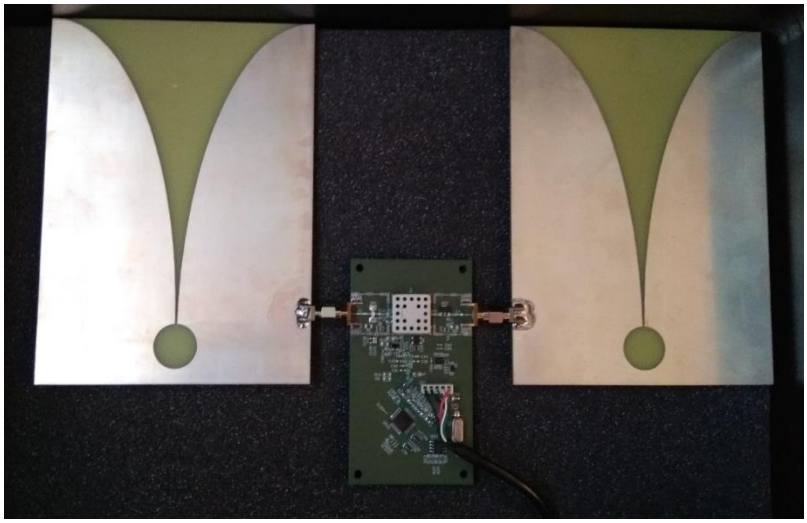
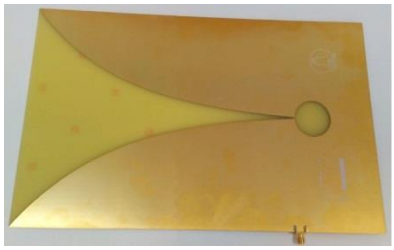
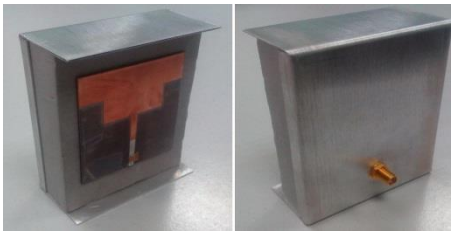
PicoR-2k evaluation kit



RVS-M1 UWB transceiver module and
Antrad-3 Vivaldi antennas of 1600 MHz band



Antrad-11 antenna of 1200 MHz band

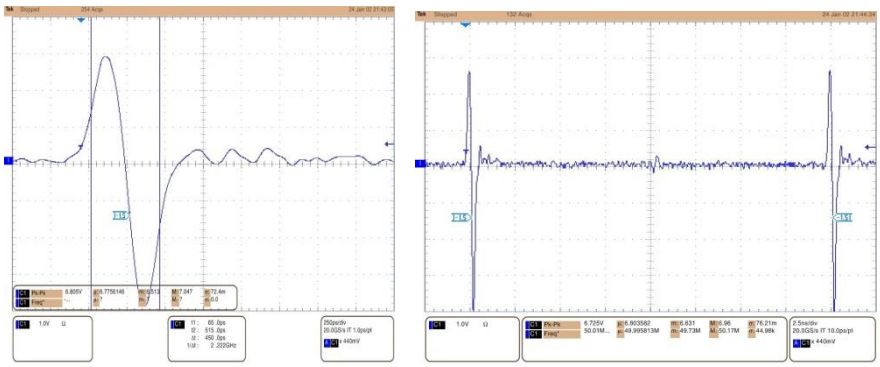


Antrad-12 antenna of 1600 MHz band

PicoR-2k evaluation kit allows to develop portable UWB short-range GPR (ground penetrating radar) systems for solve such tasks as:

- demonstration and testing as laboratory equipment for educational institutions
- road surface survey
- inspection of building structures (search for reinforcement, irregularities inside walls)
- searching for hidden objects in the ground
- ice and snow thickness measurement
- through wall imaging (detection of human breathing and heartbeat)

PicoR-2k includes everything to create a ready-made device: transceiver, antennas, software. You can use your own antennas to increase the gain and the directional properties. UWB impulse based signals are generated in single-chip transceiver of RVS-M1 module and radiated by transmitting Antrad UWB antenna. Reflected signals are receiving by another Antrad UWB antenna and converted from analog to digital form in internal high-speed sampler. Signal transmission and power supply are provided via USB cable connected to PC.



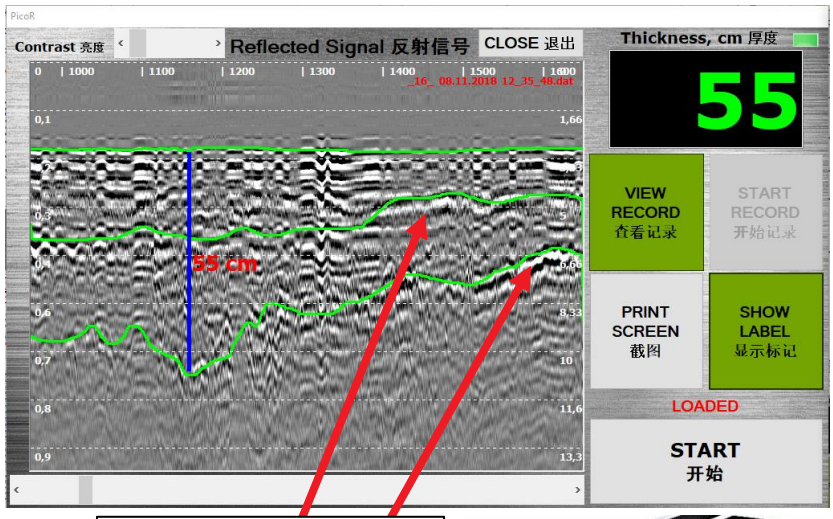
UWB impulse signals

PicoR-2k inside the case

Technical parameters

Pulse duration	600 ps
Pulse amplitude voltage	6 V
Pulse repetition frequency	50 MHz
Central frequency	1200 MHz / 1600 MHz
Detection range / depth	
- thickness of road pavement	up to 70 cm
- thickness of ice and snow	up to 2-3 m
- detection of objects in the ground	up to 100 cm
Range measurement accuracy	1-2 cm
Power consumption	1,35 W
USB power supply	+5 V
Connectors for transmitting and receiving antennas	SMA male
Connector for power and data transmission	mini-USB
Protection class of the case	IP67
PC operating system	Windows 7, 8, 10
Case size and weight	39 x 30 x 13 cm, 2 kg

PicoR software interface



Road pavement layers

Layer thickness

Our experience

Since 2012, more than 400 PicoR GPR devices based on PicoR-2k kit have been manufactured and sold. Among our clients are large oil and gas, transport and construction companies in Russia, China and other countries.

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