Schiit DAC APx555 Standard Test Suite: Fulla 2

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

DAC Fixed Out

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
Crosstalk Sweep, One Channel Driven	PASSED
Bandpass Level Sweep	PASSED

Headphone Out, 32 ohm load

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
Crosstalk Sweep, One Channel Driven	PASSED
Stepped Level Sweep	PASSED

Sequence Result:

Sequence Result: PASSED

APx Instrument

Instrument ID:	11571
Calibration Date:	5/8/2018
APx Version:	4.6.0.255.130221

DAC Fixed Out : Signal Path Setup

Output Connector:	ASIO
Output Sample Rate:	44.1000 kHz
Output EQ:	None
Input Connector:	Analog Unbalanced
Channels:	2
Termination:	100 kohm
High Performance Sine Analyzer:	Enabled
Input Bandwidth:	AC (<10 Hz) - 22.4k (48 kHz SR)
Device Delay:	0.000 s
Input EQ:	None
• References	
dBr G:	-20.000 dBFS
Shared Frequency Reference:	1.00000 kHz
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

DAC Fixed Out : Level and Gain

Waveform: Sine

Generator Level: -0.000 dBFS

DC Offset: 0.000 D

Frequency: 1.00000 kHz

RMS Level (12/12/2018 10:39:40.825 AM)

Ch1 1.976 Vrms

Ch2 1.971 Vrms

DAC Fixed Out : 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 (12/12/2018 10:39:41.796 AM)

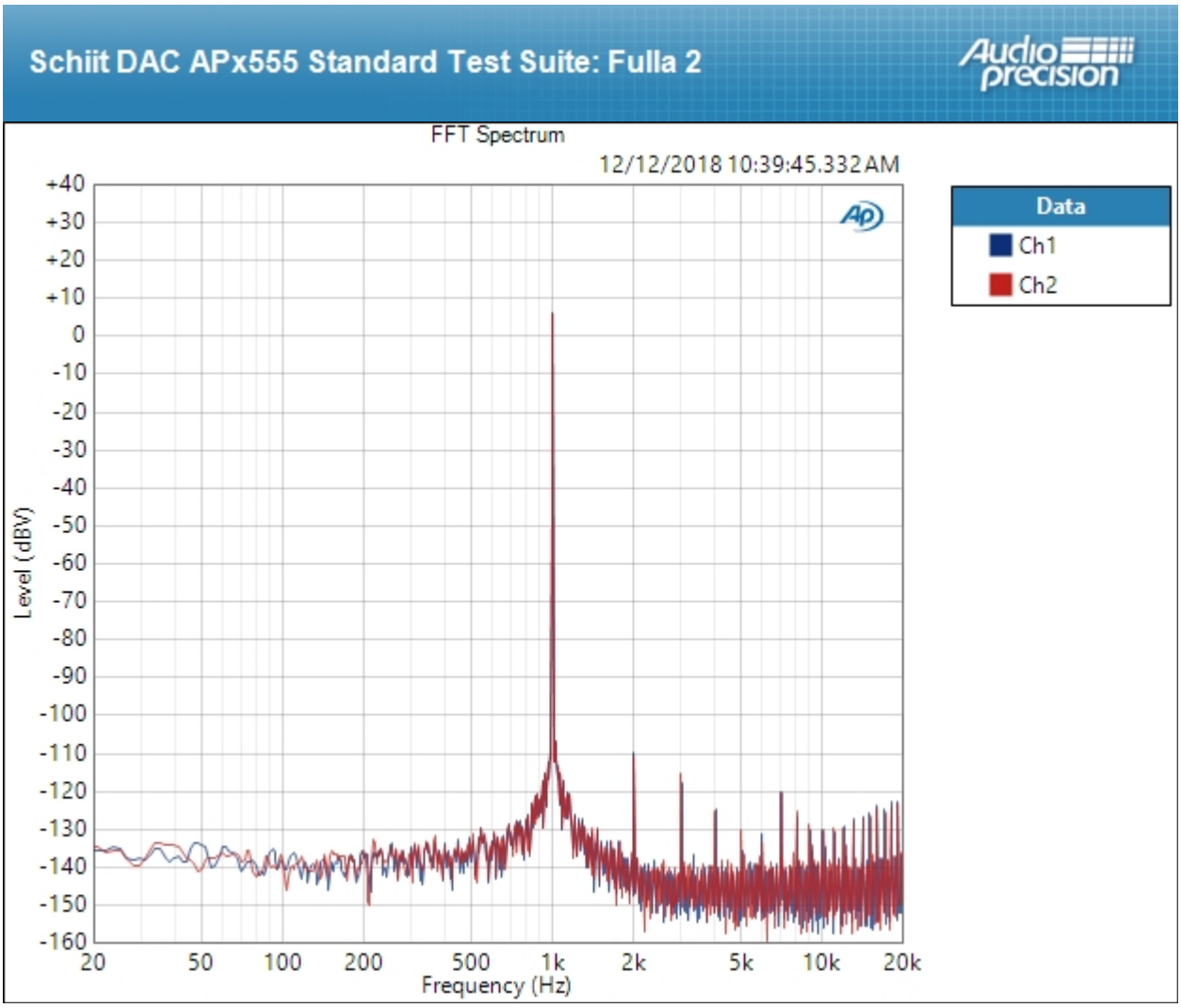
Ch1 -7.856 mV

Ch2 -5.266 mV

DAC Fixed Out : Signal Analyzer

Waveform:	Sine
Generator Level:	-0.000 dBFS
DC Offset:	0.000 D
Frequency:	1.00000 kHz
Secondary Source:	None
Measured 1	12/12/2018 10:39:45 AM
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 (12/12/2018 10:39:45.332 AM)

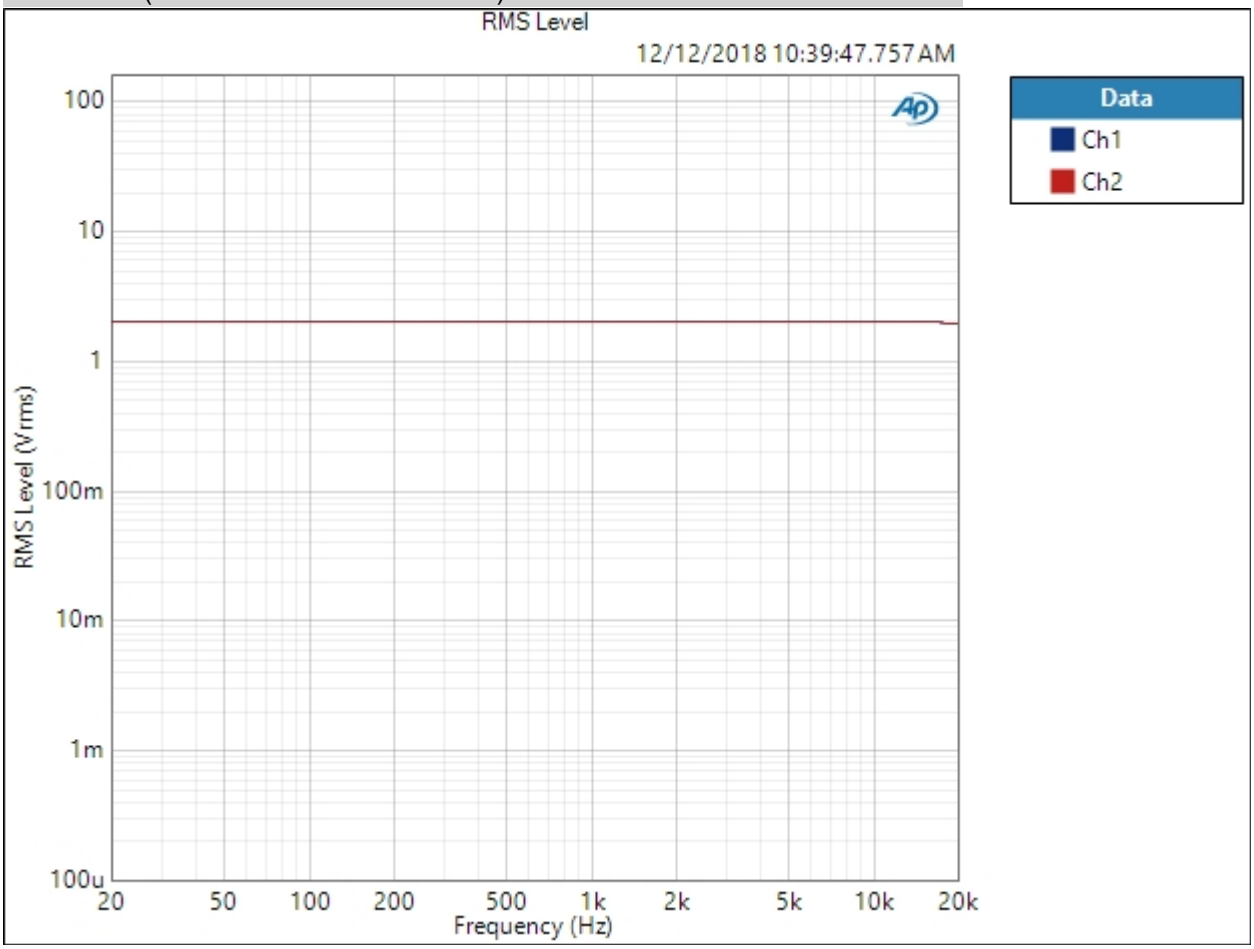


Result: PASSED

DAC Fixed Out : Frequency Response

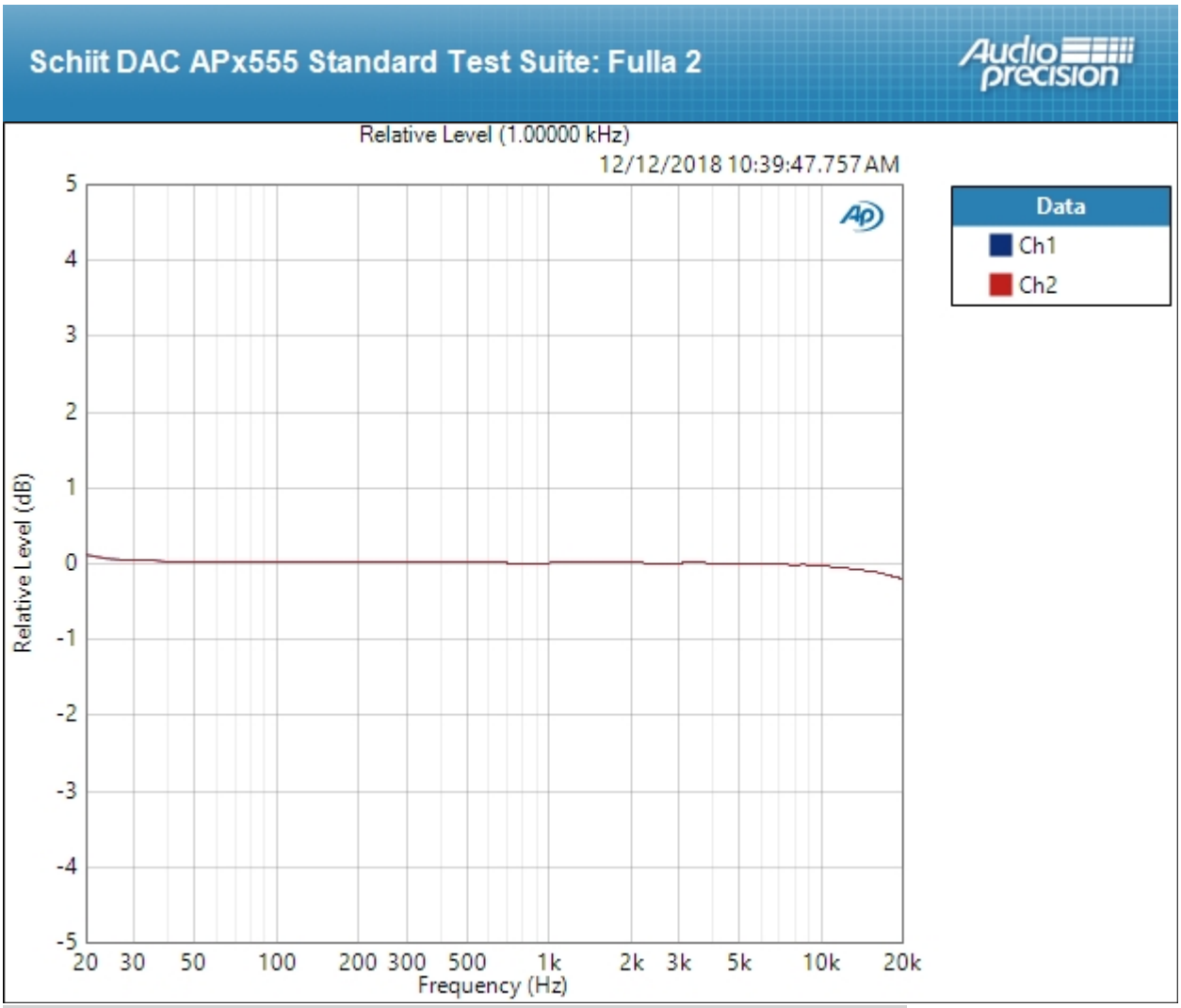
Start Frequency:	20.0000 Hz
Stop Frequency:	20.0000 kHz
Generator Level:	-0.000 dBFS
DC Offset:	0.000 D
EQ:	None
Pre-Sweep:	100.0 ms
Sweep:	350.0 ms
Extend Acquisition By:	50.00 ms
Secondary Source:	None
Measured 1	12/12/2018 10:39:47 AM

RMS Level (12/12/2018 10:39:47.757 AM)



Result: PASSED

Relative Level (1.00000 kHz) (12/12/2018 10:39:47.757 AM)



Relative Level (1.00000 kHz) Parameters

Mode: Normalized at Reference

Ref Frequency: 1.00000 kHz

Result: PASSED

Deviation (20.0000 Hz - 20.0000 kHz) (12/12/2018 10:39:47.757 AM)

Ch1 ±0.163 dB

Ch2 ±0.163 dB

Deviation (20.0000 Hz - 20.0000 kHz) Parameters

Min: 20.0000 Hz

Max: 20.0000 kHz

DAC Fixed Out : Signal to Noise Ratio

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

Signal to Noise Ratio (12/12/2018 10:39:50.178 AM)

Ch1 112.367 dB
Ch2 112.315 dB

DAC Fixed Out : THD+N

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

THD+N Ratio (12/12/2018 10:39:52.202 AM)

Ch1	0.000336 %
Ch2	0.000341 %

THD Ratio (12/12/2018 10:39:52.202 AM)

Ch1	0.000219 %
Ch2	0.000216 %

Noise Ratio (12/12/2018 10:39:52.202 AM)

Ch1	0.000252 %
Ch2	0.000263 %

Distortion Product Ratio (12/12/2018 10:39:52.202 AM)

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	-116.20	-121.79	-131.33	-138.95	-145.49	-123.54	-130.72	-141.93	-130.17
	1.000k	2.000k	3.000k	4.000k	5.000k	6.000k	7.000k	8.000k	9.000k	10.00k
Ch2	-0.00	-117.66	-119.97	-130.18	-136.01	-144.92	-123.02	-129.65	-138.93	-129.89

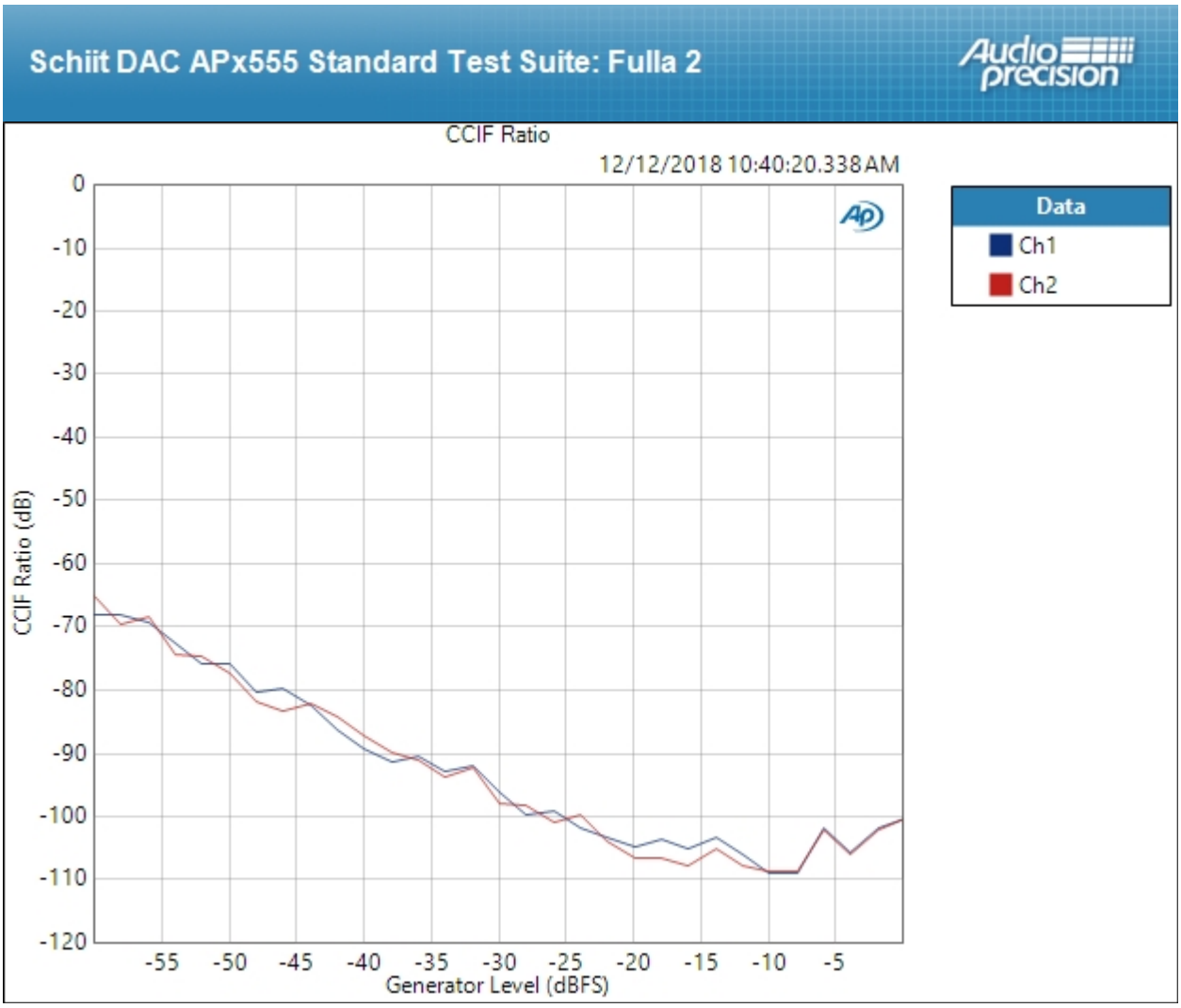
Distortion Product Ratio Parameters

Frequency Unit:	Hz
Ratio Unit:	dB

DAC Fixed Out : IMD Level Sweep (CCIF)

IMD Type:	CCIF
Waveform:	IMD
Generator Level:	-0.000 dBFS
DC Offset:	0.000 D
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	12/12/2018 10:40:20 AM

CCIF Ratio (12/12/2018 10:40:20.338 AM)

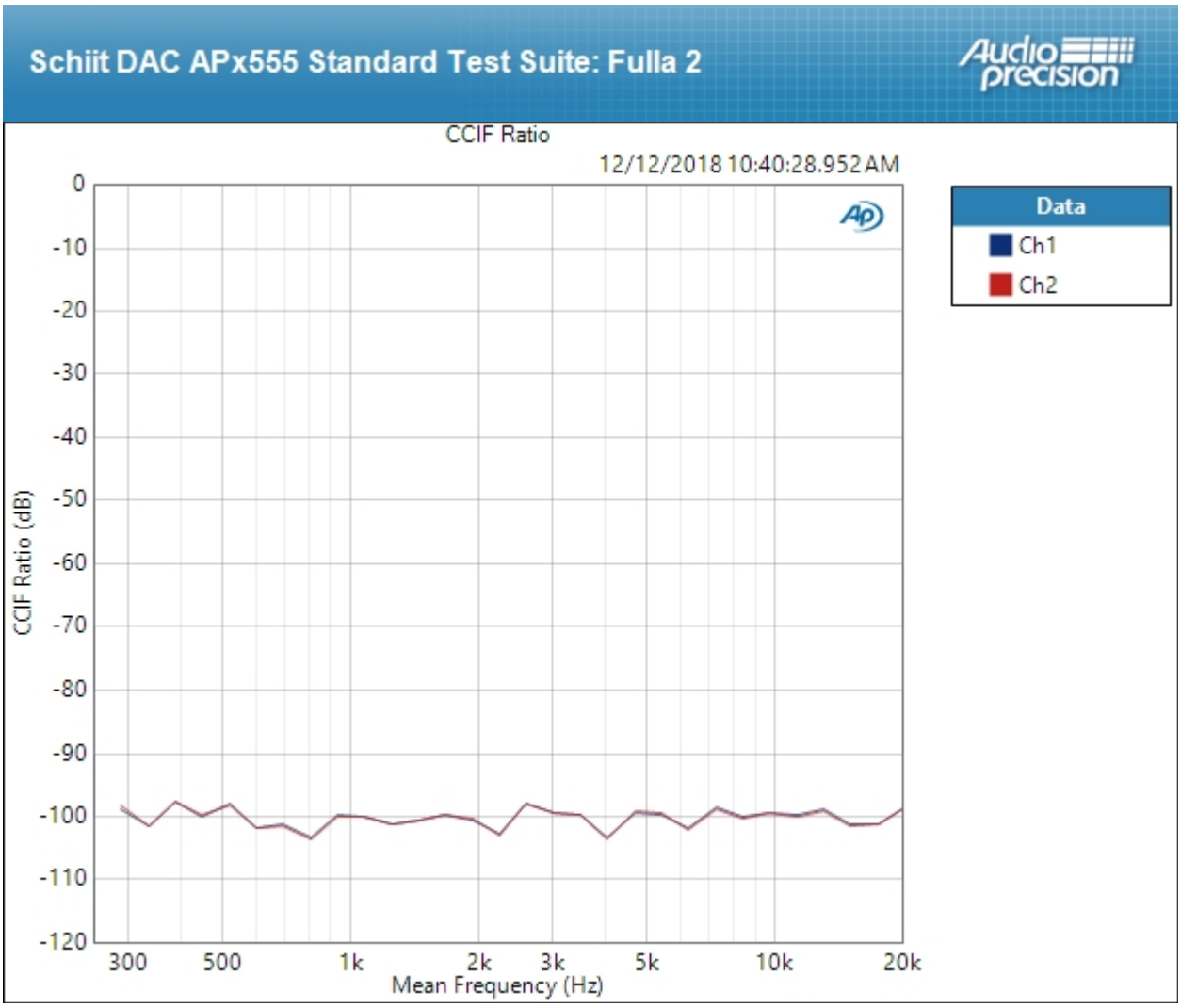


Result: PASSED

DAC Fixed Out : IMD Frequency Sweep (CCIF)

Generator Level:	-0.000 dBFS
DC Offset:	0.000 D
Sweep Frequency:	Mean Frequency
Mean Frequency:	12.5000 kHz
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	12/12/2018 10:40:28 AM

CCIF Ratio (12/12/2018 10:40:28.952 AM)



Result: PASSED

DAC Fixed Out : Crosstalk, One Channel Undriven

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

Crosstalk (12/12/2018 10:40:32.075 AM)

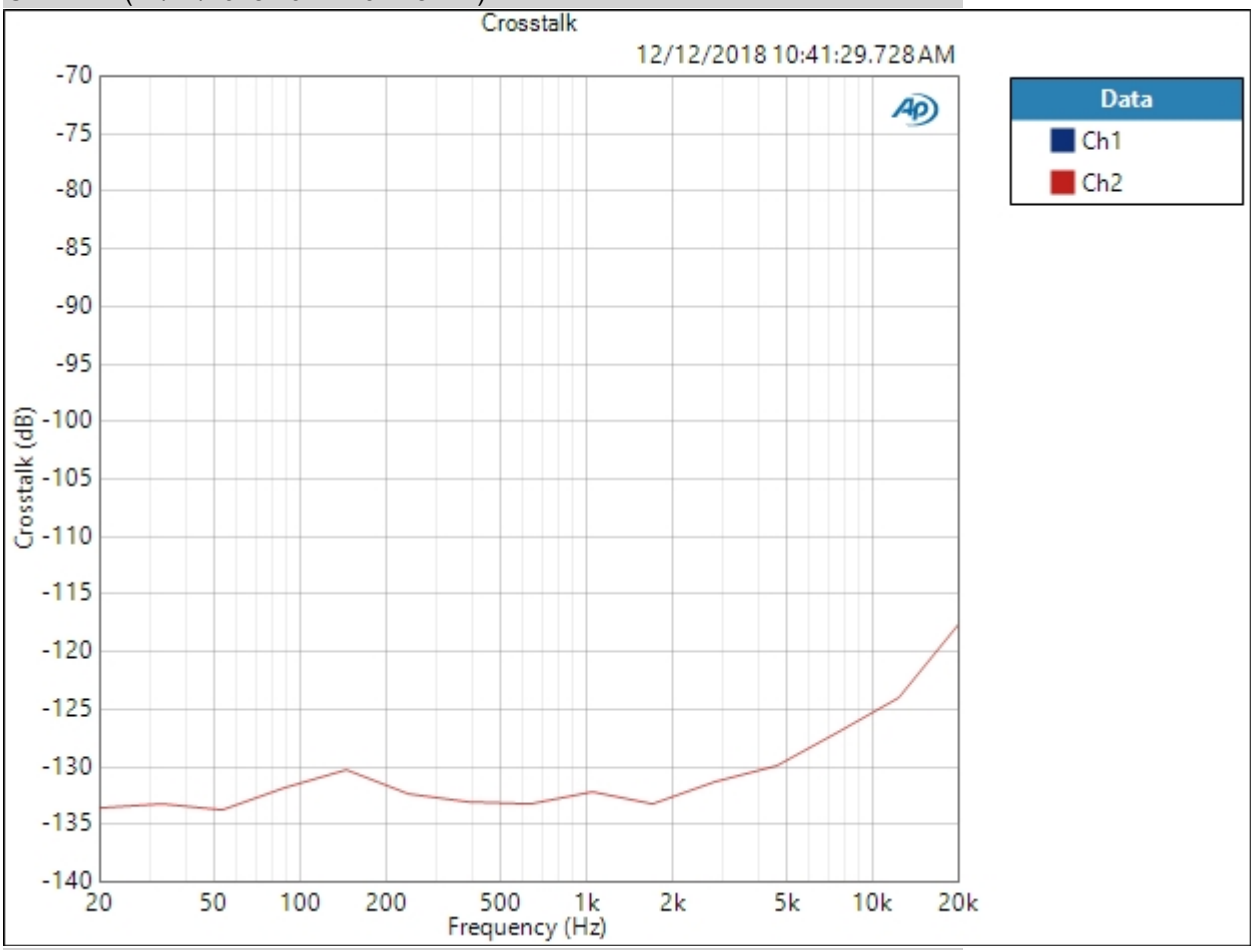
Ch1 -116.533 dB

Ch2 -127.928 dB

DAC Fixed Out : Crosstalk Sweep, One Channel Driven

Generator Level:	-0.000 dBFS
DC Offset:	0.000 D
Start Frequency:	20.0000 kHz
Stop Frequency:	20.0000 Hz
Step Type:	Logarithmic
Number of Points:	15
Measured 1	12/12/2018 10:41:29 AM

Crosstalk (12/12/2018 10:41:29.728 AM)



Crosstalk Parameters

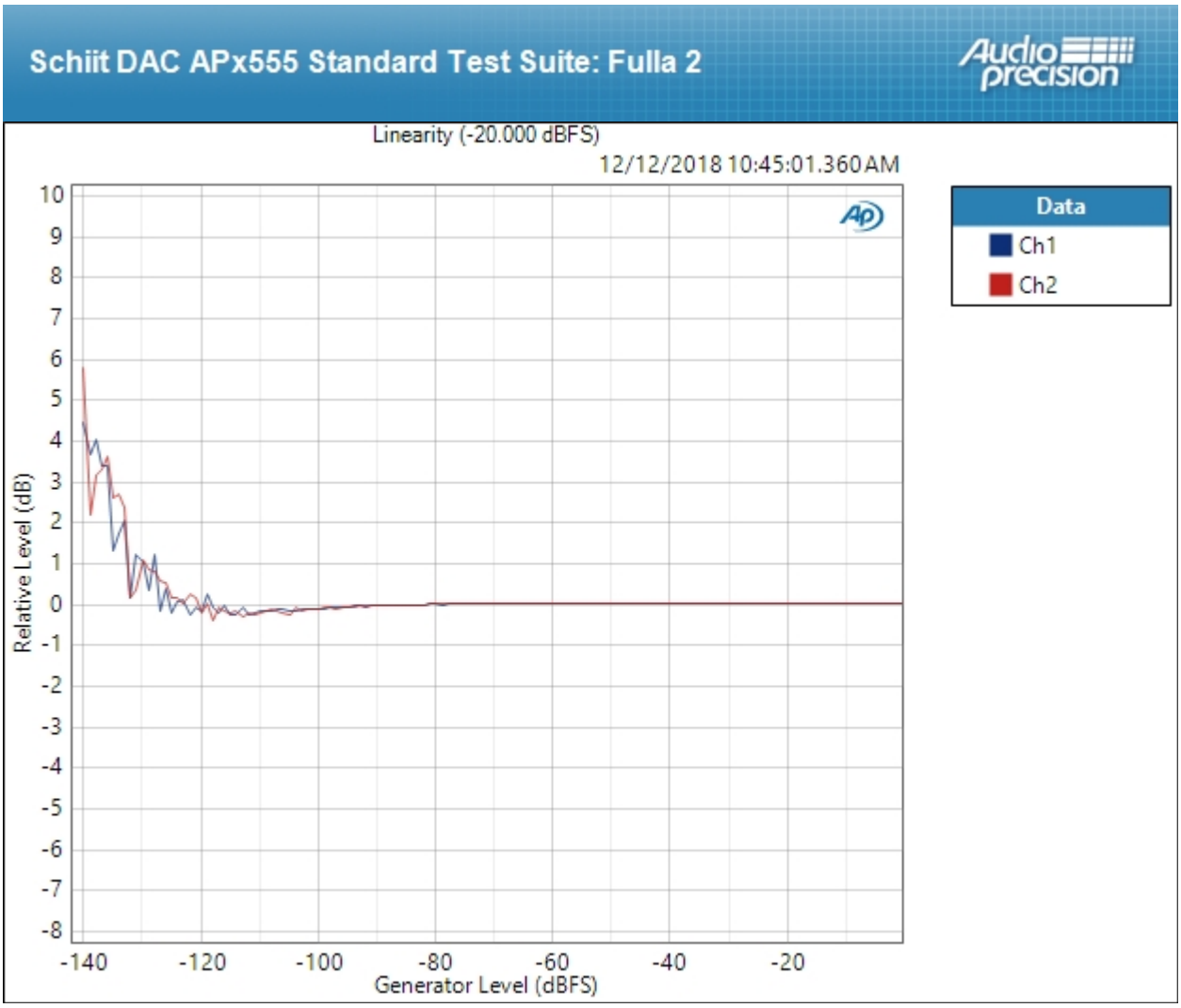
Source: Ch1

Result: PASSED

DAC Fixed Out : Bandpass Level Sweep

Waveform:	Sine
Generator Level:	-20.000 dBFS
DC Offset:	0.000 D
Frequency:	1.00000 kHz
Start Level:	-140.000 dBFS
Stop Level:	-0.000 dBFS
Step Type:	Linear
Number of Points:	141
Step Size:	+1.000 dBFS
Offset:	0.000 D
Selectivity:	Window width
Bandpass Tuning Mode:	Generator Frequency
Measured 1	12/12/2018 10:45:01 AM

Linearity (-20.000 dBFS) (12/12/2018 10:45:01.360 AM)



Linearity (-20.000 dBFS) Parameters

Mode: Normalized at Reference

Relative Level: -20.000 dBFS

Result: PASSED

Headphone Out, 32 ohm load : Signal Path Setup

Output Connector:	ASIO
Output Sample Rate:	44.1000 kHz
Output EQ:	None
Input Connector:	Analog Unbalanced
Channels:	2
Termination:	100 kohm
High Performance Sine Analyzer:	Enabled
Input Bandwidth:	AC (<10 Hz) - 22.4k (48 kHz SR)
Device Delay:	0.000 s
Input EQ:	None

• References

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

Headphone Out, 32 ohm load : Level and Gain

Waveform: Sine

Generator Level: -14.000 dBFS

DC Offset: 0.000 D

Frequency: 1.00000 kHz

RMS Level (12/12/2018 10:46:05.807 AM)

Ch1 0.985 Vrms

Ch2 0.981 Vrms

Headphone Out, 32 ohm load : 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 (12/12/2018 10:46:06.734 AM)

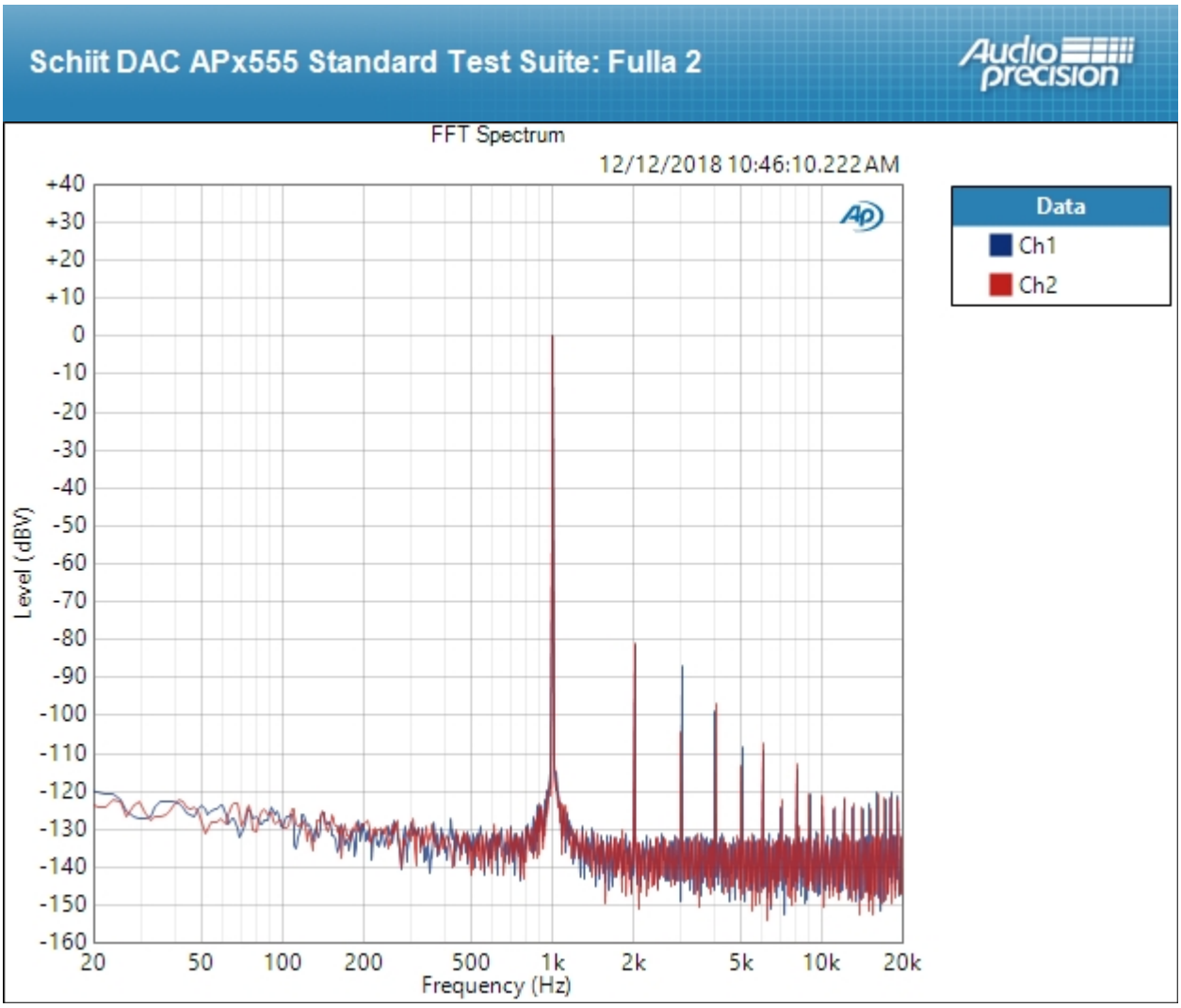
Ch1 -18.67 mV

Ch2 -14.67 mV

Headphone Out, 32 ohm load : Signal Analyzer

Waveform:	Sine
Generator Level:	-14.000 dBFS
DC Offset:	0.000 D
Frequency:	1.00000 kHz
Secondary Source:	None
Measured 1	12/12/2018 10:46:10 AM
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 (12/12/2018 10:46:10.222 AM)

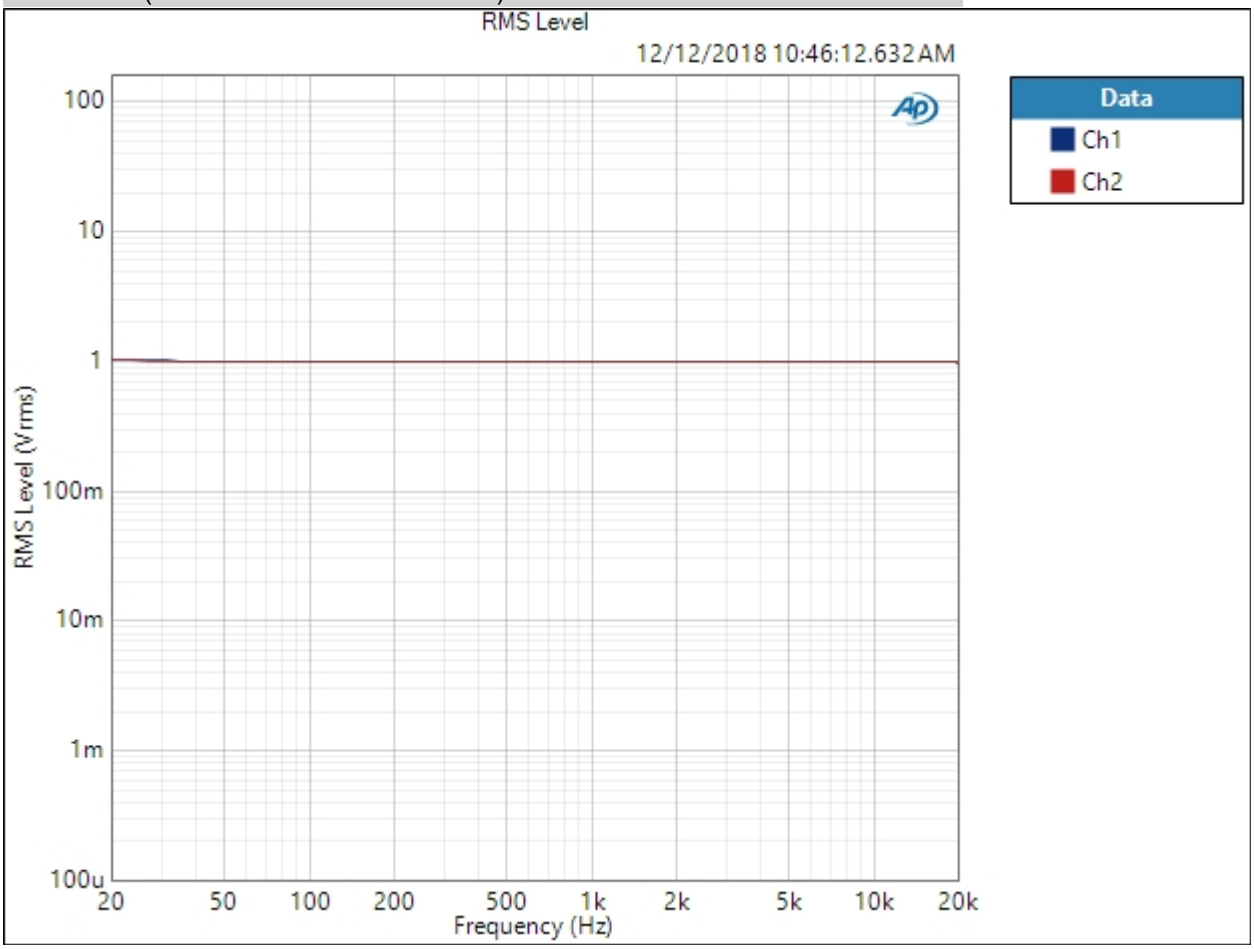


Result: PASSED

Headphone Out, 32 ohm load : Frequency Response

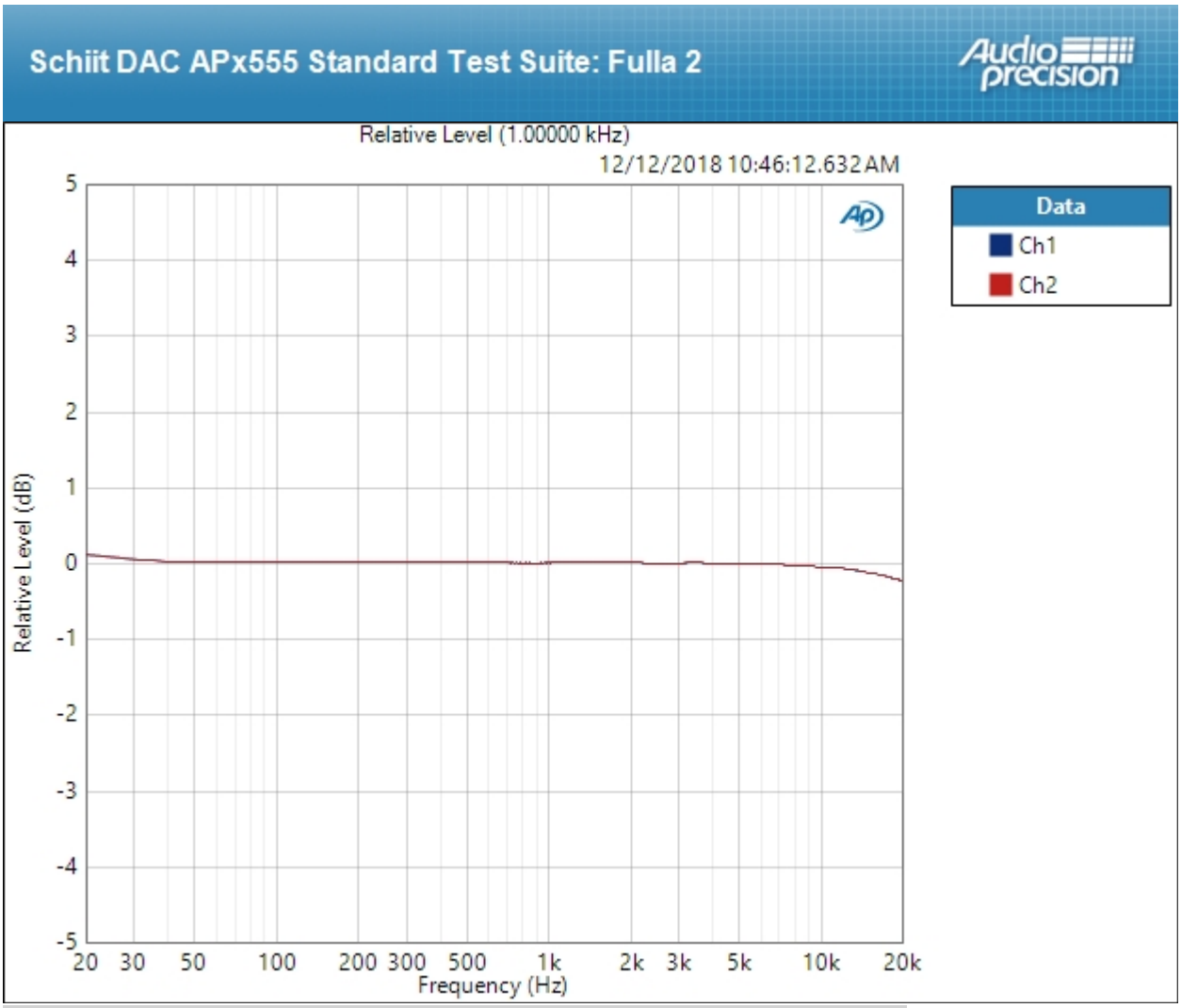
Start Frequency:	20.0000 Hz
Stop Frequency:	20.0000 kHz
Generator Level:	-14.000 dBFS
DC Offset:	0.000 D
EQ:	None
Pre-Sweep:	100.0 ms
Sweep:	350.0 ms
Extend Acquisition By:	50.00 ms
Secondary Source:	None
Measured 1	12/12/2018 10:46:12 AM

RMS Level (12/12/2018 10:46:12.632 AM)



Result: PASSED

Relative Level (1.00000 kHz) (12/12/2018 10:46:12.632 AM)



Relative Level (1.00000 kHz) Parameters

Mode: Normalized at Reference

Ref Frequency: 1.00000 kHz

Result: PASSED

Deviation (20.0000 Hz - 20.0000 kHz) (12/12/2018 10:46:12.632 AM)

Ch1 ±0.183 dB

Ch2 ±0.182 dB

Deviation (20.0000 Hz - 20.0000 kHz) Parameters

Min: 20.0000 Hz

Max: 20.0000 kHz

Headphone Out, 32 ohm load : Signal to Noise Ratio

Waveform:	Sine
Generator Level:	-5.000 dBFS
DC Offset:	0.000 D
Frequency:	1.00000 kHz
Low-pass Filter:	20 kHz
Weighting Filter:	Signal Path
High-pass Filter:	20 Hz

Signal to Noise Ratio (12/12/2018 10:46:15.039 AM)

Ch1 107.879 dB
Ch2 107.816 dB

Headphone Out, 32 ohm load : THD+N

Waveform:	Sine
Generator Level:	-14.000 dBFS
DC Offset:	0.000 D
Frequency:	1.00000 kHz
Low-pass Filter:	20 kHz
Weighting Filter:	Signal Path
High-pass Filter:	20 Hz
Notch Tuning Mode:	Measured Frequency

THD+N Ratio (12/12/2018 10:46:17.239 AM)

Ch1 0.008572 %

Ch2 0.009169 %

THD Ratio (12/12/2018 10:46:17.239 AM)

Ch1 0.008282 %

Ch2 0.009096 %

Noise Ratio (12/12/2018 10:46:17.239 AM)

Ch1 0.001100 %

Ch2 0.001080 %

Distortion Product Ratio (12/12/2018 10:46:17.239 AM)

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	-81.86	-99.17	-97.39	-112.11	-107.17	-118.93	-114.94	-124.62	-123.59
	1.000k	2.000k	3.000k	4.000k	5.000k	6.000k	7.000k	8.000k	9.000k	10.00k
Ch2	-0.00	-81.00	-103.36	-96.29	-114.02	-105.96	-117.44	-115.01	-121.27	-122.31

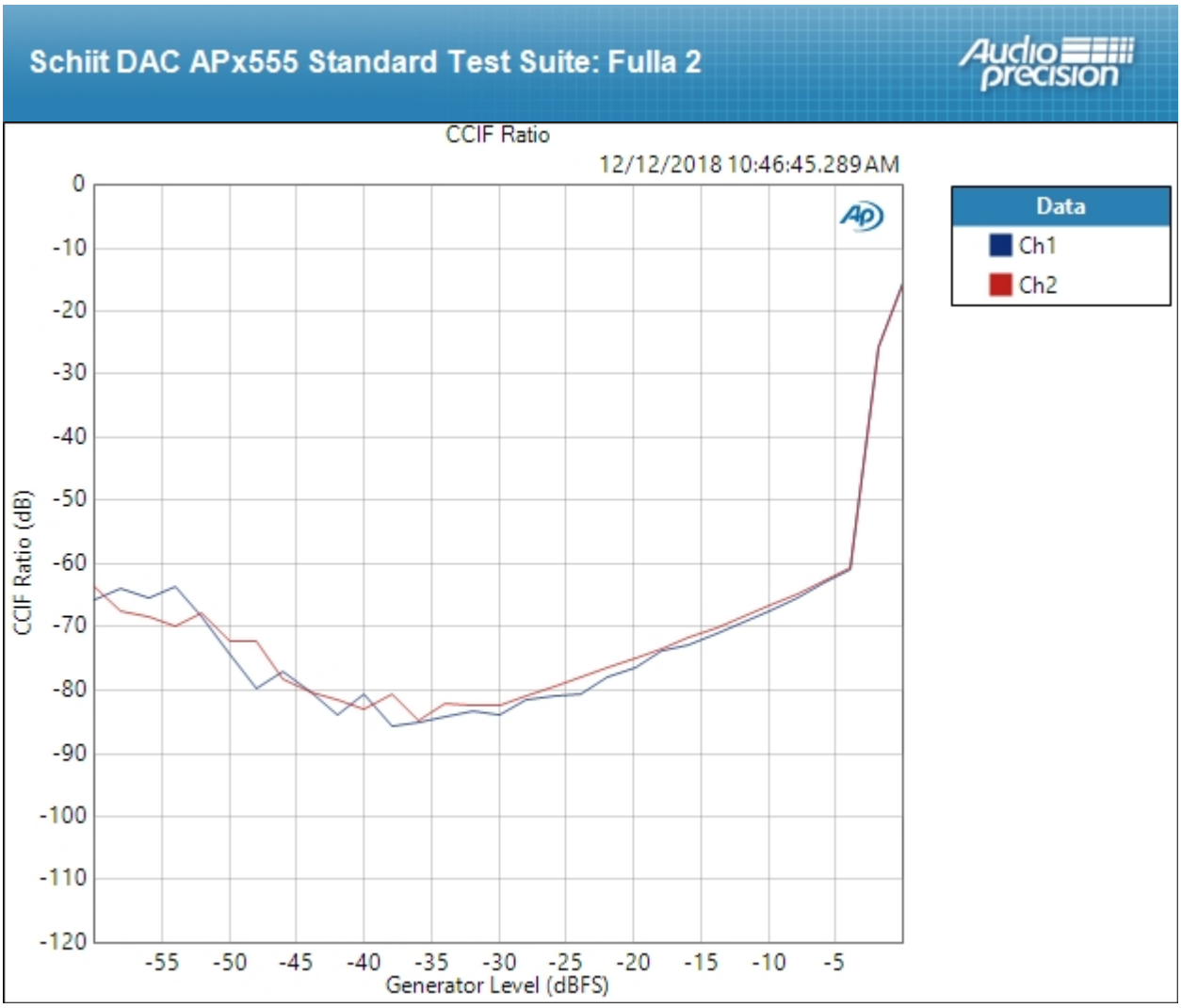
Distortion Product Ratio Parameters

Frequency Unit:	Hz
Ratio Unit:	dB

Headphone Out, 32 ohm load : IMD Level Sweep (CCIF)

IMD Type:	CCIF
Waveform:	IMD
Generator Level:	-0.000 dBFS
DC Offset:	0.000 D
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	12/12/2018 10:46:45 AM

CCIF Ratio (12/12/2018 10:46:45.289 AM)

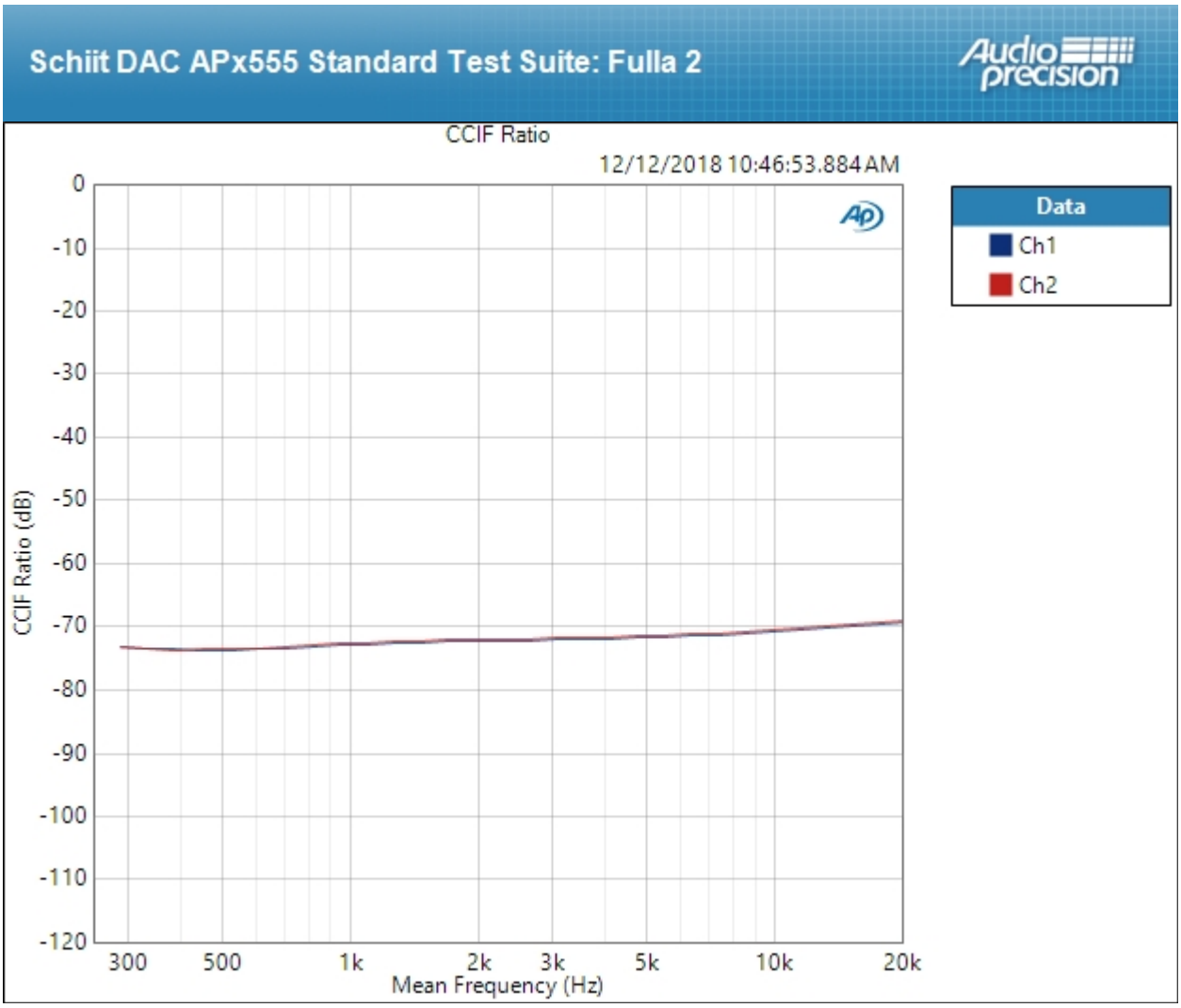


Result: PASSED

Headphone Out, 32 ohm load : IMD Frequency Sweep (CCIF)

Generator Level:	-14.000 dBFS
DC Offset:	0.000 D
Sweep Frequency:	Mean Frequency
Mean Frequency:	12.5000 kHz
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	12/12/2018 10:46:53 AM

CCIF Ratio (12/12/2018 10:46:53.884 AM)



Result: PASSED

Headphone Out, 32 ohm load : Crosstalk, One Channel Undriven

Waveform:	Sine
Generator Level:	-14.000 dBFS
DC Offset:	0.000 D
Frequency:	10.0000 kHz

Crosstalk (12/12/2018 10:46:54.903 AM)

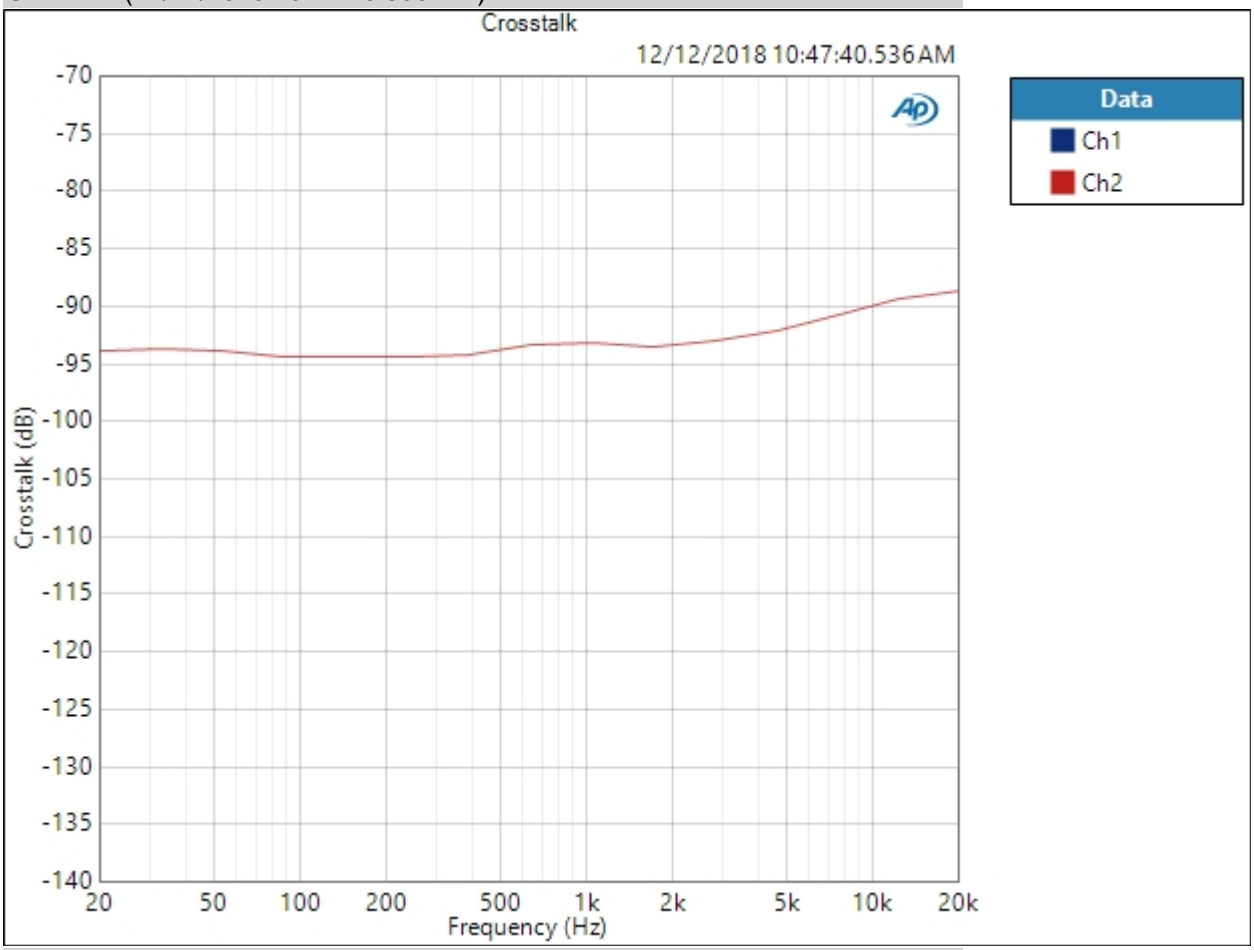
Ch1 -93.703 dB

Ch2 -90.293 dB

Headphone Out, 32 ohm load : Crosstalk Sweep, One Channel Driven

Generator Level:	-14.000 dBFS
DC Offset:	0.000 D
Start Frequency:	20.0000 kHz
Stop Frequency:	20.0000 Hz
Step Type:	Logarithmic
Number of Points:	15
Measured 1	12/12/2018 10:47:40 AM

Crosstalk (12/12/2018 10:47:40.536 AM)



Crosstalk Parameters

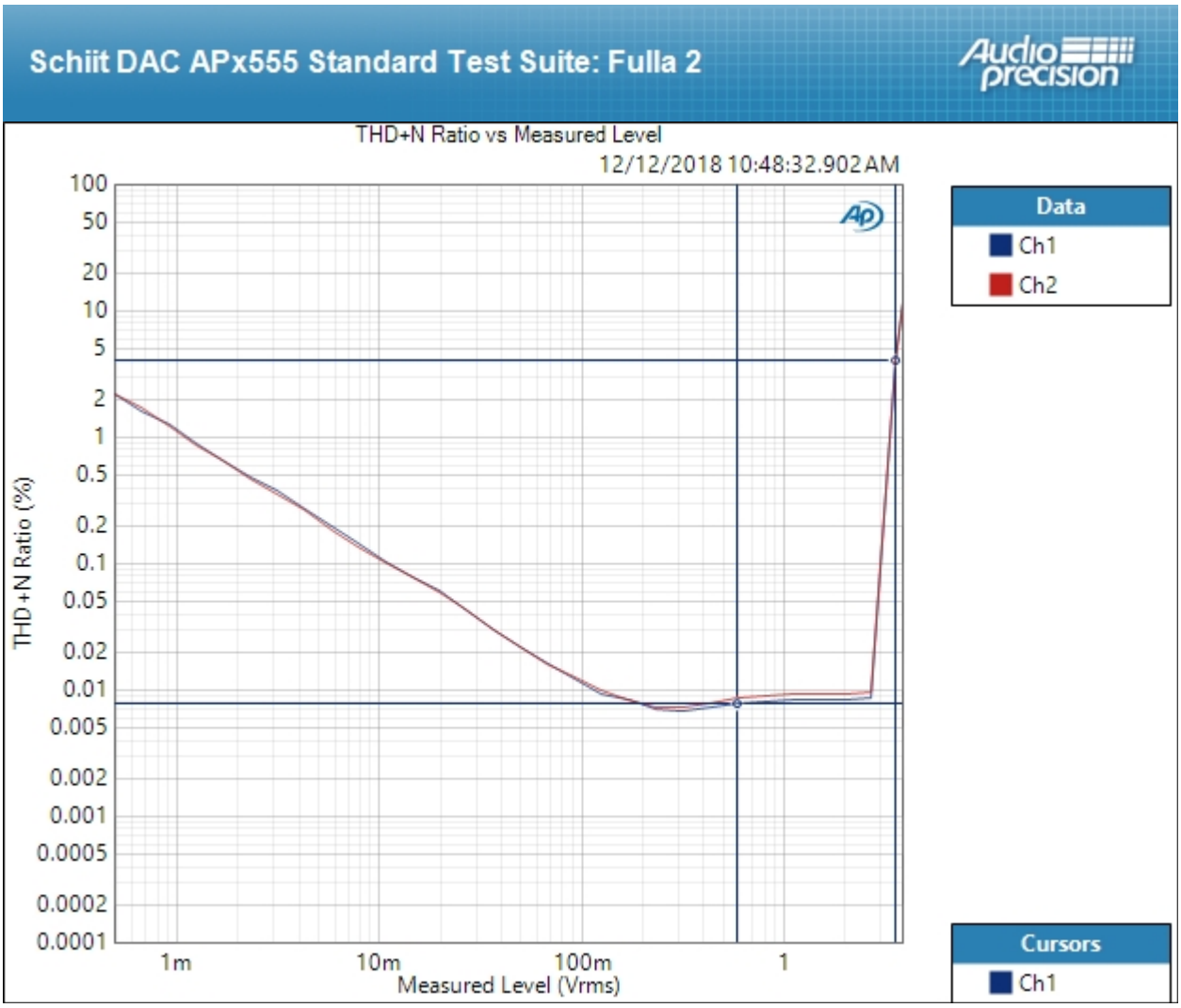
Source: Ch1

Result: PASSED

Headphone Out, 32 ohm load : Stepped Level Sweep

Waveform:	Sine
Generator Level:	-20.000 dBFS
DC Offset:	0.000 D
Frequency:	1.00000 kHz
Start Level:	-80.000 dBFS
Stop Level:	-0.000 dBFS
Step Type:	Linear
Number of Points:	31
Step Size:	+2.667 dBFS
Offset:	0.000 D
Low-pass Filter:	20 kHz
Weighting Filter:	Signal Path
High-pass Filter:	20 Hz
Notch Tuning Mode:	Generator Frequency
Measured 1	12/12/2018 10:48:32 AM

THD+N Ratio vs Measured Level (12/12/2018 10:48:32.902 AM)



Result: PASSED