Schiit DAC APx Standard Test Suite: Hel 2E

Notes:

This is a test of a representative production line sample. If you have difficulties reproducing these results, check your analyzer set-up and ancillary equipment carefully. ensure your analyzer has had a recent calibration, and contact the analyzer manufacturer for help if necessary. If you still have significantly different results, please contact info@schiit.com with a copy of your results so we can bring back your product and check it against our standard.

Summary

Low Gain, 300 Ohm	
Level and Gain	PASSED
DC Level	PASSED
Signal Analyzer	PASSED
Frequency Response	PASSED
Signal to Noise Ratio	PASSED
THD+N	PASSED
IMD Level Sweep (CCIF)	PASSED
IMD Frequency Sweep (CCIF)	PASSED
Crosstalk, One Channel Undriven	PASSED
Stepped Level Sweep	PASSED
Low Gain, 32 Ohm	
Level and Gain	PASSED
DC Level	PASSED
Signal Analyzer	PASSED
Frequency Response	PASSED
Signal to Noise Ratio	PASSED
THD+N	PASSED
IMD Level Sweep (CCIF)	PASSED
IMD Frequency Sweep (CCIF)	PASSED
Crosstalk, One Channel Undriven	PASSED
Stepped Level Sweep	PASSED
High Gain, 300 Ohm	
Level and Gain	PASSED
DC Level	PASSED
Signal Analyzer	PASSED
Frequency Response	PASSED
Signal to Noise Ratio	PASSED
THD+N	PASSED
IMD Level Sweep (CCIF)	PASSED
IMD Frequency Sweep (CCIF)	PASSED
Crosstalk, One Channel Undriven	PASSED
Stepped Level Sweep	PASSED

High Gain, 32 Ohm	
Level and Gain	PASSED
DC Level	PASSED
Signal Analyzer	PASSED
Frequency Response	PASSED
Signal to Noise Ratio	PASSED
THD+N	PASSED
IMD Level Sweep (CCIF)	PASSED
IMD Frequency Sweep (CCIF)	PASSED
Crosstalk, One Channel Undriven	PASSED
Stepped Level Sweep	PASSED
Optical	
Level and Gain	PASSED
DC Level	PASSED
Signal Analyzer	PASSED
Frequency Response	PASSED
Signal to Noise Ratio	PASSED
THD+N	PASSED
IMD Level Sweep (CCIF)	PASSED
IMD Frequency Sweep (CCIF)	PASSED
Crosstalk, One Channel Undriven	PASSED
Bandpass Level Sweep	PASSED

Sequence Result:	
Sequence Result:	PASSED

APx Instrument	
Instrument ID:	11571
Calibration Date:	3/23/2021
APx Version:	6.0.2.600.149330

Low Gain, 300 Ohm : Signal Path Setup

Output Connector:	ASIO
Asio Device:	ASIO2WASAPI
Scaling Mode:	Digital
Output Sample Rate:	48.0000 kHz
Output Latency:	Auto
Buffer Size:	4800
Clock Source:	Internal clock
Input 1:	Analog Unbalanced
Input Bandwidth:	AC (<10 Hz) - 20 kHz (44.1 kHz SR)
Input EQ:	None
Channels:	2
Termination:	300 ohm
High Performance Sine Analyzer:	Enabled
Input 2:	None
Device Delay:	0.000 s

• References

dBr G:	-20.000 dBFS
Shared Frequency Reference:	1.00000 kHz

Analog Input

dBrA:	1.000 Vrms
dBrB:	1.000 Vrms
dBrA Offset:	0.000 dB
dBrB Offset:	0.000 dB
dBSPL1:	10.00 mVrms
dBSPL2:	10.00 mVrms
dBSPL1 Calibrator Level:	94.000 dBSPL
dBSPL2 Calibrator Level:	94.000 dBSPL
dBm (Input Power):	600.0 ohm
W(watts) (Input Power):	8.000 ohm

• DCX

DCX is not detected.

• Clocks

Output Rate:	Track Output SR
Sync Out Level:	3.300 V

Sync Out Polarity:	Normal
Timebase Reference:	Internal
Jitter:	Disabled
• Triggers	
Source:	Off
Input Logic Level:	3.300 V
Edge:	Rising

Low Gain, 300 Ohm : Level and Gain

Waveform:	Sine
Generator Level:	-0.000 dBFS
DC Offset:	0.000 D
Frequency:	1.00000 kHz
Low-pass Filter:	Signal Path

RMS Level (10/12/2021 3:15:56.612 PM)

Ch1 2.038 Vrms
Ch2 2.039 Vrms

Low Gain, 300 Ohm : DC Level

Waveform:	Sine
Generator Level:	-∞ dBFS
DC Offset:	0.000 D
Frequency:	1.00000 kHz
Delay Time:	100.0 ms
Acquisition Time:	333.0 ms

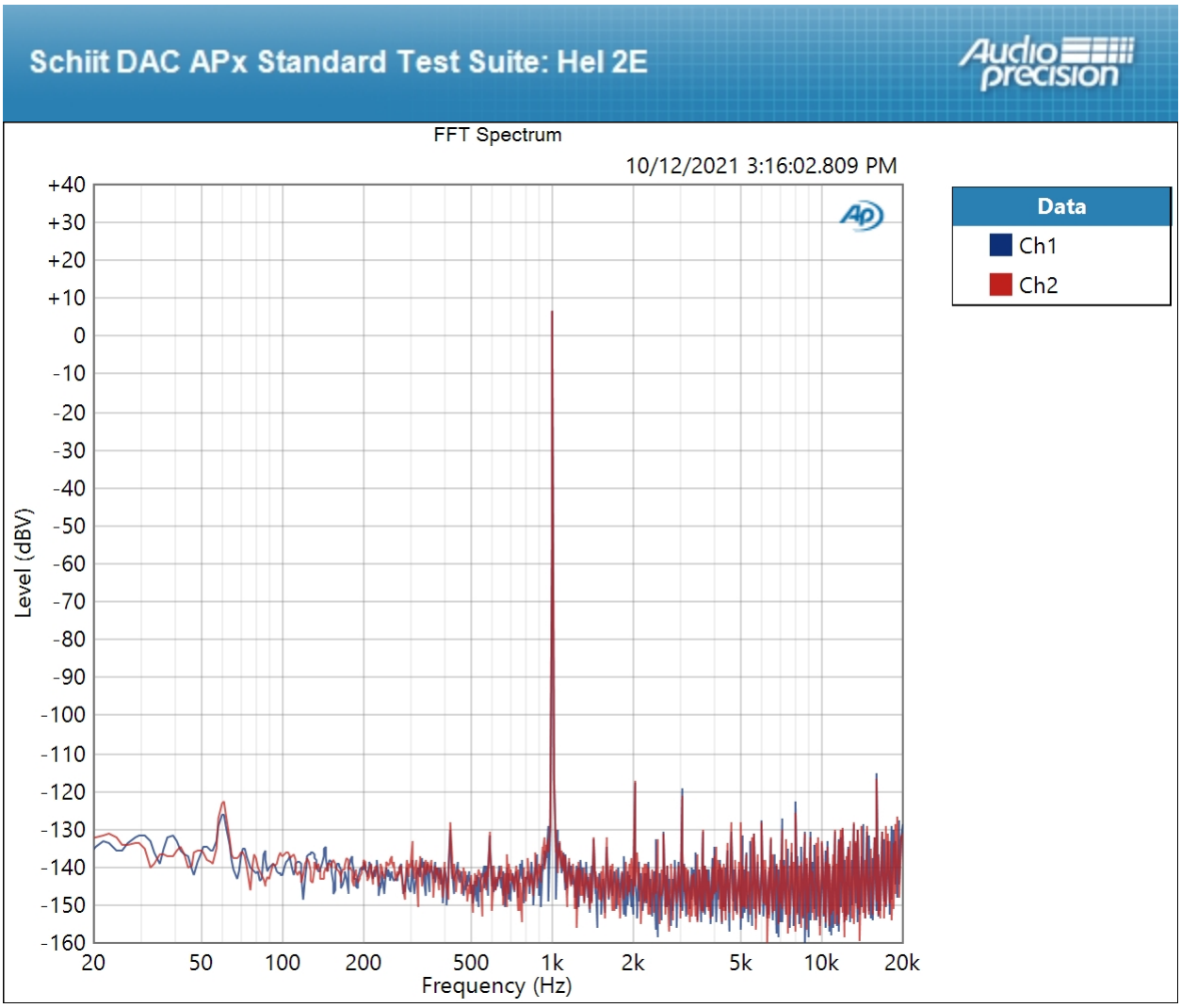
DC Level (10/12/2021 3:15:58.200 PM)

Ch1 -102.4 uV
Ch2 181.4 uV

Low Gain, 300 Ohm : Signal Analyzer

Waveform:	Sine
Generator Level:	-0.000 dBFS
DC Offset:	0.000 D
Frequency:	1.00000 kHz
Secondary Source:	None
Measured 1	10/12/2021 3:16:02 PM
Acquisition Type:	Auto
Trigger:	Free Run
Delay Time:	250.0 ms
Input Bandwidth:	Use Signal Path
FFT Length:	32K
Averaging:	Power
Averages:	3
Window:	AP-Equiripple
Record Acquisition:	False
Recording Type:	Multiple Mono PCM (.wav)

FFT Spectrum (10/12/2021 3:16:02.809 PM)

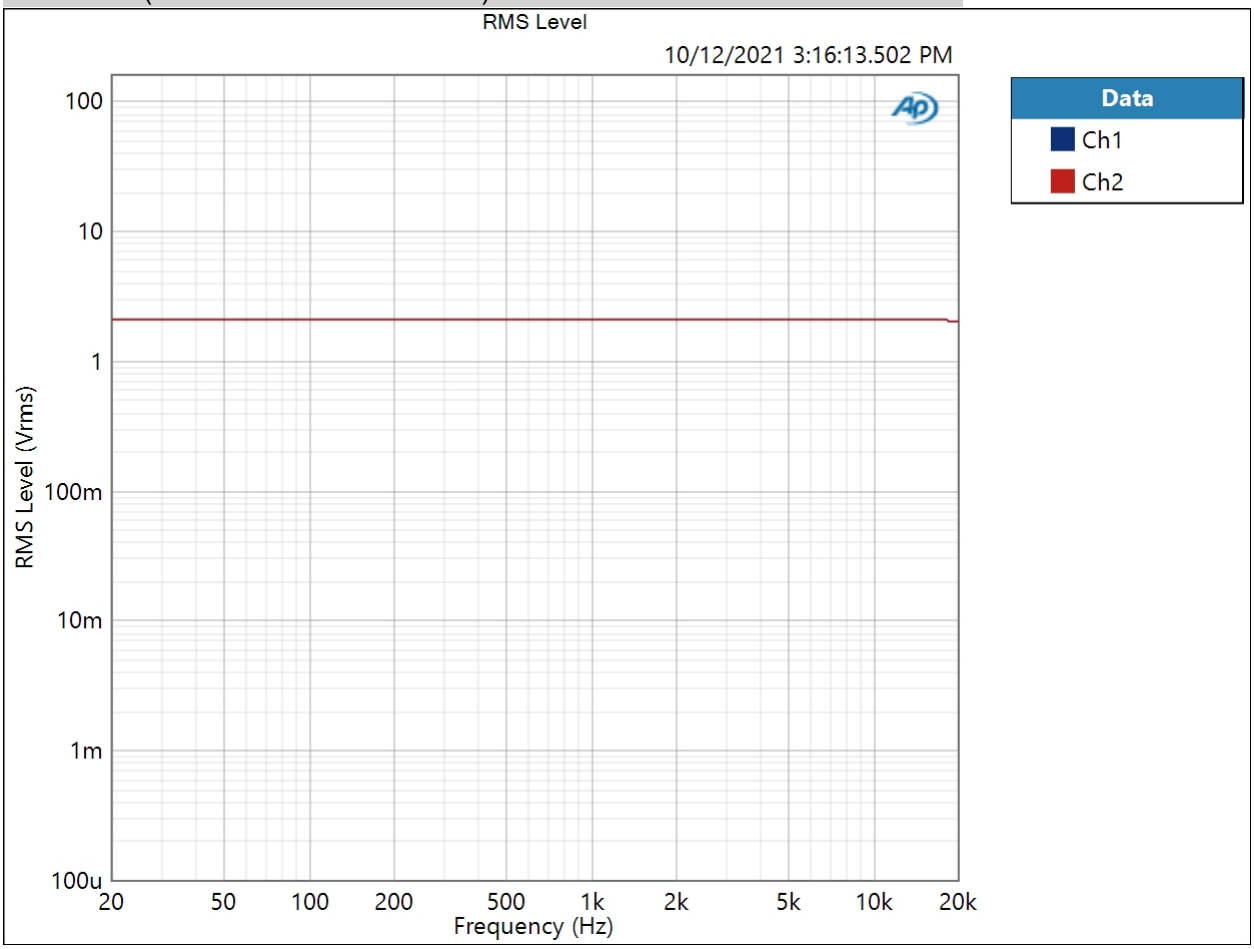


Result: PASSED

Low Gain, 300 Ohm : Frequency Response

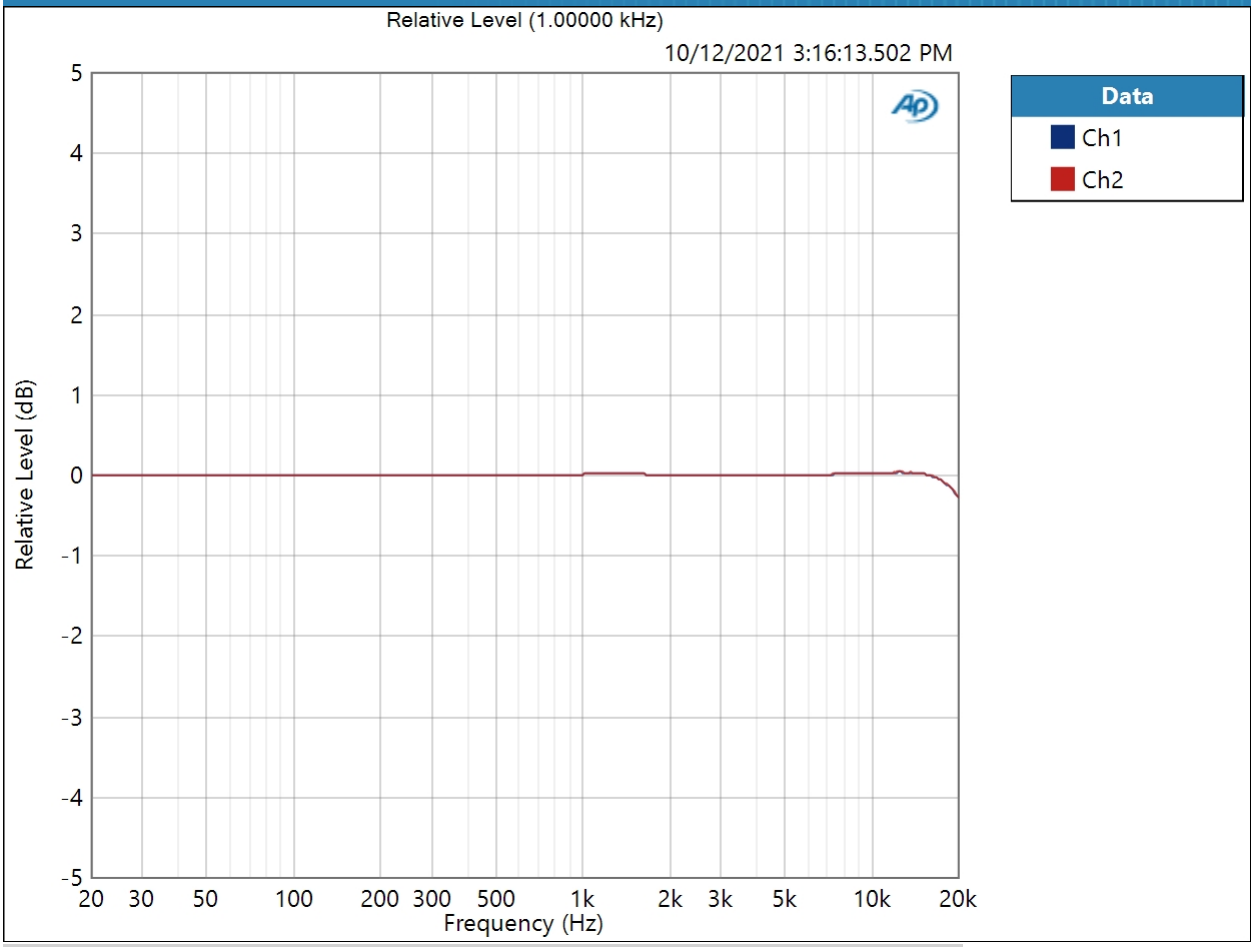
Start Frequency:	20.0000 Hz
Stop Frequency:	20.0000 kHz
Generator Level:	-0.000 dBFS
DC Offset:	0.000 D
EQ:	None
Pre-Sweep:	500.0 ms
Sweep:	1.000 s
Extend Acquisition By:	3.000 s
Secondary Source:	None
Measured 1	10/12/2021 3:16:13 PM

RMS Level (10/12/2021 3:16:13.502 PM)



Result: PASSED

Relative Level (1.00000 kHz) (10/12/2021 3:16:13.502 PM)



Relative Level (1.00000 kHz) Parameters

Mode: Normalized at Reference

Ref Frequency: 1.00000 kHz

Result: PASSED

Deviation (20.0000 Hz - 20.0000 kHz) (10/12/2021 3:16:13.502 PM)

Ch1 ±0.177 dB

Ch2 ±0.175 dB

Deviation (20.0000 Hz - 20.0000 kHz) Parameters

Min: 20.0000 Hz

Max: 20.0000 kHz

Low Gain, 300 Ohm : Signal to Noise Ratio

Waveform:	Sine
Generator Level:	-0.000 dBFS
DC Offset:	0.000 D
Frequency:	1.00000 kHz
High-pass Filter:	Elliptic
High-pass Frequency:	20 Hz
Low-pass Filter:	Elliptic
Low-pass Frequency:	20 kHz
Weighting Filter:	Signal Path

Signal to Noise Ratio (10/12/2021 3:16:16.141 PM)

Ch1 111.343 dB
Ch2 111.978 dB

Low Gain, 300 Ohm : THD+N

Waveform:	Sine
Generator Level:	-0.000 dBFS
DC Offset:	0.000 D
Frequency:	1.00000 kHz
High-pass Filter:	Elliptic
High-pass Frequency:	20 Hz
Low-pass Filter:	Elliptic
Low-pass Frequency:	20 kHz
Weighting Filter:	Signal Path
Notch Tuning Mode:	Measured Frequency

THD+N Ratio (10/12/2021 3:16:19.211 PM)

Ch1 0.000331 %

Ch2 0.000342 %

THD Ratio (10/12/2021 3:16:19.211 PM)

Ch1 0.000172 %

Ch2 0.000153 %

Noise Ratio (10/12/2021 3:16:19.211 PM)

Ch1 0.000287 %

Ch2 0.000295 %

Distortion Product Ratio (10/12/2021 3:16:19.211 PM)

Channel	F	H2	H3	H4	H5	H6	H7	H8	H9	H10
	1.000k	2.000k	3.000k	4.000k	5.000k	6.000k	7.000k	8.000k	9.000k	10.00k
Ch1	-0.00	-123.08	-122.32	-138.10	-144.96	-134.52	-136.25	-129.48	-127.37	-131.27
	1.000k	2.000k	3.000k	4.000k	5.000k	6.000k	7.000k	8.000k	9.000k	10.00k
Ch2	-0.00	-123.99	-127.46	-136.37	-134.54	-134.06	-132.51	-127.97	-132.41	-136.80

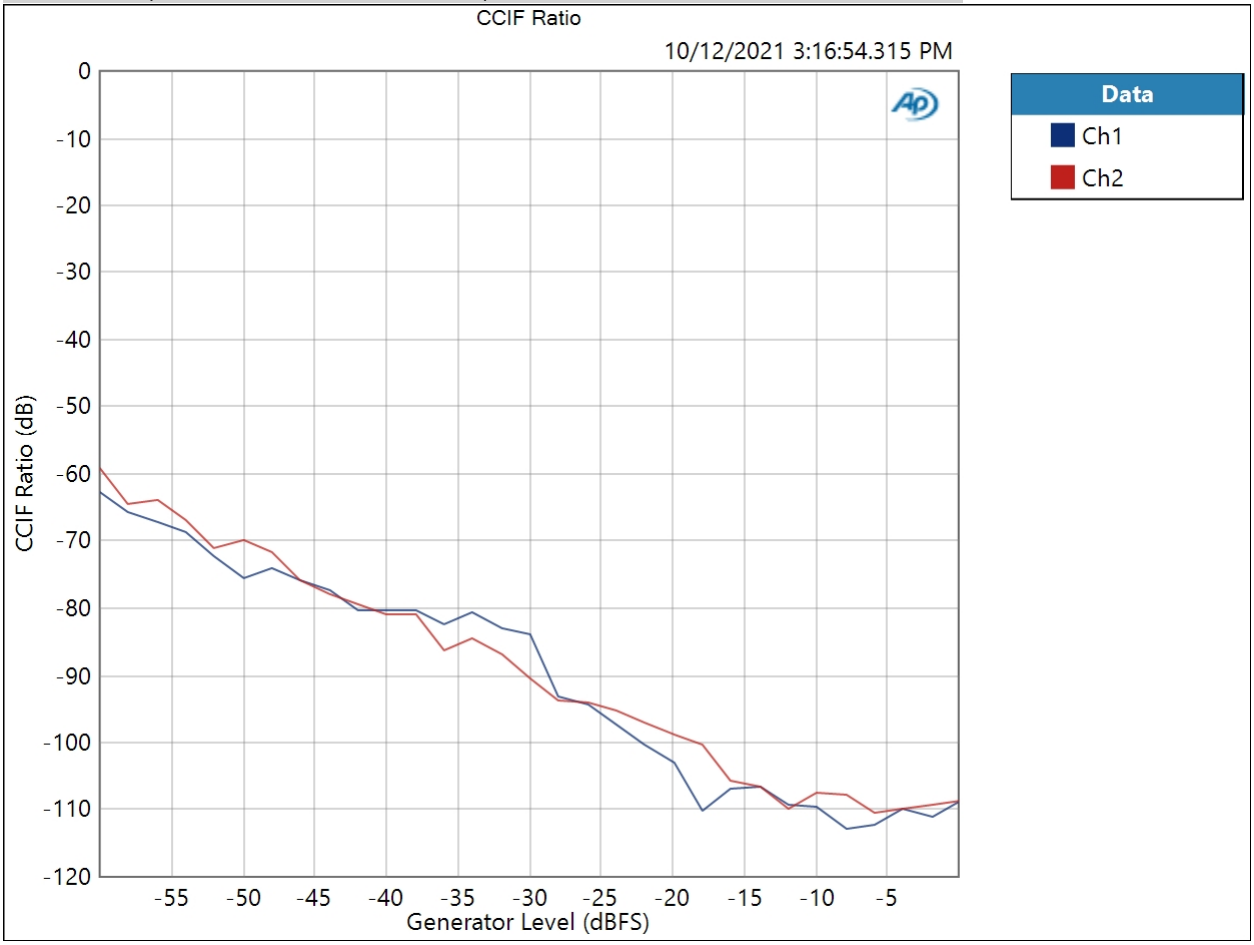
Distortion Product Ratio Parameters

Frequency Unit:	Hz
Ratio Unit:	dB
Channel:	Ch1

Low Gain, 300 Ohm : IMD Level Sweep (CCIF)

IMD Type:	CCIF
Mean Frequency:	12.5000 kHz
Diff Frequency:	80.0000 Hz
IMD Split:	False
Start Level:	-60.000 dBFS
Stop Level:	-0.000 dBFS
Step Type:	Linear
Number of Points:	31
Step Size:	+2.000 dBFS
Mode:	d2+d3
Measured 1	10/12/2021 3:16:54 PM

CCIF Ratio (10/12/2021 3:16:54.315 PM)

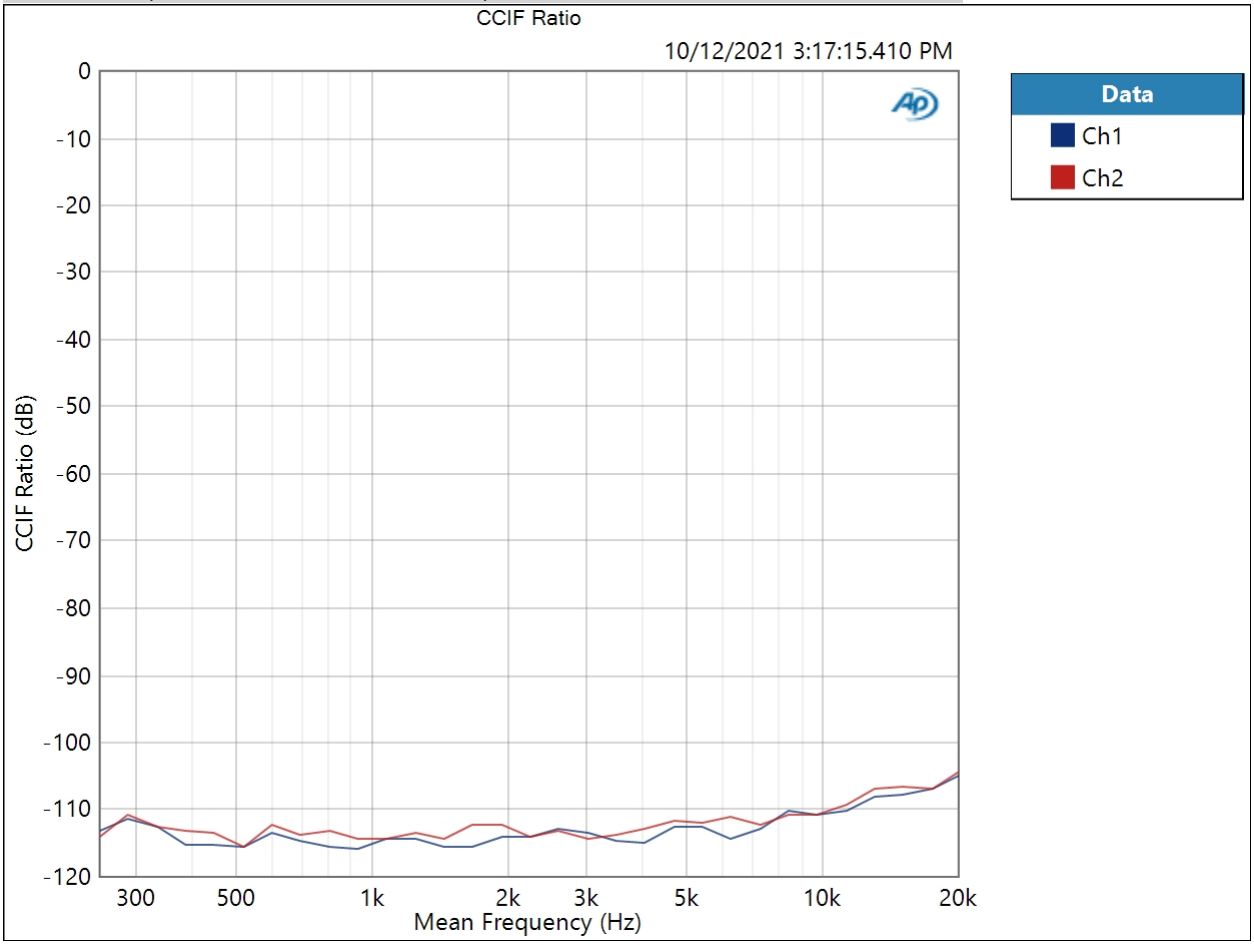


Result: PASSED

Low Gain, 300 Ohm : IMD Frequency Sweep (CCIF)

Generator Level:	-0.000 dBFS
DC Offset:	0.000 D
Sweep Frequency:	Mean Frequency
Diff Frequency:	80.0000 Hz
IMD Split:	False
Start Frequency:	20.0000 kHz
Stop Frequency:	250.000 Hz
Step Type:	Logarithmic
Number of Points:	31
Mode:	d2+d3
Measured 1	10/12/2021 3:17:15 PM

CCIF Ratio (10/12/2021 3:17:15.410 PM)



Result: PASSED

Low Gain, 300 Ohm : Crosstalk, One Channel Undriven

Waveform:	Sine
Generator Level:	-0.000 dBFS
DC Offset:	0.000 D
Frequency:	10.0000 kHz

Crosstalk (10/12/2021 3:17:19.883 PM)

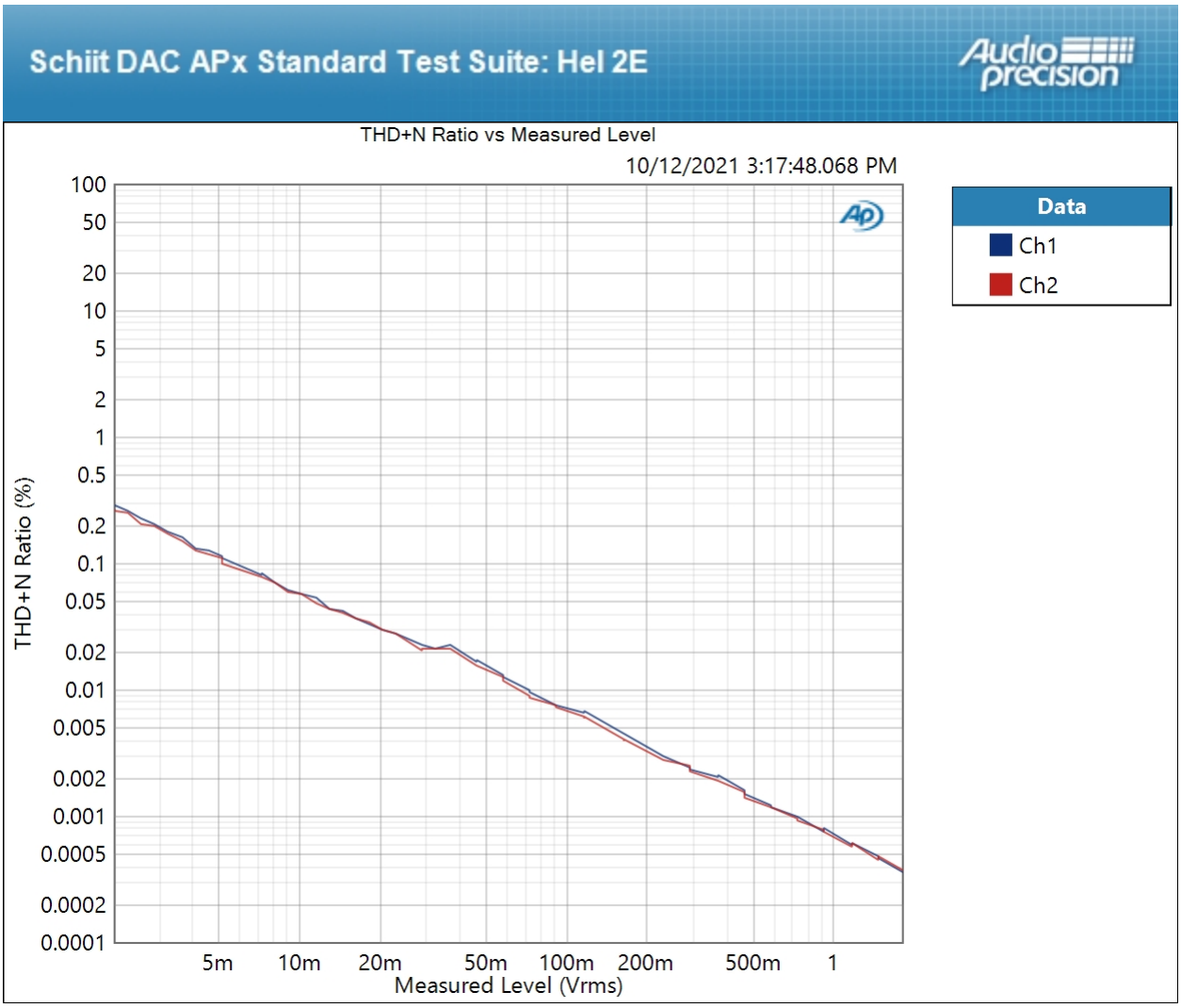
Ch1 87.496 dB

Ch2 93.805 dB

Low Gain, 300 Ohm : Stepped Level Sweep

Waveform:	Sine
Frequency:	1.00000 kHz
Start Level:	-60.000 dBFS
Stop Level:	-0.000 dBFS
Step Type:	Linear
Number of Points:	61
Step Size:	+1.000 dBFS
Offset:	0.000 D
High-pass Filter:	Elliptic
High-pass Frequency:	20 Hz
Low-pass Filter:	Elliptic
Low-pass Frequency:	20 kHz
Weighting Filter:	Signal Path
Notch Tuning Mode:	Generator Frequency
Measured 1	10/12/2021 3:17:48 PM

THD+N Ratio vs Measured Level (10/12/2021 3:17:48.068 PM)



Result: PASSED

Low Gain, 32 Ohm : Signal Path Setup

Output Connector:	ASIO
Asio Device:	ASIO2WASAPI
Scaling Mode:	Digital
Output Sample Rate:	48.0000 kHz
Output Latency:	Auto
Buffer Size:	4800
Clock Source:	Internal clock
Input 1:	Analog Unbalanced
Input Bandwidth:	AC (<10 Hz) - 22.4k (48 kHz SR)
Input EQ:	None
Channels:	2
Termination:	100 kohm
High Performance Sine Analyzer:	Enabled
Input 2:	None
Device Delay:	0.000 s

• References

dBr G:	-20.000 dBFS
Shared Frequency Reference:	1.00000 kHz

Analog Input

dBrA:	1.000 Vrms
dBrB:	1.000 Vrms
dBrA Offset:	0.000 dB
dBrB Offset:	0.000 dB
dBSPL1:	10.00 mVrms
dBSPL2:	10.00 mVrms
dBSPL1 Calibrator Level:	94.000 dBSPL
dBSPL2 Calibrator Level:	94.000 dBSPL
dBm (Input Power):	600.0 ohm
W(watts) (Input Power):	8.000 ohm

• DCX

DCX is not detected.

• Clocks

Output Rate:	Track Output SR
Sync Out Level:	3.300 V
Sync Out Polarity:	Normal

Timebase Reference:	Internal
Jitter:	Disabled
• Triggers	
Source:	Off
Input Logic Level:	3.300 V
Edge:	Rising

Low Gain, 32 Ohm : Level and Gain

Waveform:	Sine
Generator Level:	-6.000 dBFS
DC Offset:	0.000 D
Frequency:	1.00000 kHz
Low-pass Filter:	Signal Path

RMS Level (10/12/2021 3:22:50.331 PM)

Ch1 1.013 Vrms
Ch2 1.013 Vrms

Low Gain, 32 Ohm : DC Level

Waveform:	Sine
Generator Level:	-∞ dBFS
DC Offset:	0.000 D
Frequency:	1.00000 kHz
Delay Time:	100.0 ms
Acquisition Time:	333.0 ms

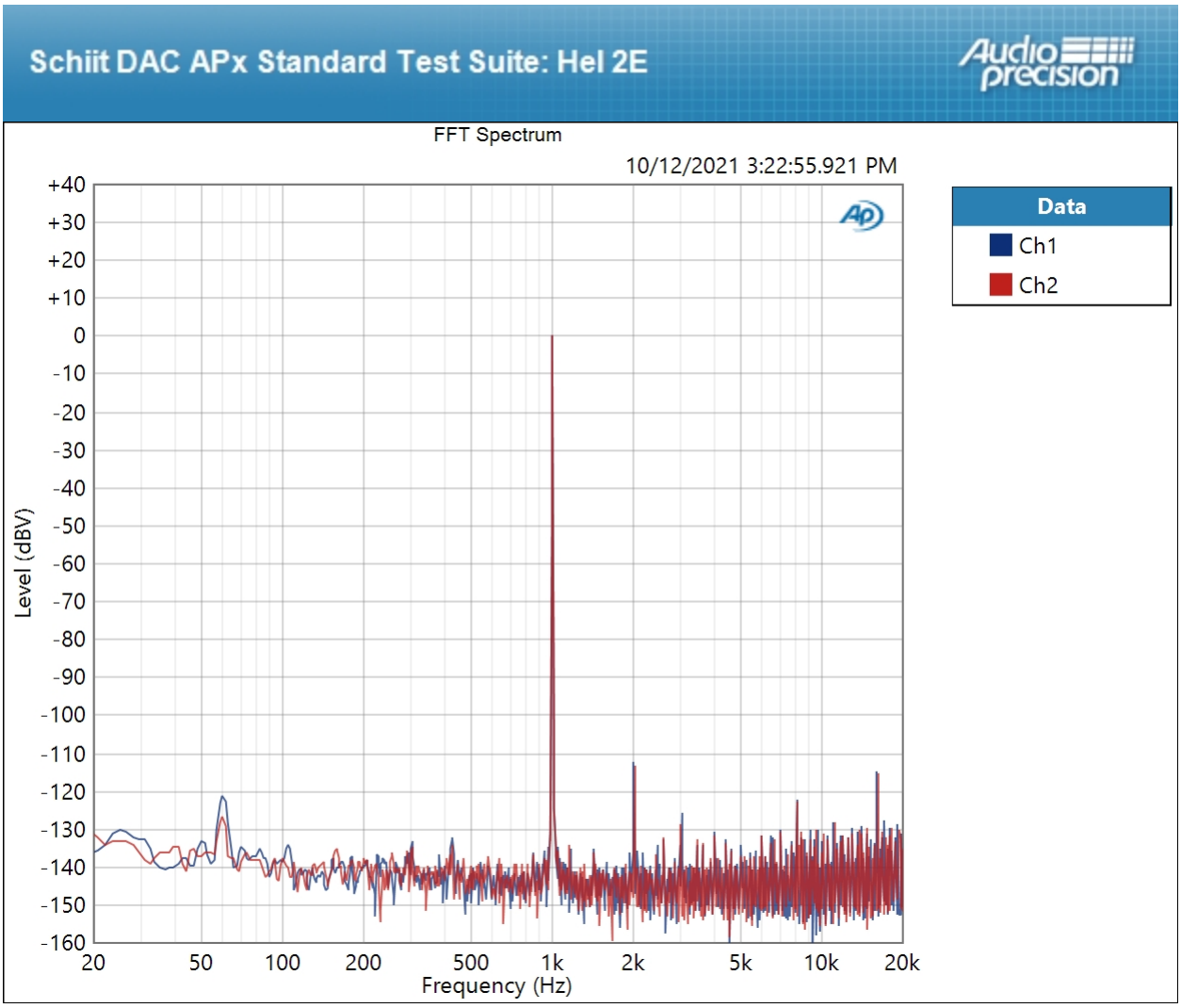
DC Level (10/12/2021 3:22:51.641 PM)

Ch1 71.73 uV
Ch2 -59.76 uV

Low Gain, 32 Ohm : Signal Analyzer

Waveform:	Sine
Generator Level:	-6.000 dBFS
DC Offset:	0.000 D
Frequency:	1.00000 kHz
Secondary Source:	None
Measured 1	10/12/2021 3:22:55 PM
Acquisition Type:	Auto
Trigger:	Free Run
Delay Time:	250.0 ms
Input Bandwidth:	Use Signal Path
FFT Length:	32K
Averaging:	Power
Averages:	3
Window:	AP-Equiripple
Record Acquisition:	False
Recording Type:	Multiple Mono PCM (.wav)

FFT Spectrum (10/12/2021 3:22:55.921 PM)

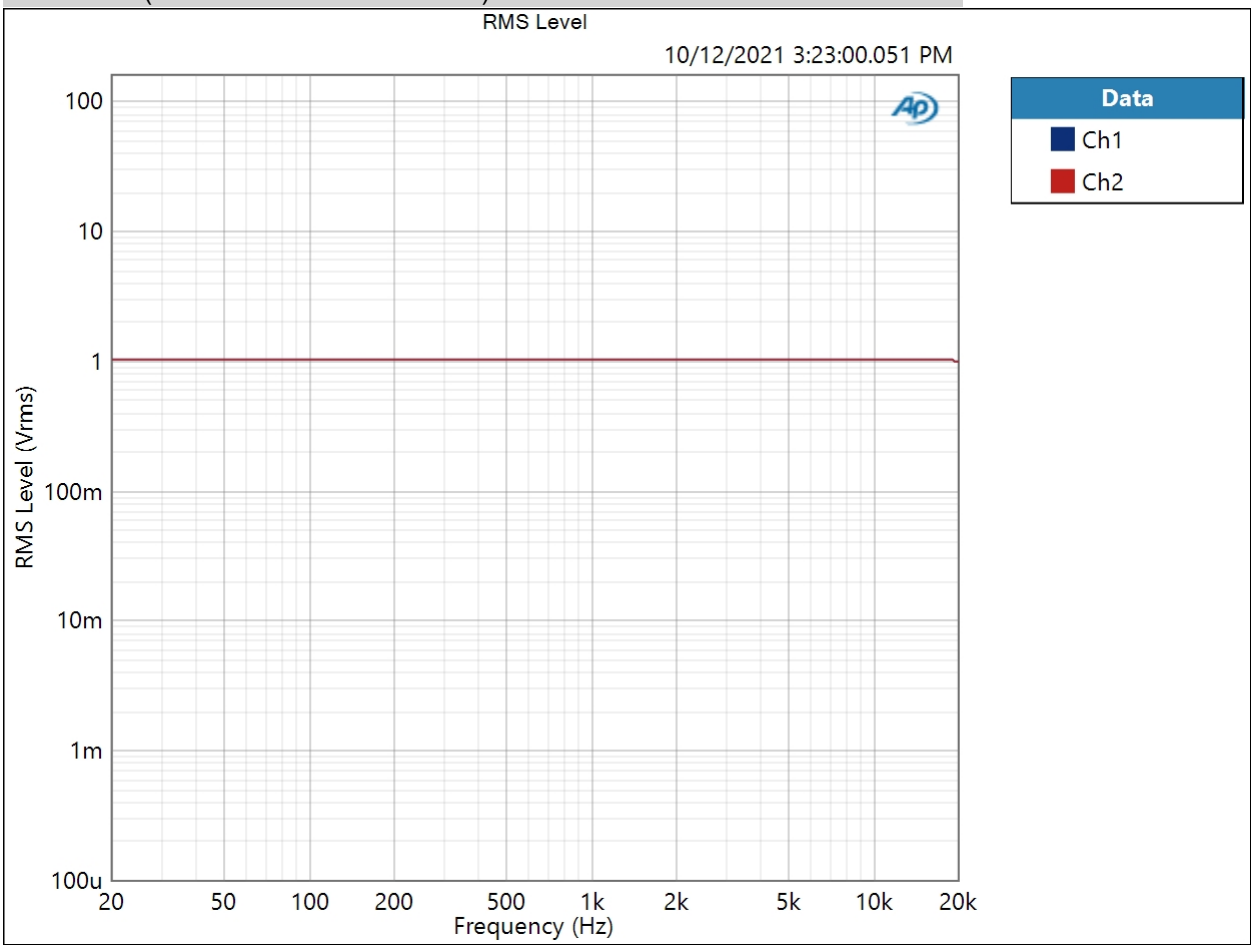


Result: PASSED

Low Gain, 32 Ohm : Frequency Response

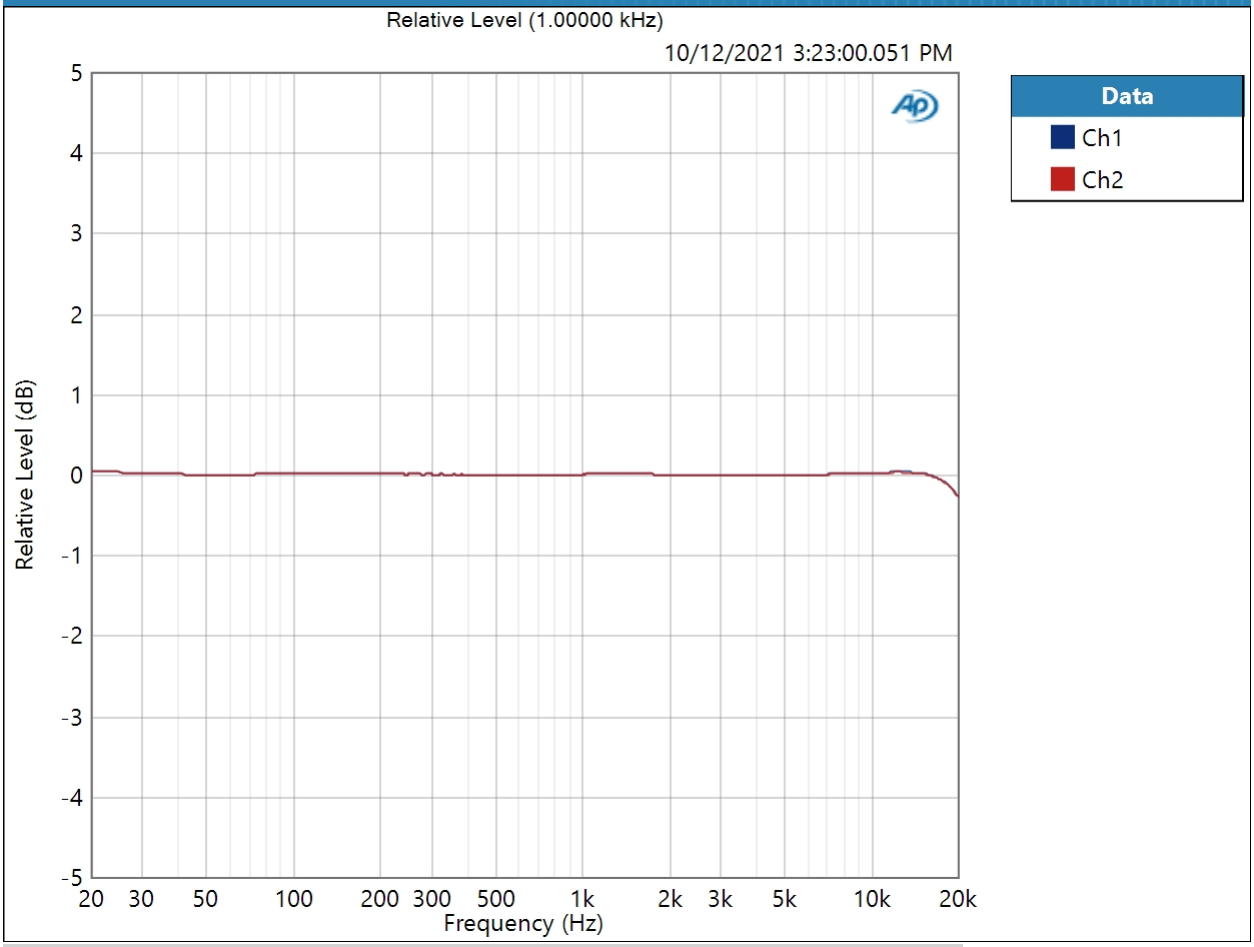
Start Frequency:	20.0000 Hz
Stop Frequency:	20.0000 kHz
Generator Level:	-6.000 dBFS
DC Offset:	0.000 D
EQ:	None
Pre-Sweep:	100.0 ms
Sweep:	350.0 ms
Extend Acquisition By:	1.000 s
Secondary Source:	None
Measured 1	10/12/2021 3:23:00 PM

RMS Level (10/12/2021 3:23:00.051 PM)



Result: PASSED

Relative Level (1.00000 kHz) (10/12/2021 3:23:00.051 PM)



Relative Level (1.00000 kHz) Parameters

Mode: Normalized at Reference

Ref Frequency: 1.00000 kHz

Result: PASSED

Deviation (20.0000 Hz - 20.0000 kHz) (10/12/2021 3:23:00.051 PM)

Ch1 ±0.176 dB

Ch2 ±0.180 dB

Deviation (20.0000 Hz - 20.0000 kHz) Parameters

Min: 20.0000 Hz

Max: 20.0000 kHz

Low Gain, 32 Ohm : Signal to Noise Ratio

Waveform:	Sine
Generator Level:	-6.000 dBFS
DC Offset:	0.000 D
Frequency:	1.00000 kHz
High-pass Filter:	Elliptic
High-pass Frequency:	20 Hz
Low-pass Filter:	Elliptic
Low-pass Frequency:	20 kHz
Weighting Filter:	Signal Path

Signal to Noise Ratio (10/12/2021 3:23:02.541 PM)

Ch1 103.665 dB
Ch2 104.537 dB

Low Gain, 32 Ohm : THD+N

Waveform:	Sine
Generator Level:	-6.000 dBFS
DC Offset:	0.000 D
Frequency:	1.00000 kHz
High-pass Filter:	Elliptic
High-pass Frequency:	20 Hz
Low-pass Filter:	Elliptic
Low-pass Frequency:	20 kHz
Weighting Filter:	Signal Path
Notch Tuning Mode:	Measured Frequency

THD+N Ratio (10/12/2021 3:23:09.302 PM)

Ch1 0.000700 %

Ch2 0.000649 %

THD Ratio (10/12/2021 3:23:09.302 PM)

Ch1 0.000391 %

Ch2 0.000367 %

Noise Ratio (10/12/2021 3:23:09.302 PM)

Ch1 0.000559 %

Ch2 0.000531 %

Distortion Product Ratio (10/12/2021 3:23:09.302 PM)

Channel	F	H2	H3	H4	H5	H6	H7	H8	H9	H10
	1.000k	2.000k	3.000k	4.000k	5.000k	6.000k	7.000k	8.000k	9.000k	10.00k
Ch1	-0.00	-112.26	-122.45	-128.86	-134.49	-132.13	-127.73	-120.48	-129.94	-128.59
	1.000k	2.000k	3.000k	4.000k	5.000k	6.000k	7.000k	8.000k	9.000k	10.00k
Ch2	-0.00	-113.80	-127.29	-128.09	-127.20	-126.06	-129.84	-122.87	-127.12	-121.83

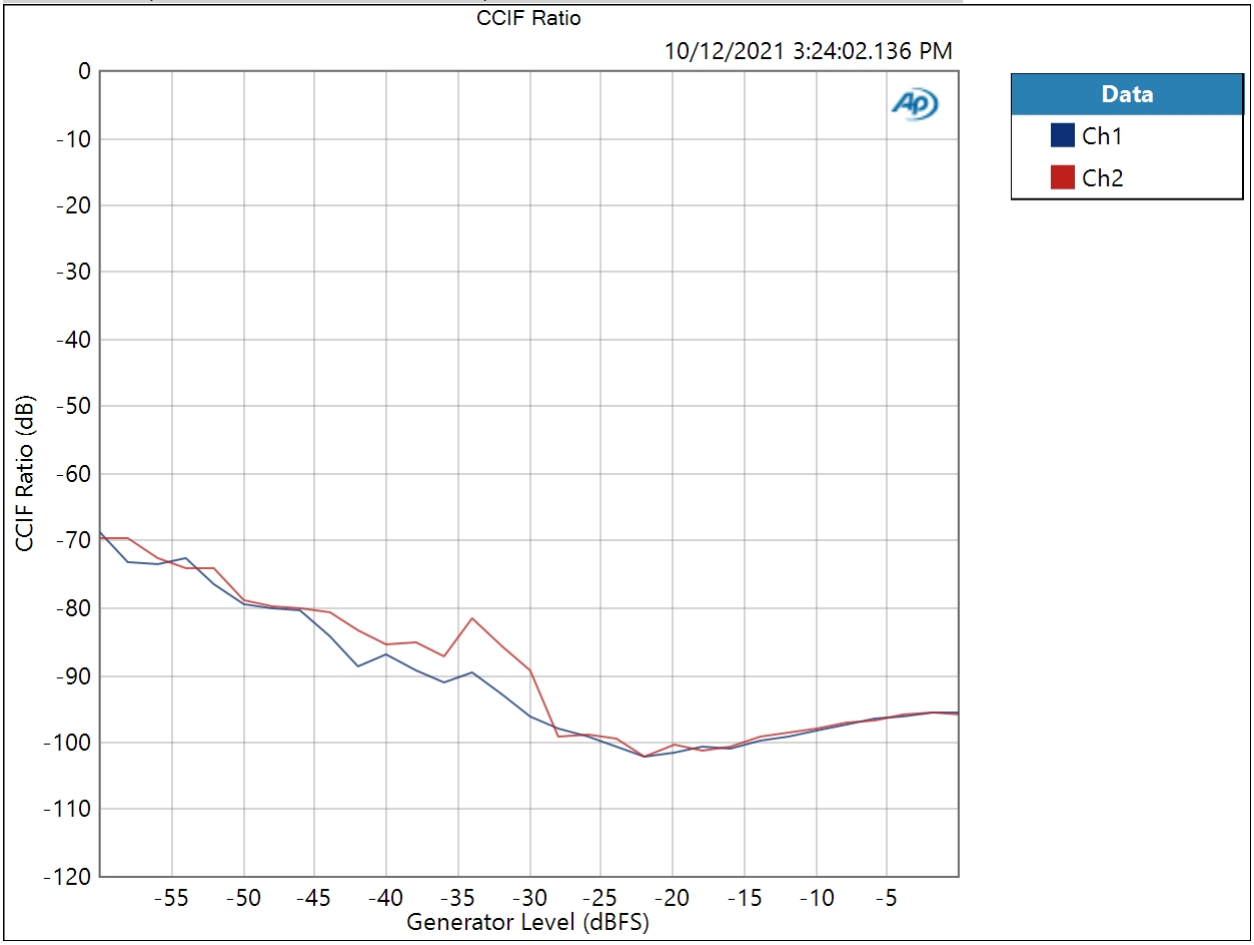
Distortion Product Ratio Parameters

Frequency Unit:	Hz
Ratio Unit:	dB
Channel:	Ch1

Low Gain, 32 Ohm : IMD Level Sweep (CCIF)

IMD Type:	CCIF
Mean Frequency:	12.5000 kHz
Diff Frequency:	80.0000 Hz
IMD Split:	False
Start Level:	-60.000 dBFS
Stop Level:	-0.000 dBFS
Step Type:	Linear
Number of Points:	31
Step Size:	+2.000 dBFS
Mode:	d2+d3
Measured 1	10/12/2021 3:24:02 PM

CCIF Ratio (10/12/2021 3:24:02.136 PM)

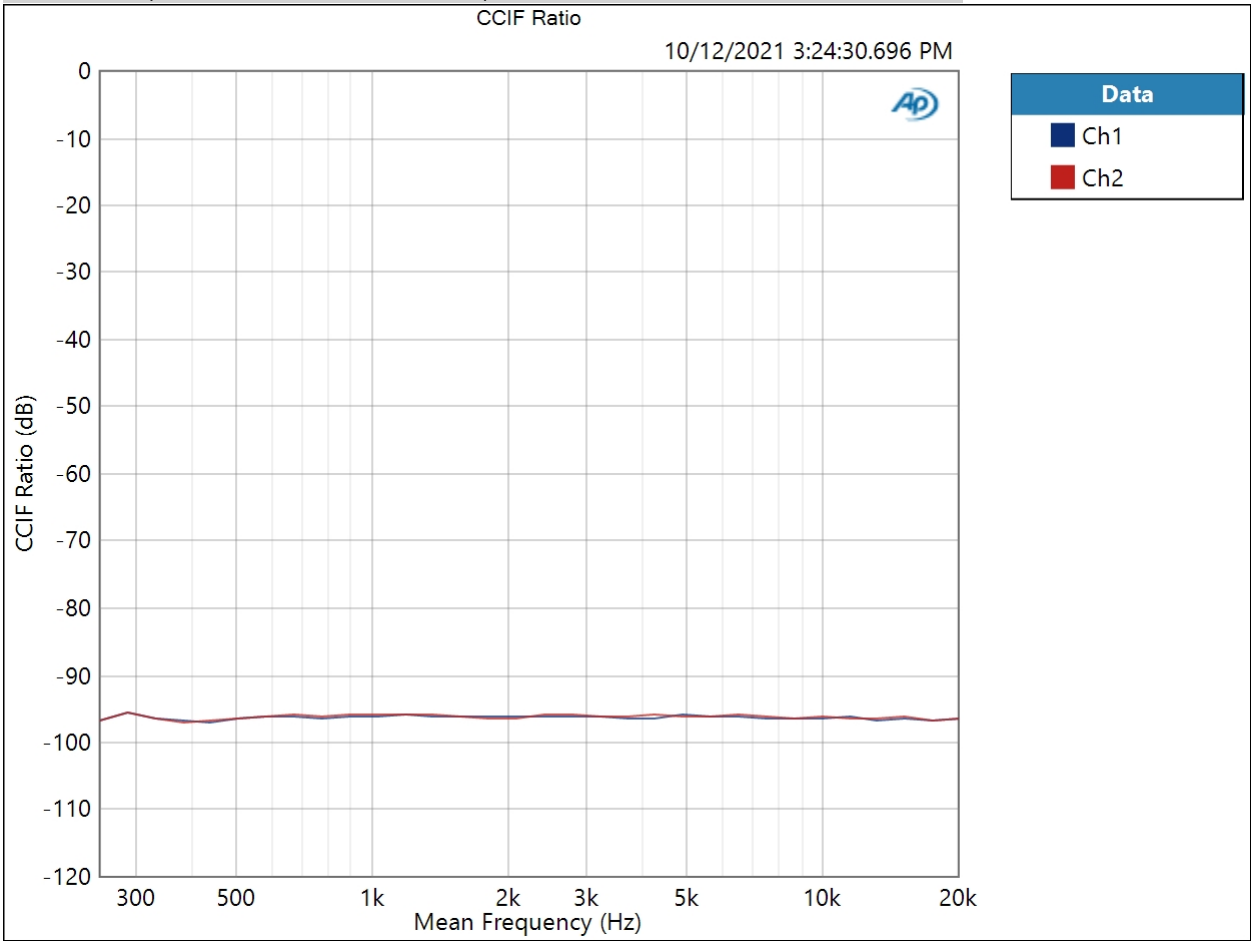


Result: PASSED

Low Gain, 32 Ohm : IMD Frequency Sweep (CCIF)

Generator Level:	-6.000 dBFS
DC Offset:	0.000 D
Sweep Frequency:	Mean Frequency
Diff Frequency:	80.0000 Hz
IMD Split:	False
Start Frequency:	20.0000 kHz
Stop Frequency:	250.000 Hz
Step Type:	Logarithmic
Number of Points:	32
Mode:	d2+d3
Measured 1	10/12/2021 3:24:30 PM

CCIF Ratio (10/12/2021 3:24:30.696 PM)



Result: PASSED

Low Gain, 32 Ohm : Crosstalk, One Channel Undriven

Waveform:	Sine
Generator Level:	-6.000 dBFS
DC Offset:	0.000 D
Frequency:	10.0000 kHz

Crosstalk (10/12/2021 3:24:34.919 PM)

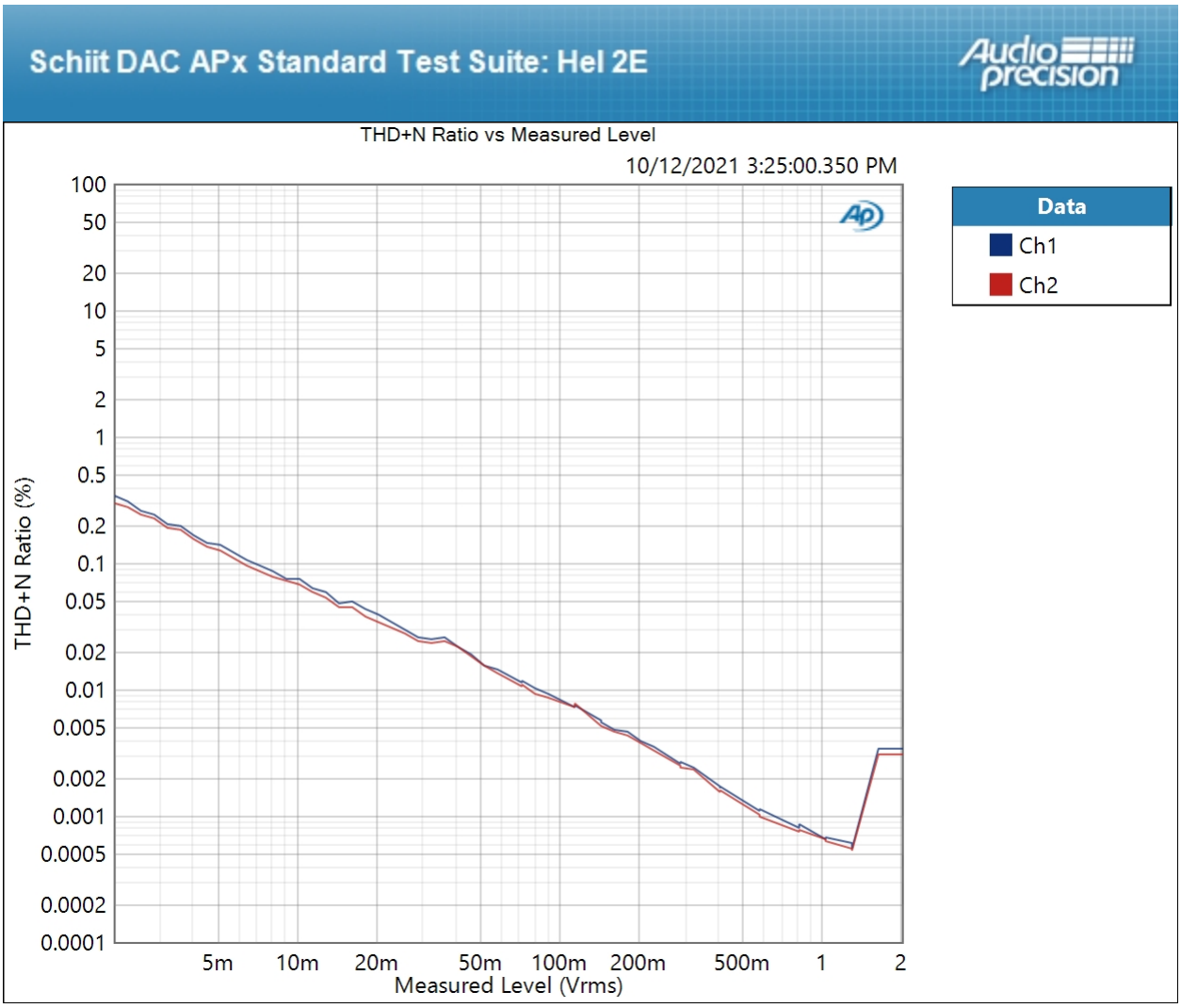
Ch1 -69.479 dB

Ch2 -69.927 dB

Low Gain, 32 Ohm : Stepped Level Sweep

Waveform:	Sine
Frequency:	1.00000 kHz
Start Level:	-60.000 dBFS
Stop Level:	-0.000 dBFS
Step Type:	Linear
Number of Points:	61
Step Size:	+1.000 dBFS
Offset:	0.000 D
High-pass Filter:	Elliptic
High-pass Frequency:	20 Hz
Low-pass Filter:	Elliptic
Low-pass Frequency:	20 kHz
Weighting Filter:	Signal Path
Notch Tuning Mode:	Generator Frequency
Measured 1	10/12/2021 3:25:00 PM

THD+N Ratio vs Measured Level (10/12/2021 3:25:00.350 PM)



Result: PASSED

High Gain, 300 Ohm : Signal Path Setup

Output Connector:	ASIO
Asio Device:	ASIO2WASAPI
Scaling Mode:	Digital
Output Sample Rate:	48.0000 kHz
Output Latency:	Auto
Buffer Size:	4800
Clock Source:	Internal clock
Input 1:	Analog Unbalanced
Input Bandwidth:	AC (<10 Hz) - 22.4k (48 kHz SR)
Input EQ:	None
Channels:	2
Termination:	300 ohm
High Performance Sine Analyzer:	Enabled
Input 2:	None
Device Delay:	0.000 s

• References

dBr G:	-20.000 dBFS
Shared Frequency Reference:	1.00000 kHz

Analog Input

dBrA:	1.000 Vrms
dBrB:	1.000 Vrms
dBrA Offset:	0.000 dB
dBrB Offset:	0.000 dB
dBSPL1:	10.00 mVrms
dBSPL2:	10.00 mVrms
dBSPL1 Calibrator Level:	94.000 dBSPL
dBSPL2 Calibrator Level:	94.000 dBSPL
dBm (Input Power):	600.0 ohm
W(watts) (Input Power):	8.000 ohm

• DCX

DCX is not detected.

• Clocks

Output Rate:	Track Output SR
Sync Out Level:	3.300 V
Sync Out Polarity:	Normal

Timebase Reference:	Internal
Jitter:	Disabled
• Triggers	
Source:	Off
Input Logic Level:	3.300 V
Edge:	Rising

High Gain, 300 Ohm : Level and Gain

Waveform:	Sine
Generator Level:	-16.000 dBFS
DC Offset:	0.000 D
Frequency:	1.00000 kHz
Low-pass Filter:	Signal Path

RMS Level (10/12/2021 3:18:22.846 PM)

Ch1 2.014 Vrms
Ch2 2.016 Vrms

High Gain, 300 Ohm : DC Level

Waveform:	Sine
Generator Level:	-∞ dBFS
DC Offset:	0.000 D
Frequency:	1.00000 kHz
Delay Time:	100.0 ms
Acquisition Time:	333.0 ms

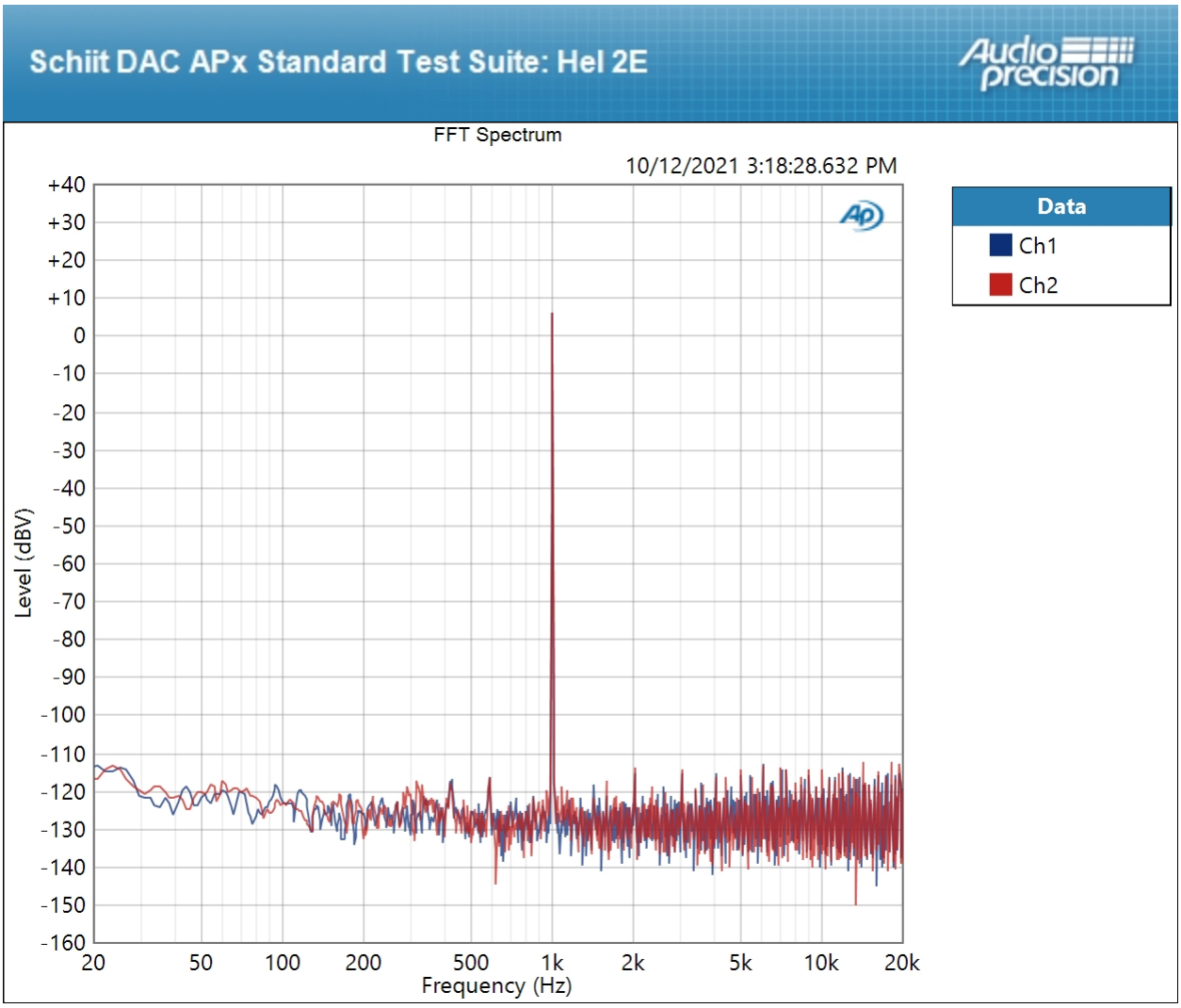
DC Level (10/12/2021 3:18:24.394 PM)

Ch1 203.3 uV
Ch2 607.6 uV

High Gain, 300 Ohm : Signal Analyzer

Waveform:	Sine
Generator Level:	-16.000 dBFS
DC Offset:	0.000 D
Frequency:	1.00000 kHz
Secondary Source:	None
Measured 1	10/12/2021 3:18:28 PM
Acquisition Type:	Auto
Trigger:	Free Run
Delay Time:	250.0 ms
Input Bandwidth:	Use Signal Path
FFT Length:	32K
Averaging:	Power
Averages:	3
Window:	AP-Equiripple
Record Acquisition:	False
Recording Type:	Multiple Mono PCM (.wav)

FFT Spectrum (10/12/2021 3:18:28.632 PM)

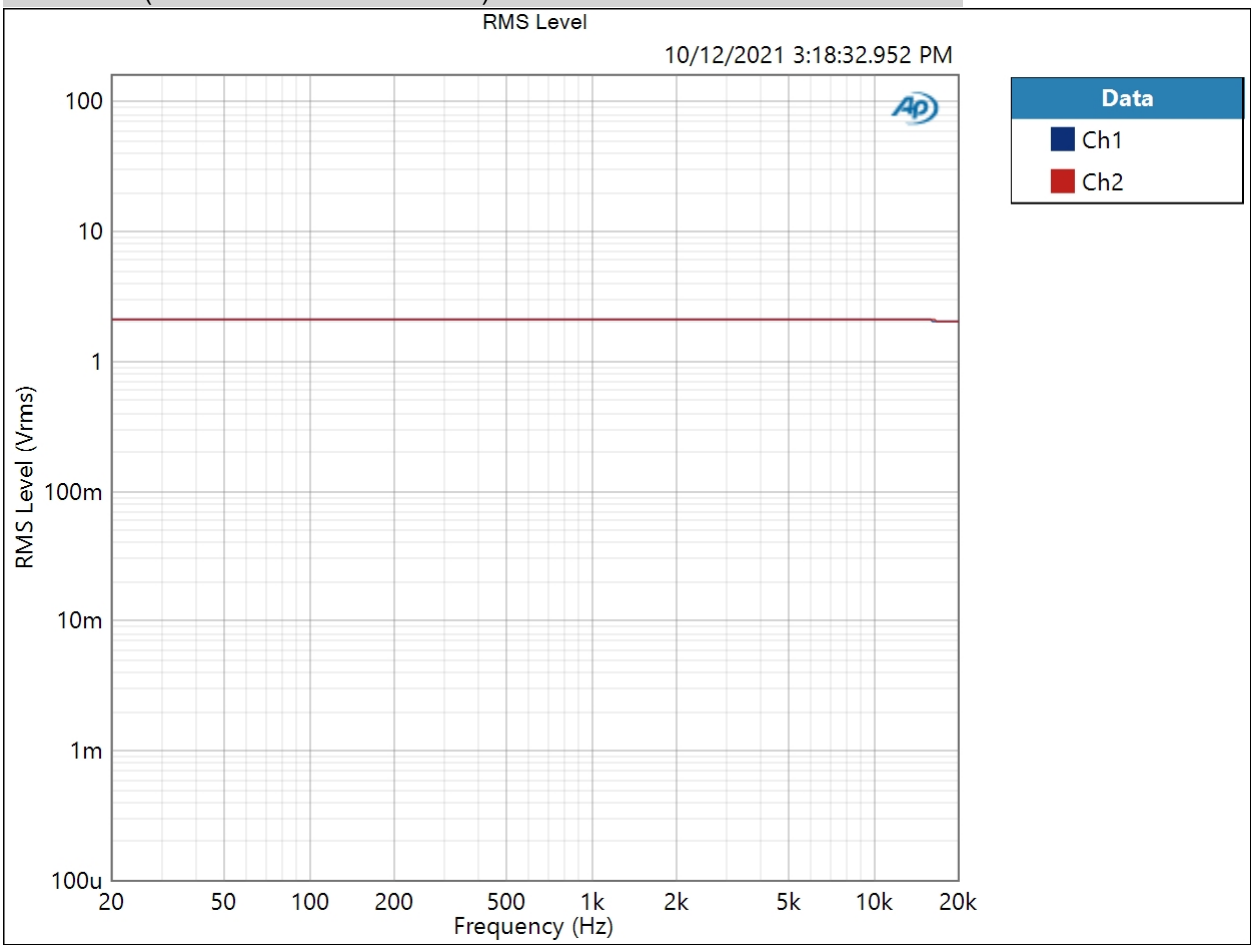


Result: PASSED

High Gain, 300 Ohm : Frequency Response

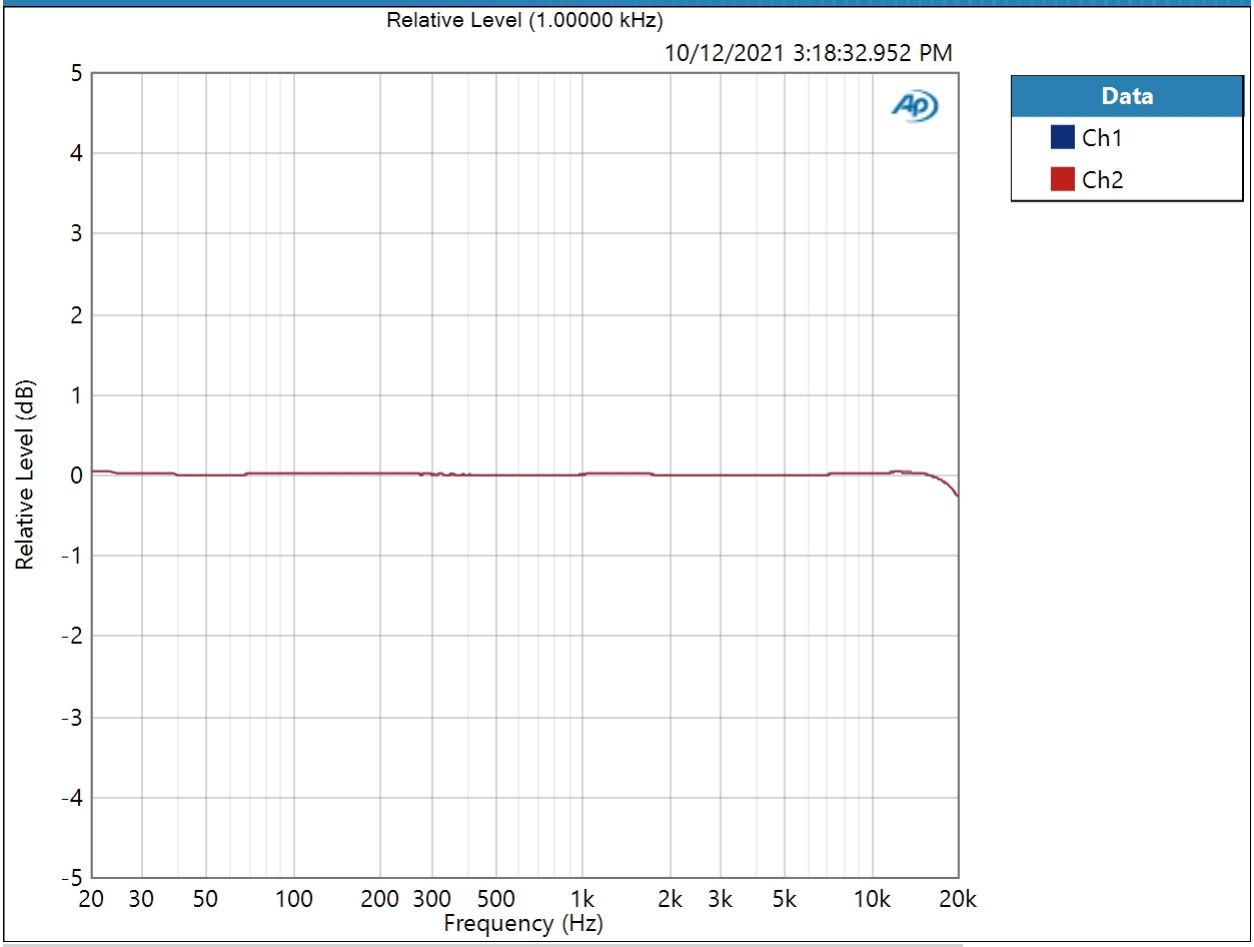
Start Frequency:	20.0000 Hz
Stop Frequency:	20.0000 kHz
Generator Level:	-16.000 dBFS
DC Offset:	0.000 D
EQ:	None
Pre-Sweep:	100.0 ms
Sweep:	350.0 ms
Extend Acquisition By:	1.000 s
Secondary Source:	None
Measured 1	10/12/2021 3:18:32 PM

RMS Level (10/12/2021 3:18:32.952 PM)



Result: PASSED

Relative Level (1.00000 kHz) (10/12/2021 3:18:32.952 PM)



Relative Level (1.00000 kHz) Parameters

Mode: Normalized at Reference

Ref Frequency: 1.00000 kHz

Result: PASSED

Deviation (20.0000 Hz - 20.0000 kHz) (10/12/2021 3:18:32.952 PM)

Ch1 ±0.176 dB

Ch2 ±0.172 dB

Deviation (20.0000 Hz - 20.0000 kHz) Parameters

Min: 20.0000 Hz

Max: 20.0000 kHz

High Gain, 300 Ohm : Signal to Noise Ratio

Waveform:	Sine
Generator Level:	-16.000 dBFS
DC Offset:	0.000 D
Frequency:	1.00000 kHz
High-pass Filter:	Elliptic
High-pass Frequency:	20 Hz
Low-pass Filter:	Elliptic
Low-pass Frequency:	20 kHz
Weighting Filter:	Signal Path

Signal to Noise Ratio (10/12/2021 3:18:35.447 PM)

Ch1 99.486 dB
Ch2 98.941 dB

High Gain, 300 Ohm : THD+N

Waveform:	Sine
Generator Level:	-16.000 dBFS
DC Offset:	0.000 D
Frequency:	1.00000 kHz
High-pass Filter:	Elliptic
High-pass Frequency:	20 Hz
Low-pass Filter:	Elliptic
Low-pass Frequency:	20 kHz
Weighting Filter:	Signal Path
Notch Tuning Mode:	Measured Frequency

THD+N Ratio (10/12/2021 3:18:38.398 PM)

Ch1 0.001749 %

Ch2 0.001787 %

THD Ratio (10/12/2021 3:18:38.398 PM)

Ch1 0.000490 %

Ch2 0.000497 %

Noise Ratio (10/12/2021 3:18:38.398 PM)

Ch1 0.001659 %

Ch2 0.001726 %

Distortion Product Ratio (10/12/2021 3:18:38.398 PM)

Channel	F	H2	H3	H4	H5	H6	H7	H8	H9	H10
	1.000k	2.000k	3.000k	4.000k	5.000k	6.000k	7.000k	8.000k	9.000k	10.00k
Ch1	-0.00	-124.25	-119.62	-119.40	-120.93	-118.71	-116.95	-120.89	-116.42	-126.00
	1.000k	2.000k	3.000k	4.000k	5.000k	6.000k	7.000k	8.000k	9.000k	10.00k
Ch2	-0.00	-122.75	-121.91	-115.48	-126.18	-117.46	-121.41	-117.82	-119.89	-120.50

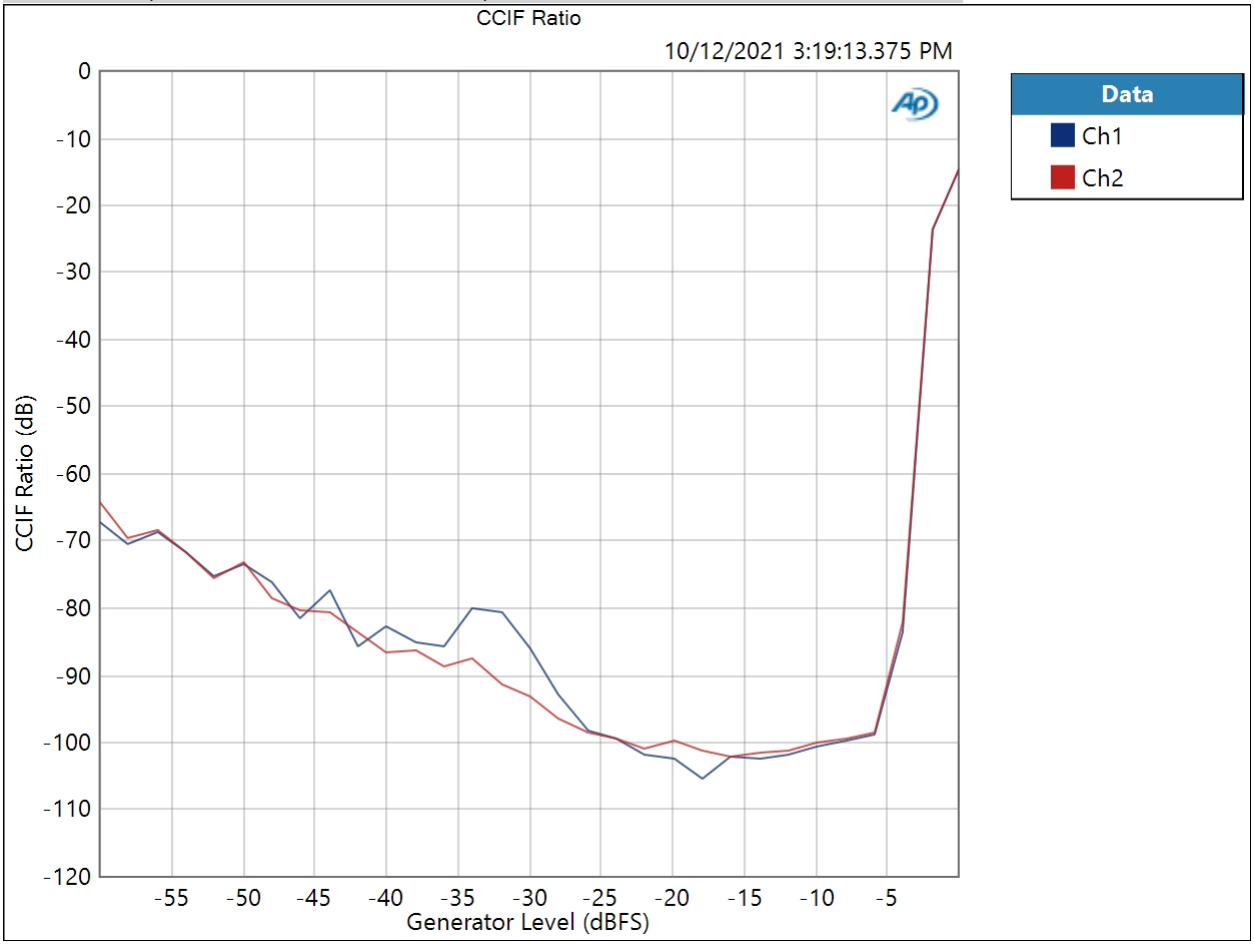
Distortion Product Ratio Parameters

Frequency Unit:	Hz
Ratio Unit:	dB
Channel:	Ch1

High Gain, 300 Ohm : IMD Level Sweep (CCIF)

IMD Type:	CCIF
Mean Frequency:	12.5000 kHz
Diff Frequency:	80.0000 Hz
IMD Split:	False
Start Level:	-60.000 dBFS
Stop Level:	-0.000 dBFS
Step Type:	Linear
Number of Points:	31
Step Size:	+2.000 dBFS
Mode:	d2+d3
Measured 1	10/12/2021 3:19:13 PM

CCIF Ratio (10/12/2021 3:19:13.375 PM)

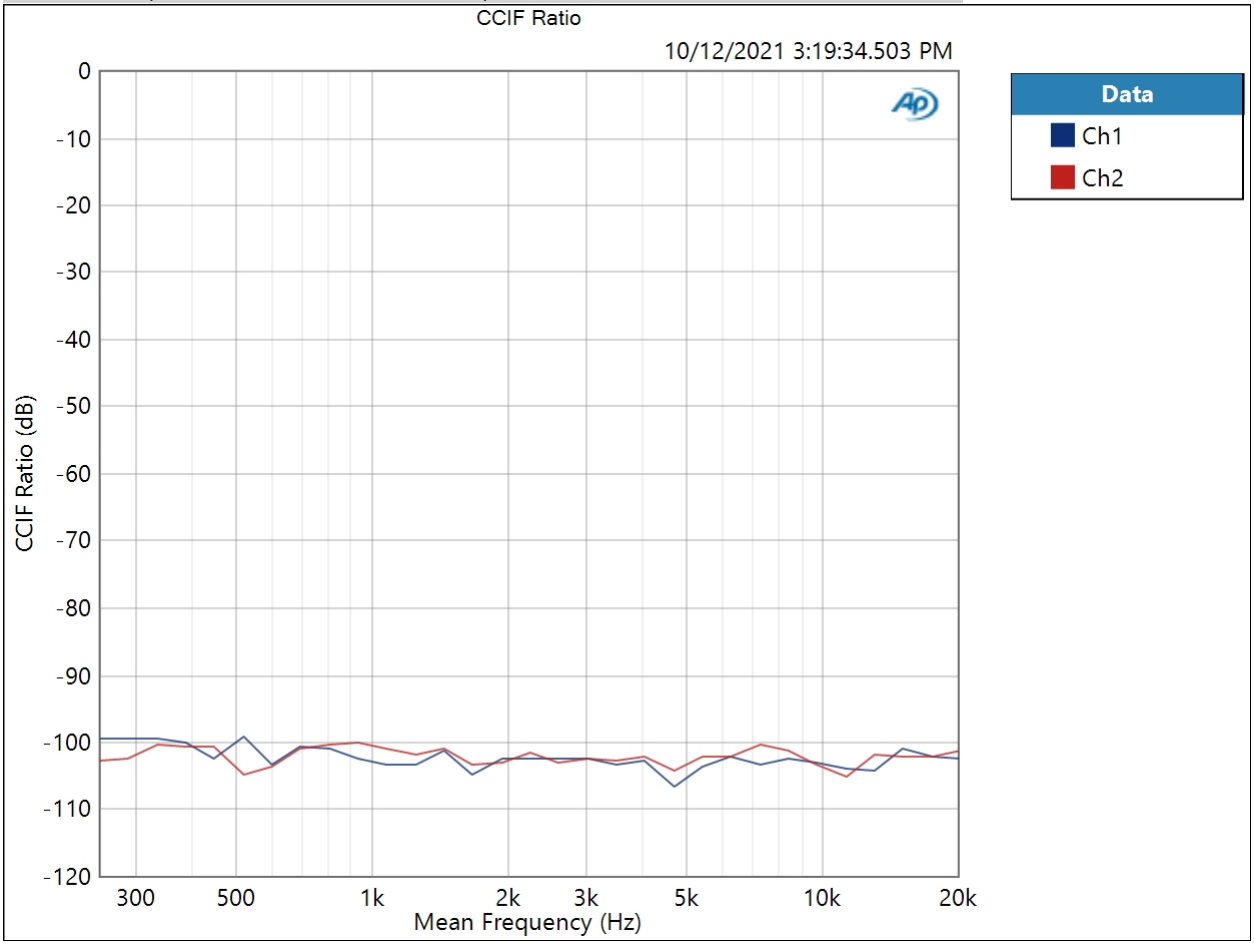


Result: PASSED

High Gain, 300 Ohm : IMD Frequency Sweep (CCIF)

Generator Level:	-16.000 dBFS
DC Offset:	0.000 D
Sweep Frequency:	Mean Frequency
Diff Frequency:	80.0000 Hz
IMD Split:	False
Start Frequency:	20.0000 kHz
Stop Frequency:	250.000 Hz
Step Type:	Logarithmic
Number of Points:	31
Mode:	d2+d3
Measured 1	10/12/2021 3:19:34 PM

CCIF Ratio (10/12/2021 3:19:34.503 PM)



Result: PASSED

High Gain, 300 Ohm : Crosstalk, One Channel Undriven

Waveform:	Sine
Generator Level:	-16.000 dBFS
DC Offset:	0.000 D
Frequency:	10.0000 kHz

Crosstalk (10/12/2021 3:19:38.973 PM)

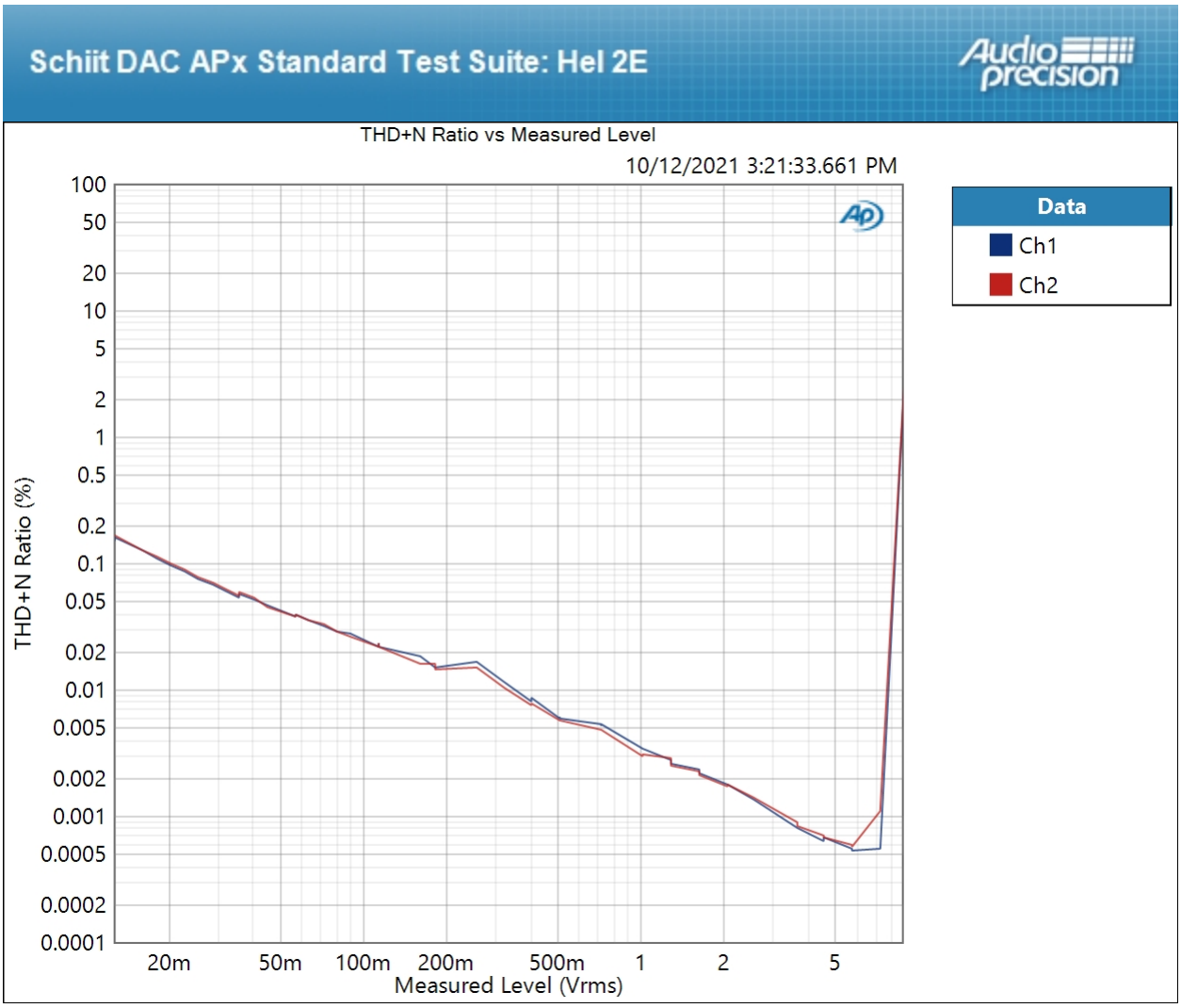
Ch1 78.668 dB

Ch2 78.353 dB

High Gain, 300 Ohm : Stepped Level Sweep

Waveform:	Sine
Frequency:	1.00000 kHz
Start Level:	-60.000 dBFS
Stop Level:	-3.000 dBFS
Step Type:	Linear
Number of Points:	58
Step Size:	+1.000 dBFS
Offset:	0.000 D
High-pass Filter:	Elliptic
High-pass Frequency:	20 Hz
Low-pass Filter:	Elliptic
Low-pass Frequency:	20 kHz
Weighting Filter:	Signal Path
Notch Tuning Mode:	Generator Frequency
Measured 1	10/12/2021 3:21:33 PM

THD+N Ratio vs Measured Level (10/12/2021 3:21:33.661 PM)



Result: PASSED

High Gain, 32 Ohm : Signal Path Setup

Output Connector:	ASIO
Asio Device:	ASIO2WASAPI
Scaling Mode:	Digital
Output Sample Rate:	48.0000 kHz
Output Latency:	Auto
Buffer Size:	4800
Clock Source:	Internal clock
Input 1:	Analog Unbalanced
Input Bandwidth:	AC (<10 Hz) - 22.4k (48 kHz SR)
Input EQ:	None
Channels:	2
Termination:	100 kohm
High Performance Sine Analyzer:	Enabled
Input 2:	None
Device Delay:	0.000 s
• References	
dBr G:	-20.000 dBFS
Shared Frequency Reference:	1.00000 kHz
Analog Input	
dBrA:	1.000 Vrms
dBrB:	1.000 Vrms
dBrA Offset:	0.000 dB
dBrB Offset:	0.000 dB
dBSPL1:	10.00 mVrms
dBSPL2:	10.00 mVrms
dBSPL1 Calibrator Level:	94.000 dBSPL
dBSPL2 Calibrator Level:	94.000 dBSPL
dBm (Input Power):	600.0 ohm
W(watts) (Input Power):	8.000 ohm
• DCX	
DCX is not detected.	
• Clocks	
Output Rate:	Track Output SR
Sync Out Level:	3.300 V
Sync Out Polarity:	Normal

Timebase Reference:	Internal
Jitter:	Disabled
• Triggers	
Source:	Off
Input Logic Level:	3.300 V
Edge:	Rising

High Gain, 32 Ohm : Level and Gain

Waveform:	Sine
Generator Level:	-22.000 dBFS
DC Offset:	0.000 D
Frequency:	1.00000 kHz
Low-pass Filter:	Signal Path

RMS Level (10/12/2021 3:26:34.506 PM)

Ch1 1.002 Vrms
Ch2 1.001 Vrms

High Gain, 32 Ohm : DC Level

Waveform:	Sine
Generator Level:	-∞ dBFS
DC Offset:	0.000 D
Frequency:	1.00000 kHz
Delay Time:	100.0 ms
Acquisition Time:	333.0 ms

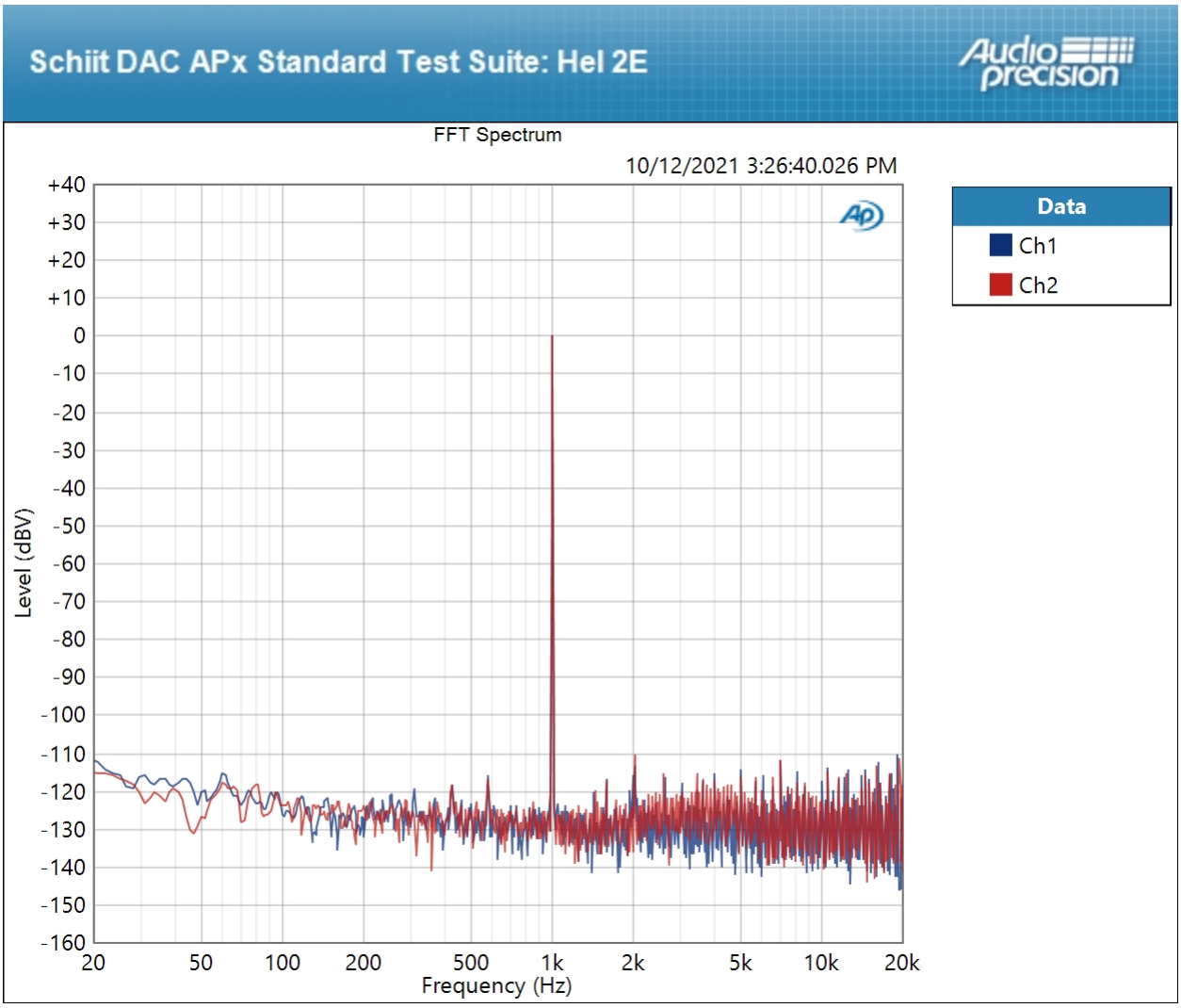
DC Level (10/12/2021 3:26:35.842 PM)

Ch1 431.3 uV
Ch2 116.8 uV

High Gain, 32 Ohm : Signal Analyzer

Waveform:	Sine
Generator Level:	-22.000 dBFS
DC Offset:	0.000 D
Frequency:	1.00000 kHz
Secondary Source:	None
Measured 1	10/12/2021 3:26:40 PM
Acquisition Type:	Auto
Trigger:	Free Run
Delay Time:	250.0 ms
Input Bandwidth:	Use Signal Path
FFT Length:	32K
Averaging:	Power
Averages:	3
Window:	AP-Equiripple
Record Acquisition:	False
Recording Type:	Multiple Mono PCM (.wav)

FFT Spectrum (10/12/2021 3:26:40.026 PM)

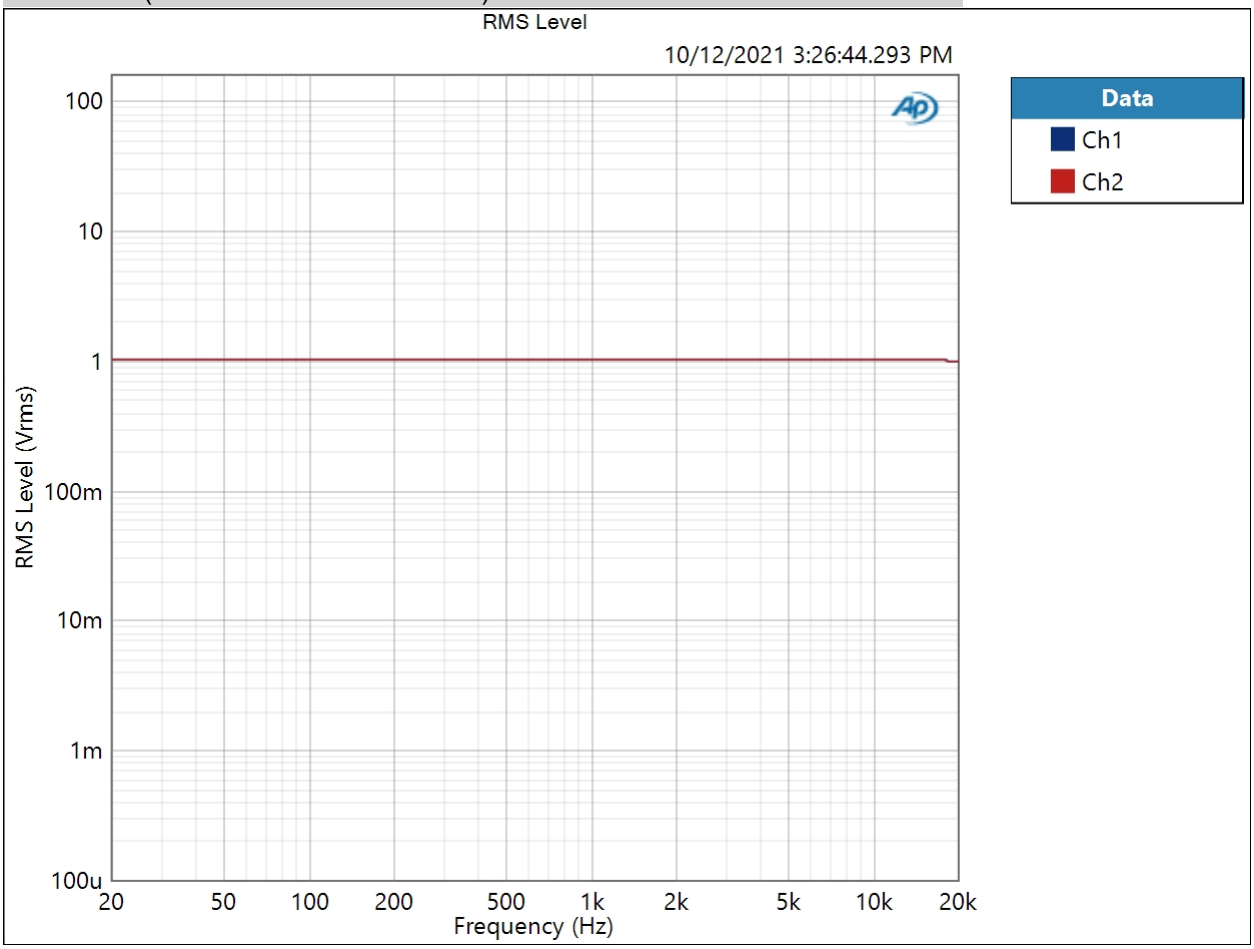


Result: PASSED

High Gain, 32 Ohm : Frequency Response

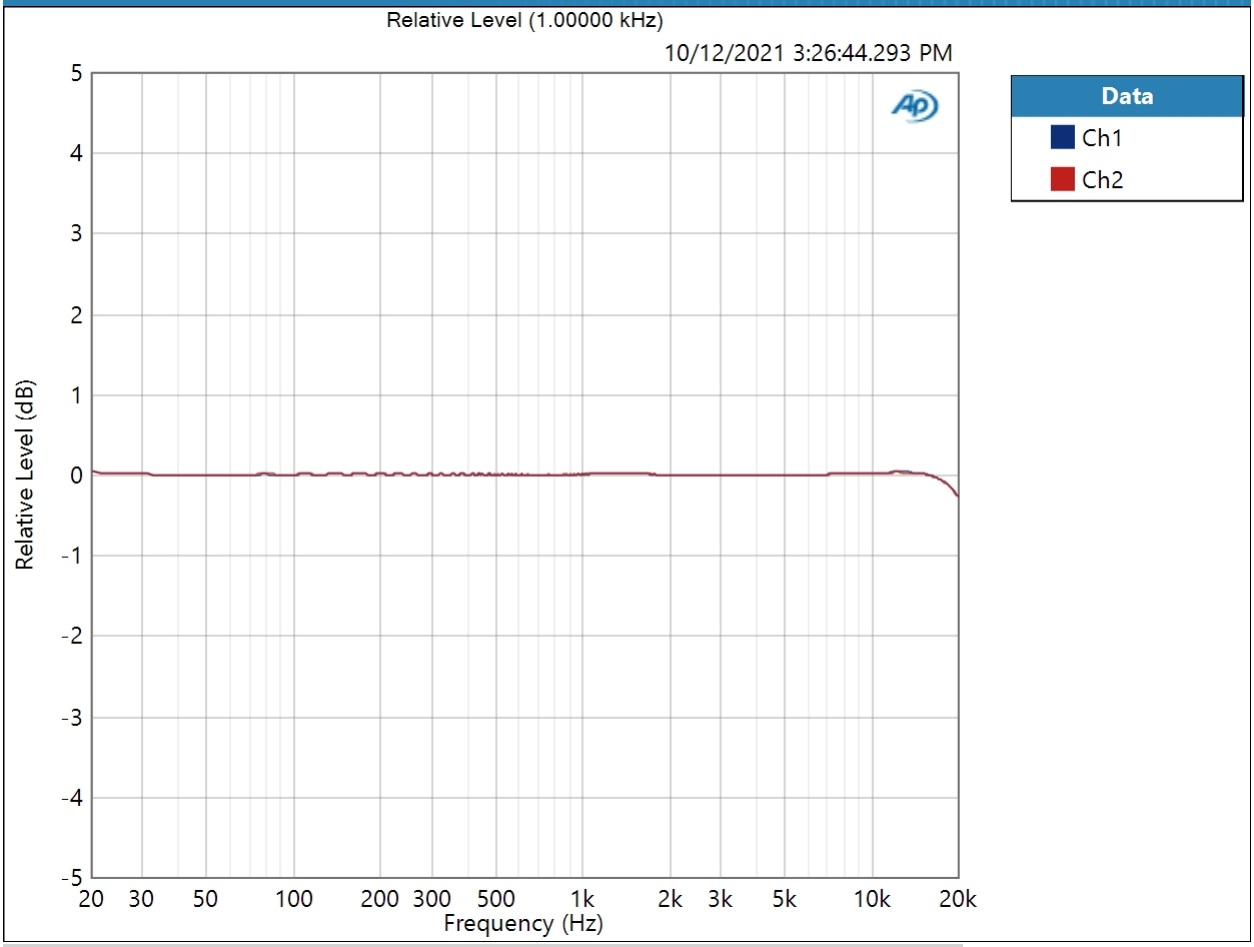
Start Frequency:	20.0000 Hz
Stop Frequency:	20.0000 kHz
Generator Level:	-22.000 dBFS
DC Offset:	0.000 D
EQ:	None
Pre-Sweep:	100.0 ms
Sweep:	350.0 ms
Extend Acquisition By:	1.000 s
Secondary Source:	None
Measured 1	10/12/2021 3:26:44 PM

RMS Level (10/12/2021 3:26:44.293 PM)



Result: PASSED

Relative Level (1.00000 kHz) (10/12/2021 3:26:44.293 PM)



Relative Level (1.00000 kHz) Parameters

Mode: Normalized at Reference

Ref Frequency: 1.00000 kHz

Result: PASSED

Deviation (20.0000 Hz - 20.0000 kHz) (10/12/2021 3:26:44.293 PM)

Ch1 ±0.168 dB

Ch2 ±0.171 dB

Deviation (20.0000 Hz - 20.0000 kHz) Parameters

Min: 20.0000 Hz

Max: 20.0000 kHz

High Gain, 32 Ohm : Signal to Noise Ratio

Waveform:	Sine
Generator Level:	-22.000 dBFS
DC Offset:	0.000 D
Frequency:	1.00000 kHz
High-pass Filter:	Elliptic
High-pass Frequency:	20 Hz
Low-pass Filter:	Elliptic
Low-pass Frequency:	20 kHz
Weighting Filter:	Signal Path

Signal to Noise Ratio (10/12/2021 3:26:46.813 PM)

Ch1 92.893 dB
Ch2 93.476 dB

High Gain, 32 Ohm : THD+N

Waveform:	Sine
Generator Level:	-22.000 dBFS
DC Offset:	0.000 D
Frequency:	1.00000 kHz
High-pass Filter:	Elliptic
High-pass Frequency:	20 Hz
Low-pass Filter:	Elliptic
Low-pass Frequency:	20 kHz
Weighting Filter:	Signal Path
Notch Tuning Mode:	Measured Frequency

THD+N Ratio (10/12/2021 3:26:49.359 PM)

Ch1 0.002990 %

Ch2 0.003282 %

THD Ratio (10/12/2021 3:26:49.359 PM)

Ch1 0.001037 %

Ch2 0.000915 %

Noise Ratio (10/12/2021 3:26:49.359 PM)

Ch1 0.002814 %

Ch2 0.003151 %

Distortion Product Ratio (10/12/2021 3:26:49.359 PM)

Channel	F	H2	H3	H4	H5	H6	H7	H8	H9	H10
	1.000k	2.000k	3.000k	4.000k	5.000k	6.000k	7.000k	8.000k	9.000k	10.00k
Ch1	-0.00	-113.28	-116.06	-112.01	-112.14	-113.30	-113.73	-114.49	-111.07	-117.10
	1.000k	2.000k	3.000k	4.000k	5.000k	6.000k	7.000k	8.000k	9.000k	10.00k
Ch2	-0.00	-109.39	-115.44	-115.91	-113.74	-112.34	-118.49	-115.25	-114.14	-113.83

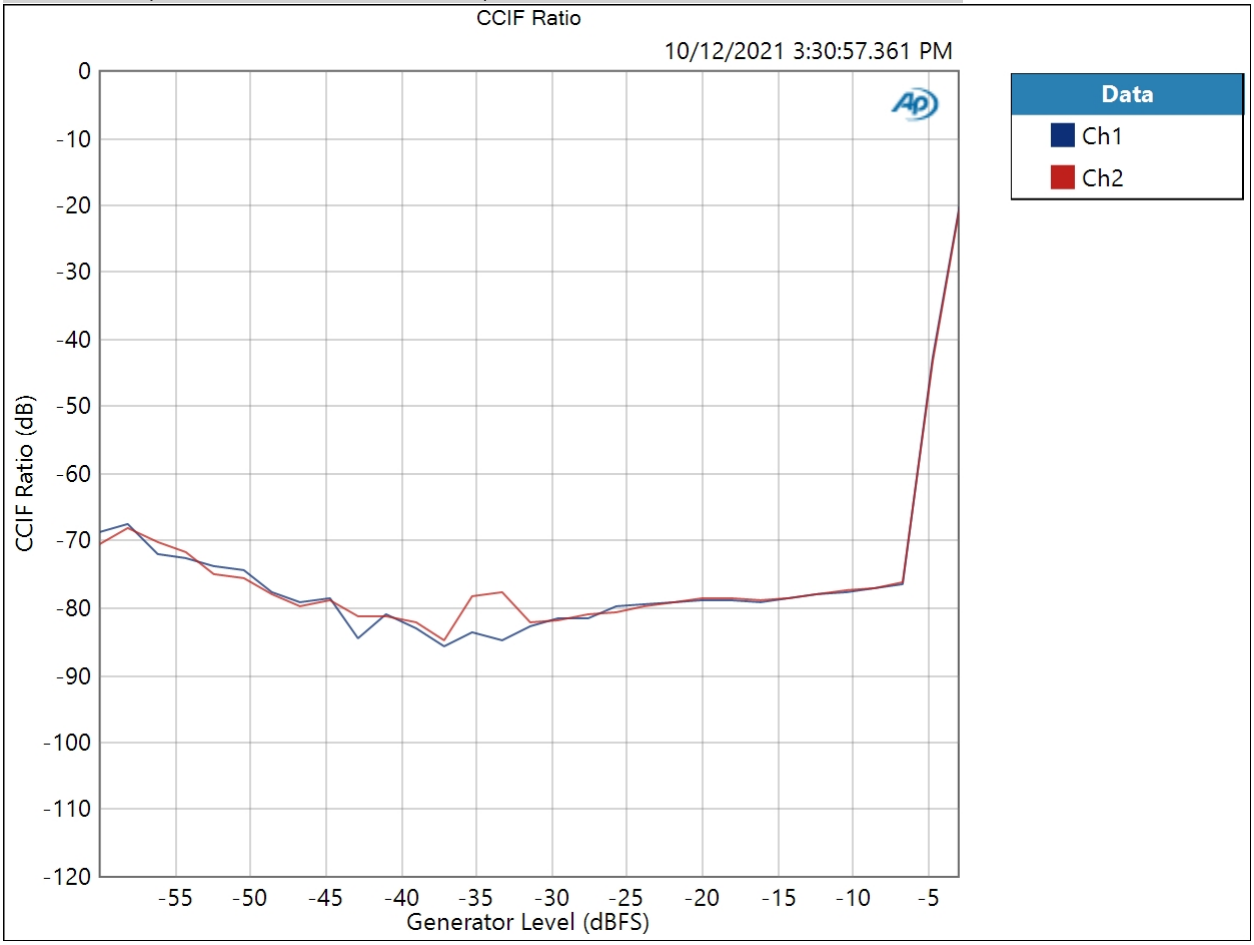
Distortion Product Ratio Parameters

Frequency Unit:	Hz
Ratio Unit:	dB
Channel:	Ch1

High Gain, 32 Ohm : IMD Level Sweep (CCIF)

IMD Type:	CCIF
Mean Frequency:	12.5000 kHz
Diff Frequency:	80.0000 Hz
IMD Split:	False
Start Level:	-60.000 dBFS
Stop Level:	-3.000 dBFS
Step Type:	Linear
Number of Points:	31
Step Size:	+1.900 dBFS
Mode:	d2+d3
Measured 1	10/12/2021 3:30:57 PM

CCIF Ratio (10/12/2021 3:30:57.361 PM)

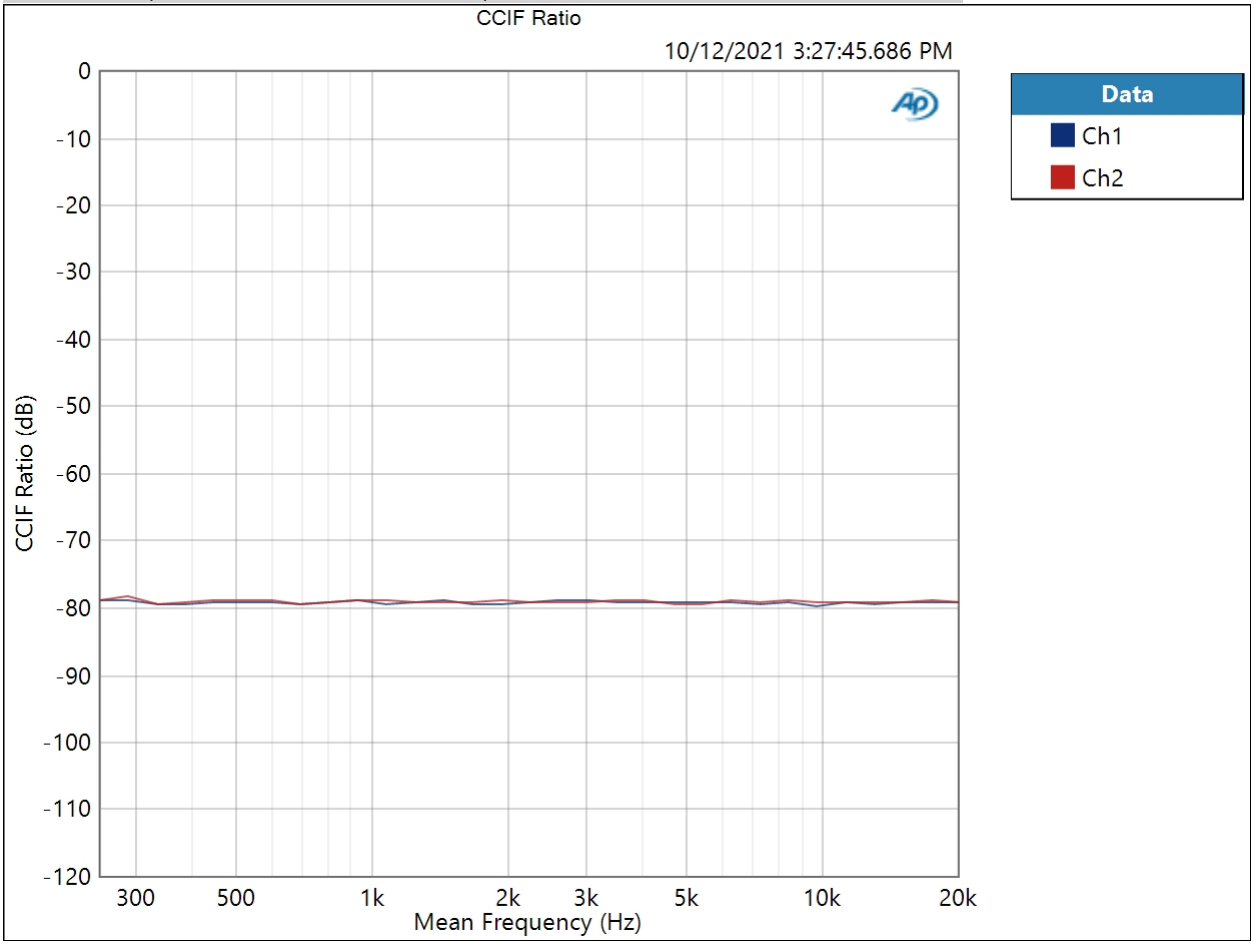


Result: PASSED

High Gain, 32 Ohm : IMD Frequency Sweep (CCIF)

Generator Level:	-22.000 dBFS
DC Offset:	0.000 D
Sweep Frequency:	Mean Frequency
Diff Frequency:	80.0000 Hz
IMD Split:	False
Start Frequency:	20.0000 kHz
Stop Frequency:	250.000 Hz
Step Type:	Logarithmic
Number of Points:	31
Mode:	d2+d3
Measured 1	10/12/2021 3:27:45 PM

CCIF Ratio (10/12/2021 3:27:45.686 PM)



Result: PASSED

High Gain, 32 Ohm : Crosstalk, One Channel Undriven

Waveform:	Sine
Generator Level:	-22.000 dBFS
DC Offset:	0.000 D
Frequency:	10.0000 kHz

Crosstalk (10/12/2021 3:27:49.923 PM)

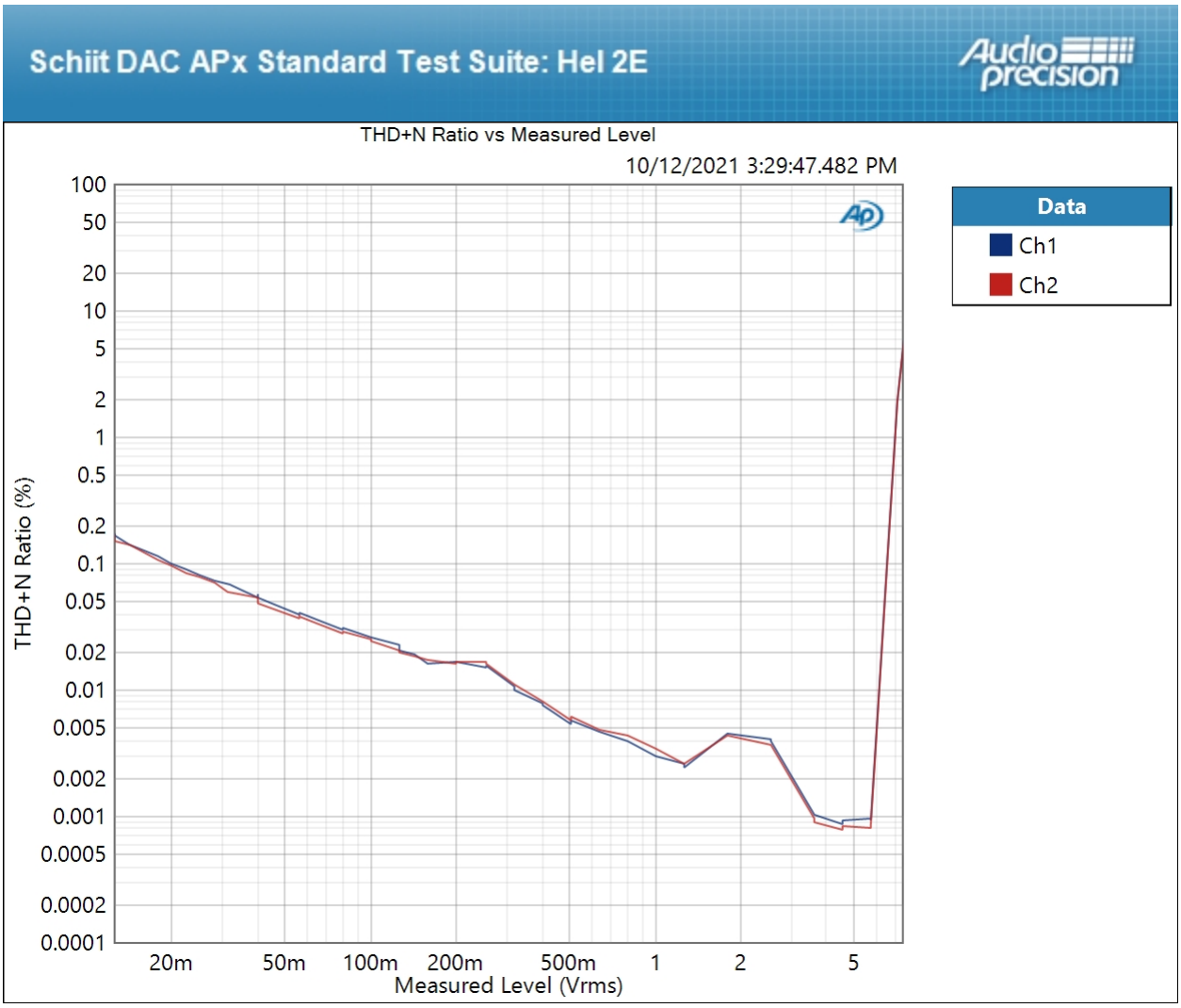
Ch1 -67.075 dB

Ch2 -67.488 dB

High Gain, 32 Ohm : Stepped Level Sweep

Waveform:	Sine
Frequency:	1.00000 kHz
Start Level:	-60.000 dBFS
Stop Level:	-3.000 dBFS
Step Type:	Linear
Number of Points:	58
Step Size:	+1.000 dBFS
Offset:	0.000 D
High-pass Filter:	Elliptic
High-pass Frequency:	20 Hz
Low-pass Filter:	Elliptic
Low-pass Frequency:	20 kHz
Weighting Filter:	Signal Path
Notch Tuning Mode:	Generator Frequency
Measured 1	10/12/2021 3:29:47 PM

THD+N Ratio vs Measured Level (10/12/2021 3:29:47.482 PM)



Result: PASSED

Optical : Signal Path Setup

Output Connector:	Digital Optical
Output Sample Rate:	44.1000 kHz
Output Bit Depth:	24
Dither:	Enabled
Output Mode:	Consumer
Status Bits:	Auto (Consumer)
Auto Range:	Enabled
Output EQ:	None
Input 1:	Analog Unbalanced
Input Bandwidth:	AC (<10 Hz) - 20 kHz (44.1 kHz SR)
Input EQ:	None
Channels:	2
Termination:	100 kohm
High Performance Sine Analyzer:	Enabled
Input 2:	None
Device Delay:	0.000 s
• References	
dBr G:	-20.000 dBFS
Shared Frequency Reference:	1.00000 kHz
Analog Input	
dBrA:	1.000 Vrms
dBrB:	1.000 Vrms
dBrA Offset:	0.000 dB
dBrB Offset:	0.000 dB
dBSPL1:	10.00 mVrms
dBSPL2:	10.00 mVrms
dBSPL1 Calibrator Level:	94.000 dBSPL
dBSPL2 Calibrator Level:	94.000 dBSPL
dBm (Input Power):	600.0 ohm
W(watts) (Input Power):	8.000 ohm
• DCX	
DCX is not detected.	
• Clocks	
Output Rate:	Track Output SR
Sync Out Level:	3.300 V

Sync Out Polarity:	Normal
Timebase Reference:	Internal
Jitter:	Disabled
• Triggers	
Source:	Off
Input Logic Level:	3.300 V
Edge:	Rising

Optical : Level and Gain

Waveform:	Sine
Generator Level:	-0.000 dBFS
DC Offset:	0.000 D
Frequency:	1.00000 kHz
Low-pass Filter:	Signal Path

RMS Level (10/12/2021 3:33:07.839 PM)

Ch1 2.045 Vrms
Ch2 2.045 Vrms

Optical : DC Level

Waveform:	Sine
Generator Level:	-∞ dBFS
DC Offset:	0.000 D
Frequency:	1.00000 kHz
Delay Time:	100.0 ms
Acquisition Time:	333.0 ms

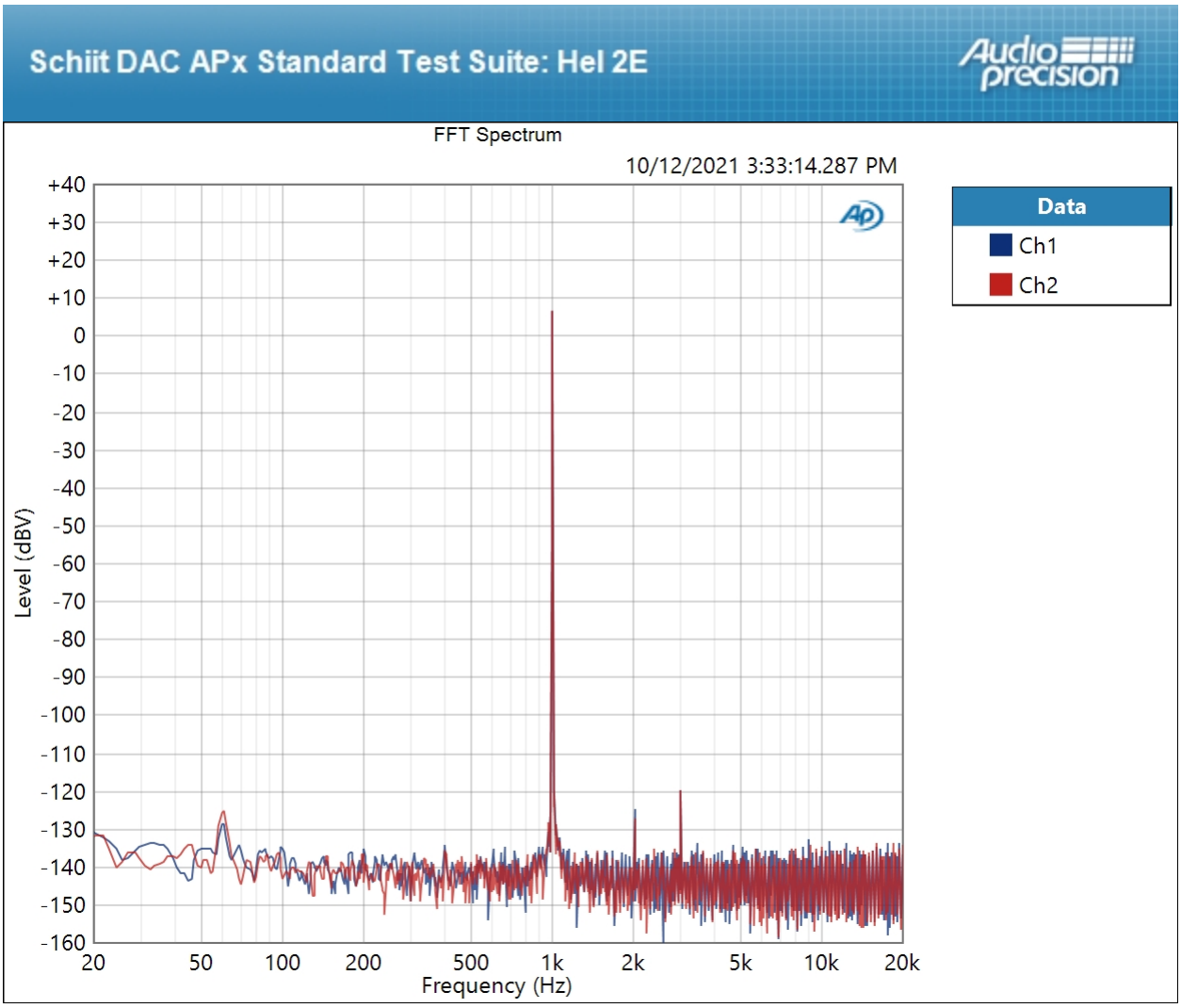
DC Level (10/12/2021 3:33:09.259 PM)

Ch1 -46.08 uV
Ch2 -235.3 uV

Optical : Signal Analyzer

Waveform:	Sine
Generator Level:	-0.000 dBFS
DC Offset:	0.000 D
Frequency:	1.00000 kHz
Secondary Source:	None
Measured 1	10/12/2021 3:33:14 PM
Acquisition Type:	Auto
Trigger:	Free Run
Delay Time:	500.0 ms
Input Bandwidth:	Use Signal Path
FFT Length:	32K
Averaging:	Power
Averages:	3
Window:	AP-Equiripple
Record Acquisition:	False
Recording Type:	Multiple Mono PCM (.wav)

FFT Spectrum (10/12/2021 3:33:14.287 PM)

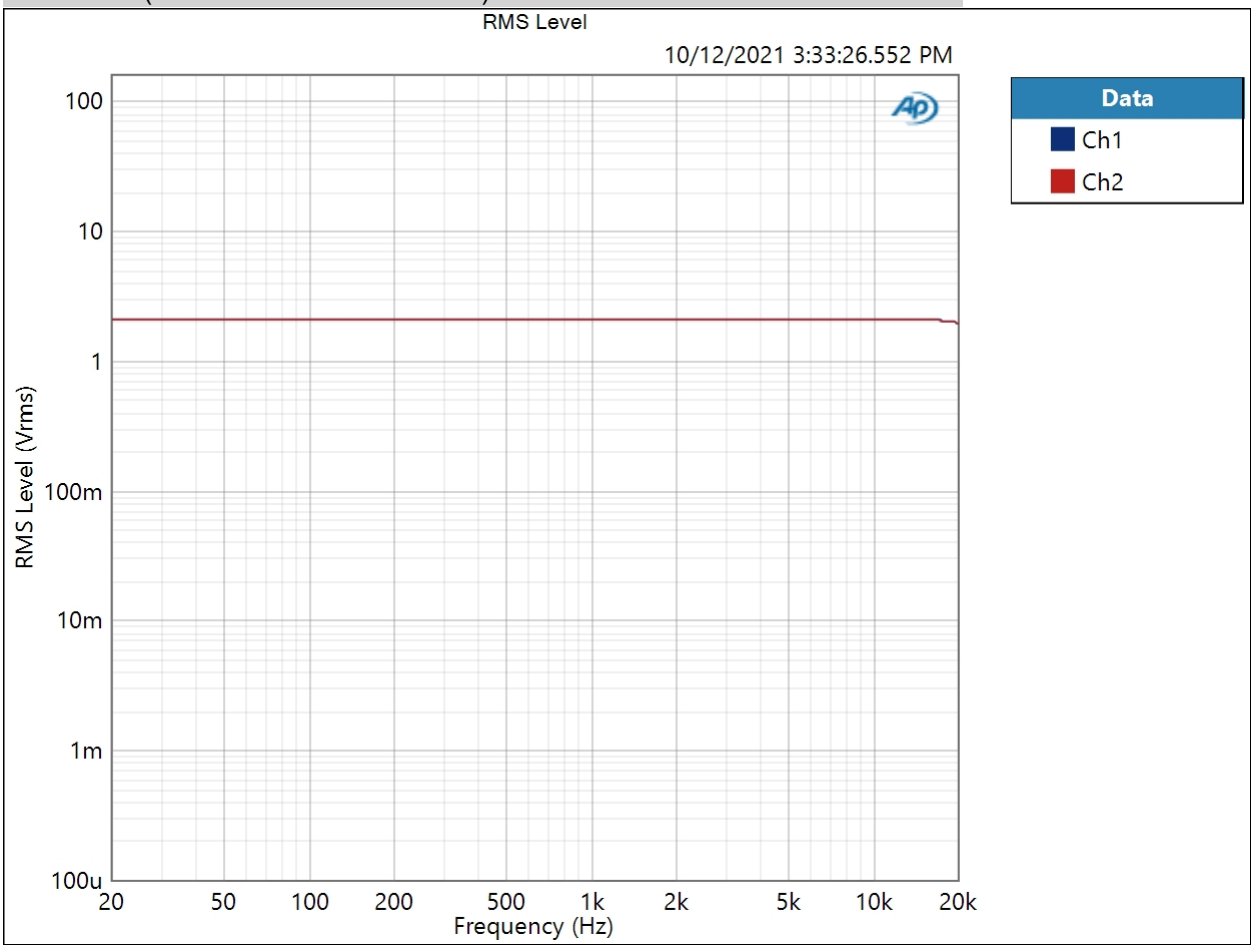


Result: PASSED

Optical : Frequency Response

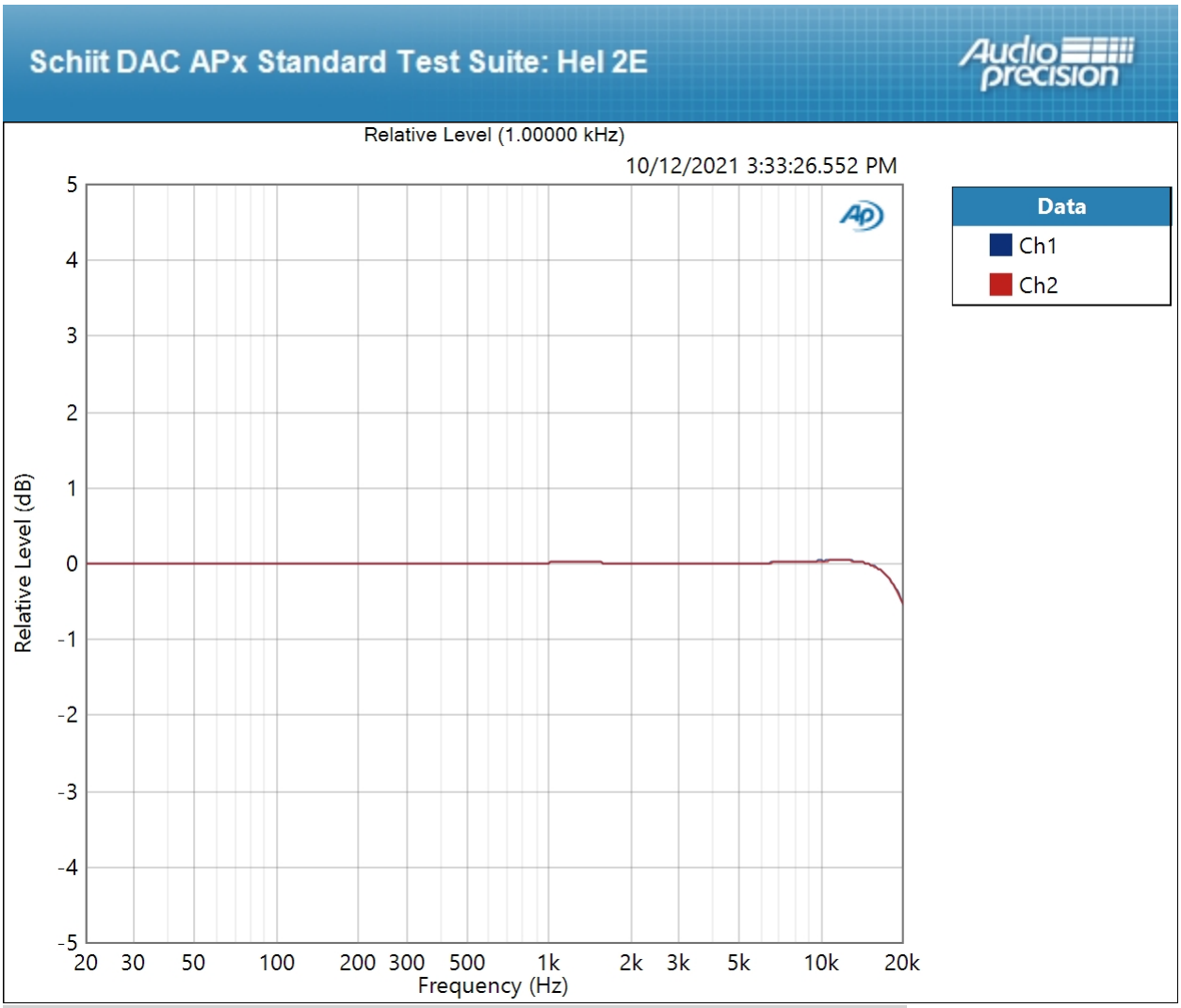
Start Frequency:	20.0000 Hz
Stop Frequency:	20.0000 kHz
Generator Level:	-0.000 dBFS
DC Offset:	0.000 D
EQ:	None
Pre-Sweep:	200.0 ms
Sweep:	2.000 s
Extend Acquisition By:	3.000 s
Secondary Source:	None
Measured 1	10/12/2021 3:33:26 PM

RMS Level (10/12/2021 3:33:26.552 PM)



Result: PASSED

Relative Level (1.00000 kHz) (10/12/2021 3:33:26.552 PM)



Relative Level (1.00000 kHz) Parameters

Mode: Normalized at Reference

Ref Frequency: 1.00000 kHz

Result: PASSED

Deviation (20.0000 Hz - 20.0000 kHz) (10/12/2021 3:33:26.552 PM)

Ch1 ±0.305 dB

Ch2 ±0.308 dB

Deviation (20.0000 Hz - 20.0000 kHz) Parameters

Min: 20.0000 Hz

Max: 20.0000 kHz

Optical : Signal to Noise Ratio

Waveform:	Sine
Generator Level:	-0.000 dBFS
DC Offset:	0.000 D
Frequency:	1.00000 kHz
High-pass Filter:	Elliptic
High-pass Frequency:	20 Hz
Low-pass Filter:	Elliptic
Low-pass Frequency:	20 kHz
Weighting Filter:	Signal Path

Signal to Noise Ratio (10/12/2021 3:33:29.142 PM)

Ch1 113.974 dB
Ch2 114.391 dB

Optical : THD+N

Waveform:	Sine
Generator Level:	-0.000 dBFS
DC Offset:	0.000 D
Frequency:	1.00000 kHz
High-pass Filter:	Elliptic
High-pass Frequency:	20 Hz
Low-pass Filter:	Elliptic
Low-pass Frequency:	20 kHz
Weighting Filter:	Signal Path
Notch Tuning Mode:	Measured Frequency

THD+N Ratio (10/12/2021 3:33:32.012 PM)

Ch1 0.000293 %

Ch2 0.000266 %

THD Ratio (10/12/2021 3:33:32.012 PM)

Ch1 0.000085 %

Ch2 0.000073 %

Noise Ratio (10/12/2021 3:33:32.012 PM)

Ch1 0.000283 %

Ch2 0.000255 %

Distortion Product Ratio (10/12/2021 3:33:32.012 PM)

Channel	F	H2	H3	H4	H5	H6	H7	H8	H9	H10
	1.000k	2.000k	3.000k	4.000k	5.000k	6.000k	7.000k	8.000k	9.000k	10.00k
Ch1	-0.00	-127.89	-127.06	-132.18	-135.26	-133.22	-137.83	-141.02	-136.71	-140.45
	1.000k	2.000k	3.000k	4.000k	5.000k	6.000k	7.000k	8.000k	9.000k	10.00k
Ch2	-0.00	-133.26	-126.66	-138.91	-143.56	-141.50	-141.54	-144.67	-136.19	-144.15

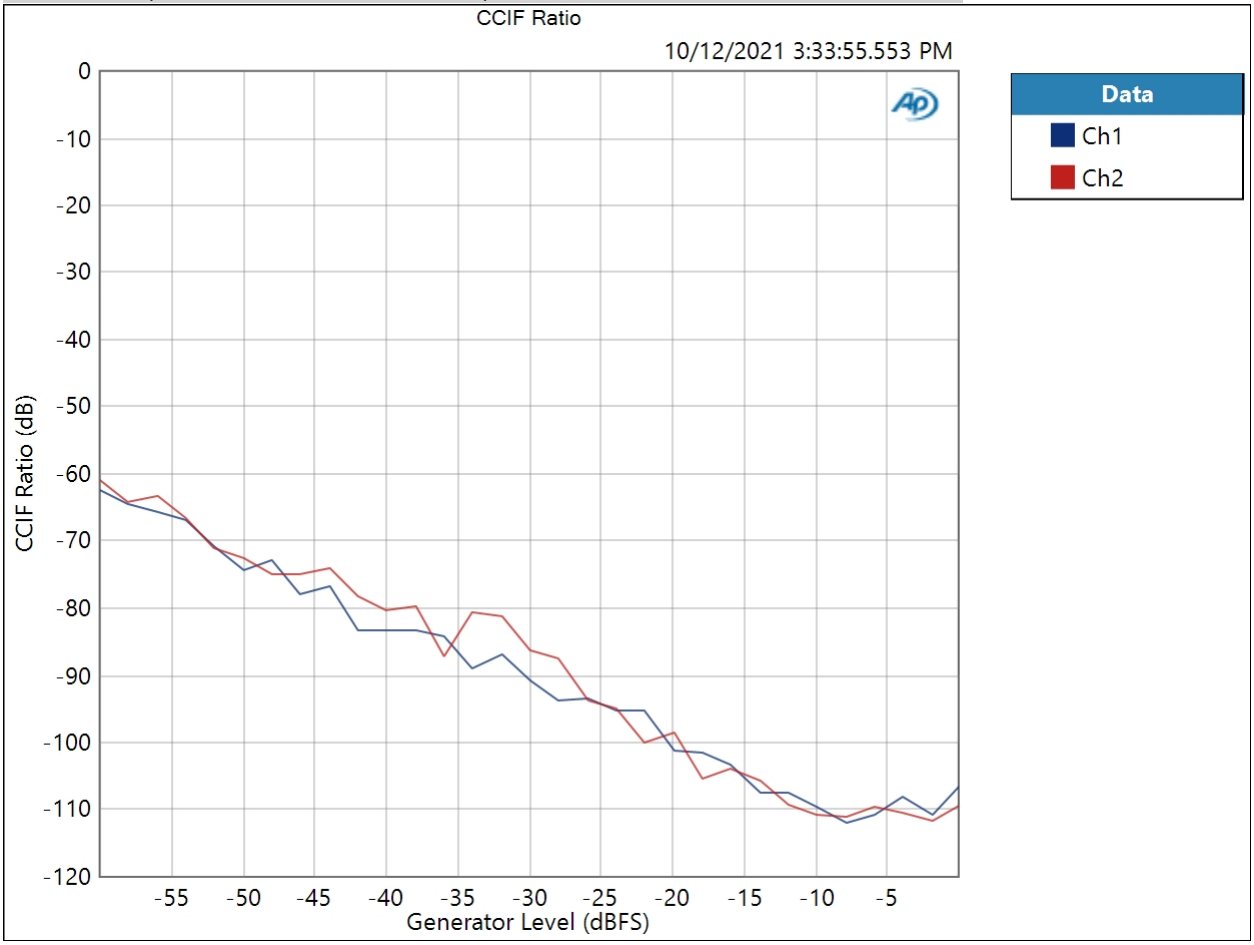
Distortion Product Ratio Parameters

Frequency Unit:	Hz
Ratio Unit:	dB
Channel:	Ch1

Optical : IMD Level Sweep (CCIF)

IMD Type:	CCIF
Mean Frequency:	12.5000 kHz
Diff Frequency:	80.0000 Hz
IMD Split:	False
Start Level:	-60.000 dBFS
Stop Level:	-0.000 dBFS
Step Type:	Linear
Number of Points:	31
Step Size:	+2.000 dBFS
Mode:	d2+d3
Measured 1	10/12/2021 3:33:55 PM

CCIF Ratio (10/12/2021 3:33:55.553 PM)

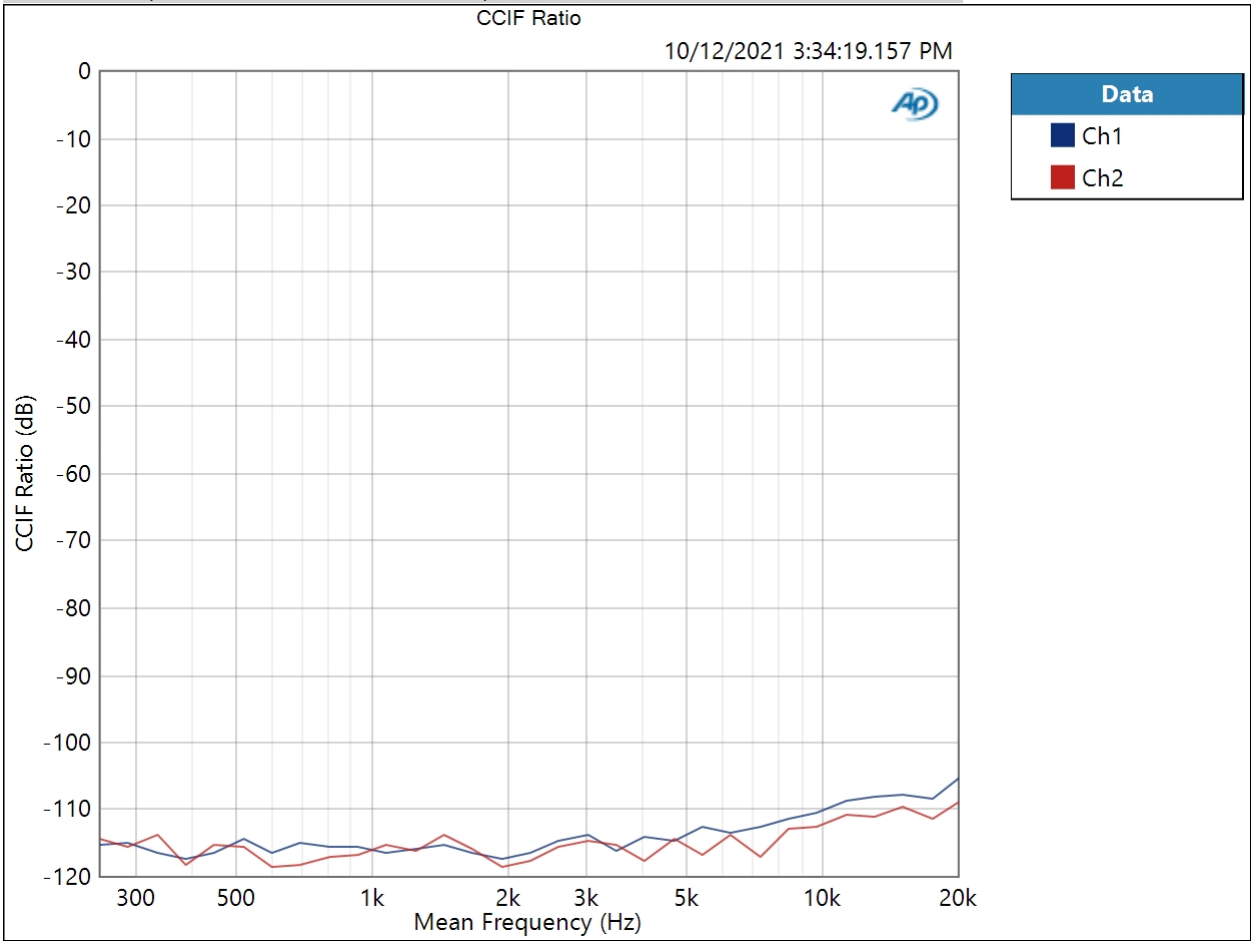


Result: PASSED

Optical : IMD Frequency Sweep (CCIF)

Generator Level:	-2.000 dBFS
DC Offset:	0.000 D
Sweep Frequency:	Mean Frequency
Diff Frequency:	80.0000 Hz
IMD Split:	False
Start Frequency:	20.0000 kHz
Stop Frequency:	250.000 Hz
Step Type:	Logarithmic
Number of Points:	31
Mode:	d2+d3
Measured 1	10/12/2021 3:34:19 PM

CCIF Ratio (10/12/2021 3:34:19.157 PM)



Result: PASSED

Optical : Crosstalk, One Channel Undriven

Waveform:	Sine
Generator Level:	-0.000 dBFS
DC Offset:	0.000 D
Frequency:	10.0000 kHz

Crosstalk (10/12/2021 3:34:23.325 PM)

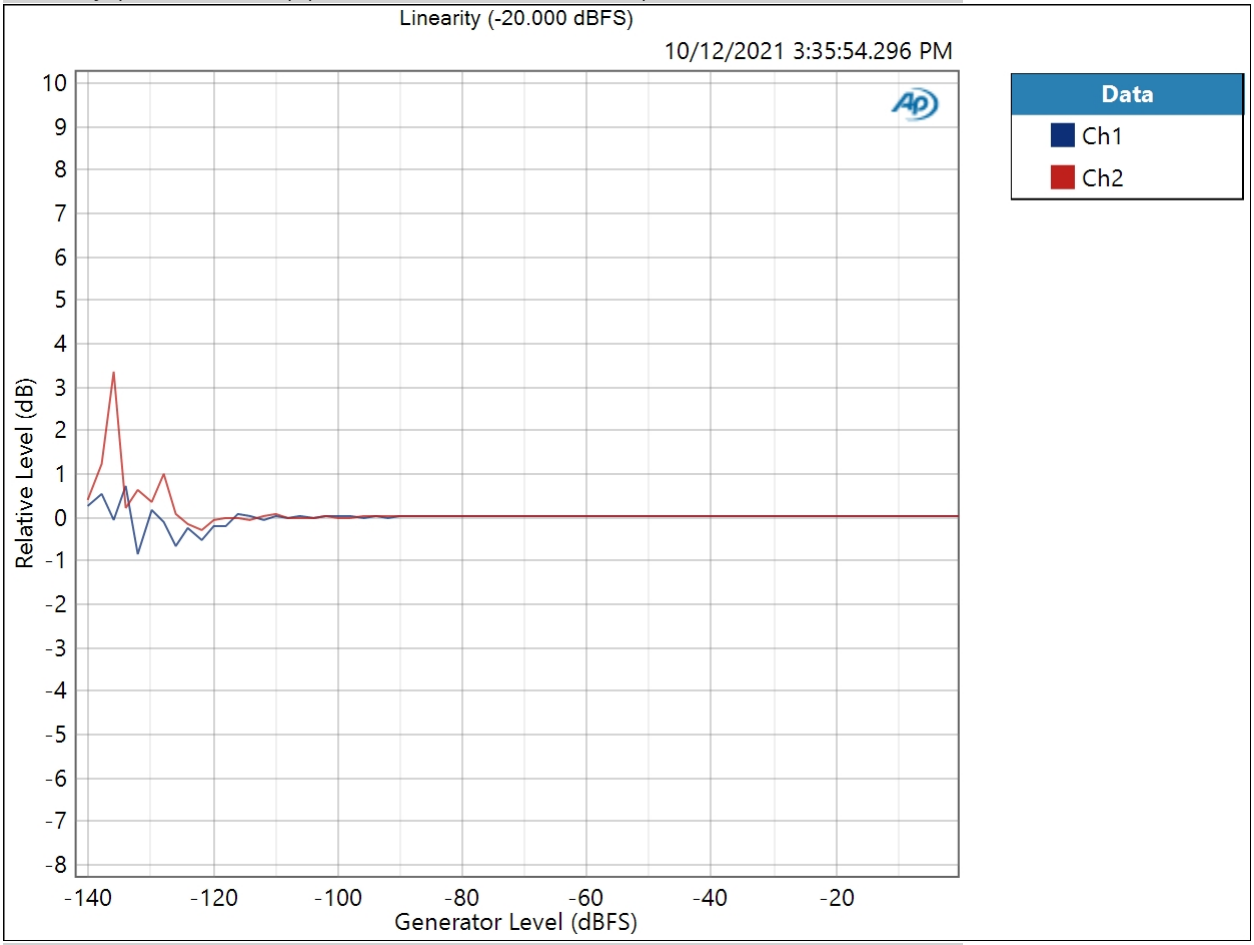
Ch1 -93.274 dB

Ch2 -92.005 dB

Optical : Bandpass Level Sweep

Waveform:	Sine
Frequency:	1.00000 kHz
Start Level:	-140.000 dBFS
Stop Level:	-0.000 dBFS
Step Type:	Linear
Number of Points:	71
Step Size:	+2.000 dBFS
Offset:	0.000 D
Selectivity:	Window width
Bandpass Tuning Mode:	Generator Frequency
Measured 1	10/12/2021 3:35:54 PM

Linearity (-20.000 dBFS) (10/12/2021 3:35:54.296 PM)



Linearity (-20.000 dBFS) Parameters

Mode: Normalized at Reference

Relative Level: -20.000 dBFS

Result: PASSED