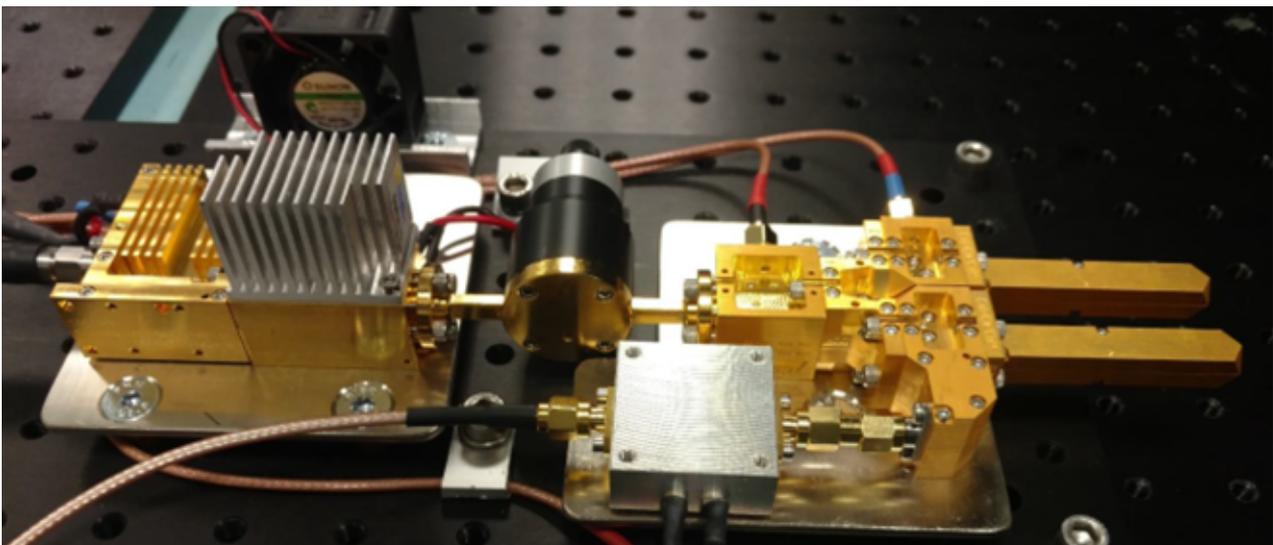


## 340 GHz Transceiver Type 1310B

### Product Description

ACST 340 GHz transceiver for FMCW radar is designed and manufactured as a bench top unit. It takes an input signal at 12.91 GHz to 14.34 GHz to reach 310 to 340 GHz for the Tx and LO power at 155-172 GHz for the Rx. A dedicated directional coupler is used to separate the transmitter and receiver LO paths. The typical transmitting power is +13 dBm and 8.5 dB DSB noise figure receiver performance. The transceiver assembly is fixed tuned and does not require any adjustment for proper operation. A dedicated power supply is included.



Additional options can be implemented on customer request i. e. TTL modulation port, customized IF-band, horn antennas, different multiplication factor of the AMC, etc.

### Application Areas

- True Ranging Radar Systems
- 340 GHz CW power source
- 340 GHz heterodyne receiver

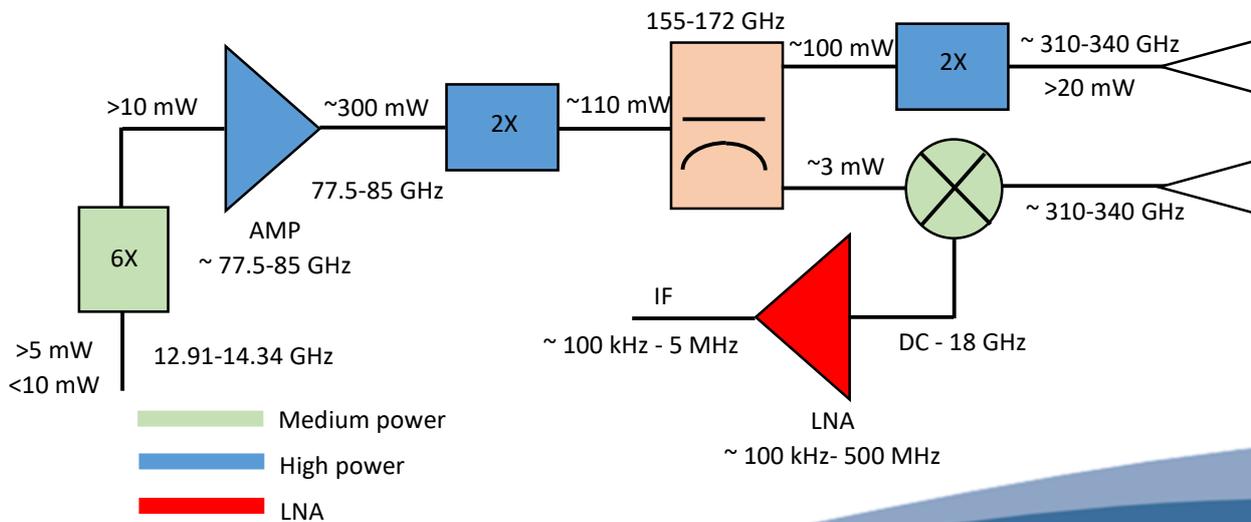
### Product Features

- 310 to 340 GHz Operation
- Broad FM Bandwidth
- High power
- Low noise

Tab. 1: Technical Specifications

Technical Specifications	Minimum	Typ.	Maximum
Input port		K-type (F) connector	
Input Power (mW)		5	10
Input Freq. Signal (GHz)	12.91		14.34
Output Tx Port		WR-2.8	
Output Tx Power (mW)	10	20	30
Output Tx Freq. (GHz)	310		340
Input Rx Port		WR-2.8	
Input Rx Power (mW)			0.1
Input Rx Freq. (GHz)	310		340
Rx Noise Figure (dB)	8	9	11
Rx IF Output Port		SMA (F) connector	
IF LNA Gain (dB)	45	46	
LNA Noise Figure (dB)	1.8	1.9	2.0
IF Output Freq. (MHz)	0.01		500

## Block Diagramm



## Notes

- All values presented based on finished design and experimental experiences.
- All tests are carried out at a room temperature of 24 °C.

## Caution

- Absolute maximum ratings should not be used under normal operating conditions. Exceeding maximum ratings may lead to permanent failure.
- Any foreign body inserted into the waveguide will cause a loss of performance and may damage the device.

ACST GmbH reserves the right to make changes to the product or information contained herein without notice.  
Visit [www.acst.de](http://www.acst.de) for additional data sheets and product information.

