

W Band Transmitter, 92-96GHz, High Power

Product Overview

AT-WTX-9296SIF is a W-Band Transmitter. The Tx is integrated with High Performance GaAs MMIC chips. RF frequency range is 92-96GHz, LO range is 11.5-12GHz with x8 times multiplier inside. IF range is DC-120GHz with single end port. IQ Port is available according to request.

The receive 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

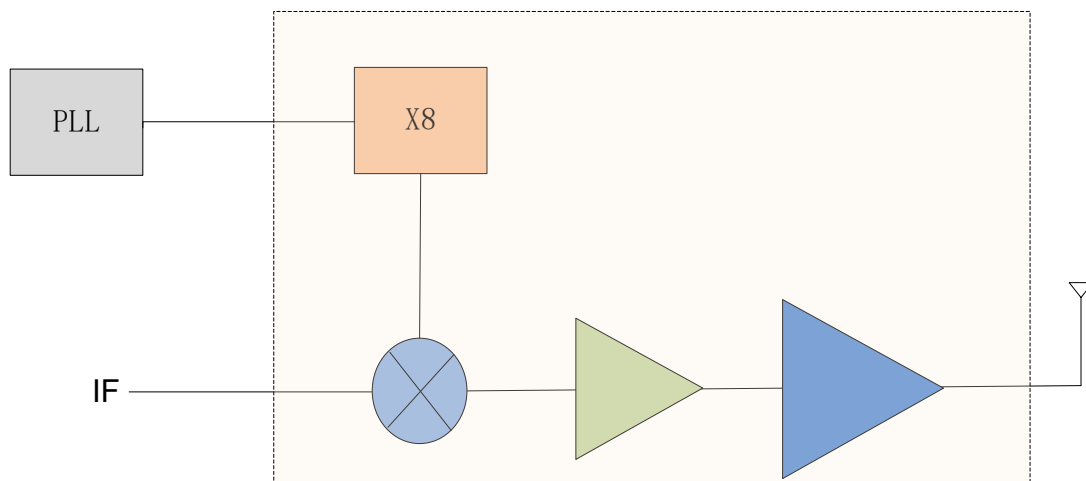
Feature

- ✓ Frequency: 92-96GHz
- ✓ High Power: +18dBm
- ✓ IF Range: DC-12GHz
- ✓ Single power supply

Application

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

Diagram Block





AT-WTX-9296SIF

Compact W Band Transmitter, 92-96GHz, Pout=+18dBm

Key Features

Parameter	Min	Typical	Max
RF Frequency		92-96GHz	
Input Power		-20 dBm	+5
IF Frequency		DC-12GHz	
LO Frequency	11.5GHz		12GHz
LO Power	0	+5dBm	+8dBm
P1Db		+16dBm	
Psat		+18dBm	
OIP3		+26dBm	
Power Supply		+5/500mA	+6V
Spec Temp		25C	
Operating Temp		0 to 50C	

Absolute Maximum Ratings Table

Parameter	Value
Drain Supply 1	+8V
If Input Power	+5dBm
Operating Temperature	0 to +50C
Storage Temperature	-65 to +150C



Application Note

Mixer is a three port component with RF, LO and IF ports. Normally, a mixer can be used both up and down converter application. Take up converter for example:

General Balance Mixer

For general balance mixer, $RF = LO \pm IF$. There will be both high end $LO+IF$ and Low End $LO-IF$. Take for example, $IF=2GHz$, $LO=94GHz$, so there will be 92GHz and 96GHz at RF port with same power level.

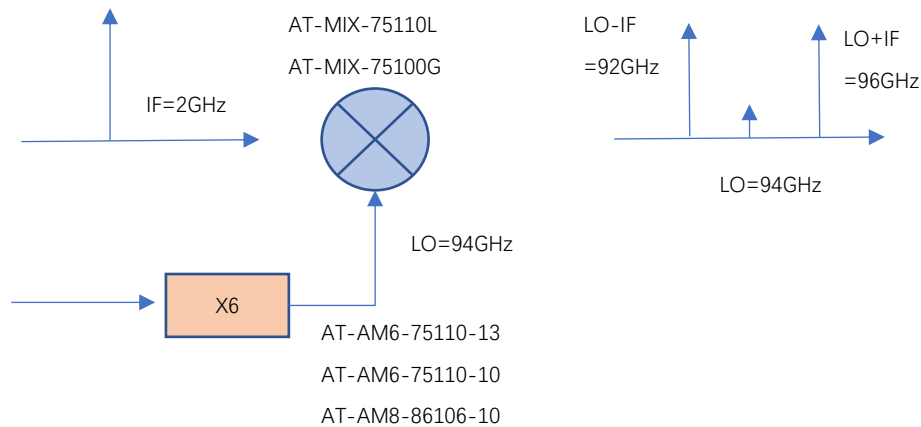


Figure A: General Balance Mixer with Both High and Low Side Output

IQ Mixer used as side suppression Mixer

When $IF=2GHz$, 90 degree hybrid is used at IF port, and IF applies to Input 1 Port of hybrid, you will have high end frequency $RF=LO+IF=96GHz$, while have side suppression (say -25dBc) at Low end frequency 92GHz.

When you need low end frequency 92GHz, and make side suppression for high end frequency 96GHz, just applies IF to Input 2 of the hybrid.

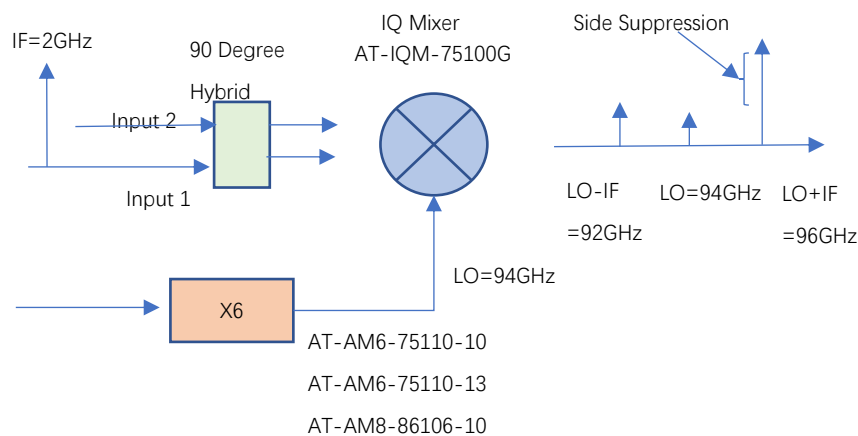


Figure B: IQ Mixer works as side suppression mixer

