

# CAEN GammaEDU

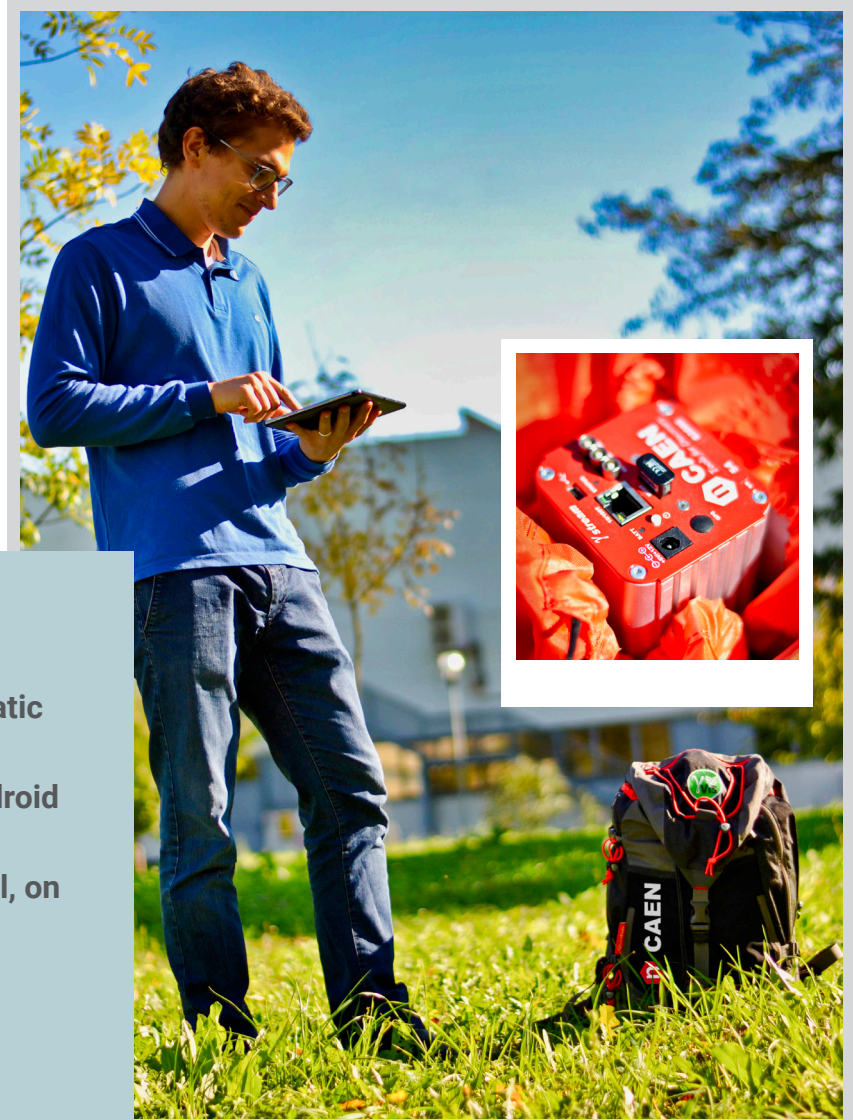
## Backpack Radiation Detector

Brochure  
BF3197



# GammaEDU

Portable detection backpack for radioactive materials

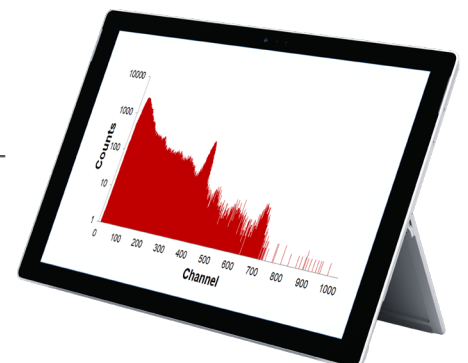


## FEATURES

- No calibration required and automatic stabilization
- Easy to use: one touch on your Android device and it is ready to measure
- Share your measurements by email, on social network and on cloud
- Rugged and light design
- Tracking of the data based on GPS
- No wiring issue
- Low power consumption: 6 hours of uninterrupted data taking
- 32 GB of internal storage

## OVERVIEW

A portable detection backpack for revealing the presence of radioactive materials in the environment. The high efficiency of the scintillation crystal allows to perform a measurement in few minutes. GammaEDU can identify industrial, medical and naturally occurring radioactive isotopes in static and dynamic acquisition.



# Android App **GammaEDU** for real-time analysis

The measurement can be run with a tablet in just one click!

With the GammaEDU Android application the students can acquire and analyze in real time a **g-ray spectrum** to get the K, U and Th abundances, keep note of the surrounding environment, take the **GPS coordinates** and shoot a picture of the on-going measurement. The data are saved in a **kmz file** ready to be visualized on **Google Earth** and shared on **Google Drive** for producing a radioactivity map of the area.

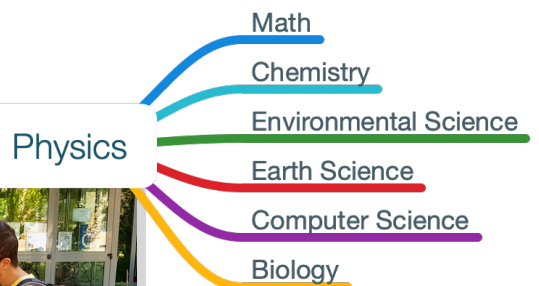
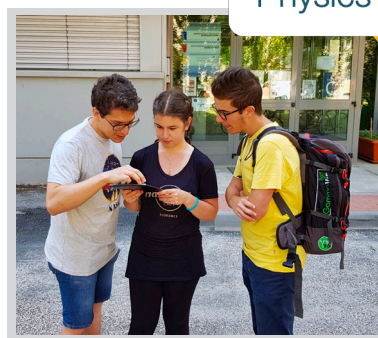
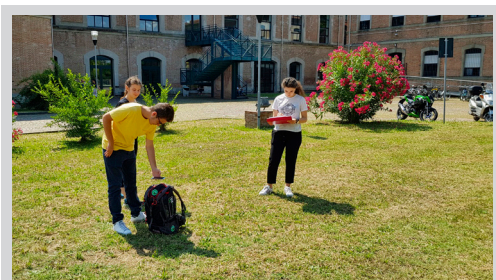
The screenshot displays the GammaEDU app interface. On the left, a color scale legend for 'Total specific activity Bq/kg' and 'Percentile' ranges from 0 (blue) to 100 (red). The main area shows a Google Earth map with a heatmap overlay. On the right, the app's data display includes a g-ray spectrum graph (Counts vs Energy [keV]), a photo of the measurement site, and a table of detected elements.

Window	Cps	Element	Abundance
<sup>40</sup> K	3000 ± 450	K	1,2 ± 0,2 %
<sup>208</sup> Tl	200 ± 30	Th	3,2 ± 0,5 ppm
<sup>214</sup> Bi	100 ± 15	U	2,1 ± 0,3 ppm

Additional app data shown: Run name: run1, Elapsed: 00:10:00, Environment: grass, Latitude: 44° 50' 3" N, Longitude: 11° 35' 58" E.

## APPLICATIONS

- Customs protection and border control
- Educational experiments and surveys
- Mapping of potential radon-prone areas
- Environmental monitoring in land field
- Geochemical and mineral exploration
- Scenario of emergency services
- Homeland security



# GammaEDU backpack includes Gamma Stream

## FEATURES

- Portable Radiation Detection Backpack with NaI(Tl) detector coupled with GammaStream integrated High Voltage Power Supply, Preamplifier and digital Multi-Channel Analyzer for scintillation spectroscopy
- High sensitivity radionuclide identification and quantification including a volume of 0.3 liter detector (1 liter on request)
- Full stand-alone operation with embedded CPU, data storage (SSD) unit, and power supply for up to 8 hours operation
- Wired and wireless connectivity through USB, Ethernet, Wifi and Bluetooth interfaces
- Automatic synchronization with GPS navigation and positioning system for radionuclide search, detection and localization
- Tablet including CAEN GammaEDU application

All-in-one HVPS, Preamplifier and Digital Multichannel Analyser Tube Base

## Specifications

- Gamma energy range: 40 keV - 6 MeV
- Weight: 8.3 kg
- Dimension: 22 cm x 30 cm x 45 cm
- Operating temperature range: -10° C to 50° C
- Humidity: < 95% non-condensing
- Naturally occurring isotopes:  $^{40}\text{K}$ ,  $^{208}\text{Tl}$ ,  $^{214}\text{Bi}$ ,  $^{226}\text{Ra}$ ,  $^{228}\text{Ra}$ ,  $^{238}\text{U}$ ,  $^{232}\text{Th}$
- Medical isotopes:  $^{18}\text{F}$ ,  $^{124}\text{I}$ ,  $^{89}\text{Zr}$ ,  $^{86}\text{Y}$ ,  $^{13}\text{N}$ ,  $^{52}\text{mMn}$ ,  $^{68}\text{Ga}$ ,  $^{110\text{mIn}}$ ,  $^{99\text{mTc}}$ ,  $^{131}\text{I}$ ,  $^{67}\text{Ga}$ ,  $^{153}\text{Sm}$ ,  $^{201}\text{Tl}$ ,  $^{99}\text{Mo}$ .
- Industrial isotopes:  $^{176}\text{Lu}$ ,  $^{166\text{mHo}}$ ,  $^{54}\text{Mn}$ ,  $^{57}\text{Co}$ ,  $^{60}\text{Co}$ ,  $^{152}\text{Eu}$ ,  $^{154}\text{Eu}$ ,  $^{192}\text{Ir}$ ,  $^{65}\text{Zn}$ ,  $^{133}\text{Ba}$ ,  $^{137}\text{Cs}$ ,  $^{152}\text{Eu}$ ,  $^{252}\text{Cf}$ ,  $^{139}\text{Ce}$
- Dose rate upper limit: 40 mSv/h



CHECK THIS OUT!



**FREE  
DOWNLOAD**



Software for Spectroscopy Solutions (Windows® / Android™)

Windows® is a registered trademark of Microsoft Corporation.



**CAEN**  **edu**

CAEN SpA  
Via Vetraria 11  
55049 - Viareggio, Italy  
Tel. +39 0584.388.398  
Fax +39 0584.388.959  
info@caen.it www.caen.it

[www.caen.it/educational](http://www.caen.it/educational)