



SPIR-Ace

Smartphone

Radionuclide Identification Device (RID)



Nuclear Power



Homeland Security & Defense



Industrial and Manufacturing



Healthcare



Labs and Education

OVERVIEW

The **SPIR-Ace** is a versatile Radionuclide Identification Device (RID) addressing all applications requiring efficient detection and identification of radiological threats in security applications, including civil defense, border security and customs. It also provides accurate assessment of nuclear materials for power plants, safeguard inspection, forensic laboratories and OSI/CTBTO agents. The **SPIR-Ace** can also be used by in law enforcement, emergency response and other critical infrastructure applications.

The **SPIR-Ace** offers identification performance beyond current standards for RIDs such as for heavily shielded isotopes, unbalanced mixtures of nuclides and Special Nuclear Material (SNM) masked by medicals or Naturally Occurring Radioactive Material (NORM) within a few seconds.

The **SPIR-Ace** offers user-friendly and state-of-the-art features such as easy localization with directional indication, geo-localization and remote data transfer to a command center.

KEY FEATURES

- Ultra-fast and accurate compact identifier
- Unbeaten performance for heavy shielded and unbalanced Special Nuclear Material masking scenarios
- Radiological performance exceeding current standards for RIIDs and RIDs
- Multiple usage scenarios: radiological security, nuclear accident, source assessment applications...
- Self energy-stabilized without any source
- User-friendly interface
- External alpha and beta contamination probes
- Mapping capability
- Live data transmission and Reachback capability
- Remote display and control through a web page
- Compatible with any Android Smartphone
- Application available on Google Play Store:



NUCLEAR CHARACTERISTICS

- **Detectors**
 - NaI(Tl) version: dia 35 mm x 51 mm (1,4" dia x 2")
 - LaBr₃(Ce) version: dia 25,4 mm x 34 mm (1" dia x 1,34")
 - Optional neutron detector: 1 moderated He3 tube
 - Energy compensated GM tube for high gamma dose rate
 - External alpha/beta probe connector
- **Energy range**
 - 20 keV to 3 MeV (gamma)
 - 0,025 eV to 15 MeV (neutron)
- **Gamma dose rate range** : 0.001 μSv/h to 100 mSv/h (0.1 μR/hr to 10 R/hr)
- **Identification**
 - Fast digital MCA 1024 channels, throughput >100 000 cps
 - Single, bare or shielded, and mixed isotopes
 - 80 nuclides in seven libraries
 - Identifies simultaneously up to 8 nuclides
 - Detection and identification performance exceeds ANSI N42-34, IEC62327, IAEA NSS 1
 - Identifies 0.5 μSv/h (50 μR/hr) within a few seconds

FUNCTIONAL FEATURES

Interface

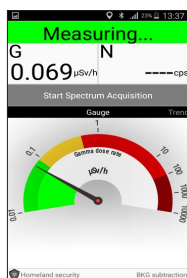
- Smartphone display
- Fast and smooth display update (every 0,25 s)
- Indicators: LEDs, vibrator and sound
- Touch screen and 2 buttons for gloves/Personal Protective Equipment (PPE) operation
- Earphone plug

Connectivity

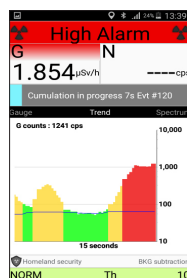
- Retrieve data from the smartphone: explore files or use SpirREPLAY (option)
- Internet connection by WiFi or cellular:
 - Send events by emails (includes .n42 file)
 - Remote supervision with SpirVIEW or other software using file transfer (FTP or HTTP/SSL)
- Remote display and control via a web page (WiFi)
- Records the location of all measurements/events

Measurements

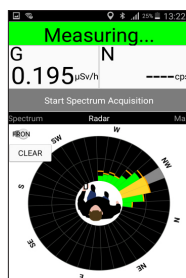
- Wake-up on alarm
- Automated identification upon alarm
- Manual measurement mode (start/stop/resume)



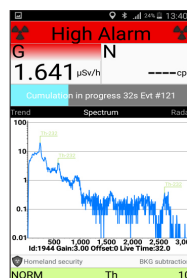
Easy display



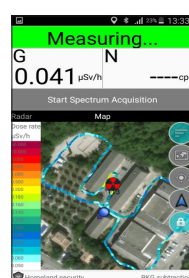
Source search



Direction to the source



Spectrum showing identified peaks



Mapping with hotspot localization



SPiR-Ace compatible with any Android smartphone

CHARACTERISTICS

Standards Compliance

- ANSI N42.34 and IEC62327
- CE

Environment

- Operating temperature range: -20°C to +50°C (-4°F to +122°F)
- Humidity: 93% relative humidity at 40°C
- Water and dust: IP64

Electrical

- Li-ion rechargeable, built-in charger
- Autonomy:
 - > 10 hours for typical use,
 - up to 48 hours in monitoring mode
- Charge time:
 - 10 hours from micro USB (5V, 500 mA)
 - 4 hours from DC input (5V-16V)

Physical

- Weight: less than 1.4 kg (3.08 lb)
- Dimensions: 206 x 153 x 57 mm (8.1 x 6.2 x 2.2 in)

ACCESSORIES AND OPTIONS

• SPiR-Ace available with or without Smartphone

- Compatible with any Android Smartphone
- Delivered with Sony Xperia™ Z5 Compact or Xperia™ X Compact
- SpirAPP Application and updates available on Google Play Store

• Included accessories

- Transportation and storage case
- Double USB AC power adapter
- Micro USB cable
- DC input cable
- Hand strap
- Earphone

• Options

- SpirREPLAY: centralization, visualization and mapping
- SpirVIEW Mobile: real-time supervision
- GMP-25 alpha/beta pancake probe

> CHINA - SHANGHAI

T: +86 21 6180 6920 | E: info-cn@mirion.com

> FINLAND - TURKU

T: +358 2 4684 600 | E: info-fi@mirion.com

> FRANCE - LAMANON

T: +33 (0) 4 90 59 59 59 | E: info-fr@mirion.com

> GERMANY - HAMBURG

T: +49 40 85193 0 | E: info-de@mirion.com

> USA - SMYRNA, GEORGIA

T: +1 770 432 2744 | E: info-us@mirion.com

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