Agilent Reachback Service for Resolve

Analysis made easier with the
Agilent Resolve Raman handheld
through-barrier identification system

Reachback service for Resolve system

Our reachback service offers the following:

- Twelve trained reachback scientists deployed globally to ensure an efficient response

- PDF report from scientists with guidance and recommendations

- Phone call response when detrimental to human health

- Free under warranty and software maintenance agreement contract. For prioritized reachback, we aim to respond within 24 hours

- No contract? You can still contact our reachback team. Responses will be on a best-effort basis

- Send reachback requests via our email, website, or directly from the Resolve system using Wi-Fi

- Support for Agilent Command Fleet Management software custom library inquiries

Resolve system and Command Fleet Management software

The **Agilent Resolve Raman handheld through-barrier identification system** is a powerful tool that can be used to identify a wide range of materials. It uses Agilent proprietary **spatially offset Raman spectroscopy** technology to identify materials concealed behind barriers like colored and opaque plastics, dark glass, paper, and fabric.

To enhance the capability of the Resolve system, the PC-based **Agilent Command Fleet Management software** can be used to build custom libraries, export data, and manage Resolve fleets.

What is the reachback service?

Our reachback service supports users with any spectroscopic queries related to the Resolve system. Our Raman experts can help analyze a scan or set of scans if your Resolve system provides inconclusive results.

This can be helpful if you:

- Have not been provided with a match, despite obtaining a good quality spectrum

- Have reason to believe that a match is incorrect

- Have been given different results for more than one scan of the same substance under the same conditions

- Require scientist confirmation of a match

How does the reachback service work?

Either send your reachback request directly from your Resolve system (when connected to Wi-Fi), email it to **reachback@agilent.com**, or upload your scans to our website: **www.agilent.com/en/reachback**

Tips:
- Reachback file export type is preferred for more efficient response

- Please include as many details as possible with your submission, such as:
    - Reason for submission
    - Urgency
    - Sample type
    - Container type
    - Measurement conditions

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Upon receiving a request, the reachback team will first determine if system health or operational issues are affecting the results. Then, offline analysis tools are used to assess the data, where a trained scientist can often extract more case-specific information than the threshold-bound instrument.

Generally, the following questions are asked:

Was the scan taken correctly and is it of a reliable quality?
Sometimes things do not go according to plan. If there are issues with a scan, the team can sometimes correct it to get more information. If possible, advice will be offered on why the scan has not worked, and how the user can improve their scanning technique.

Can we see evidence of threat materials like narcotics, new psychoactive substances (NPS), explosives, chemical warfare agents, or precursors at a low level or present with other materials in a complex mixture?
The software on the Resolve system must produce results at a certain confidence level. If the confidence level is too low, this could result in a false alarm. A skilled reachback operator can detect potential threats at a lower level using the available offline tools if spectra are available.

Can we verify that the material is what the Resolve system claims or, at least, that it does not have the characteristics of threat material?
The reachbach team will flag anything they think is suspicious and worth investigating further. In this regard operators are always trainned to provide as much information as possible or to pose a specific question when submitting a request.

An official report will be issued with the reachback response and recommendation.

Reachback statistics

274 requests over 6 years
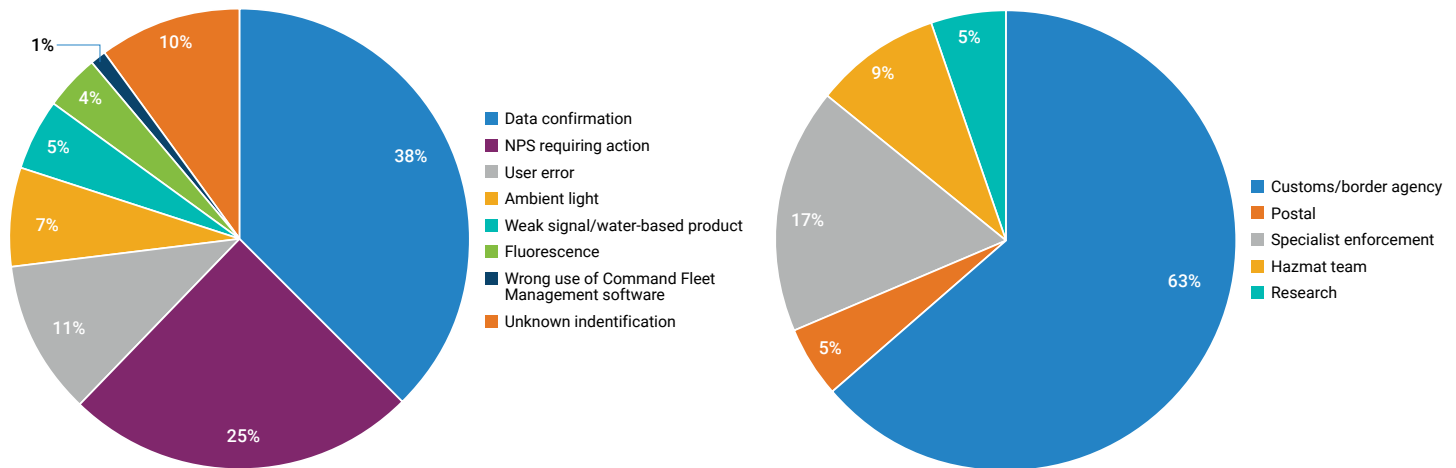**12.5 hours on average to issue report**

Figure 1: Breakdown of reachback service request types (left) and use by customer type (right)

Case 1: Incorrect measurement mode

Scenario: A white/brown powder suspected to be a narcotic in a clear plastic bag yielded a top result of 87% to distearyl thiodipropionate using the Resolve system. The reachback service was contacted for an offline analysis to confirm ID of the chemical present in the clear plastic bag.

Reachback assessment: After checking the system health and measurement light conditions, it was observed that the measurement mode selected by the user was incorrect. Offline analysis indicated the presence of polystyrene and MDMA. It was recommended that the user rescanned the sample in the correct mode, which provided a correct match to MDMA.

Case 2: Light interference

Scenario: A white powder suspected to be heroin was analyzed and the Resolve system reported a "no match possible" result. The reachback service was contacted.

Reachback assessment: Upon initial checks, it was found that an ambient light signal was present in the measurement raw data, affecting the scan outcome. It was recommended that the user rescanned the sample, taking care to avoid light interference (for example, using the light shroud provided). The rescan provided a 96% match to heroin.

Case 3: No ID

Scenario: During a drug checking, the Resolve system reported a "no match possible" result. The reachback service was contacted.

Reachback assessment: Evidence indicated the presence of a new narcotic. It was recommended that the user proceed with caution and send a sample for further analysis. It was confirmed that the sample was fluoroketamine. The user was guided to create their own Command Fleet Management or user library while the reference sample was sourced and added to the following global Resolve library release.
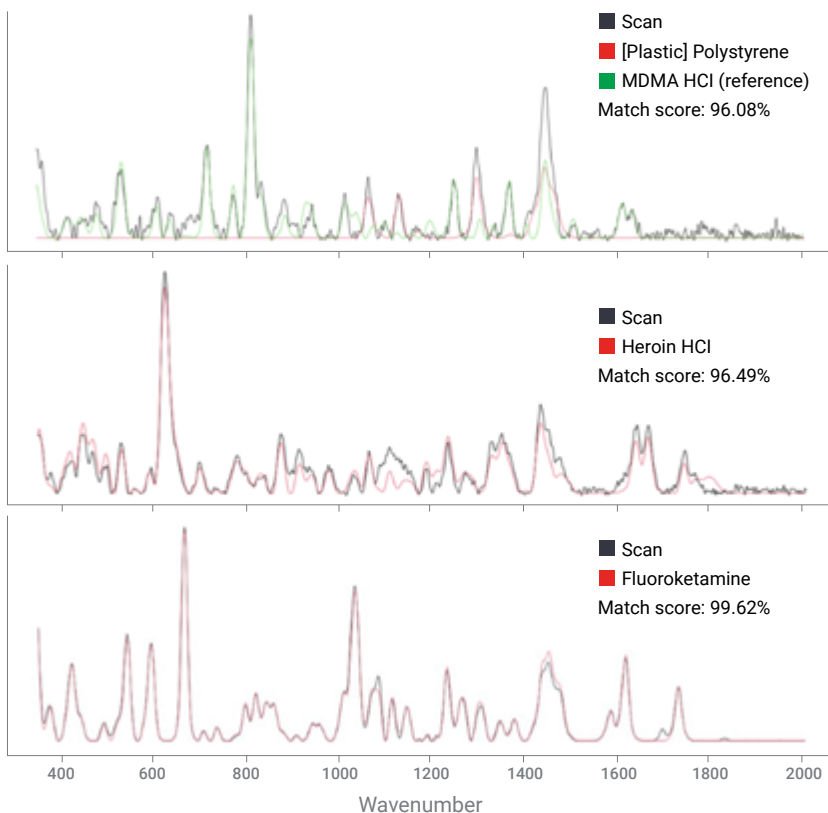

Figure 2. Top: Case 1 offline match to MDMA.
Middle: Case 2 offline match to heroin.
Bottom: Case 3 offline matching to fluoroketamine.

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