ACST GmbH

Your Partner for Innovative THz Solutions

www.acst.de
ACST GmbH
Company history

2006: ACST first European commercial supplier of Schottky components for THz-Applications.

2007: First Quasi-Optical THz Detector worldwide

2008: First ESA R&D Project

2009: Development of Film Diode Process

2011: Move to own facilities in Hanau

2013: First THz MIC

2014: Involvement in MetOp-SG space mission of ESA

2017: Establishment of High Power Multiplier Technology
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Product chain

Discrete Components
- APDs
- RTDs
- Mixer Diodes
- Detector Diodes
- Varactor Diodes

Integrated Circuits
- RTD-Oscillators
- 664 GHz Mixer
- 332/600 GHz Tripler
- 332/440 GHz Doubler
- Varactor Arrays
- UWB Detectors

Modules
- High Power Multipliers
- Low-Barrier Mixers
- UWB Detectors
- WG Detectors

Systems
- AMC/Transmitters
- Transceivers
# ACST GmbH

## Fields of application and target industries

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**Worldwide Distribution**
**MetOp-SG**

ESA/EUMETSAT mission support with discrete Schottky diodes, integrated structures and modules for various frequency channels from 89GHz up to 664GHz.

The following instruments are going to be equipped with ACST products.

- *Microwave Sounder MWS*
- *Microwave Imager MWI*
- *Ice Cloud Imager ICI*

Application:

**Meteorological Earth Observation**

**MetOp-SG**

Figures show similar commercial products. *MetOp-SG designs confidential.*
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Space Business II – 89GHz Detector

Technology Development and Module Design for

- **Proof on Concept**
  2009 – 2013 “Micro and Millimeter-Wave Detectors”
  ESA project nr. 2612/09/NL/GLC

- **Reliability Study**
  2013 – 2017 “Preliminary Reliability Assessment of Millimeter-wave Detectors”
  ESA project nr. 4000109751/13/NL/RA

- **Flight Hardware**
  2015 – 2020 Qualification and Procurement Phase for MetOp-SG
  ESA project nr. 4000114388/4000111183

Application:
Meteorological Earth Observation

**MetOp-SG**

Satellite MetOp-SG-A/B

- **Emission**
- **Reflection**

Passive System

89GHz Front End Receiver
Design and processes for commercial diodes and modules with high similarity to space products.

Space line products available on customer request according to ESCC Generic Spec No. 5010: Discrete Microwave Semiconductor Components (Production control, Screening, Qualification).

Available reliability tests at ACST

- High temperature storage test (max. 180 °C)
- DC life test (max. 180 °C)
- Thermal cycling test (-70 to 180 °C)
- High humidity high temperature test (HHHT) with and w/o bias
ACST GmbH

Contact us

- Interest in our products
- Project ideas
- ...

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