

SONNE ELECTRONIC AND TECHNOLOGY

COMPANY PROFILE

RF SOLUTIONS



2023



ABOUT THE COMPANY



Established in **2015**, SONNE is a comprehensive enterprise specializing in RF product design, manufacturing, and production. With R&D and advanced processing facilities, we ensure a seamless process from raw materials to finished products. Our expertise includes mold development, allowing flexibility in creating various new products.

In the RF passive devices sector, we utilize diverse models of analyzers for research and design, offering a range of products including **connectors, cables, cable assemblies, power dividers, filters, directional couplers, loads, and attenuators.**

Customer-centric and innovation-driven, SONNE leverages industry experience and technology for rapid development in the communication field.



Energy Storage Products



Industrial and Commercial Energy Storage Systems



Containerized Energy Storage Solutions Product



Home Energy Storage Battery System Products



12V Energy Storage Battery

Energy Storage Products



<p>Energy Storage Products</p> <p>1-3kWh</p> <p>Portable Energy Storage</p>	<p>Energy Storage Products</p> <p>5-20kWh</p> <p>Home Energy Storage System</p>	<p>Energy Storage Products</p> <p>20-100kWh</p> <p>Industrial and Commercial Energy Storage System</p>	<p>Energy Storage Products</p> <p>500-1MWh</p> <p>10-Foot Containerized Energy Storage System</p>	<p>Energy Storage Products</p> <p>500-1MWh</p> <p>20-Foot Containerized Energy Storage System</p>	<p>Energy Storage Products</p> <p>> 1MW</p> <p>40-Foot Containerized Energy Storage System</p>
	<p>Communication Backup Products</p> <p>HIGHSTAR</p> <p>Pole-mounted 50 Power System</p>	<p>Communication Backup Products</p> <p>48V/50Ah</p> <p>Communication Batteries</p>	<p>Communication Backup Products</p> <p>48V/100Ah</p> <p>Communication Batteries</p>	<p>Communication Backup Products</p> <p>HIGHSTAR</p> <p>Multi-Battery Systems</p>	
		<p>Data Center Backup Products</p> <p>512V/100Ah</p> <p>UPS Backup Battery System</p>	<p>Data Center Backup Products</p> <p>256V/100Ah</p> <p>High-Voltage Direct Current Backup Battery System</p>		



Cable Assemblies



Connector



Waveguide



Antenna



Coaxial Attenuator



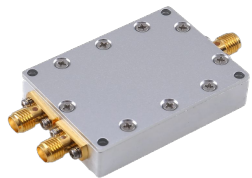
Coaxial Load



Multi-band Combiner



Filter



Power Divider



Directional Coupler



Tapper



Hybrid Combiner



12V Energy Storage Battery



The nylon handle
supports a maximum weight of 100kg

Built-in Bluetooth/WIFI Module
Real-time Monitoring via Mobile App



Terminal Connector
M8 Internal Thread,
Copper for Corrosion Resistance

Battery Casing
High-strength ABS material,
vibration-resistant
IP65 or above waterproof rating

□ Direct Replacement for Lead-Acid

The casing is consistent with lead-acid batteries, making installation simple and reliable.

□ Compared to Traditional Lead-Acid Batteries

- 200% Power Output
- 1/2 the Weight
- 5X Fast Charge Technology
- 4X Cycle Life
- Easy installation and connection, supporting up to 48V in series
- Maintenance-free for a lifetime
- Integrated Bluetooth functionality
- Downloadable Android/iOS APP for real-time battery monitoring
- Battery capacities range from 8AH to 240AH.

□ Flexible Grouping

Can be connected in series to form 24V, 36V, 48V battery groups;
Supports a maximum of 4s2p up to 48V 400Ah.

□ Wide Range of Applications

Suitable for home energy storage, RVs, marine power supply, video surveillance, solar street lights, light electric vehicles, golf carts, parking air conditioners, truck AC power, and other applications.



Motorhome



Solar Street Light



Household Power Supply



Marine Power Supply

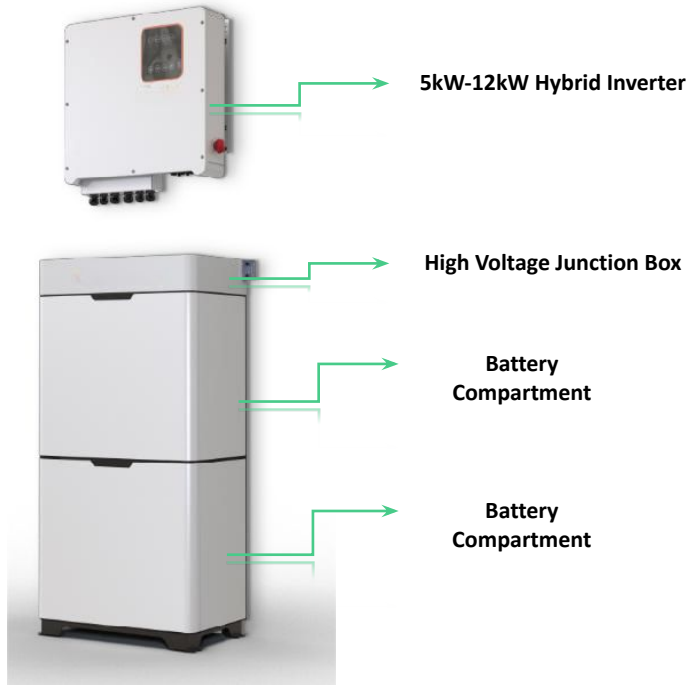


Video Surveillance



Golf Cart

Home Energy Storage Battery System



□ Flexible Configuration

Output power can be flexibly configured from 5KW to 12KW;
Flexible battery voltage configuration with a wide range of DC voltage;
Flexible energy storage capacity expansion, supporting a maximum of 4 clusters in parallel;
Battery modules are 3U in height and can be directly installed on 19-inch racks;
Small volume, light weight, and high energy density of the battery modules.

□ Safe and Reliable

The system has anti-backflow functionality;
The system has a comprehensive anti-reverse connection design;
Long lifespan, high cycle count, designed for a 10-year lifespan;
Three-tier battery management architecture with multiple battery protection designs.

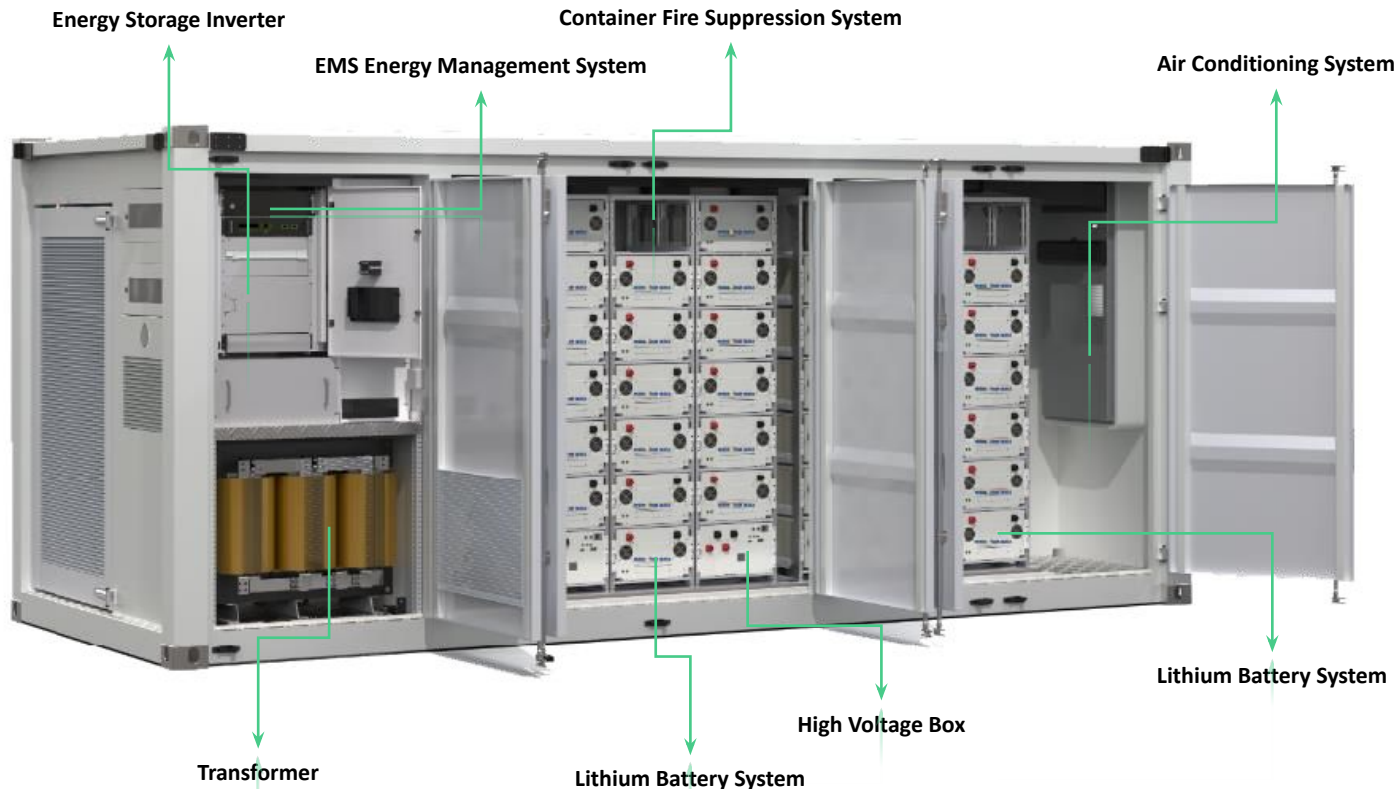
□ Local and Remote Monitoring

Equipped with real-time monitoring LCD screen (optional);
Capable of both local and remote monitoring.

□ Intelligent & Advanced

Home smart energy management;
Active power dispatching and demand response;
Distributed virtual power plant management.

Industrial and Commercial Energy Storage Systems



□ Flexible Configuration

- Output power can be flexibly configured from 100KW to 1000KW;
- Standard battery cluster design, with a capacity of 157KWH per cluster;
- Supports 10-foot, 20-foot, and 40-foot container configurations;
- Supports energy storage capacity from 300kwh to 2.6Mwh.

□ Safe and Reliable

- Comprehensive container temperature control management;
- Sophisticated fire prevention system;
- External maintenance methods ensure personnel safety;
- Comprehensive fault diagnostics (over 150 fault diagnostics);
- BMS graded design to improve energy storage safety operation level.

□ Local and Remote Monitoring

- Equipped with real-time monitoring LCD screen (optional);
- Capable of both local and remote monitoring;
- Remote scheduling of energy storage operations;
- Intelligent operational data management.

□ Intelligent & Advanced

- Smart energy management;
- Active power dispatching and demand response;
- Comprehensive energy dispatching capabilities.

Home Energy Storage Battery System Products



Forming a Home Energy Storage System with External Hybrid Inverters

Energy Storage System Energy Range: 4.8kWh-20.4kWh
Supports a maximum of 4 cabinets in parallel
Cycle Life exceeds 8000 cycles

Product Forms:

- Rack-Mounted Home Energy Storage Battery
- Wall-Mounted Home Energy Storage Battery
- Floor-Standing Home Energy Storage Battery

Product Voltage:

- Low-Voltage Home Energy Storage Battery System
- High-Voltage Home Energy Storage Battery System

System Configuration:

- Split-type Home Energy Storage System
- Integrated Home Energy Storage System



Villa



Base Station



Home



Island Cottage



Ranch



Farmhouse

Industrial and Commercial Energy Storage Systems



50KW Photovoltaic Energy Storage Integrated System



100kWh Industrial and Commercial Energy Storage System



□ Flexible Configuration

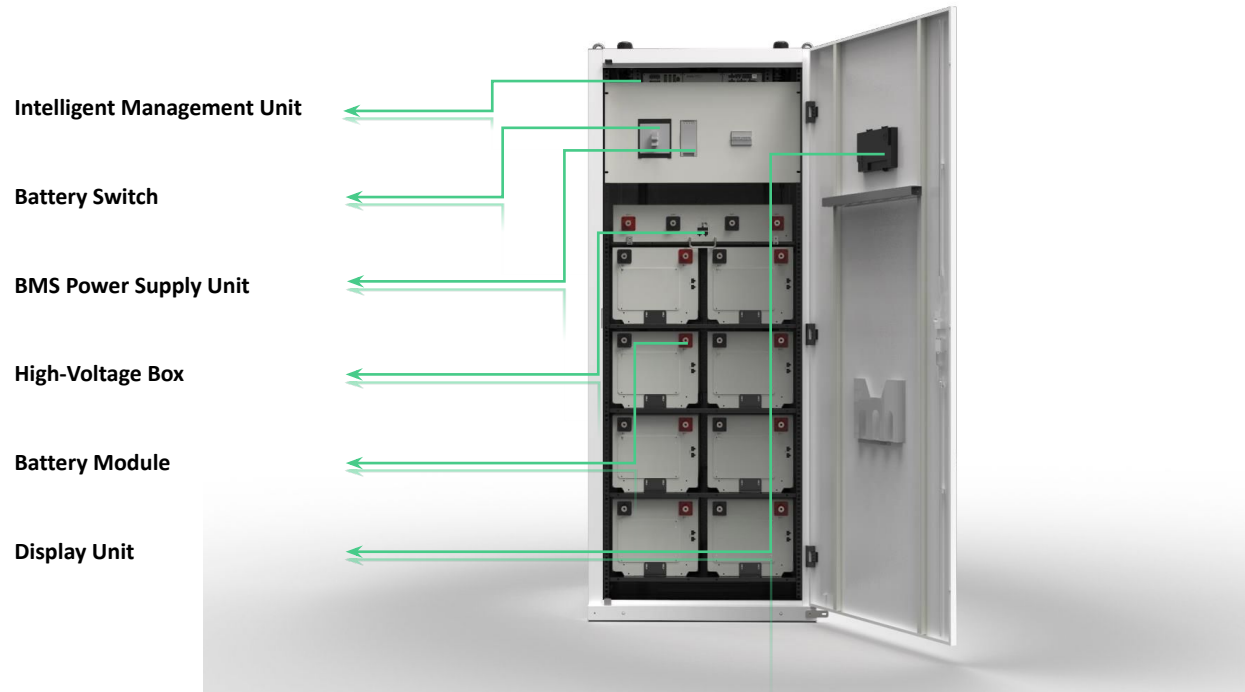
- Output power can be flexibly configured from 50KW to 500KW;
- Battery standard system cabinet design, with a capacity of 50KWH per cabinet;
- Flexible energy storage capacity expansion, supporting a maximum of 20 clusters, with a maximum capacity of 1MWH.

□ Safe and Reliable

- The system has anti-backflow functionality;
- The system has a comprehensive anti-reverse connection design;
- Long lifespan, high cycle count.

□ Intelligent & Advanced

- Wide battery voltage range;
- Grid-connected charging and discharging, off-grid independent inverter function;
- Reactive power and active power can be adjusted;
- Off-grid cold start function, supports multi-machine parallel function;
- Small size, easy installation, transportation, and maintenance;
- Highest power density, with the highest efficiency reaching 98.7%;
- Low power consumption fan, with an intelligent temperature control system;
- Patented software control detection algorithm ensures timely detection of equipment failures;
- Comprehensive overview of equipment operating status.



□ Flexible Configuration

- Flexible configuration of output voltage from 384V to 512V;
- Supports both 2-wire and 3-wire UPS battery configurations;
- Supports parallel connection of up to 20 cabinets;
- Capacity range from 50KWH to 1MWH.

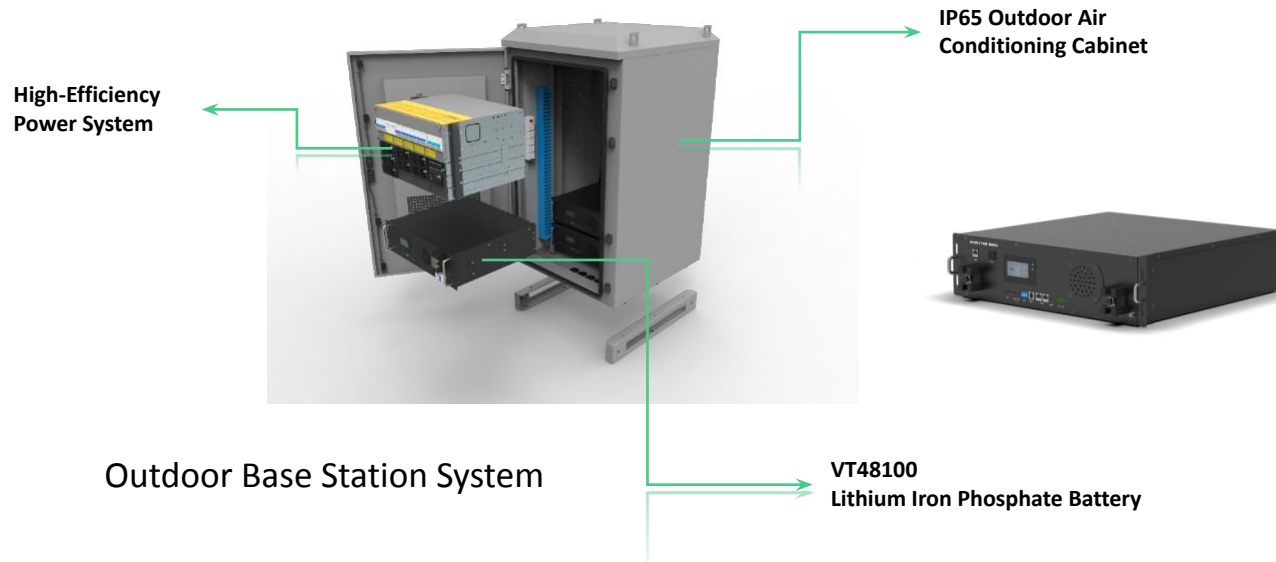
□ Safe and Reliable

- Comprehensive insulation, high-voltage, temperature control, fault, and operation system diagnostics;
- Accurate SOX detection;
- Precise overcurrent, short circuit, reverse connection, overtemperature, and gas detection protection;
- Temperature, voltage, and internal resistance detection covering all battery cells;
- Comprehensive fault diagnostics (over 150 fault diagnostics);
- Graded fault diagnostics design to improve energy storage safety operation level;
- Can operate safely independently without communication with the UPS host;
- Up to 4000 cycles of cycle life.

□ Local and Remote Monitoring

- Equipped with real-time monitoring LCD screen (optional);
- Capable of both local and remote monitoring.

4G/5G Communication Backup System



Safe and Reliable

- Safe lithium iron phosphate cathode materials;
- Multiple protection mechanisms based on independently developed and patented BMS;
- Automated production line ensuring high consistency.

Modular Design

- Modular design for direct installation on 19" & 23" racks;
- IP65 design (5G products).

Long Life

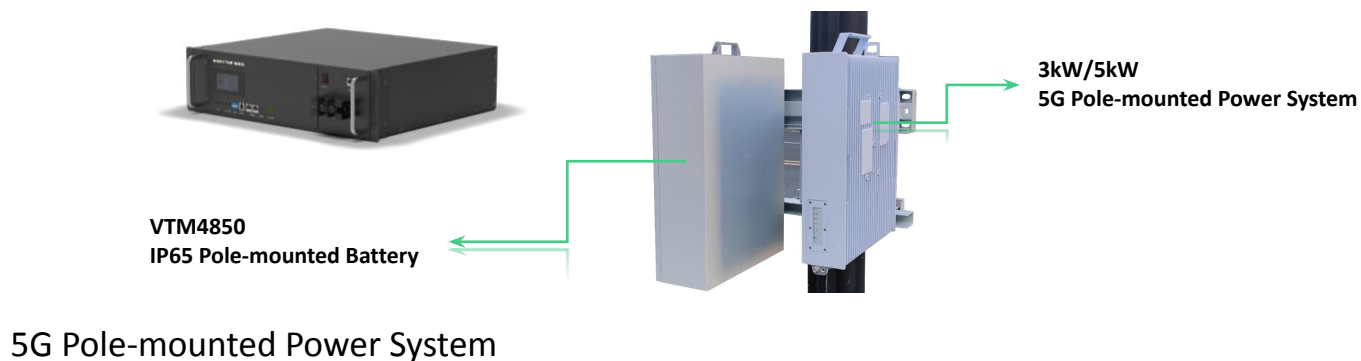
- 15 years of designed lifespan.

Intelligent Lithium Battery System

- Equipped with an LCD screen for real-time monitoring;
- Capable of local and remote monitoring;
- Intelligent anti-theft system: GPS, etc.

Application Scenarios

- 19" & 23" communication base stations;
- 5G micro stations (pole-mounted and wall-mounted).



Project Management: Local Inventory in Southern California)

ODM Project (4-10 Weeks)



- Confirm SPEC
- Project Feasibility
- Initial Quote

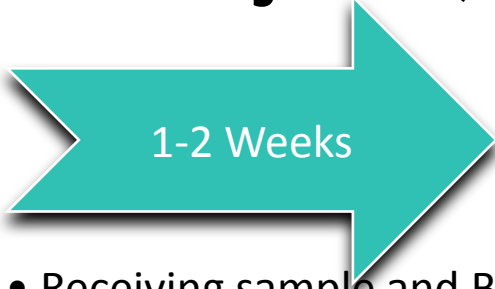


- Material Searching
- Prototype Development
- Design Review
- Reliability Test



- Design Finalization
- Sample submission
- Spec for Approval

OEM Project (3-6 Weeks)



- Receiving sample and BOM
- Spec evaluation
- Initial Quote



- Material Searching
- Prototype development



- Design Finalization
- Sample Submission
- Specification for Approval

Containerized Energy Storage Solutions Product



Small Standard Shipping Container Cabin



10ft Energy Storage Container

Built-in air conditioning for heat dissipation
Maximum battery cluster capacity: 157.4kWh
PCS rated power: 250kW-300kW
Maximum battery capacity: 314.8kWh-472.2kWh

Medium Standard Shipping Container Cabin



20ft Energy Storage Container

Built-in air conditioning for heat dissipation
Maximum battery cluster capacity: 157.4kWh
PCS rated power: 0.5MW-1MW
Maximum battery capacity: 1MWh-1.416MWh

Large Standard Shipping Container Cabin



40ft Energy Storage Container

Built-in air conditioning for heat dissipation
Maximum battery cluster capacity: 157.4kWh
PCS rated power: 0.5MW-1MW
Maximum battery capacity: 2.676MWh-3.148MWh

MANUFACTURING FLOOR



15 acre campus
headcounts: 200



MANUFACTURE PROCESS



Electroplating

Electroplating enhances component durability through a meticulous coating process.



Debugging

Rigorous debugging optimizes functionality and performance.



Packaging

Careful packaging ensures safe and secure delivery to clients.



Testing

Comprehensive testing guarantees the product meets quality standards.



Assembly

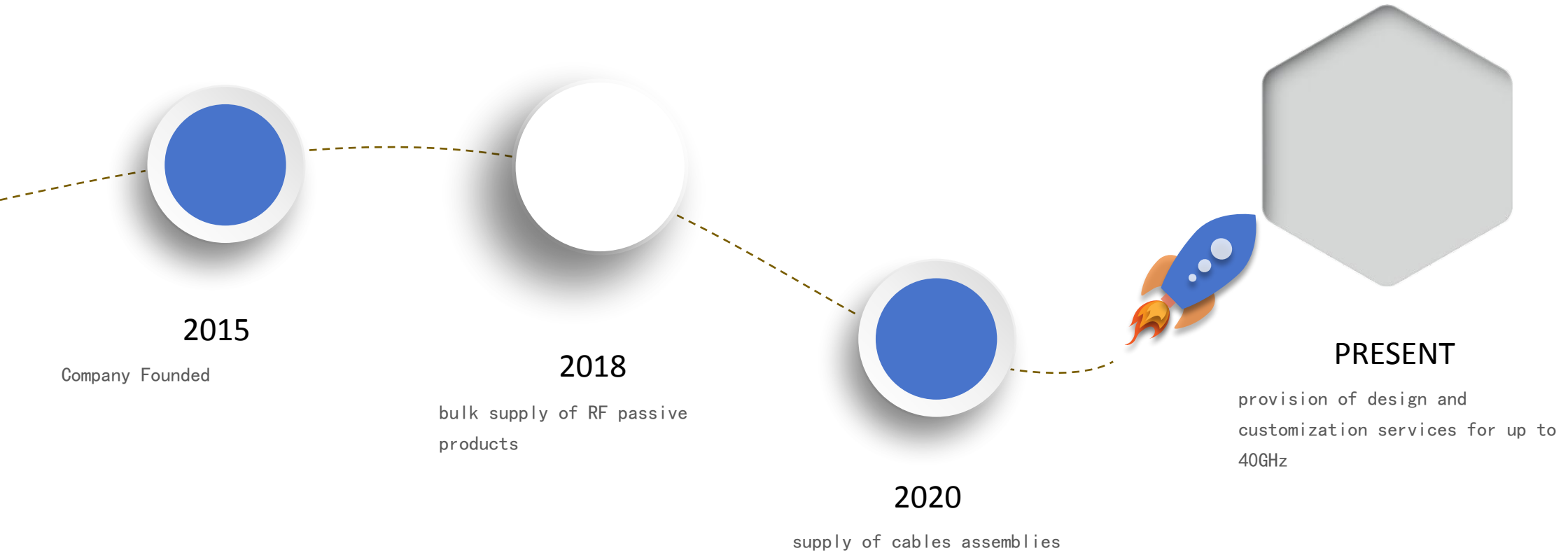
Seamless assembly integrates components into the final product.



Mechanical Processing

Precision mechanical processing ensures accurate shaping of components.

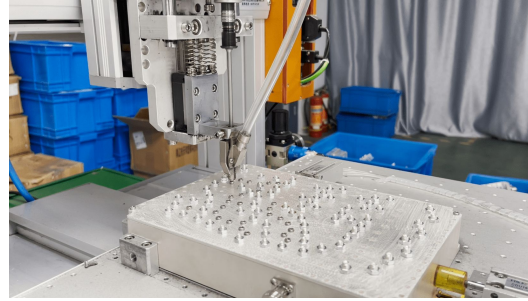




Major Equipment For Production



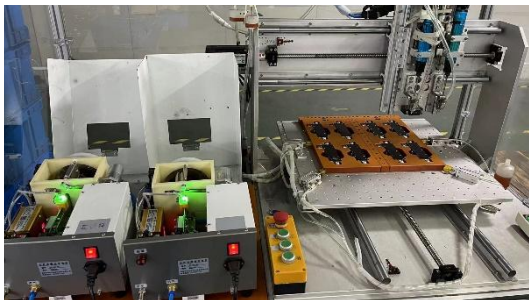
Automatic lock screw machine



Screw machine



Electric drying oven



Automatic soldering machine



Automatic sandblasting machine



Ultrasonic Cleaner

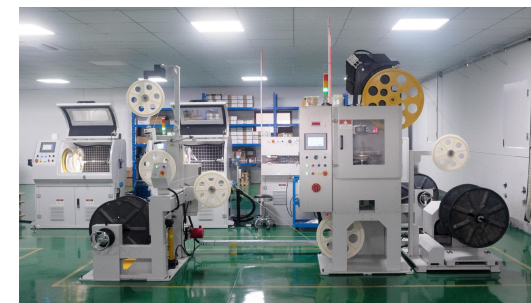
CABLE ASSEMBLIES & SMT PRODUCTION LINE



Cable workshop



Cable assembly equipment



Cable equipment



CNC lathes

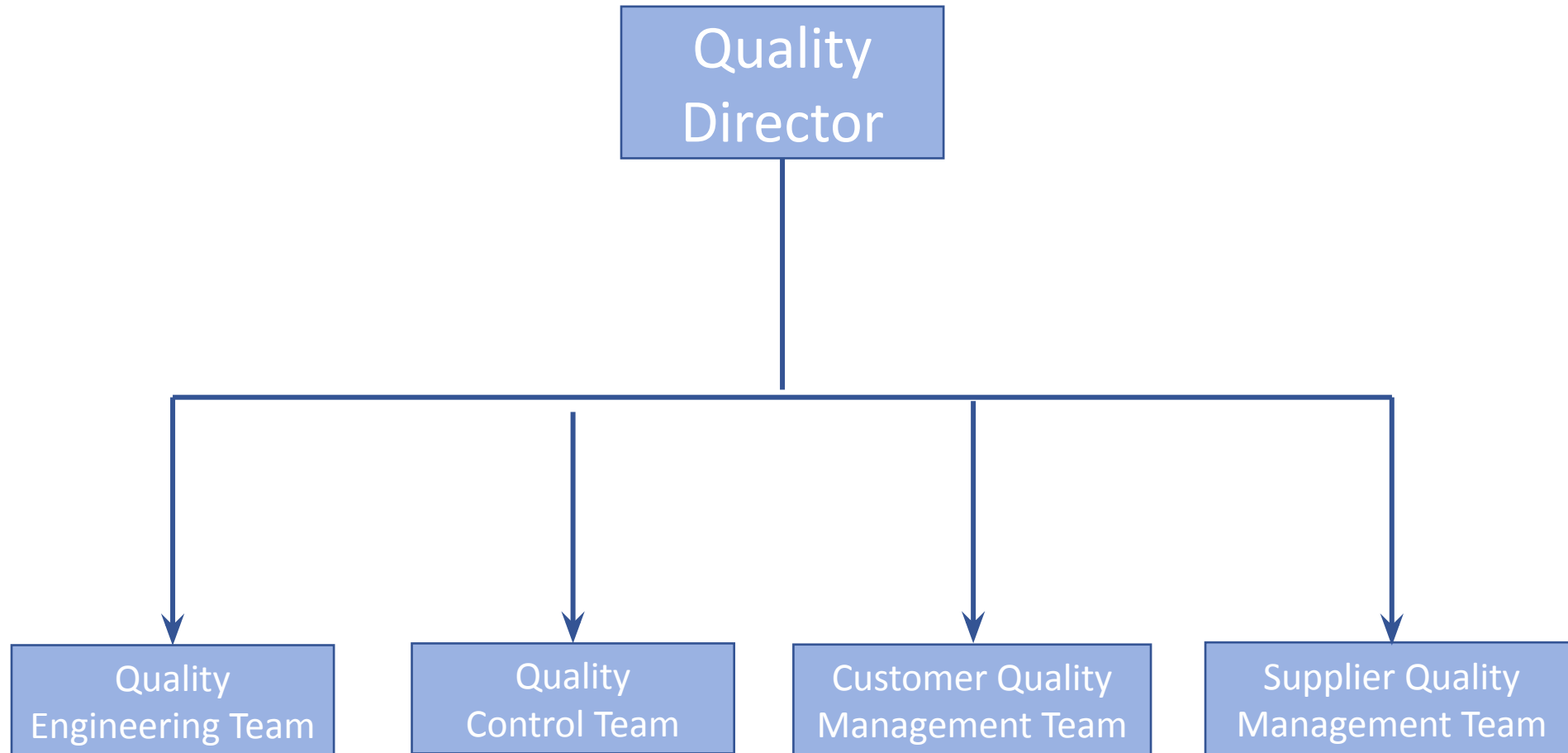


CNC workshop

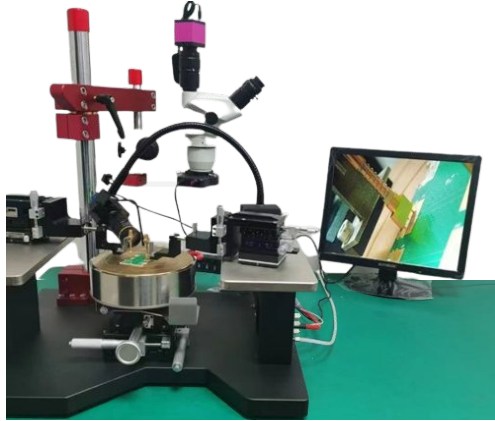


SMT workshop

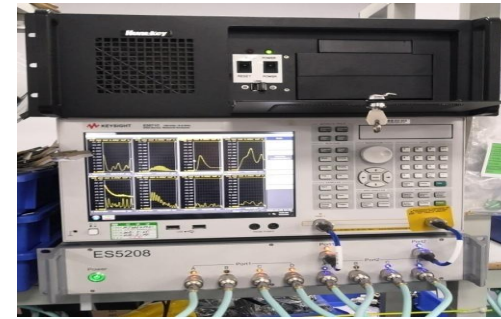
Organization For QA



QA Equipment



microscope



Automated test system



X-RAY



Film thickness tester

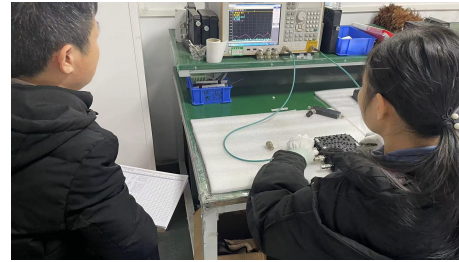
In Production QA/QC Process



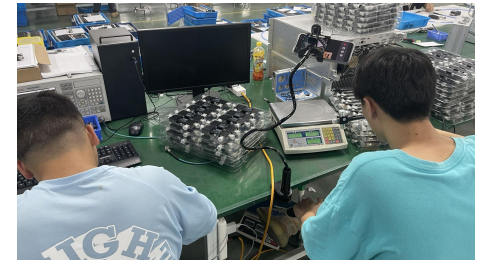
1. Incoming Quality Check



2. First Piece Inspection



3. Patrol Inspection



4. Final/Shipment Inspection



Cable Assemblies – Precision Amplitude & Phase

Stable Cable Assembly



	CNA-220	CNA-360	CNA-520	CNA-780
Mechanical Performance				
Outer Diameter (mm)	2.2	3.6	5.2	7.8
Minimum Bending Radius (mm)	11	18	26	40
Minimum Bending Radius, repeated (mm)	22	36	52	80
Weight (g/m)	18	33	63	130
Temperature Range (°C)	-55/+165°C	-55/+165°C	-55/+165°C	-55/+165°C
Electrical Performance				
Impedance	50Ω	50Ω	50Ω	50Ω
Propagation Speed	80%	82%	83%	83%
Cutoff Frequency	40GHZ	40GHZ	26.5GHZ	18GHZ
Delay	4.06nS/m	4.02nS/m	4.02nS/m	4.02nS/m
Maximum Insertion Loss (dB/m)				
1GHZ	0.63	0.38	0.23	0.15
6GHZ	1.6	0.94	0.57	0.37
10GHZ	2.1	1.23	0.75	0.49
12GHZ	2.31	1.35	0.83	0.54
18GHZ	2.88	1.67	1.02	0.67
26.5GHZ	3.56	2.05	1.25	-
40GHZ	4.48	2.56	-	-
Attenuation at Other Frequency Points		dB/100m=K1*sqrt(FMHz)+K2*FMHz		
K1	1.9500000	1.1684700	0.7156867	0.4563799
K2	0.0014500	0.0005500	0.0003280	0.0003280

Cable Assemblies – Economical Testing Cable Assemblies



	CNC-260	CNC-350	CNC-520	CNC-780
Mechanical Performance				
Outer Diameter (mm)	2.6	3.5	5.2	7.8
Minimum Bending Radius (mm)	13	17	26	39
Minimum Bending Radius, repeated (mm)	26	35	52	78
Weight (g/m)	18	29	60	110
Temperature Range (°C)	-55/+125	-55/+125	-55/+125	-55/+125
Electrical Performance				
Impedance	50Ω	50Ω	50Ω	50Ω
Propagation Speed	76%	76%	76%	76%
Cutoff Frequency	26.5GHZ	18GHZ	13.5GHZ	13.5GHZ
Delay	4.38nS/m	4.38nS/m	4.38nS/m	4.38nS/m
Maximum Insertion Loss (dB/m)				
1GHZ	0.61	0.39	0.24	0.15
6GHZ	1.59	0.98	0.62	0.37
10GHZ	2.11	1.28	0.83	0.47
12GHZ	2.34	1.41	0.92	0.6
18GHZ	2.96	1.76	-	-
26.5GHZ	3.72	-	-	-
Attenuation at Other Frequency Points		$\text{dB}/100\text{m}=\text{K1}\cdot\sqrt{\text{FMHz}}+\text{K2}\cdot\text{FMHz}$		
K1	1.8300000	1.1918394	0.7180000	0.4480000
K2	0.002800	0.0008800	0.0010880	0.0008980

Cable Assemblies – Thermal Vacuum Cable Assembly



	CNTV-380	CNTV-530	CNTV-780
Mechanical Performance			
Outer Diameter (mm)	3.8	5.3	7.8
Minimum Bending Radius (mm)	19	27	39
Minimum Bending Radius, repeated (mm)	38	53	80
Weight (g/m)	32	63	131
Temperature Range (°C)		-55/+150	
Electrical Performance			
Impedance		50Ω	
Dielectric Constant	1.49	1.49	1.49
Delay	4.06ns/m	4.06ns/m	4.06ns/m
Propagation Speed	82%	82%	82%
Cutoff Frequency	40GHZ	26.5GHZ	18GHZ
Maximum Insertion Loss (dB/m)			
1GHZ	0.8	0.57	0.37
6GHZ	1.05	0.74	0.49
10GHZ	1.15	0.82	0.54
12GHZ	1.43	1.02	0.67
18GHZ	1.76	1.25	-
26.5GHZ	2.21	-	-
Attenuation at Other Frequency Points		$dB/100m=K1*\sqrt{FMHz}+K2*FMHz$	
K1	0.9915499	07156867	0.4563799
K2	0.0005549	0.0003280	0.0003280

Cable Assemblies – High Precision Testing Cable Assembly



	CNX-500	CNX-640
Mechanical Performance		
Outer Diameter (mm)	5	6.4
Minimum Bending Radius (mm)	25	30
Armor Compression Resistance	1000N/25mm	1000N/50mm
Bending Lifespan	>20000	>20000
Insertion/Withdrawal Cycles	>5000	>5000
Connector Retention Force	700N	780N
Temperature Range (°C)	-55/+150	
Electrical Performance		
Impedance	50Ω	
Propagation Speed	76%	74%
Cutoff Frequency	67GHZ	50GHZ
Mechanical Phase Stability	±1°@40GHz	±1°@40GHz
Mechanical Amplitude Stability	±0.03dB@40GHz	±0.03dB@40GHz
Shielding Efficiency	>100dB	>100dB
Maximum Insertion Loss (dB/m)		
10GHZ	0.8	0.57
18GHZ	1.05	0.74
26.5GHZ	1.15	0.82
40GHZ	1.43	1.02
50GHZ	1.76	1.25
67GHZ	2.21	-

Connector



	1.0mm	1.85mm	2.4mm	2.92mm	3.5mm	7mm	SMA	SSMA	N	TNC	SMP
1.0mm	√	√									
1.85mm	√	√	√	√	√						
2.4mm		√	√	√	√	√	√	√	√		√
2.92mm		√	√	√	√	√	√	√	√		√
3.5mm		√	√	√	√	√	√		√		
7mm			√	√	√				√		
SMA			√	√	√		√	√	√	√	
SSMA			√	√			√	√			
N			√	√	√	√	√		√	√	
TNC							√		√	√	
SMP			√	√			√				



Waveguide – Waveguide to Coaxial Converter



Part Number	Freq. Range (MHz)	VSWR (max.)	Connector Interface	Length (mm)	Waveguide Type National Standard	Waveguide Type EIA
TN14B	1.13-1.73	1.2	N/SMA	200	BJ14	WR650
TN18B	1.45-2.2	1.2	N/SMA	150	BJ18	WR510
TN22B	1.72-2.61	1.2	N/SMA	110	BJ22	WR430
TN26B	2.17-3.3	1.2	N/SMA	100	BJ26	WR340
TN32B	2.6-3.95	1.2	N/SMA	80	BJ32	WR284
TN40B	3.22-4.9	1.2	N/SMA	70	BJ40	WR229
TN48B	3.94-5.99	1.2	N/SMA	65	BJ48	WR187
TN58B	4.64-7.05	1.2	N/SMA	60	BJ58	WR159
TN70B	5.38-8.17	1.2	N/SMA	55	BJ70	WR137
TN84B	6.57-9.99	1.2	N/SMA	50	BJ84	WR112
TN100B	8.2-12.5	1.2	N/SMA	40	BJ100	WR90
TN120B	9.84-15	1.2	N/SMA	30	BJ120	WR75
TN140B	11.9-18	1.25	N/SMA	25	BJ140	WR62
TN180B	14.5-22	1.25	2.92	24	BJ180	WR51
TN220B	17.6-26.7	1.3	2.92	22	BJ220	WR42
TN260B	21.7-33	1.3	2.92	18	BJ260	WR34
TN320B	26.3-40	1.5	2.92	20	BJ320	WR28

Waveguide – Waveguide Bandpass Filter



Part Number	Freq. Range (GHz)	Insertion Loss (dB)	VSWR (max.)	F1 (GHz)	F2 (GHz)	Connector Interface
BPF3.7-4.2GW-0097	3.7-4.2	1.2	1.5	3.2(65dB)	4.4(65dB)	BJ84
BPF7.916-8.504GW-0020	7.916-8.504	0.3	1.2	7.348(60dB)	9.252(60dB)	BJ84
BPF7.4-8.14GW-0013	7.4-8.14	0.7	1.2	6.94(60dB)	8.7(60dB)	BJ84
BPF7.59-8.13GW-0074	7.59-8.13	0.4	1.2	7.41(30dB)	8.54(30dB)	BJ84
BPF7.62-8.67GW-0043	7.62-8.67	1	1.2	6.4(40dB)	8.96(60dB)	BJ84
BPF15.4-15.7GW-0902	15.4-15.7	0.3	1.5	14.8(25dB)	16.4(25dB)	BJ180
BPF17.6-21.3GW-0282	17.6-21.3	1	1.3	15.75(60dB)	23.15(50dB)	BJ220
BPF19.7-20.2GW-0240	19.7-20.2	0.3	1.2	17.964(60dB)	22.514(60dB)	BJ220
BPF29.14-30.4GW-0125	29.14-30.4	1.3	1.6	28.51(60dB)	3136(60dB)	BJ320
BPF29.4-31GW-0763	29.4-31	2	1.4	27(60dB)	31.5(25dB)	BJ320
BPF29.9-31.1GW-0454	29.9-31.1	3	1.8	28.9(50dB)	33.45(50dB)	BJ320
BPF35.13-35.83GW-0029	35.13-35.83	2	2	32.39(60dB)	35.87(50dB)	BJ320
BPF38GW-0108	37.67-3833	1.5	2	37.41(60dB)	38.61(60dB)	BJ320
BPF57-65GW-0524	57-65	2	2	54(60dB)	68(40dB)	BJ620
BPF82-92GW-0525	82-92	2	2	79(60dB)	95(40dB)	BJ900

Antenna – Base Station Panel Antenna



Part Number	Freq. Range (MHz)	Gain (dBi)	VSWR (max.)	Front-to-Back Ratio (dB, min.)	Polarisation
T-SCJZ-8096-12D65VBZ-001	806-960	12	1.5	23	vertical
T-SCJZ-8027-1214D65VBZ-001	806-960, 1710-2700	12, 14	1.5	20	vertical
T-SCJZ-1727-12D65VBZ-001	1710-2700	12	1.5	20	vertical
T-SCJZ-1414-12D65VBZ-001	1425-1467	12	1.5	23	vertical
T-SCJZ-4751-6D65VBZ	450-510	6	1.5	23	vertical
T-SCWL-5158-16D65VBZ-001	5150-5850	16	1.8	20	vertical
SCWL-2458-1718D60XBZ-001	2400-2500, 5150-5850	17±1, 18±1	1.5, 1.8	20	±45°, vertical + horizontal



Antenna – Shot Light Style Decorative Antenna



Part Number	Freq. Range (MHz)	Gain (dBi)	VSWR (max.)	Front-to-Back Ratio (dB, min.)	Polarisation
T-SCXQ-8027-79D90VSD	806-960, 1710-2700	7, 9±1	1.5	23	vertical
T-SCXQ-1727-15D35XSD	1710-2700	15±1	1.5	23	±45°
T- SCXQ-1820-19D100DXSD	1880-1920, 2010-2025	19	1.5	23	±45°



Antenna – PCB Antenna



Part Number	Freq. Range (MHz)	Input Power (W_max.)	VSWR (max.)	Peak Gain (dBi)	Polarisation	Connector Interface
T-SW19001IG97	600-6000	5	3.5	-3.0~4.5	Linear	IPEX MHF1 Standard
T-SW19002IG97	824-960, 1710-1990, 2400-2500	5	4.0, 3.0, 2.5	-2.8~-1.2, -1.2~-4.8, 2.0~3.5	Linear	IPEX MHF1 Standard
T-SW19003IG97	824~960,1710~2690	5	7.2, 3.0	-2.0~0, 0.5~3.5	Linear	IPEX MHF1 Standard
T-SW19004IG97	2400~2500,5200~5800	5	~1.5	2~3	Linear	IPEX MHF1 Standard
T-SW19005IG97	824~960,1710~1990	5	~2-5	0~2	Linear	IPEX MHF1 Standard
T-SW19054IB97	800~2100MHz	5	~4	-3~2	Linear	IPEX MHF1 Standard
T-SW19006IB77	824~960,1710~2690	5	4.5, 2.8	-3.5~0.5, 2.0~5.0	Linear	IPEX MHF1 Standard
T-SW19007IB77	824~960,1710~2690	5	5.0, 3.0	-2.0~-1.0, -1.0~5.0	Linear	IPEX MHF1 Standard
T-SW19008IB77	698-6000	5	2.0	0~4	Linear	IPEX MHF1 Standard
T-SW19010IB77	470-510	5	5	-3.0~-2	Linear	IPEX MHF1 Standard
T-SW19013IB77	1176/1227/1559/1575/1602	5	1.97,1.80,1.76,1.60,1.47	2.0,1.6,2.8,3.0,3.5	Linear	IPEX MHF1 Standard
T-SW20030IB77	2400~2500, 5100~5900	5	2, 4	<2, <4	Linear	IPEX MHF1 Standard

Antenna – Fiberglass Antenna



Part Number	Freq. Range (MHz)	Input Power (W, max.)	VSWR (max.)	Peak Gain (dBi)	Polarisation	Connector Interface
T-SW20269EA63	2400~2500,5150~5850	50	<2.0,<4.5	4.0~5.8,3.5~7.0	Vertical	N-Type Male
T-SW20270EA63	868	50	1.3	5.6	Vertical	N-Type Male
T-SW20271EA63	700~960,1710~2700	50	3.7,2.3	-6.0~2.5,0.5~4.0	Vertical	N-Type Male
T-SW19051EB63	915	25	1.74	2	Vertical	N-Type Male



Antenna – Combination Antenna



Part Number	Freq. Range (MHz)	Input Power (W, max.)	VSWR (max.)	Peak Gain (dBi)	Polarisation	Connector Interface
T-SW19012EB56	699~960, 1710~2170, 2300~2690	5	3.0	0~3.5, 0.5~3.5, 0.5~3.5	Linear	SMA
T-SW20026EB56	690~960, 1710~2690	5	3.8, 2.8	0.2~4.1, -0.4~3.3	Linear	SMA
T-SW20031EB56	2400~2500, 5100~5900	5	2.3, 2.5	3.1~4.4, 2.7~5.2	Linear	SMA
T-SW20060EB56	2400~2500, 4900~5900	5	2.0, 2.5	2.5~3.0, 0.5~4.5	Linear	RG174+SMA (M)
T-SW20267EB56	600~960, 1710~6000	5	5.0, 4.5	-4.3~3.7, 0.5~7.0	Linear	RG174+SMA (M)
T-SW20279EB56	1900~2700, 3300~4200, 4400~5000	5	2.5, 2.0, 2.5	0~5.0, 2.5~5.0, 2.5~6.0	Linear	RG174+SMA (M)
T-SW20281EB56	700~960, 1710~2170	5	3.5, 2.9	-0.7~2.7, 1.2~4.4	Linear	RG174+SMA (M)
T-SW20283EB56	2400~2500	5	1.4	2.5~4.0	Linear	RG174+SMA (M)
T-SW20286EB56	600~960, 1400~2700, 3000~6000	5	3.3, 3.0, 2.7	-0.1~3.1, -1.0~4.1, 0.6~3.6	Linear	RG174+SMA (M)
T-SZ20421WB56	700~960, 1710~2690, 3300~5925	5	5.0, 3.0, 3.0	-2~1.5, -0.5~3.0, 1.0~4.0	Linear	RG174+SMA (M)

Coaxial Attenuator



Part Number	Freq. Range (GHz)	Avg Power (W)	Attenuation Accuracy(dB)				VSWR (max.)	Connector Interface
			1~10dB	11~20dB	21~30dB	31~40dB		
T-FATT1513-6G-5W-XX	DC~6	5	±0.7	±1.0	±1.0	±1.2	1.20	SMA (M,F)
T-FATT1034-6G-10W-XX	DC~6	10	±0.7	±1.0	±1.0	±1.2	1.20	SMA (M,F)
T-FATT1554-6G-20W-XX	DC~6	20	±0.7	±1.0	±1.0	±1.2	1.20	SMA (M,F)
T-FATT1586-6G-30W-XX	DC~6	30	±0.7	±1.0	±1.0	±1.2	1.25	SMA (M,F)
T-FATT2086-6G-40W-XX	DC~6	40	±0.7	±1.0	±1.0	±1.2	1.25	SMA (M,F)
T-FATT3870-6G-50W-XX-N	DC~6	50	±0.7	±1.0	±1.0	±1.2	1.20	N (M,F)
T-FATF1116-6G-100W-XX-N	DC~6	100	±0.7	±1.0	±1.0	±1.2	1.25	N (M,F)
T-FATT4022-6G-200W-XX-N	DC~6	200	±0.7	±1.0	±1.0	±1.2	1.30	N (M,F)
T-FATF8024-6G-300W-XX-N	DC~6	300	±0.7	±1.0	±1.0	±1.2	1.30	N (M,F)

Part Number	Freq. Range (GHz)	Avg Power (W)	Attenuation Accuracy(dB)				VSWR (max.)	Connector Interface
			10dB	20dB	30dB	40dB		
T-FATT2024-18G-10W-XX-N	DC~18	10	±1.0	±1.2	±1.5	-	1.35	N (M,F)
T-FATT3870-18G-20W-XX	DC~18	20	±1.0	±1.2	±1.5	-	1.45	SMA (M,F)
T-FATT80303-18G-250W-XX-N	DC~18	250	-	-2/+3.5	-2/+3.5	-2/+3.5	1.55	N (M,F)
T-FATT1629-26.5G-10W-XX	DC~26.5	10	-1.5/+2.5	-1.5/+2.0	-1.5/+2.0	-	1.35	SMA (M,F)
T-FATT2071-26.5G-20W-XX	DC~26.5	20	-1.5/+2.5	-1.5/+2.0	-1.5/+2.0	-	1.35	SMA (M,F)
T-FATT3852-26.5G-30W-XX-2.92	DC~26.5	30	-1.5/+2.5	-1.5/+2.0	-1.5/+2.0	-	1.40	2.92 (M,F)
T-FATT6052-26.5G-50W-XX-2.92	DC~26.5	50	-1.5/+2.5	-1.5/+2.0	-1.5/+2.0	-	1.40	2.92 (M,F)
T-FATT0812-40G-2W-XX-2.92	DC~40	2	-1.0/+1.5	-1.0/+1.5	-1.5/+2.0	-	1.35	2.92 (M,F)
T-FATT0828-40G-5W-XX-2.92	DC~40	5	±1.0	-1.0/+1.5	±1.5	-	1.35	2.92 (M,F)

Coaxial Load



Part Number	Freq. Range (GHz)	Avg Power (W)	VSWR (max.)	Connector Interface
T-TM1034-6G-10W	DC~6	10	1.20	SMA-M
T-TM1554-6G-20W	DC~6	20	1.20	SMA-M
T-TM1586-6G-30W	DC~6	30	1.20	SMA-M
T-TM2086-6G-40W	DC~6	40	1.25	SMA-M
T-TF4019-6G-150W	DC~6	150	1.25	SMA-F
T-TF4019-6G-300W	DC~6	300	1.25	SMA-F
T-TM1517-18G-5W	DC~18	5	1.20	SMA-F
8.T-TM-40G-2W	DC~40	2	1.20	2.92mm-M
T-TF-40G-2W	DC~40	2	1.20	2.92mm-F
T-TM-67G-0.5W	DC~67	0.5	1.45	1.85mm-M
11.T-TF-67G-0.5W	DC~67GHz	0.5	1.45	1.85mm-M

Multi-band Combiner



Part Number	Freq. Range (MHz)	Avg Power (w)	Connector Interface
T-CB-0201-MF	694-862 880-960	300W	4.3-10 / Din
T-CB-0202-MF	698-960 1710-2200	300W	4.3-10 / Din
T-CB-0203-MF	1710-1880 1920-2690	300W	4.3-10 / Din
T-CB-0204-MF	555-2200 2300-2700	300W	4.3-10 / Din
T-CB-0205-MF	698-806 824-960	300W	4.3-10 / Din
T-CB-0301-MF	698-862 880-960 1710-2690MHz	300W	4.3-10 / Din
T-CB-0302-MF	698-960 1410-1880 1920-3800MHz	300W	4.3-10 / Din
T-CB-0303-MF	698-960 1710-1880 1920-2690MHz	300W	4.3-10 / Din
T-CB-0304-MF	698-2170 2300-2690 3300-3800MHz	300W	4.3-10 / Din
T-CB-0305-MF	1710-1880 1920-2170 2300-2700MHz	300W	4.3-10 / Din
T-CB-0401-MF	698-862 880-960 1710-2170 2500-2690MHz	300W	4.3-10 / Din
T-CB-0402-MF	698-960 1350-1518 1710-1880 1920-2170MHz	300W	4.3-10 / Din
T-CB-0403-MF	380-960 1427-1880 1920-2170 2300-2690 3300-3800MHz	300W	4.3-10 / Din

Filter – Bandpass Filter



Part Number	Freq. Range (GHz)	Insertion Loss (dB)	VSWR (max.)	F1 (GHz)	F2 (GHz)	Connector Interface
T-BPF585-615MS-0476	0.585-0.615	0.5	2	0.45(60dB)	0.75(60dB)	SMA-K
T-BPF0.71-0.73GS-0674	0.71-0.73	2.5	1.3	0.695(45dB)	0.735(50dB)	SMA-K
T-BPF0.8-1.6GS-0644	0.8-1.6	5	2.2	0.75(40dB)	1.65(50dB)	SMA-K
T-BPF1.2-1.4GN-0906	1.2-1.4	0.3	1.35	0.8 (50dB)	2-6(50dB)	N-K
T-BPF1.95-2.05GS-0663	1.95-2.05	2	1.5	1.9(40dB)	2.1(40dB)	SMA-K
T-BPF2.2-2.8GS-0743	2.2-2.8	1	2	2(30dB)	3(30dB)	SMA-K
T-BPF2.4-3.6GS-0586	2.4-3.6	1	1.5	2(30dB)	4(30dB)	SMA-K
T-BPF4-6GS-0563	4-6	1	1.5	3.4(40dB)	7-15(40dB)	SMA-K
T-BPF8.15-8.25GS-0647	8.15-8.25	3	1.5	8.1(40dB)	8.3(40dB)	SMA-K
T-BPF8-12GS-0836	8-12	1	1.8	7(45dB)	13-20(30dB)	SMA-K
T-BPF12.7-13.3GS-0493	12.7-13.3	1.5	1.5	12.3(40dB)	13.7(40dB)	SMA-K
T-BPF12-18GS-0192	12-18	1	1.2	8.2(50dB)	20.8(50dB)	SMA-K
T-BPF18-26.5GK-0990	18-26.5	1	1.5	5-12(60dB)	36-40(60dB)	2.92-K
T-BPF27.5-31GK-0284	27.5-31	1.5	2	26.8(40dB)	31.9(60dB)	2.92-K
T-BPF33-40GK-0544	33-40	1	1.5	30(85dB)	43(85dB)	2.92-K
T-BPF43.5-45.5GU-0337	43.5-45.5	3	2	42.8(50dB)	46.2(50dB)	2.4-K
T-BPF58-62GV-0814	58-62	1	1.5	55(35dB)	65(35dB)	1.85-K

Filter – Bandstop Filter



Part Number	Stopband Freq. (MHz)	Stopband Suppression (dB)	Passband Freq. (MHz)	Passband Freq. (MHz)	Insertion Loss (dB)	Connector Interface
T-BSF791-821MN-0358	791-821	60	DC-781	831-2500	3	N-K
T-BSF815-880MS-0861	815-880	45	DC-780	920-1500	2.5	SMA-K
T-BSF824-849MS-0381	824-849	40	DC-814	859-3500	2	N-K
T-BSF880-915MN-0382	880-915	40	DC-870	925-3500	2	N-K
T-BSF1240-1260MS-0938	1240-1260	50	DC-1230	1270-4000	2	SMA-K
T-BSF1350-1450MS-0567	1350-1450	50	DC-1300	1500-2000	1	SMA-K
T-BSF1447-1467MN-0696	1447-1467	60	DC-1422	1492-5000	3	N-K
T-BSF1550-1610MS-0385	1550-1610	60	100-400	2200-2300	1	N-K
T-BSF1710-1785MN-0383	1710-1785	40	DC-1690	1800-3500	2	N-K
T-BSF1805-1880MN-0693	1805-1880	60	DC-1775	1910-4500	3	N-K
T-BSF1850-1910MN-0384	1850-1910	40	DC-1830	1930-3500	2	N-K
T-BSF1880-1920MS-0776	1880-1920	65	DC-1855	1945-2500	3	SMA-F
T-BSF2300-2400MS-0205	2300-2400	60	DC-2234	2480-4000	2.5	SMA-K
T-BSF2496-2590MS-0865	2496-2590	40	DC-2300	2700-4000	1.5	SMA-K
T-BSF2500-2570MS-0934	2500-2570	60	10-2450	2600-6000	1	SMA-F
T-BSF5150-5850MN-0899	5150-5850	50	DC-4850	6150-12750	3	N-K
T-BSF14-14.5GK-1111	14-14.5	50	13.5-14	14.5-15	2	2.92-K

Filter – Lowpass Filter



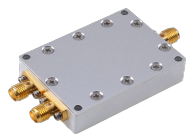
Part Number	Freq. Range (GHz)	Insertion Loss (dB)	VSWR (max.)	F1 (GHz)	Connector Interface
T-LPFDC-2.5GS-0439	DC-2.5	3	2	3-13(65dB)	N-K
T-LPFDC-2.7GS-0561	DC-2.7	2	2	4.5-8.4(90dB)	SMA-K
T-LPFDC-4GS-A002	DC-4	0.8	1.5	8(50dB)	SMA-K
T-LPFDC-4.8GS-0738	DC-4.8	1.5	2	6(35dB)	SMA-K
T-LPFDC-5GS-0913	DC-5	2	2	6-25(40dB)	SMA-K
T-LPFDC-8GS-0914	DC-8	2	2	9-25(40dB)	SMA-K
T-LPFDC-10GS-0528	DC-10	3	2	12-19(40dB)	SMA-K
T-LPFDC-10GS-0816	DC-10	2	2	13-18(40dB)	SMA-K
T-LPFDC-11GK-0534	DC-11	2	2	12(35dB)	2.92-K
T-LPFDC-11.5G-0532	DC-11.5	2	1.5	12.3-13.3(40dB)	2.92-K
T-LPFDC-12GS-0915	DC-12	2	2	13.5-25(40dB)	SMA-K
T-LPFDC-12.1GS-0780	DC-12.1	2	2	12.95-25(45dB)	SMA-K
T-LPFDC-13GK-0852	DC-13	1.5	2	15-25(40dB)	2.92-K
T-LPFDC-15GK-0817	DC-15	2	2	18-23(40dB)	2.92-K
T-LPFDC-16GS-0916	DC-16	2	2	18-25(40dB)	SMA-K
T-LPFDC-18GK-0721	DC-18	1	2	20-38(60dB)	2.92-K
T-LPFDC-20GK-0917	DC-20	2	2	22-36(40dB)	2.92-K
LPFDC-25GK-0818	DC-25	2	2	28-30(40dB)	2.92-K
LPFDC-28GK-0933	DC-28	2	2	30-38(30dB)	2.92-K

Filter – Highpass Filter



Part Number	Freq. Range (GHz)	Insertion Loss (dB)	VSWR (max.)	F1 (GHz)	Connector Interface
T-HPF1.3-7GS-0811	1.3-7	2	2	0.915(40dB)	SMA-K
T-HPF1.5-9GS-0805	1.5-9	3	2	1(60dB)	SMA-K
T-HPF2-13GN-0359	2-13	3	2	1.5(40dB)	N-K
T-HPF2.5-18GS-0356	2.5-18	3	2	1.76(60dB)	SMA-K
T-HPF2.8-15GS-0808	2.8-15	2	2	1.99(40dB)	SMA-K
T-HPF3-13GN-0439	3-13	3	2	2.5(65dB)	N-K
T-HPF4-10GS-0961	4-10	1.5	2	1.3(50dB)	SMA-K
T-HPF4-15GS-0809	4-15	2	2	2.7(40dB)	SMA-K
T-HPF4-18GS-0322	4-18	3	2	3(15dB)	SMA-K
T-HPF4-21GS-0336	4-21	2.5	2	3(20db)	SMA-K
T-HPF6-15GS-0810	6-15	2	2	3.9(40dB)	SMA-K
T-HPF10-18GS-0962	10-18	1.5	2	1.3(50dB)	SMA-K
T-HPF11-42GK-0996	11-42	3.5	2	10(60dB)	2.92-k
T-HPF18-40GK-0672	18-40	2	2.3	17.5(35dB)	2.92-k
T-HPF22-40GK-0269	22-40	3	2	18(70dB)	2.92-k
T-HPF26.5-40GK-0272	26.5-40	3	2	19(60dB)	2.92-k
T-HPF33-60GV-0979	33-60	2	2	30(40dB)	1.85-k

Power Divider



Part Number	Freq. Range (GHz)	Splits	Insertion Loss (dB)	Isolation (dB, min.)	VSWR (max.)	Avg Power (W)	Connector
T-SP2-0.005-1G-1W	0.005~1	2	1.0	18	1.30	1	SMA-F
T-SP2-0.08-0.55G-100W-N	0.08~0.55	2	0.6	18	1.30	100	N-F
T-SP2-0.1-0.5G-30W	0.1~0.5	2	1.0	20	1.20	30	SMA-F
T-SP2-0.1-0.5G-50W-N	0.1~0.5	2	0.5	20	1.25	50	N-F
T-SP2-0.1-0.5G-300W-N	0.1~0.5	2	0.5	20	1.25	300	N-F
T-SP2-0.4-1G-300W-N	0.4~1	2	0.4	18	1.25	300	N-F
T-SP2-0.5-6G-30W	0.5~6	2	1.0	18	1.25	30	SMA-F
T-SP2-0.5-18G-30W	0.5~18	2	1.2	16	1.50	30	SMA-F
T-SP2-2-18G-30W	2~18	2	1.0	18	1.40	30	SMA-F
T-SP2-2-40G-20W-2.92	2~40	2	1.6	18	1.50	20	2.92mm-F
T-SP4-0.1-0.5G-50W-N	0.1~0.5	4	1.0	20	1.25	50	N-F
T-SP4-0.1-0.5G-300W-N	0.1~0.5	4	0.8	20	1.25	300	N-F
T-SP4-0.1-1G-30W	0.1~1	4	1.8	20	1.25	30	SMA-F
T-SP4-0.5-6G-30W	0.5-6	4	1.8	20	1.25	30	SMA-F
T-SP4-0.5-18G-30W	0.5~18	4	2.5	15	1.80	30	SMA-F
T-SP4-1-2.5G-200W-N	1~2.5	4	1.0	18	1.30	200	N-F
T-SP4-2-18G-30W	2~18	4	2.0	17	1.50	30	SMA-F
T-SP4-6-18G-30W	6~18	4	2.0	18	1.40	30	SMA-F
T-SP4-2-40G-20W-2.92	2~40	4	3.8	16	1.60	20	2.92mm-F
T-SP4-18-40G-20W-2.92	18~40	4	1.6	16	1.50	20	2.92mm-F
T-SP8-0.001-0.5G-2W	0.001~0.5	8	2.0	18	1.40	1	SMA-F
T-SP8-0.2-1G-100W	0.2~1	8	1.0	20	1.25	100	SMA-F
T-SP8-0.5-6G-30W	0.5~6	8	2.8	18	1.40	30	SMA-F
T-SP8-2-18G-30W	2~18	8	3.2	18	1.50	30	SMA-F
T-SP8-5-13G-30W	5~13	8	1.5	18	1.40	30	SMA-F
6.T-SP8-18-40G-30W	18~40	8	3.2	17	1.70	30	SMA-F

Directional Coupler



Part Number	Connector Interface	Frequency Range	Coupling	Avg Power
T-DC-06-0738-NF	N female	698-3800MHz	6dB	200W
T-DC-07-0738-NF	N female	698-3800MHz	7dB	200W
T-DC-10-0738-NF	N female	698-3800MHz	10dB	200W
T-DC-15-0738-NF	N female	698-3800MHz	15dB	200W
T-DC-20-0738-NF	N female	698-3800MHz	20dB	200W
T-DC-30-0738-NF	N female	698-3800MHz	30dB	200W





Part Number	Connector Interface	Frequency Range	Coupling	Avg Power
T-TP-06-0460-MF	4.3-10 female	380-6000MHz	6dB	200W
T-TP-10-0460-MF	4.3-10 female	380-6000MHz	10dB	200W
T-TP-15-0460-MF	4.3-10 female	380-6000MHz	15dB	200W
T-TP-20-0460-MF	4.3-10 female	380-6000MHz	20dB	200W
T-TP-30-0460-MF	4.3-10 female	380-6000MHz	30dB	200W



Hybrid Combiner



Part Number	Connector Interface	Frequency Range	No of Ports In/Out	Avg Power
T-HC-22-0738-NF	N Female	698-3800MHz	2/2	200W
T-HC-33-0738-NF	N Female	698-3800MHz	3/3	200W
T-HC-44-0738-NF	N Female	698-3800MHz	4/4	200W
T-HC-33-0438-MF	4.3-10 female	340-3800MHz	3/3	300W
T-HC-44-0438-MF	4.3-10 female	340-3800MHz	4/4	300W

