

## Dear Partners

### Xenemetrix opens to new markets

We are pleased to announce Xenemetrix new partnerships in the field of chemical, biochemical and materials identification and analysis - we now operate as an authorized distributor of Real Time Analyzers, Inc.

Real Time Analyzers (RTA), Inc. was founded in 2001 by a group of experienced chemical spectroscopists and engineers led by Dr. Stuart Farquharson. RTA designs, manufactures, and markets high-performance Raman and near-infrared (NIR) Spectrometers for use in chemical, biochemical and materials identification and analysis.

RTA solutions are ranging from research-grade laboratory systems such as surface-enhanced Raman systems, to portable field-based units and industrial process control platforms.

We are looking forward to the opportunity of cooperating with Real Time Analyzers (RTA), which will increase the potential of providing our customers with complete innovative solutions for the elemental analysis process.



For more information please contact us at: [info@xenemetrix.com](mailto:info@xenemetrix.com) or visit our website: [www.xenemetrix.com](http://www.xenemetrix.com)

Yours,  
Xenemetrix Team

## Tip of the Month

### The limits of RoHS materials in products used on a daily basis.

The use of certain hazardous substances in electrical and electronic equipment is restricted and regulated according to Directive 2002/95/EC of the European Parliament. While the limits use, of RoHS, refer to electrical and electronic equipment, they are also applicable on all products used on a daily basis.

RoHS limits the use of Cadmium (Cd), Lead (Pb), Mercury (Hg), hexavalent Chromium (Cr<sub>6+</sub>) and Bromine (Br) in Polybrominated biphenyls (PBB) and Br in Polybrominated diphenyl ethers (PBDE). The permitted levels in homogenous materials are less than 1000 ppm of Pb, Hg, Cr<sub>6+</sub> or Br and less than 100 ppm of Cd.

RoHS regulations are designed to limit or eliminate substances that are dangerous to the environment and to humans. Failing to make products RoHS-compliant may result in very heavy fines. It is therefore very important to ensure that all your products meet the RoHS regulations.

Xenemetrix new RoHS Vision analyzer uses a high resolution detector, an integrated camera, and a powerful X-ray tube with small spot size (approximately 1 mm) to measure the presence of extremely low levels of restricted substances.

Our RoHS+SDD system is available in addition to our RoHS Vision device. Our full system includes an SDD detector, capable of analyzing and detecting all the elements from Sodium (Na<sub>11</sub>) to Fermium (Fm<sub>100</sub>). Unlike the RoHS Vision, the RoHS+SDD is supported not only by the RoHS software, but also by Xenemetrix software.

The fast quantitative analysis allows the manufacturer to comply with the new regulations, while automatically identifying the matrix and selecting optimal acquisition parameters for samples of various matrices, thicknesses and sizes. RoHS Vision fully complies with the latest directive and is ready for any regulation updates and upgrades.

More tips & support please contact us at: [info@xenemetrix.com](mailto:info@xenemetrix.com)



## Application Highlight

### Abstract

An electronic plastic sample was analyzed with Xenemetrix X-RoHS+SDD EDXRF analyzer at several different points on the sample for compliance with RoHS (Cr, Br, Hg, Pb and Cd). In addition, the Chlorine concentration was determined.

### Background

EDXRF is an ideal method for performing quick and simple elemental analysis tests for industrial control purposes. This analytical technique boasts in being extremely quick, noninvasive, requiring minimal sample preparation, and can easily be operated by non-skilled personnel in the production line. EDXRF is very suitable particularly for quick screening of electronic components and plastic parts used in the industry for RoHS compliance. The X-RoHS+SDD analyzer has a special user-friendly GUI that provides a quick automatic analysis of almost any sample for RoHS compliance.

### Experimental

The sample was analyzed at different points (see figure 1) using Xenemetrix X-RoHS+SDD analyzer equipped with a camera, to position the sample inside the small X-ray beam spot; (1mm diameter x-ray spot on the sample). The RoHS analyzer qualifies the result using the limits according to international RoHS standards.

### RoHS specifies maximum levels for the six restricted materials:

- Lead (Pb): <1000 ppm
- Mercury (Hg): <1000 ppm
- Hexavalent Chromium: (Cr VI) < 1000 ppm
- Polybrominated Biphenyls (PBB): < 1000 ppm
- Polybrominated Diphenyl Ethers (PBDE): < 1000 ppm
- Cadmium: < 300 ppm

### Quantitative Results

All different points on the sample were screened for RoHS compliance. The product PASSED the test. The Chlorine content was also determined using the RoHS analyzer. All results are presented in Table 1. The five different points tested for RoHS compliance are shown in Figure 1.

### Figure:

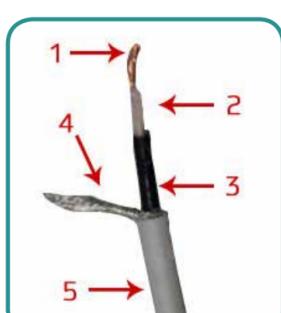


Table 1: Quantitative results:

Sample ID	Cr ppm	Br ppm	Hg ppm	Pb ppm	Cd ppm	Cl ppm	RoHS Compliance
Sample A1-	65	ND	17	60	51	85	PASS
Sample A2-	2	22	4	8	30	82	PASS
Sample A3-	2	19	4	8	ND	374	PASS
Sample A4-	130	ND	4	10	13	130	PASS
Sample A5-	42	ND	19	18	ND	146	PASS

ND=Not Detected

### CONCLUSION

Xenemetrix X-RoHS+SDD is an ideal RoHS analyzer that performs quick and reliable RoHS screening of any electronic or plastic part. The result is shown in the format of concentration + Pass/Fail assignment.

For the full report and more details please contact us at: [info@xenemetrix.com](mailto:info@xenemetrix.com)

Coming Next: New Applications, Tips & Innovations



Xenemetrix is a leading designer, manufacturer and marketer of Energy-Dispersive X-Ray Fluorescence (EDXRF) systems. With more than 30 years experience, Xenemetrix continues to develop highly innovative technologies and solutions suitable for today's ever-growing analytical challenges. Xenemetrix combines the latest technological developments with innovative engineering, to provide cost-effective solutions to a wide range of industries and applications.

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