

Manufacturer	HEWLETT-PACKARD	Calibration date	July 25 2018
Model Number	3458A	Ambient Temperature	21.97 °C
Serial	STDHP	Relative Humidity	43.79 %
ID Number	IM5700A	Pressure	1003.92
Notes	Post-cal test	Test type	M5700

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
TEST MFC	Fluke	5700A	None	x26	ID02	07/04/2018	07/04/2019
DMM	Keithley	2002	MEM2	0603805	XD4	02/25/2018	02/25/2019
STDR	ESI	SR104	10000.0012 KΩ	±1.00 ppm	XR04	06/30/2018	12/30/2018
STDR	xDevs.com/Fluke	SL935	1.00005942 Ω	±0.17 ppm	XR03	05/31/2018	05/31/2019
STDR	xDevs.com/Fluke	SL935	9999.9755 kΩ	±0.33 ppm	XR02	05/31/2018	05/31/2019
DC STD	Wavetek	7000	10.0000007 VDC	±0.9 ppm	XD02	06/07/2018	12/08/2018
DC STD	xDevs.com	792X[2]	10.000009 VDC	±2.2 ppm	XD01	02/16/2018	08/16/2018

MFC last calibrated	10.0 days ago	MFC since DCV ZERO	0.0 days ago
MFC since WBFLAT	0.0 days ago	MFC since WBGAIN	0.0 days ago
MFC Confidence level	<b>24h 95%</b>	MFC Calibrate date	2018-07-16 00:00:00
MFC Calibrate date Zero	2018-07-26 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	6.53722564894
CAL CONST 13V reference voltage	13.072594746	CAL CONST 22V range positive zero	398.18748
CAL CONST 22V range negative zero	398.18677	CAL CONST DAC Linearity	0.0
CAL CONST 10KOHM true output resistance	9999.58883517	CAL CONST 10KOHM standard resistance	9999.79920516
CAL CONST, Zero calibration temperature	23.0	CAL CONST, All calibration temp	23.0

This note is test MFC dummy text block for further use.  
Calibrator was warmed up >8 hours.

Meter Info	HP3458A	Last calibration date	7/24/2018
CALSTR?	"CAL 07/24/2018, TEMP=35.6"	Test date	25 July 2018 18:08
DUT Internal TEMP?	31.1	DUT Calibrations number?	171
Self-test result?	Not tested	ACAL ALL result?	Not tested
Firmware	9,2	Options	1,0
CAL? 72	0.997706366	CAL? 1,1	39998.8613
CAL? 2,1	7.18071188	CAL? Res 73	0.997508223
CAL 0 TEMP	31.78	CAL 10V TEMP	33.25
CAL 10KOhm TEMP	34.92	CAL? DCI	0.997873541

Service information

CAL DUMP
<pre> [[ (1, 39998.8613), (1, 7.18071188), (1, 3.07393667e-06), (1, 2.6011956e-06), (1, 2.88040904e-06), (1, 2.39422399e-06), (1, 2.71229363e-06), (1, 2.13642235e-06), (1, -0.000221223656), (1, -0.000221223656), (1, -0.000247096649), (1, -0.000247096649), (1, 0.619773113), (1, 0.622675413), (1, 0.622897729), (1, 0.648655128), (1, 0.668201556), (1, 1.19529395), (1, 5.41860526), (1, 6.10041652), (1, 6.10041652), (1, 0.627759641), (1, 0.630931162), (1, 0.631895004), (1, 0.655340022), (1, 0.675236768), (1, 1.11273611), (1, 4.88033322), (1, 5.8133381), (1, 5.8133381), (1, 0.000120415452), (1, 0.00128458141), (1, 0.00128369001), (1, 0.013690678), (1, 0.0223978175), (1, 0.139989382), (1, 1.1124289), (1, 2.69136023), (1, 2.69136023), (1, 0.000118238327), (1, 0.00118745825), (1, 0.00113111831), (1, 0.0113461492), (1, 0.0181264389), (1, 0.186652509), (1, 1.43539212), (1, 2.44016661), (1, 2.44016661), (1, 628.0), (1, 63.0), (1, 6.0), (1, 0.0), (1, 0.0), (1, 0.0), (1, 0.0), (1, 0.0), (1, 0.0), (1, 0.0), (1, 0.0), (1, 31.7813786), (1, 33.2504107), (1, 34.9186002), (1, 138.0), (1, -1.03824297e-11), (1, -3.4979442e-11), (1, -2.82203192e-10), (1, -1.96601056e-09), (1, -1.40613707e-08), (1, -1.3891602e-07), (1, -1.34583916e-06), (1, -1.33836549e-05), (1, 0.997046618), (1, 0.997528919), (1, 0.997706366), (1, 0.997508223), (1, 0.997685667), (1, 0.999958718), (1, 0.999501669), (1, 0.999985157), (1, 0.998335026), (1, 0.998896894), (1, 0.998918459), (1, 0.998642667), (1, 0.998642667), (1, 0.998642667), (1, 0.997873541), (1, 0.997124951), (1, 0.99697803), (1, 0.997333469), (1, 0.997019641), (1, 0.994499295), (1, 1.00560854), (1, 1.01487973), (1, 81.0), (1, 96.0), (1, 4.93847794), (1, 8.41776315e-12), (1, -7.0954462e-12), (1, 10001994.5), (1, -0.00939243292), (1, -0.0361165486), (1, 0.999999817), (1, 0.9999998), (1, 1666.99658), (1, 1666.9938), (1, 5063.0), (1, 5061.0), (1, 5060.0), (1, 5061.0), (1, 5060.0), (1, 60756.0), (1, 60732.0), (1, 60720.0), (1, 60732.0), (1, 60720.0), (1, 5009.0), (1, 5011.0), (1, 5009.0), (1, 5017.0), (1, 2507.0), (1, 2507.0), (1, 2508.0), (1, 12540.0), (1, 22800.0), (1, 60108.0), (1, 60132.0), (1, 60108.0), (1, 60204.0), (1, 30084.0), (1, 30084.0), (1, 30096.0), (1, 150480.0), (1, 273600.0), (1, 5009.0), (1, 5011.0), (1, 5009.0), (1, 5017.0), (1, 2507.0), (1, 2507.0), (1, 2508.0), (1, 12540.0), (1, 22800.0), (1, 60108.0), (1, 60132.0), (1, 60108.0), (1, 60204.0), (1, 30084.0), (1, 30084.0), (1, 30096.0), (1, 150480.0), (1, 273600.0), (1, 275.0), (1, 275.0), (1, 275.0), (1, 275.0), (1, 275.0), (1, 275.0), (1, 275.0), (1, 275.0), (1, 3300.0), (1, 3300.0), (1, 3300.0), (1, 3300.0), (1, 3300.0), (1, 3300.0), (1, 3300.0), (1, 3300.0), (1, 31.6473367), (1, 31.3727966), (1, 31.21217), (1, 137.0), (1, 138.0), (1, 135.0), (1, 132.0), (1, 138.0), (1, 138.0), (1, 132.0), (1, 133.0), (1, 135.0), (1, 132.0), (1, 138.0), (1, 138.0), (1, 131.0), (1, 131.0), (1, 131.0), (1, 131.0), (1, 131.0), (1, 1879.0), (1, 1876.0), (1, 1928.0), (1, 2693.0), (1, 2916.0), (1, 2921.0), (1, 126.0), (1, 125.0), (1, 124.0), (1, 125.0), (1, 123.0), (1, 125.0), (1, 125.0), (1, 125.0), (1, 125.0), (1, -0.00128954556), (1, -0.0121995747), (1, -0.120125334), (1, -1.17679968), (1, -11.7665966), (1, -116.121469), (1, -0.00105728832), (1, -0.0120395122), (1, -0.121567127), (1, -1.17769952), (1, -11.7859216), (1, -116.184968), (1, 1.02399515), (1, 1.02921333), (1, 1.02861617), (1, 1.01285513), (1, 0.999449513), (1, 0.99834992), (1, 110003.396), (1, 10.3527601), (1, 1.00935761), (1, 1.01458497), (1, 1.01399631), (1, 0.998459273), (1, 0.985244196), (1, 0.984160232), (1, 3.90281294e-06), (1, 4.01981236e-05), (1, 0.000401981236), (1, 0.00401981236), (1, 0.0401981236), (1, 0.401981236), (1, 1.02496121), (1, 1.00022706), (1, 1.00012169), (1, 0.999986077), (1, 70.0), (1, 67.0), (1, 67.0), (1, 67.0), (1, 78.0), (1, 88.0), (1, 88.0), (1, 14.0)] </pre>
Destructive overloads?
82, DESTRUCTIVE OVERLOADS valid 2941
Reference
Long-Belden
DUT Condition
PostCal 3-meter

Test procedure : \$Id: hp3458a.py | Rev 772 | 2018/07/25 16:33:52 tin\_fpga \$

Source procedure : \$Id: f5700a.py | Rev 757 | 2018/07/18 06:32:55 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	0.000000E+00	<b>-2.24 µV</b>	0.75 µV	-0.910 µV	0.910 µV	N/A	0.16 µV	FAIL
Short 0.0 VDC	0.000000E+00	<b>-2.08 µV</b>	0.75 µV	-0.900 µV	0.900 µV	N/A	0.15 µV	FAIL
Short 00.0 VDC	0.000000E+00	<b>-2.14 µV</b>	0.75 µV	-1.070 µV	1.070 µV	N/A	0.32 µV	FAIL
Short 000.0 VDC	0.000000E+00	<b>84.99 µV</b>	0.75 µV	-14.750 µV	14.750 µV	N/A	14.00 µV	FAIL
Short 0000.0 VDC	0.000000E+00	<b>65.21 µV</b>	0.75 µV	-41.750 µV	41.750 µV	N/A	41.00 µV	FAIL
DCV Test	0.1V-1000V	DUT	Source unc.	Low Limit	Hi limit	Measured	24h spec	Result
0.1 VDC (0.10 Range)	0.1000000	<b>0.099979112</b>	7.27 ppm	0.099998723	0.10000128	-208.883 ppm	5.50 ppm	<b>FAIL</b> 1635.73 %
-0.1 VDC (0.10 Range)	-0.1000000	<b>-0.10002081</b>	7.27 ppm	-0.10000128	-0.099998723	208.074 ppm	5.50 ppm	<b>FAIL</b> 1629.40 %
0.1 VDC (1.00 Range)	0.1000000	<b>0.09997959</b>	7.27 ppm	0.099999093	0.10000091	-204.099 ppm	1.80 ppm	<b>FAIL</b> 2250.26 %
0.2 VDC (1.00 Range)	0.2000000	<b>0.19997958</b>	3.86 ppm	0.19999887	0.20000113	-102.097 ppm	1.80 ppm	<b>FAIL</b> 1803.84 %
1.0 VDC (1.00 Range)	1.0000000	<b>0.99997951</b>	3.86 ppm	0.99999434	1.0000057	-20.486 ppm	1.80 ppm	<b>FAIL</b> 361.94 %
-0.1 VDC (1.00 Range)	-0.1000000	<b>-0.10002084</b>	7.27 ppm	-0.10000091	-0.099999093	208.426 ppm	1.80 ppm	<b>FAIL</b> 2297.97 %
-0.2 VDC (1.00 Range)	-0.2000000	<b>-0.20002089</b>	3.86 ppm	-0.20000113	-0.19999887	104.457 ppm	1.80 ppm	<b>FAIL</b> 1845.54 %
-1.0 VDC (1.00 Range)	-1.0000000	<b>-1.000021</b>	3.86 ppm	-1.0000057	-0.99999434	20.958 ppm	1.80 ppm	<b>FAIL</b> 370.29 %
1.0 VDC (10.00 Range)	1.0000000	<b>0.99998059</b>	3.86 ppm	0.99999559	1.0000044	-19.409 ppm	0.55 ppm	<b>FAIL</b> 440.12 %
2.0 VDC (10.00 Range)	2.0000000	<b>1.9999807</b>	2.77 ppm	1.9999934	2.0000066	-9.630 ppm	0.55 ppm	<b>FAIL</b> 290.07 %
10.0 VDC (10.00 Range)	10.0000000	<b>9.9999853</b>	2.73 ppm	9.9999672	10.000033	-1.474 ppm	0.55 ppm	<b>PASS</b> 44.93 %
-1.0 VDC (10.00 Range)	-1.0000000	<b>-1.0000222</b>	3.86 ppm	-1.0000044	-0.99999559	22.199 ppm	0.55 ppm	<b>FAIL</b> 503.38 %
-2.0 VDC (10.00 Range)	-2.0000000	<b>-2.0000224</b>	2.77 ppm	-2.0000066	-1.9999934	11.193 ppm	0.55 ppm	<b>FAIL</b> 337.13 %
-10.0 VDC (10.00 Range)	-10.0000000	<b>-10.000027</b>	2.73 ppm	-10.000033	-9.9999672	2.692 ppm	0.55 ppm	<b>PASS</b> 82.07 %
10 VDC (100.00 Range)	10.0000000	<b>10.000071</b>	2.77 ppm	9.9999443	10.000056	7.136 ppm	2.80 ppm	<b>FAIL</b> 128.11 %
20 VDC (100.00 Range)	20.0000000	<b>20.000061</b>	3.73 ppm	19.999869	20.000131	3.032 ppm	2.80 ppm	<b>PASS</b> 46.43 %
100 VDC (100.00 Range)	100.0000000	<b>99.999933</b>	3.73 ppm	99.999347	100.00065	-0.665 ppm	2.80 ppm	<b>PASS</b> 10.19 %
-10 VDC (100.00 Range)	-10.0000000	<b>-9.999944</b>	2.77 ppm	-10.000056	-9.9999443	-5.602 ppm	2.80 ppm	<b>FAIL</b> 100.57 %
-20 VDC (100.00 Range)	-20.0000000	<b>-19.999942</b>	3.73 ppm	-20.000131	-19.999869	-2.918 ppm	2.80 ppm	<b>PASS</b> 44.69 %
-100 VDC (100.00 Range)	-100.0000000	<b>-99.999816</b>	3.73 ppm	-100.00065	-99.999347	-1.840 ppm	2.80 ppm	<b>PASS</b> 28.17 %
100 VDC (1000.00 Range)	100.0000000	<b>100.00004</b>	3.73 ppm	99.999367	100.00063	0.432 ppm	2.60 ppm	<b>PASS</b> 6.82 %
200 VDC (1000.00 Range)	200.0000000	<b>199.99988</b>	3.73 ppm	199.99873	200.00127	-0.594 ppm	2.60 ppm	<b>PASS</b> 9.38 %
1000 VDC (1000.00 Range)	1000.0000000	<b>1000.0004</b>	5.45 ppm	999.97995	1000.02	0.406 ppm	2.60 ppm	<b>PASS</b> 2.03 %
-100 VDC (1000.00 Range)	-100.0000000	<b>-99.999972</b>	3.73 ppm	-100.00063	-99.999367	-0.282 ppm	2.60 ppm	<b>PASS</b> 4.45 %
-200 VDC (1000.00 Range)	-200.0000000	<b>-199.99979</b>	3.73 ppm	-200.00127	-199.99873	-1.068 ppm	2.60 ppm	<b>PASS</b> 16.87 %
-1000 VDC (1000.00 Range)	-1000.0000000	<b>-1000.0007</b>	5.45 ppm	-1000.02	-999.97995	0.715 ppm	2.60 ppm	<b>PASS</b> 18.11 %

Additional test for **combined DUT+MFC** DC Voltage Integral Linearity (INL) using fixed 10V range. Integral linearity is a measure of the device's deviation from ideal linear behaviour.

DCV Linearity	1V Range	DUT	Source unc.	Low Limit	Hi limit	Measured	24h spec	Result
1.0999999	1.0999999	<b>1.0999784</b>	2.73 ppm	1.099996	1.100004	-19.53 ppm	0.55 ppm	FAIL 595.42 %
0.9999999	0.9999999	<b>0.9999786</b>	2.73 ppm	0.9999966	1.000003	-21.30 ppm	0.55 ppm	FAIL 649.52 %
0.9000000	0.9000000	<b>0.8999789</b>	2.73 ppm	0.899997	0.900003	-23.46 ppm	0.55 ppm	FAIL 715.37 %
0.8888888	0.8888888	<b>0.8888676</b>	2.73 ppm	0.8888859	0.8888917	-23.80 ppm	0.55 ppm	FAIL 725.58 %
0.8000000	0.8000000	<b>0.7999789</b>	2.73 ppm	0.7999974	0.8000026	-26.42 ppm	0.55 ppm	FAIL 805.49 %
0.7777777	0.7777777	<b>0.7777567</b>	2.73 ppm	0.7777751	0.7777803	-27.03 ppm	0.55 ppm	FAIL 824.05 %
0.7000000	0.7000000	<b>0.6999790</b>	2.73 ppm	0.6999977	0.7000023	-29.93 ppm	0.55 ppm	FAIL 912.62 %
0.6666666	0.6666666	<b>0.6666457</b>	2.73 ppm	0.6666644	0.6666688	-31.42 ppm	0.55 ppm	FAIL 958.07 %
0.6000000	0.6000000	<b>0.5999790</b>	2.73 ppm	0.599998	0.600002	-35.03 ppm	0.55 ppm	FAIL 1067.98 %
0.5555555	0.5555555	<b>0.5555345</b>	2.73 ppm	0.5555537	0.5555573	-37.83 ppm	0.55 ppm	FAIL 1153.46 %
0.5000000	0.5000000	<b>0.4999791</b>	2.73 ppm	0.4999984	0.5000016	-41.84 ppm	0.55 ppm	FAIL 1275.75 %
0.4444444	0.4444444	<b>0.4444235</b>	2.73 ppm	0.4444429	0.4444459	-47.10 ppm	0.55 ppm	FAIL 1436.06 %
0.4000000	0.4000000	<b>0.3999790</b>	2.73 ppm	0.3999987	0.4000013	-52.54 ppm	0.55 ppm	FAIL 1601.92 %
0.3333333	0.3333333	<b>0.3333123</b>	2.73 ppm	0.3333322	0.3333344	-63.09 ppm	0.55 ppm	FAIL 1923.49 %
0.3000000	0.3000000	<b>0.2999790</b>	2.73 ppm	0.299999	0.300001	-69.98 ppm	0.55 ppm	FAIL 2133.40 %
0.2222222	0.2222222	<b>0.2222011</b>	2.73 ppm	0.2222215	0.2222229	-94.75 ppm	0.55 ppm	FAIL 2888.71 %
0.2000000	0.2000000	<b>0.1999789</b>	2.73 ppm	0.1999993	0.2000007	-105.50 ppm	0.55 ppm	FAIL 3216.58 %
0.1234567	0.1234567	<b>0.1234355</b>	2.73 ppm	0.1234563	0.1234571	-171.56 ppm	0.55 ppm	FAIL 5230.51 %
0.1111111	0.1111111	<b>0.1110899</b>	2.73 ppm	0.1111107	0.1111115	-190.85 ppm	0.55 ppm	FAIL 5818.54 %
0.1000000	0.1000000	<b>0.0999788</b>	2.73 ppm	0.09999967	0.1000003	-211.58 ppm	0.55 ppm	FAIL 6450.58 %
0.0987654	0.0987654	<b>0.0987442</b>	3.86 ppm	0.09876496	0.09876584	-214.87 ppm	0.55 ppm	FAIL 4872.38 %
0.0111111	0.0111111	<b>0.0110899</b>	7.27 ppm	0.01111101	0.01111119	-1911.42 ppm	0.55 ppm	FAIL 24442.74 %
-0.0111111	-0.0111111	<b>-0.0111323</b>	7.27 ppm	-0.01111119	-0.01111101	1911.21 ppm	0.55 ppm	FAIL 24440.05 %
-0.0987654	-0.0987654	<b>-0.0987867</b>	3.86 ppm	-0.09876584	-0.09876496	215.34 ppm	0.55 ppm	FAIL 4883.03 %
-0.1000000	-0.1000000	<b>-0.1000213</b>	2.73 ppm	-0.1000003	-0.09999967	213.43 ppm	0.55 ppm	FAIL 6506.96 %
-0.1111111	-0.1111111	<b>-0.1111326</b>	2.73 ppm	-0.1111115	-0.1111107	193.08 ppm	0.55 ppm	FAIL 5886.63 %
-0.1234567	-0.1234567	<b>-0.1234782</b>	2.73 ppm	-0.1234571	-0.1234563	174.05 ppm	0.55 ppm	FAIL 5306.45 %
-0.2000000	-0.2000000	<b>-0.2000214</b>	2.73 ppm	-0.2000007	-0.1999993	107.16 ppm	0.55 ppm	FAIL 3267.07 %
-0.2222222	-0.2222222	<b>-0.2222436</b>	2.73 ppm	-0.2222229	-0.2222215	96.48 ppm	0.55 ppm	FAIL 2941.47 %
-0.3000000	-0.3000000	<b>-0.3000216</b>	2.73 ppm	-0.300001	-0.299999	71.85 ppm	0.55 ppm	FAIL 2190.51 %
-0.3333333	-0.3333333	<b>-0.3333549</b>	2.73 ppm	-0.3333344	-0.3333322	64.86 ppm	0.55 ppm	FAIL 1977.48 %
-0.4000000	-0.4000000	<b>-0.4000216</b>	2.73 ppm	-0.4000013	-0.3999987	53.94 ppm	0.55 ppm	FAIL 1644.55 %
-0.4444444	-0.4444444	<b>-0.4444660</b>	2.73 ppm	-0.4444459	-0.4444429	48.63 ppm	0.55 ppm	FAIL 1482.48 %
-0.5000000	-0.5000000	<b>-0.5000217</b>	2.73 ppm	-0.5000016	-0.4999984	43.42 ppm	0.55 ppm	FAIL 1323.68 %
-0.5555555	-0.5555555	<b>-0.5555773</b>	2.73 ppm	-0.5555573	-0.5555537	39.19 ppm	0.55 ppm	FAIL 1194.79 %
-0.6000000	-0.6000000	<b>-0.6000217</b>	2.73 ppm	-0.600002	-0.599998	36.18 ppm	0.55 ppm	FAIL 1103.19 %
-0.6666666	-0.6666666	<b>-0.6666884</b>	2.73 ppm	-0.6666688	-0.6666644	32.65 ppm	0.55 ppm	FAIL 995.31 %
-0.7000000	-0.7000000	<b>-0.7000219</b>	2.73 ppm	-0.7000023	-0.6999977	31.22 ppm	0.55 ppm	FAIL 951.82 %
-0.7777777	-0.7777777	<b>-0.7777996</b>	2.73 ppm	-0.7777803	-0.7777751	28.13 ppm	0.55 ppm	FAIL 857.52 %
-0.8000000	-0.8000000	<b>-0.8000219</b>	2.73 ppm	-0.8000026	-0.7999974	27.34 ppm	0.55 ppm	FAIL 833.66 %
-0.8888888	-0.8888888	<b>-0.8889106</b>	2.73 ppm	-0.8888917	-0.8888859	24.50 ppm	0.55 ppm	FAIL 746.82 %
-0.9000000	-0.9000000	<b>-0.9000218</b>	2.73 ppm	-0.900003	-0.899997	24.24 ppm	0.55 ppm	FAIL 739.06 %
-0.9999999	-0.9999999	<b>-1.0000217</b>	2.73 ppm	-1.000003	-0.9999966	21.83 ppm	0.55 ppm	FAIL 665.57 %
-1.0999999	-1.0999999	<b>-1.1000216</b>	2.73 ppm	-1.100004	-1.099996	19.75 ppm	0.55 ppm	FAIL 602.27 %
DCV Linearity	10V Range	DUT	Source unc.	Low Limit	Hi limit	Measured	24h spec	Result
10.999999	10.999999	<b>10.9999819</b>	2.73 ppm	10.99996	11.00004	-1.55 ppm	0.55 ppm	PASS 47.34 %
10.101010	10.101010	<b>10.1009930</b>	2.73 ppm	10.10098	10.10104	-1.69 ppm	0.55 ppm	PASS 51.46 %
10.000000	10.000000	<b>9.9999831</b>	2.73 ppm	9.999967	10.00003	-1.69 ppm	0.55 ppm	PASS 51.45 %
9.999999	9.999999	<b>9.9999825</b>	2.73 ppm	9.999966	10.00003	-1.65 ppm	0.55 ppm	PASS 50.43 %
9.000000	9.000000	<b>8.9999832</b>	2.73 ppm	8.99997	9.00003	-1.86 ppm	0.55 ppm	PASS 56.84 %
8.888888	8.888888	<b>8.8888709</b>	2.73 ppm	8.888859	8.888917	-1.92 ppm	0.55 ppm	PASS 58.54 %
8.000000	8.000000	<b>7.9999826</b>	2.73 ppm	7.999974	8.000026	-2.18 ppm	0.55 ppm	PASS 66.44 %
7.777777	7.777777	<b>7.7777592</b>	2.73 ppm	7.777751	7.777803	-2.29 ppm	0.55 ppm	PASS 69.85 %
7.000000	7.000000	<b>6.9999817</b>	2.73 ppm	6.999977	7.000023	-2.62 ppm	0.55 ppm	PASS 79.75 %
6.666666	6.666666	<b>6.66664744</b>	2.73 ppm	6.666644	6.666688	-2.78 ppm	0.55 ppm	PASS 84.86 %
6.000000	6.000000	<b>5.99998072</b>	2.73 ppm	5.99998	6.00002	-3.21 ppm	0.55 ppm	PASS 97.95 %
5.555555	5.555555	<b>5.5555354</b>	2.73 ppm	5.555537	5.555573	-3.53 ppm	0.55 ppm	FAIL 107.55 %
5.000000	5.000000	<b>4.9999802</b>	2.73 ppm	4.999984	5.000016	-3.95 ppm	0.55 ppm	FAIL 120.47 %
4.444444	4.444444	<b>4.4444238</b>	2.73 ppm	4.444429	4.444459	-4.55 ppm	0.55 ppm	FAIL 138.80 %
4.000000	4.000000	<b>3.9999793</b>	2.73 ppm	3.999987	4.000013	-5.17 ppm	0.55 ppm	FAIL 157.68 %
3.333333	3.333333	<b>3.3333118</b>	2.73 ppm	3.333322	3.333344	-6.37 ppm	0.55 ppm	FAIL 194.28 %
3.000000	3.000000	<b>2.9999780</b>	2.73 ppm	2.99999	3.00001	-7.34 ppm	0.55 ppm	FAIL 223.91 %
2.222222	2.222222	<b>2.2221993</b>	2.73 ppm	2.222215	2.222229	-10.23 ppm	0.55 ppm	FAIL 311.82 %
2.000000	2.000000	<b>1.9999771</b>	2.73 ppm	1.999993	2.000007	-11.45 ppm	0.55 ppm	FAIL 349.24 %
1.111111	1.111111	<b>1.1110873</b>	2.73 ppm	1.111107	1.111115	-21.33 ppm	0.55 ppm	FAIL 650.28 %
1.000000	1.000000	<b>0.9999761</b>	3.86 ppm	0.9999956	1.000004	-23.90 ppm	0.55 ppm	FAIL 542.00 %
0.555555	0.555555	<b>0.5555305</b>	7.27 ppm	0.5555507	0.5555593	-44.13 ppm	0.55 ppm	FAIL 564.38 %
-0.555555	-0.555555	<b>-0.5555809</b>	7.27 ppm	-0.5555593	-0.5555507	46.60 ppm	0.55 ppm	FAIL 595.96 %

-1.000000	-1.000000	<b>-1.0000262</b>	3.86 ppm	-1.000004	-0.9999956	26.21 ppm	0.55 ppm	<b>FAIL</b> 594.29 %
-1.111111	-1.111111	<b>-1.1111374</b>	2.73 ppm	-1.111115	-1.111107	23.76 ppm	0.55 ppm	<b>FAIL</b> 724.44 %
-2.000000	-2.000000	<b>-2.0000271</b>	2.73 ppm	-2.000007	-1.999993	13.53 ppm	0.55 ppm	<b>FAIL</b> 412.52 %
-2.222222	-2.222222	<b>-2.2222492</b>	2.73 ppm	-2.222229	-2.222215	12.25 ppm	0.55 ppm	<b>FAIL</b> 373.56 %
-3.000000	-3.000000	<b>-3.0000277</b>	2.73 ppm	-3.00001	-2.99999	9.23 ppm	0.55 ppm	<b>FAIL</b> 281.36 %
-3.333333	-3.333333	<b>-3.3333611</b>	2.73 ppm	-3.333344	-3.333322	8.42 ppm	0.55 ppm	<b>FAIL</b> 256.68 %
-4.000000	-4.000000	<b>-4.0000287</b>	2.73 ppm	-4.000013	-3.999987	7.17 ppm	0.55 ppm	<b>FAIL</b> 218.51 %
-4.444444	-4.444444	<b>-4.4444731</b>	2.73 ppm	-4.444459	-4.444429	6.55 ppm	0.55 ppm	<b>FAIL</b> 199.80 %
-5.000000	-5.000000	<b>-5.0000294</b>	2.73 ppm	-5.000016	-4.999984	5.88 ppm	0.55 ppm	<b>FAIL</b> 179.12 %
-5.555555	-5.555555	<b>-5.5555849</b>	2.73 ppm	-5.555573	-5.555537	5.39 ppm	0.55 ppm	<b>FAIL</b> 164.25 %
-6.000000	-6.000000	<b>-6.0000302</b>	2.73 ppm	-6.00002	-5.99998	5.03 ppm	0.55 ppm	<b>FAIL</b> 153.22 %
-6.666666	-6.666666	<b>-6.6666965</b>	2.73 ppm	-6.666688	-6.666644	4.58 ppm	0.55 ppm	<b>FAIL</b> 139.69 %
-7.000000	-7.000000	<b>-7.0000306</b>	2.73 ppm	-7.000023	-6.999977	4.37 ppm	0.55 ppm	<b>FAIL</b> 133.30 %
-7.777777	-7.777777	<b>-7.7778080</b>	2.73 ppm	-7.777803	-7.777751	3.99 ppm	0.55 ppm	<b>FAIL</b> 121.65 %
-8.000000	-8.000000	<b>-8.0000313</b>	2.73 ppm	-8.000026	-7.999974	3.91 ppm	0.55 ppm	<b>FAIL</b> 119.14 %
-8.888888	-8.888888	<b>-8.8889204</b>	2.73 ppm	-8.888917	-8.888859	3.65 ppm	0.55 ppm	<b>FAIL</b> 111.29 %
-9.000000	-9.000000	<b>-9.0000324</b>	2.73 ppm	-9.00003	-8.99997	3.60 ppm	0.55 ppm	<b>FAIL</b> 109.77 %
-9.999999	-9.999999	<b>-10.0000321</b>	2.73 ppm	-10.00003	-9.999966	3.31 ppm	0.55 ppm	<b>FAIL</b> 100.98 %
-10.000000	-10.000000	<b>-10.0000330</b>	2.73 ppm	-10.00003	-9.999967	3.30 ppm	0.55 ppm	<b>FAIL</b> 100.65 %
-10.101010	-10.101010	<b>-10.1010432</b>	2.73 ppm	-10.10104	-10.10098	3.29 ppm	0.55 ppm	<b>FAIL</b> 100.17 %
-10.999999	-10.999999	<b>-11.00003255</b>	2.73 ppm	-11.00004	-10.99996	3.05 ppm	0.55 ppm	<b>PASS</b> 92.99 %
<b>DCV Linearity</b>	<b>100V Range</b>	<b>DUT</b>	<b>Source unc.</b>	<b>Low Limit</b>	<b>Hi limit</b>	<b>Measured</b>	<b>24h spec</b>	<b>Result</b>
100.99999	100.99999	<b>100.9998263</b>	2.73 ppm	100.99966	101.00032	-1.62 ppm	0.55 ppm	<b>PASS</b> 36.09 %
100.10101	100.10101	<b>100.1008450</b>	2.73 ppm	100.10068	100.10134	-1.65 ppm	0.55 ppm	<b>PASS</b> 36.79 %
100.00000	100.00000	<b>99.9998363</b>	2.73 ppm	99.999672	100.00033	-1.64 ppm	0.55 ppm	<b>PASS</b> 49.90 %
99.99999	99.99999	<b>99.9998284</b>	2.73 ppm	99.999662	100.00032	-1.62 ppm	0.55 ppm	<b>PASS</b> 49.26 %
90.00000	90.00000	<b>89.9998560</b>	2.73 ppm	89.999705	90.000295	-1.60 ppm	0.55 ppm	<b>PASS</b> 48.77 %
88.88888	88.88888	<b>88.8887381</b>	2.73 ppm	88.888588	88.889172	-1.60 ppm	0.55 ppm	<b>PASS</b> 48.66 %
80.00000	80.00000	<b>79.9998719</b>	2.73 ppm	79.999738	80.000262	-1.60 ppm	0.55 ppm	<b>PASS</b> 48.81 %
77.77777	77.77777	<b>77.7776534</b>	2.73 ppm	77.777515	77.778025	-1.50 ppm	0.55 ppm	<b>PASS</b> 45.69 %
70.00000	70.00000	<b>69.9998955</b>	2.73 ppm	69.99977	70.00023	-1.49 ppm	0.55 ppm	<b>PASS</b> 45.52 %
66.66666	66.66666	<b>66.6665665</b>	2.73 ppm	66.666441	66.666879	-1.40 ppm	0.55 ppm	<b>PASS</b> 42.77 %
60.00000	60.00000	<b>59.9999160</b>	2.73 ppm	59.999803	60.000197	-1.40 ppm	0.55 ppm	<b>PASS</b> 42.68 %
55.55555	55.55555	<b>55.5554682</b>	2.73 ppm	55.555368	55.555732	-1.47 ppm	0.55 ppm	<b>PASS</b> 44.89 %
50.00000	50.00000	<b>49.9999255</b>	2.73 ppm	49.999836	50.000164	-1.49 ppm	0.55 ppm	<b>PASS</b> 45.46 %
44.44444	44.44444	<b>44.4443734</b>	2.73 ppm	44.444294	44.444586	-1.50 ppm	0.55 ppm	<b>PASS</b> 45.68 %
40.00000	40.00000	<b>39.9999371</b>	2.73 ppm	39.999869	40.000131	-1.57 ppm	0.55 ppm	<b>PASS</b> 47.97 %
33.33333	33.33333	<b>33.3332811</b>	2.73 ppm	33.333221	33.333439	-1.47 ppm	0.55 ppm	<b>PASS</b> 44.77 %
30.00000	30.00000	<b>29.9999517</b>	2.73 ppm	29.999902	30.000098	-1.61 ppm	0.55 ppm	<b>PASS</b> 49.13 %
22.22222	22.22222	<b>22.2221797</b>	2.73 ppm	22.222147	22.222293	-1.81 ppm	0.55 ppm	<b>PASS</b> 55.30 %
20.00000	20.00000	<b>19.9999567</b>	2.73 ppm	19.999934	20.000066	-2.17 ppm	0.55 ppm	<b>PASS</b> 66.07 %
11.11111	11.11111	<b>11.11107543</b>	2.73 ppm	11.111075	11.111147	-3.20 ppm	0.55 ppm	<b>PASS</b> 97.60 %
10.00000	10.00000	<b>9.9999647</b>	3.86 ppm	9.999959	10.000044	-3.53 ppm	0.55 ppm	<b>PASS</b> 79.97 %
9.87654	9.87654	<b>9.8765049</b>	7.27 ppm	9.8764658	9.8766202	-3.85 ppm	0.55 ppm	<b>PASS</b> 49.27 %
-9.87654	-9.87654	<b>-9.8765602</b>	7.27 ppm	-9.8766202	-9.8764658	1.74 ppm	0.55 ppm	<b>PASS</b> 22.29 %
-10.00000	-10.00000	<b>-10.0000171</b>	3.86 ppm	-10.000044	-9.9999559	1.71 ppm	0.55 ppm	<b>PASS</b> 38.73 %
-11.11111	-11.11111	<b>-11.1111274</b>	2.73 ppm	-11.111147	-11.111075	1.48 ppm	0.55 ppm	<b>PASS</b> 45.09 %
-20.00000	-20.00000	<b>-20.0000106</b>	2.73 ppm	-20.000066	-19.999934	0.53 ppm	0.55 ppm	<b>PASS</b> 16.19 %
-22.22222	-22.22222	<b>-22.2222279</b>	2.73 ppm	-22.222293	-22.222147	0.36 ppm	0.55 ppm	<b>PASS</b> 10.90 %
-30.00000	-30.00000	<b>-29.9999951</b>	2.73 ppm	-30.000098	-29.999902	-0.16 ppm	0.55 ppm	<b>PASS</b> 5.02 %
-33.33333	-33.33333	<b>-33.3333254</b>	2.73 ppm	-33.333439	-33.333221	-0.14 ppm	0.55 ppm	<b>PASS</b> 4.22 %
-40.00000	-40.00000	<b>-39.9999873</b>	2.73 ppm	-40.000131	-39.999869	-0.32 ppm	0.55 ppm	<b>PASS</b> 9.71 %
-44.44444	-44.44444	<b>-44.4444214</b>	2.73 ppm	-44.444586	-44.444294	-0.42 ppm	0.55 ppm	<b>PASS</b> 12.76 %
-50.00000	-50.00000	<b>-49.9999746</b>	2.73 ppm	-50.000164	-49.999836	-0.51 ppm	0.55 ppm	<b>PASS</b> 15.49 %
-55.55555	-55.55555	<b>-55.5555213</b>	2.73 ppm	-55.555732	-55.555368	-0.52 ppm	0.55 ppm	<b>PASS</b> 15.73 %
-60.00000	-60.00000	<b>-59.9999709</b>	2.73 ppm	-60.000197	-59.999803	-0.48 ppm	0.55 ppm	<b>PASS</b> 14.78 %
-66.66666	-66.66666	<b>-66.6666209</b>	2.73 ppm	-66.666879	-66.666441	-0.59 ppm	0.55 ppm	<b>PASS</b> 17.90 %
-70.00000	-70.00000	<b>-69.9999446</b>	2.73 ppm	-70.00023	-69.99977	-0.79 ppm	0.55 ppm	<b>PASS</b> 24.11 %
-77.77777	-77.77777	<b>-77.7777055</b>	2.73 ppm	-77.778025	-77.777515	-0.83 ppm	0.55 ppm	<b>PASS</b> 25.27 %
-80.00000	-80.00000	<b>-79.9999360</b>	2.73 ppm	-80.000262	-79.999738	-0.80 ppm	0.55 ppm	<b>PASS</b> 24.39 %
-88.88888	-88.88888	<b>-88.8887976</b>	2.73 ppm	-88.889172	-88.888588	-0.93 ppm	0.55 ppm	<b>PASS</b> 28.25 %
-90.00000	-90.00000	<b>-89.9999229</b>	2.73 ppm	-90.000295	-89.999705	-0.86 ppm	0.55 ppm	<b>PASS</b> 26.13 %
-99.99999	-99.99999	<b>-99.9998921</b>	2.73 ppm	-100.00032	-99.999662	-0.98 ppm	0.55 ppm	<b>PASS</b> 29.84 %
-100.00000	-100.00000	<b>-99.9998988</b>	2.73 ppm	-100.00033	-99.999672	-1.01 ppm	0.55 ppm	<b>PASS</b> 30.85 %
-100.10101	-100.10101	<b>-100.1009114</b>	2.73 ppm	-100.10134	-100.10068	-0.99 ppm	0.55 ppm	<b>PASS</b> 47.39 %
-100.99999	-100.99999	<b>-100.9998911</b>	2.73 ppm	-101.00032	-100.99966	-0.98 ppm	0.55 ppm	<b>PASS</b> 47.35 %

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	1 Ohm to 1 GOhm	DUT	Source unc.	Low Limit	Hi limit	Measured	24h spec	Result
1 Ω	1.0000056	<b>0.9999791</b>	27.0 ppm	9.9997060E-01	1.0000406E+00	-26.504 ppm	8.0 ppm	PASS 75.73 %
1.9 Ω	1.8997773	<b>1.8997232</b>	20.0 ppm	1.8997241E+00	1.8998305E+00	-28.475 ppm	8.0 ppm	FAIL 101.70 %
10 Ω	9.999694	<b>9.9997377</b>	4.0 ppm	9.9995740E+00	9.9998140E+00	4.369 ppm	8.0 ppm	PASS 36.41 %
19 Ω	18.998219	<b>18.998349</b>	3.5 ppm	1.8998039E+01	1.8998399E+01	6.834 ppm	6.0 ppm	PASS 71.94 %
100 Ω	99.9981	<b>99.998459</b>	1.6 ppm	9.9997340E+01	9.9998860E+01	3.591 ppm	6.0 ppm	PASS 47.25 %
190 Ω	189.9883	<b>189.98856</b>	1.6 ppm	1.8998758E+02	1.8998902E+02	1.343 ppm	2.2 ppm	PASS 35.34 %
1.0 kΩ	999.9402	<b>999.94062</b>	1.6 ppm	9.9993640E+02	9.9994400E+02	0.422 ppm	2.2 ppm	PASS 11.10 %
1.9 kΩ	1899.892	<b>1899.8932</b>	1.6 ppm	1.8998848E+03	1.8998992E+03	0.612 ppm	2.2 ppm	PASS 16.11 %
10 kΩ	9999.589	<b>9999.5891</b>	1.6 ppm	9.9995510E+03	9.9996270E+03	0.010 ppm	2.2 ppm	PASS 0.26 %
19 kΩ	18999.152	<b>18999.142</b>	1.6 ppm	1.8999080E+04	1.8999224E+04	-0.543 ppm	2.2 ppm	PASS 14.30 %
100 kΩ	99992.8	<b>99992.758</b>	1.6 ppm	9.9992420E+04	9.9993180E+04	-0.423 ppm	2.2 ppm	PASS 11.13 %
190 kΩ	189998.23	<b>189999.34</b>	1.6 ppm	1.8999584E+05	1.9000062E+05	5.833 ppm	11.0 ppm	PASS 46.30 %
1.0 MΩ	999879	<b>999880.57</b>	2.0 ppm	9.9986600E+05	9.9989200E+05	1.571 ppm	11.0 ppm	PASS 12.09 %
1.9 MΩ	1899902.9	<b>1899927.6</b>	2.5 ppm	1.8997937E+06	1.9000121E+06	12.998 ppm	55.0 ppm	PASS 22.61 %
10 MΩ	9998114	<b>9998073.8</b>	8.0 ppm	9.9974841E+06	9.9987439E+06	-4.020 ppm	55.0 ppm	PASS 6.38 %
19 MΩ	18998350	<b>18999877</b>	16.0 ppm	1.8988357E+07	1.9008343E+07	80.399 ppm	510.0 ppm	PASS 15.28 %
100 MΩ	1.000034E+08	<b>99993853</b>	40.0 ppm	9.9948398E+07	1.0005840E+08	-95.467 ppm	510.0 ppm	PASS 17.36 %
1 GΩ STD	9.9551672E+08	<b>0.0000000E+00</b>	0.0 ppm	990529181.233	1000504258.77	-1.0000 %	5010.00 ppm	FAIL 19960.08 %

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 0.0000050 Ω	5.000e-05 Ω	-5e-05	5e-05	N/A	8.0000e-06 Ω	PASS
100 Ω	Range 0.0000149 Ω	5.500e-04 Ω	-0.00055	0.00055	N/A	2.2000e-06 Ω	PASS
1.0 kΩ	Range -0.0001420 Ω	5.500e-03 Ω	-0.0055	0.0055	N/A	2.2000e-06 Ω	PASS
10 kΩ	Range -0.0017067 Ω	5.500e-02 Ω	-0.055	0.055	N/A	2.2000e-06 Ω	PASS
100 kΩ	Range -0.0083354 Ω	5.500e-01 Ω	-0.55	0.55	N/A	2.2000e-06 Ω	PASS
1.0 MΩ	Range 0.0202074 Ω	5.500e+00 Ω	-5.5	5.5	N/A	2.2000e-06 Ω	PASS
10 MΩ	Range 0.7137103 Ω	5.500e+01 Ω	-55	55	N/A	2.2000e-06 Ω	PASS
100 MΩ	Range 10.7130707 Ω	5.500e+02 Ω	-550	550	N/A	2.2000e-06 Ω	PASS
1 GΩ	Range -0.8845905 Ω	5.500e+03 Ω	-5500	5500	N/A	2.2000e-06 Ω	PASS
OHM ZERO 2W	DUT	Source unc.	Low Limit	Hi limit	Measured	24h spec	Result
10 Ω	Range 0.0027247 Ω	5.000e-05 Ω	-5e-05	5e-05	N/A	8.0000e-06 Ω	FAIL
100 Ω	Range 0.0004880 Ω	5.500e-04 Ω	-0.00055	0.00055	N/A	2.2000e-06 Ω	PASS
1.0 kΩ	Range -0.0006564 Ω	5.500e-03 Ω	-0.0055	0.0055	N/A	2.2000e-06 Ω	PASS
10 kΩ	Range -0.0281782 Ω	5.500e-02 Ω	-0.055	0.055	N/A	2.2000e-06 Ω	PASS
100 kΩ	Range -0.0571778 Ω	5.500e-01 Ω	-0.55	0.55	N/A	2.2000e-06 Ω	PASS
1.0 MΩ	Range -12.8260044 Ω	5.500e+00 Ω	-5.5	5.5	N/A	2.2000e-06 Ω	FAIL
10 MΩ	Range -127.0820128 Ω	5.500e+01 Ω	-55	55	N/A	2.2000e-06 Ω	FAIL
100 MΩ	Range -163.1550427 Ω	5.500e+02 Ω	-550	550	N/A	2.2000e-06 Ω	PASS
1 GΩ	Range -162.8053190 Ω	5.500e+03 Ω	-5500	5500	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	<b>0.99984352</b>	129.09	0.99955091	1.00044909	VAC	-156.485 ppm	320.0 ppm	PASS 34.84 %
1.0 VAC @ 1.0 MHz	1.0	<b>1.0109312</b>	0.2500 %	0.9874	1.0126	VAC	1.0931 %	1.0100 %	PASS 86.76 %
10 VAC @ 10 Hz	10	<b>9.9839109</b>	73.18	9.9981682	10.0018318	VAC	-1608.913 ppm	110.0 ppm	FAIL 878.32 %
10 VAC @ 200 Hz	10	<b>10.00056</b>	73.18	9.9983682	10.0016318	VAC	56.047 ppm	90.0 ppm	PASS 34.35 %
10 VAC @ 500 Hz	10	<b>10.00053</b>	73.18	9.9983682	10.0016318	VAC	52.951 ppm	90.0 ppm	PASS 32.45 %
10 VAC @ 50.0 kHz	10	<b>9.9972021</b>	129.09	9.9955091	10.0044909	VAC	-279.792 ppm	320.0 ppm	PASS 62.30 %
10 VAC @ 1.0 MHz	10	<b>10.108359</b>	0.3000 %	9.869	10.131	VAC	1.0836 %	1.0100 %	PASS 82.72 %



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	0.010001508	312.27	0.009991	0.010009	150.827 ppm	600.0 ppm	PASS 16.53 %
0.01 V AC+DC @ 20 Hz	0.010000942	312.27	0.009991	0.010009	94.214 ppm	600.0 ppm	PASS 10.33 %
0.01 V AC+DC @ 40 Hz	0.010000791	312.27	0.009991	0.010009	79.102 ppm	600.0 ppm	PASS 8.67 %
0.01 V AC+DC @ 100 Hz	0.010000698	312.27	0.009994	0.010006	69.767 ppm	310.0 ppm	PASS 11.21 %
0.01 V AC+DC @ 1.0 kHz	0.010000514	312.27	0.009994	0.010006	51.352 ppm	310.0 ppm	PASS 8.25 %
0.01 V AC+DC @ 10.0 kHz	0.010001932	312.27	0.009993	0.010007	193.180 ppm	410.0 ppm	PASS 26.75 %
0.01 V AC+DC @ 20.0 kHz	0.010001503	312.27	0.009993	0.010007	150.320 ppm	410.0 ppm	PASS 20.81 %
0.01 V AC+DC @ 50.0 kHz	0.01000049	0.0312 %	0.009986	0.010014	0.0049 %	0.1110 %	PASS 3.45 %
0.01 V AC+DC @ 100.0 kHz	0.0099892768	0.0312 %	0.009946	0.010054	-0.1072 %	0.5110 %	PASS 19.78 %
0.01 V AC+DC @ 300.0 kHz	0.0098480429	0.0447 %	0.009594	0.010406	-1.5196 %	4.0200 %	PASS 37.38 %
0.01 V AC+DC @ 500.0 kHz	0.0096541865	0.0773 %	0.006787	0.013213	-3.4581 %	32.0500 %	PASS 10.76 %
0.01 V AC+DC @ 1.0 MHz	0.0086735141	0.1500 %	0.006780	0.013220	-13.2649 %	32.0500 %	PASS 41.20 %
0.1 V AC+DC @ 10 Hz	0.10000432	1500	0.099839	0.100161	43.186 ppm	110.0 ppm	PASS 2.68 %
0.1 V AC+DC @ 20 Hz	0.099997675	2500	0.099739	0.100261	-23.251 ppm	110.0 ppm	PASS 0.89 %
0.1 V AC+DC @ 40 Hz	0.099996554	4000	0.099589	0.100411	-34.459 ppm	110.0 ppm	PASS 0.84 %
0.1 V AC+DC @ 100 Hz	0.099996591	121.36	0.099979	0.100021	-34.086 ppm	90.0 ppm	PASS 16.13 %
0.1 V AC+DC @ 1.0 kHz	0.099995999	121.36	0.099979	0.100021	-40.015 ppm	90.0 ppm	PASS 18.93 %
0.1 V AC+DC @ 10.0 kHz	0.099994388	121.36	0.099972	0.100028	-56.115 ppm	160.0 ppm	PASS 19.94 %
0.1 V AC+DC @ 20.0 kHz	0.099990249	121.36	0.099972	0.100028	-97.510 ppm	160.0 ppm	PASS 34.66 %
0.1 V AC+DC @ 50.0 kHz	0.099988694	121.36	0.099956	0.100044	-113.057 ppm	320.0 ppm	PASS 25.62 %
0.1 V AC+DC @ 100.0 kHz	0.099960312	121.36	0.099906	0.100094	-396.883 ppm	820.0 ppm	PASS 42.16 %
0.1 V AC+DC @ 300.0 kHz	0.09980998	0.0121 %	0.099678	0.100322	-0.1900 %	0.3100 %	PASS 58.99 %
0.1 V AC+DC @ 500.0 kHz	0.099668334	0.0121 %	0.098978	0.101022	-0.3317 %	1.0100 %	PASS 32.45 %
0.1 V AC+DC @ 1.0 MHz	0.099545807	0.0121 %	0.098978	0.101022	-0.4542 %	1.0100 %	PASS 44.44 %
1.0 V AC+DC @ 10 Hz	1.0000902	256.36	0.999634	1.000366	90.159 ppm	110.0 ppm	PASS 24.61 %
1.0 V AC+DC @ 20 Hz	1.0000273	590.91	0.999299	1.000701	27.288 ppm	110.0 ppm	PASS 3.89 %
1.0 V AC+DC @ 40 Hz	1.0000106	963.64	0.998926	1.001074	10.640 ppm	110.0 ppm	PASS 0.99 %
1.0 V AC+DC @ 100 Hz	1.0000056	963.64	0.998946	1.001054	5.636 ppm	90.0 ppm	PASS 0.53 %
1.0 V AC+DC @ 1.0 kHz	1.0000333	1500	0.998410	1.001590	33.283 ppm	90.0 ppm	PASS 2.09 %
1.0 V AC+DC @ 10.0 kHz	1.0000185	3000	0.996840	1.003160	18.526 ppm	160.0 ppm	PASS 0.59 %
1.0 V AC+DC @ 20.0 kHz	0.999966	49.55	0.999790	1.000210	-33.996 ppm	160.0 ppm	PASS 16.22 %
1.0 V AC+DC @ 50.0 kHz	1.000001	49.55	0.999630	1.000370	1.018 ppm	320.0 ppm	PASS 0.28 %
1.0 V AC+DC @ 100.0 kHz	1.0000365	49.55	0.999130	1.000870	36.500 ppm	820.0 ppm	PASS 4.20 %
1.0 V AC+DC @ 300.0 kHz	1.0009677	0.0050 %	0.996850	1.003150	0.0968 %	0.3100 %	PASS 30.73 %
1.0 V AC+DC @ 500.0 kHz	1.0025196	0.0050 %	0.989850	1.010150	0.2520 %	1.0100 %	PASS 24.82 %
1.0 V AC+DC @ 1.0 MHz	1.0085662	0.0050 %	0.989850	1.010150	0.8566 %	1.0100 %	PASS 84.40 %
10.0 V AC+DC @ 10 Hz	10.001147	49.55	9.997105	10.002895	114.736 ppm	240.0 ppm	PASS 39.63 %
10.0 V AC+DC @ 20 Hz	10.000459	49.55	9.997105	10.002895	45.860 ppm	240.0 ppm	PASS 15.84 %
10.0 V AC+DC @ 40 Hz	10.000322	49.55	9.997105	10.002895	32.158 ppm	240.0 ppm	PASS 11.11 %
10.0 V AC+DC @ 100 Hz	10.000256	85.45	9.996945	10.003054	25.618 ppm	220.0 ppm	PASS 8.39 %
10.0 V AC+DC @ 1.0 kHz	10.000388	138.18	9.996418	10.003582	38.837 ppm	220.0 ppm	PASS 10.84 %
10.0 V AC+DC @ 10.0 kHz	9.9994923	425.45	9.993545	10.006455	-50.771 ppm	220.0 ppm	PASS 7.87 %
10.0 V AC+DC @ 20.0 kHz	9.9991992	425.45	9.993545	10.006455	-80.077 ppm	220.0 ppm	PASS 12.41 %
10.0 V AC+DC @ 50.0 kHz	9.9989811	1100	9.985300	10.014700	-101.893 ppm	370.0 ppm	PASS 6.93 %
10.0 V AC+DC @ 100.0 kHz	9.9959419	0.1800 %	9.969800	10.030200	-0.0406 %	0.1220 %	PASS 13.44 %
10.0 V AC+DC @ 300.0 kHz	9.9835791	0.0048 %	9.958518	10.041482	-0.1642 %	0.4100 %	PASS 39.59 %
10.0 V AC+DC @ 500.0 kHz	9.9915925	0.0048 %	9.848518	10.151482	-0.0841 %	1.5100 %	PASS 5.55 %
10.0 V AC+DC @ 1.0 MHz	10.088559	0.0048 %	9.848518	10.151482	0.8856 %	1.5100 %	PASS 58.46 %
100.0 V AC+DC @ 1.0 kHz	100.00262	48.18	99.953182	100.046818	26.214 ppm	420.0 ppm	PASS 5.58 %
100.0 V AC+DC @ 10.0 kHz	100.00046	48.18	99.933182	100.066818	4.559 ppm	620.0 ppm	PASS 0.68 %
100.0 V AC+DC @ 20.0 kHz	99.997765	48.18	99.933182	100.066818	-22.346 ppm	620.0 ppm	PASS 3.34 %
100.0 V AC+DC @ 50.0 kHz	100.00087	0.0048 %	99.873182	100.126818	0.0009 %	0.1220 %	PASS 0.69 %
100.0 V AC+DC @ 100.0 kHz	99.994716	0.0048 %	99.693182	100.306818	-0.0053 %	0.3020 %	PASS 1.72 %
700.0 V AC+DC @ 1.0 kHz	699.91845	48.18	699.672274	700.327726	-116.496 ppm	420.0 ppm	PASS 24.44 %

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	7.1779851E-11	71.82 ppm	0	0	Z-check	410 ppm	INFO
50 nADC	5E-08	4.1392719E-11	71.82 ppm	4.997591E-08	5.002409E-08	-999172.146 ppm	410 ppm	INFO
100 nADC	1E-07	4.4865779E-11	71.82 ppm	9.995182E-08	1.000482E-07	-999551.342 ppm	410 ppm	FAIL 207453.27 %
-100 nADC	-1E-07	4.7609245E-11	71.82 ppm	-9.995182E-08	-1.000482E-07	-1000476.092 ppm	410 ppm	FAIL 207645.20 %
-50 nADC	-5E-08	5.0616563E-11	71.82 ppm	-4.997591E-08	-5.002409E-08	-1001012.331 ppm	410 ppm	INFO
Zero µADC	0	5.0199737E-11	71.82 ppm	0	0	Z-check	410 ppm	INFO
0.5 µADC	5E-07	5.953389E-11	71.82 ppm	4.997591E-07	5.002409E-07	-999880.932 ppm	410 ppm	FAIL 207521.67 %
1.0 µADC	1E-06	5.5413747E-11	71.82 ppm	9.995182E-07	1.000482E-06	-999944.586 ppm	410 ppm	FAIL 207534.89 %
-1.0 µADC	-1E-06	5.4111878E-11	71.82 ppm	-9.995182E-07	-1.000482E-06	-1000054.112 ppm	410 ppm	FAIL 207557.62 %
-0.5 µADC	-5E-07	5.1406049E-11	71.82 ppm	-4.997591E-07	-5.002409E-07	-1000102.812 ppm	410 ppm	FAIL 207567.72 %
Zero 00 µADC	0	7.5233939E-11	71.82 ppm	0	0	Z-check	410 ppm	INFO
5 µADC	5E-06	1.0054803E-10	71.82 ppm	4.997591E-06	5.002409E-06	-999979.890 ppm	410 ppm	FAIL 207542.21 %
10 µADC	1E-05	1.056529E-10	71.82 ppm	9.995182E-06	1.000482E-05	-999989.435 ppm	410 ppm	FAIL 207544.19 %
-10 µADC	-1E-05	1.010269E-10	71.82 ppm	-9.995182E-06	-1.000482E-05	-1000010.103 ppm	410 ppm	FAIL 207548.48 %
-5 µADC	-5E-06	1.0540118E-10	71.82 ppm	-4.997591E-06	-5.002409E-06	-1000021.080 ppm	410 ppm	FAIL 207550.76 %
Zero 000 µADC	0	5.9337607E-11	71.82 ppm	0	0	Z-check	410 ppm	INFO
50 µADC	5E-05	4.3869664E-10	71.82 ppm	4.997591E-05	5.002409E-05	-999991.226 ppm	410 ppm	FAIL 207544.57 %
100 µADC	0.0001	4.6929051E-10	71.82 ppm	9.995182E-05	0.0001000482	-999995.307 ppm	410 ppm	FAIL 207545.41 %
-100 µADC	-0.0001	4.7530435E-10	71.82 ppm	-9.995182E-05	-0.0001000482	-1000004.753 ppm	410 ppm	FAIL 207547.37 %
-50 µADC	-5E-05	4.6045138E-10	71.82 ppm	-4.997591E-05	-5.002409E-05	-1000009.209 ppm	410 ppm	FAIL 207548.30 %
Zero mADC	0	3.4674577E-11	33.64 ppm	0	0	Z-check	410 ppm	INFO
0.5 mADC	0.0005	2.619238E-09	33.64 ppm	0.0004997782	0.0005002218	-999994.762 ppm	410 ppm	FAIL 225406.81 %
1.0 mADC	0.001	2.5985207E-09	33.64 ppm	0.0009995564	0.001000444	-999997.401 ppm	410 ppm	FAIL 225407.40 %
-1.0 mADC	-0.001	2.2430701E-09	33.64 ppm	-0.0009995564	-0.001000444	-1000002.243 ppm	410 ppm	FAIL 225408.49 %
-0.5 mADC	-0.0005	2.1110709E-09	33.64 ppm	-0.0004997782	-0.0005002218	-1000004.222 ppm	410 ppm	FAIL 225408.94 %
Zero 00 mADC	0	2.1118522E-11	32.27 ppm	0	0	Z-check	410 ppm	INFO
5 mADC	0.005	1.6592038E-08	32.27 ppm	0.004997789	0.005002211	-999996.682 ppm	410 ppm	FAIL 226105.47 %
10 mADC	0.01	1.6518912E-08	32.27 ppm	0.009995577	0.01000442	-999998.348 ppm	410 ppm	FAIL 226105.85 %
-10 mADC	-0.01	1.2558385E-08	32.27 ppm	-0.009995577	-0.01000442	-1000001.256 ppm	410 ppm	FAIL 226106.51 %
-5 mADC	-0.005	1.1721819E-08	32.27 ppm	-0.004997789	-0.005002211	-1000002.344 ppm	410 ppm	FAIL 226106.75 %
Zero 000 mADC	0	3.1377318E-11	53.32 ppm	0	0	Z-check	410 ppm	INFO
50 mADC	0.05	1.3097036E-07	53.32 ppm	0.04999483	0.05000517	-999997.381 ppm	50 ppm	FAIL 967864.29 %
100 mADC	0.1	1.6112054E-07	53.32 ppm	0.09998967	0.1000103	-999998.389 ppm	50 ppm	FAIL 967865.26 %
-100 mADC	-0.1	1.6981249E-07	53.32 ppm	-0.09998967	-0.1000103	-1000001.698 ppm	50 ppm	FAIL 967868.47 %
-50 mADC	-0.05	1.3857581E-07	53.32 ppm	-0.04999483	-0.05000517	-1000002.772 ppm	50 ppm	FAIL 967869.50 %
Zero ADC	0	6.2424674E-11	115.22 ppm	0	0	Z-check	410 ppm	INFO
0.5 ADC	0.5	-1.8579507E-07	115.22 ppm	0.5000826	0.4999174	-1000000.372 ppm	50 ppm	FAIL 605253.83 %
1.0 ADC	1	-2.1210912E-07	115.22 ppm	1.000165	0.9998348	-1000000.212 ppm	50 ppm	FAIL 605253.73 %
-1.0 ADC	-1	-4.7031574E-07	115.22 ppm	-1.000165	-0.9998348	-999999.530 ppm	50 ppm	FAIL 605253.32 %
-0.5 ADC	-0.5	-6.2491079E-07	115.22 ppm	-0.5000826	-0.4999174	-999998.750 ppm	50 ppm	FAIL 605252.84 %

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	<b>8.5358945E-07</b>	0.0165 %	9.9893455e-06	1.00106545e-05	-914641.055 ppm	0.0900 %	INFO
10 µA AC @ 50 Hz	1e-05	<b>8.5858338E-07</b>	0.0165 %	9.9893455e-06	1.00106545e-05	-914141.662 ppm	0.0900 %	INFO
10 µA AC @ 50 Hz	1e-05	<b>8.5891569E-07</b>	0.0165 %	9.9893455e-06	1.00106545e-05	-914108.431 ppm	0.0900 %	INFO
10 µA AC @ 50 Hz	1e-05	<b>8.6451991E-07</b>	0.0165 %	9.9893455e-06	1.00106545e-05	-913548.009 ppm	0.0900 %	INFO
10 µA AC @ 50 Hz	1e-05	<b>8.5978206E-07</b>	0.0138 %	9.9896182e-06	1.00103818e-05	-914021.794 ppm	0.0900 %	INFO
10 µA AC @ 50 Hz	1e-05	<b>0.00024150339</b>	0.0138 %	9.9906182e-06	1.00093818e-05	23150338.710 ppm	0.0800 %	INFO
10 µA AC @ 60 Hz	1e-05	<b>8.5355239E-07</b>	0.0138 %	9.9896182e-06	1.00103818e-05	-914644.761 ppm	0.0900 %	INFO
10 µA AC @ 60 Hz	1e-05	<b>8.4898343E-07</b>	0.0138 %	9.9896182e-06	1.00103818e-05	-915101.657 ppm	0.0900 %	INFO
10 µA AC @ 60 Hz	1e-05	<b>8.5821358E-07</b>	0.0134 %	9.9896636e-06	1.00103364e-05	-914178.642 ppm	0.0900 %	INFO
10 µA AC @ 60 Hz	1e-05	<b>8.5167771E-07</b>	0.0134 %	9.9896636e-06	1.00103364e-05	-914832.229 ppm	0.0900 %	INFO
10 µA AC @ 60 Hz	1e-05	<b>8.6867738E-07</b>	0.0308 %	9.9879182e-06	1.00120818e-05	-913132.262 ppm	0.0900 %	INFO
10 µA AC @ 60 Hz	1e-05	<b>0.00025213302</b>	0.0308 %	9.9889182e-06	1.00110818e-05	24213302.060 ppm	0.0800 %	INFO
10 µA AC @ 1.0 kHz	1e-05	<b>8.6015059E-07</b>	0.0165 %	9.9893455e-06	1.00106545e-05	-913984.941 ppm	0.0900 %	INFO
10 µA AC @ 1.0 kHz	1e-05	<b>8.5654529E-07</b>	0.0165 %	9.9893455e-06	1.00106545e-05	-914345.471 ppm	0.0900 %	INFO
10 µA AC @ 1.0 kHz	1e-05	<b>8.6641522E-07</b>	0.0165 %	9.9893455e-06	1.00106545e-05	-913358.478 ppm	0.0900 %	INFO
10 µA AC @ 1.0 kHz	1e-05	<b>8.5719012E-07</b>	0.0165 %	9.9893455e-06	1.00106545e-05	-914280.988 ppm	0.0900 %	INFO
10 µA AC @ 1.0 kHz	1e-05	<b>8.589915E-07</b>	0.0138 %	9.9896182e-06	1.00103818e-05	-914100.850 ppm	0.0900 %	INFO
10 µA AC @ 1.0 kHz	1e-05	<b>0.00024459793</b>	0.0138 %	9.9936182e-06	1.00063818e-05	23459793.130 ppm	0.0500 %	INFO

Test date	26 July 2018 09:12
UUT Internal TEMP?	28.8
Destructive overloads?	84, DESTRUCTIVE OVERLOADS valid 2941

Lab temperature maintained +24°C ±2°C

Internal use only

Not validated