

## V Band Transmitter, 57-66GHz



### Product Overview

AT-VTX-5766 is a V-Band Transmitter, with gain=14dB, Pout=+18dBm typical.

The Tx is integrated with High Performance GaAs MMIC chips. RF frequency range is 57-66GHz, LO range is 9.1-11GHz with x6 times multiplier inside. IF range is DC-10GHz The receive is with compact size. LO/IF port is with SMA, and RF port is with standard WR-15.

More information, please visit [www.atmicrowave.com](http://www.atmicrowave.com)

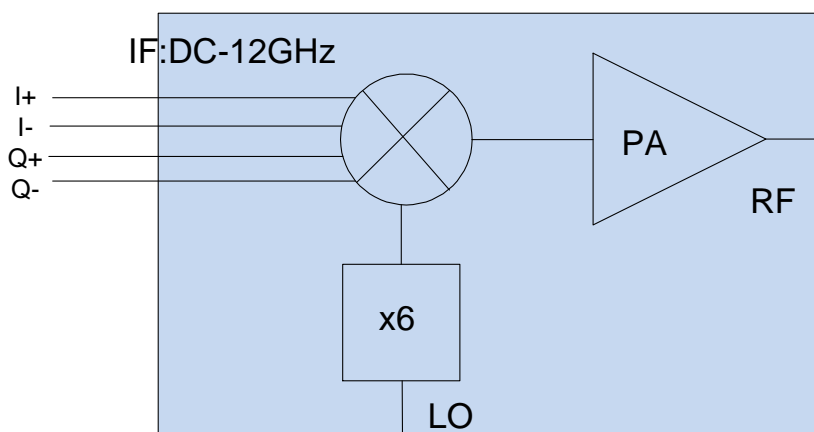
### Feature

- ✓ Frequency: 57-66GHz
- ✓ Gain: 14dB typical
- ✓ IF Range: DC-10GHz
- ✓ Pout: +17dBm Typical

### Application

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

### Diagram Block





# AT-VTX-5766

Compact V Band Transmitter, 57-66GHz

## Key Features

Parameter	Min	Typical	Max
RF Frequency		57-66GHz	
IF Frequency (Note1)		DC-10GHz	
LO Frequency	9.1GHz		11GHz
LO Power		+10dBm	
P1Db		+16dBm	
Psat		+17dBm	
Conversion Gain(Combined IQ)		14 dB	
RF Return Loss		-12 dB	
LO Return Loss		-10 dB	
Drain Power Supply		+5/500mA	+8V
RF Port Connector		WR-15	
IF/LO Port Connector		SMA Female	
Weight		310g	
Dimension		50x60x20mm	

## Test Condition

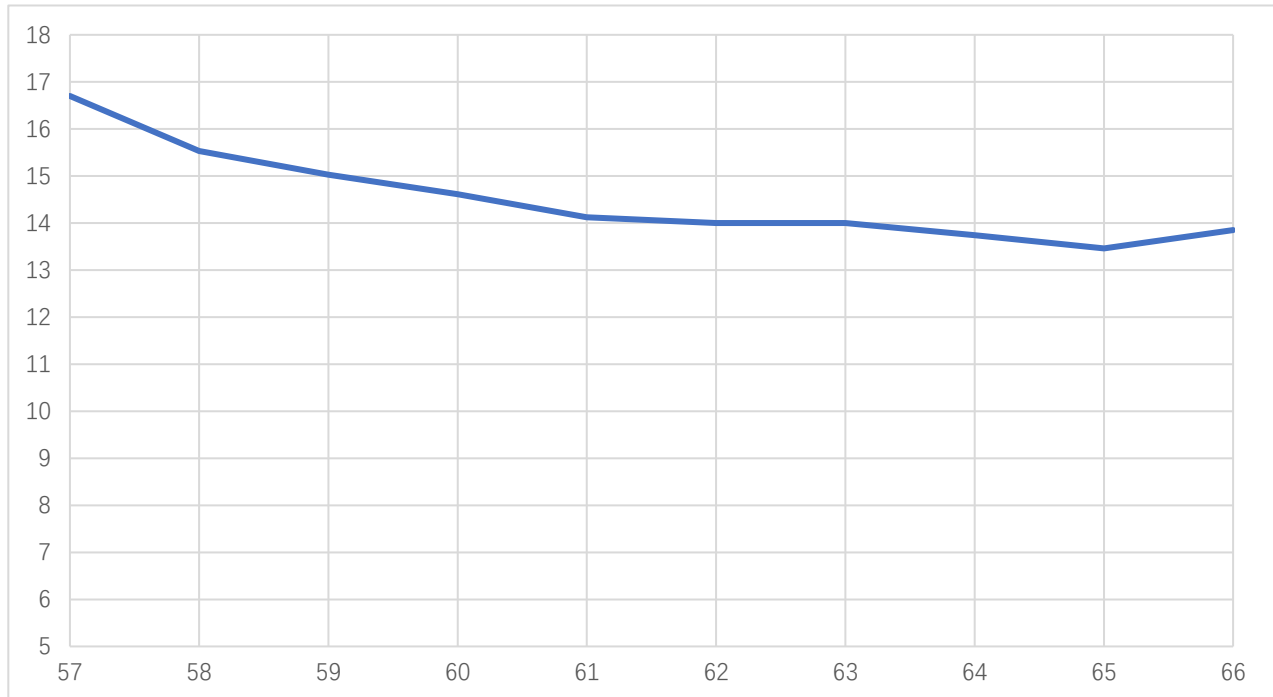
Parameter	Setting
IF Input Power	-5dBm
Input Frequency	2GHz
LO Power	+10dBm
Temperature	25C

## Absolute Maximum Ratings Table

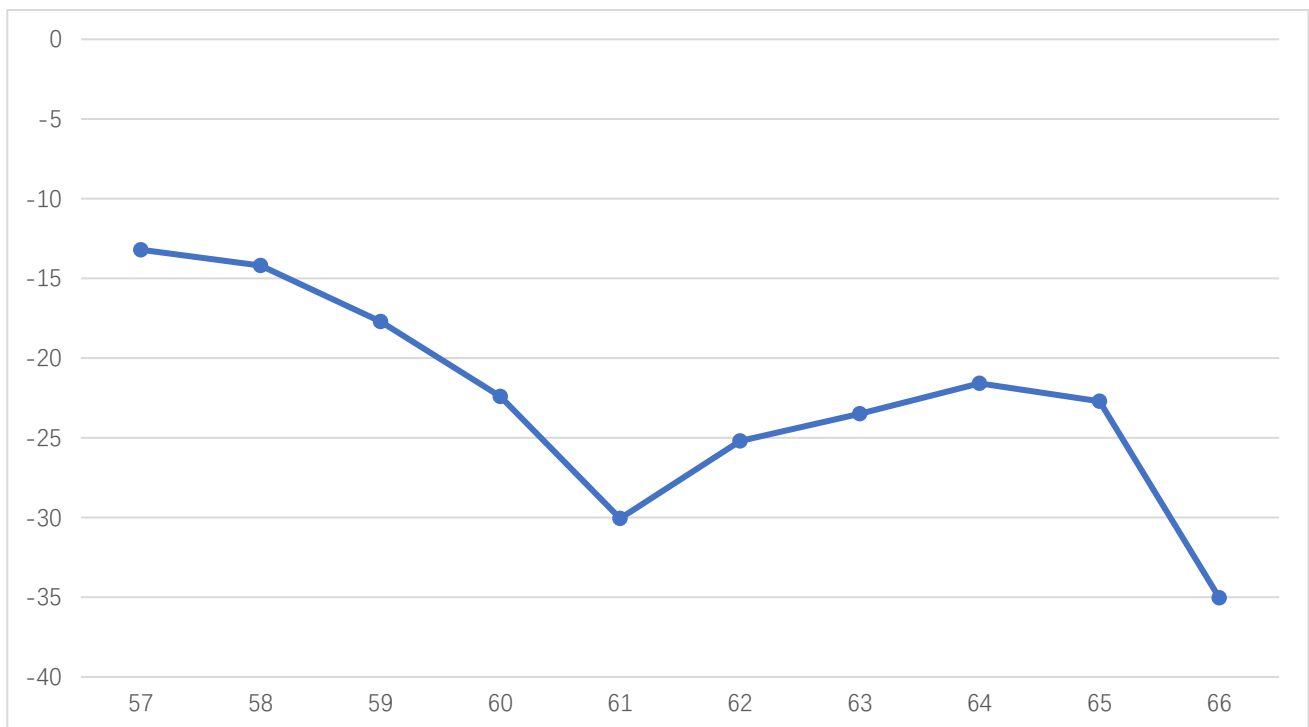
Parameter	Value
Drain Supply	+9V
IF Input Power	+7dBm
LO Power	+15dBm
Operating Temperature	0 to +50C
Storage Temperature	-65 to +150C



### Test Data:



Conversion Gain Vs Frequency (Combine IQ Together)



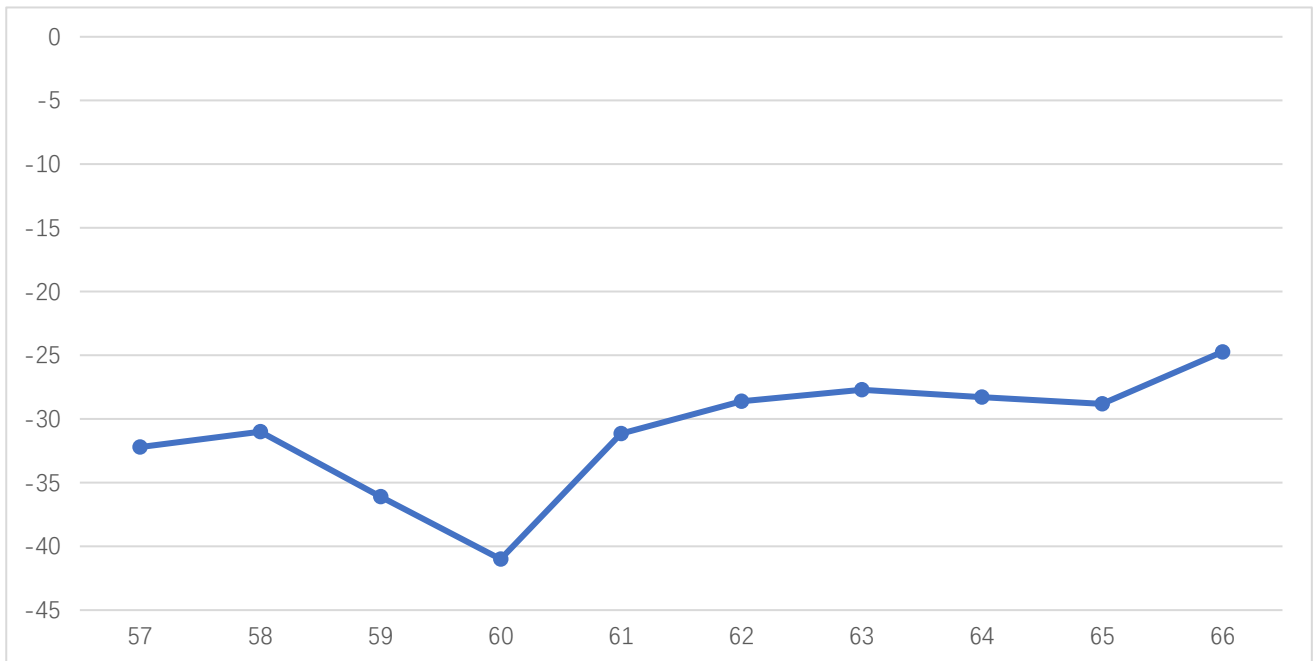
LO RF Isolation



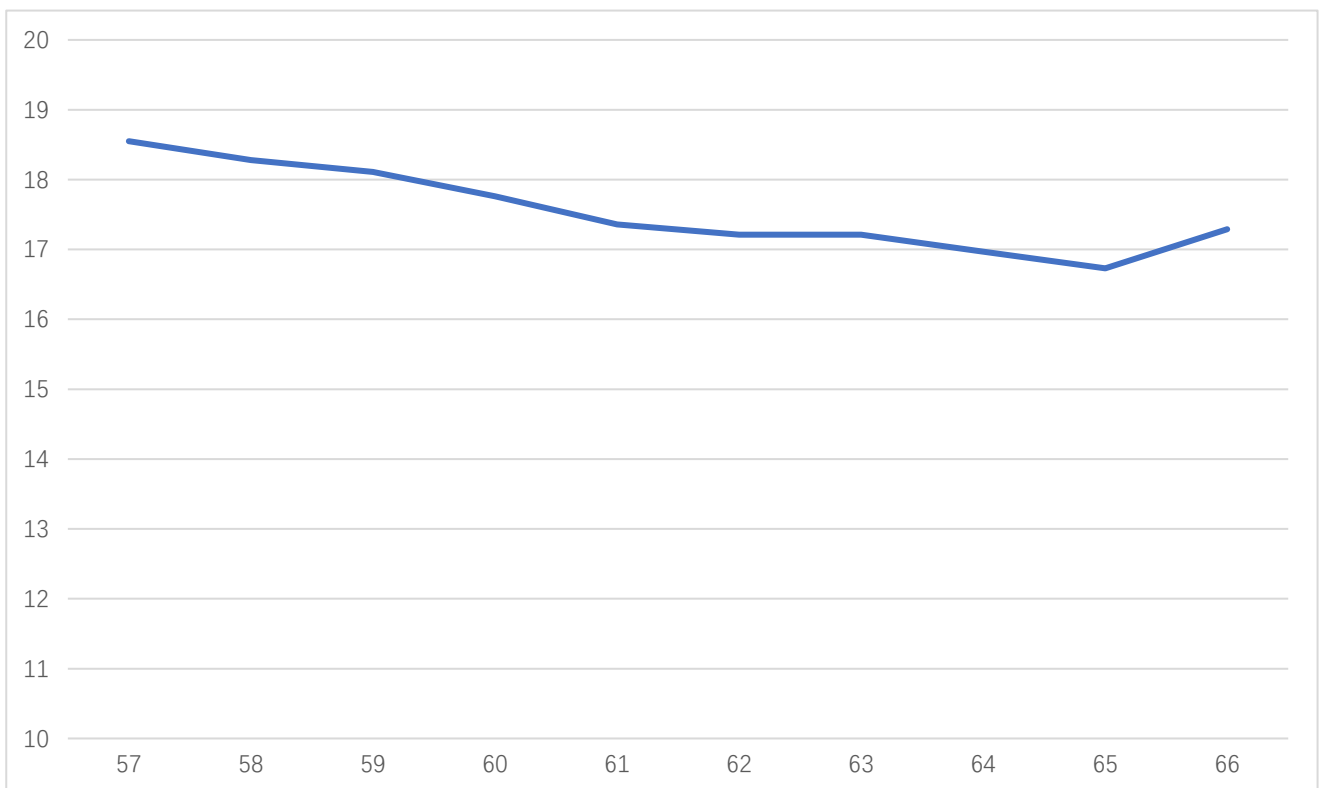


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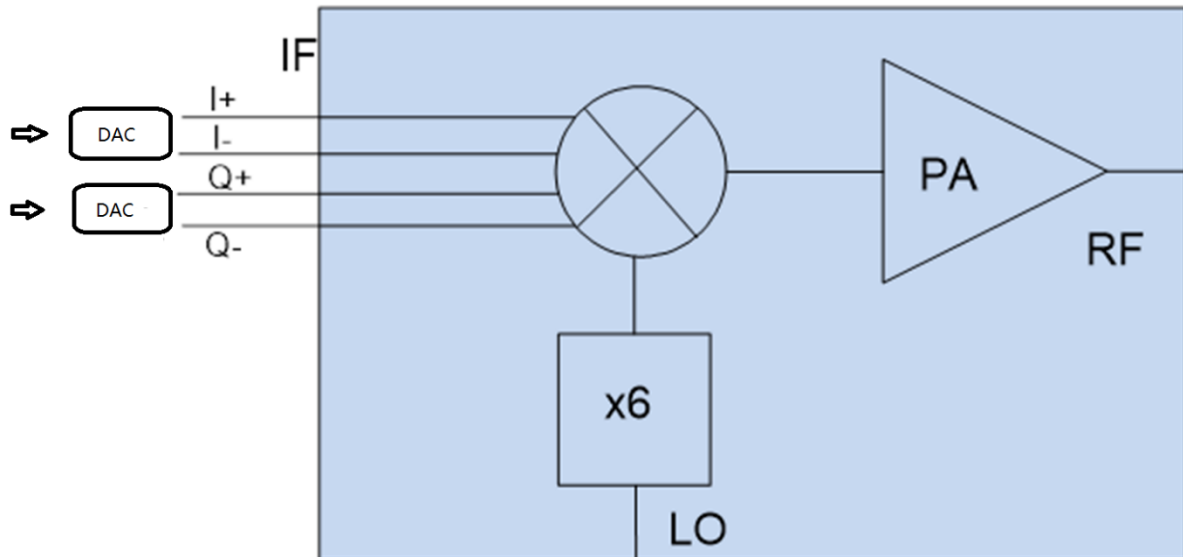
Low Side band suppression



Pout vs Frequency

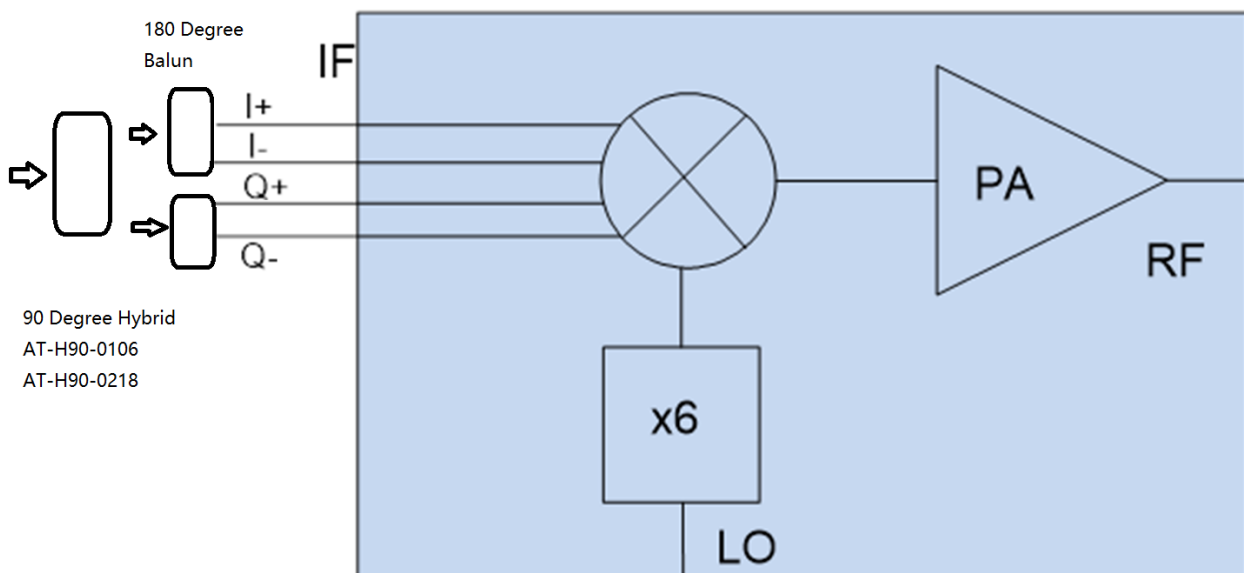


## Applicaiton1:



Zero IF Direct Conversion

## Applicaiton2:



Imaging Rejection Single IF Application

Contact with us for 180degree balun and 90degree hybrid.



### 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,  $IF=2GHz$ ,  $LO=60GHz$ , so there will be  $58GHz$  and  $62GHz$  at RF port with same power level.

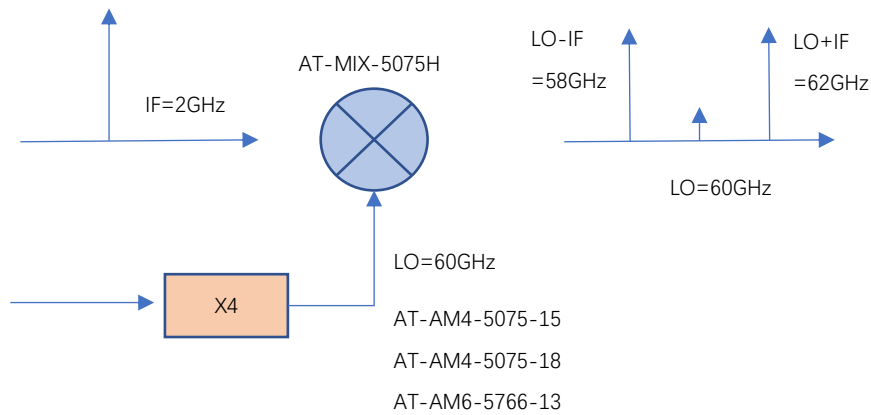


Figure A: General Balance Mixer with Both High and Low Side Output

#### IQ Mixer used as side suppression Mixer

When  $IF=2GHz$ , 90 degree hybrid is used at IF port, when IF applies to Input 1 Port of hybrid, you will have high end frequency  $RF = LO + IF = 62GHz$ , while have side suppression (say  $-25dBc$ ) at Low end frequency  $58GHz$ . When you need low end frequency  $58GHz$ , and make side suppression for high end frequency  $62GHz$ , just applies IF to Input 2 of the hybrid.

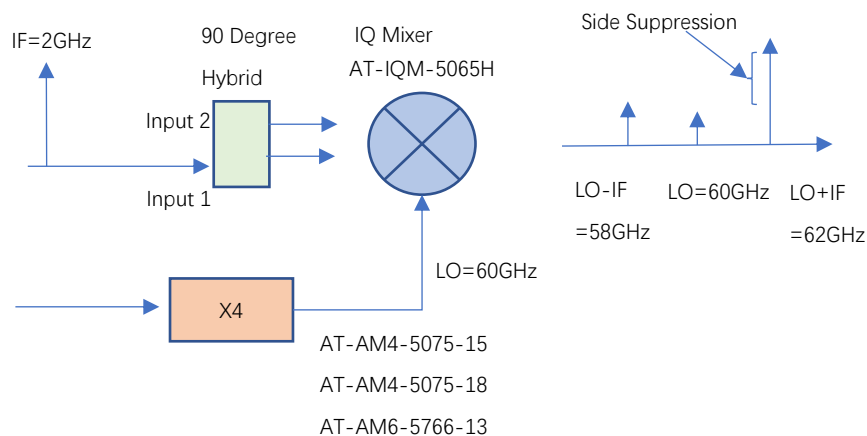


Figure B: IQ Mixer works as side suppression mixer



### Dimension (mm)

