Belarusian State University of
Informatics and Radioelectronics

R&D Department

Announcement

World Exhibition "EXPO-2020"

Since October 1, 2021 to March 31, 2022

Dubai, United Arab Emirates

The unprecedented event - the largest in the history of the Arab world - to visit 190 member countries, and millions of visitors from around the world.

UAE will welcome guests from around the world for six months.

Participants and visitors will have an opportunity to get acquainted with the traditions of the country and the hospitality of the Arab people values such as inclusiveness, tolerance and willingness to cooperate.

Much attention is paid to the youth. That is why the Expo 2020 organizers seek to create a meaningful legacy that will benefit both the local and international level in all areas of life - from innovation and architecture to the exchange of experiences and business opportunities.

On the exhibition BSUIR will showcase five high-tech developments in the field of electromagnetic compatibility:

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1. ADFTS - automatic dual-frequency testing system for measuring and modeling of EMC parameters of radio receivers

Detection, identification (recognition) and measuring the characteristics of all possible channels and the effects of radio receivers' damage over the antenna input.

Features and benefits:

- is the most informative, convenient and effective technology of EMC testing and of measuring radio receivers' characteristics;

- has been used successfully to design radio receivers and systems in the HF, VHF, UHF, SHF and EHF bands, as well as components of RF systems for different services (radar, fixed and mobile communications, radio navigation, and so on.), For civil and military aircraft, satellite, naval and radar systems.

2. «EMC-Analyzer» - specialized expert system for solving problems of electromagnetic compatibility in the airborne and ground local groupings of radio equipment

EMC analysis and provision in local airborne and ground radio electronic groupings, generation of specifications of airborne and ground electronic systems as per EMC requirements, modeling of radio reception of a complex electromagnetic environment.

Features and benefits:

- EMC-Analyzer substantially overcomes the analogues in the capabilities of modeling nonlinear effects in radio receivers when operating in a complex electromagnetic environment;

- possibility of simultaneous combined analysis of vast numbers of spurious electromagnetic couplings of different nature in the frequency band 0.1 MHz to 40 GHz with a dynamic range up to 300 dB;

- EMC analysis on the basis of the system criterion, taking into account the joint effect of stray electromagnetic couplings of all kinds in the on-board grouping of radio equipment.

3. DNA-EMC - technology and software of digital nonlinear modeling of the behavior of radio receivers in a complex electromagnetic environment

DNA has the ultra-high computational efficiency, which does not depend on the complexity of the electromagnetic environment.

DNA allows for the main types of non-linear effects (intermodulation, blocking, cross-modulation, converting the heterodyne noise, amplitude-phase conversion, side receiving channels).

Features and benefits:

- DNA supports the modeling in a wide bandwidth and large dynamic range.

- DNA can automatically identify the sources of nonlinear interference (for example, intermodulation).

4. EMC VTA - technology and hardware-software appliance for EMC analysis in complex regional groupings of different-service radio systems

An effective and inexpensive EMC analysis for many variants of designation of operating frequencies and positioning of radio systems in the area.

Using augmented reality technology and methods semirealistic simulation.

Features and benefits:

- highly objective simulation of electromagnetic environment by using modern geo-information systems and radio propagation models recommended by the International Telecommunication Union.

5. EMS - methodology of analysis of electromagnetic ecology and electromagnetic security of the population in conditions of massive use of mobiles

The methods allow evaluating the strength of electromagnetic noise generated by the mobile / fixed telephony radio equipment and other radio services.

Features and benefits:

- the methodology is extremely important in the conditions of intensive development of wireless services, technologies, systems and 4G / 5G mobile networks.

More about developments Organizers' website