



RKG-14

VIRTUOSO

Multipurpose
environment activity
radiometer

Features

- Portable, practical
- Quickly checks radiation purity of soil, construction materials, mineral raw materials, wood, housing, vehicles, and such food as baby food, water, milk, meat, fish, eggs, fresh vegetables, fruit, grain, cereals, dried foods, dried herbs (tea)
- Requires no special training of the user, operates in the interactive mode
- Does not require sampling – measurement is done by putting the device to the tested object (material, product, soil, etc.), or by holding it over the studied surfaces
- Requires no special preparation of the food sample (the product remains inside its packaging)
- Requires no special protection
- Ingress protection rating IP54

Specification

NAME	UNIT OF MEASUREMENT	STANDARDIZED VALUE
Measurement range of specific activity of radionuclides ^{137}Cs , ^{134}Cs in the objects of the environment in geometries "2 π ", "4 π "	Bq/kg	50 - 200 000
Main relative permissible error limits of measurement of specific activity of radionuclides ^{137}Cs , ^{134}Cs in the objects of the environment in geometries "2 π ", "4 π ", P=0.95	%	□ 35
Estimation range of surface activity of radionuclides ^{137}Cs , ^{134}Cs in the objects of the environment	Bq/m ²	500 – 1 000 000
Measurement range of the effective specific activity of naturally occurring radionuclides ^{226}Ra , ^{232}Th , ^{40}K in the objects of the environment in geometries "2 π ", "4 π "	Bq/kg	200 - 20 000

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Main relative permissible error limit of measurement of the effective specific activity of naturally occurring radionuclides ^{226}Ra , ^{232}Th , ^{40}K in the objects of the environment in geometries “ 2π ”, “ 4π ”, $P=0.95$	%	□ 35
Measurement range of gamma radiation ambient dose equivalent rate from ^{137}Cs , ^{134}Cs	$\mu\text{Sv/h}$	0.001 - 10
Main relative permissible error limits of measurement of gamma radiation ambient dose equivalent rate from ^{137}Cs , ^{134}Cs , given $P=0.95$	%	□ 20
Unstable readings of the radiometer during 8 hours of operation, not more than	%	5
Measurement range of gamma radiation ambient dose equivalent rate $H^*(10)$	$\mu\text{Sv/h}$	0.01 – 50.00
Main relative permissible error limit of measurement of ambient dose equivalent rate (DER) of gamma radiation, given $P=0.95$	%	$15+1/H^*(10)$, where $H^*(10)$ – is a numeric value of gamma radiation DER, $\mu\text{Sv/h}$
Sensitivity to gamma radiation for ^{137}Cs , ^{134}Cs , not less than	(pulse/s) / ($\mu\text{Sv/h}$)	500
Energy range of registered gamma radiation	-	50 keV – 3.0 MeV
Energy dependence of readings for energies 59 keV (^{241}Am), 1.3 MeV (^{60}Co) and 0.66 MeV (^{137}Cs)	%	30
Dependence of sensitivity from the angle of recorded radiation incidence (anisotropy), does not exceed	%	30
Time of continuous operation of the detecting device from full battery under gamma background not more than 0.5 $\mu\text{Sv/h}$, not less than	hrs	24
Dimensions of the detecting device, not more than	mm	114x36x83
Weight of the detecting device without case	kg	0.352 (with the battery)
Note – Weight and dimensions of the Android device are provided in the manufacturer’s documentation for the device		