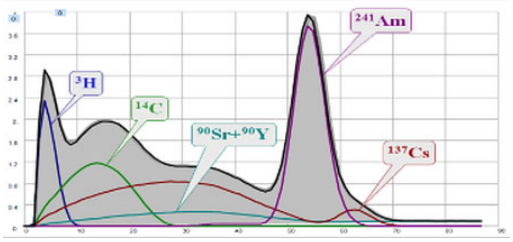
TRIEL
Liquid scintillation spectrometer

Liquid scintillation spectrometer TRIEL is a modern portable instrument for measuring the activity of beta and alpha - emitting radionuclides and their mixtures

FEATURES



- application the system of two PMTs and the coincidence scheme
- high registration efficiency and low background level
- 2 digital MCAs with the possibility of setting measurement parameters
- low power consumption and the possibility of power supply from the embedded battery
- the ability to connect a number of devices controlled by one software
- two variants of analytical software (*ASW3L* or *SpectraDec*) allowing to identify and measure complex radionuclide mixtures
- rapid processing in the automatic mode of spectra with small statistics and with a significant overlap in the energy spectra of constituent radionuclides
- availability of the measurement techniques for water and solid samples taken from natural and technological systems
- fast test (without radiochemical preparation) of the activity of α- and β-emitters
- monitoring of natural radionuclides (^{226}Ra, ^{228}Ra, ^{228}Th, ^{222}Rn, ^{210}Pb, ^{210}Po , ^{234}U, ^{238}U) and technogenic radionuclides (^{3}H, ^{14}C, ^{90}Sr , ^{89}Sr , ^{137}Cs, ^{241}Pu, ^{36}Cl, ^{129}I, ^{85}Kr, ^{99}Tc, Pu) in environmental objects at background levels
- monitoring of technogenic radionuclides in emissions and discharges of enterprises of the nuclear cycle (^{3}H, ^{85}Kr, ^{89}Sr, ^{90}Sr, ^{99}Tc, ^{129}I, ^{241}Pu …), as well as in radioactive waste
- measurement of gross alpha and beta activity.

MAIN PARAMETERS

Number of channels in the spectrum:	1024, 2048, 4096
PC communication interface:	USB, RS-485, BlueTooth, Wi-Fi
Software:	***ASW3L*** or ***SpectraDec***
Quenching determination:	using an external standard, automatic

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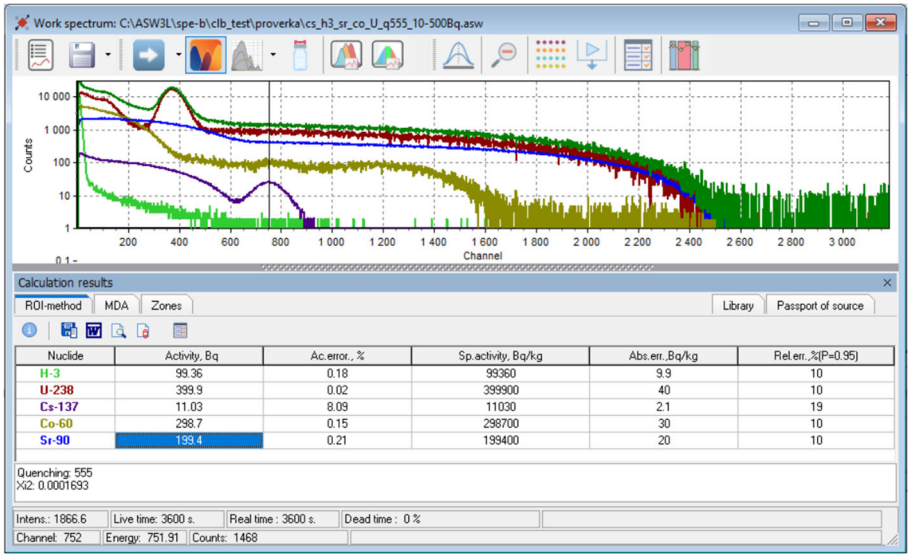
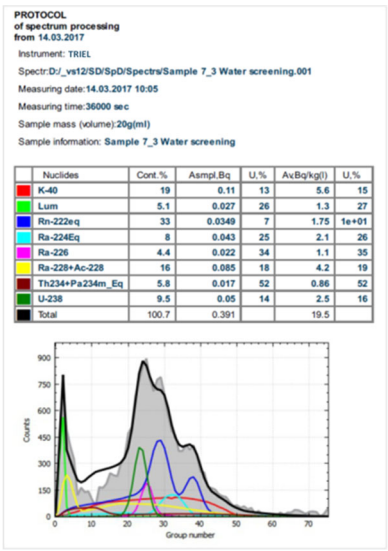
METROLOGICAL CHARACTERISTICS

Energy range of registered alpha radiation, keV		from 2000 to 10000
Energy range of registered beta radiation, keV		from 1 to 4000
Range of activity measurement of alpha and beta emitting radionuclides, Bq		from 0.02 to $5 \cdot 10^4$
Energy resolution for energy 624 keV of radionuclide ^{137}Cs, %, not more than		15
Detection sensitivity to beta radiation of radionuclide, cps/Bq		
- radionuclide ^{3}H		0.4
- radionuclide ^{14}C		0.95
- radionuclide $^{90}Sr+^{90}Y$		0.98
Background intensity in energy range, cps		
for ^{3}H	(with an additional set of lead elements)	<0.5
Maximum throughput, cps, not less than		$5 \cdot 10^4$

TECHNICAL SPECIFICATIONS

Operating conditions:	
• ambient temperature	from +10°C to +40°C
• relative air humidity	up to (70±3) %
• atmospheric pressure in the range	101±5 kPa
The spectrometer is powered from the AC power supply with voltage, V / with frequency, Hz	220 (+10%;-15%) / 50 ± 5 %
Power consumption, W, not more	5
Battery is embedded (optionally)	12V, 20 Ah
Dimensions for standard version WxHxL, mm	223 x 218 x 473
Weight of standard version, kg	45





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