

# Keysight 3458A/X03

Manufacturer	HEWLETT-PACKARD	Calibration date	January 01 1970
Model Number	3458A	Ambient Temperature	23.70 °C
Serial	n/a	Relative Humidity	32.63 %
ID Number	Post-Calibration test	Pressure	995.25
Notes	Test front spade cables	Test type	Front terminals

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

Reference standard	Mfg	Model	Options	Serial / Unc	CEID	Calibration date	Due date
DC STD	xDevs.com	792X[2]	9.9999751 VDC	±0.5 ppm	XD01	03/03/2020	03/03/2021
DC STD	Fluke	732Bx	10.0000328	±0.7 ppm	6480002	03/26/2020	06/26/2020
STDR	ESI	SR104	10000.0026 KΩ	±0.15 ppm	G202088930104	03/17/2020	03/17/2021
STDR	xDevs.com/Fluke	SL935	1.00006085 Ω	±0.17 ppm	XR03	09/13/2019	09/13/2020
STDR	xDevs.com/Fluke	SL935	9999.9737 kΩ	±0.17 ppm	XR02	09/13/2019	09/13/2020
MFC	Fluke	5720A	03/HLK	E2E6	XC01	03/28/2020	03/28/2021
Amplifier	Fluke	5725A		5930005	XB01	03/28/2020	03/28/2021
DMM	HP	3458A	001,X02	MY45040325	XD2	06/16/2019	12/16/2019
DMM	HP	3458A	001,X02	X	XD3	03/28/2020	03/28/2021

MFC last calibrated	0.0 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% REL</b>	MFC Calibrate date	2020-03-29 00:00:00
MFC Calibrate date Zero	2020-03-29 00:00:00	Calibrate date WB Flatness	2020-03-29 00:00:00
Calibrate date WB Gain	2020-03-29 00:00:00	CAL CONST 6.5V reference voltage	6.95748103013
CAL CONST 13V reference voltage	13.8553028457	CAL CONST 22V range positive zero	398.1795
CAL CONST 22V range negative zero	398.17896	CAL CONST DAC Linearity	0.253467184463
CAL CONST 10KOHM true output resistance	9999.80044044	CAL CONST 10KOHM standard resistance	9998.74764038
CAL CONST, Zero calibration temperature	22.8999996185	CAL CONST, All calibration temp	22.8999996185
Booster type	VB5725,IB5725	Current output posts	AUX
Calibrate date 5725A AMP	2020-03-29 00:00:00	Calibrated days ago	Debug
CAL CONST, Amp ACAL temperature	22.8999996185	CAL CONST, Amp CalCheck temperature	22.8999996185

Total uncertainty of each calibration point calculated with RSS



Meter Info	HP3458A	Last calibration date	7/24/2018
CALSTR?	"3/29/2020, TEMP=35.1, xDevs"	Test date	01 January 1970 01:28
DUT Internal TEMP?	35.4	DUT Calibrations number?	188
Self-test result?	103,"SYNTAX -- Q Expected command header."	ACAL ALL result?	0,"NO ERROR"
Firmware	9,2	Options	1,0
CAL? 72	0.997703684	CAL? 1,1	39998.8701
CAL? 2,1	7.180706	CAL? Res 73	0.997502596
CAL 0 TEMP	35.24	CAL 10V TEMP	35.49
CAL 10KOhm TEMP	38.80	CAL? DCI	0.997864636

## Service information

CAL DUMP

## Destructive overloads?

130, DESTRUCTIVE OVERLOADS valid 2941

## Reference

## Verification

## DUT Condition

xfer-calkit

Test procedure : \$Id: hp3458a.py | Rev 1500 | 2019/07/24 08:56:31 tin\_fpga \$

Source procedure : \$Id: f5720b.py | Rev 1498 | 2019/07/23 09:36:41 tin fpga \$

Main DC Voltage ranges performance test.  
Checks zero offset and +/-FS calibration on all ranges

The following test for the offset voltage specification using MFC 0V source in 4-wire ext sense mode as reference.  
DCV gain range points verify gain of the DC voltage function, using uncorrected 24-hour MFC output. DC voltage offset of DUT is nulled before FS tests.

Test Description	Expected Value	Measured Value	Measurement Uncertainty	Lower Limit	Upper Limit	Deviation	DUT Spec	Test Status
Short 0 mVDC	0.0000000E+00	<b>0.89 μV</b>	0.75 μV	-0.910 μV	0.910 μV	N/A	0.16 μV	PASS
DCV Test	0.1V-1000V	DUT	Source unc.	Low Limit	Hi limit	Measured	24h spec	Result
0.019 VDC (0.10 Range)	0.0190000	<b>0.019000021</b>	7.27 ppm	0.018999514	0.019000486	1.108 ppm	18.29 ppm	PASS 2.81 %
0.1 VDC (0.10 Range)	0.1000000	<b>0.09999992</b>	7.27 ppm	0.099998723	0.10000128	-0.797 ppm	5.50 ppm	PASS 4.37 %
0.11 VDC (0.10 Range)	0.1100000	<b>0.1099999</b>	7.27 ppm	0.10999863	0.11000137	-0.884 ppm	5.23 ppm	PASS 4.94 %
-0.019 VDC (0.10 Range)	-0.0190000	<b>-0.018999971</b>	7.27 ppm	-0.019000486	-0.018999514	-1.521 ppm	18.29 ppm	PASS 3.86 %
-0.1 VDC (0.10 Range)	-0.1000000	<b>-0.099999961</b>	7.27 ppm	-0.10000128	-0.099998723	-0.389 ppm	5.50 ppm	PASS 2.13 %
-0.11 VDC (0.10 Range)	-0.1100000	<b>-0.10999995</b>	7.27 ppm	-0.11000137	-0.10999863	-0.441 ppm	5.23 ppm	PASS 2.46 %
0.19 VDC (1.00 Range)	0.1900000	<b>0.18999979</b>	7.27 ppm	0.18999803	0.19000197	-1.112 ppm	3.08 ppm	PASS 7.04 %
1.0 VDC (1.00 Range)	1.0000000	<b>0.99999896</b>	3.86 ppm	0.99999434	1.0000057	-1.037 ppm	1.80 ppm	PASS 12.17 %
1.1 VDC (1.00 Range)	1.1000000	<b>1.0999989</b>	3.86 ppm	1.0999938	1.1000062	-0.977 ppm	1.77 ppm	PASS 11.50 %
-0.19 VDC (1.00 Range)	-0.1900000	<b>-0.19000015</b>	7.27 ppm	-0.19000197	-0.18999803	0.783 ppm	3.08 ppm	PASS 4.96 %
-1.0 VDC (1.00 Range)	-1.0000000	<b>-0.99999947</b>	3.86 ppm	-1.0000057	-0.99999434	-0.527 ppm	1.80 ppm	PASS 6.18 %
-1.1 VDC (1.00 Range)	-1.1000000	<b>-1.0999993</b>	3.86 ppm	-1.1000062	-1.0999938	-0.667 ppm	1.77 ppm	PASS 7.85 %
1.9 VDC (10.00 Range)	1.9000000	<b>1.8999996</b>	3.86 ppm	1.8999912	1.9000088	-0.217 ppm	0.76 ppm	PASS 2.76 %
10.0 VDC (10.00 Range)	10.0000000	<b>9.9999985</b>	2.77 ppm	9.9999668	10.000033	-0.151 ppm	0.55 ppm	PASS 2.67 %
11.0 VDC (10.00 Range)	11.0000000	<b>11</b>	2.73 ppm	10.999964	11.000036	0.010 ppm	0.55 ppm	PASS 0.18 %
-1.9 VDC (10.00 Range)	-1.9000000	<b>-1.9000001</b>	3.86 ppm	-1.9000088	-1.8999912	0.074 ppm	0.76 ppm	PASS 0.94 %
-10.0 VDC (10.00 Range)	-10.0000000	<b>-10.000001</b>	2.77 ppm	-10.000033	-9.9999668	0.072 ppm	0.55 ppm	PASS 1.27 %
-11.0 VDC (10.00 Range)	-11.0000000	<b>-10.999999</b>	2.73 ppm	-11.000036	-10.999964	-0.090 ppm	0.55 ppm	PASS 1.62 %
19 VDC (100.00 Range)	19.0000000	<b>19.000091</b>	2.77 ppm	18.99987	19.00013	4.800 ppm	4.08 ppm	PASS 48.68 %
100 VDC (100.00 Range)	100.0000000	<b>100.00008</b>	3.73 ppm	99.999347	100.00065	0.753 ppm	2.80 ppm	PASS 8.07 %
110 VDC (100.00 Range)	110.0000000	<b>110.00006</b>	3.73 ppm	109.99928	110.00072	0.541 ppm	2.77 ppm	PASS 5.82 %
-19 VDC (100.00 Range)	-19.0000000	<b>-18.999921</b>	2.77 ppm	-19.00013	-18.99987	-4.156 ppm	4.08 ppm	PASS 42.14 %
-100 VDC (100.00 Range)	-100.0000000	<b>-99.999893</b>	3.73 ppm	-100.00065	-99.999347	-1.070 ppm	2.80 ppm	PASS 11.48 %
-110 VDC (100.00 Range)	-110.0000000	<b>-109.99988</b>	3.73 ppm	-110.00072	-109.99928	-1.131 ppm	2.77 ppm	PASS 12.17 %
190 VDC (1000.00 Range)	190.0000000	<b>190.00013</b>	3.73 ppm	189.99872	190.00128	0.675 ppm	3.03 ppm	PASS 7.02 %
500 VDC (1000.00 Range)	500.0000000	<b>500.00144</b>	3.73 ppm	499.99678	500.00322	2.877 ppm	2.70 ppm	PASS 38.56 %
1000 VDC (1000.00 Range)	1000.0000000	<b>1000.0026</b>	5.45 ppm	999.97995	1000.02	2.592 ppm	2.60 ppm	PASS 9.83 %
-190 VDC (1000.00 Range)	-190.0000000	<b>-190.00001</b>	3.73 ppm	-190.00128	-189.99872	0.034 ppm	3.03 ppm	PASS 0.35 %
-500 VDC (1000.00 Range)	-500.0000000	<b>-500.00117</b>	3.73 ppm	-500.00322	-499.99678	2.343 ppm	2.70 ppm	PASS 9.32 %
-1000 VDC (1000.00 Range)	-1000.0000000	<b>-1000.0024</b>	5.45 ppm	-1000.02	-999.97995	2.445 ppm	2.60 ppm	PASS 9.28 %

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

OHM Test	Reference	DUT	Source unc.	Low Limit	Hi limit	Measured	24h spec	Result
1 Ω	0.9997911 Ω	<b>0.99977441 Ω</b>	32.0 ppm	9.9972411E-01	9.9985809E-01	-16.693 ppm	35.01 ppm	PASS, 17.60 % of 94.86 ppm
1.9 Ω	1.899834 Ω	<b>1.8998047 Ω</b>	25.0 ppm	1.8997470E+00	1.8999210E+00	-15.432 ppm	20.79 ppm	PASS, 23.73 % of 65.03 ppm
10 Ω	10.000601 Ω	<b>10.000575 Ω</b>	5.0 ppm	1.0000471E+01	1.0000731E+01	-2.646 ppm	8.00 ppm	PASS, 14.02 % of 18.87 ppm
19 Ω	19.000308 Ω	<b>19.000284 Ω</b>	4.0 ppm	1.8999875E+01	1.9000741E+01	-1.238 ppm	18.79 ppm	PASS, 3.22 % of 38.42 ppm
100 Ω	99.99682 Ω	<b>99.996757 Ω</b>	1.7 ppm	9.9996050E+01	9.9997590E+01	-0.631 ppm	6.00 ppm	PASS, 5.06 % of 12.47 ppm
190 Ω	189.99493 Ω	<b>189.99419 Ω</b>	1.7 ppm	1.8999403E+02	1.8999583E+02	-3.876 ppm	3.05 ppm	PASS, 55.46 % of 6.99 ppm
1.0 kΩ	1000.0272 kΩ	<b>1000.0253 kΩ</b>	1.7 ppm	1.0000233E+03	1.0000311E+03	-1.851 ppm	2.20 ppm	PASS, 33.29 % of 5.56 ppm
1.9 kΩ	1899.9094 kΩ	<b>1899.9038 kΩ</b>	1.7 ppm	1.8999004E+03	1.8999184E+03	-2.954 ppm	3.05 ppm	PASS, 42.28 % of 6.99 ppm
10 kΩ	9999.806 kΩ	<b>9999.8003 kΩ</b>	1.6 ppm	9.9997680E+03	9.9998440E+03	-0.565 ppm	2.20 ppm	PASS, 10.39 % of 5.44 ppm
19 kΩ	18999.295 kΩ	<b>18999.299 kΩ</b>	1.7 ppm	1.8999205E+04	1.8999385E+04	0.191 ppm	3.05 ppm	PASS, 2.73 % of 6.99 ppm
100 kΩ	99994.7 kΩ	<b>99994.558 kΩ</b>	2.0 ppm	9.9994280E+04	9.9995120E+04	-1.420 ppm	2.20 ppm	PASS, 23.88 % of 5.95 ppm
190 kΩ	189989.06 kΩ	<b>189989.16 kΩ</b>	2.0 ppm	1.8998578E+05	1.8999234E+05	0.521 ppm	15.26 ppm	PASS, 1.69 % of 30.79 ppm
1.0 MΩ	999980.8 MΩ	<b>999980.31 MΩ</b>	2.5 ppm	9.9996730E+05	9.9999430E+05	-0.492 ppm	11.00 ppm	PASS, 2.18 % of 22.56 ppm
1.9 MΩ	1899975.4 MΩ	<b>1899973.6 MΩ</b>	3.0 ppm	1.8998247E+06	1.9001261E+06	-0.960 ppm	76.32 ppm	PASS, 0.63 % of 152.75 ppm
10 MΩ	9999062 MΩ	<b>9998943.4 MΩ</b>	10.0 ppm	9.9984121E+06	9.9997119E+06	-11.863 ppm	55.00 ppm	PASS, 10.61 % of 111.80 ppm
19 MΩ	18998643 MΩ	<b>18999177 MΩ</b>	20.0 ppm	1.8987764E+07	1.9009522E+07	28.128 ppm	552.64 ppm	PASS, 2.54 % of 1105.99 ppm
100 MΩ	1.0000439E+08 MΩ	<b>1.0000759E+08 MΩ</b>	50.0 ppm	9.9948388E+07	1.0006039E+08	32.019 ppm	510.00 ppm	PASS, 3.12 % of 1024.89 ppm

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

OHM ZERO 4W	DUT	Source unc.	Low Limit	Hi limit	Measured	24h spec	Result
10 Ω	Range 0.0000068 Ω	5.000e-05 Ω	-5e-05	5e-05	N/A	8.0000e-06 Ω	PASS
100 Ω	Range -0.0000984 Ω	5.500e-04 Ω	-0.00055	0.00055	N/A	2.2000e-06 Ω	PASS
1.0 kΩ	Range -0.0000072 Ω	5.500e-03 Ω	-0.0055	0.0055	N/A	2.2000e-06 Ω	PASS
10 kΩ	Range -0.0001076 Ω	5.500e-02 Ω	-0.055	0.055	N/A	2.2000e-06 Ω	PASS
100 kΩ	Range 0.0010768 Ω	5.500e-01 Ω	-0.55	0.55	N/A	2.2000e-06 Ω	PASS
1.0 MΩ	Range 0.0717879 Ω	5.500e+00 Ω	-5.5	5.5	N/A	2.2000e-06 Ω	PASS
10 MΩ	Range 1.0406429 Ω	5.500e+01 Ω	-55	55	N/A	2.2000e-06 Ω	PASS
100 MΩ	Range 0.4306109 Ω	5.500e+02 Ω	-550	550	N/A	2.2000e-06 Ω	PASS
1 GΩ	Range 0.3229582 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 0.2641401 Ω	3.000e-01 Ω	-0.3	0.3	N/A	8.0000e-06 Ω	PASS
100 Ω	Range 0.2620507 Ω	3.500e-01 Ω	-0.35	0.35	N/A	2.2000e-06 Ω	PASS
1.0 kΩ	Range 0.2608287 Ω	4.000e-01 Ω	-0.4	0.4	N/A	2.2000e-06 Ω	PASS
10 kΩ	Range 0.2547521 Ω	4.000e-01 Ω	-0.4	0.4	N/A	2.2000e-06 Ω	PASS
100 kΩ	Range 0.2336650 Ω	5.500e-01 Ω	-0.55	0.55	N/A	2.2000e-06 Ω	PASS
1.0 MΩ	Range 0.3804759 Ω	5.500e+00 Ω	-5.5	5.5	N/A	2.2000e-06 Ω	PASS
10 MΩ	Range 1.7224421 Ω	5.500e+01 Ω	-55	55	N/A	2.2000e-06 Ω	PASS
100 MΩ	Range 1.3277160 Ω	5.500e+02 Ω	-550	550	N/A	2.2000e-06 Ω	PASS
1 GΩ	Range 1.2200633 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 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	<b>0.0099988222</b>	0.0312 %	-0.290006	0.310006	-0.0118 %	3000.0300 %	PASS 0.00 %
0.01 V AC+DC @ 20 Hz	<b>0.0099986181</b>	0.0312 %	-0.290006	0.310006	-0.0138 %	3000.0300 %	PASS 0.00 %
0.01 V AC+DC @ 40 Hz	<b>0.0099986013</b>	0.0312 %	-0.290006	0.310006	-0.0140 %	3000.0300 %	PASS 0.00 %
0.01 V AC+DC @ 100 Hz	<b>0.0099985287</b>	0.0312 %	-0.100005	0.120005	-0.0147 %	1100.0200 %	PASS 0.00 %
0.01 V AC+DC @ 1.0 kHz	<b>0.0099983819</b>	0.0312 %	-0.100005	0.120005	-0.0162 %	1100.0200 %	PASS 0.00 %
0.01 V AC+DC @ 10.0 kHz	<b>0.0099995388</b>	0.0312 %	-0.100006	0.120006	-0.0046 %	1100.0300 %	PASS 0.00 %
0.01 V AC+DC @ 20.0 kHz	<b>0.0099989668</b>	0.0312 %	-0.100006	0.120006	-0.0103 %	1100.0300 %	PASS 0.00 %
0.01 V AC+DC @ 50.0 kHz	<b>0.0099964577</b>	0.0447 %	-0.100014	0.120014	-0.0354 %	1100.1000 %	PASS 0.00 %
0.01 V AC+DC @ 100.0 kHz	<b>0.0099789323</b>	0.0773 %	-0.100058	0.120058	-0.2107 %	1100.5000 %	PASS 0.01 %
0.01 V AC+DC @ 300.0 kHz	<b>0.0098406628</b>	0.1500 %	-0.190055	0.210055	-1.5934 %	2000.4000 %	PASS 0.04 %
0.01 V AC+DC @ 500.0 kHz	<b>0.0096078421</b>	0.2500 %	-0.490070	0.510070	-3.9216 %	5000.4500 %	PASS 0.04 %
0.01 V AC+DC @ 1.0 MHz	<b>0.0086748154</b>	0.4000 %	-0.490085	0.510085	-13.2518 %	5000.4500 %	PASS 0.13 %
0.03 V AC+DC @ 10 Hz	<b>0.029999929</b>	0.0121 %	0.029994	0.030006	-0.0002 %	0.0083 %	PASS 0.81 %
0.03 V AC+DC @ 20 Hz	<b>0.029999061</b>	0.0121 %	0.029994	0.030006	-0.0031 %	0.0083 %	PASS 10.64 %
0.03 V AC+DC @ 40 Hz	<b>0.029998925</b>	0.0121 %	0.029994	0.030006	-0.0036 %	0.0083 %	PASS 12.17 %
0.03 V AC+DC @ 100 Hz	<b>0.02999853</b>	0.0121 %	0.029994	0.030006	-0.0049 %	0.0077 %	PASS 17.06 %
0.03 V AC+DC @ 1.0 kHz	<b>0.029999187</b>	0.0121 %	0.029994	0.030006	-0.0027 %	0.0077 %	PASS 9.43 %
0.03 V AC+DC @ 10.0 kHz	<b>0.029999683</b>	0.0121 %	0.029992	0.030008	-0.0011 %	0.0147 %	PASS 2.77 %
0.03 V AC+DC @ 20.0 kHz	<b>0.029997992</b>	0.0121 %	0.029992	0.030008	-0.0067 %	0.0147 %	PASS 17.58 %
0.03 V AC+DC @ 50.0 kHz	<b>0.029998071</b>	0.0256 %	0.029983	0.030017	-0.0064 %	0.0307 %	PASS 8.04 %
0.03 V AC+DC @ 100.0 kHz	<b>0.029990479</b>	0.0591 %	0.029958	0.030042	-0.0317 %	0.0807 %	PASS 15.87 %
0.03 V AC+DC @ 300.0 kHz	<b>0.029944476</b>	0.0964 %	0.029880	0.030120	-0.1851 %	0.3033 %	PASS 29.08 %
0.03 V AC+DC @ 500.0 kHz	<b>0.029891996</b>	0.1500 %	0.029654	0.030346	-0.3600 %	1.0033 %	PASS 17.74 %
0.03 V AC+DC @ 1.0 MHz	<b>0.029822476</b>	0.3000 %	0.029609	0.030391	-0.5917 %	1.0033 %	PASS 28.25 %
0.1 V AC+DC @ 10 Hz	<b>0.099997805</b>	0.0121 %	0.099980	0.100020	-0.0022 %	0.0074 %	PASS 7.72 %
0.1 V AC+DC @ 20 Hz	<b>0.099996028</b>	0.0121 %	0.099980	0.100020	-0.0040 %	0.0074 %	PASS 13.97 %
0.1 V AC+DC @ 40 Hz	<b>0.099995901</b>	0.0121 %	0.099980	0.100020	-0.0041 %	0.0074 %	PASS 14.42 %
0.1 V AC+DC @ 100 Hz	<b>0.099995242</b>	0.0121 %	0.099981	0.100019	-0.0048 %	0.0072 %	PASS 16.86 %
0.1 V AC+DC @ 1.0 kHz	<b>0.099996799</b>	0.0121 %	0.099981	0.100019	-0.0032 %	0.0072 %	PASS 11.34 %
0.1 V AC+DC @ 10.0 kHz	<b>0.099996432</b>	0.0121 %	0.099974	0.100026	-0.0036 %	0.0142 %	PASS 9.55 %
0.1 V AC+DC @ 20.0 kHz	<b>0.099993022</b>	0.0121 %	0.099974	0.100026	-0.0070 %	0.0142 %	PASS 18.68 %
0.1 V AC+DC @ 50.0 kHz	<b>0.099990813</b>	0.0256 %	0.099944	0.100056	-0.0092 %	0.0302 %	PASS 11.60 %
0.1 V AC+DC @ 100.0 kHz	<b>0.099962554</b>	0.0591 %	0.099861	0.100139	-0.0374 %	0.0802 %	PASS 18.79 %
0.1 V AC+DC @ 300.0 kHz	<b>0.099811039</b>	0.0964 %	0.099603	0.100397	-0.1890 %	0.3010 %	PASS 29.89 %
0.1 V AC+DC @ 500.0 kHz	<b>0.099650123</b>	0.1500 %	0.098849	0.101151	-0.3499 %	1.0010 %	PASS 17.28 %
0.1 V AC+DC @ 1.0 MHz	<b>0.099616451</b>	0.3000 %	0.098699	0.101301	-0.3835 %	1.0010 %	PASS 18.35 %
0.3 V AC+DC @ 10 Hz	<b>0.29999909</b>	0.0050 %	0.299960	0.300040	-0.0003 %	0.0083 %	PASS 1.56 %
0.3 V AC+DC @ 20 Hz	<b>0.29999406</b>	0.0050 %	0.299960	0.300040	-0.0020 %	0.0083 %	PASS 10.21 %
0.3 V AC+DC @ 40 Hz	<b>0.29999222</b>	0.0050 %	0.299960	0.300040	-0.0026 %	0.0083 %	PASS 13.38 %
0.3 V AC+DC @ 100 Hz	<b>0.29999167</b>	0.0050 %	0.299962	0.300038	-0.0028 %	0.0077 %	PASS 15.21 %

0.3 V AC+DC @ 1.0 kHz	<b>0.30000239</b>	0.0050 %	0.299962	0.300038	0.0008 %	0.0077 %	PASS 4.37 %
0.3 V AC+DC @ 10.0 kHz	<b>0.29999881</b>	0.0050 %	0.299941	0.300059	-0.0004 %	0.0147 %	PASS 1.29 %
0.3 V AC+DC @ 20.0 kHz	<b>0.29997255</b>	0.0050 %	0.299941	0.300059	-0.0091 %	0.0147 %	PASS 29.55 %
0.3 V AC+DC @ 50.0 kHz	<b>0.29998131</b>	0.0085 %	0.299882	0.300118	-0.0062 %	0.0307 %	PASS 9.79 %
0.3 V AC+DC @ 100.0 kHz	<b>0.30000127</b>	0.0138 %	0.299717	0.300283	0.0004 %	0.0807 %	PASS 0.26 %
0.3 V AC+DC @ 300.0 kHz	<b>0.30021957</b>	0.0425 %	0.298962	0.301038	0.0732 %	0.3033 %	PASS 11.95 %
0.3 V AC+DC @ 500.0 kHz	<b>0.30058806</b>	0.1100 %	0.296660	0.303340	0.1960 %	1.0033 %	PASS 9.71 %
0.3 V AC+DC @ 1.0 MHz	<b>0.3012215</b>	0.1800 %	0.296450	0.303550	0.4072 %	1.0033 %	PASS 19.97 %
1.0 V AC+DC @ 10 Hz	<b>1.0000254</b>	0.0050 %	0.999876	1.000124	0.0025 %	0.0074 %	PASS 14.25 %
1.0 V AC+DC @ 20 Hz	<b>1.0000064</b>	0.0050 %	0.999876	1.000124	0.0006 %	0.0074 %	PASS 3.58 %
1.0 V AC+DC @ 40 Hz	<b>1.0000048</b>	0.0050 %	0.999876	1.000124	0.0005 %	0.0074 %	PASS 2.67 %
1.0 V AC+DC @ 100 Hz	<b>1.0000014</b>	0.0050 %	0.999878	1.000122	0.0001 %	0.0072 %	PASS 0.83 %
1.0 V AC+DC @ 1.0 kHz	<b>1.0000317</b>	0.0050 %	0.999878	1.000122	0.0032 %	0.0072 %	PASS 18.16 %
1.0 V AC+DC @ 10.0 kHz	<b>1.0000025</b>	0.0050 %	0.999808	1.000192	0.0003 %	0.0142 %	PASS 0.85 %
1.0 V AC+DC @ 20.0 kHz	<b>0.99994156</b>	0.0050 %	0.999808	1.000192	-0.0058 %	0.0142 %	PASS 19.43 %
1.0 V AC+DC @ 50.0 kHz	<b>0.99996571</b>	0.0085 %	0.999613	1.000387	-0.0034 %	0.0302 %	PASS 5.46 %
1.0 V AC+DC @ 100.0 kHz	<b>0.99996552</b>	0.0138 %	0.999060	1.000940	-0.0034 %	0.0802 %	PASS 2.12 %
1.0 V AC+DC @ 300.0 kHz	<b>1.0007667</b>	0.0425 %	0.996565	1.003435	0.0767 %	0.3010 %	PASS 12.61 %
1.0 V AC+DC @ 500.0 kHz	<b>1.002042</b>	0.1100 %	0.988890	1.011110	0.2042 %	1.0010 %	PASS 10.14 %
1.0 V AC+DC @ 1.0 MHz	<b>1.0069421</b>	0.1800 %	0.988190	1.011810	0.6942 %	1.0010 %	PASS 34.13 %
3.0 V AC+DC @ 10 Hz	<b>3.0000856</b>	0.0048 %	2.999605	3.000395	0.0029 %	0.0083 %	PASS 14.83 %
3.0 V AC+DC @ 20 Hz	<b>3.0000304</b>	0.0048 %	2.999605	3.000395	0.0010 %	0.0083 %	PASS 5.26 %
3.0 V AC+DC @ 40 Hz	<b>3.0000094</b>	0.0048 %	2.999605	3.000395	0.0003 %	0.0083 %	PASS 1.62 %
3.0 V AC+DC @ 100 Hz	<b>3.0000038</b>	0.0048 %	2.999625	3.000375	0.0001 %	0.0077 %	PASS 0.70 %
3.0 V AC+DC @ 1.0 kHz	<b>3.000056</b>	0.0048 %	2.999625	3.000375	0.0019 %	0.0077 %	PASS 10.31 %
3.0 V AC+DC @ 10.0 kHz	<b>2.9999437</b>	0.0048 %	2.999415	3.000585	-0.0019 %	0.0147 %	PASS 6.08 %
3.0 V AC+DC @ 20.0 kHz	<b>2.9998884</b>	0.0048 %	2.999415	3.000585	-0.0037 %	0.0147 %	PASS 12.05 %
3.0 V AC+DC @ 50.0 kHz	<b>2.9998444</b>	0.0085 %	2.998824	3.001176	-0.0052 %	0.0307 %	PASS 8.14 %
3.0 V AC+DC @ 100.0 kHz	<b>2.9989953</b>	0.0121 %	2.997216	3.002784	-0.0335 %	0.0807 %	PASS 20.53 %
3.0 V AC+DC @ 300.0 kHz	<b>2.994228</b>	0.0336 %	2.989891	3.010109	-0.1924 %	0.3033 %	PASS 31.52 %
3.0 V AC+DC @ 500.0 kHz	<b>2.9950568</b>	0.1100 %	2.966600	3.033400	-0.1648 %	1.0033 %	PASS 8.16 %
3.0 V AC+DC @ 1.0 MHz	<b>3.0072703</b>	0.1700 %	2.964800	3.035200	0.2423 %	1.0033 %	PASS 11.91 %
10.0 V AC+DC @ 10 Hz	<b>10.000446</b>	0.0048 %	9.998778	10.001222	0.0045 %	0.0074 %	PASS 25.23 %
10.0 V AC+DC @ 20 Hz	<b>10.000237</b>	0.0048 %	9.998778	10.001222	0.0024 %	0.0074 %	PASS 13.41 %
10.0 V AC+DC @ 40 Hz	<b>10.00022</b>	0.0048 %	9.998778	10.001222	0.0022 %	0.0074 %	PASS 12.44 %
10.0 V AC+DC @ 100 Hz	<b>10.0002</b>	0.0048 %	9.998798	10.001202	0.0020 %	0.0072 %	PASS 11.54 %
10.0 V AC+DC @ 1.0 kHz	<b>10.000348</b>	0.0048 %	9.998798	10.001202	0.0035 %	0.0072 %	PASS 20.10 %
10.0 V AC+DC @ 10.0 kHz	<b>9.9999821</b>	0.0048 %	9.998098	10.001902	-0.0002 %	0.0142 %	PASS 0.60 %
10.0 V AC+DC @ 20.0 kHz	<b>9.9998595</b>	0.0048 %	9.998098	10.001902	-0.0014 %	0.0142 %	PASS 4.68 %
10.0 V AC+DC @ 50.0 kHz	<b>9.9996</b>	0.0085 %	9.996125	10.003875	-0.0040 %	0.0302 %	PASS 6.37 %
10.0 V AC+DC @ 100.0 kHz	<b>9.99615</b>	0.0121 %	9.990766	10.009234	-0.0385 %	0.0802 %	PASS 23.73 %
10.0 V AC+DC @ 300.0 kHz	<b>9.9810402</b>	0.0336 %	9.966536	10.033464	-0.1896 %	0.3010 %	PASS 31.30 %
10.0 V AC+DC @ 500.0 kHz	<b>9.9838771</b>	0.1100 %	9.888900	10.111100	-0.1612 %	1.0010 %	PASS 8.01 %
10.0 V AC+DC @ 1.0 MHz	<b>10.054499</b>	0.1700 %	9.882900	10.117100	0.5450 %	1.0010 %	PASS 26.84 %
30 V AC+DC @ 10 Hz	<b>29.999358</b>	0.0060 %	29.991795	30.008205	-0.0021 %	0.0213 %	PASS 4.82 %
30 V AC+DC @ 20 Hz	<b>29.998861</b>	0.0060 %	29.991795	30.008205	-0.0038 %	0.0213 %	PASS 8.56 %
30 V AC+DC @ 40 Hz	<b>29.998816</b>	0.0060 %	29.991795	30.008205	-0.0039 %	0.0213 %	PASS 8.90 %

30 V AC+DC @ 100 Hz	<b>29.998784</b>	0.0060 %	29.991995	30.008005	-0.0041 %	0.0207 %	PASS 9.42 %
30 V AC+DC @ 1.0 kHz	<b>29.9992</b>	0.0060 %	29.991995	30.008005	-0.0027 %	0.0207 %	PASS 6.20 %
30 V AC+DC @ 10.0 kHz	<b>29.99826</b>	0.0060 %	29.991995	30.008005	-0.0058 %	0.0207 %	PASS 13.47 %
30 V AC+DC @ 20.0 kHz	<b>29.997345</b>	0.0060 %	29.991995	30.008005	-0.0089 %	0.0207 %	PASS 20.56 %
30 V AC+DC @ 50.0 kHz	<b>29.99841</b>	0.0060 %	29.987495	30.012505	-0.0053 %	0.0357 %	PASS 7.33 %
30 V AC+DC @ 100.0 kHz	<b>29.995576</b>	0.0174 %	29.958591	30.041409	-0.0147 %	0.1207 %	PASS 6.05 %
30 V AC+DC @ 300.0 kHz	<b>30.005448</b>	0.0991 %	29.849273	30.150727	0.0182 %	0.4033 %	PASS 2.19 %
30 V AC+DC @ 500.0 kHz	<b>30.039885</b>	0.5200 %	29.393000	30.607000	0.1330 %	1.5033 %	PASS 4.18 %
100.0 V AC+DC @ 10 Hz	<b>99.999706</b>	0.0060 %	99.973582	100.026418	-0.0003 %	0.0204 %	PASS 0.69 %
100.0 V AC+DC @ 20 Hz	<b>99.997756</b>	0.0060 %	99.973582	100.026418	-0.0022 %	0.0204 %	PASS 5.27 %
100.0 V AC+DC @ 40 Hz	<b>99.99756</b>	0.0060 %	99.973582	100.026418	-0.0024 %	0.0204 %	PASS 5.74 %
100.0 V AC+DC @ 100 Hz	<b>99.997443</b>	0.0060 %	99.973782	100.026218	-0.0026 %	0.0202 %	PASS 6.07 %
100.0 V AC+DC @ 1.0 kHz	<b>99.999074</b>	0.0060 %	99.973782	100.026218	-0.0009 %	0.0202 %	PASS 2.20 %
100.0 V AC+DC @ 10.0 kHz	<b>99.997976</b>	0.0060 %	99.973782	100.026218	-0.0020 %	0.0202 %	PASS 4.80 %
100.0 V AC+DC @ 20.0 kHz	<b>99.995987</b>	0.0060 %	99.973782	100.026218	-0.0040 %	0.0202 %	PASS 9.52 %
100.0 V AC+DC @ 50.0 kHz	<b>99.997514</b>	0.0095 %	99.955255	100.044745	-0.0025 %	0.0352 %	PASS 3.41 %
100.0 V AC+DC @ 100.0 kHz	<b>99.983333</b>	0.0174 %	99.862436	100.137564	-0.0167 %	0.1202 %	PASS 6.86 %
300.0 V AC+DC @ 40 Hz	<b>299.91834</b>	0.0079 %	299.074408	300.925592	-0.0272 %	0.3007 %	PASS 4.53 %
300.0 V AC+DC @ 100 Hz	<b>299.91718</b>	0.0079 %	299.854408	300.145592	-0.0276 %	0.0407 %	PASS 33.33 %
300.0 V AC+DC @ 1.0 kHz	<b>299.9223</b>	0.0079 %	299.854408	300.145592	-0.0259 %	0.0407 %	PASS 31.26 %
300.0 V AC+DC @ 10.0 kHz	<b>299.94393</b>	0.0110 %	299.784865	300.215135	-0.0187 %	0.0607 %	PASS 15.15 %
300.0 V AC+DC @ 20.0 kHz	<b>299.94732</b>	0.0110 %	299.784865	300.215135	-0.0176 %	0.0607 %	PASS 14.24 %
300.0 V AC+DC @ 50.0 kHz	<b>300.09241</b>	0.0245 %	299.564599	300.435401	0.0308 %	0.1207 %	PASS 12.51 %
300.0 V AC+DC @ 100.0 kHz	<b>300.48742</b>	0.0660 %	298.900000	301.100000	0.1625 %	0.3007 %	PASS 26.39 %
750.0 V AC+DC @ 40 Hz	<b>749.86793</b>	0.0079 %	747.689020	752.310980	-0.0176 %	0.3003 %	PASS 2.93 %
750.0 V AC+DC @ 100 Hz	<b>749.86474</b>	0.0079 %	749.639020	750.360980	-0.0180 %	0.0403 %	PASS 21.98 %
750.0 V AC+DC @ 1.0 kHz	<b>749.88438</b>	0.0079 %	749.639020	750.360980	-0.0154 %	0.0403 %	PASS 18.79 %
750.0 V AC+DC @ 10.0 kHz	<b>750.05322</b>	0.0110 %	749.465162	750.534838	0.0071 %	0.0603 %	PASS 5.79 %
750.0 V AC+DC @ 20.0 kHz	<b>750.07488</b>	0.0110 %	749.465162	750.534838	0.0100 %	0.0603 %	PASS 8.15 %
750.0 V AC+DC @ 50.0 kHz	<b>750.44069</b>	0.0245 %	748.914498	751.085502	0.0588 %	0.1203 %	PASS 23.94 %
750.0 V AC+DC @ 50.0 kHz	<b>750.44226</b>	0.0660 %	748.603000	751.397000	0.0590 %	0.1203 %	PASS 21.49 %

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	<b>-3.950941E-11</b>						INFO
50 nADC	5E-08	<b>4.9970418E-08</b>						INFO
100 nADC	1E-07	<b>9.9932477E-08</b>	71.82 ppm	9.995282E-08	1.000472E-07	-675.228 ppm	400 ppm	PASS 83.08 %
-100 nADC	-1E-07	<b>-1.000851E-07</b>	71.82 ppm	-1.000492E-07	-9.995082E-08	851.033 ppm	420 ppm	PASS 99.86 %
-50 nADC	-5E-08	<b>-5.0062593E-08</b>						INFO
Zero μADC	0	<b>-6.8674728E-11</b>						INFO
0.5 μADC	5E-07	<b>4.9988972E-07</b>	71.82 ppm	4.999201E-07	5.000799E-07	-220.567 ppm	88 ppm	PASS 97.09 %
1.0 μADC	1E-06	<b>9.9988708E-07</b>	71.82 ppm	9.998792E-07	1.000121E-06	-112.916 ppm	49 ppm	PASS 64.94 %
-1.0 μADC	-1E-06	<b>-1.0001032E-06</b>	71.82 ppm	-1.000123E-06	-9.998772E-07	103.249 ppm	51 ppm	PASS 58.61 %
-0.5 μADC	-5E-07	<b>-5.0004691E-07</b>	71.82 ppm	-5.000819E-07	-4.999181E-07	93.812 ppm	92 ppm	PASS 40.19 %
Zero 00 μADC	0	<b>-6.0572616E-11</b>						INFO
5 μADC	5E-06	<b>4.9999445E-06</b>	71.82 ppm	4.999522E-06	5.000478E-06	-11.090 ppm	24 ppm	PASS 7.33 %
10 μADC	1E-05	<b>9.9999803E-06</b>	71.82 ppm	9.999113E-06	1.000089E-05	-1.966 ppm	17 ppm	PASS 1.33 %
-10 μADC	-1E-05	<b>-1.0000111E-05</b>	71.82 ppm	-1.000089E-05	-9.999111E-06	11.054 ppm	17 ppm	PASS 7.49 %
-5 μADC	-5E-06	<b>-5.0000796E-06</b>	71.82 ppm	-5.00048E-06	-4.99952E-06	15.915 ppm	24 ppm	PASS 10.50 %
Zero 000 μADC	0	<b>-6.4391321E-11</b>						INFO
50 μADC	5E-05	<b>5.0000357E-05</b>	71.82 ppm	4.999531E-05	5.000469E-05	7.138 ppm	22 ppm	PASS 4.75 %
100 μADC	0.0001	<b>0.00010000073</b>	71.82 ppm	9.999122E-05	0.0001000088	7.334 ppm	16 ppm	PASS 4.98 %
-100 μADC	-0.0001	<b>-0.00010000063</b>	71.82 ppm	-0.0001000088	-9.999122E-05	6.254 ppm	16 ppm	PASS 4.25 %
-50 μADC	-5E-05	<b>-5.0000284E-05</b>	71.82 ppm	-5.000469E-05	-4.999531E-05	5.676 ppm	22 ppm	PASS 3.78 %
Zero mADC	0	<b>-5.4503778E-11</b>						INFO
0.5 mADC	0.0005	<b>0.00050000923</b>	33.64 ppm	0.0004999742	0.0005000258	18.451 ppm	18 ppm	PASS 24.18 %
1.0 mADC	0.001	<b>0.0010000195</b>	33.64 ppm	0.0009999524	0.001000048	19.504 ppm	14 ppm	PASS 26.77 %
-1.0 mADC	-0.001	<b>-0.0010000232</b>	33.64 ppm	-0.001000048	-0.0009999524	23.226 ppm	14 ppm	PASS 31.87 %
-0.5 mADC	-0.0005	<b>-0.00050001324</b>	33.64 ppm	-0.0005000258	-0.0004999742	26.486 ppm	18 ppm	PASS 34.71 %
Zero 00 mADC	0	<b>-1.0415999E-10</b>						INFO
5 mADC	0.005	<b>0.0049999805</b>	32.27 ppm	0.004999749	0.005000251	-3.899 ppm	18 ppm	PASS 5.28 %
10 mADC	0.01	<b>0.0099999887</b>	32.27 ppm	0.009999537	0.01000046	-1.133 ppm	14 ppm	PASS 1.61 %
-10 mADC	-0.01	<b>-0.010000054</b>	32.27 ppm	-0.01000046	-0.009999537	5.366 ppm	14 ppm	PASS 7.63 %
-5 mADC	-0.005	<b>-0.005000049</b>	32.27 ppm	-0.005000251	-0.004999749	9.796 ppm	18 ppm	PASS 13.25 %
Zero 000 mADC	0	<b>-6.723986E-11</b>						INFO
50 mADC	0.05	<b>0.050002199</b>	53.32 ppm	0.04999568	0.05000432	43.978 ppm	33 ppm	PASS 35.07 %
100 mADC	0.1	<b>0.10000447</b>	53.32 ppm	0.09999177	0.1000082	44.702 ppm	29 ppm	PASS 36.82 %
-100 mADC	-0.1	<b>-0.10000635</b>	53.32 ppm	-0.1000082	-0.09999177	63.466 ppm	29 ppm	PASS 52.28 %
-50 mADC	-0.05	<b>-0.050003497</b>	53.32 ppm	-0.05000432	-0.04999568	69.935 ppm	33 ppm	PASS 55.76 %
Zero ADC	0	<b>4.9550223E-11</b>						INFO
0.5 ADC	0.5	<b>0.50000204</b>	115.22 ppm	0.4998824	0.5001176	4.074 ppm	120 ppm	PASS 1.22 %
1.0 ADC	1	<b>0.99997908</b>	115.22 ppm	0.9997748	1.000225	-20.919 ppm	110 ppm	PASS 6.57 %
-1.0 ADC	-1	<b>-0.99995894</b>	115.22 ppm	-1.000225	-0.9997748	-41.055 ppm	110 ppm	PASS 12.89 %

-0.5 ADC

-0.5

**-0.49998948**

115.22 ppm

-0.5001176

-0.4998824

-21.037 ppm

120 ppm

PASS 6.32 %

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>1.0024322E-05</b>	0.0160 %	-0.0002900076045	0.0003100076045	0.2432 %	3000.0600 %	INFO
100 µA AC @ 50 Hz	0.0001	<b>0.00010000538</b>	0.0160 %	-0.000200076045	0.000400076045	0.0054 %	300.0600 %	PASS 0.00 %
1.0 mA AC @ 50 Hz	0.001	<b>0.00099997752</b>	0.0160 %	0.00099921955	0.00100078045	-22.480 ppm	0.0620 %	PASS 1.76 %
10 mA AC @ 50 Hz	0.01	<b>0.0099997934</b>	0.0160 %	0.0099921955	0.0100078045	-20.663 ppm	0.0620 %	PASS 1.61 %
100 mA AC @ 50 Hz	0.1	<b>0.10000146</b>	0.0133 %	0.099924682	0.100075318	14.583 ppm	0.0620 %	PASS 1.15 %
1.0 A AC @ 50 Hz	1.0	<b>1.0000733</b>	0.0133 %	0.99904682	1.00095318	73.332 ppm	0.0820 %	PASS 4.41 %
10 µA AC @ 60 Hz	1e-05	<b>1.0021673E-05</b>	0.0133 %	-0.0002900073318	0.0003100073318	0.2167 %	3000.0600 %	INFO
100 µA AC @ 60 Hz	0.0001	<b>0.00010000998</b>	0.0133 %	-0.000200073318	0.000400073318	0.0100 %	300.0600 %	PASS 0.00 %
1.0 mA AC @ 60 Hz	0.001	<b>0.0010000045</b>	0.0129 %	0.00099925136	0.00100074864	4.509 ppm	0.0620 %	PASS 0.36 %
10 mA AC @ 60 Hz	0.01	<b>0.010000036</b>	0.0129 %	0.0099925136	0.0100074864	3.595 ppm	0.0620 %	PASS 0.28 %
100 mA AC @ 60 Hz	0.1	<b>0.10000427</b>	0.0288 %	0.099909182	0.100090818	42.697 ppm	0.0620 %	PASS 3.12 %
1.0 A AC @ 60 Hz	1.0	<b>1.0000862</b>	0.0288 %	0.99889182	1.00110818	86.221 ppm	0.0820 %	PASS 4.96 %
10 µA AC @ 1.0 kHz	1e-05	<b>1.0017016E-05</b>	0.0160 %	-0.0002900076045	0.0003100076045	0.1702 %	3000.0600 %	INFO
100 µA AC @ 1.0 kHz	0.0001	<b>9.9978357E-05</b>	0.0160 %	-0.000200076045	0.000400076045	-0.0216 %	300.0600 %	PASS 0.00 %
1.0 mA AC @ 1.0 kHz	0.001	<b>0.0010000531</b>	0.0160 %	0.00099951955	0.00100048045	53.069 ppm	0.0320 %	PASS 7.41 %
10 mA AC @ 1.0 kHz	0.01	<b>0.010000556</b>	0.0160 %	0.0099951955	0.0100048045	55.632 ppm	0.0320 %	PASS 7.77 %
100 mA AC @ 1.0 kHz	0.1	<b>0.10000865</b>	0.0133 %	0.099954682	0.100045318	86.546 ppm	0.0320 %	PASS 12.48 %
1.0 A AC @ 1.0 kHz	1.0	<b>0.99999134</b>	0.0133 %	0.99884682	1.00115318	-0.0009 %	0.1020 %	PASS 0.42 %

Test completed

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Test date	01 January 1970 18:22
UUT Internal TEMP?	35.2
Destructive overloads?	130, DESTRUCTIVE OVERLOADS valid 2941

Lab temperature maintained +24°C ±2°C

Internal use only

Not validated

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