

INSIGHT ELECTRONIC APPLICATION SCOPES



Printed Circuit Board, Electronic Components, Wafer, IC Packaging Industry

INSIGHT Electronic Application Scopes endeavors to provide precise and efficient analysis methods for coating analysis applications.

Coating thickness stands as a pivotal factor in guaranteeing the reliability and stability of product quality within the electronics industry. Thus, maintaining quality control and assurance over coating thickness holds significant importance. X-ray fluorescence (XRF) has emerged as a widely used technique for measuring coating thickness and composition due to its non-destructive nature, rapid measurement capabilities, and ease of use.

With user-friendly operation and adaptable configuration, INSIGHT Electronic Application Scopes effortlessly tackles ultra-thin coatings, delivering swift, accurate, and consistent results. This capability aids numerous industries, including PCB, semiconductor, and other electronics-related sectors, in enhancing productivity effectively.

By ensuring compliance with specifications, INSIGHT Electronic Application Scopes mitigates the risks associated with poor performance and the costs linked to scrap or rework, thereby bolstering overall efficiency and reducing potential setbacks.

APPLICATIONS

INSIGHT – Printed Circuit Boards application scope

Printed Circuit Boards

Gold/Nickel/Copper/PCB; Tin/Copper/PCB; Gold/Nickel Phosphorus/Copper/PCB; Silver/Copper/PCB; Tin/Copper/PCB; Tin Palladium/Copper/PCB; Gold/Palladium/Nickel Phosphorus/Copper/PCB.

INSIGHT – Connector Plating application scope

Connector Plating

In the electronics and electrical industry, protective and wear-resistant coatings for electrical contacts are on the rise. Serving as vital connector components, surface treatments enhance corrosion and wear resistance while optimizing transmission functionality. Copper alloy is the base material, with plating layers including tin, gold, silver, nickel, and palladium.

INSIGHT – Wafer Manufacturing semiconductor application scope

Wafer Manufacturing (Semiconductor)

A wafer, the base material for semiconductor chips, undergoes electroplating during fabrication. A conductive metal layer is deposited and processed into circuits. Uniformity and thickness of the coating are critical to meet strict specifications and ensure wafer quality.

INSIGHT – Lead Frame application scope

Lead Frame

The lead frame is a thin metal plate that connects internal chip contacts to external wires, serving as a primary structural material for semiconductor packaging. To ensure optimal bonding and mounting, special surface treatments are applied, with plating elements such as gold, silver, palladium, and nickel.

FEATURES

Multi-collimator

The system offers optional multiple collimators or automatically switches between collimator combinations via software. This flexibility allows seamless handling of parts with different sizes.

Up-bottom Design

The instrument features an up-bottom design, enabling quick, precise, stable, and efficient measurement of super-large, irregular, small, and even liquid samples with ease.

High Intensity X-ray Tube

INSIGHT can be outfitted with a high-intensity capillary optical system, enhancing the instrument's count rate, precision in point measurement, and capability to measure thinner coatings. This upgrade significantly boosts the analysis efficiency of the instrument.

Highly sensitive detector

For intricate coating structures, the SDD series detectors offer advantages in analyzing elements with XRF-like characteristics. These detectors provide better resolution, lower background noise (resulting in the highest signal-to-noise ratio), and enhanced accuracy in measuring thinner coatings.

Auto Focus

Samples are swiftly brought into focus within seconds, irrespective of their thickness or size. The instrument can measure samples from distances of up to 80 mm. It excels in measuring parts with recessed areas and is well-suited for measuring multiple samples at varying heights.

Programmable automatic displacement sample stage

The instrument features an automatic platform that facilitates seamless automatic measurements. This capability enables faster sample preparation and measurement, thereby boosting analysis throughput.

One-touch measurement

The instrument comes equipped with intuitive and intelligent analysis software, ensuring easy operation for users of all levels of expertise. Testing samples requires no specialized training; simply click "Start Test," and results are obtained within seconds.

Large measurement room

The slotted design (C-slot) of the instrument shell creates a spacious measurement area, facilitating easy placement of samples. This design accommodates large and flat items like printed circuit boards, as well as large samples with intricate shapes.

Increase productivity

INSIGHT automation accelerates sample measurements, boosting your throughput.

TECHNICAL SPECIFICATIONS

The characteristics of	Top-down measurement structure. XYZ measurement platform. MUTI-EP multilayer algorithm
------------------------	--

Scope of element	Na(11)—Fm(100)
Analysis of the layer number of	5 layers (4 layers + substrate) each layer can analyze 10 elements, composition analysis can analyze up to 25 elements
X-ray tube	50 W (50 kV, 1mA) micro-focused tungsten palladium ray tube (target material is optional)
The detector	High sensitivity large area SDD detector, SDD 50mm ² large area detector, (optional)
Collimator	Multiple collimators are optional, and multiple collimators can be combined
The camera	High resolution CMOS color camera, 5 megapixels
Manual sample XY platform	Moving range□ 100 x 150 mm
Programmable XY platform	(Optional)
Z-axis range of movement	150 mm
Sample bin size	564×540×150mm(L x W x H)
Overall dimensions	664×761×757mm(L x W x H)
Weight	120KG
The power supply	AC 220V±5V 50Hz (110V also available)
Rated power	150W



Torontech Inc.

251 Consumers Road, Suite 1200
Toronto, Ontario, M2J 4R3, Canada 

Phone: +1 416 368 2721 | Fax: +1 416 981 7652
Email: info@torontech.com

Torontech, LLC

601 Brickell Key Drive, Suite 700
Miami, FL 33131, USA 

Toll-Free: 1-866-383-7919
Email: sales@torontech.com

Torontech ME FZE

Meydan Grandstand, 6th Floor,
Meydan Road, Nad Al Sheba,
Dubai-261440, UAE 

Phone: +971 488 19252
Email: me@torontech.com

