

# A New Method of Thermal RF Testing



## DVTEST and Mechanical Devices: Announce a Collaboration for RF Thermal Testing

As the race to bring new semiconductor products to market intensifies, the industry looks for innovative ways to enhance profitability, increase reliability and reduce the time to market.

In collaboration with Mechanical Devices, DVTEST is proud to announce a breakthrough in RF shielded thermal testing of integrated circuits. State of the art direct contact temperature forcing systems can now be paired with the industry leading RF enclosure, to allow manufacturers to easily perform IC testing over temperature in a controlled RF environment. “RF Testing at extreme temperatures continues to be a challenge not only for the semiconductor industry but the entire electronics industry as a whole – thanks to this new partnership, we can now provide a robust and viable solution” says Serge Stephan, Bus Dev. Manager of DVTEST.

The dbSAFE DUO from DVTEST utilizes a double wall aluminum structure to provide the best RF enclosures on the market, offering greater than 100dB isolation. The offset I/O panels, passivated coating, enhanced absorber and dual gasketing minimizes crosstalk and improves the isolation of the enclosure beyond the capability of conventional single walled enclosures.

Mechanical Devices thermal control units allow for temperature forcing across a range of device sizes and types, low to high power dissipation, in socket or soldered to board. Mechanical Devices is changing the way in which testing and temperature control is performed – increasing the efficiency and accuracy of the IC testing process.

Mechanical Devices thermal units stimulate the DUT to temperature precisely and consistently, by direct contact with a powerful thermal head offering temperature stability of  $<0.5^{\circ}\text{C}$ , fast time to temperature and are fully programmable for automation. When paired with a dbSAFE DUO enclosure with our patented “Flex Sleeve” technology, the thermal head is contained within an RF isolated environment but maintains its flexibility and be repositioned and connected to the DUT. The system is capable of RF shielded testing at extreme temperatures of  $-75^{\circ}\text{C}$  to  $+200^{\circ}\text{C}$ .

# dbSAFE DUO



# Mechanical Devices



Isolation	
Shielding Effectiveness (dB)*	300 MHz - 3 GHz ≥ 100 dB 3 GHz - 4.2 GHz ≥ 90 dB 6 GHz - 18 GHz ≥ 80 dB

\*Isolation measurements taken adjacent to each seam

Construction	
Chassis Type	Double Wall Welded Aluminum Structure
Surface Treatment	Tri-Shield coated to MIL-DTL-5541F
Door Style	Front
RF Gasket	Braid Over Foam
Absorber	Broadband Lossy Foam Absorber

I/O Panel Options	
RF Connectors	SMA, SMB, UHF, N Type, BNC, TNC
I/O Data Modules	USB 2.0/3.0/3.1* 1 & 10 GigE+PoE, HDMI 1.4/2.0 , Audio 3.5 mm *USB single, dual, quad and high density port versions available
I/O Connectors	D-Sub DB-9, DB-15, DB-25, DB-37 50V/5A Per Pin
AC Power	TYPE A - 120V AC Module (IEC-320 to NEMA 5R) TYPE F - 250V AC Module (IEC-320 to Schuko) TYPE G - 230V AC Module (IEC-320 to BS 1363)
DC Power	DC - 100V/20A Module (+.- terminals)

**Head Office:**  
2-1795 Ironstone Manor  
Pickering, ON  
L1W 3W9

**US Sales Office:**  
15020 Beltway Dr.  
Addison, TX  
75001

Phone: [1 \(647\) 726-0058](tel:16477260058)  
Email: [info@dvtest.com](mailto:info@dvtest.com)  
[www.dvtest.com](http://www.dvtest.com)

© 2021 DVTEST Inc. All Rights Reserved

Specs	
Temperature range	-75 °C to +200 °C
Cooling power	-50 °C at 400W
Temperature accuracy	± 0.2
Transition rates	Up to 75 °C/min
Temperature sensor types	PT100 thermistor K-type thermocouple Thermal diode feedback
Actuation type	Pneumatic clip-on
Actuation	70-220 Kg

Facilities	
Power	200V-240V AC 50/60Hz 16A max
CDA (Minimum requirements)	<0.5 CFM @0.05-0.2MPa (0.5-Bar)(dew point -40°C)
Pneumatic air input	0.7MPa (7 Bar)
Plug	Nema L6-20/30

Operating Environment	
Temperature	-10 °C to 45 °C

Data Communication	
Ethernet TCP/IP	RJ-45
USB	Type B
Touch screen display	7" LCD

Please contact factory for additional options, and unique design application ideas. Specifications are subject to change without notice.