

Manufacturer	AGILENT	Calibration date	October 26 2018
Model Number	34401A	Ambient Temperature	22.50 °C
Serial	US36111998	Relative Humidity	63.59 %
ID Number	Erik-34401A	Pressure	1010.46
Notes	Check	Test type	HLK5720

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
MFC	Fluke	5720A	03/HLK	E2E6	XC01	10/18/2018	01/18/2019
DMM	HP	3458A	001,X02	X	XD3	07/25/2018	01/25/2019
DC STD	xDevs.com	792X[2]	9.9999854 VDC	±2.2 ppm	XD01	02/16/2018	02/16/2019
STDR	ESI	SR104	10000.0012 KΩ	±1.00 ppm	XR04	06/30/2018	06/30/2019
STDR	IET	SRL-1	1.00000542 Ω	±2.60 ppm	PR02	09/27/2018	09/27/2019

MFC last calibrated	7.0 days ago	MFC since DCV ZERO	0.0 days ago
MFC since WBFLAT	11255.0 days ago	MFC since WBGAIN	11255.0 days ago
MFC Confidence level	<b>24h 95% REL</b>	MFC Calibrate date	2018-10-19 00:00:00
MFC Calibrate date Zero	2018-10-26 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	6.95748231284
CAL CONST 13V reference voltage	13.8552982766	CAL CONST 22V range positive zero	398.17947
CAL CONST 22V range negative zero	398.17918	CAL CONST DAC Linearity	0.0
CAL CONST 10KOHM true output resistance	9999.79107954	CAL CONST 10KOHM standard resistance	9998.74685126
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	HEWLETT-PACKARD,34401A,0,10-5-2	Test date start	26 October 2018 07:08
Test specification interval	<b>24 hour DUT spec</b>	Self-test result?	-410,"Query INTERRUPTED"
Line frequency	110V 60 Hz	Next calibration date	6
Last calibration date	6	SCPI Version	+0,"No error"
Last calibration temperature	26.6	Calibration count	77.0

Service information

Calibration count	77.0
Calibration string	"CAL 26/OCT/2018, TEMP:24.6 by xDevs.com"
Reference	Direct MFC test, Fluke cables, post-calibration adjustment 1
DUT Condition	test

Test procedure : \$Id: hp34401a.py | Rev 1031 | 2018/10/26 04:58:08 clu \$

Source procedure : \$Id: f5720a.py | Rev 1016 | 2018/10/19 06:27:25 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>0.65 µV</b>	8.23 µV	-11.230 µV	11.230 µV	N/A	3.00 µV	PASS
Short 0.0 VDC	0.000000E+00	<b>0.38 µV</b>	3.95 µV	-9.950 µV	9.950 µV	N/A	6.00 µV	PASS
Short 00.0 VDC	0.000000E+00	<b>1.30 µV</b>	3.32 µV	-43.320 µV	43.320 µV	N/A	40.00 µV	PASS
Short 000.0 VDC	0.000000E+00	<b>-38.00 µV</b>	4.36 µV	-604.360 µV	604.360 µV	N/A	0.60 mV	PASS
Short 0000.0 VDC	0.000000E+00	<b>-130.00 µV</b>	6.45 µV	-6006.450 µV	6006.450 µV	N/A	6.00 mV	PASS
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>0.10000093</b>	9.91 ppm	0.099993009	0.10000699	9.300 ppm	60.00 ppm	PASS 13.30 %
-0.1 VDC (0.10 Range)	-0.1000000	<b>-0.10000046</b>	9.91 ppm	-0.10000699	-0.099993009	4.650 ppm	60.00 ppm	PASS 6.65 %
0.1 VDC (1.00 Range)	0.1000000	<b>0.10000077</b>	9.91 ppm	0.099996409	0.10000359	7.700 ppm	26.00 ppm	PASS 21.44 %
0.5 VDC (1.00 Range)	0.5000000	<b>0.50000111</b>	4.05 ppm	0.49998497	0.50001502	2.230 ppm	26.00 ppm	PASS 7.42 %
1.0 VDC (1.00 Range)	1.0000000	<b>1.0000018</b>	4.05 ppm	0.99996995	1.00003	1.800 ppm	26.00 ppm	PASS 5.99 %
-0.1 VDC (1.00 Range)	-0.1000000	<b>-0.10000021</b>	9.91 ppm	-0.10000359	-0.099996409	2.050 ppm	26.00 ppm	PASS 5.71 %
-0.5 VDC (1.00 Range)	-0.5000000	<b>-0.50000109</b>	4.05 ppm	-0.50001502	-0.49998497	2.180 ppm	26.00 ppm	PASS 7.25 %
-1.0 VDC (1.00 Range)	-1.0000000	<b>-1.0000013</b>	4.05 ppm	-1.00003	-0.99996995	1.300 ppm	26.00 ppm	PASS 4.33 %
1.0 VDC (10.00 Range)	1.0000000	<b>0.99999925</b>	4.05 ppm	0.99997695	1.0000231	-0.750 ppm	19.00 ppm	PASS 3.25 %
5.0 VDC (10.00 Range)	5.0000000	<b>4.9999993</b>	1.47 ppm	4.9998977	5.0001023	-0.140 ppm	19.00 ppm	PASS 0.68 %
10.0 VDC (10.00 Range)	10.0000000	<b>10.000007</b>	2.36 ppm	9.9997864	10.000214	0.700 ppm	19.00 ppm	PASS 3.28 %
-1.0 VDC (10.00 Range)	-1.0000000	<b>-1.0000029</b>	4.05 ppm	-1.0000231	-0.99997695	2.900 ppm	19.00 ppm	PASS 12.58 %
-5.0 VDC (10.00 Range)	-5.0000000	<b>-5.0000055</b>	1.47 ppm	-5.0001023	-4.9998977	1.100 ppm	19.00 ppm	PASS 5.37 %
-10.0 VDC (10.00 Range)	-10.0000000	<b>-10.000005</b>	2.36 ppm	-10.000214	-9.9997864	0.500 ppm	19.00 ppm	PASS 2.34 %
10 VDC (100.00 Range)	10.0000000	<b>9.999991</b>	2.36 ppm	9.9997164	10.000284	-0.900 ppm	26.00 ppm	PASS 3.17 %
50 VDC (100.00 Range)	50.0000000	<b>50.000076</b>	5.45 ppm	49.998427	50.001573	1.520 ppm	26.00 ppm	PASS 4.83 %
100 VDC (100.00 Range)	100.0000000	<b>100.00011</b>	5.45 ppm	99.996855	100.00315	1.100 ppm	26.00 ppm	PASS 3.50 %
-10 VDC (100.00 Range)	-10.0000000	<b>-10.000029</b>	2.36 ppm	-10.000284	-9.9997164	2.900 ppm	26.00 ppm	PASS 10.23 %
-50 VDC (100.00 Range)	-50.0000000	<b>-50.000183</b>	5.45 ppm	-50.001573	-49.998427	3.670 ppm	26.00 ppm	PASS 11.67 %
-100 VDC (100.00 Range)	-100.0000000	<b>-100.00017</b>	5.45 ppm	-100.00315	-99.996855	1.700 ppm	26.00 ppm	PASS 5.41 %
100 VDC (1000.00 Range)	100.0000000	<b>99.99984</b>	5.45 ppm	99.996855	100.00315	-1.600 ppm	26.00 ppm	PASS 5.09 %
200 VDC (1000.00 Range)	200.0000000	<b>200.00017</b>	5.45 ppm	199.99371	200.00629	0.850 ppm	26.00 ppm	PASS 2.70 %
1000 VDC (1000.00 Range)	1000.0000000	<b>1000.0003</b>	7.55 ppm	999.95645	1000.0435	0.300 ppm	26.00 ppm	PASS 0.69 %
-100 VDC (1000.00 Range)	-100.0000000	<b>-100.00015</b>	5.45 ppm	-100.00315	-99.996855	1.500 ppm	26.00 ppm	PASS 4.77 %
-200 VDC (1000.00 Range)	-200.0000000	<b>-200.00054</b>	5.45 ppm	-200.00629	-199.99371	2.675 ppm	26.00 ppm	PASS 8.51 %
-1000 VDC (1000.00 Range)	-1000.0000000	<b>-1000.0003</b>	7.55 ppm	-1000.0435	-999.95645	0.300 ppm	26.00 ppm	PASS 1.27 %

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>1.1000015</b>	3.64 ppm	1.099975	1.100025	1.45 ppm	19.00 ppm	PASS 6.42 %
0.9999999	0.9999999	<b>1.0000015</b>	3.70 ppm	0.9999772	1.000023	1.60 ppm	19.00 ppm	PASS 7.05 %
0.9000000	0.9000000	<b>0.9000016</b>	3.78 ppm	0.8999795	0.9000205	1.77 ppm	19.00 ppm	PASS 7.76 %
0.8888888	0.8888888	<b>0.8888905</b>	3.79 ppm	0.8888685	0.8889091	1.90 ppm	19.00 ppm	PASS 8.34 %
0.8000000	0.8000000	<b>0.8000016</b>	3.87 ppm	0.7999817	0.8000183	2.02 ppm	19.00 ppm	PASS 8.85 %
0.7777777	0.7777777	<b>0.7777792</b>	3.90 ppm	0.7777599	0.7777955	1.91 ppm	19.00 ppm	PASS 8.34 %
0.7000000	0.7000000	<b>0.7000014</b>	4.00 ppm	0.6999839	0.7000161	1.98 ppm	19.00 ppm	PASS 8.60 %
0.6666666	0.6666666	<b>0.6666680</b>	4.05 ppm	0.6666512	0.666682	2.09 ppm	19.00 ppm	PASS 9.05 %
0.6000000	0.6000000	<b>0.6000013</b>	4.17 ppm	0.5999861	0.6000139	2.14 ppm	19.00 ppm	PASS 9.24 %
0.5555555	0.5555555	<b>0.5555566</b>	4.26 ppm	0.5555426	0.5555684	1.99 ppm	19.00 ppm	PASS 8.55 %
0.5000000	0.5000000	<b>0.5000010</b>	4.40 ppm	0.4999883	0.5000117	2.02 ppm	19.00 ppm	PASS 8.63 %
0.4444444	0.4444444	<b>0.4444453</b>	4.58 ppm	0.4444339	0.4444549	2.12 ppm	19.00 ppm	PASS 8.97 %
0.4000000	0.4000000	<b>0.4000009</b>	4.75 ppm	0.3999905	0.4000095	2.35 ppm	19.00 ppm	PASS 9.89 %
0.3333333	0.3333333	<b>0.3333341</b>	5.10 ppm	0.3333253	0.3333413	2.31 ppm	19.00 ppm	PASS 9.59 %
0.3000000	0.3000000	<b>0.3000008</b>	5.33 ppm	0.2999927	0.3000073	2.78 ppm	19.00 ppm	PASS 11.44 %
0.2222222	0.2222222	<b>0.2222229</b>	6.15 ppm	0.2222166	0.2222278	3.33 ppm	19.00 ppm	PASS 13.24 %
0.2000000	0.2000000	<b>0.2000007</b>	6.50 ppm	0.1999949	0.2000051	3.25 ppm	19.00 ppm	PASS 12.75 %
0.1234567	0.1234567	<b>0.1234572</b>	8.67 ppm	0.1234533	0.1234601	3.77 ppm	19.00 ppm	PASS 13.61 %
0.1111111	0.1111111	<b>0.1111116</b>	9.30 ppm	0.111108	0.1111142	4.86 ppm	19.00 ppm	PASS 17.17 %
0.1000000	0.1000000	<b>0.1000005</b>	10.00 ppm	0.0999971	0.1000029	5.25 ppm	19.00 ppm	PASS 18.10 %
0.0987654	0.0987654	<b>0.0987659</b>	10.09 ppm	0.09876253	0.09876827	5.16 ppm	19.00 ppm	PASS 17.75 %
0.0111111	0.0111111	<b>0.0111115</b>	66.00 ppm	0.01111016	0.01111204	31.50 ppm	19.00 ppm	PASS 37.06 %
-0.0111111	-0.0111111	<b>-0.0111110</b>	66.00 ppm	-0.01111204	-0.01111016	-9.90 ppm	19.00 ppm	PASS 11.65 %
-0.0987654	-0.0987654	<b>-0.0987656</b>	10.09 ppm	-0.09876827	-0.09876253	1.77 ppm	19.00 ppm	PASS 6.09 %
-0.1000000	-0.1000000	<b>-0.1000002</b>	10.00 ppm	-0.1000029	-0.0999971	2.30 ppm	19.00 ppm	PASS 7.93 %
-0.1111111	-0.1111111	<b>-0.1111114</b>	9.30 ppm	-0.1111142	-0.111108	2.34 ppm	19.00 ppm	PASS 8.27 %
-0.1234567	-0.1234567	<b>-0.1234571</b>	8.67 ppm	-0.1234601	-0.1234533	2.88 ppm	19.00 ppm	PASS 10.39 %
-0.2000000	-0.2000000	<b>-0.2000005</b>	6.50 ppm	-0.2000051	-0.1999949	2.60 ppm	19.00 ppm	PASS 10.20 %
-0.2222222	-0.2222222	<b>-0.2222228</b>	6.15 ppm	-0.2222278	-0.2222166	2.54 ppm	19.00 ppm	PASS 10.11 %
-0.3000000	-0.3000000	<b>-0.3000008</b>	5.33 ppm	-0.3000073	-0.2999927	2.72 ppm	19.00 ppm	PASS 11.17 %
-0.3333333	-0.3333333	<b>-0.3333341</b>	5.10 ppm	-0.3333413	-0.3333253	2.39 ppm	19.00 ppm	PASS 9.90 %
-0.4000000	-0.4000000	<b>-0.4000008</b>	4.75 ppm	-0.4000095	-0.3999905	2.11 ppm	19.00 ppm	PASS 8.89 %
-0.4444444	-0.4444444	<b>-0.4444454</b>	4.58 ppm	-0.4444549	-0.4444339	2.30 ppm	19.00 ppm	PASS 9.73 %
-0.5000000	-0.5000000	<b>-0.5000011</b>	4.40 ppm	-0.5000117	-0.4999883	2.12 ppm	19.00 ppm	PASS 9.06 %
-0.5555555	-0.5555555	<b>-0.5555567</b>	4.26 ppm	-0.5555684	-0.5555426	2.11 ppm	19.00 ppm	PASS 9.05 %
-0.6000000	-0.6000000	<b>-0.6000013</b>	4.17 ppm	-0.6000139	-0.5999861	2.11 ppm	19.00 ppm	PASS 9.10 %
-0.6666666	-0.6666666	<b>-0.6666678</b>	4.05 ppm	-0.666682	-0.6666512	1.76 ppm	19.00 ppm	PASS 7.65 %
-0.7000000	-0.7000000	<b>-0.7000013</b>	4.00 ppm	-0.7000161	-0.6999839	1.81 ppm	19.00 ppm	PASS 7.89 %
-0.7777777	-0.7777777	<b>-0.7777792</b>	3.90 ppm	-0.7777955	-0.7777599	1.89 ppm	19.00 ppm	PASS 8.25 %
-0.8000000	-0.8000000	<b>-0.8000014</b>	3.87 ppm	-0.8000183	-0.7999817	1.79 ppm	19.00 ppm	PASS 7.82 %
-0.8888888	-0.8888888	<b>-0.8888903</b>	3.79 ppm	-0.8889091	-0.8888685	1.72 ppm	19.00 ppm	PASS 7.53 %
-0.9000000	-0.9000000	<b>-0.9000016</b>	3.78 ppm	-0.9000205	-0.8999795	1.74 ppm	19.00 ppm	PASS 7.63 %
-0.9999999	-0.9999999	<b>-1.0000013</b>	3.70 ppm	-1.000023	-0.9999772	1.40 ppm	19.00 ppm	PASS 6.17 %
-1.0999999	-1.0999999	<b>-1.1000012</b>	3.64 ppm	-1.100025	-1.099975	1.18 ppm	19.00 ppm	PASS 5.22 %
DCV Linearity	10V Range	DUT	Source unc.	Low Limit	Hi limit	Measured	24h spec	Result
10.250000	10.250000	<b>10.2500100</b>	1.04 ppm	10.24979	10.25021	0.98 ppm	19.00 ppm	PASS 4.87 %
10.000000	10.000000	<b>10.0000100</b>	1.05 ppm	9.999799	10.0002	1.00 ppm	19.00 ppm	PASS 4.99 %
9.750000	9.750000	<b>9.7500082</b>	1.06 ppm	9.749804	9.750196	0.84 ppm	19.00 ppm	PASS 4.19 %
9.500000	9.500000	<b>9.5000099</b>	1.06 ppm	9.499809	9.500191	1.04 ppm	19.00 ppm	PASS 5.19 %
9.250000	9.250000	<b>9.2500083</b>	1.07 ppm	9.249814	9.250186	0.90 ppm	19.00 ppm	PASS 4.47 %
9.000000	9.000000	<b>9.0000070</b>	1.08 ppm	8.999819	9.000181	0.78 ppm	19.00 ppm	PASS 3.87 %
8.750000	8.750000	<b>8.7500085</b>	1.09 ppm	8.749824	8.750176	0.97 ppm	19.00 ppm	PASS 4.84 %
8.500000	8.500000	<b>8.5000059</b>	1.09 ppm	8.499829	8.500171	0.69 ppm	19.00 ppm	PASS 3.46 %
8.250000	8.250000	<b>8.2500033</b>	1.10 ppm	8.249834	8.250166	0.40 ppm	19.00 ppm	PASS 1.99 %
8.000000	8.000000	<b>8.0000028</b>	1.11 ppm	7.999839	8.000161	0.35 ppm	19.00 ppm	PASS 1.74 %
7.750000	7.750000	<b>7.7500030</b>	1.12 ppm	7.749844	7.750156	0.39 ppm	19.00 ppm	PASS 1.92 %
7.500000	7.500000	<b>7.5000029</b>	1.13 ppm	7.499849	7.500151	0.39 ppm	19.00 ppm	PASS 1.92 %
7.250000	7.250000	<b>7.2500027</b>	1.14 ppm	7.249854	7.250146	0.37 ppm	19.00 ppm	PASS 1.85 %
7.000000	7.000000	<b>7.0000031</b>	1.16 ppm	6.999859	7.000141	0.44 ppm	19.00 ppm	PASS 2.20 %
6.750000	6.750000	<b>6.7500027</b>	1.17 ppm	6.749864	6.750136	0.40 ppm	19.00 ppm	PASS 1.98 %
6.500000	6.500000	<b>6.5000027</b>	1.18 ppm	6.499869	6.500131	0.42 ppm	19.00 ppm	PASS 2.06 %
6.250000	6.250000	<b>6.2500016</b>	1.20 ppm	6.249874	6.250126	0.26 ppm	19.00 ppm	PASS 1.27 %
6.000000	6.000000	<b>6.0000025</b>	1.22 ppm	5.999879	6.000121	0.42 ppm	19.00 ppm	PASS 2.06 %
5.750000	5.750000	<b>5.7500015</b>	1.23 ppm	5.749884	5.750116	0.26 ppm	19.00 ppm	PASS 1.29 %
5.500000	5.500000	<b>5.5000011</b>	1.25 ppm	5.499889	5.500111	0.20 ppm	19.00 ppm	PASS 0.99 %
5.250000	5.250000	<b>5.2500014</b>	1.28 ppm	5.249894	5.250106	0.27 ppm	19.00 ppm	PASS 1.31 %
5.000000	5.000000	<b>5.0000015</b>	1.30 ppm	4.999898	5.000102	0.30 ppm	19.00 ppm	PASS 1.48 %
4.750000	4.750000	<b>4.7500007</b>	1.33 ppm	4.749903	4.750097	0.15 ppm	19.00 ppm	PASS 0.72 %
4.500000	4.500000	<b>4.5000014</b>	1.36 ppm	4.499908	4.500092	0.31 ppm	19.00 ppm	PASS 1.53 %
4.250000	4.250000	<b>4.2500011</b>	1.39 ppm	4.249913	4.250087	0.26 ppm	19.00 ppm	PASS 1.27 %

4.000000	4.000000	<b>4.000002</b>	1.42 ppm	3.999918	4.000082	0.05 ppm	19.00 ppm	PASS 0.24 %
3.750000	3.750000	<b>3.750001</b>	1.47 ppm	3.749923	3.750077	0.03 ppm	19.00 ppm	PASS 0.13 %
3.500000	3.500000	<b>3.499995</b>	1.51 ppm	3.499928	3.500072	-0.14 ppm	19.00 ppm	PASS 0.70 %
3.250000	3.250000	<b>3.249997</b>	1.57 ppm	3.249933	3.250067	-0.09 ppm	19.00 ppm	PASS 0.45 %
3.000000	3.000000	<b>3.000007</b>	1.63 ppm	2.999938	3.000062	0.23 ppm	19.00 ppm	PASS 1.13 %
2.750000	2.750000	<b>2.749990</b>	1.71 ppm	2.749943	2.750057	-0.36 ppm	19.00 ppm	PASS 1.76 %
2.500000	2.500000	<b>2.499991</b>	1.80 ppm	2.499948	2.500052	-0.36 ppm	19.00 ppm	PASS 1.73 %
2.250000	2.250000	<b>2.249993</b>	1.91 ppm	2.249953	2.250047	-0.31 ppm	19.00 ppm	PASS 1.49 %
2.000000	2.000000	<b>1.999999</b>	2.05 ppm	1.999958	2.000042	-0.05 ppm	19.00 ppm	PASS 0.24 %
1.750000	1.750000	<b>1.750002</b>	2.23 ppm	1.749963	1.750037	0.11 ppm	19.00 ppm	PASS 0.54 %
1.500000	1.500000	<b>1.500001</b>	2.47 ppm	1.499968	1.500032	0.10 ppm	19.00 ppm	PASS 0.47 %
1.250000	1.250000	<b>1.249993</b>	2.80 ppm	1.249973	1.250027	-0.56 ppm	19.00 ppm	PASS 2.57 %
1.000000	1.000000	<b>0.999997</b>	3.30 ppm	0.999977	1.000022	-0.35 ppm	19.00 ppm	PASS 1.57 %
0.750000	0.750000	<b>0.749994</b>	4.13 ppm	0.7499827	0.7500173	-0.80 ppm	19.00 ppm	PASS 3.46 %
0.500000	0.500000	<b>0.500000</b>	5.80 ppm	0.4999876	0.5000124	0.00 ppm	19.00 ppm	PASS 0.00 %
0.250000	0.250000	<b>0.250004</b>	10.80 ppm	0.2499926	0.2500075	1.60 ppm	19.00 ppm	PASS 5.37 %
0.100000	0.100000	<b>0.0999990</b>	25.80 ppm	0.09999552	0.1000045	-10.50 ppm	19.00 ppm	PASS 23.44 %
-0.100000	-0.100000	<b>-0.1000006</b>	25.80 ppm	-0.1000045	-0.09999552	6.00 ppm	19.00 ppm	PASS 13.39 %
-0.250000	-0.250000	<b>-0.2500027</b>	10.80 ppm	-0.2500075	-0.2499926	10.80 ppm	19.00 ppm	PASS 36.24 %
-0.500000	-0.500000	<b>-0.5000026</b>	5.80 ppm	-0.5000124	-0.4999876	5.20 ppm	19.00 ppm	PASS 20.97 %
-0.750000	-0.750000	<b>-0.7500026</b>	4.13 ppm	-0.7500173	-0.7499827	3.40 ppm	19.00 ppm	PASS 14.70 %
-1.000000	-1.000000	<b>-1.0000029</b>	3.30 ppm	-1.000022	-0.9999777	2.90 ppm	19.00 ppm	PASS 13.00 %
-1.250000	-1.250000	<b>-1.2500027</b>	2.80 ppm	-1.250027	-1.249973	2.16 ppm	19.00 ppm	PASS 9.91 %
-1.500000	-1.500000	<b>-1.5000048</b>	2.47 ppm	-1.500032	-1.499968	3.23 ppm	19.00 ppm	PASS 15.06 %
-1.750000	-1.750000	<b>-1.7500046</b>	2.23 ppm	-1.750037	-1.749963	2.63 ppm	19.00 ppm	PASS 12.38 %
-2.000000	-2.000000	<b>-2.0000048</b>	2.05 ppm	-2.000042	-1.999958	2.42 ppm	19.00 ppm	PASS 11.52 %
-2.250000	-2.250000	<b>-2.2500051</b>	1.91 ppm	-2.250047	-2.249953	2.29 ppm	19.00 ppm	PASS 10.95 %
-2.500000	-2.500000	<b>-2.5000048</b>	1.80 ppm	-2.500052	-2.499948	1.94 ppm	19.00 ppm	PASS 9.33 %
-2.750000	-2.750000	<b>-2.7500050</b>	1.71 ppm	-2.750057	-2.749943	1.80 ppm	19.00 ppm	PASS 8.69 %
-3.000000	-3.000000	<b>-3.0000068</b>	1.63 ppm	-3.000062	-2.999938	2.27 ppm	19.00 ppm	PASS 10.99 %
-3.250000	-3.250000	<b>-3.2500063</b>	1.57 ppm	-3.250067	-3.249933	1.92 ppm	19.00 ppm	PASS 9.35 %
-3.500000	-3.500000	<b>-3.5000061</b>	1.51 ppm	-3.500072	-3.499928	1.76 ppm	19.00 ppm	PASS 8.57 %
-3.750000	-3.750000	<b>-3.7500064</b>	1.47 ppm	-3.750077	-3.749923	1.72 ppm	19.00 ppm	PASS 8.40 %
-4.000000	-4.000000	<b>-4.0000069</b>	1.42 ppm	-4.000082	-3.999918	1.71 ppm	19.00 ppm	PASS 8.39 %
-4.250000	-4.250000	<b>-4.2500075</b>	1.39 ppm	-4.250087	-4.249913	1.76 ppm	19.00 ppm	PASS 8.65 %
-4.500000	-4.500000	<b>-4.5000078</b>	1.36 ppm	-4.500092	-4.499908	1.74 ppm	19.00 ppm	PASS 8.57 %
-4.750000	-4.750000	<b>-4.7500071</b>	1.33 ppm	-4.750097	-4.749903	1.49 ppm	19.00 ppm	PASS 7.35 %
-5.000000	-5.000000	<b>-5.0000071</b>	1.30 ppm	-5.000102	-4.999898	1.42 ppm	19.00 ppm	PASS 7.00 %
-5.250000	-5.250000	<b>-5.2500070</b>	1.28 ppm	-5.250106	-5.249894	1.33 ppm	19.00 ppm	PASS 6.57 %
-5.500000	-5.500000	<b>-5.5000075</b>	1.25 ppm	-5.500111	-5.499889	1.37 ppm	19.00 ppm	PASS 6.78 %
-5.750000	-5.750000	<b>-5.7500081</b>	1.23 ppm	-5.750116	-5.749884	1.41 ppm	19.00 ppm	PASS 6.96 %
-6.000000	-6.000000	<b>-6.0000080</b>	1.22 ppm	-6.000121	-5.999879	1.33 ppm	19.00 ppm	PASS 6.55 %
-6.250000	-6.250000	<b>-6.2500092</b>	1.20 ppm	-6.250126	-6.249874	1.47 ppm	19.00 ppm	PASS 7.29 %
-6.500000	-6.500000	<b>-6.5000108</b>	1.18 ppm	-6.500131	-6.499869	1.66 ppm	19.00 ppm	PASS 8.23 %
-6.750000	-6.750000	<b>-6.7500106</b>	1.17 ppm	-6.750136	-6.749864	1.56 ppm	19.00 ppm	PASS 7.75 %
-7.000000	-7.000000	<b>-7.0000113</b>	1.16 ppm	-7.000141	-6.999859	1.61 ppm	19.00 ppm	PASS 8.01 %
-7.250000	-7.250000	<b>-7.2500112</b>	1.14 ppm	-7.250146	-7.249854	1.54 ppm	19.00 ppm	PASS 7.67 %
-7.500000	-7.500000	<b>-7.5000104</b>	1.13 ppm	-7.500151	-7.499849	1.39 ppm	19.00 ppm	PASS 6.92 %
-7.750000	-7.750000	<b>-7.7500117</b>	1.12 ppm	-7.750156	-7.749844	1.51 ppm	19.00 ppm	PASS 7.50 %
-8.000000	-8.000000	<b>-8.0000108</b>	1.11 ppm	-8.000161	-7.999839	1.34 ppm	19.00 ppm	PASS 6.68 %
-8.250000	-8.250000	<b>-8.2500097</b>	1.10 ppm	-8.250166	-8.249834	1.18 ppm	19.00 ppm	PASS 5.85 %
-8.500000	-8.500000	<b>-8.5000103</b>	1.09 ppm	-8.500171	-8.499829	1.21 ppm	19.00 ppm	PASS 6.03 %
-8.750000	-8.750000	<b>-8.7500108</b>	1.09 ppm	-8.750176	-8.749824	1.23 ppm	19.00 ppm	PASS 6.14 %
-9.000000	-9.000000	<b>-9.0000106</b>	1.08 ppm	-9.000181	-8.999819	1.18 ppm	19.00 ppm	PASS 5.87 %
-9.250000	-9.250000	<b>-9.2500095</b>	1.07 ppm	-9.250186	-9.249814	1.03 ppm	19.00 ppm	PASS 5.12 %
-9.500000	-9.500000	<b>-9.5000095</b>	1.06 ppm	-9.500191	-9.499809	1.01 ppm	19.00 ppm	PASS 5.01 %
-9.750000	-9.750000	<b>-9.7500092</b>	1.06 ppm	-9.750196	-9.749804	0.95 ppm	19.00 ppm	PASS 4.73 %
-10.000000	-10.000000	<b>-10.0000090</b>	1.05 ppm	-10.0002	-9.999799	0.90 ppm	19.00 ppm	PASS 4.49 %
-10.250000	-10.250000	<b>-10.2500110</b>	1.04 ppm	-10.25021	-10.24979	1.07 ppm	19.00 ppm	PASS 5.36 %
DCV Linearity	100V Range	DUT	Source unc.	Low Limit	Hi limit	Measured	24h spec	Result
100.99999	100.99999	<b>101.0000550</b>	2.73 ppm	100.9978	101.00218	0.64 ppm	19.00 ppm	PASS 2.83 %
100.10101	100.10101	<b>100.1011200</b>	2.73 ppm	100.09883	100.10319	1.10 ppm	19.00 ppm	PASS 4.83 %
100.00000	100.00000	<b>100.0000900</b>	2.73 ppm	99.997827	100.00217	0.90 ppm	19.00 ppm	PASS 3.96 %
99.99999	99.99999	<b>100.0000900</b>	2.73 ppm	99.997817	100.00216	1.00 ppm	19.00 ppm	PASS 4.40 %
90.00000	90.00000	<b>90.0000820</b>	2.73 ppm	89.998044	90.001956	0.91 ppm	19.00 ppm	PASS 4.19 %
88.88888	88.88888	<b>88.8889865</b>	2.73 ppm	88.886948	88.890812	1.20 ppm	19.00 ppm	PASS 5.51 %
80.00000	80.00000	<b>80.0000905</b>	2.73 ppm	79.998262	80.001738	1.13 ppm	19.00 ppm	PASS 5.21 %
77.77777	77.77777	<b>77.7778690</b>	2.73 ppm	77.77608	77.77946	1.27 ppm	19.00 ppm	PASS 5.86 %
70.00000	70.00000	<b>70.0000710</b>	2.73 ppm	69.998479	70.001521	1.01 ppm	19.00 ppm	PASS 4.67 %
66.66666	66.66666	<b>66.6667295</b>	2.73 ppm	66.665211	66.668109	1.04 ppm	19.00 ppm	PASS 4.80 %
60.00000	60.00000	<b>60.0000490</b>	2.73 ppm	59.998696	60.001304	0.82 ppm	19.00 ppm	PASS 3.76 %
55.55555	55.55555	<b>55.5556040</b>	2.73 ppm	55.554343	55.556757	0.97 ppm	19.00 ppm	PASS 4.47 %
50.00000	50.00000	<b>50.0000385</b>	2.73 ppm	49.998914	50.001086	0.77 ppm	19.00 ppm	PASS 3.54 %
44.44444	44.44444	<b>44.4444825</b>	2.73 ppm	44.443474	44.445406	0.96 ppm	19.00 ppm	PASS 4.40 %
40.00000	40.00000	<b>40.0000335</b>	2.73 ppm	39.999131	40.000869	0.84 ppm	19.00 ppm	PASS 3.85 %
33.33333	33.33333	<b>33.3333440</b>	2.73 ppm	33.332606	33.334054	0.42 ppm	19.00 ppm	PASS 1.93 %
30.00000	30.00000	<b>30.0000230</b>	2.73 ppm	29.999348	30.000652	0.77 ppm	19.00 ppm	PASS 3.53 %

22.22222	22.22222	<b>22.2222415</b>	2.73 ppm	22.221737	22.222703	0.97 ppm	19.00 ppm	PASS 4.45 %
20.00000	20.00000	<b>20.0000090</b>	2.73 ppm	19.999565	20.000435	0.45 ppm	19.00 ppm	PASS 2.07 %
11.11111	11.11111	<b>11.1111010</b>	2.73 ppm	11.11087	11.111352	-0.90 ppm	19.00 ppm	PASS 4.14 %
10.00000	10.00000	<b>9.9999830</b>	3.86 ppm	9.9997714	10.000229	-1.70 ppm	19.00 ppm	PASS 7.44 %
9.87654	9.87654	<b>9.8765280</b>	7.27 ppm	9.8762835	9.8768025	-1.52 ppm	19.00 ppm	PASS 5.78 %
-9.87654	-9.87654	<b>-9.8766175</b>	7.27 ppm	-9.8768025	-9.8762835	7.54 ppm	19.00 ppm	PASS 28.71 %
-10.00000	-10.00000	<b>-10.0000840</b>	3.86 ppm	-10.000229	-9.9997714	8.40 ppm	19.00 ppm	PASS 36.75 %
-11.11111	-11.11111	<b>-11.1111900</b>	2.73 ppm	-11.111352	-11.11087	7.11 ppm	19.00 ppm	PASS 32.72 %
-20.00000	-20.00000	<b>-20.0001045</b>	2.73 ppm	-20.000435	-19.999565	5.22 ppm	19.00 ppm	PASS 24.05 %
-22.22222	-22.22222	<b>-22.2223320</b>	2.73 ppm	-22.222703	-22.221737	5.04 ppm	19.00 ppm	PASS 23.19 %
-30.00000	-30.00000	<b>-30.0001310</b>	2.73 ppm	-30.000652	-29.999348	4.37 ppm	19.00 ppm	PASS 20.10 %
-33.33333	-33.33333	<b>-33.3334680</b>	2.73 ppm	-33.334054	-33.332606	4.14 ppm	19.00 ppm	PASS 19.05 %
-40.00000	-40.00000	<b>-40.0001470</b>	2.73 ppm	-40.000869	-39.999131	3.67 ppm	19.00 ppm	PASS 16.91 %
-44.44444	-44.44444	<b>-44.4445835</b>	2.73 ppm	-44.445406	-44.443474	3.23 ppm	19.00 ppm	PASS 14.86 %
-50.00000	-50.00000	<b>-50.0001610</b>	2.73 ppm	-50.001086	-49.998914	3.22 ppm	19.00 ppm	PASS 14.82 %
-55.55555	-55.55555	<b>-55.5557110</b>	2.73 ppm	-55.556757	-55.554343	2.90 ppm	19.00 ppm	PASS 13.34 %
-60.00000	-60.00000	<b>-60.0001640</b>	2.73 ppm	-60.001304	-59.998696	2.73 ppm	19.00 ppm	PASS 12.58 %
-66.66666	-66.66666	<b>-66.6668355</b>	2.73 ppm	-66.668109	-66.665211	2.63 ppm	19.00 ppm	PASS 12.11 %
-70.00000	-70.00000	<b>-70.0001855</b>	2.73 ppm	-70.001521	-69.998479	2.65 ppm	19.00 ppm	PASS 12.20 %
-77.77777	-77.77777	<b>-77.7779560</b>	2.73 ppm	-77.77946	-77.77608	2.39 ppm	19.00 ppm	PASS 11.01 %
-80.00000	-80.00000	<b>-80.0001725</b>	2.73 ppm	-80.001738	-79.998262	2.16 ppm	19.00 ppm	PASS 9.92 %
-88.88888	-88.88888	<b>-88.8890540</b>	2.73 ppm	-88.890812	-88.886948	1.96 ppm	19.00 ppm	PASS 9.01 %
-90.00000	-90.00000	<b>-90.0001820</b>	2.73 ppm	-90.001956	-89.998044	2.02 ppm	19.00 ppm	PASS 9.31 %
-99.99999	-99.99999	<b>-100.0001400</b>	2.73 ppm	-100.00216	-99.997817	1.50 ppm	19.00 ppm	PASS 7.24 %
-100.00000	-100.00000	<b>-100.0001650</b>	2.73 ppm	-100.00217	-99.997827	1.65 ppm	19.00 ppm	PASS 7.96 %
-100.10101	-100.10101	<b>-100.1011650</b>	2.73 ppm	-100.10319	-100.09883	1.55 ppm	19.00 ppm	PASS 7.47 %
-100.99999	-100.99999	<b>-101.0001550</b>	2.73 ppm	-101.00218	-100.9978	1.63 ppm	19.00 ppm	PASS 7.88 %

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 100 MOhm	DUT	Source unc.	Low Limit	Hi limit	Measured	24h spec	Result
1 Ω	0.9998224	<b>0.999869</b>	70.2 ppm	9.9969222E-01	9.9995258E-01	46.608 ppm	60.0 ppm	PASS 35.80 %
1.9 Ω	1.8999361	<b>1.899871</b>	8.3 ppm	1.8998063E+00	1.9000659E+00	-34.264 ppm	60.0 ppm	PASS 50.17 %
10 Ω	10.00032	<b>10.000352</b>	8.3 ppm	9.9996370E+00	1.0001003E+01	3.200 ppm	60.0 ppm	PASS 4.69 %
19 Ω	18.999992	<b>19.000128</b>	4.3 ppm	1.8998770E+01	1.9001214E+01	7.158 ppm	60.0 ppm	PASS 11.13 %
100 Ω	100.00313	<b>100.0039</b>	4.3 ppm	9.9996700E+01	1.0000956E+02	7.700 ppm	60.0 ppm	PASS 11.97 %
190 Ω	189.99805	<b>189.9991</b>	3.3 ppm	1.8999267E+02	1.9000343E+02	5.526 ppm	25.0 ppm	PASS 19.53 %
1.0 kΩ	1000.01	<b>1000.0129</b>	3.3 ppm	9.9998170E+02	1.0000383E+03	2.900 ppm	25.0 ppm	PASS 10.25 %
1.9 kΩ	1900.0232	<b>1900.0298</b>	3.3 ppm	1.8999694E+03	1.9000770E+03	3.474 ppm	25.0 ppm	PASS 12.27 %
10 kΩ	9999.793	<b>9999.8113</b>	3.3 ppm	9.9995100E+03	1.0000076E+04	1.835 ppm	25.0 ppm	PASS 6.48 %
19 kΩ	18999.397	<b>18999.388</b>	3.3 ppm	1.8998859E+04	1.8999935E+04	-0.474 ppm	25.0 ppm	PASS 1.67 %
100 kΩ	99994.71	<b>99994.779</b>	3.3 ppm	9.9991880E+04	9.9997540E+04	0.685 ppm	25.0 ppm	PASS 2.42 %
190 kΩ	189988.9	<b>189989.58</b>	5.3 ppm	1.8994800E+05	1.9002980E+05	3.579 ppm	210.0 ppm	PASS 1.66 %
1.0 MΩ	999980.5	<b>999975.07</b>	5.3 ppm	9.9976520E+05	1.0001958E+06	-5.430 ppm	210.0 ppm	PASS 2.52 %
1.9 MΩ	1899966.5	<b>1899957.1</b>	14.3 ppm	1.8970704E+06	1.9028626E+06	-4.921 ppm	1510.0 ppm	PASS 0.32 %
10 MΩ	9999020	<b>9998565.1</b>	14.3 ppm	9.9837785E+06	1.0014262E+07	-45.494 ppm	1510.0 ppm	PASS 2.98 %
19 MΩ	18998408	<b>19001113</b>	60.3 ppm	1.8938367E+07	1.9058449E+07	142.380 ppm	3100.0 ppm	PASS 4.51 %
100 MΩ	1.0000758E+08	<b>1.0010082E+08</b>	60.3 ppm	9.9691526E+07	1.0032363E+08	932.379 ppm	3100.0 ppm	PASS 29.50 %

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
100 Ω	Range -0.0000890 Ω	3.000e-03 Ω	-0.003	0.003	N/A	6.0000e-05 Ω	PASS
1.0 kΩ	Range 0.0000000 Ω	5.000e-03 Ω	-0.005	0.005	N/A	2.5000e-05 Ω	PASS
10 kΩ	Range -0.0013000 Ω	5.000e-02 Ω	-0.05	0.05	N/A	2.5000e-05 Ω	PASS
100 kΩ	Range -0.0065000 Ω	5.000e-01 Ω	-0.5	0.5	N/A	2.5000e-05 Ω	PASS
1.0 MΩ	Range 0.0000000 Ω	1.000e+01 Ω	-10	10	N/A	2.5000e-05 Ω	PASS
10 MΩ	Range 1.2500000 Ω	1.000e+02 Ω	-100	100	N/A	2.5000e-05 Ω	PASS
100 MΩ	Range 0.0000000 Ω	1.000e+04 Ω	-10000.0	10000.0	N/A	2.5000e-05 Ω	PASS
OHM ZERO 2W	DUT	Source unc.	Low Limit	Hi limit	Measured	24h spec	Result
100 Ω	Range 0.2366800 Ω	3.500e-01 Ω	-0.35	0.35	N/A	6.0000e-05 Ω	PASS
1.0 kΩ	Range 0.2353900 Ω	4.000e-01 Ω	-0.4	0.4	N/A	2.5000e-05 Ω	PASS
10 kΩ	Range 0.2297000 Ω	4.000e-01 Ω	-0.4	0.4	N/A	2.5000e-05 Ω	PASS
100 kΩ	Range 0.1750000 Ω	5.500e-01 Ω	-0.55	0.55	N/A	2.5000e-05 Ω	PASS
1.0 MΩ	Range 0.1500000 Ω	5.500e+00 Ω	-5.5	5.5	N/A	2.5000e-05 Ω	PASS
10 MΩ	Range 0.5000000 Ω	5.500e+01 Ω	-55	55	N/A	2.5000e-05 Ω	PASS
100 MΩ	Range 4.0000000 Ω	5.500e+02 Ω	-550	550	N/A	2.5000e-05 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>0.70909347</b>	0.0129 %	0.99872091	1.00127909	VAC	-29.0907 %	0.1150 %	<b>FAIL</b> 22743.24 %
1.0 VAC @ 1.0 MHz	1.0	<b>0.99586198</b>	0.2500 %	0.6965	1.3035	VAC	-0.4138 %	30.1000 %	<b>PASS</b> 1.36 %
10 VAC @ 60 Hz	10	<b>10.626004</b>	0.2085 %	9.94265	10.05735	VAC	6.2600 %	0.3650 %	<b>FAIL</b> 1091.55 %
10 VAC @ 200 Hz	10	<b>9.9849002</b>	0.0073 %	9.9627682	10.0372318	VAC	-0.1510 %	0.3650 %	<b>PASS</b> 40.56 %
10 VAC @ 500 Hz	10	<b>9.9995015</b>	0.0073 %	9.9627682	10.0372318	VAC	-0.0050 %	0.3650 %	<b>PASS</b> 1.34 %
10 VAC @ 50.0 kHz	10	<b>9.9901271</b>	0.0129 %	9.9872091	10.0127909	VAC	-0.0987 %	0.1150 %	<b>PASS</b> 77.19 %
10 VAC @ 1.0 MHz	10	<b>10.372471</b>	0.3000 %	6.95	13.05	VAC	3.7247 %	30.2000 %	<b>PASS</b> 12.21 %

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
0.1 V AC+DC @ 10 Hz	0.076729038	0.0312 %	0.099304	0.100696	-23.2710 %	0.6650 %	FAIL 3342.44 %
0.01 V AC+DC @ 20 Hz	0.010001646	0.0312 %	0.009950	0.010050	0.0165 %	0.4650 %	PASS 3.32 %
0.01 V AC+DC @ 60 Hz	0.010012961	0.0312 %	0.009950	0.010050	0.1296 %	0.4650 %	PASS 26.12 %
0.01 V AC+DC @ 100 Hz	0.0099961975	0.0312 %	0.009950	0.010050	-0.0380 %	0.4650 %	PASS 7.66 %
0.01 V AC+DC @ 1.0 kHz	0.010042904	0.0312 %	0.009950	0.010050	0.4290 %	0.4650 %	PASS 86.46 %
0.01 V AC+DC @ 10.0 kHz	0.010038062	312.27	0.009987	0.010013	3806.200 ppm	950.0 ppm	FAIL 301.54 %
0.01 V AC+DC @ 20.0 kHz	0.010019582	312.27	0.009987	0.010013	1958.250 ppm	950.0 ppm	FAIL 155.14 %
0.01 V AC+DC @ 50.0 kHz	0.009888272	0.0447 %	0.009974	0.010026	-1.1173 %	0.2150 %	FAIL 430.17 %
0.01 V AC+DC @ 100.0 kHz	0.0098892535	0.0773 %	0.009916	0.010084	-1.1075 %	0.7650 %	FAIL 131.49 %
0.01 V AC+DC @ 300.0 kHz	0.010886482	0.1500 %	0.009583	0.010417	8.8648 %	4.0250 %	FAIL 212.33 %
0.01 V AC+DC @ 500.0 kHz	0.008304945	0.2500 %	0.006965	0.013035	-16.9505 %	30.1000 %	PASS 55.85 %
0.01 V AC+DC @ 1.0 MHz	0.007889314	0.4000 %	0.006950	0.013050	-21.1069 %	30.1000 %	PASS 69.20 %
0.1 V AC+DC @ 10 Hz	0.1079411	0.0101 %	0.099325	0.100675	7.9411 %	0.6650 %	FAIL 1176.22 %
0.1 V AC+DC @ 20 Hz	0.10004314	0.0101 %	0.099525	0.100475	0.0431 %	0.4650 %	PASS 9.08 %
0.1 V AC+DC @ 60 Hz	0.10001654	0.0101 %	0.099525	0.100475	0.0165 %	0.4650 %	PASS 3.48 %
0.1 V AC+DC @ 100 Hz	0.099992375	0.0101 %	0.099525	0.100475	-0.0076 %	0.4650 %	PASS 1.60 %
0.1 V AC+DC @ 1.0 kHz	0.1013197	0.0101 %	0.099525	0.100475	1.3197 %	0.4650 %	FAIL 277.75 %
0.1 V AC+DC @ 10.0 kHz	0.10058926	101.36	0.099895	0.100105	5892.600 ppm	950.0 ppm	FAIL 560.47 %
0.1 V AC+DC @ 20.0 kHz	0.10049543	101.36	0.099895	0.100105	4954.300 ppm	950.0 ppm	FAIL 471.23 %
0.1 V AC+DC @ 50.0 kHz	0.09990759	0.0171 %	0.099768	0.100232	-0.0924 %	0.2150 %	PASS 39.81 %
0.1 V AC+DC @ 100.0 kHz	0.099711264	0.0461 %	0.099189	0.100811	-0.2887 %	0.7650 %	PASS 35.60 %
0.1 V AC+DC @ 300.0 kHz	0.098222522	0.0764 %	0.095899	0.104101	-1.7775 %	4.0250 %	PASS 43.34 %
0.1 V AC+DC @ 500.0 kHz	0.096955315	0.1500 %	0.069750	0.130250	-3.0447 %	30.1000 %	PASS 10.07 %
0.1 V AC+DC @ 1.0 MHz	0.092460384	0.3000 %	0.069600	0.130400	-7.5396 %	30.1000 %	PASS 24.80 %
1.0 V AC+DC @ 10 Hz	1.1080174	0.0050 %	0.995300	1.004700	10.8017 %	0.4650 %	FAIL 2298.46 %
1.0 V AC+DC @ 20 Hz	1.0004726	0.0050 %	0.996300	1.003700	0.0473 %	0.3650 %	PASS 12.77 %
1.0 V AC+DC @ 60 Hz	1.0000261	0.0050 %	0.996300	1.003700	0.0026 %	0.3650 %	PASS 0.71 %
1.0 V AC+DC @ 100 Hz	0.99992282	0.0050 %	0.996300	1.003700	-0.0077 %	0.3650 %	PASS 2.09 %
1.0 V AC+DC @ 1.0 kHz	1.0121937	0.0050 %	0.996300	1.003700	1.2194 %	0.3650 %	FAIL 329.60 %
1.0 V AC+DC @ 10.0 kHz	1.0058635	49.55	0.999400	1.000600	5863.550 ppm	550.0 ppm	FAIL 977.99 %
1.0 V AC+DC @ 20.0 kHz	1.0058906	49.55	0.999400	1.000600	5890.650 ppm	550.0 ppm	FAIL 982.51 %
1.0 V AC+DC @ 50.0 kHz	1.0005974	0.0080 %	0.998770	1.001230	0.0597 %	0.1150 %	PASS 48.55 %
1.0 V AC+DC @ 100.0 kHz	1.0002948	0.0113 %	0.994237	1.005763	0.0295 %	0.5650 %	PASS 5.12 %
1.0 V AC+DC @ 300.0 kHz	0.99630981	0.0395 %	0.959355	1.040645	-0.3690 %	4.0250 %	PASS 9.08 %
1.0 V AC+DC @ 500.0 kHz	0.97648522	0.1100 %	0.697900	1.302100	-2.3515 %	30.1000 %	PASS 7.78 %
1.0 V AC+DC @ 1.0 MHz	0.991311	0.1800 %	0.697200	1.302800	-0.8689 %	30.1000 %	PASS 2.87 %
10.0 V AC+DC @ 10 Hz	10.533887	0.0048 %	9.948018	10.051982	5.3389 %	0.5150 %	FAIL 1027.07 %
10.0 V AC+DC @ 20 Hz	10.004404	0.0048 %	9.963018	10.036982	0.0440 %	0.3650 %	PASS 11.91 %
10.0 V AC+DC @ 60 Hz	10.000078	0.0048 %	9.963018	10.036982	0.0008 %	0.3650 %	PASS 0.21 %
10.0 V AC+DC @ 100 Hz	9.9990486	0.0048 %	9.963018	10.036982	-0.0095 %	0.3650 %	PASS 2.57 %
10.0 V AC+DC @ 1.0 kHz	10.05541	0.0048 %	9.963018	10.036982	0.5541 %	0.3650 %	FAIL 149.83 %
10.0 V AC+DC @ 10.0 kHz	10.053216	48.18	9.994018	10.005982	5321.600 ppm	550.0 ppm	FAIL 889.63 %
10.0 V AC+DC @ 20.0 kHz	10.054666	48.18	9.994018	10.005982	5466.600 ppm	550.0 ppm	FAIL 913.87 %
10.0 V AC+DC @ 50.0 kHz	10.005515	0.0080 %	9.987696	10.012304	0.0551 %	0.1150 %	PASS 44.82 %
10.0 V AC+DC @ 100.0 kHz	10.003381	0.0106 %	9.942436	10.057564	0.0338 %	0.5650 %	PASS 5.87 %
10.0 V AC+DC @ 300.0 kHz	9.9876366	0.0321 %	9.594286	10.405714	-0.1236 %	4.0250 %	PASS 3.05 %
10.0 V AC+DC @ 500.0 kHz	9.830713	0.1100 %	6.969000	13.031000	-1.6929 %	30.2000 %	PASS 5.59 %
10.0 V AC+DC @ 1.0 MHz	10.46701	0.1700 %	6.963000	13.037000	4.6701 %	30.2000 %	PASS 15.38 %
100.0 V AC+DC @ 60 Hz	88.259262	0.0060 %	99.628982	100.371018	-11.7407 %	0.3650 %	FAIL 3164.47 %
100.0 V AC+DC @ 100 Hz	101.06875	0.0060 %	99.628982	100.371018	1.0688 %	0.3650 %	FAIL 287.98 %
100.0 V AC+DC @ 1.0 kHz	100.74	0.0060 %	99.628982	100.371018	0.7400 %	0.3650 %	FAIL 199.40 %
100.0 V AC+DC @ 10.0 kHz	100.66579	60.18	99.938982	100.061018	6657.900 ppm	550.0 ppm	FAIL 1089.35 %
100.0 V AC+DC @ 20.0 kHz	100.67782	65	99.938500	100.061500	6778.200 ppm	550.0 ppm	FAIL 1100.36 %
100.0 V AC+DC @ 50.0 kHz	100.50929	0.0170 %	99.867998	100.132002	0.5093 %	0.1150 %	FAIL 385.53 %
100.0 V AC+DC @ 100.0 kHz	100.59381	0.0400 %	99.394997	100.605003	0.5938 %	0.5650 %	PASS 98.13 %
750.0 V AC+DC @ 60 Hz	769.5824	0.0074 %	747.207270	752.792730	2.6110 %	0.3650 %	FAIL 699.78 %
750.0 V AC+DC @ 100 Hz	735.01224	0.0074 %	747.207270	752.792730	-1.9984 %	0.3650 %	FAIL 535.59 %
750.0 V AC+DC @ 1.0 kHz	749.58042	0.0074 %	747.207270	752.792730	-0.0559 %	0.3650 %	PASS 14.99 %

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 mADC	0	<b>6E-10</b>	33.64 ppm	0	0	Z-check	11000 ppm	INFO
0.5 mADC	0.0005	<b>0.00049999345</b>	33.64 ppm	0.0004944832	0.0005055168	-0.0013 %	11000 ppm	PASS 0.12 %
1.0 mADC	0.001	<b>0.0009999966</b>	33.64 ppm	0.0009889664	0.001011034	-0.0003 %	11000 ppm	PASS 0.03 %
-1.0 mADC	-0.001	<b>-0.0010000035</b>	33.64 ppm	-0.001011034	-0.0009889664	0.0004 %	11000 ppm	PASS 0.03 %
-0.5 mADC	-0.0005	<b>-0.00050001015</b>	33.64 ppm	-0.0005055168	-0.0004944832	0.0020 %	11000 ppm	PASS 0.18 %
Zero 00 mADC	0	<b>-3.35E-09</b>	32.27 ppm	0	0	Z-check	11000 ppm	INFO
5 mADC	0.005	<b>0.0049999665</b>	32.27 ppm	0.004999089	0.005000911	-6.700 ppm	150 ppm	PASS 3.68 %
10 mADC	0.01	<b>0.0099999323</b>	32.27 ppm	0.009998177	0.01000182	-6.770 ppm	150 ppm	PASS 3.71 %
-10 mADC	-0.01	<b>-0.0099999307</b>	32.27 ppm	-0.01000182	-0.009998177	-6.930 ppm	150 ppm	PASS 3.80 %
-5 mADC	-0.005	<b>-0.0049999725</b>	32.27 ppm	-0.005000911	-0.004999089	-5.510 ppm	150 ppm	PASS 3.02 %
Zero 000 mADC	0	<b>-5.1E-09</b>	53.32 ppm	0	0	Z-check	11000 ppm	INFO
50 mADC	0.05	<b>0.049999398</b>	53.32 ppm	0.04999033	0.05000967	-12.040 ppm	140 ppm	PASS 6.23 %
100 mADC	0.1	<b>0.099999713</b>	53.32 ppm	0.09998067	0.1000193	-2.875 ppm	140 ppm	PASS 1.49 %
-100 mADC	-0.1	<b>-0.09999986</b>	53.32 ppm	-0.1000193	-0.09998067	-1.400 ppm	140 ppm	PASS 0.72 %
-50 mADC	-0.05	<b>-0.049999515</b>	53.32 ppm	-0.05000967	-0.04999033	-9.700 ppm	140 ppm	PASS 5.02 %
Zero ADC	0	<b>-1.157E-07</b>	115.22 ppm	0	0	Z-check	11000 ppm	INFO
0.5 ADC	0.5	<b>0.50000844</b>	115.22 ppm	0.4996624	0.5003376	16.880 ppm	560 ppm	PASS 2.50 %
1.0 ADC	1	<b>0.99999146</b>	115.22 ppm	0.9993248	1.000675	-8.535 ppm	560 ppm	PASS 1.26 %
-1.0 ADC	-1	<b>-1.0000287</b>	115.22 ppm	-1.000675	-0.9993248	28.700 ppm	560 ppm	PASS 4.25 %
-0.5 ADC	-0.5	<b>-0.50002008</b>	115.22 ppm	-0.5003376	-0.4996624	40.160 ppm	560 ppm	PASS 5.95 %
Zero ADC	0	<b>-6.2E-08</b>	115.22 ppm	0	0	Z-check	11000 ppm	INFO
1.0 ADC	1	<b>0.99999592</b>	115.22 ppm	0.9993248	1.000675	-4.075 ppm	560 ppm	PASS 0.60 %
2.0 ADC	2	<b>1.9999433</b>	115.22 ppm	1.99737	2.00263	-0.0028 %	1200 ppm	PASS 2.16 %
-2.0 ADC	-2	<b>-2.0001143</b>	115.22 ppm	-2.00263	-1.99737	0.0057 %	1200 ppm	PASS 4.34 %
-1.0 ADC	-1	<b>-1.0000623</b>	115.22 ppm	-1.000675	-0.9993248	62.350 ppm	560 ppm	PASS 9.23 %

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
1.0 A AC @ 50 Hz	0.001	<b>0.30085767</b>	0.0211 %	0.00099838909	0.00100161091	29985.7675 %	0.1400 %	FAIL 18614179.25 %
1.0 A AC @ 50 Hz	0.01	<b>0.01040627</b>	0.0211 %	0.0099838909	0.0100161091	4.0627 %	0.1400 %	FAIL 2521.99 %
1.0 A AC @ 50 Hz	0.1	<b>0.10254189</b>	0.0211 %	0.099838909	0.100161091	2.5419 %	0.1400 %	FAIL 1577.92 %
1.0 A AC @ 50 Hz	0.001	<b>0.53369457</b>	0.0138 %	0.00099846182	0.00100153818	53269.4565 %	0.1400 %	FAIL 34631484.29 %
2.0 A AC @ 50 Hz	2.0	<b>2.0081499</b>	0.0138 %	1.99692364	2.00307636	0.4075 %	0.1400 %	FAIL 264.92 %
1.0 A AC @ 60 Hz	0.001	<b>0.01910224</b>	0.0138 %	0.00099846182	0.00100153818	1810.2240 %	0.1400 %	FAIL 1176860.97 %
1.0 A AC @ 60 Hz	0.01	<b>0.010373525</b>	0.0618 %	0.0099798182	0.0100201818	3.7353 %	0.1400 %	FAIL 1850.80 %
1.0 A AC @ 60 Hz	0.1	<b>0.10271809</b>	0.0211 %	0.099838909	0.100161091	2.7181 %	0.1400 %	FAIL 1687.30 %
1.0 A AC @ 60 Hz	0.001	<b>0.54300305</b>	0.0211 %	0.00099838909	0.00100161091	54200.3050 %	0.1400 %	FAIL 33645768.54 %
2.0 A AC @ 60 Hz	2.0	<b>2.0078375</b>	0.0211 %	1.99677818	2.00322182	0.3919 %	0.1400 %	FAIL 243.26 %
1.0 A AC @ 1.0 kHz	0.001	<b>0.01942615</b>	0.0138 %	0.00099846182	0.00100153818	1842.6150 %	0.1400 %	FAIL 1197918.97 %
1.0 A AC @ 1.0 kHz	0.01	<b>0.010406055</b>	0.0138 %	0.0099846182	0.0100153818	4.0606 %	0.1400 %	FAIL 2639.84 %
1.0 A AC @ 1.0 kHz	0.1	<b>0.10397425</b>	0.0138 %	0.099846182	0.100153818	3.9743 %	0.1400 %	FAIL 2583.74 %
1.0 A AC @ 1.0 kHz	0.001	<b>0.55690797</b>	0.0618 %	0.00099798182	0.00100201818	55590.7970 %	0.1400 %	FAIL 27545014.32 %
2.0 A AC @ 1.0 kHz	2.0	<b>2.0066401</b>	0.0211 %	1.99677818	2.00322182	0.3320 %	0.1400 %	FAIL 206.10 %

Test completed

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Test date	26 October 2018 12:47
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Lab temperature maintained +24°C ±2°C

Internal use only

Not validated

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