

## 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-10GHz with IQ Port. Single end IF 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](http://www.atmicrowave.com)

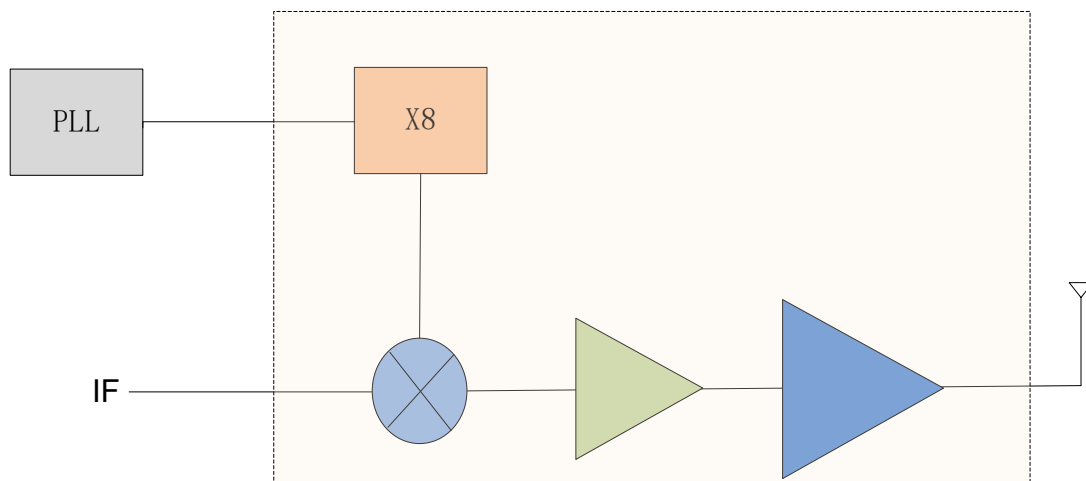
### Feature

- ✓ Frequency: 92-96GHz
- ✓ High Power: +18dBm
- ✓ IF Range: DC-10GHz
- ✓ Single power supply

### Application

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

### Diagram Block





# AT-WTX-9296IQ

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-10GHz	
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.

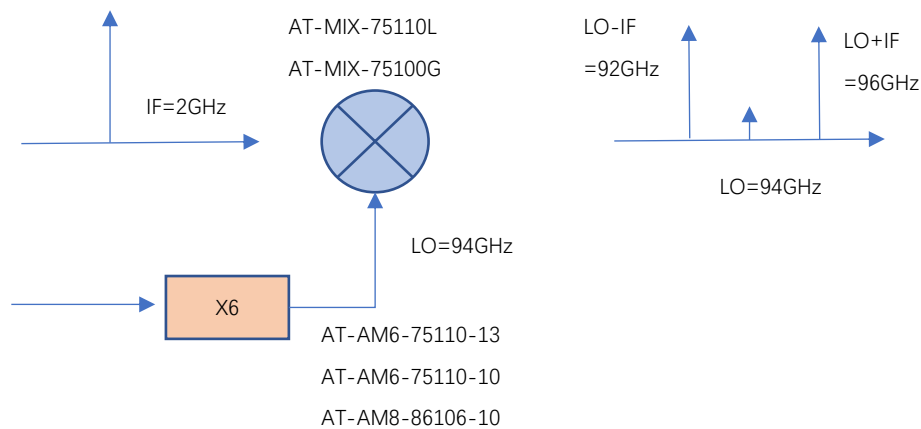


Figure A: General Balance Mixer with Both High and Low Side Output

### 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.

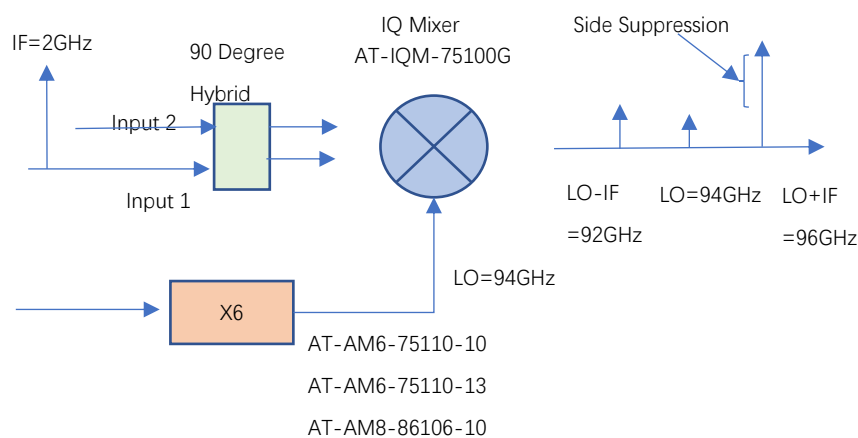


Figure B: IQ Mixer works as side suppression mixer

