



www.sunshinepcbgroup.com

Sunshine Global Circuits

Company Profile

March 2026

Core Value



Mission:

Innovation empowers the world with an intelligence network to build a better life promoting low-carbon while providing a strong impetus for realization of dual-carbon goals.



Vision:

To be a global leader in green intelligent manufacturing of Cutting-Edge electronic circuits.



Strategy:

International leadership through innovation.

Sales Distribution

Business Focus

- Mid - high end PCB manufacturer with 85% PCB exported
- Establishing a global production capacity with factories located in Shenzhen, Jiujiang, Germany, and Malaysia
- Serving industrial, medical, energy, communications, automotive, and semiconductor testing industries

2024 Operating Data

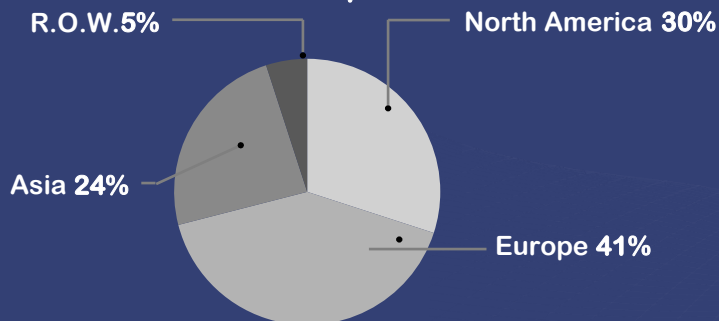
Total Asset
487 Million
USD

Sales
220 Million
USD

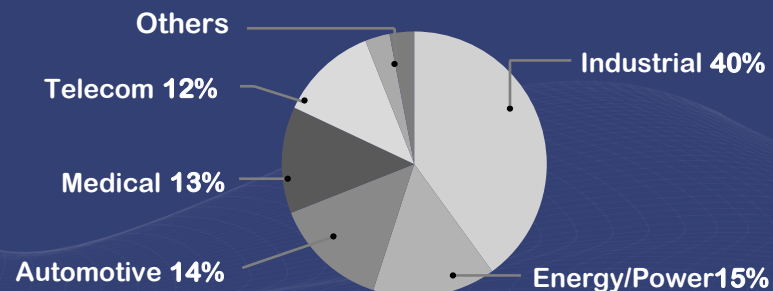
R&D
10.7 Million
USD

Sales by Region

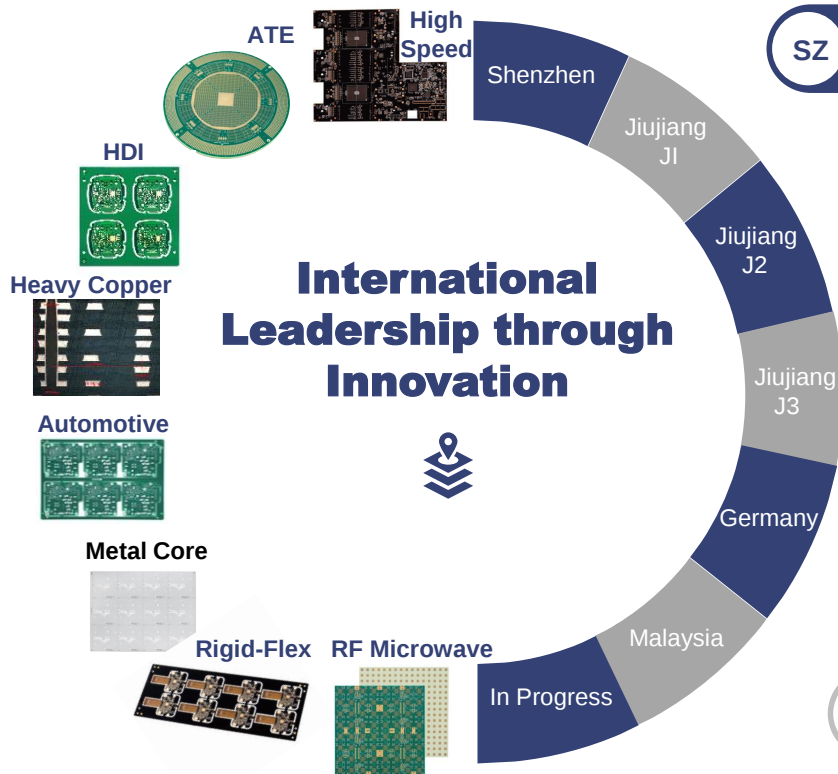
85% Export



Sales by Market



Product Positioning



SZ

ATE, Multi-Layer, Sample/R&D

Capacity: 18000m²/M

J1

Automotive, HDI

Capacity: 70000m²/M

J2

HDI, High Speed, Heavy Copper

Capacity: 60000m²/M

J3

Rigid-Flex, RF Microwave

Capacity: 15000m²/M

GE

Automotive, Sample/QTA

Capacity: 2000m²/M

PV

RF Microwave, Multilayer, Sample/QTA

Capacity: 2500m²/M

Customers

EMS						
Industrial Technology						
Power & Energy						
Medical						
Telecom						
Transportation						
Others						
						

Internationalization Process

With over 20 years of development history, SGC has navigated through numerous opportunities and challenges. Through relentless innovation and advancement, SGC has showcased its profound heritage and exceptional capabilities in the electronic industry.

2001

Sunshine Global Circuits Co., Ltd (Shenzhen) was established.

2002-2008

Sunshine Shenzhen achieves certifications for ISO9001, ISO/TS16949 and ISO14001.

2010-2013

- Sunshine Circuits USA, LLC was established in Plano, Texas.
- Sunshine expands manufacturing outside of China by acquiring a PCB shop in Remscheid, Germany.
- Accredited ISO13485.

2014-2015

- Sunshine Jiujiang begins production and ramps up capacity.
- Sunshine Jiujiang achieves certifications for ISO9001, ISO/TS16949 and ISO14001.
- Sunshine Shenzhen has been certified ISO14067 carbon footprint for PCB.

2016-2017

- Appointed as executive director unit of industry associations CPCA, GPCA and SPCA.
- Awarded "Outstanding Supplier" by international renowned companies such as BMK, Enics, and Flextronics.
- Jiujiang Sunshine phase 1 has expanded its monthly production capacity to 40,000 square meters.
- Successfully launched Rigid-Flex product line.

2018

- Listed on the Shenzhen Stock Exchange(stock code: 300739).
- Sunshine Shenzhen established Green Manufacturing Center.

2019-2020

- Successfully launched IC substrate product line.
- Introduced optical module.
- Jiujiang Sunshine established a national-level laboratory.
- Rigid-Flex product line monthly capacity expanded to 10,000 square meters.
- Comprehensively upgraded SAP system.
- Introduced international human resource man-agreement solution.

2021-2023

- Jiujiang Sunshine phase I has expanded monthly production capacity to 100,000 square meters.
- Launched dedicated production lines for RF Microwave, Heavy Copper, High Speed Linecards, and ATE Boards.
- Accredited AEO from Shenzhen Customs.
- Acquired Vision Industries, a PCB factory in Malaysia.

02 Global Presence

Foundation for Development

Since SGC launched its international strategy in 2006, SGC has always adhered to the principles of integrity in business and win-win cooperation. Committed to expanding overseas markets, SGC has established a comprehensive overseas sales channel and achieved closed-loop operations throughout the entire process, providing global customers with high - quality and high - efficiency services.



Worldwide Reach



Frontier Sales & Tech Support

Texas, USA
Chemnitz, Germany



Factory Quick turn & Prototypes

Remscheid, Germany
Penang, Malaysia
Shenzhen, China



Factory Mass Production & Automation

Jiujiang, China
Zhuhai, China (in progress)
Penang, Malaysia (in progress)

Factories

Sunshine Shenzhen HMLV Technology Center



Site Focus	R&D/Prototype/ QTA/HMLV
Floor Area	20,000 m ² (215K ft ²)
Layer Count	2L - 70L
Technologies	HDI, Stacked Microvias Low Loss Laminates, Advanced Technology ATE (Load boards, Probe Cards, BIB)
Best Lead-Time	2-8L: 7 working days 10L+: 10-15 work-days
Benefits to Customers	Technology focus, HMLV support, QTA, R&D

Sunshine Jiujiang Volume Production Center



Site Focus	High Mix L/M/H Volume
Floor Area	145,200 m ² (1563K ft ²)
Layer Count	2L - 42L
Technologies	High Speed Digital, Heavy Copper, HDI Rigid-Flex and Flex RF Microwave, AL-PCB
Best Lead-Time	2-8L: 7-10 work-days
Benefits to Customers	High Volume Support, Transfer from Penang or Germany

Sunshine Europe QTA/Prototype Center



Site Focus	QTA/Prototype/ Sample
Floor Area	3,300 m ² (35K ft ²)
Layer Count	2L - 20L
Technologies	Rigid PCB 2-20L, Sequential Lamination, Heavy Copper
Best Lead-Time	2-6L: 5 working days 8-16L: 8 working days
Benefits to Customers	Early Engineering Involvement, Frontline support, Domestic Service

Sunshine Penang QTA/ Prototype Center



Site Focus	QTA/Prototype/ Sample
Floor Area	2,800 m ² (30K ft ²)
Layer Count	2L - 16L
Technologies	Rigid PCB 2-16L, RF Microwave, Hybrids, Cavity
Best Lead-Time	2-8L: 5-10 work-days 10L+: 15 working days
Benefits to Customers	QTA Service, South East Asia PCB option

Factory: Shenzhen, China

High-mix-low-volume, Quick Turn, High Technology

Up to **70**
Layers

7 Steps
HDI

ATE PCB

6 μ m L/S
RDL Laboratory



Glass Substrate
Laboratory



Headquarter
Since 2001

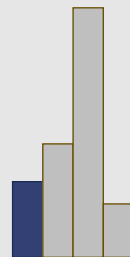


R&D
Center

Corporate Functions
400 Employees

Floor Space
(m²)

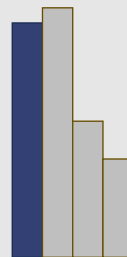
20k



SZ J1 J2 J3

Workers

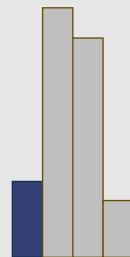
510



SZ J1 J2 J3

Monthly Capacity
(m²)

18k



SZ J1 J2 J3

Factory: Jiujiang



Factory J1 Jiujiang

Prototypes to Mass Production

**Automotive
Industrial Control
Medical Devices**

**2-16L Rigid PCB's
Metal Backed PCB**



**Panel-Level
Traceability**

**VDA
6.3**

AEO



HDI

**Stacked Microvias
Sequential Lamination**

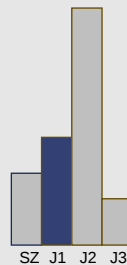
97

Drill Machines

**High
Volume**

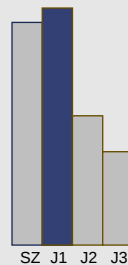
**Floor Space
(m²)**

30k



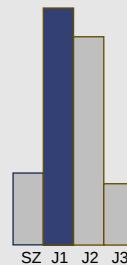
Workers

574



**Monthly Capacity
(m²)**

70k



Factory J2 Jiujiang

Automated Lines, Substrate-like PCB's

Power & Energy

Heavy Copper Line

Server AI Telecom

High Speed Digital & HDI Line

**Max.
Thickness**
10mm

**Max. Copper
Thickness**
15oz

8-42 Layers

**6 Generation
Laser Driller**

Automated Line

Smart Factory

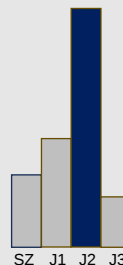


**3D
Back drill**
4+/-2mil

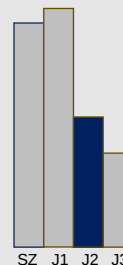
**100
Clean Room**



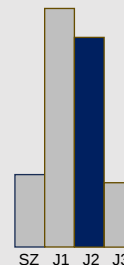
Floor Space
(m²)
68k



Workers
326



Monthly Capacity
(m²)
60k



Factory J3 Jiujiang

Rigid-Flex & Radio Frequency Microwave Product Lines

Rigid-Flex

1-4 Steps HDI, Up to 28 Layers, Air gap,
RF Microwave & High Speed Hybrid Design

RF Microwave

1-4 Steps HDI, Up to 24L, Hybrid Design,
Cavity, HDI, Backdrill, Embedded Coin

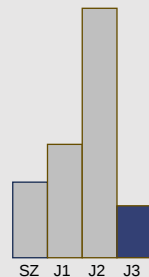
**Industrial Control, Medical,
Aerospace, Military, Auto**



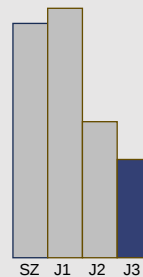
**ADAS, Rader
Transceiver**



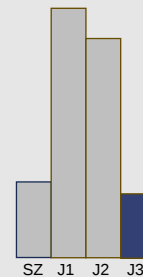
Floor Space
(m²)
14k



Workers
218



Monthly Capacity
(m²)
15k



Factory: Remscheid, Germany

Quick-turn, Prototypes & Low Volumes

Automotive

2-20 Layers

Rigid-Flex

2-12 Layers

Founded **1966**
Acquired **2013**

37
Employees



40min to Düsseldorf

**Efficient Quick
Domestic Service**

QTA

**4Days
2-10Layers**

3,300 m² Floor Space
2,000 m² Monthly Capacity

**SGC Owned
Land & Building**

**Seamless transfer to
JJ & Penang Plants**

Factory: Penang, Malaysia

Quick-turn & Low Volumes

Rigid FR4
2-16 Layers

RF Microwave
2-10 Layers

Founded **1989**
Acquired **2023**

100
Employees



5 Days QTA
2 to 4 Layers

tuc **ROGERS**
AGC **isola**
CORPORATION

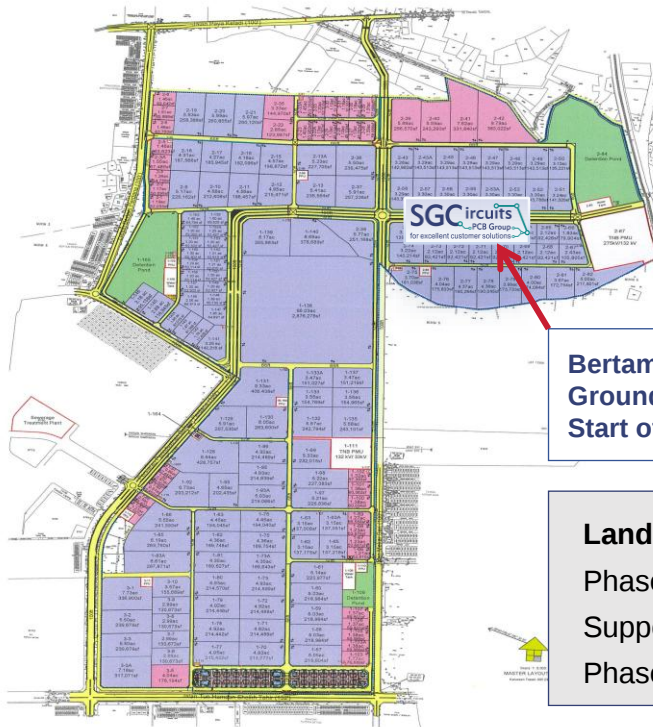
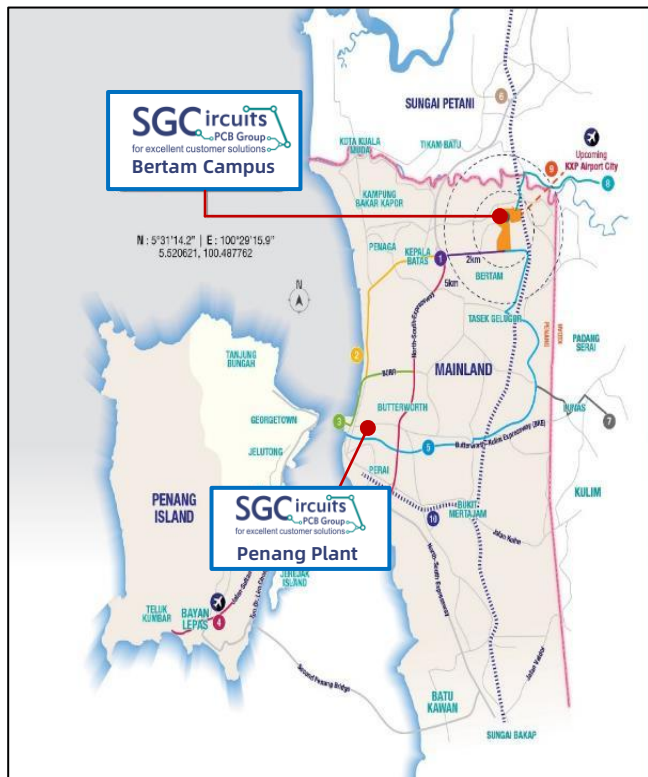
MacDermid Alpha **UYEMURA**
NIHON SUPERIOR **四国化成**

6 Surface Treatment
ENIG, LF-HAL, OSP, Ag
Hard Au, Soft Au

2,800 m² Floor Space
2,500 m² Monthly Capacity

>> A short video of Penang plant can be found here (<https://youtu.be/g-Yp3lCsYa4?si=CGr7TuaVAHt1Y314>).

Future Bertam Facility



Target Products:
High layer count,
Rigid-Flex, ATE

High Mix-Low Volume
Hi-Speed Servers,
Medical Devices,
Industrial/Energy

Bertam Project in progress
Ground Breaking in April 2026 (est.)
Start of Production Q1-2027 (est.)

Land Size 112K m² (27.6 acres)

Phase 1 Construction: 40,000 m²

Support Infrastructure: 10,000 m²

Phase 2 Construction: 40,000 m²

Future Zhuhai China

**Focus on HDI, AI Server,
High layer count PCB's**

- **Land Size:** 120,072 m² (30 acres, 1.3Mft²)
- **Planned Construction:** 216,842 m² (2.33M ft²)
- **1st phase under construction** 102,371 m² (1.1M ft²)



**Start
Production
by end of
2026**

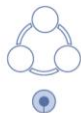
- South China
- Near Macau
- Doumen Zhuhai
- Fushan Ind. Park



03 PCB Solutions

Leading with Innovation-Driven Expertise

SGC leverages its technological expertise and industry experience to deliver advanced, professional solutions for diverse sectors.

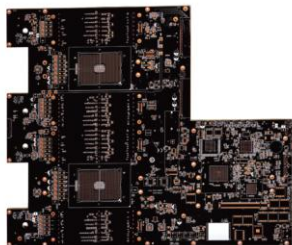


Product Lines

High Speed Digital

Capacity: **36000m²/M**

- **Layer Count:** 12-40L
- **Board Thickness:** 3.2-8.0mm
- **Aspect Ratio:** 40:1
- **Impedance:** $\pm 7\%$
- **Stub:** $\leq 0.2\text{mm}$
- **Lamination Cycles:** 5-7 times



**Base Station, Server,
High Performance
Computing**

Heavy Copper

Capacity: **25000m²/M**

- **Copper Thickness:** 3-12OZ
- **Layer Count:** 2-26L
- **Lamination Cycles:** 1-3 times
- **Impedance:** $< 3\%$
- **Withstanding Voltage:** 2772V dc 60s

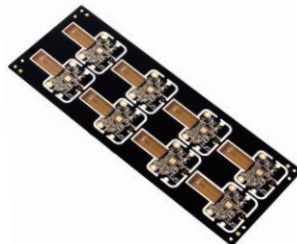


**Power,
Industrial Control,
Telecommunication,
etc.**

Rigid-Flex

Capacity: **10000m²/M**

- **Total Layer Count:** 30L+
- **Flex Layer Count:** 1-10L
- **Board Thickness:** 0.4-3.5mm
- **Min. Line width/space:** 3.5/3.5mil
- **Lamination Cycles:** 1 ~ 4 times
- **Structure:** HDI (3 steps or above) + Rigid-Flex

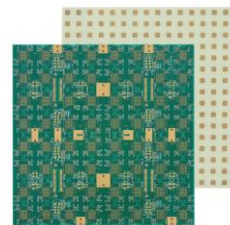


**Automotive, Medical,
Industrial Control,
Aerospace, etc.**

RF Microwave

Capacity: **5000m²/M**

- **Line Width Accuracy:** $\pm 0.6\text{mil}$
- **Material:** Hydrocarbon, PTFE(with/without glass fiber), PPE, hybrid design
- **Lamination Cycle:** 1-4 times
- **Embedded:** Capacitance/resistance/copper coin
- **Depth controlled routing,** Cavity metallization

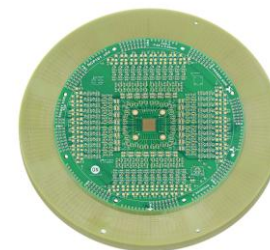


**ADAS, RF Module,
Base Station, etc.**

ATE

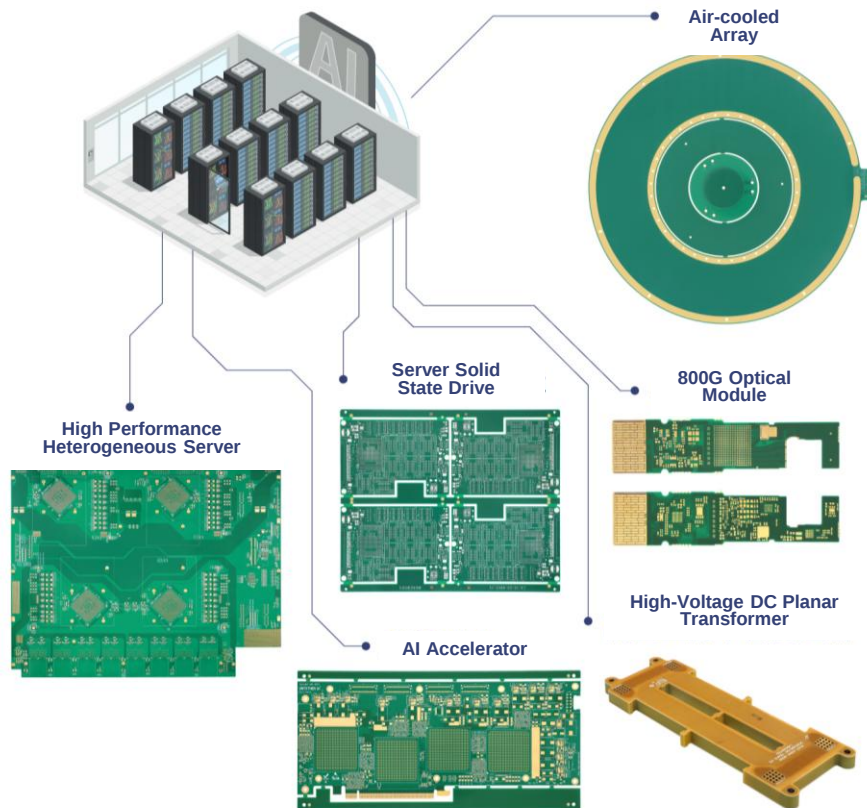
Capacity: **1000m²/M**

- **Layer Count:** 70L
- **Board Thickness:** 6.5mm
- **Aspect Ratio:** $\geq 40:1$
- **Pitch (Min) :** 0.35mm
- **Surface Treatment:** Hard gold plating, ENIG, ENEPIG, etc.
- **Impedance:** $\pm 7\%$



IC Testing

AI Data Center PCB Solutions

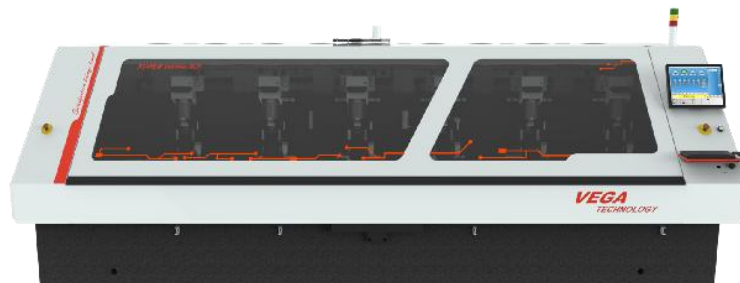
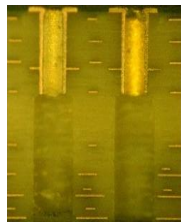


Technology

Item		Mass Production	Sample
Fundamental Capability	Layer Count	42	62
	Max. Board Thickness	6mm	8mm
	Outer Layer Line Width/Space	3.5/3.5mil	3.0/3.5mil
	Inner Layer Line Width/Space	3.5/3.5mil(1OZ)	3.0/3.5mil(1OZ)
		2.8/2.8mil(HOZ)	2.5/2.5mil(HOZ)
	Aspect Ratio	20:1	25:1
	Impedance	±10%(Inner 1OZ)	±5%(Inner 1OZ)
High Speed Digital	Beveling Tolerance	±0.075mm	±0.05mm
	Registration	4.5mil	4mil
	Back-drill Stub	8mil	6mil
	Min. Hole Size	7mil	7mil
	Brown Oxide Method	Low profile	Low profile
	Low Loss Solder Mask	Y	Y
SI	VNA Frequency	26.5GHz	43.5GHz
	Test Method	Delta-L 4.0	
	Test Probe Frequency	40G/Delta-L 4.0	40G/Delta-L 4.0
Special Process	N+N, Hybrid Design, HDI, Deep Micro-via, Stepped Gold Finger, Variable Length Gold Finger, QR Code, POFV, Back-drill, Press-fit Hole, etc.		
Surface Treatment	OSP, HASL, Gold Finger, ENIG, etc.		

High Speed Solutions

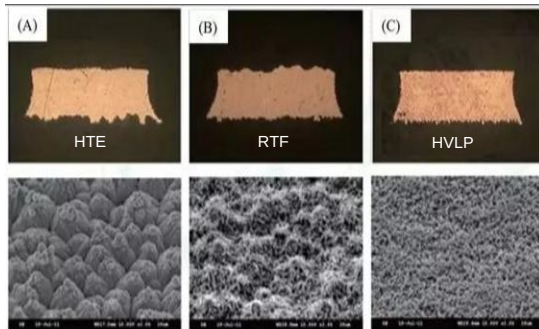
3D Back-drill Stub≤6mil



43.5 GHz VNA

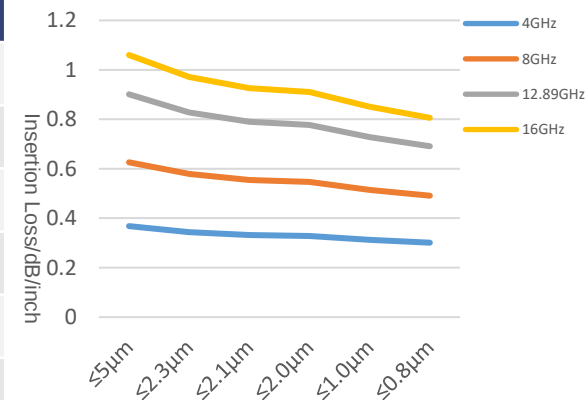


Copper Foil Study



Type	Roughness (Rz)	4GHz	8GHz	12.89 GHz	16GHz
RTF	≤5μm	0.368	0.626	0.901	1.06
RTF2	≤2.3μm	0.344	0.579	0.827	0.971
RTF3	≤2.1μm	0.332	0.555	0.79	0.926
HVLP	≤2.0μm	0.328	0.547	0.777	0.911
HVLP2	≤1.0μm	0.312	0.515	0.728	0.851
HVLP3	≤0.8μm	0.301	0.491	0.691	0.806

Different copper foil roughness VS Insertion Loss



High Density Solutions

High Layer Count Registration & High Aspect Ratio

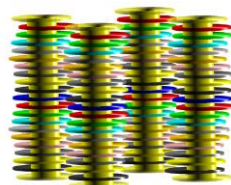
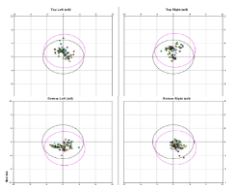
High Layer Count Registration System



CCD Masslam
Accuracy $\leq 3\text{mil}$



Registration Measurement System



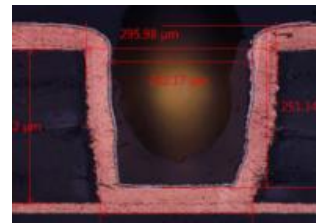
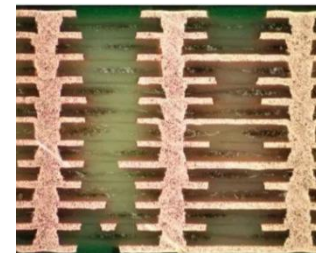
40L Layer to Layer



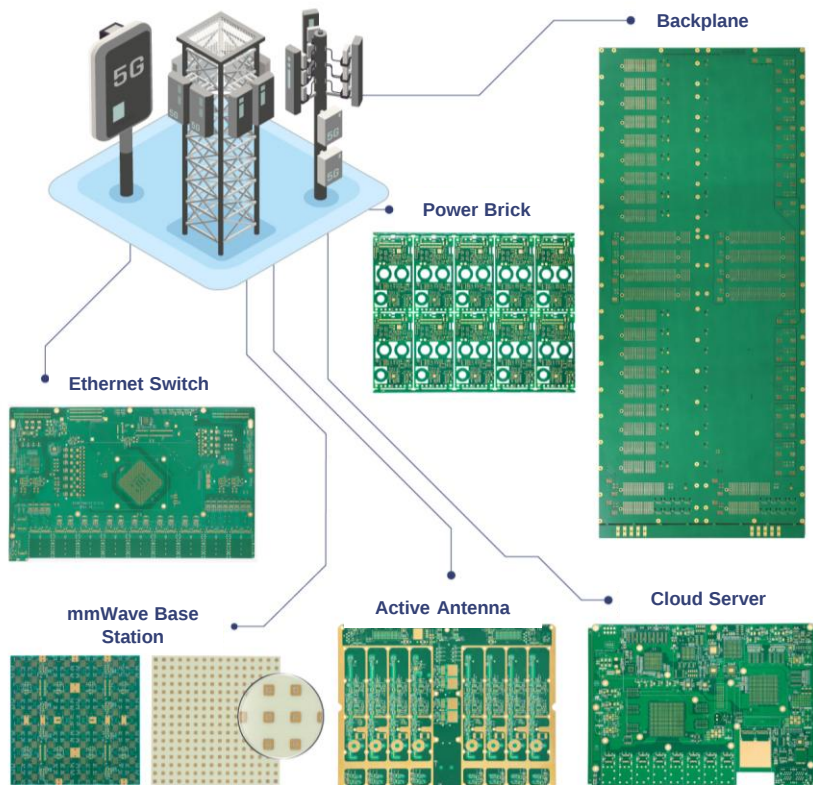
50:1 Aspect Ratio



HDI & Deep Micro-via



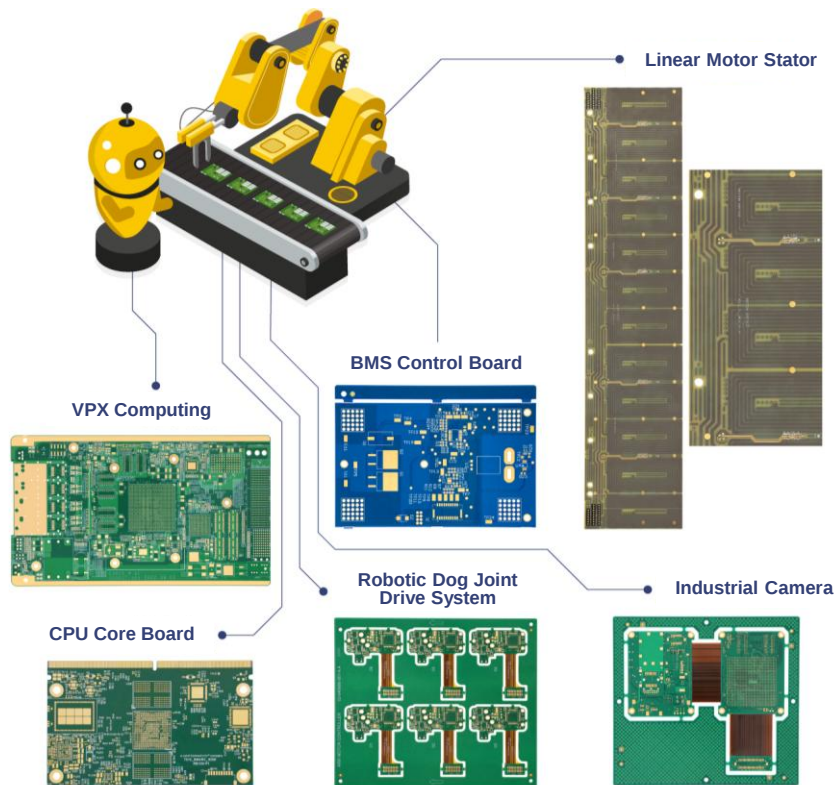
Data Communication Solutions



Technology

Item		Mass Production	Sample
Backplane	Max. Layer Count	60	70
	Max. Board Thickness	8mm	10mm
	Aspect Ratio	23:1	25:1
	Max. Dimension	1200*680mm	1200*680mm
Line Card	Max. Layer Count	42	62
	Max. Board Thickness	6mm	8mm
	Aspect Ratio	23:1	25:1
	Max. Dimension	1200*680mm	1200*680mm
Min. Line Width/Space	Inner Layer	2.8/2.8mil	2.5/2.5mil
	Outer Layer	3.5/3.5mil	3.0/3.5mil
Registration	Same Core	±25um	±20um
	Different Core	±4.5mil	±4.0mil
Min. Hole Size	Mechanical	≥0.15mm(6mil)	≥0.13mm(5mil)
	Laser	50-150um	50-200um
Max. Copper Thickness		4OZ	6OZ

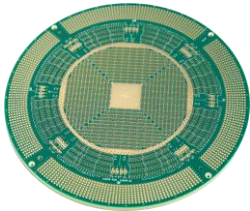
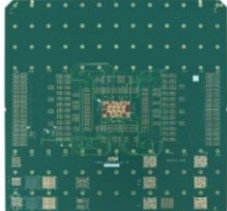
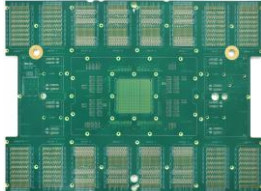
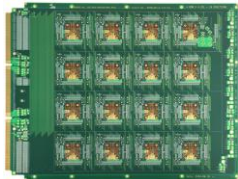
Industrial Control & Robot Solutions



Technology

Item	Mass Production	Sample
Layer Count	2-30	2-40
HDI	3+N+3	7+N+7
Mechanical Drill	0.2mm	0.15mm
Laser Drill	100-150um	75-200um
Max Copper Thickness	6oz	15oz
Rigid-Flex Structure	Symmetric Structure, Air-gap, Flytail Structure, Multi-layer Flex Circuit	
Surface Treatment	ENIG/OSP/Immersion Tin/Immersion Silver/ENEPIG/Gold Finger/Soft Gold/Hard Gold	
Special Process	Resin Plug, Mechanical/Laser Micro-via, Depth Controlled Drilling/Routing, Edge Plating, Semi-Flex, POFV, Partial Heavy Copper (Variation 1OZ), etc.	
Laminate	S1000H, S1000-2M, S1150G, S1151G, Autolad1, Autolad1G, Autolad3, Autolad3G, IT-158, IT-180A, TU-865, EM827, VT-47, 370HR, R-5775	
Reliability Test	CAF, HAST, Thermal Shock, Constant Temp. and Hum., IST, Solderability, Thermal Stress Test, Ionic Contamination, Ionic Chromatography, etc.	

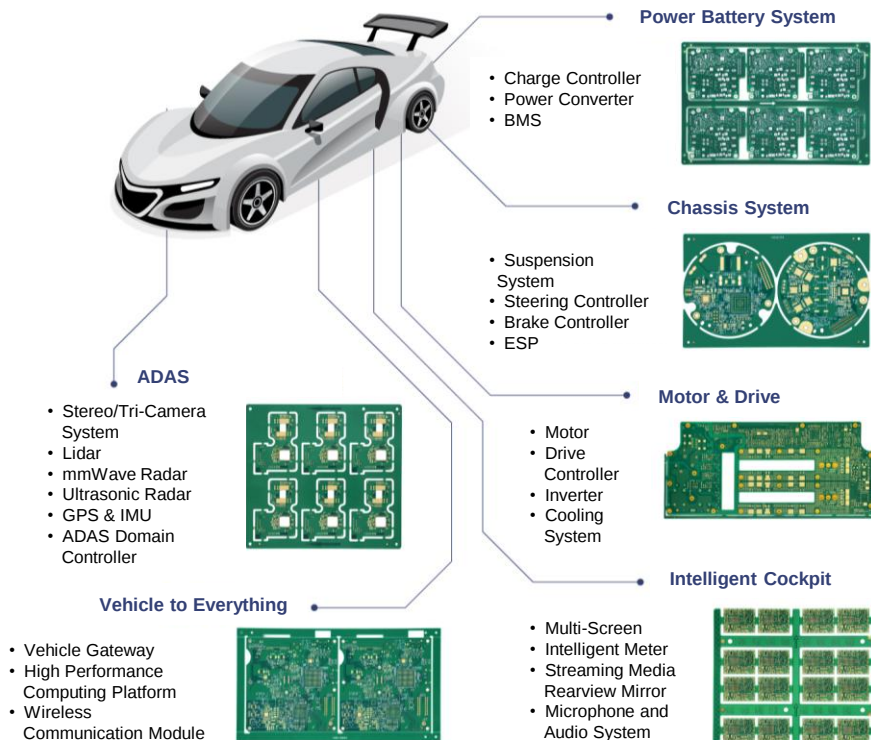
Product Display

Wafer Testing	Finished Goods Testing		Aging Testing
ATE Probe Card 	ATE Load Board 	ATE Load Board 	ATE Burn In Board 
Description	Description	Description	Description
• Material: HTG FR4 • Layer Count: 44 • Board Thickness: 6.350mm • Min. Hole Size: 0.2mm • Aspect Ratio: 32:1 • BGA Spacing: 0.65mm • Surface Treatment: Thin Gold Plating + Selective Hard Gold Plating • Warpage: 0.10% • DUT Flatness: 50µm	• Material: Megtron 6 • Layer Count: 34 • Board Thickness: 5.08mm • Min. Hole Size: 0.13mm • Aspect Ratio: 39:1 • BGA Spacing: 0.40mm • Surface Treatment: Thin Gold Plating + Selective Hard Gold Plating • Warpage: 0.15%	• Material: Megtron 6 • Layer Count: 70 • Board Thickness: 6.60mm • Min. Hole Size: 0.2mm • Aspect Ratio: 33:1 • BGA Spacing: 0.65mm • Surface Treatment: Thin Gold Plating + Selective Hard Gold Plating • Warpage: 0.1% • DUT Flatness: 50µm	• Material: PI • Layer Count: 16 • Board Thickness: 1.6mm • Min. Hole Size: 0.13mm • Aspect Ratio: 12:1 • BGA Pitch to Pitch: 0.35mm • Surface Treatment: Gold Plating + Gold Finger Plating • Warpage: 0.20% • DUT No.: 16

Technology

Item		Mass Production	Sample
Max. Board Thickness (mm)		6.5	8.0
Max. Layer Count		60	70
Aspect Ratio		42:1	50:1
BGA Spacing(mm)	PTH	0.40	0.35
	HDI	0.35	0.30
Trace Spacing (mil)	Inner	3.0/3.0	2.0/3.0
	Outer	3.5/3.5	3.0/3.0
Tolerance Of Impedance	Inner	±10%	±5%
	Outer	±10%	±7%
Warpage (%)		0.3%	0.1%
DUT Flatness(μm)		50	40
Flatness of POFV (μm)		No dimple	No dimple
Surface Treatment		Hard Gold、Gold Finger、ENIG、ENEPIG	

Automotive Solutions



Technology

Item		Mass Production	Sample
Min. Line Width/Space	Layer Count	2-12	2-20
	Outer (1oz)	132um/132um	114um/114um
	Inner (0.5oz)	64um/64um	64um/64um
Min. Hole Size	Mechanical	0.2mm	0.15mm
	Laser	75-150um	75-200um
HDI	Structure	2+N+2	3+N+3
	Aspect Ratio	≤0.8:1	≤1:1
Laminate	FR4	S1000H, S1000-2M, S1150G, S1151G, Autolad1, Autolad1G, Autolad3, Autolad3G, IT-158, IT-180A, TU-865, EM825	
	RF Microwave	RO3003G2, RO3003, RO4350B,	
RF Line Width Accuracy		±15um	±12um
Max. Copper Thickness	6 Oz		
Surface Treatment	ENIG/OSP/Immersion Tin/Immersion Silver/ENEPIG		
Reliability Test	CAF, HAST, Thermal Shock, Constant Temp. and Hum., IST, Solderability, Thermal Stress Test, Ionic Contamination, Ionic Chromatography, etc.		
Special Processes	Resin Plug, Mechanical/Laser Micro-via, Depth controlled Drilling/Routing, Edge-Plating, Semi-Flex, POFV, Partial Heavy Copper (Variation 1OZ), Hole Copper Thickness 60um, Metal-Backed, etc.		

Certifications

ISO 9001:2015 (Manufacturing)	IATF 16949:2016 (Automotive)	ISO13485:2016 (Medical)	ISO45001:2018 (Healthy & safety)	ISO 14001:2015 (Environment)	ISO 14067:2013 (Carbon Footprint)	QC080000:2017 (Hazardous Substance)	ISO27001:2022 (Information Safety)	AS9100D:2016 (Aerospace)	ISO50001:2018 (Energy)
----------------------------------	---------------------------------	----------------------------	-------------------------------------	---------------------------------	--------------------------------------	--	---------------------------------------	-----------------------------	---------------------------

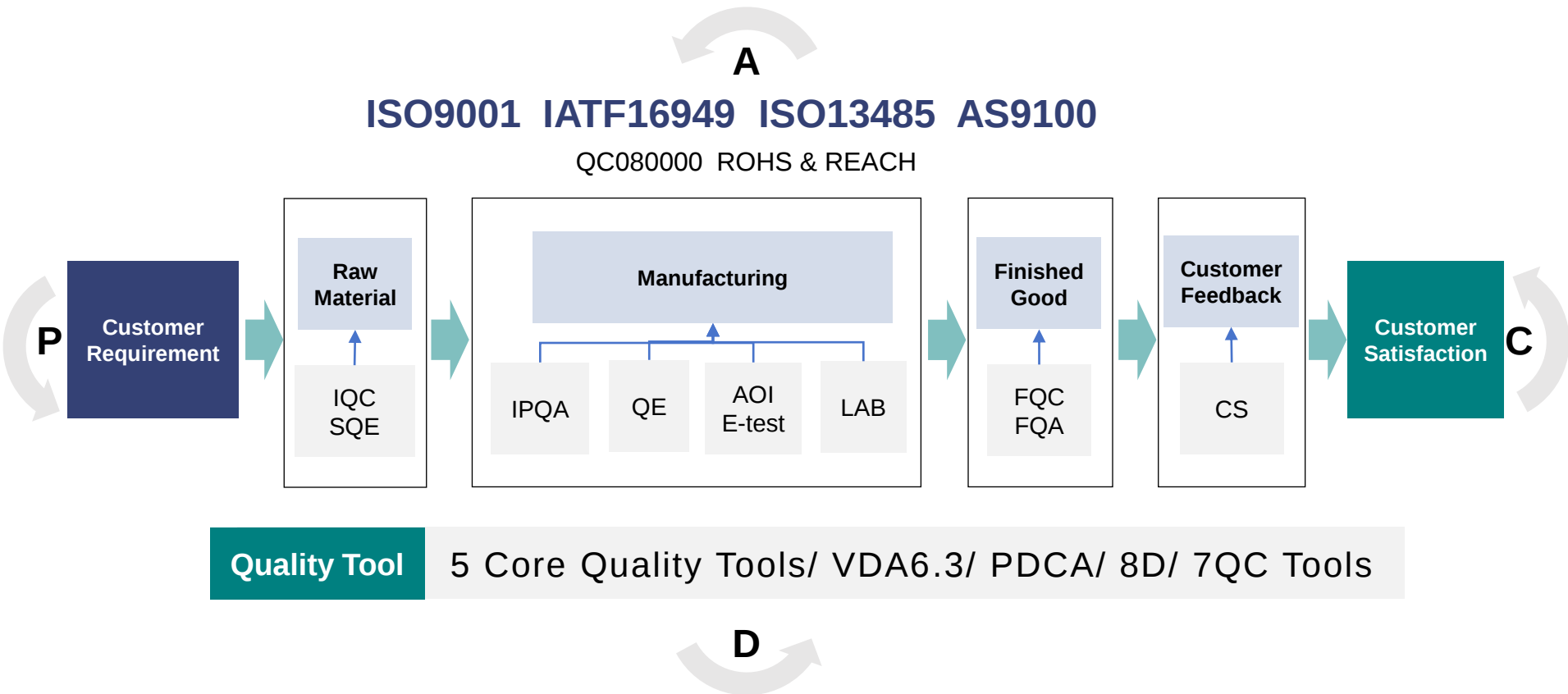


Shenzhen



Jiujiang





Leadtime

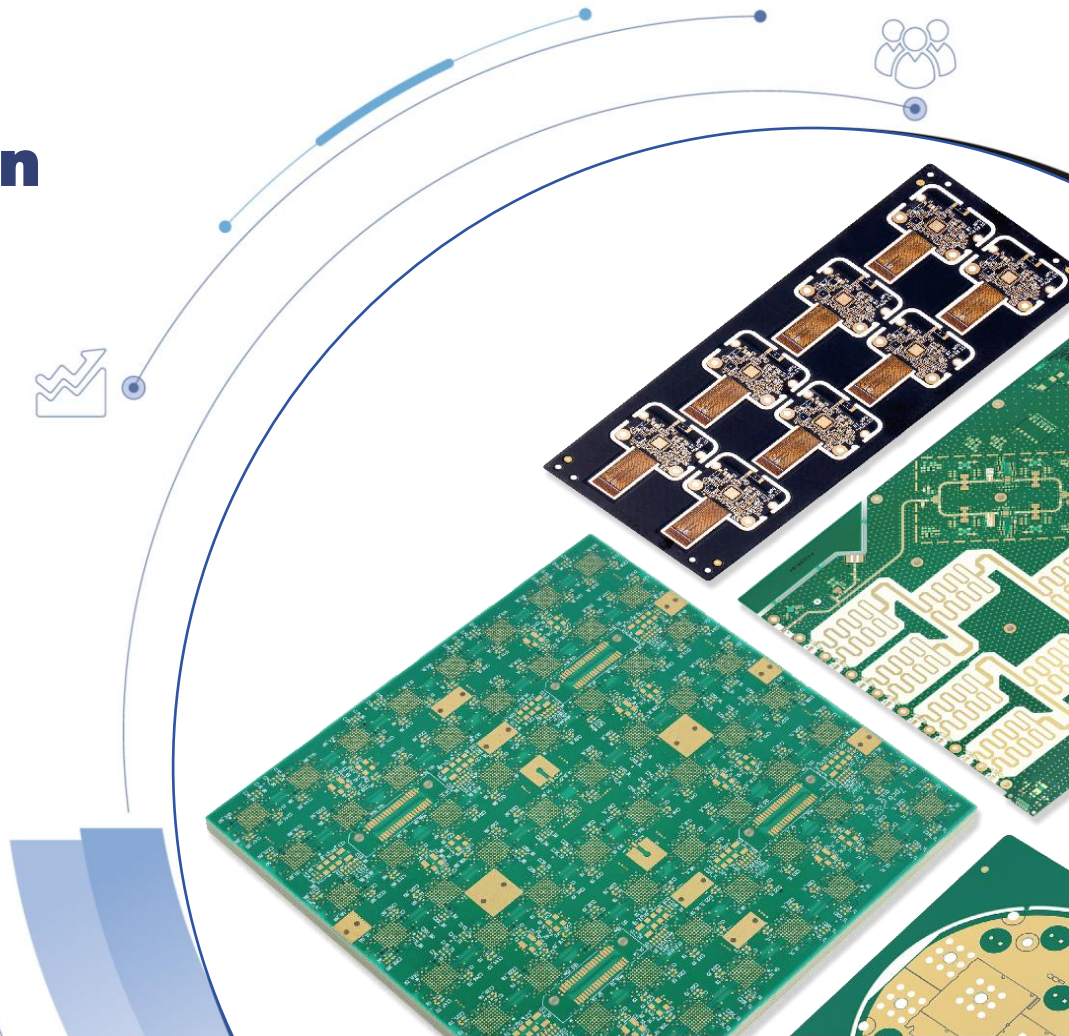
- Production lead-time is 4 to 5 weeks
 - Lead-time for FR4 not in stock is 2-4 weeks
 - Special material and thick cu foil may require longer LT
- NPI Support
 - Quick turns available, from 5 to 15 days (based on mat'l/tech)
 - DFM, stack-up, impedance simulation by Sunshine FAE's
 - R&D and NPI teams to support advanced products



04 Product Innovation

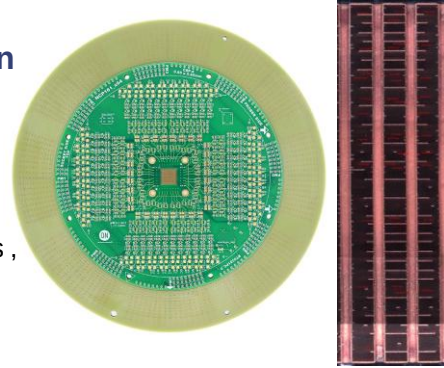
Empowering the Intelligent
and Interconnected World

Product quality is the lifeblood of a company and the cornerstone of its sustainable development. By driving economic growth through technological innovation and enhancing customer satisfaction through meticulous manufacturing craftsmanship, SGC is committed to becoming a global leader in the green intelligent manufacturing of cutting-edge electronic circuits.

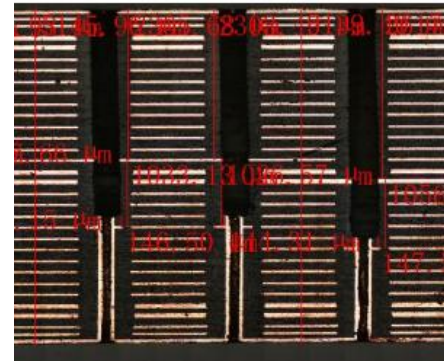


Technology Development

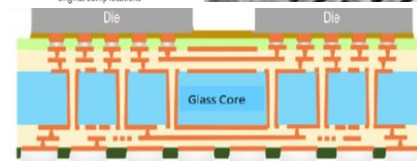
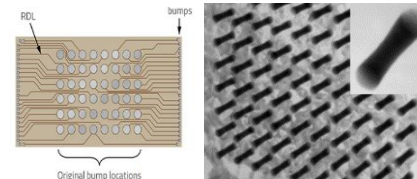
- **Sunshine is committed to and continuously engaged in R&D for PCB and Semiconductor technologies**
- **R&D projects for PCB's:**
 - High layer count 60+ with Aspect Ratio of 50:1
 - High speed and high computing power
 - Addition of new materials including extremely low loss materials , low profile copper foils and low profile oxide solution
 - Controlled impedance tolerance of +/- 7% or below
 - Controlled back drill stub length tolerance of 4 +/- 2mils
 - Thermal management solutions
 - PCB package, embedded passives and active components
 - High-density interconnects, stacked microvias 7+, 9+
 - Every Layer Interconnect structures (ELIC) and Deep Micro vias
- **R&D for Semiconductors:**
 - Substrate-like PCB's (SLP)
 - Modified Semi Additive Process (MSAP)
 - Pure Glass PCB, Redistribution Layer (RDL), Thru-Glass Via (TGV)
- **Green manufacturing technologies**



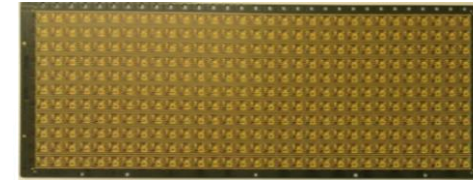
High layer & High Aspect Ratio



Back drill



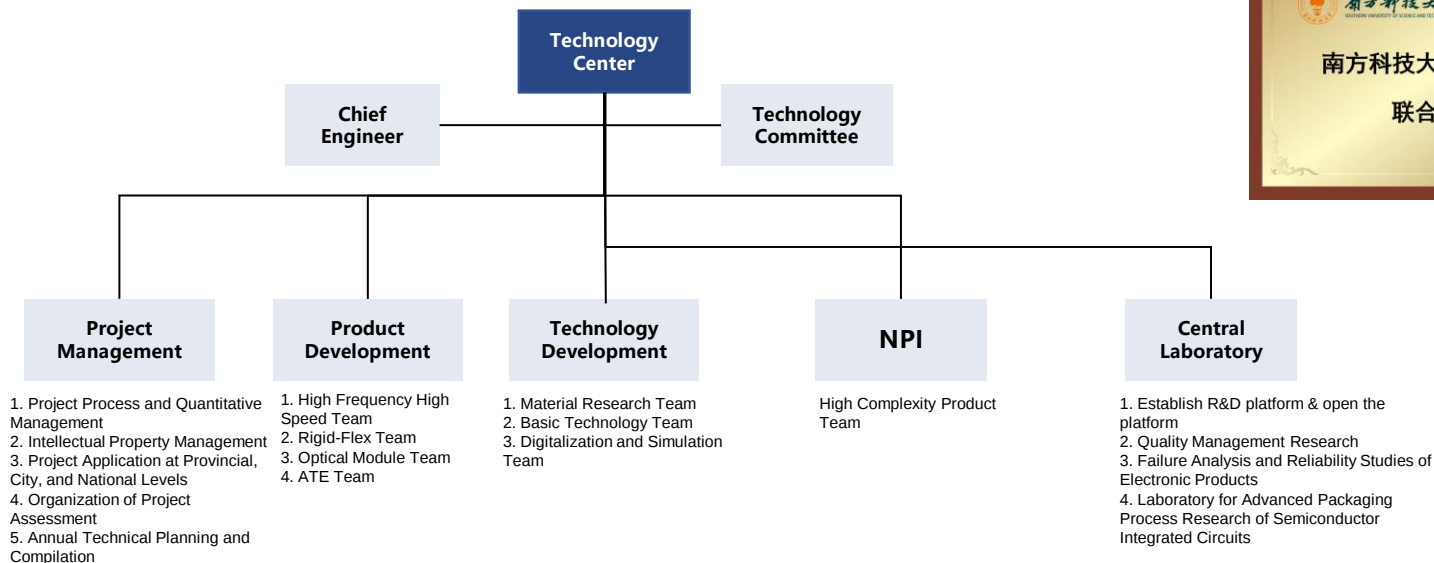
Glass base package substrate



IC Substrate



PCB package



Industry-Academia-
Research (IAR)
Projects :



南方科技大学
SOUTHERN UNIVERSITY OF SCIENCE AND TECHNOLOGY



中国科学院深圳先进技术研究院
SHENZHEN INSTITUTE OF ADVANCED TECHNOLOGY
CHINESE ACADEMY OF SCIENCES



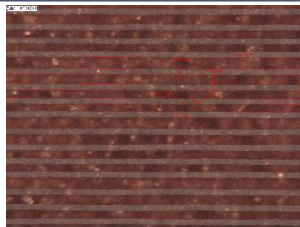
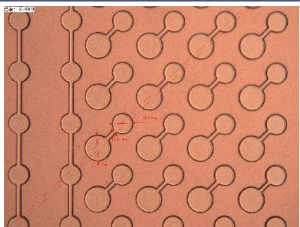
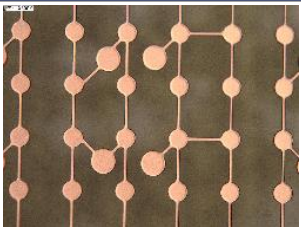
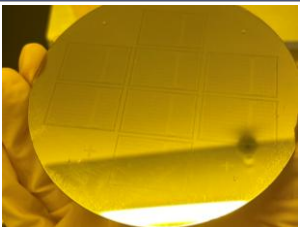
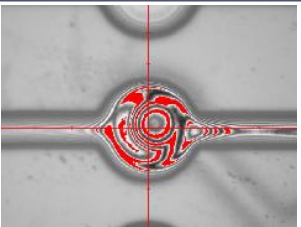
中原工学院
Zhongyuan University of Technology



桂林航天工业学院
GUILIN UNIVERSITY OF AEROSPACE TECHNOLOGY

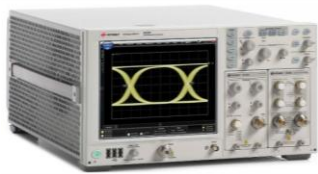
RDL 5um/5um Pilot Line

The main processes involved include lithography (for fine lines and micro-vias), sputtering (for seed layer formation), electroplating (for line metallization), planarization (for DUT surface flatness), and inspection (for precision and reliability testing).

Lithography	Sputtering	Electroplating	Planarization	Inspection
				
				
Resolution: 6/6um Accuracy: $\pm 1.5\mu\text{m}$	Evenness: 5% Power: 1KW	Evenness: 10% Accuracy: 0.1mA	Flatness: 10um	Image System: 1024*1024 Accuracy: 0.1um
Photolithography System	Magnetron Sputtering	Electroplating Machine	CMP Grinding Machine	3D Contourgraph

Reliability Testing

Advance Outgoing and Long-Term Reliability Testing

			
Impedance tester	ROHS tester	X-RAY finished coating thickness tester	Microscope

Standard test

- 100% E-test
- 100% Visual check
- PCB dimension measure
- Micro-section
- Solderability test
- Thermal stress test
- Solder mask peel off test
- Impedance test
- Tg & Δ Tg test
- ROHS detection

			
Ion mobility tester	Ion contamination tester	Thermal shock tester	Reflow tester

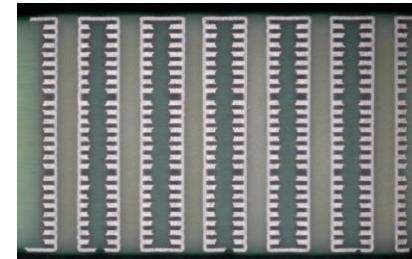
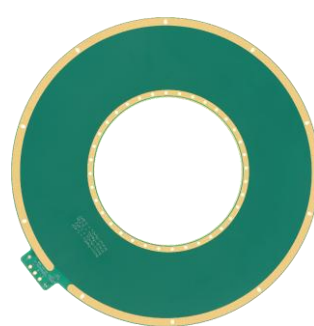
Reliability test

- Reflow test
- High temp & humidity test
- Temperature and humidity insulation resistance test
- Solvent resistance test
- Contamination test
- Thermal shock test
- Peel strength test
- Salt-mist test

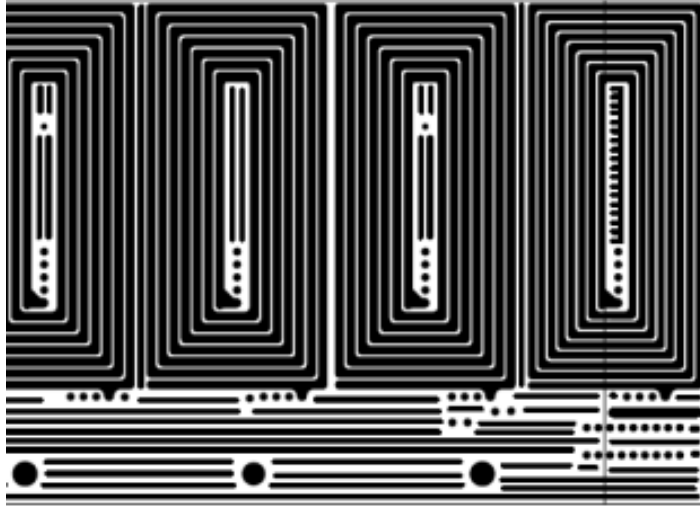
Heavy Copper



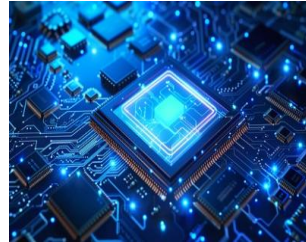
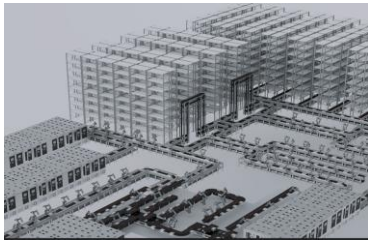
- Layer Count: 26L
- Material: TU-865
- Cu Thickness: 4 oz all layers
- PCB Thickness: 6.35 mm +/- 10%
- Finish: ENIG
- Requirements: Epoxy filled vias, HiPot, Coil resistance, Inductance testing, Blind/buried vias with multiple lam cycles
- Applications: Powertrain, Industrial drive motor, Stators



Heavy Copper

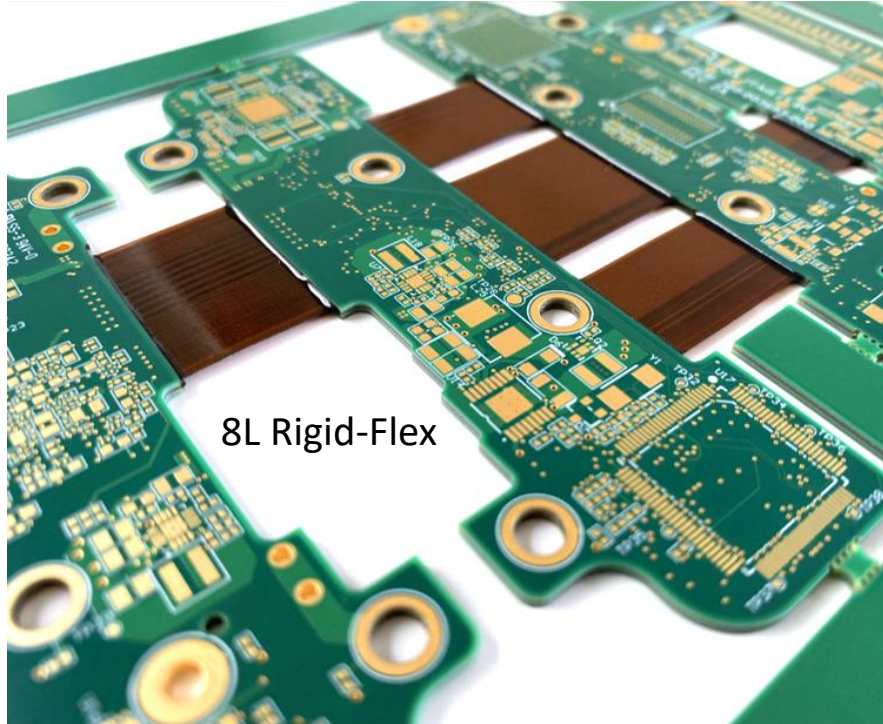


- Layer Count: 12L
- Material: TU-865
- PCB Thickness: 3.45 mm +/- 10%
- Cu Thickness: 5 oz (IL)
- Finish: ENIG
- Requirements: Epoxy filled vias, Inductance and Hi-Pot testing, Coil resistance, Depth routing
- Applications: Powertrain, Industrial drive motor, Maglev, Electric Vehicles, DC/DC Converters



Rigid-Flex & Flex

Flexible Solutions for Medical, Industrial & Automotive

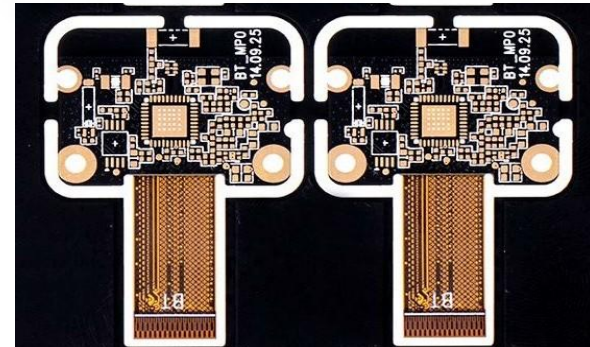


8L Rigid-Flex

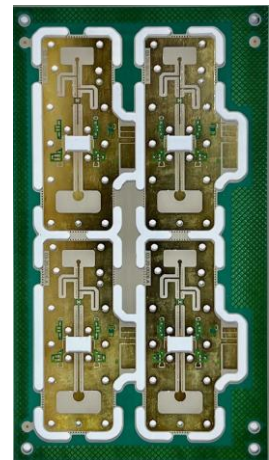
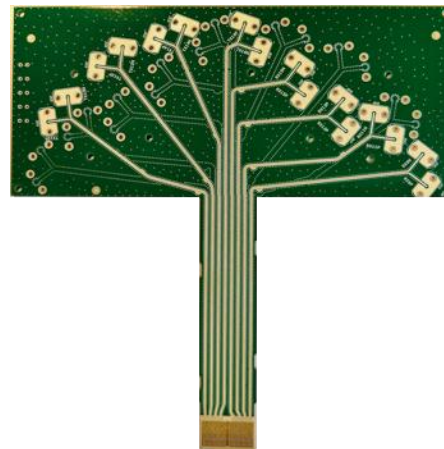
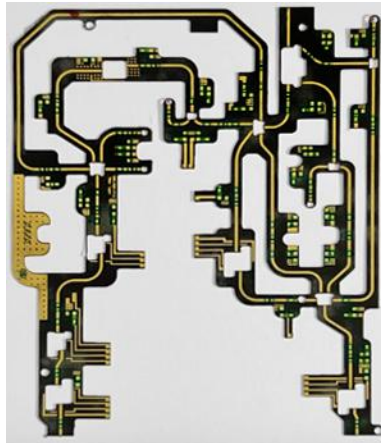
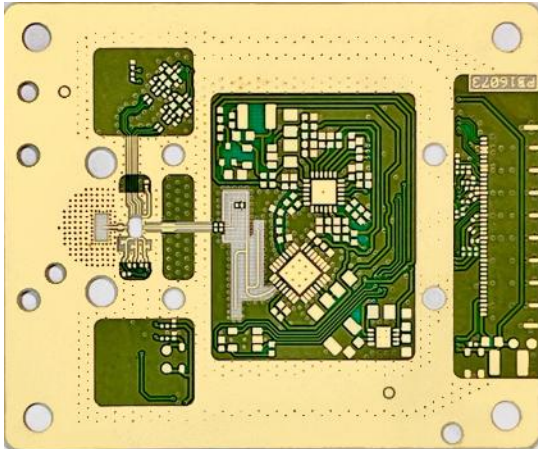


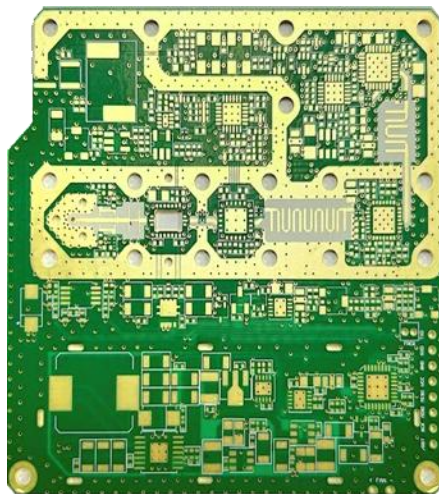
2L Flex with FR4
Stiffeners

4L Rigid-Flex

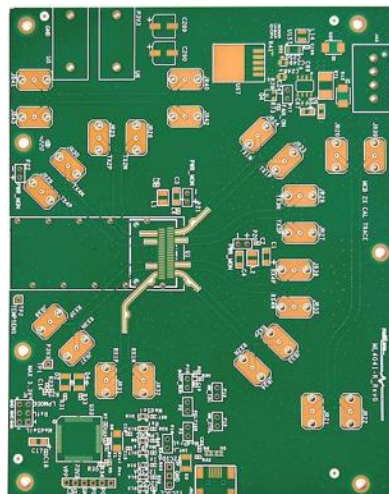


- Production in Malaysia and Jiujiang Facilities
- PTFE/Teflon, AGC Neltec, Taconic, Arlon, and Shengyi
- RO3000/4000, RT5880/6035, I-Speed, I-Tera MT, 2929 and 4450F
- ENIG, Wire Bondable and Flash Gold, Selective Finishes
- Wave Guide Pockets, Plated Edges, Controlled Depth Drill & Rout
- Applications: Antennas, Satellite & Wireless Communications, SI Testing, Automotive

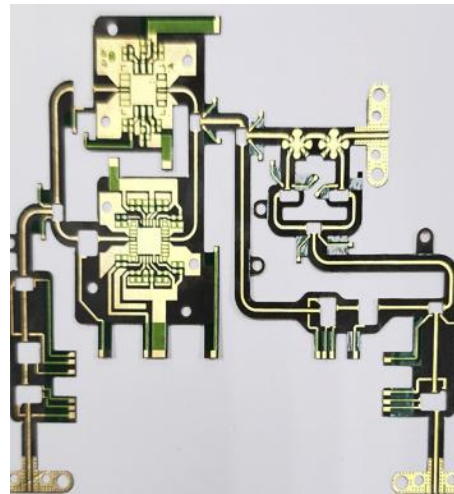




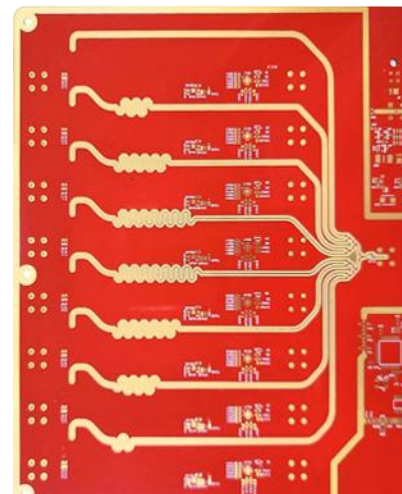
- Block-Up Converter (BUC)
- Layer Count: 4L
- RF35HTC + Fast-Rise PP
- ENIG
- Lo-Freq to Hi-Freq RF for transmission to satellite



- SI/RF Testing
- Layer Count: 6L
- Hybrid RO3003 + 185HR
- Impedance Control: $\pm 5\%$
- OSP

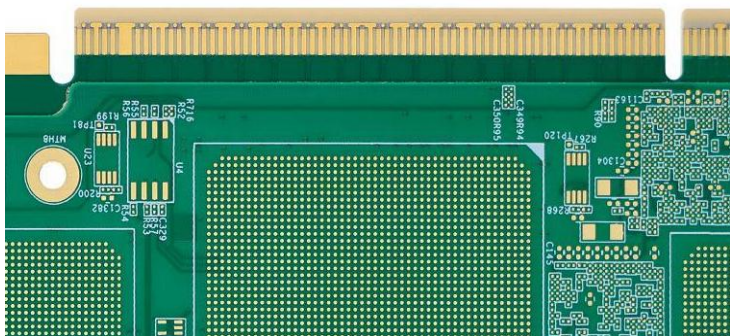
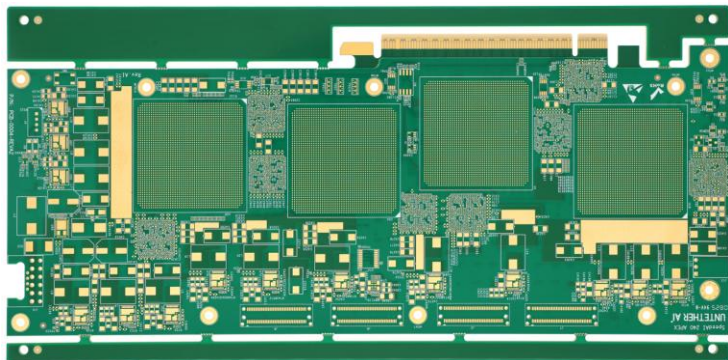


- Power Amplifier (wFEM)
- Layer Count: 2L
- RT/Duroid 5880 (.005")
- Plated Over Filled Via
- ENIG + Selective Soft Gold



- Aerospace
- Layer Count: 8L
- Hybrid RO3003 + 185HR
- Plated Over Filled Via
- Impedance Control $\pm 5\%$
- ENIG

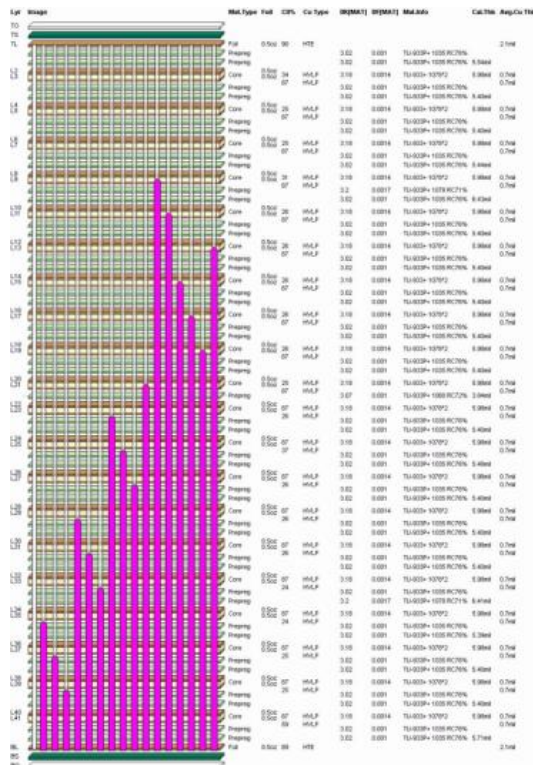
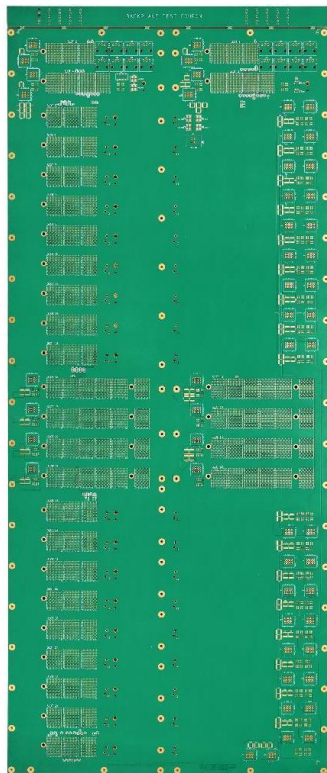
AI Accelerator



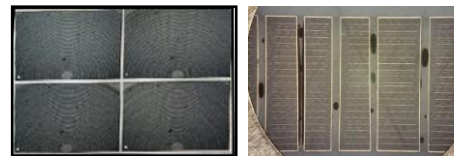
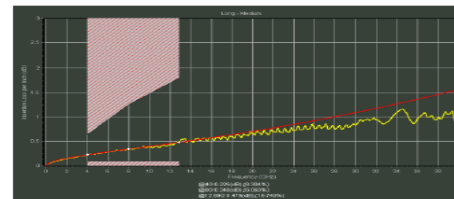
Lyr	Image	Mat.Type	Foil	CU%
T0				
TS				
TL		Foil	0.33oz	55
L2		Prepreg		
L3		Foil	0.33oz	84
L4		Prepreg		
L5		Foil	0.33oz	47
L6		Prepreg		
L7		Foil	0.33oz	63
L8		Prepreg		
L9		Foil	0.33oz	51
L10		Prepreg		
L11		Foil	0.33oz	85
L12		Prepreg		
L13		Foil	0.33oz	49
L14		Prepreg		
L15		Foil	1oz	85
L16		Prepreg		
L17		Foil	1oz	82
L18		Prepreg		
L19		Foil	1oz	82
L20		Prepreg		
L21		Foil	1oz	83
L22		Prepreg		
L23		Foil	1oz	83
L24		Prepreg		
L25		Foil	1oz	82
L26		Prepreg		
L27		Foil	1oz	82
L28		Prepreg		
L29		Foil	1oz	82
L30		Prepreg		
L31		Foil	1oz	82
L32		Prepreg		
L33		Foil	1oz	82
L34		Prepreg		
L35		Foil	1oz	82
L36		Prepreg		
L37		Foil	1oz	82
L38		Prepreg		
L39		Foil	1oz	82
L40		Prepreg		
L41		Foil	1oz	82
L42		Prepreg		
L43		Foil	1oz	82
L44		Prepreg		
L45		Foil	1oz	82
L46		Prepreg		
L47		Foil	1oz	82
L48		Prepreg		
L49		Foil	1oz	82
L50		Prepreg		
L51		Foil	1oz	82
L52		Prepreg		
L53		Foil	1oz	82
L54		Prepreg		
L55		Foil	1oz	82
L56		Prepreg		
L57		Foil	1oz	82
L58		Prepreg		
L59		Foil	1oz	82
L60		Prepreg		
L61		Foil	1oz	82
L62		Prepreg		
L63		Foil	1oz	82
L64		Prepreg		
L65		Foil	1oz	82
L66		Prepreg		
L67		Foil	1oz	82
L68		Prepreg		
L69		Foil	1oz	82
L70		Prepreg		
L71		Foil	1oz	82
L72		Prepreg		
L73		Foil	1oz	82
L74		Prepreg		
L75		Foil	1oz	82
L76		Prepreg		
L77		Foil	1oz	82
L78		Prepreg		
L79		Foil	1oz	82
L80		Prepreg		
L81		Foil	1oz	82
L82		Prepreg		
L83		Foil	1oz	82
L84		Prepreg		
L85		Foil	1oz	82
L86		Prepreg		
L87		Foil	1oz	82
L88		Prepreg		
L89		Foil	1oz	82
L90		Prepreg		
L91		Foil	1oz	82
L92		Prepreg		
L93		Foil	1oz	82
L94		Prepreg		
L95		Foil	1oz	82
L96		Prepreg		
L97		Foil	1oz	82
L98		Prepreg		
L99		Foil	1oz	82
L100		Prepreg		
L101		Foil	1oz	82
L102		Prepreg		
L103		Foil	1oz	82
L104		Prepreg		
L105		Foil	1oz	82
L106		Prepreg		
L107		Foil	1oz	82
L108		Prepreg		
L109		Foil	1oz	82
L110		Prepreg		
L111		Foil	1oz	82
L112		Prepreg		
L113		Foil	1oz	82
L114		Prepreg		
L115		Foil	1oz	82
L116		Prepreg		
L117		Foil	1oz	82
L118		Prepreg		
L119		Foil	1oz	82
L120		Prepreg		
L121		Foil	1oz	82
L122		Prepreg		
L123		Foil	1oz	82
L124		Prepreg		
L125		Foil	1oz	82
L126		Prepreg		
L127		Foil	1oz	82
L128		Prepreg		
L129		Foil	1oz	82
L130		Prepreg		
L131		Foil	1oz	82
L132		Prepreg		
L133		Foil	1oz	82
L134		Prepreg		
L135		Foil	1oz	82
L136		Prepreg		
L137		Foil	1oz	82
L138		Prepreg		
L139		Foil	1oz	82
L140		Prepreg		
L141		Foil	1oz	82
L142		Prepreg		
L143		Foil	1oz	82
L144		Prepreg		
L145		Foil	1oz	82
L146		Prepreg		
L147		Foil	1oz	82
L148		Prepreg		
L149		Foil	1oz	82
L150		Prepreg		
L151		Foil	1oz	82
L152		Prepreg		
L153		Foil	1oz	82
L154		Prepreg		
L155		Foil	1oz	82
L156		Prepreg		
L157		Foil	1oz	82
L158		Prepreg		
L159		Foil	1oz	82
L160		Prepreg		
L161		Foil	1oz	82
L162		Prepreg		
L163		Foil	1oz	82
L164		Prepreg		
L165		Foil	1oz	82
L166		Prepreg		
L167		Foil	1oz	82
L168		Prepreg		
L169		Foil	1oz	82
L170		Prepreg		
L171		Foil	1oz	82
L172		Prepreg		
L173		Foil	1oz	82
L174		Prepreg		
L175		Foil	1oz	82
L176		Prepreg		
L177		Foil	1oz	82
L178		Prepreg		
L179		Foil	1oz	82
L180		Prepreg		
L181		Foil	1oz	82
L182		Prepreg		
L183		Foil	1oz	82
L184		Prepreg		
L185		Foil	1oz	82
L186		Prepreg		
L187		Foil	1oz	82
L188		Prepreg		
L189		Foil	1oz	82
L190		Prepreg		
L191		Foil	1oz	82
L192		Prepreg		
L193		Foil	1oz	82
L194		Prepreg		
L195		Foil	1oz	82
L196		Prepreg		
L197		Foil	1oz	82
L198		Prepreg		
L199		Foil	1oz	82
L200		Prepreg		
L201		Foil	1oz	82
L202		Prepreg		
L203		Foil	1oz	82
L204		Prepreg		
L205		Foil	1oz	82
L206		Prepreg		
L207		Foil	1oz	82
L208		Prepreg		
L209		Foil	1oz	82
L210		Prepreg		
L211		Foil	1oz	82
L212		Prepreg		
L213		Foil	1oz	82
L214		Prepreg		
L215		Foil	1oz	82
L216		Prepreg		
L217		Foil	1oz	82
L218		Prepreg		
L219		Foil	1oz	82
L220		Prepreg		
L221		Foil	1oz	82
L222		Prepreg		
L223		Foil	1oz	82
L224		Prepreg		
L225		Foil	1oz	82
L226		Prepreg		
L227		Foil	1oz	82
L228		Prepreg		
L229		Foil	1oz	82
L230		Prepreg		
L231		Foil	1oz	82
L232		Prepreg		
L233		Foil	1oz	82
L234		Prepreg		
L235		Foil	1oz	82
L236		Prepreg		
L237		Foil	1oz	82
L238		Prepreg		
L239		Foil	1oz	82
L240		Prepreg		
L241		Foil	1oz	82
L242		Prepreg		
L243		Foil	1oz	82
L244		Prepreg		
L245		Foil	1oz	82
L246		Prepreg		
L247		Foil	1oz	82
L248		Prepreg		
L249		Foil	1oz	82
L250		Prepreg		
L251		Foil	1oz	82
L252		Prepreg		
L253		Foil	1oz	82
L254		Prepreg		
L255		Foil	1oz	82
L256		Prepreg		
L257		Foil	1oz	82
L258		Prepreg		
L259		Foil	1oz	82
L260		Prepreg		
L261		Foil	1oz	82
L262		Prepreg		
L263		Foil	1oz	82
L264		Prepreg		
L265		Foil	1oz	82
L266		Prepreg		
L267		Foil	1oz	82
L268		Prepreg		
L269		Foil	1oz	82
L270		Prepreg		
L271		Foil	1oz	82
L272		Prepreg		
L273		Foil	1oz	82
L274		Prepreg		
L275		Foil	1oz	82
L276		Prepreg		
L277		Foil	1oz	82
L278		Prepreg		
L279		Foil	1oz	82
L280		Prepreg		
L281		Foil	1oz	82
L282		Prepreg		
L283		Foil	1oz	82
L284		Prepreg		
L285		Foil	1oz	82
L286		Prepreg		
L287		Foil	1oz	82
L288		Prepreg		
L289		Foil	1oz	82
L290		Prepreg		
L291		Foil	1oz	82
L292		Prepreg		
L293		Foil	1oz	82
L294		Prepreg		
L295		Foil	1oz	82
L296		Prepreg		
L297		Foil	1oz	82
L298		Prepreg		
L299		Foil	1oz	82
L300		Prepreg		
L301		Foil	1oz	82
L302		Prepreg		
L303		Foil	1oz	82
L304		Prepreg		
L305		Foil	1oz	82
L306		Prepreg		
L307		Foil	1oz	82
L308		Prepreg		
L309		Foil	1oz	82
L310		Prepreg		
L311		Foil	1oz	82
L312		Prepreg		
L313		Foil	1oz	82
L314		Prepreg		
L315		Foil	1oz	82
L316		Prepreg		
L317		Foil	1oz	82
L318		Prepreg		
L319		Foil	1oz	82
L320		Prepreg		
L321		Foil	1oz	82
L322		Prepreg		
L323		Foil	1oz	82
L324		Prepreg		
L325		Foil	1oz	82
L326		Prepreg		
L327		Foil	1oz	82
L328		Prepreg		
L329		Foil	1oz	82
L330		Prepreg		
L331		Foil	1oz	82
L332		Prepreg		
L333		Foil	1oz	82
L334		Prepreg		
L335		Foil	1oz	82
L336		Prepreg		
L337		Foil	1oz	82
L338		Prepreg		
L339		Foil	1oz	82
L340		Prepreg		
L341		Foil	1oz	82
L342		Prepreg		
L343		Foil	1oz	82
L344		Prepreg		
L345		Foil	1oz	82
L346		Prepreg		
L347		Foil	1oz	82
L348		Prepreg		
L349		Foil	1oz	82
L350		Prepreg		
L351		Foil	1oz	82
L352		Prepreg		

42L Back Plane

950mm 42Layers Back plane



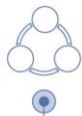
- Insertion loss 0.5dB@12.89GHz
- 42 Layers
- TU-943
- Thickness 6.5mm
- Trace W/S: 3/3mil
- ≤8mil Back drill stub
- 950mm*393mm Panel Size
- ENIG Surface Finish
- Low roughness oxide treatment



05 Green Factory

Dedicated to Sustainability and Carbon Reduction

SGC is committed to environmental sustainability and actively pursue carbon reduction initiatives to minimize our ecological footprint.



Environment

Our mission is to be an industry leader in the sustainable manufacturing of PCB's

Certifications:

- [ISO-14001](#) Environmental Mgmt System
- [ISO-14067](#) Carbon Footprint
- [ISO-45001](#) Occupational Health & Safety
- [ISO-50001](#) Energy Management System
- [QC-080000](#) Hazardous Substance Process Management

Extensive use of energy saving and resource reduction measures in our facilities

- Ground heat pumps and solar panels
- Water conservation and copper recycling
- High efficiency motors and equipment to reduce electricity

Green Manufacturing Technology Center (GMTC)

- Inkjet printing of solder mask
- Additive process - conductive paste printing



CO2e Emissions 2024

Total:
90,658
tCO2e
(Scope1 & 2)

Intensity:
418
tCO2e/million USD
(Scope1 & 2)

Target in 2025Y

- Photovoltaic power generation: **1040t**
- Green energy: Reduce **6,517.76t (SZ)** and **8,741.76t (JJ)** in 2025Y
- Energy-saving renovation: Reduce **1480t (SZ)** and **4,569.54t (JJ)** in 2025Y

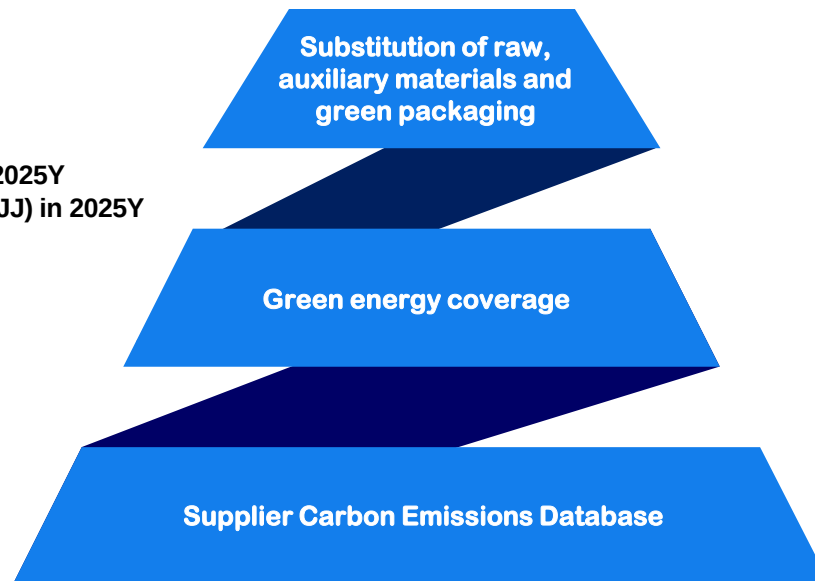
Mid-Term Goal

- Using 2029 as the basis year, carbon dioxide emissions are projected to decline by 50% from 2030 to 2039. (Scope1&2)
- The remaining 50% is projected to decline to **0 tCO2e** from **2040-2049**. (Scope1&2)

Long-Term Goal

- Carbon dioxide peaking by **2029**. (Scope1&2)
- Carbon neutrality by **2050**. (Scope1&2)

IMPLEMENTATION PATHWAY



Thank You.

SALES SUBSIDIARIES:

Sunshine PCB (HK) Co., Limited
Room 706A, Harbour Crystal Centre
100 Granville Road, Tsim Sha Tsui
Kowloon, Hong Kong

Sunshine Circuits USA, LLC
3400 Silverstone Drive, Suite 139
Plano, Texas, USA 75023
Tel. +1 972 867 8886
Fax +1 972 867 8002

Sunshine PCB GmbH
Wildparkstraße 7 D-09247
Chemnitz, Germany
Tel. +49 3722 59967 12

MANUFACTURING LOCATIONS:

Sunshine Global Circuits Co., Ltd.
Bldg B, #32 Nanhuan Road, Shangxing #2 Industrial Zone
Xinqiao, BaoAn, Shenzhen, Guangdong, China 518125
Tel. +86 755 2724 3597
Fax +86 755 2724 3609

Jiujiang Sunshine Circuits Technology Co., Ltd.
GangCheng Rd, ChengXiGang Economic Development Zone,
Jiujiang City, Jiangxi, China 332000
Tel. +86 792 238 5678
Fax +86 792 2385668

Sunshine PCB GmbH
Walter-Freitag -Straße 17 D-42899
Remscheid, Germany
Tel. +49 2191 9573 0

Sunshine PCB (Penang) Sdn. Bhd.
2541 & 2542 Lorong Jelawat 6, Seberang Jaya, 13700 Perai,
Penang, Malaysia
Tel. +60 4 399 0791

Jason Zhao

VP of North America Operations
jasonzhao@sunshinepcb.com
Based in Dallas, Texas

Jimmy Fang

GM/VP
jimmyfang@sunshinepcb.com
Based in Penang, Malaysia

Carrie Rams

Customer Service Manager
carrierams@sunshinepcb.com
Based in Dallas, Texas

Angela Cheng

Marketing Specialist
angelacheng@sunshinepcb.com
Based in Dallas, Texas