



better analysis counts

HD Mobile™ Analyzer

HDXRF in a portable format



**Complies with
ASTM F2853 & F2617**

Application Areas:

- Multi-element detection in toys and children's products for compliance with regulatory requirements of the **CPSIA**
- RoHS, F963, and EN-71
- Rapid, precise screening and quantification of toxic elements
- Compliance verification across the supply chain:
 - Manufacturing process and finished goods QA/QC
 - Warehouses and retailers
 - Regulatory agencies

Features and Benefits:

- Unprecedented limits of detection for "true screening" and/or certification
- Separate and simultaneous analysis of coating and substrate
- Pinpoint analysis plus ability to capture high-resolution sample image
- Increase testing frequency while reducing cost
- User-friendly interface and data management



Compliance with the ultimate in convenience and flexibility

HD Mobile™ extends the superior HDXRF® standard for compliance out of the lab and into many different work environments. Now the precision and confidence of HDXRF analysis is available for use in portable applications – on the manufacturing floor, at the shipping dock, in the warehouse, or on the retail shelf.

Powered by
HDXRF®

The Right Technology Matters

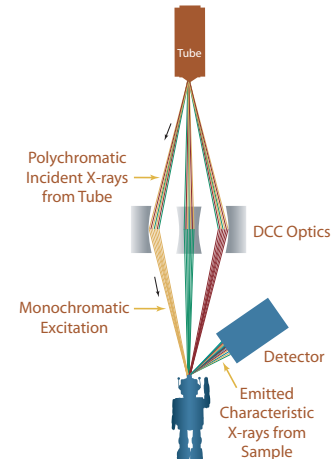
HDXRF[®] is an elemental analysis technique which uses XOS's patented DCC optics to enhance measurement precision and accuracy. Multiple DCC optics capture x-rays from a divergent x-ray beam emitted from the tube, and the optics redirect several select and narrow energy regions into an intense and focused beam on the surface of the product. By selectively using multiple monochromatic-excitation beams ranging from low to high energy, HDXRF allows the user to quantify toxic element concentrations for both the coating and the base materials separately. Using multiple monochromatic-excitation, HDXRF eliminates the scattering background under the fluorescence peaks, greatly enhancing elemental detection limits. The technique of applying focused excitation beams also provides a true, highly focused, 1-mm analysis area. The diagram shows the basic configuration of HDXRF and its use of multiple monochromatic excitation.

Fast, True, Cost-Effective Compliance

XOS developed HD Mobile to extend HDXRF's proven technology beyond the laboratory and into the field. Compliant with **ASTM F2853-10** and **F2617**, HD Mobile will provide highly precise screening for lead well below the regulatory limits defined in CPSIA for both coatings and substrates.

HDXRF analyzers simultaneously measure the lead in paint and substrate materials. HD Mobile also precisely measures cadmium, arsenic, mercury, antimony, and other elements that may be of concern in consumer products.

Powered by
HDXRF[®]



Doubly Curved Crystal (DCC) optics and multiple energy beams reduce background noise and separate coating composition from base material.

The ultimate in convenience and flexibility

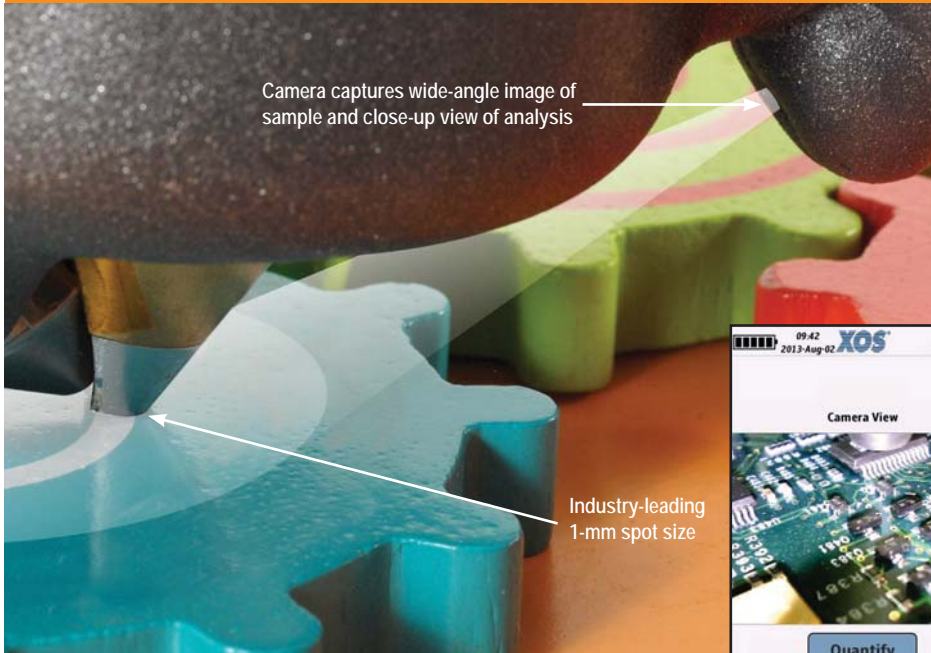
Now you can analyze large and small children's products and components anywhere in the consumer supply chain using our new HD Mobile portable analyzer. Easily switches between stationary and handheld analysis.

Easy to read interface makes navigation easy and intuitive

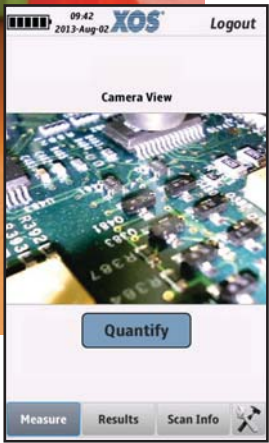
Remove handheld unit from case for portable applications and screening



Advanced Imaging Capability



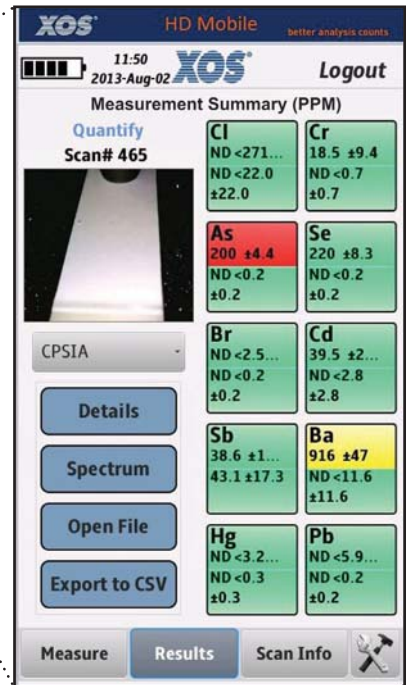
The built-in camera allows the operator to precisely pinpoint the position of the 1-mm analysis area and record the image. This unique design makes the operator's job easier and provides a traceable record of the analysis for robust auditing and compliance.



HD Mobile records image view of sample and analysis area and stores it with each test for documentation in a tamper-evident format.

User-Friendly Interface and Data Management

- Color-coded indicators present results as Pass or Fail separately for the product's substrate and coating.
- Elemental concentrations are indicated in ppm and in $\mu\text{g}/\text{cm}^2$.
- The analysis spectrum is recorded and viewable for each measurement.
- High-resolution image of analysis area is stored with each test.
- All test results are recorded in tamper-evident format.
- Data export capability in electronic and hard copy form.



Detection Limits

| LOD in ppm | Pb | Cd | Cr | As | Br | Sb | Se | Hg | Ba | Cl |
|--------------------|-----|-----|----|-----|-----|------|----|----|-----|------|
| Plastic Substrate | 0.8 | 2 | 2 | 0.8 | 1 | 5 | 1 | 1 | 10 | 100* |
| PVC Substrate | 1 | 2 | 5 | 1 | 1 | 5 | 1 | 2 | 10 | N/A |
| Coating on Plastic | 5 | 50* | 15 | 5 | 5 | 100* | 5 | 8 | 100 | 150* |
| Metal Substrate | 10 | 5 | 15 | 8 | N/A | 15 | 5 | 10 | 200 | N/A |
| Coating on Metal | 8 | 30* | 15 | 8 | 5 | 60* | 5 | 10 | 200 | 150* |

*Longer measurement time

Product Specs

| | |
|---|---|
| Analyzer Weight | 3.6 lbs (1.6 kg) |
| Interface Module Weight (with battery) | 1.75 lbs (0.8 kg) |
| Analyzer Dimensions | 12.3 x 3.7 x 8.6 in |
| Interface Module Dimensions | 3.1 x 6.6 in |
| X-Ray Tube voltage, current | 25-50kV, 200uA |
| Detector | 25 mm SDD |
| System Electronics | 512MB Dual Core Processor |
| Display | 4.3" WVGA (800RGBx480) TFT with touch screen, 16.7M colors, 217dpi |
| Analysis Area | 1 mm |
| Elemental Range | 10 elements displayed in icons on results screen, up to maximum of 40 on secondary screen |
| Consumer Products | As, Ba, Br, Cd, Cr, Hg, Pb, Sb, Se, Cl |
| RoHS | Br, Cd, Cr, Hg, Pb |
| Quantification: Test Results | Concentration in substrate ppm (wt). Color coded pass/fail indicators (user adjustable) Concentration in coating ppm (wt). And ug/cm2 Color coded pass / fail indicators (user adjustable) Spectrum analysis capability |
| Screening: Test Results | Pass or Fail color-coded indicators |
| Data Entry | Touch screen keyboard with icons |
| Data Storage | Up to 10,000 readings including camera images |
| Data Transfer | SDHC Card |
| Security | Password-protected user security |
| Integrated CCD Camera for aligning analysis area and storing images | High resolution image focused at measurement spot with 25 degree wide angle view |
| Battery | Li-ion, ~8hr run time normal operation (2 included) |
| Licensing / Registration | Varies by region, contact your local distributor |
| Compliance | CE |

Test Stand/Transport Case

| | |
|--|---|
| Portable Test Stand, Docking Station, Carry Case Modified - Pelican 1610 with handle and wheels | 21.8 x 16.7 x 10.6 in. |
| Sample Chamber | 9 x 15 x 5 in. |
| Power Requirements | 90-264VAC, 47 ~ 63Hz, 3A @ 115V |
| Charging Station | Rapid battery charger |
| Standard Accessories | Operators manual, check samples and standards |



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