

OUR SERVICES

We measure...

- Transmitting and receiving antennas up to 325 GHz
- S-parameters up to 500 GHz
- Permittivity and dissipation factor ranging from 1 kHz to 5 THz
- Wireless communication & radar systems up to 325 GHz
- Communication modules with PAM4, QAM etc. up to 64 GSa/s

For further information please go to
www.izm.fraunhofer.de

CONTACT

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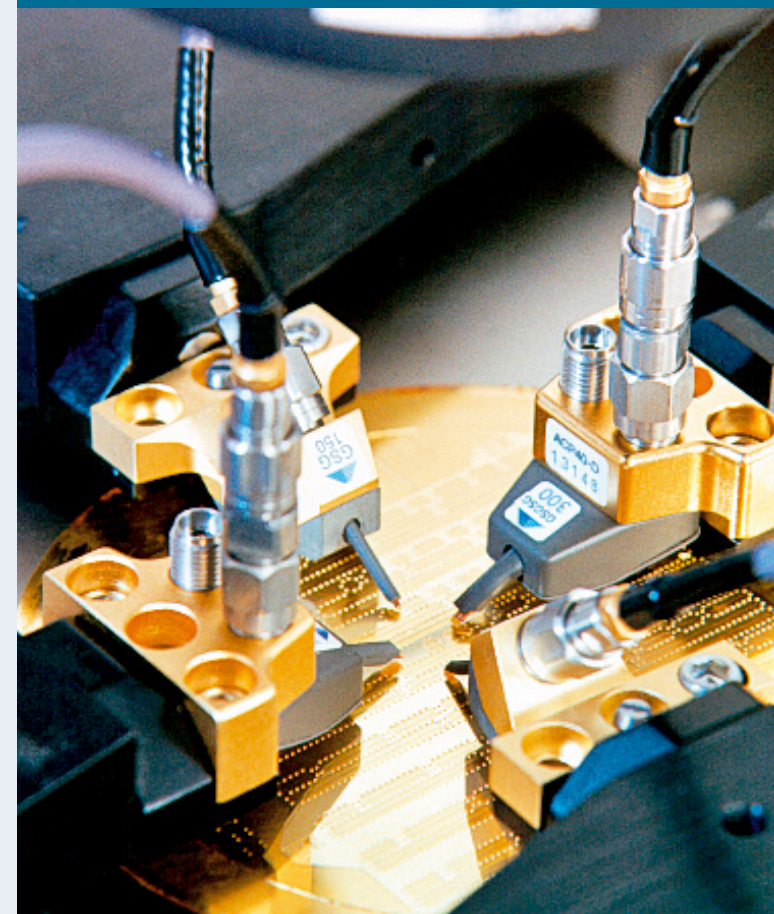
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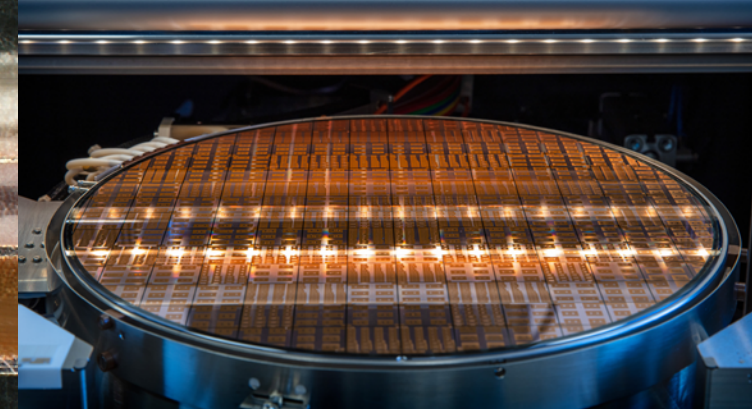
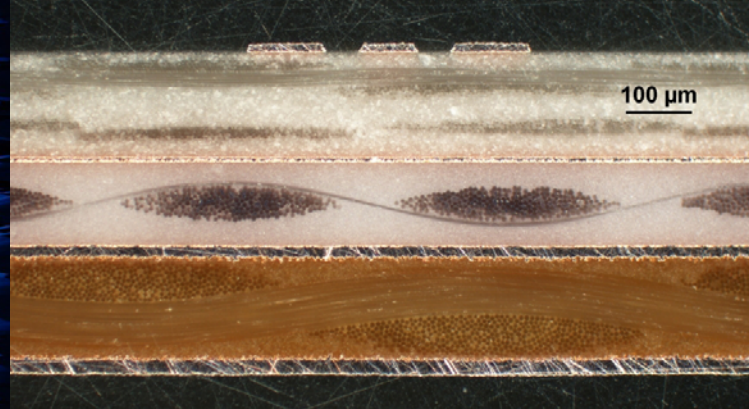
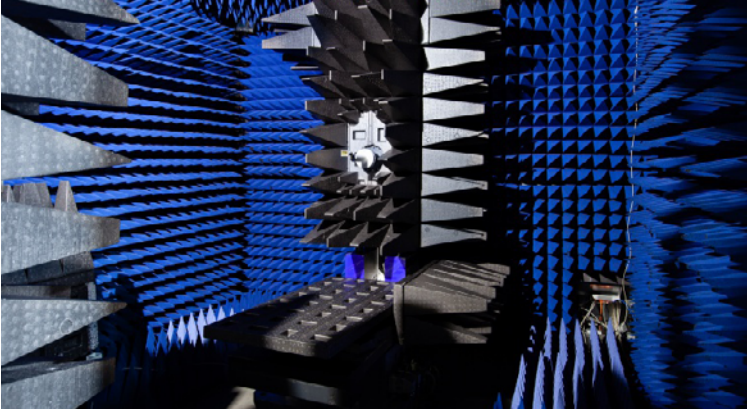
RF & Smart Sensor Systems (R3S)

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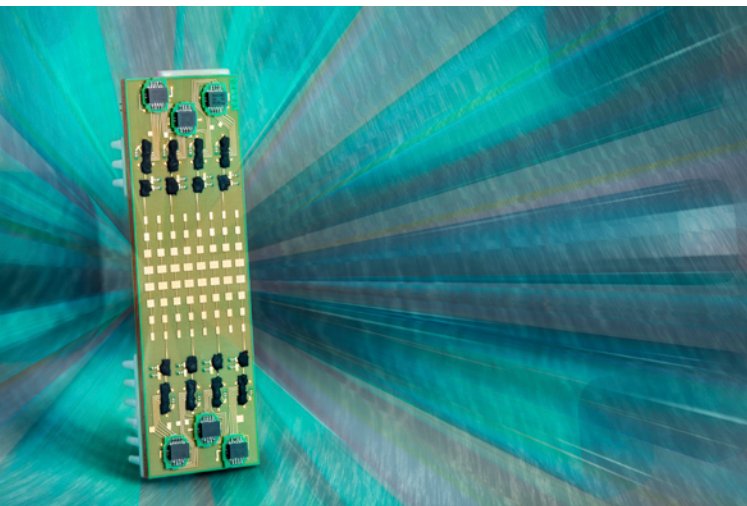
HIGH FREQUENCY MEASUREMENTS





ANTENNA MEASUREMENTS

- Measurement of transmitting and receiving antennas in an anechoic chamber for frequencies up to 110 GHz. Here we determine the gain and radiation characteristics.
- For the range from 100 GHz to 325 GHz, we are equipped with an additional anechoic chamber including a robot, to achieve the highest level of reproducibility.
- S-parameter measurements of antennas up to 500 GHz



MATERIAL PARAMETERS & INTERCONNECTS

Metrological Material Characterization

(permittivity and dissipation factor)

- S-parameter measurements of metallized substrates up to 500 GHz, in dependency on temperature ranging from -50 °C to 300 °C
- Free-space measurements of non-metallized substrates up to 170 GHz, considering temperatures up to 300°C
- Split post resonator measurements up to 2.5 GHz
- Split cylinder resonator measurements up to 27 GHz
- Fabry-Perot cavity measurements up to 140 GHz
- Terahertz spectrometer-based measurements from 500 GHz to 5 THz
- Time- and frequency-domain measurements of interconnects (e.g. transmission lines, vias, connectors, chip-to-chip, chip-to-packages and PCB-to-PCB interconnects).

COMMUNICATION & SENSOR MODULES (WIRED OR WIRELESS)

- Transceiver measurements using a sampling oscilloscope with 60 GHz bandwidth
- Eye patterns up to 64 Gbit/sec (PAM4) Jitter (RJ, DCD, ISI, PJ) with a highly precise time base; resolution <100fs
- BER determination up to 64 Gbit/s
- AWG to generate PAM4, PAM8, DMT, Jitter, ISI, and noise signals up to 65 GSa/s
- Real time-oscilloscope with analog bandwidth of 33 GHz (80 GSa/s)
- S-parameter measurements 2-port up to 500 GHz as well as 4-port up to 110GHz
- Generation of vector signals, 100 kHz - 44 GHz
- Signal analysis of 2 Hz up to 50 GHz and 1 GHz analysis bandwidth