

CERTIFICATE OF CALIBRATION

Issued By: Calibration Testing Solutions

Date of Issue: 22 January 2026

Certificate Number: 387728.8.1.1



Calibration Testing Solutions
Markham Lane
Duckmanton
Chesterfield
S44 5HS

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Approved Signatory

C Mason

Customer: PPT Group UK Ltd T/A Mecmesin
Slinfold, RH13 0SZ

Date Received: 09 January 2026

Instrument	CTSi Ref:	328817.3.1.1	Customer Ref: TM0003
	Description:	Digital Multimeter (5.5 digit)	
	Manufacturer:	Hewlett Packard	
	Model Number:	3478A	
	Serial Number:	2619A45735	
	Procedure Number / Version:	2044 / 3.00 LT/N	

Environmental Conditions

Temperature:	20 °C ± 2 °C	Mains Voltage:	230 V ± 10 V
		Mains Frequency:	50 Hz ± 1 Hz

Comments

The instrument is calibrated in accordance to manufacturer's operators manual.

Instrument calibrated using a Multi-Product Calibrator into the Front Input tmls

The Resistance was calibrated using Decade and Non-Decade Resistance Boxes.

The stated uncertainties include the contributions of the unit under test.

Calibration Information

The instrument was calibrated against laboratory standards whose values are traceable to recognised National Standards. The uncertainty limits quoted refer to the measured values only, with no account being taken of the instruments ability to maintain its calibration.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

The results found only apply to the item calibrated.

Calibrated By: Claire Mason

Date of Calibration: 22 January 2026

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Accredited Calibration Laboratory No. 0783



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AS FOUND RESULTS

Test Title	Applied Value	Reading	Tolerance	Uncertainties
DC Voltage				
30mV DC Range	29.0000mV	28.9919mV	14.1uV	6.08uV
300mV DC Range	290.000mV	289.999mV	25.3uV	24.8uV
30V DC Range	29.0000V	28.9999V	2.4mV	1.79mV
300V DC Range	290.000V	289.998V	22.3mV	19.9mV
Linearity				
3V DC Linearity	-2.90000V	-2.89991V	194uV	179uV
3V DC Linearity	-2.50000V	-2.49992V	170uV	156uV
3V DC Linearity	-2.00000V	-1.99993V	140uV	127uV
3V DC Linearity	-1.50000V	-1.49994V	110uV	98.0uV
3V DC Linearity	-1.00000V	-0.99996V	80uV	69.0uV
3V DC Linearity	-0.50000V	-0.49998V	50uV	40.0uV
3V DC Linearity	0.50000V	0.49998V	50uV	40.0uV
3V DC Linearity	1.00000V	0.99996V	80uV	69.0uV
3V DC Linearity	1.50000V	1.49994V	110uV	98.0uV
3V DC Linearity	2.00000V	1.99992V	140uV	127uV
3V DC Linearity	2.50000V	2.49990V	170uV	156uV
3V DC Linearity	2.90000V	2.89989V	194uV	179uV
AC Voltage				
300mV AC @ 60Hz	290.000mV	289.718mV	1.5mV	291uV
3V AC @ 60Hz	2.90000V	2.89781V	14.4mV	1.05mV
30V AC @ 60Hz	29.0000V	28.9716V	143.7mV	13.4mV
30V AC @ 1kHz	29.0000V	28.9888V	65mV	13.4mV
30V AC @ 10kHz	29.0000V	28.9805V	65mV	13.4mV
30V AC @ 25kHz	29.0000V	28.9878V	89.4mV	63.9mV
30V AC @ 45kHz	29.0000V	29.0079V	89.4mV	63.9mV
300V AC @ 60Hz	290.000V	289.892V	1.6V	291mV
DC Current				
300mA DC Range	290.000mA	289.959mA	475uA	40.3uA
3A DC Range	0.90000A	0.89983A	1.5mA	380uA
3A DC Range	2.90000A	2.90093A	29.3mA	1.08mA
AC Current				
300mA AC @ 60Hz	290.000mA	289.991mA	2.5mA	668uA
3A AC @ 60Hz	0.90000A	0.89973A	15.1mA	2.08mA
3A AC @ 60Hz	2.90000A	2.90075A	45.1mA	6.68mA
Resistance: 4-wire				
30R Range	10.0000Ω	10.0035Ω	7.5mR	5.85mR
300R Range	100.000Ω	99.993Ω	22mR	12.5mR
3kR Range	1.00000kΩ	1.00000kΩ	180mR	125mR
30kR Range	10.0000kΩ	9.9994kΩ	1.8R	1.25R
300kR Range	100.000kΩ	99.999kΩ	18R	12.5R
Resistance: 2-wire				
3MR Range	1.00000MΩ	1.00003MΩ	196R	155R
30MR Range	10.0000MΩ	9.9997MΩ	8.8kR	280R

END OF TEST DATA