Schiit DAC APx555 Standard Test Suite: Modi 3+

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

USB

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

Optical

Jitter Level Sweep	PASSED

Sequence Result:

Sequence Result:	PASSED

APx Instrument

Instrument ID:	11571
Calibration Date:	5/8/2018
APx Version:	5.0.0.105.133644

USB : Signal Path Setup

Output Connector:	ASIO
Output Sample Rate:	48.0000 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

USB : Level and Gain

Waveform: Sine

Generator Level: -0.000 dBFS

DC Offset: 0.000 D

Frequency: 1.00000 kHz

RMS Level (11/7/2020 3:00:43.851 PM)

Ch1 1.938 Vrms

Ch2 1.940 Vrms

USB : 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 (11/7/2020 3:00:45.263 PM)

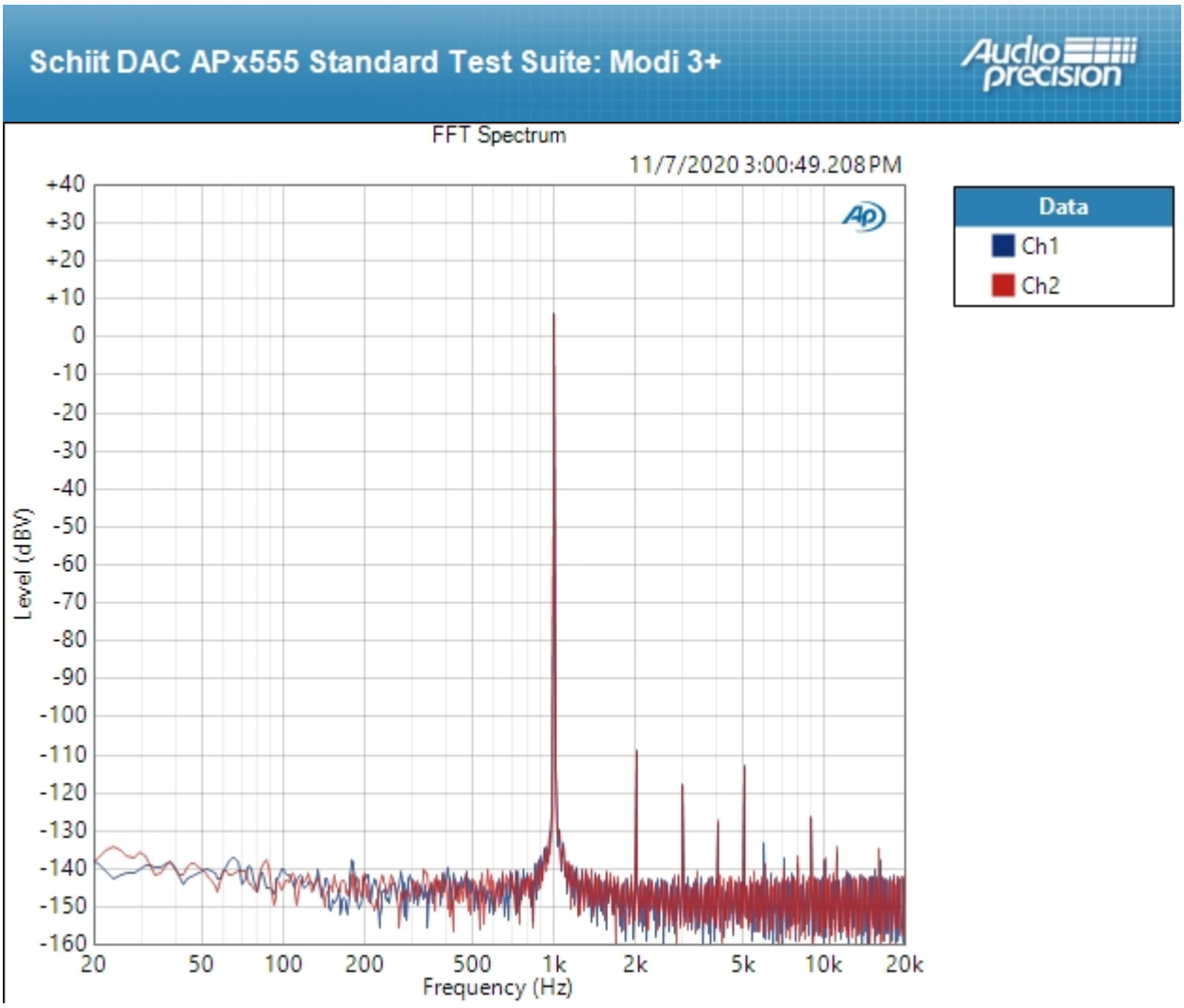
Ch1 -4.554 mV

Ch2 -5.714 mV

USB : Signal Analyzer

Waveform:	Sine
Generator Level:	-0.000 dBFS
DC Offset:	0.000 D
Frequency:	1.00000 kHz
Secondary Source:	None
Measured 1	11/7/2020 3:00:49 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 (11/7/2020 3:00:49.208 PM)

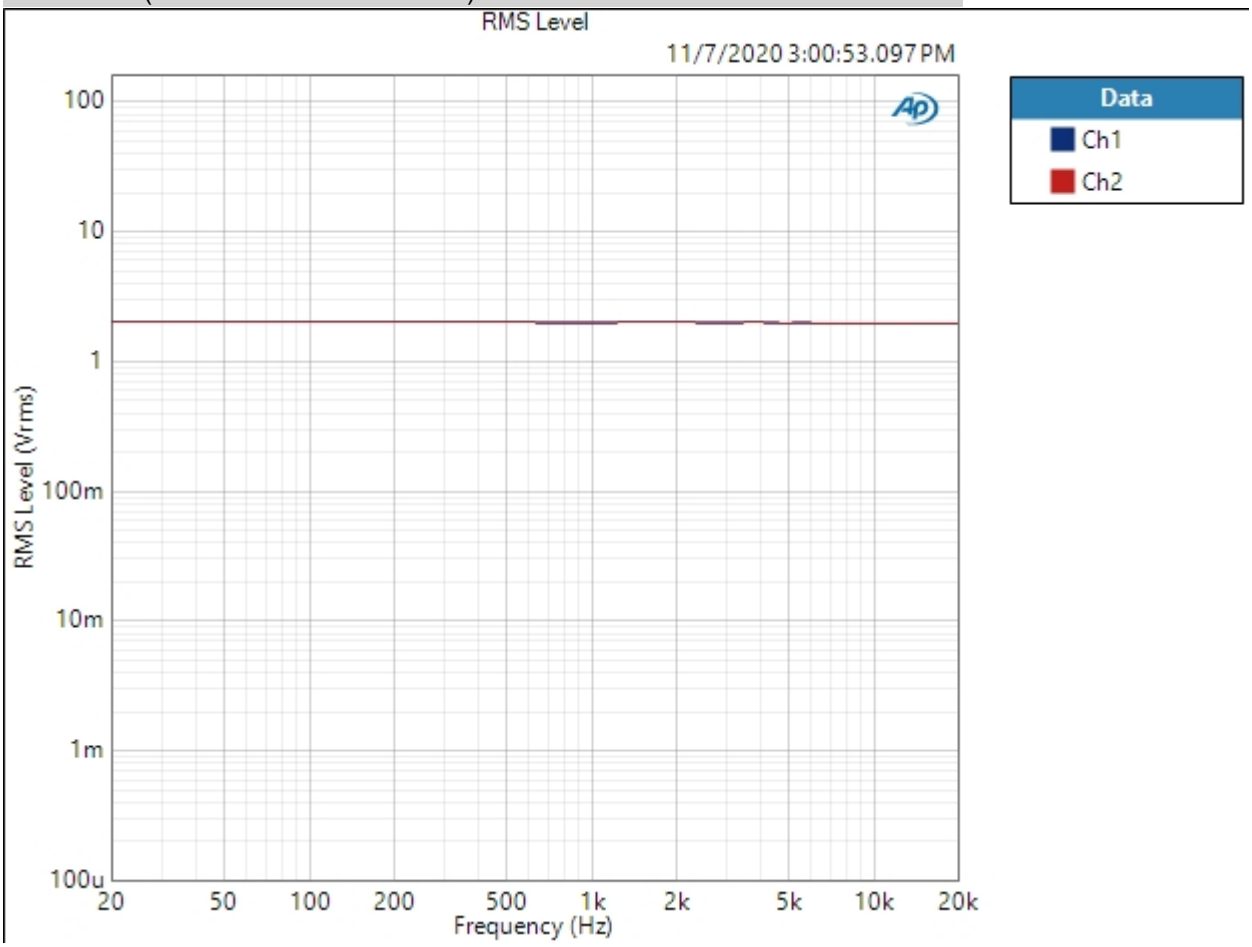


Result: PASSED

USB : Frequency Response

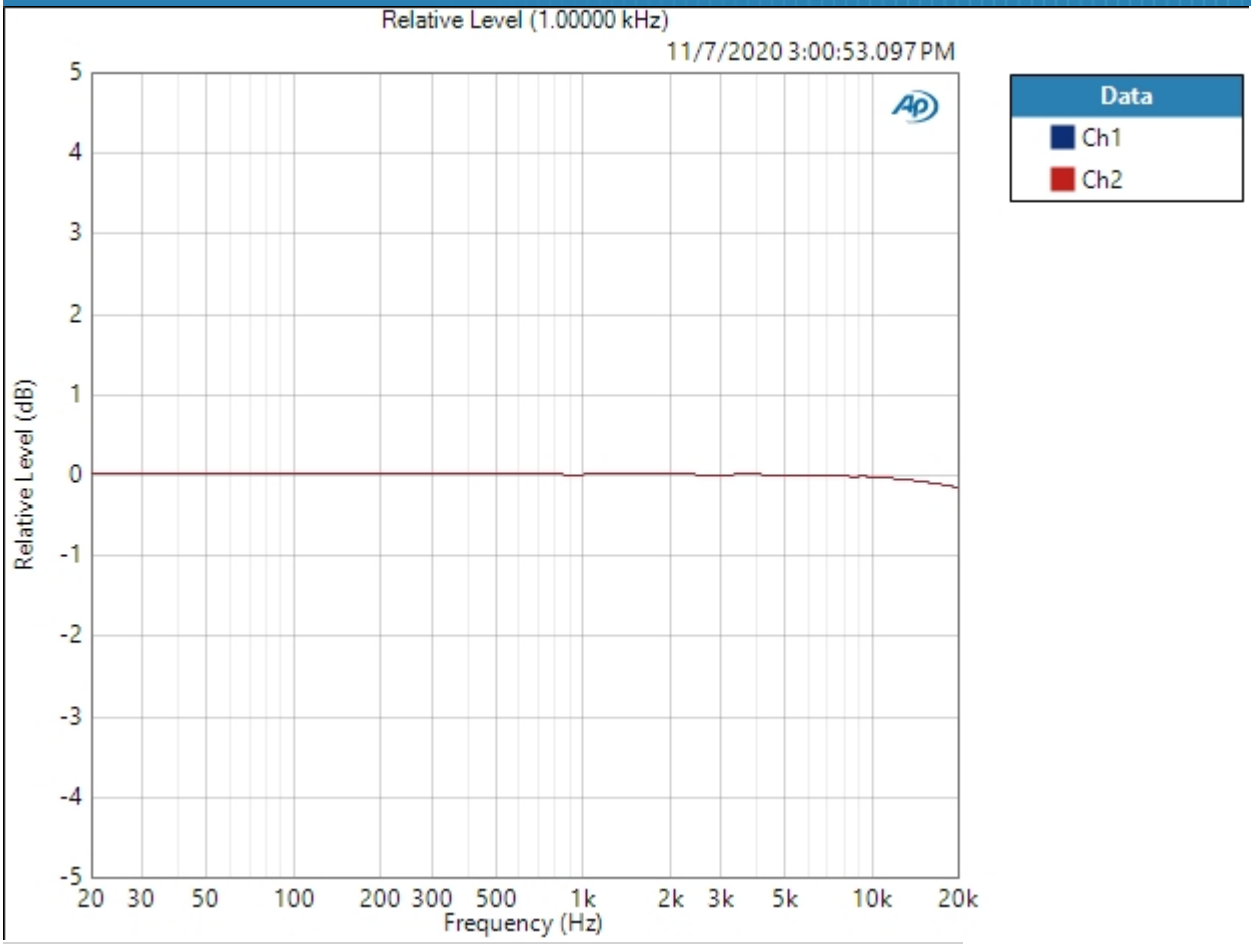
Start Frequency:	20.0000 Hz
Stop Frequency:	20.0000 kHz
Generator Level:	-0.000 dBFS
DC Offset:	0.000 D
EQ:	None
Pre-Sweep:	100.0 ms
Sweep:	350.0 ms
Extend Acquisition By:	1.000 s
Secondary Source:	None
Measured 1	11/7/2020 3:00:53 PM

RMS Level (11/7/2020 3:00:53.097 PM)



Result: PASSED

Relative Level (1.00000 kHz) (11/7/2020 3:00:53.097 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) (11/7/2020 3:00:53.097 PM)

Ch1 ±0.095 dB

Ch2 ±0.098 dB

Deviation (20.0000 Hz - 20.0000 kHz) Parameters

Min: 20.0000 Hz

Max: 20.0000 kHz

USB : 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 (11/7/2020 3:00:55.281 PM)

Ch1 116.128 dB
Ch2 116.027 dB

USB : 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 (11/7/2020 3:00:57.818 PM)

Ch1	0.000288 %
Ch2	0.000280 %

THD Ratio (11/7/2020 3:00:57.818 PM)

Ch1	0.000239 %
Ch2	0.000225 %

Noise Ratio (11/7/2020 3:00:57.818 PM)

Ch1	0.000161 %
Ch2	0.000160 %

Distortion Product Ratio (11/7/2020 3:00:57.818 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	-114.43	-124.07	-132.79	-118.22	-137.45	-144.90	-140.49	-132.83	-138.75
	1.000k	2.000k	3.000k	4.000k	5.000k	6.000k	7.000k	8.000k	9.000k	10.00k
Ch2	-0.00	-115.00	-123.35	-133.28	-118.99	-142.96	-140.76	-136.27	-132.48	-141.04

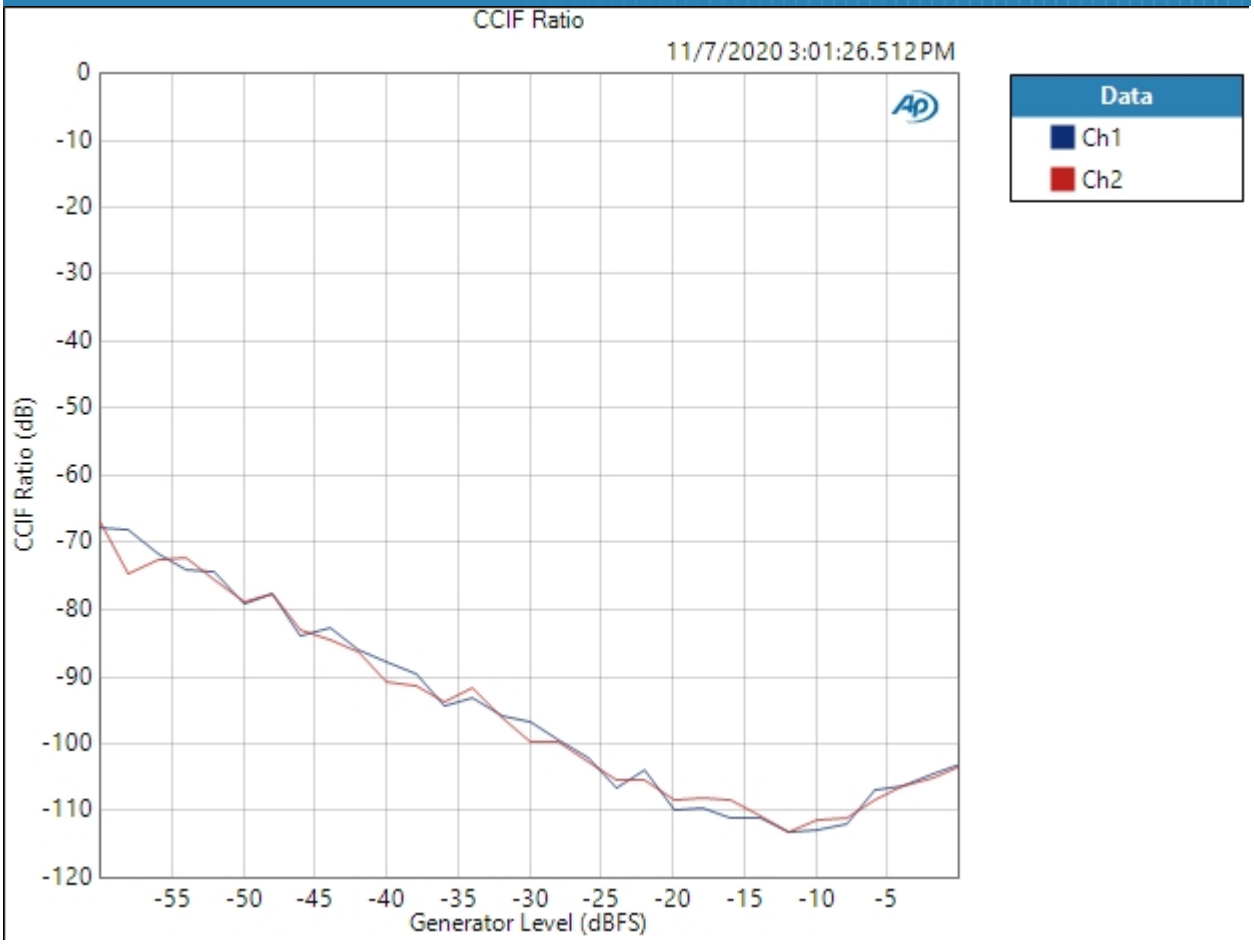
Distortion Product Ratio Parameters

Frequency Unit:	Hz
Ratio Unit:	dB

USB : 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	11/7/2020 3:01:26 PM

CCIF Ratio (11/7/2020 3:01:26.512 PM)

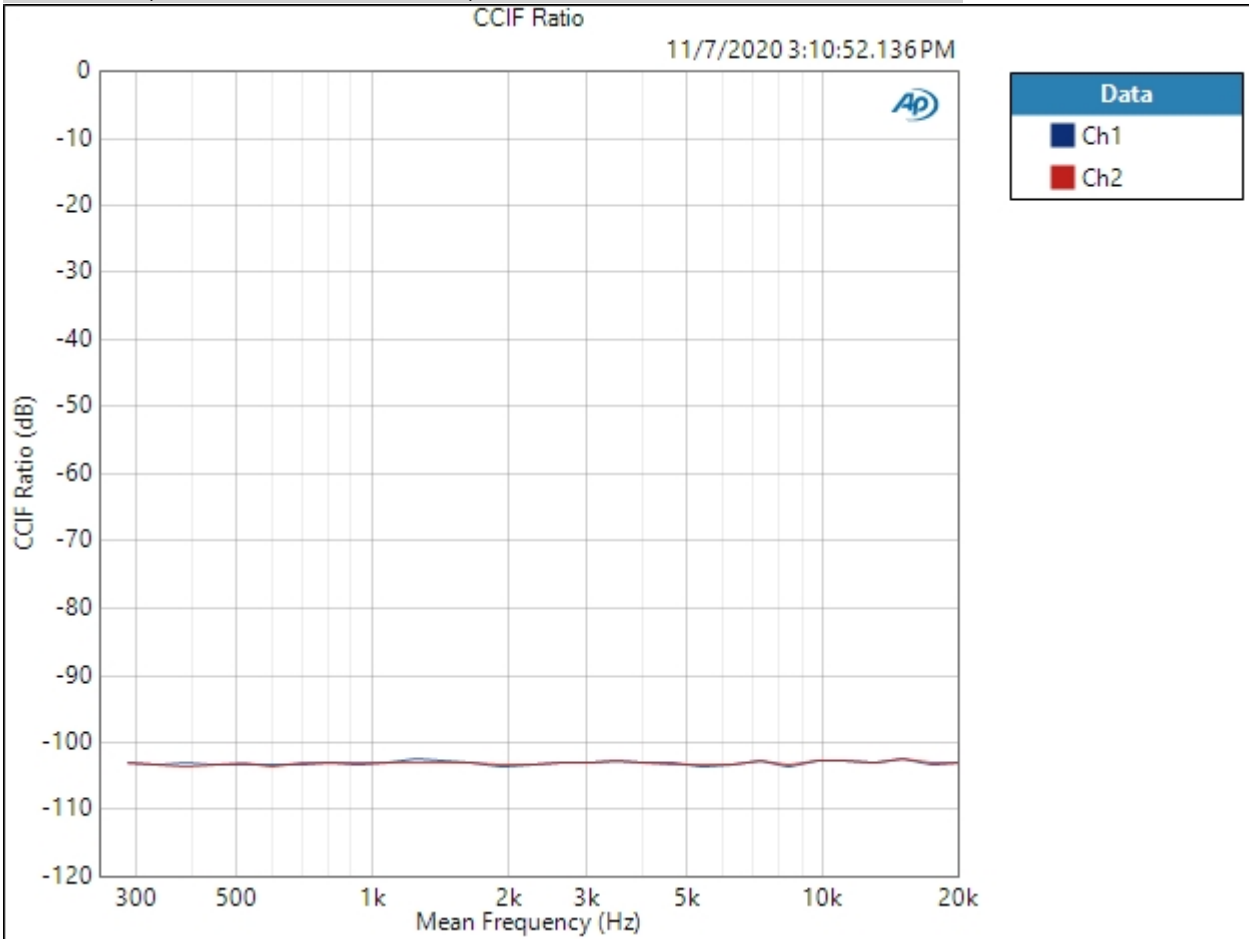


Result: PASSED

USB : 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	11/7/2020 3:10:52 PM

CCIF Ratio (11/7/2020 3:10:52.136 PM)



Result: PASSED

USB : Crosstalk, One Channel Undriven

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

Crosstalk (11/7/2020 3:01:40.558 PM)

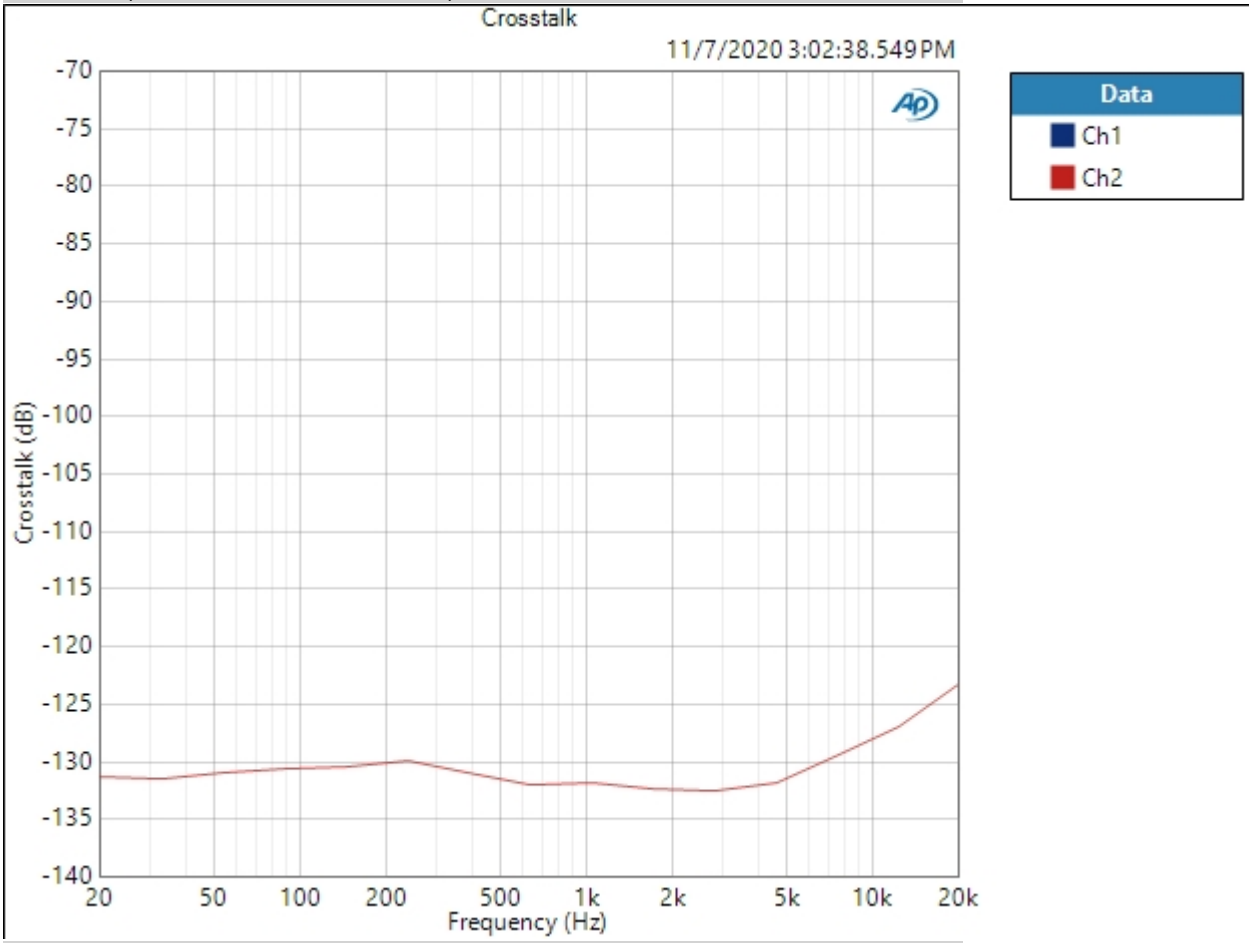
Ch1 -126.594 dB

Ch2 -128.071 dB

USB : 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	11/7/2020 3:02:38 PM

Crosstalk (11/7/2020 3:02:38.549 PM)



Crosstalk Parameters

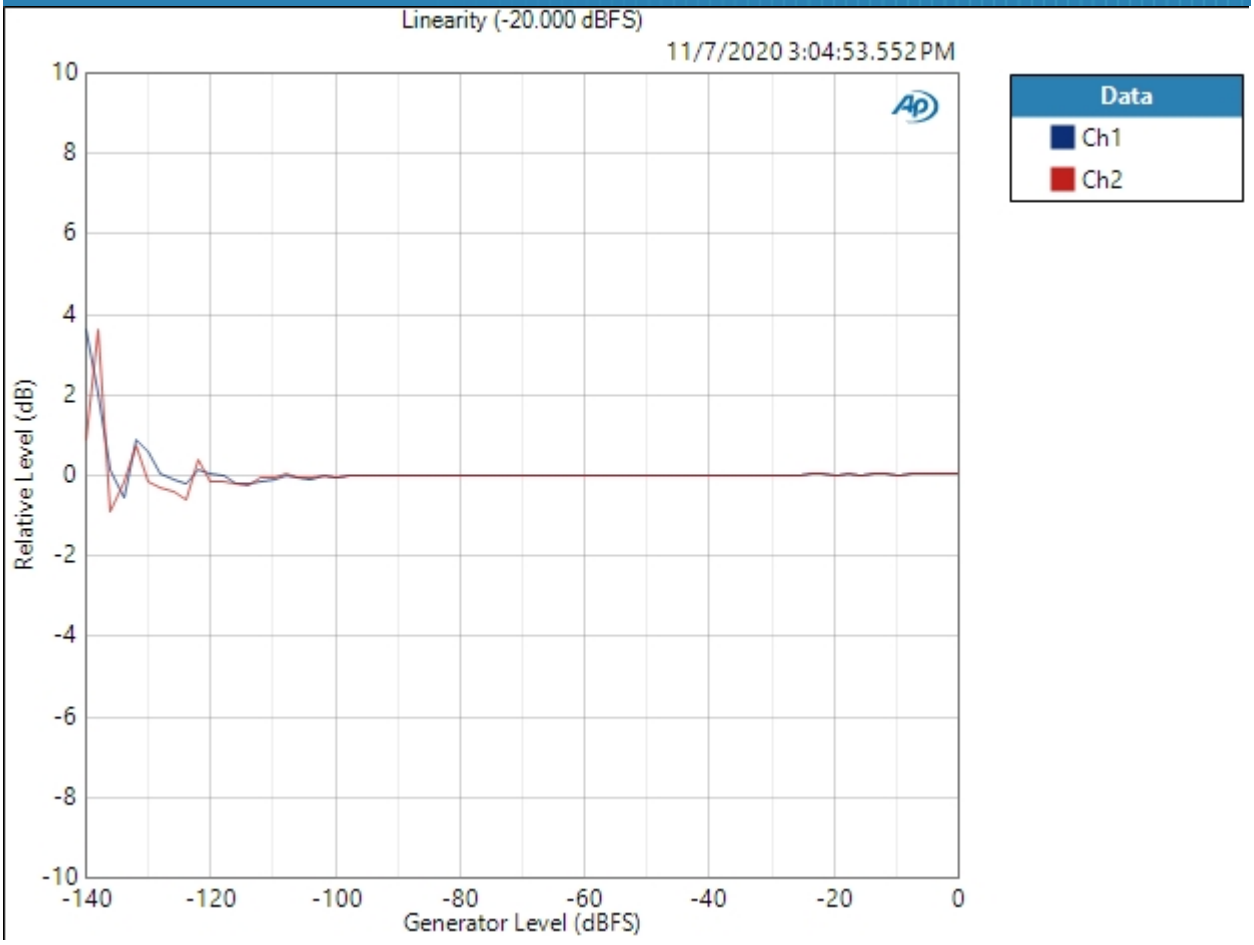
Source: Ch1

Result: PASSED

USB : 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:	71
Step Size:	+2.000 dBFS
Offset:	0.000 D
Selectivity:	Window width
Bandpass Tuning Mode:	Generator Frequency
Measured 1	11/7/2020 3:04:53 PM

Linearity (-20.000 dBFS) (11/7/2020 3:04:53.552 PM)



Linearity (-20.000 dBFS) Parameters

Mode: Normalized at Reference

Relative Level: -20.000 dBFS

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)
Output EQ:	None
Input Connector:	Analog Unbalanced
Channels:	2
Termination:	100 kohm
High Performance Sine Analyzer:	Disabled
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

Optical : Jitter Level Sweep

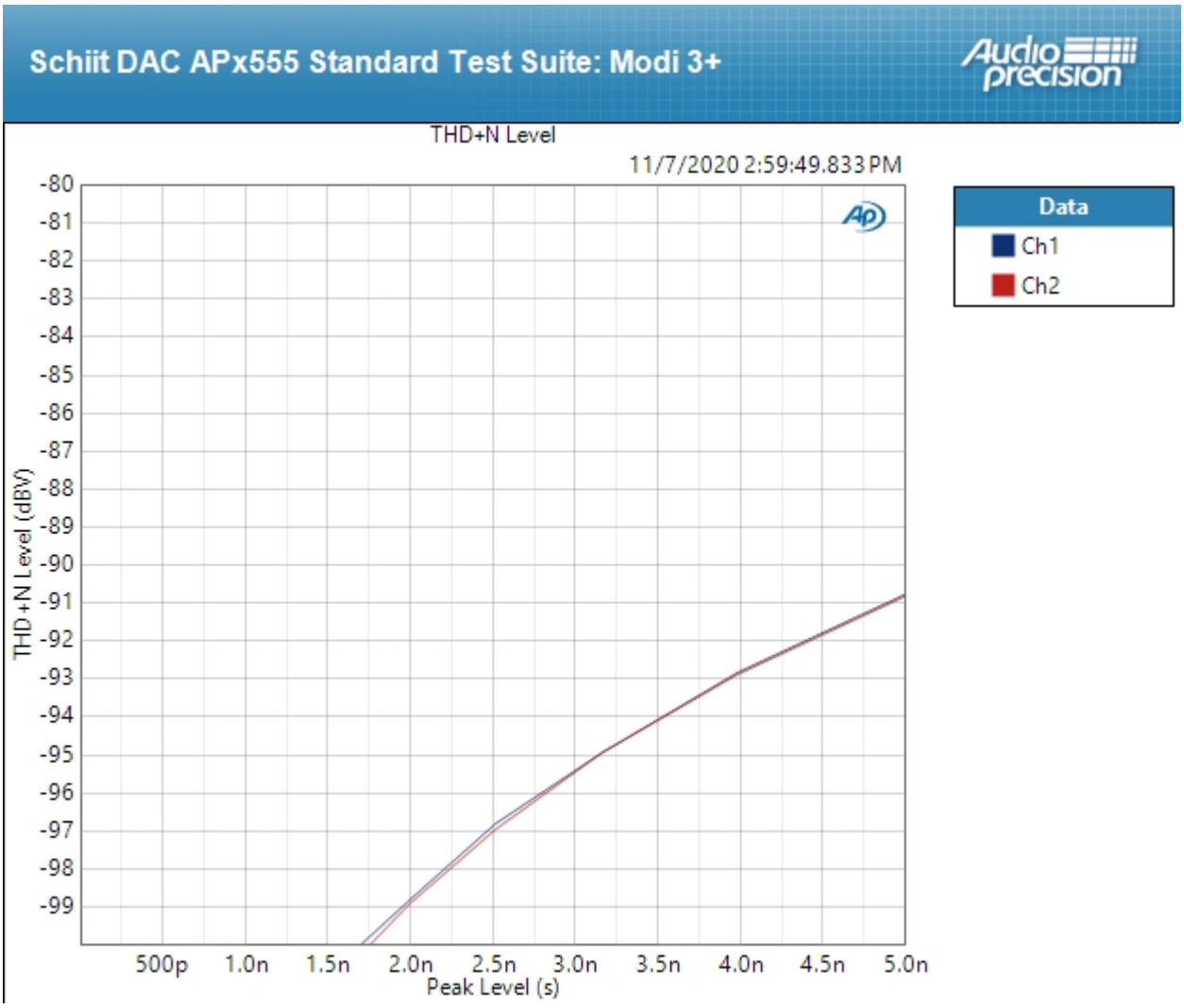
• Audio Generator

Waveform:	Sine
Generator Level:	-0.000 dBFS
DC Offset:	0.000 D
Frequency:	1.00000 kHz

• Jitter Generator

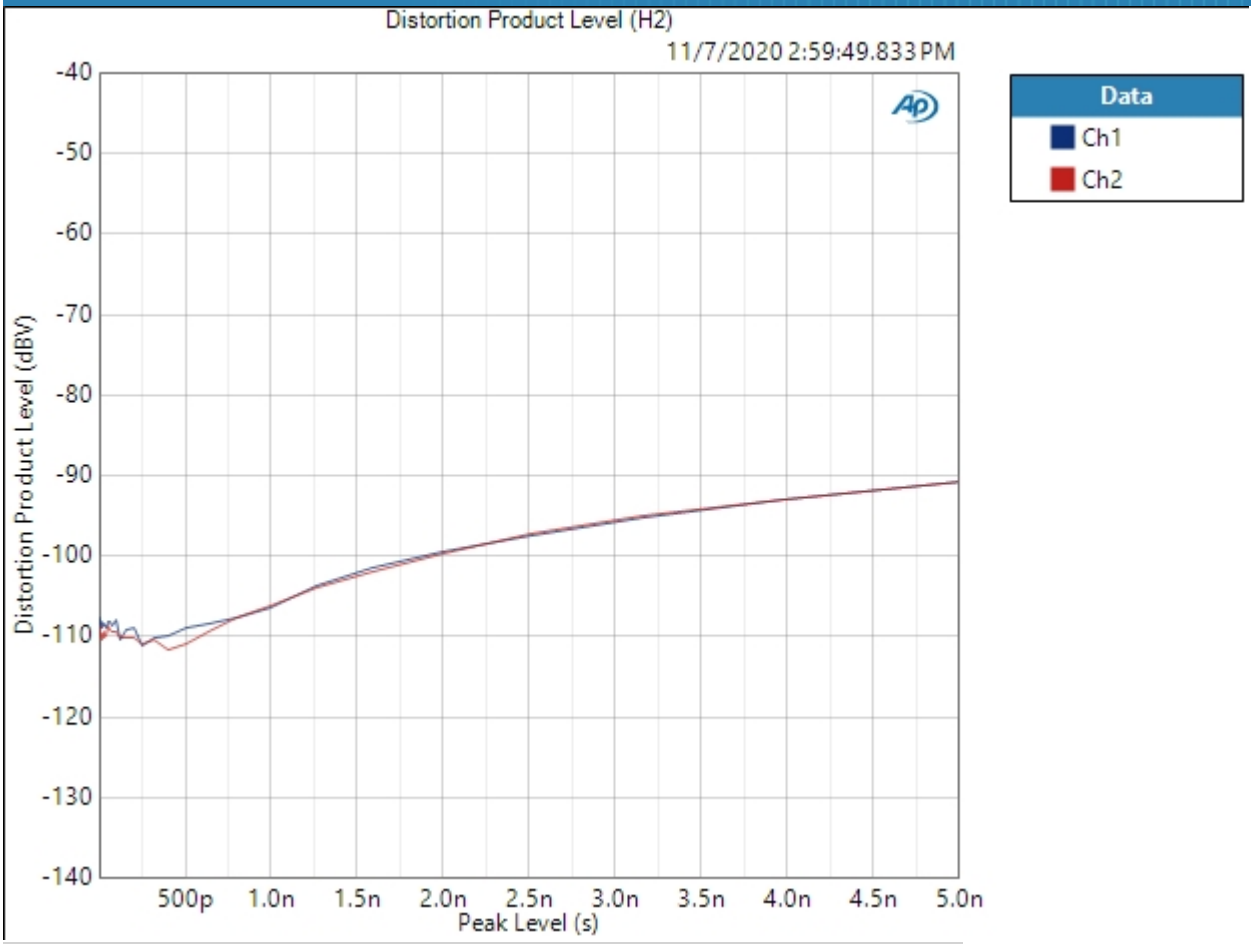
Jitter Waveform:	Sine
Start Level:	5.000 ps
Stop Level:	5.000 ns
Step Type:	Logarithmic
Number of Points:	31
Jitter Frequency:	1.00000 kHz
Low-pass Filter:	20 kHz
Weighting Filter:	Signal Path
High-pass Filter:	20 Hz
Notch Tuning Mode:	Generator Frequency
Secondary Source:	None
Measured 1	11/7/2020 2:59:49 PM

THD+N Level (11/7/2020 2:59:49.833 PM)



Result: PASSED

Distortion Product Level (H2) (11/7/2020 2:59:49.833 PM)



Distortion Product Level (H2) Parameters

Harmonics: Single Harmonic

Harmonic Number: 2

Result: PASSED