

Manufacturer	AGILENT	Calibration date	February 10 2019
Model Number	34401A	Ambient Temperature	25.1 °C
Serial	3146A02516	Relative Humidity	47.70 %
ID Number	34401A SY	Pressure	1001.7
Notes	Test front ports	Test type	As returned

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	02/09/2019	08/09/2019
Amplifier	Fluke	5725A		5930005	XA01	02/09/2019	08/09/2019
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	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

MFC last calibrated	1 days ago	MFC since DCV ZERO	0 days ago
MFC since WBFLAT	1 days ago	MFC since WBGAIN	1 days ago
MFC Confidence level	24h 95% REL	MFC Calibrate date	02/09/2019
MFC Calibrate date Zero	02/10/2019	Calibrate date WB Flatness	02/09/2019
Calibrate date WB Gain	02/09/2019	CAL CONST 6.5V reference voltage	+6.957480629534423E+00
CAL CONST 13V reference voltage	+1.385529947933807E+01	CAL CONST 22V range positive zero	+3.981796600000000E+02
CAL CONST 22V range negative zero	+3.981792800000000E+02	CAL CONST DAC Linearity	-2.073712828121188E-01
CAL CONST 10KOHM true output resistance	+9.999785888249386E+03	CAL CONST 10KOHM standard resistance	+9.998741377818425E+03
CAL CONST, Zero calibration temperature	+24.6	CAL CONST, All calibration temp	+24.6
Booster type	VB5725,IB5725	Current output posts	IB5725
Calibrate date 5725A AMP	02/09/2019	Calibrated days ago	1 days
CAL CONST, Amp ACAL temperature	+24.6	CAL CONST, Amp CalCheck temperature	+24.6

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

Meter Info	HP34401A	Test date start	10 February 2019 16:08
Test specification interval	24 hour DUT spec	Self-test result?	+0,"No error"
Line frequency	110V 60 Hz	Next calibration date	10/02/2020
Last calibration date	10/02/2019	SCPI Version	1
Last calibration temperature	25.2	Calibration count	105

Service information

Calibration count	105
Calibration string	CAL 10/FEB/2019, TEMP:25.2 by xDevs.com
Reference	Direct MFC test, PTFE cables, verification
DUT Condition	Boosted Hulk

Test procedure : \$Id: hp34401a.py | Rev 1151 | 2019/02/10 08:31:08 clu \$

Source procedure : \$Id: f5720b.py | Rev 1111 | 2019/01/03 11:24:54 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.

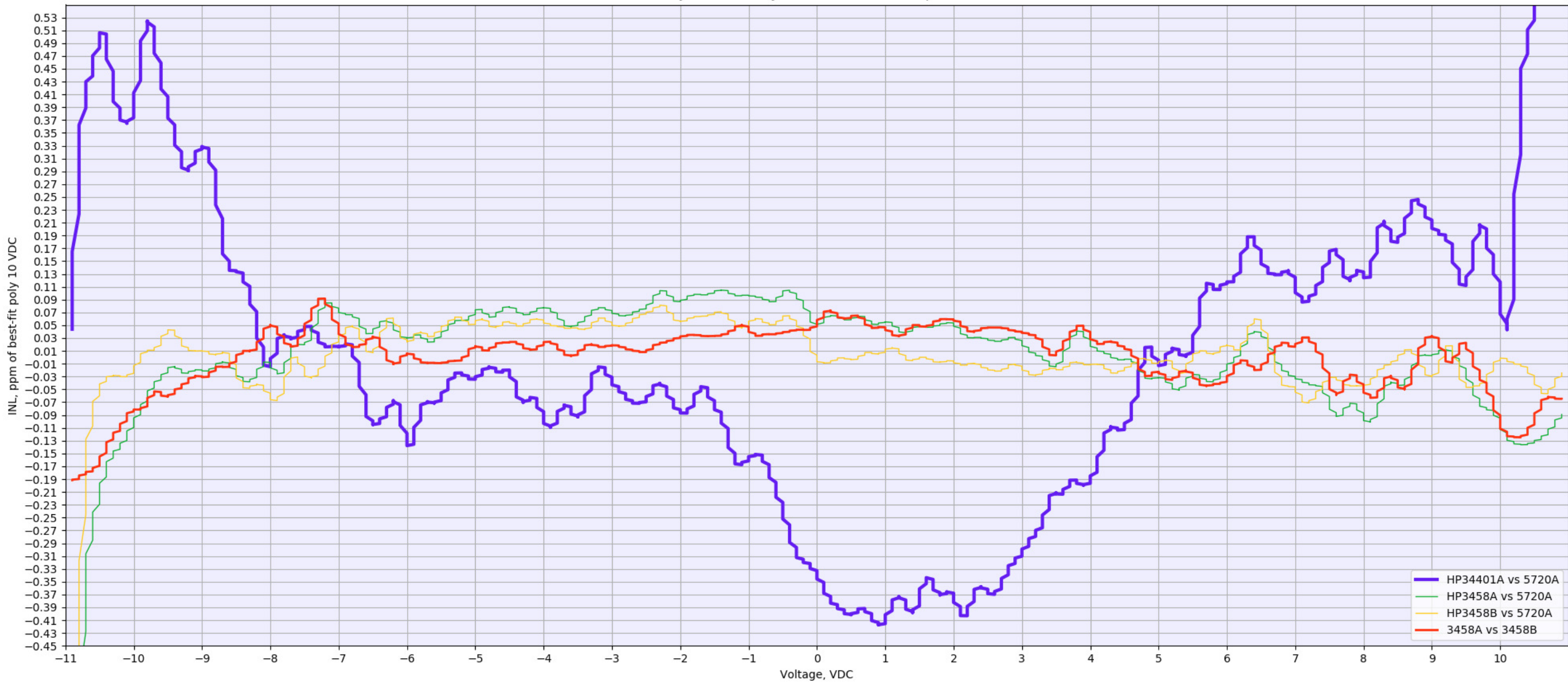
DCV gain range points verify gain of the DC voltage function, using uncorrected 24-hour MFC output. DC voltage offset of DUT is nulled before FS tests.

Test Description	Expected Value	Measured Value	Measurement Uncertainty	Lower Limit	Upper Limit	Deviation	DUT Spec	Test Status
Short 0 mVDC	0.000000E+00	0.19 μV	8.23 μ V	-11.230 μ V	11.230 μ V	N/A	3.00 μ V	PASS
Short 0.0 VDC	0.000000E+00	-0.26 μV	3.95 μ V	-9.950 μ V	9.950 μ V	N/A	6.00 μ V	PASS
Short 00.0 VDC	0.000000E+00	0.00 μV	3.32 μ V	-43.320 μ V	43.320 μ V	N/A	40.00 μ V	PASS
Short 000.0 VDC	0.000000E+00	52.00 μV	4.36 μ V	-604.360 μ V	604.360 μ V	N/A	0.60 mV	PASS
Short 0000.0 VDC	0.000000E+00	0.00 μV	6.45 μ V	-6006.450 μ V	6006.450 μ V	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	0.099999683	9.91 ppm	0.099993009	0.10000699	-3.165 ppm	60.00 ppm	PASS 4.53 %
-0.1 VDC (0.10 Range)	-0.1000000	-0.099999379	9.91 ppm	-0.10000699	-0.099993009	-6.210 ppm	60.00 ppm	PASS 8.88 %
0.1 VDC (1.00 Range)	0.1000000	0.10000022	9.91 ppm	0.099996409	0.10000359	2.250 ppm	26.00 ppm	PASS 6.27 %
0.5 VDC (1.00 Range)	0.5000000	0.50000029	4.05 ppm	0.49998497	0.50001502	0.590 ppm	26.00 ppm	PASS 1.96 %
1.0 VDC (1.00 Range)	1.0000000	0.99999944	4.05 ppm	0.99996995	1.00003	-0.560 ppm	26.00 ppm	PASS 1.86 %
-0.1 VDC (1.00 Range)	-0.1000000	-0.1000003	9.91 ppm	-0.10000359	-0.099996409	3.000 ppm	26.00 ppm	PASS 8.35 %
-0.5 VDC (1.00 Range)	-0.5000000	-0.50000077	4.05 ppm	-0.50001502	-0.49998497	1.550 ppm	26.00 ppm	PASS 5.16 %
-1.0 VDC (1.00 Range)	-1.0000000	-1.000001	4.05 ppm	-1.00003	-0.99996995	1.000 ppm	26.00 ppm	PASS 3.33 %
1.0 VDC (10.00 Range)	1.0000000	0.99999975	4.05 ppm	0.99997695	1.0000231	-0.250 ppm	19.00 ppm	PASS 1.08 %
5.0 VDC (10.00 Range)	5.0000000	5.0000003	1.47 ppm	4.9998977	5.0001023	0.060 ppm	19.00 ppm	PASS 0.29 %
10.0 VDC (10.00 Range)	10.0000000	10	2.36 ppm	9.9997864	10.000214	0.000 ppm	19.00 ppm	PASS 0.00 %
-1.0 VDC (10.00 Range)	-1.0000000	-1.0000034	4.05 ppm	-1.0000231	-0.99997695	3.350 ppm	19.00 ppm	PASS 14.53 %
-5.0 VDC (10.00 Range)	-5.0000000	-5.0000054	1.47 ppm	-5.0001023	-4.9998977	1.080 ppm	19.00 ppm	PASS 5.28 %
-10.0 VDC (10.00 Range)	-10.0000000	-10.000012	2.36 ppm	-10.000214	-9.9997864	1.200 ppm	19.00 ppm	PASS 5.62 %
10 VDC (100.00 Range)	10.0000000	9.999987	2.36 ppm	9.9997164	10.000284	-1.300 ppm	26.00 ppm	PASS 4.58 %
50 VDC (100.00 Range)	50.0000000	49.99995	5.45 ppm	49.998427	50.001573	-1.000 ppm	26.00 ppm	PASS 3.18 %
100 VDC (100.00 Range)	100.0000000	99.999782	5.45 ppm	99.996855	100.00315	-2.180 ppm	26.00 ppm	PASS 6.93 %
-10 VDC (100.00 Range)	-10.0000000	-10.000019	2.36 ppm	-10.000284	-9.9997164	1.900 ppm	26.00 ppm	PASS 6.70 %
-50 VDC (100.00 Range)	-50.0000000	-50.000041	5.45 ppm	-50.001573	-49.998427	0.830 ppm	26.00 ppm	PASS 2.64 %
-100 VDC (100.00 Range)	-100.0000000	-100.00001	5.45 ppm	-100.00315	-99.996855	0.050 ppm	26.00 ppm	PASS 0.16 %
100 VDC (1000.00 Range)	100.0000000	99.99942	5.45 ppm	99.996855	100.00315	-5.800 ppm	26.00 ppm	PASS 18.44 %
200 VDC (1000.00 Range)	200.0000000	199.99921	5.45 ppm	199.99371	200.00629	-3.925 ppm	26.00 ppm	PASS 12.48 %
1000 VDC (1000.00 Range)	1000.0000000	999.99887	7.55 ppm	999.95645	1000.0435	-1.130 ppm	26.00 ppm	PASS 2.59 %
-100 VDC (1000.00 Range)	-100.0000000	-99.99992	5.45 ppm	-100.00315	-99.996855	-0.800 ppm	26.00 ppm	PASS 2.54 %
-200 VDC (1000.00 Range)	-200.0000000	-199.99973	5.45 ppm	-200.00629	-199.99371	-1.350 ppm	26.00 ppm	PASS 4.29 %
-1000 VDC (1000.00 Range)	-1000.0000000	-1000.0009	7.55 ppm	-1000.0435	-999.95645	0.900 ppm	26.00 ppm	PASS 3.82 %

DC Gain linearity verification. 3458A differential used as a reference.

10 G Ω impedance input selected for DUT. Both reference and DUT configured as fixed DCV10 range, NPLC 20, AZERO ENABLED.

Fluke 5720/HLK system linearity test, +/-10 VDC sweep on 34401A, NPLC20



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	0.9998127	1.000374	70.2 ppm	9.9968252E-01	9.9994288E-01	561.405 ppm	60.0 ppm	INFO
1.9 Ω	1.8998846	1.900389	8.3 ppm	1.8997548E+00	1.9000144E+00	265.490 ppm	60.0 ppm	INFO
10 Ω	10.000321	10.000721	8.3 ppm	9.9996380E+00	1.0001004E+01	39.999 ppm	60.0 ppm	PASS 58.56 %
19 Ω	19.000007	19.000403	4.3 ppm	1.8998785E+01	1.9001229E+01	20.842 ppm	60.0 ppm	PASS 32.41 %
100 Ω	100.00322	100.00329	4.3 ppm	9.9996790E+01	1.0000965E+02	0.700 ppm	60.0 ppm	PASS 1.09 %
190 Ω	189.9982	189.99916	3.3 ppm	1.8999282E+02	1.9000358E+02	5.053 ppm	25.0 ppm	PASS 17.85 %
1.0 kΩ	1000.01	1000.0093	3.3 ppm	9.9998170E+02	1.0000383E+03	-0.700 ppm	25.0 ppm	PASS 2.47 %
1.9 kΩ	1900.0237	1900.0338	3.3 ppm	1.8999699E+03	1.9000775E+03	5.289 ppm	25.0 ppm	PASS 18.69 %
10 kΩ	9999.791	9999.7911	3.3 ppm	9.9995080E+03	1.0000074E+04	0.010 ppm	25.0 ppm	PASS 0.04 %
19 kΩ	18999.393	18999.442	3.3 ppm	1.8998855E+04	1.8999931E+04	2.553 ppm	25.0 ppm	PASS 9.02 %
100 kΩ	99994.7	99994.359	3.3 ppm	9.9991870E+04	9.9997530E+04	-3.410 ppm	25.0 ppm	PASS 12.05 %
190 kΩ	189988.6	189990.95	5.3 ppm	1.8994770E+05	1.9002950E+05	12.343 ppm	210.0 ppm	PASS 5.73 %
1.0 MΩ	999979.2	999982.36	5.3 ppm	9.9976390E+05	1.0001945E+06	3.160 ppm	210.0 ppm	PASS 1.47 %
1.9 MΩ	1899962	1900015.4	14.3 ppm	1.8970659E+06	1.9028581E+06	28.106 ppm	1510.0 ppm	PASS 1.84 %
10 MΩ	9998943	9998800.4	14.3 ppm	9.9837016E+06	1.0014184E+07	-14.257 ppm	1510.0 ppm	PASS 0.94 %
19 MΩ	18998193	19000001	60.3 ppm	1.8938153E+07	1.9058233E+07	95.167 ppm	3100.0 ppm	PASS 3.01 %
100 MΩ	1.0000636E+08	1.0005332E+08	60.3 ppm	9.9690310E+07	1.0032241E+08	469.520 ppm	3100.0 ppm	PASS 14.86 %

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 0.0009400 Ω	3.000e-03 Ω	-0.003	0.003	N/A	6.0000e-05 Ω	PASS
1.0 kΩ	Range 0.0011800 Ω	5.000e-03 Ω	-0.005	0.005	N/A	2.5000e-05 Ω	PASS
10 kΩ	Range 0.0091000 Ω	5.000e-02 Ω	-0.05	0.05	N/A	2.5000e-05 Ω	PASS
100 kΩ	Range 0.0520000 Ω	5.000e-01 Ω	-0.5	0.5	N/A	2.5000e-05 Ω	PASS
1.0 MΩ	Range -0.2600000 Ω	1.000e+01 Ω	-10	10	N/A	2.5000e-05 Ω	PASS
10 MΩ	Range 5.2000000 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 0.2297920 Ω	3.500e-01 Ω	-0.35	0.35	N/A	6.0000e-05 Ω	PASS
1.0 kΩ	Range 0.2288700 Ω	4.000e-01 Ω	-0.4	0.4	N/A	2.5000e-05 Ω	PASS
10 kΩ	Range 0.2311000 Ω	4.000e-01 Ω	-0.4	0.4	N/A	2.5000e-05 Ω	PASS
100 kΩ	Range 0.2590000 Ω	5.500e-01 Ω	-0.55	0.55	N/A	2.5000e-05 Ω	PASS
1.0 MΩ	Range 0.2300000 Ω	5.500e+00 Ω	-5.5	5.5	N/A	2.5000e-05 Ω	PASS
10 MΩ	Range 2.3000000 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	1.0004807	0.0129 %	0.99872091	1.00127909	VAC	0.0481 %	0.1150 %	PASS 37.59 %
1.0 VAC @ 1.0 MHz	1.0	1.1860877	0.2500 %	0.6965	1.3035	VAC	18.6088 %	30.1000 %	PASS 61.31 %
10 VAC @ 60 Hz	10	10.008166	0.2085 %	9.94265	10.05735	VAC	0.0817 %	0.3650 %	PASS 14.24 %
10 VAC @ 200 Hz	10	9.9867292	0.0073 %	9.9627682	10.0372318	VAC	-0.1327 %	0.3650 %	PASS 35.64 %
10 VAC @ 500 Hz	10	9.9980893	0.0073 %	9.9627682	10.0372318	VAC	-0.0191 %	0.3650 %	PASS 5.13 %
10 VAC @ 50.0 kHz	10	10.005469	0.0129 %	9.9872091	10.0127909	VAC	0.0547 %	0.1150 %	PASS 42.76 %
10 VAC @ 1.0 MHz	10	6.6615862	0.3000 %	6.95	13.05	VAC	-33.3841 %	30.2000 %	FAIL 109.46 %

ACV SYNC Test	DUT	w/Guardband	Low Limit	Hi limit	Measured	24h spec	Result, % spec
0.01 V AC+DC @ 60 Hz	0.010004928	0.0312 %	0.009950	0.010050	0.0493 %	0.4650 %	PASS 9.93 %
0.01 V AC+DC @ 100 Hz	0.009981716	0.0312 %	0.009950	0.010050	-0.1828 %	0.4650 %	PASS 36.85 %
0.01 V AC+DC @ 1.0 kHz	0.009995105	0.0312 %	0.009950	0.010050	-0.0489 %	0.4650 %	PASS 9.86 %
0.01 V AC+DC @ 10.0 kHz	0.009996315	0.0312 %	0.009987	0.010013	-0.0368 %	0.0950 %	PASS 29.19 %
0.01 V AC+DC @ 20.0 kHz	0.009995715	0.0312 %	0.009987	0.010013	-0.0429 %	0.0950 %	PASS 33.95 %
0.01 V AC+DC @ 50.0 kHz	0.009992935	0.0447 %	0.009974	0.010026	-0.0707 %	0.2150 %	PASS 27.20 %
0.01 V AC+DC @ 100.0 kHz	0.010021674	0.0773 %	0.009916	0.010084	0.2167 %	0.7650 %	PASS 25.73 %
0.1 V AC+DC @ 10 Hz	0.099460025	0.0101 %	0.099325	0.100675	-0.5400 %	0.6650 %	PASS 79.98 %
0.1 V AC+DC @ 20 Hz	0.09976018	0.0101 %	0.099525	0.100475	-0.2398 %	0.4650 %	PASS 50.47 %
0.1 V AC+DC @ 60 Hz	0.10006464	0.0101 %	0.099525	0.100475	0.0646 %	0.4650 %	PASS 13.60 %
0.1 V AC+DC @ 100 Hz	0.099856914	0.0101 %	0.099525	0.100475	-0.1431 %	0.4650 %	PASS 30.11 %
0.1 V AC+DC @ 1.0 kHz	0.099992509	0.0101 %	0.099525	0.100475	-0.0075 %	0.4650 %	PASS 1.58 %
0.1 V AC+DC @ 10.0 kHz	0.10001247	0.0101 %	0.099895	0.100105	0.0125 %	0.0950 %	PASS 11.86 %
0.1 V AC+DC @ 20.0 kHz	0.10002383	0.0101 %	0.099895	0.100105	0.0238 %	0.0950 %	PASS 22.67 %
0.1 V AC+DC @ 50.0 kHz	0.10009828	0.0171 %	0.099768	0.100232	0.0983 %	0.2150 %	PASS 42.34 %
0.1 V AC+DC @ 100.0 kHz	0.10061228	0.0461 %	0.099189	0.100811	0.6123 %	0.7650 %	PASS 75.49 %
0.1 V AC+DC @ 300.0 kHz	0.10650127	0.0764 %	0.095899	0.104101	6.5013 %	4.0250 %	FAIL 158.51 %
0.1 V AC+DC @ 500.0 kHz	0.1134529	0.1500 %	0.069750	0.130250	13.4529 %	30.1000 %	PASS 44.47 %
0.1 V AC+DC @ 1.0 MHz	0.10349627	0.3000 %	0.069600	0.130400	3.4963 %	30.1000 %	PASS 11.50 %
1.0 V AC+DC @ 10 Hz	0.99455235	0.0050 %	0.995300	1.004700	-0.5448 %	0.4650 %	FAIL 115.92 %
1.0 V AC+DC @ 20 Hz	0.9975733	0.0050 %	0.996300	1.003700	-0.2427 %	0.3650 %	PASS 65.59 %
1.0 V AC+DC @ 60 Hz	1.0007624	0.0050 %	0.996300	1.003700	0.0762 %	0.3650 %	PASS 20.61 %
1.0 V AC+DC @ 100 Hz	0.99860737	0.0050 %	0.996300	1.003700	-0.1393 %	0.3650 %	PASS 37.64 %
1.0 V AC+DC @ 1.0 kHz	0.99999521	0.0050 %	0.996300	1.003700	-0.0005 %	0.3650 %	PASS 0.13 %
1.0 V AC+DC @ 10.0 kHz	1.0001079	0.0050 %	0.999400	1.000600	0.0108 %	0.0550 %	PASS 17.99 %
1.0 V AC+DC @ 20.0 kHz	1.0001088	0.0050 %	0.999400	1.000600	0.0109 %	0.0550 %	PASS 18.16 %
1.0 V AC+DC @ 50.0 kHz	1.0005039	0.0080 %	0.998770	1.001230	0.0504 %	0.1150 %	PASS 40.95 %
1.0 V AC+DC @ 100.0 kHz	1.0070402	0.0113 %	0.994237	1.005763	0.7040 %	0.5650 %	FAIL 122.16 %
1.0 V AC+DC @ 300.0 kHz	1.1033028	0.0395 %	0.959355	1.040645	10.3303 %	4.0250 %	FAIL 254.16 %
1.0 V AC+DC @ 500.0 kHz	1.157206	0.1100 %	0.697900	1.302100	15.7206 %	30.1000 %	PASS 52.04 %
1.0 V AC+DC @ 1.0 MHz	1.1866442	0.1800 %	0.697200	1.302800	18.6644 %	30.1000 %	PASS 61.64 %
10.0 V AC+DC @ 10 Hz	9.9465516	0.0048 %	9.948018	10.051982	-0.5345 %	0.5150 %	FAIL 102.82 %
10.0 V AC+DC @ 20 Hz	9.9758165	0.0048 %	9.963018	10.036982	-0.2418 %	0.3650 %	PASS 65.39 %
10.0 V AC+DC @ 60 Hz	10.007796	0.0048 %	9.963018	10.036982	0.0780 %	0.3650 %	PASS 21.08 %
10.0 V AC+DC @ 100 Hz	9.9860967	0.0048 %	9.963018	10.036982	-0.1390 %	0.3650 %	PASS 37.60 %
10.0 V AC+DC @ 1.0 kHz	10.000014	0.0048 %	9.963018	10.036982	0.0001 %	0.3650 %	PASS 0.04 %
10.0 V AC+DC @ 10.0 kHz	10.001105	0.0048 %	9.994018	10.005982	0.0110 %	0.0550 %	PASS 18.47 %
10.0 V AC+DC @ 20.0 kHz	10.001121	0.0048 %	9.994018	10.005982	0.0112 %	0.0550 %	PASS 18.74 %
10.0 V AC+DC @ 50.0 kHz	10.00229	0.0080 %	9.987696	10.012304	0.0229 %	0.1150 %	PASS 18.61 %
10.0 V AC+DC @ 100.0 kHz	10.062566	0.0106 %	9.942436	10.057564	0.6257 %	0.5650 %	FAIL 108.69 %
10.0 V AC+DC @ 300.0 kHz	10.897667	0.0321 %	9.594286	10.405714	8.9767 %	4.0250 %	FAIL 221.26 %
10.0 V AC+DC @ 500.0 kHz	10.422302	0.1100 %	6.969000	13.031000	4.2230 %	30.2000 %	PASS 13.93 %
100.0 V AC+DC @ 60 Hz	100.0752	0.0060 %	99.628982	100.371018	0.0752 %	0.3650 %	PASS 20.26 %
100.0 V AC+DC @ 100 Hz	99.856365	0.0060 %	99.628982	100.371018	-0.1436 %	0.3650 %	PASS 38.71 %
100.0 V AC+DC @ 1.0 kHz	99.998784	0.0060 %	99.628982	100.371018	-0.0012 %	0.3650 %	PASS 0.33 %
100.0 V AC+DC @ 10.0 kHz	100.00493	0.0060 %	99.938982	100.061018	0.0049 %	0.0550 %	PASS 8.07 %
100.0 V AC+DC @ 20.0 kHz	99.991087	0.0065 %	99.938500	100.061500	-0.0089 %	0.0550 %	PASS 14.49 %
100.0 V AC+DC @ 50.0 kHz	99.967544	0.0170 %	99.867998	100.132002	-0.0325 %	0.1150 %	PASS 24.59 %
100.0 V AC+DC @ 100.0 kHz	100.55291	0.0400 %	99.394997	100.605003	0.5529 %	0.5650 %	PASS 91.37 %
750.0 V AC+DC @ 60 Hz	750.58884	0.0074 %	747.207270	752.792730	0.0785 %	0.3650 %	PASS 21.04 %
750.0 V AC+DC @ 100 Hz	748.91512	0.0074 %	747.207270	752.792730	-0.1447 %	0.3650 %	PASS 38.77 %
750.0 V AC+DC @ 1.0 kHz	749.96309	0.0074 %	747.207270	752.792730	-0.0049 %	0.3650 %	PASS 1.32 %

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	8.705E-08						INFO
0.5 mADC	0.0005	0.00050008925	33.64 ppm	0.0004944832	0.0005055168	0.0178 %	11000 ppm	PASS 1.62 %
1.0 mADC	0.001	0.001000086	33.64 ppm	0.0009889664	0.001011034	0.0086 %	11000 ppm	PASS 0.78 %
-1.0 mADC	-0.001	-0.00099989705	33.64 ppm	-0.001011034	-0.0009889664	-0.0103 %	11000 ppm	PASS 0.93 %
-0.5 mADC	-0.0005	-0.0004999006	33.64 ppm	-0.0005055168	-0.0004944832	-0.0199 %	11000 ppm	PASS 1.80 %
Zero 00 mADC	0	1.0025E-07						INFO
5 mADC	0.005	0.0050000453	32.27 ppm	0.004999089	0.005000911	9.060 ppm	150 ppm	PASS 4.97 %
10 mADC	0.01	0.0099999697	32.27 ppm	0.009998177	0.01000182	-3.030 ppm	150 ppm	PASS 1.66 %
-10 mADC	-0.01	-0.0099997809	32.27 ppm	-0.01000182	-0.009998177	-21.915 ppm	150 ppm	PASS 12.02 %
-5 mADC	-0.005	-0.0049998511	32.27 ppm	-0.005000911	-0.004999089	-29.770 ppm	150 ppm	PASS 16.33 %
Zero 000 mADC	0	1.0125E-07						INFO
50 mADC	0.05	0.049999858	53.32 ppm	0.04999033	0.05000967	-2.840 ppm	140 ppm	PASS 1.47 %
100 mADC	0.1	0.09999844	53.32 ppm	0.09998067	0.1000193	-15.600 ppm	140 ppm	PASS 8.07 %
-100 mADC	-0.1	-0.099998232	53.32 ppm	-0.1000193	-0.09998067	-17.680 ppm	140 ppm	PASS 9.15 %
-50 mADC	-0.05	-0.049999723	53.32 ppm	-0.05000967	-0.04999033	-5.540 ppm	140 ppm	PASS 2.87 %
Zero ADC	0	6.6E-08						INFO
0.5 ADC	0.5	0.50000596	115.22 ppm	0.4996624	0.5003376	11.920 ppm	560 ppm	PASS 1.77 %
1.0 ADC	1	1.000094	115.22 ppm	0.9993248	1.000675	94.050 ppm	560 ppm	PASS 13.93 %
-1.0 ADC	-1	-1.0001407	115.22 ppm	-1.000675	-0.9993248	140.750 ppm	560 ppm	PASS 20.85 %
-0.5 ADC	-0.5	-0.50005663	115.22 ppm	-0.5003376	-0.4996624	113.260 ppm	560 ppm	PASS 16.77 %
Zero ADC	0	9.24E-08						INFO
1.0 ADC	1	1.0001291	115.22 ppm	0.9993248	1.000675	129.100 ppm	560 ppm	PASS 19.12 %
2.0 ADC	2	2.0007165	115.22 ppm	1.99737	2.00263	0.0358 %	1200 ppm	PASS 27.24 %
-2.0 ADC	-2	-2.0010744	115.22 ppm	-2.00263	-1.99737	0.0537 %	1200 ppm	PASS 40.84 %
-1.0 ADC	-1	-1.0005602	115.22 ppm	-1.000675	-0.9993248	560.250 ppm	560 ppm	PASS 82.97 %

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	1.0	0.99746	0.0385 %	0.99518909	1.00481091	-0.2540 %	0.4600 %	PASS 52.80 %
3.0 A AC @ 50 Hz	3.0	2.9925	0.0385 %	2.98556727	3.01443273	-0.2500 %	0.4600 %	PASS 51.97 %
1.0 A AC @ 60 Hz	1.0	0.99766	0.0385 %	0.99526182	1.00473818	-0.2340 %	0.4600 %	PASS 49.39 %
3.0 A AC @ 60 Hz	3.0	2.993	0.0385 %	2.98578546	3.01421454	-0.2333 %	0.4600 %	PASS 49.25 %
1.0 A AC @ 1.0 kHz	1.0	1.00036	0.0385 %	0.99526182	1.00473818	0.0360 %	0.4600 %	PASS 7.60 %
3.0 A AC @ 1.0 kHz	3.0	3.0012	0.0385 %	2.98556727	3.01443273	0.0400 %	0.4600 %	PASS 8.31 %
1.0 A AC @ 5.0 kHz	1.0	0.99935	0.0385 %	0.99518909	1.00481091	-0.0650 %	0.4600 %	PASS 13.51 %
3.0 A AC @ 5.0 kHz	3.0	3.0023	0.0385 %	2.98556727	3.01443273	0.0767 %	0.4600 %	PASS 15.94 %

Test completed

Test date	11 February 2019 18:41
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Lab temperature maintained +24°C ±2°C

Internal use only

Not validated