

Self-Test for Analog Channels 1 - 2 (v1.1)



Summary

Unbal Checks, ch 1-2

320mV Range Gain	✓ PASSED
320mV Range Offset	✓ PASSED
1V Range Gain	✓ PASSED
1V Range Offset	✓ PASSED
3.2V Range Gain	✓ PASSED
3.2V Range Offset	✓ PASSED
10V Range Gain	✓ PASSED
10V Range Offset	✓ PASSED
32V Range Gain	✓ PASSED
32V Range Offset	✓ PASSED
100V Range Gain	✓ PASSED
160V Range Gain	✓ PASSED
Gen Unbal Ranges	✓ PASSED

Loopback Checks, ch1-2

Gen Bal Ranges	✓ PASSED
Freq Response	✓ PASSED
Interchannel Phase	✓ PASSED
THD+N vs Level	✓ PASSED
THD+N vs Freq	✓ PASSED

Crosstalk, ch1-2

Unbal	✓ PASSED
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Crosstalk, ch1-2

Bal	✓ PASSED
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CMRR, ch1-2

3.2V Range	✓ PASSED
10V Range	✓ PASSED
32V Range	✓ PASSED
100V Range	✓ PASSED

Sequence Result:

Sequence Result:	✓ PASSED
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APx Instrument

Instrument ID:	27 
Calibration Date:	2017-04-28
APx Version:	4.6.0.255.130221

Self-Test for Analog Channels 1 - 2 (v1.1)



Unbal Checks, ch 1-2 : 320mV Range Gain

Waveform: Sine

Generator Level: 288.1 mVrms

DC Offset: 0.000 V

Frequency: 1.00000 kHz

RMS Level

Channel	Lower Limit	Value	Upper Limit	
Ch1	-0.050 dBrA	+0.002 dBrA	+0.050 dBrA	✓
Ch2	-0.050 dBrA	+0.005 dBrA	+0.050 dBrA	✓

Result: ✓ PASSED

Unbal Checks, ch 1-2 : 320mV Range Offset

Waveform: Sine

Generator Level: 0.000 Vrms

DC Offset: 0.000 V

Frequency: 1.00000 kHz

Delay Time: 200.0 ms

Acquisition Time: 333.0 ms

DC Level

Channel	Lower Limit	Value	Upper Limit	
Ch1	-900.0 uV	168.1 uV	900.0 uV	✓
Ch2	-900.0 uV	81.60 uV	900.0 uV	✓

Result: ✓ PASSED

Unbal Checks, ch 1-2 : 1V Range Gain

Waveform: Sine

Generator Level: 288.1 mVrms

DC Offset: 0.000 V

Frequency: 1.00000 kHz

RMS Level

Channel	Lower Limit	Value	Upper Limit	
Ch1	-0.050 dBrA	+0.002 dBrA	+0.050 dBrA	✓
Ch2	-0.050 dBrA	+0.005 dBrA	+0.050 dBrA	✓

Result: ✓ PASSED

Self-Test for Analog Channels 1 - 2 (v1.1)



Unbal Checks, ch 1-2 : 1V Range Offset

Waveform: Sine
Generator Level: 0.000 Vrms
DC Offset: 0.000 V
Frequency: 1.00000 kHz
Delay Time: 200.0 ms
Acquisition Time: 333.0 ms

DC Level

Channel	Lower Limit	Value	Upper Limit	
Ch1	-1.100 mV	142.2 uV	1.100 mV	✓
Ch2	-1.100 mV	49.46 uV	1.100 mV	✓

Result: ✓ PASSED

Unbal Checks, ch 1-2 : 3.2V Range Gain

Waveform: Sine
Generator Level: 288.1 mVrms
DC Offset: 0.000 V
Frequency: 1.00000 kHz

RMS Level

Channel	Lower Limit	Value	Upper Limit	
Ch1	-0.050 dBrA	+0.002 dBrA	+0.050 dBrA	✓
Ch2	-0.050 dBrA	+0.004 dBrA	+0.050 dBrA	✓

Result: ✓ PASSED

Unbal Checks, ch 1-2 : 3.2V Range Offset

Waveform: Sine
Generator Level: 0.000 Vrms
DC Offset: 0.000 V
Frequency: 1.00000 kHz
Delay Time: 200.0 ms
Acquisition Time: 333.0 ms

DC Level

Channel	Lower Limit	Value	Upper Limit	
Ch1	-3.300 mV	12.20 uV	3.300 mV	✓
Ch2	-3.300 mV	12.86 uV	3.300 mV	✓

Result: ✓ PASSED

Self-Test for Analog Channels 1 - 2 (v1.1)



Unbal Checks, ch 1-2 : 10V Range Gain

Waveform: Sine

Generator Level: 288.1 mVrms

DC Offset: 0.000 V

Frequency: 1.00000 kHz

RMS Level

Channel	Lower Limit	Value	Upper Limit	
Ch1	-0.050 dBrA	+0.002 dBrA	+0.050 dBrA	✓
Ch2	-0.050 dBrA	+0.005 dBrA	+0.050 dBrA	✓

Result: ✓ PASSED

Unbal Checks, ch 1-2 : 10V Range Offset

Waveform: Sine

Generator Level: 0.000 Vrms

DC Offset: 0.000 V

Frequency: 1.00000 kHz

Delay Time: 200.0 ms

Acquisition Time: 333.0 ms

DC Level

Channel	Lower Limit	Value	Upper Limit	
Ch1	-10.10 mV	-314.6 uV	10.10 mV	✓
Ch2	-10.10 mV	-334.6 uV	10.10 mV	✓

Result: ✓ PASSED

Unbal Checks, ch 1-2 : 32V Range Gain

Waveform: Sine

Generator Level: 288.1 mVrms

DC Offset: 0.000 V

Frequency: 1.00000 kHz

RMS Level

Channel	Lower Limit	Value	Upper Limit	
Ch1	-0.050 dBrA	+0.002 dBrA	+0.050 dBrA	✓
Ch2	-0.050 dBrA	+0.005 dBrA	+0.050 dBrA	✓

Result: ✓ PASSED

Self-Test for Analog Channels 1 - 2 (v1.1)



Unbal Checks, ch 1-2 : 32V Range Offset

Waveform: Sine
Generator Level: 0.000 Vrms
DC Offset: 0.000 V
Frequency: 1.00000 kHz
Delay Time: 200.0 ms
Acquisition Time: 333.0 ms

DC Level

Channel	Lower Limit	Value	Upper Limit	
Ch1	-32.00 mV	-1.835 mV	32.00 mV	✓
Ch2	-32.00 mV	-1.895 mV	32.00 mV	✓

Result: ✓ PASSED

Unbal Checks, ch 1-2 : 100V Range Gain

Waveform: Sine
Generator Level: 288.1 mVrms
DC Offset: 0.000 V
Frequency: 1.00000 kHz

RMS Level

Channel	Lower Limit	Value	Upper Limit	
Ch1	-0.050 dBrA	+0.002 dBrA	+0.050 dBrA	✓
Ch2	-0.050 dBrA	+0.005 dBrA	+0.050 dBrA	✓

Result: ✓ PASSED

Unbal Checks, ch 1-2 : 160V Range Gain

Waveform: Sine
Generator Level: 288.1 mVrms
DC Offset: 0.000 V
Frequency: 1.00000 kHz

RMS Level

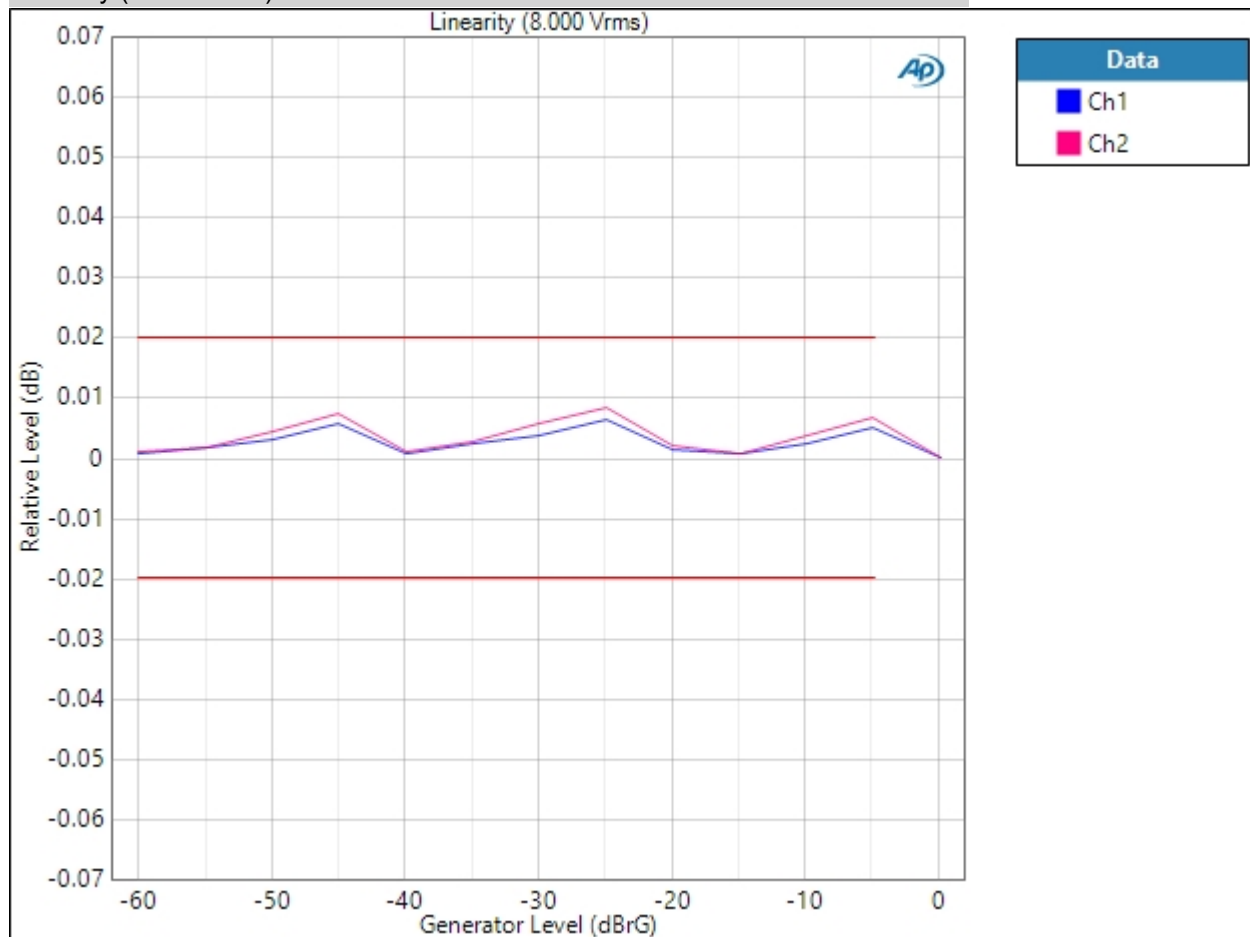
Channel	Lower Limit	Value	Upper Limit	
Ch1	-0.050 dBrA	+0.002 dBrA	+0.050 dBrA	✓
Ch2	-0.050 dBrA	+0.005 dBrA	+0.050 dBrA	✓

Result: ✓ PASSED

Unbal Checks, ch 1-2 : Gen Unbal Ranges

Waveform: Sine
Generator Level: 100.0 mVrms
DC Offset: 0.000 V
Frequency: 1.00000 kHz
Start Level: 0.000 dBrG
Stop Level: -60.000 dBrG
Step Type: Linear
Number of Points: 13
Step Size: +5.000 dBrG
Offset: 0.000 V
Low-pass Filter: 20 kHz
Weighting Filter: Signal Path
High-pass Filter: 200 Hz
Notch Tuning Mode: Measured Frequency
Measured 1 2021-08-07 13:11:49

Linearity (8.000 Vrms)



Ch1 PASSED

Ch2 PASSED

Linearity (8.000 Vrms) Parameters

Self-Test for Analog Channels 1 - 2 (v1.1)



Mode: Normalized at Reference

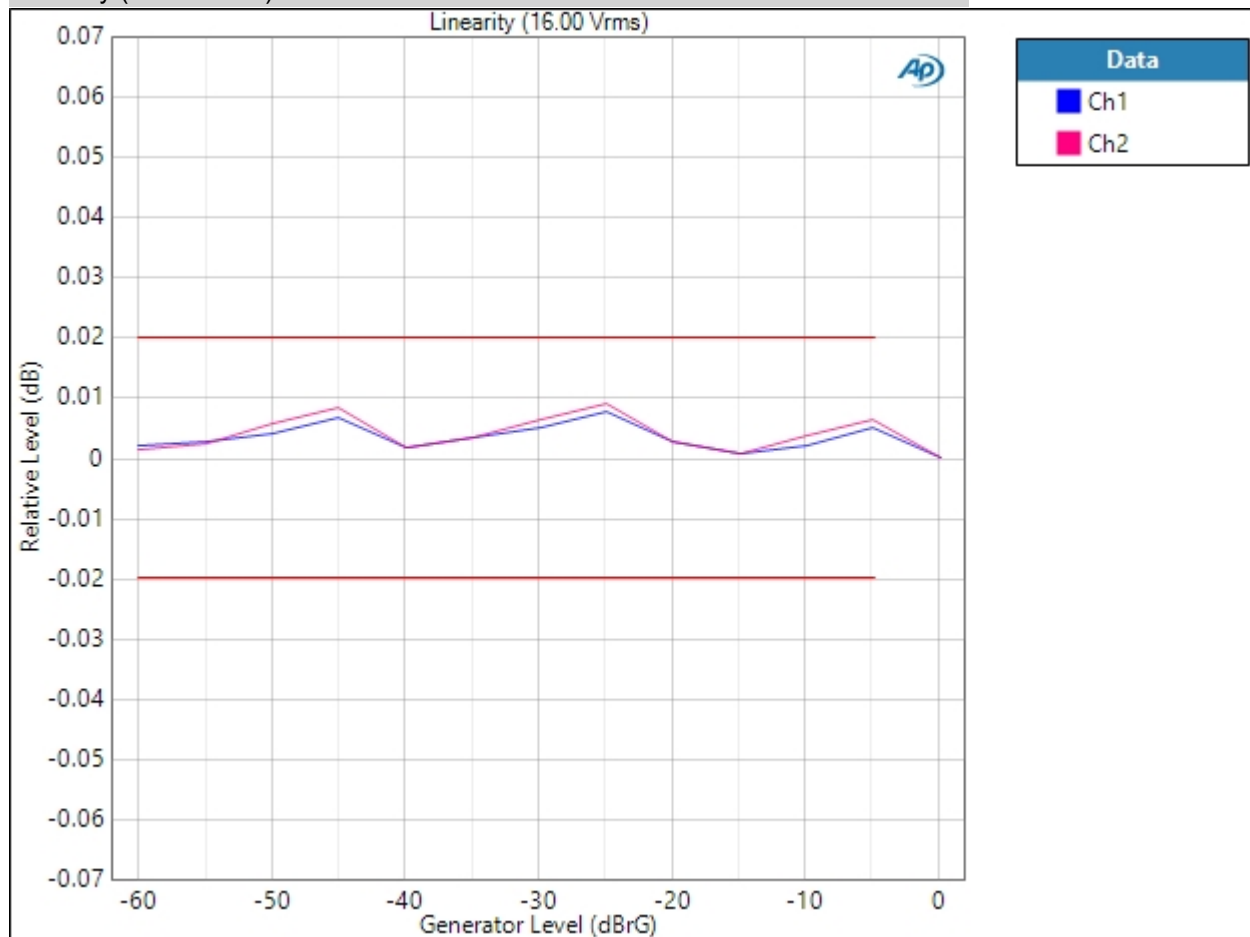
Relative Level: 8.000 Vrms

Result:  PASSED

Loopback Checks, ch1-2 : Gen Bal Ranges

Waveform: Sine
Generator Level: 100.0 mVrms
DC Offset: 0.000 V
Frequency: 1.00000 kHz
Start Level: 0.000 dBrG
Stop Level: -60.000 dBrG
Step Type: Linear
Number of Points: 13
Step Size: +5.000 dBrG
Offset: 0.000 V
Low-pass Filter: 20 kHz
Weighting Filter: Signal Path
High-pass Filter: 20 Hz
Notch Tuning Mode: Measured Frequency
Measured 1 2021-08-07 13:12:07

Linearity (16.00 Vrms)



Ch1 PASSED

Ch2 PASSED

Linearity (16.00 Vrms) Parameters

Self-Test for Analog Channels 1 - 2 (v1.1)



Mode: Normalized at Reference

Relative Level: 16.00 Vrms

Result:  PASSED

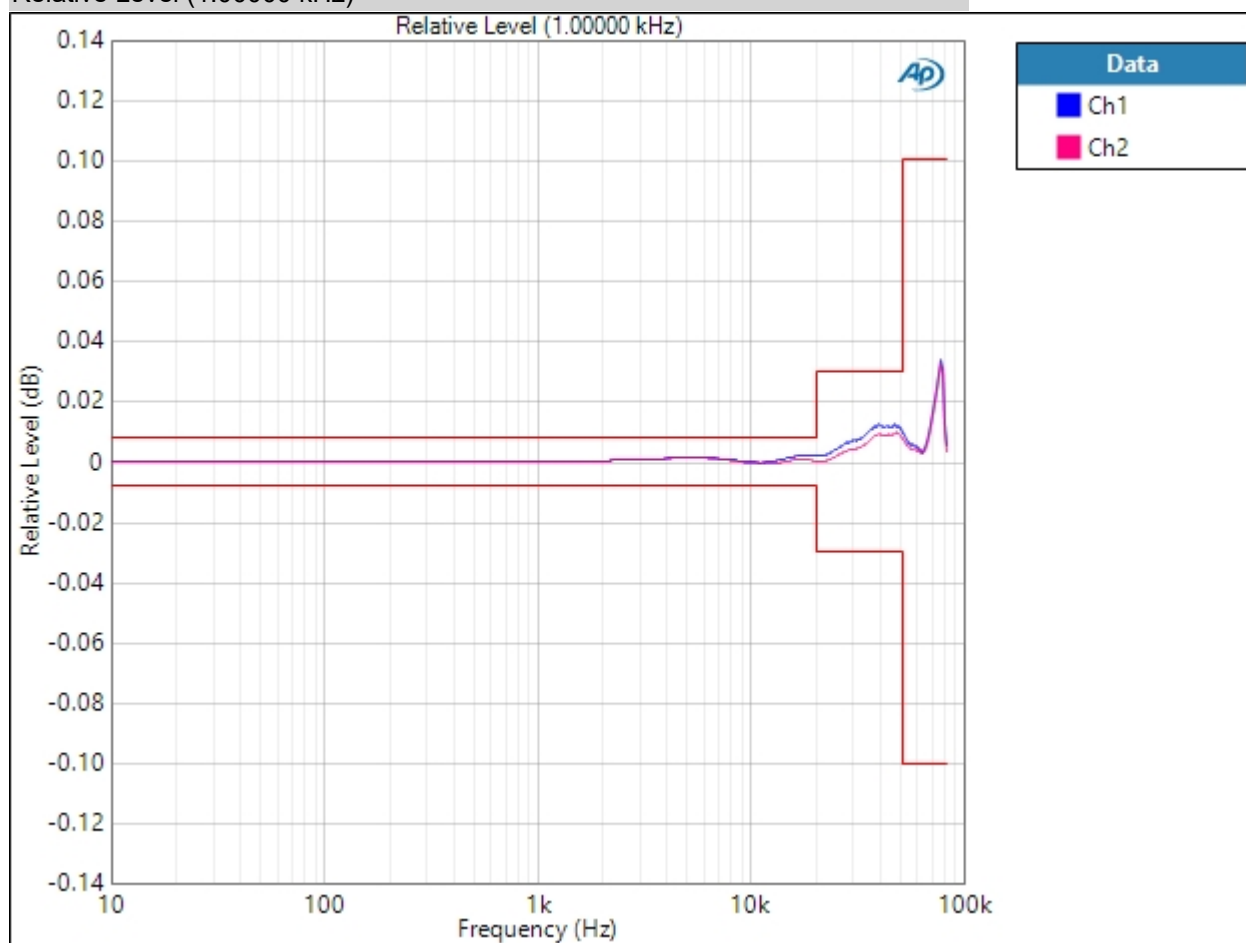
Self-Test for Analog Channels 1 - 2 (v1.1)



Loopback Checks, ch1-2 : Freq Response

Start Frequency: 10.0000 Hz
Stop Frequency: 80.0000 kHz
Generator Level: 2.500 Vrms
DC Offset: 0.000 V
EQ: None
Pre-Sweep: 500.0 ms
Sweep: 750.0 ms
Extend Acquisition By: 20.00 ms
Secondary Source: None
Measured 1 2021-08-07 13:12:10

Relative Level (1.00000 kHz)



Ch1 PASSED

Ch2 PASSED

Relative Level (1.00000 kHz) Parameters

Mode: Normalized at Reference

Ref Frequency: 1.00000 kHz

Result: PASSED

Loopback Checks, ch1-2 : Interchannel Phase

Generator Level: 2.500 Vrms

DC Offset: 0.000 V

EQ: None

Step Type: Custom

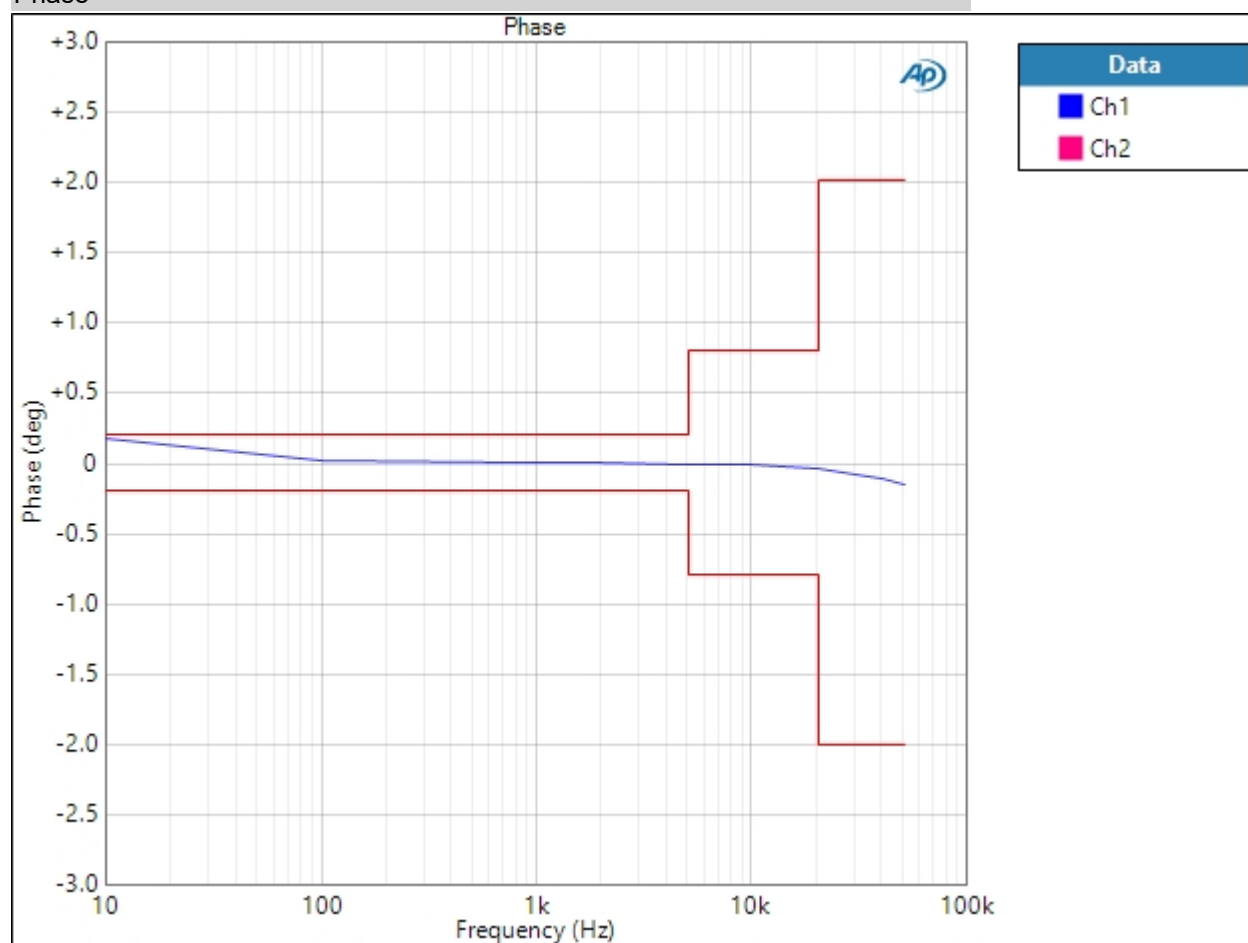
Weighting Filter: Signal Path

High-pass Filter: 20 Hz

Phase Ref Channel: Ch2

Measured 1 2021-08-07 13:12:15

Phase



Ch1 PASSED

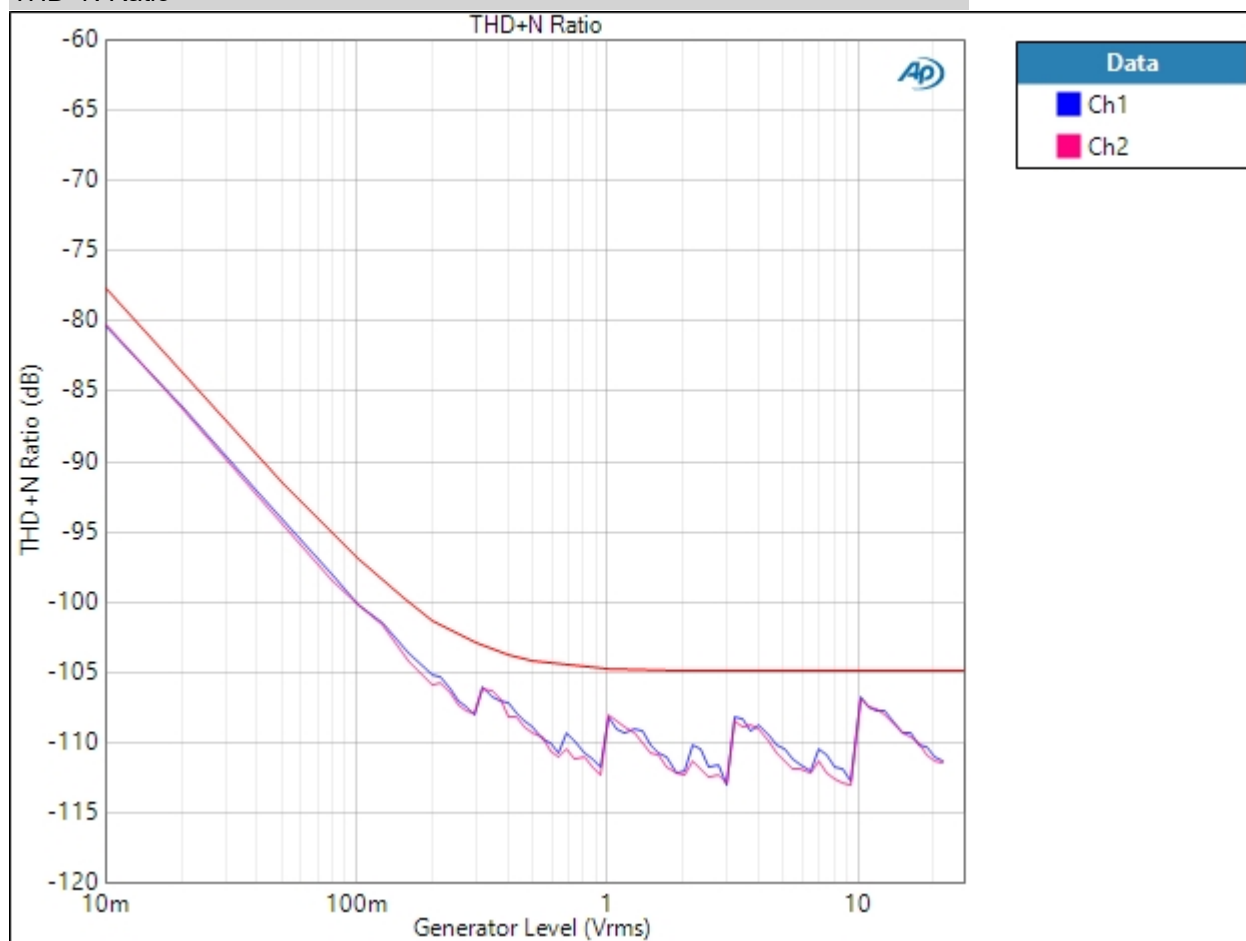
Ch2 PASSED

Result: PASSED

Loopback Checks, ch1-2 : THD+N vs Level

Waveform: Sine, Var Phase
Generator Level: 100.0 mVrms
DC Offset: 0.000 V
Frequency: 1.00000 kHz
Step Type: Custom
Offset: 0.000 V
Phase B: +1.000 deg
Low-pass Filter: 20 kHz
Weighting Filter: Signal Path
High-pass Filter: 20 Hz
Notch Tuning Mode: Measured Frequency
Measured 1 2021-08-07 13:12:55

THD+N Ratio



Ch1 PASSED

Ch2 PASSED

Result: PASSED

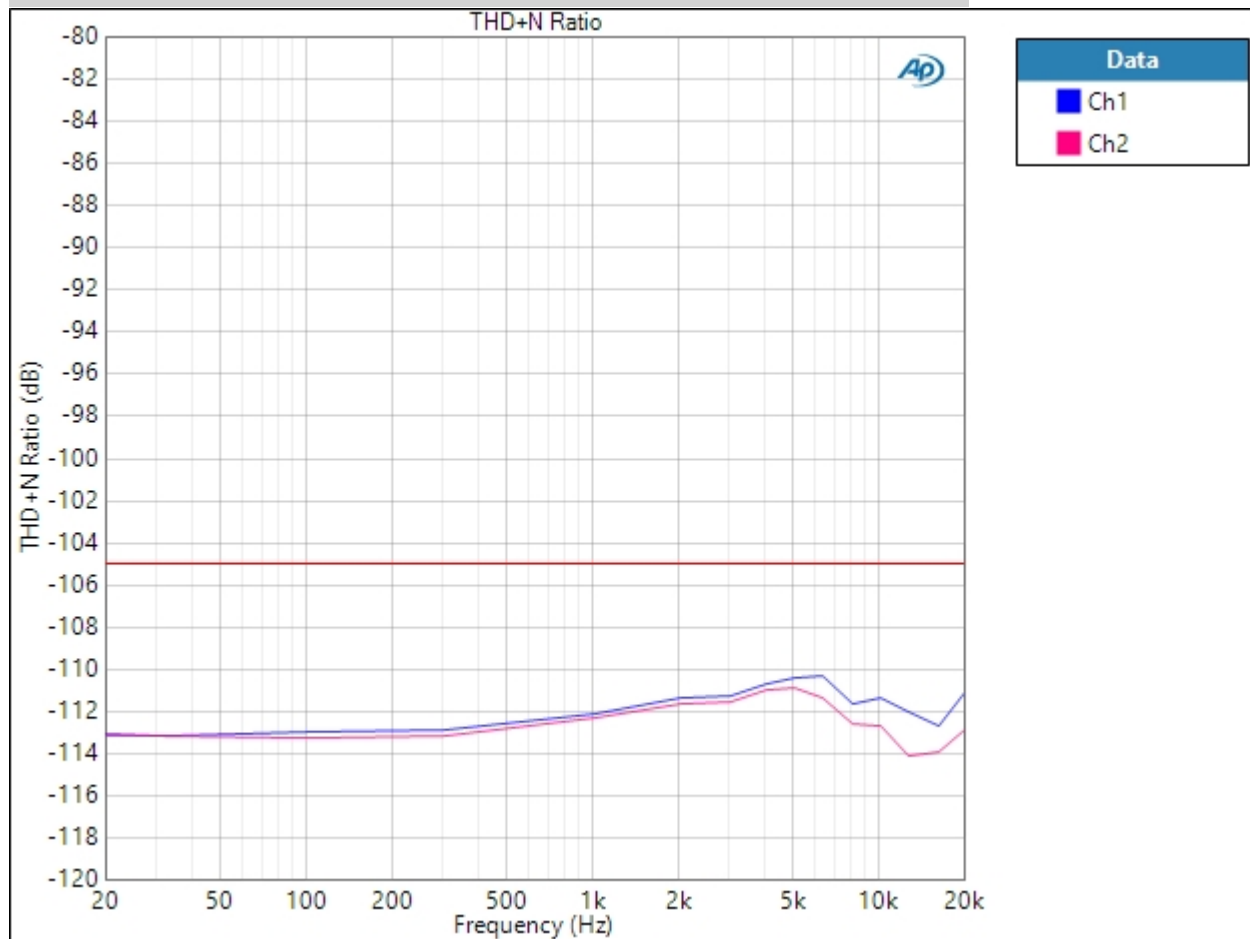
Self-Test for Analog Channels 1 - 2 (v1.1)



Loopback Checks, ch1-2 : THD+N vs Freq

Generator Level: 2.000 Vrms
DC Offset: 0.000 V
EQ: None
Step Type: Custom
Low-pass Filter: 20 kHz
Weighting Filter: Signal Path
High-pass Filter: 20 Hz
Phase Ref Channel: Ch1
Measured 1 2021-08-07 13:13:06

THD+N Ratio



Ch1 PASSED

Ch2 PASSED

Result: PASSED

Self-Test for Analog Channels 1 - 2 (v1.1)



Crosstalk, ch1-2 : Unbal

Waveform: Sine
Generator Level: 5.000 Vrms
DC Offset: 0.000 V
Frequency: 20.0000 kHz

Crosstalk

Channel	Lower Limit	Value	Upper Limit	
Ch1	---- dB	-153.925 dB	-130.000 dB	✓
Ch2	---- dB	-152.544 dB	-130.000 dB	✓

Result: ✓ PASSED

Crosstalk, ch1-2 : Bal

Waveform: Sine
Generator Level: 5.000 Vrms
DC Offset: 0.000 V
Frequency: 20.0000 kHz

Crosstalk

Channel	Lower Limit	Value	Upper Limit	
Ch1	---- dB	-162.046 dB	-140.000 dB	✓
Ch2	---- dB	-163.602 dB	-140.000 dB	✓

Result: ✓ PASSED

CMRR, ch1-2 : 3.2V Range

Generator Level: 6.000 Vp

DC Offset: 0.000 V

EQ: None

Step Type: Custom

Low-pass Filter: 20 kHz

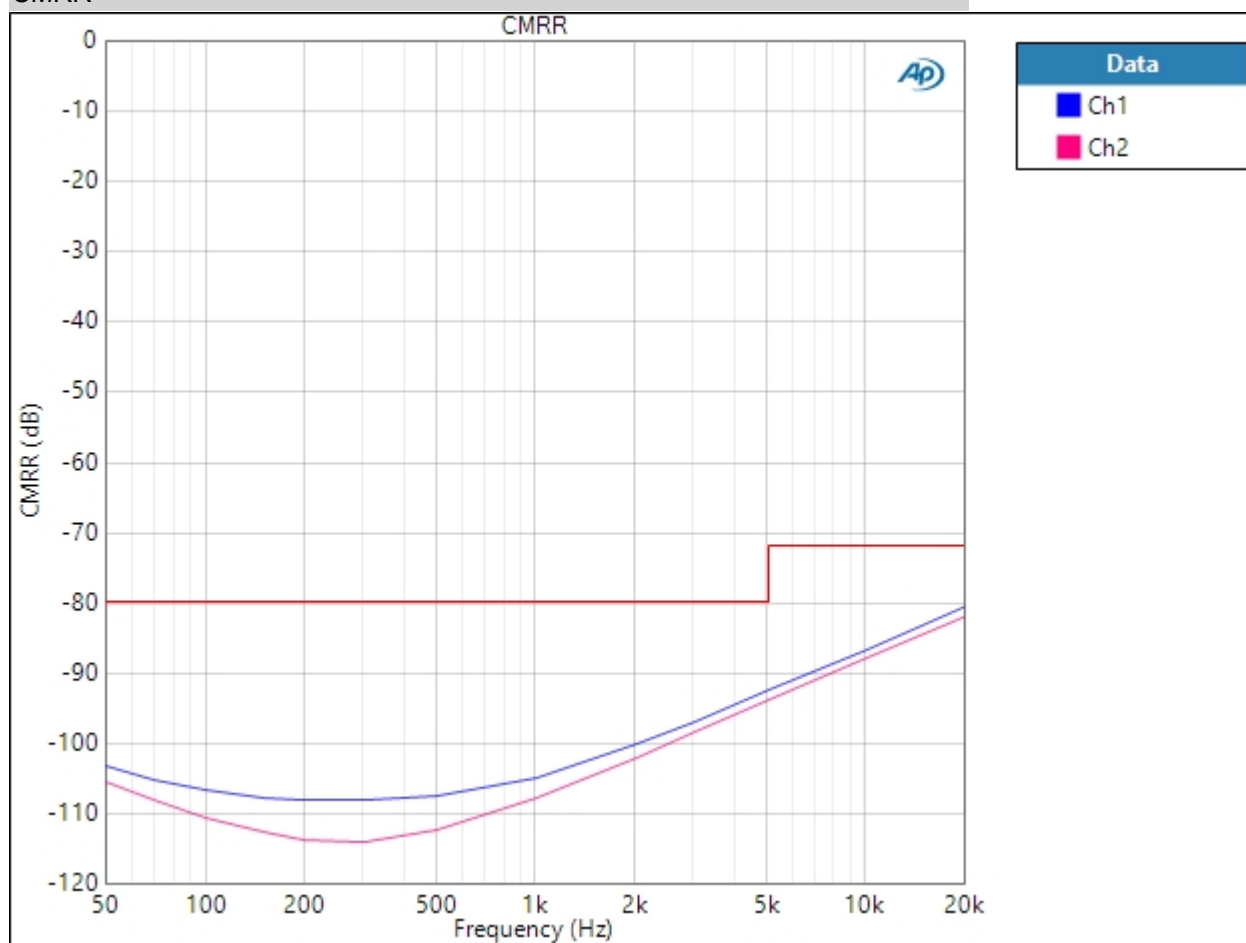
Weighting Filter: Signal Path

High-pass Filter: 20 Hz

Phase Ref Channel: Ch1

Measured 1 2021-08-07 13:13:13

CMRR



Ch1 PASSED

Ch2 PASSED

Result: PASSED

Self-Test for Analog Channels 1 - 2 (v1.1)



CMRR, ch1-2 : 10V Range

Waveform: Sine
Generator Level: 10.00 Vrms
DC Offset: 0.000 V
Frequency: 20.0000 kHz

CMRR

Channel	Lower Limit	Value	Upper Limit	
Ch1	---- dB	-68.072 dB	-50.000 dB	✓
Ch2	---- dB	-76.211 dB	-50.000 dB	✓

Result: ✓ PASSED

CMRR, ch1-2 : 32V Range

Waveform: Sine
Generator Level: 10.00 Vrms
DC Offset: 0.000 V
Frequency: 20.0000 kHz

CMRR

Channel	Lower Limit	Value	Upper Limit	
Ch1	---- dB	-68.942 dB	-50.000 dB	✓
Ch2	---- dB	-70.348 dB	-50.000 dB	✓

Result: ✓ PASSED

CMRR, ch1-2 : 100V Range

Waveform: Sine
Generator Level: 10.00 Vrms
DC Offset: 0.000 V
Frequency: 20.0000 kHz

CMRR

Channel	Lower Limit	Value	Upper Limit	
Ch1	---- dB	-62.833 dB	-45.000 dB	✓
Ch2	---- dB	-66.771 dB	-45.000 dB	✓

Result: ✓ PASSED