Agilent Technologies, Inc. - Agilent 8800 Triple Quadrupole Inductively Coupled Plasma (ICP) Mass Spectrometer



GENERAL DESCRIPTION:

The Agilent 8800 ICP-QQQ provides unmatched flexibility never available before in ANY ICP-MS instrument. The 8800 ICP-QQQ was designed for those unique challenges that current HR-ICP-MS, DRC-ICP-MS or CRC-ICP-MS systems cannot address. This new instrument, while unique in its configuration and performance, shares many hardware components and software of Agilent's



best-selling 7700 Series single-quad ICP-MS. The ground-breaking 8800 ICP-QQQ offers:

- Proven reliability and performance The 8800 ICP-QQQ maintains the proven capabilities of the 7700 Series ICP-MS.
- Unrivalled performance The 8800 ICP-QQQ has better signal to noise than any existing single-quad ICP-MS instrument.
- Results you can trust The 8800 maintains the same performance in the acclaimed He mode.
- Unique configuration The design of the 8800 ICP-QQQ enables MS/MS operation, providing precise control of reaction processes in the ORS3 collision/reaction cell (CRC).
- Maximum flexibility The 8800 ICP-QQQ provides improved performance in semiconductor manufacturing, advanced materials, clinical and life-science, and a wide range of research and routine applications.

TECHNICAL DESCRIPTION:

The 8800 ICP-QQQ features both single-quad and MS/MS mode. Because the first and second quadrupole can be operated independently the reaction processes in the cell can be investigated with unprecedented control. Technical features shared with the 7700 ICP-MS series include:

- Sample introduction system includes a Micro-Flow nebulizer, a temperature-controlled spray chamber and a high precision, 10-roller peristaltic pump.
- Plasma RF Generator High power-transfer efficiency and maintenancefree solid state digital drive 27 MHz RF generator with variable-frequency impedance matching.
- Octopole Reaction System Enables fast analysis with uniform conditions, for stability and consistent interference removal.
- First and Third Quadrupole Mass Analyzer The 8800 uses a true hyperbolic quadrupole, unique in ICP-MS, operating at high frequency..
- Detector Unique, auto-switching, dual-mode discrete dynode electron multiplier detector provides a full 9 orders of dynamic range with standard hardware and operating conditions.

CONTACT INFORMATION

Agilent Technologies, Inc. 8825 Stanford Blvd. Suite 300 Columbia, MD 21045 POC: Beverly Lesko beverly_lesko@agilent.com 443-285-7854 www.agilent.com/chem

COST



Survey Source

Tier Selection

Vendor Supplied Information

N/A

Scoring Analysis

System scores are compared across the four scenarios and ranked from highest to lowest.



Impact Chart

The Impact Chart is a spider graph representing specific categories and designed to give the reader a visual depiction of how a particular system is expected to operate across the four different scenarios. The score for each of the seven categories is presented as the percentage of the total possible score. Higher category scores extend the spokes of a graphic toward the outer edge of the chart. The area graphed for each of the four scenarios relates to how well the system performed in that scenario. Graphics for each of the four scenarios are super-imposed for ease of comparison.



Evaluation Criteria

Throughput:

- Between 2 and 15 minutes for detection
- Multiple samples, multiple tests/sample per run
- 95-32 samples every 2 hours
- The system or device is currently fully automated
- Device or system is intended for multiple detection assays
- 2 solutions, buffer, eluents, and/or reagents
- 5 or more components
- Greater than 20 minutes is required for setup
- Almost instantaneous detection

Logistics:

- More than a day of training and significant technical skills are required
- Approximately the size of a home dishwasher
- More than 50 kg
- Wired connections are available
- System or device has 220V electrical requirement



Operations:

- Can be used from 25°C to 37°C
- Components must be stored at room temperature (27 °C)
- Performance is not influenced by relative humidity
- Between 6 months and 1 year shelf life
- 5-10 years expected life
- Results can be viewed in real-time
- The system could be adapted to a fully autonomous system with some effort
- The system software is closed and not available for modification
- The system hardware is closed and not available for modification

Detection:

- Possible the system could receive 510K clearance, no current efforts at this time
- Possible the system could receive FDA approval, no current efforts at this time
- Less than 250 µL
- Excellent specificity. System has occasional false alarms under certain conditions (<2%)