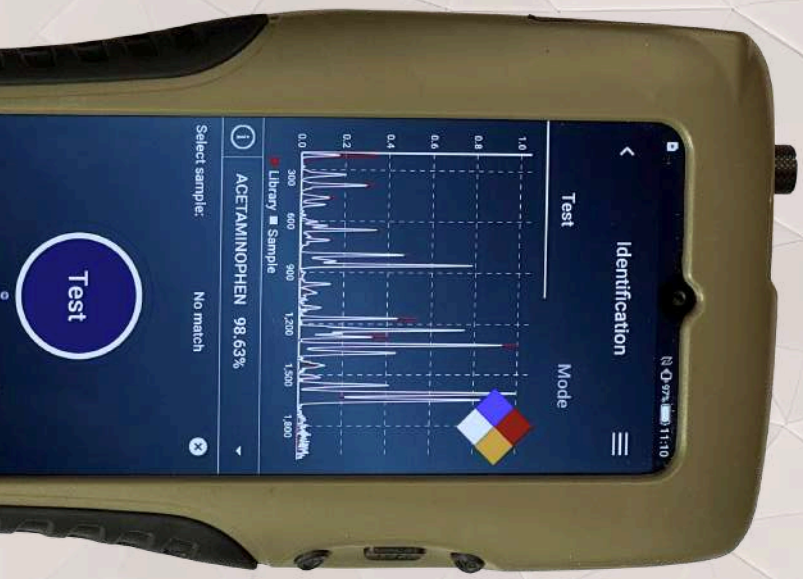
RS DYNAMICS®
Science for Safety and Health

microRAMAN

Handheld Raman Spectrometer

Precise and accurate identification
of unknown substance

Technical



785 nm laser

470 mW optical power (max)

Linear CMOS sensor

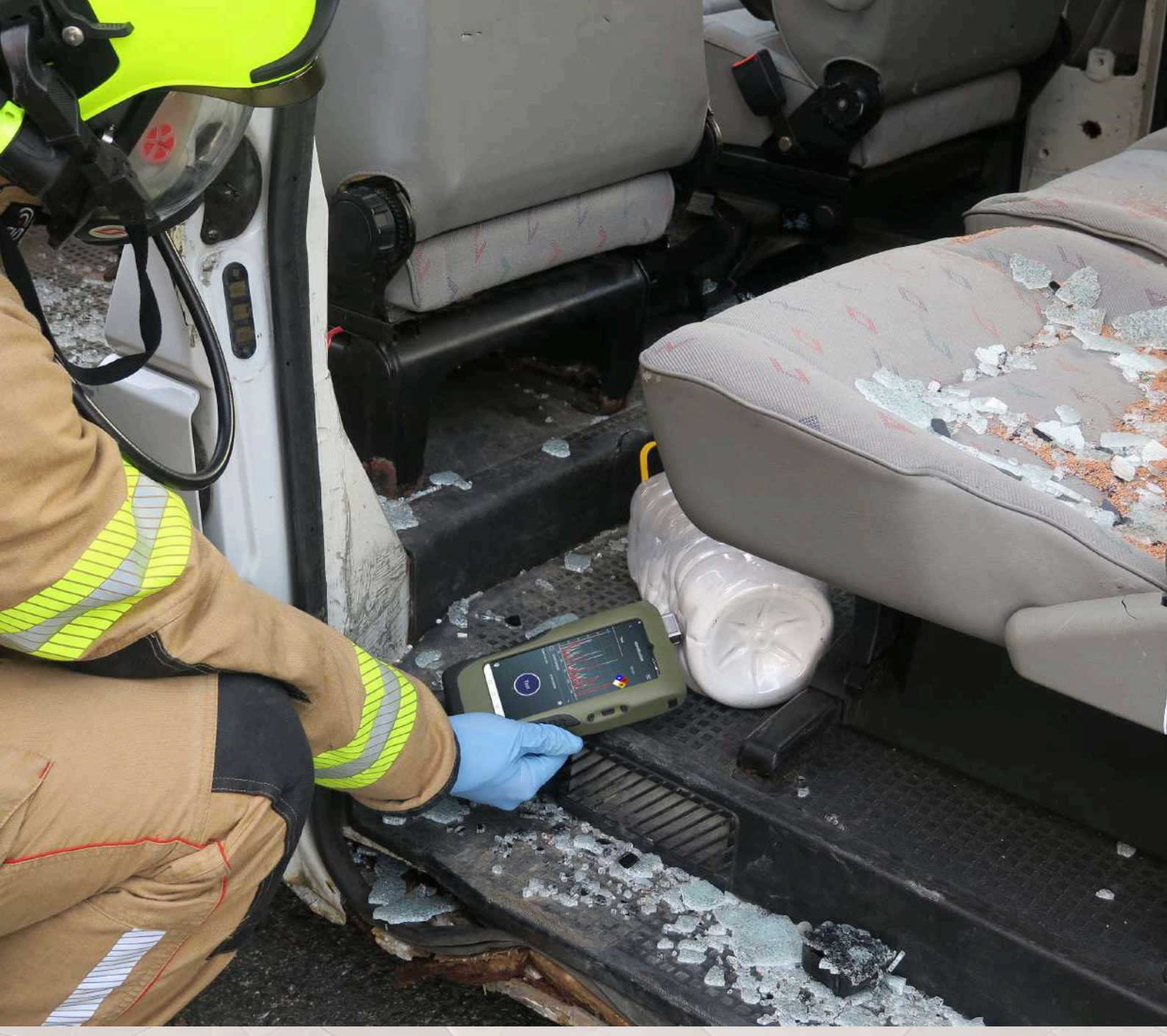
24 000 reference spectra in library

6.52" colorful display with touch screen

Octa-core processor

Featured

- **Precision** — Smart HW design provides the most competitive abilities to improve the measured spectra and extract the smallest peaks from the strong fluorescence.
- **Speed** — Being equipped with the most modern & powerful hardware you are able to identify within seconds.
- **Field use** — Because of ruggedized heavy-duty case he microRAMAN can hold up within the toughest conditions.
- **Simple control** — The 6,52" touch screen makes the control of the unit very intuitive and simple. You can adjust the parameters, work with libraries and much more.
- **Advanced library** — With more than 24 000 compounds listed on library you can identify the broadest group of substances or their mixtures.
- **Algorithms** — The powerful computer enables the advanced math ability to quickly and reliably identify the tested chemical compounds.



Unmatched Sensitivity, Speed, and Precision: The Ultimate Handheld Raman Spectrometer

The microRAMAN is a revolutionary, new generation handheld Raman identifier dedicated for the broadest use in the field. With the most modern hardware, unique identification algorithm and simplicity of use, this device finds its use with security forces, pharmaceutical industry or incoming product control and many more. The microRAMAN delivers the most enhanced analysis capabilities to nondestructively identify unknown substances or mixtures – either solids, liquids, powders or colloid solution.

Practical

Identification within seconds - the microRAMAN combines a 785 nm laser with a high-sensitivity linear CMOS sensor and precision optical components to capture spectra with confidence. With a powerful octa-core processor onboard, the microRAMAN doesn't just acquire spectra quickly—it evaluates them instantly. Measurement and evaluation typically takes 2 seconds, and remains under 20 seconds even for demanding samples or challenging conditions. The result is a fast, reliable Raman workflow that keeps pace with your application and delivers answers when needed.

Optical adapters

Angled 2ml vial adapter

Safety adapter

Direct 2ml vial adapter

Direct adapter 6 mm

Direct adapter 0,2 mm

Through - barrier penetration

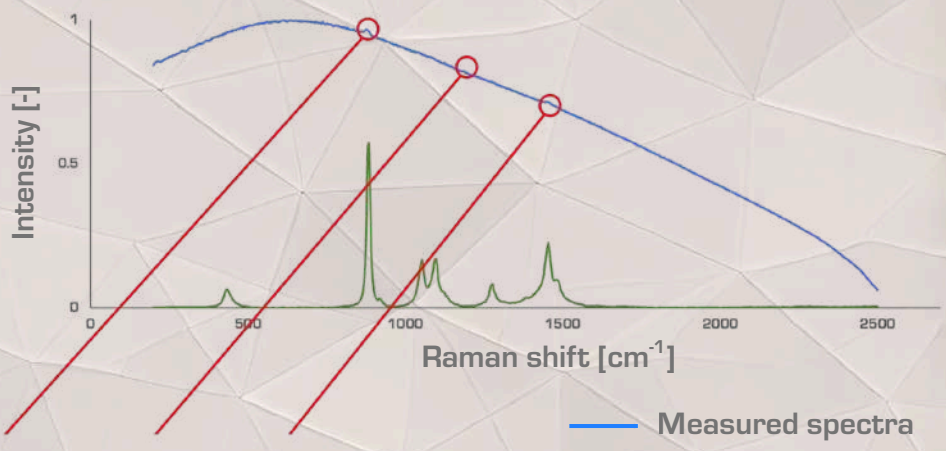
The microRAMAN can analyze and identify single substances or mixtures inside packaging, behind glass, or through protective films. And because real-world samples rarely come clean, microRAMAN goes a step further: it captures the barrier's spectral signature and subtracts it, revealing a clean, more correct spectrum of the material you actually care about.

Non - contact. Non - destructive. Confident identification — through the barrier.

Measurement evaluation

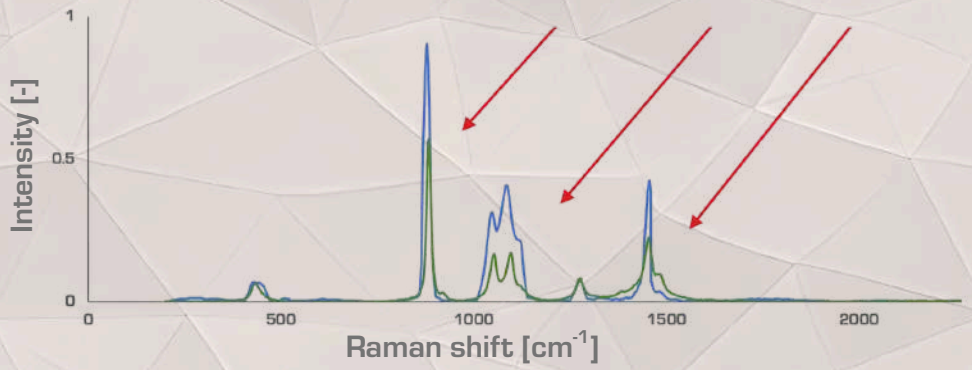
At RS DYNAMICS LLC, we designed the microRAMAN without compromising performance, utilizing an advanced, science-driven approach to Raman technology. The ultra-low-noise sensor, combined with advanced signal processing algorithms, open the new horizons for application of 785 nm Raman systems. Moreover, the outstanding identification capabilities of the 785 nm system for most of organic and inorganic compounds have been further enhanced!

Typical fluorescence 785 nm Raman measured source data is impossible to directly compare with library spectra.



Data processing exploiting modern HW and enhanced math algorithm removes the influence of fluorescence and subtracts baseline.

The microRAMAN advanced processed spectra matching library



Advanced Signal Processing

Spectral and time-domain analysis isolates weak signatures close to the noise floor, improving detection sensitivity and measurement confidence.

Library

The measured Raman spectra is compared against our internal reference library of over 24,000 compounds, ensuring fast and confident identification of pure compounds or mixtures. By matching each spectral fingerprint to the database, the system delivers reliable results you can trust. The library contains following groups:

Explosives	**Chemical warfare agents**	**Polymers**	**Pharmaceuticals**
Narcotics	**New psychoactive substances**	**Lubricants**	**Household chemicals**
Pesticides	**Toxic industrial compounds**	**Gemstones**	**Food**

APPLICATIONS:

Defense

Explore the microRAMAN - highly reliable, robust and precise instrument to increase security for those on the frontlines counteracting the threat of enemy attacks.

Ports & Border Control

We offer the microRAMAN - real field solution with fast response to various threats and reliability of detection and identification. The analysis of potential terrorist threats has never been easier before.

Customs

The microRAMAN offers an unbeatable solution for customs applications for quick and reliable identification of powders, liquids or colloid solutions.

Urban Security

Threats from terrorist attacks are present nowadays in public facilities or in public events. This implies the need for tools that cover field applications, ideally with very portable and handheld device.

Pharmaceutical

Immediate analysis of the unopened sample brings you valuable information. The microRAMAN is able not just pure substance evaluation, but also mixtures made of up to four components.

Governmental

With the microRAMAN you can protect the critical infrastructure – either the governmental institutions, critical infrastructure or logistic facilities. Anywhere fast and reliable security needed.

Input Quality control

Be sure within a few seconds that you are supplied with correct material you need. With our fast and handheld device, you can immediately check your sample.

RS DYNAMICS®
Science for Safety and Health

info@rsdynamics.com

Headquarters:

RS DYNAMICS LLC
Bleichistrasse 8
6300 Zug
Switzerland

Office:

RS DYNAMICS LLC
Technoparkstrasse 1
8005 Zürich
Switzerland

Technical Support:

RS DYNAMICS Ltd. Europe
Starochodovská 1359/76
14900 Prague
Czech Republic, EU

www.rsdynamics.com