AT-VTX-6671

Compact V Band Transmitter, 66-71GHz

V Band Transmitter, 66-71GHz

Product Overview

AT-VTX-6671 is a V-Band Transmitter, with gain=12dB, Pout=+17dBm typical.

The Tx is integrated with High Performance GaAs MMIC chips. RF frequency range is 66-71GHz, LO range is 9.1-11.83GHz 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

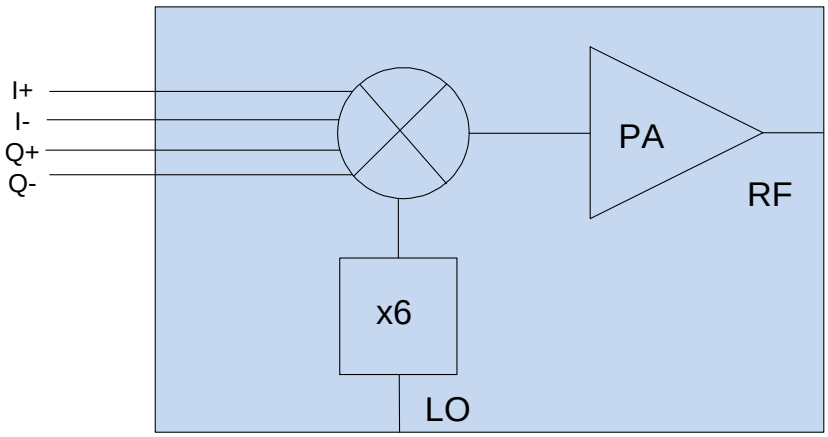
Feature

- ✓ Frequency: 66-71GHz
- ✓ Gain: 12dB 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



Shanghai AT Microwave Limited

Tel:021-6229 1233 Email:sales@atmicrowave.com www.atmicrowave.com

AT-VTX-6671

Compact V Band Transmitter, 66-71GHz

Key Features

Parameter	Min	Typical	Max
RF Frequency		66-71GHz	
IF Frequency		DC-10GHz	
LO Frequency	9.1GHz		11．83GHz
LO Multiplication Factor		X6	
LO Power		+10dBm	
P1Db		+15dBm	
Psat		+17dBm	
Conversion Gain(combine IQ)		12 dB	
RF Return Loss		-12 dB	
LO Return Loss		-10 dB	
Drain Power Supply		+5/500mA	+8V
Spec Temp		25C	

Note1: WR-12 is available according to request.

Shanghai AT Microwave Limited

Tel:021-6229 1233 Email:sales@atmicrowave.com www.atmicrowave.com

Mechanical Information

Parameter	Description
RF Port	WR-15
LO Port	SMA Female
IF Port	SMA Female
Case Material (Note)	Copper
Finish	Gold Plated
Weight	315g
Dimension	See outline

Note: Aluminium for lighter weight is available according to request

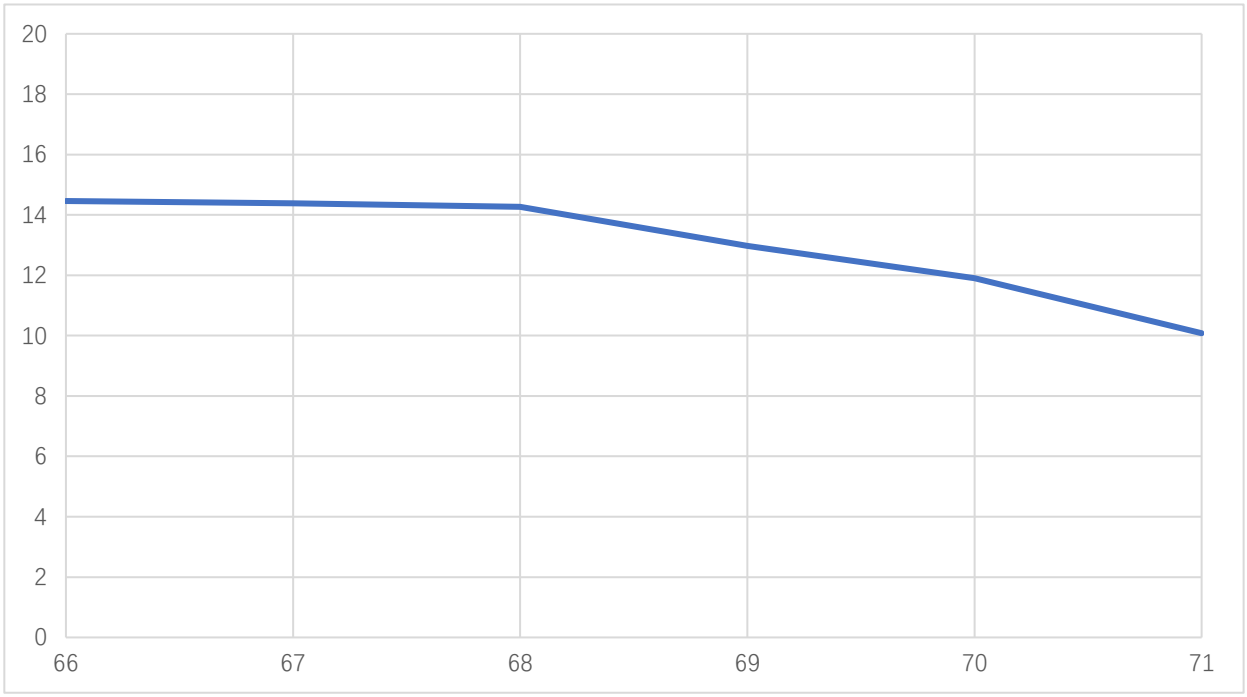
Absolute Maximum Ratings Table

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

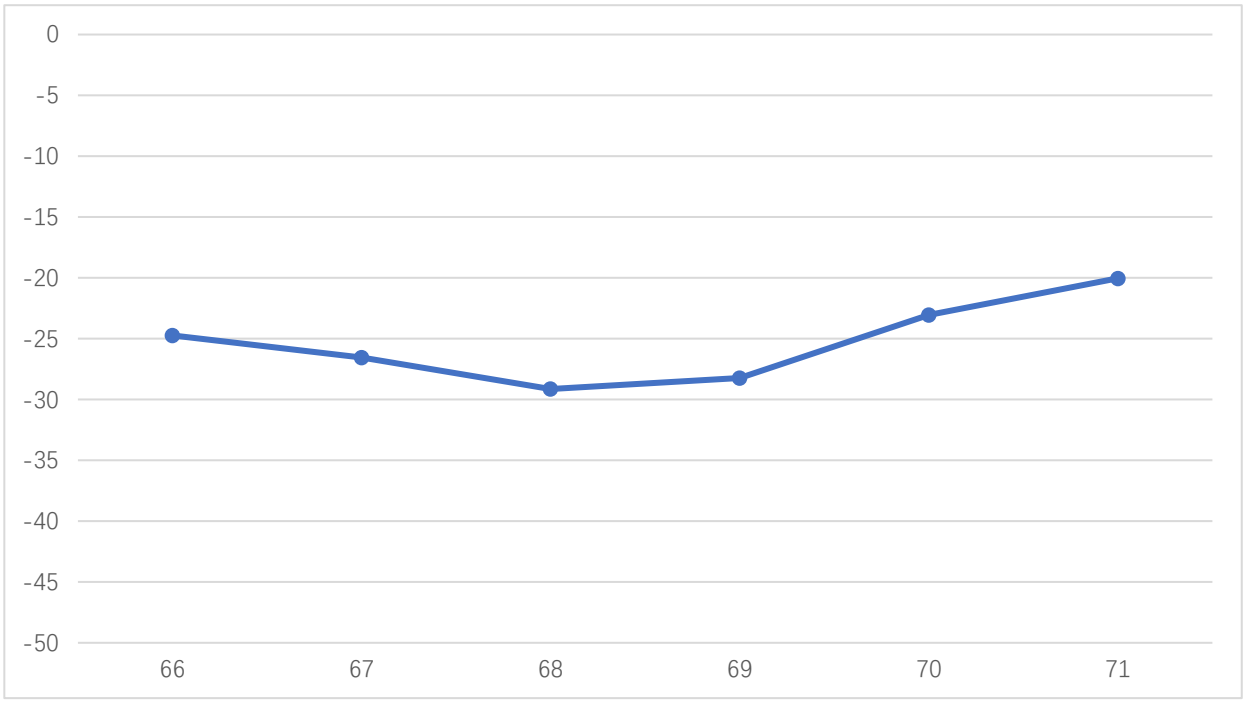
Test Condition

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

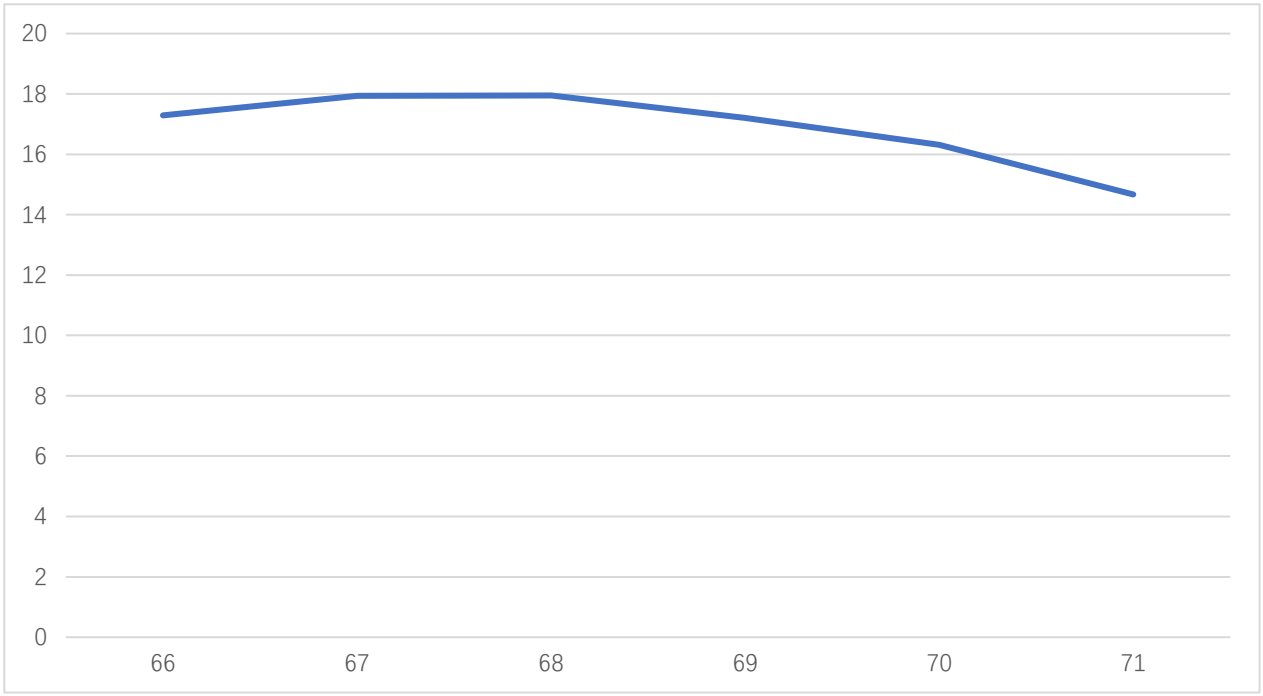
Test Data (25C)



Conversion Gain vs Frequency (combined IQ Together)

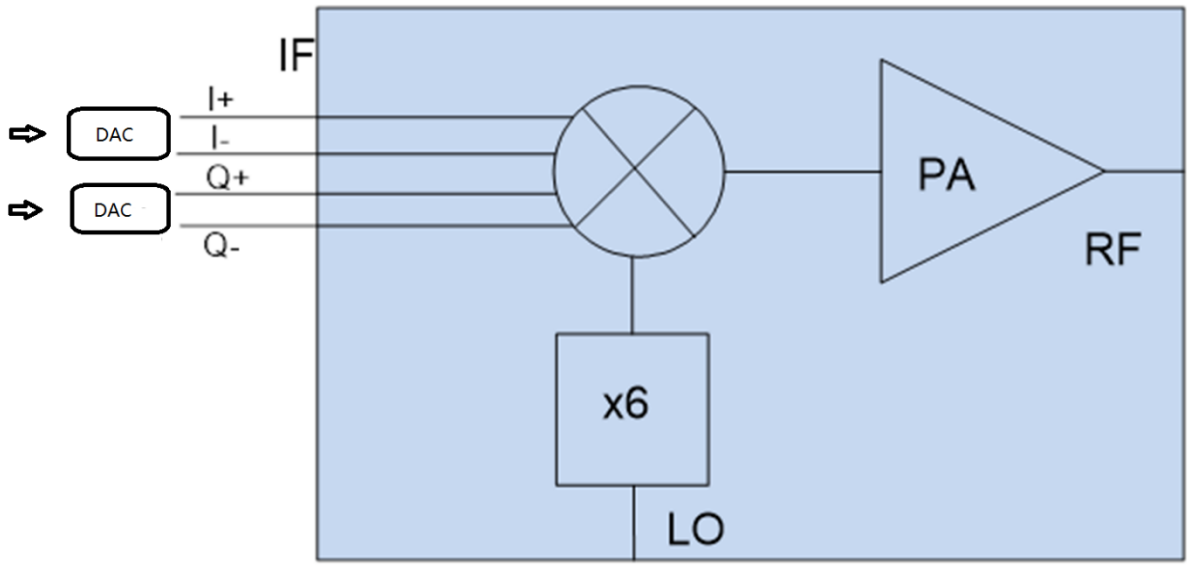


Low Band Suppression vs Frequency, IF=2GHz



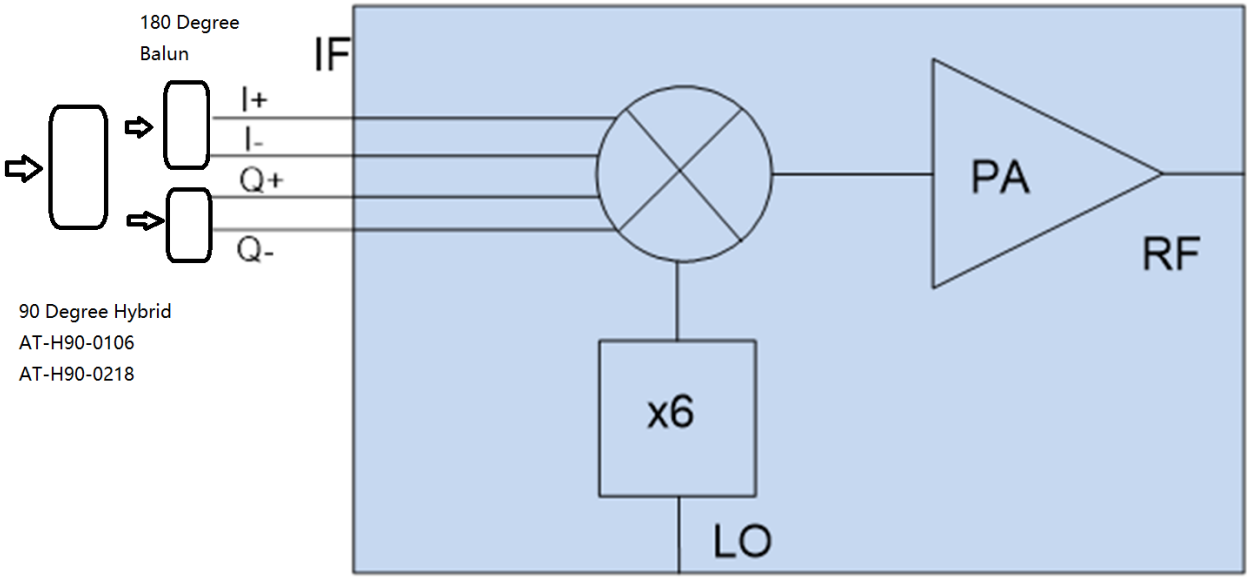
Pout vs Frequency

Appliccaiton1:



Zero IF Direct Conversion

Appliccaiton2:



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 +/- 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.

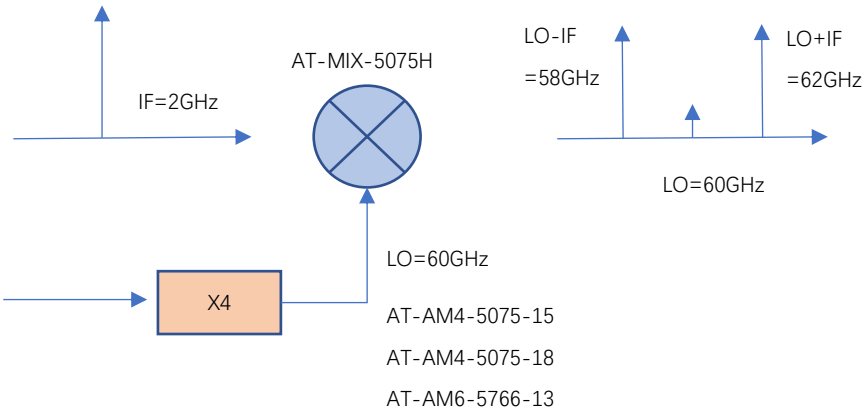


Figure A: General Balance Mixer with Both High and Low Side Output

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.

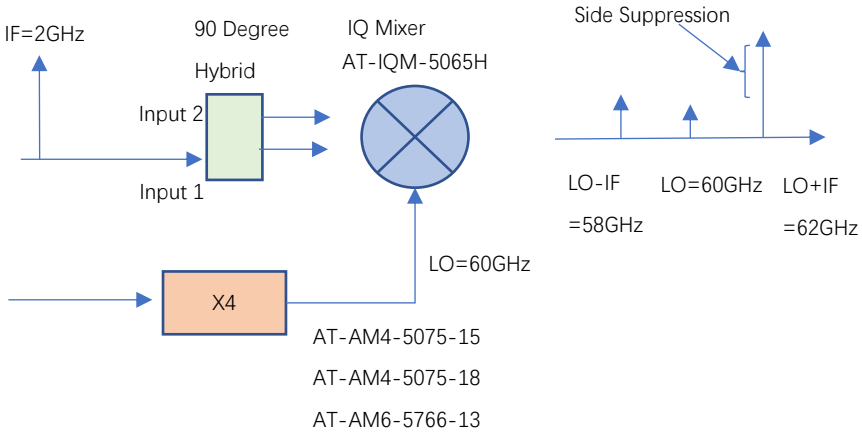
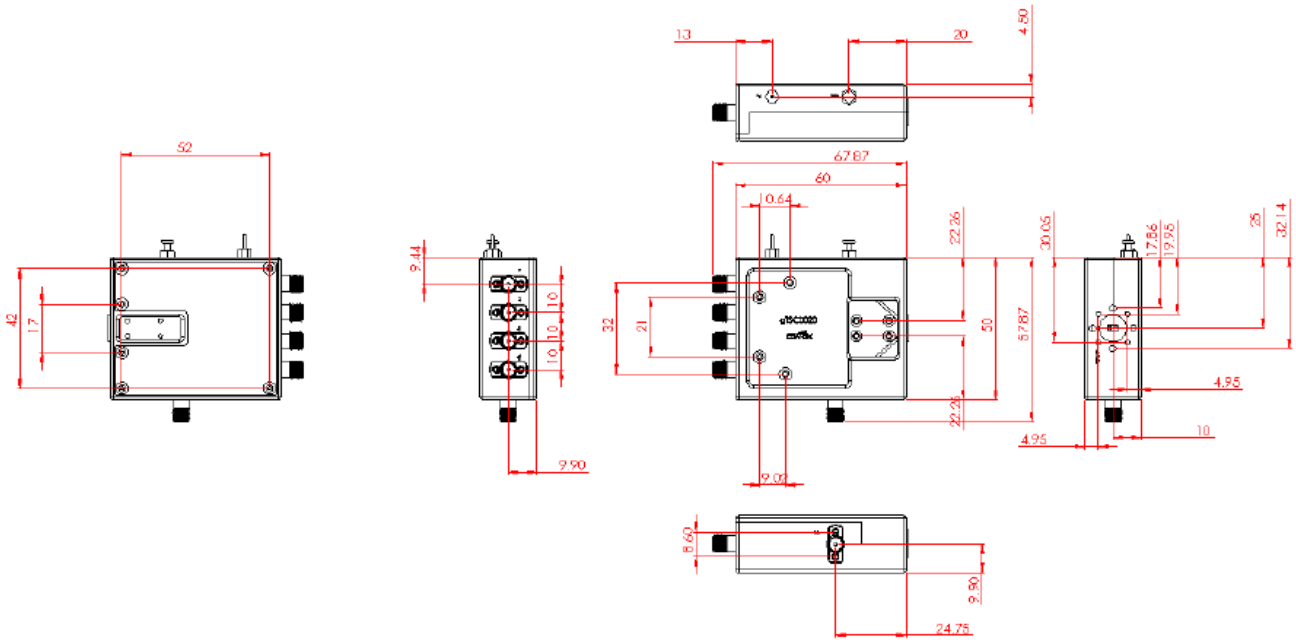


Figure B: IQ Mixer works as side suppression mixer

AT-VTX-6671

Compact V Band Transmitter, 66-71GHz

Dimension （mm）



Shanghai AT Microwave Limited

Tel:021-6229 1233 Email:sales@atmicrowave.com www.atmicrowave.com