RAMAN
SPECTROMETER & ANALYZER
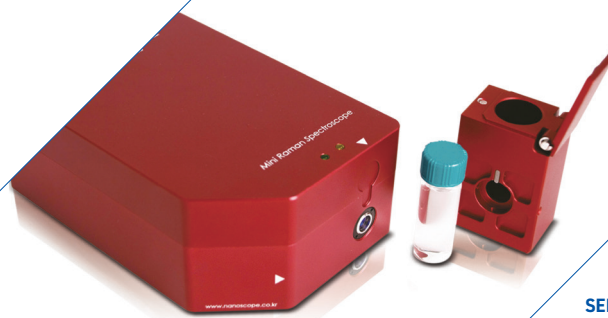# NS-Raman

Ramcheck-A1
Raman mapping strip reader

NS200 series
Single laser micro Raman spectrometer

NS100 series
**Handheld-size Raman spectrometer**

SERSpace
SERS substrate

NANOSCOPE
SYSTEMS

Ramcheck-A1
Raman mapping strip reader

Ramcheck-A1 is a compact Raman spectrometer with automatic mapping function. It is designed to acquire Raman signals from SERS samples in the form of strips or cartridges. The coordinates of the points to read the Raman spectrum can be set arbitrarily, and the signal processing algorithm for extracting representative values can be specified. A strip insert is customized by default to fit the user's strip. We would be pleased to support the first-stage researches and prototyping of SERS-based Raman applications.
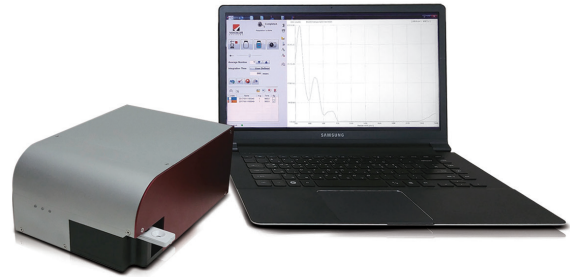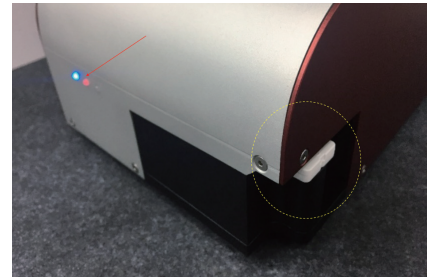
Simple insert & run

When a strip sample is inserted, the Raman spectrometer module inside the device moves to the assigned coordinates, and gathers the Raman spectrum from each coordinate points.
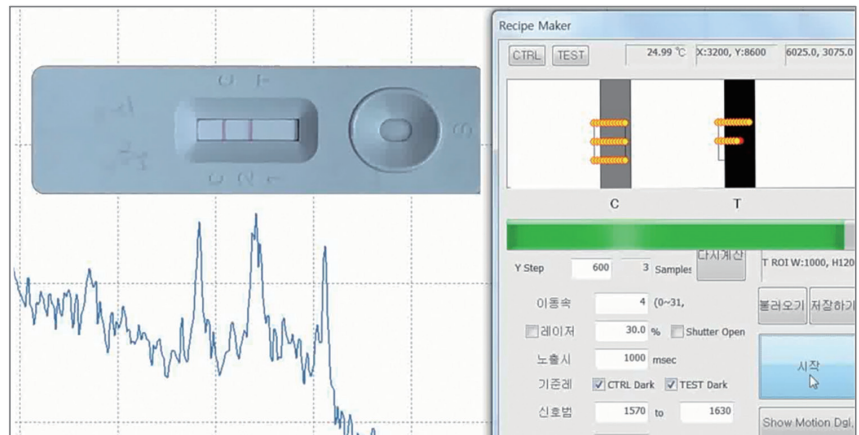
For example, once assigning some points near the control line and the test line of a strip, the user can conveniently get the signals from the control and the test line repeatedly. The signals from a group of points can be accumulated or averaged, and plotted. Any processing or filtering algorithm can be applied to a group of points or to individual points.

The final decision can be made by comparing the data from a test line with the data from a control line. It is very efficient device for the repeated run of the controlled experiments.

Insert strip to an input port

Insert status LED light ON

Signal acquisition from mapping coordinates of the control and the test line
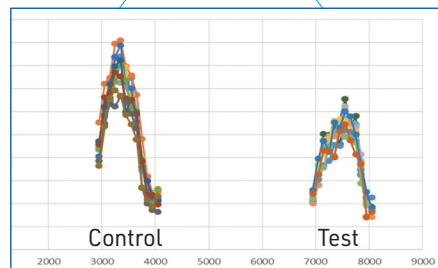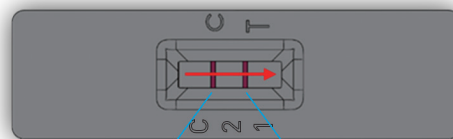
Normal

Abnormal

Example of real test data (raw data) from strip
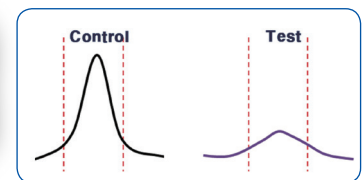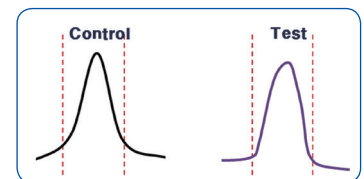
Judge by the control and the test signal

Features & Benefits

- Ramcheck-A1 is a compact all-in-one Raman system enabling coarse/fine Raman mapping

- Ramcheck-A1 can provide the optimized test platform of SERS strip application for the very low concentration detection or the early diagnosis research.

- Spectrometer inside Ramcheck-A1 is a modified version of NS-Raman series, which is a laboratory-proven spectrometer. The size of strip insert can be customized.
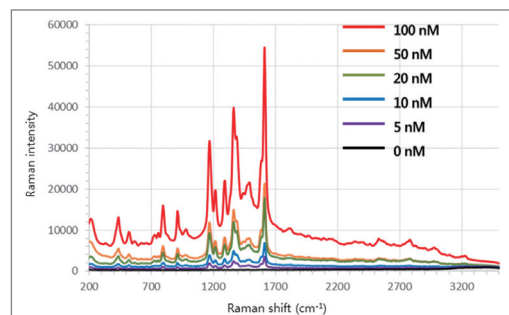

Case of intensity difference by concentration

Specifications

Model	RamCheck-A1
Laser Wavelength	633 nm ± 1 nm
Laser Output Power	40 mW (30 mW at sample)
Laser beam spot size	40 μm
Spectrum Range	200 cm^{-1} ~ 3,600 cm^{-1}
Spectral Resolution	≤ 10 cm^{-1}
Spectrometer NA	0.11
Collection Optics	NA 0.45 / WD 10.0 mm
Exposure	Min : 5 msec ~ Max : 65 sec
Mapping range	12 x 6 mm^2
Optimal strip dimension	70 x 20 x 6 (t) mm^3
External Power	24V @ 5A
Weight	~ 3.6 kg
Size	160 x 220 x 94 mm^3
I/O (interface)	USB 2.0
Software	NSRamCheck
Data Formats	.txt, .csv
Library	~200 materials
Display	By laptop computer

Dimensions

(Unit : mm)
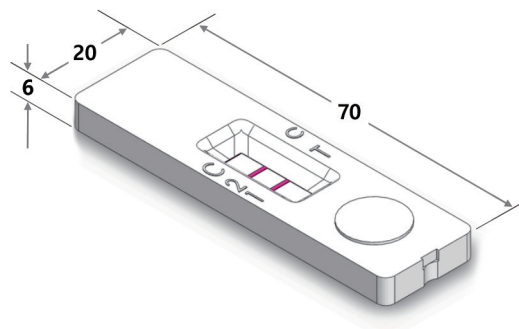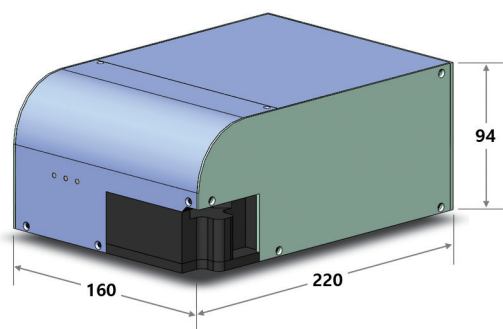
Dimension of a default strip.
The inlet of a device is compatibly modified for the strip of other size and type.

NS-Raman

RAMAN SPECTROMETER & ANALYZER

NS200 series single laser micro Raman spectrometer
NS100 series handheld-size Raman spectrometer
Ramcheck-A1 for reading SERS strip
SERSpace   SERS substrate amplifying Raman signal

NANOSCOPE
S Y S T E M S

Unit 333, Hanshin S-MECA, 65, Techno 3-ro,
Yuseong-gu, Daejeon 34016, Republic of Korea
Tel : +82-42-862-0772, 0773   Fax : +82-42-336-4774
E-mail : info@nanoscope.co.kr   Website : www.nanoscope.co.kr