Schiit APx555 Characterization-Loki Mini+

Notes:

This is a test of a representative sample. If you have measurements that differ significantly from these, first check your analyzer and setup carefully, and (ideally) see if you can replicate the results on another analyzer. If the odd results persist, contact info@schiit.com so we can have a look.

Summary

Bypass

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

Process

Level and Gain	PASSED
DC Level	PASSED
Signal Analyzer	PASSED
Frequency Response--Flat	PASSED
Frequency Response--20Hz	PASSED
Frequency Response--400Hz	PASSED
Frequency Response--2kHz	PASSED
Frequency Response--8kHz	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

Sequence Result:

Sequence Result: PASSED

APx Instrument

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

Bypass : Signal Path Setup

Output Connector:	Analog Unbalanced
Channels:	2
Generator Mode:	High Performance Sine Generator
Source Impedance:	20 ohm
AG52 Generator Option:	Installed
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:	100.0 mVrms
dBm (Output Power):	600.0 ohm
W(watts) (Output Power):	8.000 ohm
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

Bypass : Level and Gain

Waveform:	Sine
Generator Mode:	High Performance Sine Generator
Generator Level:	1.000 Vrms
Frequency:	1.00000 kHz

RMS Level (11/7/2020 11:32:56.972 AM)

Ch1	0.999 Vrms
Ch2	0.999 Vrms

Bypass : DC Level

Waveform:	Sine
Generator Level:	0.000 Vrms
DC Offset:	0.000 V
Frequency:	1.00000 kHz
Delay Time:	100.0 ms
Acquisition Time:	333.0 ms

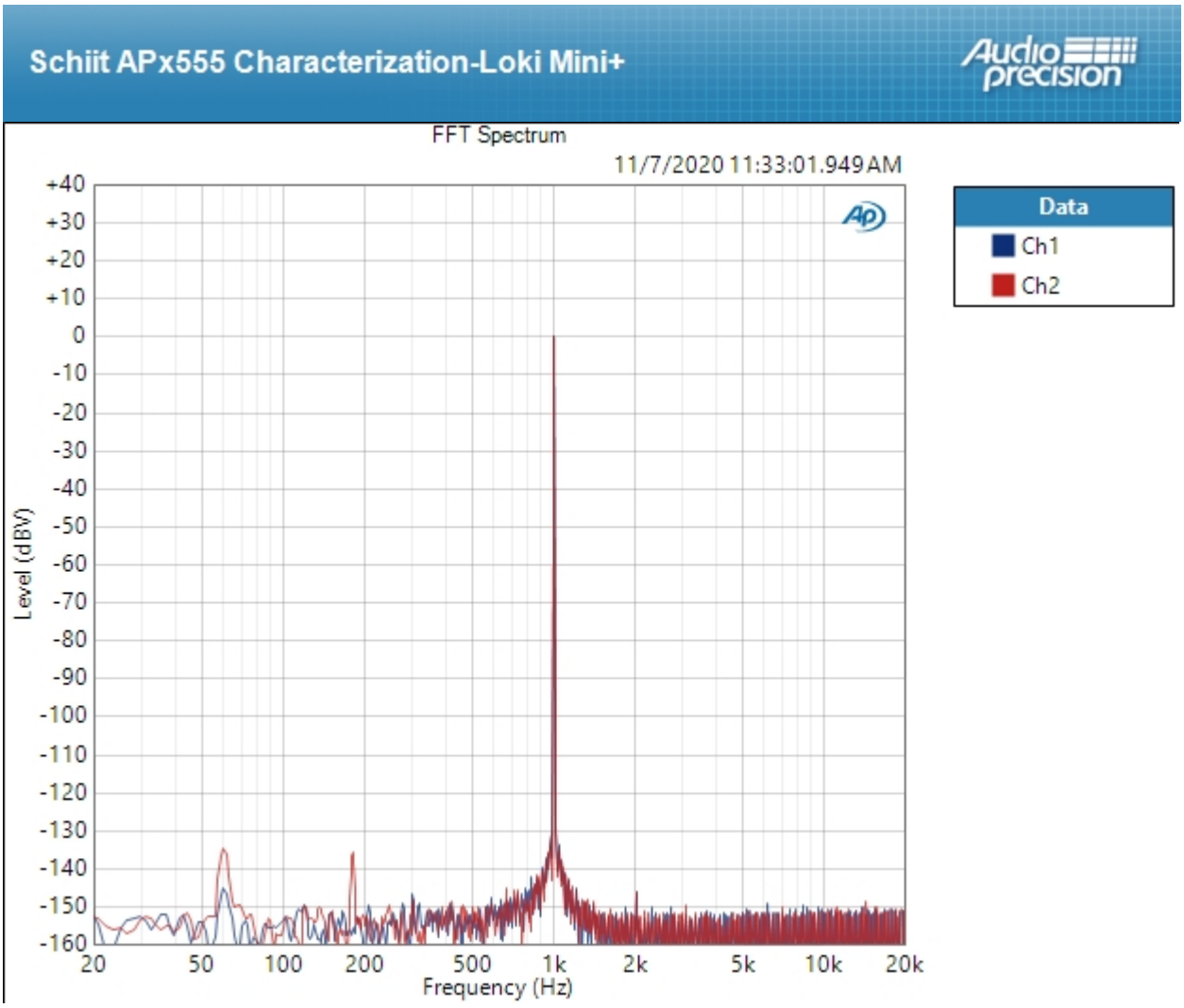
DC Level (11/7/2020 11:32:58.172 AM)

Ch1	-169.5 uV
Ch2	-2.057 uV

Bypass : Signal Analyzer

Waveform:	Sine
Generator Mode:	High Performance Sine Generator
Generator Level:	1.000 Vrms
Frequency:	1.00000 kHz
Secondary Source:	None
Measured 1	11/7/2020 11:33:01 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 (11/7/2020 11:33:01.949 AM)

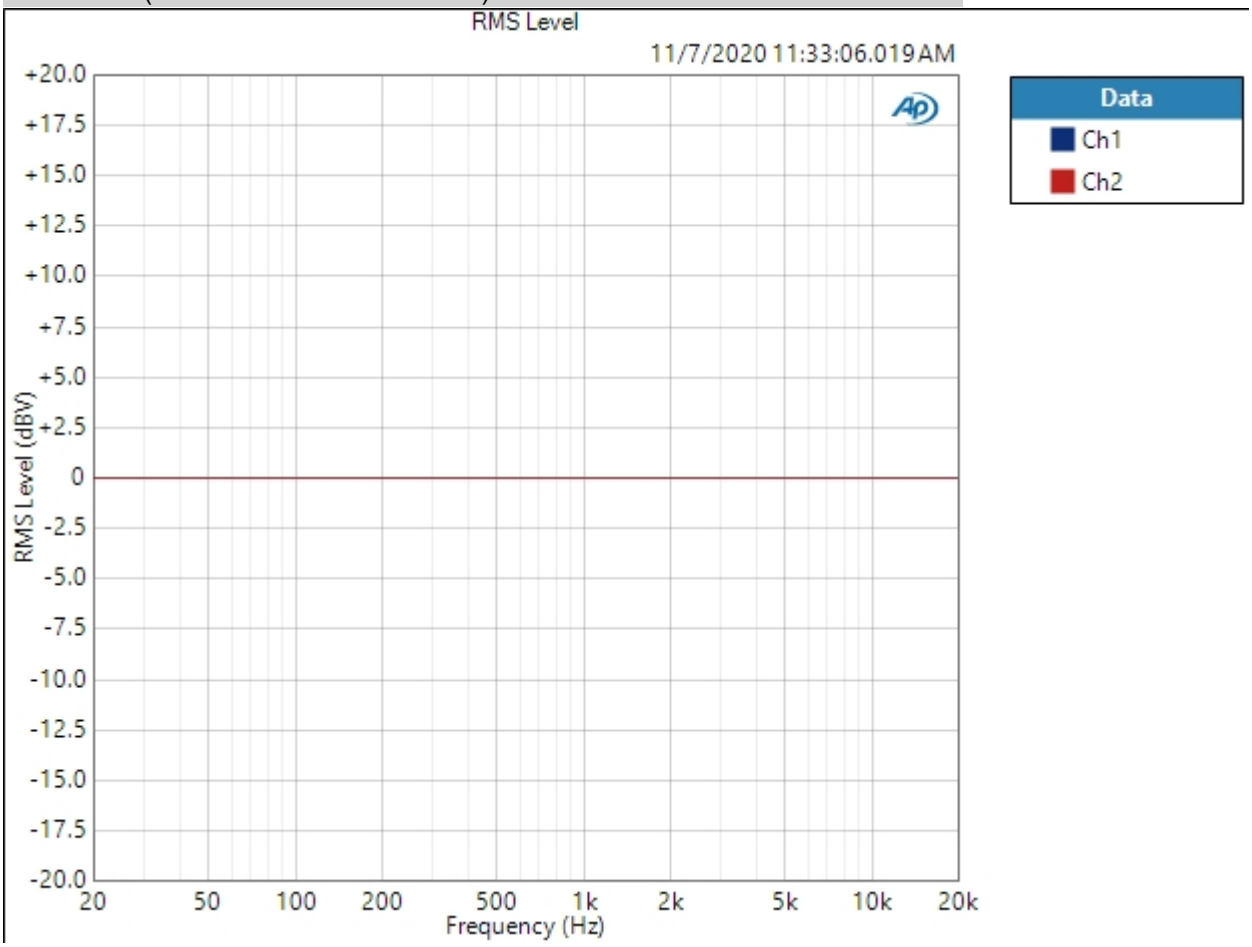


Result: PASSED

Bypass : Frequency Response

Start Frequency:	20.0000 Hz
Stop Frequency:	20.0000 kHz
Generator Level:	1.000 Vrms
DC Offset:	0.000 V
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 11:33:06 AM

RMS Level (11/7/2020 11:33:06.019 AM)



Result: PASSED

Bypass : Signal to Noise Ratio

Waveform:	Sine
Generator Mode:	High Performance Sine Generator
Generator Level:	1.000 Vrms
Frequency:	1.00000 kHz
Low-pass Filter:	20 kHz
Weighting Filter:	A-wt.
High-pass Filter:	20 Hz

Signal to Noise Ratio (11/7/2020 11:33:08.092 AM)

Ch1 123.491 dB
Ch2 123.451 dB

Bypass : THD+N

Waveform:	Sine
Generator Mode:	High Performance Sine Generator
Generator Level:	1.000 Vrms
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 11:33:10.513 AM)

Ch1 0.000114 %

Ch2 0.000114 %

THD Ratio (11/7/2020 11:33:10.513 AM)

Ch1 0.000018 %

Ch2 0.000019 %

Noise Ratio (11/7/2020 11:33:10.513 AM)

Ch1 0.000112 %

Ch2 0.000113 %

Distortion Product Ratio (11/7/2020 11:33:10.513 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	8.001k	9.001k	10.00k
Ch1	-0.00	-147.79	-144.51	-144.81	-146.20	-145.81	-147.79	-150.29	-151.18	-149.09
	1.000k	2.000k	3.000k	4.000k	5.000k	6.000k	7.000k	8.001k	9.001k	10.00k
Ch2	-0.00	-145.03	-150.49	-146.32	-145.76	-145.36	-151.09	-146.65	-145.49	-147.26

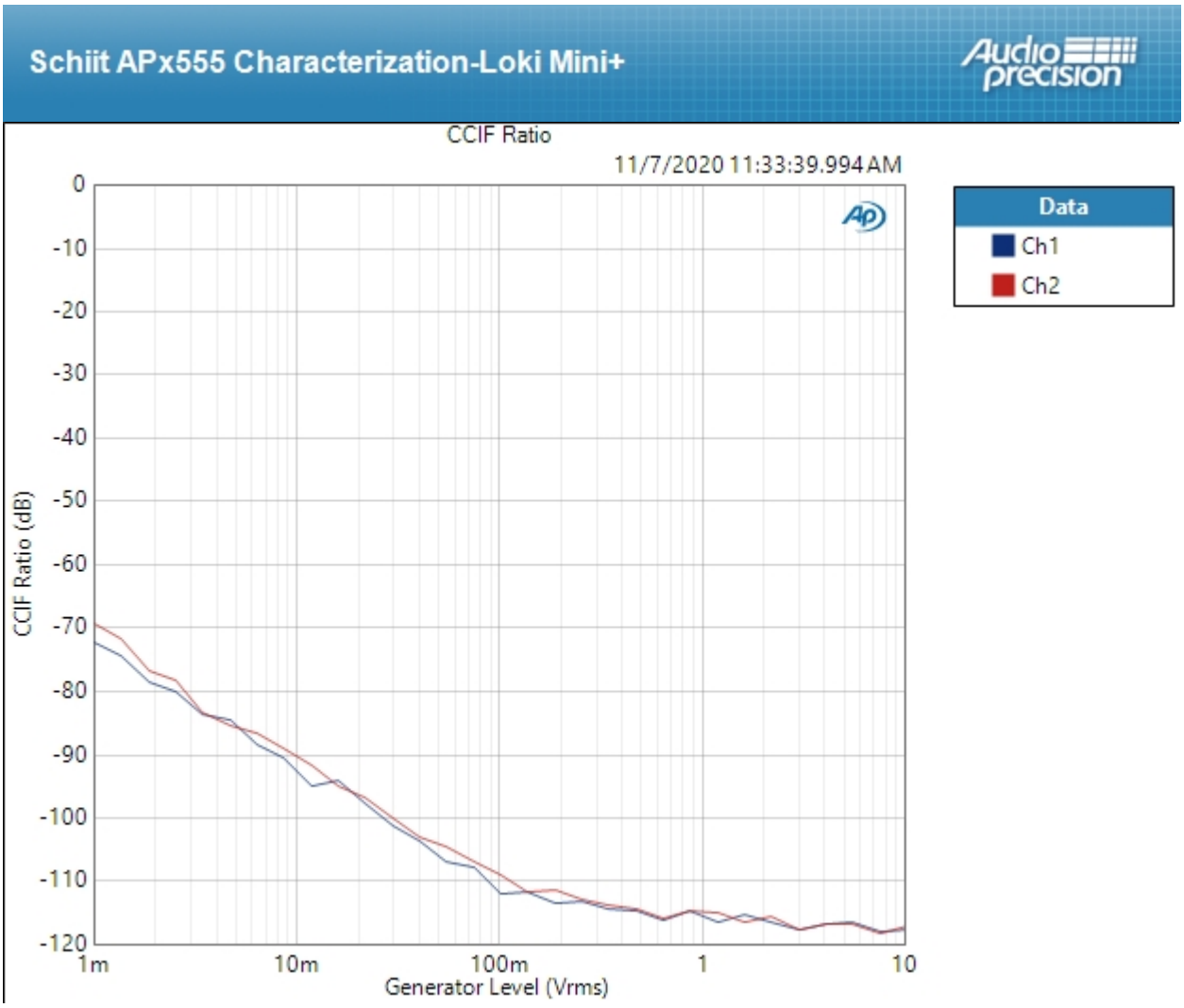
Distortion Product Ratio Parameters

Frequency Unit:	Hz
Ratio Unit:	dB

Bypass : IMD Level Sweep (CCIF)

IMD Type:	CCIF
Waveform:	IMD
Generator Level:	10.00 Vrms
DC Offset:	0.000 V
Mean Frequency:	12.5000 kHz
Diff Frequency:	80.0000 Hz
IMD Split:	False
Start Level:	1.000 mVrms
Stop Level:	10.00 Vrms
Step Type:	Logarithmic
Number of Points:	31
Mode:	d2+d3
Measured 1	11/7/2020 11:33:39 AM

CCIF Ratio (11/7/2020 11:33:39.994 AM)

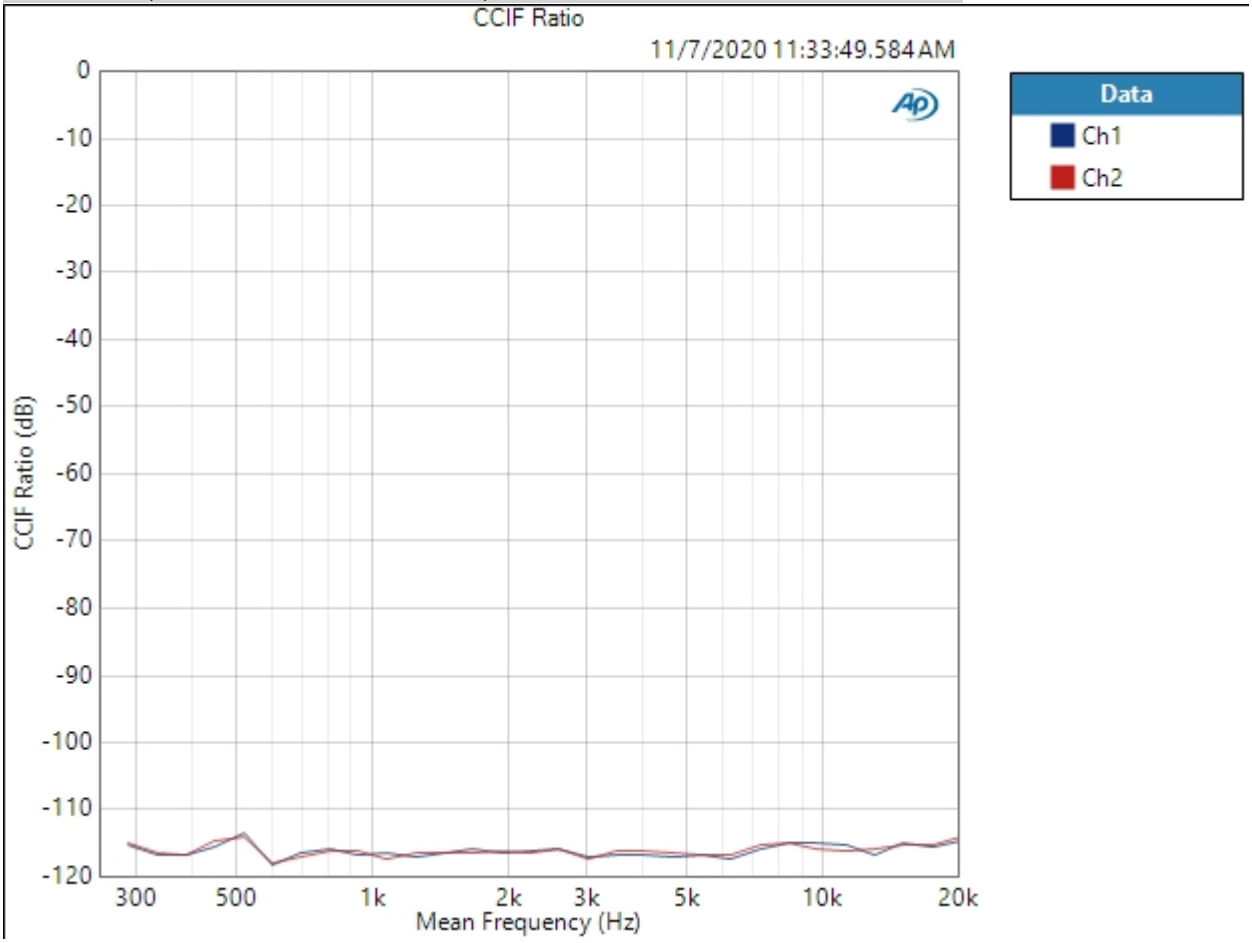


Result: PASSED

Bypass : IMD Frequency Sweep (CCIF)

Generator Level:	1.000 Vrms
DC Offset:	0.000 V
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 11:33:49 AM

CCIF Ratio (11/7/2020 11:33:49.584 AM)



Result: PASSED

Bypass : Crosstalk, One Channel Undriven

Waveform:	Sine
Generator Mode:	High Performance Sine Generator
Generator Level:	1.000 Vrms
Frequency:	10.0000 kHz

Crosstalk (11/7/2020 11:33:51.598 AM)

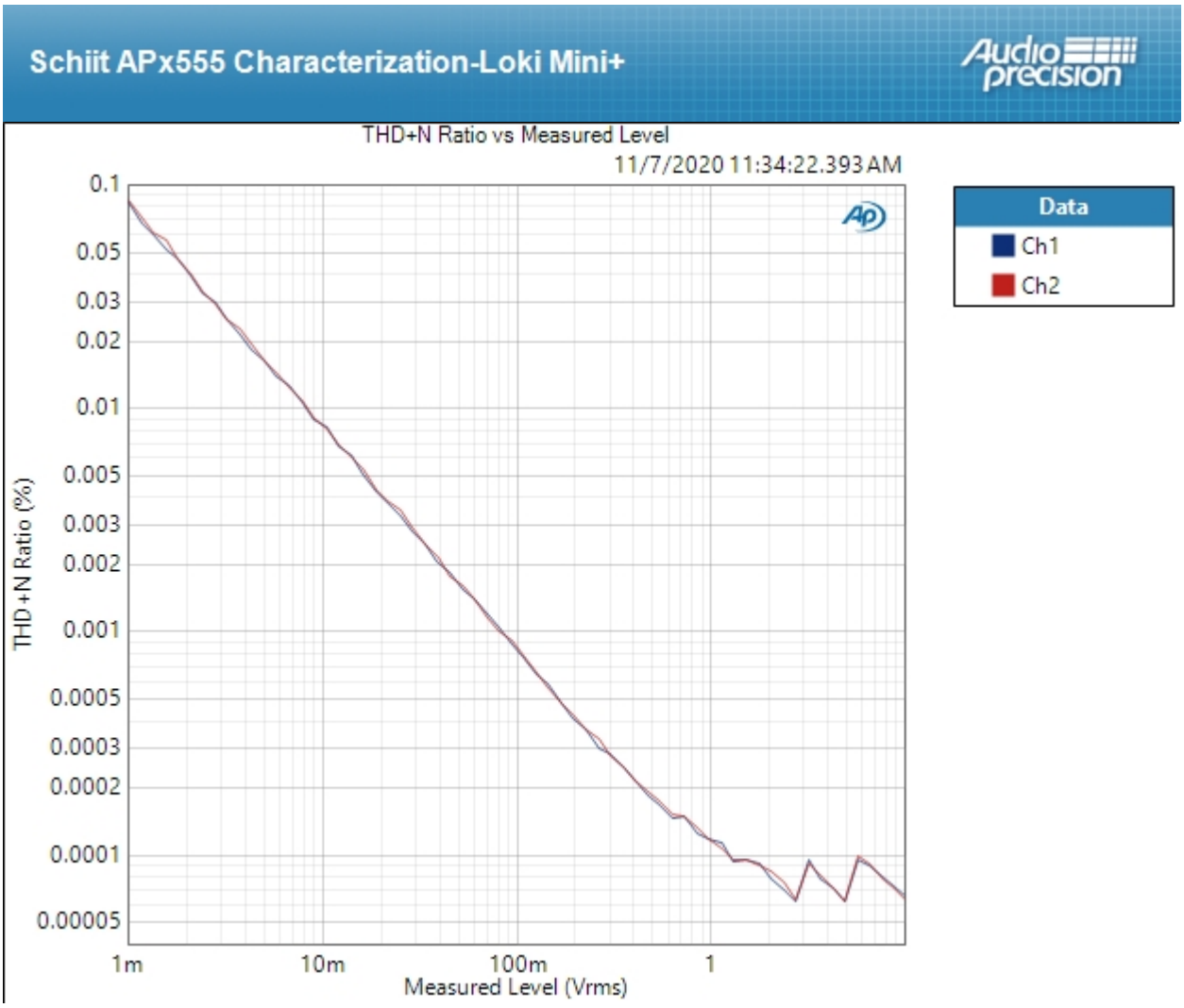
Ch1 109.813 dB

Ch2 109.549 dB

Bypass : Stepped Level Sweep

Waveform:	Sine
Generator Mode:	High Performance Sine Generator
Generator Level:	100.0 mVrms
Frequency:	1.00000 kHz
Start Level:	1.000 mVrms
Stop Level:	10.00 Vrms
Step Type:	Logarithmic
Number of Points:	64
Low-pass Filter:	20 kHz
Weighting Filter:	Signal Path
High-pass Filter:	20 Hz
Notch Tuning Mode:	Generator Frequency
Measured 1	11/7/2020 11:34:22 AM

THD+N Ratio vs Measured Level (11/7/2020 11:34:22.393 AM)



Result: PASSED

Process : Signal Path Setup

Output Connector:	Analog Unbalanced
Channels:	2
Generator Mode:	High Performance Sine Generator
Source Impedance:	20 ohm
AG52 Generator Option:	Installed
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:	100.0 mVrms
dBm (Output Power):	600.0 ohm
W(watts) (Output Power):	8.000 ohm
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

Process : Level and Gain

Waveform:	Sine
Generator Mode:	High Performance Sine Generator
Generator Level:	1.000 Vrms
Frequency:	1.00000 kHz

RMS Level (11/7/2020 11:37:14.313 AM)

Ch1	1.009 Vrms
Ch2	0.998 Vrms

Process : DC Level

Waveform:	Sine
Generator Level:	0.000 Vrms
DC Offset:	0.000 V
Frequency:	1.00000 kHz
Delay Time:	100.0 ms
Acquisition Time:	333.0 ms

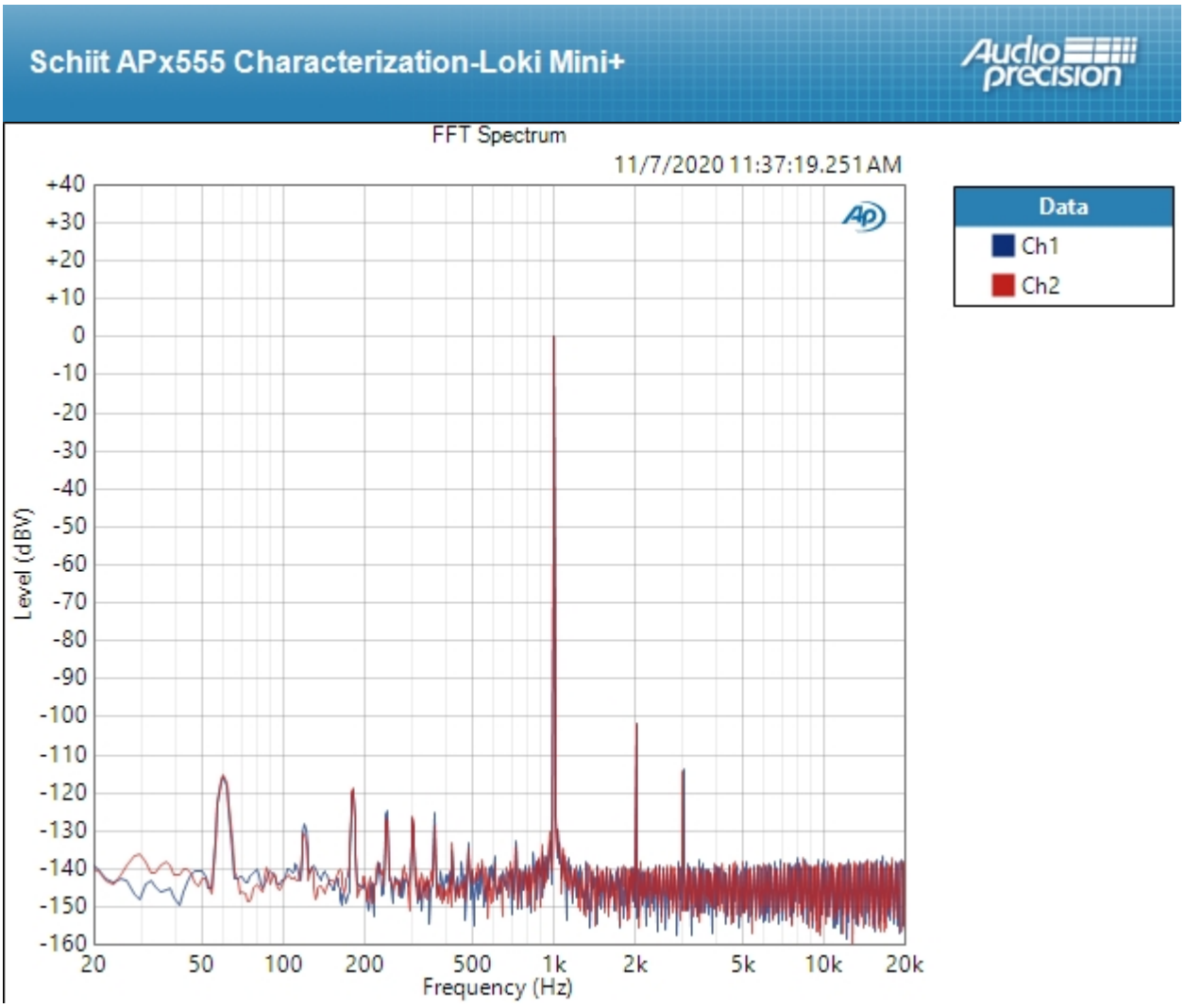
DC Level (11/7/2020 11:37:15.511 AM)

Ch1	-146.1 uV
Ch2	-464.6 uV

Process : Signal Analyzer

Waveform:	Sine
Generator Mode:	High Performance Sine Generator
Generator Level:	1.000 Vrms
Frequency:	1.00000 kHz
Secondary Source:	None
Measured 1	11/7/2020 11:37:19 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 (11/7/2020 11:37:19.251 AM)

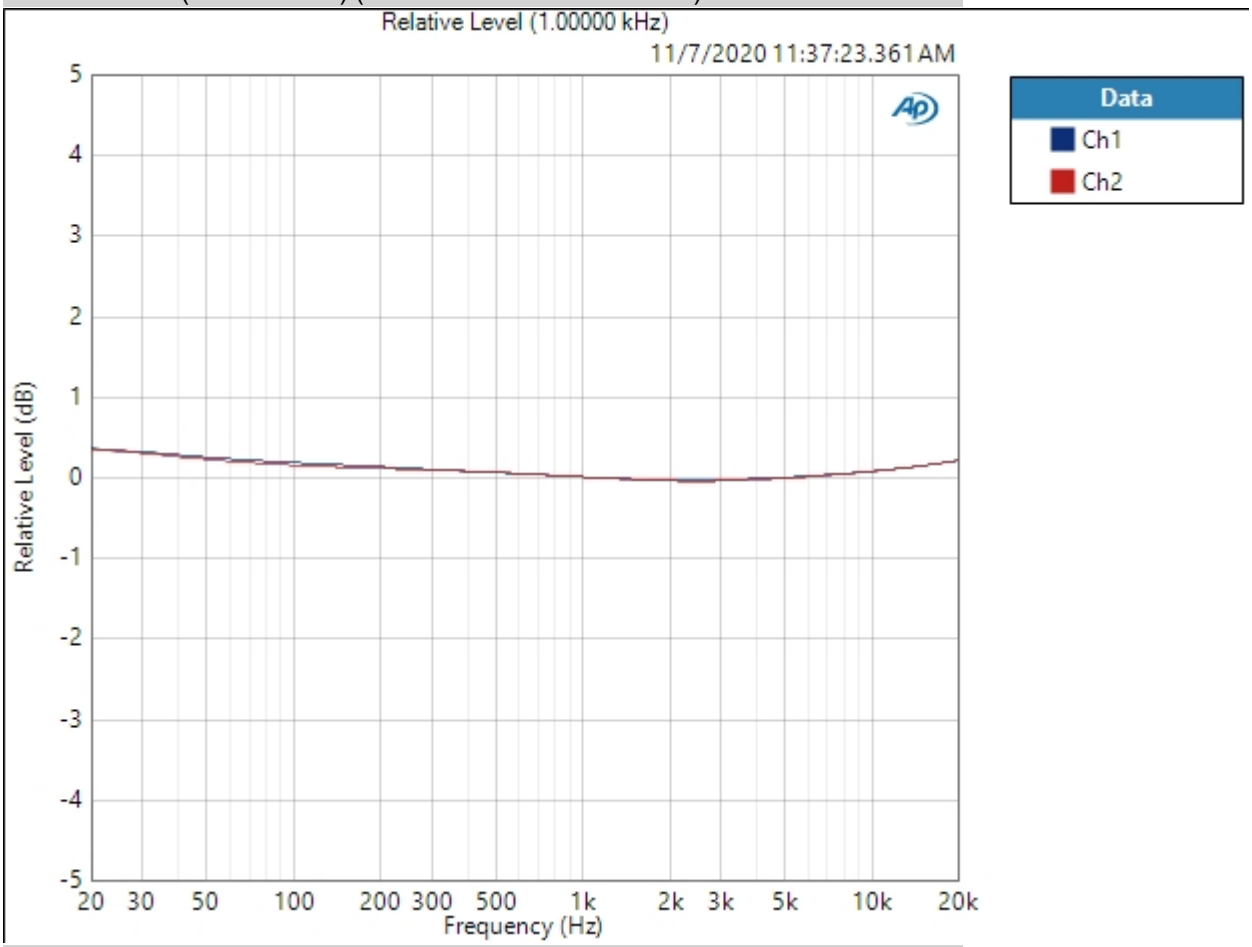


Result: PASSED

Process : Frequency Response--Flat

Start Frequency:	20.0000 Hz
Stop Frequency:	20.0000 kHz
Generator Level:	1.000 Vrms
DC Offset:	0.000 V
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 11:37:23 AM

Relative Level (1.00000 kHz) (11/7/2020 11:37:23.361 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) (11/7/2020 11:37:23.361 AM)

Ch1 ±0.195 dB

Ch2 ±0.197 dB

Deviation (20.0000 Hz - 20.0000 kHz) Parameters

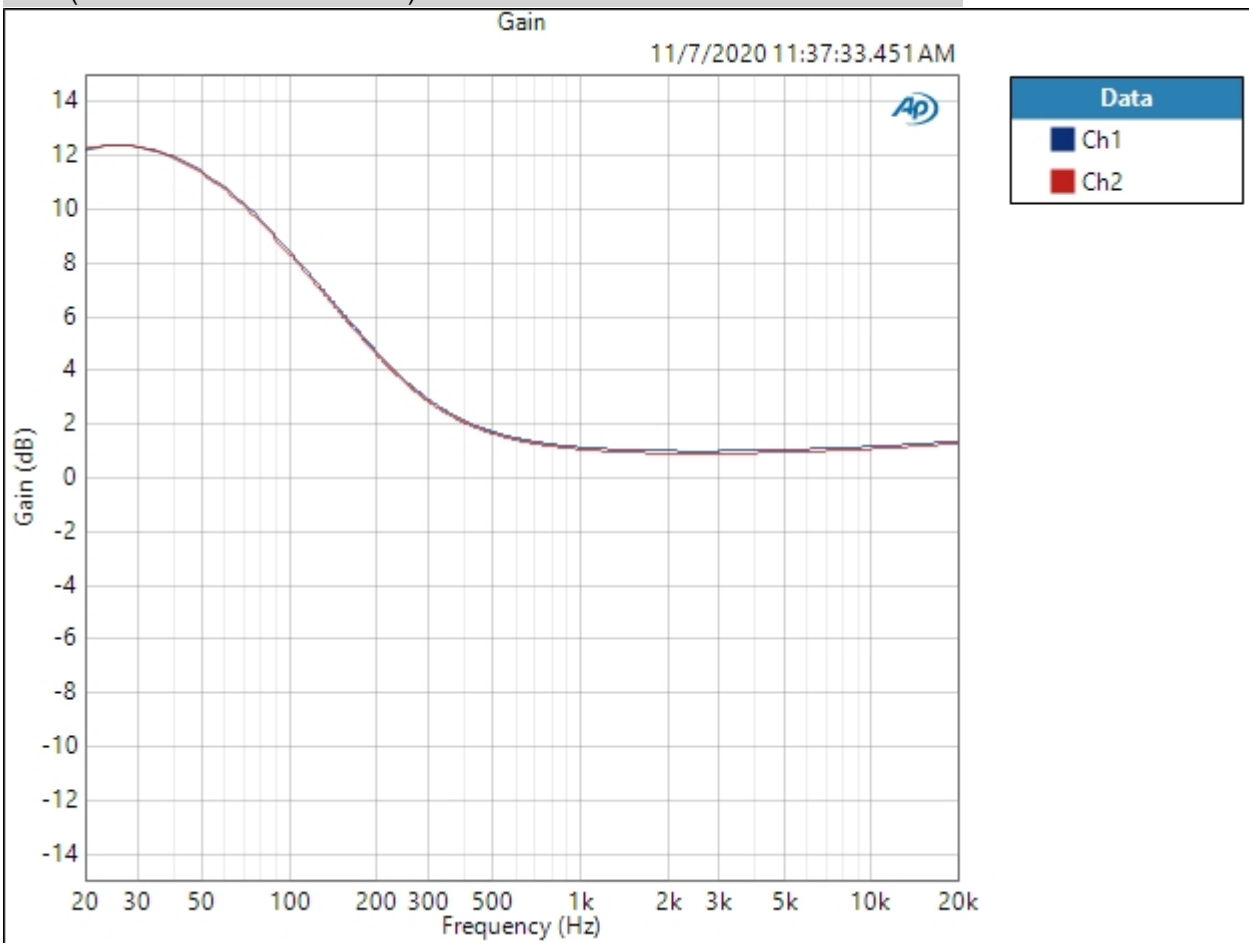
Min: 20.0000 Hz

Max: 20.0000 kHz

Process : Frequency Response--20Hz

Start Frequency:	20.0000 Hz
Stop Frequency:	20.0000 kHz
Generator Level:	1.000 Vrms
DC Offset:	0.000 V
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 11:37:33 AM

Gain (11/7/2020 11:37:33.451 AM)

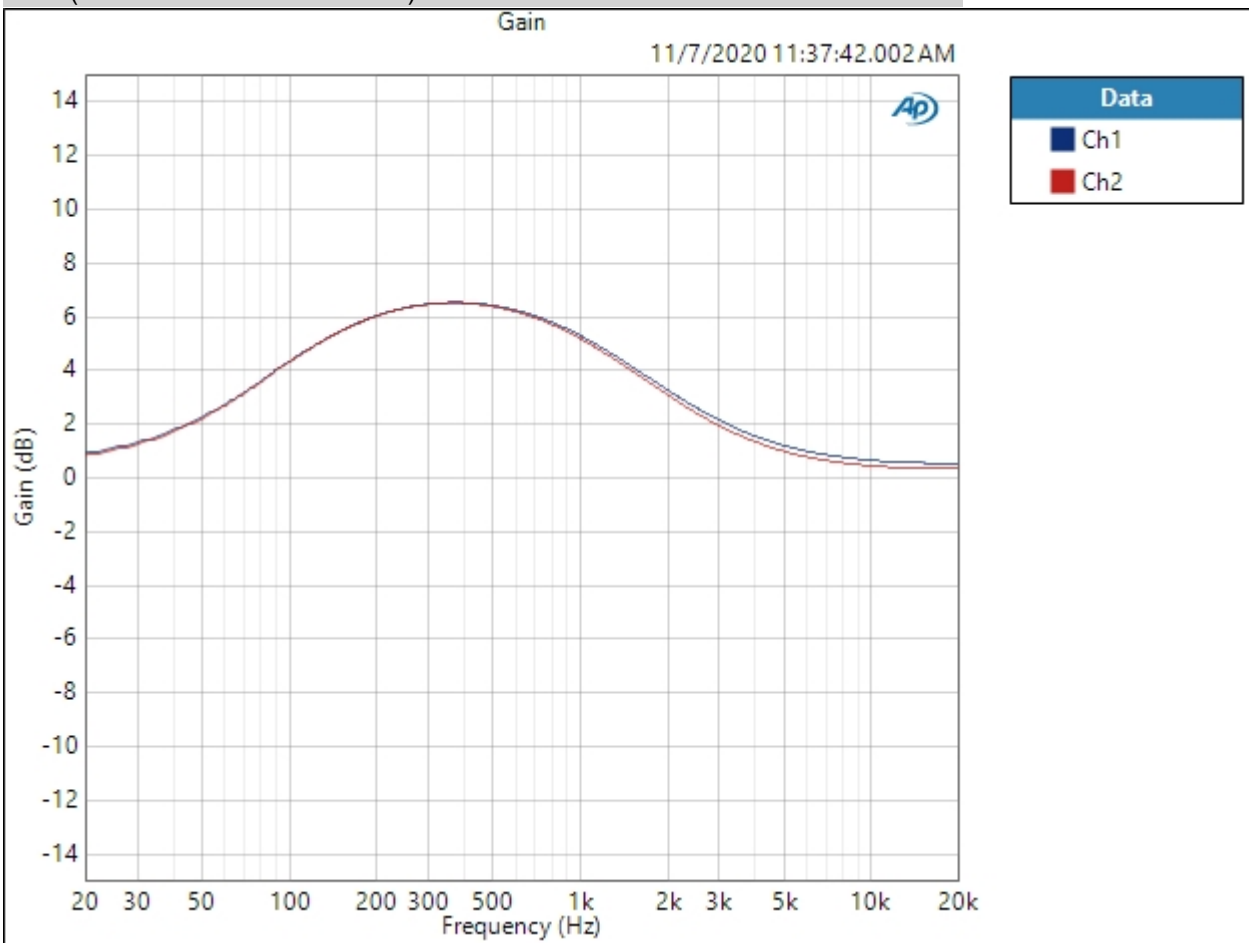


Result: PASSED

Process : Frequency Response--400Hz

Start Frequency:	20.0000 Hz
Stop Frequency:	20.0000 kHz
Generator Level:	1.000 Vrms
DC Offset:	0.000 V
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 11:37:42 AM

Gain (11/7/2020 11:37:42.002 AM)

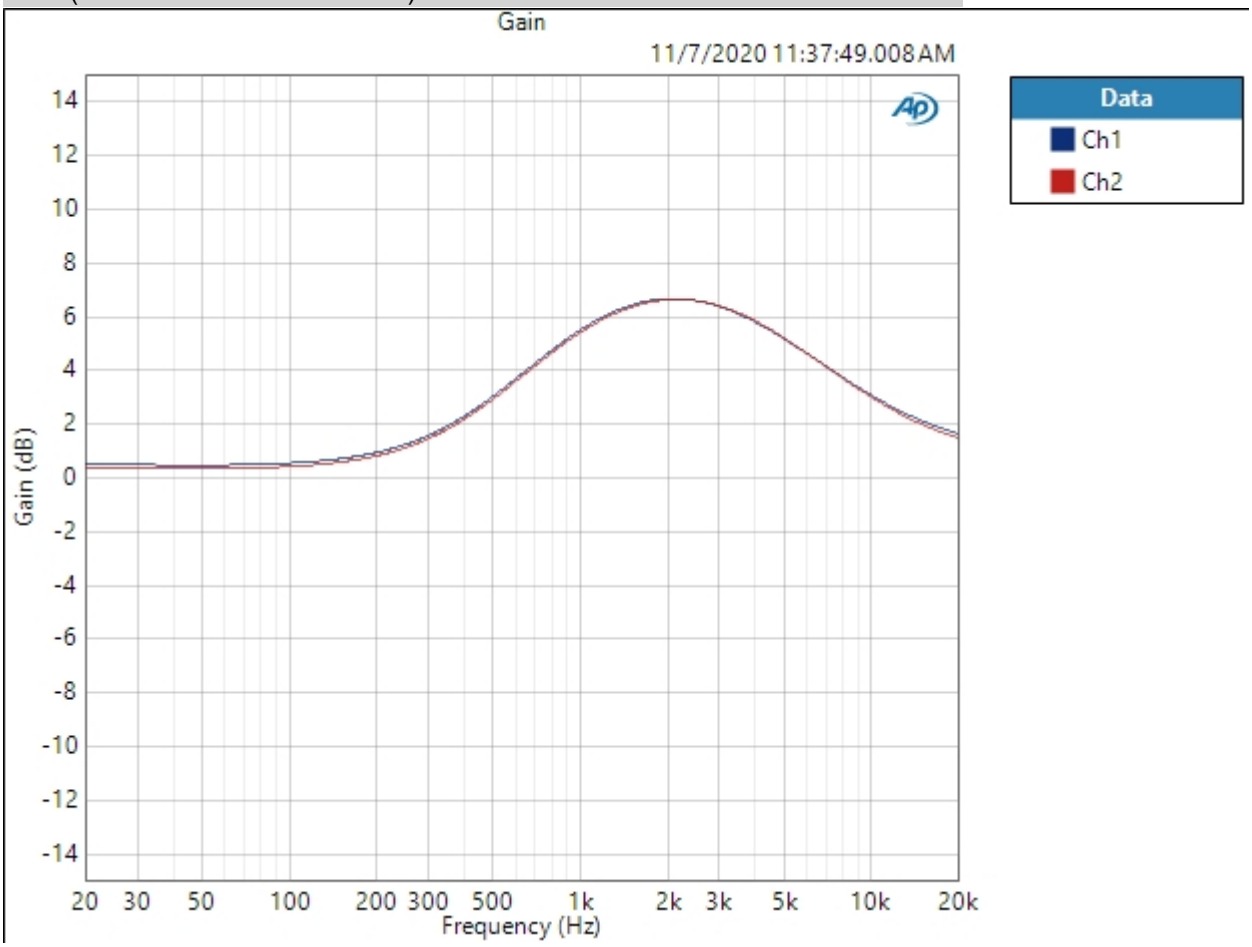


Result: PASSED

Process : Frequency Response--2kHz

Start Frequency:	20.0000 Hz
Stop Frequency:	20.0000 kHz
Generator Level:	1.000 Vrms
DC Offset:	0.000 V
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 11:37:49 AM

Gain (11/7/2020 11:37:49.008 AM)

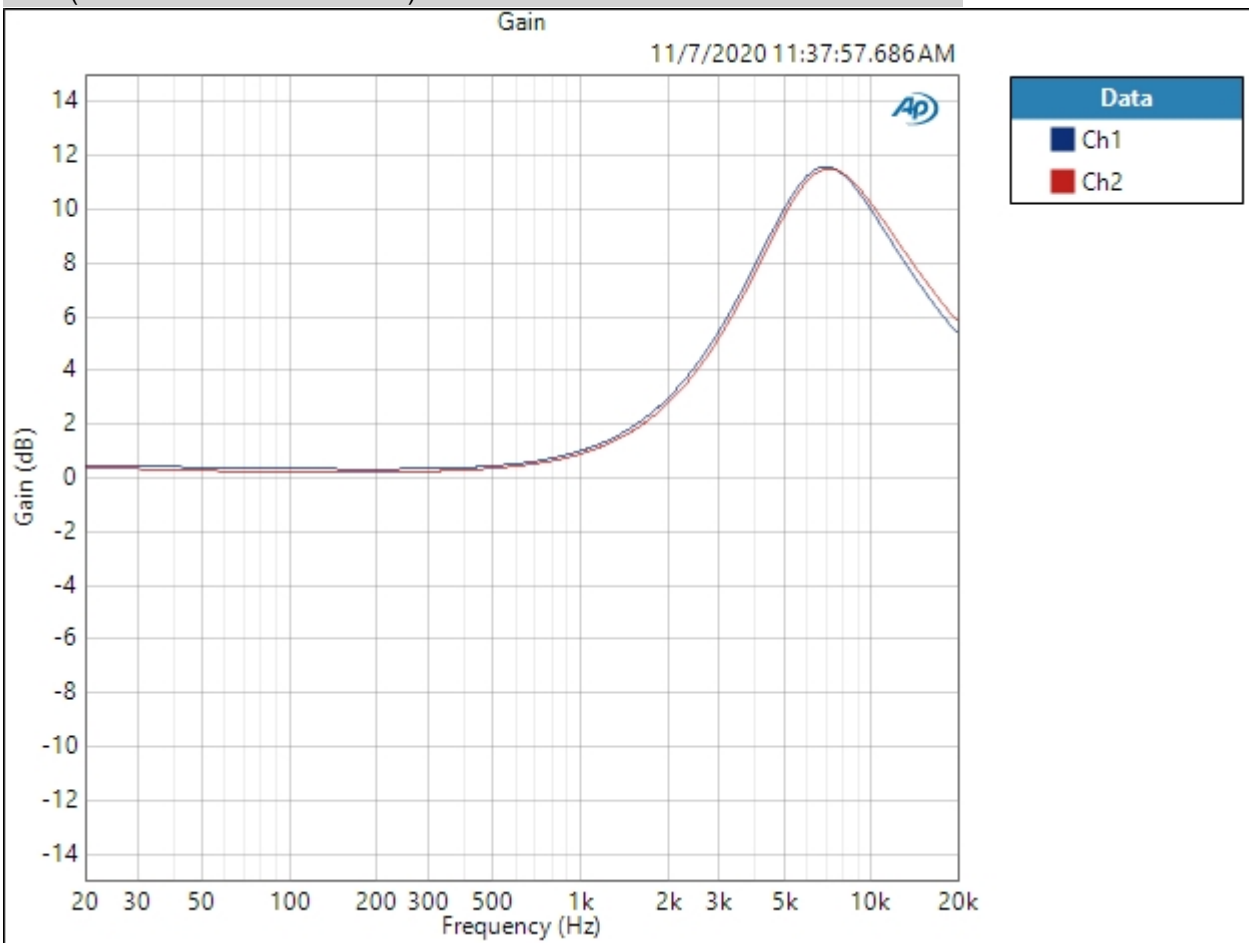


Result: PASSED

Process : Frequency Response--8kHz

Start Frequency:	20.0000 Hz
Stop Frequency:	20.0000 kHz
Generator Level:	1.000 Vrms
DC Offset:	0.000 V
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 11:37:57 AM

Gain (11/7/2020 11:37:57.686 AM)



Result: PASSED

Process : Signal to Noise Ratio

Waveform:	Sine
Generator Mode:	High Performance Sine Generator
Generator Level:	1.000 Vrms
Frequency:	1.00000 kHz
Low-pass Filter:	20 kHz
Weighting Filter:	A-wt.
High-pass Filter:	20 Hz

Signal to Noise Ratio (11/7/2020 11:39:45.132 AM)

Ch1 108.670 dB

Ch2 108.470 dB

Process : THD+N

Waveform:	Sine
Generator Mode:	High Performance Sine Generator
Generator Level:	1.000 Vrms
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 11:39:54.993 AM)

Ch1 0.000988 %

Ch2 0.000999 %

THD Ratio (11/7/2020 11:39:54.993 AM)

Ch1 0.000832 %

Ch2 0.000855 %

Noise Ratio (11/7/2020 11:39:54.993 AM)

Ch1 0.000520 %

Ch2 0.000527 %

Distortion Product Ratio (11/7/2020 11:39:54.993 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	8.001k	9.001k	10.00k
Ch1	-0.00	-101.94	-113.25	-139.34	-140.58	-138.73	-132.00	-138.30	-137.87	-135.08
	1.000k	2.000k	3.000k	4.000k	5.000k	6.000k	7.000k	8.001k	9.001k	10.00k
Ch2	-0.00	-101.65	-113.89	-136.27	-140.08	-137.60	-139.19	-137.82	-141.43	-137.21

Distortion Product Ratio Parameters

Frequency Unit:	Hz
Ratio Unit:	dB

Process : IMD Level Sweep (CCIF)

IMD Type:	CCIF
Waveform:	IMD
Generator Level:	10.00 Vrms
DC Offset:	0.000 V
Mean Frequency:	12.5000 kHz
Diff Frequency:	80.0000 Hz
IMD Split:	False
Start Level:	1.000 mVrms
Stop Level:	10.00 Vrms
Step Type:	Logarithmic
Number of Points:	31
Mode:	d2+d3
Measured 1	11/7/2020 11:38:32 AM

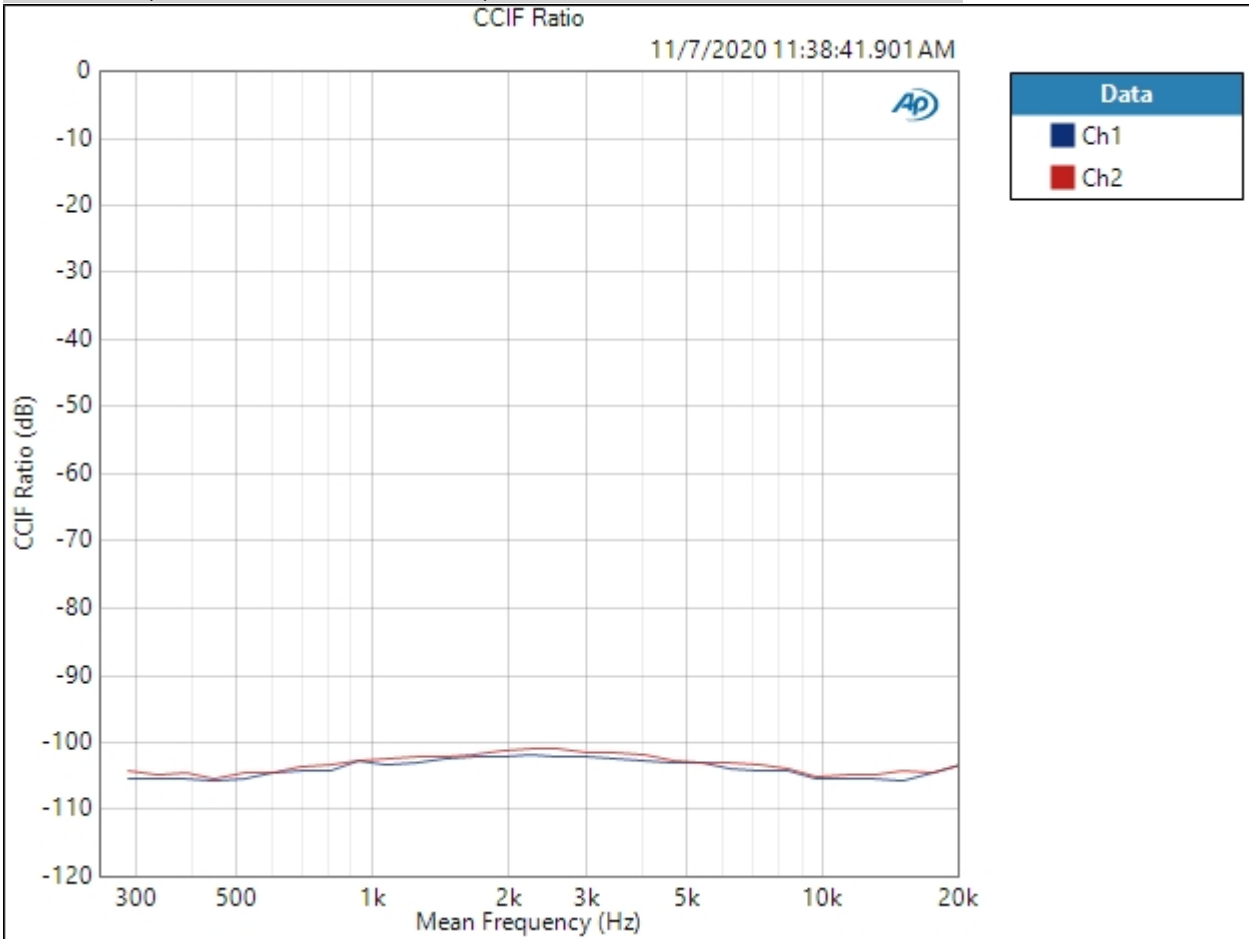
CCIF Ratio (11/7/2020 11:38:32.313 AM)

Result: PASSED

Process : IMD Frequency Sweep (CCIF)

Generator Level:	1.000 Vrms
DC Offset:	0.000 V
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 11:38:41 AM

CCIF Ratio (11/7/2020 11:38:41.901 AM)



Result: PASSED

Process : Crosstalk, One Channel Undriven

Waveform:	Sine
Generator Mode:	High Performance Sine Generator
Generator Level:	1.000 Vrms
Frequency:	10.0000 kHz

Crosstalk (11/7/2020 11:38:43.244 AM)

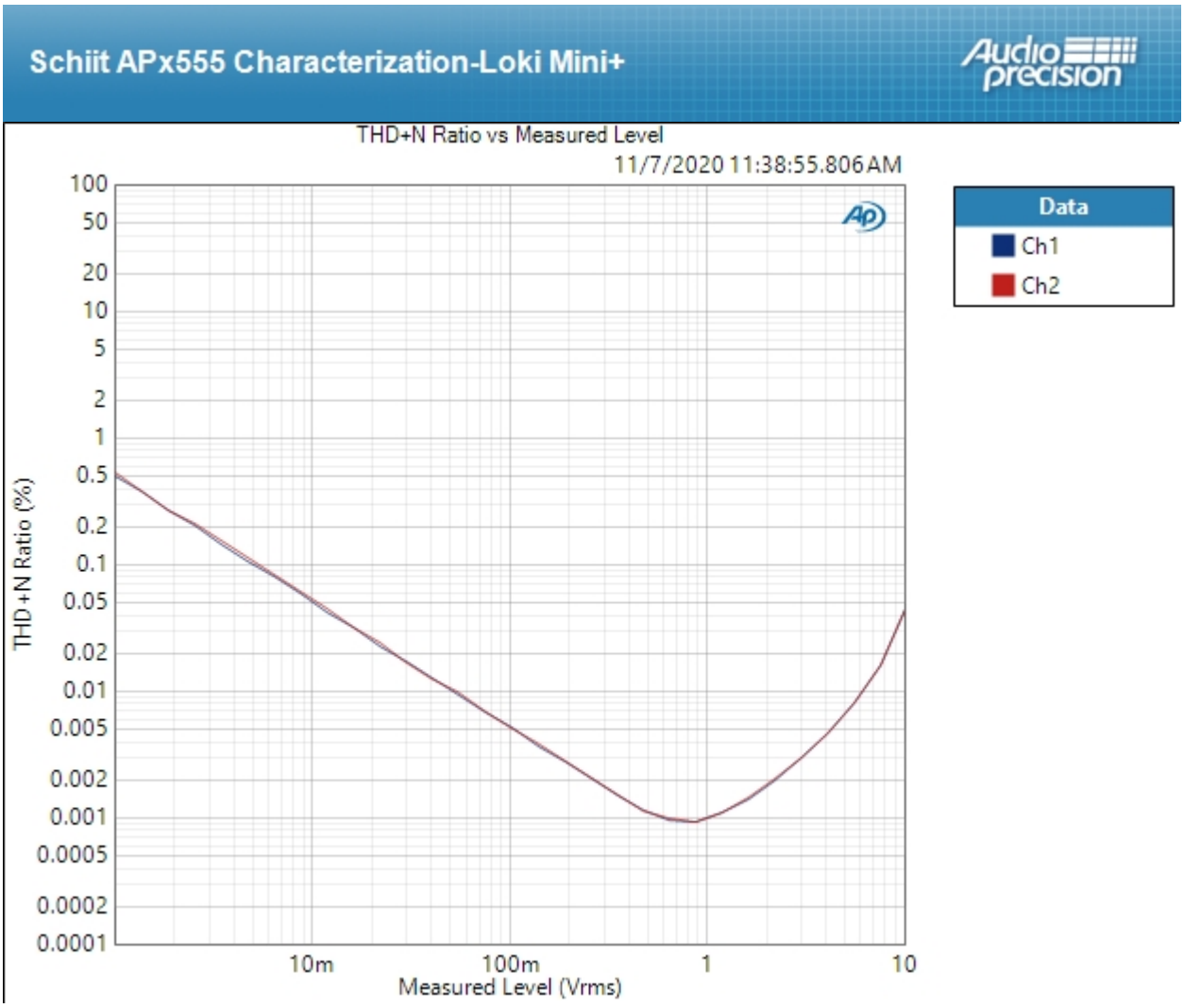
Ch1 84.265 dB

Ch2 87.654 dB

Process : Stepped Level Sweep

Waveform:	Sine
Generator Mode:	High Performance Sine Generator
Generator Level:	100.0 mVrms
Frequency:	1.00000 kHz
Start Level:	1.000 mVrms
Stop Level:	10.00 Vrms
Step Type:	Logarithmic
Number of Points:	31
Low-pass Filter:	20 kHz
Weighting Filter:	Signal Path
High-pass Filter:	20 Hz
Notch Tuning Mode:	Generator Frequency
Measured 1	11/7/2020 11:38:55 AM

THD+N Ratio vs Measured Level (11/7/2020 11:38:55.806 AM)



Result: PASSED