



Belarusian State University
of Informatics and Radioelectronics
R&D Department

Announcement International Exhibition “RADEL: Electronics and Instrumentation 2022”

September 21 – 23, 2022
St. Petersburg, Russia
Expoforum Exhibition and Convention Center

About the exhibition

RADEL is a specialized exhibition of electronic components and accessories, printed circuit boards, materials, technologies, equipment, services, certification, as well as services in radioelectronics and instrumentation fields that has been held in St. Petersburg since 2001.

RADEL is a cooperation platform for Russian and foreign enterprises, investors, and developers. In the frames of the exhibition a vast business program is made.

Thematic areas of the exhibition:

- electronic components and accessories,
- printed circuit boards,
- contract manufacturing, maintenance and repair of electronics,
- electronics 3D printing,
- structural elements,
- manufacture materials,
- industrial equipment,
- measuring, control, testing, and diagnostic devices and systems,
- light engineering and robotics.

During the exhibition BSUIR will introduce the following high-tech developments, scientific and technological services.

Control and measuring microwave devices and equipment in the frequency range from 0.01 to 220 GHz and above, used for maintenance and repair of communication stations, replacement of the outdated material and technical base of enterprises of the telecommunication industry. The equipment is included in the Registers of measuring instruments of the Republic of Belarus and the Russian Federation.

Metrological services: calibration of measuring instruments, testing of modules and units, material property research, software development for microwave devices.

Radio altimeters for ensuring accurate takeoff and landing of large-sized unmanned aerial vehicles. The main advantages include millimeter wavelength range, high speed of information update, all-weather resistance, minimal dimensions and weight.

About the developer

Hardware and software complexes for ensuring electromagnetic compatibility (EMC) of radioelectronic equipment

The complexes are dedicated for analyses and EMC implementation in local airborne and ground-based radioelectronic groupings, generation of specifications for airborne and ground-based radioelectronic complexes while taking into consideration the EMC requirements, as well as for modeling of radio reception in a complex electromagnetic environment.

Below are the hardware and software complexes:

1. EMC-Analyzer is a specialized expert system for analyses of electromagnetic compatibility of radio electronic equipment in local airborne and ground systems at all stages of the life cycle: design, development, operation, modernization.
2. ADFTS is a technology and automated dual-frequency sensing system.
3. DNA-EMC is a technology and software for discrete nonlinear analyses of EMC of radio systems in a complex electromagnetic environment.
4. GIS-RF is a specialized geoinformation technology for solving tasks of frequency spectrum usage control, as well as for solving EMC problems in complex territorial groupings of radio systems.
5. VTA EMC is a virtual polygon for the analysis of electromagnetic compatibility in complex territorial groupings of radio systems of various services.

Advantages:

- the products surpass significantly analogues in terms of nonlinear effect simulation in radio receivers at a complex electromagnetic environment;
- the possibility of simultaneous joint analysis of a huge number of parasitic electromagnetic connections of various nature is implemented;
- EMC analysis on the basis of a system criterion that considers the combined influence of parasitic electromagnetic couplings of all types in the onboard grouping of radioelectronic devices;
- high operation speed and practical efficiency, a significant increase in quality and cost reduction for the design of complex objects (aircraft, ships, etc.).

About the developer

Services on computer-aided design of technological processes and device architecture

The University provides a number of services for enterprises operating in the electronics industry:

1. Development of the manufacturing process and optimization of the design of the performance characteristics of power electronics devices.
2. Development and industrial production of analog, digital and mixed integrated circuits (on order).
3. Development of compact models for different semiconductor device and sensor types.
4. Evaluation of destructive influences on the characteristics of semiconductor devices (penetrating radiation, high/low temperatures, thermal load analysis)
5. Quantum-mechanical and molecular-dynamic modeling of functional material and nanostructure properties.

Advantages:

- original methods of calibration and verification of parameters of technological process models and charge carrier transportation models;
- specialized software that allows to adapt the results to the conditions of real production;
- advanced experience of practical interaction with enterprises operating in the electronics industry.

About the developer