cal equipment

Keysight 3458C

Manufacturer	HEWLETT-PACKARD	Calibration date	September 03 2020
Model Number	3458A	Ambient Temperature	22.56 °C
Serial	4	Relative Humidity	51.24 %
ID Number	xDevs QVR unit	Pressure	1003.54
Notes	PTFE cable, no current	Test type	Automated verification

This note is test dummy text block for further use. It allow to include user information for further reference

Reference standard	Mfg	Model	Options	Serial / Unc	CEID	Calibration date	Due date
DC STD	xDevs.com	792X[2]	9.9999838 VDC	±0.22 ppm	XD01	08/07/2019	08/07/2020
STDR	xDevs.com/Fluke	SL935	1.00006085 Ω	±0.17 ppm	XR03	08/14/2019	08/14/2020
STDR	xDevs.com/Fluke	SL935	9999.9737 kΩ	±0.17 ppm	XR02	08/14/2019	08/14/2020
MFC	Fluke	5720A	03/HLK	E2E6	XC01	08/18/2019	08/18/2020
Amplifier	Fluke	5725A		5930005	XB01	08/18/2019	08/18/2020
DMM	HP	3458A	001,X02	MY45040325	XD2	08/19/2019	08/19/2020
AVMS	Wavetek	4920M	80	29336	XA02	07/11/2017	07/11/2018

MFC last calibrated	8.0 days ago	MFC since DCV ZERO	5.0 days ago
MFC since WBFLAT	11933.0 days ago	MFC since WBGAIN	11933.0 days ago
MFC Confidence level	**24h 95% REL**	MFC Calibrate date	2020-08-25 00:00:00
MFC Calibrate date Zero	2020-08-28 00:00:00	Calibrate date WB Flatness	1988-10-01 00:00:00
Calibrate date WB Gain	1988-10-01 00:00:00	CAL CONST 6.5V reference voltage	6.49329448881
CAL CONST 13V reference voltage	13.0171043181	CAL CONST 22V range positive zero	398.1697
CAL CONST 22V range negative zero	398.16938	CAL CONST DAC Linearity	0.261561692971
CAL CONST 10KOHM true output resistance	9999.61664893	CAL CONST 10KOHM standard resistance	9998.58687273
CAL CONST, Zero calibration temperature	23.0	CAL CONST, All calibration temp	23.0
Booster type	VB5725,IB5725	Current output posts	AUX
Calibrate date 5725A AMP	1988-10-01 00:00:00	Calibrated days ago	2033-11-09 00:00:00
CAL CONST, Amp ACAL temperature	23.0	CAL CONST, Amp CalCheck temperature	23.0

Total uncertainty of each calibration point calculated with RSS

$$U_{95\%} = \sqrt{U_{SRC}{}^2 * U_{DUT}{}^2 * 2}$$

Meter Info	HP3458A	Last calibration date	7/24/2018
CALSTR?	"xDevs_QVR,24.MAY,2020,23.1C"	Test date	03 September 2020 02:43
DUT Internal TEMP?	33.6	DUT Calibrations number?	47
Self-test result?	0,"NO ERROR"	ACAL ALL result?	0,"NO ERROR"
Firmware	9,2	Options	1,0
CAL? 72	0.986782063	CAL? 1,1	39999.8757
CAL? 2,1	7.10270414	CAL? Res 73	0.986923955
CAL 0 TEMP	38.37	CAL 10V TEMP	35.44
CAL 10KOhm TEMP	35.16	CAL? DCI	0.984689191

Service information

CAL DUMP
[(1, 39999.8757), (1, 7.10270414), (1, 2.94663821e-06), (1, 6.01793214e-07), (1, 2.69608678e-06), (1, 5.46612957e-07), (1, 1.17214214e-08), (1, 1.66513725e-07), (1, -8.61983609e-05), (1, -8.61983609e-05), (1, -0.000102272979), (1, -0.000102272979), (1, 0.379512002), (1, 0.382214304), (1, 0.381619212), (1, 0.405540943), (1, 0.388650776), (1, 0.402346674), (1, -0.75470261), (1, 1.36565234), (1, 1.36565234), (1, 0.290475125), (1, 0.291168226), (1, 0.290861378), (1, 0.295843631), (1, 0.293275911), (1, 0.495748581), (1, 1.11408481), (1, 1.11408481), (1, 1.11408481), (1, 0.000415644112), (1, -0.00018628903), (1, -0.000480059672), (1, -0.00911599212), (1, -0.0744599544), (1, -0.574780963), (1, -6.39700308), (1, -6.2532502), (1, -6.2532502), (1, 3.74847746e-05), (1, 0.000410390676), (1, 0.000381435241), (1, 0.00376032653), (1, 0.00111402441), (1, 0.00359238102), (1, -0.251567537), (1, 0.0), (1, 0.0), (1, 380.0), (1, 38.0), (1, 3.0), (1, 0.0), (1, 0.0), (1, 0.0), (1, 0.0), (1, 0.0), (1, 0.0), (1, 0.0), (1, 38.3722039), (1, 35.4446907), (1, 35.1636089), (1, 159.0), (1, -5.75169751e-12), (1, 1.66016141e-11), (1, 1.59806519e-10), (1, 1.15200774e-09), (1, 8.61669542e-09), (1, 8.40432726e-08), (1, 7.54902747e-07), (1, 9.20623372e-06), (1, 0.986826419), (1, 0.986881223), (1, 0.986782063), (1, 0.986923955), (1, 0.98682479), (1, 1.00009441), (1, 0.999992415), (1, 1.00004795), (1, 1.0004933), (1, 1.00007499), (1, 0.999728201), (1, 1.0001292), (1, 1.0001292), (1, 1.0001292), (1, 1.00009441), (1, 0.999992425), (1, 1.00004796), (1, 1.00049325), (1, 1.00007519), (1, 0.999728201), (1, 1.0001292), (1, 1.0001292), (1, 1.0001292), (1, 0.984689191), (1, 0.986828563), (1, 0.986300697), (1, 0.986615705), (1, 0.98568326), (1, 0.985222121), (1, 0.988985644), (1, 1.02716662), (1, 90.0), (1, 109.0), (1, 4.93795983), (1, 9.92332419e-12), (1, -1.49228658e-11), (1, 10002140.6), (1, -0.00938586799), (1, -0.0205622302), (1, 0.999999691), (1, 0.999999928), (1, 1666.99482), (1, 16666.9902), (1, 5116.0), (1, 5116.0), (1, 5116.0), (1, 5115.0), (1, 5116.0), (1, 61392.0), (1, 61392.0), (1, 61392.0), (1, 61380.0), (1, 61392.0), (1, 5008.0), (1, 5009.0), (1, 5008.0), (1, 5006.0), (1, 2504.0), (1, 2505.0), (1, 2504.0), (1, 12521.0), (1, 22766.0), (1, 60096.0), (1, 60108.0), (1, 60096.0), (1, 60072.0), (1, 30048.0), (1, 30060.0), (1, 30048.0), (1, 150252.0), (1, 273192.0), (1, 5008.0), (1, 5009.0), (1, 5008.0), (1, 5006.0), (1, 2504.0), (1, 2505.0), (1, 2504.0), (1, 12521.0), (1, 22766.0), (1, 60096.0), (1, 60108.0), (1, 60096.0), (1, 60072.0), (1, 30048.0), (1, 30060.0), (1, 30048.0), (1, 150252.0), (1, 273192.0), (1, 279.0), (1, 279.0), (1, 279.0), (1, 279.0), (1, 279.0), (1, 279.0), (1, 279.0), (1, 279.0), (1, 3348.0), (1, 3348.0), (1, 3348.0), (1, 3348.0), (1, 3348.0), (1, 3348.0), (1, 3348.0), (1, 3348.0), (1, 3348.0), (1, 33.5782782), (1, 33.511543), (1, 33.4994748), (1, 127.0), (1, 128.0), (1, 126.0), (1, 126.0), (1, 128.0), (1, 128.0), (1, 126.0), (1, 126.0), (1, 126.0), (1, 126.0), (1, 128.0), (1, 128.0), (1, 123.0), (1, 123.0), (1, 123.0), (1, 123.0), (1, 123.0), (1, 2528.0), (1, 2526.0), (1, 1504.0), (1, 2182.0), (1, 2418.0), (1, 2423.0), (1, 125.0), (1, 126.0), (1, 125.0), (1, 126.0), (1, 129.0), (1, 126.0), (1, 126.0), (1, 126.0), (1, 126.0), (1, -0.00150417713), (1, -0.016643772), (1, -0.168506726), (1, -1.68381835), (1, -16.424821), (1, -166.054357), (1, -0.00173494486), (1, -0.0165022709), (1, -0.168966087), (1, -1.68460323), (1, -16.4471171), (1, -166.117855), (1, 1.00423857), (1, 1.01245395), (1, 1.03910026), (1, 1.03066462), (1, 1.01700233), (1, 1.01619601), (1, 421730.843), (1, 10.384627), (1, 0.991259814), (1, 0.999451552), (1, 1.02575566), (1, 1.01742835), (1, 1.00394152), (1, 1.00314556), (1, 1.4962598e-05), (1, 0.000154111502), (1, 0.00154111502), (1, 0.0154111502), (1, 0.154111502), (1, 1.54111502), (1, 1.02635466), (1, 1.00019616), (1, 0.999923079), (1, 1.00000858), (1, 53.0), (1, 19.0), (1, 19.0), (1, 19.0), (1, 29.0), (1, 35.0), (1, 35.0), (1, 15.0)]
Destructive overloads?
162, DESTRUCTIVE OVERLOADS valid 2941
Reference
GPIB11;
DUT Condition
xfer-calkit

Test procedure : $Id: hp3458a.py | Rev 1620 | 2020/01/06 06:02:18 clu $

Source procedure : $Id: f5720a.py | Rev 1665 | 2020/04/08 15:26:46 tin_fpga $

Main DC Voltage ranges performance test.
Checks zero offset and +/-FS calibration on all ranges
The following test for the offset voltage specification using MFC 0V source in 4-wire ext sense mode as reference.
DCV gain range points verify gain of the DC voltage function, using uncorrected 24-hour MFC output. DC voltage offset of DUT is nulled before FS tests.

Test Description	Expected Value	Measured Value	Measurement Uncertainty	Lower Limit	Upper Limit	Deviation	DUT Spec	Test Status
Short 0 mVDC	0.0000000E+00	**-0.64 µV**	0.75 µV	-0.910 µV	0.910 µV	N/A	0.16 µV	PASS
Short 0.0 VDC	0.0000000E+00	**-0.52 µV**	0.75 µV	-0.900 µV	0.900 µV	N/A	0.15 µV	PASS
Short 00.0 VDC	0.0000000E+00	**2.01 µV**	0.75 µV	-1.070 µV	1.070 µV	N/A	0.32 µV	FAIL
Short 000.0 VDC	0.0000000E+00	**9.15 µV**	0.75 µV	-14.750 µV	14.750 µV	N/A	14.00 µV	PASS
Short 0000.0 VDC	0.0000000E+00	**7.04 µV**	0.75 µV	-41.750 µV	41.750 µV	N/A	41.00 µV	PASS
DCV Test	**0.1V-1000V**	**DUT**	**Source unc.**	**Low Limit**	**Hi limit**	**Measured**	**24h spec**	**Result**
0.019 VDC (0.10 Range)	0.0190000	**0.019000056**	7.27 ppm	0.018999514	0.019000486	2.960 ppm	18.29 ppm	PASS 7.52 %
0.1 VDC (0.10 Range)	0.1000000	**0.099999917**	7.27 ppm	0.099998723	0.10000128	-0.830 ppm	5.50 ppm	PASS 4.55 %
0.11 VDC (0.10 Range)	0.1100000	**0.10999986**	7.27 ppm	0.10999863	0.11000137	-1.302 ppm	5.23 ppm	PASS 7.27 %
-0.019 VDC (0.10 Range)	-0.0190000	**-0.019000088**	7.27 ppm	-0.019000486	-0.018999514	4.645 ppm	18.29 ppm	PASS 11.80 %
-0.1 VDC (0.10 Range)	-0.1000000	**-0.10000001**	7.27 ppm	-0.10000128	-0.099998723	0.087 ppm	5.50 ppm	PASS 0.48 %
-0.11 VDC (0.10 Range)	-0.1100000	**-0.11000009**	7.27 ppm	-0.11000137	-0.10999863	0.798 ppm	5.23 ppm	PASS 4.45 %
0.19 VDC (1.00 Range)	0.1900000	**0.19000007**	7.27 ppm	0.18999803	0.19000197	0.365 ppm	3.08 ppm	PASS 2.31 %
1.0 VDC (1.00 Range)	1.0000000	**0.99999911**	3.86 ppm	0.99999434	1.0000057	-0.891 ppm	1.80 ppm	PASS 10.46 %
1.1 VDC (1.00 Range)	1.1000000	**1.0999987**	3.86 ppm	1.0999938	1.1000062	-1.154 ppm	1.77 ppm	PASS 13.58 %
-0.19 VDC (1.00 Range)	-0.1900000	**-0.19000029**	7.27 ppm	-0.19000197	-0.18999803	1.511 ppm	3.08 ppm	PASS 9.57 %
-1.0 VDC (1.00 Range)	-1.0000000	**-0.99999649**	3.86 ppm	-1.0000057	-0.99999434	-3.511 ppm	1.80 ppm	PASS 41.21 %
-1.1 VDC (1.00 Range)	-1.1000000	**-1.0999964**	3.86 ppm	-1.1000062	-1.0999938	-3.291 ppm	1.77 ppm	PASS 38.74 %
1.9 VDC (10.00 Range)	1.9000000	**1.9000011**	3.86 ppm	1.8999912	1.9000088	0.569 ppm	0.76 ppm	PASS 7.24 %
10.0 VDC (10.00 Range)	10.0000000	**9.9999933**	2.77 ppm	9.9999668	10.000033	-0.670 ppm	0.55 ppm	PASS 11.86 %
11.0 VDC (10.00 Range)	11.0000000	**10.999994**	2.73 ppm	10.999964	11.000036	-0.501 ppm	0.55 ppm	PASS 9.00 %
-1.9 VDC (10.00 Range)	-1.9000000	**-1.8999975**	3.86 ppm	-1.9000088	-1.8999912	-1.316 ppm	0.76 ppm	PASS 16.73 %
-10.0 VDC (10.00 Range)	-10.0000000	**-9.9999909**	2.77 ppm	-10.000033	-9.9999668	-0.907 ppm	0.55 ppm	PASS 16.05 %
-11.0 VDC (10.00 Range)	-11.0000000	**-10.99999**	2.73 ppm	-11.000036	-10.999964	-0.902 ppm	0.55 ppm	PASS 16.20 %
19 VDC (100.00 Range)	19.0000000	**19.000012**	2.77 ppm	18.99987	19.00013	0.635 ppm	4.08 ppm	PASS 6.44 %
100 VDC (100.00 Range)	100.0000000	**100.00008**	3.73 ppm	99.999347	100.00065	0.786 ppm	2.80 ppm	PASS 8.43 %
110 VDC (100.00 Range)	110.0000000	**110.00007**	3.73 ppm	109.99928	110.00072	0.660 ppm	2.77 ppm	PASS 7.10 %
-19 VDC (100.00 Range)	-19.0000000	**-18.999991**	2.77 ppm	-19.00013	-18.99987	-0.494 ppm	4.08 ppm	PASS 5.01 %
-100 VDC (100.00 Range)	-100.0000000	**-100.0001**	3.73 ppm	-100.00065	-99.999347	0.982 ppm	2.80 ppm	PASS 10.53 %
-110 VDC (100.00 Range)	-110.0000000	**-110.0001**	3.73 ppm	-110.00072	-109.99928	0.938 ppm	2.77 ppm	PASS 10.09 %
190 VDC (1000.00 Range)	190.0000000	**190.0003**	3.73 ppm	189.99872	190.00128	1.573 ppm	3.03 ppm	PASS 16.38 %
500 VDC (1000.00 Range)	500.0000000	**500.00098**	3.73 ppm	499.99678	500.00322	1.956 ppm	2.70 ppm	PASS 26.22 %
1000 VDC (1000.00 Range)	1000.0000000	**1000.0045**	5.45 ppm	999.97995	1000.02	4.504 ppm	2.60 ppm	PASS 17.09 %
-190 VDC (1000.00 Range)	-190.0000000	**-190.00096**	3.73 ppm	-190.00128	-189.99872	5.027 ppm	3.03 ppm	PASS 52.33 %
-500 VDC (1000.00 Range)	-500.0000000	**-500.00164**	3.73 ppm	-500.00322	-499.99678	3.279 ppm	2.70 ppm	PASS 13.05 %
-1000 VDC (1000.00 Range)	-1000.0000000	**-1000.0056**	5.45 ppm	-1000.02	-999.97995	5.633 ppm	2.60 ppm	PASS 21.37 %

4W test procedure for all test points that verify Gain of the OHMF function. 4-wire kelvin connection is used between DMM and MFC.
1GΩ resistance range is tested using the external standard, as MFC unable to provide this range value.

OHM Test	Reference	DUT	Source unc.	Low Limit	Hi limit	Measured	24h spec	Result
1 Ω	0.9997148 Ω	**0.99970918 Ω**	32.0 ppm	9.9964781E-01	9.9978179E-01	-5.622 ppm	35.0 ppm	PASS, 5.93 % of 94.86 ppm
1.9 Ω	1.8996553 Ω	**1.8996177 Ω**	25.0 ppm	1.8995683E+00	1.8997423E+00	-19.768 ppm	20.8 ppm	PASS, 30.40 % of 65.03 ppm
10 Ω	10.000993 Ω	**10.001 Ω**	5.0 ppm	1.0000863E+01	1.0001123E+01	0.693 ppm	8.0 ppm	PASS, 3.68 % of 18.87 ppm
19 Ω	18.998461 Ω	**18.998495 Ω**	4.0 ppm	1.8998028E+01	1.8998894E+01	1.796 ppm	18.8 ppm	PASS, 4.68 % of 38.42 ppm
100 Ω	99.99352 Ω	**99.993521 Ω**	1.7 ppm	9.9992750E+01	9.9994290E+01	0.013 ppm	6.0 ppm	PASS, 0.10 % of 12.47 ppm
190 Ω	189.99465 Ω	**189.99445 Ω**	1.7 ppm	1.8999375E+02	1.8999555E+02	-1.061 ppm	3.1 ppm	PASS, 15.18 % of 6.99 ppm
1.0 kΩ	999.9296 Ω	**999.92717 Ω**	1.7 ppm	9.9992570E+02	9.9993350E+02	-2.428 ppm	2.2 ppm	PASS, 43.66 % of 5.56 ppm
1.9 kΩ	1899.8783 Ω	**1899.8769 Ω**	1.7 ppm	1.8998693E+03	1.8998873E+03	-0.736 ppm	3.1 ppm	PASS, 10.54 % of 6.99 ppm
10 kΩ	9999.642 Ω	**9999.6325 Ω**	1.6 ppm	9.9996040E+03	9.9996800E+03	-0.952 ppm	2.2 ppm	PASS, 17.50 % of 5.44 ppm
19 kΩ	18999.59 Ω	**18999.591 Ω**	1.7 ppm	1.8999500E+04	1.8999680E+04	0.077 ppm	3.1 ppm	PASS, 1.11 % of 6.99 ppm
100 kΩ	99993.42 Ω	**99993.488 Ω**	2.0 ppm	9.9993000E+04	9.9993840E+04	0.681 ppm	2.2 ppm	PASS, 11.45 % of 5.95 ppm
190 kΩ	190009.12 Ω	**190010.09 Ω**	2.0 ppm	1.9000584E+05	1.9001240E+05	5.129 ppm	15.3 ppm	PASS, 16.66 % of 30.79 ppm
1.0 MΩ	999900.8 Ω	**999903.59 Ω**	2.5 ppm	9.9988730E+05	9.9991430E+05	2.790 ppm	11.0 ppm	PASS, 12.37 % of 22.56 ppm
1.9 MΩ	1900018.3 Ω	**1900048.1 Ω**	3.0 ppm	1.8998676E+06	1.9001690E+06	15.666 ppm	76.3 ppm	PASS, 10.26 % of 152.75 ppm
10 MΩ	9998278 Ω	**9998262.8 Ω**	10.0 ppm	9.9976281E+06	9.9989279E+06	-1.522 ppm	55.0 ppm	PASS, 1.36 % of 111.81 ppm
19 MΩ	19000352 Ω	**19001014 Ω**	20.0 ppm	1.8989472E+07	1.9011232E+07	34.867 ppm	552.6 ppm	PASS, 3.15 % of 1105.98 ppm
100 MΩ	1.0000673E+08 Ω	**1.0001938E+08 Ω**	50.0 ppm	9.9950726E+07	1.0006273E+08	126.490 ppm	510.0 ppm	PASS, 12.34 % of 1024.89 ppm

4W and 2W Zero test procedure for all test points that verify Zero offset of the OHMF function. 4-wire kelvin connection is used between DMM and MFC. 1GΩ resistance range is tested using the external standard, as MFC unable to provide this range value.

OHM ZERO 4W	DUT	Source unc.	Low Limit	Hi limit	Measured	24h spec	Result
10 Ω	**Range 0.0000034 Ω**	5.000e-05 Ω	-5e-05	5e-05	N/A	8.0000e-06 Ω	PASS
100 Ω	**Range 0.0000163 Ω**	5.500e-04 Ω	-0.00055	0.00055	N/A	2.2000e-06 Ω	PASS
1.0 kΩ	**Range -0.0000701 Ω**	5.500e-03 Ω	-0.0055	0.0055	N/A	2.2000e-06 Ω	PASS
10 kΩ	**Range -0.0005033 Ω**	5.500e-02 Ω	-0.055	0.055	N/A	2.2000e-06 Ω	PASS
100 kΩ	**Range -0.0025155 Ω**	5.500e-01 Ω	-0.55	0.55	N/A	2.2000e-06 Ω	PASS
1.0 MΩ	**Range 0.4023467 Ω**	5.500e+00 Ω	-5.5	5.5	N/A	2.2000e-06 Ω	PASS
10 MΩ	**Range 4.6000922 Ω**	5.500e+00 Ω	-5.5	5.5	N/A	2.2000e-06 Ω	PASS
100 MΩ	**Range 4.8516621 Ω**	5.500e+00 Ω	-5.5	5.5	N/A	2.2000e-06 Ω	PASS
1 GΩ	**Range 4.7438473 Ω**	5.500e+00 Ω	-5.5	5.5	N/A	2.2000e-06 Ω	PASS
OHM ZERO 2W	**DUT**	**Source unc.**	**Low Limit**	**Hi limit**	**Measured**	**24h spec**	**Result**
10 Ω	**Range 0.2294066 Ω**	5.500e-01 Ω	-0.55	0.55	N/A	8.0000e-06 Ω	PASS
100 Ω	**Range 0.2253723 Ω**	3.500e-01 Ω	-0.35	0.35	N/A	2.2000e-06 Ω	PASS
1.0 kΩ	**Range 0.2234099 Ω**	4.000e-01 Ω	-0.4	0.4	N/A	2.2000e-06 Ω	PASS
10 kΩ	**Range 0.1970492 Ω**	4.000e-01 Ω	-0.4	0.4	N/A	2.2000e-06 Ω	PASS
100 kΩ	**Range 0.1847125 Ω**	5.500e-01 Ω	-0.55	0.55	N/A	2.2000e-06 Ω	PASS
1.0 MΩ	**Range 0.9447968 Ω**	5.500e+00 Ω	-5.5	5.5	N/A	2.2000e-06 Ω	PASS
10 MΩ	**Range 8.3736280 Ω**	5.500e+00 Ω	-5.5	5.5	N/A	2.2000e-06 Ω	FAIL
100 MΩ	**Range 6.2532712 Ω**	5.500e+00 Ω	-5.5	5.5	N/A	2.2000e-06 Ω	FAIL
1 GΩ	**Range 6.0735793 Ω**	5.500e+01 Ω	-55	55	N/A	2.2000e-06 Ω	PASS

Procedure for all test points in the AC performance verification for ANAlog mode. AC-measurements does not suffer from TEMF offsets, test connection can be made using shielded leads terminated with dual banana plugs. MFC main AC output is used as reference source

ACV ANA Test	1V-10V	DUT	w/Guardband	Low Limit	Hi limit	Units	Measured	24h spec	Result
1.0 VAC @ 50.0 kHz	1.0	**0.99953344**	129.09	0.99956891	1.00043109	VAC	-466.561 ppm	302.0 ppm	FAIL 108.23 %
1.0 VAC @ 1.0 MHz	1.0	**1.0039232**	0.2500 %	0.98749	1.01251	VAC	0.3923 %	1.0010 %	PASS 31.36 %
10 VAC @ 40 Hz	10	**9.9993641**	0.0073 %	9.8892682	10.1107318	VAC	-0.0064 %	1.1000 %	PASS 0.57 %
10 VAC @ 200 Hz	10	**10.00132**	73.18	9.9965682	10.0034318	VAC	132.047 ppm	270.0 ppm	PASS 38.48 %
10 VAC @ 500 Hz	10	**10.001333**	73.18	9.9965682	10.0034318	VAC	133.271 ppm	270.0 ppm	PASS 38.83 %
10 VAC @ 50.0 kHz	10	**9.9949869**	129.09	9.9937091	10.0062909	VAC	-501.308 ppm	500.0 ppm	PASS 79.69 %
10 VAC @ 1.0 MHz	10	**10.012191**	0.3000 %	9.86	10.14	VAC	0.1219 %	1.1000 %	PASS 8.71 %

Procedure for all test points in the AC performance verification for SYNCronous mode. This is highest AC accuracy test. AC-measurements does not suffer from TEMF offsets, test connection can be made using shielded leads terminated with dual banana plugs. MFC main AC output is used as reference source

ACV SYNC Test	DUT	w/Guardband	Low Limit	Hi limit	Measured	24h spec	Result, % spec
0.01 V AC+DC @ 10 Hz	**0.0099990084**	0.0312 %	0.009991	0.010009	-0.0099 %	0.0600 %	PASS 7.33 %
0.01 V AC+DC @ 20 Hz	**0.0099989018**	0.0312 %	0.009991	0.010009	-0.0110 %	0.0600 %	PASS 8.12 %
0.01 V AC+DC @ 40 Hz	**0.0099982231**	0.0312 %	0.009991	0.010009	-0.0178 %	0.0600 %	PASS 13.14 %
0.01 V AC+DC @ 100 Hz	**0.0099989737**	0.0312 %	0.009994	0.010006	-0.0103 %	0.0310 %	PASS 11.66 %
0.01 V AC+DC @ 1.0 kHz	**0.0099988243**	0.0312 %	0.009994	0.010006	-0.0118 %	0.0310 %	PASS 13.36 %
0.01 V AC+DC @ 10.0 kHz	**0.0099999585**	0.0312 %	0.009993	0.010007	-0.0004 %	0.0410 %	PASS 0.40 %
0.01 V AC+DC @ 20.0 kHz	**0.0099992278**	0.0312 %	0.009993	0.010007	-0.0077 %	0.0410 %	PASS 7.49 %
0.01 V AC+DC @ 50.0 kHz	**0.0099970507**	0.0447 %	0.009984	0.010016	-0.0295 %	0.1110 %	PASS 12.32 %
0.01 V AC+DC @ 100.0 kHz	**0.0099841781**	0.0773 %	0.009941	0.010059	-0.1582 %	0.5110 %	PASS 15.31 %
0.01 V AC+DC @ 300.0 kHz	**0.0098037389**	0.1500 %	0.009583	0.010417	-1.9626 %	4.0200 %	PASS 24.39 %
0.01 V AC+DC @ 500.0 kHz	**0.0095506151**	0.2500 %	0.007470	0.012530	-4.4938 %	25.0500 %	PASS 8.97 %
0.01 V AC+DC @ 1.0 MHz	**0.0085154804**	0.4000 %	0.007455	0.012545	-14.8452 %	25.0500 %	PASS 29.63 %
0.03 V AC+DC @ 10 Hz	**0.0300078**	0.0121 %	0.029989	0.030011	0.0260 %	0.0233 %	PASS 49.43 %
0.03 V AC+DC @ 20 Hz	**0.030007207**	0.0121 %	0.029989	0.030011	0.0240 %	0.0233 %	PASS 45.67 %
0.03 V AC+DC @ 40 Hz	**0.030004856**	0.0121 %	0.029989	0.030011	0.0162 %	0.0233 %	PASS 30.78 %
0.03 V AC+DC @ 100 Hz	**0.030006234**	0.0121 %	0.029992	0.030008	0.0208 %	0.0137 %	PASS 56.85 %
0.03 V AC+DC @ 1.0 kHz	**0.030006817**	0.0121 %	0.029992	0.030008	0.0227 %	0.0137 %	PASS 62.16 %
0.03 V AC+DC @ 10.0 kHz	**0.030008693**	0.0121 %	0.029990	0.030010	0.0290 %	0.0207 %	PASS 60.45 %
0.03 V AC+DC @ 20.0 kHz	**0.030007556**	0.0121 %	0.029990	0.030010	0.0252 %	0.0207 %	PASS 52.55 %
0.03 V AC+DC @ 50.0 kHz	**0.03000916**	0.0256 %	0.029981	0.030019	0.0305 %	0.0367 %	PASS 34.12 %
0.03 V AC+DC @ 100.0 kHz	**0.030005798**	0.0591 %	0.029956	0.030044	0.0193 %	0.0867 %	PASS 9.21 %
0.03 V AC+DC @ 300.0 kHz	**0.029967931**	0.0964 %	0.029871	0.030129	-0.1069 %	0.3333 %	PASS 15.40 %
0.03 V AC+DC @ 500.0 kHz	**0.029956609**	0.1500 %	0.029645	0.030355	-0.1446 %	1.0333 %	PASS 6.93 %
0.03 V AC+DC @ 1.0 MHz	**0.030020839**	0.3000 %	0.029600	0.030400	0.0695 %	1.0333 %	PASS 3.23 %
0.1 V AC+DC @ 10 Hz	**0.10000266**	0.0121 %	0.099974	0.100026	0.0027 %	0.0140 %	PASS 7.17 %
0.1 V AC+DC @ 20 Hz	**0.099999246**	0.0121 %	0.099974	0.100026	-0.0008 %	0.0140 %	PASS 2.03 %
0.1 V AC+DC @ 40 Hz	**0.10000043**	0.0121 %	0.099974	0.100026	0.0004 %	0.0140 %	PASS 1.15 %
0.1 V AC+DC @ 100 Hz	**0.099998354**	0.0121 %	0.099979	0.100021	-0.0016 %	0.0090 %	PASS 5.45 %
0.1 V AC+DC @ 1.0 kHz	**0.099997759**	0.0121 %	0.099979	0.100021	-0.0022 %	0.0090 %	PASS 7.42 %
0.1 V AC+DC @ 10.0 kHz	**0.10000511**	0.0121 %	0.099972	0.100028	0.0051 %	0.0160 %	PASS 12.73 %
0.1 V AC+DC @ 20.0 kHz	**0.10000257**	0.0121 %	0.099972	0.100028	0.0026 %	0.0160 %	PASS 6.39 %
0.1 V AC+DC @ 50.0 kHz	**0.10000499**	0.0256 %	0.099942	0.100058	0.0050 %	0.0320 %	PASS 6.08 %
0.1 V AC+DC @ 100.0 kHz	**0.099986339**	0.0591 %	0.099859	0.100141	-0.0137 %	0.0820 %	PASS 6.76 %
0.1 V AC+DC @ 300.0 kHz	**0.099883686**	0.0964 %	0.099594	0.100406	-0.1163 %	0.3100 %	PASS 17.91 %
0.1 V AC+DC @ 500.0 kHz	**0.099843934**	0.1500 %	0.098840	0.101160	-0.1561 %	1.0100 %	PASS 7.64 %
0.1 V AC+DC @ 1.0 MHz	**0.10015573**	0.3000 %	0.098690	0.101310	0.1557 %	1.0100 %	PASS 7.39 %
0.3 V AC+DC @ 10 Hz	**0.30000034**	0.0050 %	0.299918	0.300082	0.0001 %	0.0223 %	PASS 0.25 %
0.3 V AC+DC @ 20 Hz	**0.29999693**	0.0050 %	0.299918	0.300082	-0.0010 %	0.0223 %	PASS 2.24 %
0.3 V AC+DC @ 40 Hz	**0.29998906**	0.0050 %	0.299918	0.300082	-0.0036 %	0.0223 %	PASS 7.97 %
0.3 V AC+DC @ 100 Hz	**0.2999949**	0.0050 %	0.299944	0.300056	-0.0017 %	0.0137 %	PASS 5.85 %
0.3 V AC+DC @ 1.0 kHz	**0.30000869**	0.0050 %	0.299944	0.300056	0.0029 %	0.0137 %	PASS 9.97 %

0.3 V AC+DC @ 10.0 kHz	**0.30002079**	0.0050 %	0.299923	0.300077	0.0069 %	0.0207 %	PASS 16.30 %
0.3 V AC+DC @ 20.0 kHz	**0.30000115**	0.0050 %	0.299923	0.300077	0.0004 %	0.0207 %	PASS 0.90 %
0.3 V AC+DC @ 50.0 kHz	**0.30001928**	0.0085 %	0.299864	0.300136	0.0064 %	0.0367 %	PASS 8.54 %
0.3 V AC+DC @ 100.0 kHz	**0.30007363**	0.0138 %	0.299699	0.300301	0.0245 %	0.0867 %	PASS 13.98 %
0.3 V AC+DC @ 300.0 kHz	**0.30041204**	0.0425 %	0.298872	0.301128	0.1373 %	0.3333 %	PASS 20.44 %
0.3 V AC+DC @ 500.0 kHz	**0.30100316**	0.1100 %	0.296570	0.303430	0.3344 %	1.0333 %	PASS 16.09 %
0.3 V AC+DC @ 1.0 MHz	**0.30285656**	0.1800 %	0.296360	0.303640	0.9522 %	1.0333 %	PASS 45.39 %
1.0 V AC+DC @ 10 Hz	**1.000038**	0.0050 %	0.999820	1.000180	0.0038 %	0.0130 %	PASS 13.65 %
1.0 V AC+DC @ 20 Hz	**1.0000194**	0.0050 %	0.999820	1.000180	0.0019 %	0.0130 %	PASS 6.96 %
1.0 V AC+DC @ 40 Hz	**1.0000105**	0.0050 %	0.999820	1.000180	0.0010 %	0.0130 %	PASS 3.77 %
1.0 V AC+DC @ 100 Hz	**1.0000167**	0.0050 %	0.999860	1.000140	0.0017 %	0.0090 %	PASS 8.11 %
1.0 V AC+DC @ 1.0 kHz	**1.0000535**	0.0050 %	0.999860	1.000140	0.0053 %	0.0090 %	PASS 26.02 %
1.0 V AC+DC @ 10.0 kHz	**1.0000835**	0.0050 %	0.999790	1.000210	0.0084 %	0.0160 %	PASS 24.94 %
1.0 V AC+DC @ 20.0 kHz	**1.0000381**	0.0050 %	0.999790	1.000210	0.0038 %	0.0160 %	PASS 11.37 %
1.0 V AC+DC @ 50.0 kHz	**1.0000949**	0.0085 %	0.999595	1.000405	0.0095 %	0.0320 %	PASS 14.33 %
1.0 V AC+DC @ 100.0 kHz	**1.0002042**	0.0138 %	0.999042	1.000958	0.0204 %	0.0820 %	PASS 12.28 %
1.0 V AC+DC @ 300.0 kHz	**1.0014183**	0.0425 %	0.996475	1.003525	0.1418 %	0.3100 %	PASS 22.66 %
1.0 V AC+DC @ 500.0 kHz	**1.0034243**	0.1100 %	0.988800	1.011200	0.3424 %	1.0100 %	PASS 16.85 %
1.0 V AC+DC @ 1.0 MHz	**1.010562**	0.1800 %	0.988100	1.011900	1.0562 %	1.0100 %	PASS 51.48 %
3.0 V AC+DC @ 10 Hz	**3.0000506**	0.0048 %	2.999245	3.000755	0.0017 %	0.0203 %	PASS 4.03 %
3.0 V AC+DC @ 20 Hz	**2.9999911**	0.0048 %	2.999245	3.000755	-0.0003 %	0.0203 %	PASS 0.71 %
3.0 V AC+DC @ 40 Hz	**3.0000082**	0.0048 %	2.999245	3.000755	0.0003 %	0.0203 %	PASS 0.65 %
3.0 V AC+DC @ 100 Hz	**2.9999765**	0.0048 %	2.999445	3.000555	-0.0008 %	0.0137 %	PASS 2.71 %
3.0 V AC+DC @ 1.0 kHz	**3.000057**	0.0048 %	2.999445	3.000555	0.0019 %	0.0137 %	PASS 6.55 %
3.0 V AC+DC @ 10.0 kHz	**3.0001617**	0.0048 %	2.999235	3.000765	0.0054 %	0.0207 %	PASS 12.70 %
3.0 V AC+DC @ 20.0 kHz	**3.0000928**	0.0048 %	2.999235	3.000765	0.0031 %	0.0207 %	PASS 7.29 %
3.0 V AC+DC @ 50.0 kHz	**3.0000682**	0.0085 %	2.998644	3.001356	0.0023 %	0.0367 %	PASS 3.02 %
3.0 V AC+DC @ 100.0 kHz	**2.9997116**	0.0121 %	2.997036	3.002964	-0.0096 %	0.0867 %	PASS 5.49 %
3.0 V AC+DC @ 300.0 kHz	**2.9968478**	0.0336 %	2.988991	3.011009	-0.1051 %	0.3333 %	PASS 15.68 %
3.0 V AC+DC @ 500.0 kHz	**3.0003704**	0.1100 %	2.965700	3.034300	0.0123 %	1.0333 %	PASS 0.59 %
3.0 V AC+DC @ 1.0 MHz	**3.0220879**	0.1700 %	2.963900	3.036100	0.7363 %	1.0333 %	PASS 35.15 %
10.0 V AC+DC @ 10 Hz	**10.000642**	0.0048 %	9.998418	10.001582	0.0064 %	0.0110 %	PASS 26.72 %
10.0 V AC+DC @ 20 Hz	**10.000401**	0.0048 %	9.998418	10.001582	0.0040 %	0.0110 %	PASS 16.70 %
10.0 V AC+DC @ 40 Hz	**10.000571**	0.0048 %	9.998418	10.001582	0.0057 %	0.0110 %	PASS 23.77 %
10.0 V AC+DC @ 100 Hz	**10.000327**	0.0048 %	9.998618	10.001382	0.0033 %	0.0090 %	PASS 16.00 %
10.0 V AC+DC @ 1.0 kHz	**10.000628**	0.0048 %	9.998618	10.001382	0.0063 %	0.0090 %	PASS 30.77 %
10.0 V AC+DC @ 10.0 kHz	**10.000967**	0.0048 %	9.997918	10.002082	0.0097 %	0.0160 %	PASS 28.93 %
10.0 V AC+DC @ 20.0 kHz	**10.000789**	0.0048 %	9.997918	10.002082	0.0079 %	0.0160 %	PASS 23.61 %
10.0 V AC+DC @ 50.0 kHz	**10.000658**	0.0085 %	9.995946	10.004054	0.0066 %	0.0320 %	PASS 9.93 %
10.0 V AC+DC @ 100.0 kHz	**9.9987698**	0.0121 %	9.990586	10.009414	-0.0123 %	0.0820 %	PASS 7.42 %
10.0 V AC+DC @ 300.0 kHz	**9.9903768**	0.0336 %	9.965636	10.034364	-0.0962 %	0.3100 %	PASS 15.43 %
10.0 V AC+DC @ 500.0 kHz	**10.00251**	0.1100 %	9.888000	10.112000	0.0251 %	1.0100 %	PASS 1.24 %
10.0 V AC+DC @ 1.0 MHz	**10.087255**	0.1700 %	9.882000	10.118000	0.8726 %	1.0100 %	PASS 42.60 %
30 V AC+DC @ 10 Hz	**29.999422**	0.0060 %	29.988195	30.011805	-0.0019 %	0.0333 %	PASS 2.84 %
30 V AC+DC @ 20 Hz	**29.998814**	0.0060 %	29.988195	30.011805	-0.0040 %	0.0333 %	PASS 5.83 %
30 V AC+DC @ 40 Hz	**29.997989**	0.0060 %	29.988195	30.011805	-0.0067 %	0.0333 %	PASS 9.90 %

30 V AC+DC @ 100 Hz	**29.998681**	0.0060 %	29.990195	30.009805	-0.0044 %	0.0267 %	PASS 8.04 %
30 V AC+DC @ 1.0 kHz	**29.999471**	0.0060 %	29.990195	30.009805	-0.0018 %	0.0267 %	PASS 3.23 %
30 V AC+DC @ 10.0 kHz	**29.99973**	0.0060 %	29.990195	30.009805	-0.0009 %	0.0267 %	PASS 1.65 %
30 V AC+DC @ 20.0 kHz	**29.997253**	0.0060 %	29.990195	30.009805	-0.0092 %	0.0267 %	PASS 16.74 %
30 V AC+DC @ 50.0 kHz	**29.988305**	0.0060 %	29.985695	30.014305	-0.0390 %	0.0417 %	PASS 46.30 %
30 V AC+DC @ 100.0 kHz	**29.964911**	0.0174 %	29.956791	30.043209	-0.1170 %	0.1267 %	PASS 45.74 %
30 V AC+DC @ 300.0 kHz	**29.765436**	0.0991 %	29.840273	30.159727	-0.7819 %	0.4333 %	PASS 87.95 %
30 V AC+DC @ 500.0 kHz	**29.563145**	0.5200 %	29.384000	30.616000	-1.4562 %	1.5333 %	PASS 44.97 %
100.0 V AC+DC @ 10 Hz	**100.00153**	0.0060 %	99.969982	100.030018	0.0015 %	0.0240 %	PASS 3.09 %
100.0 V AC+DC @ 20 Hz	**99.999854**	0.0060 %	99.969982	100.030018	-0.0001 %	0.0240 %	PASS 0.29 %
100.0 V AC+DC @ 40 Hz	**99.999299**	0.0060 %	99.969982	100.030018	-0.0007 %	0.0240 %	PASS 1.42 %
100.0 V AC+DC @ 100 Hz	**99.999101**	0.0060 %	99.971982	100.028018	-0.0009 %	0.0220 %	PASS 1.97 %
100.0 V AC+DC @ 1.0 kHz	**100.00208**	0.0060 %	99.971982	100.028018	0.0021 %	0.0220 %	PASS 4.55 %
100.0 V AC+DC @ 10.0 kHz	**100.00485**	0.0060 %	99.971982	100.028018	0.0048 %	0.0220 %	PASS 10.63 %
100.0 V AC+DC @ 20.0 kHz	**99.996655**	0.0060 %	99.971982	100.028018	-0.0033 %	0.0220 %	PASS 7.33 %
100.0 V AC+DC @ 50.0 kHz	**99.966618**	0.0095 %	99.953455	100.046545	-0.0334 %	0.0370 %	PASS 43.68 %
100.0 V AC+DC @ 100.0 kHz	**99.88084**	0.0174 %	99.860636	100.139364	-0.1192 %	0.1220 %	PASS 48.35 %
300.0 V AC+DC @ 100 Hz	**299.89221**	0.0079 %	299.836408	300.163592	-0.0359 %	0.0467 %	PASS 37.96 %
300.0 V AC+DC @ 1.0 kHz	**299.90429**	0.0079 %	299.836408	300.163592	-0.0319 %	0.0467 %	PASS 33.71 %
750.0 V AC+DC @ 100 Hz	**749.70548**	0.0245 %	749.496498	750.503502	-0.0393 %	0.0427 %	PASS 39.92 %
750.0 V AC+DC @ 1.0 kHz	**749.74398**	0.0660 %	749.185000	750.815000	-0.0341 %	0.0427 %	PASS 21.72 %

Procedure for all test points that verify Gain of the DC current DCI function. Both +/-FS points are tested.
2-wire connection at LO and DCI is used between DMM and MFC.
DCI gain range points verify gain of the DC current function, using corrected 24-hour MFC output.

DCI Test	100nA-1A	DUT	Source unc.	Low Limit	Hi limit	Measured	24h spec	Result
Zero µADC	0	**-8.6861958E-11**						INFO
50 nADC	5E-08	**4.9935383E-08**						INFO
100 nADC	1.00000E-07 A	**9.9949545E-08 A**	71.82 ppm	9.995182E-08	1.000482E-07	-504.547 ppm	410 ppm	PASS 60.61 %
-100 nADC	-1.00000E-07 A	**-1.0008538E-07 A**	71.82 ppm	-1.000482E-07	-9.995182E-08	853.806 ppm	410 ppm	FAIL 102.56 %
-50 nADC	-5E-08	**-5.0148991E-08**						INFO
Zero µADC	0	**-1.1231958E-10**						INFO
0.5 µADC	5.00000E-07 A	**4.9987120E-07 A**	71.82 ppm	4.999191E-07	5.000809E-07	-257.602 ppm	90 ppm	FAIL 111.86 %
1.0 µADC	1.00000E-06 A	**9.9986446E-07 A**	71.82 ppm	9.998782E-07	1.000122E-06	-135.539 ppm	50 ppm	PASS 77.44 %
-1.0 µADC	-1.00000E-06 A	**-1.0000808E-06 A**	71.82 ppm	-1.000122E-06	-9.998782E-07	80.771 ppm	50 ppm	PASS 46.15 %
-0.5 µADC	-5.00000E-07 A	**-5.0008956E-07 A**	71.82 ppm	-5.000809E-07	-4.999191E-07	179.115 ppm	90 ppm	PASS 77.78 %
Zero 00 µADC	0	**-7.6936026E-11**						INFO
5 µADC	5.00000E-06 A	**4.9997775E-06 A**	71.82 ppm	4.999521E-06	5.000479E-06	-44.493 ppm	24 ppm	PASS 29.38 %
10 µADC	1.00000E-05 A	**9.9997467E-06 A**	71.82 ppm	9.999112E-06	1.000089E-05	-25.329 ppm	17 ppm	PASS 17.16 %
-10 µADC	-1.00000E-05 A	**-9.9998844E-06 A**	71.82 ppm	-1.000089E-05	-9.999112E-06	-11.565 ppm	17 ppm	PASS 7.83 %
-5 µADC	-5.00000E-06 A	**-4.9999628E-06 A**	71.82 ppm	-5.000479E-06	-4.999521E-06	-7.430 ppm	24 ppm	PASS 4.91 %
Zero 000 µADC	0	**-3.2905694E-11**						INFO
50 µADC	5.00000E-05 A	**4.9998960E-05 A**	71.82 ppm	4.999531E-05	5.000469E-05	-20.801 ppm	22 ppm	PASS 13.85 %
100 µADC	1.00000E-04 A	**9.9998019E-05 A**	71.82 ppm	9.999122E-05	0.0001000088	-19.812 ppm	16 ppm	PASS 13.46 %
-100 µADC	-1.00000E-04 A	**-9.9998327E-05 A**	71.82 ppm	-0.0001000088	-9.999122E-05	-16.725 ppm	16 ppm	PASS 11.37 %
-50 µADC	-5.00000E-05 A	**-4.9999307E-05 A**	71.82 ppm	-5.000469E-05	-4.999531E-05	-13.869 ppm	22 ppm	PASS 9.23 %
Zero mADC	0	**-7.5386557E-11**						INFO
0.5 mADC	5.00000E-04 A	**4.9998682E-04 A**	33.64 ppm	0.0004999742	0.0005000258	-26.353 ppm	18 ppm	PASS 34.54 %
1.0 mADC	1.00000E-03 A	**9.9998261E-04 A**	33.64 ppm	0.0009999524	0.001000048	-17.390 ppm	14 ppm	PASS 23.86 %
-1.0 mADC	-1.00000E-03 A	**-9.9999600E-04 A**	33.64 ppm	-0.001000048	-0.0009999524	-3.998 ppm	14 ppm	PASS 5.49 %
-0.5 mADC	-5.00000E-04 A	**-5.0000157E-04 A**	33.64 ppm	-0.0005000258	-0.0004999742	3.137 ppm	18 ppm	PASS 4.11 %
Zero 00 mADC	0	**-1.097661E-11**						INFO
5 mADC	5.00000E-03 A	**4.9998850E-03 A**	32.27 ppm	0.004999749	0.005000251	-23.010 ppm	18 ppm	PASS 31.14 %
10 mADC	1.00000E-02 A	**9.9998165E-03 A**	32.27 ppm	0.009999537	0.01000046	-18.353 ppm	14 ppm	PASS 26.09 %
-10 mADC	-1.00000E-02 A	**-9.9999092E-03 A**	32.27 ppm	-0.01000046	-0.009999537	-9.078 ppm	14 ppm	PASS 12.90 %
-5 mADC	-5.00000E-03 A	**-4.9999796E-03 A**	32.27 ppm	-0.005000251	-0.004999749	-4.071 ppm	18 ppm	PASS 5.51 %
Zero 000 mADC	0	**-1.763305E-11**						INFO
50 mADC	5.00000E-02 A	**5.0000180E-02 A**	53.32 ppm	0.04999568	0.05000432	3.609 ppm	33 ppm	PASS 2.88 %
100 mADC	1.00000E-01 A	**1.0000034E-01 A**	53.32 ppm	0.09999177	0.1000082	3.450 ppm	29 ppm	PASS 2.84 %
-100 mADC	-1.00000E-01 A	**-1.0000115E-01 A**	53.32 ppm	-0.1000082	-0.09999177	11.489 ppm	29 ppm	PASS 9.46 %
-50 mADC	-5.00000E-02 A	**-5.0000744E-02 A**	53.32 ppm	-0.05000432	-0.04999568	14.880 ppm	33 ppm	PASS 11.86 %
Zero ADC	0	**-1.913103E-12**						INFO
0.5 ADC	5.00000E-01 A	**4.9999939E-01 A**	115.22 ppm	0.4998824	0.5001176	-1.230 ppm	120 ppm	PASS 0.37 %
1.0 ADC	1.00000E+00 A	**9.9995173E-01 A**	115.22 ppm	0.9997748	1.000225	-48.269 ppm	110 ppm	PASS 15.15 %
-1.0 ADC	-1.00000E+00 A	**-9.9993029E-01 A**	115.22 ppm	-1.000225	-0.9997748	-69.712 ppm	110 ppm	PASS 21.88 %
-0.5 ADC	-5.00000E-01 A	**-4.9997996E-01 A**	115.22 ppm	-0.5001176	-0.4998824	-40.087 ppm	120 ppm	PASS 12.05 %

Procedure for all test points that verify Gain of the AC Current ACI function. Three frequency band points are tested, 50 Hz, 60 Hz and 1 kHz. 2-wire connection at LO and DCI is used between DMM and MFC.

ACI Test	200µA-2A	DUT	Source unc.	Low Limit	Hi limit	Measured	24h spec	Result, % spec
10 µA AC @ 50 Hz	1e-05	**1.0052188E-05 A**	0.0160 %	9.9623955e-06	1.00376045e-05	0.5219 %	0.3600 %	INFO
100 µA AC @ 50 Hz	0.0001	**9.9997997E-05 A**	0.0160 %	9.9893955e-05	0.000100106045	-0.0020 %	0.0900 %	PASS 1.10 %
1.0 mA AC @ 50 Hz	0.001	**9.9995125E-04 A**	0.0160 %	0.00099903955	0.00100096045	-0.0049 %	0.0800 %	PASS 2.99 %
10 mA AC @ 50 Hz	0.01	**9.9994495E-03 A**	0.0160 %	0.0099903955	0.0100096045	-0.0055 %	0.0800 %	PASS 3.37 %
100 mA AC @ 50 Hz	0.1	**9.9997070E-02 A**	0.0133 %	0.099906682	0.100093318	-0.0029 %	0.0800 %	PASS 1.81 %
1.0 A AC @ 50 Hz	1.0	**9.9992382E-01 A**	0.0133 %	0.99886682	1.00113318	-0.0076 %	0.1000 %	PASS 3.78 %
10 µA AC @ 60 Hz	1e-05	**1.0048643E-05 A**	0.0133 %	9.9626682e-06	1.00373318e-05	0.4864 %	0.3600 %	INFO
100 µA AC @ 60 Hz	0.0001	**9.9996015E-05 A**	0.0133 %	9.9896682e-05	0.000100103318	-0.0040 %	0.0900 %	PASS 2.19 %
1.0 mA AC @ 60 Hz	0.001	**9.9993414E-04 A**	0.0129 %	0.00099907136	0.00100092864	-0.0066 %	0.0800 %	PASS 4.06 %
10 mA AC @ 60 Hz	0.01	**9.9992192E-03 A**	0.0129 %	0.0099907136	0.0100092864	-0.0078 %	0.0800 %	PASS 4.82 %
100 mA AC @ 60 Hz	0.1	**9.9995552E-02 A**	0.0288 %	0.099891182	0.100108818	-0.0044 %	0.0800 %	PASS 2.62 %
1.0 A AC @ 60 Hz	1.0	**9.9996483E-01 A**	0.0288 %	0.99871182	1.00128818	-0.0035 %	0.1000 %	PASS 1.69 %
10 µA AC @ 1.0 kHz	1e-05	**1.0051799E-05 A**	0.0160 %	9.9623955e-06	1.00376045e-05	0.5180 %	0.3600 %	INFO
100 µA AC @ 1.0 kHz	0.0001	**9.9990387E-05 A**	0.0160 %	9.9893955e-05	0.000100106045	-0.0096 %	0.0900 %	PASS 5.26 %
1.0 mA AC @ 1.0 kHz	0.001	**1.0000189E-03 A**	0.0160 %	0.00099933955	0.00100066045	0.0019 %	0.0500 %	PASS 1.80 %
10 mA AC @ 1.0 kHz	0.01	**1.0000113E-02 A**	0.0160 %	0.0099933955	0.0100066045	0.0011 %	0.0500 %	PASS 1.07 %
100 mA AC @ 1.0 kHz	0.1	**1.0000576E-01 A**	0.0133 %	0.099936682	0.100063318	0.0058 %	0.0500 %	PASS 5.57 %
1.0 A AC @ 1.0 kHz	1.0	**1.0000945E+00 A**	0.0133 %	0.99866682	1.00133318	0.0095 %	0.1200 %	PASS 3.91 %

Test completed

Test date	03 September 2020 18:59
UUT Internal TEMP?	33.4
Destructive overloads?	162, DESTRUCTIVE OVERLOADS valid 2941

Lab temperature maintained +24°C ±2°C

Internal use only

Not validated