

Certificate of Calibration Fluke Park Laboratories Electrical Laboratory

Description:	Oscilloscope Calibrator Option	Certificate Number:	F6364021
Manufacturer:	Fluke	Date of Calibration:	24 Feb 2015
Model:	5522A/SC1100	Date Due:	
Serial Number:	3058901	Temperature:	20.0 to 26.0 °C
Status:	As-Left	Relative Humidity:	< 70 %RH
		Pressure:	95 to 103 kPa
Calibration:	Full	Issue Date:	25 Feb 2015
Procedure:	SC Rev 3.0.1		

Customer:

PO Number: IRV 1317

This calibration is traceable to the SI through recognized national measurement institutes, radiometric techniques, or natural physical constants and is in compliance with ISO17025:2005 and ANSI/NCSL Z540.1. The calibration has been completed in accordance with the Fluke Calibration Quality System document QSD 111.0. Calibration certificates without signatures are not valid. This certificate applies to only the item identified and shall not be reproduced other than in full, without the specific written approval by Fluke Corporation. This certificate shall not be used to claim product endorsement by the accreditation body.

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Measurement uncertainties at the time of test are given where applicable. They are calculated in accordance with the method described in the ISO Guide to the Expression of Uncertainty in Measurement. The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k such that the coverage probability corresponds to approximately 95 %.

Comments:



Electronically signed by
Approved Signatory
Nicholas Mason
Metrologist

Standards Used

HP 3458A: C9168
 HP437B/EPM-441A w/8481D: C9560
 HP437B/EPM-441A w/8482A: C9561
 HP 8481D: C9838
 HP 8482A: C9837
 Fluke 5790A: C9534
 Fluke PM6680: C9198
 Fluke FTE-1923: C9558
 Tek TDS820: J1022

Measurement result deviations may be expressed with units, Measured Value (MV) - Nominal Value (NV) or as a proportion of the nominal value ((MV-NV)/NV), expressed without units with a scalar multiplier such as %, or as a ratio of the units (mA/A, μ V/V, etc.).

No statement of compliance with specifications is made or implied on this certificate. If manufacturer's specifications are listed, measured values greater than the manufacturer's specification limits are indicated by 'MV>Spec'.

Voltage Function - DC Signal into 1 M Ω

Test Step Output	Measurement Result	Measurement Error	Expanded Uncertainty	Specification 1 Year
0 V	-0.00507 mV	-0.00507 mV	1.0E-02 mV	0.04000 mV
1.25 mV	1.24573 mV	-0.00427 mV	1.0E-02 mV	0.04063 mV
-1.25 mV	-1.25385 mV	-0.00385 mV	1.0E-02 mV	0.04063 mV
2.49 mV	2.48572 mV	-0.00428 mV	1.0E-02 mV	0.04125 mV
-2.49 mV	-2.49319 mV	-0.00319 mV	1.0E-02 mV	0.04125 mV
2.50 mV	2.49718 mV	-0.00282 mV	9.0E-03 mV	0.04125 mV
-2.50 mV	-2.50267 mV	-0.00267 mV	9.0E-03 mV	0.04125 mV
6.25 mV	6.24828 mV	-0.00172 mV	9.0E-03 mV	0.04313 mV
-6.25 mV	-6.25131 mV	-0.00131 mV	9.0E-03 mV	0.04313 mV
9.90 mV	9.89931 mV	-0.00069 mV	9.0E-03 mV	0.04495 mV
-9.90 mV	-9.90056 mV	-0.00056 mV	9.0E-03 mV	0.04495 mV
10 mV	9.99879 mV	-0.00121 mV	9.0E-03 mV	0.04500 mV
-10 mV	-10.00063 mV	-0.00063 mV	9.0E-03 mV	0.04500 mV
17.50 mV	17.49935 mV	-0.00065 mV	9.0E-03 mV	0.04875 mV
-17.50 mV	-17.50093 mV	-0.00093 mV	9.0E-03 mV	0.04875 mV
24.90 mV	24.90015 mV	0.00015 mV	9.0E-03 mV	0.05245 mV
-24.90 mV	-24.89918 mV	0.00082 mV	9.0E-03 mV	0.05245 mV
25 mV	25.0011 mV	0.0011 mV	9.0E-03 mV	0.0525 mV
-25 mV	-24.9983 mV	0.0017 mV	9.0E-03 mV	0.0525 mV
67.50 mV	67.5016 mV	0.0016 mV	9.0E-03 mV	0.0738 mV
-67.50 mV	-67.4998 mV	0.0002 mV	9.0E-03 mV	0.0738 mV
109.90 mV	109.9006 mV	0.0006 mV	9.0E-03 mV	0.0950 mV
-109.90 mV	-109.8967 mV	0.0033 mV	9.0E-03 mV	0.0950 mV
110 mV	109.9981 mV	-0.0019 mV	9.0E-03 mV	0.0950 mV
-110 mV	-109.9965 mV	0.0035 mV	9.0E-03 mV	0.0950 mV
305 mV	304.9963 mV	-0.0037 mV	9.0E-03 mV	0.1925 mV
-305 mV	-305.0002 mV	-0.0002 mV	9.0E-03 mV	0.1925 mV
499 mV	498.9902 mV	-0.0098 mV	9.0E-03 mV	0.2895 mV
-499 mV	-498.9938 mV	0.0062 mV	9.0E-03 mV	0.2895 mV
500 mV	499.9897 mV	-0.0103 mV	9.0E-03 mV	0.2900 mV
-500 mV	-499.9868 mV	0.0132 mV	9.0E-03 mV	0.2900 mV
1.350 V	1.3500 V	0.0000 V	9.0E-05 V	0.0007 V
-1.350 V	-1.3500 V	0.0000 V	9.0E-05 V	0.0007 V
2.190 V	2.1900 V	0.0000 V	9.0E-05 V	0.0011 V
-2.190 V	-2.190 V	0.000 V	9.0E-05 V	0.001 V
2.200 V	2.200 V	0.000 V	9.0E-05 V	0.001 V
-2.200 V	-2.200 V	0.000 V	9.0E-05 V	0.001 V
6.600 V	6.600 V	0.000 V	7.0E-04 V	0.003 V
-6.600 V	-6.600 V	0.000 V	7.0E-04 V	0.003 V

10.99 V	10.990 V	0.000 V	7.0E-04 V	0.006 V
-10.99 V	-10.990 V	0.000 V	7.0E-04 V	0.006 V
11 V	11.000 V	0.000 V	7.0E-04 V	0.006 V
-11 V	-11.000 V	0.000 V	7.0E-04 V	0.006 V
70.50 V	70.501 V	0.001 V	1.0E-03 V	0.035 V
-70.50 V	-70.502 V	-0.002 V	1.0E-03 V	0.035 V
130 V	130.000 V	0.000 V	2.0E-03 V	0.065 V
-130 V	-130.001 V	-0.001 V	2.0E-03 V	0.065 V

Voltage Function - DC Signal into 50 Ω

Test Step	Measurement Result	Measurement Error	Expanded Uncertainty	Specification 1 Year
Output	6.599 V	-0.004 V	2.0E-03 V	0.017 V

Voltage Function - Square Wave into 1 M Ω

Test Step	Measurement Result	Measurement Error	Expanded Uncertainty	Specification 1 Year
Frequency				
2.1 V, 10 Hz	10.00001 Hz	0.00001 Hz	8.5E-07 Hz	0.00003 Hz
2.1 V, 100 Hz	100.00008 Hz	0.00008 Hz	8.5E-06 Hz	0.00025 Hz
2.1 V, 1 kHz	1000.0000 Hz	0.0009 Hz	8.5E-05 Hz	0.0025 Hz
2.1 V, 10 kHz	10000.0000 Hz	0.0088 Hz	8.5E-04 Hz	0.0250 Hz

Amplitude

1 mV, 1 kHz	0.989 mV	-0.011 mV	6.0E-03 mV	0.041 mV
-1 mV, 1 kHz	-1.000 mV	0.000 mV	6.0E-03 mV	0.041 mV
10 mV, 1 kHz	9.994 mV	-0.006 mV	6.0E-03 mV	0.050 mV
-10 mV, 1 kHz	-10.005 mV	-0.005 mV	6.0E-03 mV	0.050 mV
25 mV, 1 kHz	25.005 mV	0.005 mV	6.0E-03 mV	0.065 mV
-25 mV, 1 kHz	-25.010 mV	-0.010 mV	6.0E-03 mV	0.065 mV
110 mV, 1 kHz	109.966 mV	-0.034 mV	4.7E-02 mV	0.150 mV
-110 mV, 1 kHz	-109.991 mV	0.009 mV	4.7E-02 mV	0.150 mV
500 mV, 1 kHz	500.136 mV	0.136 mV	1.5E-01 mV	0.540 mV
-500 mV, 1 kHz	-500.277 mV	-0.277 mV	1.5E-01 mV	0.540 mV
2.2 V, 1 kHz	2.201 V	0.001 V	4.7E-04 V	0.002 V
-2.2 V, 1 kHz	-2.201 V	-0.001 V	4.7E-04 V	0.002 V
11 V, 1 kHz	11.001 V	0.001 V	2.5E-03 V	0.011 V
-11 V, 1 kHz	-10.999 V	0.001 V	2.5E-03 V	0.011 V
130 V, 1 kHz	130.016 V	0.016 V	2.7E-02 V	0.130 V
-130 V, 1 kHz	-129.997 V	0.003 V	2.7E-02 V	0.130 V

Voltage Function - Square Wave into 50 Ω

Test Step	Measurement Result	Measurement Error	Expanded Uncertainty	Specification 1 Year
Amplitude	6.599 V, 1 kHz	0.000 V	2.0E-03 V	0.017 V

Edge Function - fast edge into 50 Ω

Test Step	Measurement Result	Measurement Error	Expanded Uncertainty	Specification 1 Year
Frequency				
2.5 V, 1 kHz	1000.0000 Hz	0.0009 Hz	2.2E-04 Hz	0.0025 Hz
2.5 V, 10 kHz	10000.0000 Hz	0.0088 Hz	2.2E-03 Hz	0.0250 Hz
2.5 V, 100 kHz	100000.1000 Hz	0.0859 Hz	2.2E-02 Hz	0.2500 Hz
2.5 V, 1 MHz	1000.0000 kHz	0.0009 kHz	9.0E-05 kHz	0.0025 kHz
2.5 V, 10 MHz	10000.0000 kHz	0.0090 kHz	9.0E-04 kHz	0.0250 kHz

Duty cycle

2.5 V, 1000000 Hz	0.505	0.005	2.0E-04	0.050
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Rise time

250 ms, 1 MHz	231.615 ps		10.0 ps	300.000 ps
1 s, 1 MHz	232.470 ps		30.0 ps	300.000 ps
2.5 s, 1 MHz	229.294 ps		30.0 ps	300.000 ps
2.5 s, 10 MHz	232.958 ps		30.0 ps	350.000 ps

Amplitude

5 mV, 1 kHz	4.998 mV	-0.002 mV	6.0E-02 mV	0.300 mV
5 mV, 10 kHz	5.005 mV	0.005 mV	6.0E-02 mV	0.300 mV

5 mV, 100 kHz	4.997 mV	-0.003 mV	6.0E-02 mV	0.300 mV
10 mV, 1 kHz	10.006 mV	0.006 mV	6.0E-02 mV	0.400 mV
25 mV, 1 kHz	24.945 mV	-0.055 mV	6.0E-02 mV	0.700 mV
50 mV, 1 kHz	49.936 mV	-0.064 mV	6.0E-02 mV	1.200 mV
100 mV, 1 kHz	99.821 mV	-0.179 mV	5.0E-01 mV	2.200 mV
250 mV, 1 kHz	249.394 mV	-0.606 mV	5.0E-01 mV	5.200 mV
500 mV, 1 kHz	498.868 mV	-1.132 mV	2.5 mV	10.200 mV
1 V, 1 kHz	1.000 V	0.000 V	2.5E-03 V	0.020 V
2.5 V, 1 kHz	2.495 V	-0.005 V	2.5E-03 V	0.050 V

Edge TD Pulse Drive Function

Test Step	Measurement Result	Measurement Error	Expanded Uncertainty	Specification 1 Year
Amplitude				
11 V, 100 Hz	11.015 V	0.015 V	2.5E-02 V	0.220 V
11 V, 1 kHz	11.018 V	0.018 V	2.5E-02 V	0.220 V
55 V, 100 Hz	55.087 V	0.087 V	2.5E-02 V	1.100 V
55 V, 1 kHz	55.089 V	0.089 V	2.5E-02 V	1.100 V
100 V, 100 Hz	100.162 V	0.162 V	2.5E-02 V	2.000 V
100 V, 1 kHz	100.164 V	0.164 V	2.5E-02 V	2.000 V

Leveled Sine Wave Function - into 50 Ω (Flatness referenced to 50kHz)

Test Step	Measurement Result	Measurement Error	Expanded Uncertainty	Specification 1 Year
2nd harmonic				
39.90 mV, 50 kHz	0.5309 mV			0.8932 mV *
3rd+ harmonic				
39.90 mV, 50 kHz	0.0644 mV			0.5023 mV *
2nd harmonic				
99 mV, 50 kHz	1.0462 mV			2.2163 mV *
3rd+ harmonic				
99 mV, 50 kHz	0.0854 mV			1.2463 mV *
2nd harmonic				
399 mV, 50 kHz	4.954 mV			8.932 mV *
3rd+ harmonic				
399 mV, 50 kHz	0.865 mV			5.023 mV *
2nd harmonic				
1.2 V, 50 kHz	0.014 V			0.027 V *
3rd+ harmonic				
1.2 V, 50 kHz	0.002 V			0.015 V *
2nd harmonic				
5.5 V, 50 kHz	0.094 V			0.123 V *
3rd+ harmonic				
5.5 V, 50 kHz	0.023 V			0.069 V *
2nd harmonic				
5.5 V, 100 kHz	0.029 V			0.123 V *
3rd+ harmonic				
5.5 V, 100 kHz	0.036 V			0.069 V *
2nd harmonic				
5.5 V, 200 kHz	0.035 V			0.123 V *
3rd+ harmonic				
5.5 V, 200 kHz	0.029 V			0.069 V *
2nd harmonic				
5.5 V, 400 kHz	0.016 V			0.123 V *

3rd+ harmonic 5.5 V, 400 kHz	0.065 V	0.069 V *
2nd harmonic 5.5 V, 800 kHz	0.029 V	0.123 V *
3rd+ harmonic 5.5 V, 800 kHz	0.044 V	0.069 V *
2nd harmonic 5.5 V, 1 MHz	0.019 V	0.123 V *
3rd+ harmonic 5.5 V, 1 MHz	0.040 V	0.069 V *
2nd harmonic 5.5 V, 2 MHz	0.019 V	0.123 V *
3rd+ harmonic 5.5 V, 2 MHz	0.038 V	0.069 V *
2nd harmonic 5.5 V, 4 MHz	0.034 V	0.123 V *
3rd+ harmonic 5.5 V, 4 MHz	0.033 V	0.069 V *
2nd harmonic 5.5 V, 8 MHz	0.070 V	0.123 V *
3rd+ harmonic 5.5 V, 8 MHz	0.042 V	0.069 V *
2nd harmonic 5.5 V, 10 MHz	0.106 V	0.123 V *
3rd+ harmonic 5.5 V, 10 MHz	0.046 V	0.069 V *
2nd harmonic 5.5 V, 20 MHz	0.085 V	0.123 V *
3rd+ harmonic 5.5 V, 20 MHz	0.043 V	0.069 V *
2nd harmonic 5.5 V, 40 MHz	0.086 V	0.123 V *
3rd+ harmonic 5.5 V, 40 MHz	0.042 V	0.069 V *
2nd harmonic 5.5 V, 80 MHz	0.105 V	0.123 V *
3rd+ harmonic 5.5 V, 80 MHz	0.055 V	0.069 V *
2nd harmonic 5.5 V, 100 MHz	0.098 V	0.123 V *
3rd+ harmonic 5.5 V, 100 MHz	0.056 V	0.069 V *
2nd harmonic 5.5 V, 200 MHz	0.043 V	0.123 V *

3rd+ harmonic		
5.5 V, 200 MHz	0.027 V	0.069 V *
2nd harmonic		
5.5 V, 400 MHz	0.067 V	0.123 V *
3rd+ harmonic		
5.5 V, 400 MHz	0.014 V	0.069 V *
2nd harmonic		
5.5 V, 600 MHz	0.022 V	0.123 V *
3rd+ harmonic		
5.5 V, 600 MHz	0.012 V	0.069 V *
2nd harmonic		
3.5 V, 625 MHz	0.002 V	0.078 V *
3rd+ harmonic		
3.5 V, 625 MHz	0.012 V	0.044 V *
2nd harmonic		
3.5 V, 725 MHz	0.022 V	0.078 V *
3rd+ harmonic		
3.5 V, 725 MHz	0.010 V	0.044 V *
2nd harmonic		
3.5 V, 900 MHz	0.040 V	0.078 V *
3rd+ harmonic		
3.5 V, 900 MHz	0.014 V	0.044 V *
2nd harmonic		
3.5 V, 1.100 GHz	0.029 V	0.078 V *
3rd+ harmonic		
3.5 V, 1.100 GHz	0.011 V	0.044 V *

Leveled Sine Wave Function: 5.0 mV into 50 Ω (Reference 50 kHz)

Test Step	Measurement	Measurement	Expanded	Specification
Flatness	Result	Error	Uncertainty	1 Year
5 mV, 1 MHz	4.996 mV	-0.004 mV	4.5E-02 mV	0.175 mV
5 mV, 10 MHz	4.997 mV	-0.003 mV	4.5E-02 mV	0.175 mV
5 mV, 30 MHz	4.978 mV	-0.022 mV	4.5E-02 mV	0.175 mV
5 mV, 70 MHz	4.979 mV	-0.021 mV	4.5E-02 mV	0.175 mV
5 mV, 120 MHz	4.984 mV	-0.016 mV	4.5E-02 mV	0.200 mV
5 mV, 290 MHz	4.986 mV	-0.014 mV	4.5E-02 mV	0.200 mV
5 mV, 360 MHz	5.008 mV	0.008 mV	4.5E-02 mV	0.300 mV
5 mV, 390 MHz	4.993 mV	-0.007 mV	4.5E-02 mV	0.300 mV
5 mV, 400 MHz	4.995 mV	-0.005 mV	4.5E-02 mV	0.300 mV
5 mV, 480 MHz	5.007 mV	0.007 mV	4.5E-02 mV	0.300 mV
5 mV, 570 MHz	4.985 mV	-0.015 mV	4.5E-02 mV	0.300 mV
5 mV, 580 MHz	4.999 mV	-0.001 mV	4.5E-02 mV	0.300 mV
5 mV, 590 MHz	4.993 mV	-0.007 mV	4.5E-02 mV	0.300 mV
5 mV, 600 MHz	4.999 mV	-0.001 mV	4.5E-02 mV	0.300 mV
5 mV, 675 MHz	4.985 mV	-0.015 mV	5.0E-02 mV	0.350 mV
5 mV, 750 MHz	4.982 mV	-0.018 mV	5.0E-02 mV	0.350 mV
5 mV, 825 MHz	4.941 mV	-0.059 mV	5.0E-02 mV	0.350 mV
5 mV, 850 MHz	4.977 mV	-0.023 mV	5.0E-02 mV	0.350 mV
5 mV, 875 MHz	5.031 mV	0.031 mV	5.0E-02 mV	0.350 mV
5 mV, 925 MHz	4.964 mV	-0.036 mV	5.0E-02 mV	0.350 mV
5 mV, 975 MHz	4.959 mV	-0.041 mV	5.0E-02 mV	0.350 mV
5 mV, 1.025 GHz	4.913 mV	-0.087 mV	5.0E-02 mV	0.350 mV
5 mV, 1.075 GHz	4.947 mV	-0.053 mV	5.0E-02 mV	0.350 mV

Leveled Sine Wave Function: 7.5 mV into 50 Ω (Reference 50 kHz)

Test Step	Measurement	Measurement	Expanded	Specification
Flatness	Result	Error	Uncertainty	1 Year
7.5 mV, 1 MHz	7.497 mV	-0.003 mV	5.5E-02 mV	0.213 mV
7.5 mV, 10 MHz	7.493 mV	-0.007 mV	5.5E-02 mV	0.213 mV
7.5 mV, 30 MHz	7.468 mV	-0.032 mV	5.5E-02 mV	0.213 mV
7.5 mV, 70 MHz	7.465 mV	-0.035 mV	5.5E-02 mV	0.213 mV
7.5 mV, 120 MHz	7.471 mV	-0.029 mV	5.5E-02 mV	0.250 mV
7.5 mV, 290 MHz	7.473 mV	-0.027 mV	5.5E-02 mV	0.250 mV
7.5 mV, 360 MHz	7.509 mV	0.009 mV	5.5E-02 mV	0.400 mV
7.5 mV, 390 MHz	7.486 mV	-0.014 mV	5.5E-02 mV	0.400 mV
7.5 mV, 400 MHz	7.487 mV	-0.013 mV	5.5E-02 mV	0.400 mV
7.5 mV, 480 MHz	7.506 mV	0.006 mV	5.5E-02 mV	0.400 mV
7.5 mV, 570 MHz	7.476 mV	-0.024 mV	5.5E-02 mV	0.400 mV
7.5 mV, 580 MHz	7.497 mV	-0.003 mV	5.5E-02 mV	0.400 mV
7.5 mV, 590 MHz	7.489 mV	-0.011 mV	5.5E-02 mV	0.400 mV
7.5 mV, 600 MHz	7.484 mV	-0.016 mV	5.5E-02 mV	0.400 mV
7.5 mV, 601 MHz	7.466 mV	-0.034 mV	7.5E-02 mV	0.475 mV
7.5 mV, 700 MHz	7.478 mV	-0.022 mV	7.5E-02 mV	0.475 mV
7.5 mV, 800 MHz	7.465 mV	-0.035 mV	7.5E-02 mV	0.475 mV
7.5 mV, 950 MHz	7.450 mV	-0.050 mV	7.5E-02 mV	0.475 mV
7.5 mV, 953 MHz	7.455 mV	-0.045 mV	7.5E-02 mV	0.475 mV
7.5 mV, 1.000 GHz	7.436 mV	-0.064 mV	7.5E-02 mV	0.475 mV
7.5 mV, 1.100 GHz	7.417 mV	-0.083 mV	7.5E-02 mV	0.475 mV

Leveled Sine Wave Function: 9.9 mV into 50 Ω (Reference 50 kHz)

Test Step	Measurement	Measurement	Expanded	Specification
Flatness	Result	Error	Uncertainty	1 Year
9.9 mV, 1 MHz	9.896 mV	-0.004 mV	6.5E-02 mV	0.249 mV
9.9 mV, 10 MHz	9.892 mV	-0.008 mV	6.5E-02 mV	0.249 mV
9.9 mV, 30 MHz	9.856 mV	-0.044 mV	6.5E-02 mV	0.249 mV
9.9 mV, 70 MHz	9.859 mV	-0.041 mV	6.5E-02 mV	0.249 mV
9.9 mV, 120 MHz	9.863 mV	-0.037 mV	6.8E-02 mV	0.298 mV
9.9 mV, 290 MHz	9.867 mV	-0.033 mV	6.8E-02 mV	0.298 mV
9.9 mV, 360 MHz	9.913 mV	0.013 mV	6.8E-02 mV	0.496 mV
9.9 mV, 390 MHz	9.883 mV	-0.017 mV	6.8E-02 mV	0.496 mV
9.9 mV, 400 MHz	9.886 mV	-0.014 mV	6.8E-02 mV	0.496 mV
9.9 mV, 480 MHz	9.912 mV	0.012 mV	6.8E-02 mV	0.496 mV
9.9 mV, 570 MHz	9.870 mV	-0.030 mV	6.8E-02 mV	0.496 mV
9.9 mV, 580 MHz	9.897 mV	-0.003 mV	6.8E-02 mV	0.496 mV
9.9 mV, 590 MHz	9.888 mV	-0.012 mV	6.8E-02 mV	0.496 mV
9.9 mV, 600 MHz	9.874 mV	-0.026 mV	6.8E-02 mV	0.496 mV
9.9 mV, 625 MHz	9.847 mV	-0.053 mV	9.5E-02 mV	0.595 mV
9.9 mV, 725 MHz	9.849 mV	-0.051 mV	9.5E-02 mV	0.595 mV
9.9 mV, 900 MHz	9.838 mV	-0.062 mV	9.5E-02 mV	0.595 mV
9.9 mV, 1.000 GHz	9.820 mV	-0.080 mV	9.5E-02 mV	0.595 mV
9.9 mV, 1.050 GHz	9.827 mV	-0.073 mV	9.5E-02 mV	0.595 mV
9.9 mV, 1.100 GHz	9.797 mV	-0.103 mV	1.5E-01 mV	0.595 mV

Leveled Sine Wave Function: 10 mV into 50 Ω (Reference 50 kHz)

Test Step	Measurement	Measurement	Expanded	Specification
Flatness	Result	Error	Uncertainty	1 Year
10 mV, 1 MHz	9.993 mV	-0.007 mV	6.6E-02 mV	0.250 mV
10 mV, 10 MHz	9.988 mV	-0.012 mV	6.6E-02 mV	0.250 mV
10 mV, 30 MHz	9.950 mV	-0.050 mV	6.6E-02 mV	0.250 mV
10 mV, 70 MHz	9.951 mV	-0.049 mV	6.6E-02 mV	0.250 mV
10 mV, 120 MHz	9.964 mV	-0.036 mV	6.9E-02 mV	0.300 mV
10 mV, 290 MHz	9.966 mV	-0.034 mV	6.9E-02 mV	0.300 mV
10 mV, 360 MHz	10.009 mV	0.009 mV	6.9E-02 mV	0.500 mV
10 mV, 390 MHz	9.981 mV	-0.019 mV	6.9E-02 mV	0.500 mV
10 mV, 400 MHz	9.984 mV	-0.016 mV	6.9E-02 mV	0.500 mV
10 mV, 480 MHz	10.007 mV	0.007 mV	6.9E-02 mV	0.500 mV
10 mV, 570 MHz	9.965 mV	-0.035 mV	6.9E-02 mV	0.500 mV
10 mV, 580 MHz	9.995 mV	-0.005 mV	6.9E-02 mV	0.500 mV
10 mV, 590 MHz	9.988 mV	-0.012 mV	6.9E-02 mV	0.500 mV

10 mV, 600 MHz	10.012 mV	0.012 mV	6.9E-02 mV	0.500 mV
10 mV, 675 MHz	9.988 mV	-0.012 mV	8.2E-02 mV	0.600 mV
10 mV, 750 MHz	9.983 mV	-0.017 mV	8.2E-02 mV	0.600 mV
10 mV, 825 MHz	9.910 mV	-0.090 mV	8.2E-02 mV	0.600 mV
10 mV, 850 MHz	9.979 mV	-0.021 mV	8.2E-02 mV	0.600 mV
10 mV, 875 MHz	10.086 mV	0.086 mV	8.2E-02 mV	0.600 mV
10 mV, 925 MHz	9.958 mV	-0.042 mV	8.2E-02 mV	0.600 mV
10 mV, 975 MHz	9.951 mV	-0.049 mV	8.2E-02 mV	0.600 mV
10 mV, 1.025 GHz	9.862 mV	-0.138 mV	1.3E-01 mV	0.600 mV
10 mV, 1.075 GHz	9.936 mV	-0.064 mV	1.3E-01 mV	0.600 mV

Leveled Sine Wave Function: 25 mV into 50 Ω (Reference 50 kHz)

Test Step	Measurement	Measurement	Expanded	Specification
Flatness	Result	Error	Uncertainty	1 Year
25 mV, 1 MHz	24.999 mV	-0.001 mV	2.9E-01 mV	0.475 mV
25 mV, 10 MHz	24.996 mV	-0.004 mV	2.9E-01 mV	0.475 mV
25 mV, 30 MHz	25.008 mV	0.008 mV	2.9E-01 mV	0.475 mV
25 mV, 70 MHz	24.853 mV	-0.147 mV	2.9E-01 mV	0.475 mV
25 mV, 120 MHz	24.807 mV	-0.193 mV	3.0E-01 mV	0.600 mV
25 mV, 290 MHz	24.946 mV	-0.054 mV	3.0E-01 mV	0.600 mV
25 mV, 360 MHz	24.895 mV	-0.105 mV	3.9E-01 mV	1.100 mV
25 mV, 390 MHz	24.909 mV	-0.091 mV	3.9E-01 mV	1.100 mV
25 mV, 400 MHz	25.018 mV	0.018 mV	3.9E-01 mV	1.100 mV
25 mV, 480 MHz	24.965 mV	-0.035 mV	3.9E-01 mV	1.100 mV
25 mV, 570 MHz	25.100 mV	0.100 mV	3.9E-01 mV	1.100 mV
25 mV, 580 MHz	24.996 mV	-0.004 mV	3.9E-01 mV	1.100 mV
25 mV, 590 MHz	25.144 mV	0.144 mV	3.9E-01 mV	1.100 mV
25 mV, 600 MHz	25.022 mV	0.022 mV	3.9E-01 mV	1.100 mV
25 mV, 601 MHz	25.057 mV	0.057 mV	4.2E-01 mV	1.350 mV
25 mV, 700 MHz	24.945 mV	-0.055 mV	4.2E-01 mV	1.350 mV
25 mV, 800 MHz	24.744 mV	-0.256 mV	4.2E-01 mV	1.350 mV
25 mV, 950 MHz	24.812 mV	-0.188 mV	4.2E-01 mV	1.350 mV
25 mV, 953 MHz	24.997 mV	-0.003 mV	4.2E-01 mV	1.350 mV
25 mV, 1.000 GHz	24.834 mV	-0.166 mV	4.2E-01 mV	1.350 mV
25 mV, 1.100 GHz	25.048 mV	0.048 mV	4.2E-01 mV	1.350 mV

Leveled Sine Wave Function: 39 mV into 50 Ω (Reference 50 kHz)

Test Step	Measurement	Measurement	Expanded	Specification
Flatness	Result	Error	Uncertainty	1 Year
39 mV, 1 MHz	39.006 mV	0.006 mV	2.8E-01 mV	0.685 mV
39 mV, 10 MHz	39.020 mV	0.020 mV	2.8E-01 mV	0.685 mV
39 mV, 30 MHz	38.887 mV	-0.113 mV	2.8E-01 mV	0.685 mV
39 mV, 70 MHz	38.869 mV	-0.131 mV	2.8E-01 mV	0.685 mV
39 mV, 120 MHz	38.945 mV	-0.055 mV	3.1E-01 mV	0.880 mV
39 mV, 290 MHz	38.900 mV	-0.100 mV	3.1E-01 mV	0.880 mV
39 mV, 360 MHz	39.041 mV	0.041 mV	3.3E-01 mV	1.660 mV
39 mV, 390 MHz	38.939 mV	-0.061 mV	3.3E-01 mV	1.660 mV
39 mV, 400 MHz	39.038 mV	0.038 mV	3.3E-01 mV	1.660 mV
39 mV, 480 MHz	38.941 mV	-0.059 mV	3.3E-01 mV	1.660 mV
39 mV, 570 MHz	39.090 mV	0.090 mV	3.3E-01 mV	1.660 mV
39 mV, 580 MHz	39.157 mV	0.157 mV	3.3E-01 mV	1.660 mV
39 mV, 590 MHz	39.167 mV	0.167 mV	3.3E-01 mV	1.660 mV
39 mV, 600 MHz	39.067 mV	0.067 mV	3.3E-01 mV	1.660 mV
39 mV, 625 MHz	38.759 mV	-0.241 mV	3.7E-01 mV	2.050 mV
39 mV, 725 MHz	38.806 mV	-0.194 mV	3.7E-01 mV	2.050 mV
39 mV, 900 MHz	38.835 mV	-0.165 mV	3.7E-01 mV	2.050 mV
39 mV, 1.000 GHz	38.665 mV	-0.335 mV	3.7E-01 mV	2.050 mV
39 mV, 1.050 GHz	38.849 mV	-0.151 mV	3.7E-01 mV	2.050 mV
39 mV, 1.100 GHz	38.738 mV	-0.262 mV	3.7E-01 mV	2.050 mV

Leveled Sine Wave Function: 40 mV into 50 Ω (Reference 50 kHz)

Test Step	Measurement	Measurement	Expanded	Specification
Flatness	Result	Error	Uncertainty	1 Year
40 mV, 1 MHz	39.981 mV	-0.019 mV	3.1E-01 mV	0.700 mV
40 mV, 10 MHz	39.980 mV	-0.020 mV	3.1E-01 mV	0.700 mV
40 mV, 30 MHz	39.861 mV	-0.139 mV	3.1E-01 mV	0.700 mV

40 mV, 70 MHz	39.810 mV	-0.190 mV	3.1E-01 mV	0.700 mV
40 mV, 120 MHz	39.939 mV	-0.061 mV	3.0E-01 mV	0.900 mV
40 mV, 290 MHz	39.997 mV	-0.003 mV	3.0E-01 mV	0.900 mV
40 mV, 360 MHz	40.096 mV	0.096 mV	3.5E-01 mV	1.700 mV
40 mV, 390 MHz	39.963 mV	-0.037 mV	3.5E-01 mV	1.700 mV
40 mV, 400 MHz	39.956 mV	-0.044 mV	3.5E-01 mV	1.700 mV
40 mV, 480 MHz	39.799 mV	-0.201 mV	3.5E-01 mV	1.700 mV
40 mV, 570 MHz	39.830 mV	-0.170 mV	3.5E-01 mV	1.700 mV
40 mV, 580 MHz	39.999 mV	-0.001 mV	3.5E-01 mV	1.700 mV
40 mV, 590 MHz	40.096 mV	0.096 mV	3.5E-01 mV	1.700 mV
40 mV, 600 MHz	40.089 mV	0.089 mV	3.5E-01 mV	1.700 mV
40 mV, 675 MHz	40.080 mV	0.080 mV	4.0E-01 mV	2.100 mV
40 mV, 750 MHz	39.983 mV	-0.017 mV	4.0E-01 mV	2.100 mV
40 mV, 825 MHz	39.845 mV	-0.155 mV	4.0E-01 mV	2.100 mV
40 mV, 850 MHz	39.992 mV	-0.008 mV	4.0E-01 mV	2.100 mV
40 mV, 875 MHz	40.313 mV	0.313 mV	4.0E-01 mV	2.100 mV
40 mV, 925 MHz	40.380 mV	0.380 mV	4.0E-01 mV	2.100 mV
40 mV, 975 MHz	40.319 mV	0.319 mV	4.0E-01 mV	2.100 mV
40 mV, 1.025 GHz	40.249 mV	0.249 mV	4.0E-01 mV	2.100 mV
40 mV, 1.075 GHz	39.874 mV	-0.126 mV	4.0E-01 mV	2.100 mV

Leveled Sine Wave Function: 70 mV into 50 Ω (Reference 50 kHz)

Test Step	Measurement Result	Measurement Error	Expanded Uncertainty	Specification 1 Year
Flatness				
70 mV, 1 MHz	69.970 mV	-0.030 mV	4.6E-01 mV	1.150 mV
70 mV, 10 MHz	69.934 mV	-0.066 mV	4.6E-01 mV	1.150 mV
70 mV, 30 MHz	69.749 mV	-0.251 mV	4.6E-01 mV	1.150 mV
70 mV, 70 MHz	69.678 mV	-0.322 mV	4.6E-01 mV	1.150 mV
70 mV, 120 MHz	69.696 mV	-0.304 mV	4.7E-01 mV	1.500 mV
70 mV, 290 MHz	69.767 mV	-0.233 mV	4.7E-01 mV	1.500 mV
70 mV, 360 MHz	70.002 mV	0.002 mV	7.0E-01 mV	2.900 mV
70 mV, 390 MHz	69.738 mV	-0.262 mV	7.0E-01 mV	2.900 mV
70 mV, 400 MHz	69.823 mV	-0.177 mV	7.0E-01 mV	2.900 mV
70 mV, 480 MHz	69.392 mV	-0.608 mV	7.0E-01 mV	2.900 mV
70 mV, 570 MHz	69.760 mV	-0.240 mV	7.0E-01 mV	2.900 mV
70 mV, 580 MHz	69.915 mV	-0.085 mV	7.0E-01 mV	2.900 mV
70 mV, 590 MHz	70.037 mV	0.037 mV	7.0E-01 mV	2.900 mV
70 mV, 600 MHz	70.048 mV	0.048 mV	7.0E-01 mV	2.900 mV
70 mV, 601 MHz	69.973 mV	-0.027 mV	7.0E-01 mV	3.600 mV
70 mV, 700 MHz	69.862 mV	-0.138 mV	7.0E-01 mV	3.600 mV
70 mV, 800 MHz	69.740 mV	-0.260 mV	7.0E-01 mV	3.600 mV
70 mV, 950 MHz	69.643 mV	-0.357 mV	7.0E-01 mV	3.600 mV
70 mV, 953 MHz	69.593 mV	-0.407 mV	7.0E-01 mV	3.600 mV
70 mV, 1.000 GHz	69.603 mV	-0.397 mV	7.0E-01 mV	3.600 mV
70 mV, 1.100 GHz	69.504 mV	-0.496 mV	7.0E-01 mV	3.600 mV

Leveled Sine Wave Function: 99 mV into 50 Ω (Reference 50 kHz)

Test Step	Measurement Result	Measurement Error	Expanded Uncertainty	Specification 1 Year
Flatness				
99 mV, 1 MHz	98.966 mV	-0.034 mV	6.3E-01 mV	1.585 mV
99 mV, 10 MHz	98.906 mV	-0.094 mV	6.3E-01 mV	1.585 mV
99 mV, 30 MHz	98.568 mV	-0.432 mV	6.3E-01 mV	1.585 mV
99 mV, 70 MHz	98.625 mV	-0.375 mV	6.3E-01 mV	1.585 mV
99 mV, 120 MHz	98.651 mV	-0.349 mV	6.4E-01 mV	2.080 mV
99 mV, 290 MHz	98.728 mV	-0.272 mV	6.4E-01 mV	2.080 mV
99 mV, 360 MHz	99.016 mV	0.016 mV	9.4E-01 mV	4.060 mV
99 mV, 390 MHz	98.709 mV	-0.291 mV	9.4E-01 mV	4.060 mV
99 mV, 400 MHz	98.785 mV	-0.215 mV	9.4E-01 mV	4.060 mV
99 mV, 480 MHz	98.265 mV	-0.735 mV	9.4E-01 mV	4.060 mV
99 mV, 570 MHz	98.694 mV	-0.306 mV	9.4E-01 mV	4.060 mV
99 mV, 580 MHz	98.959 mV	-0.041 mV	9.4E-01 mV	4.060 mV
99 mV, 590 MHz	99.063 mV	0.063 mV	9.4E-01 mV	4.060 mV
99 mV, 600 MHz	98.866 mV	-0.134 mV	9.4E-01 mV	4.060 mV
99 mV, 625 MHz	98.214 mV	-0.786 mV	9.4E-01 mV	5.050 mV
99 mV, 725 MHz	98.256 mV	-0.744 mV	9.4E-01 mV	5.050 mV
99 mV, 900 MHz	98.472 mV	-0.528 mV	9.4E-01 mV	5.050 mV

99 mV, 1.000 GHz	98.426 mV	-0.574 mV	9.4E-01 mV	5.050 mV
99 mV, 1.050 GHz	98.622 mV	-0.378 mV	9.4E-01 mV	5.050 mV
99 mV, 1.100 GHz	98.328 mV	-0.672 mV	9.4E-01 mV	5.050 mV

Leveled Sine Wave Function: 100 mV into 50 Ω (Reference 50 kHz)

Test Step	Measurement	Measurement	Expanded	Specification
Flatness	Result	Error	Uncertainty	1 Year
100 mV, 1 MHz	99.950 mV	-0.050 mV	6.4E-01 mV	1.600 mV
100 mV, 10 MHz	99.965 mV	-0.035 mV	6.4E-01 mV	1.600 mV
100 mV, 30 MHz	99.615 mV	-0.385 mV	6.4E-01 mV	1.600 mV
100 mV, 70 MHz	99.705 mV	-0.295 mV	6.4E-01 mV	1.600 mV
100 mV, 120 MHz	99.805 mV	-0.195 mV	6.5E-01 mV	2.100 mV
100 mV, 290 MHz	99.931 mV	-0.069 mV	6.5E-01 mV	2.100 mV
100 mV, 360 MHz	100.183 mV	0.183 mV	9.2E-01 mV	4.100 mV
100 mV, 390 MHz	99.944 mV	-0.056 mV	9.2E-01 mV	4.100 mV
100 mV, 400 MHz	100.044 mV	0.044 mV	9.2E-01 mV	4.100 mV
100 mV, 480 MHz	100.100 mV	0.100 mV	9.2E-01 mV	4.100 mV
100 mV, 570 MHz	100.244 mV	0.244 mV	9.2E-01 mV	4.100 mV
100 mV, 580 MHz	100.372 mV	0.372 mV	9.2E-01 mV	4.100 mV
100 mV, 590 MHz	100.387 mV	0.387 mV	9.2E-01 mV	4.100 mV
100 mV, 600 MHz	100.581 mV	0.581 mV	9.2E-01 mV	4.100 mV
100 mV, 675 MHz	100.634 mV	0.634 mV	1.5 mV	5.100 mV
100 mV, 750 MHz	100.097 mV	0.097 mV	1.5 mV	5.100 mV
100 mV, 825 MHz	99.858 mV	-0.142 mV	1.5 mV	5.100 mV
100 mV, 850 MHz	100.005 mV	0.005 mV	1.5 mV	5.100 mV
100 mV, 875 MHz	101.767 mV	1.767 mV	1.5 mV	5.100 mV
100 mV, 925 MHz	100.431 mV	0.431 mV	1.5 mV	5.100 mV
100 mV, 975 MHz	101.042 mV	1.042 mV	1.5 mV	5.100 mV
100 mV, 1.025 GHz	99.418 mV	-0.582 mV	1.5 mV	5.100 mV
100 mV, 1.075 GHz	100.072 mV	0.072 mV	1.5 mV	5.100 mV

Leveled Sine Wave Function: 250 mV into 50 Ω (Reference 50 kHz)

Test Step	Measurement	Measurement	Expanded	Specification
Flatness	Result	Error	Uncertainty	1 Year
250 mV, 1 MHz	249.934 mV	-0.066 mV	1.6 mV	3.850 mV
250 mV, 10 MHz	249.807 mV	-0.193 mV	1.6 mV	3.850 mV
250 mV, 30 MHz	249.064 mV	-0.936 mV	1.6 mV	3.850 mV
250 mV, 70 MHz	249.187 mV	-0.813 mV	1.6 mV	3.850 mV
250 mV, 120 MHz	249.203 mV	-0.797 mV	1.6 mV	5.100 mV
250 mV, 290 MHz	249.515 mV	-0.485 mV	1.6 mV	5.100 mV
250 mV, 360 MHz	250.125 mV	0.125 mV	1.8 mV	10.100 mV
250 mV, 390 MHz	249.466 mV	-0.534 mV	1.8 mV	10.100 mV
250 mV, 400 MHz	249.772 mV	-0.228 mV	1.8 mV	10.100 mV
250 mV, 480 MHz	249.837 mV	-0.163 mV	1.8 mV	10.100 mV
250 mV, 570 MHz	250.100 mV	0.100 mV	1.8 mV	10.100 mV
250 mV, 580 MHz	250.577 mV	0.577 mV	1.8 mV	10.100 mV
250 mV, 590 MHz	250.536 mV	0.536 mV	1.8 mV	10.100 mV
250 mV, 600 MHz	250.198 mV	0.198 mV	1.8 mV	10.100 mV
250 mV, 601 MHz	250.277 mV	0.277 mV	4.0 mV	12.600 mV
250 mV, 700 MHz	249.852 mV	-0.148 mV	4.0 mV	12.600 mV
250 mV, 800 MHz	249.556 mV	-0.444 mV	4.0 mV	12.600 mV
250 mV, 950 MHz	249.108 mV	-0.892 mV	4.0 mV	12.600 mV
250 mV, 953 MHz	249.016 mV	-0.984 mV	4.0 mV	12.600 mV
250 mV, 1.000 GHz	248.758 mV	-1.242 mV	4.0 mV	12.600 mV
250 mV, 1.100 GHz	248.377 mV	-1.623 mV	4.0 mV	12.600 mV

Leveled Sine Wave Function: 400 mV into 50 Ω (Reference 50 kHz)

Test Step	Measurement	Measurement	Expanded	Specification
Flatness	Result	Error	Uncertainty	1 Year
399 mV, 1 MHz	398.926 mV	-0.074 mV	2.5 mV	6.085 mV
399 mV, 10 MHz	398.920 mV	-0.080 mV	2.5 mV	6.085 mV
399 mV, 30 MHz	397.966 mV	-1.034 mV	2.5 mV	6.085 mV
399 mV, 70 MHz	398.438 mV	-0.562 mV	2.5 mV	6.085 mV
399 mV, 120 MHz	398.290 mV	-0.710 mV	2.6 mV	8.080 mV
399 mV, 290 MHz	398.377 mV	-0.623 mV	2.6 mV	8.080 mV
399 mV, 360 MHz	399.571 mV	0.571 mV	4.0 mV	16.060 mV

399 mV, 390 MHz	398.456 mV	-0.544 mV	4.0 mV	16.060 mV
399 mV, 400 MHz	398.944 mV	-0.056 mV	4.0 mV	16.060 mV
399 mV, 480 MHz	399.103 mV	0.103 mV	4.0 mV	16.060 mV
399 mV, 570 MHz	399.649 mV	0.649 mV	4.0 mV	16.060 mV
399 mV, 580 MHz	400.261 mV	1.261 mV	4.0 mV	16.060 mV
399 mV, 590 MHz	400.149 mV	1.149 mV	4.0 mV	16.060 mV
399 mV, 600 MHz	399.395 mV	0.395 mV	4.0 mV	16.060 mV
399 mV, 625 MHz	397.123 mV	-1.877 mV	4.0 mV	20.050 mV
399 mV, 725 MHz	397.420 mV	-1.580 mV	4.0 mV	20.050 mV
399 mV, 900 MHz	397.684 mV	-1.316 mV	4.0 mV	20.050 mV
399 mV, 1.000 GHz	397.559 mV	-1.441 mV	4.0 mV	20.050 mV
399 mV, 1.050 GHz	397.778 mV	-1.222 mV	4.0 mV	20.050 mV
399 mV, 1.100 GHz	396.900 mV	-2.100 mV	4.0 mV	20.050 mV
400 mV, 1 MHz	399.808 mV	-0.192 mV	2.5 mV	6.100 mV
400 mV, 10 MHz	399.716 mV	-0.284 mV	2.5 mV	6.100 mV
400 mV, 30 MHz	398.404 mV	-1.596 mV	2.5 mV	6.100 mV
400 mV, 70 MHz	398.454 mV	-1.546 mV	2.5 mV	6.100 mV
400 mV, 120 MHz	398.675 mV	-1.325 mV	2.7 mV	8.100 mV
400 mV, 290 MHz	399.366 mV	-0.634 mV	2.7 mV	8.100 mV
400 mV, 360 MHz	400.344 mV	0.344 mV	4.0 mV	16.100 mV
400 mV, 390 MHz	399.284 mV	-0.716 mV	4.0 mV	16.100 mV
400 mV, 400 MHz	399.718 mV	-0.282 mV	4.0 mV	16.100 mV
400 mV, 480 MHz	398.246 mV	-1.754 mV	4.0 mV	16.100 mV
400 mV, 570 MHz	399.690 mV	-0.310 mV	4.0 mV	16.100 mV
400 mV, 580 MHz	400.701 mV	0.701 mV	4.0 mV	16.100 mV
400 mV, 590 MHz	400.817 mV	0.817 mV	4.0 mV	16.100 mV
400 mV, 600 MHz	401.031 mV	1.031 mV	4.0 mV	16.100 mV
400 mV, 675 MHz	401.564 mV	1.564 mV	4.0 mV	20.100 mV
400 mV, 750 MHz	400.011 mV	0.011 mV	4.0 mV	20.100 mV
400 mV, 825 MHz	398.162 mV	-1.838 mV	4.0 mV	20.100 mV
400 mV, 850 MHz	400.218 mV	0.218 mV	4.0 mV	20.100 mV
400 mV, 875 MHz	403.378 mV	3.378 mV	4.0 mV	20.100 mV
400 mV, 925 MHz	405.266 mV	5.266 mV	4.0 mV	20.100 mV
400 mV, 975 MHz	403.897 mV	3.897 mV	4.0 mV	20.100 mV
400 mV, 1.025 GHz	401.849 mV	1.849 mV	4.0 mV	20.100 mV
400 mV, 1.075 GHz	398.660 mV	-1.340 mV	4.0 mV	20.100 mV

Leveled Sine Wave Function: 800 mV into 50 Ω (Reference 50 kHz)

Test Step	Measurement	Measurement	Expanded	Specification
Flatness	Result	Error	Uncertainty	1 Year
800 mV, 1 MHz	799.669 mV	-0.331 mV	4.9 mV	12.100 mV
800 mV, 10 MHz	799.239 mV	-0.761 mV	4.9 mV	12.100 mV
800 mV, 30 MHz	796.799 mV	-3.201 mV	4.9 mV	12.100 mV
800 mV, 70 MHz	796.558 mV	-3.442 mV	4.9 mV	12.100 mV
800 mV, 120 MHz	796.483 mV	-3.517 mV	5.3 mV	16.100 mV
800 mV, 290 MHz	797.780 mV	-2.220 mV	5.3 mV	16.100 mV
800 mV, 360 MHz	799.516 mV	-0.484 mV	8.0 mV	32.100 mV
800 mV, 390 MHz	797.457 mV	-2.543 mV	8.0 mV	32.100 mV
800 mV, 400 MHz	798.156 mV	-1.844 mV	8.0 mV	32.100 mV
800 mV, 480 MHz	795.334 mV	-4.666 mV	8.0 mV	32.100 mV
800 mV, 570 MHz	797.937 mV	-2.063 mV	8.0 mV	32.100 mV
800 mV, 580 MHz	800.011 mV	0.011 mV	8.0 mV	32.100 mV
800 mV, 590 MHz	800.471 mV	0.471 mV	8.0 mV	32.100 mV
800 mV, 600 MHz	799.421 mV	-0.579 mV	8.0 mV	32.100 mV
800 mV, 601 MHz	799.667 mV	-0.333 mV	8.5 mV	40.100 mV
800 mV, 700 MHz	798.949 mV	-1.051 mV	8.5 mV	40.100 mV
800 mV, 800 MHz	797.536 mV	-2.464 mV	8.5 mV	40.100 mV
800 mV, 950 MHz	796.299 mV	-3.701 mV	8.5 mV	40.100 mV
800 mV, 953 MHz	796.307 mV	-3.693 mV	8.5 mV	40.100 mV
800 mV, 1.000 GHz	795.510 mV	-4.490 mV	8.5 mV	40.100 mV
800 mV, 1.100 GHz	794.378 mV	-5.622 mV	8.5 mV	40.100 mV

Leveled Sine Wave Function: 1.2 V into 50 Ω (Reference 50 kHz)

Test Step	Measurement	Measurement	Expanded	Specification
Flatness	Result	Error	Uncertainty	1 Year
1.2 V, 1 MHz	1.200 V	0.000 V	7.4E-03 V	0.018 V

1.2 V, 10 MHz	1.199 V	-0.001 V	7.4E-03 V	0.018 V
1.2 V, 30 MHz	1.196 V	-0.004 V	7.4E-03 V	0.018 V
1.2 V, 70 MHz	1.196 V	-0.004 V	7.4E-03 V	0.018 V
1.2 V, 120 MHz	1.195 V	-0.005 V	8.0E-03 V	0.024 V
1.2 V, 290 MHz	1.198 V	-0.002 V	8.0E-03 V	0.024 V
1.2 V, 360 MHz	1.201 V	0.001 V	1.0E-02 V	0.048 V
1.2 V, 390 MHz	1.197 V	-0.003 V	1.0E-02 V	0.048 V
1.2 V, 400 MHz	1.199 V	-0.001 V	1.0E-02 V	0.048 V
1.2 V, 480 MHz	1.195 V	-0.005 V	1.0E-02 V	0.048 V
1.2 V, 570 MHz	1.199 V	-0.001 V	1.0E-02 V	0.048 V
1.2 V, 580 MHz	1.202 V	0.002 V	1.0E-02 V	0.048 V
1.2 V, 590 MHz	1.202 V	0.002 V	1.0E-02 V	0.048 V
1.2 V, 600 MHz	1.198 V	-0.002 V	1.0E-02 V	0.048 V
1.2 V, 625 MHz	1.192 V	-0.008 V	1.3E-02 V	0.060 V
1.2 V, 725 MHz	1.193 V	-0.007 V	1.3E-02 V	0.060 V
1.2 V, 900 MHz	1.195 V	-0.005 V	1.3E-02 V	0.060 V
1.2 V, 1.000 GHz	1.194 V	-0.006 V	1.3E-02 V	0.060 V
1.2 V, 1.050 GHz	1.195 V	-0.005 V	1.3E-02 V	0.060 V
1.2 V, 1.100 GHz	1.193 V	-0.007 V	1.3E-02 V	0.060 V

Leveled Sine Wave Function: 1.3 V into 50 Ω (Reference 50 kHz)

Test Step	Measurement	Measurement	Expanded	Specification
Flatness	Result	Error	Uncertainty	1 Year
1.3 V, 1 MHz	1.298 V	-0.002 V	8.6E-03 V	0.020 V
1.3 V, 10 MHz	1.297 V	-0.003 V	8.6E-03 V	0.020 V
1.3 V, 30 MHz	1.293 V	-0.007 V	8.6E-03 V	0.020 V
1.3 V, 70 MHz	1.292 V	-0.008 V	8.6E-03 V	0.020 V
1.3 V, 120 MHz	1.292 V	-0.008 V	1.2E-02 V	0.026 V
1.3 V, 290 MHz	1.297 V	-0.003 V	1.2E-02 V	0.026 V
1.3 V, 360 MHz	1.296 V	-0.004 V	1.2E-02 V	0.052 V
1.3 V, 390 MHz	1.295 V	-0.005 V	1.2E-02 V	0.052 V
1.3 V, 400 MHz	1.297 V	-0.004 V	1.2E-02 V	0.052 V
1.3 V, 480 MHz	1.295 V	-0.005 V	1.2E-02 V	0.052 V
1.3 V, 570 MHz	1.297 V	-0.003 V	1.2E-02 V	0.052 V
1.3 V, 580 MHz	1.299 V	-0.001 V	1.2E-02 V	0.052 V
1.3 V, 590 MHz	1.299 V	-0.001 V	1.2E-02 V	0.052 V
1.3 V, 600 MHz	1.302 V	0.002 V	1.2E-02 V	0.052 V
1.3 V, 675 MHz	1.302 V	0.002 V	1.2E-02 V	0.065 V
1.3 V, 750 MHz	1.297 V	-0.003 V	1.2E-02 V	0.065 V
1.3 V, 825 MHz	1.292 V	-0.008 V	1.2E-02 V	0.065 V
1.3 V, 850 MHz	1.298 V	-0.002 V	1.2E-02 V	0.065 V
1.3 V, 875 MHz	1.302 V	0.002 V	1.2E-02 V	0.065 V
1.3 V, 925 MHz	1.308 V	0.008 V	1.2E-02 V	0.065 V
1.3 V, 975 MHz	1.308 V	0.008 V	1.2E-02 V	0.065 V
1.3 V, 1.025 GHz	1.293 V	-0.007 V	1.2E-02 V	0.065 V
1.3 V, 1.075 GHz	1.302 V	0.002 V	1.2E-02 V	0.065 V

Leveled Sine Wave Function: 3.4 V into 50 Ω (Reference 50 kHz)

Test Step	Measurement	Measurement	Expanded	Specification
Flatness	Result	Error	Uncertainty	1 Year
3.4 V, 1 MHz	3.397 V	-0.003 V	2.2E-02 V	0.051 V
3.4 V, 10 MHz	3.394 V	-0.006 V	2.2E-02 V	0.051 V
3.4 V, 30 MHz	3.383 V	-0.017 V	2.2E-02 V	0.051 V
3.4 V, 70 MHz	3.385 V	-0.015 V	2.2E-02 V	0.051 V
3.4 V, 120 MHz	3.382 V	-0.018 V	3.2E-02 V	0.068 V
3.4 V, 290 MHz	3.396 V	-0.004 V	3.2E-02 V	0.068 V
3.4 V, 360 MHz	3.393 V	-0.007 V	3.2E-02 V	0.136 V
3.4 V, 390 MHz	3.390 V	-0.010 V	3.2E-02 V	0.136 V
3.4 V, 400 MHz	3.393 V	-0.007 V	3.2E-02 V	0.136 V
3.4 V, 480 MHz	3.390 V	-0.010 V	3.2E-02 V	0.136 V
3.4 V, 570 MHz	3.396 V	-0.004 V	3.2E-02 V	0.136 V
3.4 V, 580 MHz	3.401 V	0.001 V	3.2E-02 V	0.136 V
3.4 V, 590 MHz	3.401 V	0.001 V	3.2E-02 V	0.136 V
3.4 V, 600 MHz	3.396 V	-0.004 V	3.2E-02 V	0.136 V
3.4 V, 625 MHz	3.391 V	-0.009 V	3.6E-02 V	0.170 V
3.4 V, 725 MHz	3.386 V	-0.014 V	3.6E-02 V	0.170 V

3.4 V, 900 MHz	3.390 V	-0.010 V	3.6E-02 V	0.170 V
3.4 V, 1.000 GHz	3.389 V	-0.011 V	3.6E-02 V	0.170 V
3.4 V, 1.050 GHz	3.388 V	-0.012 V	3.6E-02 V	0.170 V
3.4 V, 1.100 GHz	3.376 V	-0.024 V	3.6E-02 V	0.170 V

Leveled Sine Wave Function: 5.5 V into 50 Ω (Reference 50 kHz)

Test Step	Measurement Result	Measurement Error	Expanded Uncertainty	Specification 1 Year
Flatness				
5.5 V, 1 MHz	5.496 V	-0.004 V	3.6E-02 V	0.083 V
5.5 V, 10 MHz	5.495 V	-0.005 V	3.6E-02 V	0.083 V
5.5 V, 30 MHz	5.481 V	-0.019 V	3.6E-02 V	0.083 V
5.5 V, 70 MHz	5.497 V	-0.003 V	3.6E-02 V	0.083 V
5.5 V, 120 MHz	5.490 V	-0.010 V	5.1E-02 V	0.110 V
5.5 V, 290 MHz	5.493 V	-0.007 V	5.1E-02 V	0.110 V
5.5 V, 360 MHz	5.489 V	-0.011 V	4.0E-02 V	0.220 V
5.5 V, 390 MHz	5.485 V	-0.015 V	4.0E-02 V	0.220 V
5.5 V, 400 MHz	5.489 V	-0.011 V	4.0E-02 V	0.220 V
5.5 V, 480 MHz	5.486 V	-0.014 V	4.0E-02 V	0.220 V
5.5 V, 570 MHz	5.496 V	-0.004 V	4.0E-02 V	0.220 V
5.5 V, 580 MHz	5.504 V	0.004 V	4.0E-02 V	0.220 V
5.5 V, 590 MHz	5.505 V	0.005 V	4.0E-02 V	0.220 V
5.5 V, 600 MHz	5.497 V	-0.003 V	4.0E-02 V	0.220 V

Leveled Sine Wave Function - into 50 Ω (Flatness referenced to 50kHz)

Test Step	Measurement Result	Measurement Error	Expanded Uncertainty	Specification 1 Year
Frequency				
5.5 V, 500 MHz	500000.000 kHz	0.416 kHz	1.0E-01 kHz	1.250 kHz
3 V, 1.10 GHz	1100000.000 kHz	0.896 kHz	1.0E-01 kHz	2.750 kHz

Amplitude

5 mV, 50 kHz	5.007 mV	0.007 mV	1.3E-01 mV	0.400 mV
7.50 mV, 50 kHz	7.517 mV	0.017 mV	1.3E-01 mV	0.450 mV
9.90 mV, 50 kHz	9.920 mV	0.020 mV	1.3E-01 mV	0.498 mV
10 mV, 50 kHz	9.978 mV	-0.022 mV	1.3E-01 mV	0.500 mV
25 mV, 50 kHz	25.032 mV	0.032 mV	1.3E-01 mV	0.800 mV
39 mV, 50 kHz	39.027 mV	0.027 mV	2.6E-01 mV	1.080 mV
40 mV, 50 kHz	39.981 mV	-0.019 mV	2.6E-01 mV	1.100 mV
70 mV, 50 kHz	70.121 mV	0.121 mV	2.6E-01 mV	1.700 mV
99 mV, 50 kHz	99.106 mV	0.106 mV	5.8E-01 mV	2.280 mV
100 mV, 50 kHz	99.629 mV	-0.371 mV	5.8E-01 mV	2.300 mV
250 mV, 50 kHz	250.269 mV	0.269 mV	5.8E-01 mV	5.300 mV
399 mV, 50 kHz	399.285 mV	0.285 mV	2.0 mV	8.280 mV
400 mV, 50 kHz	399.263 mV	-0.737 mV	2.0 mV	8.300 mV
800 mV, 50 kHz	800.890 mV	0.890 mV	3.7 mV	16.300 mV
1.2 V, 50 kHz	1.200 V	0.000 V	3.7E-03 V	0.024 V
1.3 V, 50 kHz	1.298 V	-0.002 V	3.7E-03 V	0.026 V
3.4 V, 50 kHz	3.397 V	-0.003 V	2.2E-02 V	0.068 V
5.5 V, 50 kHz	5.503 V	0.003 V	2.2E-02 V	0.110 V

Time Marker Function - into 50 Ω

Test Step	Measurement Result	Measurement Error	Expanded Uncertainty	Specification 1 Year
Period				
5 s	5000.050 ms	0.050 ms		25.125 ms *
2 s	1999.983 ms	-0.017 ms		4.050 ms *
50 ms	49999.978 μs	-0.022 us		3.750 us *
20 ms	19999.981 μs	-0.019 us		0.050 us *
10 ms	9999.990 μs	-0.010 us		0.025 us *
100 ns	99999.902 ps	-0.098 ps		0.250 ps *
50 ns	49999.951 ps	-0.049 ps		0.125 ps *
20 ns	19999.980 ps	-0.020 ps		0.050 ps *
10 ns	9999.990 ps	-0.010 ps		0.025 ps *
5 ns	4999.995 ps	-0.005 ps		0.013 ps *
2 ns	1999.998 ps	-0.002 ps		0.005 ps *

Wave Generator Function - square/sine/triangle wave into 1M Ω

Test Step	Measurement	Measurement	Expanded	Specification
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Square	Result	Error	Uncertainty	1 Year
1.80 mV, 1 kHz	1.799 mV	-0.001 mV	3.5E-02 mV	0.154 mV
11.9 mV, 1 kHz	11.902 mV	0.002 mV	3.5E-02 mV	0.457 mV
21.9 mV, 1 kHz	21.902 mV	0.002 mV	3.5E-02 mV	0.757 mV
22 mV, 1 kHz	22.005 mV	0.005 mV	3.5E-02 mV	0.760 mV
56 mV, 1 kHz	56.009 mV	0.009 mV	3.5E-02 mV	1.780 mV
89.9 mV, 1 kHz	89.899 mV	-0.001 mV	3.5E-01 mV	2.797 mV
90 mV, 1 kHz	89.998 mV	-0.002 mV	3.5E-01 mV	2.800 mV
155 mV, 1 kHz	155.008 mV	0.008 mV	3.5E-01 mV	4.750 mV
219 mV, 1 kHz	219.016 mV	0.016 mV	1.4 mV	6.670 mV
220 mV, 1 kHz	220.027 mV	0.027 mV	1.4 mV	6.700 mV
560 mV, 1 kHz	560.064 mV	0.064 mV	1.4 mV	16.900 mV
899 mV, 1 kHz	898.969 mV	-0.031 mV	1.4 mV	27.070 mV
900 mV, 1 kHz	899.875 mV	-0.125 mV	1.4 mV	27.100 mV
3.75 V, 1 kHz	3.750 V	0.000 V	1.4E-02 V	0.113 V
6.59 V, 1 kHz	6.590 V	0.000 V	1.4E-02 V	0.198 V
6.6 V, 1 kHz	6.599 V	-0.001 V	1.4E-02 V	0.198 V
30.8 V, 1 kHz	30.801 V	0.001 V	1.4E-02 V	0.924 V
55 V, 10 Hz	55.012 V	0.012 V	2.0E-01 V	1.650 V
55 V, 100 Hz	55.000 V	0.000 V	2.0E-01 V	1.650 V
55 V, 1 kHz	55.000 V	0.000 V	2.0E-01 V	1.650 V
55 V, 10 kHz	55.020 V	0.020 V	2.0E-01 V	1.650 V

Sine	Result	Error	Uncertainty	1 Year
1.80 mV, 1 kHz	1.788 mV	-0.012 mV	3.5E-02 mV	0.154 mV
21.9 mV, 1 kHz	21.881 mV	-0.019 mV	3.5E-02 mV	0.757 mV
89.9 mV, 1 kHz	89.842 mV	-0.058 mV	7.0E-01 mV	2.800 mV
219 mV, 1 kHz	218.752 mV	-0.248 mV	7.0E-01 mV	6.700 mV
899 mV, 1 kHz	898.481 mV	-0.519 mV	7.0E-01 mV	27.100 mV
6.59 V, 1 kHz	6.586 V	-0.004 V	2.0E-02 V	0.198 V
55 V, 1 kHz	54.962 V	-0.038 V	5.5E-02 V	1.650 V

Triangle	Result	Error	Uncertainty	1 Year
1.80 mV, 1 kHz	1.780 mV	-0.020 mV	5.4E-02 mV	0.154 mV
21.9 mV, 1 kHz	21.882 mV	-0.018 mV	1.7E-01 mV	0.757 mV
89.9 mV, 1 kHz	89.731 mV	-0.169 mV	5.0E-01 mV	2.797 mV
219 mV, 1 kHz	218.674 mV	-0.326 mV	5.0E-01 mV	6.670 mV
899 mV, 1 kHz	898.448 mV	-0.552 mV	6.0 mV	27.070 mV
6.59 V, 1 kHz	6.581 V	-0.009 V	6.0E-03 V	0.198 V
55 V, 1 kHz	54.929 V	-0.071 V	8.0E-02 V	1.650 V

Wave Generator Function - square/sine/triangle wave into 50 Ω

Test Step	Measurement Result	Measurement Error	Expanded Uncertainty	Specification 1 Year
Square				
1.8 mV, 1 kHz	1.811 mV	0.011 mV	3.5E-02 mV	0.154 mV
6.4 mV, 1 kHz	6.434 mV	0.034 mV	3.5E-02 mV	0.292 mV
10.9 mV, 1 kHz	10.959 mV	0.059 mV	3.5E-02 mV	0.427 mV
11 mV, 1 kHz	11.027 mV	0.027 mV	3.5E-02 mV	0.430 mV
28 mV, 1 kHz	28.066 mV	0.066 mV	3.5E-02 mV	0.940 mV
44.9 mV, 1 kHz	45.002 mV	0.102 mV	1.0E-01 mV	1.447 mV
45 mV, 1 kHz	45.268 mV	0.268 mV	1.0E-01 mV	1.450 mV
78 mV, 1 kHz	78.459 mV	0.459 mV	1.0E-01 mV	2.440 mV
109 mV, 1 kHz	109.647 mV	0.647 mV	8.0E-01 mV	3.370 mV
110 mV, 1 kHz	110.524 mV	0.524 mV	8.0E-01 mV	3.400 mV
280 mV, 1 kHz	281.341 mV	1.341 mV	8.0E-01 mV	8.500 mV
449 mV, 1 kHz	451.088 mV	2.088 mV	8.0E-01 mV	13.570 mV
450 mV, 1 kHz	452.240 mV	2.240 mV	8.0E-01 mV	13.600 mV
780 mV, 1 kHz	783.882 mV	3.882 mV	8.0E-01 mV	23.500 mV
1.09 V, 1 kHz	1.096 V	0.006 V	8.0E-04 V	0.033 V
1.1 V, 1 kHz	1.106 V	0.006 V	8.0E-04 V	0.033 V
1.8 V, 1 kHz	1.810 V	0.010 V	8.0E-04 V	0.054 V
2.5 V, 10 Hz	2.515 V	0.015 V	8.0E-04 V	0.075 V
2.5 V, 100 Hz	2.514 V	0.014 V	8.0E-04 V	0.075 V
2.5 V, 1 kHz	2.514 V	0.014 V	8.0E-04 V	0.075 V
2.5 V, 10 kHz	2.516 V	0.016 V	8.0E-04 V	0.075 V

Sine

1.80 mV, 1 kHz	1.801 mV	0.001 mV	3.5E-02 mV	0.154 mV
10.90 mV, 1 kHz	10.940 mV	0.040 mV	3.5E-02 mV	0.427 mV
44.90 mV, 1 kHz	44.983 mV	0.083 mV	3.0E-01 mV	1.447 mV
109 mV, 1 kHz	109.475 mV	0.475 mV	3.0E-01 mV	3.370 mV
449 mV, 1 kHz	450.707 mV	1.707 mV	3.0E-01 mV	13.570 mV
1.09 V, 1 kHz	1.095 V	0.005 V	1.0E-03 V	0.033 V
2.5 V, 1 kHz	2.512 V	0.012 V	1.0E-03 V	0.075 V

Triangle

1.8 mV, 1 kHz	1.798 mV	-0.002 mV	3.0E-02 mV	0.154 mV
10.9 mV, 1 kHz	10.927 mV	0.027 mV	6.0E-02 mV	0.427 mV
44.9 mV, 1 kHz	44.934 mV	0.034 mV	6.0E-02 mV	1.447 mV
109 mV, 1 kHz	109.499 mV	0.499 mV	6.0E-01 mV	3.370 mV
449 mV, 1 kHz	450.322 mV	1.322 mV	6.0E-01 mV	13.570 mV
1.09 V, 1 kHz	1.094 V	0.004 V	7.5E-03 V	0.033 V
2.5 V, 1 kHz	2.511 V	0.011 V	7.5E-03 V	0.075 V

Pulse Generator Function - 2.5V positive pulse into 50 Ω

Test Step	Measurement	Measurement	Expanded	Specification
Period	Result	Error	Uncertainty	1 Year
4 ns, 100 μs	99999.900 ns	-0.097 ns	6.0E-03 ns	0.250 ns
500 ns, 10 ms	10000.000 us	-0.010 us	1.6E-03 us	0.025 us
500 ns, 20 ms	20000.000 us	-0.019 us	1.6E-03 us	0.050 us

Width

4 ns, 2 μs	0.004 us	0.000 us	1.0E-04 us	0.001 us
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MeasZ Function - impedance measurement

Test Step	Measurement	Measurement	Expanded	Specification
Resistance	Result	Error	Uncertainty	1 Year
40 Ω	39.995 Ω	-0.005 Ω	2.1E-02 Ω	0.040 Ω
50 Ω	50.007 Ω	0.007 Ω	2.5E-02 Ω	0.050 Ω
60 Ω	60.001 Ω	0.001 Ω	3.0E-02 Ω	0.060 Ω
600 kΩ	600.062 kΩ	0.062 kΩ	3.0E-01 kΩ	0.600 kΩ
1 MΩ	1.000 MΩ	0.000 MΩ	5.1E-04 MΩ	0.001 MΩ
1.5 MΩ	1.500 MΩ	0.000 MΩ	7.8E-04 MΩ	0.002 MΩ

Capacitance

5 pF	5.450 pF	0.450 pF		0.750 pF *
29 pF	29.980 pF	0.980 pF		1.950 pF *
49 pF	48.700 pF	-0.300 pF		2.950 pF *