

2020-11-27

E2 Band Receiver, 81-86GHz



Product Overview

AT-ERX-8186 is a E2-Band Receiver, with gain=13dB, NF=6 dB typical.

The Rx is integrated with High Performance GaAs MMIC chips. RF frequency range is 81-86GHz, LO range is 11.8-14.3GHz with x6 times multiplier inside. IF range is DC-10GHz The receiver is with compact size. LO/IF port is with SMA, and RF port is with standard WR-12.

More information, please visit www.atmicrowave.com

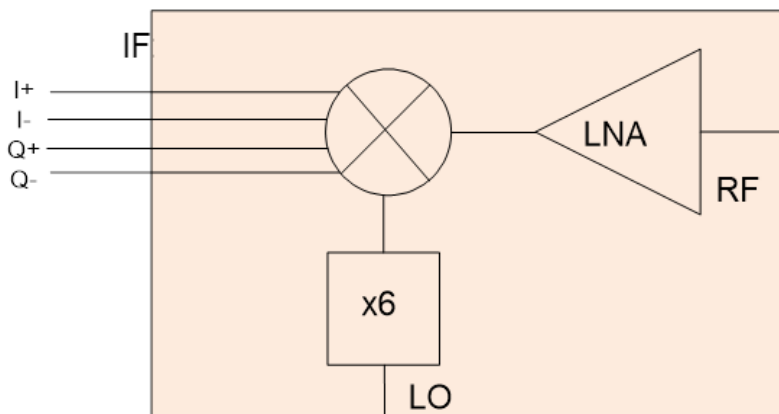
Feature

- ✓ Frequency: 81-86GHz
- ✓ Gain: 13dB typical
- ✓ IF Range: DC-10GHz
- ✓ NF=6dB Typical

Application

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

Diagram Block





AT-ERX-8186

Compact E2 Band Receiver, 81-86GHz

Key Features

Parameter	Min	Typical	Max
RF Frequency		81-86GHz	
IF Frequency (Note1)		DC-10GHz	
LO Frequency	11.8GHz		14.3GHz
Multiplier Factor		X6	
LO Power	+7	+10dBm	+12
NF	5	6 dB	
Conversion Gain (Combined IQ)	10	13 dB	15
RF Return Loss		-10dB	
LO Return Loss		-14dB	
Drain Power Supply		+5/150mA	+7V
Spec Temp		25C	





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Mechanical Information

Parameter	Description
RF Port	WR-12
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
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.

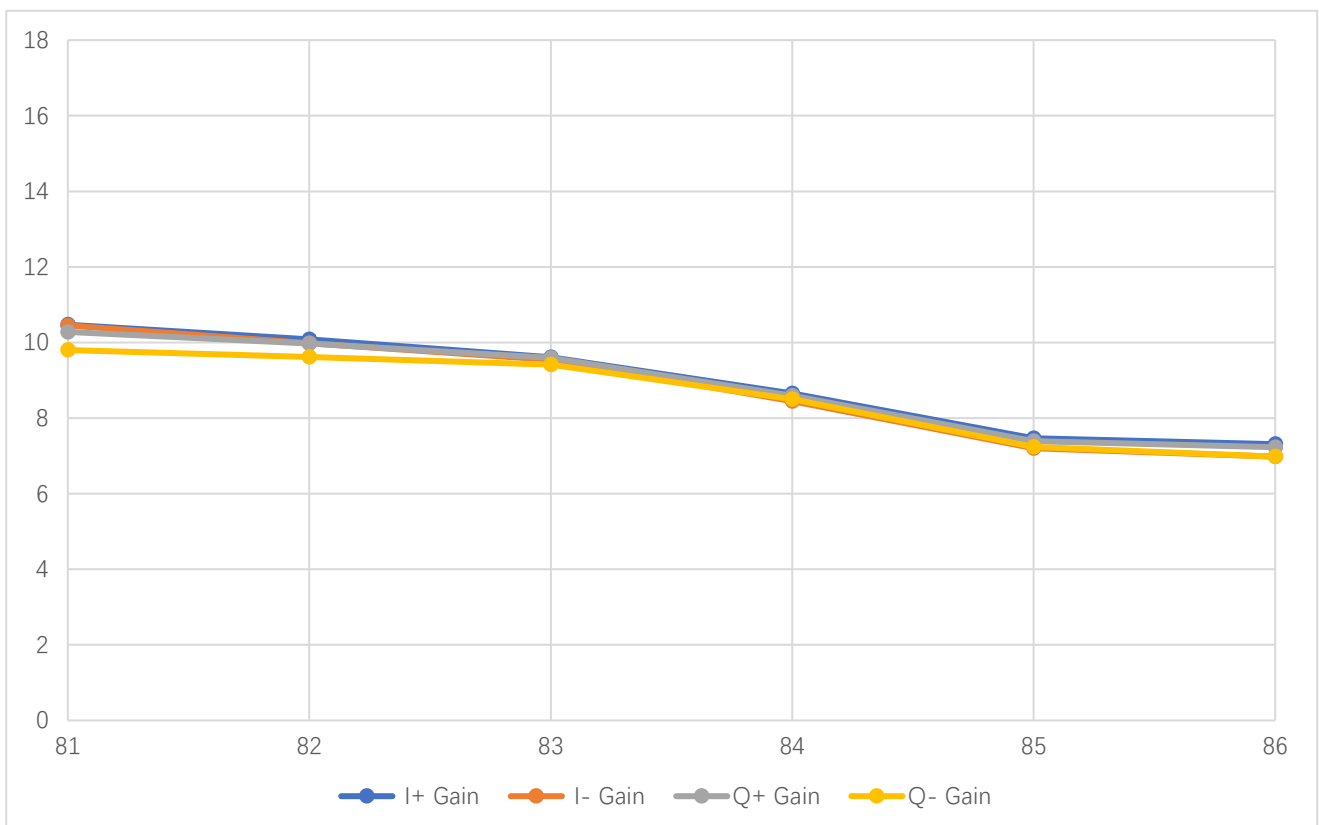


Test Condition

Parameter	Setting
RF Input Power	-20dBm
LO Power	+10dBm
IF Frequency	1GHz
Temperature	25C

Test Data (25C)

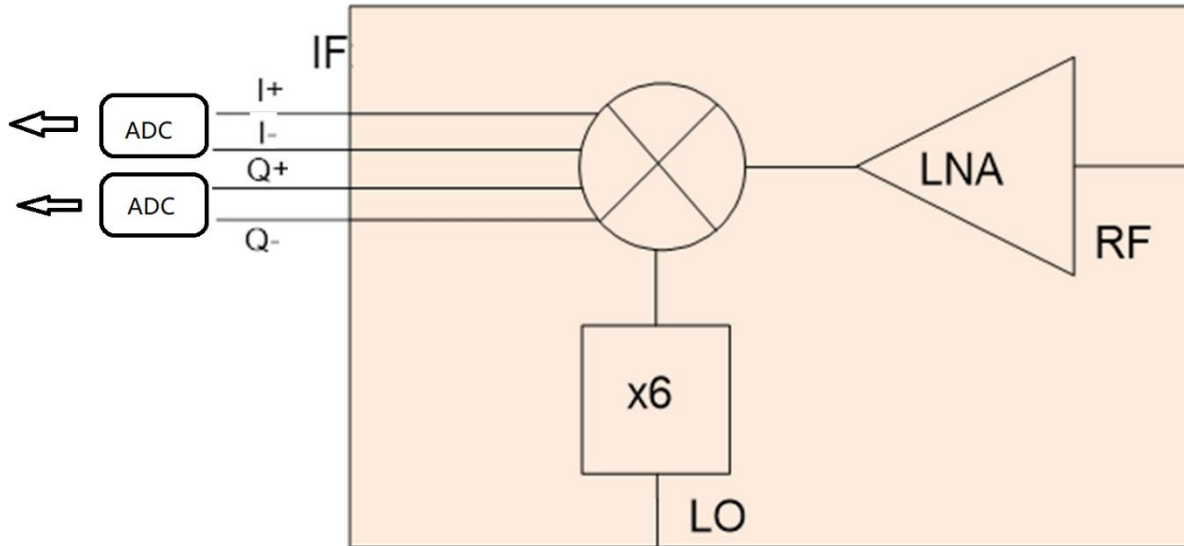
LO=+10dBm, IF=1GHz, RF Power=-20dBm



Conversion Gain vs Frequency

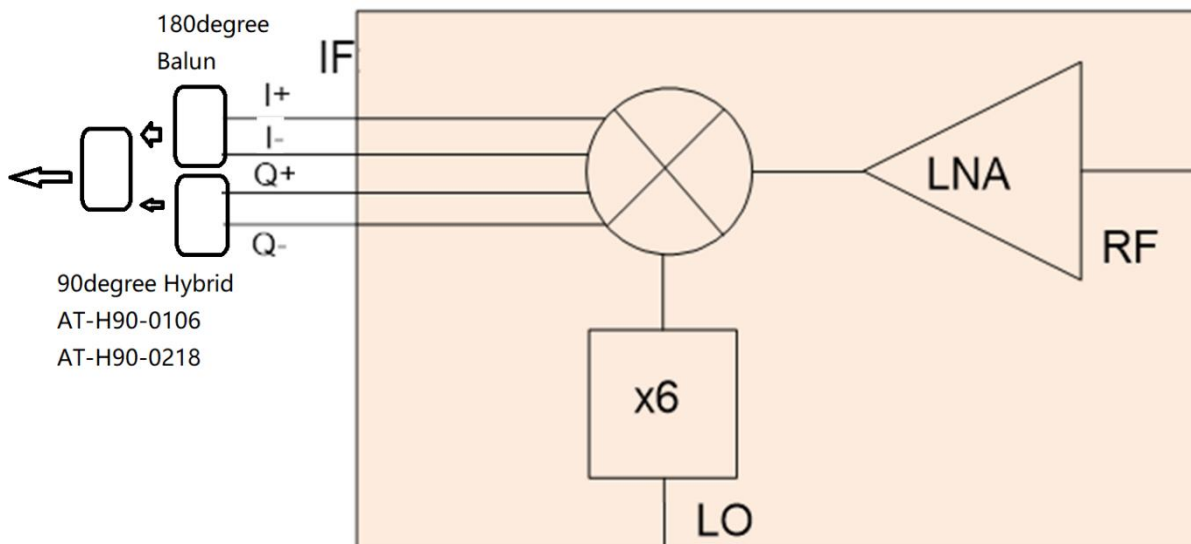


Applicaiton1:



Zero IF Direct Conversion

Applicaiton2:



Imaging Rejection Single IF Application

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



Dimension (mm)

