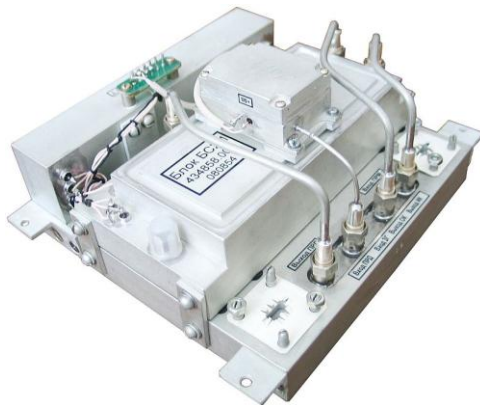
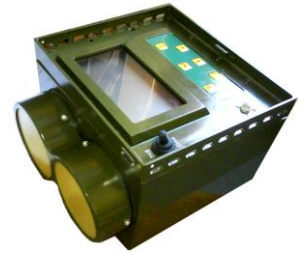




Low energy coherent transceiver for portable 35-36 GHz medium range radar



FEATURES

- *Separate transmitting and receiving sections*
- *High sensitivity*
- *Large dynamic range*
- *Small sized and light in weight*
- *Low power consumption*
- *Hybrid –integrated technology*

APPLICATION

Transceiver, **M353007** module, is used in small-sized (movable) coherent-Doppler radar "Barsuk" of 8-mm wave length with continuous phase-code-shift probing signal and correlation-filter processing of signals received.

Radar "Barsuk" is intended for detection of moving people and vehicles at a distance up to 2.4 km. It provides automatic detection of mobile objects at any time and year under rain, dust and fog (with no of optical visibility), and represents on a display the distance to the targets. Besides, it allows classification of the targets according to their form and velocity of movement. Small-sized (movable) radar can be applied to patrol region, to protect the frontiers or certain objects, etc.

Radar **M353007** is useful in making other types of radars and other applications.



DESCRIPTION

Transceiver, **M353007** module, is made on super heterodyne scheme and up-to-date hybrid-integrated circuit. Complete coherence is provided with one high stable low noise master oscillator both for forming sounding signals and heterodyning received signals. Two independent antennas, connected with two waveguide flanges of standard section, are used for receiving and transmitting.

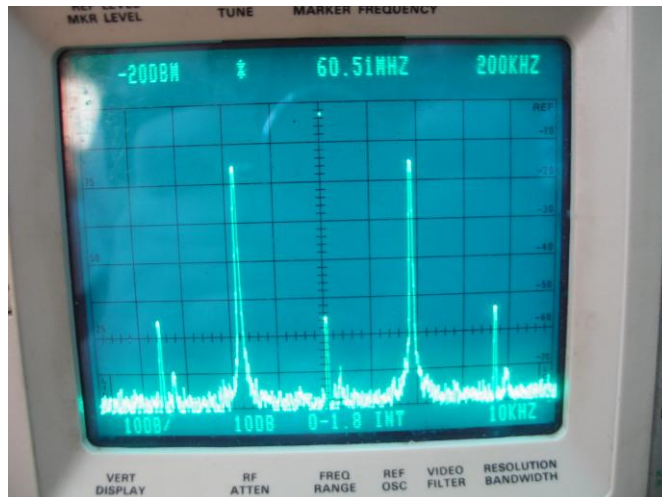
Structurally the transceiver consists of individual functional and interchangeable components, incorporated in a uniform design, if necessary, it is possible to make reconfiguration of the unit and use it for other applications. On changing components there is a possibility to change operating frequency, type of output signal (usual or I-Q), output power of transmitter, load capability of a power supply.

SPECIFICATIONS

Operating frequency range (literal fulfillment, 10 MHz step size), GHz	35,6–36,0
Instability of operating frequency in temperature range -30...50°C, MHz	2
Relative noise spectral density of a probing signal at carrier offset, 10 KHz, dBc/Hz	-100
CW output power, mW	40–60
Accuracy of setting probing signal phase, degree	± 2
Spurious amplitude modulation of probing signal, dB	0.05
Noise factor of receiver, dB	4,0
Receiver gain, dB	47–50
Receiver passband, MHz	20
Dynamic range of receiver, dB	65
Current consumption (supply voltage 12,0±1,0 V), A	0.5
Temperature range, °C	-40...50
Weight, kg	1.1



CHARACTERISTICS



Frequency transformed probing signal spectrum.

(Through the center of the screen is shown 36 GHz carrier frequency, scale is logarithmic.)

OVERALL DIMENSIONS DRAWING

