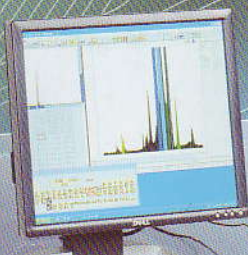


SII



SFT 9500 SERIES

High Performance XRF
Coating Thickness Gauge with RoHS Capability



Polycapillary -Based Fluorescent X-ray Analysis System

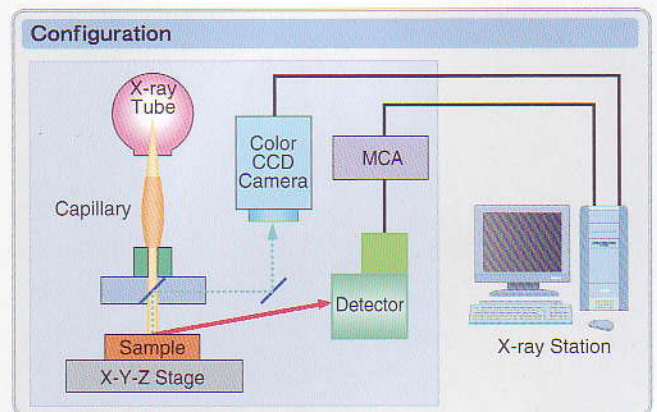
The high performance SFT9500 series system for "RoHS Analysis" in "Micro-Spots".



High Performance XRF
Coating Thickness Gauge
with RoHS Capability

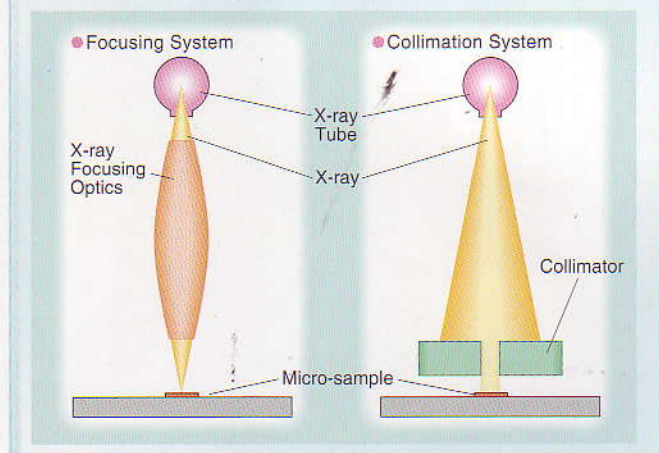
The X-ray generating system combined with "X-ray Focusing Optics system (Capillary)" has achieved a "High Intensity Beam" with an actual beam size of less than 0.1mm in diameter. This allows the SFT9500 series to measure micro-spot and thin film applications, such as lead frames, connectors, and flexible PCBs, which are difficult to measure by conventional XRF methods due to low intensity of fluorescent X-ray from measurement samples.

Also, the detector of the SFT9500 series performs at a high resolution and high count rate without liquid nitrogen. These features are excellent for measuring hazardous substances (RoHS and ELV analysis) as well as coating thickness of thin films.



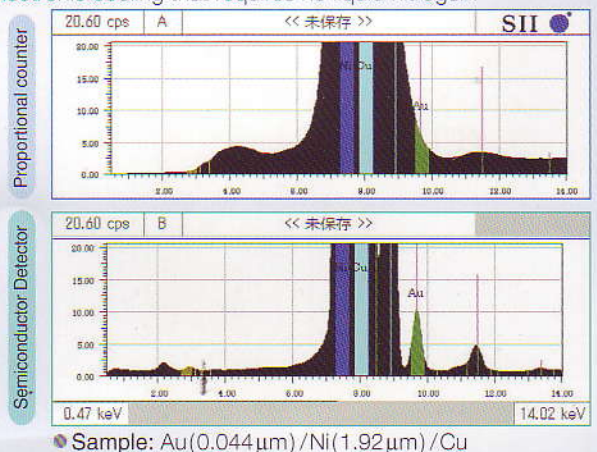
X-ray Capillary System

The X-ray focusing optical system provides fluorescent X-ray intensity 10 times that of conventional methods. The advantages of this are. Ability to measure thinner coating thickness, and a substantial improvement in accuracy levels for RoHS analysis with significantly shorter inspection times.



Liquid Nitrogen Free Semiconductor Detector

A high resolution detector is essential for ultra thin coating thickness measurements and for composition measurements hazardous substances. The SFT9500 boasts a detector that achieves both high resolution and high count rate through electronic cooling that requires no liquid nitrogen.



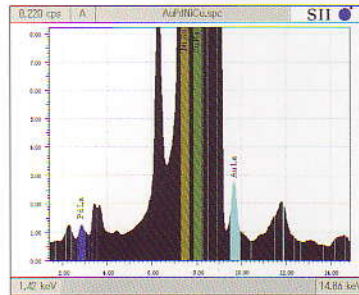
Provides both "Coating Thickness Measurement"

Examples of Applications

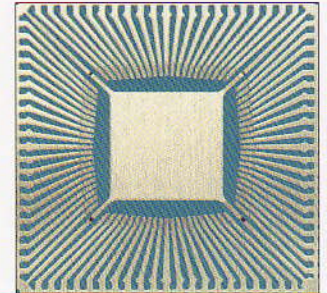
Multilayered Thin Film Coating Thickness Measurement

Coating Thickness Measurement of Au/Pd/Ni

The SFT 9500 series provides the best solution for measurements of multilayered coating thicknesses at nano levels. The SFT 9500 series is able to simultaneously measure coating thicknesses and composition of a maximum of 5 layers.



Measurement condition	
Voltage	: 30kV
Filter	: Non
Measurement Area	: 0.1mmφ
Time	: 300sec
Result 20 readings	
Au thickness	Pd thickness
Ave. : 7.16nm	15.5nm
STDEV. : 0.23nm	0.62nm
CV. : 3.3%	4.0%



■ Sample: Au: 7.2nm/Pd: 15.5nm/Ni/Cu

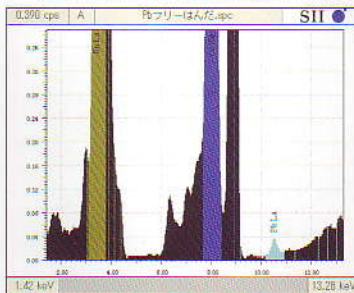
■ Lead Frame

RoHS Compliant Hazardous Substance Analysis

Measurement of Electronic Components and Printed Circuit Boards

With the combination of high speed detector and a small beam size of 0.1mm diameter, we are able to measure micro spots. In electronic components and printed-circuit board with exceedingly high accuracy compared to any other system in the market.

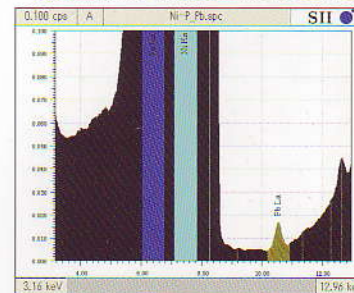
Quantitative Measurement of Pb in Pb-Free Solder



Measurement condition	
Voltage	: 30kV
Filter	: Primary ON
Measurement Area	: 0.1mmφ
Time	: 300sec
Result 20 readings	
Ave.	: 696ppm
STDEV.	: 68ppm
CV.	: 9.7%

■ Sample: Sn(Ag2.4%, Pb): 6.1μm/Cu: 16μm/Fe

Quantitative Measurement of Pb in Electroless Nickel Plating

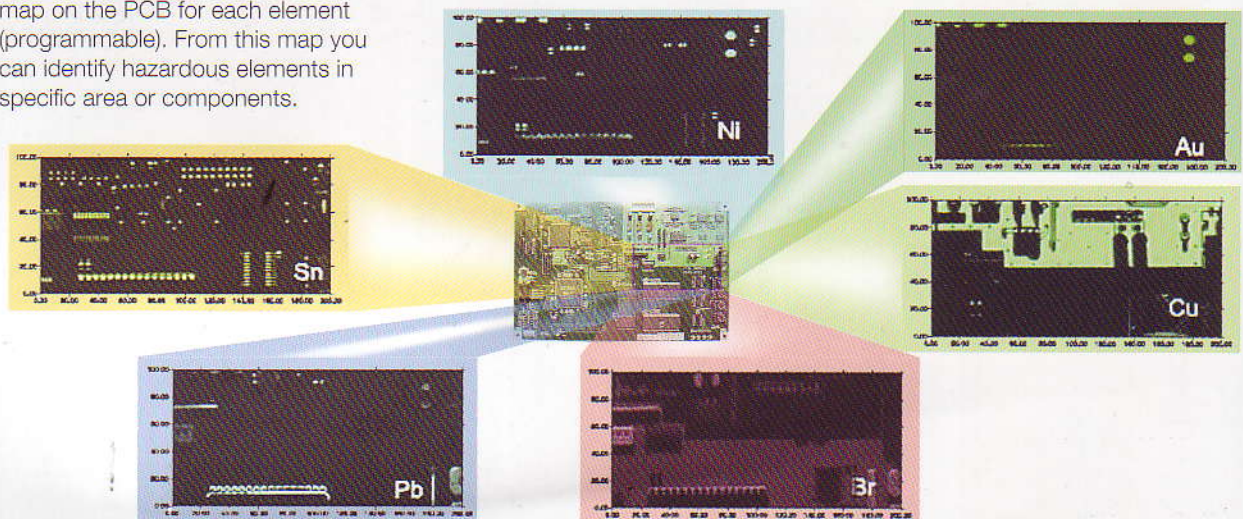


Measurement condition	
Voltage	: 30kV
Filter	: Primary ON
Measurement Area	: 0.1mmφ
Time	: 300sec
Result 20 readings	
Ave.	: 264ppm
STDEV.	: 46ppm
CV.	: 17.5%

■ Sample: Ni-P(Pb)/Fe

Elemental Mapping Analysis of PCB for Hazardous Substances

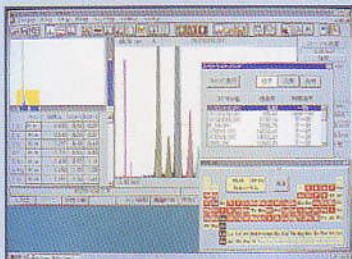
Each contained element in a printed-circuit board is displayed as a mapped image allowing you. To determine what hazardous substances such as Pb and Cd, are used in the measured component, you can have an elemental distribution map on the PCB for each element (programmable). From this map you can identify hazardous elements in specific area or components.



Options

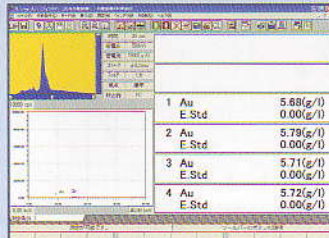
◆ Spectrum Matching Software

X-ray spectra of pre-registered samples are used as a "Library" enabling an unknown sample to be instantly analyzed for its elemental composition.



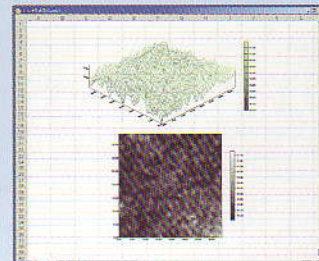
◆ Bulk Calibration Software (for Plating Solution Analysis)

Enables easy measurement of the main metal constituents and its concentrations in the plating solutions.



◆ Mapping Software

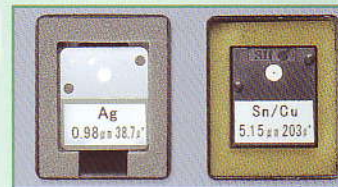
Software visually displays results of surface analysis in the form of contour lines and by color coding.



◆ Plating Liquid Cell



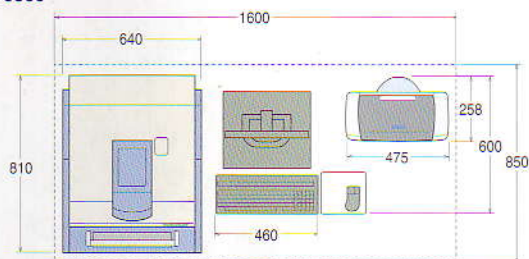
◆ Standard Samples (Infinities and Foils)



● Dimensions

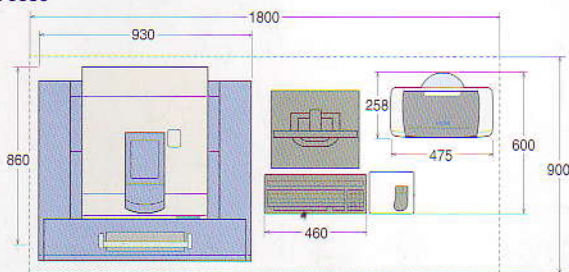
(Units : mm)

● SFT9500



Sample Stage	240 (W) × 170 (D) mm	Weight: 123kg	Height: 900mm
Stage Travel	X: 220mm Y: 150mm Z: 150mm		
Sample Load	10kg		

● SFT9550



Sample Stage	420 (W) × 330 (D) mm	Weight: 125kg	Height: 900mm
Stage Travel	X: 400mm Y: 300mm Z: 50mm		
Sample Load	5kg		

● Power Box : 340 (W) × 300 (D) × 200 (H) mm 10kg

■ Specifications

Elements Measured	: Atomic Numbers 13(Al) to 83(Bi)
X-ray Generating	: Tube Voltage: 50kV Current: 1.5mA
Detector	: Semiconductor Detector (Liquid Nitrogen Free)
X-ray Focusing Optics System	: Capillary
X-ray Beam Size	: 0.1mmΦ
Sample Observation	: CCD Camera (With zoom)
Focus	: Laser Pointer
Filter	: Primary Filters
X-ray Station	: Desktop Personal Computer (OS: MS-Windows XP®, 19" LCD)
Printer	: Ink Jet Printer
Coating Thickness	: Film Analysis FP Method
Software	: (Max 5 Layer Coating, 10 Elements) Calibration Curve Method (Single & Double Layer, Composition of Alloy Foils)
Quantitative Analysis	: Bulk FP
Options	: Mapping Software, Judgment Software for Hazardous Substance, Spectrum Matching Software, Image Processing
Measurement Function	: Auto Measure, Center Search
Qualitative Analysis	: KLM Marker, Comparison Display, Image Processing
Data Processing	: MS-EXCEL® MS-WORD® installed
Report Safety	: Interlocking Sample Door, Sample Collision Prevention Mechanism (crash protection), Self-test capability

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<http://www.siiint.com>

SII

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