

PWB Level Drop Tester

Determines reliability of the semiconductor and all mobile components on PCB/PWB level mechanical shock. Meet Jedec Standard JESD22-B111.



- Board (PCB) Level Drop Test method of components for handheld electronic products
 - for IC components
 - for audio etc. components
- Suitable for Jedec standard
- Mechanical Shock Pulse to 5000 G peak acceleration
- User friendly interface
- Support continuous measurement and automatic repeatability
- Designed for hard professional use
- Delivered and used with standard Windows

PC , acceleration sensor, event detector and PC oscilloscope

- Ready to use after field engineer set up and training
- Convenient and safe to use with protective cabinet
- Small foot print requires minimum installation space
- CE compliant

PWB Level Drop Tester

Advance and Automated Shock Testing

The PWB Level Drop Tester manufactured by Salon Teknopaja Oy (Ltd) determines the component reliability in printed wiring boards and it is used for PWB level mechanical shock tests. Audio components can be also tested. The drop tester can produce various drop testing conditions. The analysed components are assembled to specific test board. In testing Teknopaja's PWB Level Drop Tester supports Jedec type of test boards but also customer specific test board design is supported. It also supports continuous measurement and automatic repeatability. The design of the tester and the assessories included in the package are for hard professional use. The Drop Tester is easy, convenient and safe to use with protective cabinet. The small foot print makes it flexible to install even in small testing space. Note! Table space is needed for PC and measurement devices. Teknopaja has also optional work table with tool hangers.

The PWB Level Drop Tester is delivered as a full working package with "Turn Key" principle: it is delivered with Windows PC, PC Oscillosope, acceleration sensor, event detector and needed consumables and tools. PC oscilloscope and acceleration sensor are mainly for the calibration purpose of drop tester. Event detector is used during the live shock tests of printed wiring test boards indicating the breaks in the measured components.

The components well integrated to each other. When shock testing, the Windows PC controls the drop tester integrated with the event detector. Alternatively, the touch screen operated control panel can be used. The panel is typically used during calibration and during the preparations before eventual test cycles.



The event detector's intelligent software is fully integrated with the drop tester and tester control can be operated using the graphical user interface shown below.

The user interface is well designed. The main user interface window shows clearly the status of the measured printed wiring board during the test.

The breaks are presented in steady position and under shock.

The results of the test are logged in a text file, where the values can easily be picked up for spread sheet programs for further analysis.

Break count is shown with numbers and changing colours

Clicking channels break count window or channel number the user will get channel related statistics display

The drop count and height are defined by the user in the software

Channel Statistics (now moveable)
Card 1 . Channel 4
 Belongs to Stop Condition Check Set: **NO**
 Test Cycles Executed : 34
Steady State (=Top) Meas Statistics :
 - first break detected on cycle 32
 - last break detected on cycle 33
 - longest continuous break 2
 - total breaks detected 2
 - failure rate (%) 66,67
Shock (=Bottom) Meas Statistics :
 - first break detected on cycle 32
 - last break detected on cycle 34
 - longest continuous break 3
 - total breaks detected 3
 - failure rate (%) 100,00

Ch Num	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	
Steady Meas	0	0	29	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shock Meas	0	0	29	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
D37 pin	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36																					

Main Meas Card Status: [1] [2] [3] [4] [5] [6] [7] [8]

Current Cycle: 34 | Target Cycles: 50 | Drop Height [cm]: 100

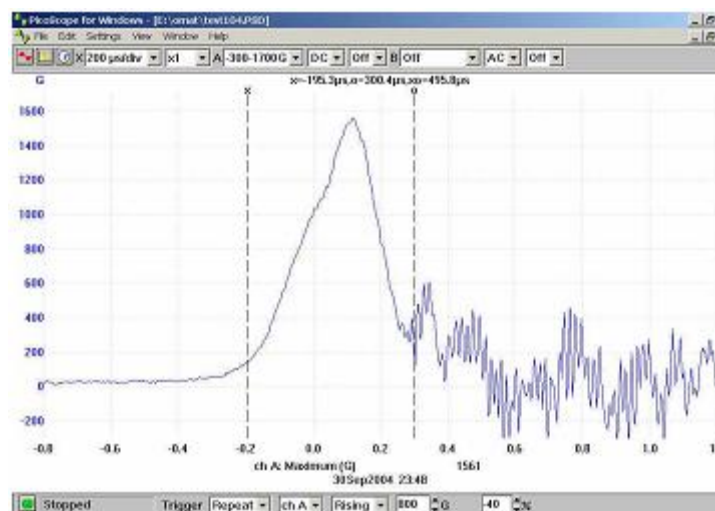
The Main User Interface (measurement card windows).

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Calibration with PC Oscilloscope, Acceleration Sensor and Data processing Software

The Drop Tester is delivered with PC oscilloscope. The PC oscilloscope combines high sampling rates with a high resolution. Together with supplied software, the Windows PC can be used as a dual channel oscilloscope and spectrum analyzer.

PC oscilloscope is using acceleration sensor to measure the shock. During the calibration normally three parameters are being observed: peak acceleration, pulse duration and pulse shape. These can be easily monitored in the PC oscilloscope user interface and results are also logged in a data file for further analysis. The specifications for measured parameters are dependant on the used testing method.



With specific data processing software, Drop Converter, the calibration results can be analysed and illustrated. This software automatically reprocesses the data files saved by the PC oscilloscope in the calibration tests. The results are presented in graphical plots and table format. The results are also saved in separate files to be further analysed with e.g. spreadsheet programs.

