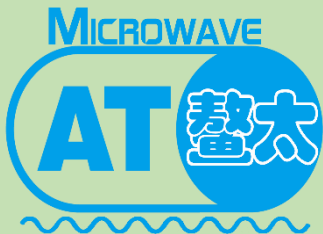


V Band (50-75GHz) Highlight Products

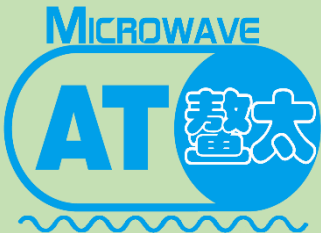
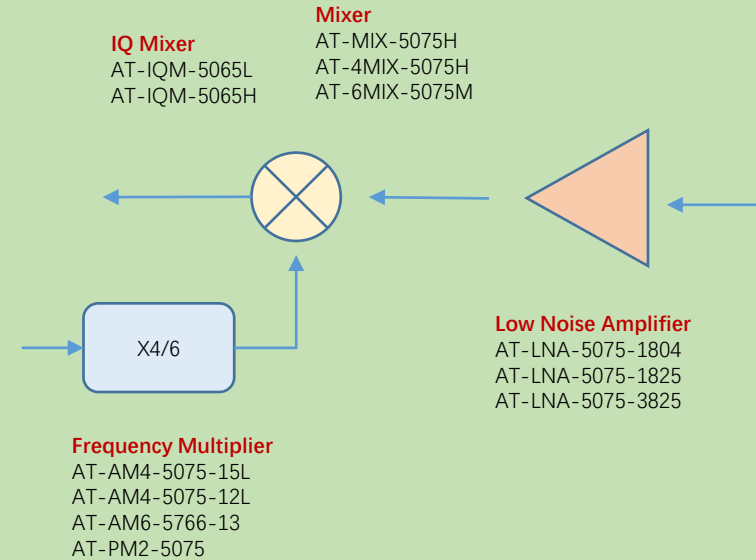
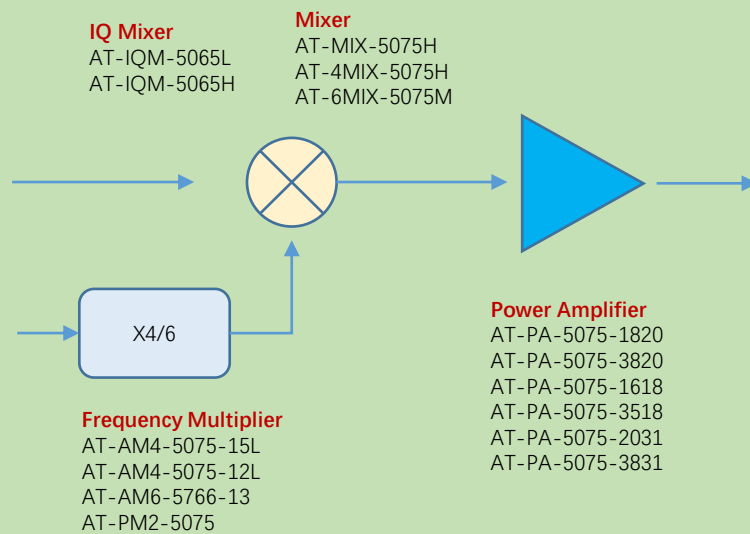
Shanghai AT Microwave Ltd.
sales@atmicrowave.com

Products Lines

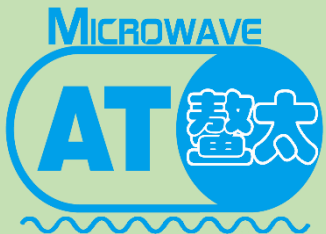
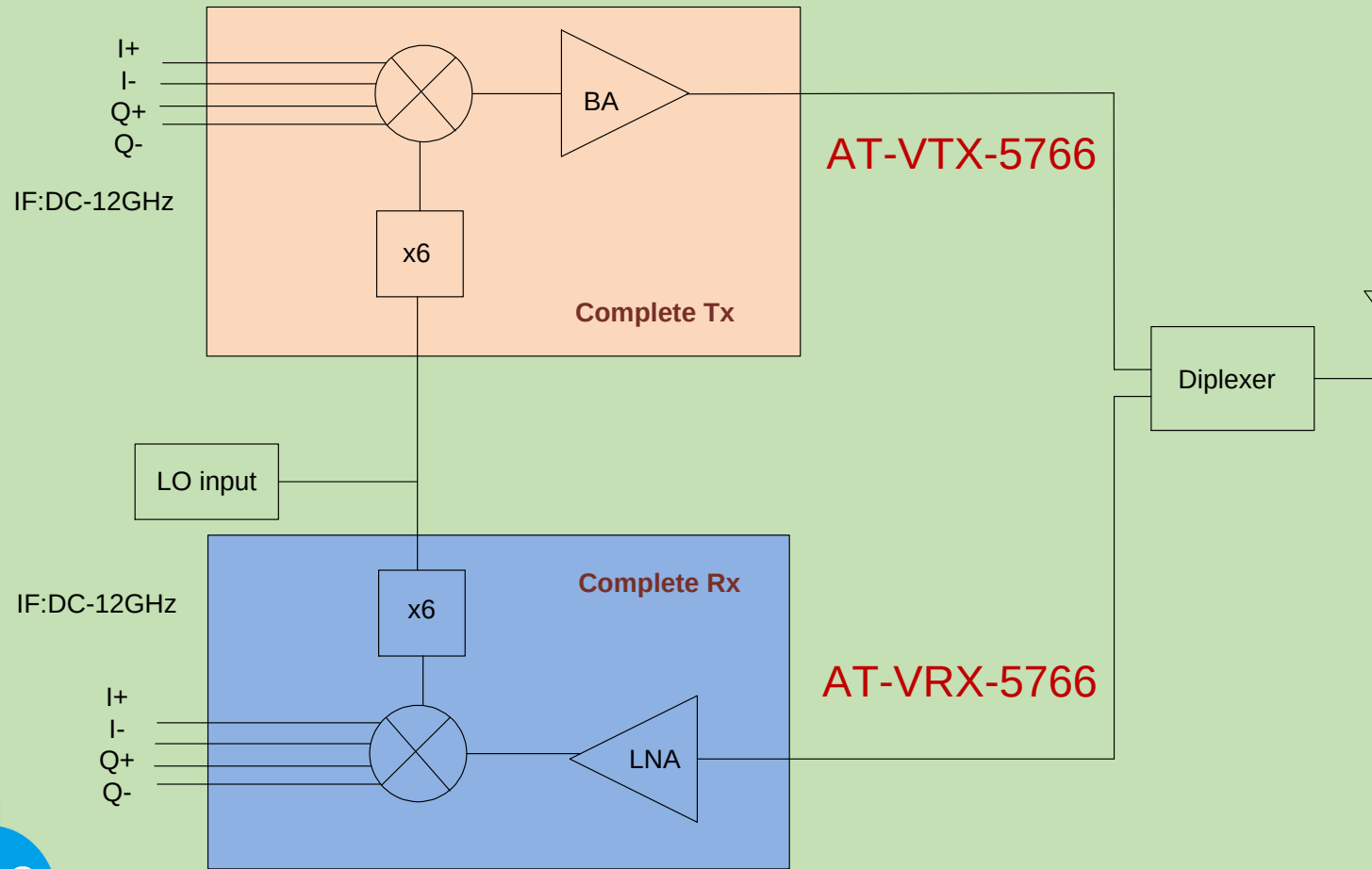
1. Low Noise Amplifier
2. Power Amplifier
3. Frequency Multiplier
4. Mixer/IQ Mixer
5. Tx/Rx Module
6. Adapter
7. Filter
8. Waveguide Section
9. Test Equipment



V BAND Waveguide Solution 50-75GHz



V Band Point to Point Communication

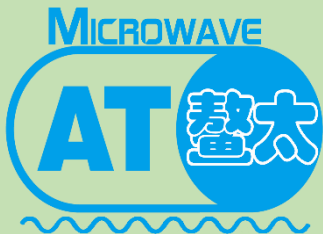
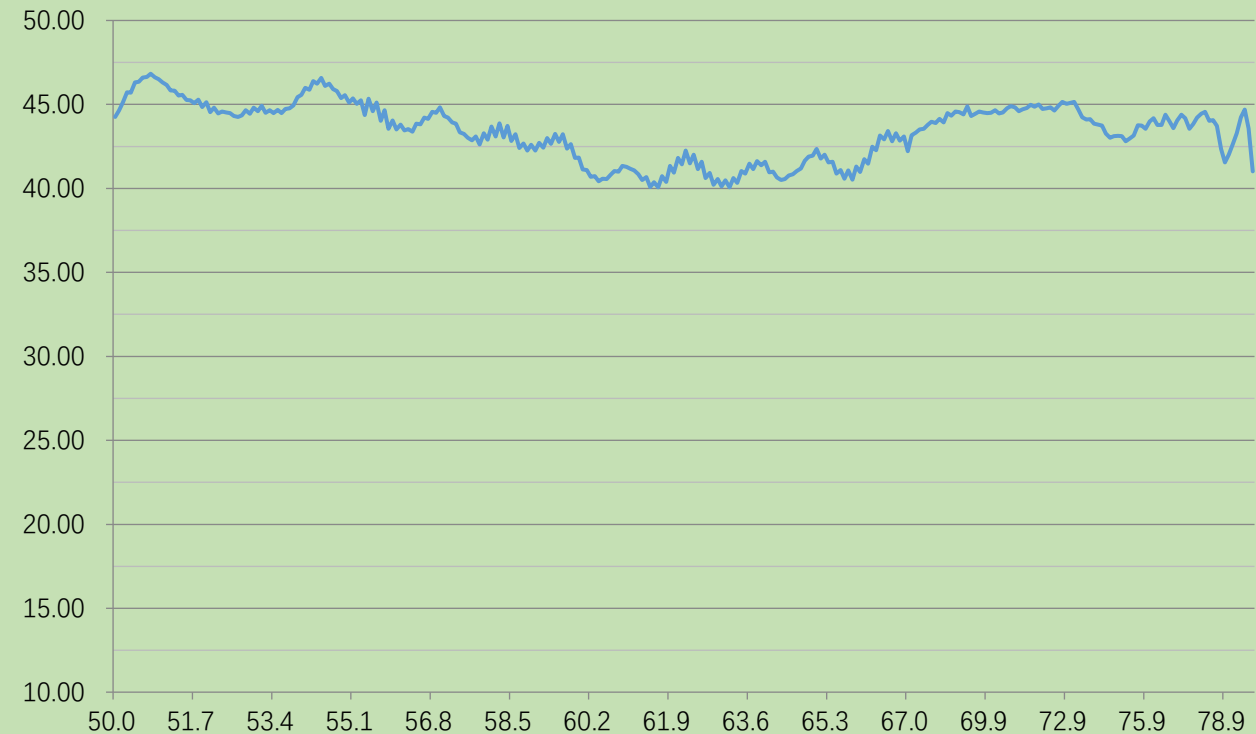


1. Low Noise Amplifier

PN: AT-LNA-5075-1804
AT-LNA-5075-3804

Advantages

- Frequency: 50-75GHz
- High Gain: 18/38dB
- NF: 4dB
- Single Supply

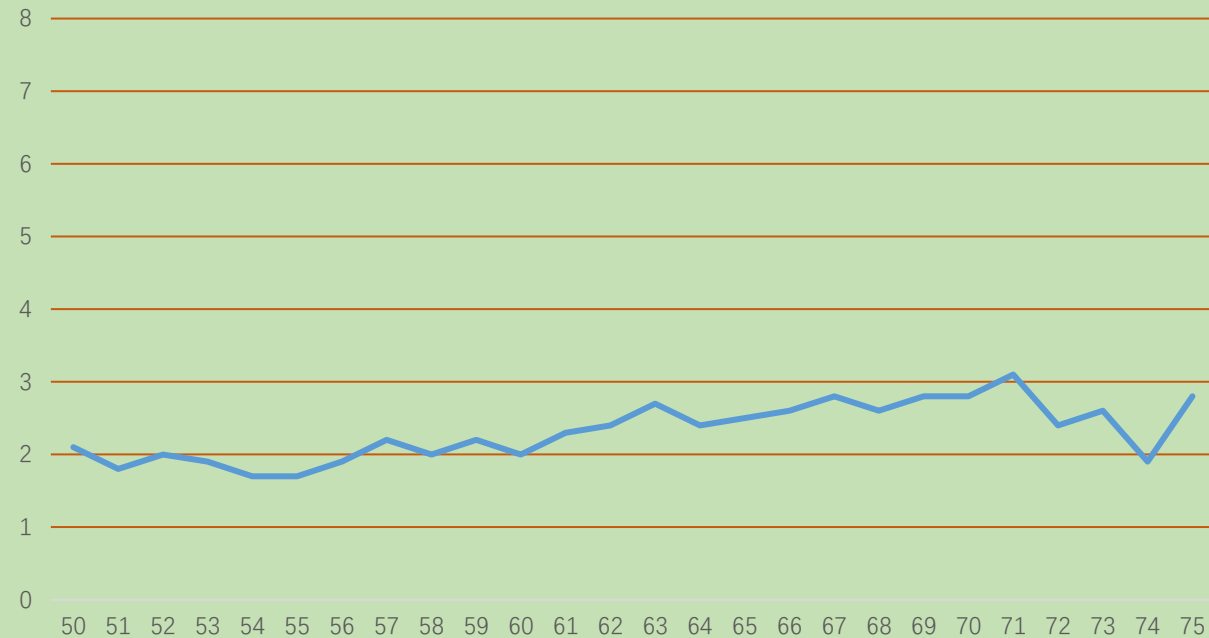


1. Low Noise Amplifier

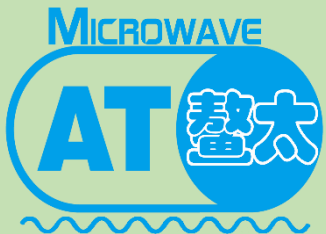
PN: AT-LNA-5075-3825

Advantages

- Frequency: 50-75GHz
- High Gain: 38dB
- NF: 2.5dB
- Single Supply



NF TEST

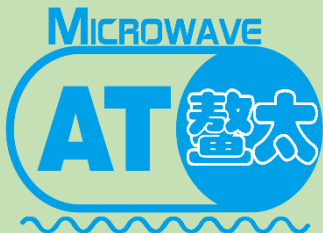
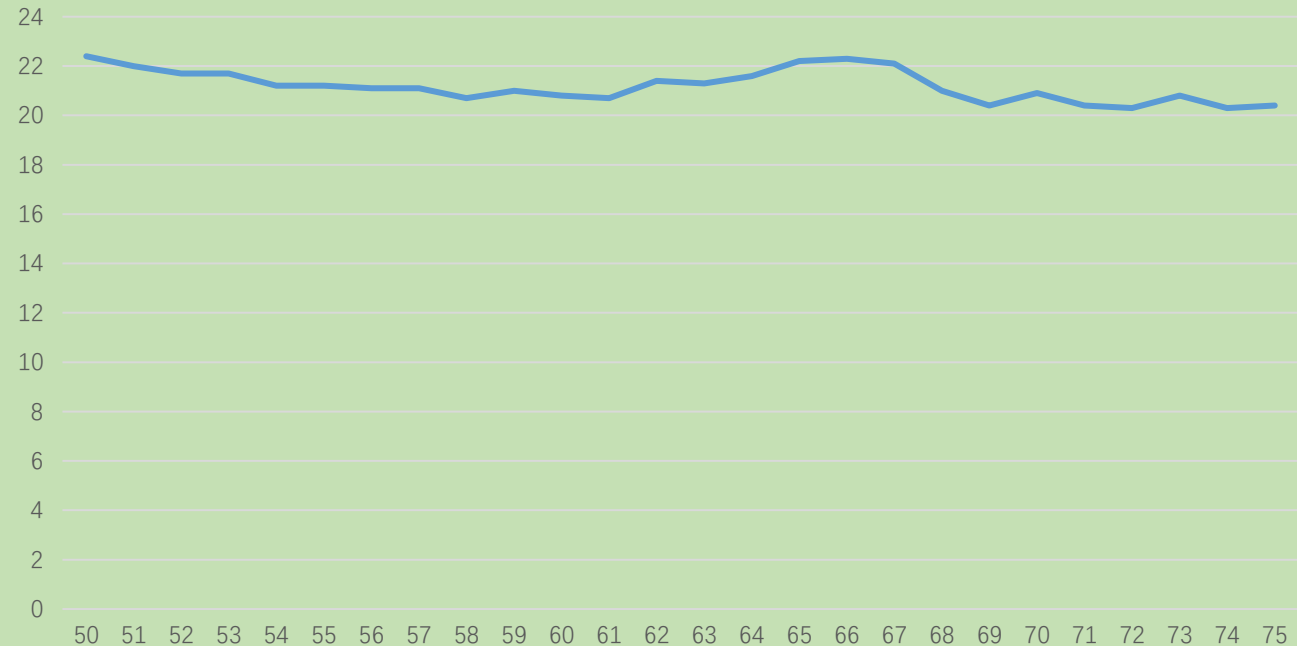
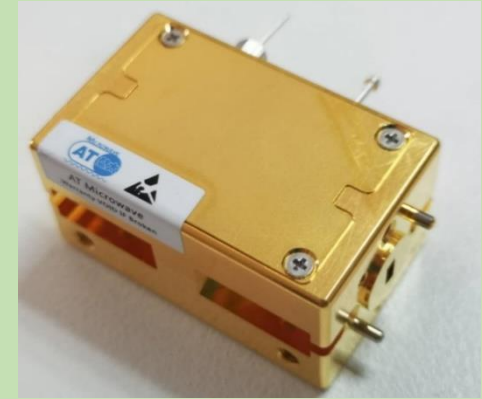


2. Full band Power Amplifier

PN: AT-PA-5075-1820
AT-PA-5075-3820

Advantages

- Frequency: 50-75GHz
- Psat: +20dBm
- Small signal gain: 18/38dB
- Single Power Supply

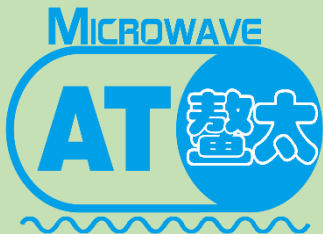
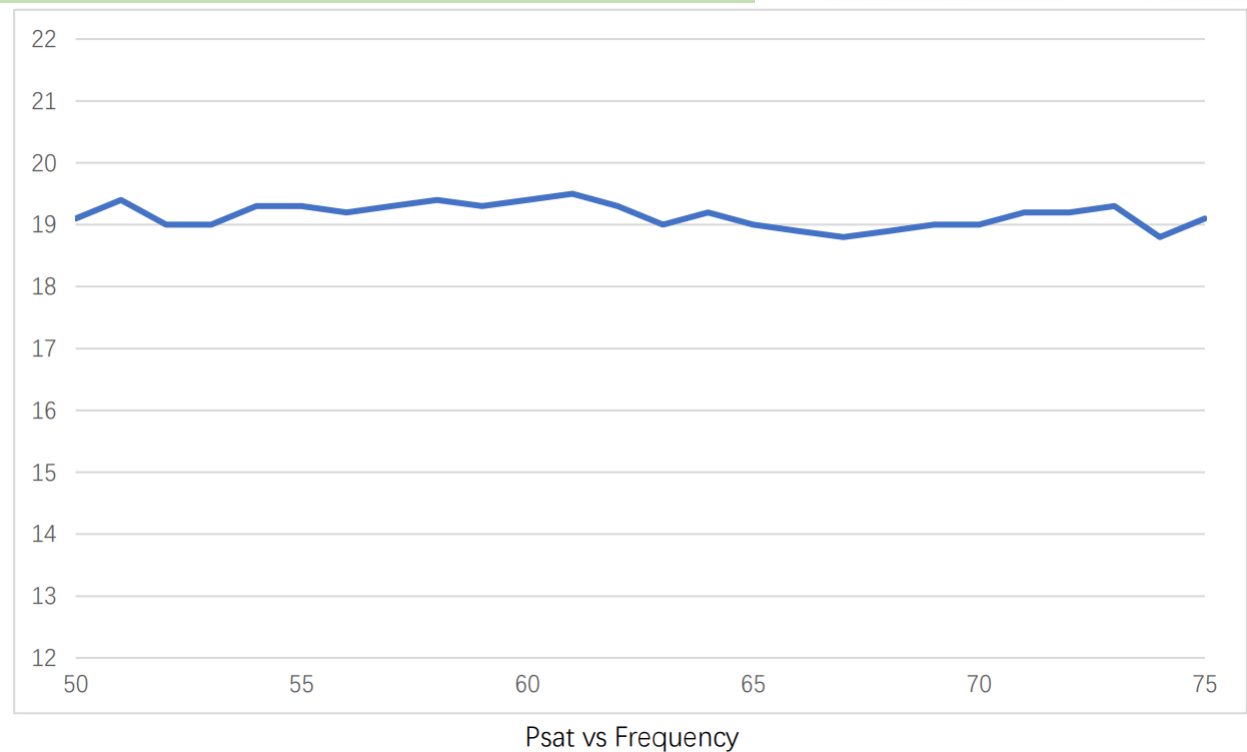


2. Power Amplifier

PN: AT-PA-5075-1618
AT-PA-5075-3518

Advantages

- Frequency: 50-75GHz
- Psat:+18dBm
- Small signal gain: 16/35dB
- Single Power Supply

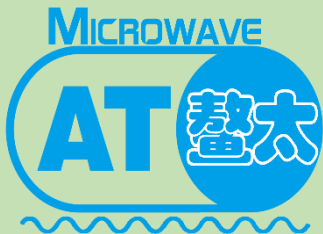
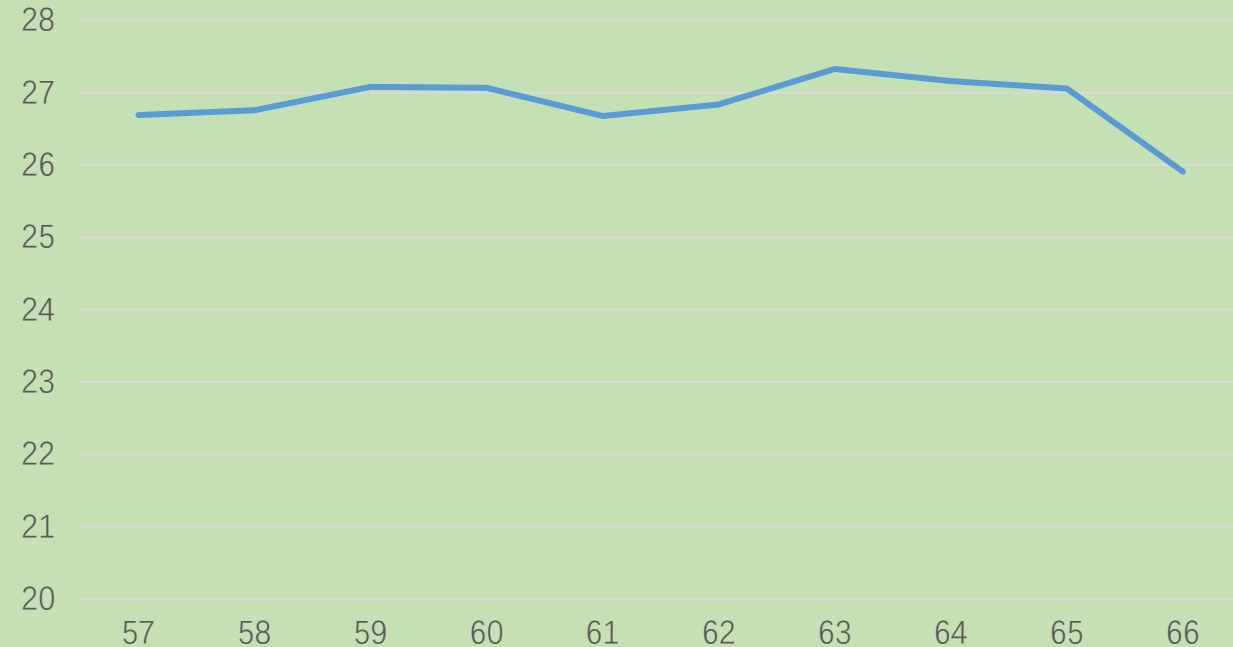


2. High Power Amplifier

PN: AT-PA-5766-1027
AT-PA-5772-2726E

Advantages

- Frequency: 57-66GHz
- Psat: +27dBm
- Small signal gain: 10/27dB
- Single Power Supply



2. Full band Power Amplifier-High Power

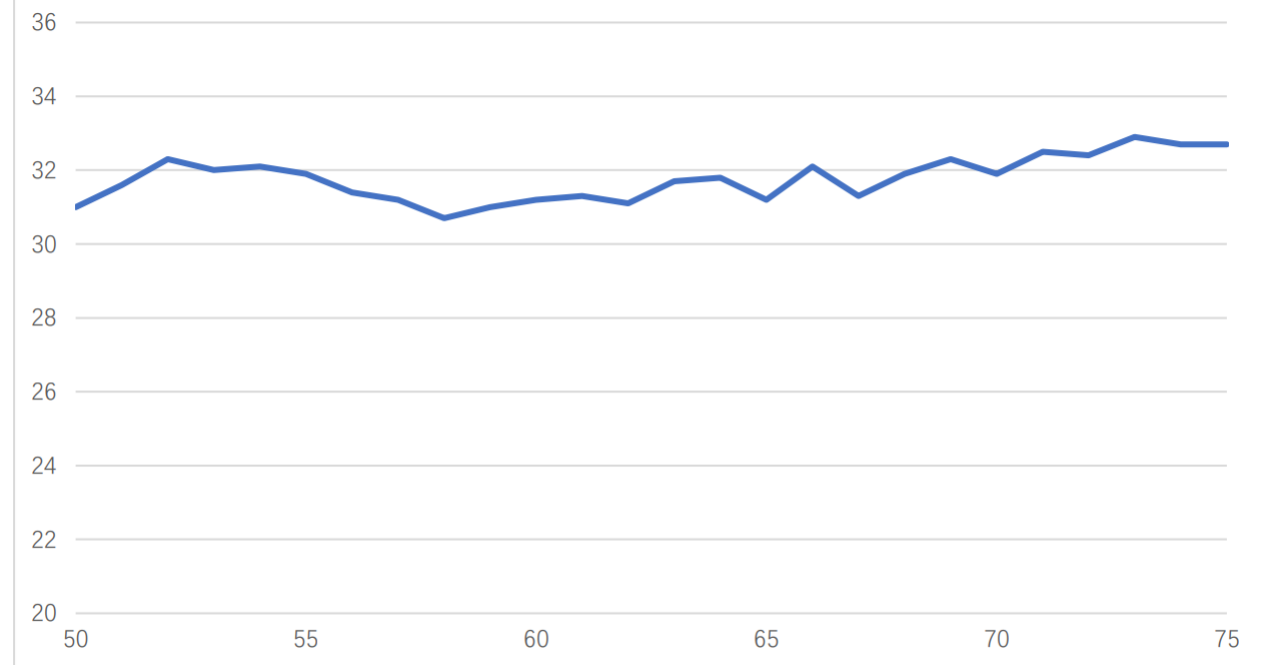
PN: AT-PA-5075-2031
AT-PA-5075-3831

Advantages

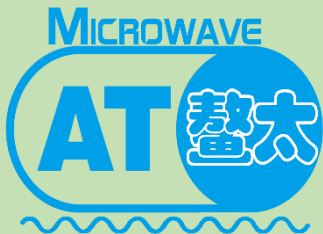
- Frequency: 50-75GHz
- Psat:+31dBm
- Small signal gain: 20/38dB
- Single Power Supply



-LCBT Option



Psat vs Frequency

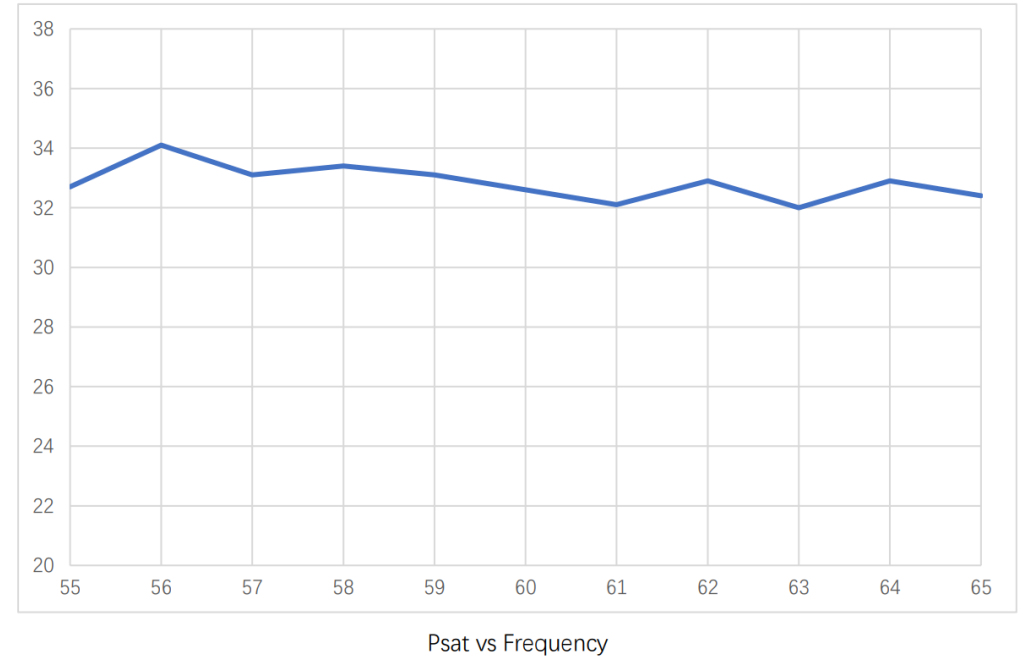
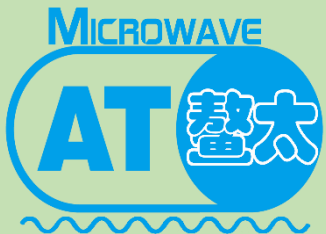


2. Amplifier-High Power

PN: AT-PA-5565-2732
AT-PA-5565-3732

Advantages

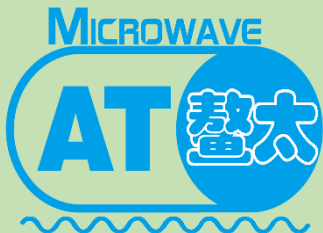
- Frequency: 55-65GHz
- Psat: +32dBm
- Small signal gain: 27/37dB
- Single Power Supply



3. Full band Active Frequency Multiplier



☐	PN	Type	Data Sheet	Lead time	Input Low (GHz)	Input High (GHz)	Output Low (GHz)	Output High (GHz)	Input Driver /dBm	Output /dBm	Connector
☐	AT-AM2-4580-15L	V X2		Stock	22.5	40	45	80	0	15	WR-15
☐	AT-AM4-5075-12L	V X4		Stock	12.5	18.75	50	75	0	12	WR-15
☐	AT-AM6-5075-15L	V X6		8 Weeks	8.33	12.5	50	75	0	15	WR-15
☐	AT-AM4-5075-15L	V X4		Stock	12.5	18.75	50	75	0	15	WR-15

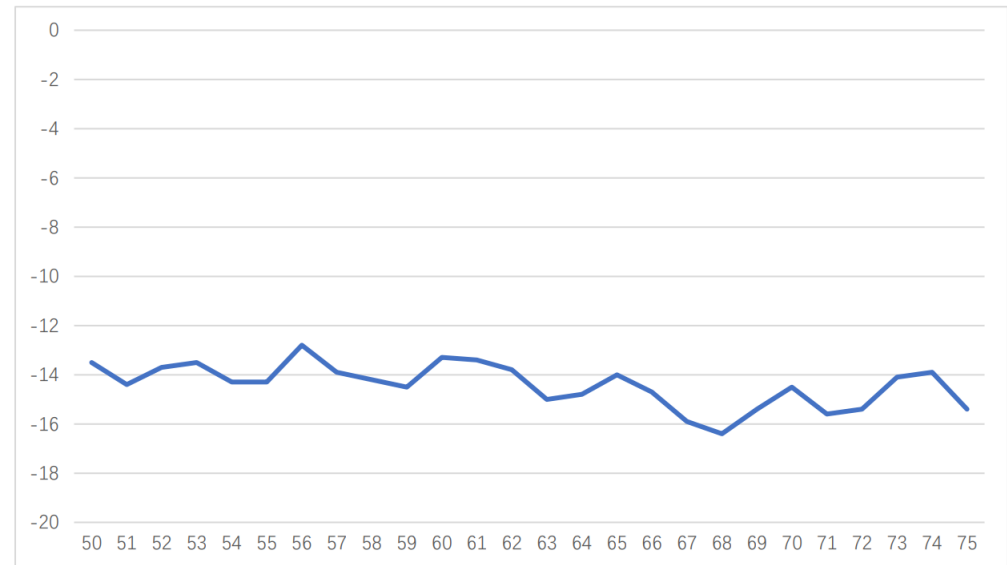


3. Passive X2 Multiplier

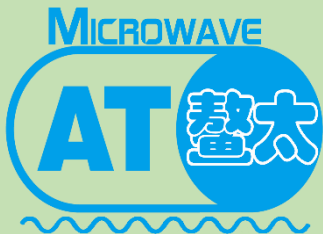
PN: AT-PM2-5075
AT-PM2-4080

Feature

- Frequency: 50-75GHz
- Pout: -3dBm typical
- Input: 25-37.5GHz
- Low Harmonics



Conversion Loss vs Frequency

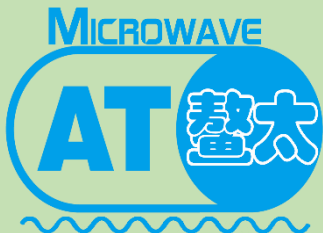
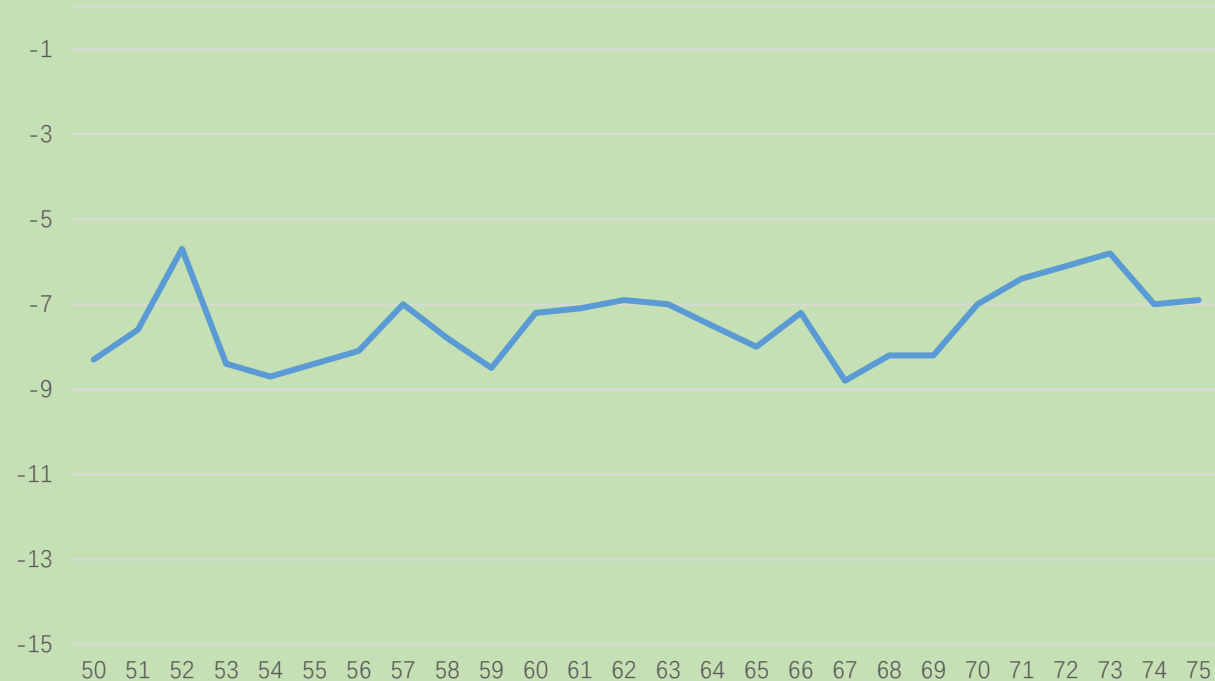
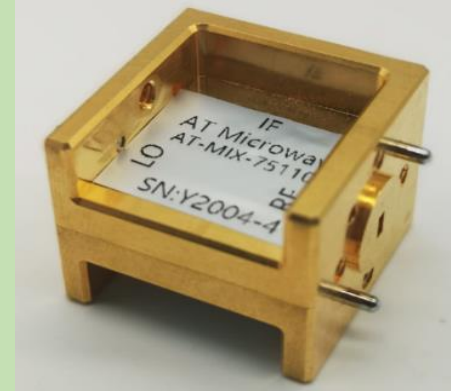


4. Full band Balance Mixer

PN: AT-MIX-5075H

Feature

- RF/LO: 50-75GHz
- IF: DC-18GHz
- Low Conversion Loss
- Low LO power requirement
- High RF/LO Isolation



4. Tx/Rx converter integrated with LO Chain

PN: AT-4MIX-5075H

Feature

- RF: 50-75GHz
- LO: 11.25-18.75GHz
- IF: DC-18GHz
- Low Conversion Loss
- Low LO power requirement
- High RF/LO Isolation

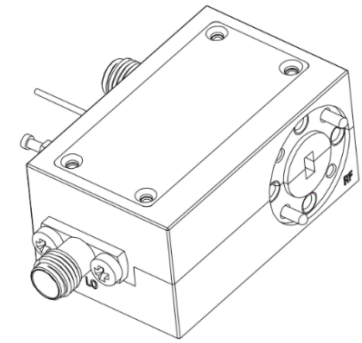
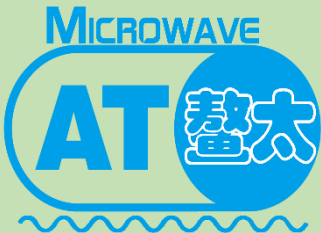
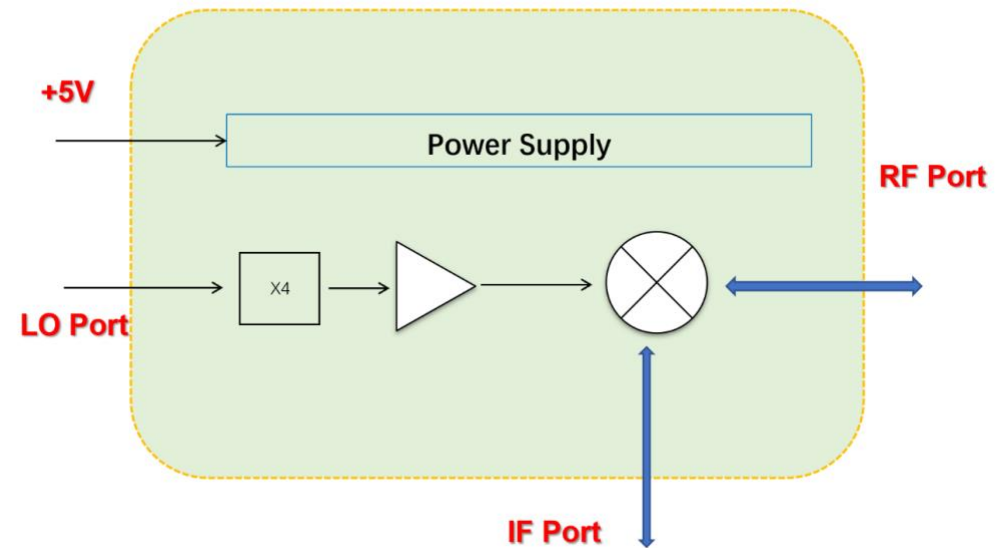


Diagram Block



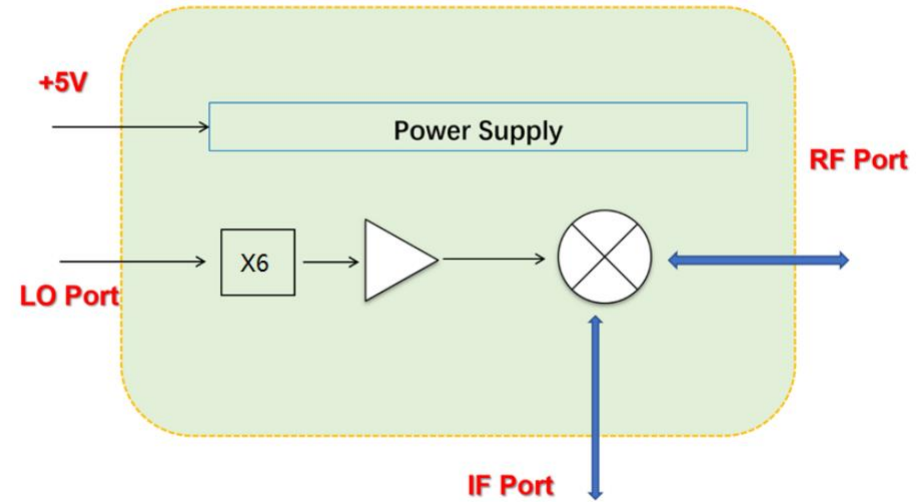
4. Tx/Rx converter integrated with LO Chain

PN: AT-6MIX-5075M

Feature

- RF: 50-75GHz
- LO: 8.33-12.5GHz
- IF: DC-10GHz
- Low Conversion Loss
- Low LO power requirement
- High RF/LO Isolation

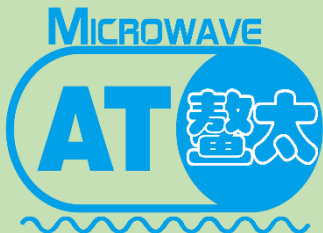
Diagram Block



Standard Part Number



-C1 Option

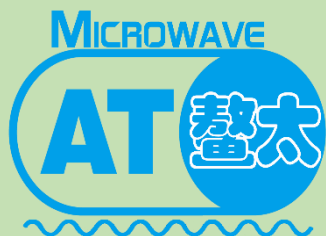
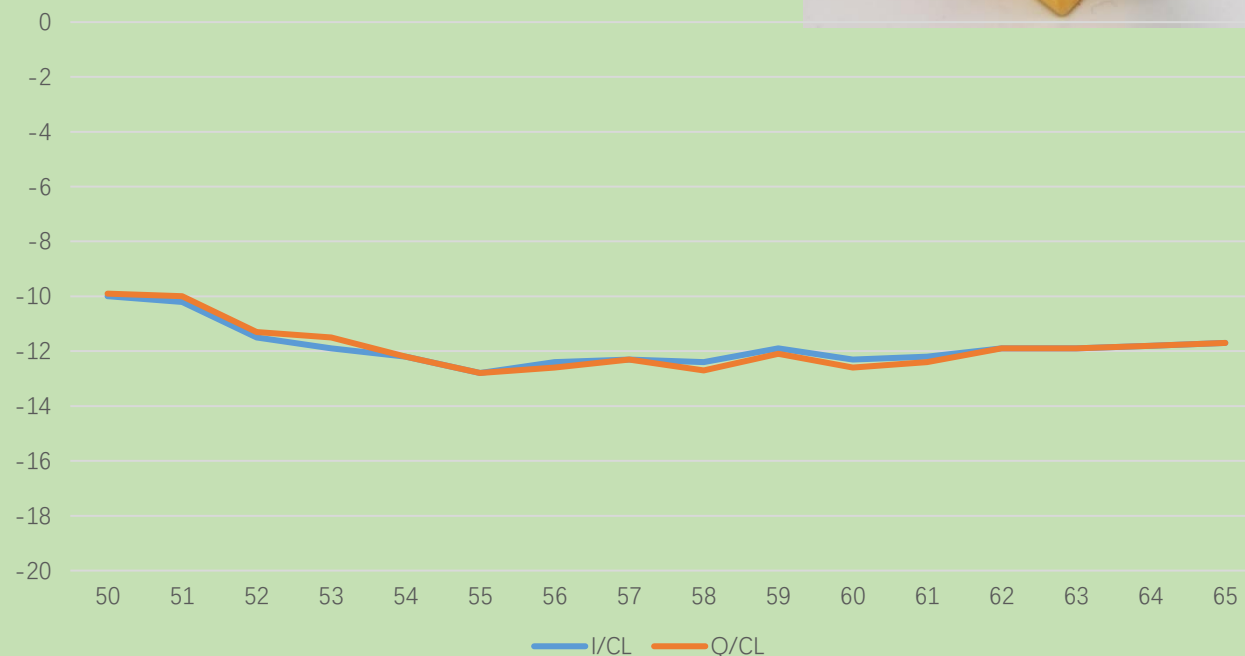


4. IQ Mixer-Waveguide

PN: AT-IQM-5065H
AT-IQM-5065L

Feature

- RF/LO: 50-65GHz
- IF: DC-18GHz
- Low Conversion Loss
- Low LO power requirement
- High RF/LO Isolation



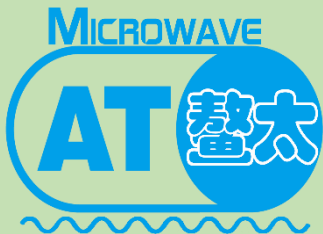
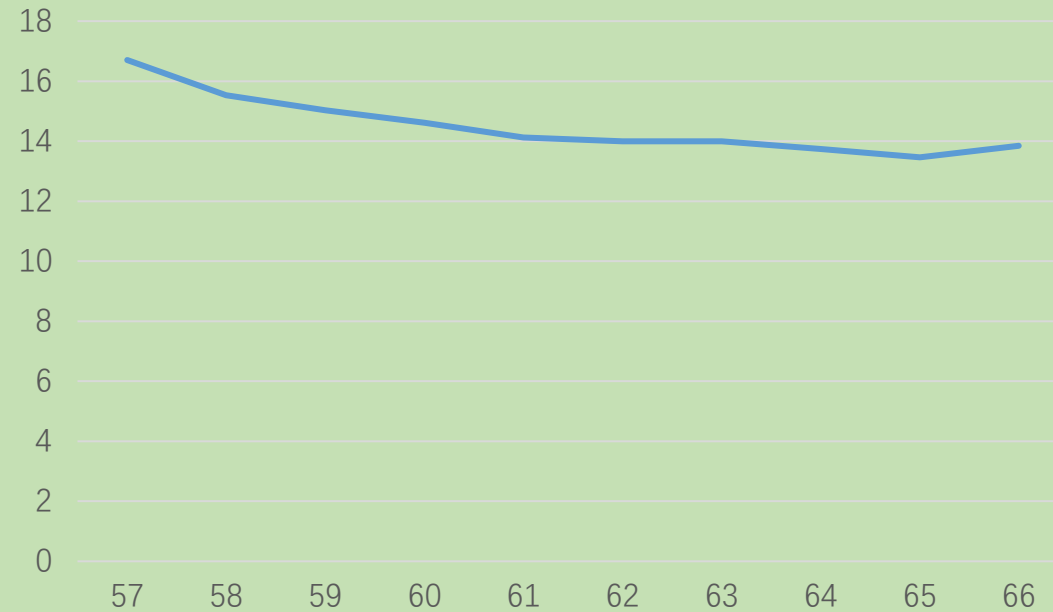
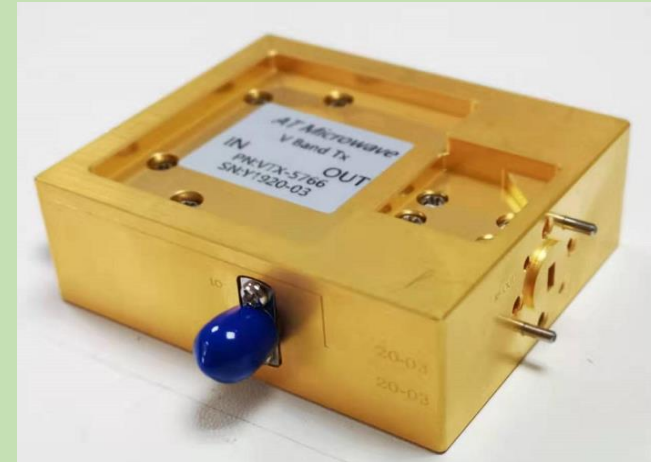
5. Tx Multi-Function Modules

PN: AT-VTX-5766

AT-VTX-6671

Feature

- RF: 57-66GHz
- LO X6
- IF: DC-10GHz



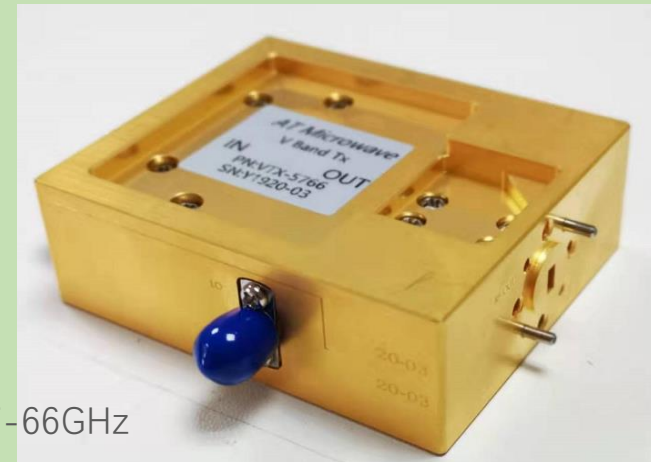
5. Rx Multi-Function Modules

PN: AT-VRX-5766

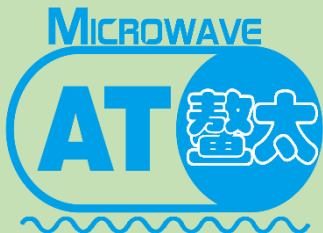
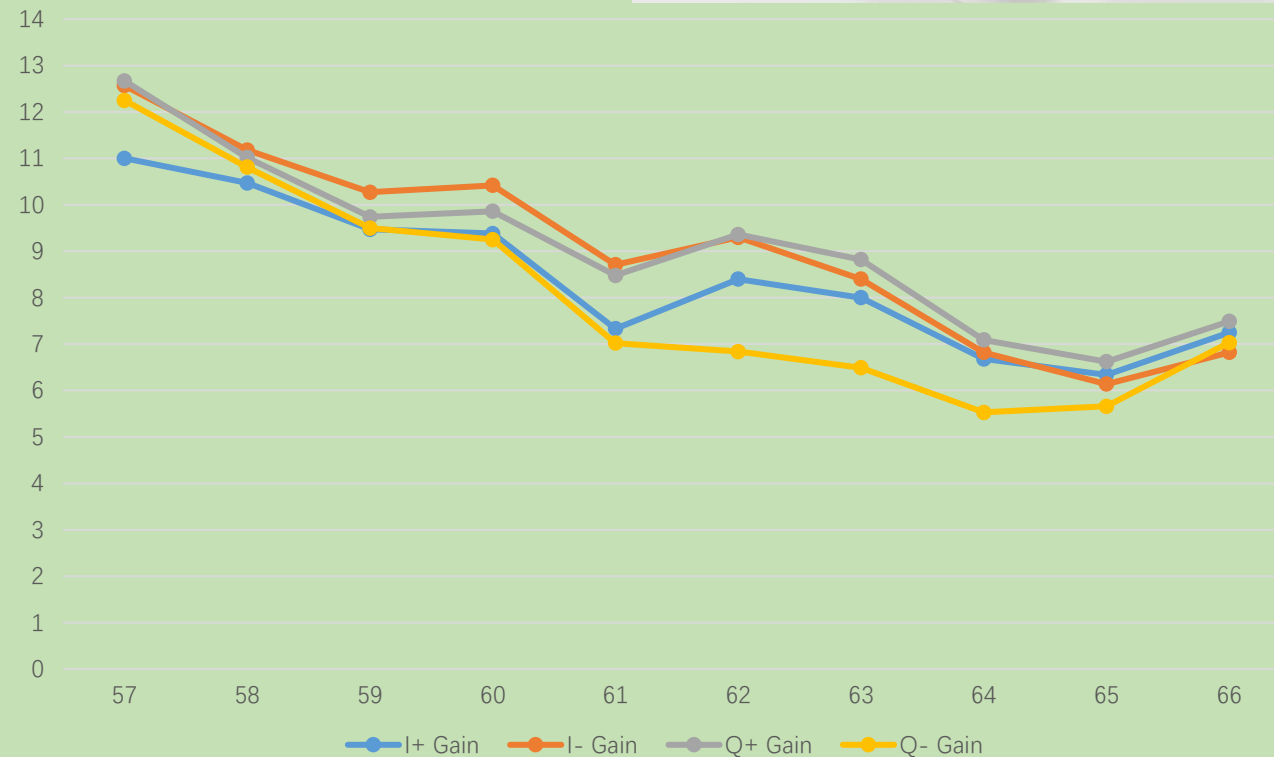
AT-VRX-6671

Feature

- RF: 57-66GHz
- LO X6
- IF: DC-10GHz



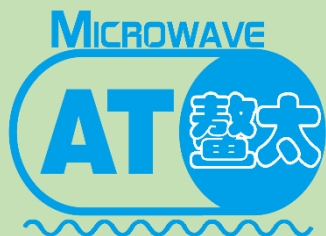
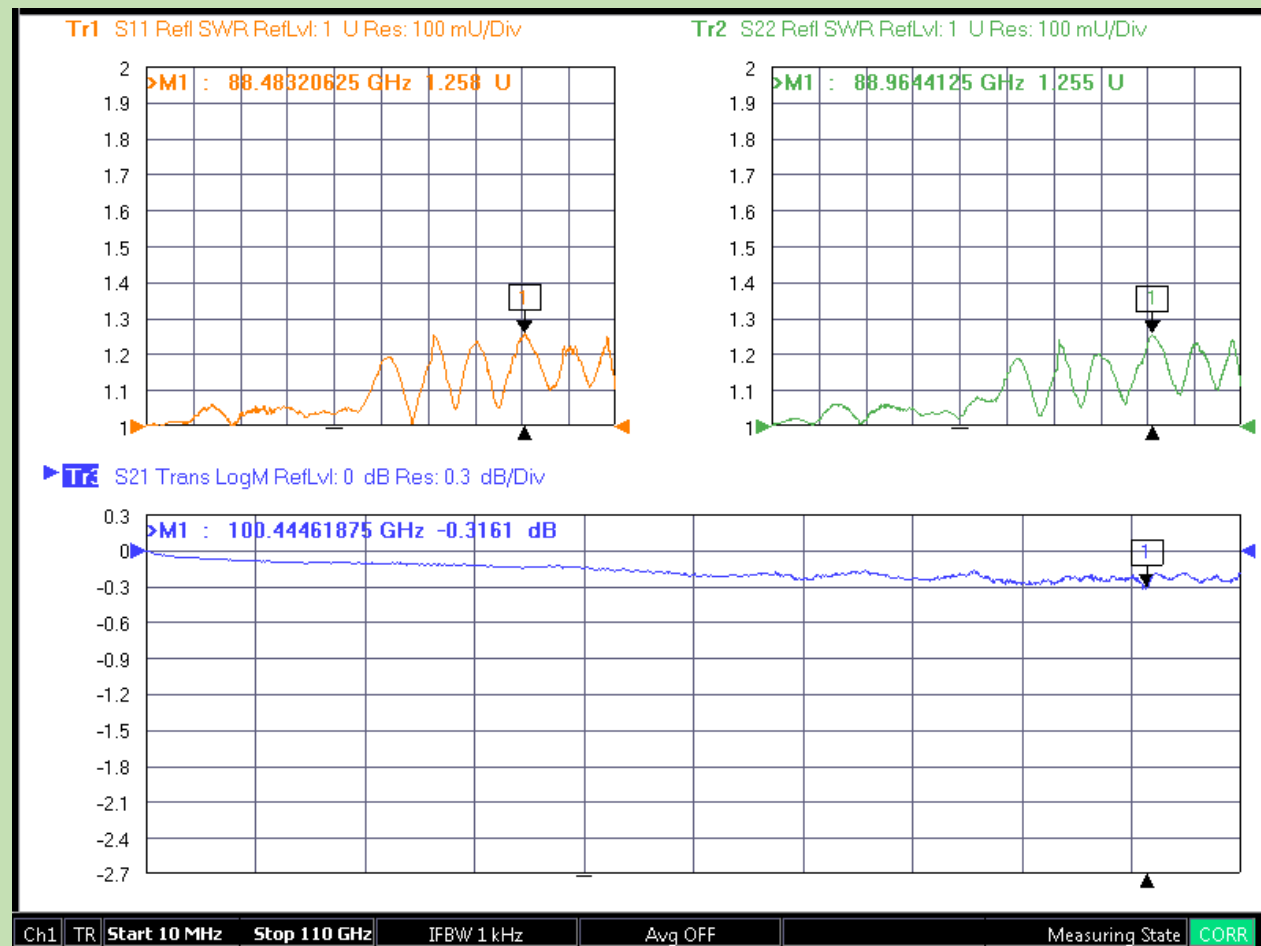
57-66GHz



6. Adapter 1.0mm

PN: AT-AP-10X10X

Parameter	Frequency Range (GHz)	Min	Typ	Max	Unit
Insertion Loss	DC-40GHz		0.3	0.5	dB
	40-67GHz		0.5	0.8	dB
	67-110GHz		0.7	1	dB
VSWR	DC-40GHz		1.2		
	40-67GHz		1.25		
	67-110GHz		1.35		

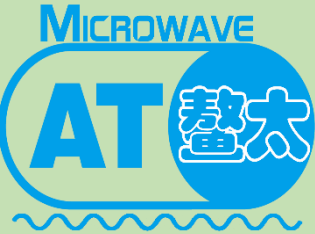
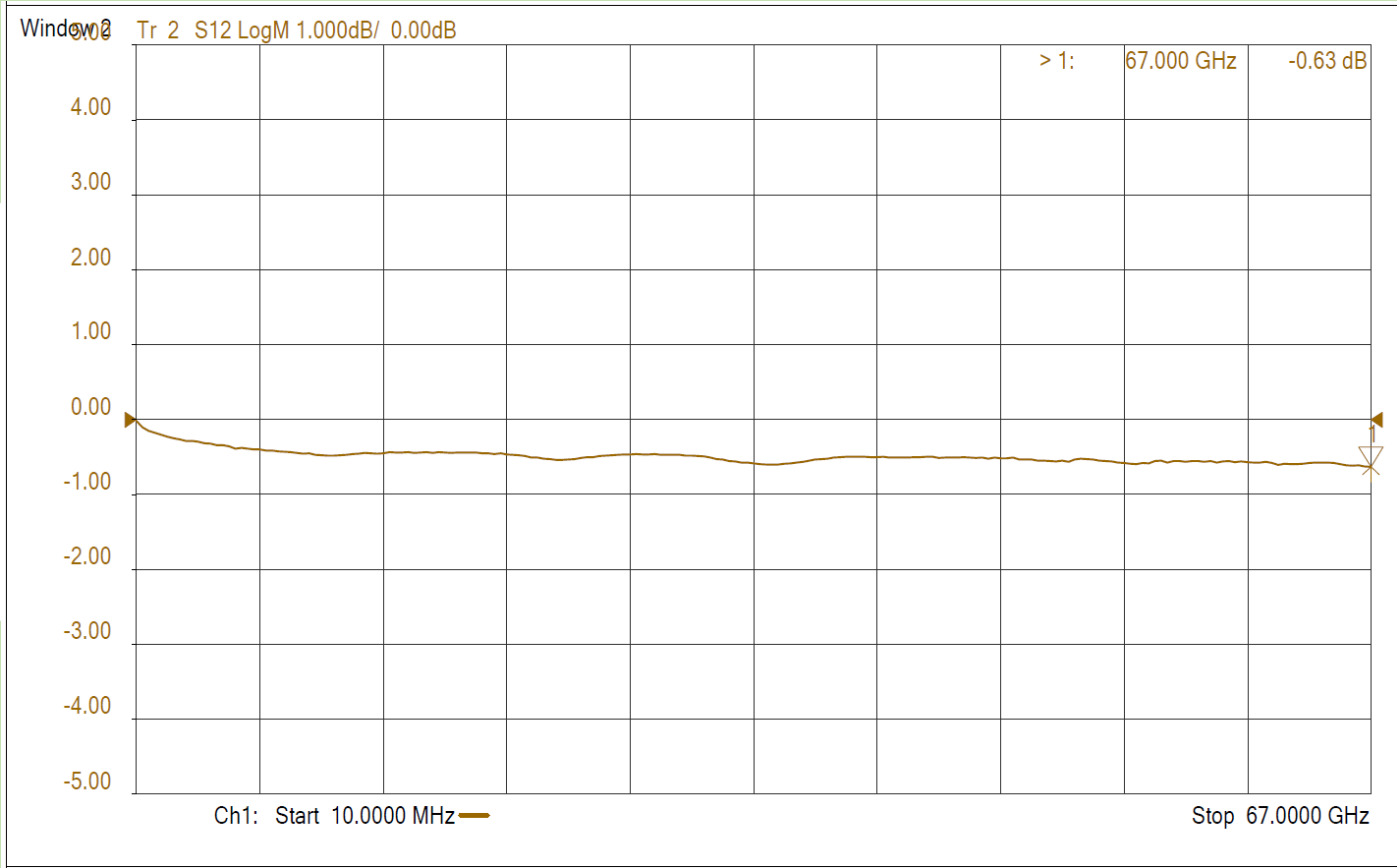


6. Adapter 1.0mm to 1.85mm

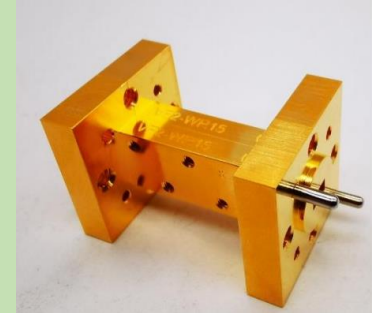


PN: AT-AP-10X18X

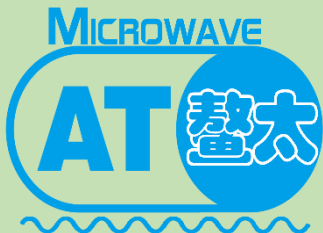
Parameter	Frequency Range(GHz)	Min	Typ	Max	Unit
Insertion Loss	DC-40GHz		0.3	0.5	dB
	40-50GHz		0.5	0.8	dB
	50-67GHz		0.8	1	dB
VSWR	DC-40GHz		1.2		
	40-50GHz		1.25		
	50-67GHz		1.3		



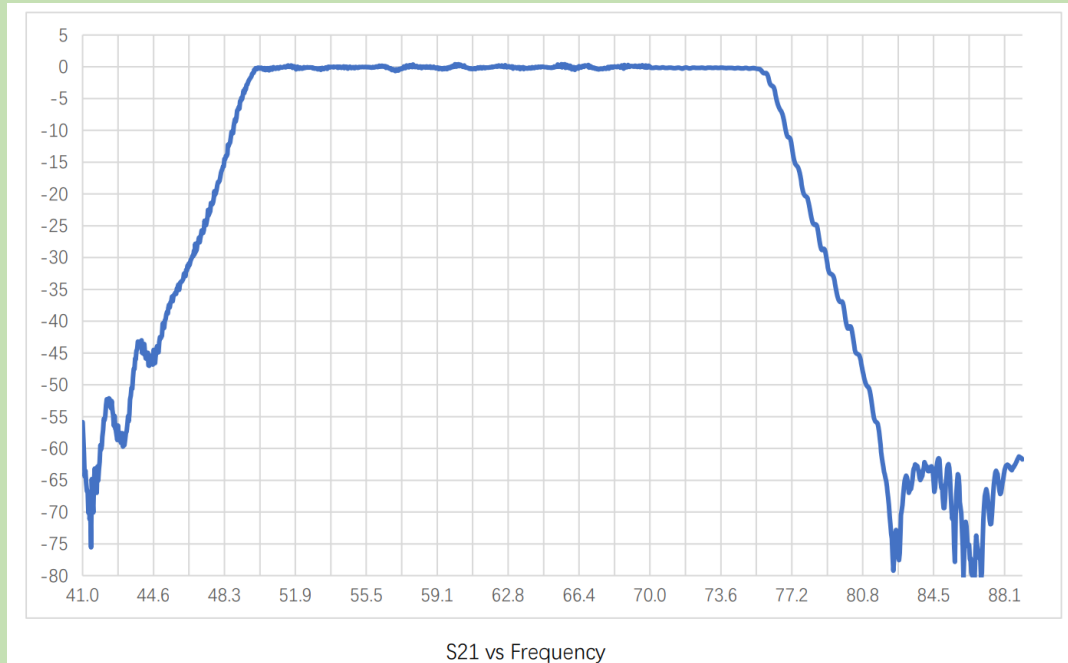
7. Waveguide Filter



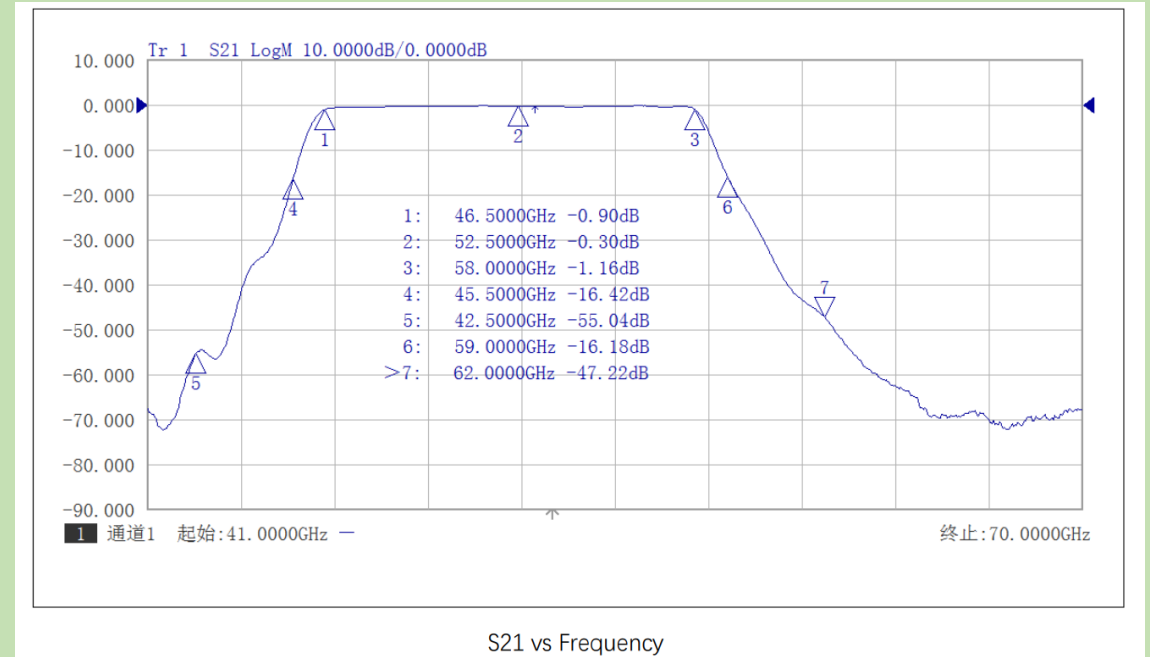
PN	Data Sheet	Type	Lead time	Center Frequency/GHz	Low Freq /GHz	High Freq /GHz	IL /DB	RL/DB	Connector
AT-BPF-4570-15A		V Band	6-8 Weeks	57.5	45	70	-1	10	WR-15
AT-BPF-4757-15A		V Band	6-8 Weeks	52	47	57	-1	10	WR-15
AT-BPF-5056-15A		V Band	Stock	53	50	56	-1	10	WR-15
AT-BPF-5065-15A		V Band	6-8 Weeks	57.5	50	65	-1	10	WR-15
AT-BPF-5562-15A		V Band	Stock	58.5	55	62	-1	10	WR-15
AT-BPF-6168-15A		V Band	Stock	64.5	61	68	-1	10	WR-15
AT-BPF-6671-15A		V Band	Stock	68.5	66	71	-1	15	WR-15



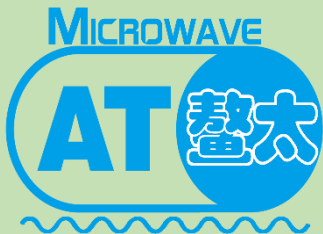
7. Waveguide Band-Pass Filter



AT-BPF-5075-15A



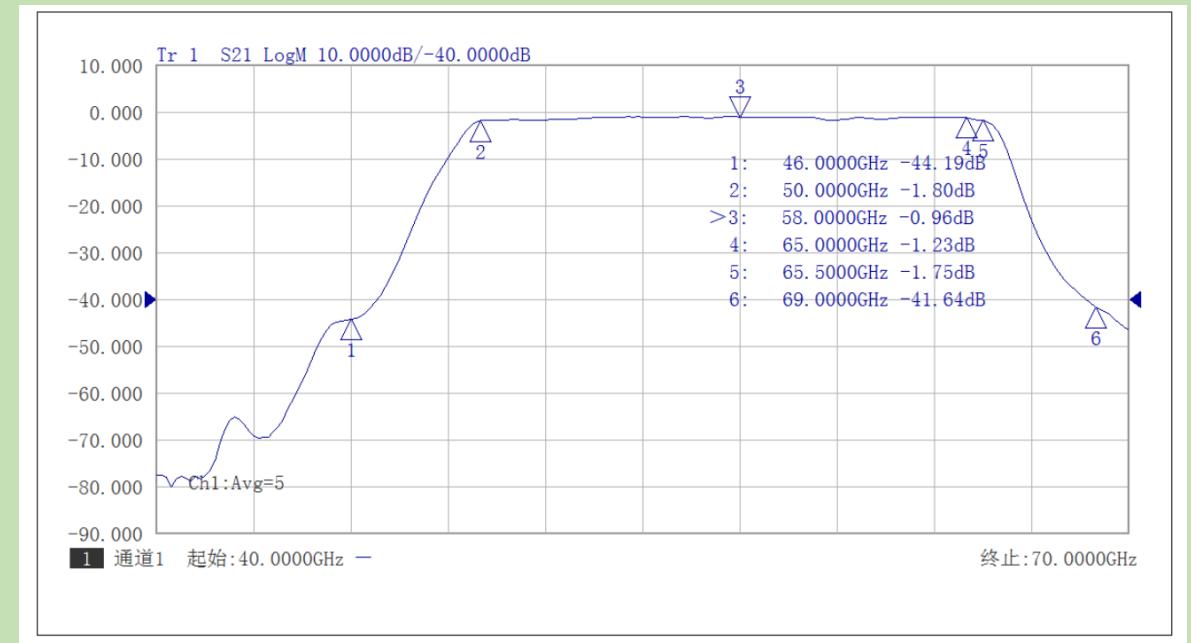
AT-BPF-4757-15A



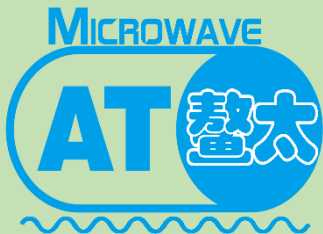
7. Waveguide Band-Pass Filter



AT-BPF-4575-15A



AT-BPF-5065-15A



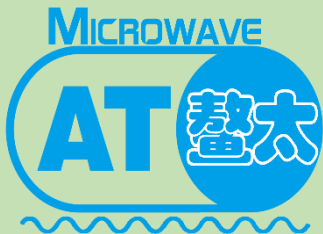
8. Waveguide Section

RSW Series: Rugged Straight Waveguide

AT-RSW-2.0-WR15,
Full V band, 2.0inch

WT Series: Rugged Waveguide Transition

AT-WT-1512-1.0,
WR-15 to WR-12, 60-75GHz



9. Test Equipment

Signal Frequency Extender

AT-SFX4-15

AT-SFX4-15E

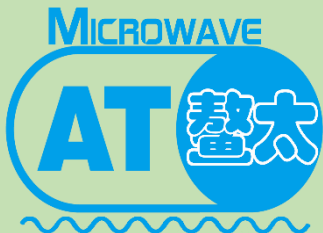
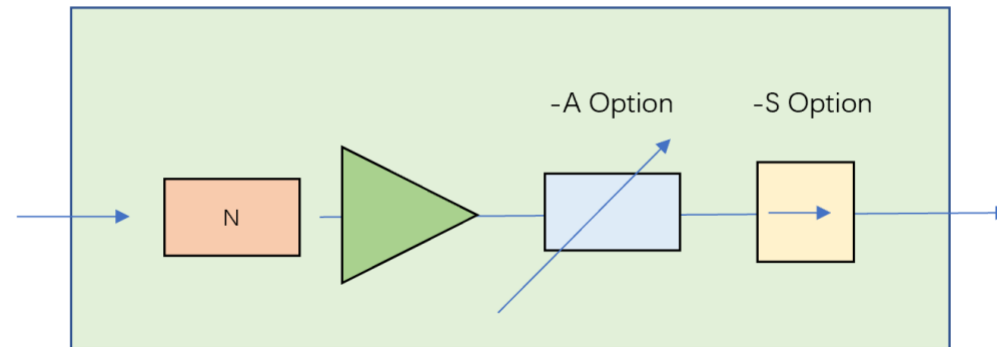
■ Frequency: 50-75GHz

■ Multiplier Time: X4

■ Pout=+18dBm



Block Diagram



9. Test Equipment

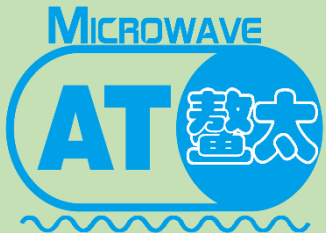
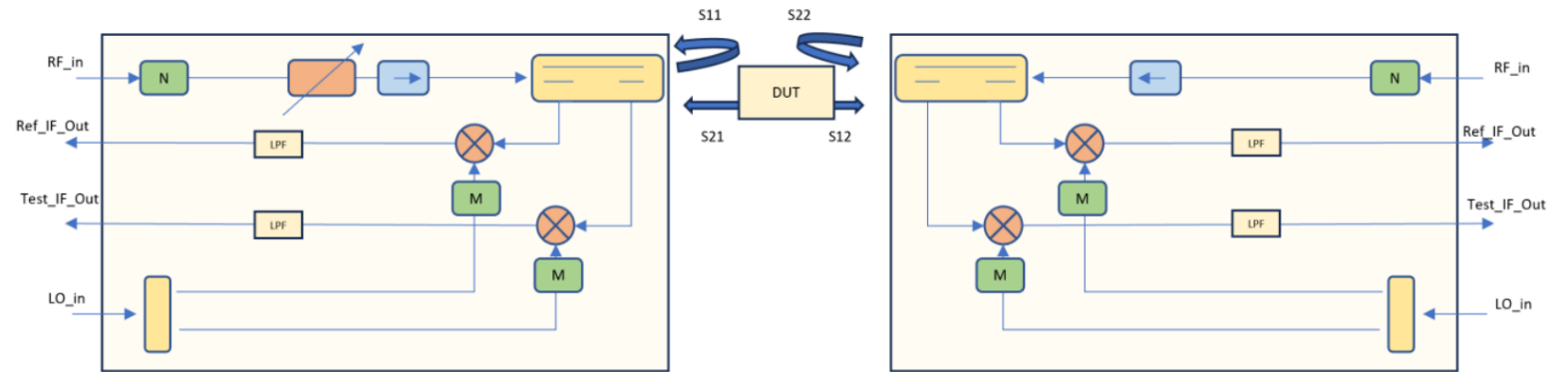
VNA Extender Module

AT-VEX-15



- Frequency: 50-75GHz
- Multiplier Time: X4
- Pout=+13dBm

-FTFR Option Diagram Blcok:

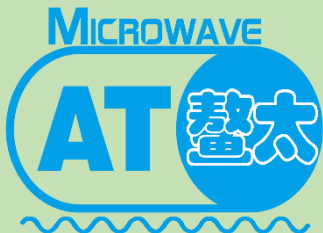
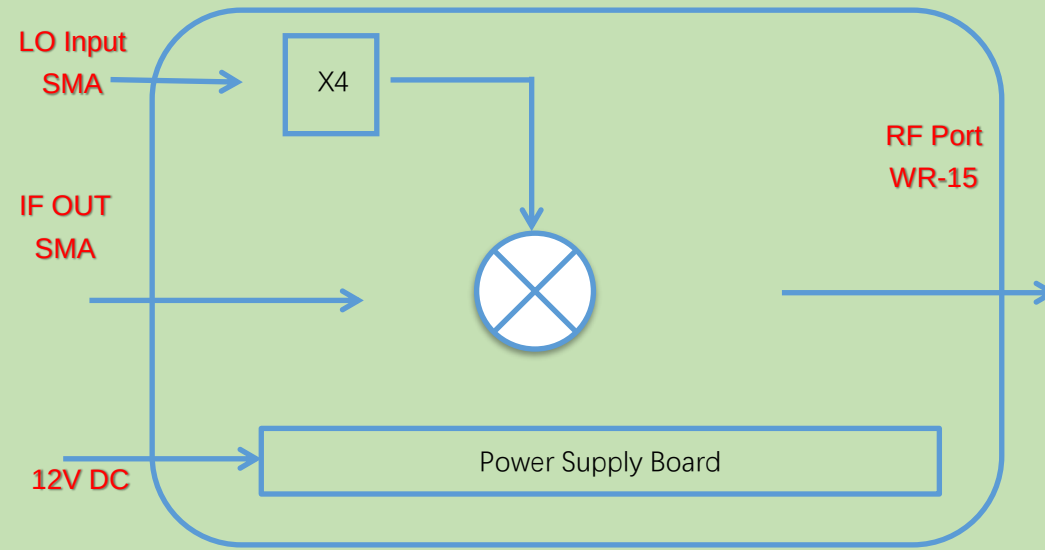


9. Test Equipment

Bench-top Up-Converter

AT-BTUC4-5075

- Frequency: 50-75GHz
- Conversion Loss: -10dB
- Connector: WR-15



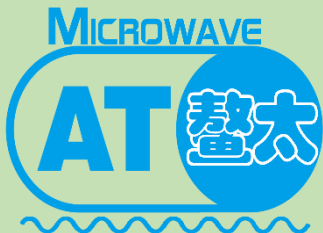
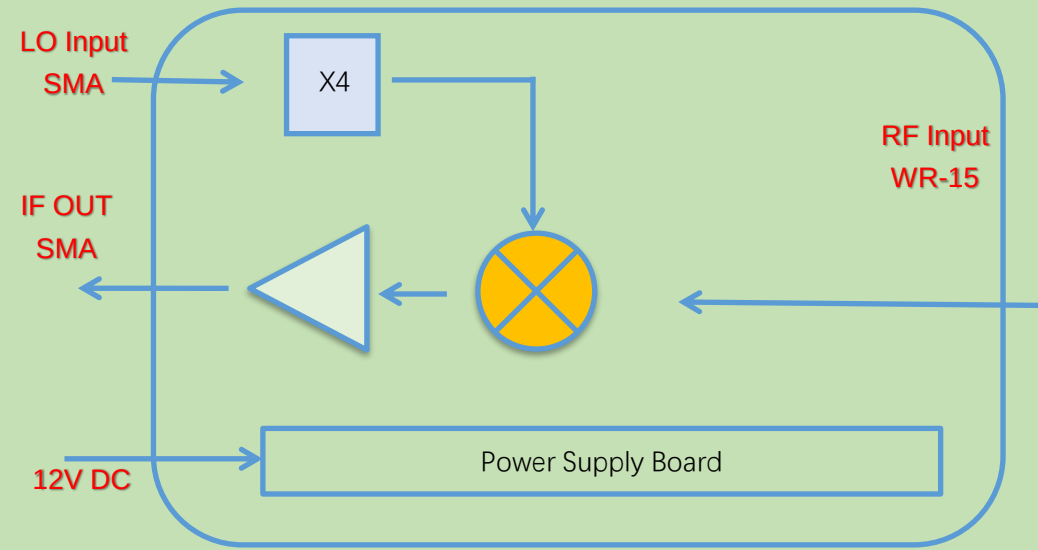
9. Test Equipment

Bench-top **Down-converter**

For NF test and General Receiver

AT-BTDC4-5075

- Frequency: 50-75GHz
- Gain: 20dB
- Connector: WR-15



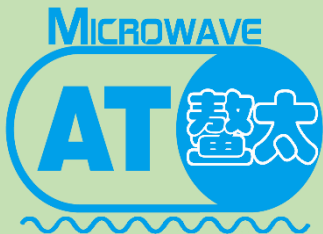
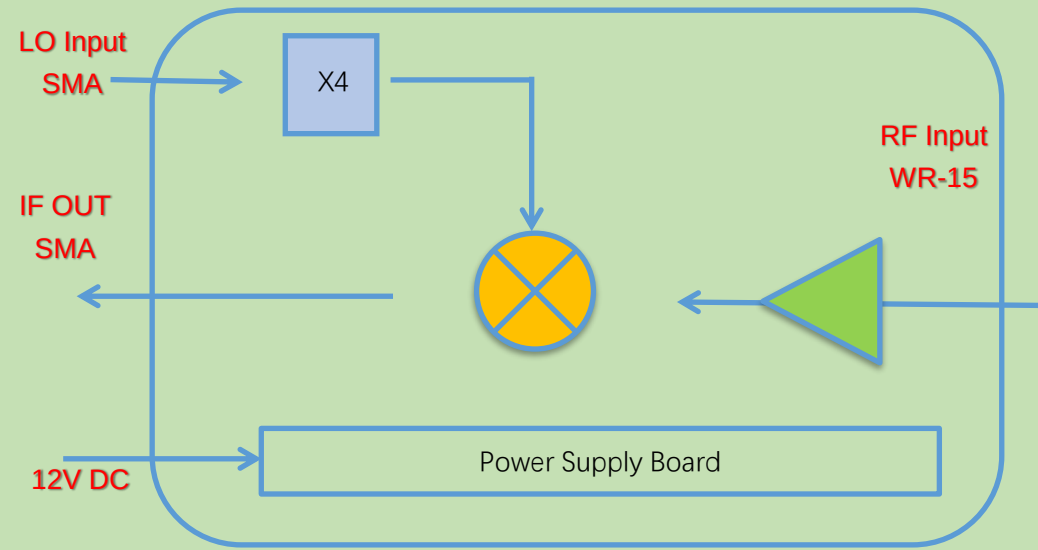
9. Test Equipment

Bench-top **Down-converter**

Low NF Receiver

AT-BTDC4-5075R

- Frequency: 50-75GHz
- Gain: 20dB
- Connector: WR-15



9. Test Equipment

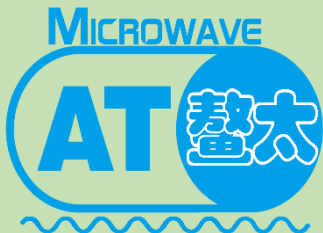
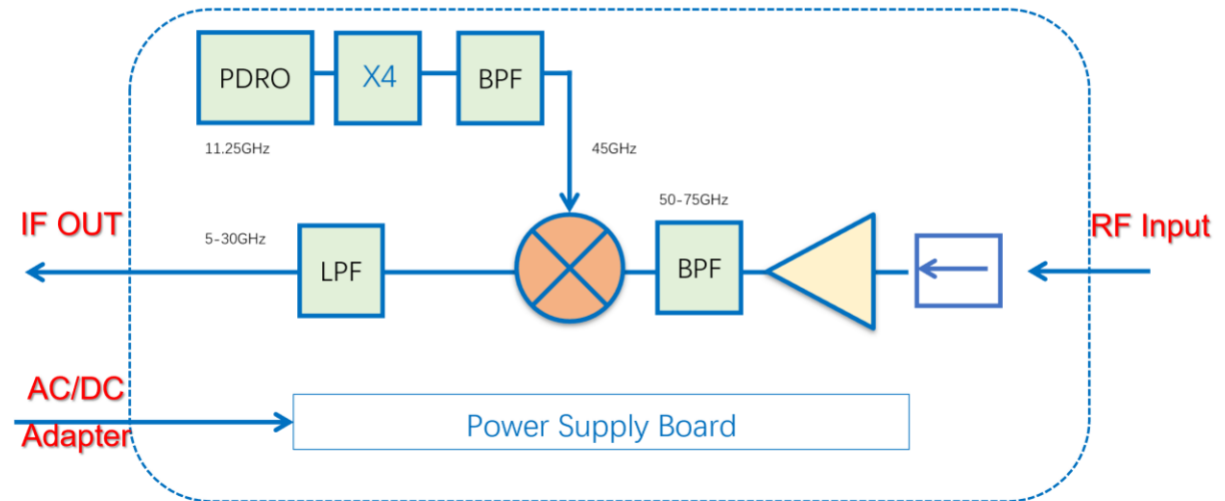
Bench-top **Down-converter** For NF TEST

AT-BTVDC-5075R1

- Frequency: 50-75GHz
- Gain: 5dB
- Connector: WR-15



Diagram Block:



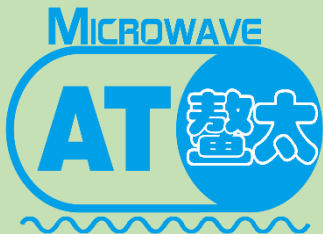
9. Test Equipment

Bench-top Low Noise Amplifier

AT-BTLNA-5075-1805

AT-BTLNA-5075-3503

- Frequency: 50-75GHz
- Gain: 18/35dB
- NF: 3-5dB
- Connector: WR-15



9. Test Equipment

Bench-top Power Amplifier

AT-BTPA-5075-1818

AT-BTPA-5075-3518

- Frequency: 50-75GHz
- Gain: 18-38dB
- Pout: +18 to +31dBm
- Connector: WR-15

