



Who we are

MEC is a Spin off of the Universities of Bologna and Ferrara founded in 2004 by university professors and researchers. Its background relies on the know-how and in the skills gained by the research teams of the Department of Electronics, Computer Science and Systems of the University of Bologna and of the Engineering Department of the University of Ferrara in the field of design and development of monolithic and hybrid electronic circuits for radio frequency, microwave and millimeter wave systems.

Our skills

Our group relies on over 30 years of experience in the development of components and design of radio frequency, microwave and millimeter wave circuits, within the framework of national and international industrial research projects.



• Manufacturing of prototypes on soft substrates up to 18 Ghz

Our services

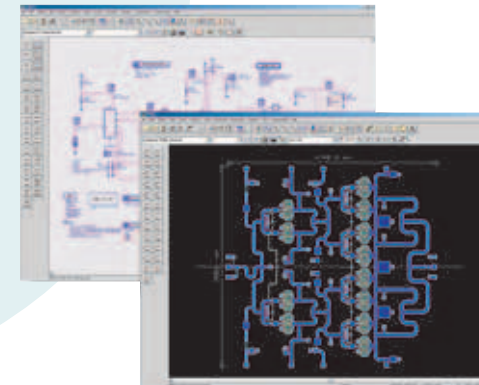
- Feasibility studies and development of possible solutions for circuits and radio systems
- Design and development of monolithic and hybrid circuits and systems
- Design and development of ad hoc power supplies
- Design, development and production of prototypes, test fixture and JIGs
- Measurement of On-Wafer circuits, packaged devices and systems
- Design of matching networks for circuits and antennas
- Modeling, measurement and development of monolithic, hybrid and packaged circuits



MICROWAVE ELECTRONICS FOR COMMUNICATIONS

Our activities

- High linearity and efficiency power amplifiers, low noise amplifiers, drivers, predistorters, low phase noise oscillators, mixers, phase shifters, variable attenuators, etc.
- Modeling and measurements of transistor and passive components in the range DC-110 GHz.
- Development of monolithic and hybrid circuits in the range DC-110 GHz.



• Circuitual and electromagnetic simulations



Technology and Equipment

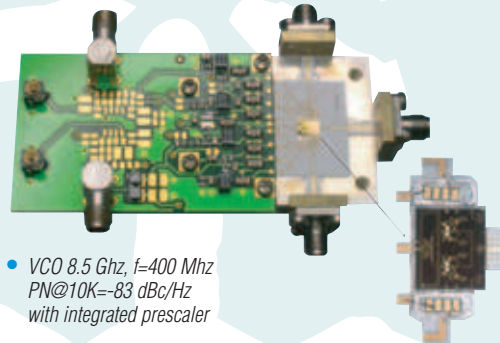
- Probe stations for on-wafer measurements with thermal chuck
- Jigs for device measurements and packaged circuits
- Setup for I/V dynamic, static and pulsed measurements
- Signal synthesizer up to 50 GHz
- Vector network analyzer for measurements up to 110 GHz
- Power Meters
- Spectrum analyzers up to 40 GHz
- Tuners up to 50 GHz
- Test benches for harmonic distortion and intermodulation distortion measurements up to 40 GHz
- Power amplifiers up to 40 GHz
- Systems for phase noise measurement up to 14 GHz
- Equipment and machinery for the production of hybrid prototypes
- CAD for the simulation of monolithic and hybrid circuits and for thermal analysis

Moreover

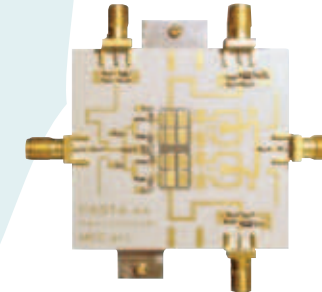
Since October 2006 MEC has been developing the transmission chain of the Transmit/Receive module of the SAR (Synthetic Aperture Radar) antenna of the Argentine SAOCOM satellite constellation. This will become a part of a satellite network which includes the Italian system Cosmo SkyMed (a network for the observation of the Earth from the space, which can work also under cloudy weather conditions, for applications in environment management, in particular for natural disasters and surveillance).

Our clients

- Italian Space Agency
- Alcatel Alenia Space
- Siae Microelettronica
- Alcatel-Thales III-V Lab, France
- TriQuint Semiconductors, USA
- Win Semiconductors, Taiwan
- Conae, Argentine
- Target Network of Excellence, VI FP of the European Union



- VCO 8.5 Ghz, $f_s=400$ Mhz
PN@10K=-83 dBc/Hz
with integrated prescaler



- PA 1.2 Ghz, 42W (46.2 dBm)



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