Scientific and Technical Center Module

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Made in Russia

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Scientific and Technical Center Module - is the largest Russian design center, whose staff owns the latest design technologies along the entire chain - from the development of IP-blocks and systems on a crystal, including analog and analog-to-digital, to the creation of embedded computing systems, devices of radio electronic equipment and software and hardware complexes for processing large data flows. Hardware and software solutions in the field of neural networks, including video stream and image processing, navigation, communication, object detection and recognition by various signals, are being created at the Scientific and Technical Center production facility. In addition, Module is engaged in contract execution of development and research works.

In addition, Scientific and Technical Center Module implements its own university program, which aims to introduce advanced Russian digital signal processing technologies in the process of education and training of engineering staff.

Production and development

High quality of production and installation of electronic modules, as well as radio electronic equipment is achieved by Scientific and Technical Center Module thanks to years of employees' experience and advanced installation and testing equipment. The Scientific and Technical Center Module owns a wide park of test and measuring equipment, testing facilities and modern automated assembly area of electronic equipment on the technology of surface mounting.

The company has advanced design tools from world leaders in the field of computer aided design - Cadence, Synopsys, Mentor, A Siemens Business, experience in programming modern programmable logic device firms Microsemi (Actel), Intel (Altera) and Xilinx.

Embedded computer developments of Scientific and Technical Center Module overlap a wide range of functional and design requirements: the range of applications extends from the simplest 8-bit controllers to complex 64-bit multiprocessor computer systems.

Among the solutions created by the developers of the Scientific and Technical Center Module are control and computing complexes based on its own architecture NeuroMatrix ®: processors for digital signal processing and systems-on-chip of its own series 1879, PowerPC processor under license from IBM. ARM processor cores are widely used. Also specialists of the company have experience with signal processor TMS320C40 from Texas Instruments, processor R3081 from IDT, as well as with processors 80960, 80C186 and 80C51 of Intel. The company has also established its own pilot and small-scale production, samples are tested in accordance with the highest standards.

There are more than 60 - IP-blocks in the ready developments of Scientific and Technical Center Module, many of them appeared in the process of work on the project for digital television. Some of the advanced solutions are used from leading IP vendors such as ARM, Silicon Image, Aeroflex Gaisler, Takumi, Chips&Media, Aragio, NorthWest Logic, Innosilicon, IBM.

Company products

Infrastructure for artificial intelligence

A separate area, which promises to become one of the anchors in the company, is the development of software and hardware complexes for artificial intelligence. Back in the late 1990s, Scientific and Technical Center Module became Russia's first and only enterprise to work with neural networks, both on the hardware and software levels. On the basis of Scientific and Technical Center Module chips, hardware and software systems are being developed for monitoring and security tasks in smart city systems, face recognition, neural network applications for medicine, automotive industry, etc.

Since the creation of the first Russian processor for artificial intelligence on the core of NeuroMatrix, Scientific and Technical Center Module has released eight generations of processors and four generations of cores for this area. Two chips on the fourth-generation core - 1879VM6Ya and 1879VM8Ya - are the only Russian neuroprocessors that have already found their application in Russia.

Export direction

The developments of the Scientific and Technical Center Module are in demand not only in Russia but also on the international industry market. Thus, IP-blocks of various purposes are in stable demand among foreign customers from China, Malaysia, South Korea, India and the European Union.

Options for cooperation in the field of artificial intelligence with foreign partners from such countries as China, India, Malaysia are being actively explored. Companies are also interested in artificial intelligence solutions in Europe.

The leading scientific and technical center in the field of microelectronics in Russia for over

30 years

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