
1	1	R1008-P9789I	PALLET

REVISIONS				
REV	DESCRIPTION	BY	DATE	
A	RELEASE	WISH	07/28/'20	

RELEASE			
正式發行圖面			REV: A
ENG.	WISH	APPR.	ARLO

ACBEL POLYTECH INC.

MODEL NO. FSK003-4QAG
PART NO. PA-FSK003-4QAG
DWG. NO: PA-FSK003-4QAG_A

SI Metric A3

0 mm 25 THIRD ANGLE PROJECTION

TITLE: PALLET ASS'Y FOR FSK003-4QAG

DESIGNER	WISH	07/28/'20
CHECKED		
APPROVED	ARLO	07/28/'20

SCALE NONE SHEET1 OF1

康舒科技
ACBEL POLYTECH INC.

ATE Test Report

Report Test 1

General Information

Model Name: FSK003-4QAG Customer: Serial No: O0845275
Order No.: DHDAS005003P/R421 Lot No.: Total Load No.: 7
Environment: P/R Inspector: F121503854
YYYY_MM_DD: 2020/12/04 Begin Time: PM 03:50:20 End Time: PM 03:52:17

SEQ.1: Set Up Function (115V) ---------- PASS

Vin_Port (1-4) = 3 Vin type = AC
ON Phase (mS) = 0.000 OFF Phase = 0.000
Setup off(Sec) = 1.000 PAUSE function= N
Display Message= PLEASE PRESS ENTER

Relay status: Pre value-1 = 00 Pre value-2 = 00
TTL status : Pre value-1 = 0000 Pre value-2 = 0008
Change state delay: For relay = 0.000 For TTL = 0.000
Ext. device GPIB address = * GPIB EOS byte = 1
Message for ext. device = V10

	Load Name	MODE	Ifs	Vfs	Meas	BITS
1.	5V	I	50	10	UUT	0000
2.	3.3V	I	50	10	UUT	0000
3.	PG	I	50	10	UUT	0000
4.	-12V	I	20	100	UUT	0000
5.	5VS	I	50	10	UUT	0000
6.	12V	I	50	100	UUT	0000
7.	12V	I	50	100	UUT	0000

SEQ.2: Turn On & Sequence Test (T2 T4) ---------- PASS

CERTIFICATE OF COMPLIANCE

Certificate Number	UL-CA-2006191-0
Report Reference	E131875- A6075-UL
Date	9-Dec-2020
Issued to:	ACBEL POLYTECH INC No159 Sec 3 Danjin Rd TamSui District New Taipei Taiwan 251
This is to certify that representative samples of	QQJQ8 - Power Supplies for Use with Audio/Video, Information and Communication Technology Equipment Certified for Canada - Component See Addendum Page for Product Designation(s).
	Have been investigated by UL in accordance with the component requirements in the Standard(s) indicated on this Certificate. UL Recognized components are incomplete in certain constructional features or restricted in performance capabilities and are intended for installation in complete equipment submitted for investigation to UL LLC.
Standard(s) for Safety:	CSA C22.2 NO. 62368-1-14, 2nd Ed., Issue Date: 2014-12-01
Additional Information:	See the UL Online Certifications Directory at https://iq.ulprospector.com for additional information

This *Certificate of Compliance* does not provide authorization to apply the UL Recognized Component Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Recognized Component Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Recognized Component Mark on the product.

Bruce Mahrenholz, Director North American Certification Program

UL LLC

Vin Port = 3 Vin Type = AC
ON Phase delay = 0.000 OFF Phase delay = 0.000
Vin = 100.000 Fin = 60.0
UUT OFF time = 1.000

Load	Name	MODE	Ifs	Vfs	Meas.	Von	BITS	Rise	I/R
1.	5V	I	50	10	UUT	0.000	0000	0.100	7.810
2.	3.3V	I	50	10	UUT	0.000	0000	0.100	6.690
3.	PG	I	50	10	UUT	0.000	0000	0.100	0.000
4.	-12V	I	20	100	UUT	0.000	0000	0.100	0.170
5.	5VS	I	50	10	UUT	0.000	0000	0.100	1.750
6.	12V	I	50	100	UUT	0.000	0000	0.100	7.420
7.	12V	I	50	100	UUT	0.000	0000	0.100	7.420

Ld	START TRIGG NO.	START TRIGG LEVEL	END TRIGG NO.	END TRIGG LEVEL	Va	Vb	Vos Check	Vos Reading
1.	7	H	8	H	0.500	4.500	N	-----
2.	7	H	8	H	0.330	2.970	N	-----
3.	7	H	8	H	0.330	2.400	N	-----
4.	7	H	8	H	1.200	10.800	N	-----
5.	1	H	1	H	0.500	4.500	N	-----
6.	7	H	8	H	1.200	10.800	N	-----
7.	7	H	8	H	1.200	10.800	N	-----

Ld	Ton Max	Ton Min	Ton Read	Tsb Min	Tsb Read
1.	20.000	0.200	0.388	*	> 1.024
2.	20.000	0.200	1.181	*	> 1.024
3.	10.000	*	0.095	*	> 1.024
4.	20.000	0.200	11.690	*	> 1.024
5.	*	*	0.005	*	-----
6.	10.000	0.200	2.240	*	> 1.024
7.	10.000	*	2.325	*	> 1.024

Ref Ton from LOAD: *

	Max	Min	Reading/+	Reading/-
Iinruch	*		1.296	7.187
Tds	*	*	0.005	
Tdl	*	*	11.690	
Tdls	*		11.685	

Ld	Tons Source LOAD No.	Td Max	Td Min	Td Read
1.	*	*	*	-----
2.	*	*	*	-----
3.	*	*	*	-----
4.	*	*	*	-----
5.	*	*	*	-----
6.	*	*	*	-----
7.	*	*	*	-----

SEQ.3: Hold Up & Sequence Test (T5 70%LOAD) ---------- PASS

Vin = 115.000 Fin = 60.0 Delay Time = 1.000 UUT OFF Time = 1.000

	Load Name	MODE	Ifs	Vfs	Meas.	Von	BITS	Rise	I/R
1.	5V	I	50	10	UUT	3.500	0000	0.100	5.887
2.	3.3V	I	50	10	UUT	2.100	0000	0.100	5.047
3.	PG	I	50	10	UUT	0.000	0000	0.100	0.000

4.	-12V	I	20	100	UUT	8.000	0000	0.100	0.140
5.	5VS	I	50	10	UUT	3.500	0000	0.100	1.155
6.	12V	I	50	100	UUT	8.000	0000	0.100	5.043
7.	12V	I	50	100	UUT	8.000	0000	0.100	5.043

Ld	START TRIGG NO.	START TRIGG LEVEL	END TRIGG NO.	END TRIGG LEVEL	Va	Vb
1.	1	L	7	L	4.750	5.250
2.	1	L	7	L	3.130	3.465
3.	1	L	7	L	2.400	5.250
4.	1	L	7	L	10.800	13.200
5.	1	L	7	L	4.750	5.250
6.	1	L	7	L	11.400	12.600
7.	1	L	7	L	11.000	12.600

Ld	Thd Max	Thd Min	Thd Read	Tsb Min	Tsb Read
1.	*	*	25.374	*	> 1.024
2.	*	*	27.837	*	> 1.024
3.	*	10.000	29.362	*	> 1.024
4.	*	*	33.071	*	> 1.024
5.	*	*	25.432	*	> 1.024
6.	*	*	26.923	*	> 1.024
7.	*	*	27.114	*	> 1.024

Ref Ton from LOAD: *

	Max	Min	Reading
Tds	*	*	25.374
Tdl	*	*	33.071
Tdls	*		7.697

Ld	Thds Source LOAD No.	Td Max	Td Min	Td Read
1.	*	*	*	-----
2.	*	*	*	-----
3.	*	*	*	-----

4.	*	*	*	-----
5.	*	*	*	-----
6.	*	*	*	-----
7.	*	*	*	-----

SEQ.4: Extra Timing Test (T6PSOFF) ---------- PASS

Vin = 115.000 Fin = 50.0 Delay Time = 1.000

Load	Name	MODE	Ifs	Vfs	Meas.	Von	BITS	Rise	I/R
1.	5V	I	50	10	UUT	3.500	0000	0.100	9.390
2.	3.3V	I	50	10	UUT	2.100	0000	0.100	5.260
3.	PG	I	50	10	UUT	0.000	0000	0.100	0.000
4.	-12V	I	20	100	UUT	8.000	0000	0.100	0.100
5.	5VS	I	50	10	UUT	3.500	0000	0.100	1.429
6.	12V	I	50	100	UUT	8.000	0000	0.100	7.440
7.	12V	I	50	100	UUT	8.000	0000	0.100	7.440

Relay status: Pre value-1 = 00 Pre value-2 = 00
Relay status: Post value-1 = 00 Post value-2 = 00
TTL status : Pre value-1 = 0008 Pre value-2 = 0000
TTL status : Post value-1 = 0000 Post value-2 = 0000
Change state delay: For relay = 0 For TTL = 0

Ld	START TRIGG NO.	START TRIGG LEVEL	END TRIGG NO.	END TRIGG LEVEL	Va	Vb	Vos Check	Vos Reading
1.	5	H	7	L	4.750	5.250	N	-----
2.	5	H	7	L	3.135	3.465	N	-----
3.	5	H	7	L	2.400	5.250	N	-----
4.	5	H	7	L	0.800	13.200	N	-----

5.	1	H	1	H	4.750	5.250	N	-----
6.	5	H	7	L	11.400	12.600	N	-----
7.	1	H	7	H	11.400	12.600	N	-----

Short which LOAD = * Short Time = 1.000 UUT OFF Time = 1.000
Tref from which LOAD = *

	Max	Min	Reading/+	Reading/-
Iinpk	*	*	-----	-----
Tds	*	*	0.000	
Tdl	*	*	61.076	
Tdls	*		61.076	

Ld	Timing Max	Timing Min	Timing Read	Tsb Min	Tsb Read
1.	*	*	47.216	*	> 1.024
2.	*	*	47.542	*	> 1.024
3.	*	*	39.327	*	> 1.024
4.	*	*	61.076	*	> 1.024
5.	*	*	0.000	*	-----
6.	*	*	47.399	*	> 1.024
7.	*	*	0.000	*	> 1.024

Ld	Tref Source LOAD No.	Td Max	Td Min	Td Reading
1.	3	*	1.000	7.889
2.	3	*	1.000	8.215
3.	1	*	-1.000	-7.889
4.	*	*	*	-----
5.	*	*	*	-----
6.	3	*	1.000	8.072
7.	*	*	*	-----

SEQ.5: Extra Timing Test (T1 T3PSON) ---------- PASS

Vin = 115.000 Fin = 50.0 Delay Time = 1.000

	Load Name	MODE	Ifs	Vfs	Meas.	Von	BITS	Rise	I/R
1.	5V	I	50	10	UUT	3.500	0000	0.100	9.390

2.	3.3V	I	50	10	UUT	2.100	0000	0.100	5.260
3.	PG	I	50	10	UUT	0.000	0000	0.100	0.000
4.	-12V	I	20	100	UUT	8.000	0000	0.100	0.100
5.	5VS	I	50	10	UUT	3.500	0000	0.100	1.429
6.	12V	I	50	100	UUT	8.000	0000	0.100	7.440
7.	12V	I	50	100	UUT	8.000	0000	0.100	7.440

Relay status: Pre value-1 = 00 Pre value-2 = 00
Relay status: Post value-1 = 00 Post value-2 = 00
TTL status : Pre value-1 = 0000 Pre value-2 = 0008
TTL status : Post value-1 = 0000 Post value-2 = 0008
Change state delay: For relay = 0 For TTL = 0.200

Ld	START TRIGG NO.	START TRIGG LEVEL	END TRIGG NO.	END TRIGG LEVEL	Va	Vb	Vos Check	Vos Reading
1.	5	L	7	H	4.750	5.250	N	-----
2.	5	L	7	H	3.135	3.465	N	-----
3.	5	L	7	H	2.400	5.250	N	-----
4.	5	L	7	H	0.800	13.200	N	-----
5.	1	H	1	H	4.750	5.250	N	-----
6.	5	L	7	H	11.400	12.600	N	-----
7.	1	H	7	H	11.400	12.600	N	-----

Short which LOAD = * Short Time = 1.000 UUT OFF Time = 1.000
Tref from which LOAD = *

	Max	Min	Reading/+	Reading/-
Iinpk	*	*	-----	-----
Tds	*	*	0.000	
Tdl	*	*	370.370	
Tdls	*		370.370	

Ld	Timing Max	Timing Min	Timing Read	Tsb Min	Tsb Read

1.	500.000	*	39.940	*	> 1.024
2.	500.000	*	42.851	*	> 1.024
3.	*	*	370.370	*	> 1.024
4.	500.000	*	41.453	*	> 1.024
5.	500.000	*	0.000	*	-----
6.	500.000	*	42.191	*	> 1.024
7.	*	*	319.462	*	> 1.024

Ld	Tref Source	LOAD No.	Td Max	Td Min	Td Reading
1.		3	-500.000	-100.000	-330.430
2.		3	-500.000	-100.000	-327.519
3.		1	500.000	100.000	330.430
4.		3	-500.000	-100.000	-328.917
5.		*	*	*	-----
6.		3	-500.000	-100.000	-328.179
7.		*	*	*	-----

SEQ.6: Static Test (85V 80%LOADUUT ON) ---------- PASS

Vin = 85.000 Fin = 50.0 Delay Time = 1.000 Meas. Time = 1.000

	Load Name	MODE	Ifs	Vfs	Meas.	Vdc Filter	Noise Filter	Von	BITS
1.	5V	I	50	10	UUT	300	20M	3.500	0000
2.	3.3V	I	50	10	UUT	300	20M	2.100	0000
3.	PG	I	50	10	UUT	300	20M	0.000	0000
4.	-12V	I	20	100	UUT	300	20M	8.000	0000
5.	5VS	I	50	10	UUT	300	20M	3.500	0000
6.	12V	I	50	100	UUT	300	20M	8.000	0000
7.	12V	I	50	100	UUT	300	20M	8.000	0000

Pdc Max = * Pdc Min = * Pdc Reading = 202.138

Ld	Rise	I/R	Idc Max	Idc Min	Idc Read	Vn Max	Vn Read
1.	0.100	7.512	*	*	7.496	*	0.004
2.	0.100	4.208	*	*	4.200	*	0.001
3.	0.100	0.000	*	*	0.000	*	0.005
4.	0.100	0.100	*	*	0.000	*	0.006
5.	0.100	1.143	*	*	1.137	*	0.002
6.	0.100	5.952	*	*	5.931	*	0.014
7.	0.100	5.952	*	*	5.943	*	0.013

Ld	Vdc Max	Vdc Min	Vdc Read	Vpp Max	Vpp Min	Vpp Read
1.	5.250	4.750	5.032	*	*	0.026
2.	3.465	3.135	3.327	*	*	0.015
3.	5.250	2.400	4.993	*	*	0.234
4.	13.200	0.800	12.275	*	*	0.020
5.	5.250	4.750	5.048	*	*	0.016
6.	12.600	11.400	12.231	*	*	0.086
7.	12.600	11.400	12.143	*	*	0.154

SEQ.7: Dynamic Test (0.3$7.1A50HZ 12V) ---------- PASS

Vin = 115.000 Fin = 60.0 Delay Time = 1.000 Meas. Time = 1.000

Load	Name	MODE	Ifs	Vfs	Meas.	Noise Filter	Von	BITS
1.	5V	I	50	10	UUT	20M	3.500	0000
2.	3.3V	I	50	10	UUT	20M	2.100	0000

3.	PG	I	50	10	UUT	20M	0.000	0000
4.	-12V	I	20	100	UUT	20M	8.000	0000
5.	5VS	I	50	10	UUT	20M	3.500	0000
6.	12V	I	50	100	UUT	20M	8.000	0000
7.	12V	I	50	100	UUT	20M	8.000	0000

Ld	Period-1	Period-2	Rise	Fall	Vpp Max	Vpp Min	Vpp Read
1.	10.000	10.000	1.000	1.000	*	*	0.127
2.	10.000	10.000	1.000	1.000	*	*	0.056
3.	10.000	10.000	1.000	1.000	*	*	0.236
4.	10.000	10.000	1.000	1.000	*	*	0.047
5.	10.000	10.000	1.000	1.000	*	*	0.111
6.	10.000	10.000	1.000	1.000	*	*	0.585
7.	10.000	10.000	1.000	1.000	*	*	0.567

Ld	I/R-1	Reading	I/R-2	Reading	dV Max	dV Read
1.	4.690	4.684	4.690	4.684	*	0.106
2.	2.630	2.637	2.630	2.634	*	0.007
3.	0.000	0.006	0.000	0.009	*	0.073
4.	0.100	0.003	0.100	0.003	*	0.031
5.	0.714	0.718	0.714	0.715	*	0.061
6.	0.300	0.290	7.100	7.084	*	0.306
7.	0.000	0.003	0.000	0.000	*	0.306

Ld	Vs Max	Vs Min	Vs-1 Rd	Vs-2 Rd	Vn Max	Vn Read
1.	5.350	4.750	4.993	5.100	*	0.042
2.	3.465	3.130	3.345	3.352	*	0.008
3.	5.350	2.400	4.968	5.041	*	0.036
4.	13.200	10.800	12.293	12.262	*	0.007
5.	5.350	4.500	5.029	5.091	*	0.039
6.	12.650	11.400	12.506	12.200	*	0.118

7.	12.650	11.400	12.456	12.150	*	0.150

SEQ.8: Dynamic Test (10.2&17A50HZ 12V) ---------- PASS

Vin = 115.000 Fin = 60.0 Delay Time = 1.000 Meas. Time = 1.000

	Load Name	MODE	Ifs	Vfs	Meas.	Noise Filter	Von	BITS
1.	5V	I	50	10	UUT	20M	3.500	0000
2.	3.3V	I	50	10	UUT	20M	2.100	0000
3.	PG	I	50	10	UUT	20M	0.000	0000
4.	-12V	I	20	100	UUT	20M	8.000	0000
5.	5VS	I	50	10	UUT	20M	3.500	0000
6.	12V	I	50	100	UUT	20M	8.000	0000
7.	12V	I	50	100	UUT	20M	8.000	0000

Ld	Period-1	Period-2	Rise	Fall	Vpp Max	Vpp Min	Vpp Read
1.	10.000	10.000	1.000	1.000	*	*	0.068
2.	10.000	10.000	1.000	1.000	*	*	0.030
3.	10.000	10.000	1.000	1.000	*	*	0.150
4.	10.000	10.000	1.000	1.000	*	*	0.041
5.	10.000	10.000	1.000	1.000	*	*	0.062
6.	10.000	10.000	1.000	1.000	*	*	0.354
7.	10.000	10.000	1.000	1.000	*	*	0.365

Ld	I/R-1	Reading	I/R-2	Reading	dV Max	dV Read
1.	4.690	4.684	4.690	4.690	*	0.045
2.	2.630	2.634	2.630	2.634	*	0.008
3.	0.000	0.006	0.000	0.003	*	0.027
4.	0.100	0.003	0.100	0.003	*	0.018

5.	0.714	0.712	0.714	0.715	*	0.025
6.	10.200	10.181	17.000	16.975	*	0.131
7.	0.000	0.000	0.000	0.000	*	0.100

Ld	Vs Max	Vs Min	Vs-1 Rd	Vs-2 Rd	Vn Max	Vn Read
1.	5.350	4.750	5.105	5.151	*	0.012
2.	3.465	3.130	3.350	3.341	*	0.004
3.	5.350	2.400	5.068	5.096	*	0.011
4.	13.200	10.800	12.306	12.287	*	0.007
5.	5.350	4.750	5.121	5.147	*	0.011
6.	12.600	11.400	12.137	12.006	*	0.068
7.	12.600	11.400	12.118	12.018	*	0.080

SEQ.9: Dynamic Test (5V3.3V5VSMIN/50HZ) ---------- PASS

Vin = 115.000 Fin = 60.0 Delay Time = 1.000 Meas. Time = 1.000

	Load Name	MODE	Ifs	Vfs	Meas.	Noise Filter	Von	BITS
1.	5V	I	50	10	UUT	20M	3.500	0000
2.	3.3V	I	50	10	UUT	20M	2.100	0000
3.	PG	I	50	10	UUT	20M	0.000	0000
4.	-12V	I	20	100	UUT	20M	8.000	0000
5.	5VS	I	50	10	UUT	20M	3.500	0000
6.	12V	I	50	100	UUT	20M	8.000	0000
7.	12V	I	50	100	UUT	20M	8.000	0000

Ld	Period-1	Period-2	Rise	Fall	Vpp Max	Vpp Min	Vpp Read
1.	10.000	10.000	1.000	1.000	*	*	0.324
2.	10.000	10.000	1.000	1.000	*	*	0.316
3.	10.000	10.000	1.000	1.000	*	*	0.363
4.	10.000	10.000	0.100	0.100	*	*	0.087
5.	10.000	10.000	1.000	1.000	*	*	

0.285

6. 10.000 10.000 1.000 1.000 * *
0.821

7. 10.000 10.000 0.500 0.500 * *
0.857

Ld	I/R-1	Reading	I/R-2	Reading	dV Max	dV Read
1.	0.100	0.103	7.600	7.603	*	0.246
2.	0.100	0.109	6.100	6.115	*	0.061
3.	0.000	0.009	0.000	0.000	*	0.245
4.	0.000	0.000	0.100	0.006	*	0.050
5.	0.100	0.109	1.100	1.106	*	0.191
6.	7.440	7.418	7.440	7.428	*	0.493
7.	0.000	0.000	0.000	0.003	*	0.456

Ld	Vs Max	Vs Min	Vs-1 Rd	Vs-2 Rd	Vn Max	Vn Read
1.	5.500	4.500	5.235	4.988	*	0.111
2.	3.630	2.970	3.379	3.318	*	0.035
3.	5.350	2.400	5.190	4.945	*	0.104
4.	13.200	10.800	12.312	12.262	*	0.007
5.	5.500	4.500	5.211	5.020	*	0.102
6.	12.600	11.400	11.925	12.418	*	0.177
7.	12.600	11.400	11.925	12.381	*	0.237

SEQ.10: Dynamic Test (5V3.3V5VSMAX) ---------- PASS

Vin = 115.000 Fin = 60.0 Delay Time = 1.000 Meas. Time =
1.000

	Load Name	MODE	Ifs	Vfs	Meas.	Noise Filter	Von	BITS
1.	5V	I	50	10	UUT	20M	3.500	0000
2.	3.3V	I	50	10	UUT	20M	2.100	0000
3.	PG	I	50	10	UUT	20M	0.000	0000
4.	-12V	I	20	100	UUT	20M	8.000	0000
5.	5VS	I	50	10	UUT	20M	3.500	0000
6.	12V	I	50	100	UUT	20M	8.000	0000
7.	12V	I	50	100	UUT	20M	8.000	0000

Ld	Period-1	Period-2	Rise	Fall	Vpp Max	Vpp Min	Vpp Read
1.	10.000	10.000	1.000	1.000	*	*	0.319
2.	10.000	10.000	1.000	1.000	*	*	0.309
3.	10.000	10.000	1.000	1.000	*	*	0.328
4.	10.000	10.000	1.000	1.000	*	*	0.092
5.	10.000	10.000	1.000	1.000	*	*	0.265
6.	10.000	10.000	1.000	1.000	*	*	0.104
7.	10.000	10.000	0.500	0.500	*	*	0.157

Ld	I/R-1	Reading	I/R-2	Reading	dV Max	dV Read
1.	7.500	7.500	15.000	15.000	*	0.083
2.	6.000	6.006	12.000	12.012	*	0.074
3.	0.000	0.009	0.000	0.006	*	0.013
4.	0.000	0.000	0.100	0.003	*	0.050
5.	1.000	1.006	2.000	2.006	*	0.000
6.	2.890	2.878	2.890	2.871	*	0.012
7.	0.000	0.000	0.000	0.000	*	0.018

Ld	Vs Max	Vs Min	Vs-1 Rd	Vs-2 Rd	Vn Max	Vn Read
1.	5.500	4.500	4.947	4.864	*	0.055
2.	3.465	2.970	3.325	3.250	*	0.034
3.	5.350	2.400	4.886	4.872	*	0.050
4.	13.200	10.800	12.325	12.275	*	0.006
5.	5.500	4.500	4.941	4.941	*	0.046
6.	12.600	11.400	12.475	12.487	*	0.016
7.	12.600	11.400	12.456	12.437	*	0.016

SEQ.11: Dynamic Test (0.3$7.1A10KHZ 12V) ---------- PASS

Vin = 115.000 Fin = 60.0 Delay Time = 1.000 Meas. Time = 1.000

	Load Name	MODE	Ifs	Vfs	Meas.	Noise Filter	Von	BITS
1.	5V	I	50	10	UUT	20M	3.500	0000
2.	3.3V	I	50	10	UUT	20M	2.100	0000
3.	PG	I	50	10	UUT	20M	0.000	0000
4.	-12V	I	20	100	UUT	20M	8.000	0000
5.	5VS	I	50	10	UUT	20M	3.500	0000
6.	12V	I	50	100	UUT	20M	8.000	0000
7.	12V	I	50	100	UUT	20M	8.000	0000

Ld	Period-1	Period-2	Rise	Fall	Vpp Max	Vpp Min	Vpp Read
1.	0.100	0.100	1.000	1.000	*	*	0.062
2.	0.100	0.100	1.000	1.000	*	*	0.031
3.	0.100	0.100	1.000	1.000	*	*	0.198
4.	0.100	0.100	1.000	1.000	*	*	0.043
5.	0.100	0.100	1.000	1.000	*	*	0.048
6.	0.100	0.100	1.000	1.000	*	*	0.206
7.	0.100	0.100	1.000	1.000	*	*	0.233

Ld	I/R-1	Reading	I/R-2	Reading	dV Max	dV Read
1.	4.690	4.687	4.690	4.681	*	0.001
2.	2.630	2.637	2.630	2.634	*	0.011
3.	0.000	0.012	0.000	0.003	*	0.013
4.	0.100	0.003	0.100	0.000	*	0.006
5.	0.714	0.721	0.714	0.712	*	0.008
6.	0.300	0.290	7.100	7.081	*	0.131
7.	0.000	0.000	0.000	0.000	*	0.106

Ld	Vs Max	Vs Min	Vs-1 Rd	Vs-2 Rd	Vn Max	Vn Read

1.	5.350	4.750	5.054	5.052	*	0.009
2.	3.465	3.130	3.359	3.348	*	0.005
3.	5.350	2.400	5.019	5.006	*	0.009
4.	13.200	10.800	12.268	12.262	*	0.009
5.	5.350	4.750	5.069	5.061	*	0.007
6.	12.650	11.400	12.356	12.225	*	0.063
7.	12.650	11.400	12.325	12.218	*	0.053

SEQ.12: Dynamic Test (10.2&17A10KHZ 12V) ---------- PASS

Vin = 115.000 Fin = 60.0 Delay Time = 1.000 Meas. Time = 1.000

	Load Name	MODE	Ifs	Vfs	Meas.	Noise Filter	Von	BITS
1.	5V	I	50	10	UUT	20M	3.500	0000
2.	3.3V	I	50	10	UUT	20M	2.100	0000
3.	PG	I	50	10	UUT	20M	0.000	0000
4.	-12V	I	20	100	UUT	20M	8.000	0000
5.	5VS	I	50	10	UUT	20M	3.500	0000
6.	12V	I	50	100	UUT	20M	8.000	0000
7.	12V	I	50	100	UUT	20M	8.000	0000

Ld	Period-1	Period-2	Rise	Fall	Vpp Max	Vpp Min	Vpp Read
1.	0.100	0.100	1.000	1.000	*	*	0.064
2.	0.100	0.100	1.000	1.000	*	*	0.028
3.	0.100	0.100	1.000	1.000	*	*	0.145
4.	0.100	0.100	1.000	1.000	*	*	0.041
5.	0.100	0.100	1.000	1.000	*	*	0.050
6.	0.100	0.100	1.000	1.000	*	*	0.204
7.	0.100	0.100	1.000	1.000	*	*	0.224

Ld	I/R-1	Reading	I/R-2	Reading	dV Max	dV Read
1.	4.690	4.684	4.690	4.684	*	0.013
2.	2.630	2.631	2.630	2.634	*	0.011
3.	0.000	0.012	0.000	0.006	*	0.028
4.	0.100	0.000	0.100	0.000	*	0.031
5.	0.714	0.718	0.714	0.715	*	0.010
6.	10.200	10.181	17.000	16.962	*	0.125
7.	0.000	0.003	0.000	0.000	*	0.131

Ld	Vs Max	Vs Min	Vs-1 Rd	Vs-2 Rd	Vn Max	Vn Read
1.	5.350	4.750	5.133	5.120	*	0.007
2.	3.465	3.130	3.350	3.338	*	0.004
3.	5.350	2.400	5.064	5.093	*	0.007
4.	13.200	10.800	12.300	12.268	*	0.008
5.	5.350	4.750	5.137	5.127	*	0.006
6.	12.600	11.400	12.137	12.012	*	0.063
7.	12.600	11.400	12.143	12.012	*	0.053

SEQ.13: Dynamic Test (5V3.3V5VSMIN/10KZ) ---------- PASS

Vin = 115.000 Fin = 60.0 Delay Time = 1.000 Meas. Time = 1.000

	Load Name	MODE	Ifs	Vfs	Meas.	Noise Filter	Von	BITS
1.	5V	I	50	10	UUT	20M	3.500	0000
2.	3.3V	I	50	10	UUT	20M	2.100	0000
3.	PG	I	50	10	UUT	20M	0.000	0000
4.	-12V	I	20	100	UUT	20M	8.000	0000
5.	5VS	I	50	10	UUT	20M	3.500	0000
6.	12V	I	50	100	UUT	20M	8.000	0000
7.	12V	I	50	100	UUT	20M	8.000	0000

Ld	Period-1	Period-2	Rise	Fall	Vpp Max	Vpp Min	Vpp Read
1.	0.100	0.100	1.000	1.000	*	*	0.161
2.	0.100	0.100	1.000	1.000	*	*	

0.507

3.	0.100	0.100	1.000	1.000	*	*

0.223

4.	0.100	0.100	1.000	1.000	*	*

0.111

5.	0.100	0.100	1.000	1.000	*	*

0.098

6.	0.100	0.100	1.000	1.000	*	*

0.172

7.	10.000	10.000	0.500	0.500	*	*

0.217

Ld	I/R-1	Reading	I/R-2	Reading	dV Max	dV Read
1.	0.100	0.100	7.600	7.596	*	0.125
2.	0.100	0.112	6.100	6.115	*	0.221
3.	0.000	0.012	0.000	0.006	*	0.052
4.	0.000	0.000	0.100	0.000	*	0.075
5.	0.500	0.506	1.100	1.109	*	0.092
6.	7.440	7.412	7.440	7.415	*	0.025
7.	0.000	0.000	0.000	0.000	*	0.018

Ld	Vs Max	Vs Min	Vs-1 Rd	Vs-2 Rd	Vn Max	Vn Read
1.	5.500	4.500	5.155	5.030	*	0.041
2.	3.630	2.970	3.453	3.231	*	0.112
3.	5.350	2.400	5.080	5.027	*	0.020
4.	13.200	10.800	12.312	12.237	*	0.025
5.	5.500	4.500	5.146	5.053	*	0.022
6.	12.600	11.400	12.187	12.162	*	0.046
7.	12.600	11.400	12.237	12.218	*	0.043

SEQ.14: Dynamic Test (5V3.3V5VSMAX) ---------- PASS

Vin = 115.000 Fin = 60.0 Delay Time = 1.000 Meas. Time = 1.000

Load	Name	MODE	Ifs	Vfs	Meas.	Noise Filter	Von	BITS
1.	5V	I	50	10	UUT	20M	3.500	0000

2.	3.3V	I	50	10	UUT	20M	2.100	0000
3.	PG	I	50	10	UUT	20M	0.000	0000
4.	-12V	I	20	100	UUT	20M	8.000	0000
5.	5VS	I	50	10	UUT	20M	3.500	0000
6.	12V	I	50	100	UUT	20M	8.000	0000
7.	12V	I	50	100	UUT	20M	8.000	0000

Ld	Period-1	Period-2	Rise	Fall	Vpp Max	Vpp Min	Vpp Read
1.	10.000	10.000	1.000	1.000	*	*	0.320
2.	10.000	10.000	1.000	1.000	*	*	0.311
3.	10.000	10.000	1.000	1.000	*	*	0.333
4.	10.000	10.000	1.000	1.000	*	*	0.101
5.	10.000	10.000	1.000	1.000	*	*	0.268
6.	10.000	10.000	1.000	1.000	*	*	0.105
7.	10.000	10.000	0.500	0.500	*	*	0.147

Ld	I/R-1	Reading	I/R-2	Reading	dV Max	dV Read
1.	7.500	7.496	15.000	14.993	*	0.081
2.	6.000	6.009	12.000	12.009	*	0.066
3.	0.000	0.009	0.000	0.003	*	0.005
4.	0.000	0.000	0.100	0.003	*	0.043
5.	1.000	1.003	2.000	2.006	*	0.070
6.	2.890	2.868	2.890	2.875	*	0.006
7.	0.000	0.000	0.000	0.003	*	0.043

Ld	Vs Max	Vs Min	Vs-1 Rd	Vs-2 Rd	Vn Max	Vn Read
1.	5.500	4.500	4.949	4.867	*	0.055
2.	3.465	2.970	3.326	3.260	*	0.034
3.	5.350	2.400	4.888	4.894	*	0.050
4.	13.200	10.800	12.325	12.281	*	0.006
5.	5.500	4.500	4.978	4.907	*	0.046

6.	12.600	11.400	12.456	12.462	*	0.016
7.	12.600	11.400	12.468	12.425	*	0.015

SEQ.15: Combine Regulation Test (COMBINE LV) ---------- PASS

Vin Port-1 = 3 Vin Port-2 = 3 Vin Port-3 = 3
Vin-1 = 90.000 Vin-2 = 100.000 Vin-3 = 115.000
Fac = 47.0 Fac-2 = 60.0 Fac-3 = 63.0
Delay Time = 0.500 Meas. Time = 0.500

	Load Name	MODE	Ifs	Vfs	Meas.	Vdc Filter	Noise Filter	Von
1.	5V	I	50	10	UUT	300	20M	3.500
2.	3.3V	I	50	10	UUT	300	20M	2.100
3.	PG	I	50	10	UUT	300	20M	0.000
4.	-12V	I	20	100	UUT	300	20M	8.000
5.	5VS	I	50	10	UUT	300	20M	3.500
6.	12V	I	50	100	UUT	300	20M	8.000
7.	12V	I	50	100	UUT	300	20M	8.000

Ld	BITS-1	BITS-2	BITS-3	SLEW Rate	I/R-1	I/R-2	I/R-3
1.	0000	0000	0000	0.010	0.100	4.210	4.230
2.	0000	0000	0000	0.010	0.000	3.610	6.400
3.	0000	0000	0000	0.010	0.000	0.000	0.000
4.	0000	0000	0000	0.010	0.000	0.120	0.100
5.	0000	0000	0000	0.010	0.000	0.820	0.500
6.	0000	0000	0000	0.010	0.150	3.605	8.500
7.	0000	0000	0000	0.010	0.150	3.605	8.500

Ld	Vdc Max	Vdc Min	Vdc-1 RD	Vdc-2 RD	Vdc-3 RD
1.	5.250	4.750	5.025	5.086	5.118

2.	3.465	3.130	3.388	3.343	3.310
3.	5.250	2.400	4.983	5.044	5.069
4.	13.200	10.800	12.250	12.256	12.275
5.	5.250	4.750	5.029	5.090	5.133
6.	12.600	11.400	12.481	12.193	12.068
7.	12.600	11.400	12.481	12.162	11.987

Ld	Vpp Max	Vpp Min	Vpp-1 RD	Vpp-2 RD	Vpp-3 RD
1.	0.050	*	0.028	0.017	0.028
2.	0.050	*	0.008	0.010	0.016
3.	*	*	0.115	0.172	0.161
4.	0.120	*	0.008	0.022	0.023
5.	0.050	*	0.018	0.009	0.018
6.	0.120	*	0.039	0.058	0.079
7.	*	*	0.085	0.114	0.130

Ld	dV(+) Max	dV(-) Max	dV-21 RD	dV-31 RD
1.	*	*	0.060	0.092
2.	*	*	-0.044	-0.078
3.	*	*	0.061	0.086
4.	*	*	0.006	0.025
5.	*	*	0.061	0.103
6.	*	*	-0.287	-0.412
7.	*	*	-0.318	-0.493

Ld	Vn Max	Vn-1 Read	Vn-2 Read	Vn-3 Read
1.	*	0.004	0.002	0.004
2.	*	0.000	0.000	0.001
3.	*	0.003	0.002	0.004
4.	*	0.005	0.005	0.005
5.	*	0.003	0.001	0.003
6.	*	0.006	0.009	0.013
7.	*	0.006	0.007	0.010

SEQ.16: Input/Output Test (20% LOAD EFF&115V) ---------- PASS

Vin = 115.000 Fin = 60.0 Delay Time = 4.000 Meas. Time =

1.000

Load Name	MODE	Ifs	Vfs	Meas.	BITS	Vdc Filter	Noise Filter	Von
1. 5V	I	50	10	UUT	0000	300	20M	3.500
2. 3.3V	I	50	10	UUT	0000	300	20M	2.100
3. PG	I	50	10	UUT	0000	300	20M	0.000
4. -12V	I	20	100	UUT	0000	300	20M	8.000
5. 5VS	I	50	10	UUT	0000	300	20M	3.500
6. 12V	I	50	100	UUT	0000	300	20M	8.000
7. 12V	I	50	100	UUT	0000	300	20M	8.000

	Max	Min	Reading		Max	Min	Reading
Iinrms	*	*	0.59300	Iinpk+	*	*	1.87500
Pin	*	*	57.2180	Iinpk-			1.84700
Pdc	*	*	50.626	Pf	*	*	0.842
Eff	98.000	87.000	88.479	Vin	*	*	114.500

Ld	RISE	I/R	Idc Max	Idc Min	Idc Read	Vn Max	Vn Read
1.	0.100	1.880	*	*	1.875	*	0.001
2.	0.100	1.050	*	*	1.050	*	0.000
3.	0.100	0.000	*	*	0.000	*	0.001

4.	0.100	0.020	*	*	0.000	* 0.005
5.	0.100	0.330	*	*	0.321	* 0.000
6.	0.100	2.970	*	*	2.950	* 0.007
7.	0.100	0.000	*	*	0.000	* 0.007

Ld	Vdc Max	Vdc Min	Vdc Read	Vpp Max	Vpp Min	Vpp Read
1.	5.250	4.750	5.145	0.050	*	0.011
2.	3.465	3.130	3.373	0.050	*	0.006
3.	5.250	2.400	5.102	*	*	0.118
4.	13.200	10.800	12.256	0.120	*	0.008
5.	5.250	4.750	5.150	0.050	*	0.005
6.	12.600	11.400	12.131	0.120	*	0.033
7.	12.600	11.400	12.125	*	*	0.085

SEQ.17: Input/Output Test (50% LOAD EFF&115V) ---------- PASS

Vin = 115.000 Fin = 60.0 Delay Time = 3.000 Meas. Time = 1.000

	Load Name	MODE	Ifs	Vfs	Meas.	BITS	Vdc Filter	Noise Filter	Von
1.	5V	I	50	10	UUT	0000	300	20M	3.500
2.	3.3V	I	50	10	UUT	0000	300	20M	2.100
3.	PG	I	50	10	UUT	0000	300	20M	0.000
4.	-12V	I	20	100	UUT	0000	300	20M	8.000
5.	5VS	I	50	10	UUT	0000	300	20M	3.500
6.	12V	I	50	100	UUT	0000	300	20M	8.000

7. 12V I 50 100 UUT 0000 300 20M 8.000

	Max	Min	Reading		Max	Min	Reading
Iinrms	*	*	1.26100	Iinpk+	*	*	3.21300
Pin	*	*	140.5000	Iinpk-			3.34600
Pdc	*	*	125.088	Pf	*	*	0.974
Eff	98.000	88.500	89.031	Vin	*	*	114.300

Ld	RISE	I/R	Idc Max	Idc Min	Idc Read	Vn Max	Vn Read
1.	0.100	3.900	*	*	3.893	*	0.002
2.	0.100	3.350	*	*	3.353	*	0.000
3.	0.100	0.000	*	*	0.000	*	0.002
4.	0.100	0.170	*	*	0.000	*	0.005
5.	0.100	0.870	*	*	0.862	*	0.000
6.	0.100	3.710	*	*	3.687	*	0.009
7.	0.100	3.710	*	*	3.690	*	0.008

Ld	Vdc Max	Vdc Min	Vdc Read	Vpp Max	Vpp Min	Vpp Read
1.	5.250	4.750	5.098	0.050	*	0.017
2.	3.465	3.130	3.346	0.050	*	0.010
3.	5.250	2.400	5.055	*	*	0.159
4.	13.200	10.800	12.250	0.120	*	0.018
5.	5.250	4.750	5.097	0.050	*	0.008
6.	12.600	11.400	12.175	0.120	*	0.056

7. 12.600 11.400 12.125 * * 0.110

SEQ.18: Input/Output Test (100% LOAD EFF&115V 87%>85%) ---------- PASS

Vin = 115.000 Fin = 60.0 Delay Time = 3.000 Meas. Time = 1.000

	Load Name	MODE	Ifs	Vfs	Meas.	BITS	Vdc Filter	Noise Filter	Von
1.	5V	I	50	10	UUT	0000	300	20M	3.500
2.	3.3V	I	50	10	UUT	0000	300	20M	2.100
3.	PG	I	50	10	UUT	0000	300	20M	0.000
4.	-12V	I	20	100	UUT	0000	300	20M	8.000
5.	5VS	I	50	10	UUT	0000	300	20M	3.500
6.	12V	I	50	100	UUT	0000	300	20M	8.000
7.	12V	I	50	100	UUT	0000	300	20M	8.000

	Max	Min	Reading		Max	Min	Reading
Iinrms	6.00000	*	2.54100	Iinpk+	*	*	4.43800
Pin	*	*	287.3120	Iinpk-			4.52800
Pdc	*	*	250.429	Pf	*	*	0.992
Eff	98.000	86.000	87.163	Vin	*	*	113.975

Ld	RISE	I/R	Idc Max	Idc Min	Idc Read	Vn Max	Vn Read

1.	0.100	7.810	*	*	7.793	*	0.005
2.	0.100	6.690	*	*	6.687	*	0.002
3.	0.100	0.000	*	*	0.003	*	0.006
4.	0.100	0.170	*	*	0.000	*	0.005
5.	0.100	1.750	*	*	1.750	*	0.003
6.	0.100	7.420	*	*	7.400	*	0.017
7.	0.100	7.420	*	*	7.403	*	0.016

Ld	Vdc Max	Vdc Min	Vdc Read	Vpp Max	Vpp Min	Vpp Read
1.	5.250	4.750	5.008	0.050	*	0.032
2.	3.465	3.130	3.303	0.050	*	0.020
3.	5.250	2.400	4.966	*	*	0.249
4.	13.200	10.800	12.268	0.120	*	0.029
5.	5.250	4.750	5.004	0.050	*	0.020
6.	12.600	11.400	12.256	0.120	*	0.101
7.	12.600	11.400	12.137	*	*	0.148

SEQ.19: OLP Test (5V OCP) ---------- PASS

Vin = 100.000 Fin = 60.0 Test on LOAD : 1

Delay Time = 2.000 Step Time = 0.500 UUT OFF Time = 2.000

I/R Start = 19.000 I/R End = 50.000 I/R Step = 1.000

I/R Recovery = 1.000 Volp = 3.500 Vrec = *

Load	Name	MODE	Ifs	Vfs	Meas.	BITS	Von	Rise I/R
1.	5V	I	50	10	UUT	0000	3.500	0.100

19.000
2. 3.3V I 50 10 UUT 0000 2.100 0.100
0.000
3. PG I 50 10 UUT 0000 0.000 0.100
0.000
4. -12V I 20 100 UUT 0000 8.000 0.100
0.000
5. 5VS I 50 10 UUT 0000 3.500 0.100
0.000
6. 12V I 50 100 UUT 0000 8.000 0.100
0.000
7. 12V I 50 100 UUT 0000 8.000 0.100
0.000

	Max	Min	Reading
Trip Point	49.000	20.000	26.000
Trip Time	*	*	25.391
Recovery Time	*	*	-----

SEQ.20: Extended Measurement Test (BUFF) ---------- PASS

Vin = 0.000 Fin = 60.0 Delay Time = 3.000

Load Name MODE Ifs Vfs Meas. Von BITS Slew Rate
I/R
1. 5V I 50 10 UUT 0.000 0000 0.100
10.400
2. 3.3V I 50 10 UUT 0.000 0000 0.100
10.000
3. PG I 50 10 UUT 0.000 0000 0.100
0.000
4. -12V I 20 100 UUT 0.000 0000 0.100
0.300
5. 5VS I 50 10 UUT 0.000 0000 0.100
2.000
6. 12V I 50 100 UUT 0.000 0000 0.100
10.500

7. 12V I 50 100 UUT 0.000 0000 0.100 0.000

Ld	Vdc Max	Vdc Min	Vdc Read
1.	*	*	0.000
2.	*	*	0.000
3.	*	*	0.001
4.	*	*	0.000
5.	*	*	0.000
6.	*	*	0.000
7.	*	*	0.000

Relay status: Pre value-1 = 00 Pre value-2 = 00
Relay status: Post value-1 = 00 Post value-2 = 00
TTL status : Pre value-1 = 0000 Pre value-2 = 0008
TTL status : Post value-1 = 0000 Post value-2 = 0008
Change state delay: For relay = 0.500 For TTL = 0.500

Test No.	Test Name	Port	Meas. Type	Spec. Max	Spec. Min	Meas. Read
1.		*	DC	*	*	-----
2.		*	DC	*	*	-----
3.		*	DC	*	*	-----
4.		*	DC	*	*	-----
5.		*	DC	*	*	-----
6.		*	DC	*	*	-----
7.		*	DC	*	*	-----
8.		*	DC	*	*	-----
9.		*	DC	*	*	-----
10.		*	DC	*	*	-----

SEQ.21: OLP Test (3.3V OCP) ---------- PASS

Vin = 100.000 Fin = 60.0 Test on LOAD : 2
Delay Time = 2.000 Step Time = 0.500 UUT OFF Time = 2.000
I/R Start = 17.000 I/R End = 30.000 I/R Step = 0.500

I/R Recovery = 1.000 Volp = 1.000 Vrec =
*

Load Name	MODE	Ifs	Vfs	Meas.	BITS	Von	Rise	I/R
1. 5V	I	50	10	UUT	0000	3.500	0.100	0.500
2. 3.3V	I	50	100	UUT	0000	2.100	0.100	17.000
3. PG	I	50	10	UUT	0000	0.000	0.100	0.000
4. -12V	I	20	100	UUT	0000	8.000	0.100	0.000
5. 5VS	I	50	10	UUT	0000	3.500	0.100	0.000
6. 12V	I	50	100	UUT	0000	8.000	0.100	0.000
7. 12V	I	50	100	UUT	0000	8.000	0.100	0.500

	Max	Min	Reading
Trip Point	29.000	18.000	29.000
Trip Time	*	*	25.614
Recovery Time	*	*	-----

SEQ.22: Extended Measurement Test (BUFF) ---------- PASS

Vin = 0.000 Fin = 60.0 Delay Time = 1.000

Load Name	MODE	Ifs	Vfs	Meas.	Von	BITS	Slew Rate	I/R
1. 5V	I	50	10	UUT	0.000	0000	0.100	10.400
2. 3.3V	I	50	10	UUT	0.000	0000	0.100	10.000
3. PG	I	50	10	UUT	0.000	0000	0.100	0.000

4.	-12V	I	20	100	UUT	0.000	0000	0.100	0.300
5.	5VS	I	50	10	UUT	0.000	0000	0.100	2.000
6.	12V	I	50	100	UUT	0.000	0000	0.100	10.500
7.	12V	I	50	100	UUT	0.000	0000	0.100	0.000

Ld	Vdc Max	Vdc Min	Vdc Read
1.	*	*	0.000
2.	*	*	0.000
3.	*	*	0.001
4.	*	*	0.000
5.	*	*	0.000
6.	*	*	0.000
7.	*	*	0.000

Relay status: Pre value-1 = 00 Pre value-2 = 00
Relay status: Post value-1 = 00 Post value-2 = 00
TTL status : Pre value-1 = 0000 Pre value-2 = 0008
TTL status : Post value-1 = 0000 Post value-2 = 0008
Change state delay: For relay = 0.500 For TTL = 0.500

Test No.	Test Name	Port	Meas. Type	Spec. Max	Spec. Min	Meas. Read	
1.		*	DC	*	*	-----	
2.		*	DC	*	*	-----	
3.		*	DC	*	*	-----	
4.		*	DC	*	*	-----	
5.		*	DC	*	*	-----	
6.		*	DC	*	*	-----	
7.		*	DC	*	*	-----	
8.		*	DC	*	*	-----	
9.		*	DC	*	*	-----	
10.		*	DC	*	*	-----	

SEQ.23: OLP Test (12V OCP) ---------- PASS

Vin = 100.000 Fin = 60.0 Test on LOAD : 6

Delay Time = 2.000 Step Time = 0.100 UUT OFF Time = 2.000

I/R Start = 10.000 I/R End = 31.000 I/R Step = 1.000

I/R Recovery = 1.000 Volp = 8.000 Vrec = *

Load Name	MODE	Ifs	Vfs	Meas.	BITS	Von	Rise	I/R
1. 5V	I	50	10	UUT	0000	3.500	0.100	5.000
2. 3.3V	I	50	10	UUT	0000	2.100	0.100	0.000
3. PG	I	50	10	UUT	0000	0.000	0.100	0.000
4. -12V	I	20	100	UUT	0000	8.000	0.100	0.000
5. 5VS	I	50	10	UUT	0000	3.500	0.100	0.000
6. 12V	I	50	100	UUT	0000	8.000	0.100	10.000
7. 12V	I	50	100	UUT	0000	8.000	0.100	10.000

	Max	Min	Reading
Trip Point	30.000	12.000	21.000
Trip Time	*	*	78.885
Recovery Time	*	*	-----

SEQ.24: Set Up Function (230V) ---------- PASS

Vin_Port (1-4) = 3 Vin type = AC

ON Phase (mS) = 0.000 OFF Phase = 0.000

Setup off(Sec) = 2.000 PAUSE function= N

Display Message= PLEASE PRESS ENTER

Relay status: Pre value-1 = 00 Pre value-2 = 00
TTL status : Pre value-1 = 0000 Pre value-2 = 0008
Change state delay: For relay = 0.000 For TTL = 0.000
Ext. device GPIB address = * GPIB EOS byte = 1
Message for ext. device = V10

	Load Name	MODE	Ifs	Vfs	Meas	BITS
1.	5V	I	50	10	UUT	0000
2.	3.3V	I	50	10	UUT	0000
3.	PG	I	50	10	UUT	0000
4.	-12V	I	20	100	UUT	0000
5.	5VS	I	50	10	UUT	0000
6.	12V	I	50	100	UUT	0000
7.	12V	I	50	100	UUT	0000

SEQ.25: Dynamic Test (0.3$7.1A50HZ 12V) ---------- PASS

Vin = 230.000 Fin = 50.0 Delay Time = 1.000 Meas. Time = 1.000

	Load Name	MODE	Ifs	Vfs	Meas.	Noise Filter	Von	BITS
1.	5V	I	50	10	UUT	20M	3.500	0000
2.	3.3V	I	50	10	UUT	20M	2.100	0000
3.	PG	I	50	10	UUT	20M	0.000	0000
4.	-12V	I	20	100	UUT	20M	8.000	0000
5.	5VS	I	50	10	UUT	20M	3.500	0000
6.	12V	I	50	100	UUT	20M	8.000	0000
7.	12V	I	50	100	UUT	20M	8.000	0000

Ld	Period-1	Period-2	Rise	Fall	Vpp Max	Vpp Min	Vpp Read
1.	10.000	10.000	1.000	1.000	*	*	0.124
2.	10.000	10.000	1.000	1.000	*	*	0.051
3.	10.000	10.000	1.000	1.000	*	*	0.238

4.	10.000	10.000	1.000	1.000	*	*	0.037
5.	10.000	10.000	1.000	1.000	*	*	0.108
6.	10.000	10.000	1.000	1.000	*	*	0.514
7.	10.000	10.000	1.000	1.000	*	*	0.525

Ld	I/R-1	Reading	I/R-2	Reading	dV Max	dV Read
1.	4.690	4.681	4.690	4.681	*	0.123
2.	2.630	2.634	2.630	2.634	*	0.000
3.	0.000	0.009	0.000	0.006	*	0.053
4.	0.100	0.003	0.100	0.003	*	0.025
5.	0.714	0.715	0.714	0.718	*	0.054
6.	0.300	0.293	7.100	7.087	*	0.293
7.	0.000	0.000	0.000	0.000	*	0.143

Ld	Vs Max	Vs Min	Vs-1 Rd	Vs-2 Rd	Vn Max	Vn Read
1.	5.350	4.750	4.958	5.082	*	0.040
2.	3.465	3.130	3.357	3.358	*	0.008
3.	5.350	2.400	4.981	5.035	*	0.035
4.	13.200	10.800	12.287	12.262	*	0.008
5.	5.350	4.750	5.091	5.037	*	0.037
6.	12.650	11.400	12.493	12.200	*	0.115
7.	12.650	11.400	12.437	12.293	*	0.146

SEQ.26: Dynamic Test (10.2&17A50HZ 12V) ---------- PASS

Vin = 230.000 Fin = 50.0 Delay Time = 1.000 Meas. Time = 1.000

	Load Name	MODE	Ifs	Vfs	Meas.	Noise Filter	Von	BITS
1.	5V	I	50	10	UUT	20M	3.500	0000
2.	3.3V	I	50	10	UUT	20M	2.100	0000
3.	PG	I	50	10	UUT	20M	0.000	0000
4.	-12V	I	20	100	UUT	20M	8.000	0000

5.	5VS	I	50	10	UUT	20M	3.500	0000
6.	12V	I	50	100	UUT	20M	8.000	0000
7.	12V	I	50	100	UUT	20M	8.000	0000

Ld	Period-1	Period-2	Rise	Fall	Vpp Max	Vpp Min	Vpp Read
1.	10.000	10.000	1.000	1.000	*	*	0.066
2.	10.000	10.000	1.000	1.000	*	*	0.032
3.	10.000	10.000	1.000	1.000	*	*	0.148
4.	10.000	10.000	1.000	1.000	*	*	0.053
5.	10.000	10.000	1.000	1.000	*	*	0.061
6.	10.000	10.000	1.000	1.000	*	*	0.367
7.	10.000	10.000	1.000	1.000	*	*	0.376

Ld	I/R-1	Reading	I/R-2	Reading	dV Max	dV Read
1.	4.690	4.681	4.690	4.684	*	0.030
2.	2.630	2.637	2.630	2.637	*	0.011
3.	0.000	0.009	0.000	0.006	*	0.026
4.	0.100	0.003	0.100	0.003	*	0.018
5.	0.714	0.725	0.714	0.718	*	0.035
6.	10.200	10.190	17.000	16.981	*	0.131
7.	0.000	0.003	0.000	0.003	*	0.131

Ld	Vs Max	Vs Min	Vs-1 Rd	Vs-2 Rd	Vn Max	Vn Read
1.	5.350	4.750	5.111	5.141	*	0.012
2.	3.465	3.130	3.350	3.338	*	0.004
3.	5.350	2.400	5.066	5.093	*	0.011
4.	13.200	10.800	12.293	12.275	*	0.007
5.	5.350	4.750	5.120	5.155	*	0.011
6.	12.600	11.400	12.143	12.012	*	0.070
7.	12.600	11.400	12.143	12.012	*	0.083

SEQ.27: Dynamic Test (5V3.3V5VSMIN/50HZ) ---------- PASS

Vin = 230.000 Fin = 50.0 Delay Time = 2.000 Meas. Time = 1.000

	Load Name	MODE	Ifs	Vfs	Meas.	Noise Filter	Von	BITS
1.	5V	I	50	10	UUT	20M	3.500	0000
2.	3.3V	I	50	10	UUT	20M	2.100	0000
3.	PG	I	50	10	UUT	20M	0.000	0000
4.	-12V	I	20	100	UUT	20M	8.000	0000
5.	5VS	I	50	10	UUT	20M	3.500	0000
6.	12V	I	50	100	UUT	20M	8.000	0000
7.	12V	I	50	100	UUT	20M	8.000	0000

Ld	Period-1	Period-2	Rise	Fall	Vpp Max	Vpp Min	Vpp Read
1.	10.000	10.000	1.000	1.000	*	*	0.326
2.	10.000	10.000	1.000	1.000	*	*	0.321
3.	10.000	10.000	1.000	1.000	*	*	0.370
4.	10.000	10.000	0.100	0.100	*	*	0.092
5.	10.000	10.000	1.000	1.000	*	*	0.286
6.	10.000	10.000	1.000	1.000	*	*	0.835
7.	10.000	10.000	0.500	0.500	*	*	0.879

Ld	I/R-1	Reading	I/R-2	Reading	dV Max	dV Read
1.	0.100	0.100	7.600	7.596	*	0.241
2.	0.100	0.109	6.100	6.115	*	0.065
3.	0.000	0.009	0.000	0.006	*	0.203
4.	0.000	0.000	0.100	0.006	*	0.043
5.	0.100	0.096	1.100	1.106	*	0.219
6.	7.440	7.415	7.440	7.425	*	0.462

7.	0.000	0.003	0.000	0.003	*	0.343

Ld	Vs Max	Vs Min	Vs-1 Rd	Vs-2 Rd	Vn Max	Vn Read
1.	5.500	4.500	5.229	4.988	*	0.113
2.	3.630	2.970	3.381	3.316	*	0.035
3.	5.350	2.400	5.171	4.968	*	0.105
4.	13.200	10.800	12.306	12.262	*	0.006
5.	5.500	4.500	5.230	5.011	*	0.104
6.	12.600	11.400	11.925	12.387	*	0.180
7.	12.600	11.400	11.931	12.275	*	0.240

SEQ.28: Dynamic Test (5V3.3V5VSMAX50HZ) ---------- PASS

Vin = 230.000 Fin = 50.0 Delay Time = 2.000 Meas. Time = 1.000

	Load Name	MODE	Ifs	Vfs	Meas.	Noise Filter	Von	BITS
1.	5V	I	50	10	UUT	20M	3.500	0000
2.	3.3V	I	50	10	UUT	20M	2.100	0000
3.	PG	I	50	10	UUT	20M	0.000	0000
4.	-12V	I	20	100	UUT	20M	8.000	0000
5.	5VS	I	50	10	UUT	20M	3.500	0000
6.	12V	I	50	100	UUT	20M	8.000	0000
7.	12V	I	50	100	UUT	20M	8.000	0000

Ld	Period-1	Period-2	Rise	Fall	Vpp Max	Vpp Min	Vpp Read
1.	10.000	10.000	1.000	1.000	*	*	0.320
2.	10.000	10.000	1.000	1.000	*	*	0.325
3.	10.000	10.000	1.000	1.000	*	*	0.326
4.	10.000	10.000	1.000	1.000	*	*	0.103
5.	10.000	10.000	1.000	1.000	*	*	0.269
6.	10.000	10.000	1.000	1.000	*	*	

0.106

7. 10.000 10.000 0.500 0.500 * *
0.153

Ld	I/R-1	Reading	I/R-2	Reading	dV Max	dV Read
1.	7.500	7.496	15.000	15.000	*	0.077
2.	6.000	6.009	12.000	12.018	*	0.070
3.	0.000	0.009	0.000	0.006	*	0.071
4.	0.000	0.000	0.100	0.006	*	0.018
5.	1.000	1.003	2.000	2.003	*	0.070
6.	2.890	2.881	2.890	2.878	*	0.018
7.	0.000	0.003	0.000	0.000	*	0.025

Ld	Vs Max	Vs Min	Vs-1 Rd	Vs-2 Rd	Vn Max	Vn Read
1.	5.500	4.500	4.948	4.870	*	0.056
2.	3.465	2.970	3.325	3.255	*	0.034
3.	5.350	2.400	4.919	4.847	*	0.051
4.	13.200	10.800	12.312	12.293	*	0.006
5.	5.500	4.500	4.976	4.906	*	0.047
6.	12.600	11.400	12.443	12.462	*	0.016
7.	12.600	11.400	12.450	12.425	*	0.015

SEQ.29: Dynamic Test (0.3$7.1A10KHZ 12V) ---------- PASS

Vin = 230.000 Fin = 50.0 Delay Time = 1.000 Meas. Time =
1.000

Load	Name	MODE	Ifs	Vfs	Meas.	Noise Filter	Von	BITS
1.	5V	I	50	10	UUT	20M	3.500	0000
2.	3.3V	I	50	10	UUT	20M	2.100	0000
3.	PG	I	50	10	UUT	20M	0.000	0000
4.	-12V	I	20	100	UUT	20M	8.000	0000
5.	5VS	I	50	10	UUT	20M	3.500	0000
6.	12V	I	50	100	UUT	20M	8.000	0000
7.	12V	I	50	100	UUT	20M	8.000	0000

Ld	Period-1	Period-2	Rise	Fall	Vpp Max	Vpp Min	Vpp Read

1.	0.100	0.100	1.000	1.000	*	*
0.063						
2.	0.100	0.100	1.000	1.000	*	*
0.034						
3.	0.100	0.100	1.000	1.000	*	*
0.201						
4.	0.100	0.100	1.000	1.000	*	*
0.037						
5.	0.100	0.100	1.000	1.000	*	*
0.047						
6.	0.100	0.100	1.000	1.000	*	*
0.199						
7.	0.100	0.100	1.000	1.000	*	*
0.248						

Ld	I/R-1	Reading	I/R-2	Reading	dV Max	dV Read
1.	4.690	4.687	4.690	4.684	*	0.043
2.	2.630	2.631	2.630	2.628	*	0.013
3.	0.000	0.009	0.000	0.003	*	0.003
4.	0.100	0.000	0.100	0.000	*	0.000
5.	0.714	0.715	0.714	0.715	*	0.010
6.	0.300	0.287	7.100	7.078	*	0.137
7.	0.000	0.000	0.000	0.000	*	0.125

Ld	Vs Max	Vs Min	Vs-1 Rd	Vs-2 Rd	Vn Max	Vn Read
1.	5.350	4.750	5.030	5.073	*	0.009
2.	3.465	3.130	3.363	3.350	*	0.005
3.	5.350	2.400	5.018	5.015	*	0.009
4.	13.200	10.800	12.262	12.262	*	0.008
5.	5.350	4.750	5.070	5.060	*	0.007
6.	12.650	11.400	12.350	12.212	*	0.063
7.	12.650	11.400	12.331	12.206	*	0.053

SEQ.30: Dynamic Test (10.2&17A10KHZ 12V) ---------- PASS

Vin = 230.000 Fin = 50.0 Delay Time = 1.000 Meas. Time = 1.000

	Load Name	MODE	Ifs	Vfs	Meas.	Noise Filter	Von	BITS
1.	5V	I	50	10	UUT	20M	3.500	0000
2.	3.3V	I	50	10	UUT	20M	2.100	0000
3.	PG	I	50	10	UUT	20M	0.000	0000
4.	-12V	I	20	100	UUT	20M	8.000	0000
5.	5VS	I	50	10	UUT	20M	3.500	0000
6.	12V	I	50	100	UUT	20M	8.000	0000
7.	12V	I	50	100	UUT	20M	8.000	0000

Ld	Period-1	Period-2	Rise	Fall	Vpp Max	Vpp Min	Vpp Read
1.	0.100	0.100	1.000	1.000	*	*	0.062
2.	0.100	0.100	1.000	1.000	*	*	0.028
3.	0.100	0.100	1.000	1.000	*	*	0.144
4.	0.100	0.100	1.000	1.000	*	*	0.039
5.	0.100	0.100	1.000	1.000	*	*	0.050
6.	0.100	0.100	1.000	1.000	*	*	0.200
7.	0.100	0.100	1.000	1.000	*	*	0.229

Ld	I/R-1	Reading	I/R-2	Reading	dV Max	dV Read
1.	4.690	4.681	4.690	4.684	*	0.002
2.	2.630	2.634	2.630	2.625	*	0.010
3.	0.000	0.012	0.000	0.006	*	0.005
4.	0.100	0.003	0.100	0.000	*	0.031
5.	0.714	0.721	0.714	0.709	*	0.006
6.	10.200	10.178	17.000	16.971	*	0.168
7.	0.000	0.003	0.000	0.000	*	0.106

Ld	Vs Max	Vs Min	Vs-1 Rd	Vs-2 Rd	Vn Max	Vn Read
1.	5.350	4.750	5.121	5.119	*	0.008
2.	3.465	3.130	3.347	3.337	*	0.004

3.	5.350	2.400	5.080	5.074	*	0.008
4.	13.200	10.800	12.287	12.256	*	0.008
5.	5.350	4.750	5.138	5.131	*	0.006
6.	12.600	11.400	12.156	11.987	*	0.062
7.	12.600	11.400	12.125	12.018	*	0.052

SEQ.31: Dynamic Test (5V3.3V5VSMIN/10KHZ) ---------- PASS

Vin = 230.000 Fin = 50.0 Delay Time = 1.000 Meas. Time = 1.000

	Load Name	MODE	Ifs	Vfs	Meas.	Noise Filter	Von	BITS
1.	5V	I	50	10	UUT	20M	3.500	0000
2.	3.3V	I	50	10	UUT	20M	2.100	0000
3.	PG	I	50	10	UUT	20M	0.000	0000
4.	-12V	I	20	100	UUT	20M	8.000	0000
5.	5VS	I	50	10	UUT	20M	3.500	0000
6.	12V	I	50	100	UUT	20M	8.000	0000
7.	12V	I	50	100	UUT	20M	8.000	0000

Ld	Period-1	Period-2	Rise	Fall	Vpp Max	Vpp Min	Vpp Read
1.	0.100	0.100	1.000	1.000	*	*	0.165
2.	0.100	0.100	1.000	1.000	*	*	0.492
3.	0.100	0.100	1.000	1.000	*	*	0.227
4.	0.100	0.100	1.000	1.000	*	*	0.108
5.	0.100	0.100	1.000	1.000	*	*	0.088
6.	0.100	0.100	1.000	1.000	*	*	0.172
7.	10.000	10.000	0.500	0.500	*	*	0.227

Ld	I/R-1	Reading	I/R-2	Reading	dV Max	dV Read

1.	0.100	0.084	7.600	7.606	*	0.136
2.	0.100	0.109	6.100	6.112	*	0.226
3.	0.000	0.012	0.000	0.006	*	0.031
4.	0.000	0.000	0.100	0.000	*	0.068
5.	0.500	0.500	1.100	1.106	*	0.078
6.	7.440	7.412	7.440	7.418	*	0.093
7.	0.000	0.000	0.000	0.000	*	0.012

Ld	Vs Max	Vs Min	Vs-1 Rd	Vs-2 Rd	Vn Max	Vn Read
1.	5.500	4.500	5.166	5.029	*	0.042
2.	3.630	2.970	3.458	3.231	*	0.113
3.	5.350	2.400	5.073	5.042	*	0.022
4.	13.200	10.800	12.306	12.237	*	0.024
5.	5.500	4.500	5.137	5.059	*	0.020
6.	12.600	11.400	12.225	12.131	*	0.045
7.	12.600	11.400	12.225	12.212	*	0.042

SEQ.32: Dynamic Test (5V3.3V5VSMAX10KHZ) ---------- PASS

Vin = 230.000 Fin = 50.0 Delay Time = 1.000 Meas. Time = 1.000

	Load Name	MODE	Ifs	Vfs	Meas.	Noise Filter	Von	BITS
1.	5V	I	50	10	UUT	20M	3.500	0000
2.	3.3V	I	50	10	UUT	20M	2.100	0000
3.	PG	I	50	10	UUT	20M	0.000	0000
4.	-12V	I	20	100	UUT	20M	8.000	0000
5.	5VS	I	50	10	UUT	20M	3.500	0000
6.	12V	I	50	100	UUT	20M	8.000	0000
7.	12V	I	50	100	UUT	20M	8.000	0000

Ld	Period-1	Period-2	Rise	Fall	Vpp Max	Vpp Min	Vpp Read
1.	10.000	10.000	1.000	1.000	*	*	0.314
2.	10.000	10.000	1.000	1.000	*	*	0.317
3.	10.000	10.000	1.000	1.000	*	*	

0.320

4.	10.000	10.000	1.000	1.000	*	*

0.087

5.	10.000	10.000	1.000	1.000	*	*

0.262

6.	10.000	10.000	1.000	1.000	*	*

0.096

7.	10.000	10.000	0.500	0.500	*	*

0.173

Ld	I/R-1	Reading	I/R-2	Reading	dV Max	dV Read
1.	7.500	7.500	15.000	15.003	*	0.080
2.	6.000	6.009	12.000	12.012	*	0.059
3.	0.000	0.012	0.000	0.006	*	0.000
4.	0.000	0.000	0.100	0.003	*	0.050
5.	1.000	1.006	2.000	2.003	*	0.031
6.	2.890	2.871	2.890	2.881	*	0.018
7.	0.000	0.003	0.000	0.006	*	0.000

Ld	Vs Max	Vs Min	Vs-1 Rd	Vs-2 Rd	Vn Max	Vn Read
1.	5.500	4.500	4.949	4.868	*	0.056
2.	3.630	2.970	3.325	3.265	*	0.034
3.	5.350	2.400	4.879	4.878	*	0.051
4.	13.200	10.800	12.325	12.275	*	0.006
5.	5.500	4.500	4.958	4.927	*	0.047
6.	12.600	11.400	12.456	12.437	*	0.015
7.	12.600	11.400	12.450	12.450	*	0.016

SEQ.33: Combine Regulation Test (COMBINE HV) ---------- PASS

Vin Port-1 = 3 Vin Port-2 = 3 Vin Port-3 = 3
Vin-1 = 180.000 Vin-2 = 230.000 Vin-3 = 240.000
Fac = 50.0 Fac-2 = 60.0 Fac-3 = 63.0
Delay Time = 0.500 Meas. Time = 0.500

	Load Name	MODE	Ifs	Vfs	Meas.	Vdc Filter	Noise Filter	Von
1.	5V	I	50	10	UUT	300	20M	

3.500

2.	3.3V	I	50	10	UUT	300	20M
2.100							
3.	PG	I	50	10	UUT	300	20M
0.000							
4.	-12V	I	20	100	UUT	300	20M
8.000							
5.	5VS	I	50	10	UUT	300	20M
3.500							
6.	12V	I	50	100	UUT	300	20M
8.000							
7.	12V	I	50	100	UUT	300	20M
8.000							

Ld	BITS-1	BITS-2	BITS-3	SLEW Rate	I/R-1	I/R-2	I/R-3
1.	0000	0000	0000	0.010	0.100	4.210	4.230
2.	0000	0000	0000	0.010	0.000	3.610	6.400
3.	0000	0000	0000	0.010	0.000	0.000	0.000
4.	0000	0000	0000	0.010	0.000	0.050	0.100
5.	0000	0000	0000	0.010	0.000	0.820	0.500
6.	0000	0000	0000	0.010	0.150	3.605	8.500
7.	0000	0000	0000	0.010	0.150	3.605	8.500

Ld	Vdc Max	Vdc Min	Vdc-1 RD	Vdc-2 RD	Vdc-3 RD
1.	5.250	4.750	5.027	5.084	5.117
2.	3.465	3.130	3.388	3.343	3.309
3.	5.250	2.400	4.984	5.041	5.068
4.	13.200	10.800	12.250	12.262	12.268
5.	5.250	4.750	5.030	5.088	5.133
6.	12.600	11.400	12.481	12.200	12.068
7.	12.600	11.400	12.481	12.168	11.987

Ld	Vpp Max	Vpp Min	Vpp-1 RD	Vpp-2 RD	Vpp-3 RD
1.	0.050	*	0.027	0.017	0.026
2.	0.050	*	0.008	0.010	0.014
3.	*	*	0.113	0.172	0.162
4.	0.120	*	0.007	0.013	0.026
5.	0.050	*	0.017	0.010	0.017

6.	0.120	*	0.039	0.058	0.068
7.	*	*	0.106	0.145	0.155

Ld	dV(+) Max	dV(-) Max	dV-21 RD	dV-31 RD
1.	*	*	0.056	0.090
2.	*	*	-0.045	-0.079
3.	*	*	0.057	0.084
4.	*	*	0.012	0.018
5.	*	*	0.058	0.102
6.	*	*	-0.281	-0.412
7.	*	*	-0.312	-0.493

Ld	Vn Max	Vn-1 Read	Vn-2 Read	Vn-3 Read
1.	*	0.004	0.002	0.004
2.	*	0.000	0.000	0.001
3.	*	0.003	0.002	0.004
4.	*	0.005	0.005	0.005
5.	*	0.003	0.001	0.003
6.	*	0.006	0.009	0.012
7.	*	0.006	0.007	0.010

康舒科技
ACBEL POLYTECH INC.

Safety

Ref. Certif. No.

JPTUV-115428

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

CB TEST CERTIFICATE

Product	Switching Power Supply (Built-in type)
Name and address of the applicant	Acbel Polytech Inc. No. 159, Sec. 3, Danjin Rd. Tamsui Dist., New Taipei City 251 Taiwan
Name and address of the manufacturer	Acbel Polytech Inc. No. 159, Sec. 3, Danjin Rd. Tamsui Dist., New Taipei City 251 Taiwan
Name and address of the factory	See additional page(s)
Ratings and principal characteristics	AC Input : 100-240V, 50-60Hz, 4.0A; Class I DC Output: +3.3V/12.0A, +5.0V/14.0A, +12.0V/17.0A, -12.0V/0.2A, +5.0Vsb/2.0A +3.3V&+5.0V max. combined power 70W, Total max. power 250W.
Trademark (if any)	AcBel(Logo)
Customer's Testing Facility (CTF) Stage used	N/A
Model / Type Ref.	FLXA4251A, FSK003
Additional information (if necessary may also be reported on page 2)	For model differences, refer to the test report.
A sample of the product was tested and found to be in conformity with	IEC 62368-1:2014 See Test Report for National Differences
As shown in the Test Report Ref. No. which forms part of this Certificate	60415868 001

This CB Test Certificate is issued by the National Certification Body

TÜVRheinland®

TÜV Rheinland Japan Ltd.
Global Technology Assessment Center
4-25-2 Kita-Yamata, Tsuzuki-ku
Yokohama 224-0021, Japan
Phone + 81 45 914-3888
Fax + 81 45 914-3354
Mail: info@jpn.tuv.com
Web : www.tuv.com

Date: 2020-10-29

Signature:

Martin Wang

10/061 CB 06/20v9 rk

1. Acbel Polytech Inc.
   No. 159, Sec. 3, Danjin Rd.
   Tamsui Dist., New Taipei City 251
   Taiwan

2. Acbel Electronic (Dong Guan)
   Co., Ltd.
   No. 17-28, Horng Yeh Road, Horng
   Yeh Ind. District, Tang Xia Town
   Dongguan, Guangdong 523710, P.R. China

3. Acbel Polytech(Philippines) INC.
   No. 2 Tagaytay Ridge Drive,
   Carmelray Industrial Park II,
   Km. 54 National Highway,
   Calamba City, Laguna 4027, Philippines

4. ACBEL ELECTRONIC (WUHAN) CO., LTD
   No. 1, DuTai North Road
   Economic Development Zone
   XianTao City, HuBei Province
   P.R. China

Additional information (if necessary) Report Ref. No. : 60415868 001

Date: 2020-10-29 Signature: Martin Wang

CERTIFICATE OF COMPLIANCE

Certificate Number	UL-CA-2006191-0
Report Reference	E131875- A6075-UL
Date	9-Dec-2020
Issued to:	ACBEL POLYTECH INC No159 Sec 3 Danjin Rd TamSui District New Taipei Taiwan 251
This is to certify that representative samples of	QQJQ8 - Power Supplies for Use with Audio/Video, Information and Communication Technology Equipment Certified for Canada - Component See Addendum Page for Product Designation(s).
	Have been investigated by UL in accordance with the component requirements in the Standard(s) indicated on this Certificate. UL Recognized components are incomplete in certain constructional features or restricted in performance capabilities and are intended for installation in complete equipment submitted for investigation to UL LLC.
Standard(s) for Safety:	CSA C22.2 NO. 62368-1-14, 2nd Ed., Issue Date: 2014-12-01
Additional Information:	See the UL Online Certifications Directory at https://iq.ulprospector.com for additional information

This *Certificate of Compliance* does not provide authorization to apply the UL Recognized Component Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Recognized Component Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Recognized Component Mark on the product.

Bruce Mahrenholz, Director North American Certification Program

UL LLC

CERTIFICATE OF COMPLIANCE

Certificate Number	UL-CA-2006191-0
Report Reference	E131875- A6075-UL
Date	9-Dec-2020

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements

Model	Category Description
FLXA4251A	Switching Power Supply
FSK003	Switching Power Supply

Bruce Mahrenholz, Director North American Certification Program

UL LLC

TÜV Rheinland (China) Ltd.
Member of TÜV Rheinland Group

TÜVRheinland®
Precisely Right.

Acbel Polytech Inc.
Mr. Howard Lin Safety Engineer
Safety. DQ Dept.
No. 159, Sec. 3, Danjin Rd.
Tamsui Dist., New Taipei City 251
Taiwan

Date : 29.10.2020
Our ref. : BEZ 05
Your ref.: 170252017

Ref : R TÜV-Mark Approval

Type of Equipment : Switching Power Supply (Built-in type)
Model Designation : See Certificate
Certificate No. : R 50484684 0001
Report No. : 60415869 001

Dear Mr. Howard Lin,

The above specified technical equipment has been tested and found to be in accordance with the relevant requirements.

Enclosed you will find the certificate of approval.

If cancellation of the certificate is submitted by November 15 in a given year, no fee will be charged for the following year.

We appreciate your kind support and would like to offer our assistance and continuous services in the future.

Please contact our office for approval of your new products.

With kind regards,

Certification Body

Martin Wang

Enclosure

TÜV Rheinland (China) Ltd.
莱茵检测认证服务（中国）有限公司
No. 01/03B-08, Floor 7 and No. 01/04B-08, Floor 11, AVIC Building, No.10B, Central Road, East 3rd Ring Road, Chaoyang District, Beijing, P.R. China
北京市朝阳区东三环中路乙10号艾维克大厦第7层第01、03B-08号，第11层第01、04B-08号
邮编：100022
Tel: (8610)8524 2222
Fax: (8610)8524 2200
e-mail: info@bj.chn.tuv.com
Internet: http://www.chn.tuv.com

Zertifikat *Certificate*

TÜVRheinland®

Zertifikat Nr. *Certificate No.*
R 50484684

Blatt *Sheet*
0001

Ihr Zeichen *Client Reference*	**Unser Zeichen** *Our Reference*	**Ausstellungsdatum**	*Date of Issue*
170252017	05-BEZ-60415869 001	29.10.2020	*(day/mo/yr)*

Genehmigungsinhaber *License Holder*
Acbel Polytech Inc.
No. 159, Sec. 3, Danjin Rd.
Tamsui Dist., New Taipei City 251
Taiwan

Fertigungsstätte *Manufacturing Plant*
Refer to latest revision
of the annex list of factories

Prüfzeichen *Test Mark*

TÜVRheinland® CERTIFIED
Type Approved
Safety
Regular Production
Surveillance
www.tuv.com
ID 1111231445

Geprüft nach *Tested acc. to*
EN 62368-1:2014+A11

Zertifiziertes Produkt (Geräteidentifikation)
Certified Product ***(Product Identification)***

Lizenzentgelte - Einheit
License Fee - Unit

Power Supply Switching Power Supply (Built-in type)

Type Designation	:	FLXA4251A, FSK003
Input Voltage	:	AC 100-240V, 50-60Hz,
Input Current	:	4.0A
DC Output	:	+3.3V/12.0A, +5.0V/14.0A, +12.0V/17.0A, -12.0V/0.2A, +5.0Vsb/2.0A +3.3V&+5.0V max. combined power 70W, Total max. power 250W.
Protection Class	:	I
Ambient Temperature	:	55°C
Altitude:	:	5000m

6

6

ANLAGE (Appendix): 1.0

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde und es bestätigt die Konformität des Produktes mit den oben genannten Standards und Prüfgrundlagen. Zusätzliche Anforderungen in Ländern, in denen das Produkt in Verkehr gebracht werden soll, müssen zusätzlich betrachtet werden. Die Herstellung des zertifizierten Produktes wird überwacht.
This certificate is based on our Testing and Certification Regulation and states the conformity of the product with the standards and testing requirements as indicated above. Any additional requirements in countries where the product is going to be marketed have to be considered additionally. The manufacturing of the certified product is subject to surveillance.

TÜV Rheinland LGA Products GmbH, Tillystraße 2, 90431 Nürnberg
Tel.: +49 221 806-1371 e-mail. cert-validity@de.tuv.com
Fax: +49 221 806-3935 http://www.tuv.com/safety

Zertifizierungsstelle

TÜV Rheinland LGA Products GmbH TÜVRheinland® Zertifizierungsstelle

Martin Wang

Anlage Fertigungsstättenliste
/Attachment List of Factories

TÜVRheinland®

R 50484684 0001

1 Acbel Polytech Inc.
No. 159, Sec. 3, Danjin Rd.
Tamsui Dist., New Taipei City 251
Taiwan

2 Acbel Electronic (Dong Guan) Co., Ltd.
No. 17-28, Horng Yeh Road, Horng Yeh Ind. District, Tang Xia Town
Dongguan, Guangdong 523710
P.R. China

3 Acbel Polytech(Philippines) INC.
No. 2 Tagaytay Ridge Drive,
Carmelray Industrial Park II,
Km. 54 National Highway,
Calamba City, Laguna 4027
Philippines

4 ACBEL ELECTRONIC (WUHAN) CO., LTD
No. 1, DuTai North Road
Economic Development Zone
XianTao City, HuBei Province
P.R. China

Dieser Anhang ersetzt den Vorgänger vom/
This annex replaces the previous annex dated

Datum / Date 29.10.2020

Zertifizierungsstelle
/ Certification Body

TÜVRheinland LGA Products GmbH TÜVRheinland Zertifizierungsstelle

Martin Wang

ACBEL POLYTECH INC.
康舒科技股份有限公司
No.159, Sec.3, Danjin Rd., Danshui Dist., New Taipei City, 25144 R.O.C.
Tel: 886-2-2621-7672~9
Fax: 886-2-8631-8054

ACBEL POLYTECH INC.

EU DECLARATION OF CONFORMITY

Product：	Switching Power Supply
Type Designation：	FLXA4251A, FSK003
Trademark：	AcBel
Manufacturer's Name：	AcBel Polytech Inc
Manufacturer's Address：	No. 159, Sec. 3, Danjin Rd., Tamsui Dist., New Taipei City 251, Taiwan

Is herewith confirmed to comply with the following requirements set out in the Council Directive on the Approximation for the Laws of the Member States relating to EMC Directive 2014/30/EU, and Low-Voltage Directive 2014/35/EU and Commission Regulation (EC) No 278/2009 of ErP Directive 2009/125/EC, and RoHS Directive 2011/65/EU. For the evaluation of the compliance with this Directives, the following standards were applied：

☒ Low-Voltage Directive：	EN 62368-1:2014+A11:2017
☒ EMC Directive：	EN 55032:2015+AC:2016; CISPR32:2015; AS/NZS CISPR 32:2015; EN IEC61000-3-2:2019; EN 61000-3-3:2013; EN55035:2017 CISPR 35:2016
☐ ErP Directive：	EN 50563: 2011+A1: 2013, EN 50564: 2011
☒ RoHS Directive：	EN 50581: 2012

Person responsible for making this declaration:

Name：	Cherlly Ding
Position / title：	Safety Supervisor
Place and date of issue：	2020/11/04, Dong Guan of China
Legal signature：	Cherlly Ding

經 濟 部 標 準 檢 驗 局

BUREAU OF STANDARDS,METROLOGY AND INSPECTION, MINISTRY OF ECONOMIC AFFAIRS

Product Certification
PCD01

商 品 驗 證 登 錄 電 子 證 書

CERTIFICATE OF THE REGISTRATION OF PRODUCT CERTIFICATION

證書號碼： CI339065678191 號 00
Certificate No.

茲據 康舒科技股份有限公司 申請驗證登錄，經審查結果符合規定，准予登錄並使用商品安全標章 及識別號碼： R33567 。其登錄事項如下：
The application made by for Registration of Product Certification has been reviewed and found to be in compliance with related regulations. Therefore, registration is granted with the Product Safety Mark and the Identification No. R33567 . Details of the registration are follows :

申 請 人 ：康舒科技股份有限公司 統一編號：12341051
Applicant Uniform No.

地 址 ：臺北市松山區南京東路5段99號11樓
Address

生產廠場 ：詳如附表
Factory

廠 址 ：詳如附表
Factory Address

商品種類名稱：
Type/name of product

商品分類號列： 8504.40.91.00.7-A
C.C.C Code

中文名稱 ： 交換式電源供應器
Chinese name

英文名稱 ：
English name

型 式： FLXA4251A
Type

系列型式 ： FSK003(以下空白)
Series of the type

依據標準 ： CNS13438 (95年版)、CNS14336-1 (99年版)、符合CNS 15663第5節「含有標示」規定 (102年版)
Standards

標準檢驗局發證（發證地址：100臺北市中正區濟南路1段4號）
This certificate is issued by the BSMI. (No.4, Sec. 1, Jinan Rd., Zhongzheng Dist., Taipei City 100, Taiwan)

本證書以電子文件行之，所載內容若有不符之處，以標準局電腦資料為主，查詢驗證資料網址:https://civil.bsmi.gov.tw

登錄日期：中華民國	109	年	12	月	04	日
Registration Date	2020	(year)	12	(month)	04	(day)
本證書有效期限至	112	年	12	月	03	日
Expiration Date	2023	(year)	12	(month)	03	(day)
發證日期：中華民國	109	年	12	月	04	日
Date of issue	2020	(year)	12	(month)	04	(day)

經濟部 標準檢驗局 BSMI

註1：持本證書進口驗證登錄商品時，進口人須與本證書名義人相同。
註2：次年度商品驗證登錄年費繳納期限為當年11月30日，逾期未繳納者，經限期繳納屆期未繳納，即依商品檢驗法第42條第7款規定廢止驗證登錄，並自次年度1月1日起生效。
註3：本證書僅代表完成檢驗程序，不作為其他(如產地)證明。

經 濟 部 標 準 檢 驗 局
BUREAU OF STANDARDS,METROLOGY AND INSPECTION,
MINISTRY OF ECONOMIC AFFAIRS

商 品 驗 證 登 錄 電 子 證 書
CERTIFICATE OF THE REGISTRATION OF PRODUCT CERTIFICATION

證書號碼： CI339065678191 號 00
Certificate No.

生產廠場： 1. 康舒電子（武漢）有限公司
Factory： 湖北省仙桃市經濟開發區杜臺北路1號

2. 康舒科技股份有限公司
新北市淡水區淡金路3段159號

3. 康舒電子(東莞)有限公司
廣東省東莞市塘廈鎮宏業工業區(宏業大道)17-28號

4. Acbel Polytech(Philippines) Inc.
No. 2 Tagaytay Ridge Drive, Carmelray Industrial Park II, Km. 54 National Highway,Calamba City, Laguna 4027, Philippines

（以下空白）

經濟部 標準檢驗局 BSMI

9E04-8563-8DEF-9E45

방송통신기자재등의 적합등록 필증

Registration of Broadcasting and Communication Equipments

상호 또는 성명 *Trade Name or Registrant*	ACBEL POLYTECH INC.
기자재명칭(제품명칭) *Equipment Name*	Switching Power Supply
기기부호/추가 기기부호 *Equipment code /Additional Equipment code*	IMA
기본모델명 *Basic Model Number*	FLXA4251A
파생모델명 *Series Model Number*	FSK003
등록번호 *Registration No.*	R-R-API-FLXA4251A
제조자/제조국가 *Manufacturer/Country of Origin*	ACBEL POLYTECH INC., AcBel Electronic (DongGuan) Co., Ltd. / 중국
등록연월일 *Date of Registration*	2020-12-14
기타 *Others*	

위 기자재는「전파법」제58조의2 제3항에 따라 등록되었음을 증명합니다.

It is verified that foregoing equipment has been registered under the Clause 3, Article 58-2 of Radio Waves Act.

2020년(Year) 12월(Month) 14일(Day)

국립전파연구원장 국립전파연구원장인

Director General of National Radio Research Agency

※ 적합등록 방송통신기자재는 반드시 **"적합성평가표시"** 를 부착하여 유통하여야 합니다.
위반시 과태료 처분 및 등록이 취소될 수 있습니다.

Certificate Number: AZ 69024754 Page: 0001

CERTIFICATE OF SUITABILITY

Authorised marking: TUV024754E

This is to certify that TÜV Rheinland Australia Pty Ltd as accredited by JAS-ANZ in accordance with ISO/IEC Guide 65 has examined for compliance with certification standards, the electrical equipment described hereunder and authorises the certificate holder to affix the above mentioned mark to products of the same type; or the Regulatory Compliance Mark (RCM) provided that the requirements of all relevant parts of AS/NZS 4417 applicable to the article are fulfilled

CERTIFICATE HOLDER:

Acbel Polytech Inc.
No. 159, Sec. 3, Danjin Rd.
Tamsui Dist., New Taipei City 251
Taiwan, R.O.C.

DESCRIPTION OF EQUIPMENT

Declared class:	Non-declared
Product:	Switching Power Supply (Built-in type)
Trade Name / Manufacturer:	AcBel
Model Number:	FLXA4251A , FSK003
Ratings:	AC Input: 100-240 V , 50-60 Hz, 4.0A DC Output: +3.3V/12.0A, +5.0V/14.0A, +12.0V/17.0A, -12.0V/0.2A, +5.0Vsb/2.0A +3.3V&+5.0V max. combined power 70W, Total maximum power 250W. Class I
Standard:	AS/NZS 62368.1:2018
Issue Date:	11/12/2020
Expiry Date:	11/12/2025

Signed for and on behalf of TÜV Rheinland Australia Pty Ltd

Grant Li

Acc. No. Z2870404AA
www.jas-anz.org\register

TUV Rheinland Australia Pty Ltd
182 Dougharty Road, Heidelberg West VIC 3081
Phone: +61 (3) 9450 1400
Email: certification@au.tuv.com
Website: www.au.tuv.com

FCC SDOC TEST REPORT

Equipment	:	SWITCHING POWER SUPPLY
Model No.	:	FLXA4251A, FSK003
Trade Name	:	Acbel
Applicant	:	Acbel Polytech Inc.
Address	:	No. 159，Sec. 3，Danjin Rd.，Tamsui Dist.，New Taipei City 251，Taiwan
Standard	:	**ANSI C63.4 FCC Part 15 Subpart B, Canada ICES-003**

HEREBY CERTIFY THAT:

The testing was carried out on 2020/09/24~ 2020/09/25.

The test result refers exclusively to the test presented test model / sample. Without written approval of Cerpass Technology Corp., the test report shall not be reproduced except in full.

Approved by:

Kero Kuo / EMC & RF Manager

TAF
Testing Laboratory
1439

Contents

History of this test report

Attachment No.	Issue Date	Description	Version
TEFD2009218	Oct. 10, 2020	Initial Issue	Rev01

Report Type		Description
■	Original report	NA
□	Derivative Report	NA

Summary of Test Results

Applicable Standards

FCC

The measurements shown in this test report were made in accordance with the procedures given in ANSI C63.4 – 2014 and the energy emitted by this equipment was passed Part 2, Part 15, CISPR PUB. 22.

Canada

The measurements shown in this test report were made in accordance with the procedures given in Canada ICES-003 issue 6 section 3.a and 3.b.

The energy emitted by this equipment was passed both Radiated and Conducted Emissions Class **B** limits.

Test Item	Normative References	Test Result
Conducted Emission	ANSI C63.4-2014 FCC Part 15 Subpart B, Canada ICES-003 issue 6	PASS
Radiated Emission	ANSI C63.4-2014 FCC Part 15 Subpart B, Canada ICES-003 issue 6	PASS

Note*: Pass criterion is defined by the applicant. The test report is to follow the applicant specification.

The lab has lowered the uncertainty risk of test equipment, environment, and staff technicians according to ISO-IEC17025. Therefore we define test result as compliant when it complies with the standard without further evaluation of test result uncertainty.

1. General Description

1.1. Product Details

Please refer to user manual

1.2. Feature of Equipment under Test

Product Name:	SWITCHING POWER SUPPLY
Model Name:	FLXA4251A,FSK003
Model Discrepancy:	Only the names are different
Housing material:	Metal case
EUT Power Rating:	AC input : 100-240Vac 50-60Hz, 4.0A DC output: +3.3V/12.0A, +5.0V/14.0A, +12.0V/17.0A, -12.0V/0.2A, +5.0Vsb/2.0A +3.3V&+5V max. 70W Total 250W max.
EUT Highest Frequency:	＜108MHz

Note: Please refer to user's manual for more detailed features description.

1.3. Accessories

N/A

2. Test Configuration of Equipment under Test

2.1. Test Manner

a. During testing, the interface cables and equipment positions were varied according to ANSI C63.4-2014 Class B.
b. The complete test system includes support units and EUT for EMI test.
Test Mode 1. System load For 120V
Test Mode 2. System load For 240V
Caused “Test Mode 1” generated the test result, it was reported as final data
c. The maximum operating frequency is under 108MHz, the test frequency range is from 30MHz to 1GHz.

2.2. Description of Support Unit

EMI				
No	**Device**	**Manufacturer**	**Model No.**	**Description**
For Local				
1	PC	DELL	XPS 8920	R33002
2	HDD	Toshiba	Polar Bear	N/A
3	Monitor	DELL	U2713HMt	R41126
4	Keyboard	DELL	SK-8115	R41126
5	Mouse	DELL	G0K02XYK	R41126
6	Printer	ZEBRA	ZD410	R39706
Use Cable				
No	**Device**	**Quantity**		**Description**
1	HDMI Cable	1		1.5m Shielding with two core
2	Printer Cable	1		1.8m Non Shielding
3	USB HDD Cable	1		0.5m Shielding
4	USB Mouse Cable	1		1.8m Non Shielding
5	USB Keyboard Cable	1		1.5m Non Shielding

3. General Information of Test

☒ Test Site	**Cerpass Technology Corporation Test Laboratory**
	Address: No.10, Ln. 2, Lianfu St., Luzhu Dist., Taoyuan City 33848, Taiwan (R.O.C.) Tel: +886-3-3226-888 Fax: +886-3-3226-881
	TW1079, TW1061, TW1439
Frequency Range Investigated:	Conducted: from 150 kHz to 30 MHz Radiation: from 30 MHz to 40,000 MHz
Test Distance:	The test distance of radiated emission below 1GHz from antenna to EUT is 3 M. The test distance of radiated emission above 1GHz from antenna to EUT is 3 M.

4. Test of Conducted Emission

4.1. Test Limit

Conducted Emissions were measured from 150 kHz to 30 MHz with a bandwidth of 9 KHz, according to the methods defined in ANSI C63.4-2014. The EUT was placed on a nonmetallic stand in a shielded room 0.8 meters above the ground plane. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position produced maximum conducted emissions.

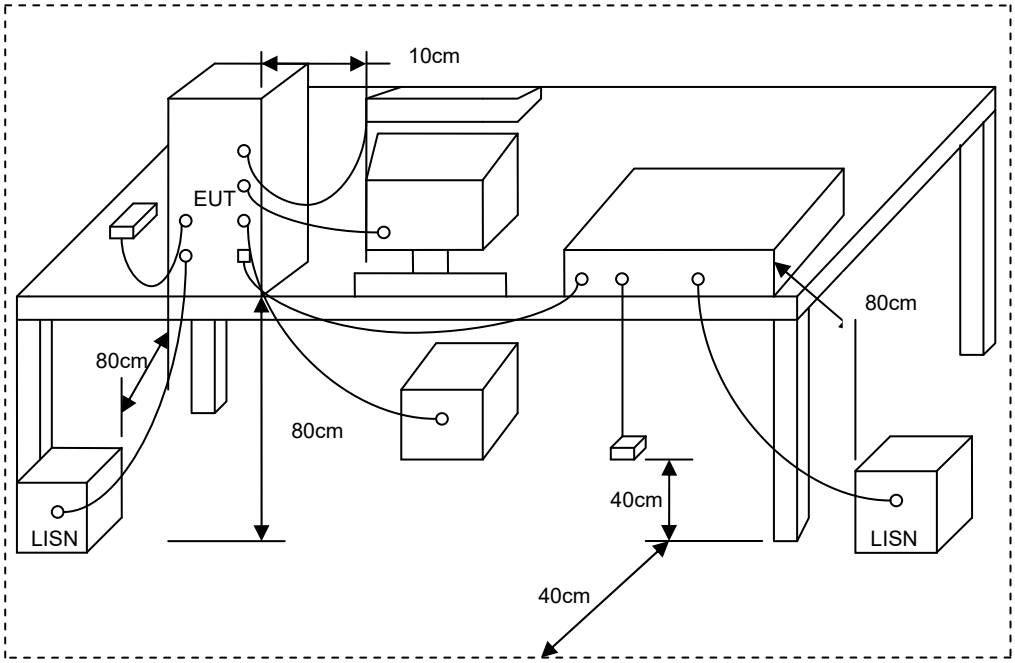
Table 1 Conducted Emission Limits (dBμV):

Frequency range (MHz)	Class A Equipment		Class B Equipment	
	Quasi Peak	Average	Quasi Peak	Average
0.15 to 0.50	79	66	66 to 56*	56 to 46*
0.50 to 5	73	60	56	46
5. to 30.	73	60	60	50
*The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5MHz.				

4.2. Test Procedures

a. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
b. Connect EUT to the power mains through a line impedance stabilization network (LISN).
c. All the support units are connecting to the other LISN.
d. The LISN provides 50ohm coupling impedance for the measuring instrument.
e. The FCC states that a 50ohm, 50 micro-Henry LISN should be used.
f. Both sides of AC line were checked for maximum conducted interference.
g. The frequency range from 150 kHz to 30 MHz was searched.
h. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

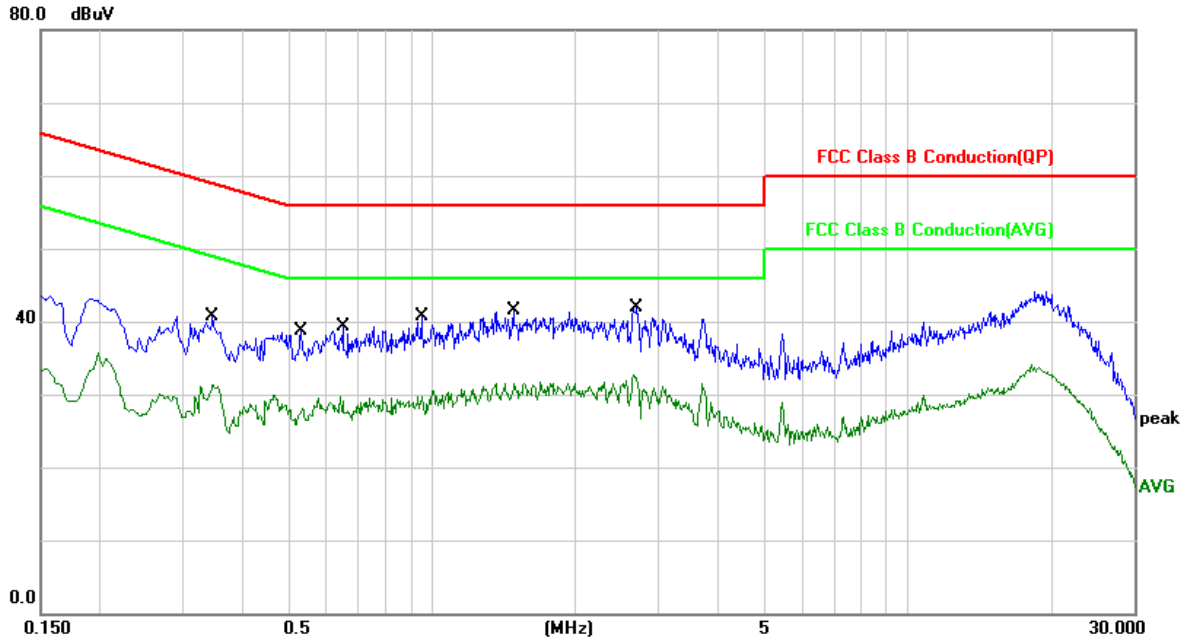
4.3. Typical Test Setup



4.4. Test Result and Data for Power Port

Test Mode	Mode 1	Pol/Phase	LINE
Test Frequency	0.15 MHz ~ 30 MHz	Test Voltage	120V
Test Date	Sept.25, 2020	Test Engineer	KAI
Temperature	26 °C	Relative Humidity	58%

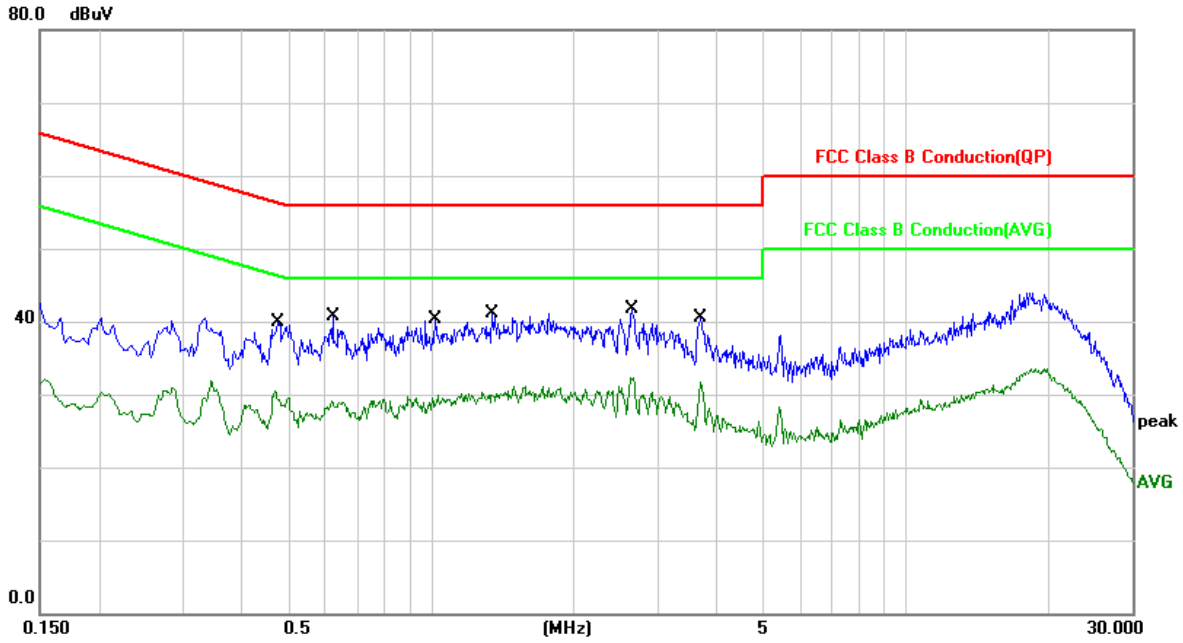
Note: Level = Reading + Factor
Margin = Level – Limit
Factor= (LISN or PLC or Current Probe) Factor + Cable Loss + Attenuator



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.3460	10.26	26.26	36.52	59.06	-22.54	QP
2	0.3460	10.26	21.00	31.26	49.06	-17.80	AVG
3	0.5299	10.04	22.20	32.24	56.00	-23.76	QP
4	0.5299	10.04	16.68	26.72	46.00	-19.28	AVG
5	0.6500	10.04	24.08	34.12	56.00	-21.88	QP
6	0.6500	10.04	17.93	27.97	46.00	-18.03	AVG
7	0.9500	10.04	23.40	33.44	56.00	-22.56	QP
8	0.9500	10.04	18.21	28.25	46.00	-17.75	AVG
9	1.4819	10.07	24.93	35.00	56.00	-21.00	QP
10	1.4819	10.07	19.82	29.89	46.00	-16.11	AVG
11	2.6980	10.13	25.76	35.89	56.00	-20.11	QP
12	2.6980	10.13	20.46	30.59	46.00	-15.41	AVG

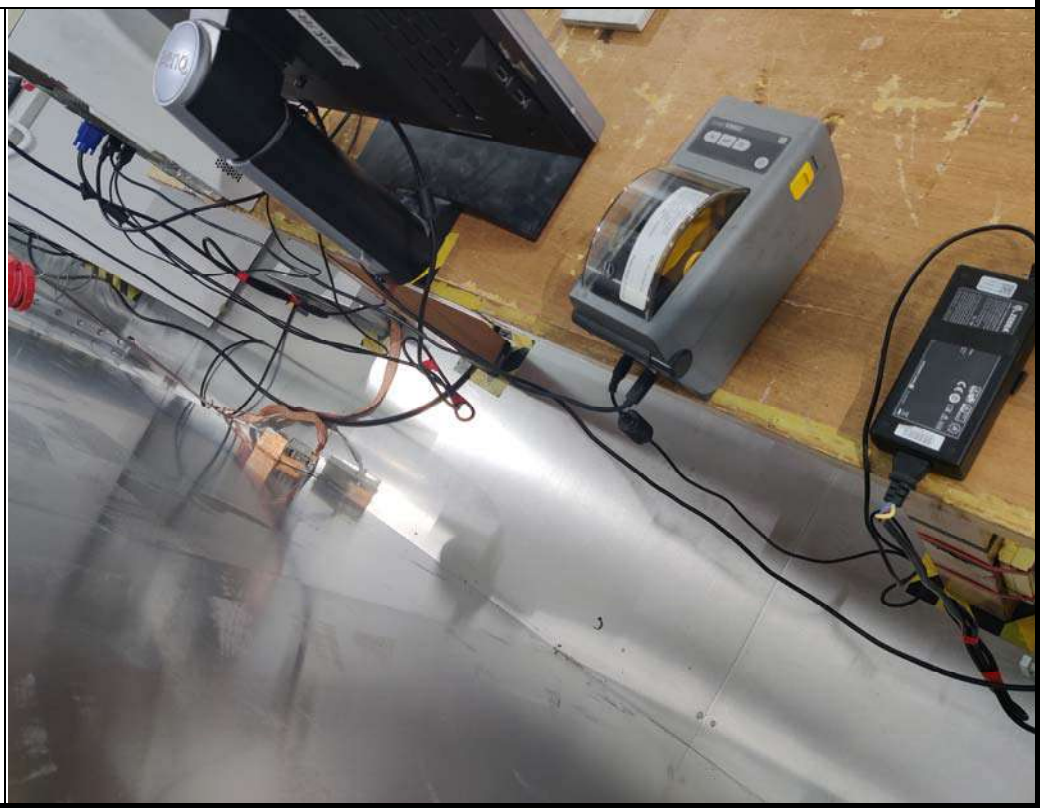
Test Mode	Mode 1	Pol/Phase	NEUTRAL
Test Frequency	0.15 MHz ~ 30 MHz	Test Voltage	120V
Test Date	Sept.25, 2020	Test Engineer	KAI
Temperature	26 °C	Relative Humidity	58%

Note : Level = Reading + Factor
Margin = Level – Limit
Factor= (LISN or PLC or Current Probe) Factor + Cable Loss + Attenuator



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.4780	10.11	24.61	34.72	56.37	-21.65	QP
2	0.4780	10.11	18.79	28.90	46.37	-17.47	AVG
3	0.6220	10.08	23.85	33.93	56.00	-22.07	QP
4	0.6220	10.08	18.61	28.69	46.00	-17.31	AVG
5	1.0220	10.10	23.55	33.65	56.00	-22.35	QP
6	1.0220	10.10	18.38	28.48	46.00	-17.52	AVG
7	1.3460	10.12	24.71	34.83	56.00	-21.17	QP
8	1.3460	10.12	19.30	29.42	46.00	-16.58	AVG
9	2.6580	10.20	26.42	36.62	56.00	-19.38	QP
10	2.6580	10.20	21.23	31.43	46.00	-14.57	AVG
11	3.7100	10.25	25.86	36.11	56.00	-19.89	QP
12	3.7100	10.25	20.87	31.12	46.00	-14.88	AVG

4.5. Test Photographs of Power Port

Front View	
Rear View	

5. Test of Radiated Emission

5.1. Test Limit

Radiated emissions from 30 MHz to 18,000 MHz were measured with a bandwidth of 120 kHz according to the methods defines in ANSI C63.4-2014. The EUT was placed on a nonmetallic stand in the open-field site, 0.8 meter above the ground plane. The interface cables and equipment positions were varied within limits of reasonable applications to determine the positions producing maximum radiated emissions.

For unintentional device, according to § 15.109(a), except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Table 1 – Frequency below 1GHz

Frequency (MHz)	Distance Meters	Class A(dBμV/m)	Class B(dBμV/m)t
30-230	10	40	30
230-1000	10	47	37

Note: The limit for radiated test was performed according to CISPR 22, which was specified in FCC PART 15B 15.109(g). Also the limits of ICES-003 and CISPR 22 are the same.

Table 2 –Frequency above 1GHz

Frequency (MHz)	Distance Meters	Class A(dBμV/m)		Class B(dBμV/m)t	
		Peak	Average	Peak	Average
Above 1GHz	3	80.0	60.0	74.0	54.0

Note: (1) The lower limit shall apply at the transition frequencies.
(2) Emission level (dBμV/m) = 20 log Emission level(μV/m)
(3) All emission from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

Table 3 –Frequency range of radiated measurement (for unintentional radiators)

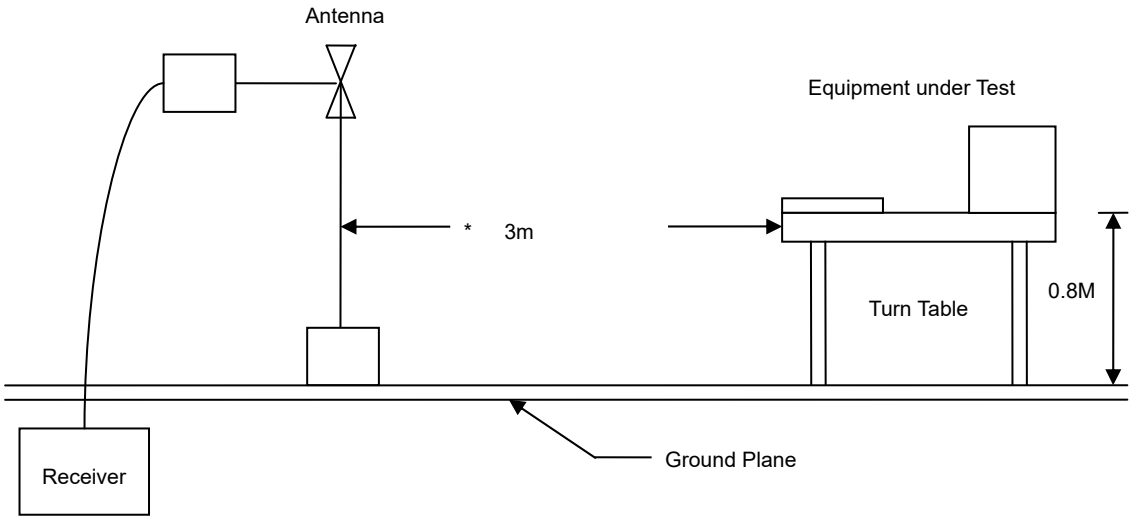
Highest frequency generated or Upper frequency of measurement used in the device or on which the device operates or tunes(MHz)	Range(MHz)
Below 1.705	30
1.705-108	1000
108-500	2000
500-1000	5000
Above 1000	5th harmonic of the highest frequency or 40GHz, which is lower

5.2. Test Procedures

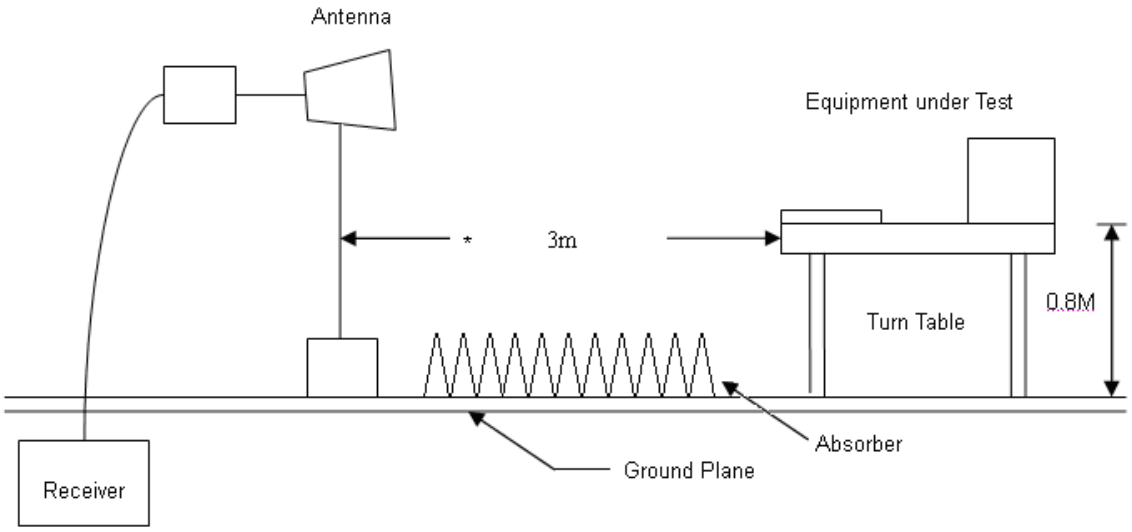
a. The EUT was placed on a Rota table top 0.8 meter above ground.
b. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
c. The table was rotated 360 degrees to determine the position of the highest radiation.
d. The antenna is a half wave dipole and its height is varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna are set to make the measurement.
e. For each suspected emission the EUT was arranged to its worst case and then tune the antenna tower (from 1 M to 4 M) and turn table (from 0 degree to 360 degrees) to find the maximum reading.
f. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.
g. If the emission level of the EUT in peak mode was 6 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 6 dB margin will be repeated one by one using the quasi-peak method and reported.

5.3. Typical Test Setup

Below 1GHz Test Setup



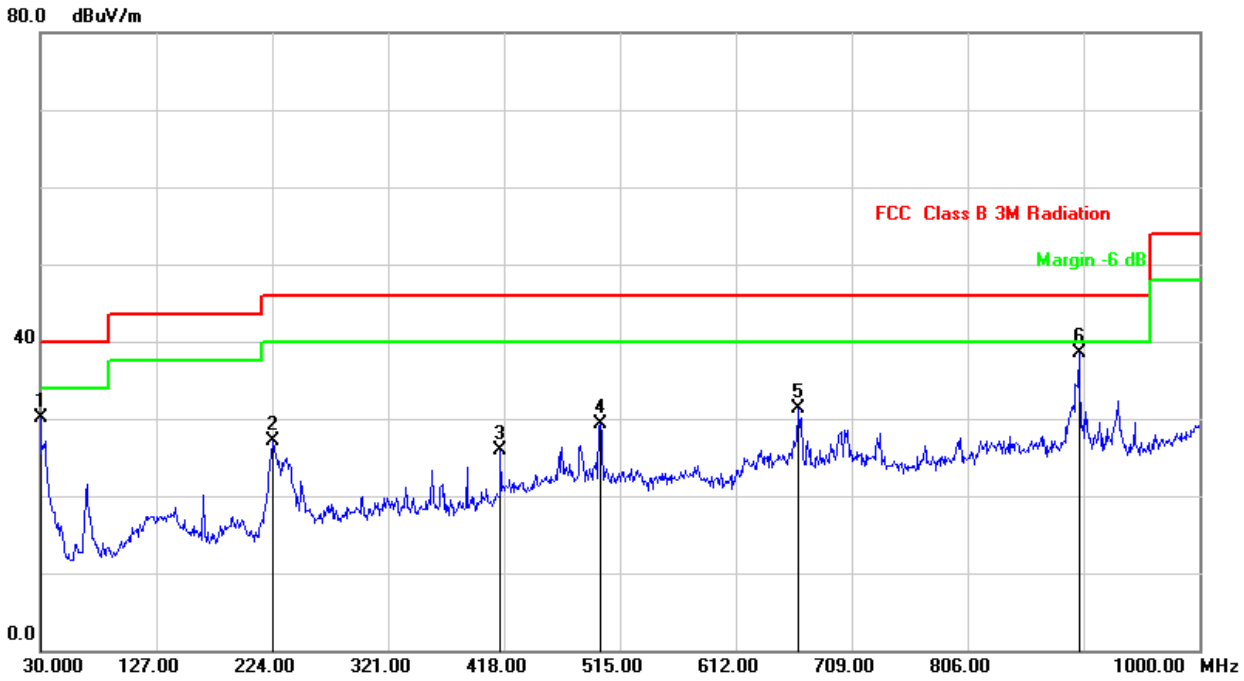
Above 1GHz Test Setup



5.4. Test Result and Data (30MHz ~ 1GHz)

Test Mode	Mode 1	Pol/Phase	VERTICAL
Test Frequency	30 MHz ~ 1 GHz	Test Voltage	120V
Test Date	Sept.25, 2020	Test Engineer	KAI
Temperature	25 °C	Relative Humidity	55 %

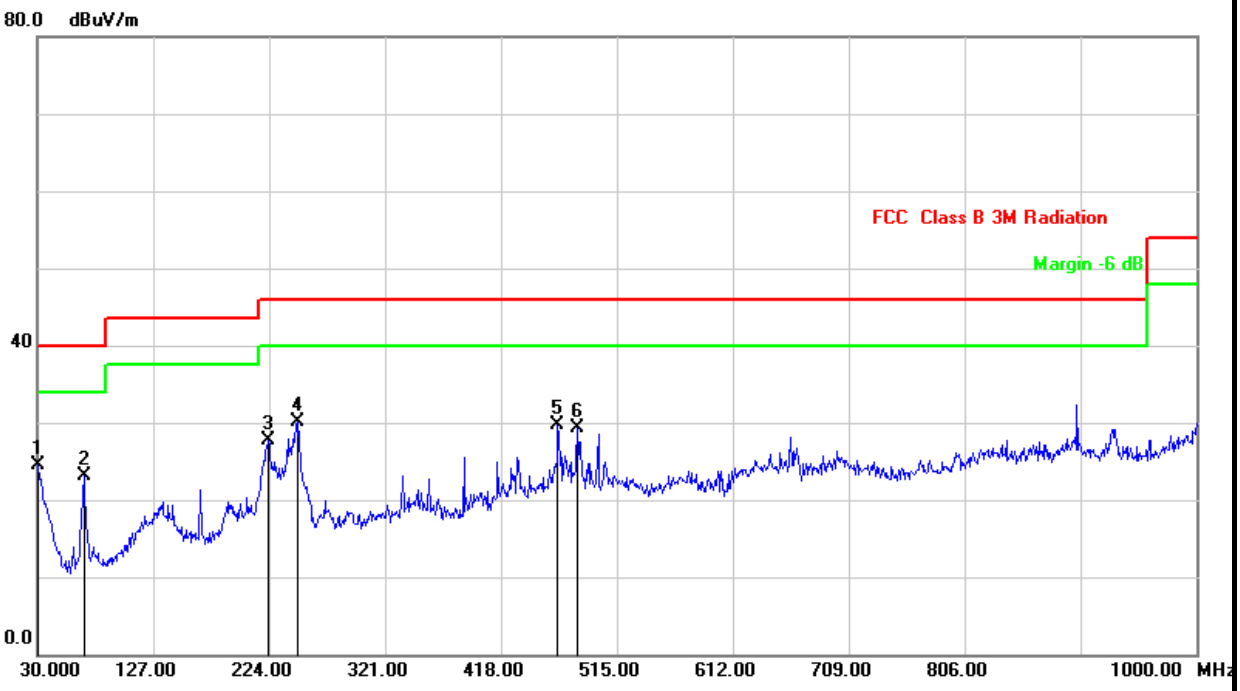
Note: Level = Reading + Factor
Margin = Level – Limit
Factor = Antenna Factor + Cable Loss – Amplifier Factor



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (deg)
1	30.0000	-4.02	34.06	30.04	40.00	-9.96	peak	100	153
2	224.9700	-12.50	39.55	27.05	46.00	-18.95	peak	100	269
3	415.0900	-6.68	32.67	25.99	46.00	-20.01	peak	100	342
4	498.5100	-4.63	33.85	29.22	46.00	-16.78	peak	200	278
5	664.3800	-2.00	33.27	31.27	46.00	-14.73	peak	100	191
6	899.1200	0.43	38.03	38.46	46.00	-7.54	peak	200	317

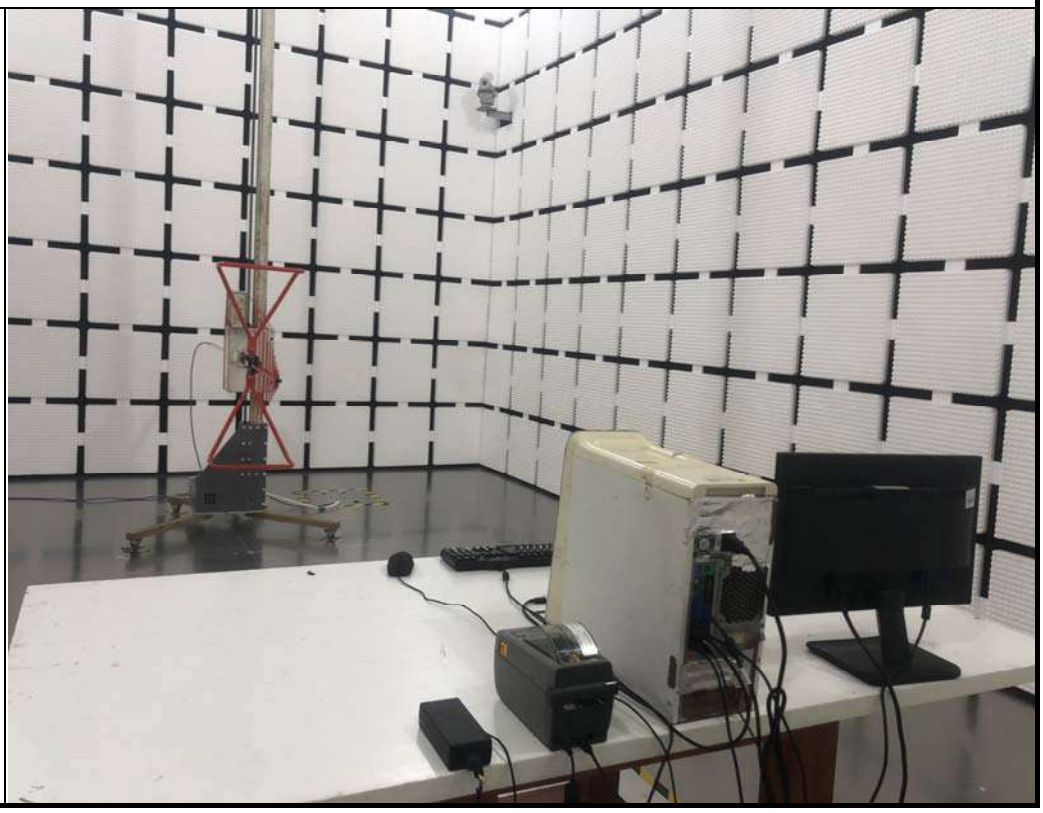
Test Mode	Mode 1	Pol/Phase	HORIZONTA
Test Frequency	30 MHz ~ 1 GHz	Test Voltage	120V
Test Date	Sept.25, 2020	Test Engineer	KAI
Temperature	25 °C	Relative Humidity	55 %

Note: Level = Reading + Factor
Margin = Level – Limit
Factor = Antenna Factor + Cable Loss – Amplifier Factor



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (deg)
1	30.9700	-4.66	29.15	24.49	40.00	-15.51	peak	200	358
2	68.8000	-15.96	39.14	23.18	40.00	-16.82	peak	200	342
3	223.0300	-12.52	40.20	27.68	46.00	-18.32	peak	200	269
4	248.2500	-11.43	41.57	30.14	46.00	-15.86	peak	100	42
5	465.5300	-3.94	33.62	29.68	46.00	-16.32	peak	200	167
6	482.0200	-4.40	33.74	29.34	46.00	-16.66	peak	100	243

5.5. Test Photographs (30MHz~1GHz)

Front View	
Rear View	

6. Measurement Uncertainty

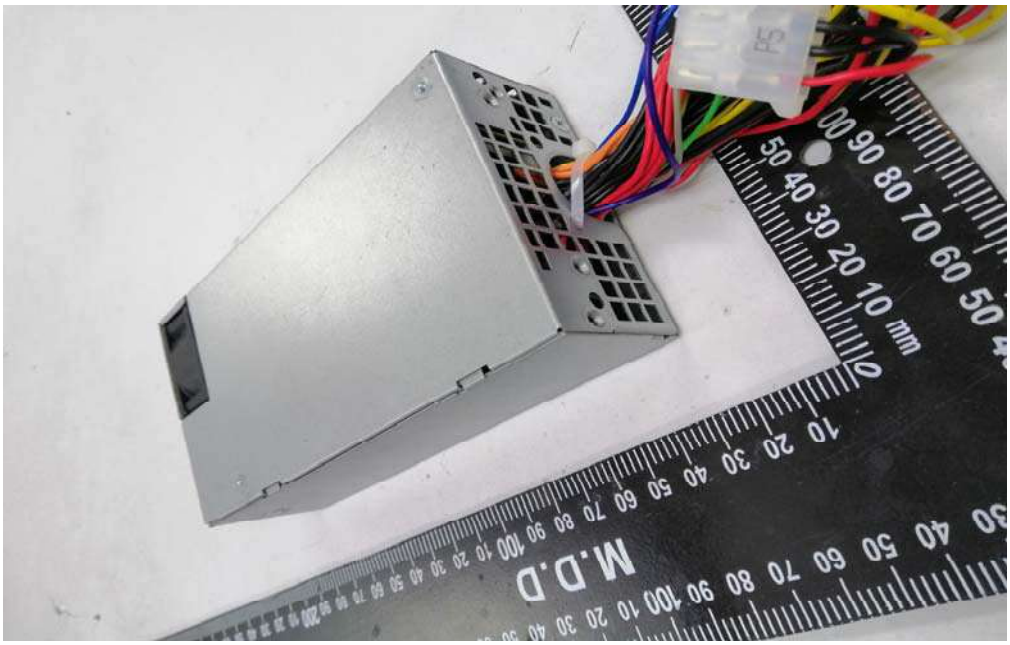
Measurement Item	Measurement Frequency	Polarization	Uncertainty
Conducted Emission	9 kHz ~ 30 MHz	LINE / NEUTRAL	±3.25 dB
Conducted Emission (Telecommunication Port)	9 kHz ~ 30 MHz	N/A	±4.1 dB
Radiated Emission	30 MHz ~ 1,000 MHz	Vertical / Horizontal	±3.93 dB
	1,000 MHz ~ 6,000 MHz	Vertical / Horizontal	±3.82 dB
	6,000 MHz ~ 18,000 MHz	Vertical / Horizontal	±4.62 dB

The measurement uncertainty will be considered, when test result margin to the limit.

7. Photographs of EUT

1)EUT Photo

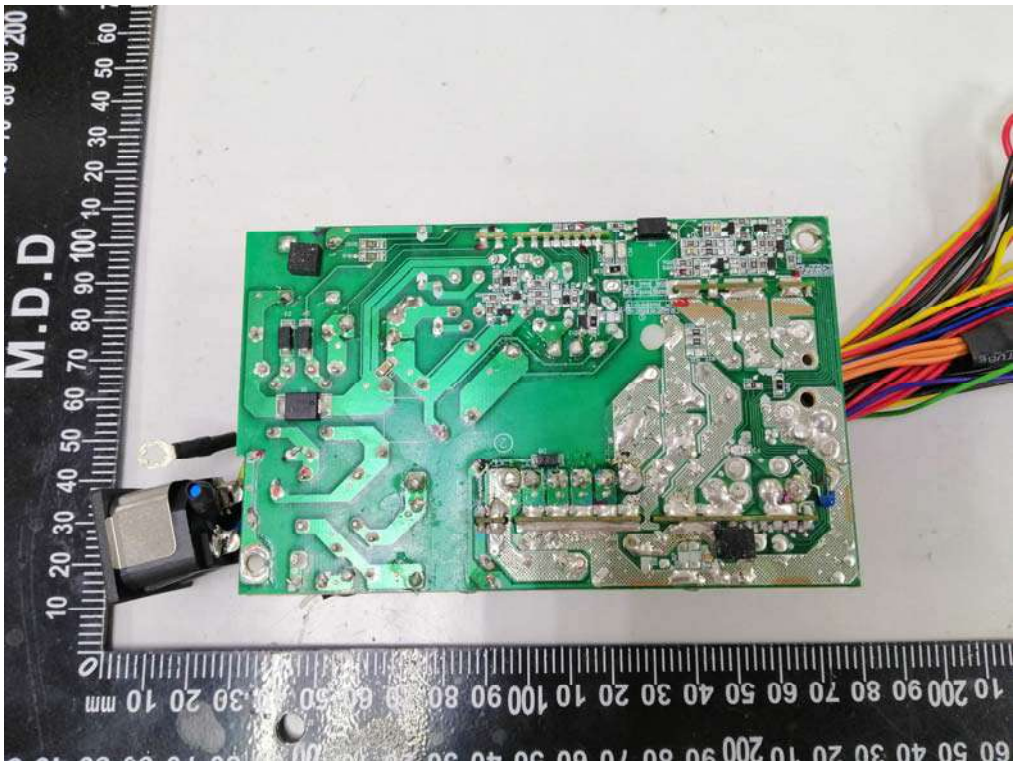
2)EUT Photo



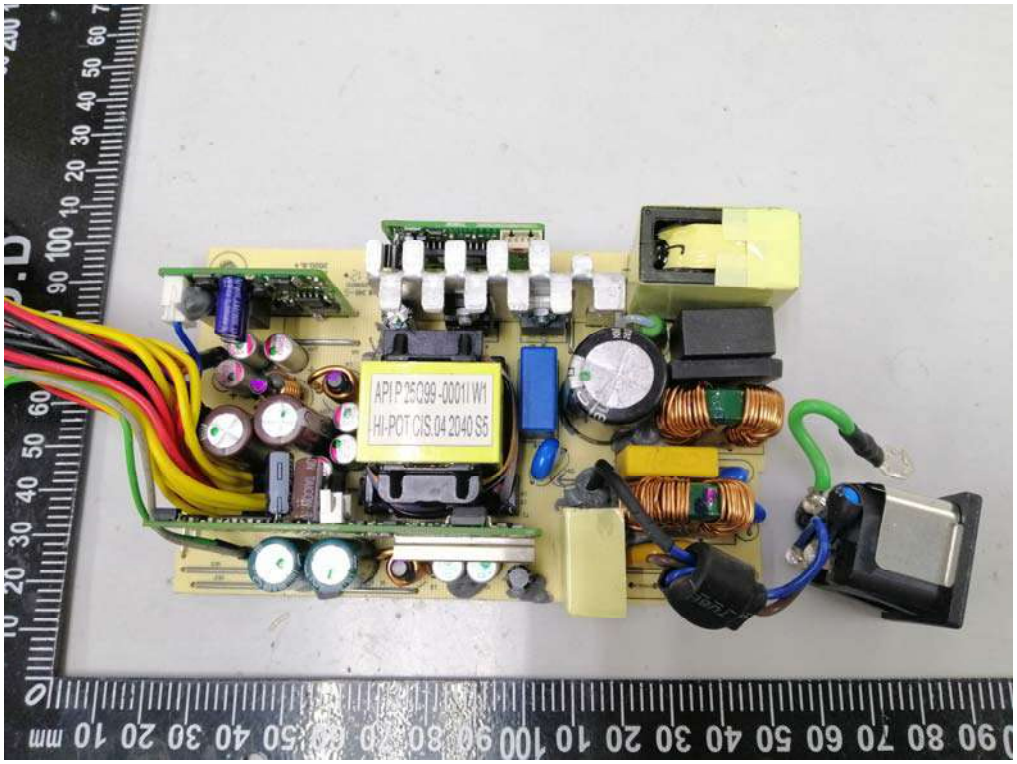
3)EUT Photo

4)EUT Photo

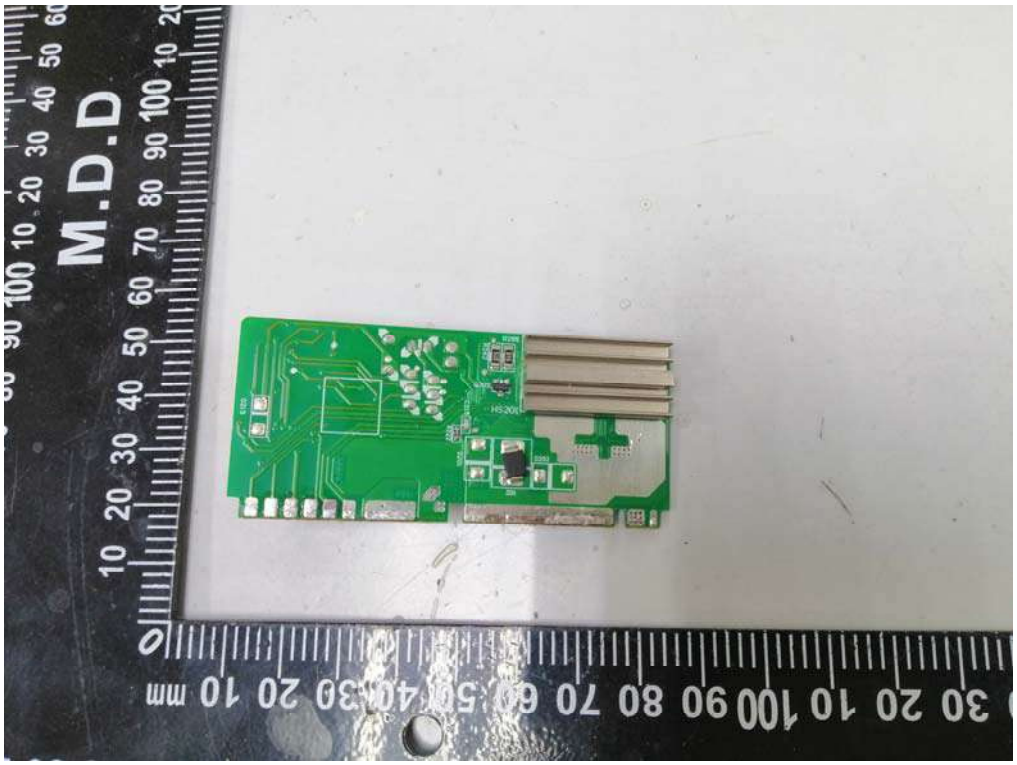
5)EUT Photo



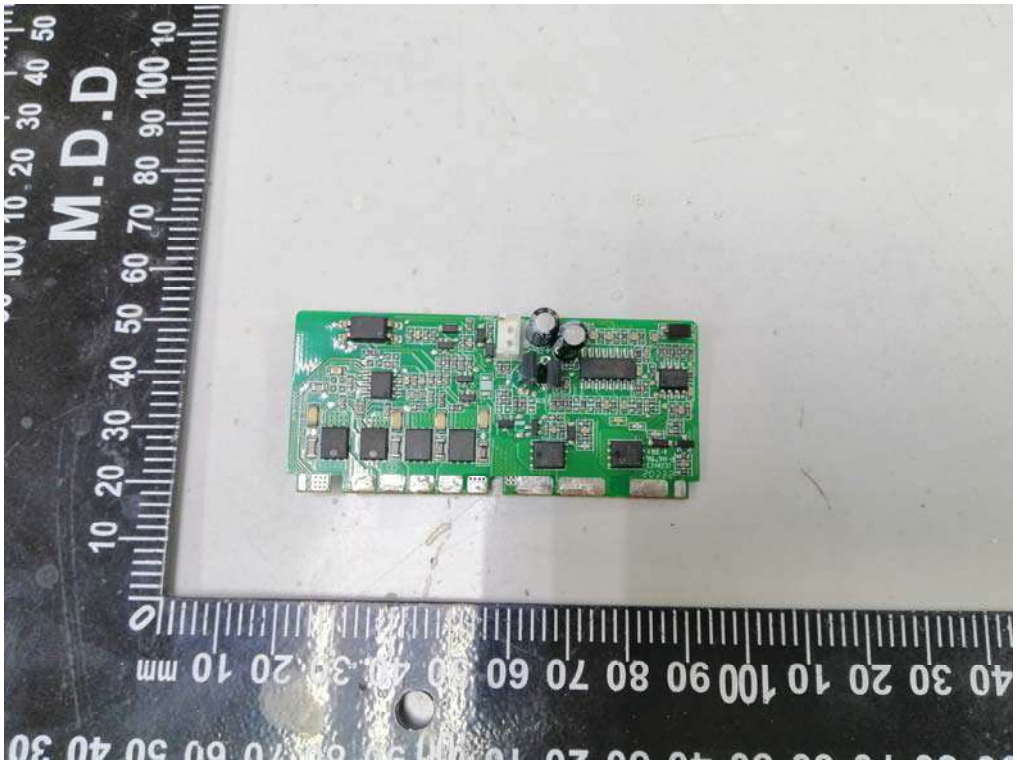
6)EUT Photo



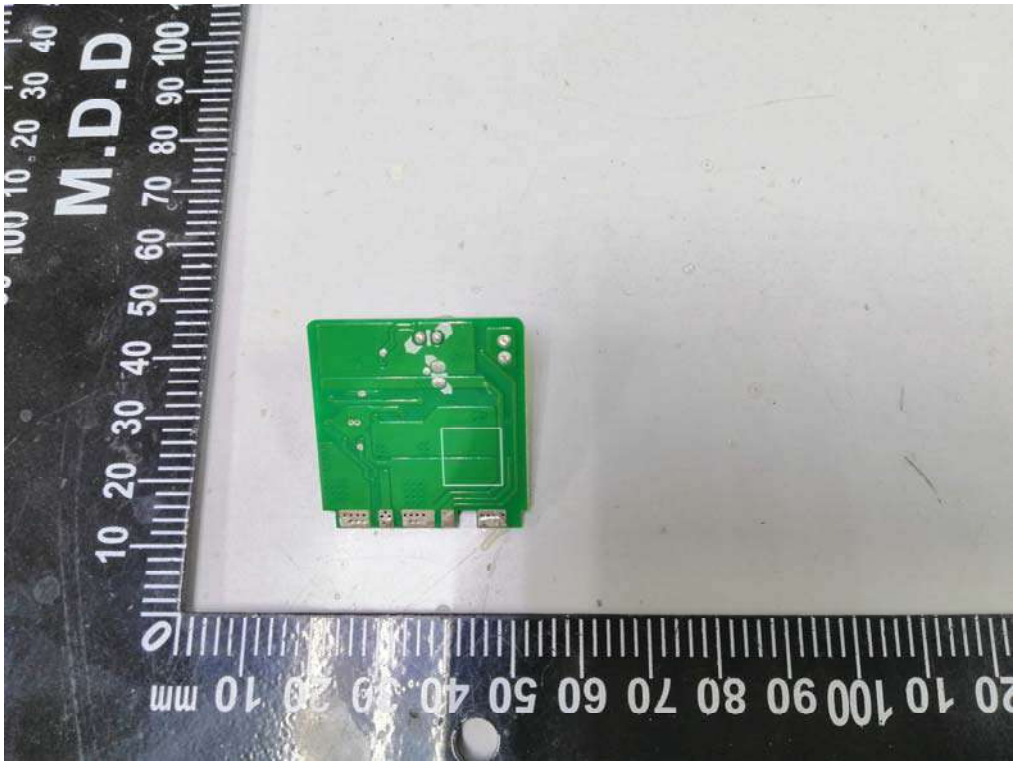
7)EUT Photo



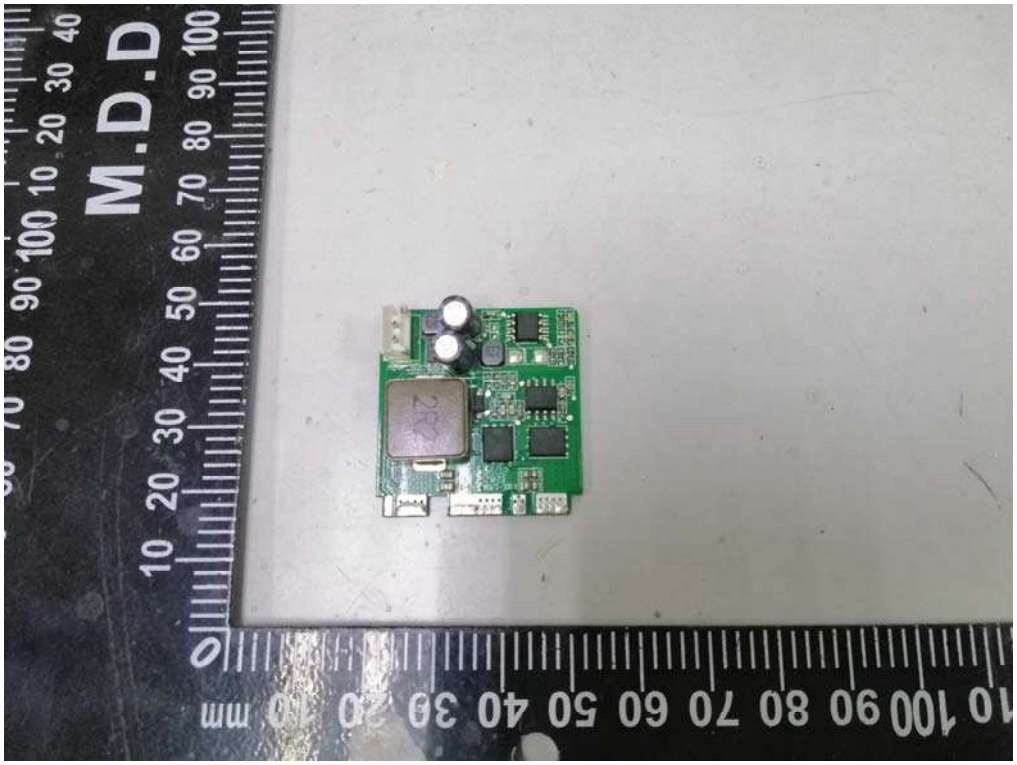
8)EUT Photo



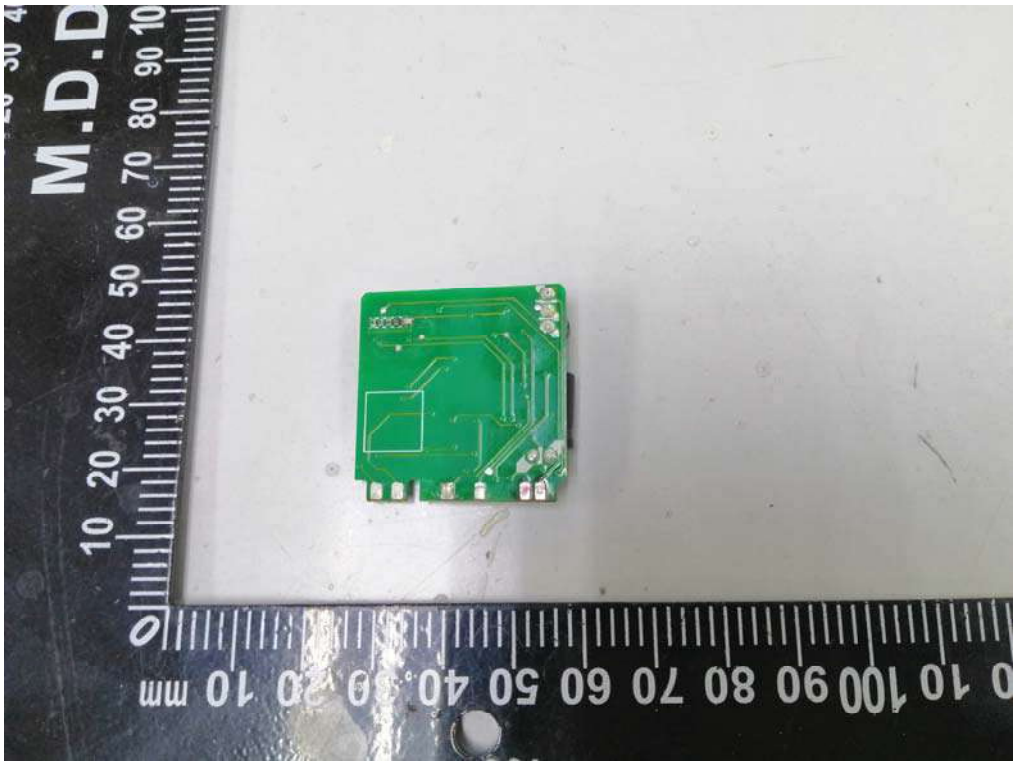
9)EUT Photo



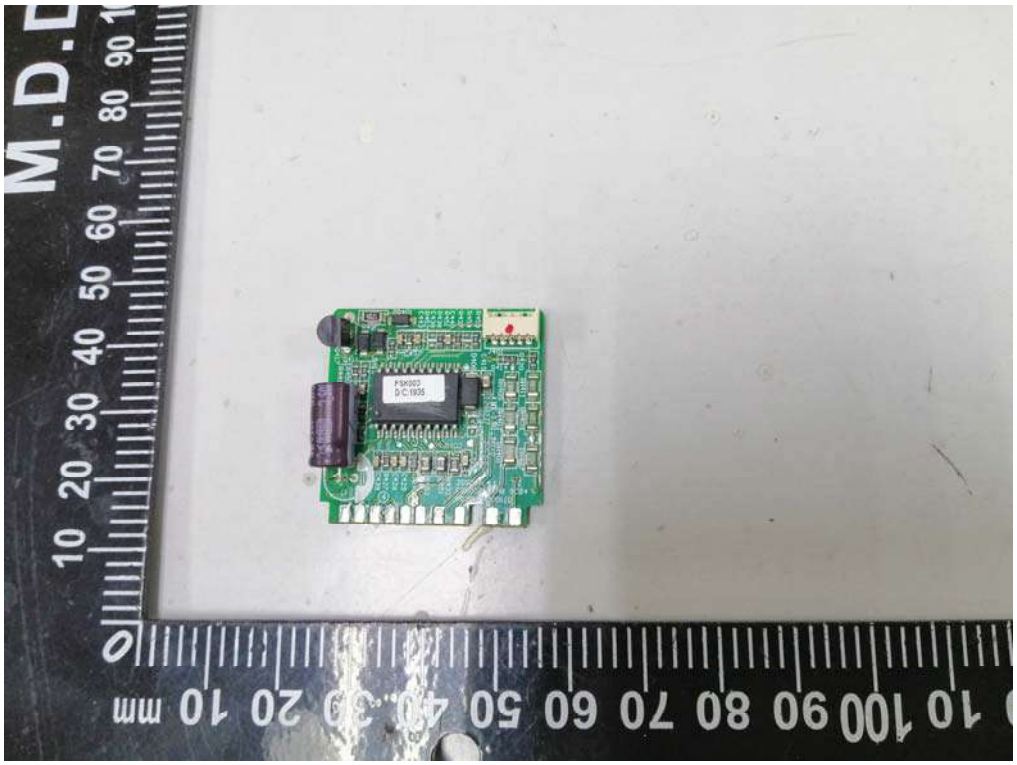
10)EUT Photo



11)EUT Photo



12)EUT Photo



8. List of Measuring Equipment

Conducted Emission (Test date: 2020/09/25)					
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date
Test Receiver	R&S	ESCI	100564	2020.01.07	2021.01.06
LISN	SCHWARZBECK	NSLK 8127	8127748	2020.01.07	2021.01.06
LISN	SCHWARZBECK	NSLK 8127	8127749	2020.01.07	2021.01.06
Pulse Limiter with 10dB Attenuation	SCHWARZBECK	VTSD 9561-F	9561-F106	2020.01.07	2021.01.06
Temperature/ Humidity Meter	mingle	ETH529	N/A	2020.01.08	2021.01.07

Radiated Emission below 1GHz (Test date: 2020/09/25)					
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date
EMI Test Receiver	R&S	ESCI	100565	2020.06.08	2021.06.07
Amplifier	EMCI	EMC330	980082	2020.06.08	2021.06.07
Bilog Antenna	Sunol Science	JB1	A072414-2	2020.06.08	2022.06.07
Temperature/ Humidity Meter	mingle	ETH529	N/A	2020.01.08	2021.01.07

---------- End of the report ----------