

S387X Series Solid State Power Amplifier

By Saluki Technology Inc.



Company Profile



High Power Solutions



Typical Application Area

About Saluki



Saluki is a leading provider on high-quality Optical and RF Test equipment. Saluki has the best products range from optical test equipment, RF & MW test equipment to RF Components.

Headquarter in Taipei, we concentrate on providing the best product world wide for more than 20 years since 1997. Now, Saluki has branch offices in provinces of mainland China, Malaysia, Indonesia and is expanding worldwide.

Valuable partners in Germany, UK, Italy, Finland, Poland, USA, Israel, South Korea and Russia countries.



[Website: www.salukitec.com](http://www.salukitec.com)

*Saluki – an ancient hunting dog - **Reliable & Accurate***

[Contact: sales@salukitec.com](mailto:sales@salukitec.com)

Brand Name



Saluki is the most ancient breed of hunting dogs. Accurate, Fast and Reliable definite what a great hunting dog and what a great test and measurement equipment should be.

Saluki Technology takes its name from the hunting dog and dedicated to provide customer the best products

Our Vision

To be a reliable and trust band in Test and Measurement market!

Creat Value for customers!



SALUKI in Global Market

Branch Offices

- China
- Malaysia

Valuable Distributor

- ◆ Canada
- ◆ Germany
- ◆ UK
- ◆ South Korea
- ◆ South America
- ◆ Russia
- ◆ Israel
- ◆ Italy
- ◆ Finland
- ◆ Poland



Product Lines



➤ Signal Generators

Main machine reaches max 67GHz. Saluki also has solution for up to **500GHz** signal generator

➤ Vector Network Analyzers

Saluki provides VNA from 7.5GHz, to max 67GHz. Saluki VNA frequency extenders max to 500GHz. Cable & Antenna analyzer is one of the best in market

➤ Signal / Spectrum Analyzers

Saluki has bench-top spectrum analyzer max reaches 50GHz (extendable to 350GHz). Saluki also has handheld spectrum analyzers for field use, up to 44GHz

➤ GNSS Simulator

Has the world highest technology, best solution in Navigation Field

➤ Optical Instrument @ www.fibertests.com

Fusion Splicer, OTDR

➤ RF Components @ www.salukirf.com

RF adapters, cables, calibration kits

[Website: www.salukitec.com](http://www.salukitec.com)

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Typical Application Area

1. Overview of 387X Series Solid State Power Amplifier



4U Height
(Front forced air)



5U Height
(Front forced air)

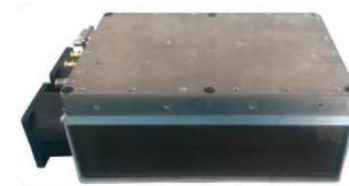
◆ Ultra Wide Working Frequency Band (2GHz-18GHz、18GHz-26GHz、26GHz-40GHz、18GHz-40GHz, 2GHz to 40GHz,40GHz-60GHz.....)

◆ Wide High Power (CW:0.1W-1kW; PW:10kW)

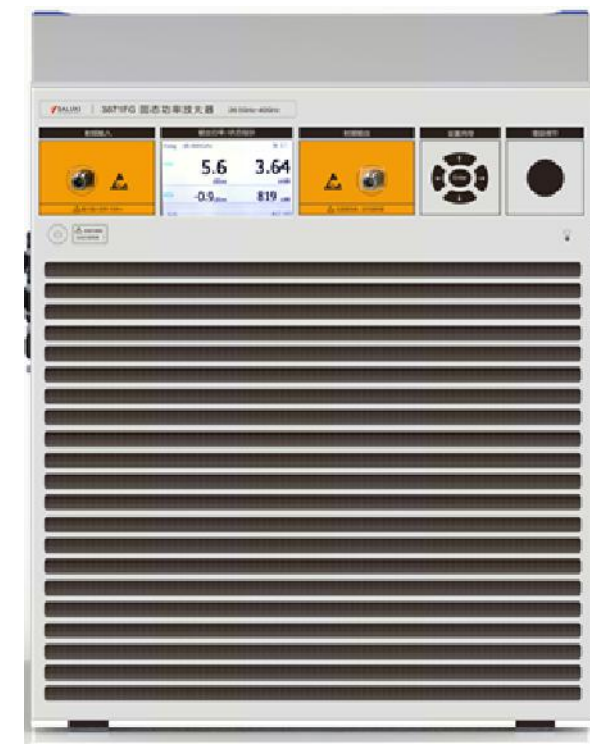
◆ Accurate display power, Small gain step, High gain flatness, Automatic Level Control, Multiple protections



Waveguide Module



Coaxial Module



Customizable Design
(Front forced air)

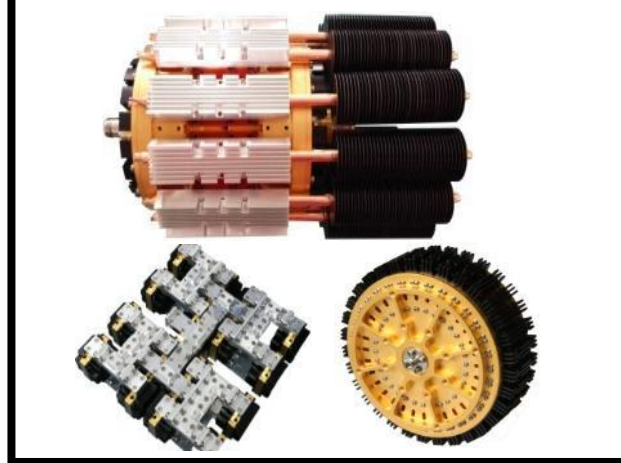
	9k	80M	250M	0.5G	0.8	1G	2G	2.5G	6G	18G	24G	26G	26.5G	30G	32G	33G	37G	40G	43G	47G	60GHz
AD/AE	130/200																				
AH/AK		100/200																			
AA/AP						100/160															
AB						32															
AQ/AR							100/200														
AS/AT/AU				20/40/50//80/100/150/200/250																	
AU-XX				300/350/400/450																	
AT-XX/AU-XX				200/300/400																	
AU-500							500														
DA/DB/DC/DD									20/40/100/200												
DH/DK/DE							5/10/20/50/80/100														
EA/EB/EC										10/40/60/80/100/150/200											
FA												10									
FB															10						
FC											20										
FN																32/50					
FD																	20				
FE/FF/FG												10/20/40/60/80/100/150									
FR/FQ/FFR										5/10/40/60/80/100											
FS										5											
HA																		5			
LA																		2/5			
	9k	80M	250M	0.5G	0.8	1G	2G	2.5G	6G	18G	24G	26G	26.5G	30G	32G	33G	37G	40G	43G	47G	60GHz

3. Overview of Amplifier

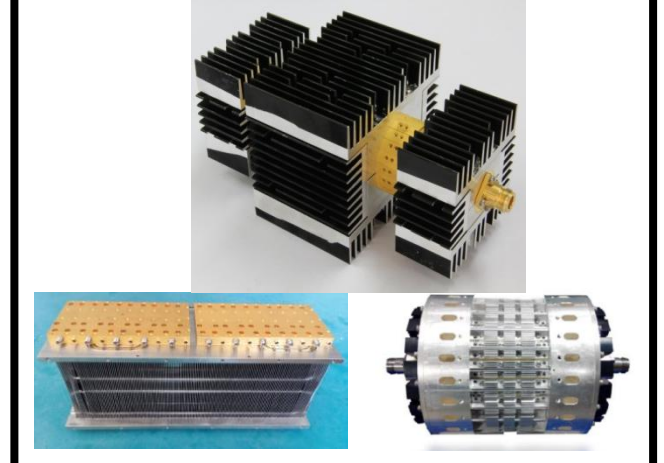
- Cutting-edge design
- More than 60 patents
- CE/RHOS Certificates



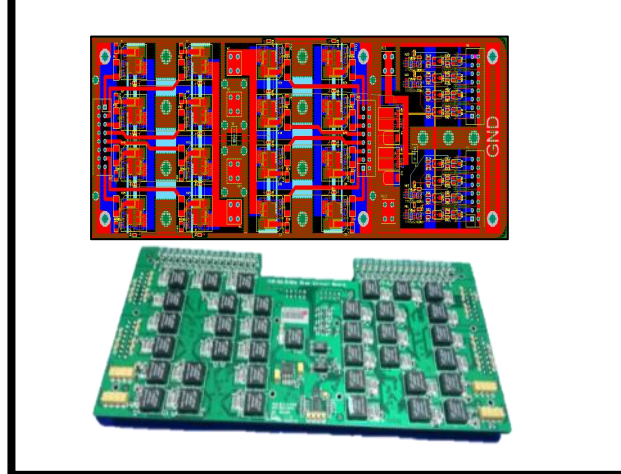
High Power Combination



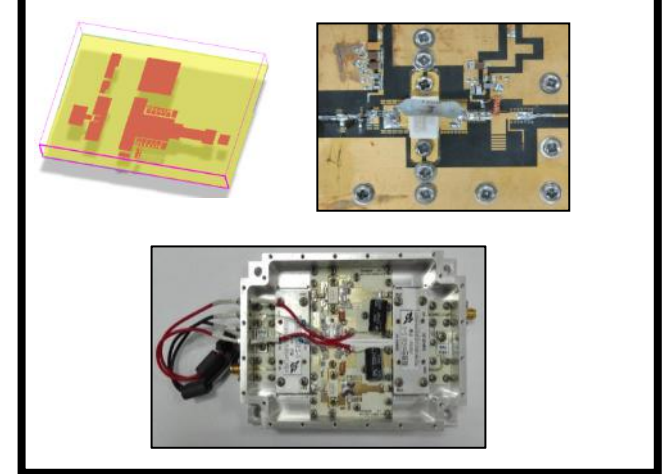
High Density Thermal Design



High Efficient Power Supply



Impedance Matching



4. Features of S387X Amplifier

4.1 Simple But Convenient Design



◆ RF Input

◆ RF Output

◆ Function Key

◆ Gain Knob

◆ Power_on Button

◆ Multifunction Display

Freq	26.500GHz	37.5°C	Gain +30.0dB
			IN -28.7dBm
FWD	1.3	1.36	
	dBm	mW	
REV	23.0	202	
	dBm	mW	
Remote			Unlevel

Working Display Interface

Settings(1/2)		
● Frequency: 26.500GHz		
○ Auto loop control	☐ On	☒ Off
○ Output level: 0.0	☒ dBm	☐ W
○ Locking status	☐ On	☒ Off
○ Revers power status	☒ On	☐ Off
○ Remote interface	☐ Software update	
○ Gain control	☒ Position	☐ Negative
○ Next settings	☐ Return main window	

Configuration Interface

4. Features of S387X Amplifier

4.2 High Accurate Displayed Power



Small Power



Middle Power

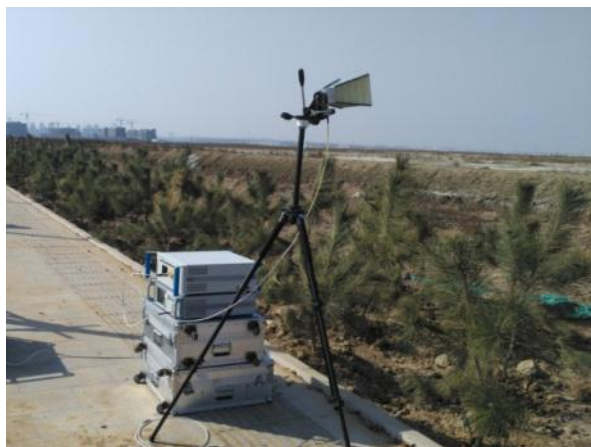


High Power

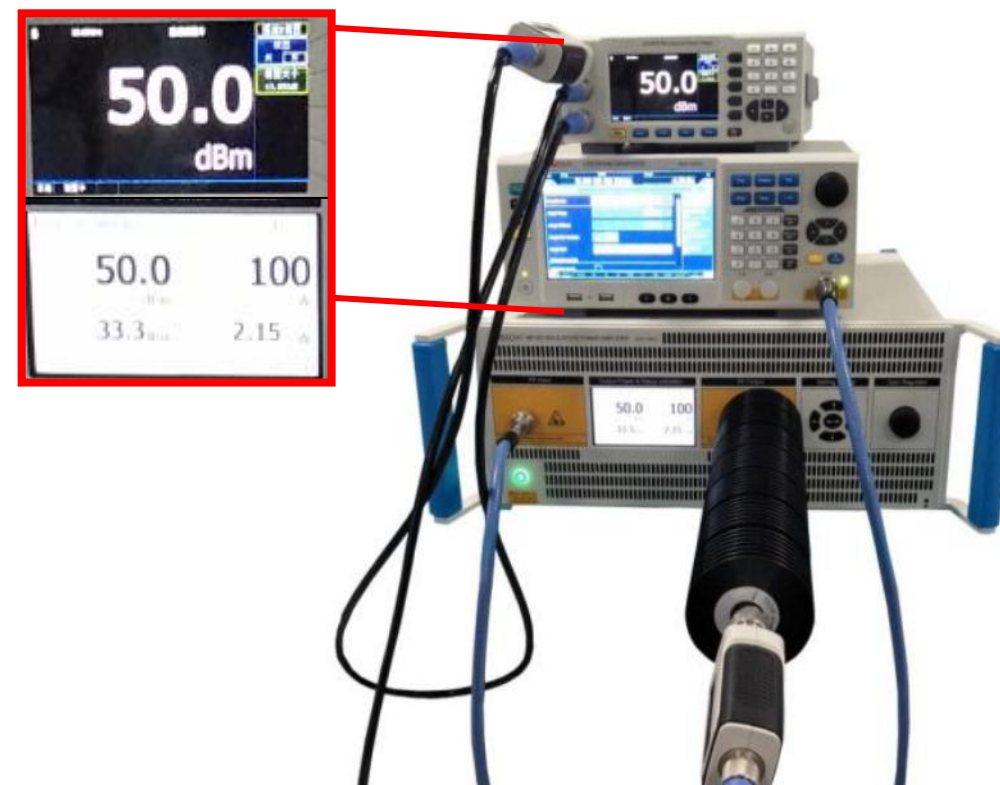
- ◆ Power Display Accuracy: $< \pm 0.3\text{dB}$
- ◆ Built-in Power Meter can display accurate output power level
- ◆ Can display output power in real time for live power monitoring.

4. Features of S387X Amplifier

- ◆ Output Power Flatness: $< \pm 0.3\text{dB}$
- ◆ Output Power Stability: $< \pm 0.3\text{dB}$
- ◆ Can output stable high power for a long time (Remote control available)
- ◆ For scenarios such as Stable high power test and transmission system.



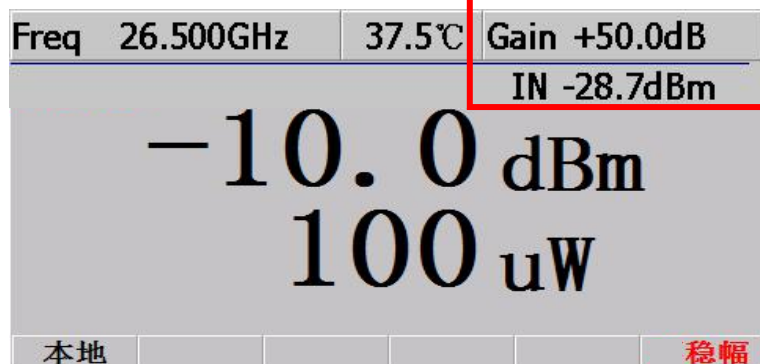
4.3 High Output Power Stability



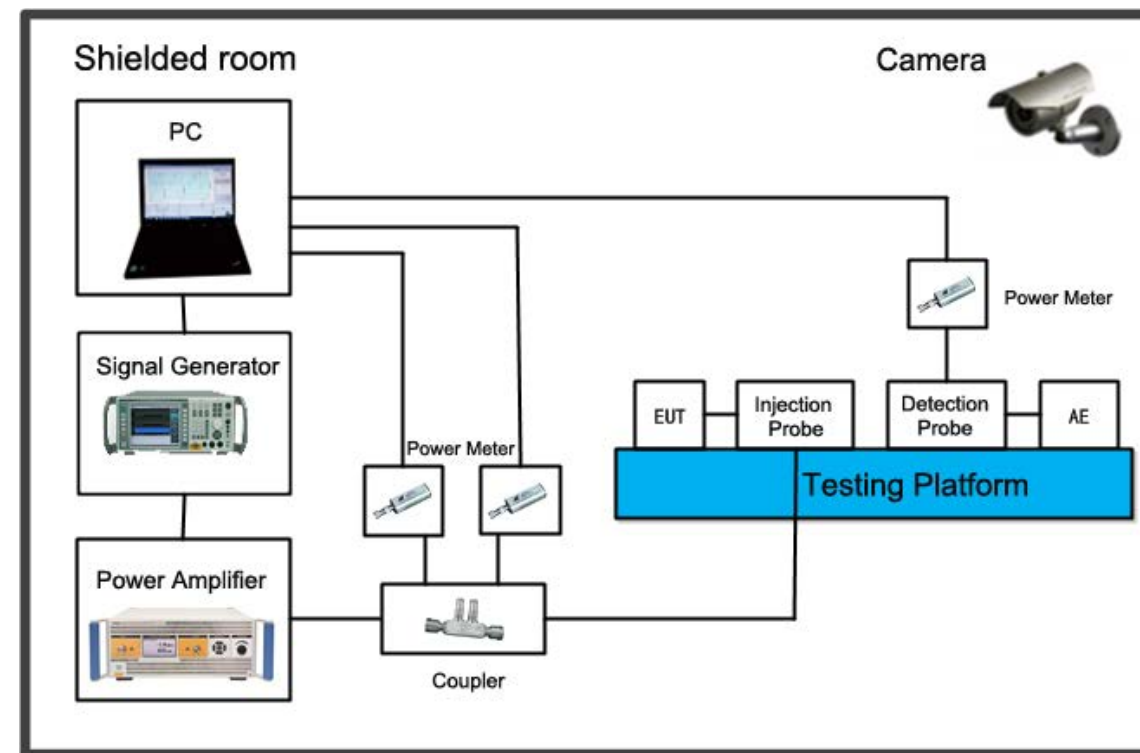
- Automatic Level Control circuit inside
- Changing gain but stable output level

4. Features of S387X Amplifier

- ◆ Gain Flatness: $< \pm 1.5\text{dB}$
- ◆ Adjustable output under **Constant Gain** with changing input power.
- ◆ Constant Gain can dramatically improve the gain linearity in power compression area.
- ◆ For scenarios such as Device characteristics test under different frequency and different power.



4.4 High Gain Stability



4. Features of S387X Amplifier

- ◆ Dynamic range of Output power and gain : 20dB-40dB
- ◆ Step accuracy: 0.1dB (Customizable)
- ◆ Settable knob rotation for gain control habits.
- ◆ For scenarios such as Passive/Active device characteristics test under different power.

Settings(1/2)

○ Frequency: 26.500GHz	
○ Auto loop control	☒ On ☐ Off
○ Output level: -10.0	☒ dBm ☐ W
○ Fixed Gain: 30.0dB	☐ On ☒ Off
○ Locking status	☐ On ☒ Off
○ Revers power status	☒ On ☐ Off
○ Remote interface	☐ Software update
● Gain control	☒ Positive ☐ Negative
○ Next settings	☐ Return main window



4.5 Wide adjustable gain and output power



4. Features of S387X Amplifier

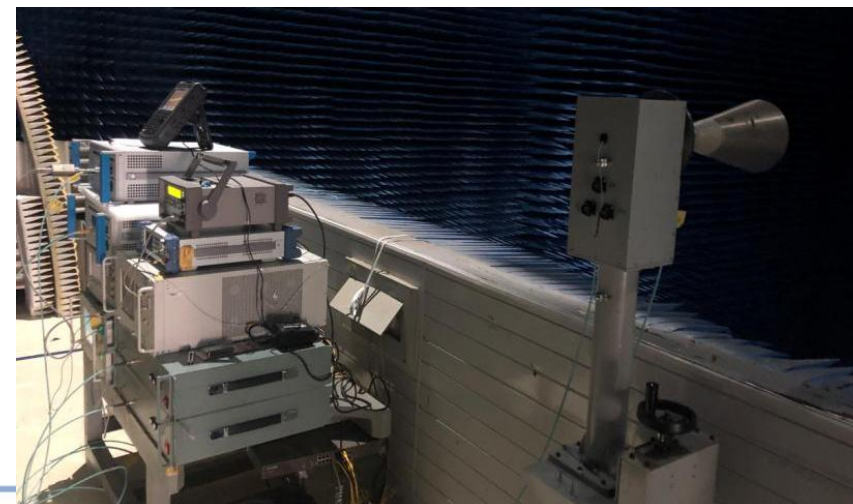
- ◆ Input overload protection (1mW to 1W)
- ◆ Fan failure, Over Voltage/Current/ Temperature Protection
- ◆ Mismatch Alarm and Protection (Adjustable threshold)
- ◆ State lock function against misoperation. (Locked output power and gain)

4.5 Multi Protection and Alarm Design



Settings(2/2)

- ☐ Maximum mismatch: 40dBm
- ☐ Maximum temperature: 60℃
- ☒ Minimal gain
- ☐ Alarm selection ☐ RF off
- ☐ None (Not recommended)
- ☒ Language ☐ 中文 ☒ English
- ☐ Previous settings ☐ Return main window



4. Features of S387X Amplifier

- ◆ Customize integration for specific design
- ◆ Selectable front or rear input/output
- ◆ Abundant accessories, such as adaptor, coupler, attenuator, cable, power detector, high power switch, power divider and so on.

4.6 Total Peripheral Accessories



Rear panel with input/output and GPIB/LAN remote control



High power attenuator



High power switches



Abundant accessories

4. Features of S387X Amplifier

4.7 Total Signal Generation & Measurement Solution

Signal Generators



S1435 series Signal Generator
(Economical, 9kHz to 40GHz)



S1465 series Signal Generator
(High Performance, 100kHz to 67GHz)
(30dBm/1W @ 20GHz)

Total Solution



Demo Solution
S1465 Signal Generator
S3871 SSPA
S2438 Power Meter

Power Meters and Sensors



(9kHz to 67GHz)

S2438 series CW/Peak
Power Meter and
S71710 series Power Sensor



S8723X series USB Power Sensor
(9kHz to 67GHz)

5. 1 Typical Solid State Benchtop Amplifier

Model	Freq. (GHz)	Gain (dB Min.)	Psat (dBm)	Input Port	Output Port	Power Supply
S3871AD	9kHz - 250MHz	54	51	N (f)	N (f)	90-240V AC 50/60Hz
S3871AE	9kHz - 250MHz	56	53	N (f)	N (f)	
S3871AH	80MHz - 1GHz	54	51	N (f)	N (f)	
S3871AK	80MHz - 1GHz	56	53	N (f)	N (f)	
S3871AA	1 - 2.5GHz	53	50	N (f)	N (f)	
S3871AP	1 - 2.5GHz	55	52	N (f)	N (f)	
S3871AB	1 - 6GHz	48	45	N (f)	N (f)	
S3871AS	0.5 - 6GHz	50	47	N (f)	N (f)	
S3871AT	0.5 - 6GHz	53	50	N (f)	N (f)	
S3871AU	0.5 - 6GHz	56	53	N (f)	N (f)	
S3871DA	6 - 18GHz	46	43	N (f)	N (f)	
S3871DB	6 - 18GHz	50	47	N (f)	N (f)	

5. 2 Typical Solid State Benchtop Amplifier

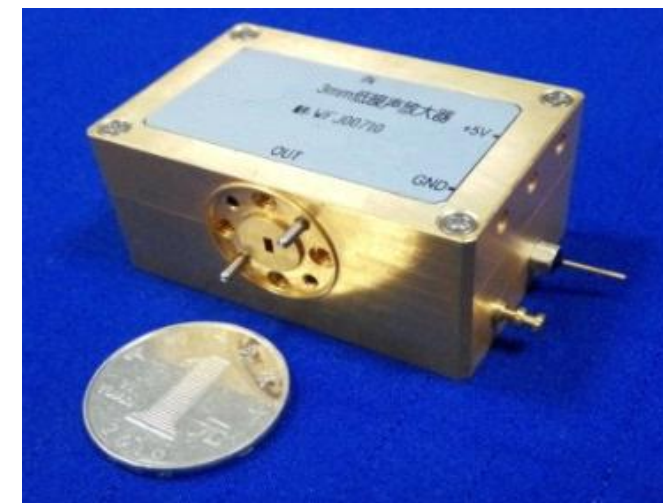
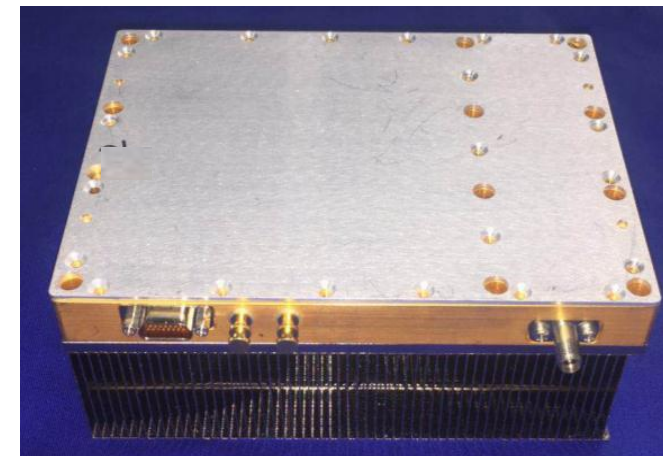
Model	Freq. (GHz)	Gain (dB Min.)	Psat (dBm)	Input Port	Output Port	Power Supply
S3871DC	6 - 18GHz	53	50	N (f)	N (f)	90-240V AC 50/60Hz
S3871DD	6 - 18GHz	56	53	N (f)	N (f)	
S3871DH	2 - 18GHz	46	43	N (f)	N (f)	
S3871DK	2 - 18GHz	50	47	N (f)	N (f)	
S3871DE	2 - 18GHz	53	50	N (f)	N (f)	
S3871EA	18 - 26.5GHz	43	40	3.5mm(m)	3.5mm(m)	
S3871EB	18 - 26.5GHz	46	43	3.5mm(m)	3.5mm(m)	
S3871EC	18 - 26.5GHz	53	50	3.5mm(m)	WR42	
S3871FA	26 - 32GHz	43	40	2.4mm(m)	2.4mm(m)	
S3871FB	32 - 40GHz	43	40	2.4mm(m)	2.4mm(m)	
S3871FC	24 - 30GHz	46	43	2.4mm(m)	2.4mm(m)	
S3871FN	33 - 37GHz	48	45	2.4mm(m)	WR28	

5. 3 Typical Solid State Benchtop Amplifier

Model	Freq. (GHz)	Gain (dB Min.)	Psat (dBm)	Input Port	Output Port	Power Supply
S3871FD	37 - 43GHz	46	43	2.4mm(m)	2.4mm(m)	90-240V AC 50/60Hz
S3871FE	26 - 40GHz	43	40	2.4mm(m)	2.4mm(m)	
S3871FF	26 - 40GHz	49	46	2.4mm(m)	WR28	
S3871FG	26 - 40GHz	53	50	2.4mm(m)	WR28	
S3871FP	18 - 40GHz	46	43	2.4mm(m)	24JS18000	
S3871FQ	18 - 40GHz	50	47	2.4mm(m)	24JS18000	
S3871FR	18 - 40GHz	53	50	2.4mm(m)	24JS18000	
S3871FS	2 - 40GHz	40	37	2.4mm(m)	24JS18000	
S3871HA	40 - 47GHz	40	37	2.4mm(m)	2.4mm(m)	
S3871LA	40 - 60GHz	36	33	1.85mm(m)	1.85mm(m)	

6. 1 Typical Solid State Amplifier Module

Module	Freq. (GHz)	Psat (dBm)	Features	Functions
S80215AA	0.5-6	37	● Wide freq. band ● High power ● Low noise ● High gain flatness ● Single DC supply ● Coaxial or waveguide ports	● Adjustable gain ● Temperature & current monitoring ● Thermal, over current protection ● Over/under voltage protection ● Input overload protection ● TTL control ● DC power supply for external fan
S80215AB	0.5-6	40		
S80215AC	0.5-6	42		
S80215AD	0.5-6	43		
S80215DA	2-18	37		
S80215DB	2-18	40		
S80215DC	2-18	42		
S80215DD	6-18	37		
S80215DE	6-18	40		
S80215DF	6-18	42		
S80215DG	6-18	43		
S80215EA	18-26.5	37		
S80215EB	18-26.5	40		



6. 2 Typical Solid State Amplifier Module

Module	Freq. (GHz)	Psat (dBm)	Features	Functions
S80215EC	18-26.5	43	● Wide freq. band ● High power ● Low noise ● High gain flatness ● Single DC supply ● Coaxial or waveguide ports	● Adjustable gain ● Temperature & current monitoring ● Thermal, over current protection ● Over/under voltage protection ● Input overload protection ● TTL control ● DC power supply for external fan
S80215FA	26.5-40	37		
S80215FB	26.5-40	40		
S80215FC	26.5-40	43		
S80215FD	18-40	37		
S80215FE	18-40	40		
S80215FF	18-40	42		
S80215FG	18-40	43		
S80215GA	40-67	27		
S80215GB	40-67	30		
S80215GC	40-67	33		
S80215GD	40-67	37		



6. 2 Typical Solid State Amplifier Module

Module	Freq. (GHz)	Psat (dBm)	Features	Functions
S80215HA	40-60	24	● Wide freq. band ● High power ● Low noise ● High gain flatness ● Single DC supply ● Coaxial or waveguide ports	● Adjustable gain ● Temperature & current monitoring ● Thermal, over current protection ● Over/under voltage protection ● Input overload protection ● TTL control ● DC power supply for external fan
S80215HB	40-60	27		
S80215HC	40-60	30		
S80215JA	50-75	24		
S80215JB	50-75	27		
S80215JC	50-75	30		
S80215KA	60-90	24		
S80215KB	60-90	27		
S80215KC	60-90	30		
S80215LA	75-110	24		
S80215LB	75-110	27		
S80215LC	75-110	30		



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Typical Application Area

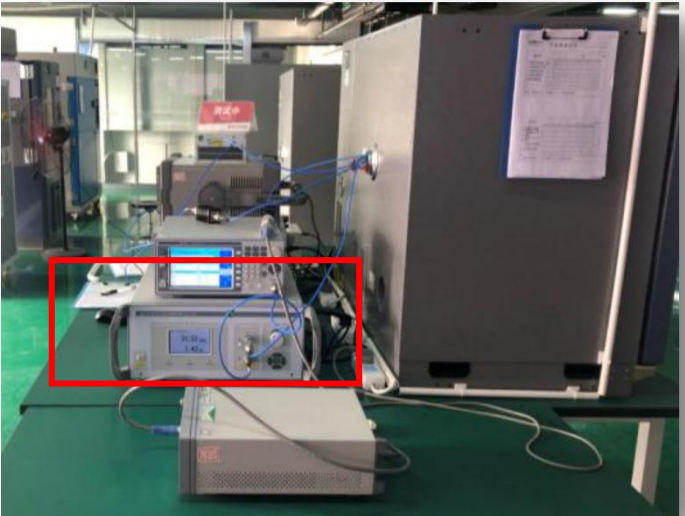
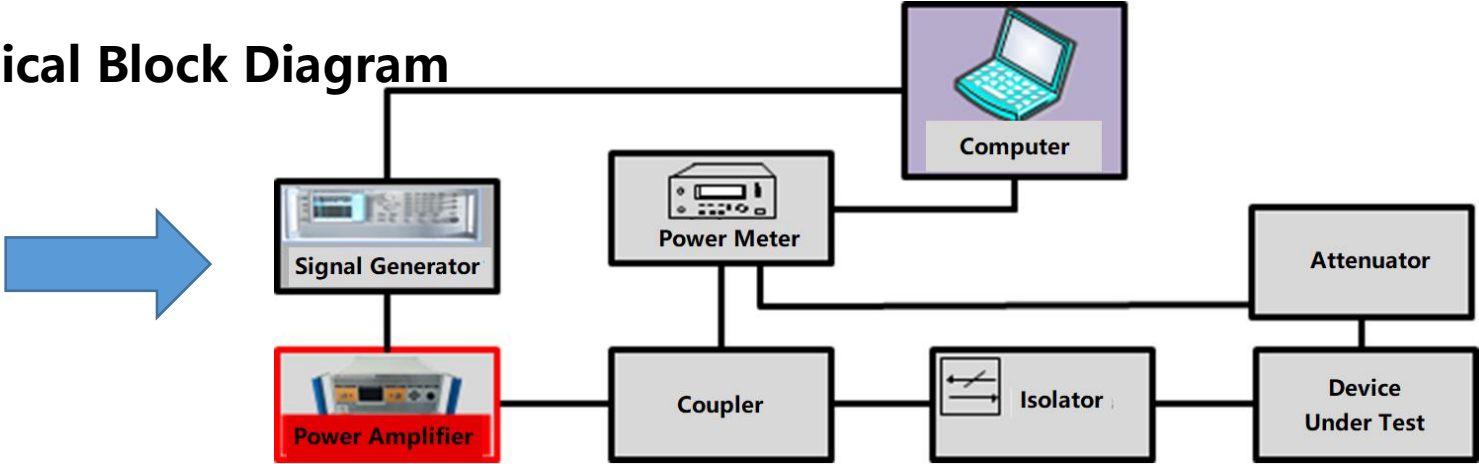
1. IC Test under Constant High Power

◆ **Scenario:** To test IC output characteristics and stability under constant high power.

◆ **Typical Users:** IC & Modules design companies.

S3871AS/S3871AT/S3871AU	0.5GHz-6GHz	50W/100W/200W
S3871DA/S3871DB/S3871DC/S3871DD	6GHz-18GHz	20W/50W/100W/200W

Typical Block Diagram



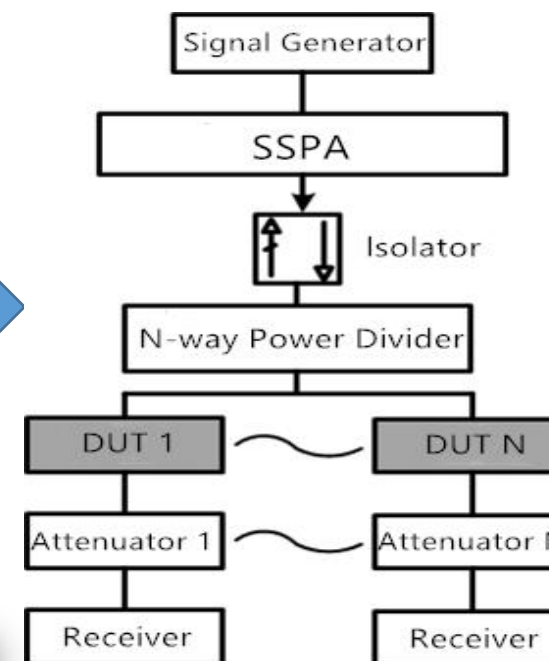
High Power IC Test Platform

2. IC Test under Changing High Power

◆ **Scenario:** To test IC output characteristics and stability under changing high power.

◆ **Typical Users:** Passive/Active IC & Modules design companies, such as coupler, isolator, special microwave modules.

S3871AU	0.5-6GHz	200W
S3871DD	6-18GHz	200W
S3871DE	2-18GHz	100W
S3871EC	18-26.5GHz	100W
S3871FG	26-40GHz	100W
S3871FR	18-40	100W



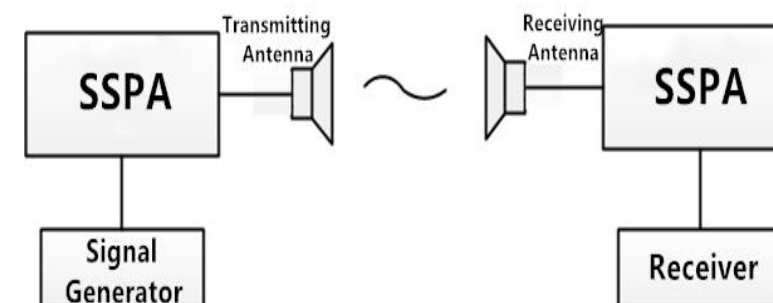
3. Outdoor Receiving/Transmitting Simulation



◆ **Scenario:** To test the transmission ability of Radar or Communication system under long distance, different frequencies and complex environment.

◆ **Typical Users:** Research institute, military industry, university, telecom company

S3871AS/S3871AT/S3871AU	0.5GHz-6GHz	50W/100W/200W
S3871DA/S3871DB/S3871DC/S3871DD	6GHz-18GHz	20W/50W/100W/200W
S3871FE/S3871FF/S3871FG	26.5GHz-40GHz	20W/60W/80W

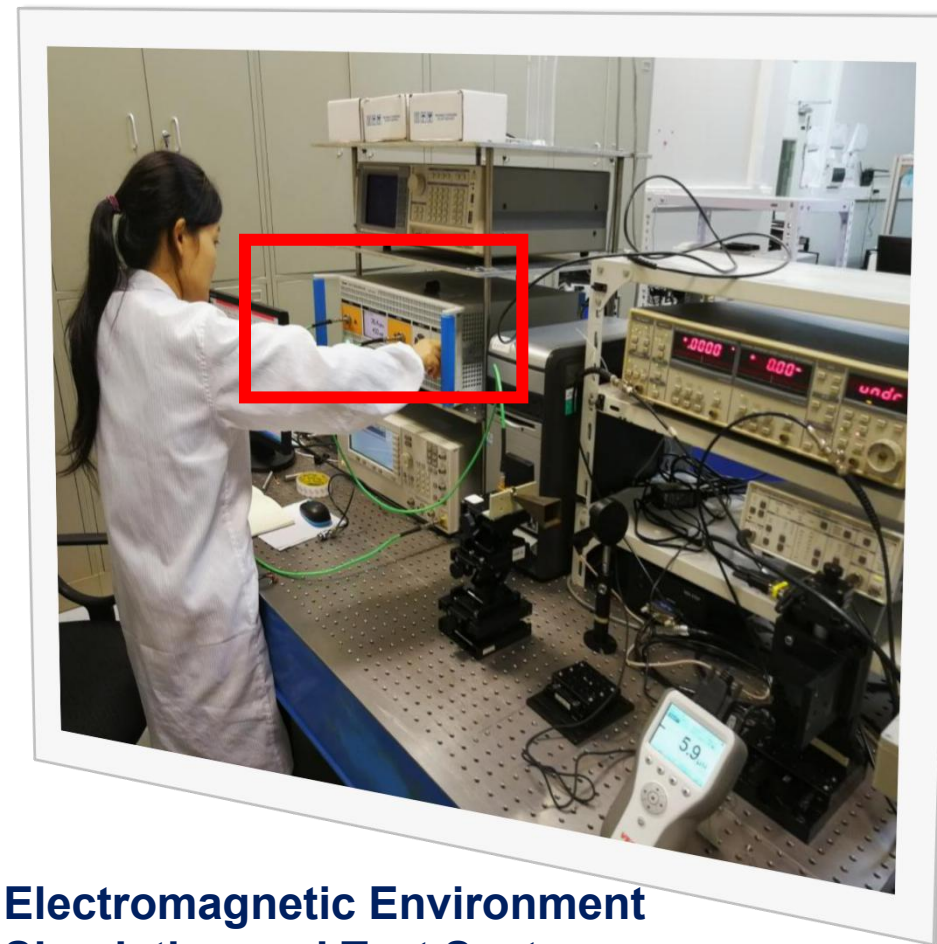


4. Specific Electromagnetic Environment Simulation

◆ Use high power to simulate complex electromagnetic environment.

◆ Typical Users: Aerospace and research institute, university

S3871AB	1-6GHz	20W	S3871EB	18-26.5GHz	20W
S3871DA	6-18GHz	20W	S3871FF	26-40GHz	40W
			S3871LA	40-60GHz	1W

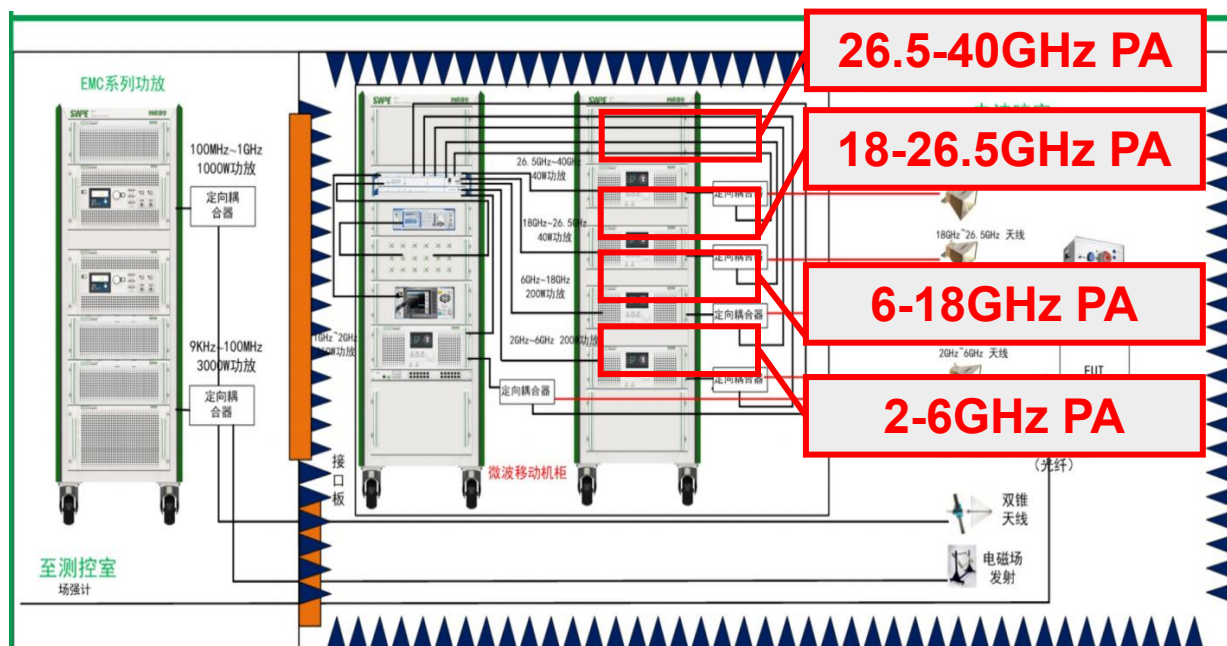


Electromagnetic Environment Simulation and Test System

5. EMC Test

- ◆ To generate wideband high power signal to test EMS.
- ◆ Users: EMC lab supplier and institute.

S3871AE	9kHz-250MHz	200W
S3871KA	80MHz-1GHz	200W
S3871AU	0.5-6GHz	200W
S3871DD	6-18GHz	200W
S3871EC	18-26.5GHz	100W
S3871FG	26-40GHz	100W



6. Related Photos



THANKS !

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