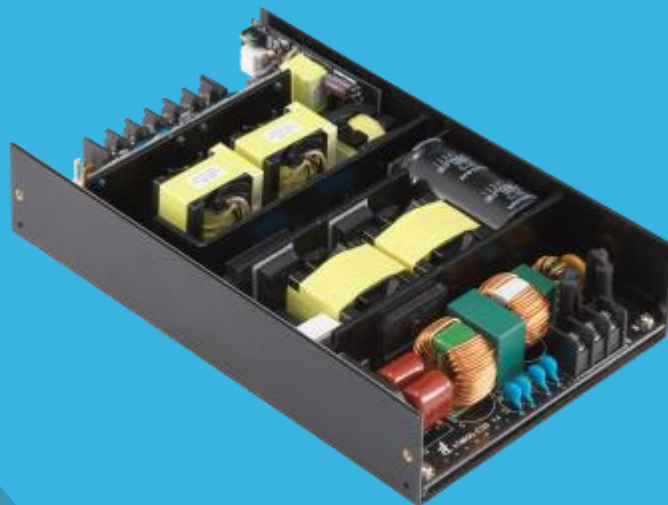




ADAPTER TECHNOLOGY

アダプター テクノロジー

会社案内



会社概要

本社所在地: 台北、台湾

創立: Oct. 2001

資本金: USD 5,000,000

社員数: 50名



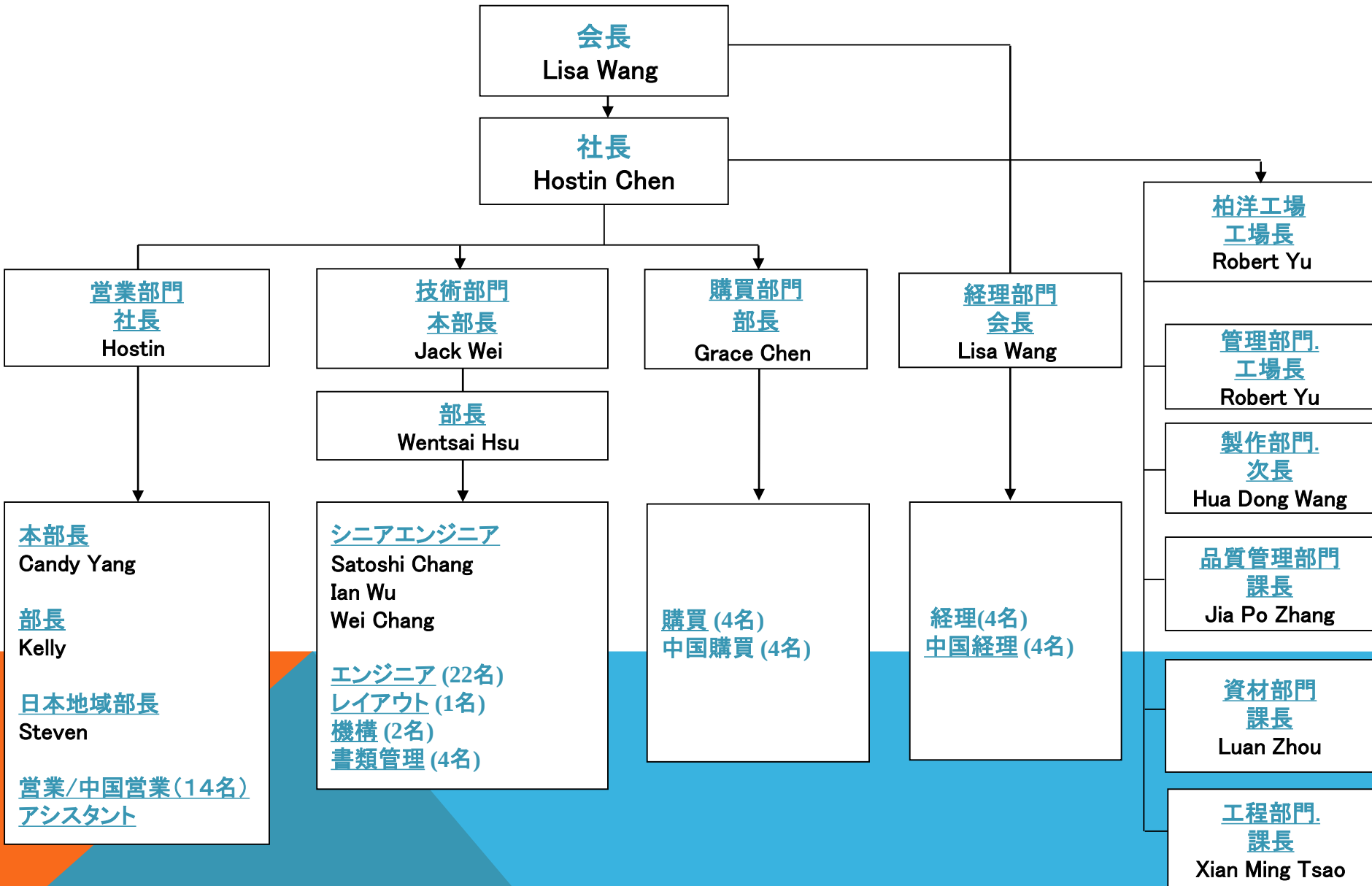
工場所在地: Shipai, 東莞, 中国

創立: Sep. 2008

社員数: 500名



会社組織図



ISO 9001:2015



ISO 14001:2015





Zhongjian Certification Co., Ltd.

CERTIFICATE OF CONFORMITY OF OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM

No: 0070017S11274R3M

This is to certify that the Occupational Health and Safety Management system of

DONGGUAN BOAYANG ELECTRONICS CO., LTD.

NO.2 BUILDING, DIFENG INDUSTRIAL ZONE, LIUWU, XIASHA, SHEPAI TOWN, DONGGUAN CITY, GUANGDONG PROVINCE

Organization Code: 91441900680566314K

by reason of its

Occupational Health and Safety Management System

Has been awarded this certificate for compliance with the standard

AUDIT SPECIFICATION OF OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM

(GB/T 28001-2011 / OHSAS 18001:2007 STANDARD)

The Occupational Health and Safety Management System applies in the following area:

**THE RELATIVE MANAGEMENT ACTIVITIES OF
PRODUCTION AND SALE OF POWER SUPPLY ADAPTERS,
CHARGERS AND SWITCHING POWER SUPPLY COMPONENTS**

(This certificate only covers the sites listed. If the covered scope involves pre-approval of administrative permit or compulsory certification requirement, its scope only covers products and services within the permit license or compulsory certification scope.)

Date of issue: 2017-11-2

Term of validity of this certificate: from 2017-11-2 to 2020-11-1 inclusive

This certificate remains valid only if the certified organization accepts and passes regular surveillance audits.

Approval of the
first surveillance
audit
Zhongjian Certification Co., Ltd.

Approval of the
second surveillance
audit
Zhongjian Certification Co., Ltd.

Approval of the
third surveillance
audit
Zhongjian Certification Co., Ltd.

Representative of The Company



中国认可
管理体系
MANAGEMENT SYSTEM
CNAS C007-M

The validity of this certificate could be confirmed via official Website Of CNCA (www.cnca.gov.cn).
Further to the certificate applicability, please enquire the certified organization: visit www.dongguan.gov.cn or contact GZCC 020-44390882
3rd Floor Building, Guangzhou Industrial Zone, Guangzhou City, Guangdong Province, China 510600 Zhongjian Certification Co., Ltd.

OHSAS 18001: 2007

労働安全衛生認証



Adapter Technology Co., Ltd.



This is to certify that the Quality Management System of

Boayang Electronics Co., Ltd.

Unified Social Credit Code : 91441900680566314K

Operation Address : Building 2, Difeng Industrial Zone, Liuru, Xiasha, Shipai Town, Dongguan City, Guangdong Province, China

Registered Address : Building 2, Difeng Industrial Zone, Liuru, Xiasha, Shipai Town, Dongguan City, Guangdong Province, China

applicable to

Production and sales services of power supply for medical equipment(for export only)

has been assessed and registered by NQA against the provisions of

ISO 13485: 2016

This registration is subject to the company maintaining a quality management system, to the above standard, which will be monitored by NQA.

Certified Clients shall accept regular surveillance assessments, the validity of certificates shall be maintained for the positive result of audit.

The information of this certificate can be checked on CNCA's website (www.cnca.gov.cn)

SNQA's website : www.snqa.com.cn

Managing Director



Certificate Number

42899

Date:

01 December 2016

Reissue Date:

25 February 2019

Valid Until:

25 February 2022

EAC Code:

19



ISO 13485

医療機器品質

マネジメントシステム

SONY SPP (SAFETY PARTS PARTNER)

Certificate

Presented To:

Adapter Technology Co., Ltd.
Boayang Electronics Co., Ltd.

Category name: AC Power Supply

This is to certify that you have successfully established
a quality assurance system that has met the
requirements of the Sony's Safety Critical Parts Partner Program

Serial No: 00204

Initial Certification Date: 2012/03/30

Approved and issued by : Procurement Group Sony Corporation



Kazuaki Takanose
President, Procurement Group, Sony Corporation

SONY

合格証明書ー2009年, 9月
案件 : デジタルフォトフレーム



Adapter Technology Co., Ltd.

取扱商品

■ I.T.E スイッチングACアダプター (5W ~ 300W)

GaN FETスイッチングACアダプター (120W~300W)

IEC/UL/EN60950 情報機器の安全規格

IEC/UL/EN62368 AV機器&情報機器の安全規格

5W ~ 300W

米国省エネルギー (DoE) Level VI 電源規制認証

欧州CoC Tier 2 効率基準に対応



取扱商品

■ メディカル スイッチングACアダプター

医療機器の安全規格

Safety: IEC/ EN/ ANSI/AAMI ES60601-1 3.1 Edition

EMC: IEC60601-1-2 : 2014 (4.0 Edition)

6W~300W

DoE Level VI 電源規制認証



取扱商品

■ 情報技術/ 医療用 オープンフレーム電源

Single Output: 12W / 24W / 65W / 120W

150W / 200W / 小型200W

Dual Output: 210W / 305W / 512W / 612W

DoE Level VI 電源規制適合



安全規格

製品及び工場は全世界の安全認証取得済



IS13252(Part1)/
IEC 60950-1

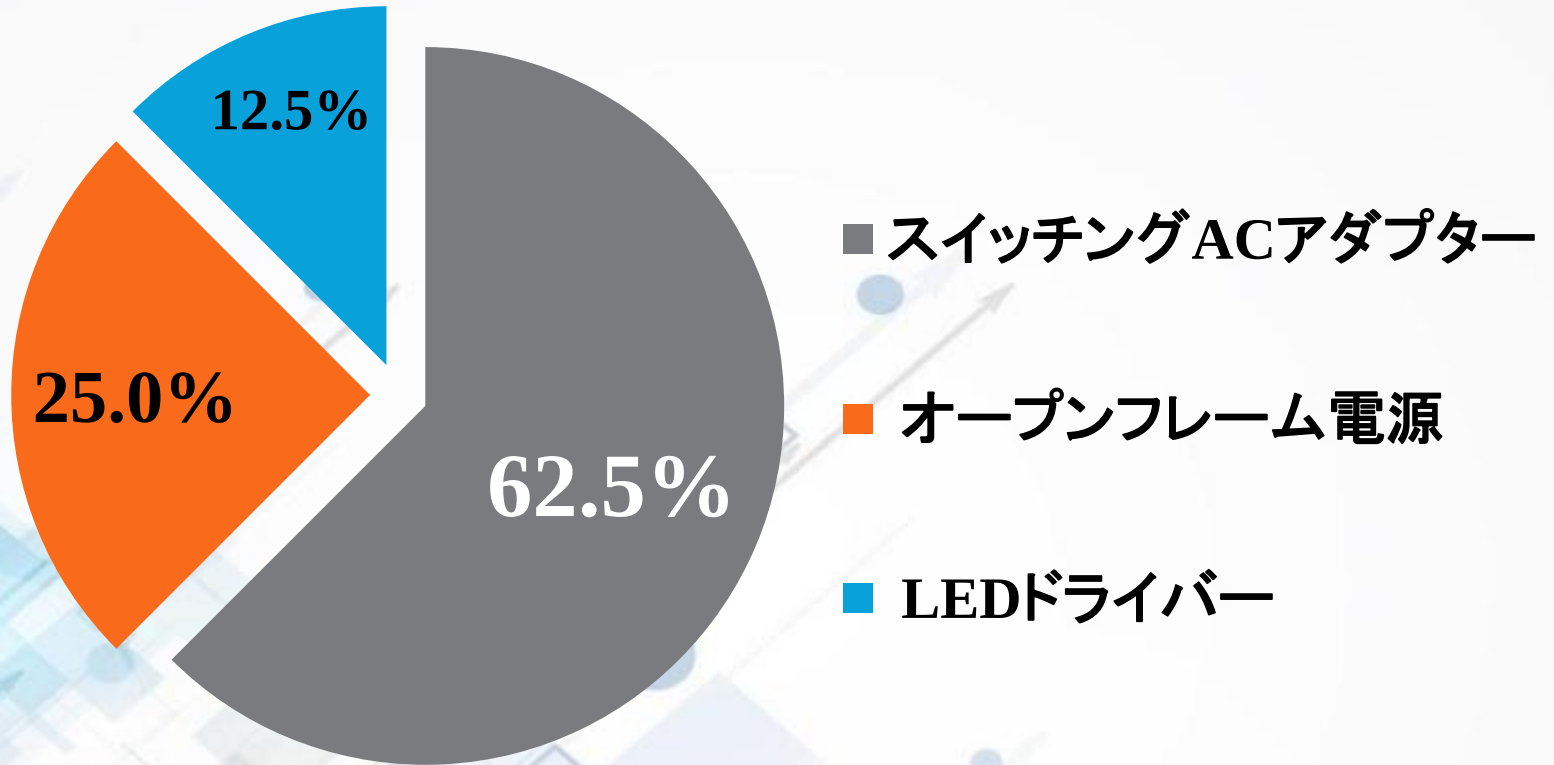


R-41013177



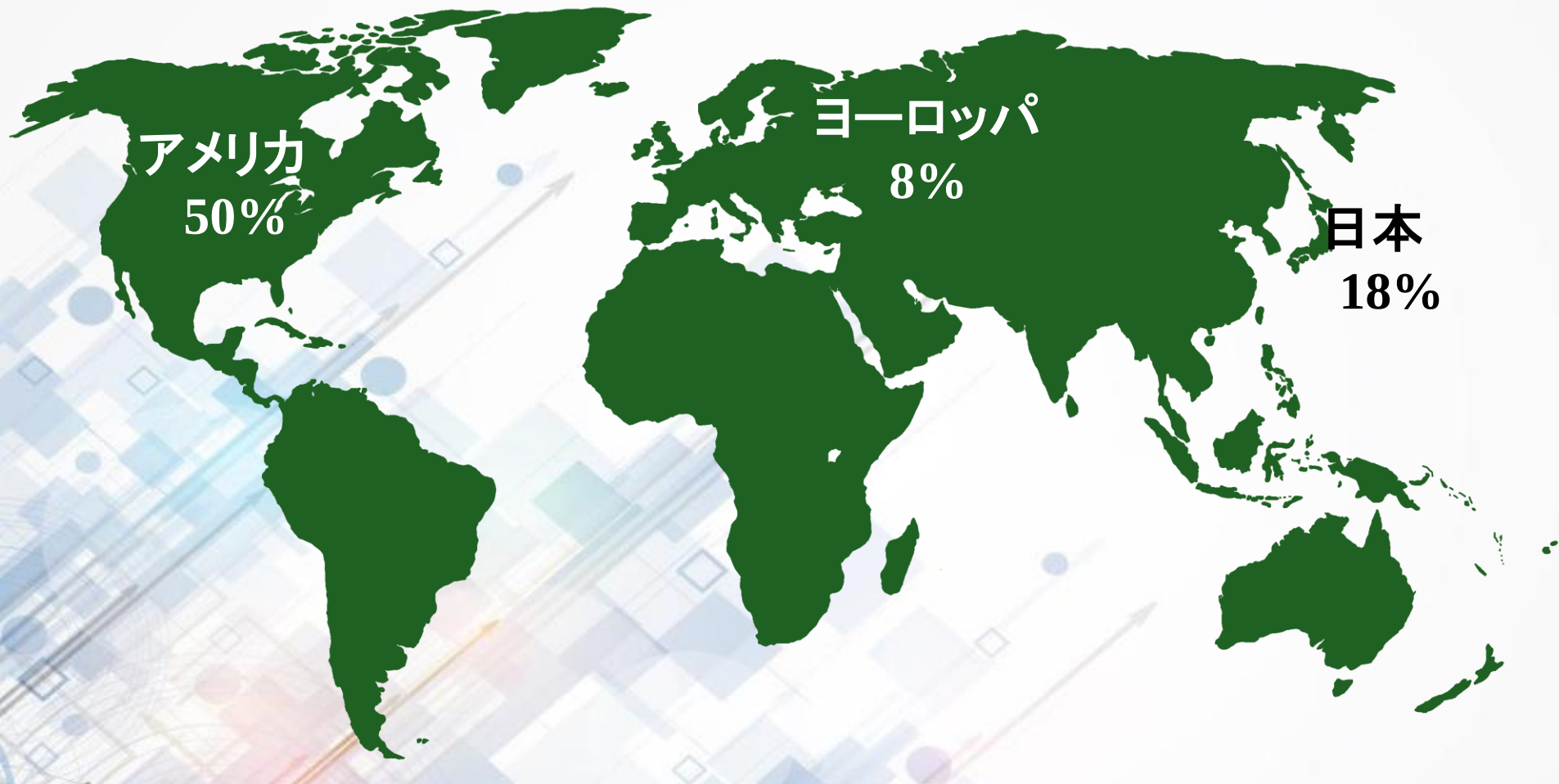
Adapter Technology Co., Ltd.

生産能力



	Quantity / Month	Capability / Month
スイッチングACアダプター	500K	850K
オープンフレーム電源	200K	250K
LEDドライバー	100K	200K

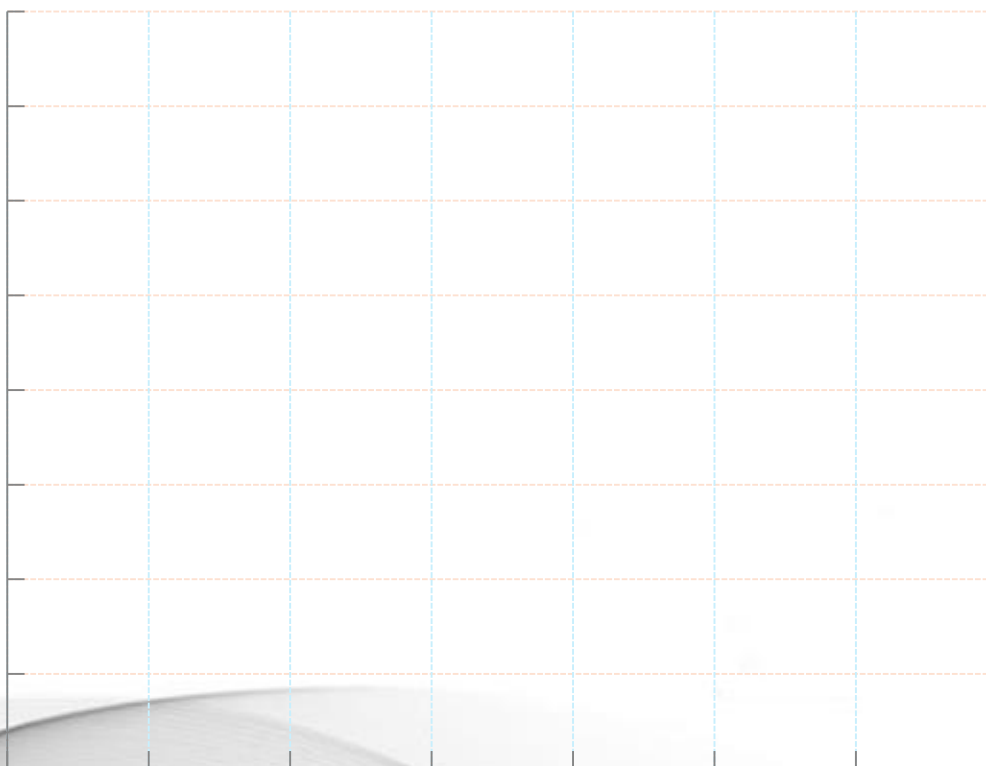
地域別セグメント売上構成比



アメリカ	ヨーロッパ	日本	その他
50%	8%	18%	24%

売上グラフ

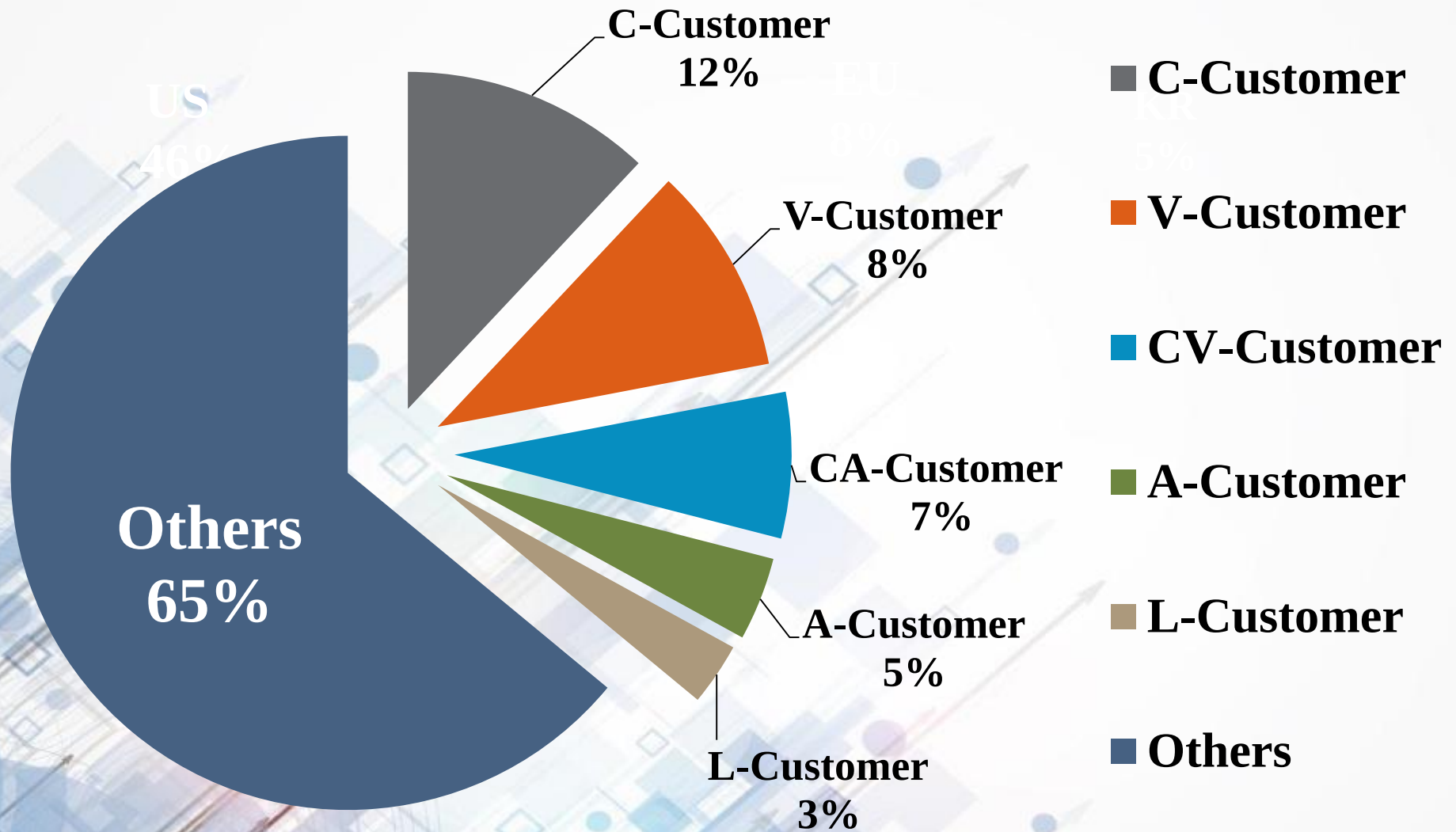
M/通用格式
M/通用格式
M/通用格式
M/通用格式
M/通用格式
M/通用格式
M/通用格式
M/通用格式



M/通用格式
M/通用格式
M/通用格式
M/通用格式
M/通用格式
M/通用格式
M/通用格式
M/通用格式

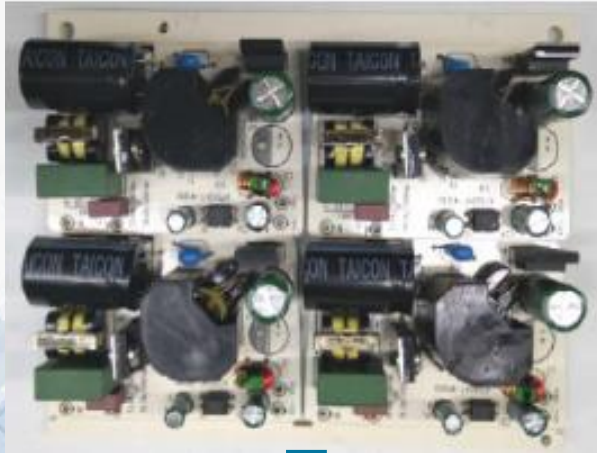
Year	Currency: USD (Million)
2011	26
2012	32
2013	33
2014	50
2015	45
2016	45
2017	50
2018	50
2019	50 約57億円(予定)

TOP 5 販売先



生產工程自動化

全自動塗布裝置

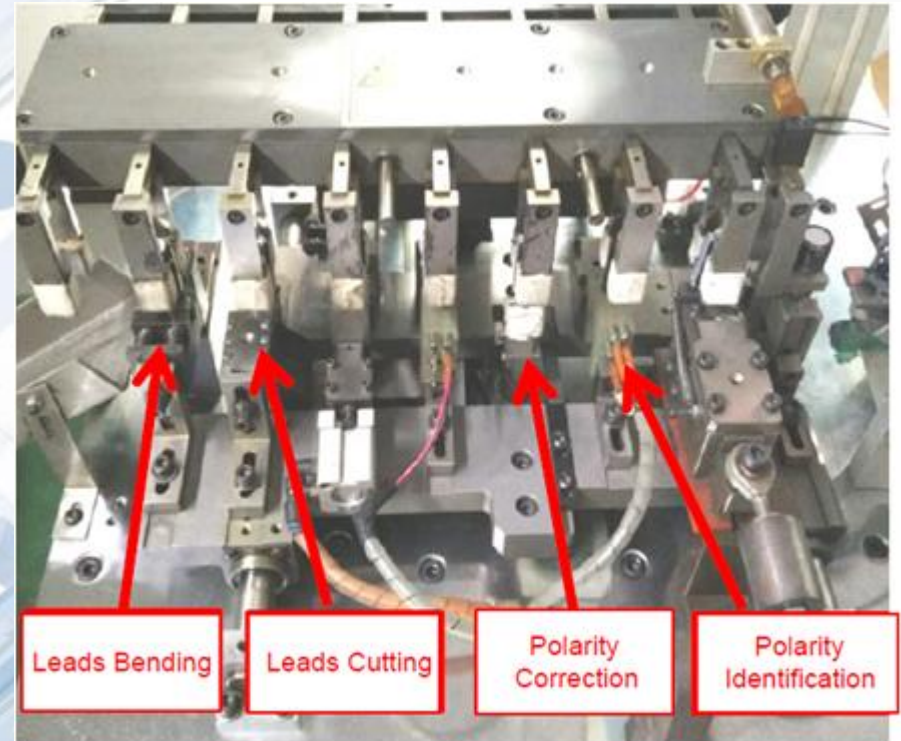


- 高品質
- 高効率
- 省力化



生産工程自動化

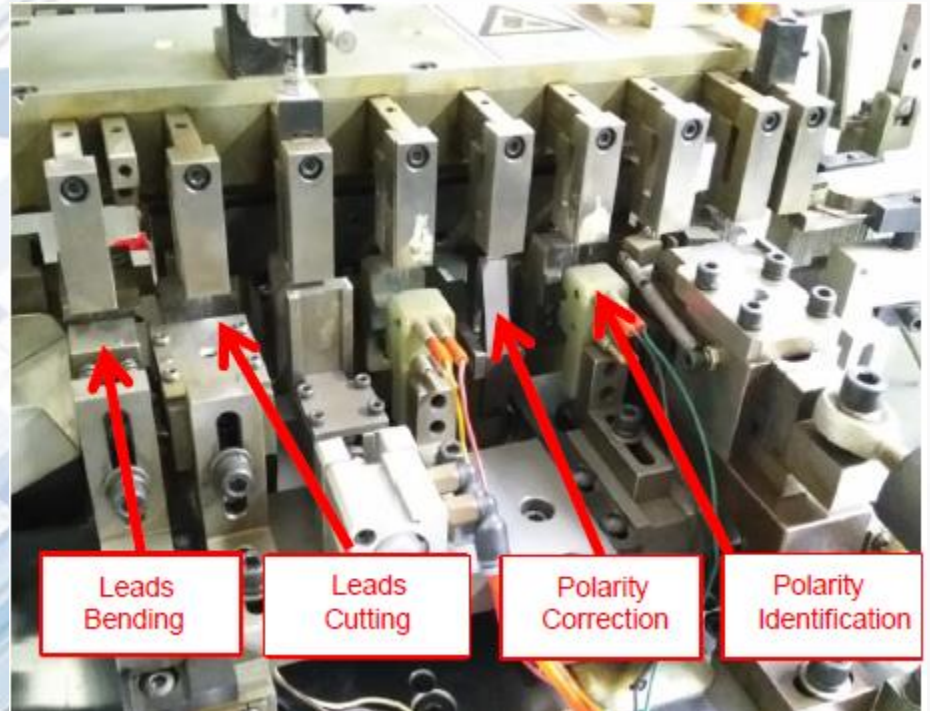
材料加工：
電子部品自動モールドング装置
(コンデンサーの足を切って曲げる機器)



生産工程自動化

材料加工:

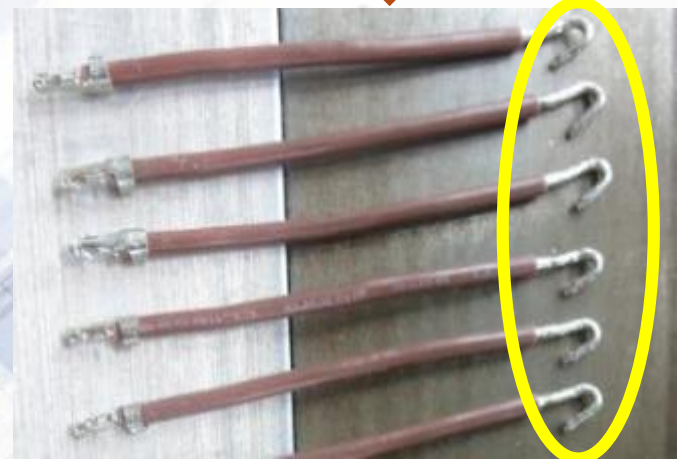
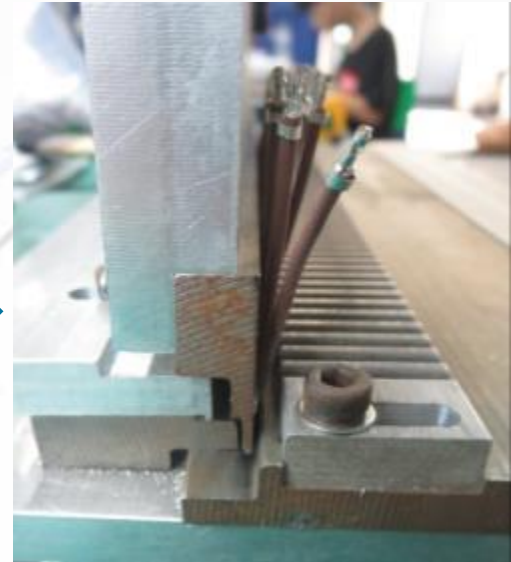
電子部品自動モールドング装置
(LEDの足を切って曲げる機器)



生産工程自動化

材料加工:

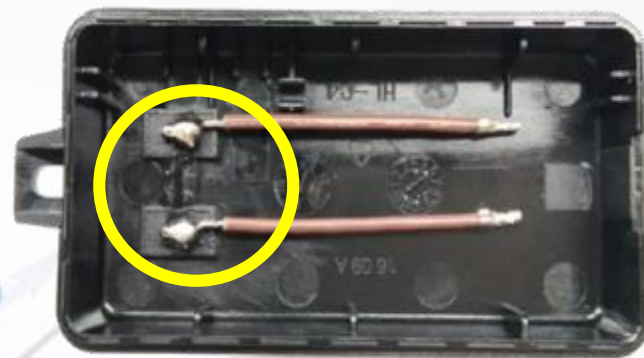
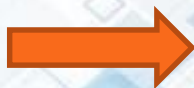
リード線自動曲げ加工器



生産工程自動化

材料加工:

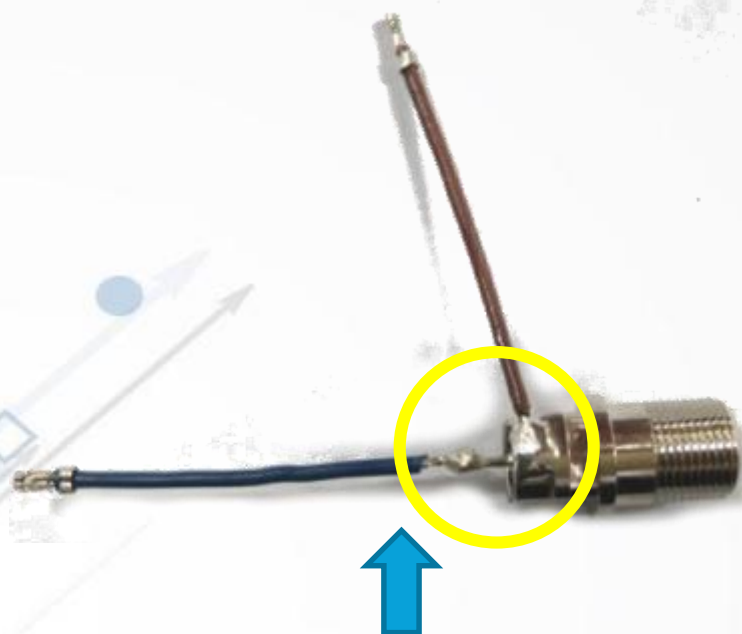
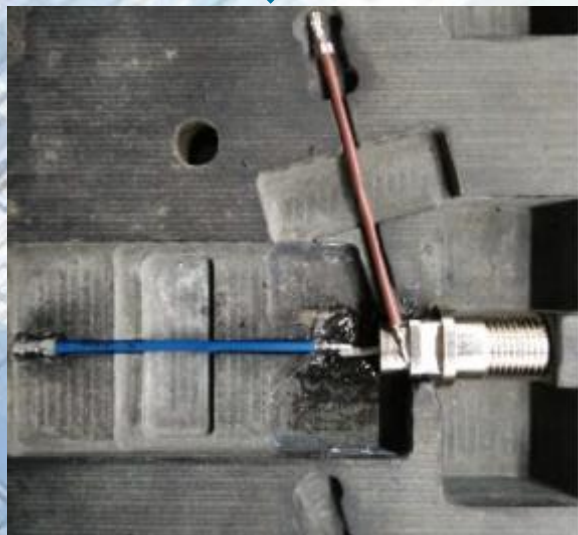
ACリード線の自動半田付け



生産工程自動化

材料加工:

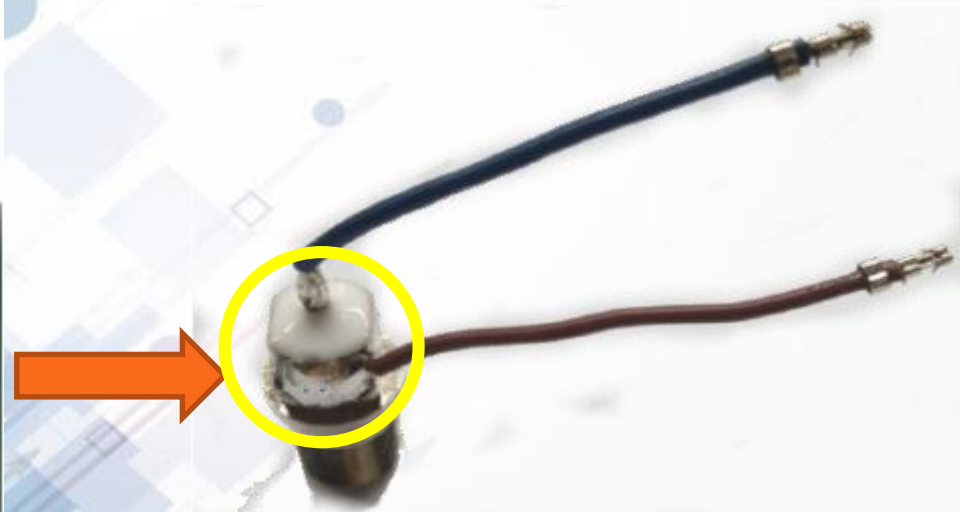
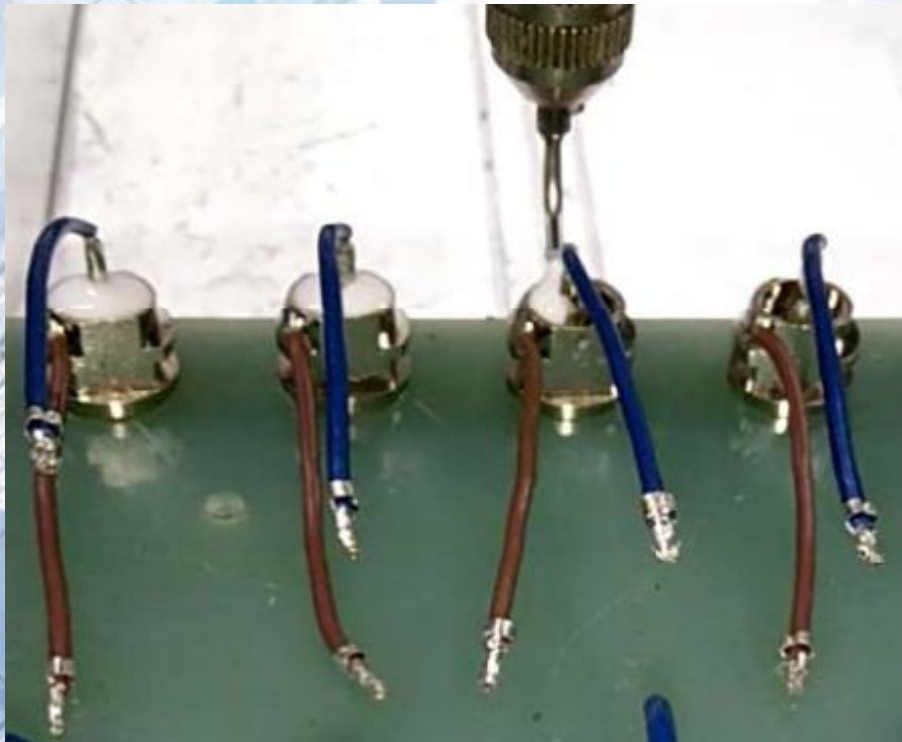
F型コネクタのリード線自動半田付け



生産工程自動化

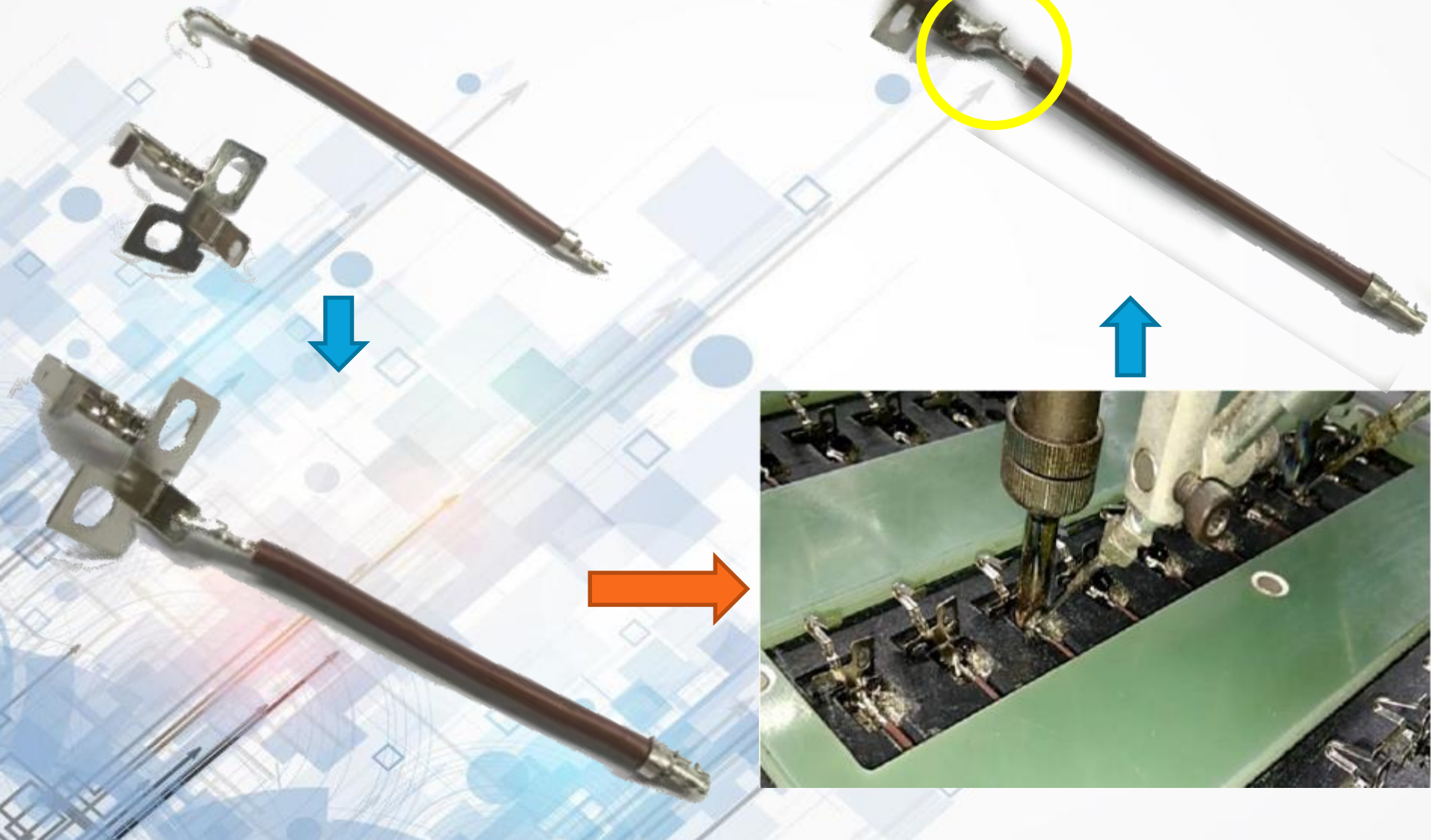
材料加工:

F型コネクタの接着剤自動塗布機



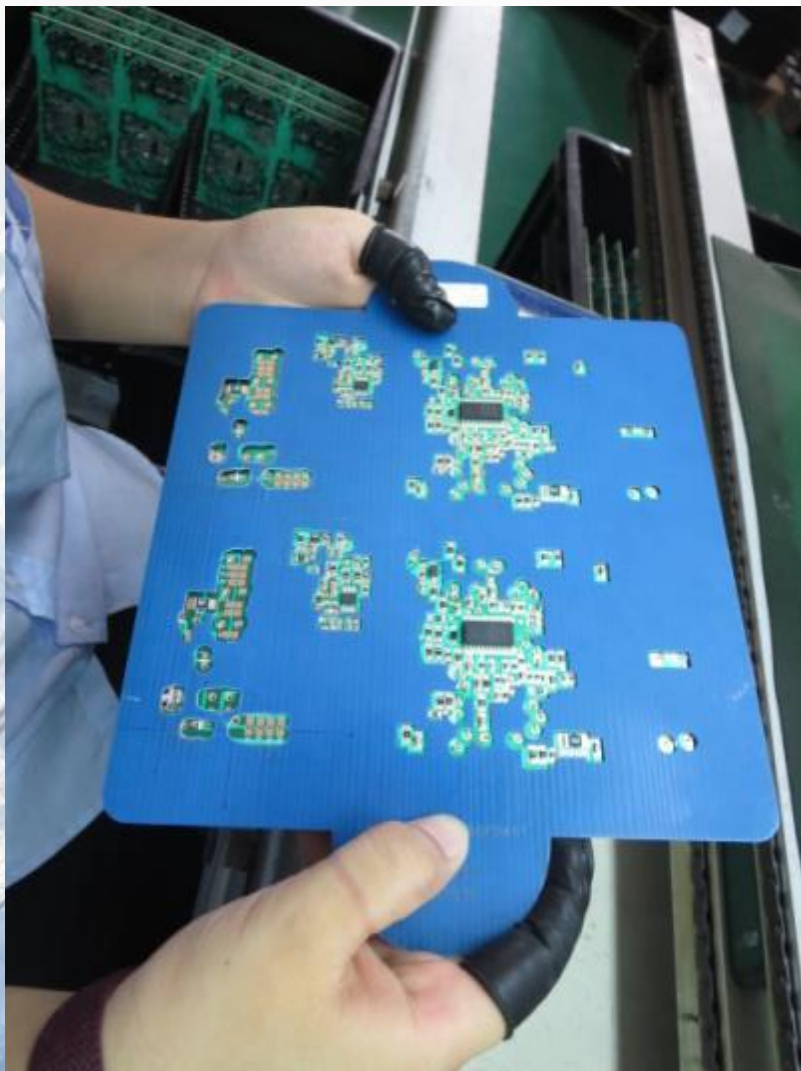
生産工程自動化

材料加工：
ばね自動半田付け



主な治具

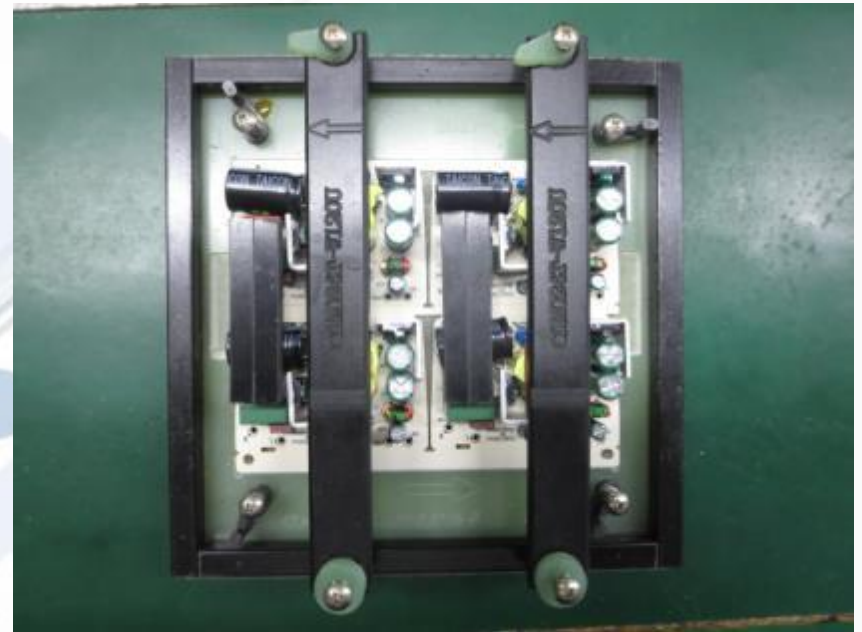
AI/SMD 部品の検査治具



手挿入工程前の目視検査

主な治具

フロー半田治具



ROHS 分析機器

SHIMADZU(島津) Model : EDX-GP



ロードマップ

- EU CoC Tier 2: 5W~250W
- 医療用アダプタ: 12W~200W
- ISO 13485

- **Develop High-End Power**
 - 1KW DSP
 - 1U 650W dual output
 - 200W Small Size Open Frame Power Supply
 - 450W Dual Output Open Frame Power Supply
 - 612W Open Frame Power Supply
- IEC/EN/UL 62368
- GaN FET Development

2015

2016

2017

2018

2019

Level VI
5W~300W

- 6W 医療用ウォールマウントACアダプタ、250W, 300W(クラス I / II)
- USB P.D. Type C 45W/60W Power Supply
- 60W ウォールマウントACアダプタ

- DC-DC Power Module Development
- 120W~300W GaN FET Adapter Development



ENGINEER RESOURCE



- 毎年、国立台北科技大学の大学院生3名に奨学金を提供しています
- エンジニアには大学院学位取りの学費免除を提供しています
- Yen-Shin Lai 教授(IEEE Fellow)とブリッジレスのPFC線路を交流しています
- 大学と交流を続けながら、技術を向上しています

学士: 15名

大学院: 6 名



- 高容量電源の開発能力を持ちます(1KW, 2KW, 3KW)
- 世界のトレンドに対応 : ワイヤレス充電器 / USB Type C 45W / 60W



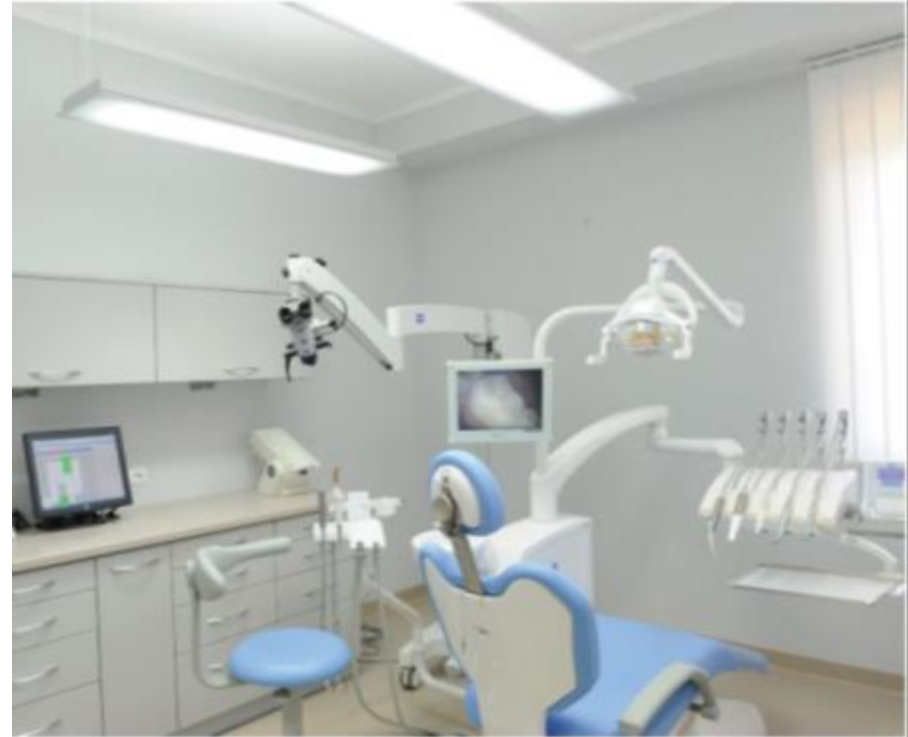
経営理念

- 技術指向 & 技術革新
- 顧客第一
- カスタム設計が可能
- 高品質な製品



医療用のアプリ

- 医療用ベッド
- 医療用オールインワンパソコン
- 人体透析機
- 医療用モニタ
- 医療用プリンター



カスタム品

カスタム開発歓迎！



300W High Voltage Power Supply

- **Input Voltage: 100 ~ 240Vac**
- **Output: 75V / 4A**
- **Meet EN 60335-1**
- **Class II Design**
- **With C18 AC Socket**
- **Application:**
Electric Wheelchair (IBOT)



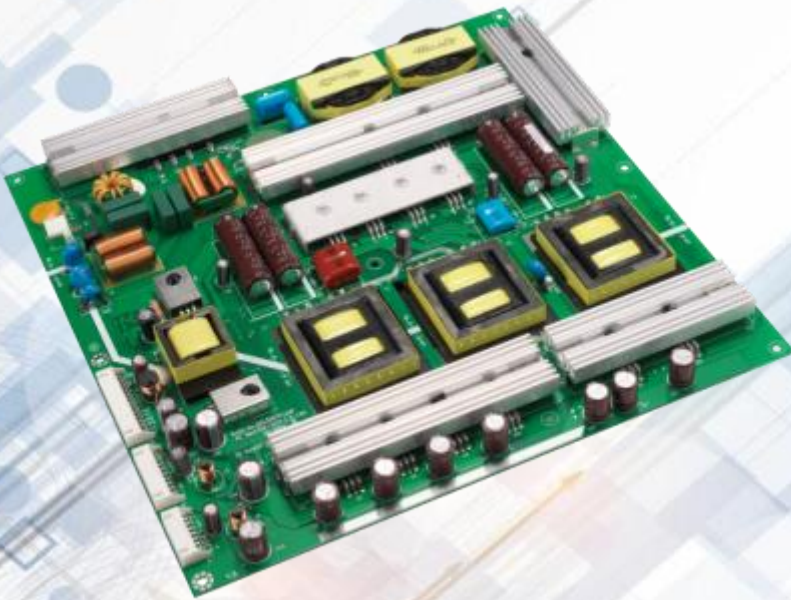
Gambling Machine

Open Frame Power Supply

- **Input Voltage: 100Vac**
- **Multiple Output, up to 338W**
- **OCP / OVP / OTP / SCP / UVP Design**
- **Dimension:**
192(L) x 182(W) x 60(H) mm
- **Application: Pachinko Slot**



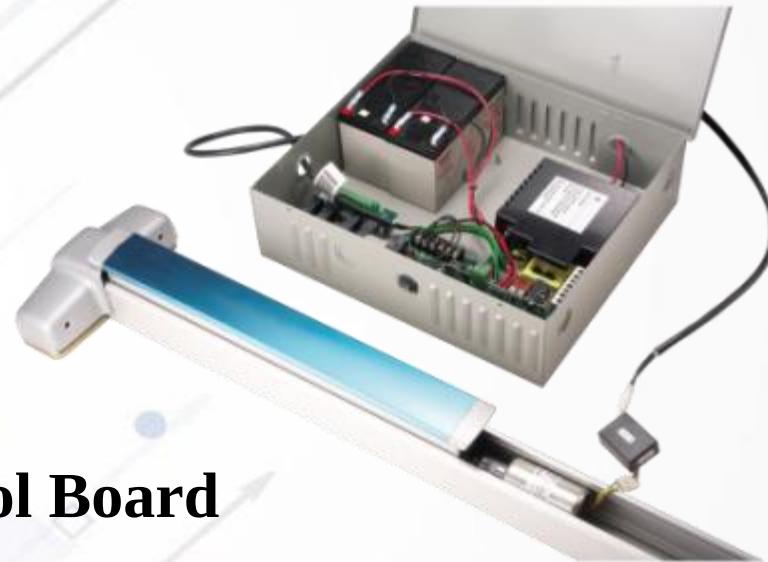
350W Triple Output Open Frame Power Supply



- **Input Voltage: 100 ~ 240Vac**
- **Output: (1) 24V / 10A
(2) 12V / 8A
(3) 5V / 3A**
- **Slim Type Design**
- **Dimension:
250(L) x 250(W) x 15(H) mm**
- **Application: 55 inch LCD TV**

Access Control Unit Power Supply

- **Input Voltage: 100 ~ 240Vac**
- **Output Selectable:**
12V / 4A & 28.8V / 0.5A or
24V / 4A (Peak 17A) & 28.8V / 0.5A
- **With Safety Cover and Iron box**
- **With Battery Backup Board / Control Board**
- **Application: Security System**



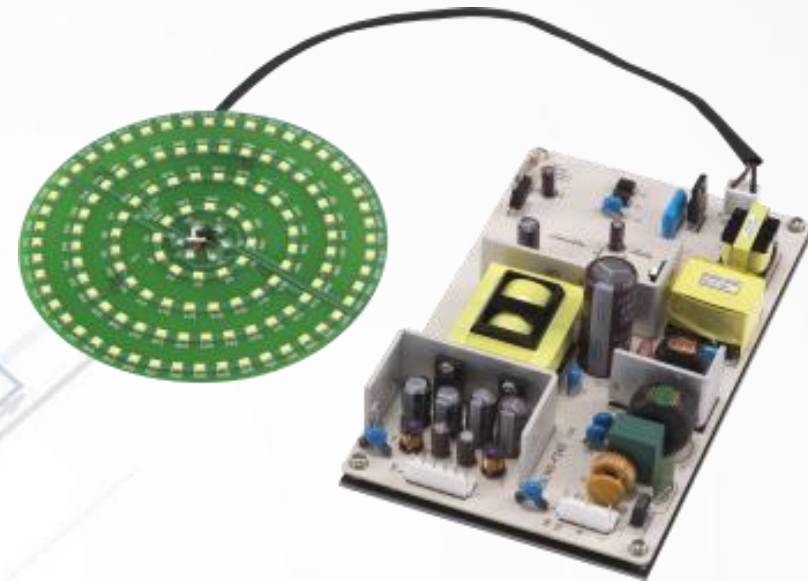
Dialysis Machine Power Supply

- **Input Voltage: 100 ~ 240Vac**
- **Multiple Output, up to 431W**
- **Means of Protection:**
2 X MOPP
- **OCP / OVP / OTP / SCP Design**
- **Application: Dialysis Machine**



140W Integrated Open Frame Power Supply

- **Input Voltage:** 100 ~ 240Vac
- **Main Power (Dual Output)**
Output: 24V / 0.2~3A (Peak 4.5A / 15S max.)
8V / 0.2~4A
- **Total Power:** 104W max.
(Peak 140W@15s when LED Driver OFF)
- **LED Driver**
Output: 18V~170V/80mA (Constant Current)
- **5-Way Dimmer**
- **Dimension:** 110(L) x 185(W) x 40(H) mm
- **Application:** Vending Machine



Dimming Rate	Dimming Signal 1	Dimming Signal 2	ON / OFF
100%	High (24V)	High (24V)	Low (0~1V)
50%	Low (0~1V)	High (24V)	Low (0~1V)
25%	High (24V)	Low (0~1V)	Low (0~1V)
10%	Low (0~1V)	Low (0~1V)	Low (0~1V)
0%	---	---	High (24V)

10.5W DC-DC USB Charger



- **Input Voltage: 18 ~ 36Vdc**
- **Output: 5V / 2.1A**
- **CISPAR 25, EMI Standard for Automotive Industry**
- **With USB Port**
- **Application: Bus Charger**

1U Rack Mount 640W Dual Output Power Supply

- **IEC 60950-1 Approval**
- **Input Voltage: 100~240Vac**
- **Output: 24V / 16.67A & 48V / 5.0A**
- **Forced-Air Cooling**
- **Application: IPC**
- **Dimension: 12.7" x 2.1" x 1.6" (inch)**



NEW PRODUCT

12W Small Size Wall Mount Type Power Supply



- **Input Voltage: 100 ~ 240Vac**
- **Output Voltage: 3.3V ~ 24V Available**
- **With US type AC plug**
- **IEC / UL 62368 Approval**
- **Meet DoE Level VI**
- **Dimension:**
65.4(L) x 33.8 (W) x 25.4 (H) mm

NEW PRODUCT

60W Wall Mount Type Power Supply



- **Input Voltage: 100 ~ 240Vac**
- **Output Voltage: 12V ~ 48V Available**
- **IEC / UL 60950 & 62368 Approval**
- **Meet DoE Level VI & CoC Tier 2**



NEW PRODUCT

45W USB Type-C P.D. Power Supply



- **Input Voltage: 100 ~ 240Vac**
- **Output :**
5V/ 3A or 9V / 3A or 12V / 3A or
15 / 3A or 20V / 2.25A
(System control through CC1)
- **IEC / UL / EN 60950 Approval**
- **Meet Power Delivery 3.0**
- **Meet DoE Level VI**

NEW PRODUCT

65W USB Type-C P.D. Power Supply



- **Input Voltage: 100 ~ 240Vac**
- **Output :**
5V / 3A or 9V / 3A or 12V / 3A or
15 / 3A or 19V / 3.43A or 20V / 3.25A
(System control through CC1)
- **IEC / UL / EN 60950 Approval**
- **Meet Power Delivery 3.0**
- **Meet DoE Level VI**

NEW PRODUCT

60W Power Module



- **Input Voltage: 100 ~ 240Vac**
- **Output Voltage: 12V~48V Available**
- **Screwed Type & Pin Type**
- **Meet DoE Level VI**
- **Dimension:**

Screwed Type: 109(L) x 52(W) x 33.5(H)mm

Pin Type: 87(L) x 52(W) x 30.3(H)mm



NEW PRODUCT

210W I.T.E./Medical Dual Output Open Frame Power Supply



- **Input Voltage: 100 ~ 240Vac**
- **Output Voltage: 12V, 24V, 48V**
 - **Normal Output: 160W**
 - **Up to 210W with 11 CFM Fan**
- **With 5V/2A Standby & ON/OFF Remote Control**
- **Meet DoE Level VI**
- **Dimension: 3" x 5" x 1.5" (inch)**

NEW PRODUCT

305W I.T.E./Medical Dual Output Open Frame Power Supply



- **Input Voltage: 100 ~ 240Vac**
- **Output Voltage: 12V, 24V, 48V**
 - **Normal Output: 255W**
 - **Up to 305W with 11 CFM Fan**
- **With 5V/1A Standby & ON/OFF Remote Control**
- **Meet DoE Level VI**
- **Dimension: 3" x 5" x 1.5" (inch)**



NEW PRODUCT

612W I.T.E./Medical Dual Output Open Frame Power Supply



- **Input Voltage: 100 ~ 240Vac**
- **Output : 12V, 24V, 36V, 48V Available**
- **With 5V/1A Standby & ON/OFF Remote Control**
- **With 12V/0.6A For Fan Output**
- **Convection Cooling (Without Fan)**
- **Efficiency: 95% (Typical)**
- **Dimension: 5" x 8" x 1.6" (inch)**



NEW PRODUCT

200W I.T.E./Medical

Small Size Open Frame Power Supply



- **Input Voltage: 100 ~ 240Vac**
- **Output Voltage: 12V, 15V, 24V, 36V, 48V**
 - **Normal Output: 140W**
 - **Up to 200W with 12 CFM Fan**
- **Meet DoE Level VI**
- **Dimension :**
 - **Open Type: 2" x 4" x 1.4" (inch)**
 - **Enclosed Type: 2.4" x 4.1" x 1.7" (inch)**



NEW PRODUCT

512W I.T.E./Medical Dual Output Open Frame Power Supply



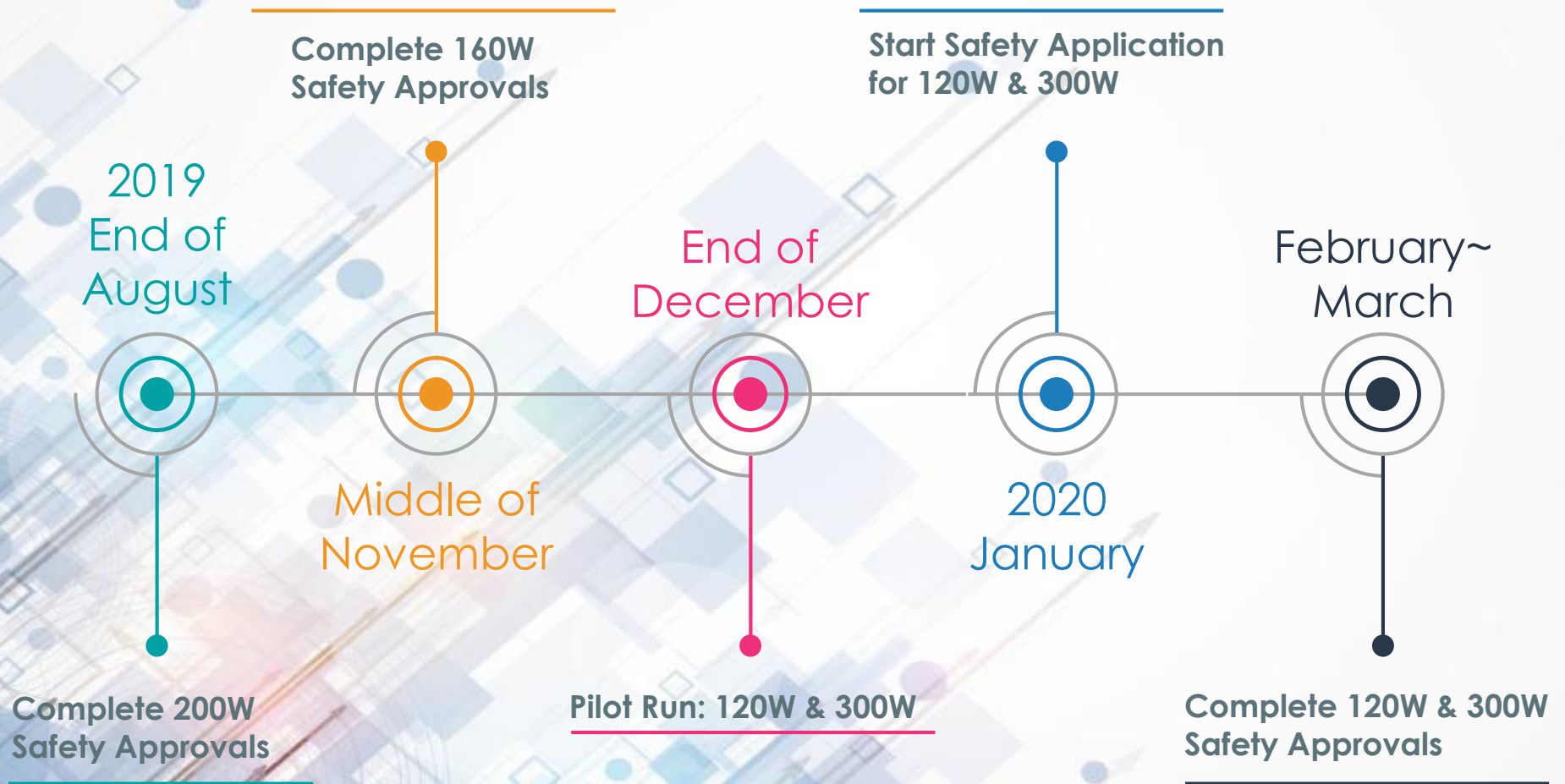
- Input Voltage: 90 ~ 264Vac
- Output Voltage: 12V, 15V, 19V, 24V, 36V, 48V, 54V, 56V
 - Normal Output: 255W (natural convection cooling)
 - Up to 460W with 12 CFM Fan
 - Up to 512W with 16 CFM Fan
- With 12V / 0.6A Output For Fan
- With 5V / 1A Standby & ON/OFF Remote Control
- Power Density: 23.7W/in³
- Means of Protection: 2 X MOPP
- Low Leakage Current: < 100uA
- EMC : EN55011(CISPR 11) EN60601-1-2
Conducted & Radiated Class B (ED 4.0)
- OVP / SCP / OCP / OTP Design
- Hold Up Time: 16mS
- High Efficiency up to 95%
- Operating Temp.: -40 ~ +70 degree C
- Dimension:
 - Open Type: 3" x 5" x 1.3" (inch)
 - Enclosed (Top Fan): 3.4" x 5" x 2.0" (inch)
 - Enclosed (Side Fan): 3.2" x 5.9" x 1.6" (inch)

GaN FET Power Supply Project



- **120W~300W Development**
- **Gallium Nitride Based Design**
- **High Power Density**
- **With 250KHz Frequency Switching**
- **Compact Power Stage Design**
- **Efficiency: 95% (Typical)**
- **Lower Consumption than MOS FET**
- **High Circuit Reliability**

GaN FET Project Schedule



NEW PRODUCT

120W GaN FET Power Supply

2X Smaller!



- **High Power Density: 9.1W/inch³**
- **202% Higher than Traditional 120W AC Adapter (4.5W/inch³)**
- **IEC/UL/EN 60950-1 & 62368-1 Approval**
- **Meet DoE Level VI & CoC Tier 2**
- **Input Voltage : 100 ~ 240Vac**
- **Output Voltage : 12V, 19V, 20V, 24V, 48V, 56V**
- **Efficiency: 95% (Typical)**
- **Compact Power Stage Design:**
 - **C6&C8&C14 : L 132 x W 51.2 x H 32 (mm)**



NEW PRODUCT

160W GaN FET Power Supply

2X Smaller!



- **High Power Density: 10W/inch³**
- **208% Higher than Traditional 160W AC Adapter (4.8W/inch³)**
- **IEC/UL/EN 60950-1 & 62368-1 Approval**
- **Meet DoE Level VI & CoC Tier 2**
- **Input Voltage : 100 ~ 240Vac**
- **Output Voltage : 12V, 19V, 24V, 48V, 56V**
- **Efficiency: 95% (Typical)**
- **Compact Power Stage Design:**
 - **C14 : L161 x W54 x H33 mm**
 - **C6 & C8: L150 x W54 x H33 mm**



NEW PRODUCT

200W GaN FET Power Supply

2.5X Smaller!



- **High Power Density: 12.5W/inch³**
- **250% Higher than Traditional 200W AC Adapter (5.3W/inch³)**
- **IEC/UL/EN 60950-1 & 62368-1 Approval**
- **Meet DoE Level VI & CoC Tier 2**
- **Input Voltage : 100 ~ 240Vac**
- **Output Voltage : 12V, 19V, 19.5V, 20V, 24V, 48V, 56V**
- **Efficiency: 95% (Typical)**
- **Compact Power Stage Design:**
 - **C14 : L161 x W54 x H33 mm**
 - **C6 & C8: L150 x W54 x H33 mm**



NEW PRODUCT

250W GaN FET I.T.E/Medical Power Supply

2.3X Smaller!

- **High Power Density: 11W/inch³**
- **230% Higher than Traditional 250W AC Adapter (4.9W/inch³)**
- **IEC/UL/EN 60950-1 & 62368-1 Approval**
- **IEC/ EN/ ANSI/AAMI ES60601-1 (Edition 3.1)**
- **EMC: IEC 60601-1-2 : 2014 (Edition 4.0)**
- **Meet DoE Level VI**
- **Input Voltage : 100 ~ 240Vac**
- **Output Voltage : 12V, 15V, 19V, 24V, 48V, 56V**
- **Efficiency: 95% (Typical)**
- **Compact Power Stage Design:**
 - **C14&C18 Inlet: L171x W66 x H33 mm**



NEW PRODUCT

300W GaN FET I.T.E/Medical Power Supply

3X Smaller!

- **High Power Density: 10.8W/inch³**
- **300% Higher than Traditional 300W AC Adapter (3.6W/inch³)**
- **IEC/UL/EN 60950-1 & 62368-1 Approval**
- **IEC/ EN/ ANSI/AAMI ES60601-1 (Edition 3.1)**
- **EMC: IEC 60601-1-2 : 2014 (Edition 4.0)**
- **Meet DoE Level VI**
- **Input Voltage : 100 ~ 240Vac**
- **Output Voltage : 12V, 15V, 19V, 24V, 48V, 56V**
- **Efficiency: 95% (Typical)**
- **Compact Power Stage Design:**
 - **C14&C18 Inlet: L180.5x W77.2 x H33.2 mm**



