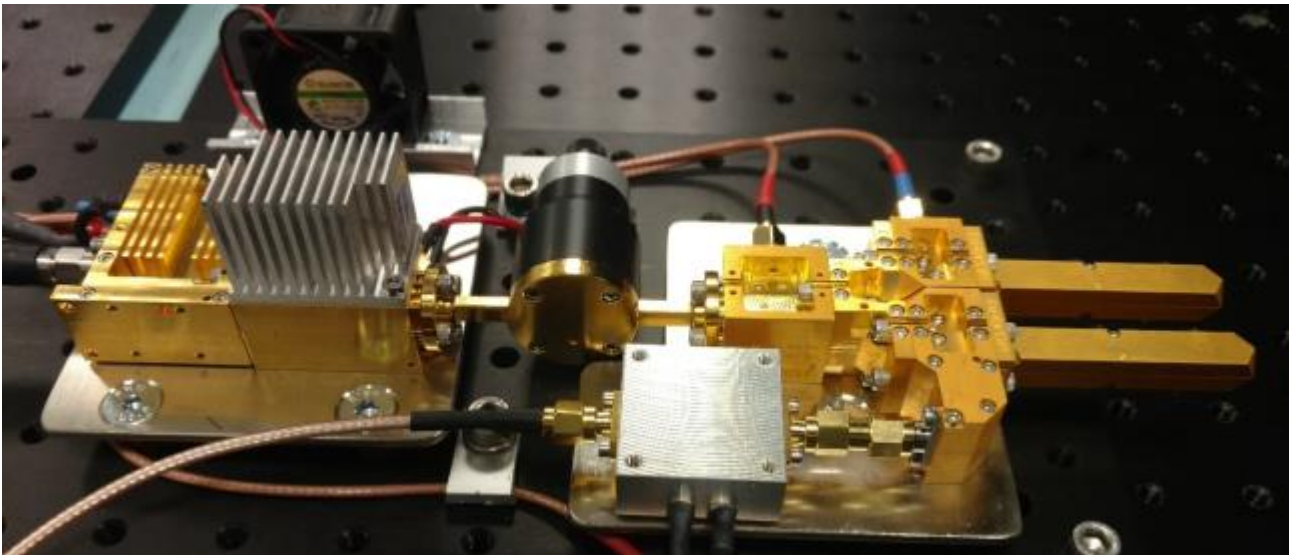


300 GHz Transceiver

Part n°:



Product Description

ACST 300 GHz transceiver for FMCW radar is designed and manufactured as a bench top unit. It takes an input signal at 11.45 GHz to 12.71 GHz to reach 275 to 305 GHz for the Tx and LO power at 137.5-152.5GHz for the Rx. A dedicated directional coupler is used to separate the transmitter and receiver LO paths. The typical transmitting power is +14 dBm and 8.5 dB DSB noise figure typically. 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.

Product features

- 275 to 305 GHz Operation
- Broad FM Bandwidth
- High power
- Low noise

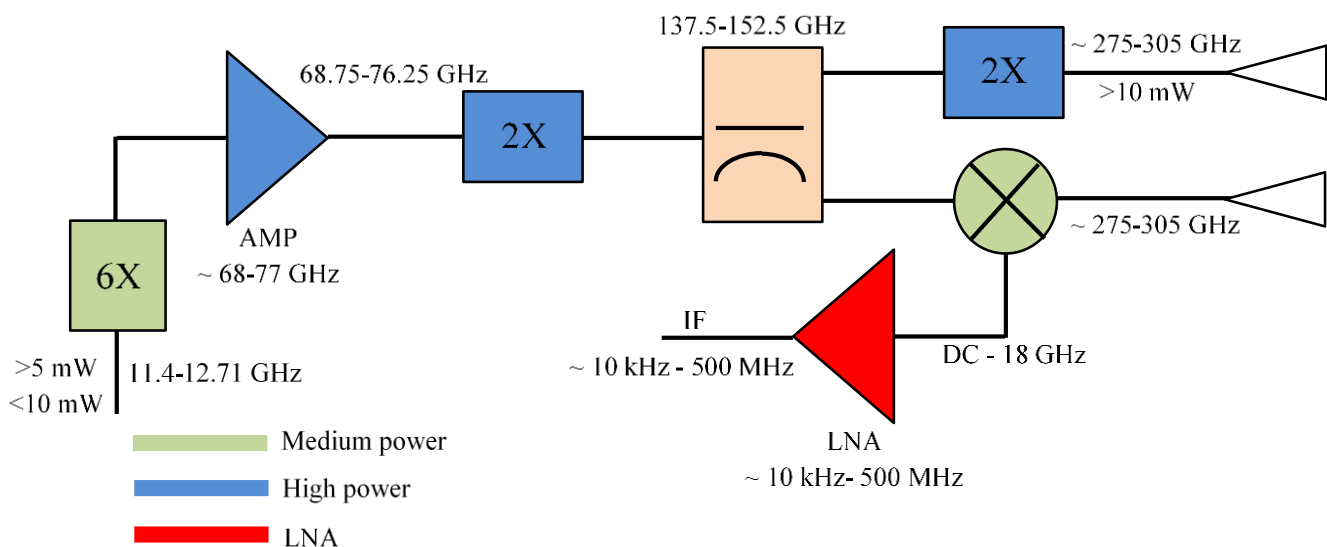
Application areas

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

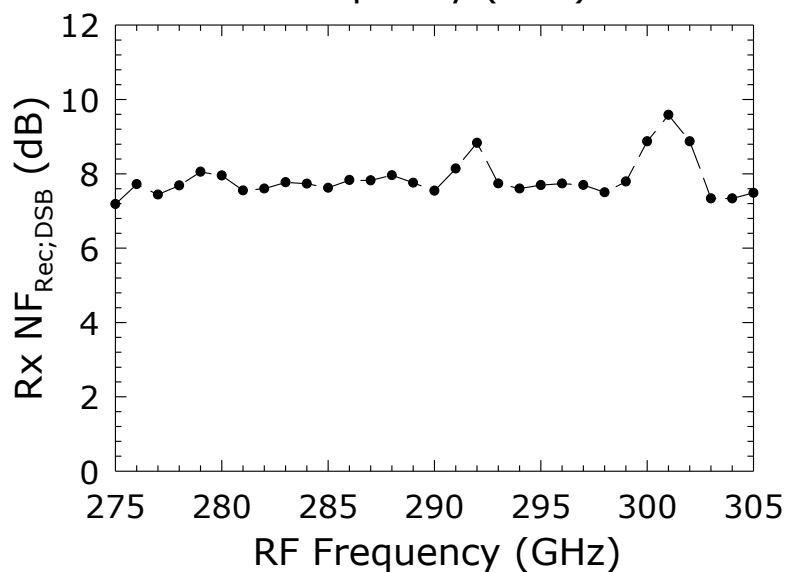
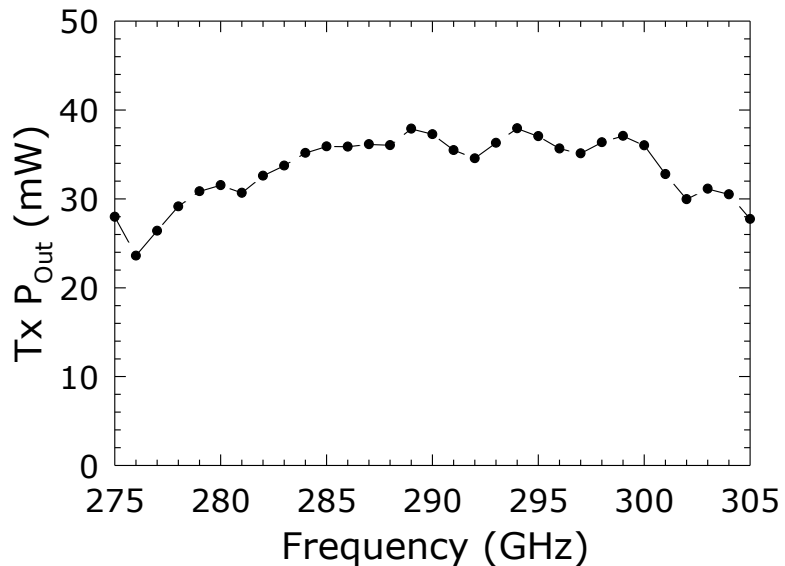
PRELIMINARY DATA SHEET

Tech. Specifications	Minimum	Typ.	Maximum
Input port		K-type (F) connector	
Input Power (mW)		5	10
Input Freq. Signal (GHz)	11.45		12.71
Output Tx Port		WR3.4	
Output Tx Power (mW)	10	25	40
Output Tx Freq. (GHz)	275		305
Input Rx Port		WR3.4	
Input Rx Power (mW)			0.1
Input Rx Freq. (GHz)	275		305
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 Diagram



Typical Performance



Note:

- All data are presented using a limited sample lot. Actual data may vary unit to unit.
- All testing was performed under +25°C room temperature
- ACST GmbH reserves the right to change the information presented without notice.

Caution:

- Exceeding absolute maximum ratings of the device will damage the device.
- Any foreign objects in the waveguide will cause performance degradation and may damage the device.