



# X#++ Dynamic Planar CT



Solder Joint  
Inspection



Power devices  
Cooling plates



Batteries

## Flexible Inline AXI Platform

The X#-platform series is an inline automated X-ray system which covers a wide range of AXI applications. It is a flexible platform with very versatile fields of use depending on the application requirements. The Ultra-High Power setup focuses on the inspection of power hybrids/IGBT devices and large size batteries.

Nordson Test & Inspection's system solutions present a modular inspection concept. The platforms feature up to 5 advanced technologies in one system: Transmission X-ray imaging (2D) with patented Slice-Filter-Technique™ (SFT), Off-Axis technology (2.5D) and 3D SART (Simultaneous Algebraic Reconstruction Technique), Dynamic Planar CT.

### The X#-series platform configurations:

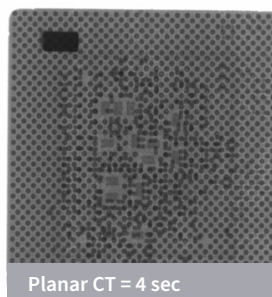
X2#++	Transmission (2D) + SFT™
X2.5#++	Transmission (2D) + SFT™ + Off-Axis (2.5D)
X3#++	Transmission (2D) + SFT™ + Off-Axis (2.5D) + 3D SART + Dynamic Planar CT

## Features and Benefits

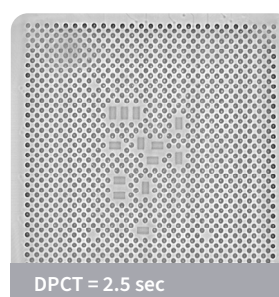
- Inline or Island High Speed AXI system
- Microfocus X-ray tube (sealed tube/maintenance free)
- Multiple axes programmable motion system
- Digital Flat Panel Detector
- Fast image acquisition and 16bit image processing
- MIPS5.5 with Teach&Go for fast and easy application creation
- Software based warpage compensation optional with hardware
- Automatic grey-level and geometrical calibration
- Unique inhouse developed advanced algorithm library
- Machine learning based defect classification
- Automatic barcode scanning with full traceability
- Automatic inspection program selection
- Multi-layer slice extraction and inspection for SMT and IGBT products
- Full product traceability via various MES-Interfaces
- Low dose radiation filter
- IPC-CFX-2591, IPC-Hermes-9852 and Industry 4.0 ready

## Comparison

2× faster inspection  
speed with Dynamic  
Planar CT (DPCT)



Planar CT = 4 sec



DPCT = 2.5 sec



Test & Inspection

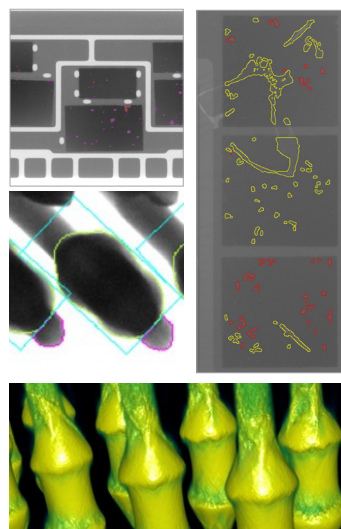
# X#++ series Dynamic Planar CT

## Applications

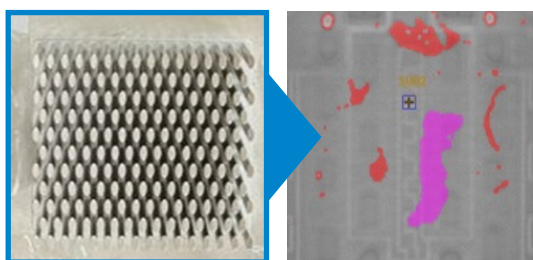
### Electronic components, solder joints and IGBT products

A unique advanced algorithm library is available for electronic applications, specifically for component and solder-joint on PCB and IGBT multi-layer void inspection.

- The SMT setup covers all standard SMD and THT/PTH components inspection BGA, LGA, POP, SIP, TSOP, QFN, etc. for defects like void, insufficient, bridge, HIP, missing, foreign material.
- The UHP setup covers all single DBC and multilayer IGBT products for voids on different soldering levels with an inhouse developed sophisticated algorithm for clear layer separation.



## Dynamic Planar CT Excellent void inspection for IGBT products with complex pin fins



### Facilities

Dimensions	1775 mm (H) x 3100 mm (W) x 1760 mm (D)
Adjustable height (SMEMA)	950 mm ± 30mm
Weight	2.800 kg
Safe Operating Temperature	15°-28°C optimal 20°-25°C
Power Consumption:	max. 6 kW
Line Voltage:	400 VAC, 50/60 Hz 3 phase, 16 A 208 VAC, 50/60 Hz 3 phase, 25 A
Air	5-7 Bar, < 2 l/min, filtered (30µ), dry, oil free

### X-ray Image Chain

X-ray Source (sealed tube)	SMT 130 kV/40 W; UHP 180kV/90W
Grey resolution	14 Bit/16Bit
Detector	FPD (config. dependent)
Low-dose radiation filter	

### Inspection speed

Transmission	up to 3-4 views/s
Off-Axis	up to 2-3 views/s
Dynamic Planar CT	down to 3sec/FOV

### Inspection features

Max. sample size	510 mm x 415 mm
Max. inspection area	480 mm x 400 mm
Min. sample size	100 mm x 115 mm
Sample thickness	0,8-10 mm
Max. sample weight	10 kg
Angle shot capability	up to 25 deg
Resolution	down to 6 µm/pix
Min. edge clearance for clamping:	3 mm
Barcode reader	SR-1000W

### Motion System

Multiple axes programmable motion system	
Installed axes	
x,y	sample table
z (servo)	magnification
u,v	detector movement
Conveyor setup	
Pass through	single lane, island setup
In-out same side	dual lane

### Assembly clearance

Topside (incl. sample thickness)	100 mm
Bottom side (excl. sample thickness)	40 mm
Min. edge clearance for clamping	3 mm

For more information,  
speak with your Nordson  
representative or contact  
your Nordson regional office

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