

**UGwave**

- Precision Passive Components
- RF Filters
- Active Components

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# ABOUT US

RF Filters, Microwave Components,  
Professional Solution Provider

We focus on the independent research and development of core technologies for RF Filters, Microwave Component, Microwave Test Instrument Accessories and other products. Our products have the characteristics of small size, light weight and high integration, which are widely used in radar, electronic warfare, satellite communication, remote sensing and telemetry, enemy identification and other fields.



# OUR HISTORY

Qingdao UGwave Electromechanical Technology Co., Ltd. is located in Guanggu Science and Technology Park, the west coast of Qingdao New District. UGwave has set up Huangdao R&D center and Suzhou manufacturing plant, which is a National High-tech Enterprise, Yangcheng Lake Science and Technology Leading Talent Enterprise, and Jiangsu Private Technology Enterprise.

2019

**UGwave Founded in Qingdao, China.**



**Set Up Factory in Suzhou, China.**

2019



2020

**Started Production Lines, Built R&D and Manufacture Teams.**



**Multiple Patent Applications**

2021



2022

Awarded National High-Tech Enterprise Identification



Expanded Active Assembly Production Lines in Xi'an, China

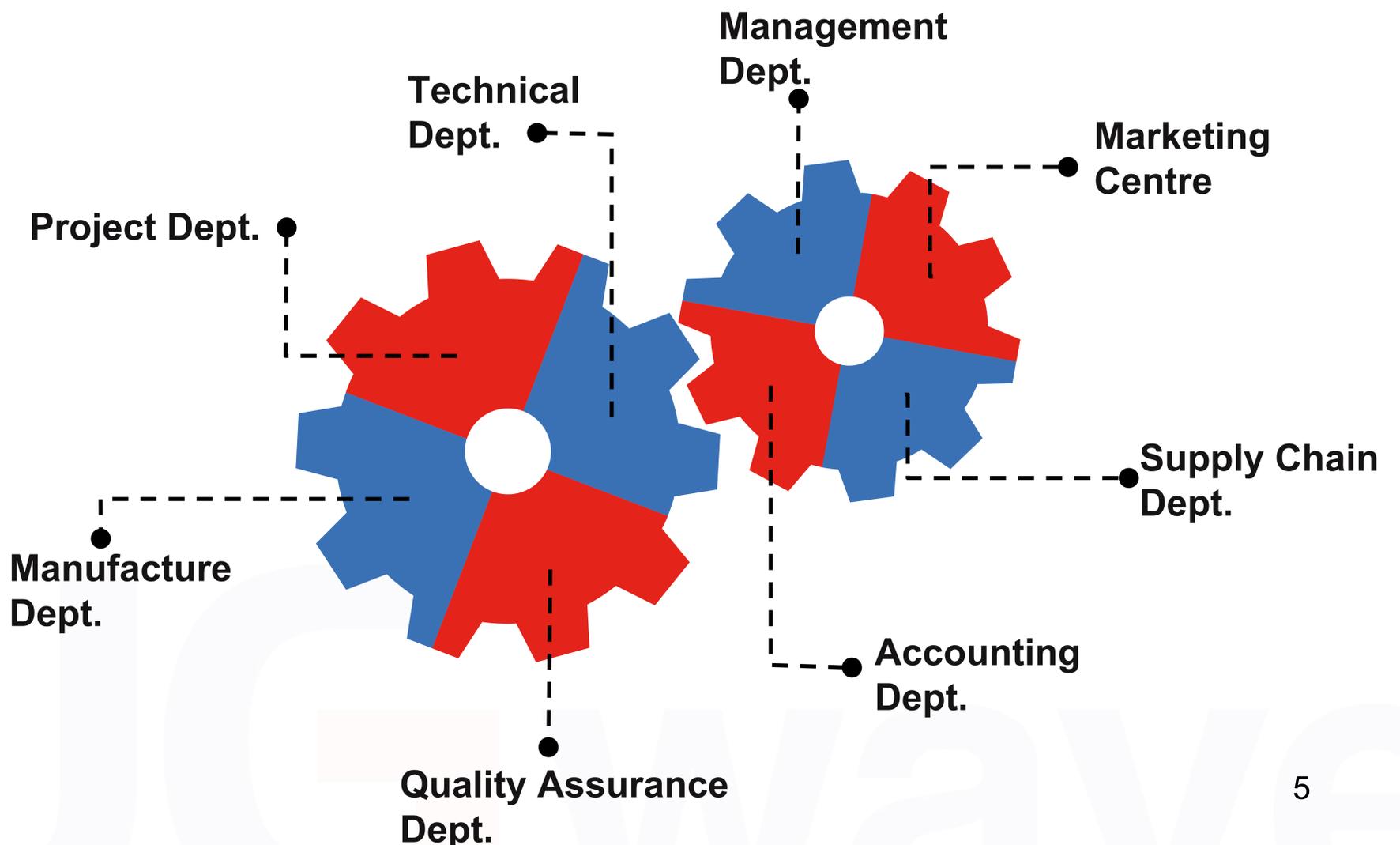
2023



2024

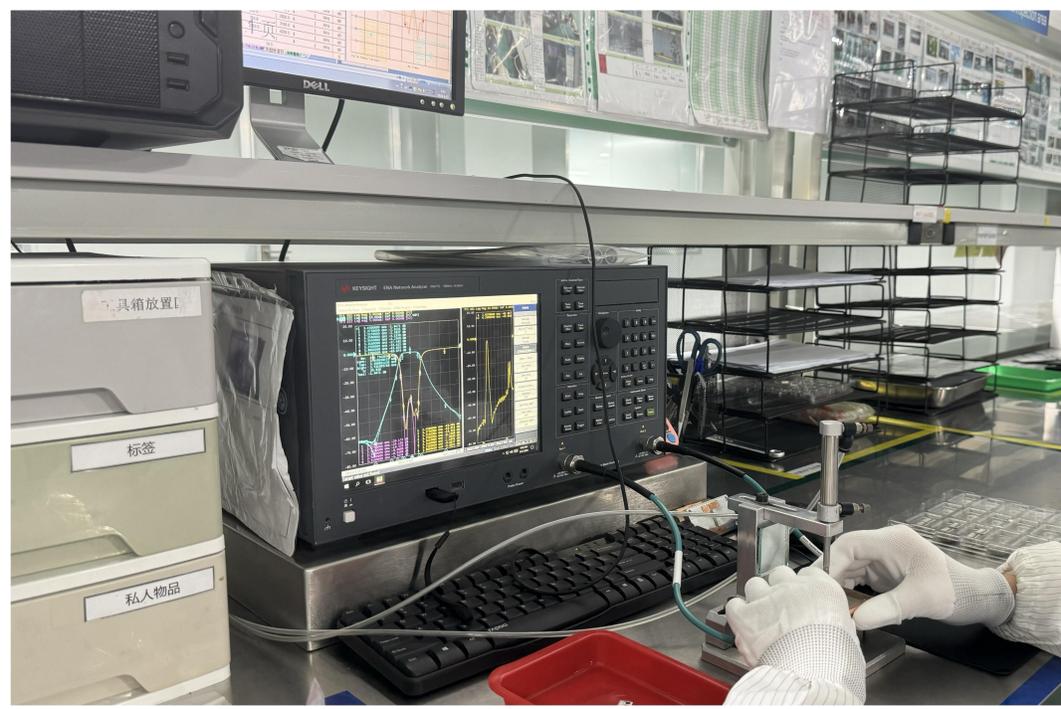
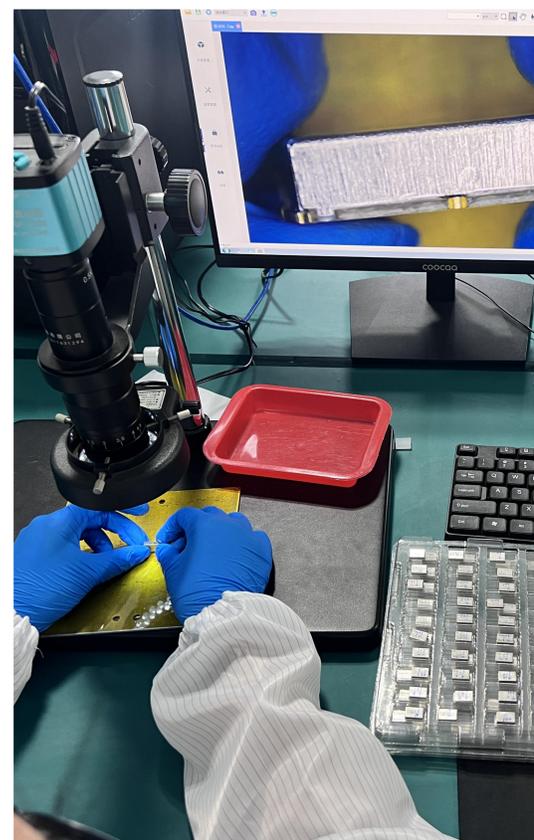
Step Up

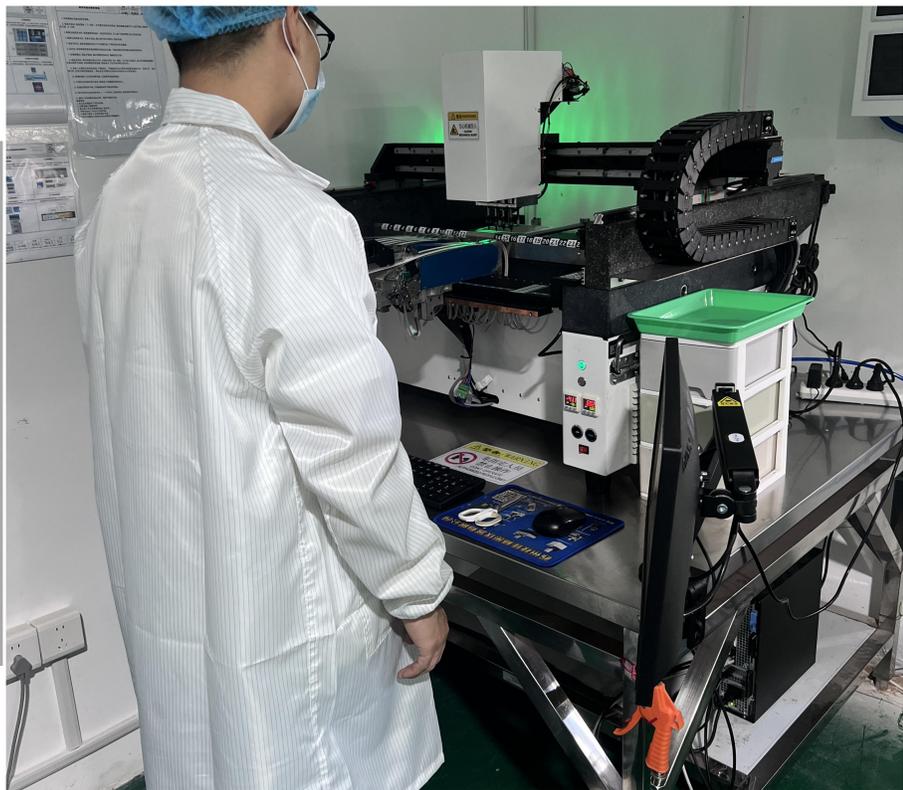
# OUR STRUCTURES



# FACTORY ALBUM

We has a R&D team of 13 people and 1200 square metres of micro-assembly production line.





# OUR Quality Control

-You Are Most Concerned About



## **Incoming Material Quality Control**

We use international famous brands of raw materials, establish incoming material inspection standards according to international standards and customer standards, continuously track and promote supplier quality improvement activities, and establish and maintain a good partnership with suppliers.



## **Process Quality Control**

Quality products are manufactured, not inspected. We have a standardized production process and detailed work instructions for each production line to ensure the correct implementation of the operating specifications and operational standards.



## **Finished Product Quality Control**

We strictly follow the international standards and customer standards to inspect and control the quality of the products shipped, follow up on the quality performance of the products shipped, and take quick and effective improvement actions on the feedback from customers on quality abnormalities.



# WHAT WE DO

Good quality comes from excellent product design.

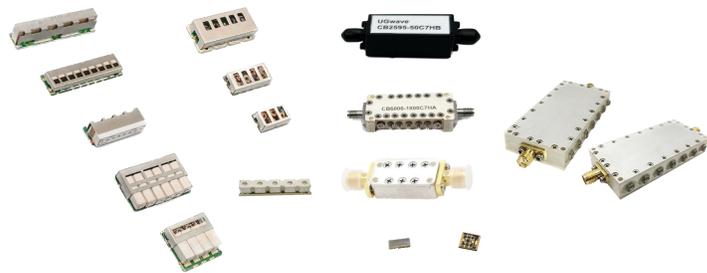
- **Precision Passive Components**

- Mechanical Switches
- Broadband Directional Coupler
- Programmable Step Attenuator
- Coaxial Mechanical Calibration Kit



- **Rf Filter**

- Dielectric Ceramic Filter
- LC Filter
- LC Differential Filter
- Metal Cavity Filter
- Filter Module
- Tunable Filter



- **Active Component**

- YIG Bandpass Filter
- Noise Source
- T/R Module
- Switch Filter Bank
- Amplifier Module
- Communication Excitation Module
- Multi-Channel Frequency Conversion Receiver Assembly
- Variable Frequency Receiver Module
- Electronic Warfare Payload
- Airborne Beidou B3 Receiver Module



# Precision Passive Components

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- Coaxial Mechanical Calibration Kit .....18



# Mechanical Switch



## Features:

- Wide frequency range exceptional insertion loss, low SWR, excellent isolation
- The switch forms including SPNT、2P3T、DPDT etc
- High reliability, operating life of million cycles

## SPDT&DPDT Switches

Model	K26-202N2	K50-202N4
Description	Coaxial switch	
Type	DPDT	DPDT
Frequency Range (GHz)	DC~26.5	DC~50
VSWR(Max)	1.2(DC~3GHz) 1.3(3~6GHz) 1.4(6~12.4GHz) 1.5(12.4~26.5GHz)	1.2(DC~4GHz) 1.5(4~20GHz) 1.8(20~50GHz)
Insertion Loss (dB Max)	0.25(DC~3GHz) 0.4(3~6GHz) 0.5(6~12.4GHz) 0.7(12.4~26.5GHz)	0.3(DC~4GHz) 1.0(4~20GHz) 1.2(20~40GHz) 1.5(40~50GHz)
Isolation (dB Min)	80(DC~3GHz) 70(3~6GHz) 60(6~12.4GHz) 55(12.4~26.5GHz)	50(DC~50GHz)
Input Power (W Max)	1 (CW)	1 (CW)
Switching Time (ms Max)	20	20
Repeatability (dB Max)	0.05	0.05
Operating Life (million cycles)(Min)	2	2
Connector Type	SMA (f)	2.4mm (f)
DC Drive Voltage (V)	+20~+28 (Nominal+24V)	
DC Drive Current (mA)	200 (at+24V)	
Relay Structure	self-latching	

# Mechanical Switch

## Compact SPDT Switches (Unterminated)

Model	K18-102N2	K26-102N2	K40-102N3	K50-102N4	K67-102N5
Description	Coaxial switch				
Type	SPDT	SPDT	SPDT	SPDT	SPDT
Frequency Range (GHz)	DC~18	DC~26.5	DC~40	DC~50	DC~67
VSWR(Max)	1.3(DC~12.4 GHz) 1.5(12.4~18GHz)	1.3(DC~12.4 GHz) 1.5(12.4~26.5GHz)	1.3(DC~10 GHz) 1.5(10~20GHz) 1.8 (20~40GHz)	1.25(DC~10GHz) 1.5 (10~20GHz) 1.8(20~50GHz)	1.25(DC~10GHz) 1.5 (10~20GHz) 1.9(20~67GHz)
Insertion Loss (dB Max)	0.3(DC~12.4 GHz) 0.6(12.4~18GHz)	0.3(DC~12.4 GHz) 0.6(12.4~26.5GHz)	0.4(DC~10GHz) 0.8 (10~20GHz) 1.0(20~40GHz)	0.4(DC~10GHz) 0.8 (10~20GHz) 1.2(20~50GHz)	0.6(DC~10GHz) 0.8 (10~20GHz) 1.5(20~67GHz)
Isolation (dB Min)	60(DC~18GHz)	60(DC~26.5GHz)	80(DC~10GHz) 70(10~20GHz) 60(20~40GHz)	85(DC~10GHz) 77(10~20GHz) 70(20~50GHz)	85(DC~10GHz) 77(10~20GHz) 70(20~67GHz)
Input Power (W Max)	1 (CW)	1 (CW)	1 (CW)	1 (CW)	1 (CW)
Switching Time (ms Max)	20	20	20	20	20
Repeatability (dB Max)	0.05	0.05	0.05	0.05	0.1
Operating Life (million cycles)(Min)	2	2	2	2	2
Connector Type	SMA (f)	3.5mm (f)	2.92mm (f)	2.4mm (f)	1.85mm (f)
DC Drive Voltage (V)	Options: +22~+28 (Nominal+24V) /+10V~15V (Nominal12V) /+4.8~+6 (Nominal+5V)				
DC Drive Current (mA)	120 (at +24V) /400 (at +12V) /700 (at +5V)				
Relay Structure	self-latching				
Drive	TTL/Standard				

## SPDT Switches (Terminated)

Model	K18-102L2	K26-102L2	K40-102L3	K50-102L4	K67-102L5
Description	Coaxial switch				
Type	SPDT	SPDT	SPDT	SPDT	SPDT
Frequency Range (GHz)	DC~18	DC~26.5	DC~40	DC~50	DC~67
VSWR(Max)	1.3(DC~12.4GHz) 1.5(12.4~18GHz)	1.3(DC~12.4GHz) 1.5(12.4~26.5GHz)	1.3(DC~10GHz) 1.5(10~20GHz) 1.8(20~40GHz)	1.25(DC~10GHz) 1.5 (10~20GHz) 1.8(20~50GHz)	1.25(DC~10GHz) 1.5 (10~20GHz) 1.9(20~67GHz)
Insertion Loss (dB Max)	0.3(DC~12.4GHz) 0.6(12.4~18GHz)	0.3(DC~12.4 GHz) 0.6(12.4~26.5GHz)	0.4(DC~10GHz) 0.8 (10~20GHz) 1.0(20~40GHz)	0.4(DC~10GHz) 0.8 (10~20GHz) 1.2(20~50GHz)	0.6(DC~10GHz) 0.8 (10~20GHz) 1.5(20~67GHz)
Isolation (dB Min)	60(DC~18GHz)	60(DC~26.5GHz)	80(DC~10GHz) 70(10~20GHz) 60(20~40GHz)	85(DC~10GHz) 77(10~20GHz) 70(20~50GHz)	85(DC~10GHz) 77(10~20GHz) 70(20~67GHz)
Input Power (W Max)	1 (CW)	1 (CW)	1 (CW)	1 (CW)	1 (CW)
Switching Time (ms Max)	20	20	20	20	20
Repeatability (dB Max)	0.05	0.05	0.05	0.05	0.05
Operating Life (million cycles)(Min)	2	2	2	2	2
Connector Type	SMA (f)	3.5mm (f)	2.92mm (f)	2.4mm (f)	1.85mm (f)
DC Drive Voltage (V)	Options: +22~+28 (Nominal+24V) /+10V~15V (Nominal12V) /+4.8~+6 (Nominal+5V)				
DC Drive Current (mA)	240 (at +24V) /800 (at +12V) /1400 (at +5V)				
Relay Structure	Magnetic latching				
Drive	TTL/Standard				

# Mechanical Switch

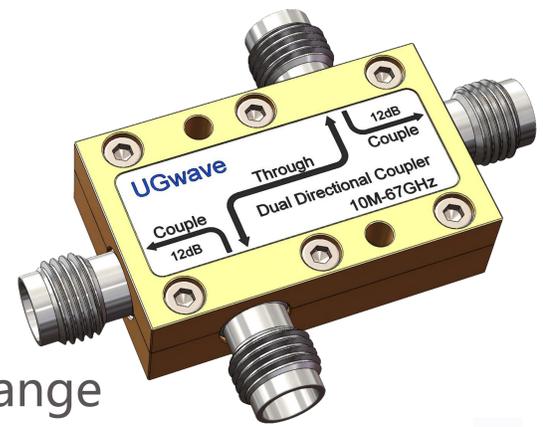
## SP4T Switches (Terminated)

Model	K80119D	K80119E	K80119F	K80119H
Description	Coaxial switch			
Type	SP4T			
Frequency Range (GHz)	DC~18	DC~26.5	DC~40	DC~50
VSWR(Max)	1.1 (DC~4GHz) 1.2 (4~12.4GHz) 1.5(12.4~18GHz)	1.2 (DC~4GHz) 1.35 (4~12.4GHz) 1.7 (12.4~26.5GHz)	1.2 (DC~4GHz) 1.7 (4~26.5GHz) 1.9 (26.5~40GHz)	1.2 (DC~4GHz) 1.7 (4~26.5GHz) 2.0 (26.5~50GHz)
Insertion Loss (dB Max)	0.2(DC~4GHz) 0.4(4~12.4GHz) 0.5 (12.4~18GHz)	0.2(DC~4GHz) 0.5(4~12.4GHz) 0.7(12.4~26.5GHz)	0.2 (DC~4GHz) 0.8 (4~26.5GHz) 1.2 (26.5~40GHz)	0.2 (DC~4GHz) 0.8 (4~26.5GHz) 1.2 (26.5~50GHz)
Isolation (dB Min)	80 (DC~4GHz) 70 (4~12.4GHz) 60 (12.4~18GHz)	80 (DC~4GHz) 70 (4~12.4GHz) 60 (12.4~26.5GHz)	80 (DC~4GHz) 70 (4~26.5GHz) 60 (26.5~40GHz)	80 (DC~4GHz) 70 (4~26.5GHz) 60 (26.5~50GHz)
Input Power (W Max)	1 (CW)	1 (CW)	1 (CW)	1 (CW)
Switching Time (ms Max)	20	20	20	20
Repeatability (dB Max)	0.05	0.05	0.05	0.05
Operating Life (million cycles)(Min)	2	2	2	2
Connector Type	SMA (f)	3.5mm (f)	2.92mm(f)	2.4mm(f)
DC Drive Voltage (V)	+20~+28 Nominal (+24V)			
DC Drive Current (mA)	200 (at +24V)			
Relay Structure	self-latching			

## SP6T Switches (Terminated)

Model	K.80119D	K.80119E	K.80119F	K.80119H
Description	Coaxial switch			
Type	SP6T			
Frequency Range (GHz)	DC~18	DC~26.5	DC~40	DC~50
VSWR(Max)	1.1 (DC~4GHz) 1.2 (4~12.4GHz) 1.5(12.4~18GHz)	1.2 (DC~4GHz) 1.35 (4~12.4GHz) 1.7 (12.4~26.5GHz)	1.2 (DC~4GHz) 1.7 (4~26.5GHz) 1.9 (26.5~40GHz)	1.2 (DC~4GHz) 1.7 (4~26.5GHz) 2.0 (26.5~50GHz)
Insertion Loss (dB Max)	0.2(DC~4GHz) 0.4(4~12.4GHz) 0.5 (12.4~18GHz)	0.2(DC~4GHz) 0.5(4~12.4GHz) 0.7(12.4~26.5GHz)	0.2 (DC~4GHz) 0.8 (4~26.5GHz) 1.2 (26.5~40GHz)	0.2 (DC~4GHz) 0.8 (4~26.5GHz) 1.2 (26.5~50GHz)
Isolation (dB Min)	80 (DC~4GHz) 70 (4~12.4GHz) 60 (12.4~18GHz)	80 (DC~4GHz) 70 (4~12.4GHz) 60 (12.4~26.5GHz)	80 (DC~4GHz) 70 (4~26.5GHz) 60 (26.5~40GHz)	80 (DC~4GHz) 70 (4~26.5GHz) 60 (26.5~50GHz)
Input Power (W Max)	1 (CW)	1 (CW)	1 (CW)	1 (CW)
Switching Time (ms Max)	20	20	20	20
Repeatability (dB Max)	0.05	0.05	0.05	0.05
Operating Life (million cycles)(Min)	2	2	2	2
Connector Type	SMA (f)	3.5mm (f)	2.92mm(f)	2.4mm(f)
DC Drive Voltage (V)	+20~+28 Nominal (+24V)			
DC Drive Current (mA)	200 (at +24V)			
Relay Structure	self-latching			

# Broadband Directional Coupler



## Features:

- Wide bandwidth, covering a broad frequency range
- High directivity, good signal separation effect
- Stable characteristics within the frequency band, flat response

Model	Starting Frequency	Terminating Frequency	Directional Type	Coupling Degree	Transmission Line Type	Connector Type
O1BS10T2A	10M	26.5G	Single direction	15	Twin-Lead	3.5mm
O1CS10T3A	10M	40G	Single direction	14	Twin-Lead	2.92mm
O1DS10T4A	10M	50G	Single direction	14	Twin-Lead	2.4mm
O1DS10C4A	10M	50G	Single direction	10	Micro-Coax	2.4mm
O1DD12C4A	10M	50G	Dual direction	12	Micro-Coax	2.4mm
O1ES10C5A	10M	67G	Single direction	10	Micro-Coax	1.85mm
O1ED12C5A	10M	67G	Dual direction	12	Micro-Coax	1.85mm
O1FS10C7A	10M	110G	Single direction	10	Micro-Coax	1.0mm
O1FD12C7A	10M	110G	Dual direction	12	Micro-Coax	1.0mm

# Programmable Step Attenuator



## Features:

- Frequency up to 67GHz
- Wide bandwidth, low VSWR, high attenuation accuracy
- Maximum attenuation up to 115dB, minimum step is 0.1dB.

Model	Operating Frequency (GHz)	Attenuation Range (dB)	Step Size (dB)	Insertion Loss (dB Max)	VSWR (Max)	RF Power (W Max)	Repeatabilit (dB Max)	Connector Type
S18-030D2A	DC~18	0~30	10	2.5	2	1	0.05	3.5mm
S18-040D2A	DC~18	0~40	10	2.5	2	1	0.05	3.5mm
S26-011F2A	DC~26.5	0~11	1	3	1.8	1	0.05	3.5mm
S26-011F2C	DC~26.5	0~11	1	3	2	1	0.05	3.5mm
S26-035T2A	DC~26.5	0~35	5	3	1.8	1	0.05	3.5mm
S26-040H2A	DC~26.5	0~40	6	3	2	1.5	0.05	3.5mm
S26-055T2A	DC~26.5	0~55	5	3.5	2	1	0.05	3.5mm
S26-060D2A	DC~26.5	0~60	10	3.5	2	1	0.05	3.5mm
S26-065T2A	DC~26.5	0~65	5	3	2	1	0.05	3.5mm
S26-070D2A	DC~26.5	0~70	10	3.5	1.8	1	0.05	3.5mm
S26-070Y2A	DC~26.5	0~70	2	5	2	1	0.05	3.5mm
S26-075T2A	DC~26.5	0~75	5	2.8	1.8	1	0.05	3.5mm
S26-090D2A	DC~26.5	0~90	10	3.5	2	1.5	0.05	3.5mm
S26-090D2B	DC~26.5	0~90	10	3.5	2	1.5	0.05	3.5mm
S26-090D2C	DC~26.5	0~90	10	3.5	2	1	0.05	3.5mm
S26-110D2A	DC~26.5	0~110	10	3	1.8	1	0.05	3.5mm
S26-110D2C	DC~26.5	0~110	10	3	2	1	0.05	3.5mm
S26-115T2A	DC~26.5	0~115	5	5	2	1	0.05	3.5mm

# Programmable Step Attenuator

Model	Operating Frequency (GHz)	Attenuation Range (dB)	Step Size (dB)	Insertion Loss (dB Max)	VSWR (Max)	RF Power (W Max)	Repeatabilit (dB Max)	Connector Type
S30-011F2A	DC~30	0~11	1	3	2	1	0.05	3.5mm
S30-050D2A	DC~30	0~50	10	2.5	2	1	0.05	3.5mm
S30-060F2A	DC~30	0~60	1	5	2	1	0.05	3.5mm
S40-011F3A	DC~40	0~11	1	3.6	2	1	0.05	2.92mm
S40-011F4A	DC~40	0~11	1	3.6	2	1	0.05	2.4mm
S40-011F4B	DC~40	0~11	1	3.6	2	1	0.05	2.4mm
S40-011F4C	DC~40	0~11	1	3.5	2	1	0.05	2.4mm
S40-015F4A	DC~40	0~15	1	3.5	2	5	0.05	2.4mm
S40-035T4A	DC~40	0~35	5	3.5	1.9	5	0.05	2.4mm
S40-040Y3C	17~31	0~40	2	4.5	2	5	0.05	2.92mm
S40-060D4A	DC~40	0~60	10	4	2	1	0.05	2.4mm
S40-070D3A	DC~40	0~70	10	4	1.9	1	0.05	2.92mm
S40-070D4A	DC~40	0~70	10	4	1.9	1	0.05	2.4mm
S40-075T4A	DC~40	0~75	5	3.5	2	1	0.05	2.4mm
S40-090D4A	DC~40	0~90	10	3.7	2	1.5	0.05	2.4mm
S40-090D4C	DC~40	0~90	10	3.5	2	1	0.05	2.4mm
S40-100D3C	DC~40	0~100	10	3	1.85	1	0.05	2.92mm
S40-100D4C	DC~40	0~100	10	3.5	2	1	0.05	2.4mm
S40-110D4A	DC~40	0~110	10	3.5	2	1	0.05	2.4mm
S40-115T4A	DC~40	0~115	5	4.5	2	1	0.05	2.4mm
S40-2R53C	17~31	0~2.5	0.1	4.5	2	5	0.05	2.92mm
S50-011F4A	DC~50	0~11	1	3.6	2	1	0.05	2.4mm
S50-024K4A	DC~50	0~24	8	4	2	1	0.05	2.4mm
S50-035T4A	DC~50	0~35	5	4	2	1	0.05	2.4mm
S50-046Y4A	DC~50	0~46	2	4	2	1	0.05	2.4mm
S50-060D4A	DC~50	0~60	10	4	2	1	0.05	2.4mm

# Programmable Step Attenuator

Model	Operating Frequency (GHz)	Attenuation Range (dB)	Step Size (dB)	Insertion Loss (dB Max)	VSWR (Max)	RF Power (W Max)	Repeatabilit (dB Max)	Connector Type
S50-065T4A	DC~50	0~65	5	4	2	1	0.05	2.4mm
S50-070D4A	DC~50	0~70	10	4	2	1	0.05	2.4mm
S50-090D4A	DC~50	0~90	10	4	2	1.5	0.05	2.4mm
S50-110D4A	DC~50	0~110	10	5	2	1	0.05	2.4mm
S50-120D4A	DC~50	0~120	10	5	2	1	0.05	2.4mm
S67-024K5A	DC~67	0~24	8	4.5	2	1	0.05	1.85mm
S67-035T5A	DC~67	0~35	5	4.5	2	1	0.05	1.85mm
S67-046Y5A	DC~67	0~46	2	4.5	2	1	0.05	1.85mm
S67-050D5A	DC~67	0~50	10	4.5	2	1	0.05	1.85mm
S67-055T5A	DC~67	0~55	5	4.5	2	1	0.05	1.85mm
S67-060D5A	DC~67	0~60	10	4.5	2	1	0.05	1.85mm
S67-065T5A	DC~67	0~65	5	4.8	2	1	0.05	1.85mm
S67-070D5A	DC~67	0~70	10	4.5	2	1	0.05	1.85mm
S67-075T5A	DC~67	0~75	5	5.8	2	1	0.05	1.85mm
S67-090D5A	DC~67	0~90	10	4.5	2	1	0.05	1.85mm
S67-095T5A	DC~67	0~95	5	6	2	1	0.05	1.85mm
S67-110D5A	DC~67	0~110	10	6	2	1	0.05	1.85mm
S67-120D5A	DC~67	0~120	10	6	2	1	0.05	1.85mm

# Coaxial Mechanical Calibrator Kit

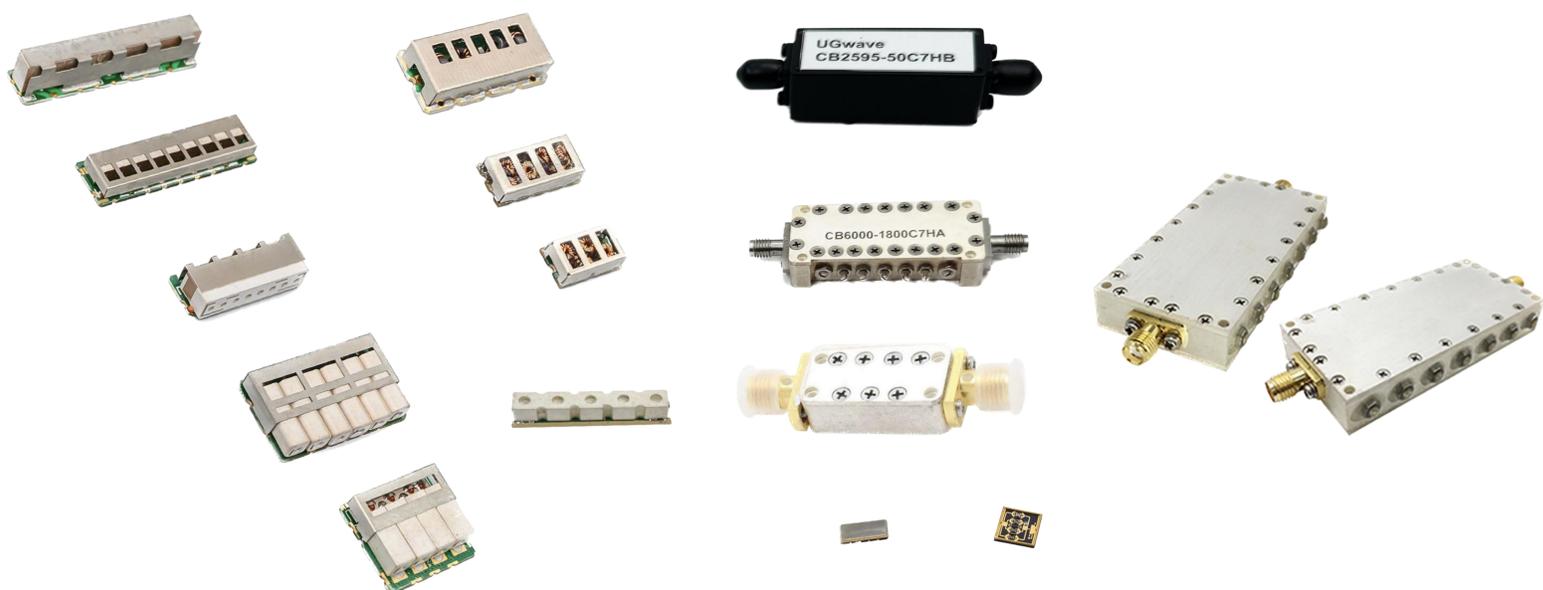
Model	Frequency Range	Specifications	Configuration List
J1F018J Calibration kit Type-N,50Ω	DC~18GHz	Open: 1.5° Short: 1.5° Broadband load: VSWR<1.055 Adapter: VSWR<1.083	Open,Type-N(m) 1 Open,Type-N(f) 1 Short,Type-N(m) 1 Short,Type-N(f) 1 Load,Type-N(f) 1 Load,Type-N(m) 1 Adapter,Type-N(f) to Type-N(f) 1 Adapter,Type-N(m) to Type-N(m) 1 Adapter,7mm to Type-N(m) 2 Adapter,7mm to Type-N(f) 2 Torque wrench,Type-N 1 Hook spanner 1
J1T018mJ Calibration kit Type-N,50Ω Type-T(m)	DC~18GHz	Open: 1.5° Short: 1.0° Broadband load: VSWR<1.055	Type-N,50Ω Type-T(m)
J1T018fJ Calibration kit Type-N,50Ω Type-T(f)	DC~18GHz	Open: 1.5° Short: 1.0° Broadband load: VSWR<1.055	Type-N,50Ω Type-T(f)
J1T003mJ Calibration kit Type-N,50Ω Type-T(m)	DC~3GHz	Open: 0.85° Short: 0.65° Broadband load: VSWR<1.014	Type-N,50Ω Type-T(m)
J1T003fJ Calibration kit Type-N,50Ω Type-T(f)	DC~3GHz	Open: 0.85° Short: 0.65° Broadband load: VSWR<1.014	Type-N,50Ω Type-T(f)
J1F003J Calibration kit Type-N,50Ω	DC~3GHz	Open: 0.85° Short: 0.65° Broadband load: VSWR<1.014 Adapter: VSWR<1.029	Open,Type-N(f) 1 Open,Type-N(m) 1 Short,Type-N(f) 1 Short,Type-N(m) 1 Load,Type-N(f) 1 Load,Type-N(m) 1 Adapter,Type-N(f) to Type-N(f) 1 Adapter,Type-N(m) to Type-N(m) 1 Adapter,Type-N(m) to Type-N(f) 1 Torque wrench,Type-N 1
J1F006J Calibration kit Type-N,50Ω	DC~6GHz	Open: 1.0° Short: 1.0° Broadband load: VSWR<1.023 Adapter: VSWR<1.029	Open,Type-N(f) 1 Open,Type-N(m) 1 Short,Type-N(f) 1 Short,Type-N(m) 1 Load,Type-N(f) 1 Load,Type-N(m) 1 Adapter,Type-N(f) to Type-N(f) 1 Adapter,Type-N(m) to Type-N(m) 1 Adapter,Type-N(m) to Type-N(f) 1 Torque wrench,Type-N 1
J1F009J Calibration kit Type-N	DC~9GHz	Open: 1.2° Short: 1.0° Broadband load: VSWR<1.029 Adapter: VSWR<1.052	Open,Type-N(f) 1 Open,Type-N(m) 1 Short,Type-N(f) 1 Short,Type-N(m) 1 Load,Type-N(f) 1 Load,Type-N(m) 1 Adapter,Type-N(f) to Type-N(f) 1 Adapter,Type-N(m) to Type-N(m) 1 Adapter,Type-N(m) to Type-N(f) 1 Torque wrench,Type-N 1
J2F009J 3.5mm Calibration kit	DC~9GHz	Open: 1.0° Short: 0.85° Broadband load: VSWR<1.029 Adapter: VSWR<1.052	Open(m),3.5mm 1 Open(f),3.5mm 1 Short(m),3.5mm 1 Short(f),3.5mm 1 Load(m),3.5mm 1 Load(f),3.5mm 1 Adapter,3.5mm(f) to 3.5mm(f) 1 Adapter,3.5mm(m) to 3.5mm(m) 1 Adapter,3.5mm(m) to 3.5mm(f) 1 Adapter,Type-N(m) to 3.5mm(m) 1 Adapter,Type-N(m) to 3.5mm(f) 1 Adapter,Type-N(f) to 3.5mm(m) 1 Adapter,Type-N(f) to 3.5mm(f) 1 Torque wrench,3.5mm 1

# Coaxial Mechanical Calibrator Kit

Model	Frequency Range	Specifications	Configuration List
J6F018J 7mm Calibration kit	DC~18GHz	Open: 0.5° Short: 0.5° Broadband load: VSWR<1.04	Open,7mm 1 Short,7mm 1 Load,7mm 1 Torque wrench,Type-N 1
J2F026J 3.5mm Calibration kit	DC~26.5GHz	Open: 1.5° Short: 1.5° Broadband load: VSWR<1.055 Adapter: VSWR<1.106	Open(m),3.5mm 1 Open(f),3.5mm 1 Short(m),3.5mm 1 Short(f),3.5mm 1 Load(m),3.5mm 1 Load(f),3.5mm 1 Adapter,3.5mm(f) to 3.5mm(f) 1 Adapter,3.5mm(m) to 3.5mm(m) 1 Adapter,3.5mm(m) to 3.5mm(f) 1 Torque wrench,3.5mm 1
J2006J 3.5mm Calibration kit	DC~6GHz	Open: 0.85° Short: 0.55° Broadband load: VSWR<1.029 Adapter: VSWR<1.04	Open(m),3.5mm 1 Open(f),3.5mm 1 Short(m),3.5mm 1 Short(f),3.5mm 1 Load(m),3.5mm 1 Load(f),3.5mm 1 Adapter,3.5mm(f) to 3.5mm(f) 1 Adapter,3.5mm(m) to 3.5mm(m) 1 Adapter,3.5mm(m) to 3.5mm(f) 1 Adapter,Type-N(m) to 3.5mm(m) 1 Adapter,Type-N(m) to 3.5mm(f) 1 Adapter,Type-N(f) to 3.5mm(m) 1 Adapter,Type-N(f) to 3.5mm(f) 1 Torque wrench,3.5mm 1
J1T009mJ Economical calibration kit Type-N,Type-T(m)	DC~9GHz	Open: 1.2° Short: 1.0° Broadband load: VSWR<1.029	Type-N,50Ω Type-T(m)
J1T009fJ Economical calibration kit Type-N,Type-T(f)	DC~9GHz	Open: 1.2° Short: 1.0° Broadband load: VSWR<1.029	Type-N,50Ω Type-T(f)
J3F040J 2.92mm Calibration kit	DC~40GHz	Open: 6.0° Short: 4.5° Broadband load: VSWR≤1.17 Adapter: VSWR≤1.15	Open(m),2.92mm 1 Open(f),2.92mm 1 Short(m),2.92mm 1 Short(f),2.92mm 1 Load(m),2.92mm 1 Load(f),2.92mm 1 Adapter,2.92mm(f) to 2.92mm(f) 1 Adapter,2.92mm(m) to 2.92mm(m) 1 Adapter,2.92mm(m) to 2.92mm(f) 1 Torque wrench,3.5mm 1
J4F040J 2.4mm Calibration kit	DC~40GHz	Open: 1.5° Short: 1.5° Broadband load: VSWR<1.105 Adapter: VSWR<1.119	Open(m),2.4mm 1 Open(f),2.4mm 1 Short(m),2.4mm 1 Short(f),2.4mm 1 Load(m),2.4mm 1 Load(f),2.4mm 1 Adapter,2.4mm(f) to 2.4mm(f) 1 Adapter,2.4mm(m) to 2.4mm(m) 1 Adapter,2.4mm(m) to 2.4mm(f) 1 Torque wrench,3.5mm 1
J4F050J 2.4mm Calibration kit	DC~50GHz	Open: 2.25° Short: 2° Broadband load: VSWR<1.106 Adapter: VSWR<1.222	Open(m),2.4mm 1 Open(f),2.4mm 1 Short(m),2.4mm 1 Short(f),2.4mm 1 Load(m),2.4mm 1 Load(f),2.4mm 1 Adapter,2.4mm(f) to 2.4mm(f) 1 Adapter,2.4mm(m) to 2.4mm(m) 1 Adapter,2.4mm(m) to 2.4mm(f) 1 Torque wrench,3.5mm 1
J5F067J 1.85mm Calibration kit	DC~67GHz	Open: 2.0° Short: 2.0° Broadband load: VSWR<1.15 Adapter: VSWR<1.25	Open(m),1.85mm 1 Open(f),1.85mm 1 Short(m),1.85mm 1 Short(f),1.85mm 1 Load(m),1.85mm 1 Load(f),1.85mm 1 Adapter,1.85mm(f) to 1.85mm(f) 1 Adapter,1.85mm(m) to 1.85mm(m) 1 Adapter,1.85mm(m) to 1.85mm(f) 1 Torque wrench,3.5mm 1

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# Ceramic Dielectric Filter



## Features:

- Low Loss Using High Q Dielectric Resonator
- Smaller Size And Lighter Weight by Using High r Ceramic Materials
- Excellent Temperature Stability
- Suitable For Surface Mount
- Frequency Range: 350MHz~6000MHz
- Power Range: 1W~10W

Model	C/F (MHz)	BW (MHz)	IL (dB)	Ripple in BW	VSWR	Rej.	Size (W*L*H)
AB1237-44F3PA	1237	44	1.0	0.6	2.0	10dB@1137~1337 15dB@1087~1387	12.5*14*4.8
MB1569-21H4CA	1569	21	1.5	1.0	1.5	20dBc@1615 30dBc@1620~1626	11.5*9.0*5.0
MB1445-44F3CA	1445	44	2.0	1.0	1.5	30dB@50~1190 30dBc@1700~3000	8.5*8.0*4.2
AB1090-280H9PA	1090	280	2.3	1.0	1.5	50dB @650~ 37dB@1320~	48.4*14.0*6.5
MB5787-125H6PA	5787	125	3.0	1.0	1.5	50dB@5498.15~6077	22.5*10.9*6.5
MB1842-75F4PA	1842	75	3.0	1.5	1.5	10dB @1785~1900 20dB@1765~1920	13.0*12.0*5.5
MB2252-104H8PA	2252	104	2.0	1.0	1.5	15dBc@2180~2324 45dBc@2127~2377	28.5*11.0*6.0
AB388-17F3PA	388	17	3.0	1.0	1.5	21dB@361~416	13.0*12.0*9.0
MB1900-40K6PA	1900	40	3.0	1.0	2.0	35dB@1850&1950	21.7*9.8*7.0
MB3800-00F4PA	3800	/	2.0	1.0	1.5	40dB@3600&4000	10.0*10.0*5.5
MB2489-11K4PA	2489	11	1.5	1.0	1.4	30dB@2400~2450 30dB@3000	15.5*10.0*7.5
AE3800-1000F2HA	3800	1000	1.0	/	1.8	35dBc@4448~4452	18.0*12.0*7.0
AE3800-2000F2HA	3800	2000	1.0	/	1.8	35dBc@4998~5002	18.0*12.0*7.0

# LC Filter

## Features:

- Wide frequency range: DC-4GHz
- 0.05dB Chebyshev function
- 3dB standard bandwidth 0.5%-150%
- Number of stages: 2~12 steps
- Easy soldering and assembly, good solderability
- Small size, stable and reliable performance
- Light weight



Model	C/F (MHz)	BW (MHz)	IL (dB)	VSW R	Rej.	Size (W*L*H)	Form
LL50-C9PC	50	/	1	1.5	35dB@70&	20.0*31.5*5.5	Low Pass
LB46-21C6PA	46.52	21(-3dB)	2.00	1.5	45dB@30.52~62.52	13.0*8.5*3.8	Band Pass
LB140-07C5PA	140	7	4.00	1.5	20dBc@122.5~157.5 45dBc@105~175	19.0*13.0*5.5	Band Pass
LB433-20C4PA	433	20	1.50	2.0	40dB@300~	19.0*13.5*7.4	Band Pass
LB80-20C5PA	80	20	2.00	1.4	25dB@50~ 40dB@150~	25.4*12.7*8.0	Band Pass
LH530-C9HA	530		1.50	1.5	40dB@350~ 470	20.0*12.0*7.0	High Pass
LH1700-C7HA	1700		0.60	1.5	15dBc@DC~1500	13.0*12.0*6.0	High Pass
LB2000-1100C7PA	3000	1100	2.00	1.5	30dBc@1200 30dBc@2800	23.0*10.0*6.0	Band Pass
LL680-C11PB	680	/	0.90	1.5	40dBc@800~1200 70dBc@1200~1600 75dBc@1258~2100 65dBc@2170~3000	20.0*10.0*4.0	Low Pass
LB3000-2000C9HA	2750	2000	3.00	1.4	50dBc@DC~1000 50dBc@1000~8000 TBD@8000~1300	35.0*12.0*8.0	Band Pass

# LC Differential Filter

## Features:

- Differential Signal Processing
- Wide Frequency Range
- Low Insertion Loss
- High Common-Mode Rejection Ratio (CMRR)
- High Impedance Matching

## LB46-20C6PA-PC:

Character	Condition In/Out impedance matching: 50Ω	Limit		Unit
		Min	Max	
Center Freq.	46MHz			MHz
Band Width	36MHz~56MHz	-	-	MHz
Insertion Loss	36MHz~56MHz	-	6.9	dB
In-Band Flatness	36MHz~56MHz	-	2.8	dB
Amplitude Consistency	36MHz~56MHz	-	0.7	dB
Phase Consistency	36MHz~56MHz	-7.5	+7.5	°
Amplitude Balance	36MHz~56MHz	-	0.2	dB
Phase Balance	36MHz~56MHz	-	0.5	°
Input/Output Impedance	Differential input 200Ω, single-ended output 50Ω	-	-	
Consistency	180°out of phase with LB46-20C6PA-PD	-	-	
Rejection	30MHz	40	-	dB
	62MHz	40	-	dB

## LB46-20C6PA-PD:

Character	Condition In/Out impedance matching: 50Ω	Limit		Unit
		Min	Max	
Center Freq.	46MHz			MHz
Band Width	36MHz~56MHz	-	-	MHz
Insertion Loss	36MHz~56MHz	-	6.9	dB
In-Band Flatness	36MHz~56MHz	-	2.8	dB
Amplitude Consistency	36MHz~56MHz	-	0.7	dB
Phase Consistency	36MHz~56MHz	-7.5	+7.5	°
Amplitude Balance	36MHz~56MHz	-	0.2	dB
Phase Balance	36MHz~56MHz	-	0.5	°
Input/Output Impedance	Differential input 200Ω, single-ended output 50Ω	-	-	
Consistency	180°out of phase with LB46-20C6PA-PC	-	-	
Rejection	30MHz	40	-	dB
	62MHz	40	-	dB

# Metal Cavity Filter



## Features:

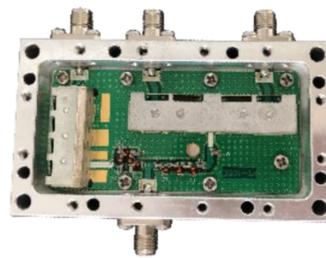
- High Q value, small insertion loss, large power capacity
- High suppression system
- Strong structure, high reliability
- Parasitic passband far, high working frequency band
- Excellent anti-interference, good rectangular coefficient, small temperature coefficient
- Flexible design, can do miniaturization design
- Frequency range: 100MHz~60GMHz
- Power range: 5W~200W

Model	C/F (MHz)	BW (MHz)	IL (dB)	VSWR in BW	Rej.	Interface Method	Size (W*L*H)
CB1350-520C8HA	1350	520	0.95	1.5	30dB@1025 40dB@1675	SMA	112*56*20
CB1800-100C7HA	1800	100	0.7	1.5	90dB@1650~2050	SMA	104*45*19
CB3950-500C10NHB	3950	500	0.5	1.3	45dB@3000~3620 45dB@4275~4770	SMA	120*69.9*98.4
CB5225-40C5HA	5225	40	4	1.5	40dBc@5155 80dBc@4925&4965	SMA	30*14*7
CB7400-500C6HA	7400	500	2.5	1.5	40dB@DC~6750 40dB@7950~20000	SMA	40*12*11.5
CB9600-1000C5HA	9600	1000	1.5	1.5	70dBc@4800 70dBc@14400	SMA	30*12.5*7
CB10000-2000C8HA	1000	2000	3.00	1.5	40dB@8500~ 60dB@12000~	SMA	40*11*8
CB13000-2200C8HA	13000	2200	1.00	1.4	60dBc@160000	SMA	66*17*12.5
CB14250-2700C9HA	14250	2700	1.00	1.5	60dBc@17200 60dBc@10000	SMA	53*14*11.5
CB16700-1000C4HA	16700	1000	1.50	1.5	35dBc@14200	SMA	26*10*13
CB19200-1000C5HA	19200	1000	1.50	1.5	70dBc@14400 70dBc@24000	SMA	30*8.5*8.5
CB20300-2000C7HA	20300	2000	4.50	1.8	50dBc@DC~18600 50dBc@22500~30000	SMA	56*14*13

# Filter Module

## Features:

- High suppression system, low insertion loss, high power
- Surface mount: small size and light weight
- Customization: Support customization (size and input/output form can be designed upon request)
- Frequency range: DC~30GMHz
- Power range: 5W~200W



## PCB Package:

Model	CH1			CH2			CH3			Size (W*L*H)
	I/L	R/P	Rej.	I/L	R/P	Rej.	I/L	R/P	Rej.	
D10-1200-1600A	1.0	0.5	70dB@1100~1300 70dB@1500~1700	3.0	1.0	70dB@DC~10 70dB@1500~1700	3.0	1.0	70dB@DC~10 70dB@1100~1300	62*41*13
D140-300-433A	3.5	1.0	45dBc@122.5~157.5 45dBc@282.5~317.5	2	1.0	45dBc@122.5~157.5 45dBc@430.5~435.5	1.2	1.0	45dBc@282.5~317.5 45dBc@430.5~435.5	55*18*8.5
D140-680-900A	1.5	1.0	50dB@670~690 50dB@890~910	1.5	1.0	50dB@130~150 50dB@890~910	1.5	1.0	50dB@130~150 50dB@670~690	35*40*10
D358-1473-1750A	0.8	0.6	70dB@1421-1526 70dB@1696-1804	2	0.6	40dB@336-380 40dB@1696-1804	2	0.6	60dB@336-380 60dB@1421-1526	65*52*12
D789-856A	3.0	1.0	60dBc@799~816 50dBc@851~861	3	1.0	60dBc@769~775 60dBc@851~861	3	1.0	60dBc@769~775 60dBc@799~816	95*32*36
D830-1940-2595A	3.0	1.0	30dBc@1710~2170 30dBc@2500~2690	3	1.0	30dBc@700~960 30dBc@2500~2690	3	1.0	30dBc@700~960 30dBc@1710~2170	45*30*6.5

## Cavity Package:

Model	CH1			CH2			CH3			Size (W*L*H)
	I/L	R/P	Attenuation	I/L	R/P	Attenuation	I/L	R/P	Attenuation	
D634-748-876A	634.5±17.5			748±20.0			876.5±17.5			90*90*13.2
	1.7	0.6	35dB@728-768 35dB@859-894	1.7	0.6	35dB@617-652 35dB@859-894	1.7	0.6	35dB@617-652 35dB@728-768	
D780-912A	780.5±22.5			881.5±12.5			942.5±17.5			70*24*9.5
	3.5	/	40dB@869-894 40dB@925-960	3.5	/	25dB@758-803 30dB@925-960	3.5	/	40dB@758-803 30dB@869-894	
D1862-2017-2605A	1862.5±57.5			2017.5±7.5			2605±50			104*94*30
	0.8	0.8	30dBc@1770&1955	0.8	0.8	30dBc@1975&2060	0.8	0.8	30dBc@2520&2690	

# Tunable Filter

## High Power FH Filters

Model	Frequency Band (MHz)	Band Width (MHz)	Insertion Loss (dB)	Power P-1	Size (W*L*H)
SHHP6165A	30~90 90~225 225~512 512~678	BW3:≥3.5% (30~512) BW0.5:≥20 (512~678)	≤2	20W	88*48*30
SHHP4252A	108-174 225-512 512-678	225~512:≥4 512~678:≥20	≤1.2 (108-174) ≤1.5 (225-512) ≤1.7 (512-678)	100W	100*65*45
SHHP6496A	108~678 1300~1950	BW1:≥2MHz (108-225) BW1:≥5MHz (225-678) BW1:≥5MHz (1300-1950)	≤1 (108-225) ≤3.5 (225-400) ≤3.5 (400-678) ≤2.5 (1300-1950)	20W	85*60*30
SHHP6497A	108~678 1300~1950	BW1:≥2MHz (108-225) BW1:≥5MHz (225-678) BW1:≥5MHz (1300-1950)	≤1 (108-225) ≤3.5 (225-400) ≤3.5 (400-678) ≤2.5 (1300-1950)	20W	85*65*20
SHHP4047A	225-400 400-678 1300-1950 TRU	BW1:≥5@225-678 BW1:≥5@1300-1950	≤1.5 (TRU) ≤3.5 (225~1950)	20W	85*65*30
SHHP6494A	225~400 400~700	BW0.5:≥20 (225-700)	≤1.8	100W	90*87*55
SHHP6162A	225~512 512~700	BW1:≥4 (225~512) BW1:≥20 (512~700)	≤1.7	100W	100*65*45

## Medium Power FH Filters

Model	Frequency Band (MHz)	Band Width (MHz)	Insertion Loss (dB)	Power P-1	Size (W*L*H)
SMHP4257A	108-174 225-512 512-678 TRU	108-512:≥4 512-678:≥20	≤3.0 (108-678) ≤0.7 (TRU)	10W	94*79*45
SMHP6578A	108-174 225-400 400-678	BW1:≥2 (108-174) BW1:≥4 (225-678)	≤3.5	10W	85*65*20
SMHP6557A	225-678	BW3: ≥4%		10W	54*36*12
SMHP6161A	225~512 512~700 TRU	BW1:≥4 (225-512) BW1:≥20 (512-700)	≤3.5	10W	81*60*45
SMHP3568A	512-2500	BW-0.5dB:≥30	≤4.0 ≤1.5(TRU)	10W	149*60*20

# Tunable Filter

## Low Power FH Filters

Model	Frequency Band (MHz)	Band Width (MHz)	Insertion Loss (dB)	Power P-1	Size (W*L*H)
SLHP3194A	108-225 225-512	$F0*4\% \leq BW3 \leq F0*8\%$ $BW1 \geq 4$	$\leq 5$	2W	40*30*12
SLHP3199A	108-225 225-512	$F0*4\% \leq BW3 \leq F0*8\%$ $BW1 \geq 2.5$	$\leq 5$	2W	40x30x12
SLHP3204A	225-450 450-700	$BW1 \geq 22$	$\leq 6.5$	1W	50*32*13
SLHP3205A	225-525 525-900	$BW1 > 12$	$\leq 3$ (225-525) $\leq 5$ (525-900)	1W	32x32x15
SLHP3210A	108-174 225-400 TRU	$BW1 \geq 4$ $BW3:(108-174) \geq 4.5$ $BW3:(225-400) \geq 6$	$\leq 6.5$	2W	50*32*13
SLHP3212A	30-90 90-225 225-512	$BW3 \geq F0*2.5\%$	$\leq 6$	1W	36*32*13
SLHP3215A	30~90 90~225 225~512 512~900	$BW1 \geq 20$	$\leq 3.2$	1W	50*32*13
SLHP3429A	512-1000 1000-1800 1800-2500 TRU	$BW1 \geq 20$	$\leq 3.5$	1W	50*32*13.5
SLHP3436A	512-1000 1000-1800 1800-2500 TRU	$BW1 \geq 20$	$\leq 5.5$	1W	50*32*13.5
SLHP3437A	512-1000 1000-1800 1800-2500	$BW1 \geq 22$	$\leq 7$	1W	71.6*32*15
SLHP3438A	512-1000 1000-1800 1800-2500 TRU	$BW1 \geq 20$	$\leq 3$	1W	71.6*32*15
SLHP3514A	512-1000 1000-1800 1800-2500 TRU	$BW0.5 \geq 20$ $BW3 \geq 8\%$	$\leq 3.5$ (512~1000) $\leq 4$ (1000~2500)	2W	50*32*15
SLHP4046A	225~678 1300~1950	$BW3 \geq 5\%$	$\leq 1.2$ (TRU) $\leq 4.5$ (225~678) $\leq 3.8$ (1300~1950)	1W	50*32*13
SLHP4146A	30~90 90~225 225~512 512~800 800~1100 1100~1500 (Band pass)	$BW3 \geq 20$	$\leq 3$	100mW	65x65x12

# Tunable Filter

## Low Power FH Filters(continued)

Model	Frequency Band (MHz)	Band Width (MHz)	Insertion Loss (dB)	Power P-1	Size (W*L*H)
SLHP4147A	30~90 90~225 225~512 512~750 (Band pass) 750~1100 (Band pass) 1100~1700 (Band pass) 1700~2300 (Band pass) 2300~3000 (Band pass)	BW3:≥13%	≤3 (30~1700) ≤3.3 (1700~3000)	100mW	65x65x12
SLHP4149A	225-400	BW1:>3	6.5	2W	40x32x15
SLHP4179A	30~90 90~225 225~512 512~800 800~1100 1100~1350 (Band pass)	Fo±13%≤BW3:≤Fo±22%	≤2.4 (30-800) ≤2.6 (800-1100) ≤2.2 (1100-1350 Band pass)	100mW	75x65x12
SLHP4256A	108-174 225-512 512-678	BW1:≥20 (512-678) BW3:≥3% (108-512)	≤5.5(108-512) ≤3.5(512-678)	1W	32*50*15
SLHP6100A	30~90 90~225 225~512 512~678 1300~1950 30-678 (Low pass)	BW3:≥2%~4% (30~225) BW1:≥5M (225~512) BW0.5:≥20 (512-678)	≤6 (30~512) ≤3 (512~678) ≤5.5 (1300~1950) ≤1.6 (30~678 Low pass)	1W	58*32*15
SLHP6101A	30~90 90~225 225~512 512~678 1300~1950 30-678 (Low pass)	BW3:≥4% (30~512) BW0.5:≥20 (512-678)	≤3.0 (30~678) ≤2.5 (1300~1950) ≤1.6 (30~678 Low pass)	1W	58*32*15
SLHP6160A	225~512 512~700	BW0.5:≥4	≤3.5	1W	32*32*15
SLHP6163A	225~512 512~700 TRU	BW0.5:≥4	≤6	1W	32*32*15
SLHP6280A	108~678 1300~1950 TRU	BW3:≥5% BW0.5:≥20 (512~678)	≤3.0 (108~678) ≤3.5 (1300~1950) ≤1.5 (TRU)	1W	32*60*25
SLHP6512A	30~88	BW3: ≥3.5%	≤3.2	1W	30*20*13
SLHP6513A	108~225 (TRU) 225~678 1300~1950	BW3: ≥5%	≤3(225~678MHz) ≤3(1300~1950MHz)	1W	60*32*13
SLHP4147A	30~90 90~225 225~512 512~750 (Band pass) 750~1100 (Band pass) 1100~1700 (Band pass) 1700~2300 (Band pass) 2300~3000 (Band pass)	BW3:≥13%	≤3 (30~1700) ≤3.3 (1700~3000)	100mW	65x65x12
SLHP4149A	225-400	BW1:>3	6.5	2W	40x32x15
SLHP4179A	30~90 90~225 225~512 512~800 800~1100 1100~1350 (Band pass)	Fo±13%≤BW3:≤Fo±22%	≤2.4 (30-800) ≤2.6 (800-1100) ≤2.2 (1100-1350 Band pass)	100mW	75x65x12

# Tunable Filter

## ESC Band-pass Filters

Model	Frequency Band (MHz)	Band Width (MHz)	Insertion Loss (dB)	Power P <sub>1</sub>	Size (W*L*H)
SVHP4043A	30-88 225-678	BW1:≥20	≤3.5	13mW	17*14*3
SVHP4044A	30-88 225-678	BW1:≥20	≤5.5	13mW	17*14*3
SVHP6531A	30~88 225~ 678	BW3:≥5%	≤5	13mW	17*14*3
SVHP4045A	30-88 225-400 400-678 1300-1950	BW3:≥5%	≤5.5	13mW	23*22*3.6
SVHP3166A	30~ 90 90~225 225~ 650 650~1300 1300~1900 1900~2500 TRU	BW1:≥3.0% F0 (30-512) BW1:≥20 (512-2500)	≤6	10mW	45x32x5
SVHP3172A	30~ 90 108~174 225-512	BW3:≤8.5%F0	≤4.2	32mW	35x30x10
SVHP3206A	30~90 90~225 225~ 650 650~1300 1300~1900 1900~2500 TRU	BW3:≥5%F0	≤3.5 (30~2500) ≤1.5 (TRU)	20mW	30x24x5
SVHP3207A	30~ 90 90~225 225~ 650 650~1300 1300~1900 1900~2500 TRU	BW3:≥5%F0	≤7 (30~2500) ≤2.5 (TRU)	10mW	30x24x5
SVHP6516A	30~ 90 90~225 225~ 512 512~ 678 1300~1950 (High pass)	BW3:≥5%	≤3	10mW	23*22*4.6
SVHP3646A	30~ 90 90~225 225~ 650 650~1300 1300~1850	BW1:≥20	≤6	20mW	28*22*5

# Tunable Filter

## ESC Band-pass Filters(continued)

Frequency Band (MHz)	Band Width (MHz)	Insertion Loss (dB)	Insertion Loss (dB)	Power P-1	Size (W*L*H)
SVHP3906A	108-225 225-512 512-900 1300-1850 TRU	BW3:≥3%F0	≤5	10mW	24*24*5
SVHP4042A	108-174 225-512	BW1:≥4	≤5.5	13mW	17*14*5
SVHP4255A	108-174 225-400	BW3:108-174:5.6~8 BW3:225-400:≤14	<4.5 (108-174) <5.0 (225-400)	32mW	45*33*15
SVHP6473A	225-678	BW3:≥4%	≤7.0	8mW	23x15x6.5
SVHP3214A	225-678 678-900	BW1:≥10	≤3	13mW	23*22*3.6
SVHP3599A	225-400 400-700	BW1:≥20	≤3.5	32mW	17*14*4
SVHP6556A	1300-1950	BW1:20	≤3.5	3.2mW	13*9*4.5

# Tunable Filter

## Low Power Bandstop FH Filters

Model	Frequency Band (MHz)	Band Width (MHz)	Insertion Loss (dB)	Power P <sub>1</sub>	Size (W*L*H)
SvTF4089A	225-450 450-678	BW3: 5% (Typ) BW3: 3% (Min)	≤3.5(Typ) ≤4(Max)	8mW	23*22*5
SvTF4397A	225-678 TRU	BW3:≥5%	≤4 ≤0.8 (TRU)	8mW	23*22*4.6
SvTF6532A	225-678 1300-1950		≤4 (225-678) ≤3 (1300-1950)	8mW	23*22*4.6
SvTF6384A	225-678 1300-1950		≤3	8mW	23*22*4.6
SvTF6517A	225-678 TRU	BW3:≥0.6	≤1.5 (10% off-center trap point) ≤2.0 (8% off-center trap point) ≤3.0 (6% off-center trap point) ≤4.8 (4% off-center trap point) TRU (≤0.8(Typ),≤1.2(Max)) Allowable increase of 0.3dB at extreme temperatures	8mW	23*22*4.6
SvTF6421A	225-678 TRU	BW3: 5% (Typ) BW3: 3% (Min)	≤4 ≤0.8 (TRU)	8mW	23*22*5
SvTF6547A	225-678 TRU	BW3: 5% (Typ) BW3: 3% (Min)	≤4 ≤0.8 (TRU)	8mW	23*22*5

## ESC Bandstop Filters

Model	Frequency Band (MHz)	Band Width (MHz)	Insertion Loss (dB)	Power P <sub>1</sub>	Size (W*L*H)
SVTF4089A	225-450 450-678	BW3: 5% (Typ) BW3: 3% (Min)	≤3.5(Typ) ≤4(Max)	8mW	23*22*5
SVTF4397A	225-678 TRU	BW3:≥5%	≤4 ≤0.8 (TRU)	8mW	23*22*4.6
SVTF6532A	225-678 1300-1950		≤4 (225-678) ≤3 (1300-1950)	8mW	23*22*4.6
SVTF6384A	225-678 1300-1950		≤3	8mW	23*22*4.6
SVTF6517A	225-678 TRU	BW3:≥0.6	≤1.5 (10% off-center trap point) ≤2.0 (8% off-center trap point) ≤3.0 (6% off-center trap point) ≤4.8 (4% off-center trap point) TRU (≤0.8(Typ),≤1.2(Max)) Allowable increase of 0.3dB at extreme temperatures	8mW	23*22*4.6
SVTF6421A	225-678 TRU	BW3: 5% (Typ) BW3: 3% (Min)	≤4 ≤0.8 (TRU)	8mW	23*22*5
SVTF6547A	225-678 TRU	BW3: 5% (Typ) BW3: 3% (Min)	≤4 ≤0.8 (TRU)	8mW	23*22*5

# Active Component

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# YIG Band Pass Filter

## Features:

- Wide tuning range
- Low insertion loss and high rejection
- Used for wideband receiver front-end signal preselection

Model	Frequency Range (GHz)	3dB Band Width (MHz Min)	Insertion Loss (dB Max)	Attenuation (dB Min)	False Responses Outside Band (dB Min)	Detuned Isolation (MHz Max)	Temperature Drift (MHz Max) 0°C-60°C	Tuning Sensitivity (Typ.) (MHz/mA)
S31546	2.75~18	30	6	70	20	20	30	50±5
S31547	2.75~26.5	30	6	65	20	25	30	50±5
S31548	4~26.5	40	7.5	85	40	65	40	77±5
S31549	4~40	40	7.5	80	40	70	45	77±5
S31550	4~50	40	7.5	75	40	75	50	77±5



# RF Noise Source



## Features:

- Wide frequency coverage with excellent in-band flatness
- Stable performance, outstanding signal-to-noise ratio and low standing wave ratio
- Real-time temperature detection enhances noise figure measurement accuracy

## N-S Series RF Noise Source

No.	Model	Operating Frequency	Super-noise Ratio Range	Output Port VSWR	Output Interface Form	Drive Interface
1	N1A05S2A	10MHz~18GHz	5dB~8dB	<1.30: 1	3.5mm (m)	Standard
2	N1A14S2A	10MHz~18GHz	14dB~17dB	<1.30: 1	3.5mm (m)	Standard
3	N1B12S2A	10MHz~26.5GHz	12dB~17dB	<1.35: 1	3.5mm (m)	Standard
4	N1C12S4A	10MHz~40GHz	12dB~19dB	10MHz~18GHz<1.35: 1	2.4mm (m)	Standard
				18GHz~40GHz<1.45: 1		
5	N1D10S4A	10MHz~50GHz	10dB~19dB	10MHz~18GHz<1.35:1	2.4mm (m)	Standard
				18GHz~50GHz<1.50:1		
Maximum External Dimensions		W×H×D=30mm×21.5mm×137mm				
Maximum Weight		0.17kg				

## N-I Series RF Noise Source

No.	Model	Operating Frequency	Super-noise Ratio Range	Output Port VSWR	Output Interface Form	Drive Interface
1	N1A05I2A	10MHz~18GHz	5dB~8dB	<1.30: 1	3.5mm (m)	Intelligent
2	N1A14I2A	10MHz~18GHz	14dB~17dB	<1.30: 1	3.5mm (m)	Intelligent
3	N1B12I2A	10MHz~26.5GHz	12dB~17dB	<1.35: 1	3.5mm (m)	Intelligent
4	N1C12I4A	10MHz~40GHz	12dB~19dB	10MHz~18GHz<1.5: 1	2.4mm (m)	Intelligent
				18GHz~40GHz<1.45: 1		
5	N1D10I4A	10MHz~50GHz	10dB~19dB	10MHz~18GHz<1.35:1	2.4mm (m)	Intelligent
				18GHz~50GHz<1.50:1		
Maximum External Dimensions		W×H×D=52.5mm×33.5mm×125.5mm				
Maximum Weight		0.25kg				

# Radio TR Modules

## Handheld Amplifier

Item	Performance	
Freq Range	80MHz~678MHz	30MHz~512MHz
Output Power	5W	5W
Harmonic Suppression	≥43dBc	≥50dBc
Operating Voltage	28V	12V
Operating Current	≤650mA	≤1.2A

## Backpack, Car Radio Amplifier

Item	Performance
Freq Range	30MHz~512MHz
Output Power	20W/50W
Gain	≥40dB
Operating Voltage	14.4V/28V

## Car radio transceiver channel

Item	Performance
RF Freq Range	30MHz~512MHz 30MHz~2500MHz
IF Freq	21.4MHz/70MHz
Receiving Sensitivity	-100dBm (200kHz bandwidth, SNR 15dB)
Receiving Dynamic Range	≥90dB
Frequency Hopping Rate	≥1000 hops/sec
Phase Noise	≤-90dBc/Hz@10kHz offset

# Wireless TR Modules

## Wireless digital transmission system for surface-to-air missiles

Item	Performance	Unit	Remark
Freq Range	30~88 225~375 225~512	MHz	Customizable
Output Power	10/20/50	W	
Modulation Method	GMSK/QPSK/8PSK, etc		
Signal Bandwidth	0.2/1/2.5	MHz	
Receiving Sensitivity	-93	dBm	IF bandwidth 200kHz, S/N ratio 15dB
Combination	1:3/1:4 etc,		
Operating Voltage	24/28	V	

## Transceiver assembly for terminal missile ground transmission equipment

### Features:

- Backpack work, weight reduction design;
- Communication distance of 30 kilometers, output power 10W~50W.
- High reliability, components are strictly screened

## Transceiver assembly for terminal missile ground transmission equipment

### Features:

- Light weight, the weight of on-board equipment is not more than 400 grams
- Communication range of not less than 100 kilometers, output power of 10W
- Signal bandwidth of 20MHz, high communication rate
- Working frequency band can be customized



# C/X-Band TR Modules

## C-Band TR Modules

Item	Performance	Unit
Freq Range	C Band	
Number of channels	8	
Transmit Channel	Output Power	20/100/200 W
	Rising and falling edge	100 ns
	Maximum transceiver ratio	20%
	IF Frequency	150 MHz
Receive Channel	Noise Figure	3 dB
	Dynamic Range	90 dB
	Mirror Frequency Suppression	65 dB
	Operating Voltage	32 V



## X-Band Power Amplifier

Item	Performance	Unit
Frequency Range	X-Band	
Number of channels	4	
Output Power	10	W
Gain	30	dB
Harmonic Rejection	35	dB
Pulse Width	100	us
Duty Cycle	25%	
Spurious (frequency bias above 20MHz)	-60	dBc
Additional Phase Noise (100kHz Bias)	-95	dBc/Hz
Operating Voltage	28,8,-5	V
Operating Voltage	≤900	g
Operating Temperature Range	-55~+80	°C

# Jammer TR Modules

## Ballistic Jammer

Item	Performance
Frequency Range	3MHz~120MHz
Interference mode	Full-band blocking interference
Output power	10W
Continuous operation time	≥30minutes
Overload acceleration	≥10000g

## Unmanned Aerial Jammer Amplifier

Item	Performance
Frequency Range	30MHz~512MHz
Output Power	10W
Working Voltage	12V
Efficiency	≥40%
Weight	≤150g

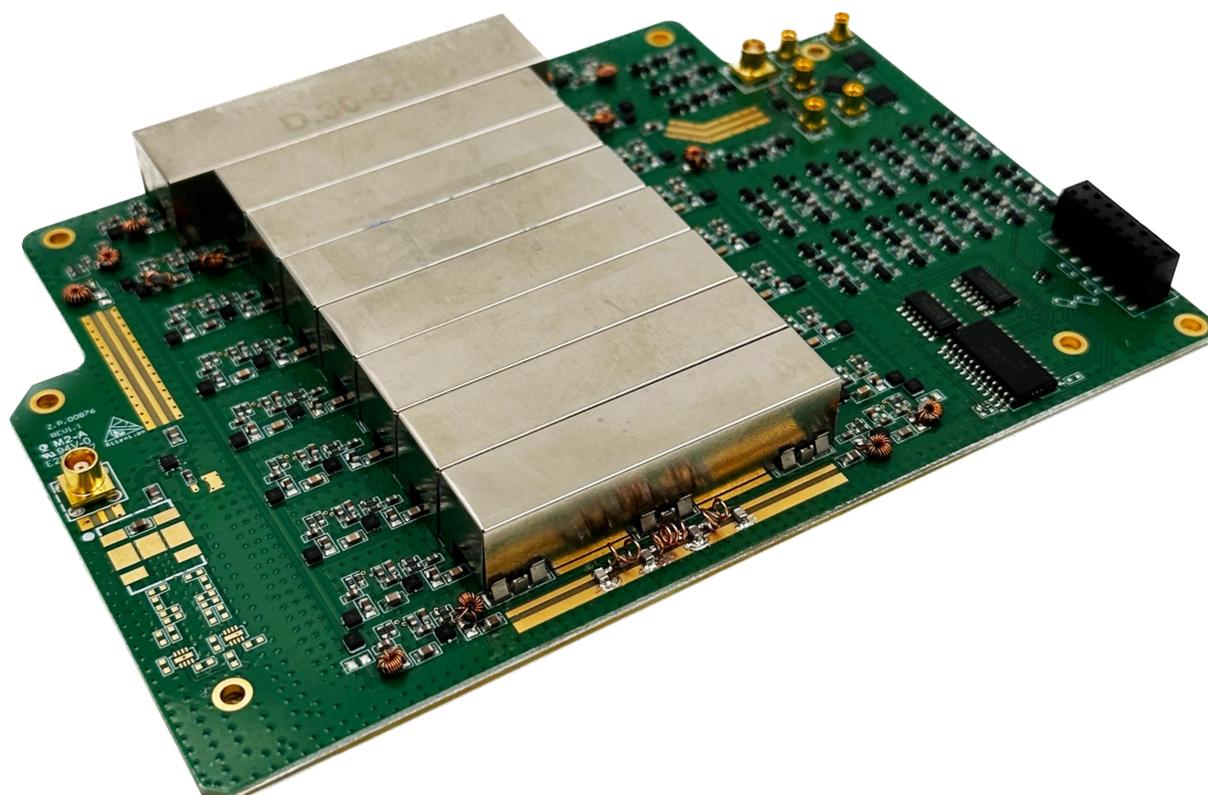


# Switch Filter Bank

## Features:

- High isolation
- Fast switching speed
- Low loss, small size

Model No.	Operating Frequency Band (GHz)	Insertion Loss (dB)	VSWR (IN/OUT)	Ripple in BW(dB)	Switching Time(ns)	Rectangular factor	Rejection
UGSF3-2180-600	1.88~2.08/ 2.08~2.28/ 2.28~2.48	≤5	≤1.8	≥1	/	≥3 (BW-80dB/200MHz)	/
UGSF4-2180-600	1.88~2.03/ 2.03~2.18/ 2.18~2.33/ 2.33~2.48	≤6	≤1.8	≥1	/	≥3 (BW-75dB/150MHz)	/
UGSF12-4700-600	4.425/ 4.475/ 4.525/ 4.575/ 4.625/4.675/ 4.725/ 4.775/ 4.825/ 4.875/ 4.925/ 4.975	≤6	≤1.5	≥1	≤250	/	≥60@fo±140MHz



# Amplifier Modules

## Low Noise Amplifiers

Model	Operating Frequency	Power	Gain (dB)	Noise Coefficient(dB) (Typ.)	Output P1dB Compression Point(dBm)	Package Form
QLT-A13	0GHz~13GHz	50mA@5V	13	3.5	13	Module
QLT-A13H	0GHz~13GHz	50mA@5V	25	4	13	Module
QLT-A20	0GHz~20GHz	75mA@8V (0V~-1V)	16	2.5	15	Module
QLT-A20H	0GHz~20GHz	75mA@8V (0V~-1V)	30	3	15	Module
QLT-A40	0GHz~40GHz	200mA@7V -20mA@-2.5V	14	3.5	21	Module
QLT-A40H	0GHz~40GHz	200mA@7V -20mA@-2.5V	25	4	21	Module
QLT-A50	0GHz~50GHz	200mA@7V -20mA@-2.5V	12	6	20	Module
QLT-A50H	0GHz~50GHz	200mA@7V -20mA@-2.5V	22	6.5	20	Module

## Power Amplifier

Model	Operating Frequency	Power	Gain (dB)	Output P1dB Compression Point(dBm)	Saturated outputPower (dBm)	Package Form
QLT-A20	0GHz~22GHz	240mA@8V (0V~-1V) +3.5V	17	29	31	Module
QLT-A20H	0GHz~22GHz	240mA@8V (0V~-1V) +3.5V	32	29	31	Module
QLT-A30	0GHz~30GHz	240mA@8V (0V~-1V)	15	24	27	Module
QLT-A30H	0GHz~30GHz	240mA@8V (0V~-1V)	28	24	27	Module

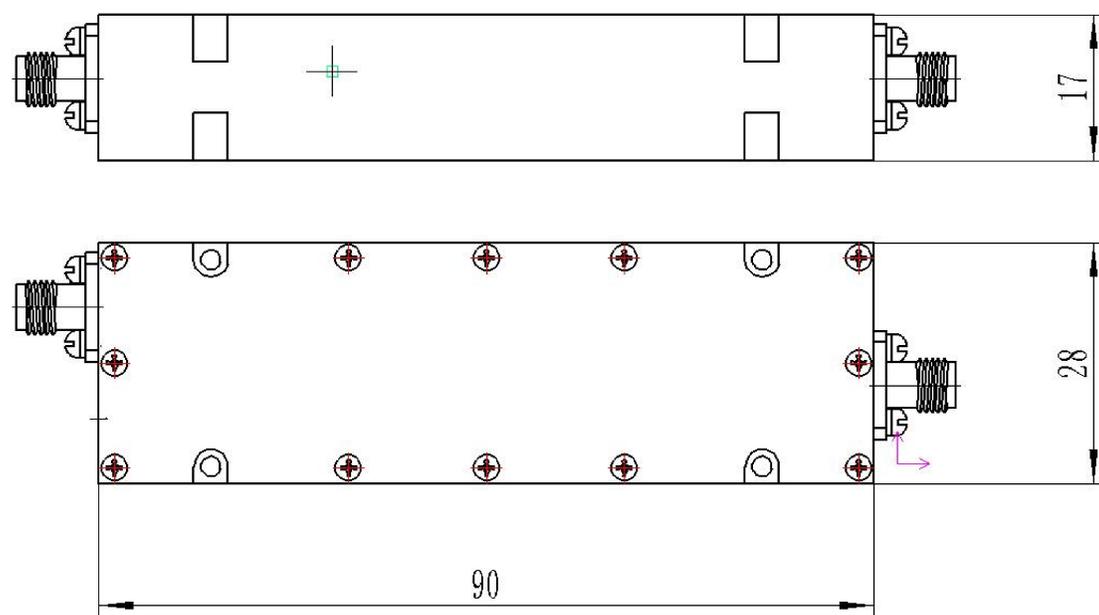


# Communication Excitation Module

## Features:

- Wide frequency range (VHF/UHF/MF; inverter programme supports C/X/Ku-band)
- Passband undulation:  $\leq 2\text{dB}$ ;
- Spurious rejection:  $\geq 50\text{dBc}$ ;
- EVM deterioration:  $\leq 2\%$  (QPSK signal,  $\leq 5\%$  (3GHz ~ 6GHz))

## Reference Shape



## Type 1#

Parameter	Description
Frequency Range	10MHz ~ 30MHz
Rated Output Power	0dBm $\pm$ 1.5dB (with -20dBm input power)
Maximum Output Power	$\leq 13\text{dBm}$
Passband Ripple	$\leq 2\text{dB}$
Spurious Suppression	$\geq 50\text{dBc}$
EVM Degradation	$\leq 2\%$ (for QPSK signal)
Adjustable Output Power Range	$\geq 30\text{dB}$
Power Adjustment Step	0.5dB
Power Adjustment Accuracy	Better than 1dB

# Communication Excitation Module

## Type 2#

Parameter	Description
Frequency Range	30MHz~800MHz
Rated Output Power	0dBm $\pm$ 1.5dB (with -20dBm input power)
Maximum Output Power	$\leq$ 13dBm
Passband Ripple	$\leq$ 2dB
Spurious Suppression	$\geq$ 50dBc
EVM Degradation	$\leq$ 2% (for QPSK signal)
Adjustable Output Power Range	$\geq$ 30dB
Power Adjustment Step	0.5dB
Power Adjustment Accuracy	Better than 1dB

## Type 3#

Parameter	Description
Frequency Range	800MHz~3GHz
Rated Output Power	0dBm $\pm$ 1.5dB (with -20dBm input power)
Maximum Output Power	$\leq$ 13dBm
Passband Ripple	$\leq$ 2.5dB
Spurious Suppression	$\geq$ 50dBc
EVM Degradation	$\leq$ 2% (for QPSK signal)
Adjustable Output Power Range	$\geq$ 30dB
Power Adjustment Step	0.5dB
Power Adjustment Accuracy	Better than 1dB

# Communication Excitation Module

## Type 4# (Frequency Conversion Method)

Parameter	Description
Output Frequency	3GHz~6GHz (Input Frequency: 1.3GHz~2.3GHz)
Output Frequency Adjustment Step	10MHz (Selectable: 100Hz)
Rated Output Power	0dBm $\pm$ 1.5dB (with -20dBm input power)
Maximum Output Power	$\leq$ 13dBm
Passband Ripple	$\leq$ 5dB
Spurious Suppression	$\geq$ 50dBc
EVM Degradation	$\leq$ 5% (for QPSK signal)
Adjustable Output Power Range	$\geq$ 30dB
Power Adjustment Step	0.5dB
Power Adjustment Accuracy	Better than 1dB

# Multi-Channel Inverter Receiver Modules

## Features:

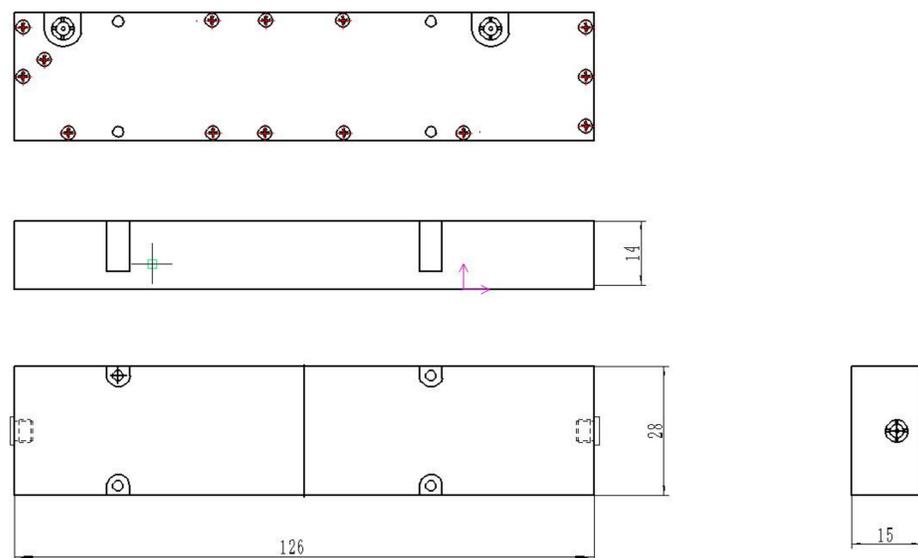
- AGC: Cluster impulse response  $\leq 1\mu\text{s}$
- Isolation degree between channels  $\geq 60\text{dB}$
- Channels can work independently.

# Variable Frequency Receiver Modules

## Features:

- Can realise the combination of single channel into multi-channel, and each channel can work independently;
- Amplitude deviation between channels  $< \pm 2\text{dB}$ , phase deviation  $< \pm 10^\circ$  (can be customised, related to the price cycle);
- Can realise channel parameter calibration.

## Reference Shape



# Electronic Warfare Payload

## Features:

**-Electronic Reconnaissance:** Accurately measures and identifies radar signal parameters, evaluates threat levels, and classifies radar types.

**-Multi-Function Management:** Supports mode switching and resource management based on commands from a central system, and integrates with other electronic systems.

**-Performance:** High detection range (up to 60 km), exceptional sensitivity, and precise measurement capabilities.

**-Compact Design:** Lightweight and small, suitable for various platforms.

Category	Specification
Appearance	Specific design not detailed
Functions	- Electronic reconnaissance - Radar jamming - Management and control
Operating Bands	225-400 MHz, 2-6 GHz
Bandwidth	200 MHz
Detection Range	≥ 60 km for typical targets
Sensitivity	> -70 dBmi (Omnidirectional)
Dynamic Range	≥ 40 dB (instantaneous)
Power Capacity	≥ 10 W (peak value)
Weight	≤ 2.5 kg
Dimensions	- Main unit: 110mm x 110mm x 85mm - Reconnaissance antenna: 180mm x 120mm x 95mm - Jamming antenna: φ94mm x 120mm
Power Consumption	≤ 100 W
Interfaces	- Power: J30J-9TJP - Control: HJ30J-12ZKP (Ethernet) - Antennas: SMA-K (input/output)



# Bullet-carried Beidou B3 Receiver Modules

## Features:

- With 24-channel capability, designed for precise navigation and positioning.
- Supports fast cold and hot starts, robust dynamic performance, and has strong environmental resistance.
- With compact dimensions and low power consumption, it's ideal for applications requiring reliable operation under extreme conditions.

Feature	Specification
Frequency Band	BeiDou B3 (1268.52 MHz $\pm$ 10.23 MHz)
Channels	24-channel reception
Cold Start Time	$\leq$ 60s
Hot Start Time	$\leq$ 6s
Horizontal Positioning Accuracy	$\leq$ 8m (PDOP $\leq$ 2)
Vertical Positioning Accuracy	$\leq$ 10m (PDOP $\leq$ 2)
Velocity Accuracy	$\leq$ 0.2m/s (95%)
Max Altitude	$\leq$ 10km
Max Flight Acceleration	$\leq$ 10g
Power Supply	5V, Max 2W
Operating Temperature	-40° C to +80° C
MTBF	$\geq$ 5000 hours
Weight	$\leq$ 25g
Overload Capacity	18000g
Sync Output	1PPS, 10Hz, $\pm$ 20ns



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