

88-100GHz Receiver, High Gain, NF=4dB

2023-01-03



Product Overview

AT-WRX-88100SIR is high gain W-Band image rejection receiver. The receiver is integrated with High Performance GaAs MMIC chips, with Gain=23dB, NF=4dB. RF frequency range is 88-100GHz, LO range is 10.7-13.3GHz with x8 time inside. IF frequency range is 2.5-8.5GHz with 90 degree hybrid inside to combine IQ together.

The receiver is with compact size. LO/IF port is with SMA, and RF port is with standard WR-10.

More information, please visit www.atmicrowave.com

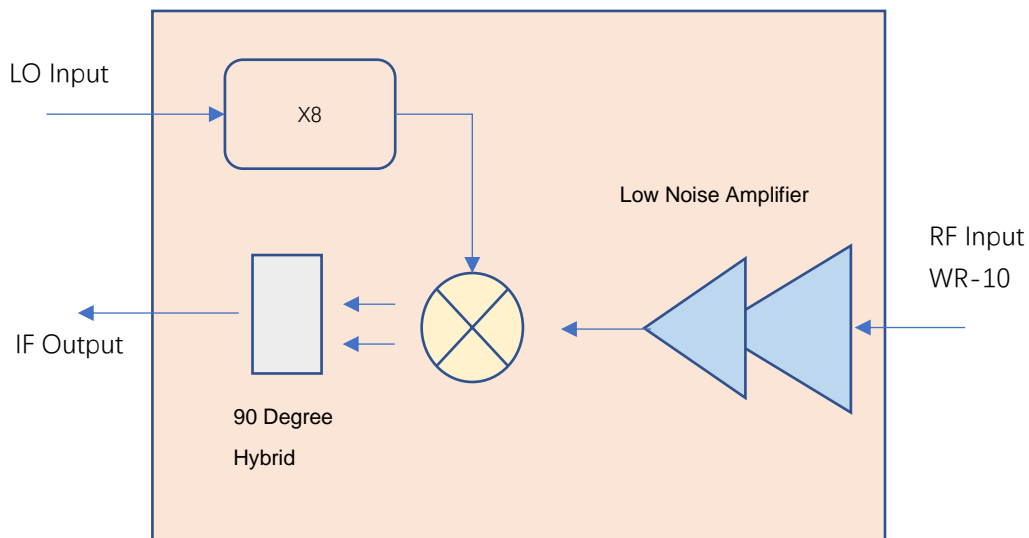
Feature

- ✓ Frequency: 88-100GHz
- ✓ Gain: +23dB typical
- ✓ NF: 4dB
- ✓ IF Range: 2.5-8.5Hz
- ✓ Single Power Supply

Application

- ✓ W band Imaging
- ✓ FOD (Foreigner Objects Debris)
- ✓ Test Equipment
- ✓ ROF (RF Over Fiber)
- ✓ Radar System

Diagram Block





AT-WRX-88100SIR

Image Rejection Receiver, 88-100GHz, Gain 23dB

Key Features

Parameter	Min	Typical	Max
RF Frequency		88-100GHz	
Input Power		-40 dBm	-15dBm
Input P1dB		-30dBm	
LO Frequency	10.7GHz		13.3GHz
LO Multiplier Factor		X8	
LO Power	0	+3dBm	+5dBm
IF Frequency		2.5-8.5GHz	
RF to IF Gain	20	23 dB	
NF		4 dB	6.5dB
Image Rejection	10	15dB	
Drain Power Supply		+5	+8V
Current		300mA	
Spec Temp		+25C	

Note:

- ✓ Low LO application only, which means LO frequency must be always lower than RF Frequency as there is 88 degree at IF port to achieve imaging rejection.
- ✓ High LO module is available according to request.





AT-WRX-88100SIR

Image Rejection Receiver, 88-100GHz, Gain 23dB

Mechanical Information

Parameter	Description
RF Port	WR-10
LO Port	SMA Female
IF Port	SMA Female
Case Material (Note)	Copper
Finish	Gold Plated
Weight	450g
Dimension	See outline

Note: Aluminium for lighter weight is available according to request

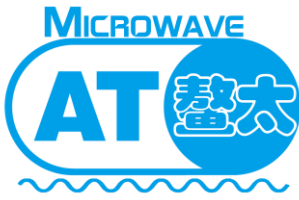
Absolute Maximum Ratings Table

Parameter	Value
RF Power	+7dBm
LO Port	+15dBm
Power Supply	+7V
Operating Temperature	0 to +50C
Storage Temperature	-55 to +125C

Notes:

1. Datasheet may be changed according to update of MMIC, Raw materials , process, and so on.
2. This data is only for reference, not for guaranteed specifications.
3. Please contact AT Microwave team to make sure you have the most current data.

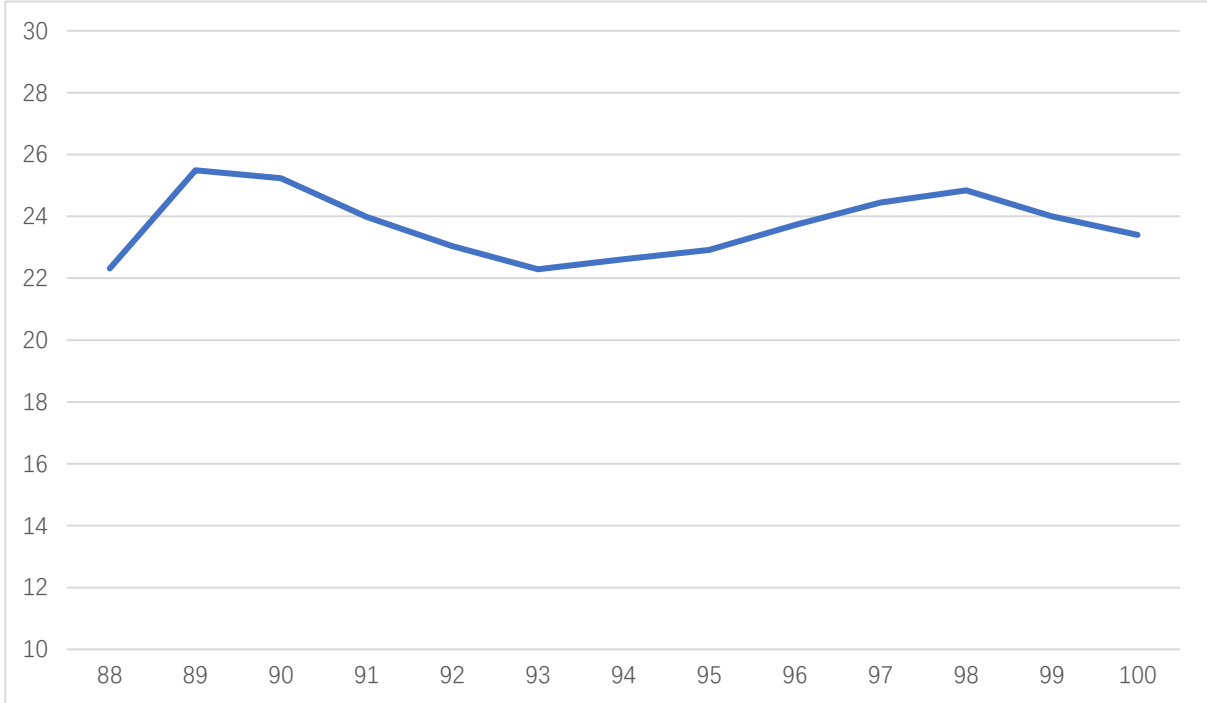




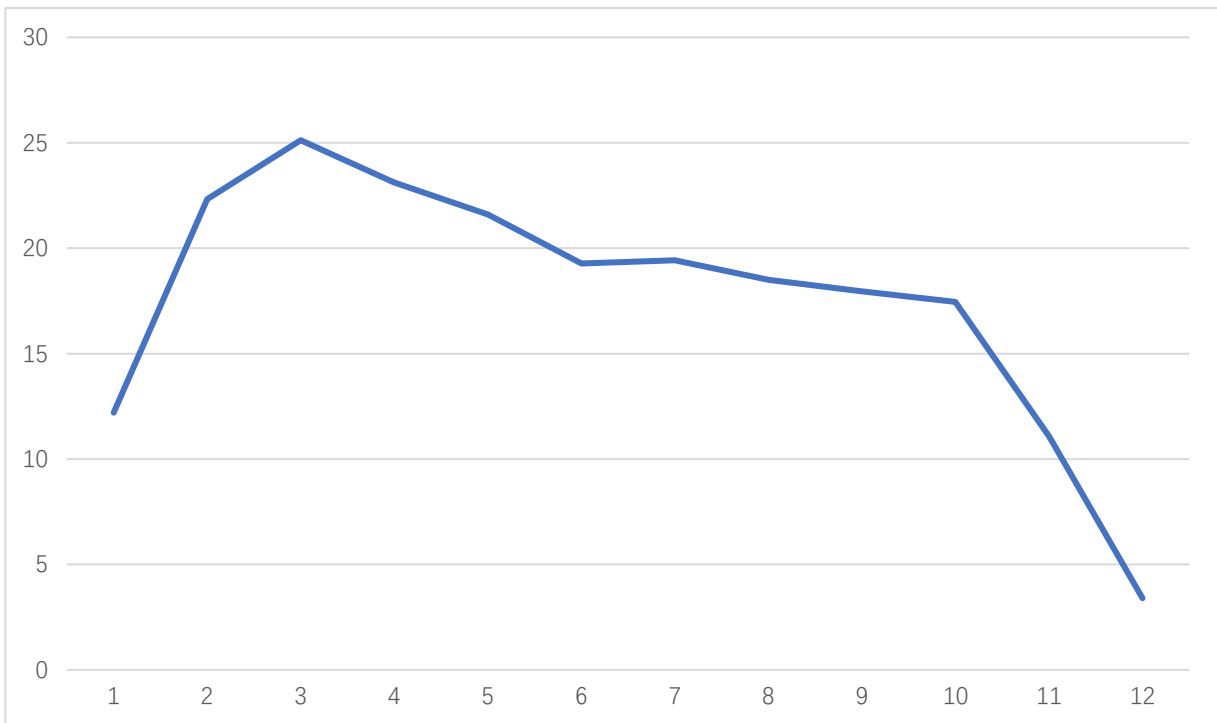
AT-WRX-88100SIR

Image Rejection Receiver, 88-100GHz, Gain 23dB

Test Data(25C)



Gain vs Frequency, Fixed IF=3GHz



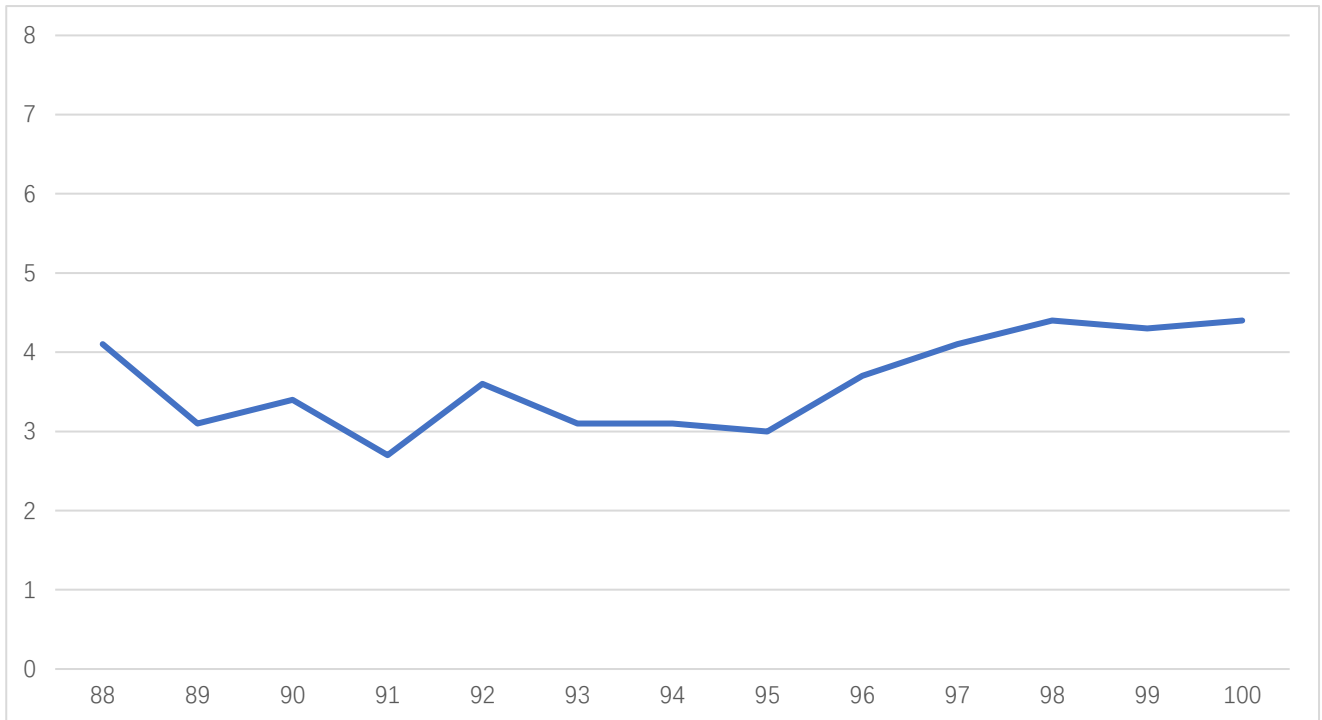
IF Response, Fixe LO=87GHz





AT-WRX-88100SIR

Image Rejection Receiver, 88-100GHz, Gain 23dB



NF Vs Frequency



Dimension (unit mm)

