Multiplelabs
Turnkey Laboratories Solutions

Analytical®
Technologies Limited

XRF-3360 RoHS

X-Ray Fluorescence Spectrometer

EPCC / PRODUCTS / APPLICATION / SOFTWARE / ACCESSORIES / CONSUMABLES / SERVICES

Analytical Technologies Limited

An ISO 9001 Certified Company

www.analyticalgroup.net

Instrument Introduction:

With the widespread of XRF-3360 RoHS over different fields, we design this type to meet the need of optimizing the product performance and improve the safety protection grade. The reliability of the product is improved by using the high voltage source and X-ray tube of the new generation and the testing efficiency is improved by the adopting the high power of X-ray tube

Performance advantages:

• Down-side X-ray Source: meet the test requirements of samples of different kinds and shapes
• Collimator and filter: the Auto-switch between various collimators and filters to meet the application of different testing methods
• Movable platform: sophisticated manual movable platform is convenient for locating test point
• High-resolution detector: improve the analyzing accuracy
• High voltage source and X-ray tube of the new generation: the performance is stable and reliable, achieving higher test efficiency

Application fields:

• RoHS testing
• Mining and alloy (Cu, stainless steel and so on) componential analysis
• Measurement of plating thickness, measurement of electroplate liquid and plating content
• The content test of precious metal such as gold, platinum and silver and different kinds of jewelr
• Mainly applied in RoHS directive industries, precious metals and jewelries processing industries banks, jewelry shops and test institutes: electroplating industries

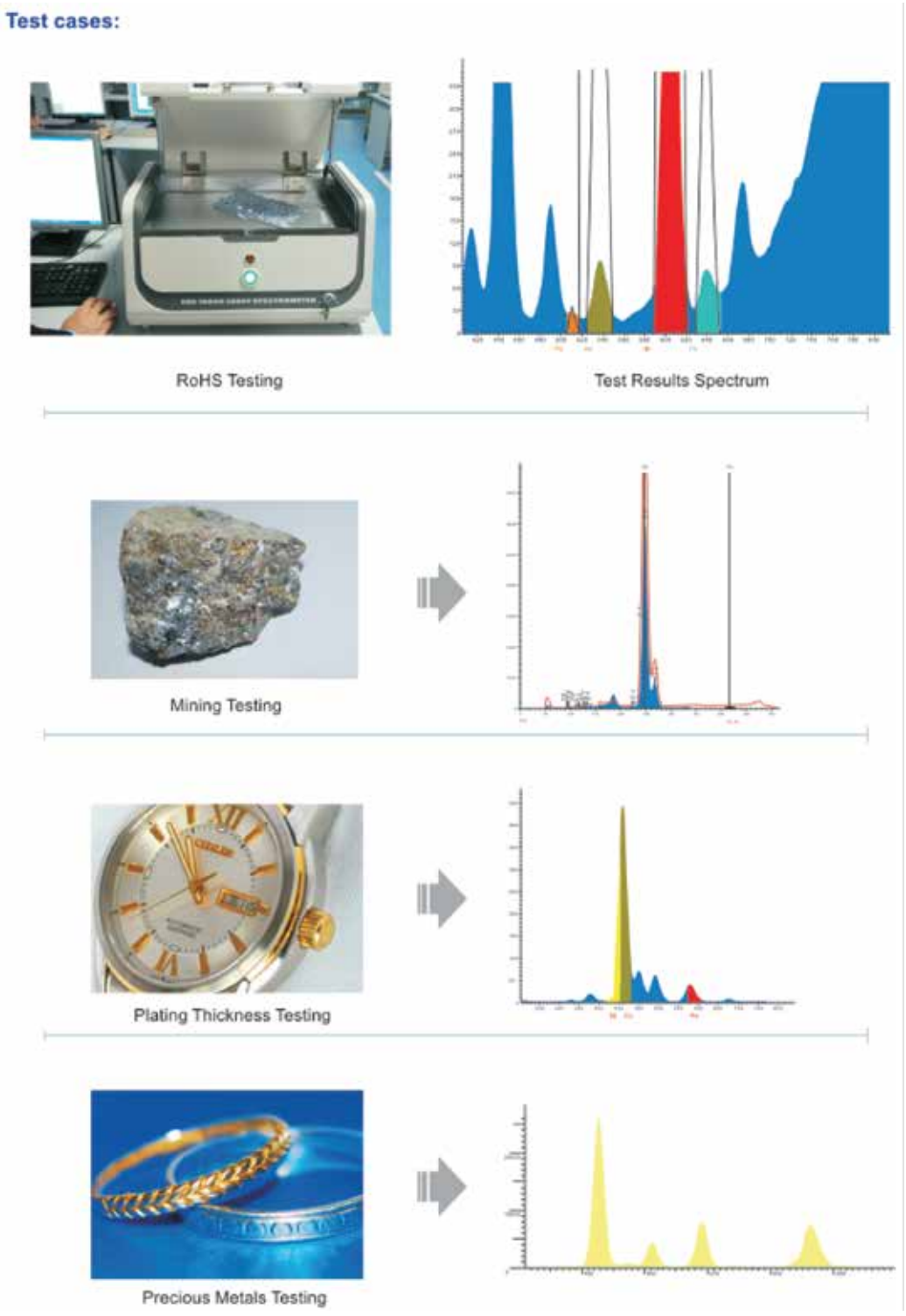
Testing 75 kinds of elements, 1ppm limit of detection, Repeatability 0.1%, Stability 0.1%

•Good shielding action of X-ray tube of new generation, radiation level of X-ray is equal to that of common atmospheric environment

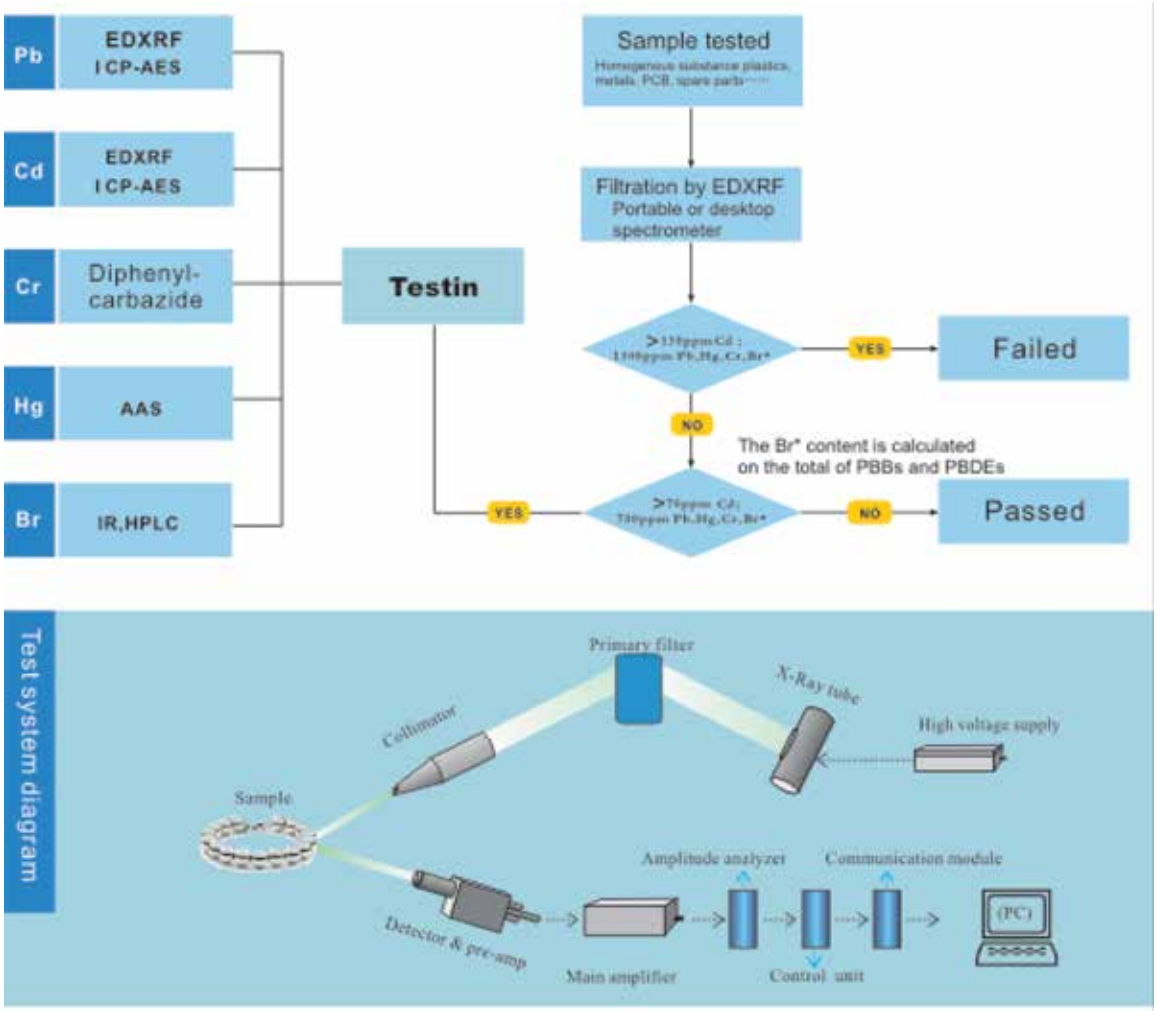
•The performance is stable and reliable, achieving higher test efficiency

•The automatic function of door sensor and high voltage lock gives you protection from all directions

Test cases:



The analytical method of filtration for XRF to test RoHS substances:



Characteristic X-radiation of element:

Each element will emit X-ray at its own energy level when excited. This X-ray is characteristic and called X-ray fluorescence. It is the foundation of analysis.

Scattering:

It is the background of spectrum.

Photoelement

The photoelectron is the foundation of detector. In the sample, the X-ray intensity of every element is expressed as 11,12,13,14,15 respectively. The element content C is the function of X-ray fluorescence intensity 1. expressed as follows:

C-f(a.) This equation is too complicated and can be simplified as:

Where

C=K,I+KI+KI+KI+KI

are X-ray intensity of element respectively; K1,K2, C is the element content in the sa mple; 11,12,13,14,15 K3,K4,K5 are coefficients which can be determined by measuring known standard sample to calibrate.

What are RoHS and WEEE Directives?

The European Union has adopted Directive 2002/95/EC on the restriction of certain hazardous substances (RoHS) and Directive 2002/95/EC on waste electrical and electronic equipment (WEEE) with their publication in the Official Journal of the European Union on February 13, 2003. WEEE comes into effect on August 13, 2005 and RoHS requires the substitution of various heavy metals (lead, mercury, cadmium and hexavalent chromium) and brominated flame retardants (polybrominated biphenyls [PBB] or polybrominated diphenyl ethers [PBDE]) in new electrical and electronic equipment put on the market from July 1, 2006

Testing standard of substances restricted by RoHS Directive

Hazardous substances	Standards (mg/kg)
Cd	100
Pb	1000
Hg	1000
Cr^{5+}	1000
PBB_5	1000
$PBDE_5$	1000

Restricted substances and their typical uses:

Pb

Solders	
Paints	Pigments and driers
Glass materials	Pb is allowed in fluorescent lamp
Ceramic materials	Pb is allowed in certain electronic ceramic materials
Iron,aluminum and copper materials	A certain amount of Pb is allowed
Plastics	PVC stabilizer and pigments
Batteries	Pb is allowed in acidic batteries for vehicles

Cd

Plastics	Stabilizer and pigments
Solders	Seldom used
Ceramics	Seldom used
Connectors	Relays and switches
Batteries	Cd is allowed in Ni-Cd batteries
Semiconductors	Optical sensors and solar cell panels.

Hg

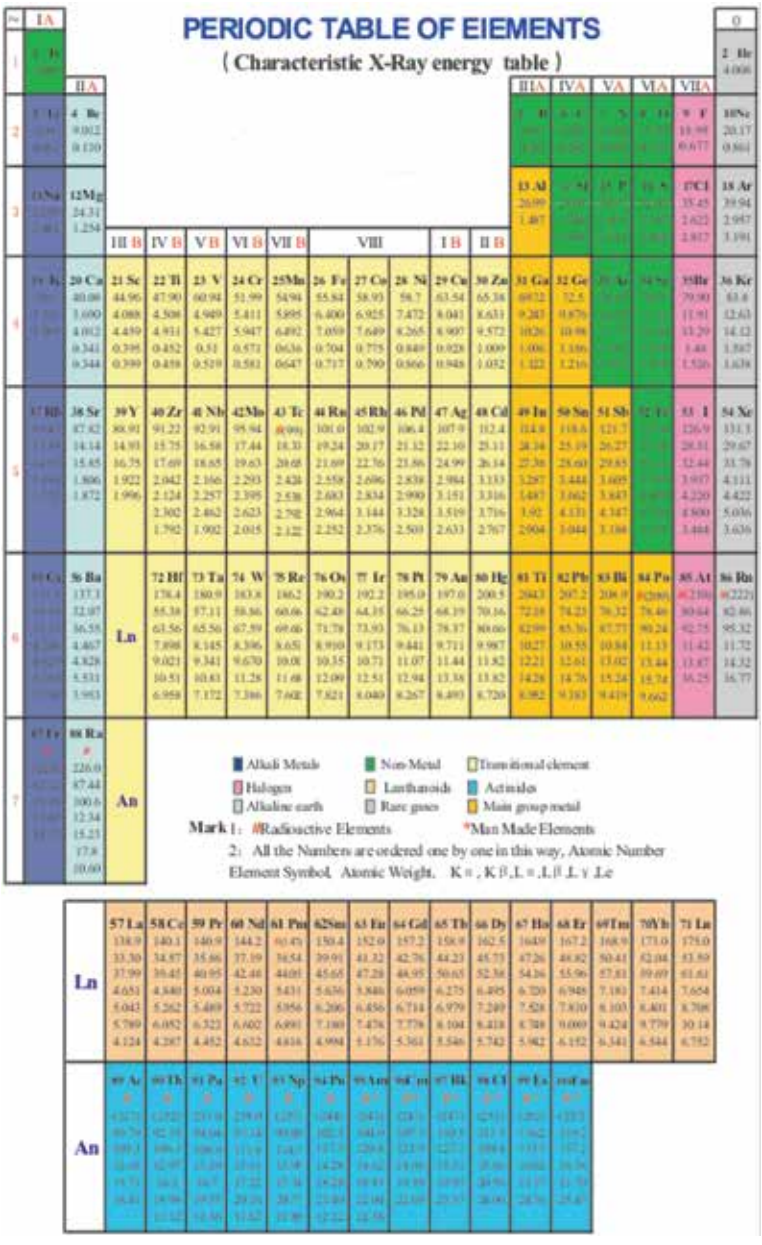
Batteries	Prohibited (see battery directive)
Connectors	Relays and sensitive switches
Fluorescent lamps	A certain amount of Hg is allowed

Cr

Passivation layers	Commonly used for naked metal surfaces to enhance adhesion of plating layers
Anti-corrosive plating layers	Painting and plating layers
Chrome plating layers	Plating layer of chromium metal is not under control
Plasticizer	Commonly used to plastics plating process but not final products

PBB: & PBDE

Plastics	Brominated flame retardants



Technical specifications:

Measurable elements: S to U.
Limit of detection (LOD) reaches 1ppm.
Element content: ppm to 99.99%
Arbitrary optional analysis and identification models
Independent matrix effect correction models
Multi-variable non-linear regression procedure
Excellent repeatability: 0.1%
Long-time working stability: 0.1%
Ambient temperature: 15°C to 30°C
Power supply: AC 220V±5V, AC purified stabilized voltage power supply.
Energy resolution: 160±5eV
Sample chamber size: 439mm×300mm×50mm
Instrument size: 550mm×410mm×320mm
Instrument weight: 45kg

Standard configurations:

Movable sample platform
Signal-to-Noise Enhancer (SNE)
Electric-cooling Si-PIN detector
Signal detection electronic circuit
High and low voltage power
X-ray tube of high power
Computer and ink-jet printer

Analytical®
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HPLC Servicing, Validation, Trainings and Preventive Maintenance :

HPLC Servicing :HPLC Servicing : We have team of service engineers who can attend to any make of HPLC promptly @the most affordable cost.

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Validations :Validations :We have protocols for carrying out periodic Validations as per GLP/GMP/USFDA norms.

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Automated Prep-Flash Chromatography system

Maldi TOF

Optima Gas Chromatograph

Flash Chromatograph

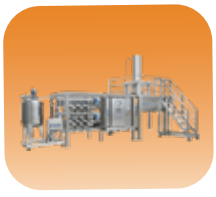
DAC Column

GCMS 3068

UHPLC

HPTLC

Ion Chromatograph



Production HPLC

HPLC

Column

DLS

Water purification system

Regulatory compliances

Corporate Social Responsibility

Analytical Foundation

ANALYTICAL FOUNDATION is a Nonprofit Organization (NGO) for the purpose of:

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2. Improving quality of life by offering **YOGA Training courses, Work shops / Seminars** etc.

3.**ANALYTICAL FOUNDATION** aims to DETOXIFY human minds, souls and body by means of Yoga, Meditation, Ayurveda,Naturecure, Health Care, Ara, Events, Camps etc.

- A portion of profit of **ANALYTICAL GROUP** Company's goes into **ANALYTICAL FOUNDATION** for the aboce noble cause.

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