

# **NSM Industrial Solutions Pvt. Ltd.**

**Innovation is our Legacy**

## **PCBA ICT and FCT Test Benches**

## ICT (In Circuit Test Bench)

- Component level testing and fault finding.
- Ideal before powering up PCBA.
- Firmware Flashing.

## FCT (Functional Circuit Test Bench)

- PCBA as a whole testing approach.
- Final Electrical Environment is simulated and PCBA is stimulated to test and verify its Functionality.
- Test and Final Firmware Flashing.

## Useful to detect

- Unintended Short Circuits and Isolated Circuits
- Missing Components
- Incorrect Value Components
- Boundary Scan
- MicroController Flashing

## Typical Tests

- Continuity Test as per PCB Netlist
- Resistance, Inductance, Capacitance Test at particular test points

It considers PCBA as a black box.

Test/ Final Firmware is flashed in MicroController of PCBA.

Final Electrical Environment is simulated.  
e.g. Auxiliary Supply, Sensor inputs and more.

PCBA Output (Digital, Analog, Relay), LEDs, LCD Display and other overall functionality is tested.

If this test is PASS, then PCBA is most likely to function correctly in the actual field.

## ICT (In-Circuit Test) Bench

- Relatively simple than FCT.
- It can be used for multiple PCBA by changing Bed of Nails Fixtures.
- Economical than FCT.

## FCT (Functional Test) Bench

- Relatively complex than ICT.
- Most of the time, It is dedicated to one PCBA and can cater different variations in the same.
- Expensive than ICT.

## ISO 9001 compliance

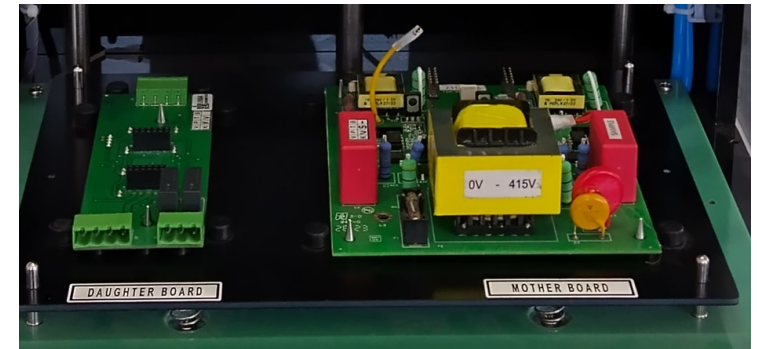
- 100% fault detection
- Improves Yield
- Unique Test Report of every PCBA
- Complete Traceability
- Detail Root Cause Analysis in case of Customer Complaint
  
- Less dependency on skilled human resources
- Faster adoptions to new PCBA manufacturing
- Faster Production with Accuracy

- Specialized in PCBA Test Benches since year 2010.
- User Interactive LabView software for Data Logging and full Traceability.
- State of Art Rack Type Modular Test System.
- Fast turn around time from Design to Delivery.
- Direct OEM support from our Online Support Ticket System.

- Auto Mode: For Production Use
- Data Logging and Traceability against Sample Identifier.
- Manual Mode: For Maintenance and Troubleshooting
- Calibration Mode: For Calibration of internal instruments.
- Test Master: Add/ Edit/ Delete Test Recipes
- Result CSV file direct email facility. No need of Pen drive.
- Multi-User system with different authorities: Engineering, Quality, Maintenance, Production, Operator.
- System Health Check: For Preventive and Corrective Maintenance.
- Industry 4.0 compliant system.
- Machine to Machine communication capability.
- 21CFR compliant.



# Gallery





# Customers



**HAVELLS**



**ThermoFisher**  
SCIENTIFIC



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**Thank you**



**Thank you**

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