

Radbon

Radbon Electronics

COMPANY PROFILE

Radbon AT A GLANCE

Founded
2015

Headquarters
Taiwan

Service Network
Worldwide

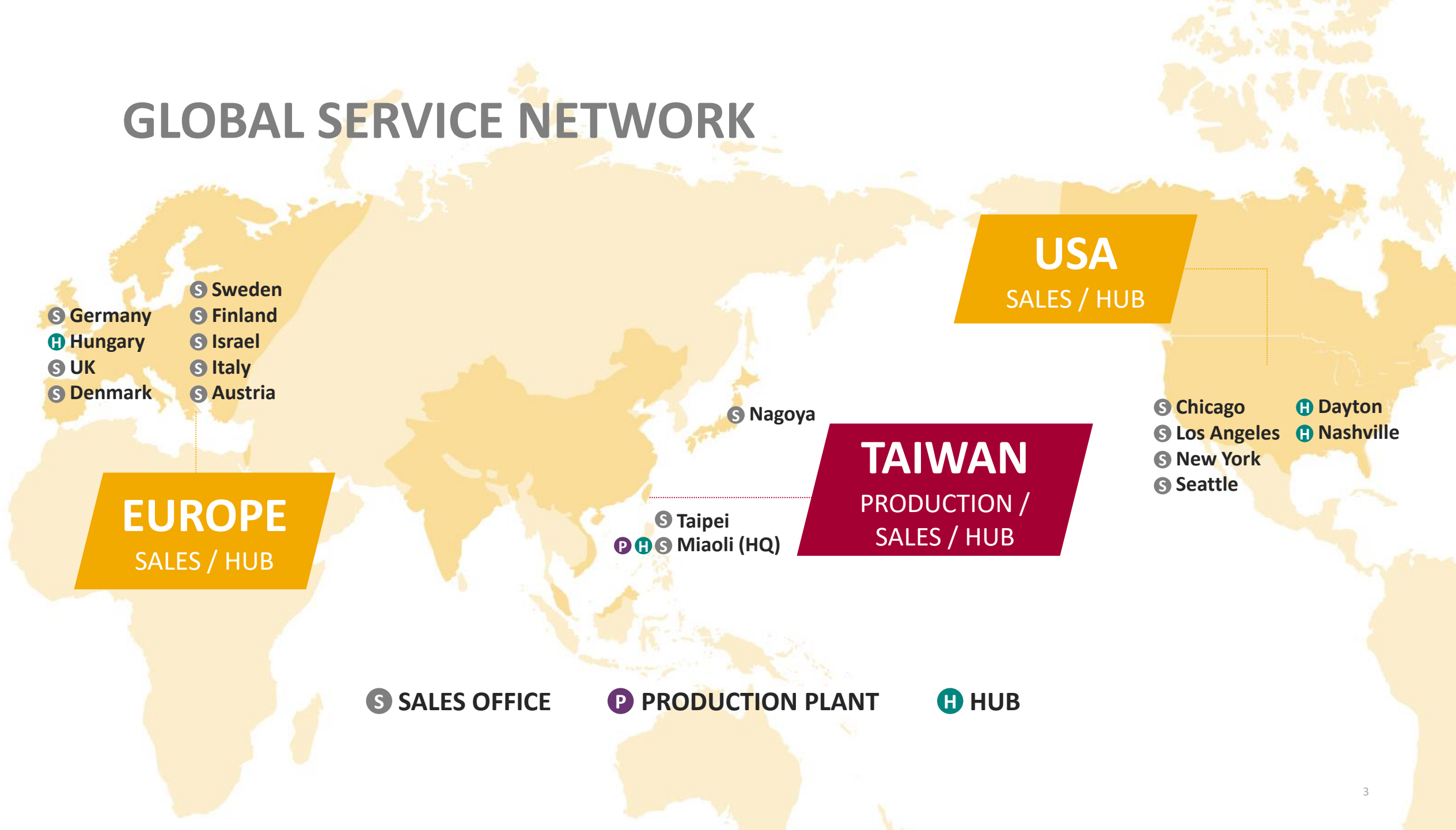
Employees
150 ↑

Major Product
E-BOX Assembly, Cable Assembly & PCBA

Radbon as an integrated **SOLUTION PROVIDER** in the aviation and defense industries, its our mission to create increasing value through continuous development on technologies and services to our customers worldwide.



GLOBAL SERVICE NETWORK



EUROPE
SALES / HUB

- S Sweden
- S Finland
- S Germany
- H Hungary
- S UK
- S Denmark
- S Israel
- S Italy
- S Austria

TAIWAN
PRODUCTION /
SALES / HUB

- S Nagoya
- S Taipei
- P H S Miaoli (HQ)

USA
SALES / HUB

- S Chicago
- S Los Angeles
- S New York
- S Seattle
- H Dayton
- H Nashville

S SALES OFFICE P PRODUCTION PLANT H HUB

MANUFACTURING CAPABILITY - TAIWAN

Features

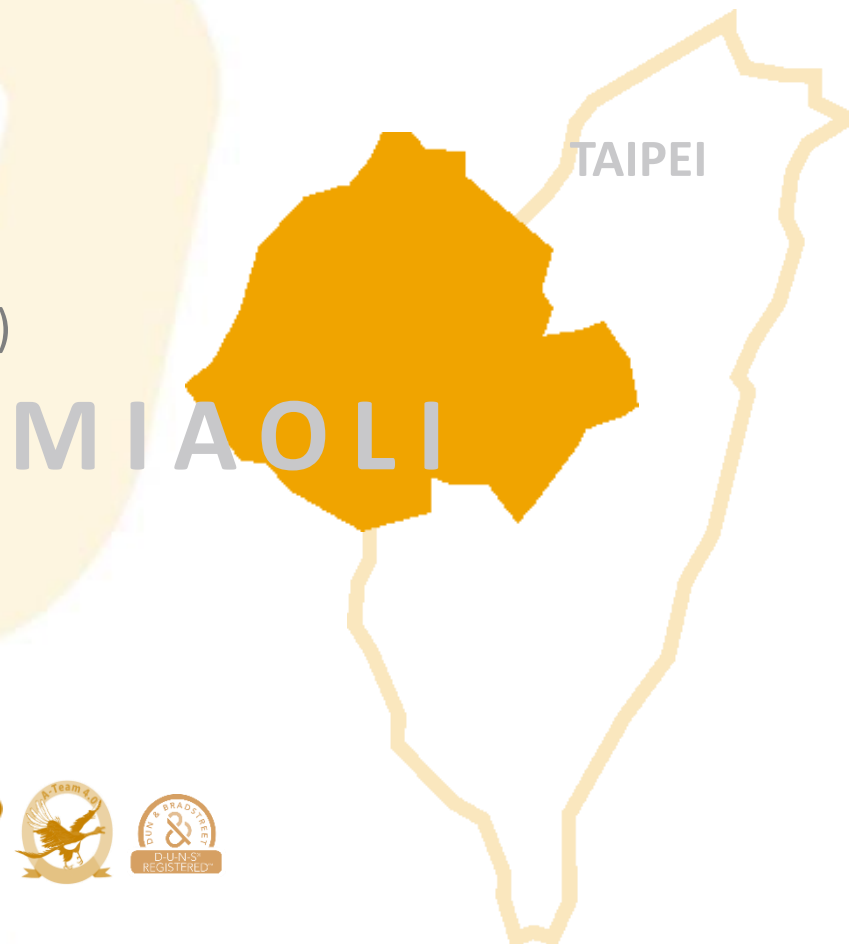
- E-Box assembly
- Cable assembly & harness
- PCB assembly
- High mix low volume
- Clean room (Class 6.5, 100,000)

Available Space

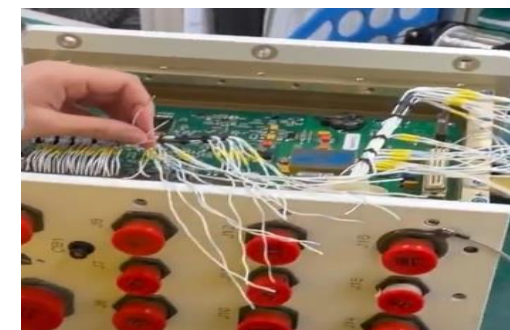
Factory – 3,000 m² +

Employees

>150+



Cable Assembly Workshop



E-Box Assembly



OUR CAPABILITY

Core Competencies

- Technical documentation management
- E-traceability system
- Customized Products
- Flexible manufacturing
- Original and certified tooling
- Low volume high mix

Certifications-Quality System



AS9100D



ISO 9001



ISO 27001

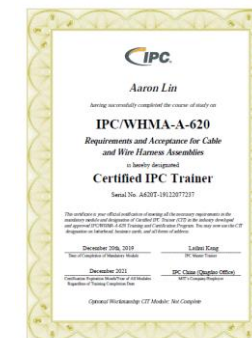
Certifications-Inspection Standards



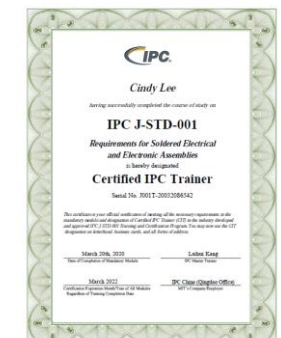
NASA-STD-8739.4
Crimp, cable and harness



IPC-A-610
PCBA (Class 3)



IPC-A-620
Cable (Class 3)



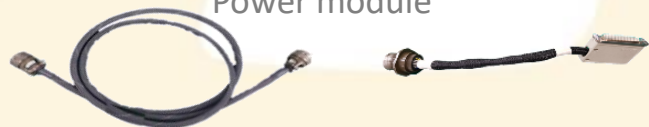
IPC-J-STD-001
Soldering (Class 3)

APPLICATIONS

Aviation



Power module



Gyroscope Testing Cable

Launcher Cable



Aircraft Engine



Mechanical Cable

Vessel



Communication device



Engine Cable

Land Vehicle



Communication device



Interconnection system



Land Vehicle ABS system

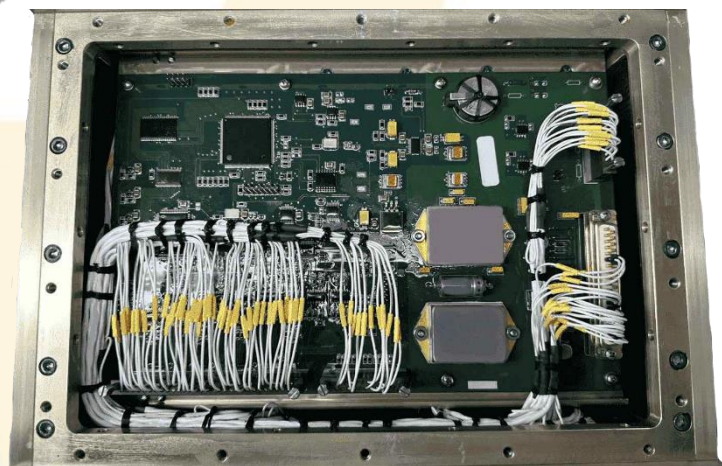
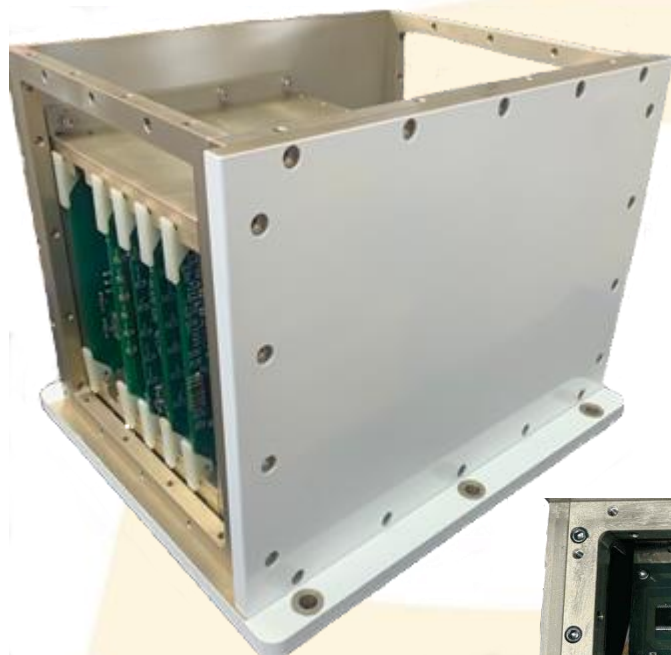


SUB-SYSTEM CAPABILITY

SUB-SYSTEM STANDARD

Item	Spec.
Electromagnetic Compatibility	<ul style="list-style-type: none"> MIL-STD-461 EMI/EMC Test
Environmental Engineering	<ul style="list-style-type: none"> MIL-STD-810 Test
Chassis	<ul style="list-style-type: none"> MIL-I-46058C Multilayer Military Conformal Coating MIL-STD-1547B Corrosion Treatment on Aluminum MIL-C-83286B External Surface Painting
PCBA	<ul style="list-style-type: none"> MIL-S-13949/5 Class V Printed Circuit Board IPC-4101 Specification
Interface	<ul style="list-style-type: none"> MIL-DTL-55302F Class I VME bus Connectors MIL-C-24308C Class I Cannon Type D Other MIL Standard connector
Gasket	<ul style="list-style-type: none"> MIL-R-6130C EMI/EMC Gasket
Fan	<ul style="list-style-type: none"> MIL-B-23071C & MIL-B-28873 Fans
Power	<ul style="list-style-type: none"> MIL-STD-704F & MIL-STD-1275D Power Supply MIL-E-7016F Electric Load & Power Source Capacity, aircraft
Screws	<ul style="list-style-type: none"> AISI 316 (A4) Screws, Inserts & Accessories
Components	<ul style="list-style-type: none"> MIL-STD-202 Electronic and Electrical Component Parts

CHASSIS



Printed Circuit Board

MIL-S-13949/5 Class V

Multilayer Military Conformal Coating

MIL-I-46058C

Corrosion Treatment on Aluminum

MIL-STD-1547B

External Surface Painting

MIL-C-83286B

INTERFACES

Spec.

- Ethernet 10/100/1000 Base T LAN/WAN interfaces for radio/satellite
- RS232 for applications connectivity
- RS422/423 for applications connectivity
- MIL-STD-118-114A Electrical Characteristics of digital interface circuits
- USB local management interface

RS232/422 interface



8 Ethernet 10/100/1000 Base T LAN/WAN interface



UHF/HF/VHF interface

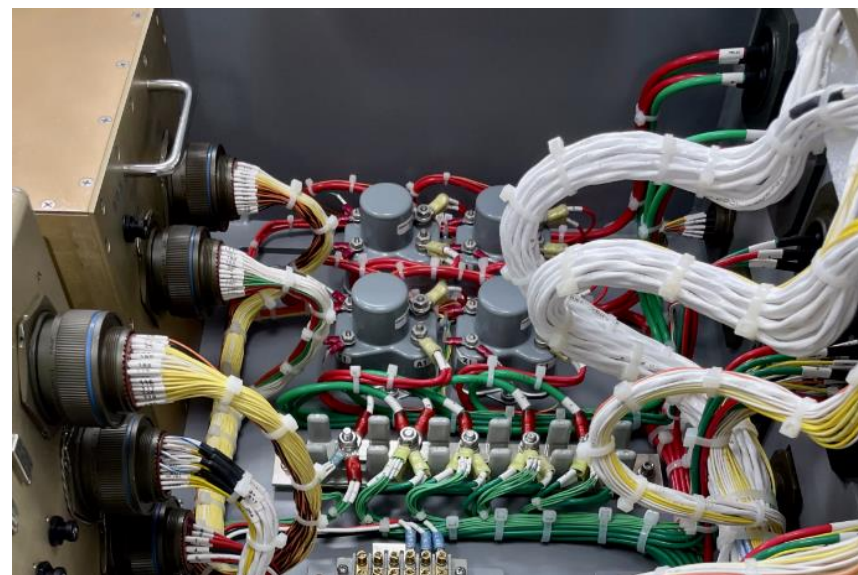


MIL-DTL-55116 connector

E-BOX TEST STATION



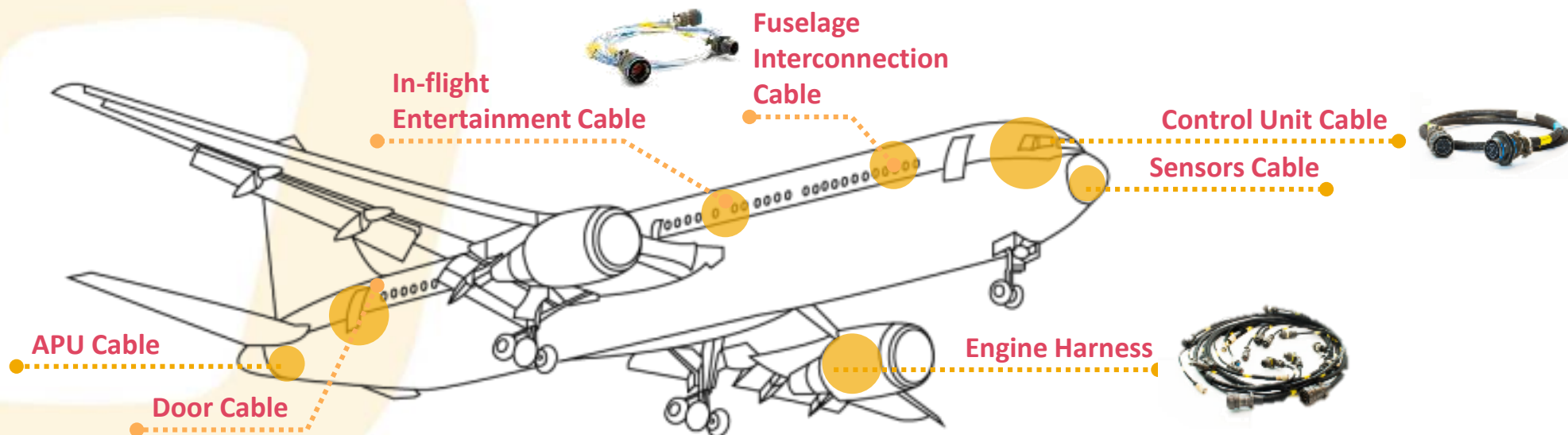
E-BOX ASSEMBLY





CABLE CAPABILITY

SOLUTIONS FOR AVIATION INDUSTRY



Light Weight

Reduce the overall weight of aircraft and saving fuel costs

High Stability

Anti-vibration features ensures your electronics stay connected in high vibration environments

Anti-EMI

Protects your system from interference and EMI

Tech Data





Temp. range -55°C-200°C
Voltage rating 600/1000V AC

Reliable

AS9100 & ISO9001
IPC-A-620 Class 3
IPC-J-STD-001

SOLUTIONS FOR AVIATION INDUSTRY

Product Experience

Application	Picture	Feature
Engine Harness		<ul style="list-style-type: none"> • Fiberglass material for protection from extreme heat • Light-weight materials used to reduce the weight of cable assembly • Complex cable harness with numerous branches, fixed tightly with M85049/128 bands
Pylon Cable		<ul style="list-style-type: none"> • Precise metal cutting & surface finishing for mechanical assembly • Anti-EMI protection to reduce interference • Locating pin design for push-pull coupling system • Rugged design to operate in harsh environments
Fuselage Interconnection		<ul style="list-style-type: none"> • Lightweight solution minimizes the weight of cable assembly • MIL-DTL-17 coaxial cable application in military circular connector • 60m long fuselage cable • Anti-EMI protection keeps away interference
Control Unit		<ul style="list-style-type: none"> • Customized braiding for better mechanical protection • Anti-EMI protection ensures reliability of control unit • Excellent resistance to vibration and shock

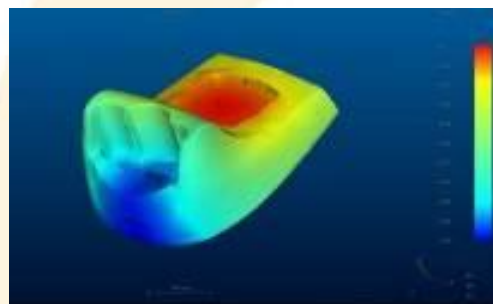
CABLE + PCB ASSEMBLY



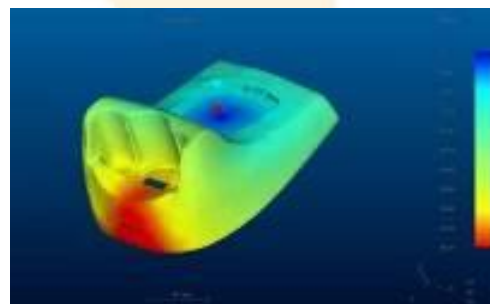
- DIP and SMT process capability
- Single sided, double sided
- BGA rework station
- Lean production
- SMT Error Prevention System (EPS)
- Includes **ICT, AOI, J-TAG, SPI**, and other regular tests
- PCB size : 50x50mm~460x510mm
- Chip size : QFP, BGA, μ BGA, CSP (Max.:100*100mm)
- Chip dimensions: 0201 (inch)
- Mounting accuracy: ± 0.035 mm ~ 0.08 mm/chip (Cpk \geq 1.33)
- Excellent at **soldering** and meets **IPC 610** standard tests

OVERMOLDING ENGINEERING

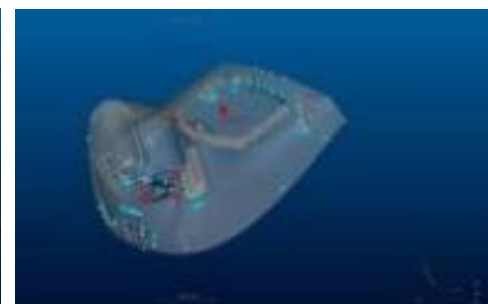
Mold Flow & Draft Analysis



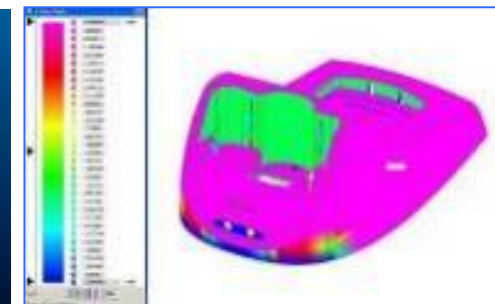
Fill Time Evaluation
Evaluate the fill time of molding



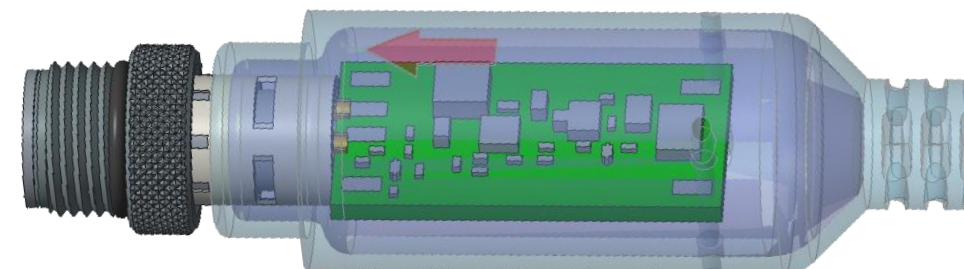
Pressure Drop
Analysis pressure distribution to reduce deformation



Weld Line Locations
Analyze where they may form to prevent deformation



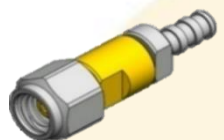
Draft Analysis
Simulate the angles of pattern draw to reduce possible errors





RF CABLE CAPABILITY

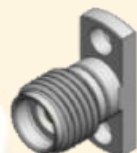
HIGH FREQUENCY CAPABILITY



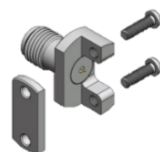
Cable



PCB



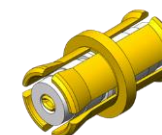
Flange



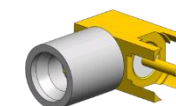
EM/EL



Adaptor



SMP



SMPM

Connector	Freq. (Max.)	Description
1.00mm	110 GHz	<p>All connectors come with 100% compliance to MIL-STD, available in:</p> <ul style="list-style-type: none"> • Different orientation – STRAIGHT or RIGHT ANGLE • Cable type – such as .031”, .047”, .086” and .092” SEMI-FLEX or SEMI-RIGID • PCB type – THRU HOLE or SURFACE MOUNT • Adapter – plenty options for transition between POLARITY or INTERFACE • Custom feature – FLANGE for panel, IP6X sealing, EDGE LAUNCH or MOUNT... more! <p>A proper high-dense B2B solution in associate with SMP or SMPM:</p> <ul style="list-style-type: none"> • Available in FULL or LIMITED DETENT, SMOOTH BORE or CATCHER’s MITT mating type • Various length of BULLET with minimum 4.50mm overall to support different B2B height • Custom packing method – T&R, protection cap, retention cap or multi-pocket tray
1.85mm	67 GHz	
2.40mm	50 GHz	
2.92mm	40 GHz	
3.50mm	34 GHz	
SMA	12.4/27 GHz	
SMP	27/40 GHz	
SMPM	31/50/65 GHz	

WIRE SPECIFICATION

Flexible RG Cables

Semi-Rigid & Conformable Cables

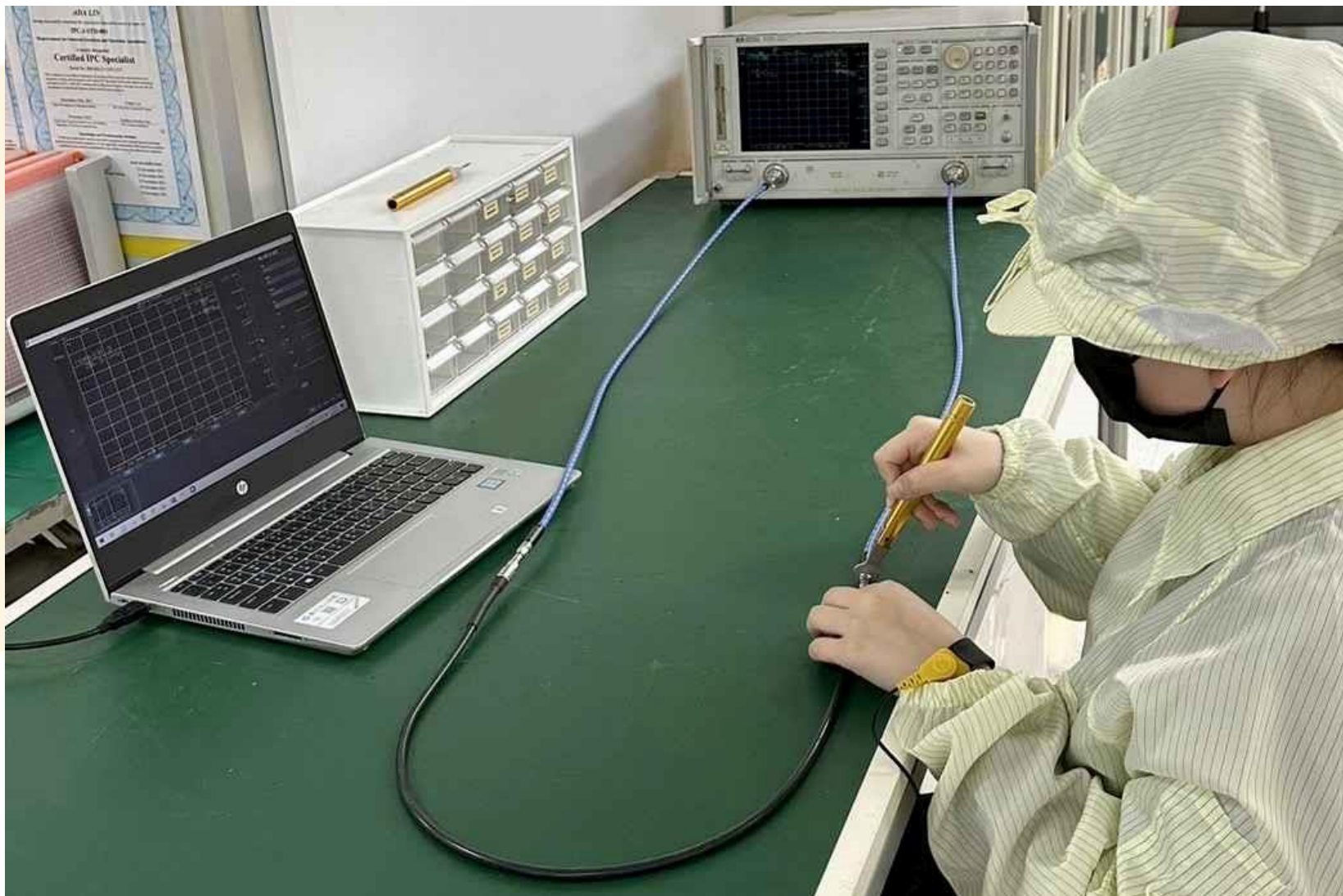
Low Loss Cables (LMR[®])

Micro-Coaxial Cables

Cable Type	Impedance	Temperature range*	Description
Flexible RG	50Ω	-55 to +200°C	Features: <ul style="list-style-type: none"> High-performance, cost-effective cable solution for DC to 40GHz Cable type – such as .031”, .047”, .086” and .092” SEMI-FLEX or SEMI-RIGID Extended frequency flexible cable. Available Order Options: Standard and Custom
	75Ω		
Semi-Rigid	50Ω	-40 to +100°C	
Low Loss	50Ω	-40 to +85°C	
Micro-Coaxial	50Ω	-70 to +150°C	

*This temperature range does not contain all cable types available. Please contact our representative for your specific request.

RF TEST STATION



RF CABLE EXPERIENCES

Phase Matching

- Available in RELATIVE or ABSOLUTE matching per lot
- Available in unit of SECOND or DEGREE/RADIAN
- Available in pairs or more quantities per request



27GHz SMA jack to SMA jack



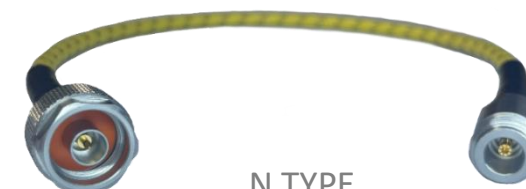
SMA jack to SMA jack



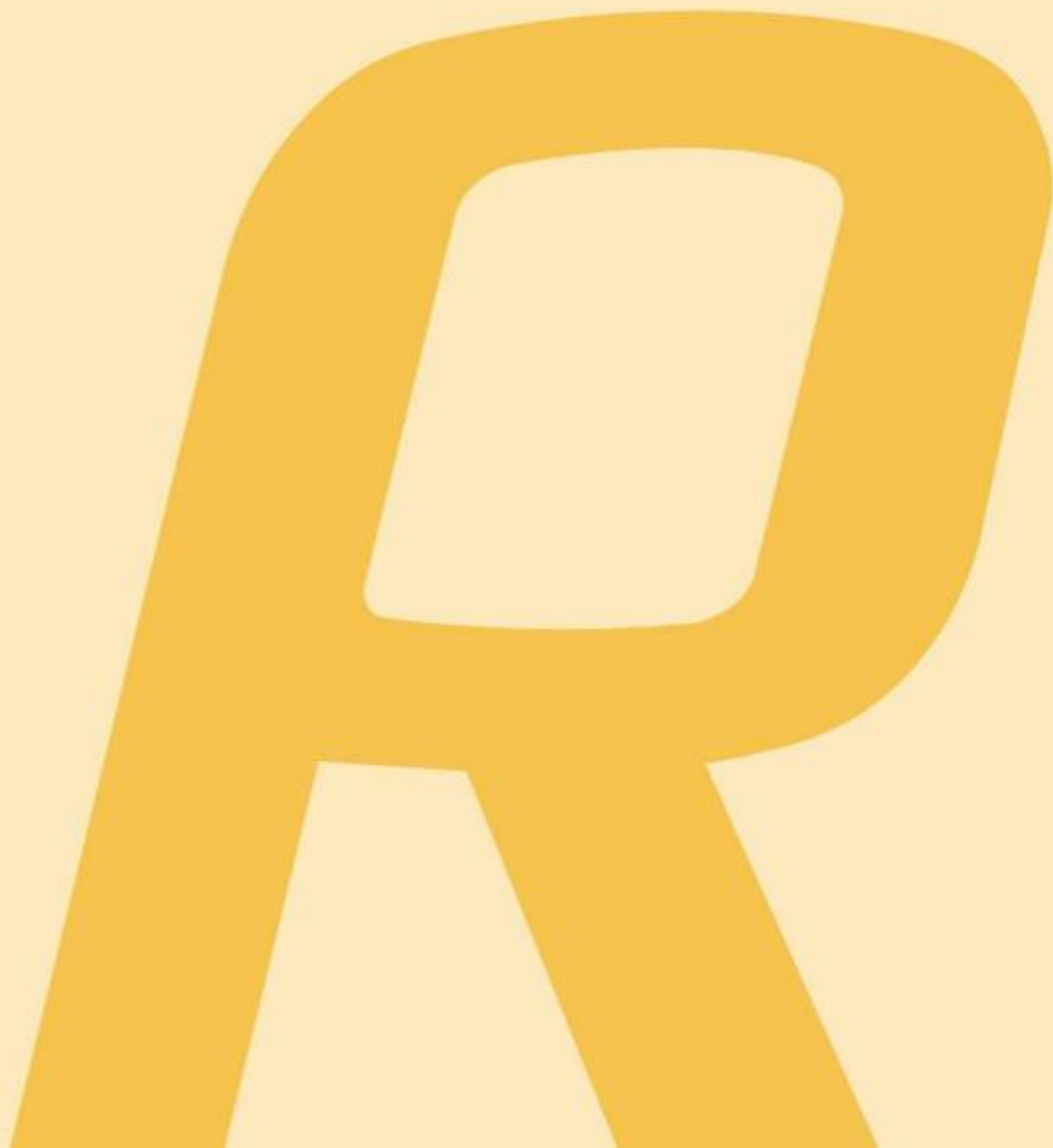
Multi Channel



Semi Rigid



N TYPE



QUALITY CAPABILITY

QUALITY MANAGEMENT

Quality



- Material control through barcodes and data system, implement FIFO
- Data storage a traceability matrix for all product's
- Analyze quality issues fast and precisely
- 100% inspection
- Follow MIL STD and IPC

Supply Chain



- Check traceability of abnormal materials and report to suppliers instantly
- Analyze material issue's fast and accurately

Lab



- Manage fixture checklist and inspection date with traceability programs
- Use tests application system to save test data

MES



- Material traceability from vender to manufacturing to finished goods with data storage
- Fully-fledged computerized system

*MES = Manufacturing Execution System

TESTING IN HOUSE

- **Life cycle test**
- **Thermal shock test** (temp. range : -50 - 150°C)
- **Electricity test** (network analyzer)
- **Moisture resistance test**
- **Static humidity test**
- **Cold impact test**
- **High-pot test**
- **Coating test**

- **Cold bending test** (temp. range : -50°C-150°C)
- **Bending test** (angle: 45°/ 60°/ 90°/ 120°/ 180°)
- **Pull force testing** (capacity range: 0.1 ~ 50 kg)
- **Drag chain test**
- **Fixture test**
- **Grinding test**
- **Coiled cable extraction test**

LABORATORY



TOTAL SOLUTION SERVICE



THANK YOU!