

**Company:**

Kotel'nikov Institute of Radio Engineering and Electronics of RAS,  
Moscow Institute of Physics and Technology

**Contacts:** tel. +7(495) 629-72-78, fax: +7(495) 629-36-78, e-mail: [chaos@cplire.ru](mailto:chaos@cplire.ru)

**Web:** <http://www.cplire.ru/win/InformChaosLab/index.htm>

**Profile:** InformChaos Lab specializes in the study of nonlinear dynamics and investigation of information and communication systems based on dynamical chaos. In our laboratory universal Ultra Wide Band (UWB) transceiver platform for wireless indoor communications with rates 100 Kbps - 50 Mbps was developed. Proposed technology is adopted in IEEE 802.15.4a standard ([standard.pdf](#)) that describes physical layer of low-rate wireless local area networks. It can be applied to personal voice and video communications, data transmission, wireless sensor networks, remote control for home appliances, access to Internet, etc. InformChaos Lab offers a wide range of products from components of wireless UWB communication systems to finished solutions – wireless sensor networks for various applications: chaos generators, UWB miniature transceivers for personal wireless communications, active UWB RFIDs, education and research complex of UWB wireless communications, UWB wireless sensor networks. Additional information about technology and their applications can be found in paper ([Wireless Ultrawideband Communications and Sensor Networks.pdf](#)).

**Address:** Kotel'nikov Institute of Radio Engineering and Electronics of RAS, Mokhovaya st., 11/7, Moscow, Russia, 125009;  
Moscow Institute of Physics and Technology, Institutskii st., 9, Dolgoprudniy, Russia, 141700.

**Representative:** Dmitriev Alexander, Dr. Sci., professor

**Products:****WIRELESS ULTRAWIDEBAND TRANSCEIVER PPS-40 FOR WIRELESS PERSONAL AREA NETWORKS**

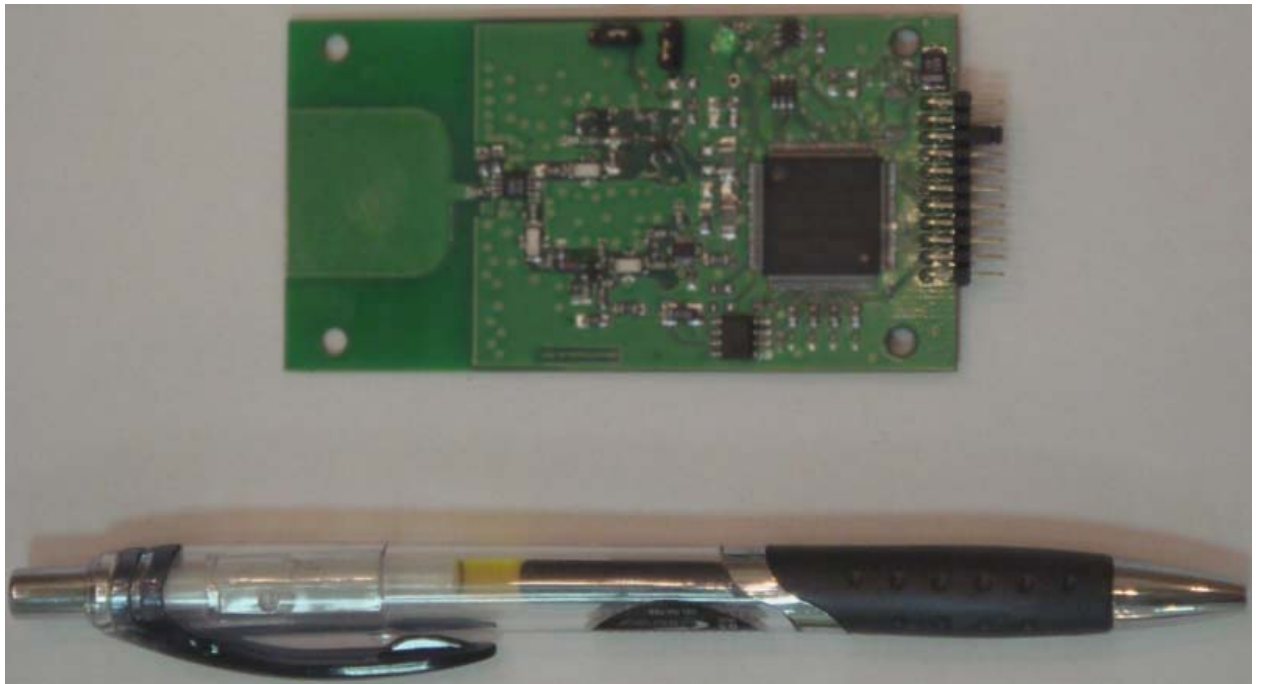
Ultrawideband transceiver with bitrate up to 2.5 Mbps

Frequency band: 3...5 GHz

Distance range: 5...7 m.

Interface: UART

Size: 80 × 42 × 20 mm



*Product category index:*

*01.09.01.08.01.06 Ultra wide band communication systems*

*01.10.04.02.10 Radio systems for tunnels and buildings*

*02.06.01.02.03 Wireless communication systems for home automation*

*06.02.01.02 Emerging technologies for networks and communications*

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#### WIRELESS ULTRAWIDEBAND TRANSCEIVER PPS-50 FOR WIRELESS SENSOR NETWORKS

Direct chaotic transceiver is intended for wireless sensor networks (e.g., in buildings). Transceiver can also operate as a relay between sensor and monitoring station.

Life cycle: up to three years without battery recharge

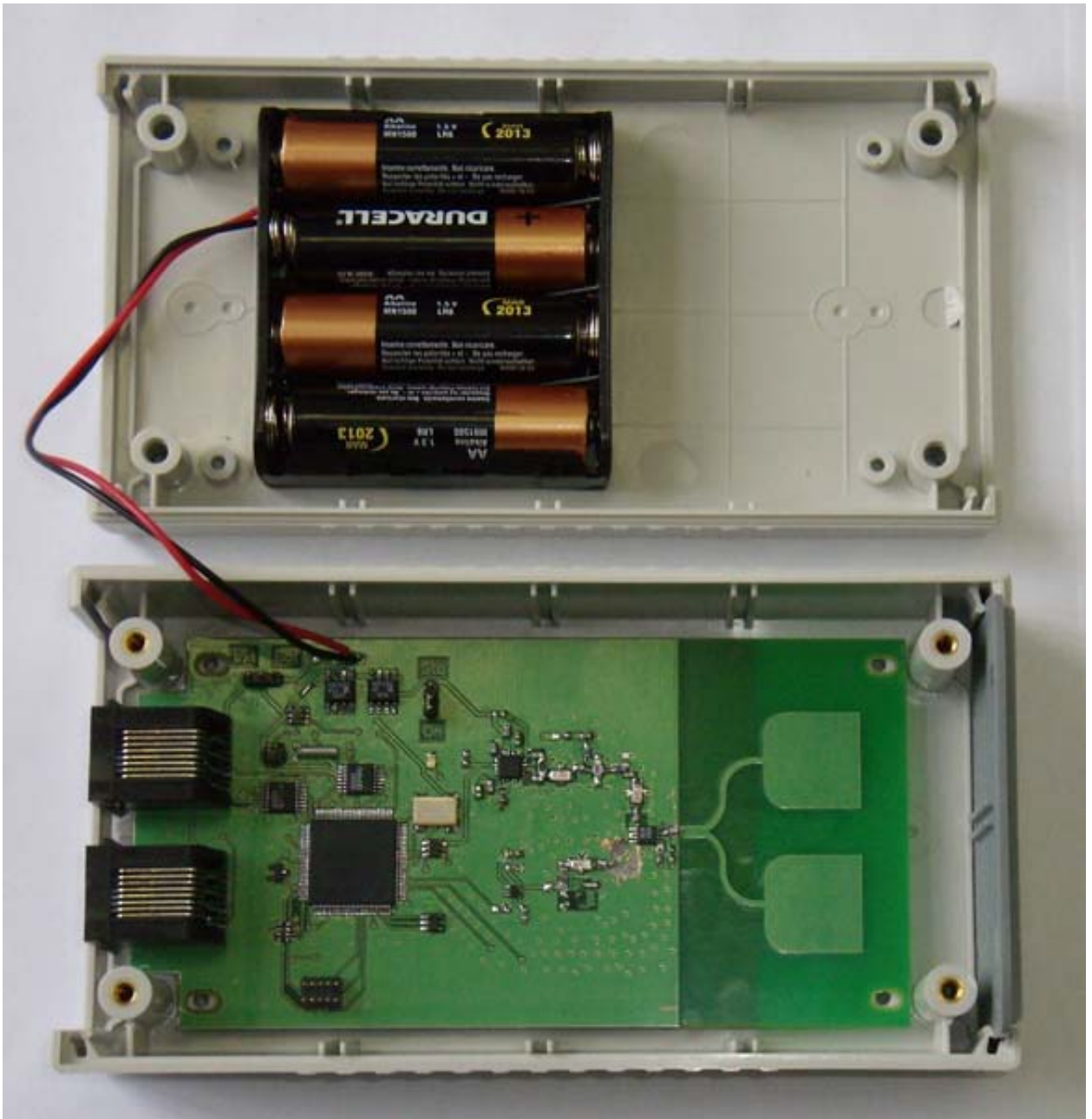
Bit rate: 2.5. Mbps

Frequency band: 3...5 GHz

Distance range: 40...50 m.

Interface: UART.

Size: 145 × 80 × 45 mm



*Product category index:*

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## EDUCATION & RESEARCH KIT FOR UWB WIRELESS SENSOR NETWORKS

Education & Research Kit is a tool for initial acquaintance with wireless sensor networks and for investigation of applications of such networks for solving various tasks. The kit contains a set of UWB wireless transceivers, sensor nodes, a computer, software, manuals and guides to get started working with the kit, laboratory operations manuals. The kit software allows to construct wireless sensor networks with transceivers and sensor nodes, and to monitor and to control network operation using personal computer.



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#### UWB MINIATURE TRANSCEIVER «KROSH»

«Krosh» transceiver is devoted for person or goods identification systems, UWB wireless sensor systems, for remote control of doors (house, car), for medical or sports applications, for location awareness of mobile objects (people, animals, goods).

Frequency band: 6–8 GHz.

Data rate: 0.1–10 Kbps.

Distance range: 10 m.





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## UWB WIRELESS SENSOR NETWORK

Wireless sensor network for systems of monitoring buildings and engineering constructions, or for networks of active RFIDs. The set contains several transceivers of UWB chaotic signals, and a PC and software to control the state of individual transceivers; display network state; collect, store and process transmitter data; automatically recognize the presence of each transceiver on the air.



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