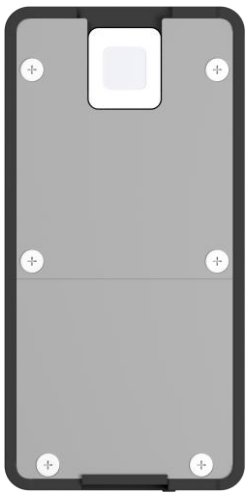
RADIATE

XD3

Silicon Dosimeter for PCB X-ray Inspection



Front



Back — optional tungsten shield fitted

Product Definition

Product Name	XD3
Purpose	Measurement of absorbed radiation dose in silicon (semiconductor) components
Application	Real-time monitoring of total absorbed dose in target components during PCB X-ray inspection processes (manual or automated)

Key Features

Category	Specification
Detector	Silicon PIN
Energy Range	30 – 160 keV
Communication	WiFi (2.4 GHz)
Power	AA × 4 or USB-C (5V)
Dimensions	83 × 168 × 38 mm (W × D × H)
Weight	Approx. 300 g (without batteries and shields)

Every unit is tested. Each XD3 is evaluated against ISO 4037 reference beams before shipment and is delivered with its own performance test report.

Measurement Principle

- XD3 is placed on the PCB at the location of the target semiconductor component.
- The PCB with XD3 attached is then loaded into the AXI machine.
- During the inspection process, dose measurements can be monitored in real-time via WiFi.
- The XBase application is required for real-time monitoring and for the full range of XD3 functions.

Specifications

Measurement Performance

Energy Range	30 – 160 keV
Dose Unit	mGy(Si)
Minimum Dose Rate	0.001 mGy(Si)/s
Accuracy	within ±5%
Calibration	ISO 4037 N60 and N120 beam profiles as standard

Physical Specifications

Dimensions	83 mm (W) × 168 mm (D) × 38 mm (H)
Detector Window Size	13 mm × 13 mm
Weight	Approx. 300 g (without batteries and shields)

Power

Battery	4 × AA batteries (user-supplied)
External Power	USB-C (5V)

Communication

Wireless	WiFi (2.4 GHz)

Options

Body Shielding (hardware)	Tungsten shielding around the body. Keeps the beam off the measurement electronics and extends the life of the unit.
Calibration Agent (software)	Adds beam profiles calibrated for your own X-ray system. Each added profile gives XD3 its best accuracy on the beam it was made for. One profile is included; further profiles are provided by Radiate through the Custom Calibration Service.

Warranty

Coverage	Valid for 12 months from the date of shipment and up to 500 Gy of accumulated dose

Contact Radiate Inc. · info@radiatesol.com · www.radiatesol.com