



D Band(110-170GHz) Highlight Products

Shanghai AT Microwave Ltd.
sales@atmicrowave.com
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- Frequency Converter: Mixer, IQ Mixer, Tx/Rx
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- Standard Gain Antenna
- Waveguide Section
- High Precision Fixed Attenuators
- Directional Coupler, Dual Couplers
- Waveguide to Coaxial Adapter
- Compact Faraday Isolator



1. Low Noise Amplifier



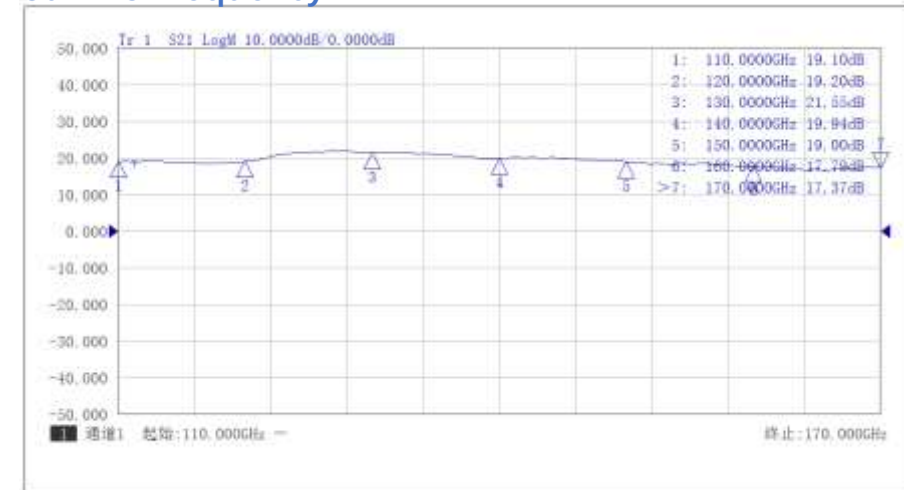
PN: AT-LNA-110170-1806

Parameter	Min	Typical	Max
Frequency	110GHz		170GHz
Gain		18dB	
Noise Figure		6dB	8dB
Pin		-20dBm	-10dBm
Output P1dB		-3dBm	
Psat		+0dBm	
Drain Supply		+5V	+6V
Current		30mA	

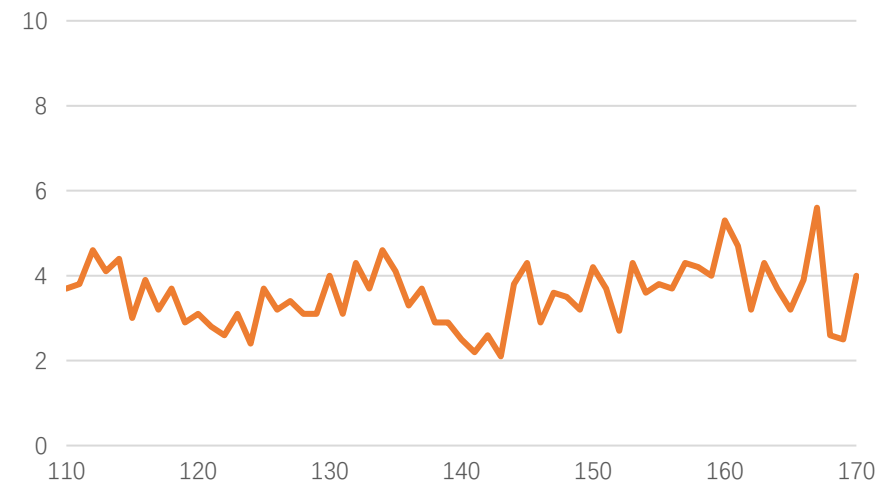
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Gain vs Frequency



NF vs Frequency



1. Low Noise Amplifier



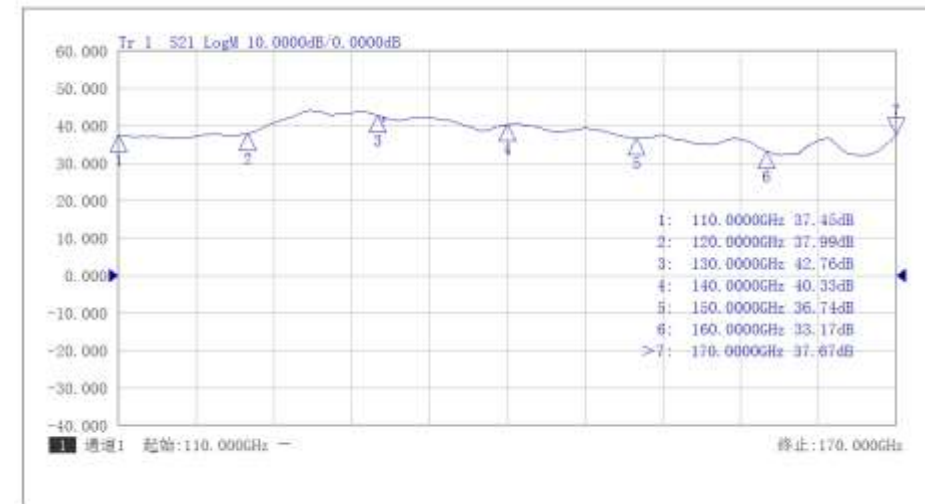
PN: AT-LNA-110170-3306

Parameter	Min	Typical	Max
Frequency		110-170GHz	
Gain	29dB	33dB	
Gain Flatness		+/-5dB	
Noise Figure		6dB	8dB
Input Power		-40dBm	-10dBm
Output P1dB		-3dBm	
Psat		+0dBm	
Drain Supply		+5V	+6V
Current		70mA	

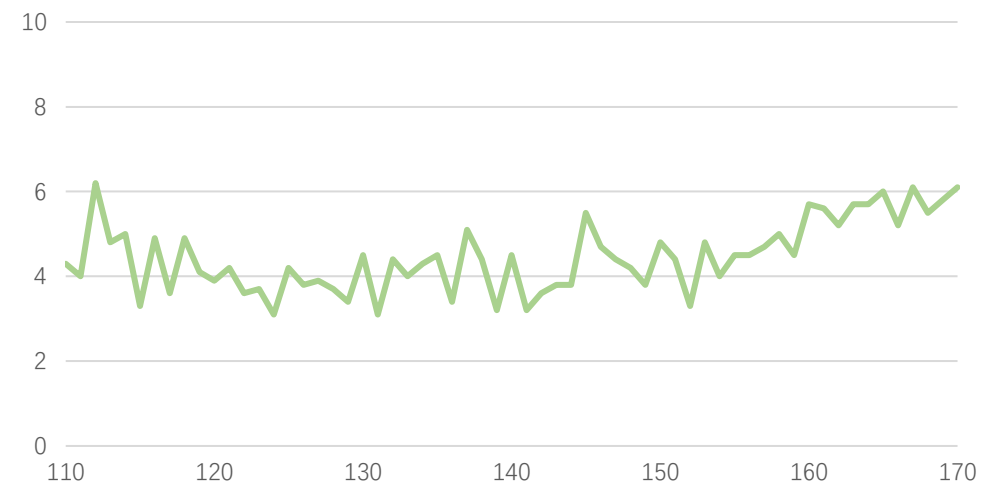
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Gain vs Frequency



NF vs Frequency

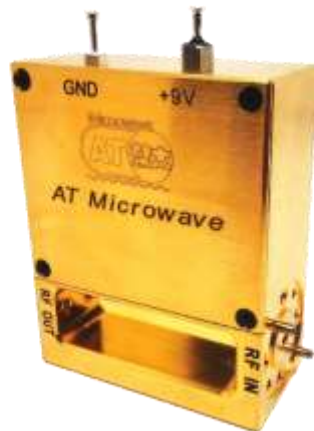


2. Power Amplifier

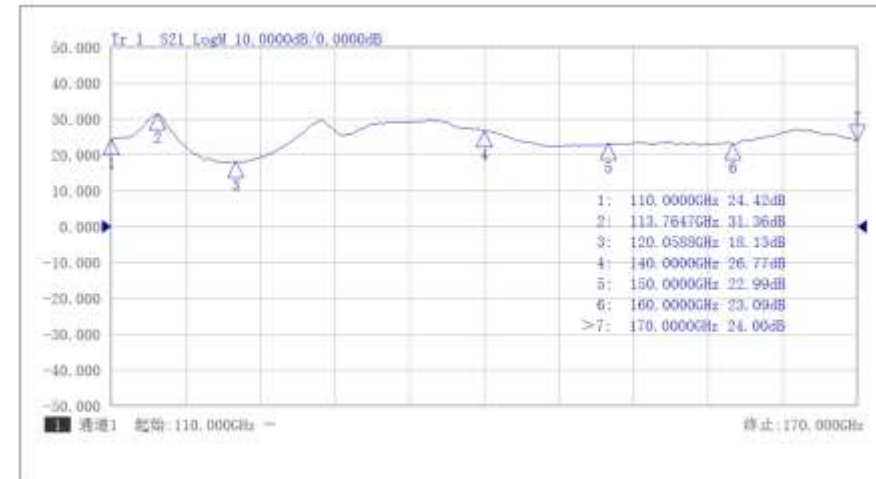
PN: AT-PA-110170-2018

Parameter	Min	Typical	Max
Frequency		110-170GHz	
Gain	17dB	20dB	
P1dB	+10dBm	+12dBm	
Psat (Pin= +5dBm)	+15dBm	+18dBm	
Drain Supply		+12V	+15V
Current		360mA	
Input Return Loss		-5dB	
Output Return Loss		-5dB	

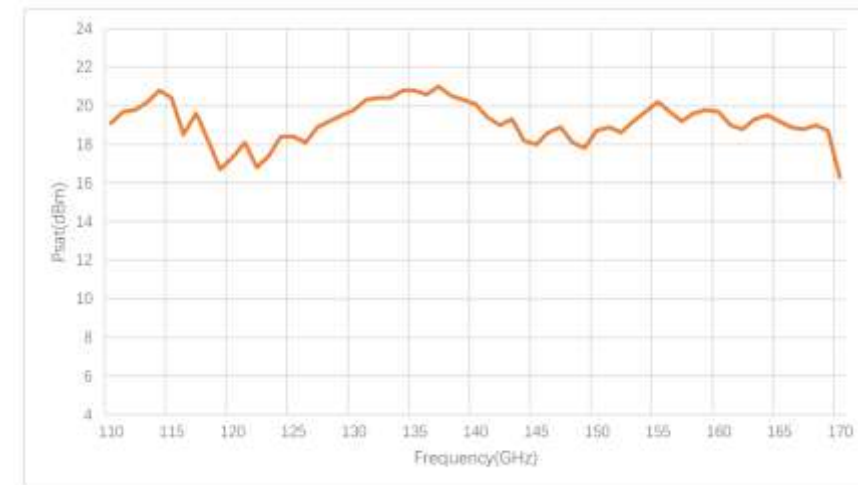
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Gain vs Frequency



Psat vs Frequency



2. Power Amplifier



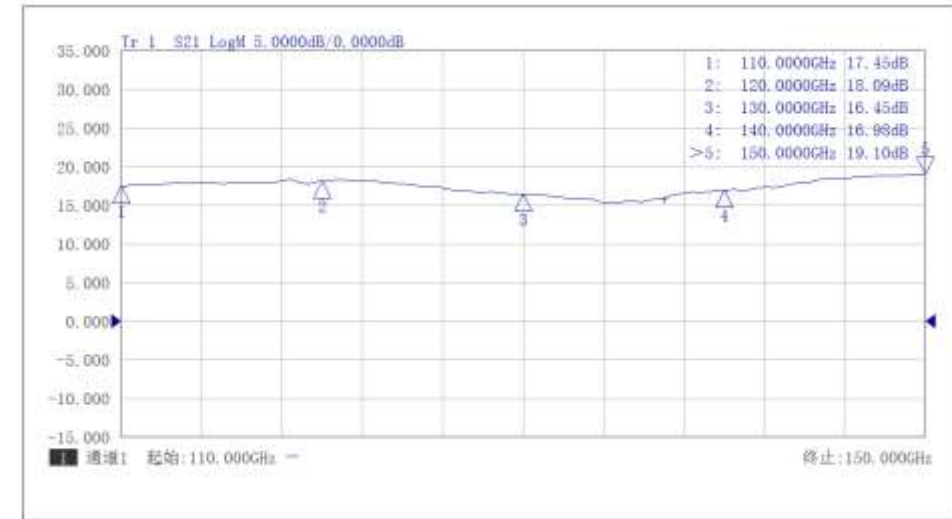
PN: AT-PA-110150-1613

Parameter	Min	Typical	Max
Frequency		110-150GHz	
Gain	14dB	16dB	
P1dB	+8dBm	+10dBm	
Psat (Pin= +5dBm)	+11dBm	+13dBm	
Drain Supply		+5V	+6V
Current		230mA	
Input Return Loss		-5dB	
Output Return Loss		-5dB	

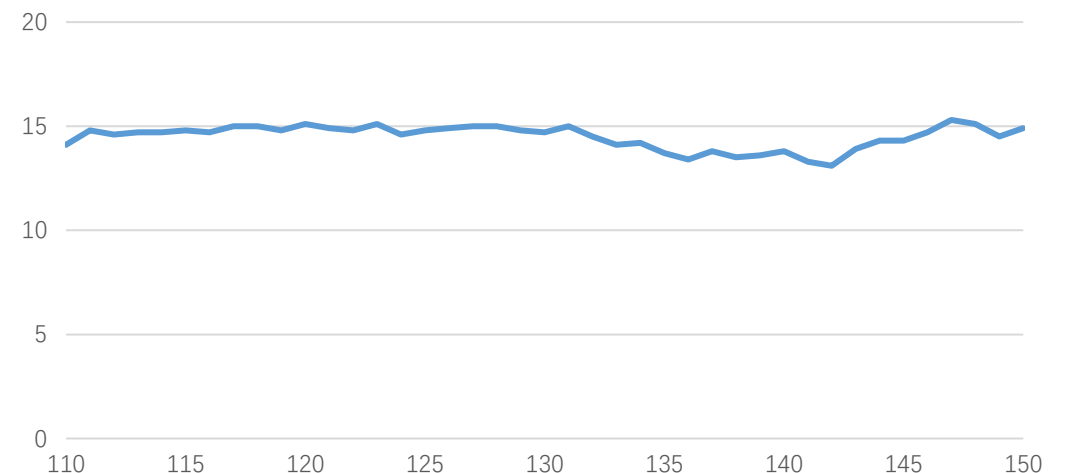
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Gain vs Frequency



Psat vs Frequency



2. Power Amplifier



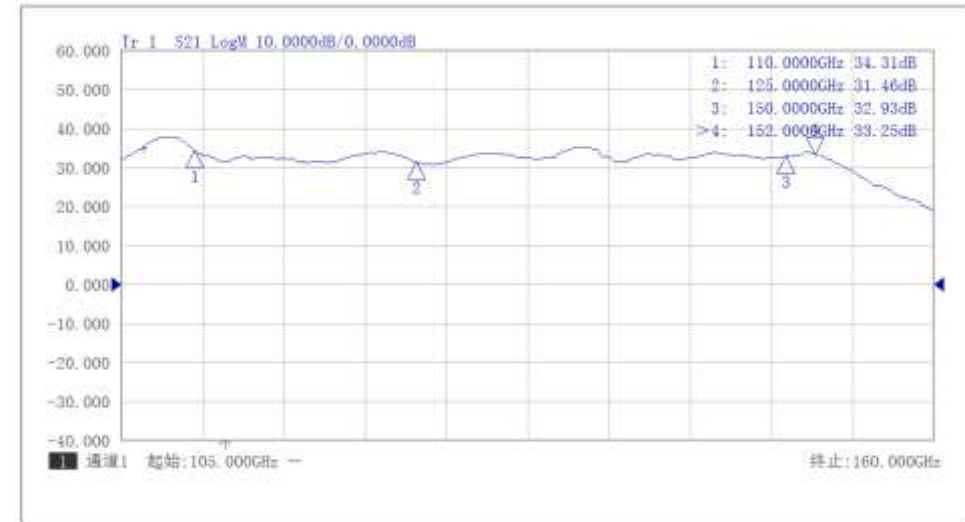
PN: AT-PA-110150-3013

Parameter	Min	Typical	Max
Frequency		110-150GHz	
Gain	28dB	30dB	
P1dB	+8dBm	+10dBm	
Psat	+10dBm	+13dBm	
Power Supply		+5V	
Current		0.25A	
NF		6dB	9dB
Input Return Loss		-5dB	
Output Return Loss		-5dB	

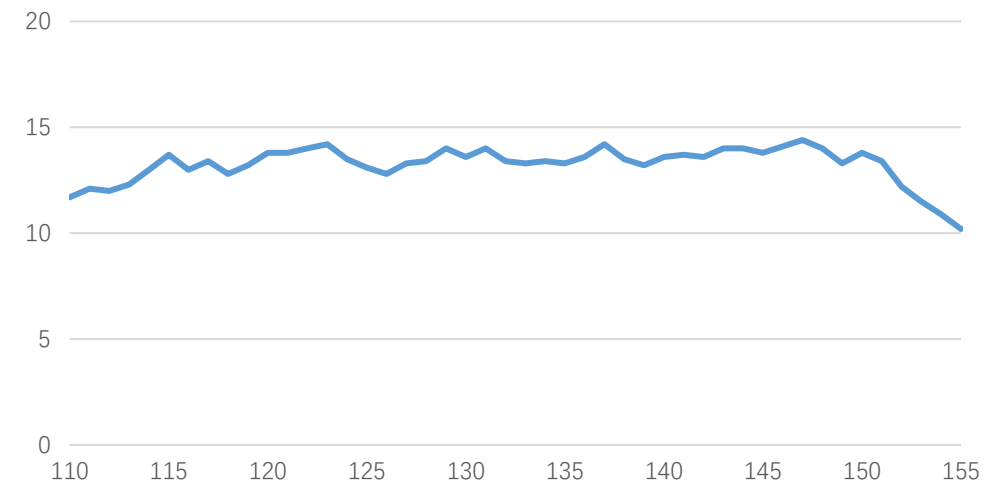
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Gain vs Frequency



Psat vs Frequency



2. Power Amplifier

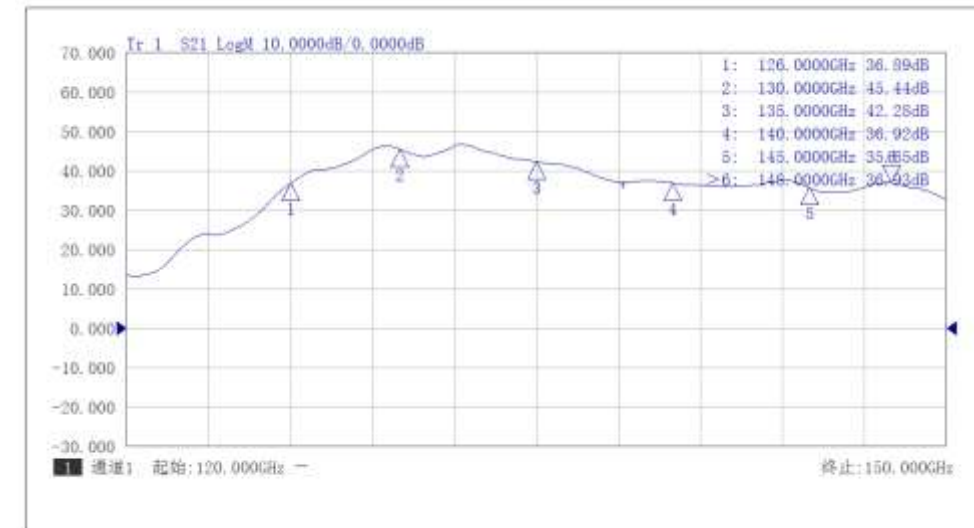
PN: AT-PA-126142-3320

Parameter	Min	Typical	Max
Frequency		126-142GHz	
Gain		33dB	
Gain Flatness		+/-4dB	
P1dB		+16dBm	
Psat(Pin=+0dBm)		+20dBm	
Power Supply	+9V	+10V	
Idq/IDD		0.35A/0.55A	
Input Return Loss		-7dB	
Output Return Loss		-3dB	

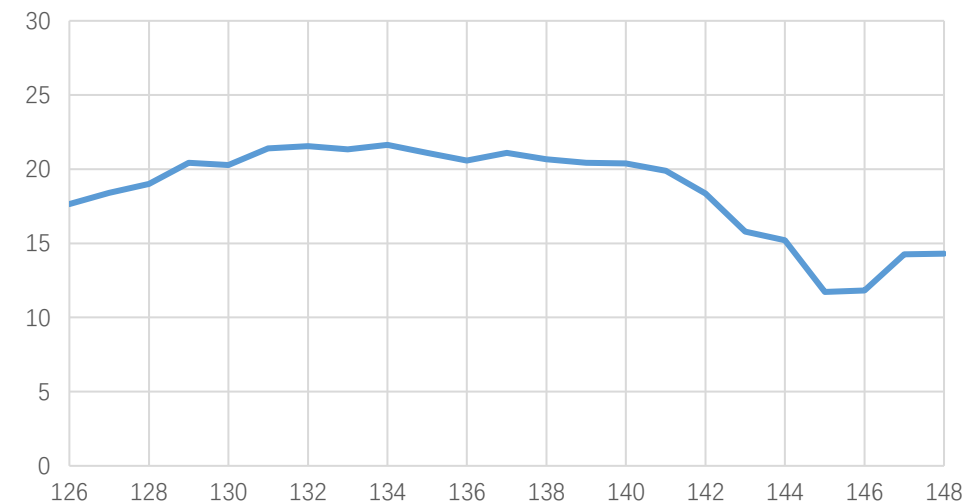
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Gain vs Frequency



Psat vs Frequency



3. Frequency Multiplier-Active



PN: AT-AM12-110170L

Parameter	Min	Typical	Max
Input Frequency		9.16-14.16GHz	
Multiplier Factor		X12	
Input Power	-3dBm	+0dBm	+8dBm
Output Frequency		110-170GHz	
Output Power	0dBm	+3dBm	
X11/X13 Harmonic Suppression		-20dBc	
Drain Voltage		+5V	
Current		0.35A	

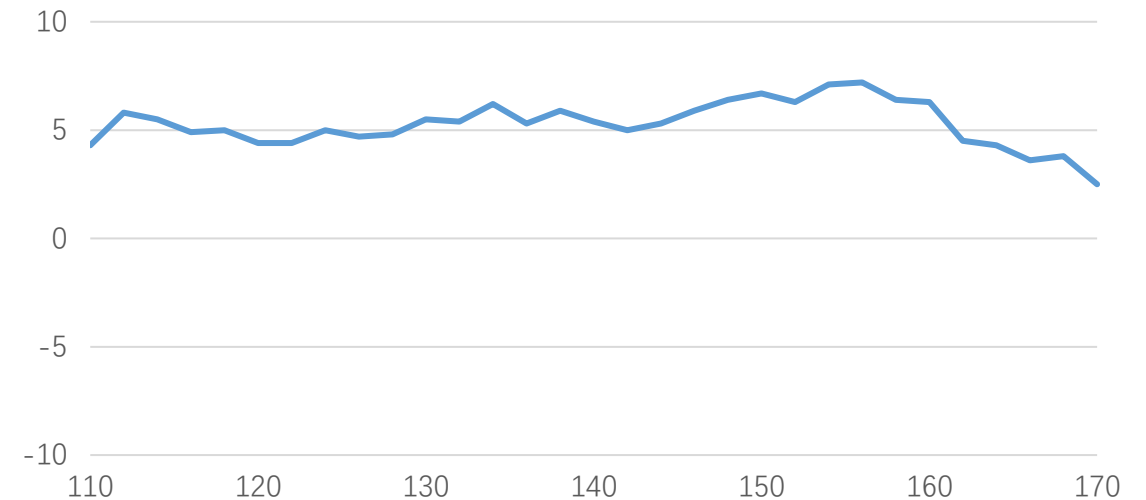
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Feature

- ✓ Frequency: 110-170GHz
- ✓ Pout +3dBm Typ
- ✓ Input: 9.16-14.16GHz, +3dBm
- ✓ Single Power Supply



Psat vs Frequency

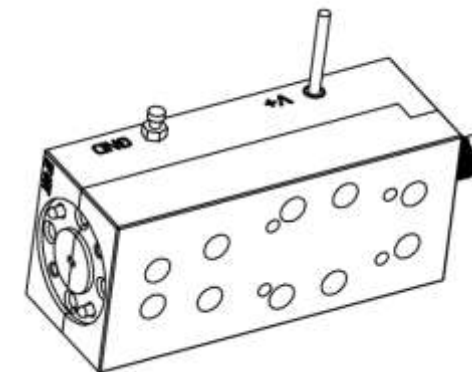


3. Frequency Multiplier-Active

PN: AT-AM12-110170-18L

Parameter	Min	Typical	Max
Input Frequency		9.16-14.16GHz	
Multiplier Factor		X12	
Input Power	0dBm	+3dBm	+8dBm
Output Frequency		110-170GHz	
Output Power	+15dBm	+18dBm	
X11/X13 Harmonic Suppression		-20dBc	
Drain Voltage		+12V	
Current		0.55A	

<https://www.atmicrowave.com/uploads/PDF/AT-AM12-110170-18L.pdf>



Feature

- ✓ Frequency: 110-170GHz
- ✓ Pout +18dBm Typ
- ✓ Input: 9.16-14.16GHz, +3dBm
- ✓ Single Power Supply

3. Frequency Multiplier-Active



PN: AT-AM8-110170

Parameter	Min	Typical	Max
Input Frequency	13.75GHz		21.25GHz
Input Power	+8dBm	+10dBm	+15dBm
Multiplier Factor		X8	
Output Frequency	110GHz		170GHz
Output Power	0dBm	+3dBm	
Harmonic Suppression		-25dBc	
Drain Voltage		+5V	+6V
Current NO RF/Psat		0.55A	

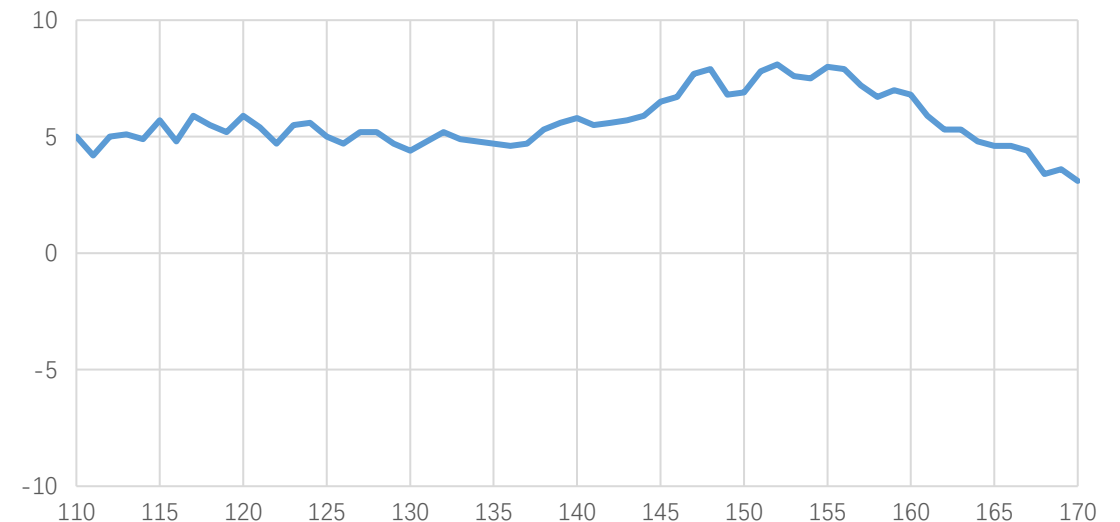
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Feature

- ✓ Frequency: 110-170GHz
- ✓ Pout: 0dBm typical
- ✓ Input: 13.75-21.25GHz
- ✓ Low Harmonics



Psat vs Frequency



3. Frequency Multiplier-Active



PN: AT-AM12-110150-12L

Parameter	Min	Typical	Max
Input Frequency		9.16-12.5GHz	
Multiplier Factor		X12	
Input Power	+0dBm	+3dBm	+6dBm
Output Frequency		110-150GHz	
Output Power	+9dBm	+12dBm	
X11/X13 Harmonic Suppression		-30dBc	
Drain Voltage		+5V	
Current		0.5A	

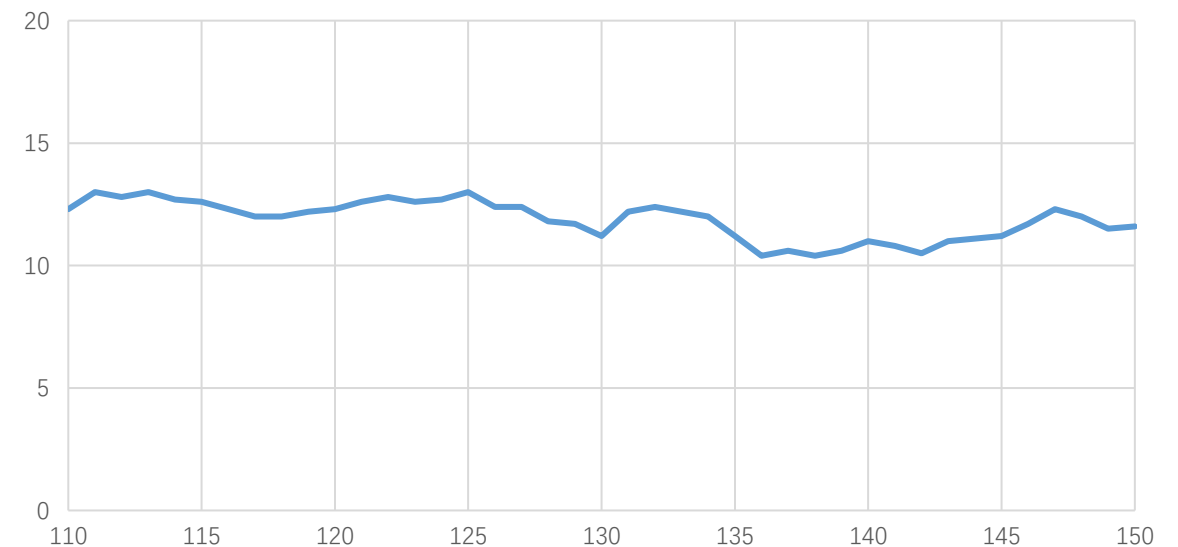
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Feature

- ✓ Frequency: 110-150GHz
- ✓ Pout +12dBm Typ
- ✓ Input: 9.16-12.6GHz, +3dBm
- ✓ Single Power Supply



Psat vs Frequency



3. Frequency Multiplier-Passive

PN: AT-PM2-110170

Parameter	Min	Typical	Max
Input Frequency	55GHz		85GHz
Input Power	+13dBm	+15dBm	+18dBm
Damage Input Power			+20dBm
Multiplier Factor		X2	
Output Frequency	110GHz		170GHz
Conversion Loss		-15dB	-20dB
Pout at Pin=+15dBm		+0dBm	
Drain Voltage		NO	

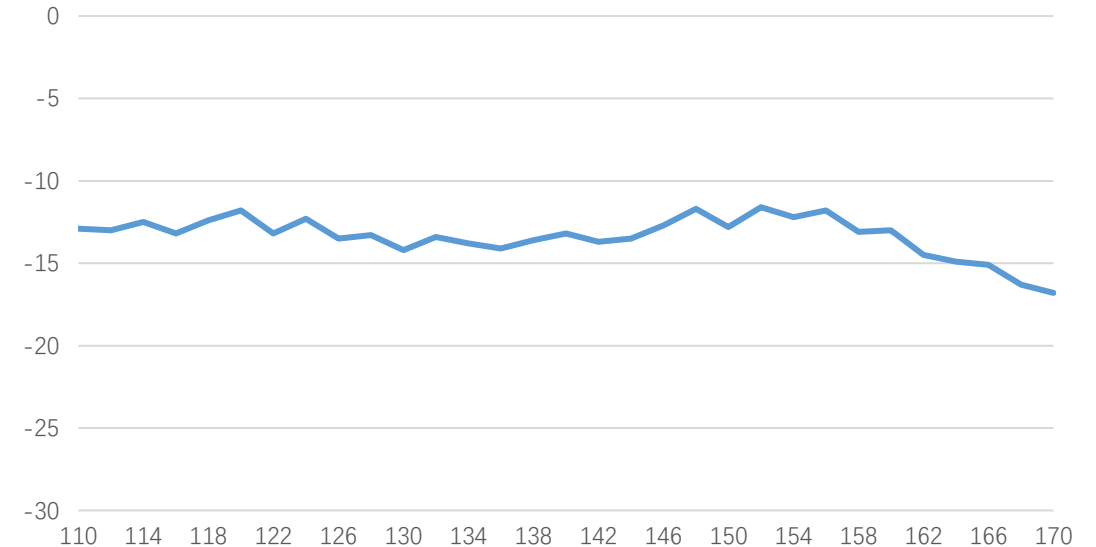
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Feature

- ✓ Frequency: 110-170GHz
- ✓ Pout: +0dBm typical
- ✓ Input: 55-85GHz
- ✓ Low Harmonics



Conversion Loss vs Frequency, Pin=+15dBm



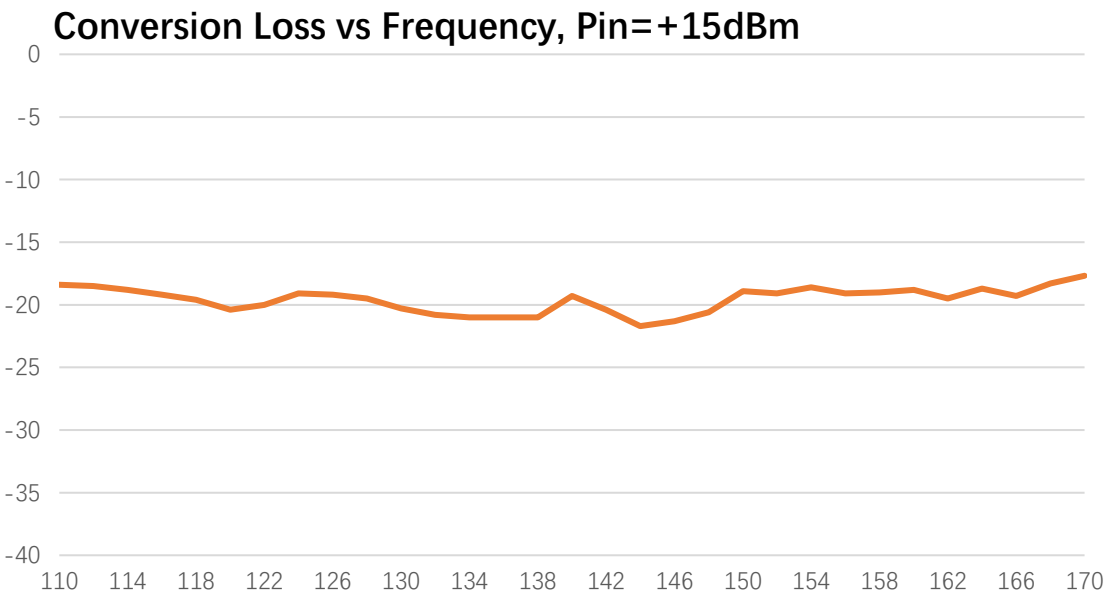
3. Frequency Multiplier-Passive



PN: AT-PM3-110170-19
AT-PM3-110170-VF

Parameter	Min	Typical	Max
Input Frequency	36.7GHz		56.7GHz
Input Power	+13	+15dBm	+18dBm
Multiplier Factor		X3	
Output Frequency	110GHz		170GHz
Conversion Loss		-20dB	
Pout at Pin=+15dBm		-5dBm	
Harmonic Suppression		TBD	
Drain Voltage		NO	
Spec Temp		25C	

<https://www.atmicrowave.com/uploads/PDF/AT-PM3-110170-19.pdf>



4. Frequency Converter-Mixer



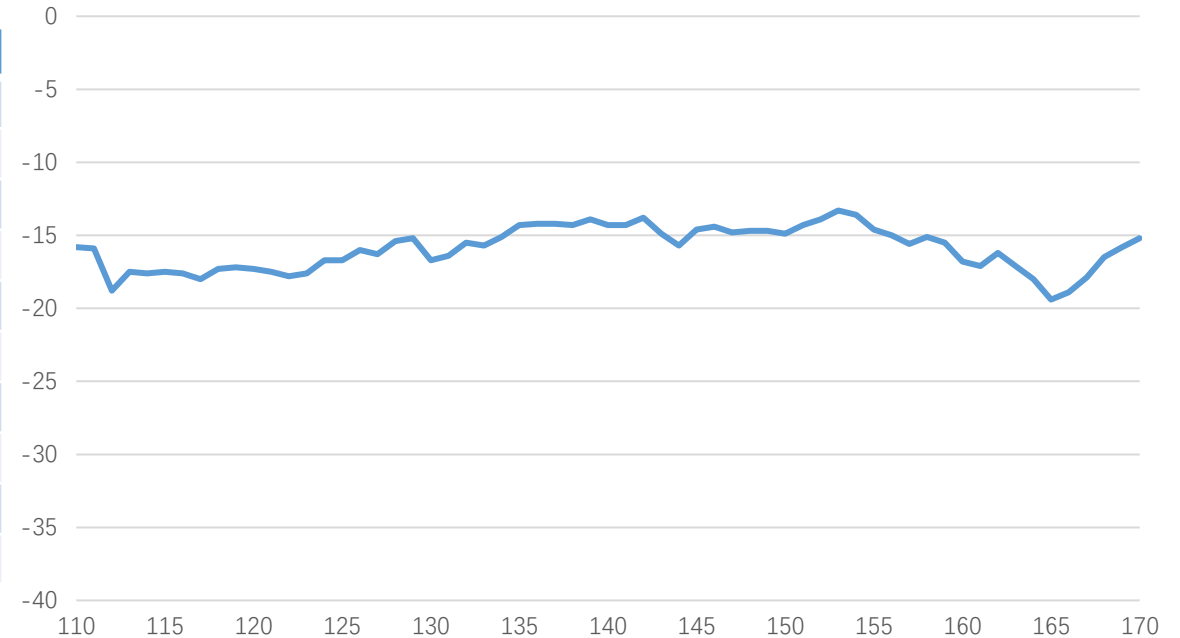
PN: AT-SHM-110170D

Parameter	Min	Typical	Max
RF Frequency Range		110-170GHz	
2XLO Frequency Range		110-170GHz	
LO Frequency Range		55-85GHz	
IF Range		DC-18GHz	
Mixer Type		Sub-Harmonics Mixer	
Conversion Loss		-18dB	-24dB
LO Driver	+8dBm	+10dBm	+13dBm
2XLO to RF Isolation		-15dBc	
Bias		+5V/1mA	
Spec Temp		25C	

<https://www.atmicrowave.com/uploads/PDF/AT-SHM-110170D.pdf>



Conversion Loss vs Frequency, LO= +10dBm



Feature

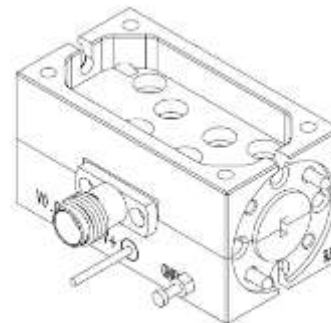
- ✓ RF: 110-170GHz
- ✓ LO: 55-85GHz
- ✓ IF: DC-18GHz
- ✓ Low LO power requirement

4. Frequency Converter-Mixer

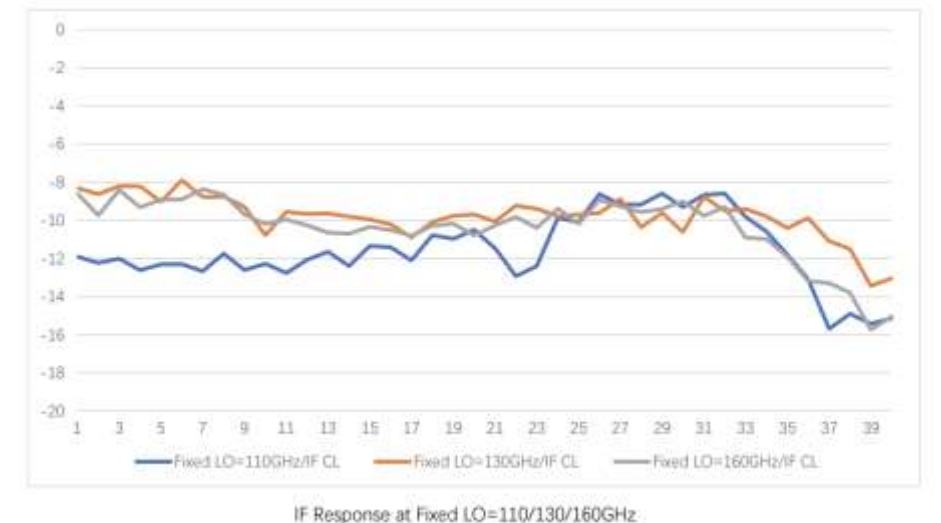
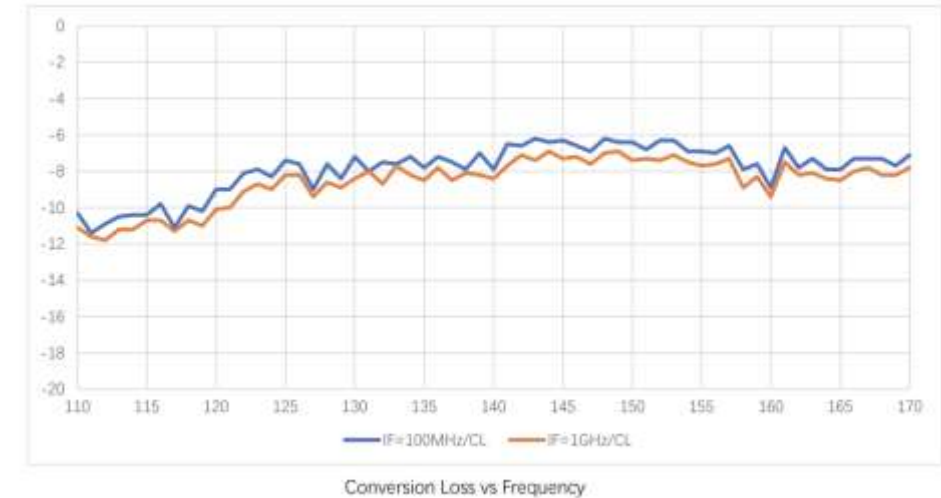
PN: AT-MIX-110170BN Fundamental Mixer

Parameter	Min	Typical	Max
RF Frequency Range		110-170GHz	
LO Frequency Range		110-170GHz	
IF Range		50kHz-30GHz	
Mixer Type		Fundamental Mixer	
Conversion Loss		-10dB	-15dB
LO Driver	+8dBm	+10dBm	+13dBm
RF Input P1dB		0dBm	
Bias		+5V/5mA	
Spec Temp		25C	

<https://www.atmicrowave.com/uploads/PDF/AT-MIX-110170BN.pdf>



TEST DATA (25C)



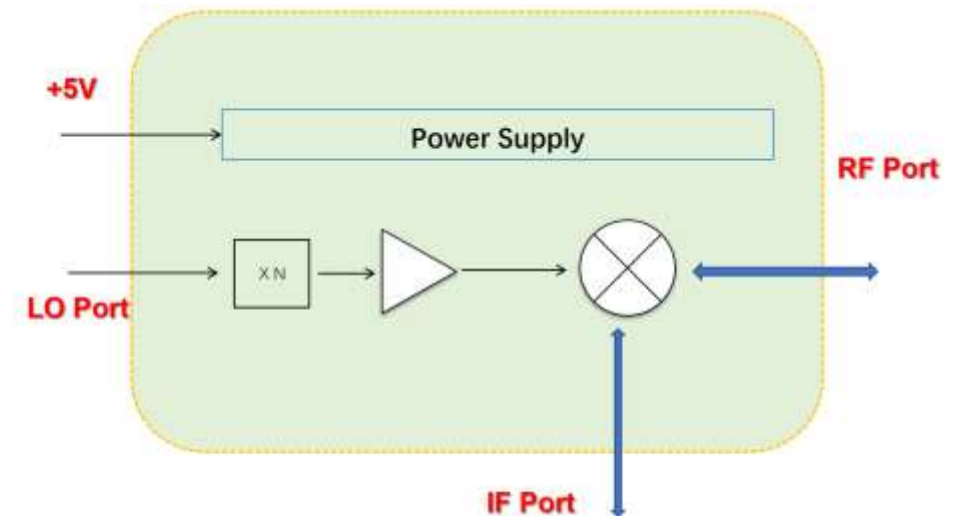
4. Frequency Converter-Compact Tx/Rx



PN: AT-8MIX-110170L

Parameter	Min	Typical	Max
RF Frequency Range		110-170GHz	
8XLO Frequency		110-170GHz	
LO Frequency Range		13.75-21.25GHz	
Core Mixer Inside		Sub-Harmonic Mixer	
LO Driver	+0dBm	+3dBm	+10dBm
IF Range		DC-10GHz	18GHz
Conversion Loss (IF=100MHz)		-15dB	-23dB
RF Input P1dB		0dBm	
IF Input P1dB		0dBm	
8XLO to RF Isolation		-15dBc	
LO to IF Isolation		-30dBc	
Power Supply		+5V	+8V
Current		0.35A	
Spec Temp		25C	

<https://www.atmicrowave.com/uploads/PDF/AT-8MIX-110170L.pdf>



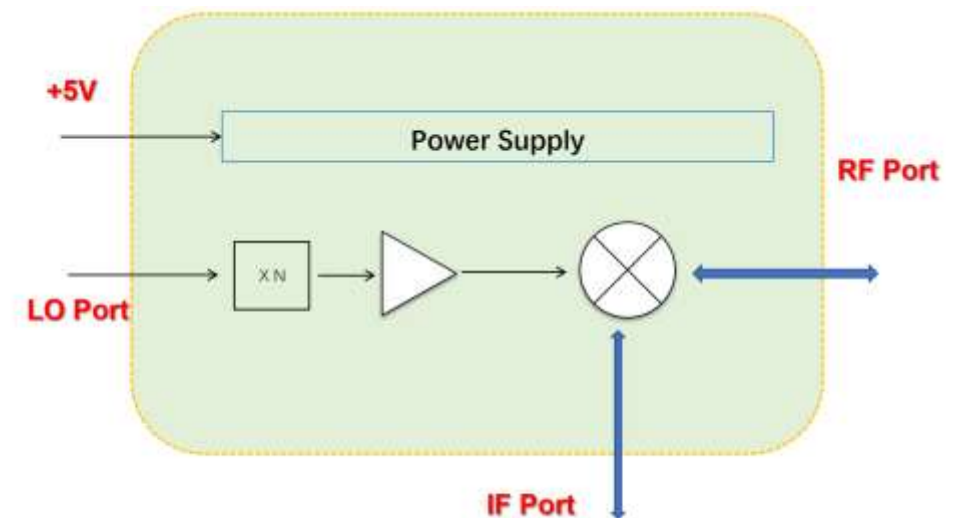
4. Frequency Converter-Compact Tx/Rx



PN: AT-8MIX-110170D1

Parameter	Min	Typical	Max
RF Frequency Range		110-170GHz	
8XLO Frequency		110-170GHz	
LO Frequency Range		13.75-21.25GHz	
Core Mixer Inside		Sub-Harmonic Mixer	
LO Driver	+0dBm	+3dBm	+10dBm
IF Range		DC-10GHz	18GHz
Conversion Loss (IF=100MHz)		-10dB	-15dB
RF Input P1dB		0dBm	
IF Input P1dB		0dBm	
8XLO to RF Isolation		-15dBc	
LO to IF Isolation		-30dBc	
Power Supply		+5V	+8V
Current		0.35A	
Spec Temp		25C	

<https://www.atmicrowave.com/uploads/PDF/AT-8MIX-110170D1.pdf>



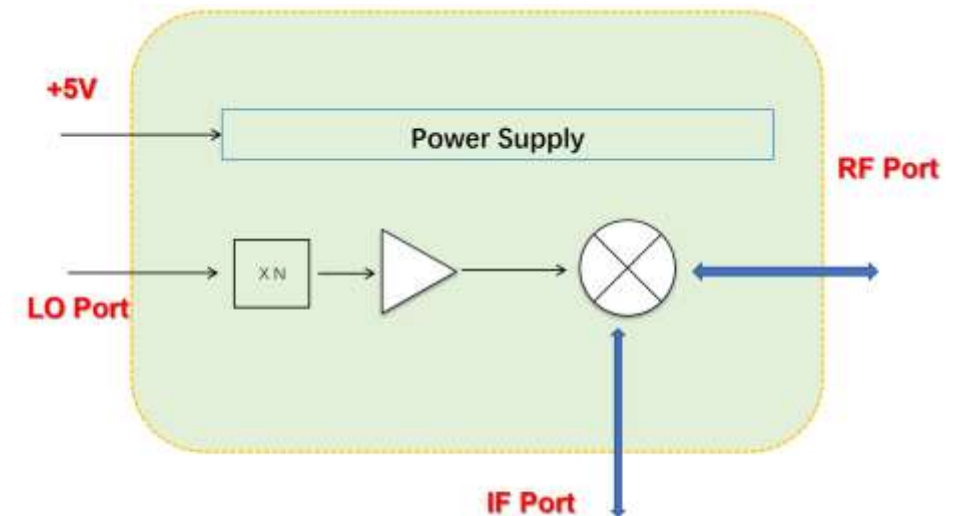
4. Frequency Converter-Compact Tx/Rx



PN: AT-12MIX-110170L

Parameter	Min	Typical	Max
RF Frequency Range		110-170GHz	
12XLO Frequency		110-170GHz	
LO Frequency Range		9.16-14.16GHz	
Core Mixer Inside		Sub-Harmonic Mixer	
LO Driver	+0dBm	+3dBm	+10dBm
IF Range		DC-10GHz	18GHz
Conversion Loss (IF=100MHz)		110-155GHz: -13dB 155-170GHz: -18dB	-18dB -24dB
RF Input P1dB		0dBm	
IF Input P1dB		+3dBm	
12XLO to RF Isolation		-15dBc	
LO to IF Isolation		To be added.	
Power Supply		+5V	+8V
Current		0.45A	
Spec Temp		25C	

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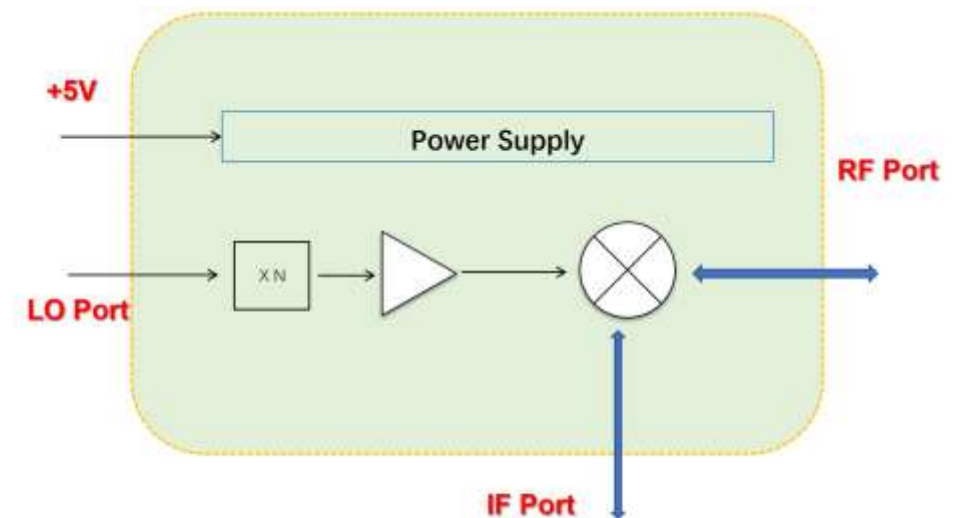


4. Frequency Converter-Compact Tx/Rx

PN: AT-12MIX-110170D1

Parameter	Min	Typical	Max
RF Frequency Range		110-170GHz	
12XLO Frequency		110-170GHz	
LO Frequency Range		9.16-14.16GHz	
Core Mixer Inside		Sub-Harmonic Mixer	
LO Driver	+0dBm	+3dBm	+10dBm
IF Range		DC-10GHz	18GHz
Conversion Loss (IF=100MHz)		-10dB	-15dB
RF Input P1dB		0dBm	
IF Input P1dB		+3dBm	
12XLO to RF Isolation		-15dBc	
LO to IF Isolation		To be added.	
Power Supply		+5V	+8V
Current		0.45A	
Spec Temp		25C	

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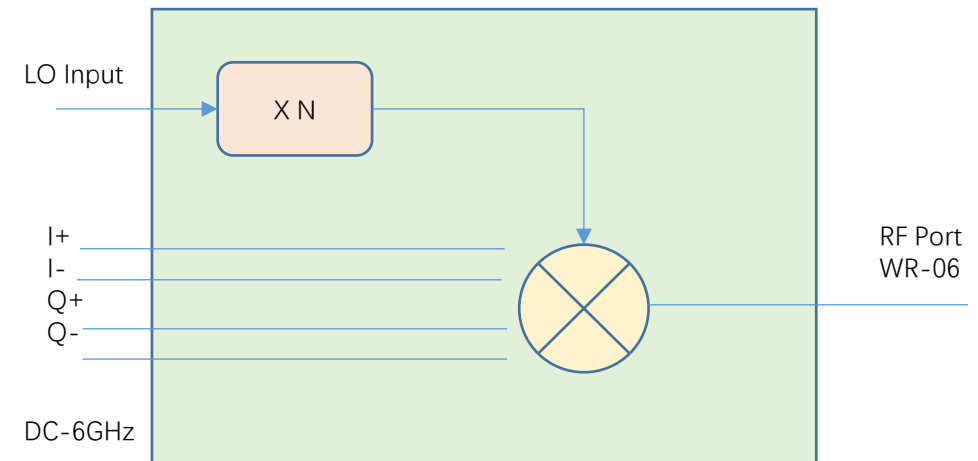
4. Frequency Converter-IQ Mixer

PN: AT-IQHM-140164

Electrical Specifications-Up Converter

Parameter	Min	Typical	Max
RF		140-164 GHz	
LO		11.6-13.65 GHz	
LO Driver	+3dBm	+5 dBm	+10
LO AMC (Amplified Multiplier Chain)		X12	
IF Range		DC-6 GHz	
Input P1dB		-8dBm/ch	
Band Side Rejection, No calibration (Note1)		-15dBc	
12XLO to RF Isolation. LO=+5dBm No calibration (Note2)	-20dBc	-30dBc	
12XLO Power Leakage to RF Port No calibration (Note2)		-25dBm	-18dBm
Temp Spec		25C	

<https://www.atmicrowave.com/uploads/PDF/AT-IQHM-140164.pdf>



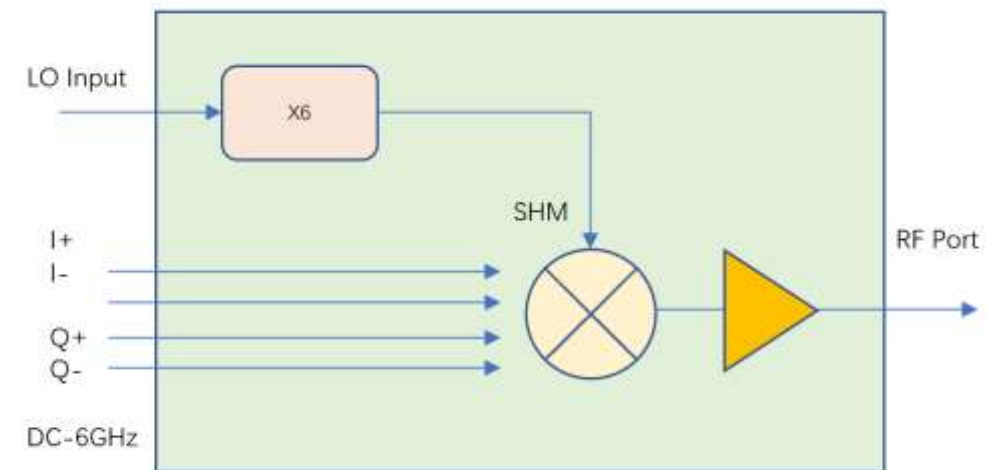
4. Compact Transmitter



PN: AT-DTX-140164

Parameter	Min	Typical	Max
RF		140-164 GHz	
LO		11.6-13.65 GHz	
LO Multiplier Factor		X12	
LO Driver	+3d Bm	+5 dBm	+10
LO AMC (Amplified Multiplier Chain)		X6	
6XLO Range		70-82GHz	
Mixer Type		Sub-harmonics Mixer	
IF Range		DC-6 GHz	
IF Input P1dB		-5dBm/ch	
IF to RF Gain		0 dB	
RF Output Psat		0dBm	
Band Side Rejection Without calibration (Note1)		-12dBc	
12XLO Power Leakage to RF Port Without calibration (Note2)		-10dBm See plot	
Power Supply		+5V/ 240mA	
Temp Spec		25C	

<https://www.atmicrowave.com/uploads/PDF/AT-DTX-140164.pdf>

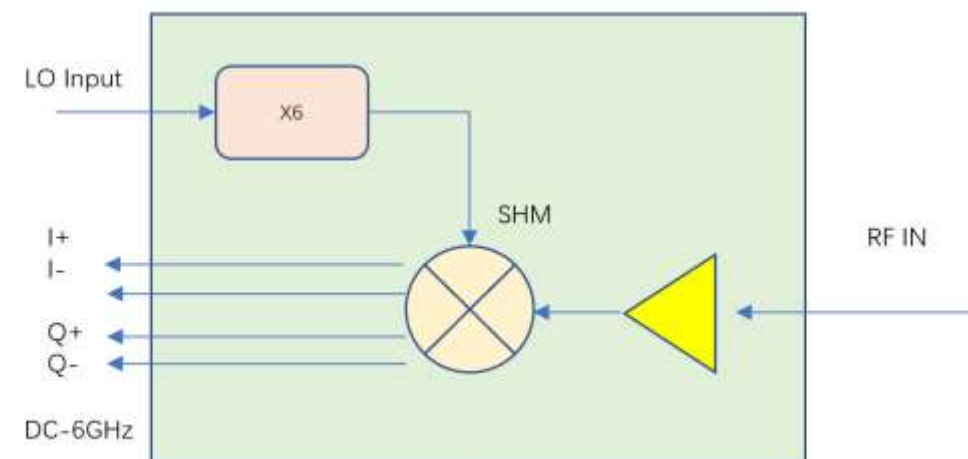


4. Compact Receiver

PN: AT-DRX-140164

Parameter	Min	Typical	Max
RF		140-164 GHz	
LO		11.6-13.67 GHz	
LO Driver	+3	+5 dBm	+10
LO AMC Multiplier		X12	
Mixer Type		Sub-Harmonic Mixer	
IF Range		DC-6 GHz	
RF Input P1dB		-20dBm	
Conversion Gain	-10dB	-6dB/ch	
Imaging Rejection		-15 dBc	
NF		10dB	14dB
Power Supply		+5V/ 180mA	
Spec Temp		25C	

<https://www.atmicrowave.com/uploads/PDF/AT-DRX-140164.pdf>

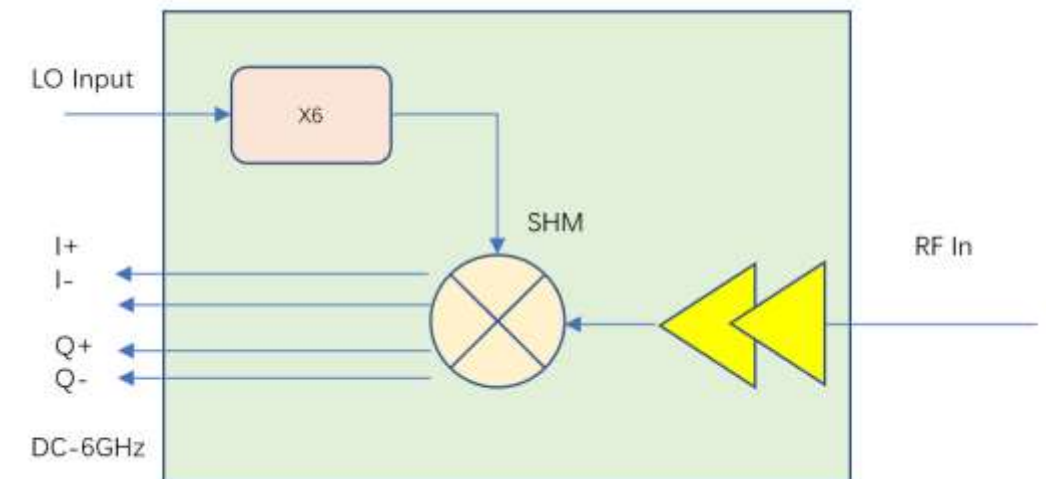


4. Compact Receiver

PN: AT-DRX-140164HG, High Gain

Parameter	Min	Typical	Max
RF		140-164 GHz	
LO		11.6-13.67 GHz	
LO Driver	+3	+5 dBm	+10
LO AMC Multiplier		X12	
Mixer Type		Sub-Harmonic Mixer	
IF Range		DC-6 GHz	
Conversion Gain		10dB	
Imaging Rejection		-15 dBc	
NF		6dB	8dB
RF Input P1dB		-40dBm	
Power Supply		+5V/ 200mA	
Spec Temp		25C	

<https://www.atmicrowave.com/uploads/PDF/AT-DRX-140164HG.pdf>



5. TEST EQUIPMENT



Frequency Extender



VNA Extension



Spectrum Analyzer Extens...



Up Converter



Down-Converter



Bench-Top LNA



Bench-Top PA-Waveguide



Bench-top PA Coaxial

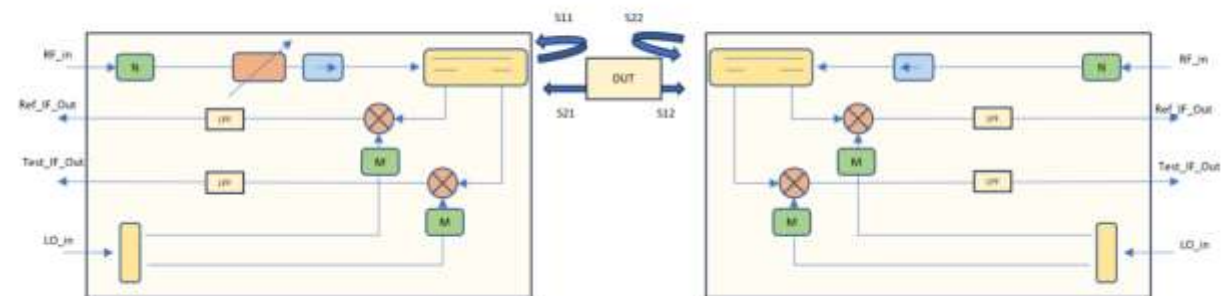
5. VEX Series: VNA Extention

PN: AT-VEX-06

Parameter	Min	Typical	Max
RF Frequency	110GHz		170GHz
Max Tx RF Pout Power	-8dBm	-3dBm	
Variable Attenuator Range		0-25dB	
Dynamic Range@10Hz BW	100dB	105dB	
RF Source Input Frequency	9.17GHz		14.17GHz
RF Souce Input Power	+3dBm	+6dBm	+10dBm
Multiplier Factor RF Line		X12	
LO Source Input Frequency	9.17GHz		14.17GHz
LO Souce Input Power	+3dBm	+6dBm	+10dBm
Multiplier Factor LO Line		X12	
IF Frequency Range		5-500MHz	
Magnitude Stability(typical)		+/-0.25dB	
Phase Stability(typical)		+/-4 degree	
Spec Temp		25C	



-FTFR Option Diagram Blcok:



<https://www.atmicrowave.com/uploads/PDF/AT-VEX-06.pdf>

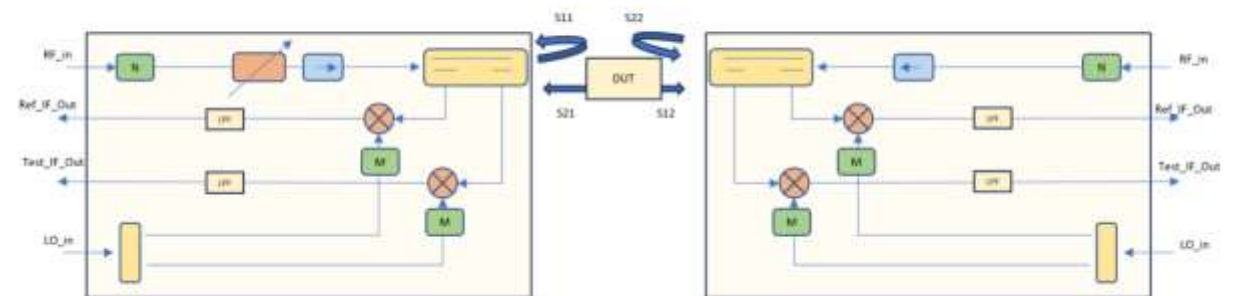
5. VEX Series: VNA Extention

PN: AT-VEX-06HP

Parameter	Min	Typical	Max
RF Frequency	110GHz		170GHz
Max Tx RF Pout Power	+13dBm	+15dBm	
Variable Attenuator Range		0-25dB	
Dynamic Range@10Hz BW	100dB	105dB	
RF Source Input Frequency	9.17GHz		14.17GHz
RF Souce Input Power	+3dBm	+6dBm	+10dBm
Multiplier Factor RF Line		X12	
LO Source Input Frequency	9.17GHz		14.17GHz
LO Souce Input Power	+3dBm	+6dBm	+10dBm
Multiplier Factor LO Line		X12	
IF Frequency Range		5-500MHz	
Magnitude Stability(typical)		+/-0.25dB	
Phase Stability(typical)		+/-4 degree	
Spec Temp		25C	



-FTFR Option Diagram Blcok:



<https://www.atmicrowave.com/uploads/PDF/AT-VEX-06HP.pdf>

5. Test Equipment-Signal Generator Extension



Signal Frequency Extension

AT-SGX8-06

AT-SGX12-06

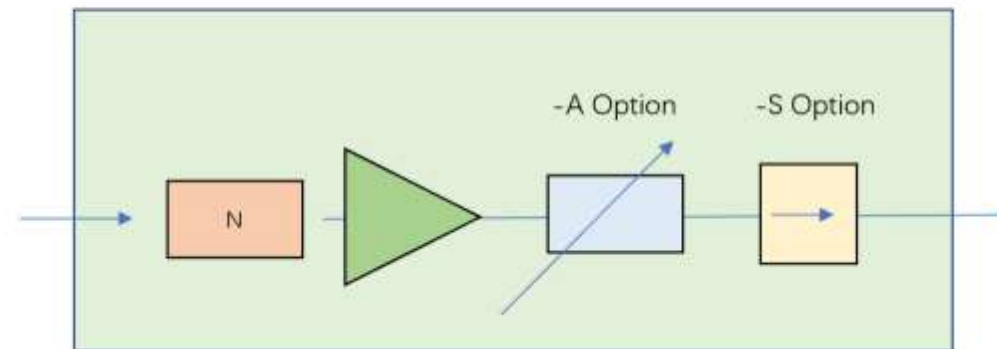
■ Frequency: 110-170GHz

■ Multiplier Time: X8/12

■ Pout= +3dBm



Block Diagram



<https://www.atmicrowave.com/uploads/PDF/AT-SGX12-06.pdf>

5. Test Equipment-Signal Generator Extension



Signal Frequency Extension-High Power

AT-SGX8-06-HP

AT-SGX12-06-HP

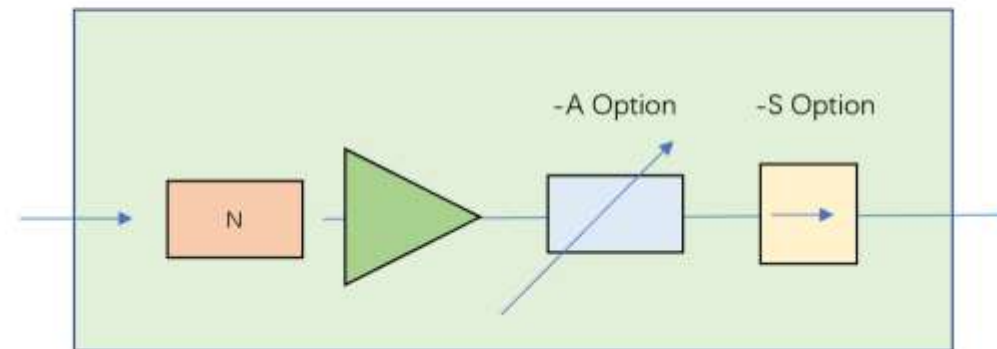
■ Frequency: 110-170GHz

■ Multiplier Time: X8/12

■ Pout= +18dBm



Block Diagram



<https://www.atmicrowave.com/uploads/PDF/AT-SGX12-06-HP.pdf>

5. Test Equipment-Spectrum Analyzer Extension



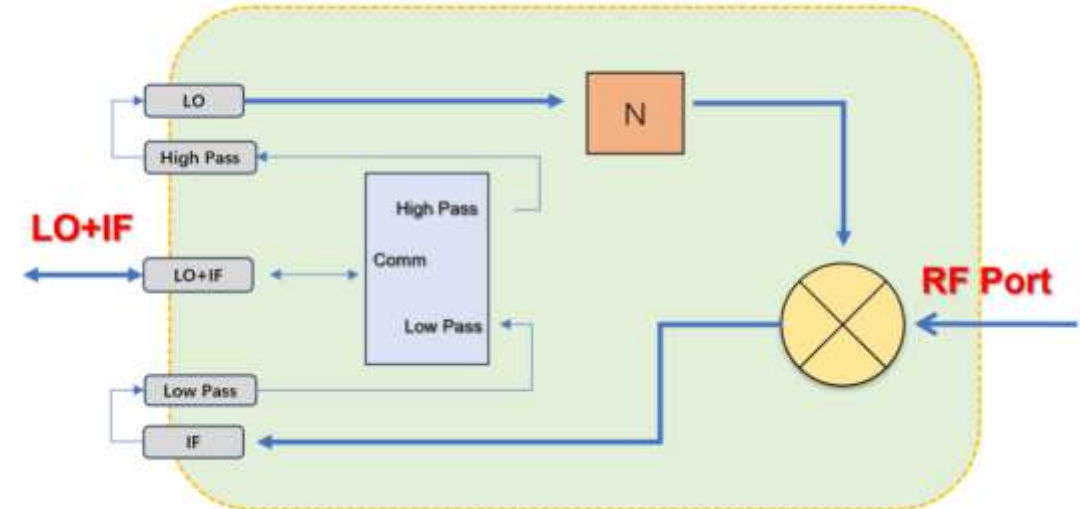
Spectrum Analyzer Extension

AT-SAX24-06C

- Frequency: 110-170GHz
- Multiplier Time: X24
- Conversion Loss :-15dB



Diagram Block:



5. Test Equipment



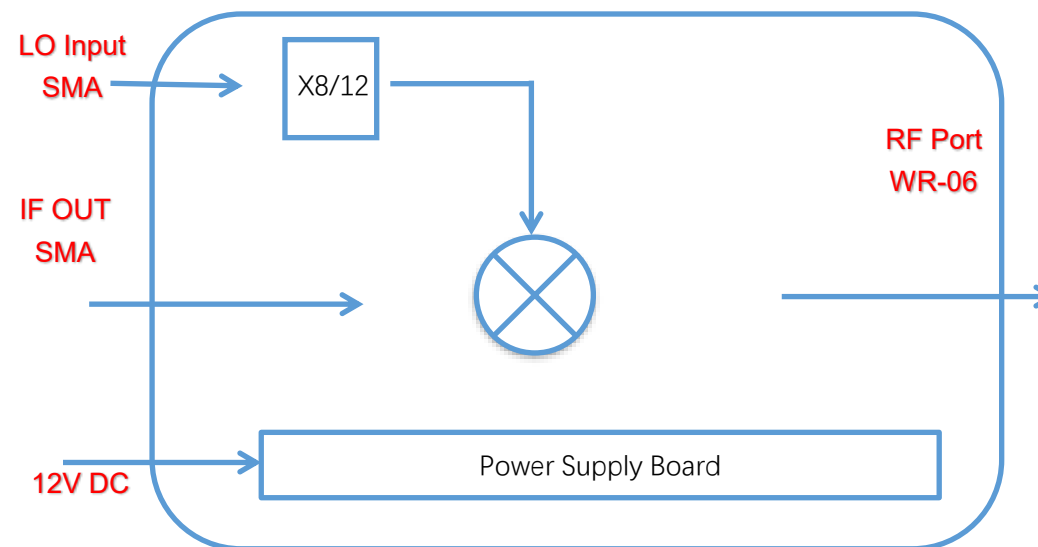
Bench-top Up-Converter

AT-UC8-06

AT-UC12-06

- Frequency: 110-170GHz
- Conversion Loss: -15dB
- Connector: WR-06

<https://www.atmicrowave.com/uploads/PDF/AT-UC12-06.pdf>



5. Test Equipment

Bench-top Down-converter

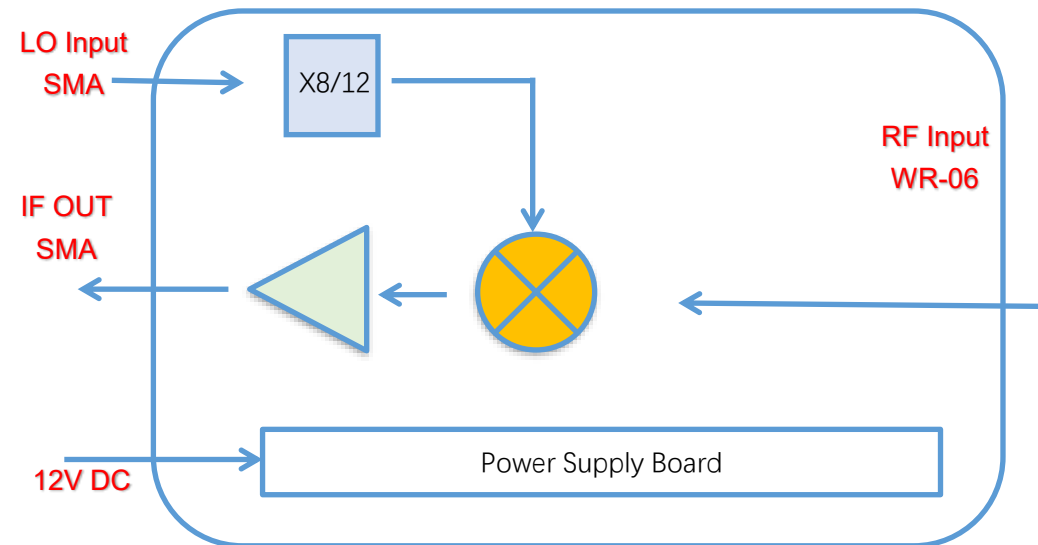
For NF test and General Receiver

AT-DC8-06

AT-DC12-06

- Frequency: 110-170GHz
- Gain: 20dB
- Connector: WR-06

<https://www.atmicrowave.com/uploads/PDF/AT-DC12-06.pdf>



5. Test Equipment



Bench-top Down-converter

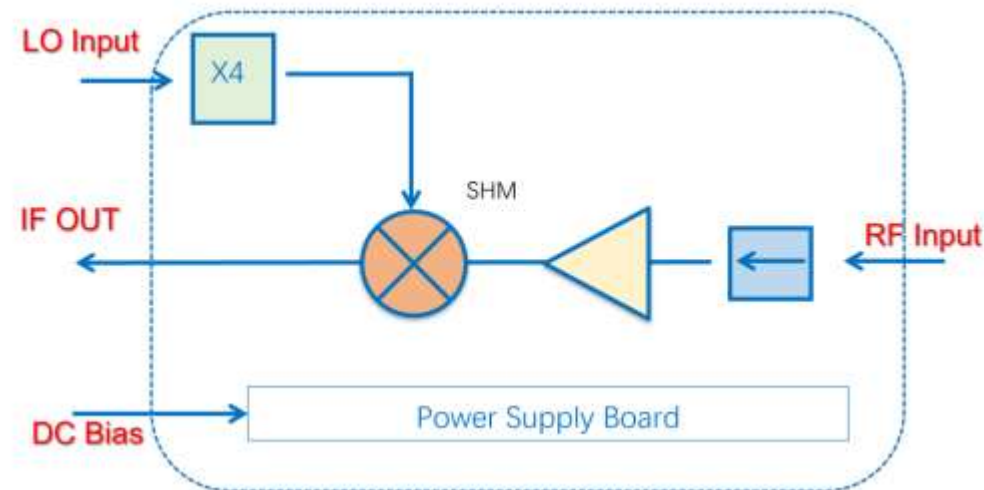
For NF test and General Receiver

AT-DC8-06R

AT-DC12-06R

- Frequency: 110-170GHz
- Gain: 0dB
- Connector: WR-06

<https://www.atmicrowave.com/uploads/PDF/AT-DC12-06R.pdf>



5. Test Equipment



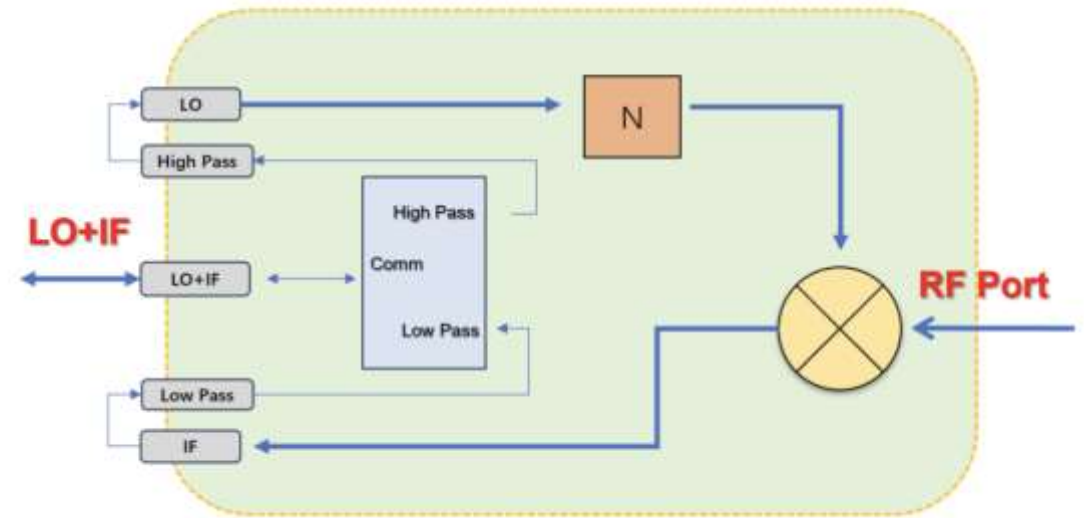
Spectrum Analyzer Extenders

AT-SAX16-06C

AT-SAX24-06C



Diagram Block:



- Frequency: 110-170GHz
- Connector: WR-06
- Keysight, RS, Anritsu, ects

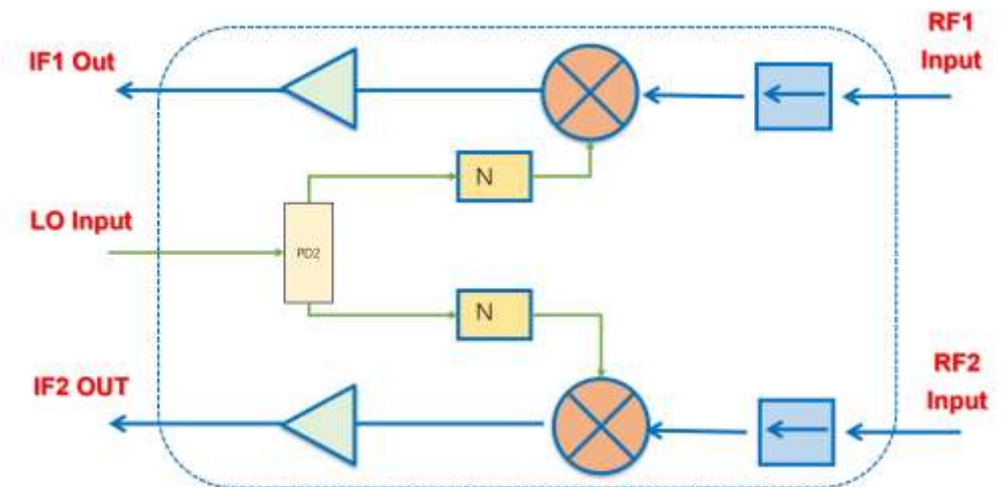
<https://www.atmicrowave.com/uploads/PDF/AT-SAX16-06C.pdf>

5. Test Equipment

Dual Receive: AT-DuRX-06

Parameter	Min	Typical	Max
RF Frequency	110GHz		170GHz
8XLO Frequency	110GHz		170GHz
LO Frequency	13.75GHz		21.25GHz
Frequency Multiplier Factor		X8	
LO Driver	+3	+6dBm	+10dBm
IF Frequency		100kHz-20GHz	
RF-IF Gain (IF=100MHz)		12dB	
Gain Flatness (IF=100MHz)		+/- 5dB	
RF Input P1dB		-3dBm	
RF Input Damage Power			+5dBm
Noise Figure		23dB	
RF Input Return Loss		-10dB	
IF Output Return Loss		-10dB	
Power Supply (With AC/DC Adapter)	+90V	+220V	+240V
Spec Temp		25C	

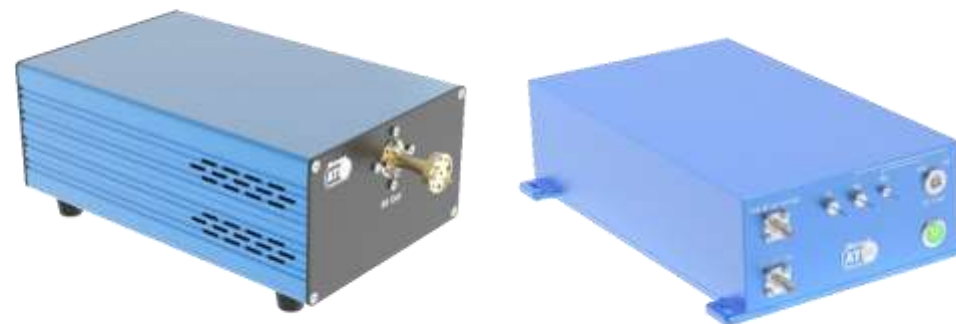
<https://www.atmicrowave.com/uploads/PDF/AT-DuRX-06.pdf>



6. PLO: Phase-Locked Oscillator

Phased-Locked Oscillators

Frequency and Output Power
can be customized according to required.



WR-06

☐	PN	Type	Data Sheet	Lead Time	Output Frequency /GHz	Output Power /dBm	Referenced	Referenced Frequency	DC Bias	Connector
☐	AT-PLO-120IR-15-06	D Band		8-10 Weeks	120GHz	+15dBm	Int and Ext	100MHz	12V	WR-06
☐	AT-PLO-140IR-15-06	D Band		8-10 Weeks	140GHz	+15dBm	Int and Ext	100MHz	12V	WR-06
☐	AT-PLO-148IR-15-06	D Band		8-10 Weeks	148GHz	+15dBm	Int and Ext	100MHz	12V	WR-06
☐	AT-PLO-160IR-08-06	D Band		8-10 Weeks	160GHz	+8dBm	Int and Ext	100MHz	12V	WR-06

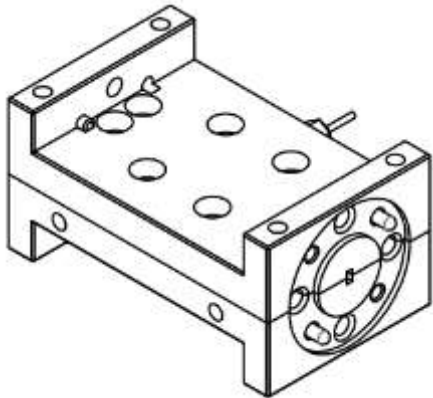
7. Control Products- Varial Attenuator



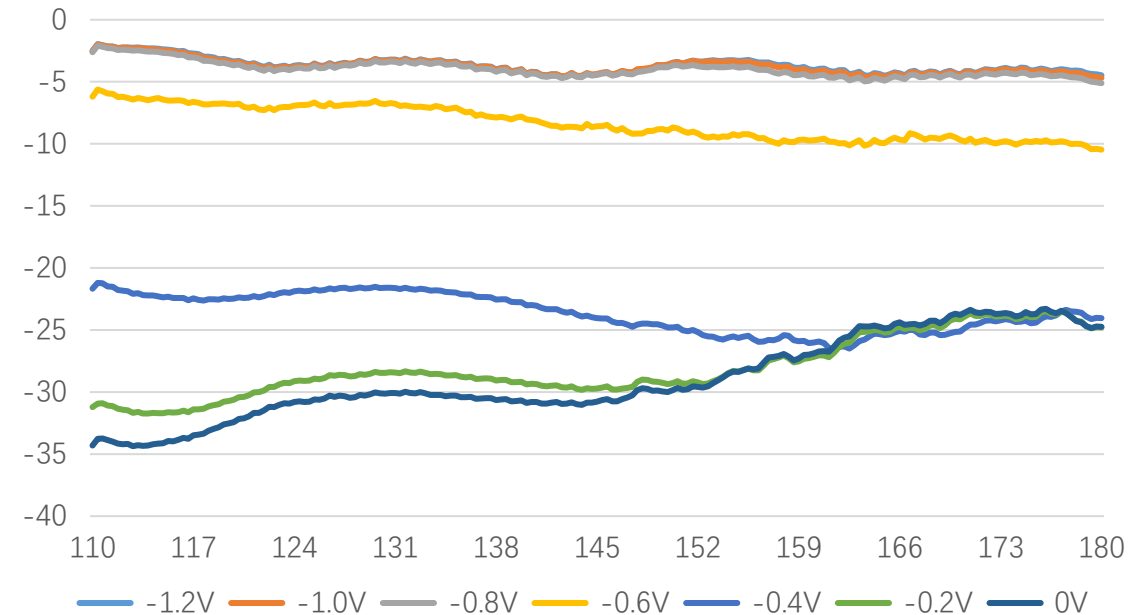
PN: AT-VVA-110170-20

Parameter	Min	Typical	Max
Frequency(Note1)		110-170GHz	
Insertion Loss		-4dB	-6dB
Control Voltage		-1.2 to 0 V	
Max Attenuation/Vc=0V		20 dB	
Power Consumption		0mW	
P1dB		+3dBm	
Max Input Power			+10dBm
Return Loss		-10dB	
Spec Temp		25C	

<https://www.atmicrowave.com/uploads/PDF/AT-VVA-110170-20.pdf>



Attenuation Range Vs Frequency



7. Control Products- Detector

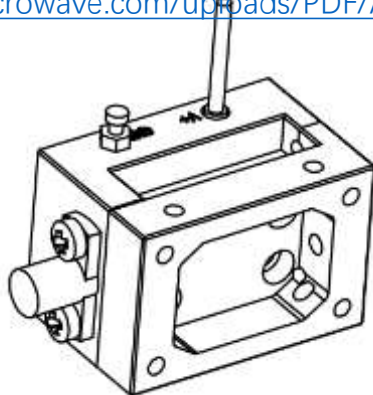


PN: AT-PD-110170N1

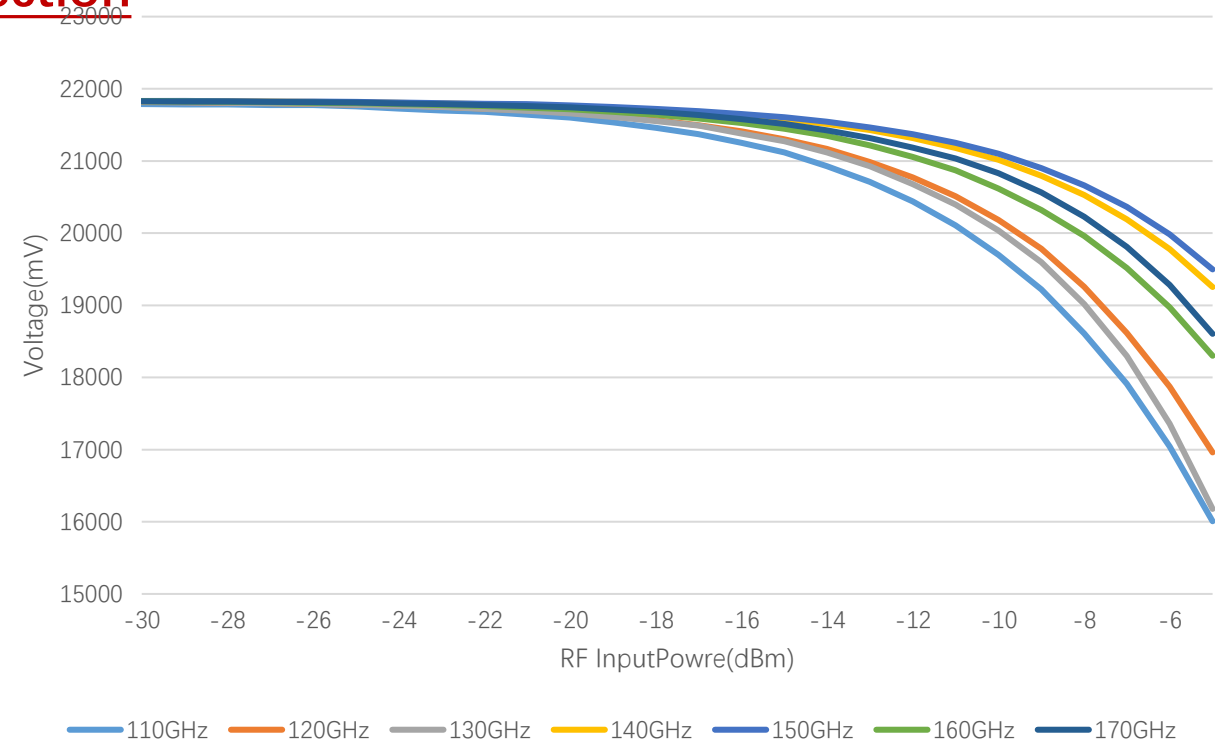
Negative Slop, good for high speed data detection

Parameter	Min	Typical	Max
Frequency Range	110GHz		170GHz
Sensitivity		1000V/W	
Max Linear RF Input Power		-5dBm	
Input Power Range		-25 to -5dBm	
Output Volage Polarity		Negative	
Drain Voltage		+5V/2mA	
Envelope Bandwidth		Around 1GHz	
Power Handling			0dBm
Spec Temp		25C	

<https://www.atmicrowave.com/uploads/PDF/AT-PD-110170N1.pdf>



Vout vs Frequency



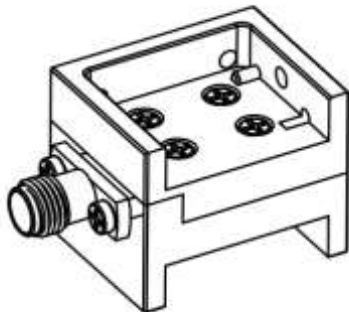
7. Control Products- Detector



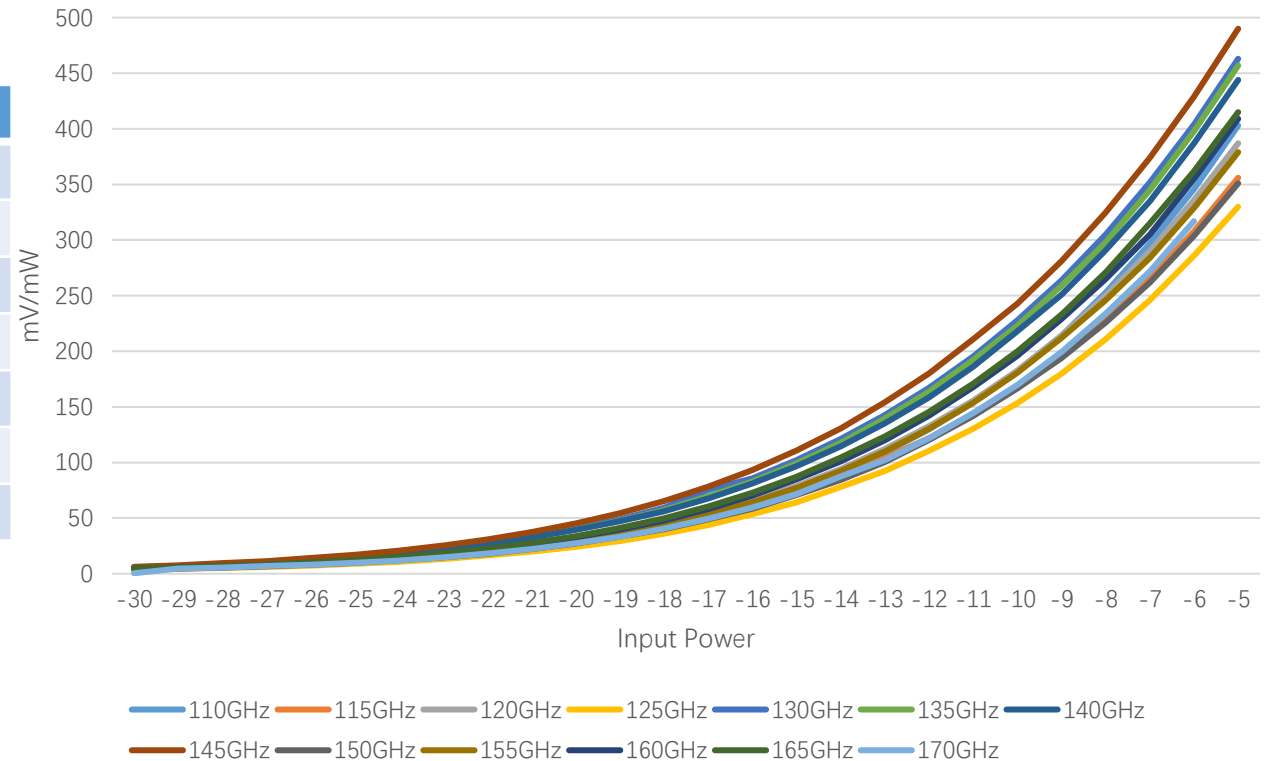
PN: AT-PD-110170 Positive Slop

Parameter	Min	Typical	Max
Frequency Range	110GHz		170GHz
Sensitivity(Pin= -25dBm)		3000mV/mW	
Input Power Range		-30 to -5dBm	
Power Handling			+10dBm
Output Voltage Polarity		Positive	
Bias		NO	
Spec Temp		25C	

<https://www.atmicrowave.com/uploads/PDF/AT-PD-110170.pdf>



Vout vs Frequency



8. Filters

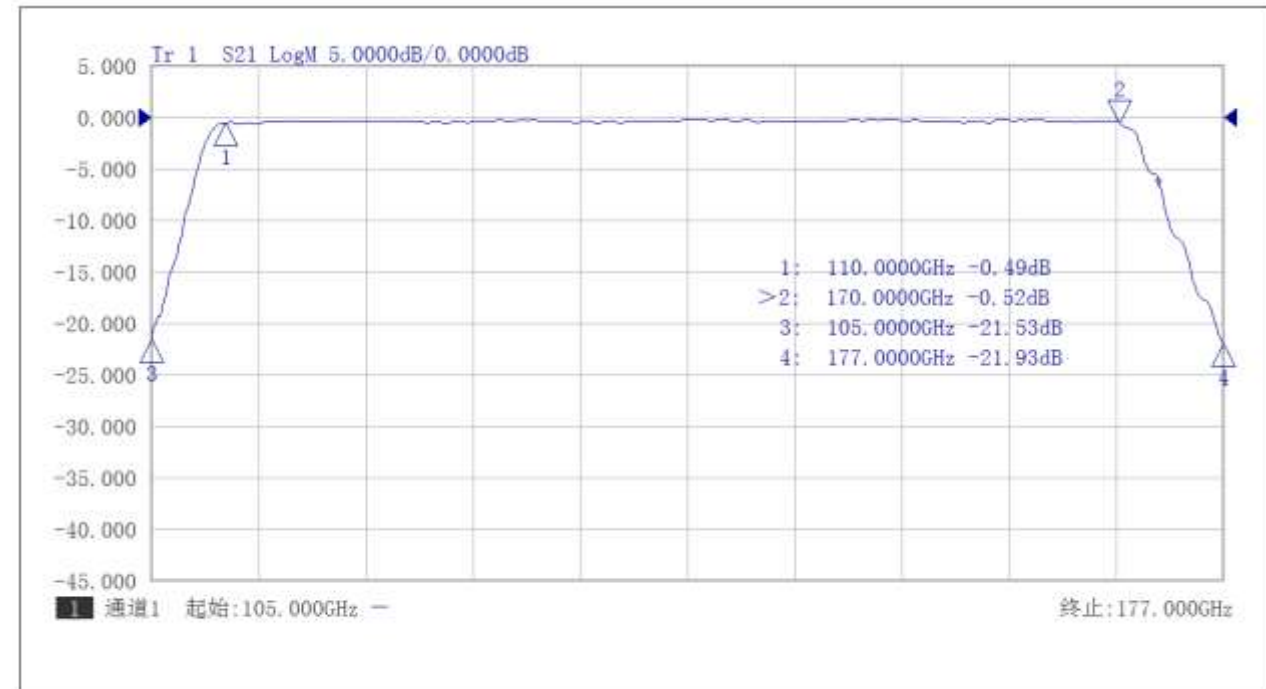
PN: AT-BPF-110170-06A Full D-Band

Parameter	Min	Typical	Max
Center Frequency		140GHz	
3dB Frequency Range		110-170GHz	
Passband Insertion Loss		-1.0 dB	-2.0
Passband Return Loss		-10 dB	
Low Rejection Frequency		105GHz	
Low Band Rejection		-20 dB	
High Rejection Frequency		177GHz	
High Band Rejection		-20 dB	

<https://www.atmicrowave.com/uploads/PDF/AT-BPF-110170-06A.pdf>



Conversion Loss vs Frequency



7. Filters



BAND-PASS Filters
Customized Filters are available

WR-06



☐	PN	Data Sheet	Type	Lead time	Center Frequency/GHz	Low Freq /GHz	High Freq /GHz	IL /DB	RL/DB	Connector	New
☐	AT-BPF-130135-06A		D Band	Stock	132.5	130	135	-1.5	10	WR-06	-
☐	AT-BPF-110155-06A		D Band	Stock	132.5	110	155	-1.5	10	WR-06	-
☐	AT-BPF-136150-06A		D Band	Stock	143	136	150	-1.5	10	WR-06	-
☐	AT-BPF-137147-06A		D Band	Stock	142	137	147	-1.5	10	WR-06	-
☐	AT-BPF-140160-06A		D Band	Stock	150	140	160	-1.5	15	WR-06	-
☐	AT-BPF-140148-06A		D Band	Stock	144	140	148	-1.5	10	WR-06	-
☐	AT-BPF-143156-06A		D Band	Stock	149.5	143	156	-1.5	15	WR-06	-
☐	AT-BPF-152162-06A		D Band	Stock	157	151.5	162	-1.5	10	WR-06	-

7. Filters



HIGH-PASS Filters

WR-06 × ↺ ☰ ↕

☐	PN	Data Sheet	Type	Lead time	Low Freq /GHz	High Freq /GHz	IL /DB	RL/DB	Connector	New
☐	AT-HPF-110-06A		D Band	Stock	110	170	-1	15	WR-06	-
☐	AT-HPF-130-06A		D Band	6-8 Weeks	130	170	-1	15	WR-06	-
☐	AT-HPF-140-06A		D Band	Stock	142	170	-1	15	WR-06	-
☐	AT-HPF-142-06A		D Band	Stock	142	170	-1	15	WR-06	-

LOW-PASS Filters

WR-06 × ↺ ☰ ↕

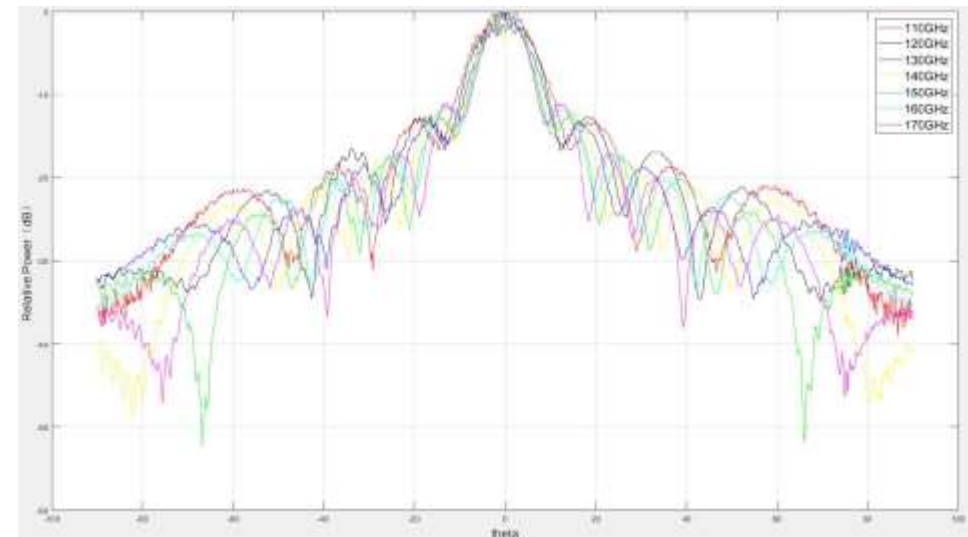
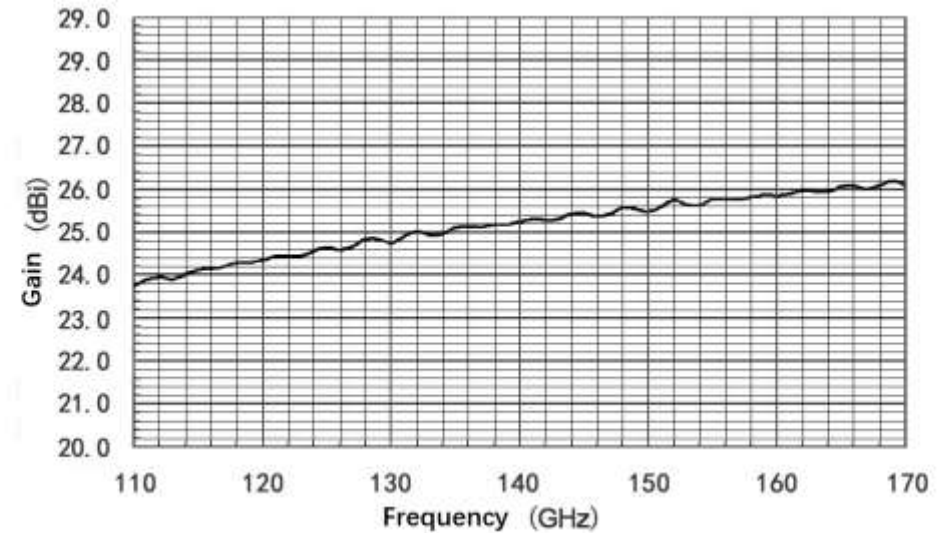
☐	PN	Data Sheet	Type	Lead time	Low Freq /GHz	High Freq /GHz	IL /DB	RL/DB	Connector	New
☐	AT-LPF-140-06A		D Band	6-8 Weeks	110	140	-1	10	WR-06	-

9. Standard Gain Antenna

PN: AT-SGA-25-06B

Parameter	Min	Typical	Max
Frequency	110GHz		170GHz
Gain		25dBi	
Polarization		Linear	
3 dB Beamwidth, E-Plane		9 Degree	
3 dB Beamwidth, H-Plane		10 Degree	
Side Lobes, E-Plane		20dB	
Side Lobes, H-Plane		20dB	
VSWR		1.15:1	

<https://www.atmicrowave.com/uploads/PDF/AT-SGA-25-06B.pdf>



10. Waveguide Section



RSW:
Rugged Straight Waveguide



https://www.atmicrowave.com/index.php/products_38/168.html

SSW:
Standard Straight Waveguide



https://www.atmicrowave.com/index.php/products_38/169.html

EB90: E-Plane Bend
HB90: H-Plane Bend



https://www.atmicrowave.com/index.php/products_38/228.html

TW90: Waveguide Twist 90 Degree
TW45: Waveguide Twist 45 Degree



https://www.atmicrowave.com/index.php/products_38/227.html

10. Waveguide Taper Transition



Advantages

- ✓ Rugged Application
- ✓ Low Insertion Loss
- ✓ Anti-cocking design
- ✓ Low Cost, Fast Delivery

WR-06



☐	PN	Data Sheet	Type	Leadtime	Waveguide1	Waveguide2	Length /Inch
☐	AT-WT-1506-1.5		Taper	4 Weeks	WR-15	WR-06	1.5 inch
☐	AT-WT-1206-1.0		Taper	4 Weeks	WR-12	WR-06	1.0 inch
☐	AT-WT-1006-1.0		Taper	Stock	WR-10	WR-06	1.0 inch
☐	AT-WT-0806-1.0		Taper	Stock	WR-08	WR-06	1.0 inch
☐	AT-WT-0605-1.0		Taper	Stock	WR-06	WR-05	1.0 inch
☐	AT-WT-0604-1.0		Taper	4 Weeks	WR-06	WR-04	1.0 inch

https://www.atmicrowave.com/index.php/products_38/170.html

11. High Precision Fixed Attenuator



☐	PN	Data Sheet	Lead time	Type	Freq Low /GHz	Freq High /GHz	ATT /dB	Control	Power Rating	Connector
☐	AT-FAT03-06HPV		6-8 Weeks	WG-High Power	110	170	3	-	2W	WR-06
☐	AT-FAT06-06HPV		6-8 Weeks	WG-High Power	110	170	6	-	2W	WR-06
☐	AT-FAT10-06HPV		6-8 Weeks	WG-High Power	110	170	10	-	2W	WR-06
☐	AT-FAT20-06HPV		Stock	WG-High Power	110	170	20	-	2W	WR-06
☐	AT-FAT30-06HPV		6-8 Weeks	WG-High Power	110	170	30	-	2W	WR-06
☐	AT-FAT40-06HPV		6-8 Weeks	WG-High Power	110	170	40	-	2W	WR-06

https://www.atmicrowave.com/index.php/products_22/274.html

12. Directional Coupler, Dual Coupler

Directional Coupler

☐	PN	Data Sheet	Lead Time	Type	Coupling /dB	Freq Low /GHz	Freq High /GHz	Directivity /dB	Power Rating	Connector
☐	AT-C06-06A		10-12 Weeks	D-Band	6dB	110	170	20	2W	WR-06
☐	AT-C10-06A		10-12 Weeks	D-Band	10dB	110	170	30	2W	WR-06
☐	AT-C20-06A		Stock	D-Band	20dB	110	170	25	2W	WR-06
☐	AT-C30-06A		10-12 Weeks	D-Band	30dB	110	170	20	2W	WR-06
☐	AT-C40-06A		10-12 Weeks	D-Band	40dB	110	170	20	2W	WR-06



https://www.atmicrowave.com/index.php/products_24/266.html

Dual Coupler

☐	PN	Data Sheet	Leadtime	Coupling /dB	Type	Freq Low /GHz	Freq High /GHz	Directivity /dB	Power Rating	Connector
☐	AT-DC10S-06V		10-12 Weeks	10dB	D-Band	110	170	30	2W	WR-06
☐	AT-DC16S-06V		10-12 Weeks	16dB	D-Band	110	170	30	2W	WR-06
☐	AT-DC10-06V		Stock	10dB	D-Band	110	170	30	2W	WR-06
☐	AT-DC20S-06V		10-12 Weeks	20dB	D-Band	110	170	30	2W	WR-06
☐	AT-DC20-06V		Stock	20dB	D-Band	110	170	30	2W	WR-06
☐	AT-DC30S-06V		10-12 Weeks	30dB	D-Band	110	170	30	2W	WR-06

https://www.atmicrowave.com/index.php/products_24/268.html

13. Waveguide to Coaxial Adapter



AT-WC-0608F-E1

AT-WC-0608M-E1

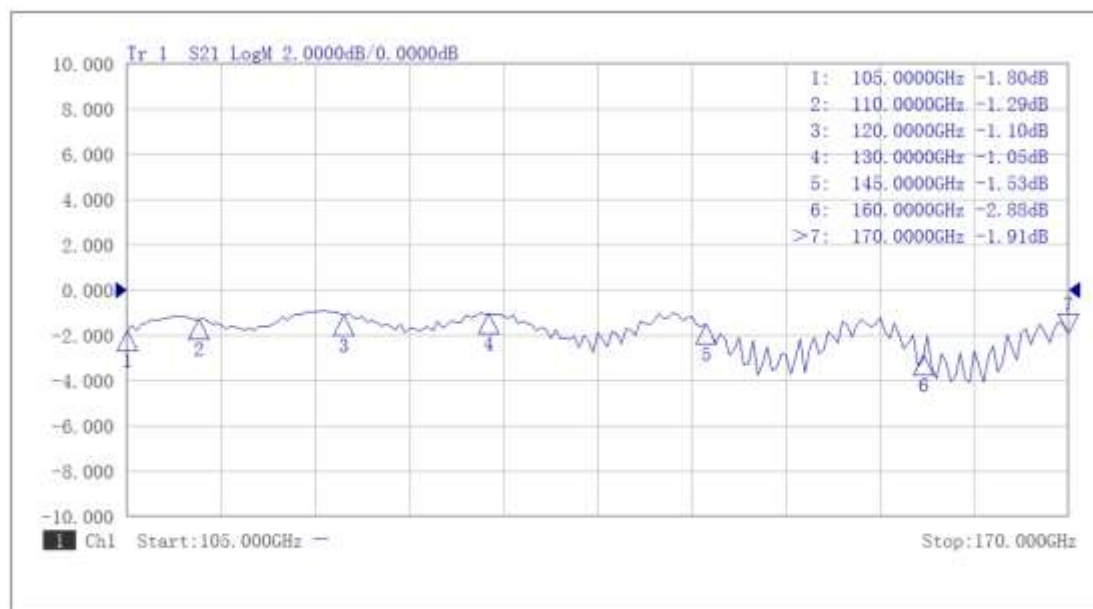
WR-06 to 0.8mm Coaxial Adapter



Key Features

Parameter	Min	Typical	Max
Frequency		110-145GHz	170GHz
Insertion Loss		1.0dB	2.5dB
Return Loss		-10dB	
Power Handling			2W CW
Spec Temp		25C	
Operating Temp	-40C		85C

TEST DATA(25C)



AT-WC-0608F-E1 and AT-WC-0608M-E1 TEST BACK TO BACK

Insertion Loss vs Frequency

Half of the insertion loss for single one unit.

<https://www.atmicrowave.com/uploads/PDF/AT-WC-0608F-E1.pdf>

14. Compact Faraday Isolator

AT-ISO-06C1

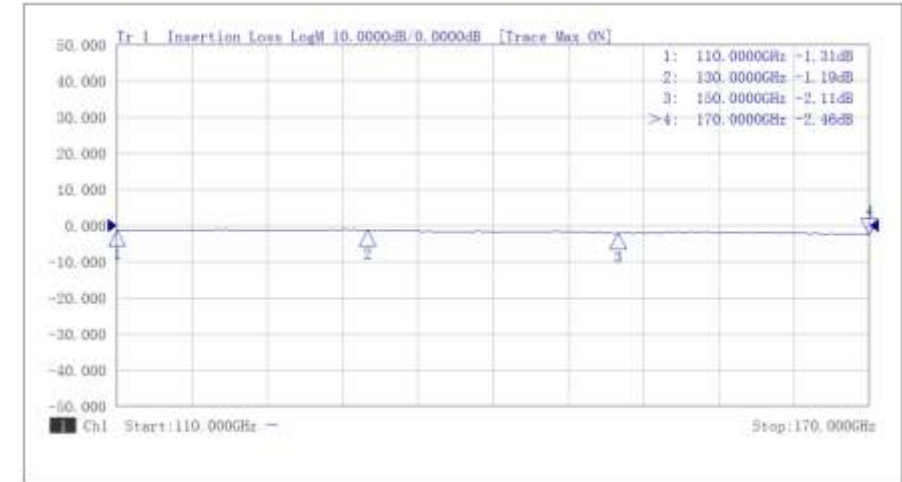


Electronical Specifications:

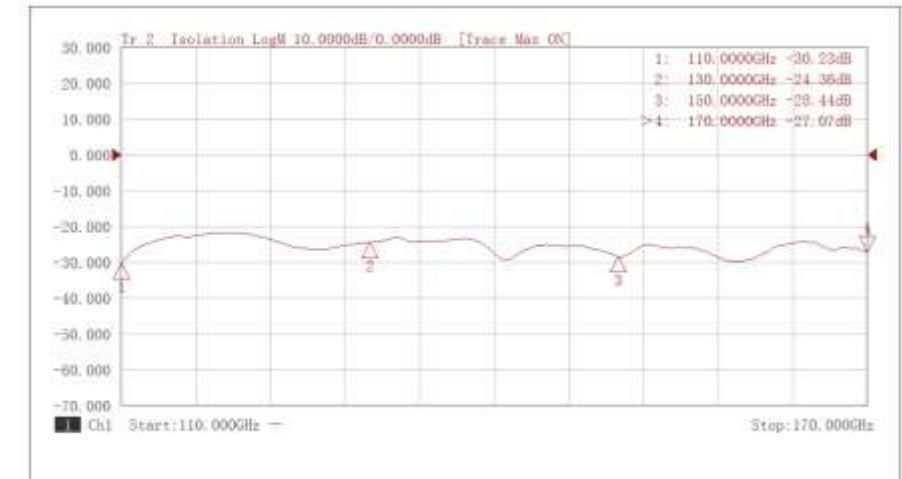
Parameter	Min	Typical	Max
Frequency		110-170GHz	
Insertion Loss		-2.0dB	-3.5
Isolation	16dB	23dB	
Return Loss		-14dB	
Power Handling			0.5W CW
Spec Temp		25C	
Operating Temp	-45C		85C

<https://www.atmicrowave.com/uploads/PDF/AT-ISO-06C1.pdf>

TEST DATA(25C)



Insertion Loss vs Frequency



Isolation vs Frequency