Schiit Amp APx555 Standard Test Suite: Asgard 3

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

300 Ohm Low SE	
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
300 Ohm High SE	
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
32 Ohm Low SE	
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
32 Ohm High SE	

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

Preamp SE

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

Sequence Result:

Sequence Result: PASSED

APx Instrument

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

300 Ohm Low SE : 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

300 Ohm Low SE : Level and Gain

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

RMS Level (8/6/2019 11:17:25.957 AM)

Ch1 1.035 Vrms
Ch2 1.036 Vrms

300 Ohm Low SE : 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

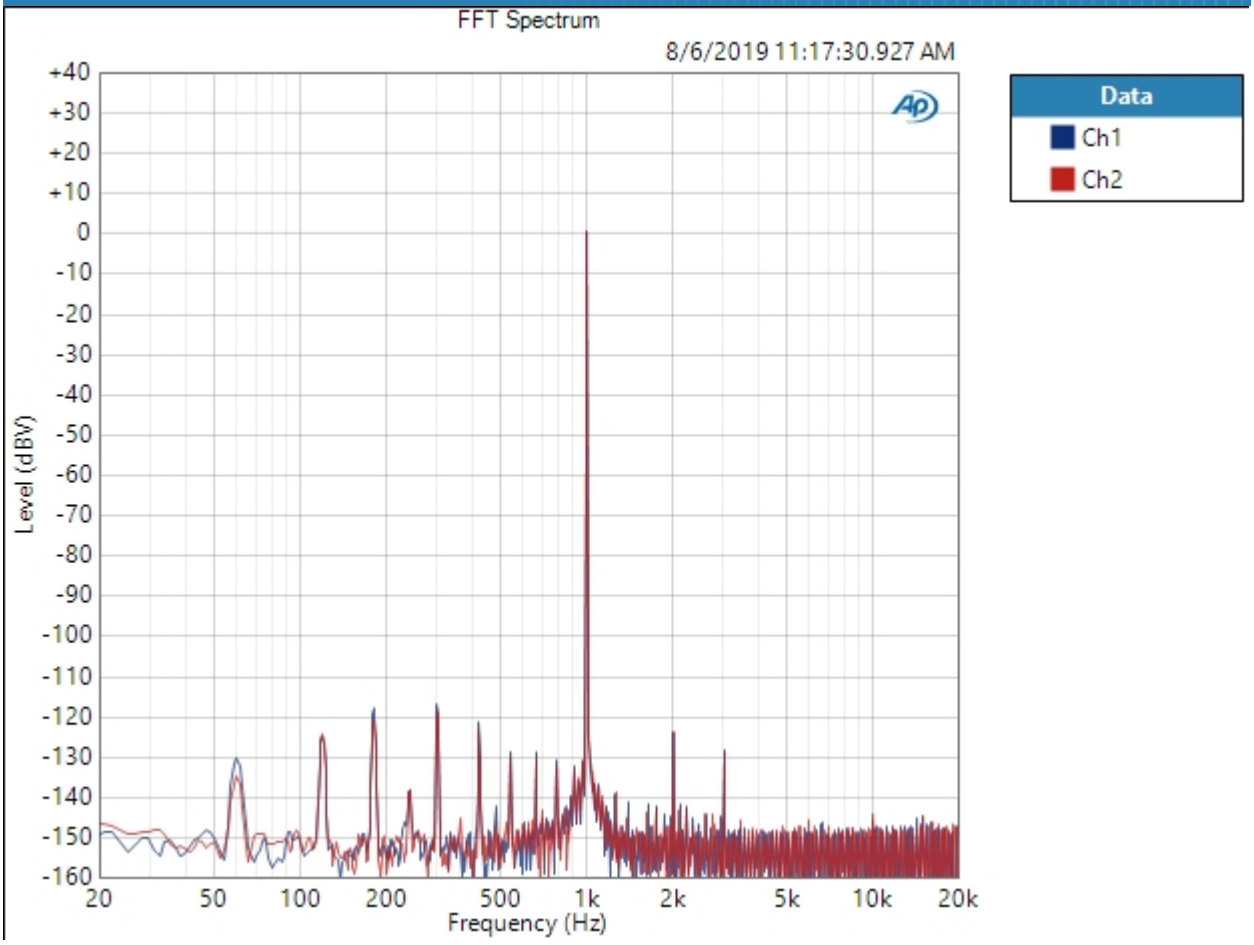
DC Level (8/6/2019 11:17:27.167 AM)

Ch1 2.047 mV
Ch2 2.451 mV

300 Ohm Low SE : Signal Analyzer

Waveform:	Sine
Generator Mode:	High Performance Sine Generator
Generator Level:	1.000 Vrms
Frequency:	1.00000 kHz
Secondary Source:	None
Measured 1	8/6/2019 11:17:30 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 (8/6/2019 11:17:30.927 AM)

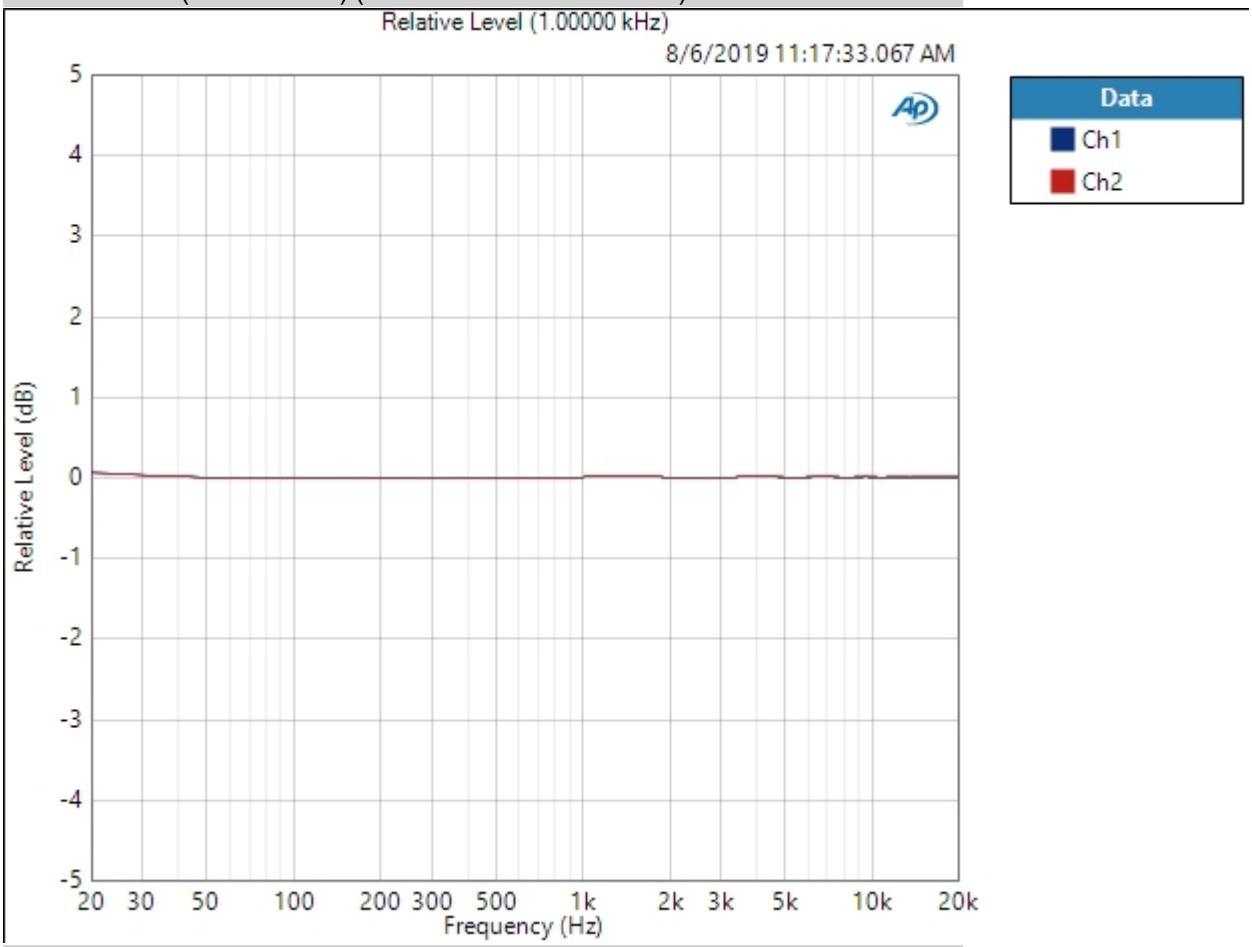


Result: PASSED

300 Ohm Low SE : 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:	50.00 ms
Secondary Source:	None
Measured 1	8/6/2019 11:17:33 AM

Relative Level (1.00000 kHz) (8/6/2019 11:17:33.067 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) (8/6/2019 11:17:33.067 AM)

Ch1 ±0.037 dB

Ch2 ±0.037 dB

Deviation (20.0000 Hz - 20.0000 kHz) Parameters

Min: 20.0000 Hz

Max: 20.0000 kHz

300 Ohm Low SE : 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 (8/6/2019 11:17:35.097 AM)

Ch1 116.155 dB

Ch2 116.880 dB

300 Ohm Low SE : 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 (8/6/2019 11:17:37.457 AM)

Ch1	0.000281 %
Ch2	0.000249 %

THD Ratio (8/6/2019 11:17:37.457 AM)

Ch1	0.000076 %
Ch2	0.000082 %

Noise Ratio (8/6/2019 11:17:37.457 AM)

Ch1	0.000272 %
Ch2	0.000229 %

Distortion Product Ratio (8/6/2019 11:17:37.457 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	9.001k	10.00k
Ch1	-0.00	-124.57	-127.74	-142.20	-146.84	-143.48	-144.63	-148.28	-144.49	-145.43
	1.000k	2.000k	3.000k	4.000k	5.000k	6.000k	7.000k	8.000k	9.001k	10.00k
Ch2	-0.00	-123.30	-128.56	-145.77	-139.92	-145.95	-140.65	-145.42	-145.18	-145.88

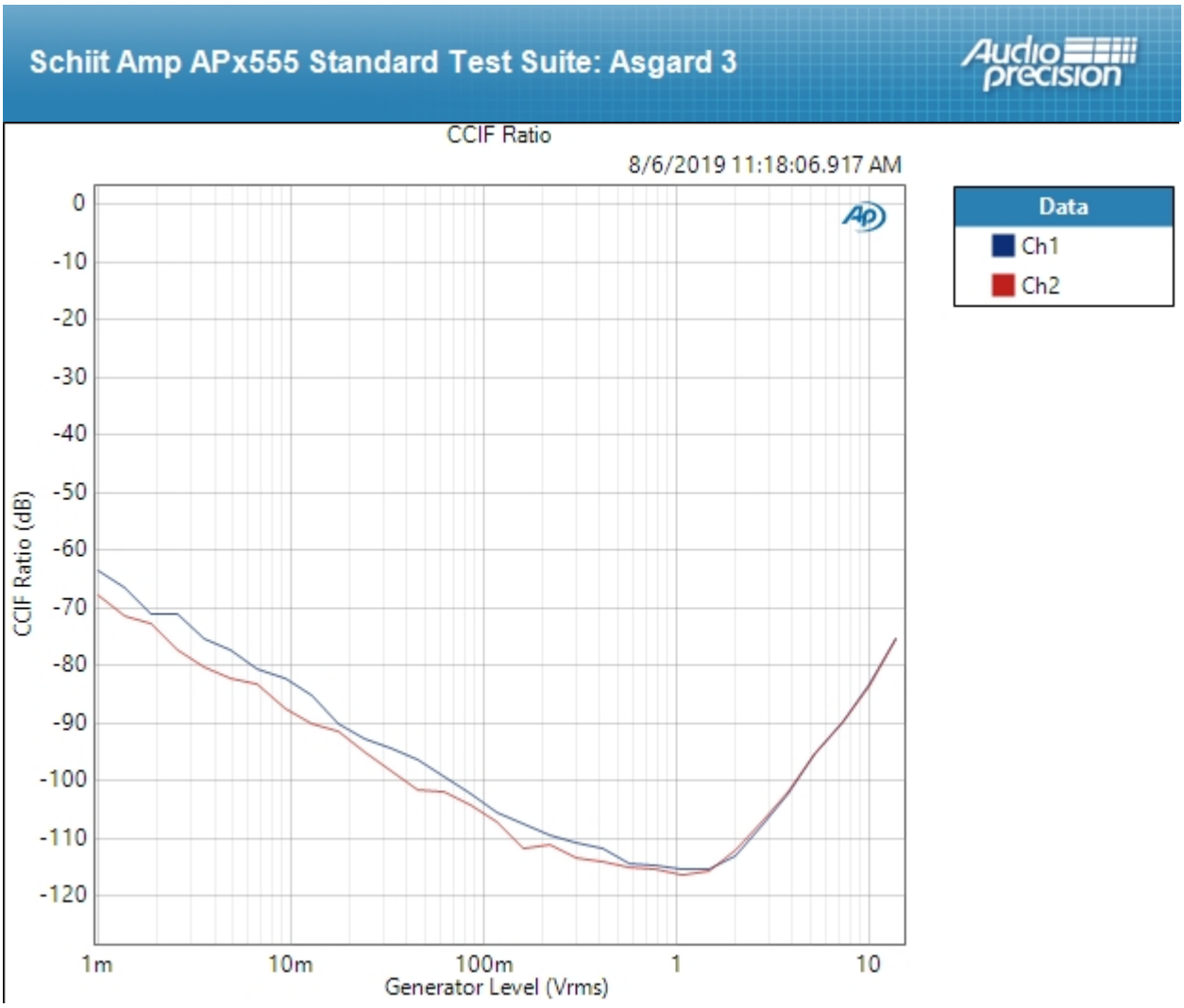
Distortion Product Ratio Parameters

Frequency Unit:	Hz
Ratio Unit:	dB

300 Ohm Low SE : IMD Level Sweep (CCIF)

IMD Type:	CCIF
Waveform:	IMD
Generator Level:	13.33 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:	13.33 Vrms
Step Type:	Logarithmic
Number of Points:	31
Mode:	d2+d3
Measured 1	8/6/2019 11:18:06 AM

CCIF Ratio (8/6/2019 11:18:06.917 AM)

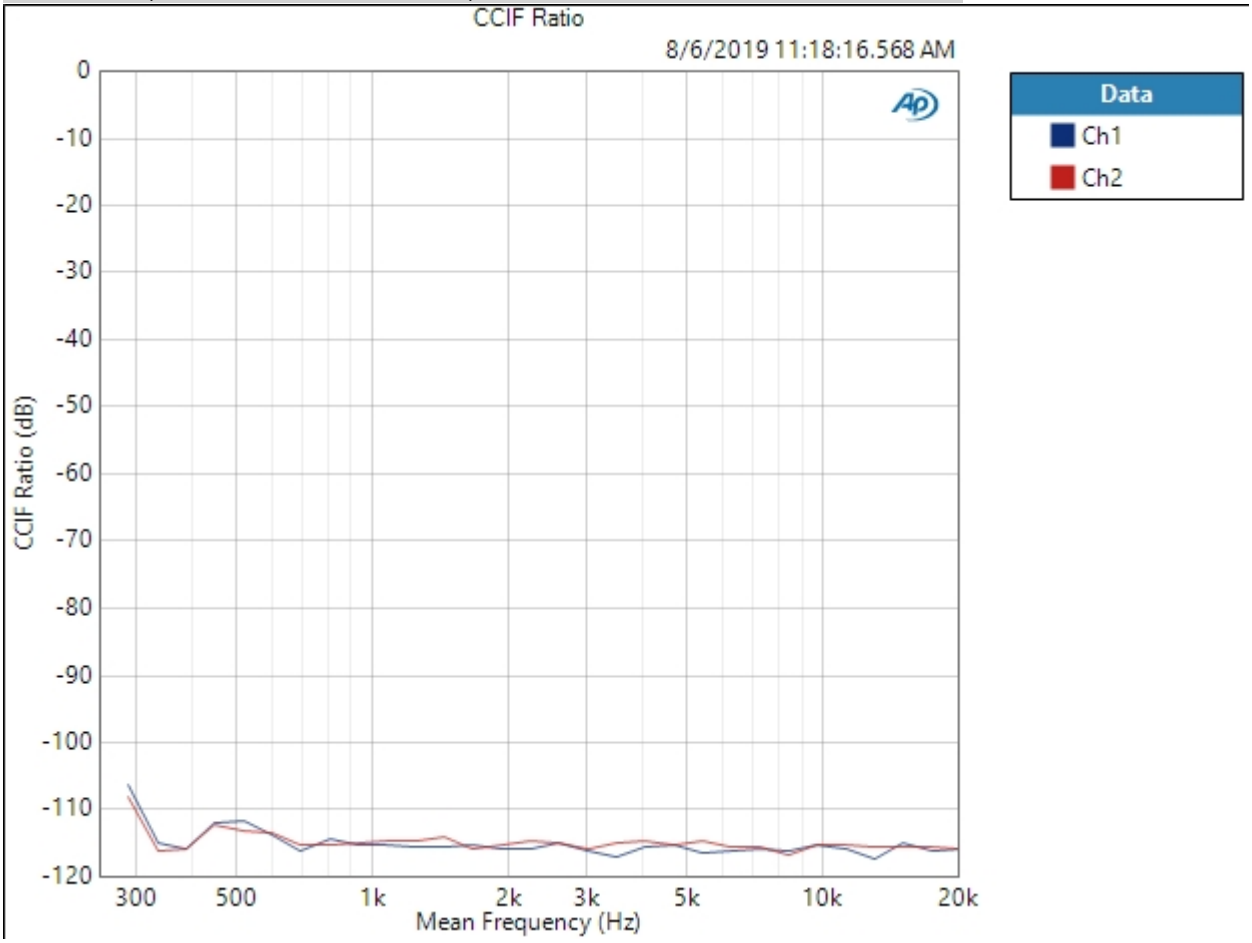


Result: PASSED

300 Ohm Low SE : 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	8/6/2019 11:18:16 AM

CCIF Ratio (8/6/2019 11:18:16.568 AM)



Result: PASSED

300 Ohm Low SE : Crosstalk, One Channel Undriven

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

Crosstalk (8/6/2019 11:18:17.918 AM)

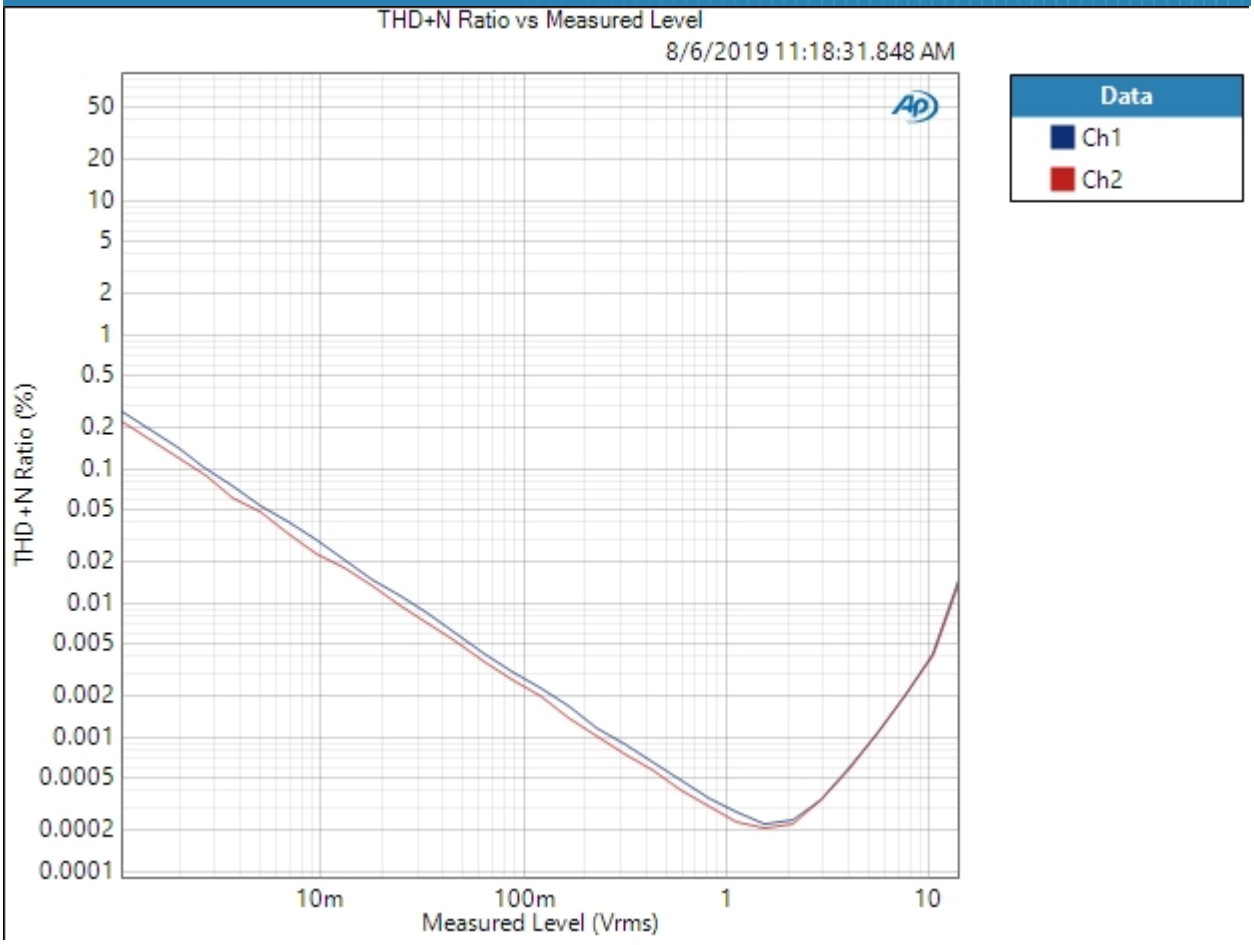
Ch1 -65.667 dB

Ch2 -65.689 dB

300 Ohm Low SE : 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:	13.33 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	8/6/2019 11:18:31 AM

THD+N Ratio vs Measured Level (8/6/2019 11:18:31.848 AM)



Result: PASSED

300 Ohm High SE : 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

300 Ohm High SE : Level and Gain

Waveform:	Sine
Generator Mode:	High Performance Sine Generator
Generator Level:	150.0 mVrms
Frequency:	1.00000 kHz

RMS Level (8/6/2019 11:19:17.824 AM)

Ch1 1.048 Vrms
Ch2 1.049 Vrms

300 Ohm High SE : 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

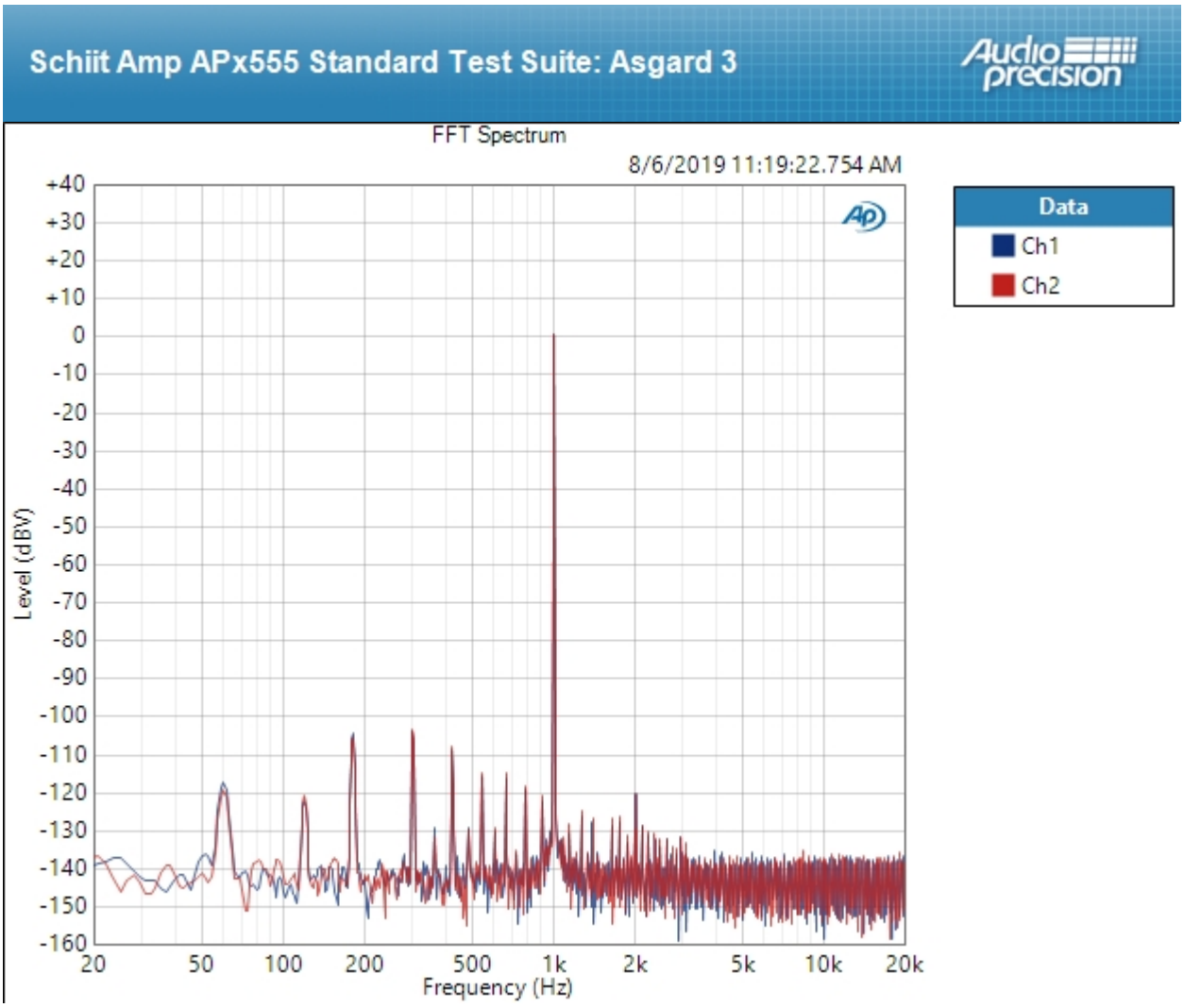
DC Level (8/6/2019 11:19:18.984 AM)

Ch1 -1.279 mV
Ch2 -2.338 mV

300 Ohm High SE : Signal Analyzer

Waveform:	Sine
Generator Mode:	High Performance Sine Generator
Generator Level:	150.0 mVrms
Frequency:	1.00000 kHz
Secondary Source:	None
Measured 1	8/6/2019 11:19:22 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 (8/6/2019 11:19:22.754 AM)

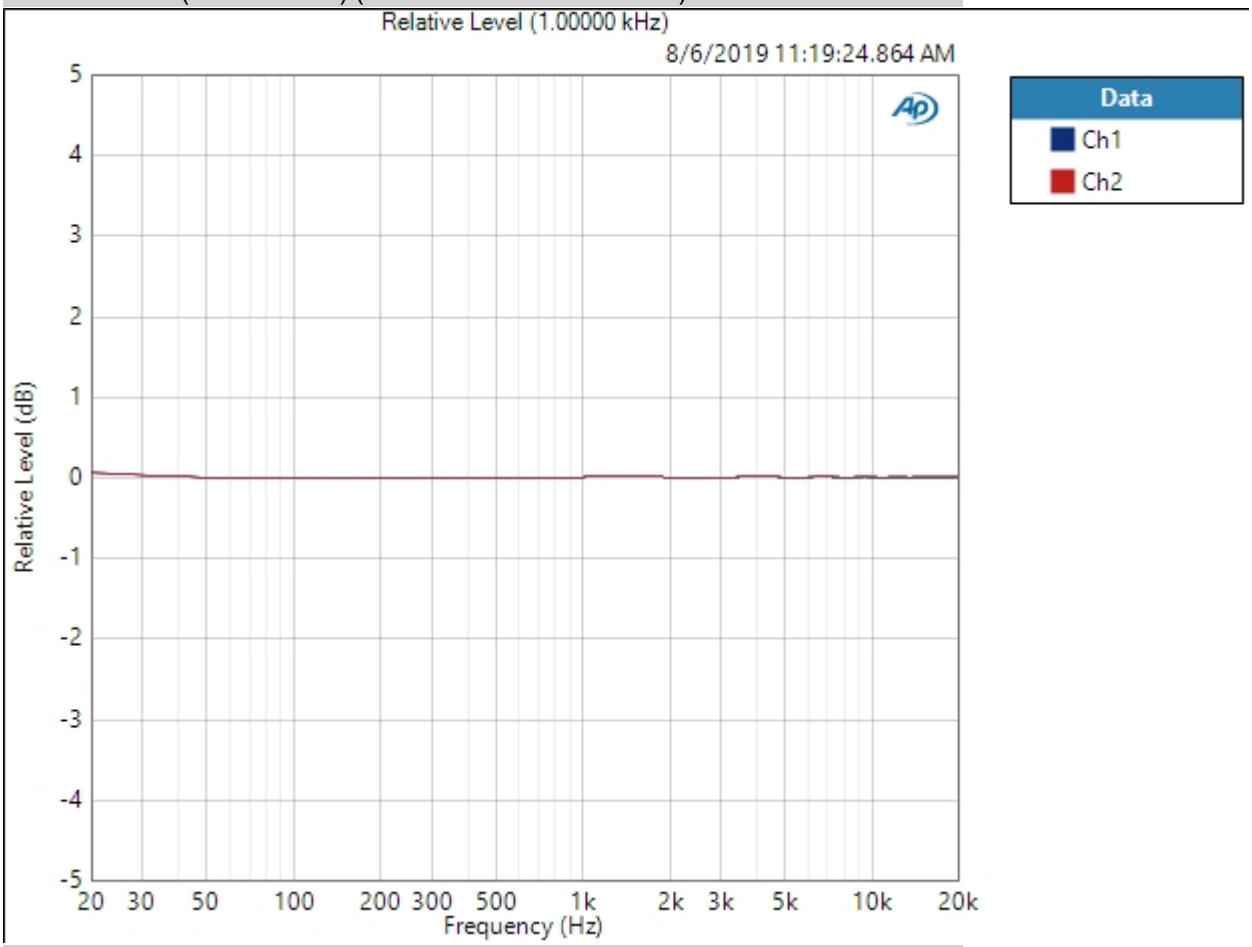


Result: PASSED

300 Ohm High SE : Frequency Response

Start Frequency:	20.0000 Hz
Stop Frequency:	20.0000 kHz
Generator Level:	150.0 mVrms
DC Offset:	0.000 V
EQ:	None
Pre-Sweep:	100.0 ms
Sweep:	350.0 ms
Extend Acquisition By:	50.00 ms
Secondary Source:	None
Measured 1	8/6/2019 11:19:24 AM

Relative Level (1.00000 kHz) (8/6/2019 11:19:24.864 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) (8/6/2019 11:19:24.864 AM)

Ch1 ±0.038 dB

Ch2 ±0.037 dB

Deviation (20.0000 Hz - 20.0000 kHz) Parameters

Min: 20.0000 Hz

Max: 20.0000 kHz

300 Ohm High SE : Signal to Noise Ratio

Waveform:	Sine
Generator Mode:	High Performance Sine Generator
Generator Level:	150.0 mVrms
Frequency:	1.00000 kHz
Low-pass Filter:	20 kHz
Weighting Filter:	A-wt.
High-pass Filter:	20 Hz

Signal to Noise Ratio (8/6/2019 11:19:26.874 AM)

Ch1 104.323 dB

Ch2 103.947 dB

300 Ohm High SE : THD+N

Waveform:	Sine
Generator Mode:	High Performance Sine Generator
Generator Level:	150.0 mVrms
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 (8/6/2019 11:19:29.245 AM)

Ch1	0.001079 %
Ch2	0.001072 %

THD Ratio (8/6/2019 11:19:29.245 AM)

Ch1	0.000116 %
Ch2	0.000124 %

Noise Ratio (8/6/2019 11:19:29.245 AM)

Ch1	0.001069 %
Ch2	0.001068 %

Distortion Product Ratio (8/6/2019 11:19:29.245 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	9.001k	10.00k
Ch1	-0.00	-122.16	-129.77	-139.00	-132.28	-136.42	-134.07	-135.01	-131.73	-134.59
	1.000k	2.000k	3.000k	4.000k	5.000k	6.000k	7.000k	8.000k	9.001k	10.00k
Ch2	-0.00	-120.45	-130.96	-137.10	-133.45	-137.91	-134.67	-137.59	-135.23	-132.12

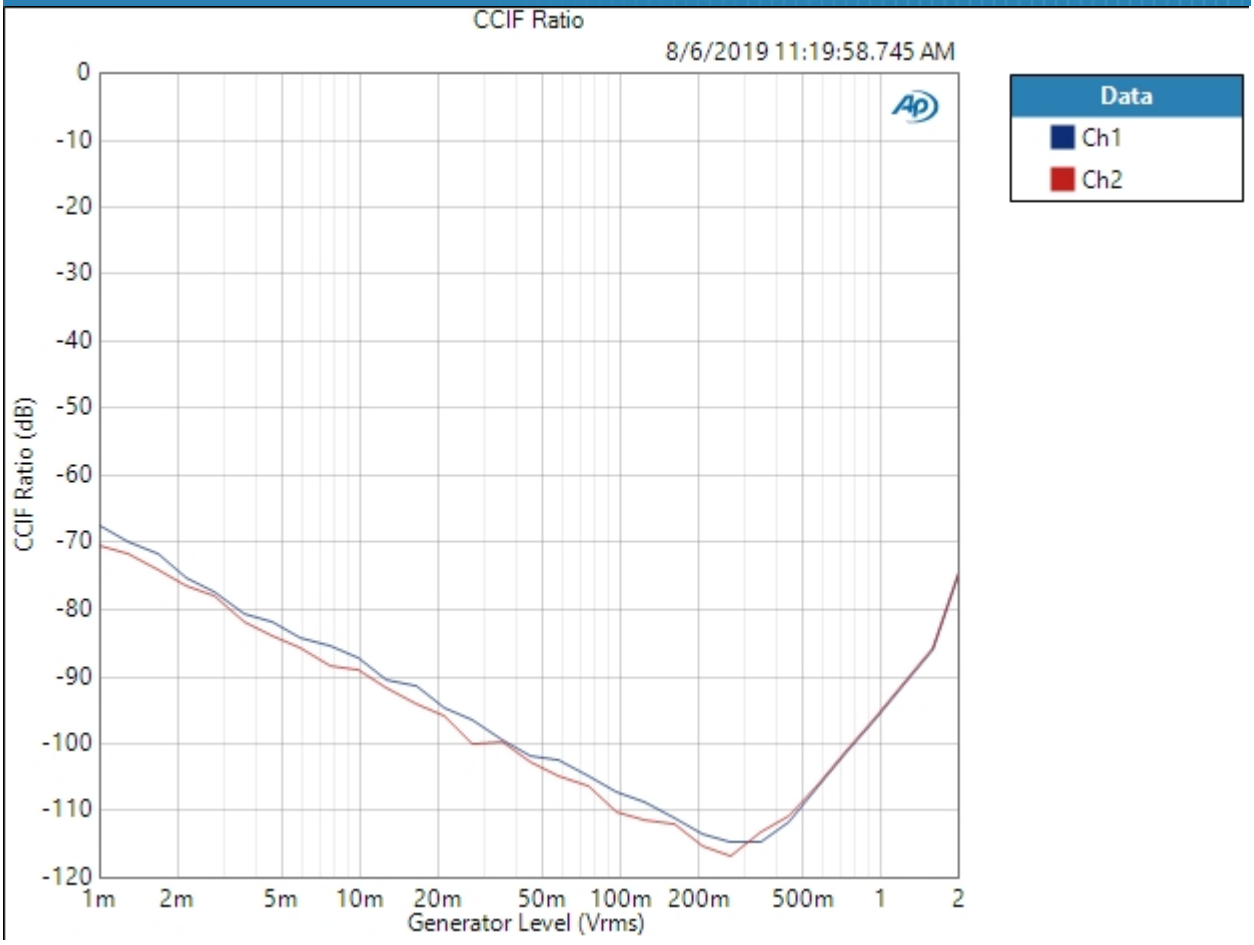
Distortion Product Ratio Parameters

Frequency Unit:	Hz
Ratio Unit:	dB

300 Ohm High SE : IMD Level Sweep (CCIF)

IMD Type:	CCIF
Waveform:	IMD
Generator Level:	2.000 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:	2.000 Vrms
Step Type:	Logarithmic
Number of Points:	31
Mode:	d2+d3
Measured 1	8/6/2019 11:19:58 AM

CCIF Ratio (8/6/2019 11:19:58.745 AM)

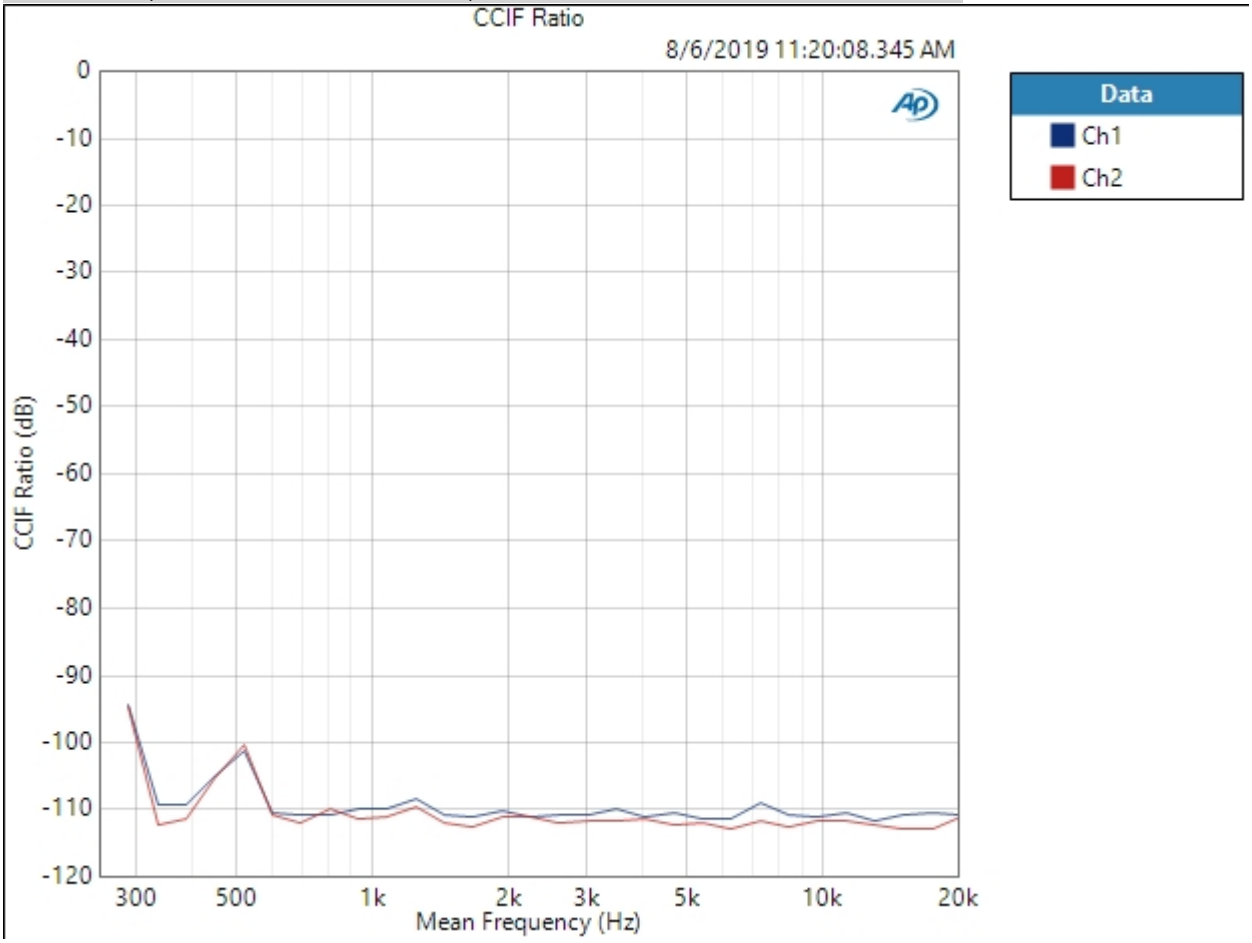


Result: PASSED

300 Ohm High SE : IMD Frequency Sweep (CCIF)

Generator Level:	150.0 mVrms
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	8/6/2019 11:20:08 AM

CCIF Ratio (8/6/2019 11:20:08.345 AM)



Result: PASSED

300 Ohm High SE : Crosstalk, One Channel Undriven

Waveform:	Sine
Generator Mode:	High Performance Sine Generator
Generator Level:	150.0 mVrms
Frequency:	10.0000 kHz

Crosstalk (8/6/2019 11:20:09.665 AM)

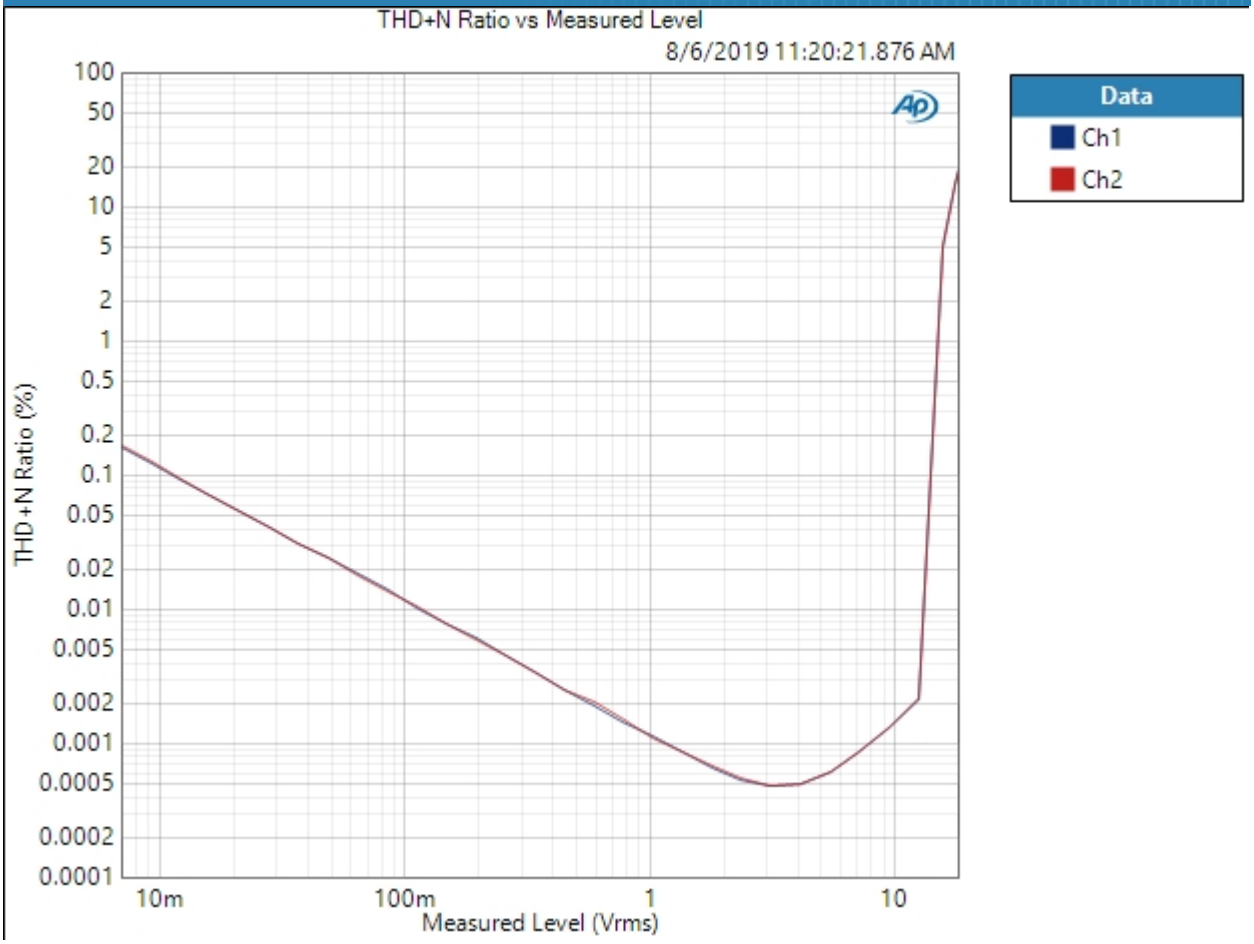
Ch1 -65.590 dB

Ch2 -65.539 dB

300 Ohm High SE : 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:	4.000 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	8/6/2019 11:20:21 AM

THD+N Ratio vs Measured Level (8/6/2019 11:20:21.876 AM)



Result: PASSED

32 Ohm Low SE : 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

32 Ohm Low SE : Level and Gain

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

RMS Level (8/6/2019 11:21:04.741 AM)

Ch1 1.002 Vrms
Ch2 1.009 Vrms

32 Ohm Low SE : 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

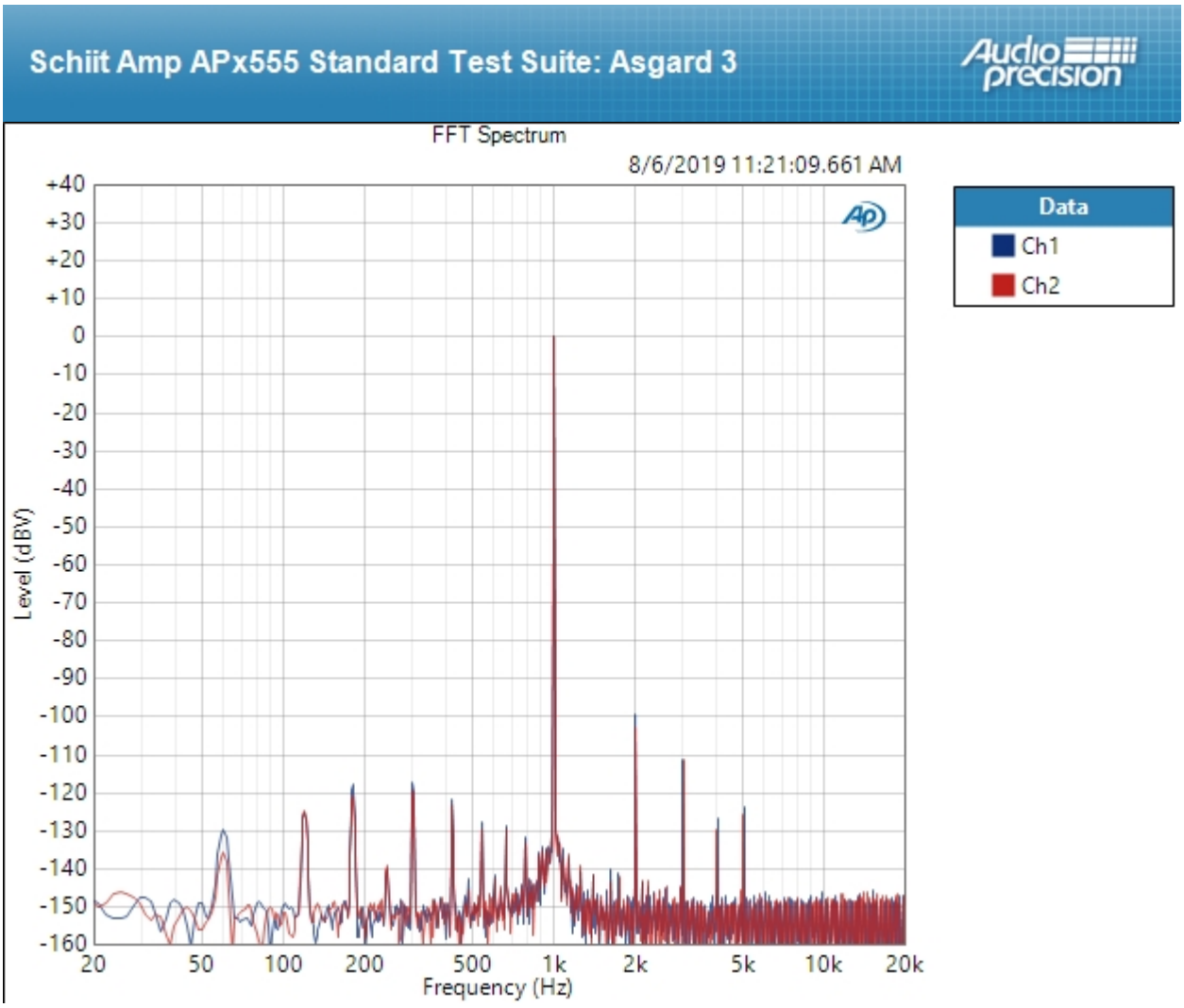
DC Level (8/6/2019 11:21:05.941 AM)

Ch1 2.398 mV
Ch2 2.936 mV

32 Ohm Low SE : Signal Analyzer

Waveform:	Sine
Generator Mode:	High Performance Sine Generator
Generator Level:	1.000 Vrms
Frequency:	1.00000 kHz
Secondary Source:	None
Measured 1	8/6/2019 11:21:09 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 (8/6/2019 11:21:09.661 AM)

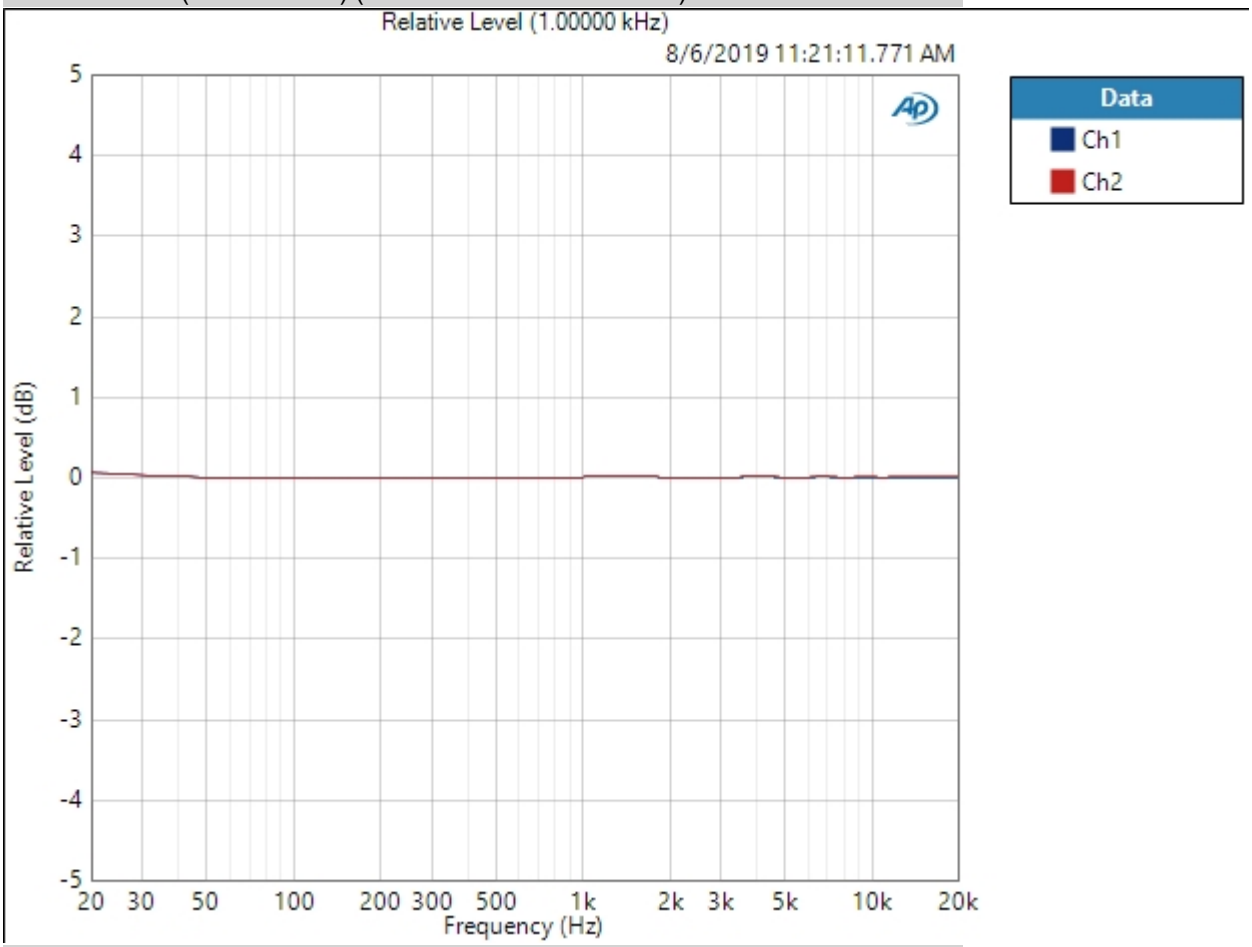


Result: PASSED

32 Ohm Low SE : 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:	50.00 ms
Secondary Source:	None
Measured 1	8/6/2019 11:21:11 AM

Relative Level (1.00000 kHz) (8/6/2019 11:21:11.771 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) (8/6/2019 11:21:11.771 AM)

Ch1 ±0.037 dB

Ch2 ±0.037 dB

Deviation (20.0000 Hz - 20.0000 kHz) Parameters

Min: 20.0000 Hz

Max: 20.0000 kHz

32 Ohm Low SE : 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 (8/6/2019 11:21:13.791 AM)

Ch1 116.058 dB

Ch2 116.888 dB

32 Ohm Low SE : 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 (8/6/2019 11:21:16.143 AM)

Ch1 0.002543 %

Ch2 0.002620 %

THD Ratio (8/6/2019 11:21:16.143 AM)

Ch1 0.001120 %

Ch2 0.000803 %

Noise Ratio (8/6/2019 11:21:16.143 AM)

Ch1 0.000274 %

Ch2 0.000236 %

Distortion Product Ratio (8/6/2019 11:21:16.143 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	9.001k	10.00k
Ch1	-0.00	-99.31	-111.23	-126.59	-123.00	-147.43	-139.90	-144.07	-144.45	-147.54
	1.000k	2.000k	3.000k	4.000k	5.000k	6.000k	7.000k	8.000k	9.001k	10.00k
Ch2	-0.00	-102.48	-111.29	-129.88	-124.98	-138.98	-143.97	-142.62	-146.90	-144.15

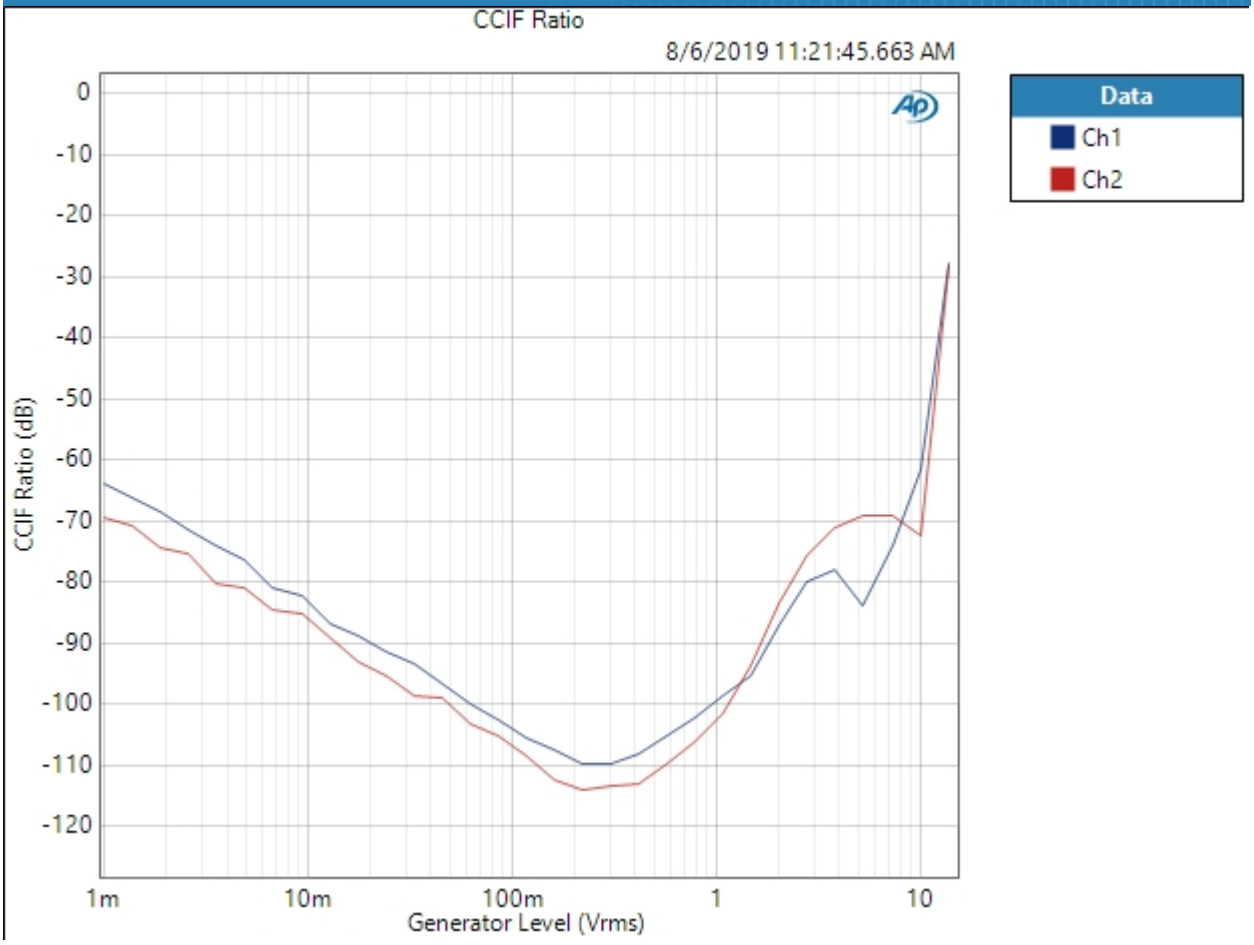
Distortion Product Ratio Parameters

Frequency Unit:	Hz
Ratio Unit:	dB

32 Ohm Low SE : IMD Level Sweep (CCIF)

IMD Type:	CCIF
Waveform:	IMD
Generator Level:	13.33 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:	13.33 Vrms
Step Type:	Logarithmic
Number of Points:	31
Mode:	d2+d3
Measured 1	8/6/2019 11:21:45 AM

CCIF Ratio (8/6/2019 11:21:45.663 AM)

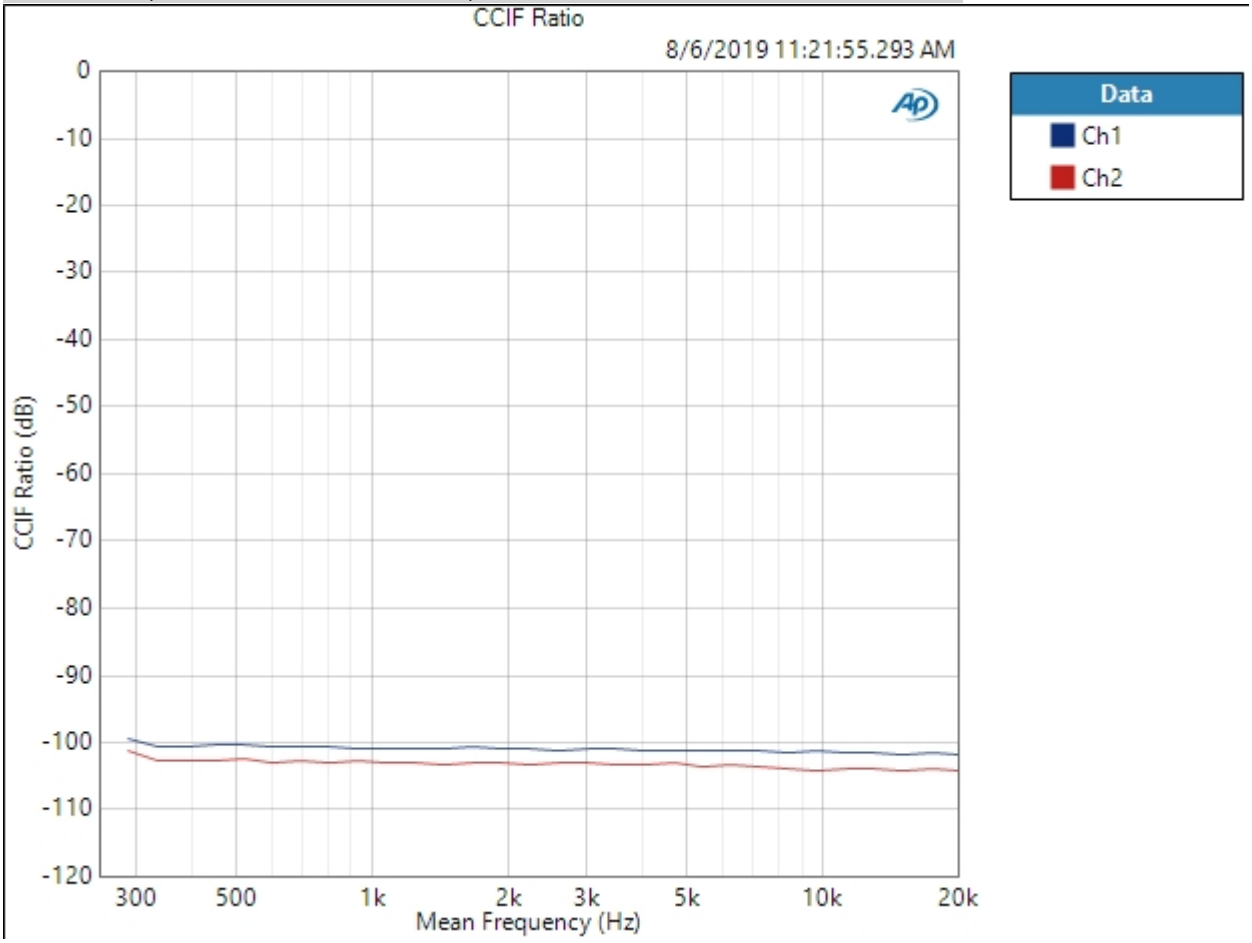


Result: PASSED

32 Ohm Low SE : 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	8/6/2019 11:21:55 AM

CCIF Ratio (8/6/2019 11:21:55.293 AM)



Result: PASSED

32 Ohm Low SE : Crosstalk, One Channel Undriven

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

Crosstalk (8/6/2019 11:21:56.563 AM)

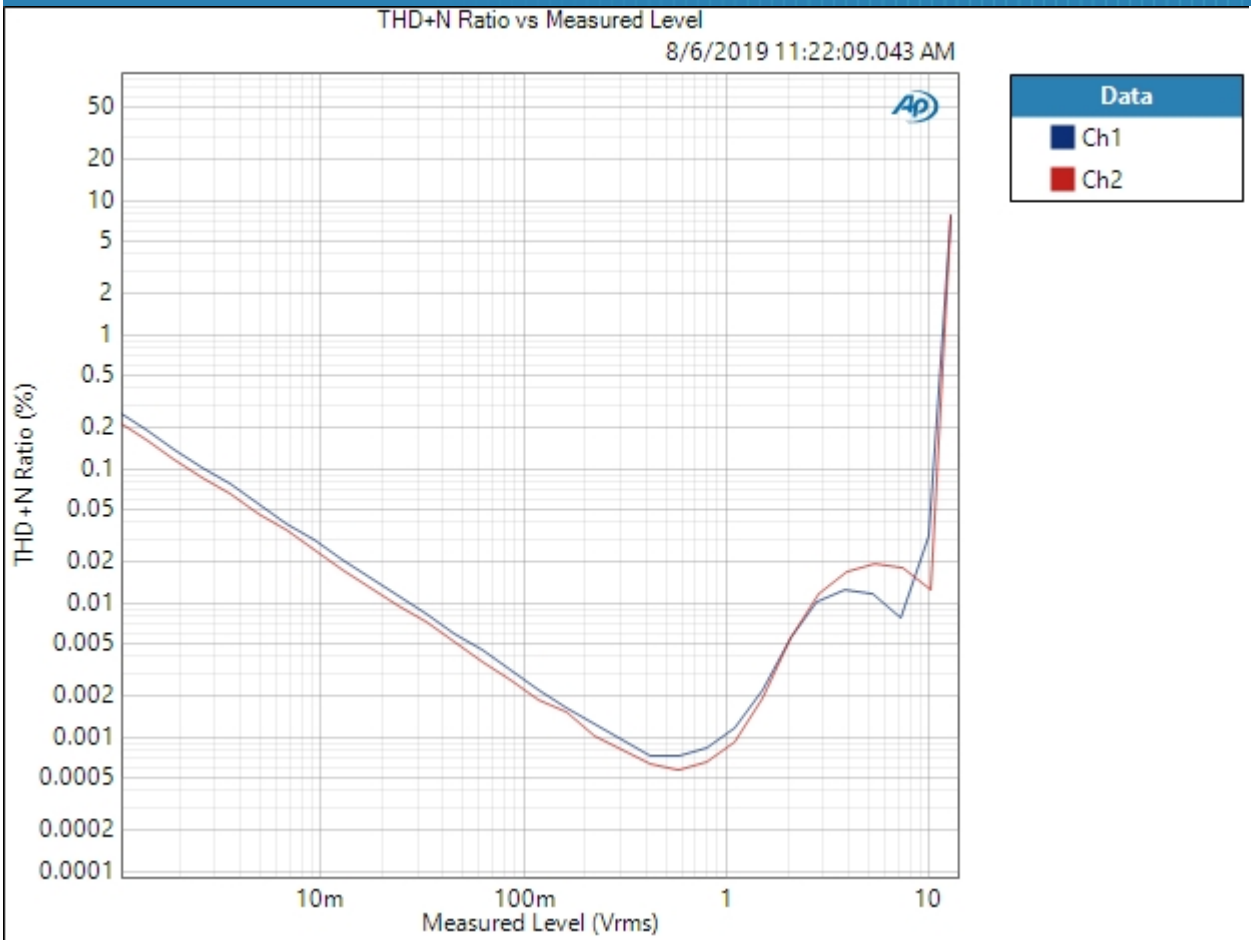
Ch1 -46.692 dB

Ch2 -46.617 dB

32 Ohm Low SE : 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:	13.33 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	8/6/2019 11:22:09 AM

THD+N Ratio vs Measured Level (8/6/2019 11:22:09.043 AM)



Result: PASSED

32 Ohm High SE : 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

32 Ohm High SE : Level and Gain

Waveform:	Sine
Generator Mode:	High Performance Sine Generator
Generator Level:	150.0 mVrms
Frequency:	1.00000 kHz

RMS Level (8/6/2019 11:22:57.448 AM)

Ch1 1.016 Vrms
Ch2 1.020 Vrms

32 Ohm High SE : 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

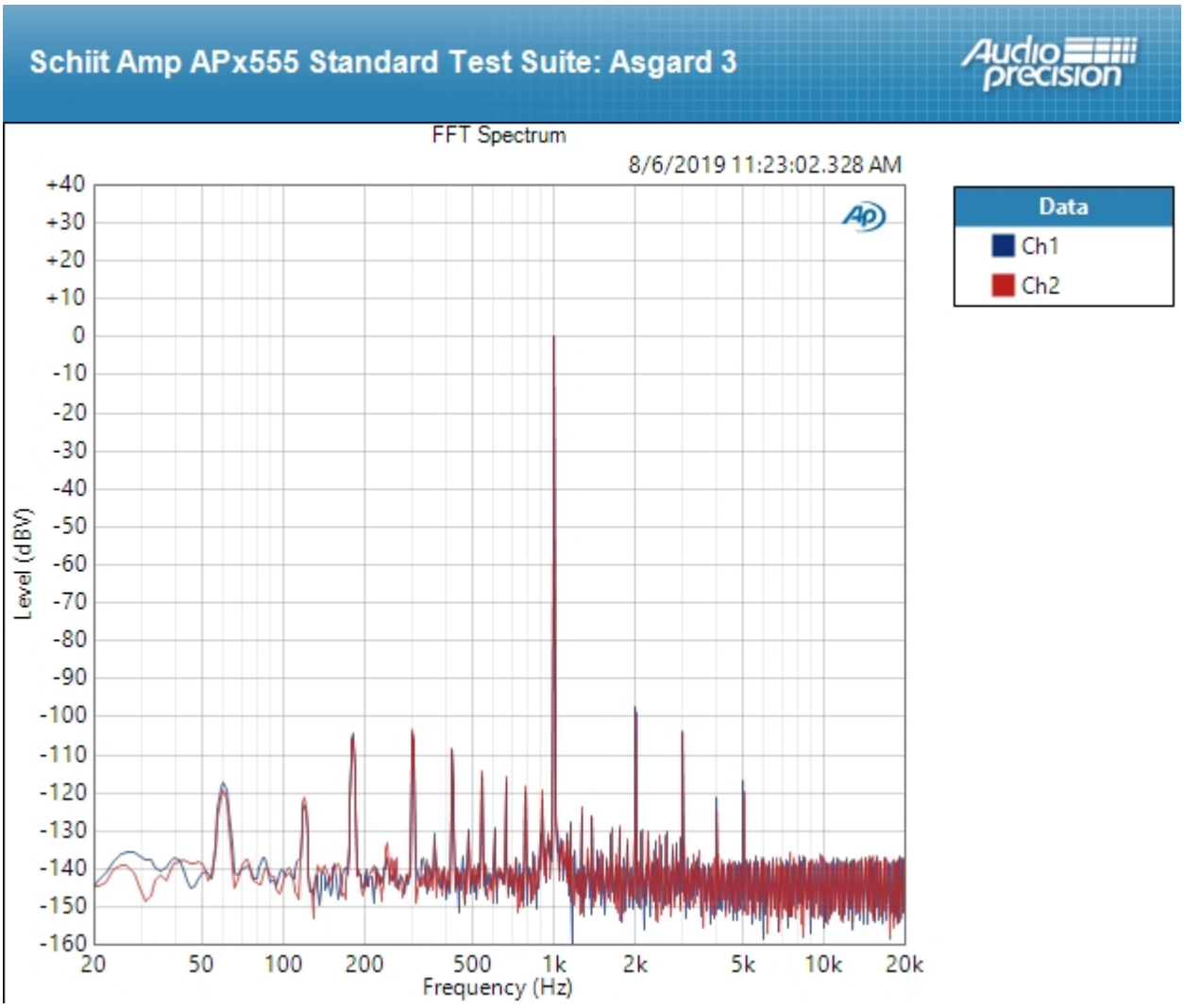
DC Level (8/6/2019 11:22:58.608 AM)

Ch1 -3.706 mV
Ch2 -3.090 mV

32 Ohm High SE : Signal Analyzer

Waveform:	Sine
Generator Mode:	High Performance Sine Generator
Generator Level:	150.0 mVrms
Frequency:	1.00000 kHz
Secondary Source:	None
Measured 1	8/6/2019 11:23:02 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 (8/6/2019 11:23:02.328 AM)

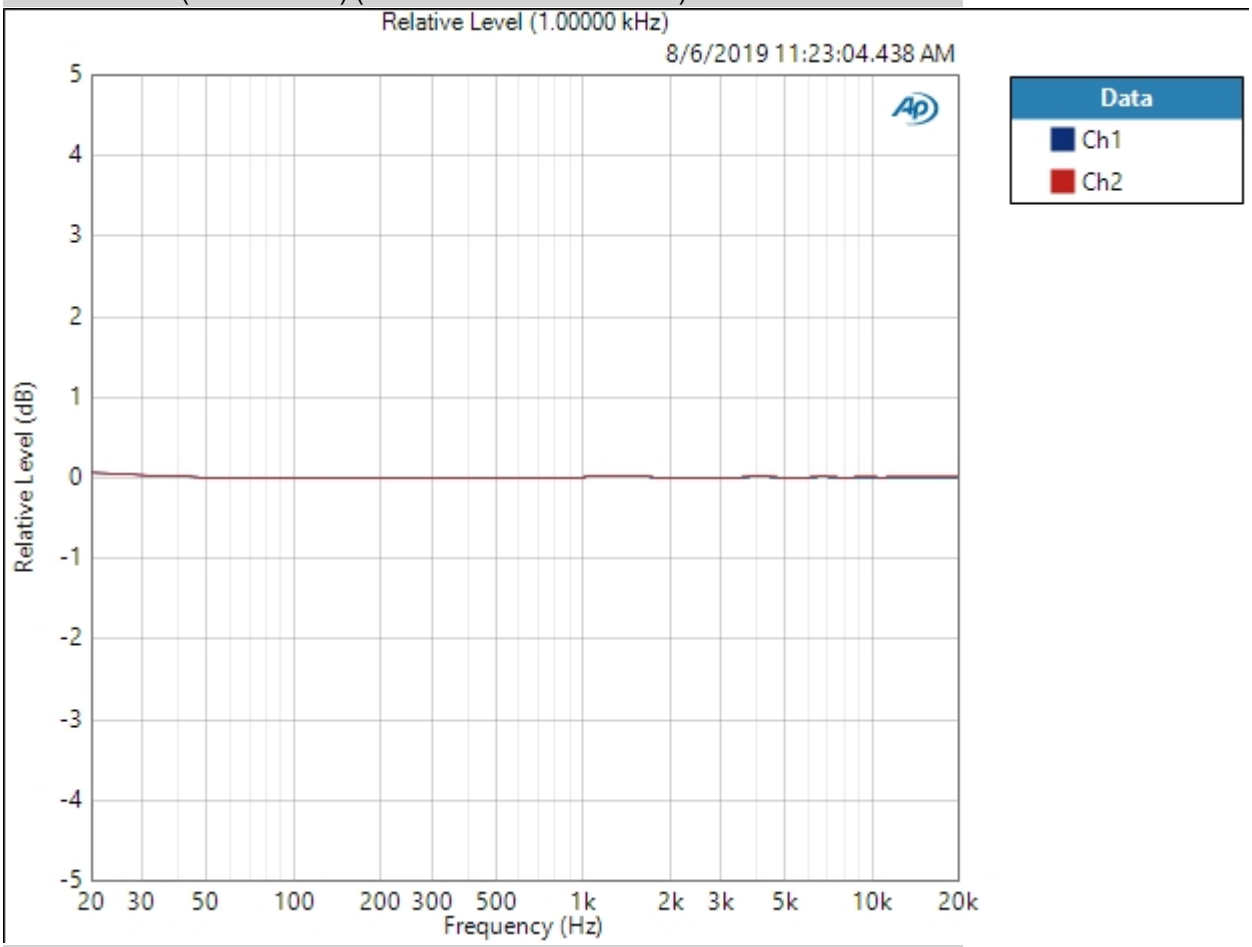


Result: PASSED

32 Ohm High SE : Frequency Response

Start Frequency:	20.0000 Hz
Stop Frequency:	20.0000 kHz
Generator Level:	150.0 mVrms
DC Offset:	0.000 V
EQ:	None
Pre-Sweep:	100.0 ms
Sweep:	350.0 ms
Extend Acquisition By:	50.00 ms
Secondary Source:	None
Measured 1	8/6/2019 11:23:04 AM

Relative Level (1.00000 kHz) (8/6/2019 11:23:04.438 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) (8/6/2019 11:23:04.438 AM)

Ch1 ±0.038 dB

Ch2 ±0.038 dB

Deviation (20.0000 Hz - 20.0000 kHz) Parameters

Min: 20.0000 Hz

Max: 20.0000 kHz

32 Ohm High SE : Signal to Noise Ratio

Waveform:	Sine
Generator Mode:	High Performance Sine Generator
Generator Level:	150.0 mVrms
Frequency:	1.00000 kHz
Low-pass Filter:	20 kHz
Weighting Filter:	A-wt.
High-pass Filter:	20 Hz

Signal to Noise Ratio (8/6/2019 11:23:06.468 AM)

Ch1 104.199 dB

Ch2 103.817 dB

32 Ohm High SE : THD+N

Waveform:	Sine
Generator Mode:	High Performance Sine Generator
Generator Level:	150.0 mVrms
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 (8/6/2019 11:23:08.817 AM)

Ch1	0.003806 %
Ch2	0.004159 %

THD Ratio (8/6/2019 11:23:08.817 AM)

Ch1	0.001554 %
Ch2	0.001306 %

Noise Ratio (8/6/2019 11:23:08.817 AM)

Ch1	0.001077 %
Ch2	0.001085 %

Distortion Product Ratio (8/6/2019 11:23:08.817 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	9.001k	10.00k
Ch1	-0.00	-97.05	-103.91	-120.45	-116.83	-137.97	-135.13	-135.88	-135.48	-140.00
	1.000k	2.000k	3.000k	4.000k	5.000k	6.000k	7.000k	8.000k	9.001k	10.00k
Ch2	-0.00	-98.83	-104.26	-126.32	-119.53	-135.81	-131.84	-132.23	-132.36	-133.49

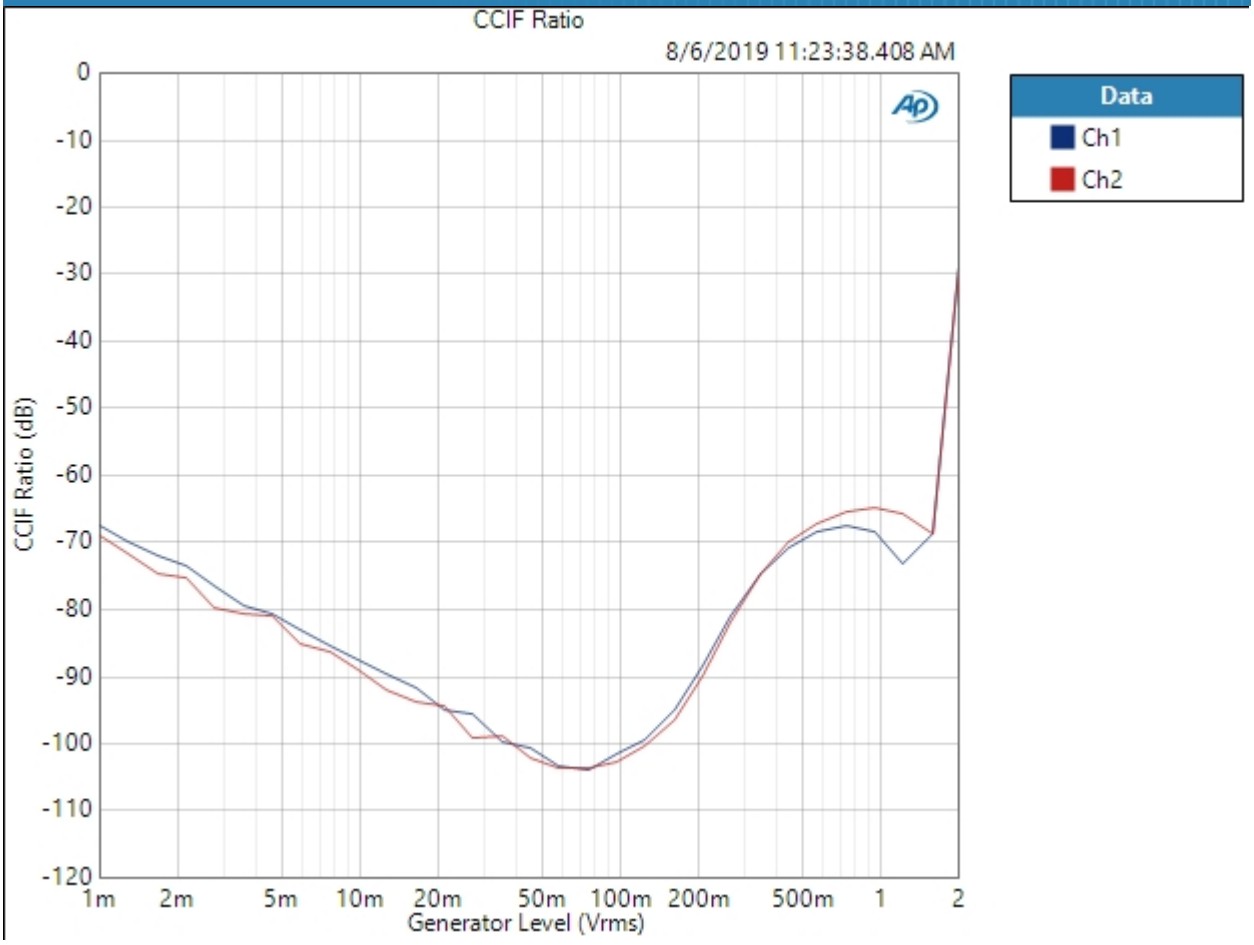
Distortion Product Ratio Parameters

Frequency Unit:	Hz
Ratio Unit:	dB

32 Ohm High SE : IMD Level Sweep (CCIF)

IMD Type:	CCIF
Waveform:	IMD
Generator Level:	2.000 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:	2.000 Vrms
Step Type:	Logarithmic
Number of Points:	31
Mode:	d2+d3
Measured 1	8/6/2019 11:23:38 AM

CCIF Ratio (8/6/2019 11:23:38.408 AM)

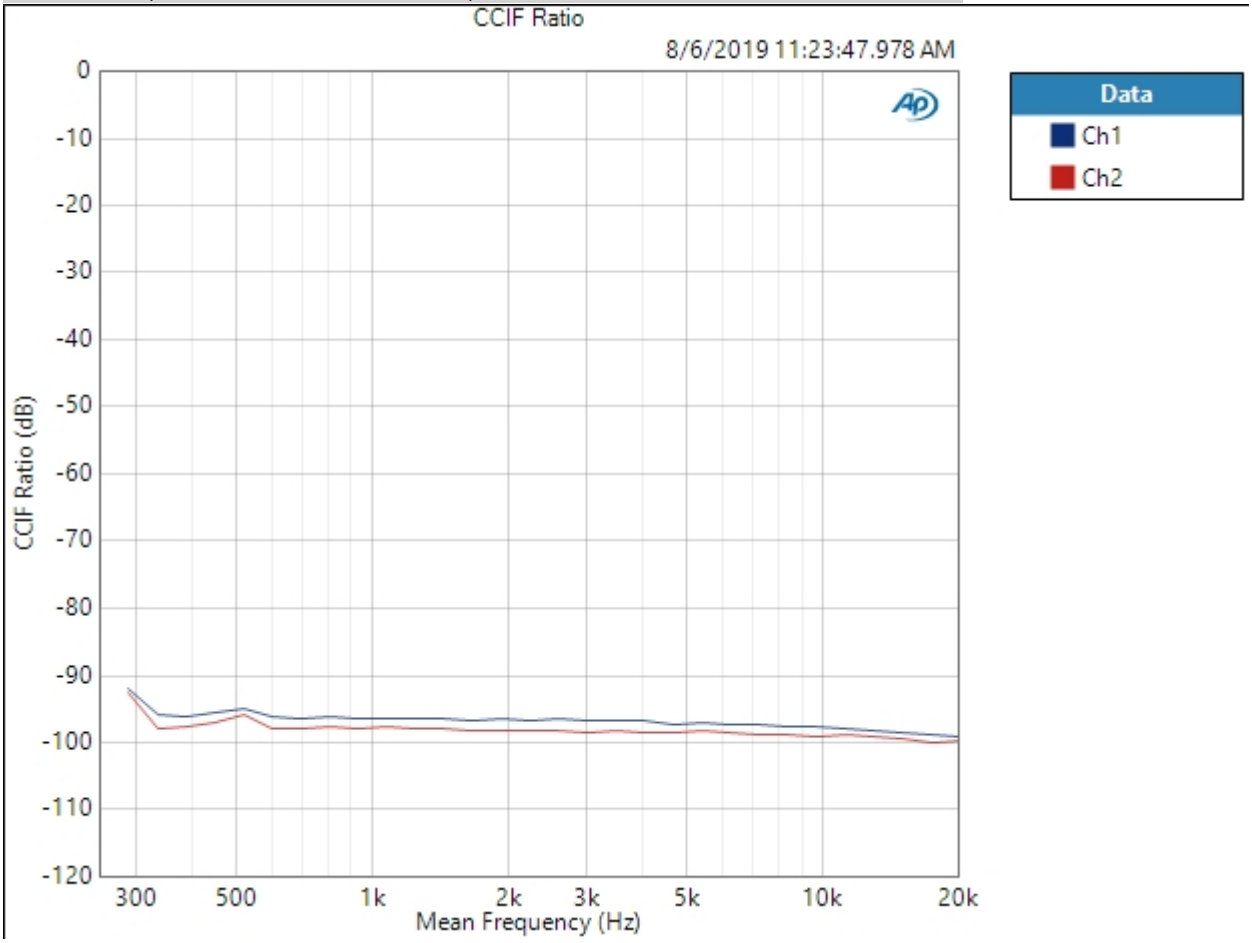


Result: PASSED

32 Ohm High SE : IMD Frequency Sweep (CCIF)

Generator Level:	150.0 mVrms
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	8/6/2019 11:23:47 AM

CCIF Ratio (8/6/2019 11:23:47.978 AM)



Result: PASSED

32 Ohm High SE : Crosstalk, One Channel Undriven

Waveform:	Sine
Generator Mode:	High Performance Sine Generator
Generator Level:	150.0 mVrms
Frequency:	10.0000 kHz

Crosstalk (8/6/2019 11:23:49.248 AM)

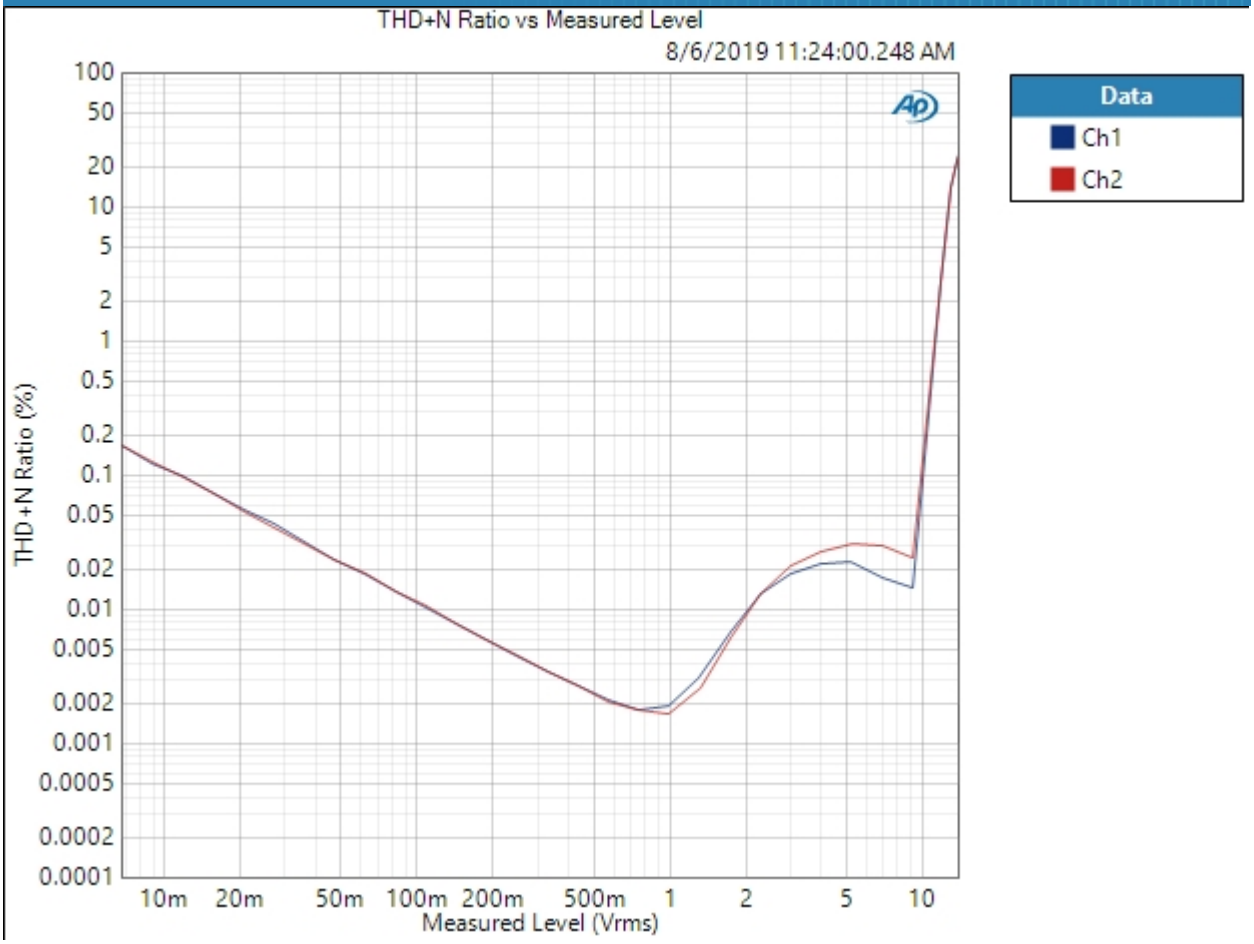
Ch1 -46.622 dB

Ch2 -46.510 dB

32 Ohm High SE : 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:	4.000 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	8/6/2019 11:24:00 AM

THD+N Ratio vs Measured Level (8/6/2019 11:24:00.248 AM)



Result: PASSED

Preamp SE : 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

Preamp SE : Level and Gain

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

RMS Level (8/6/2019 11:24:58.326 AM)

Ch1 1.040 Vrms
Ch2 1.040 Vrms

Preamp SE : 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

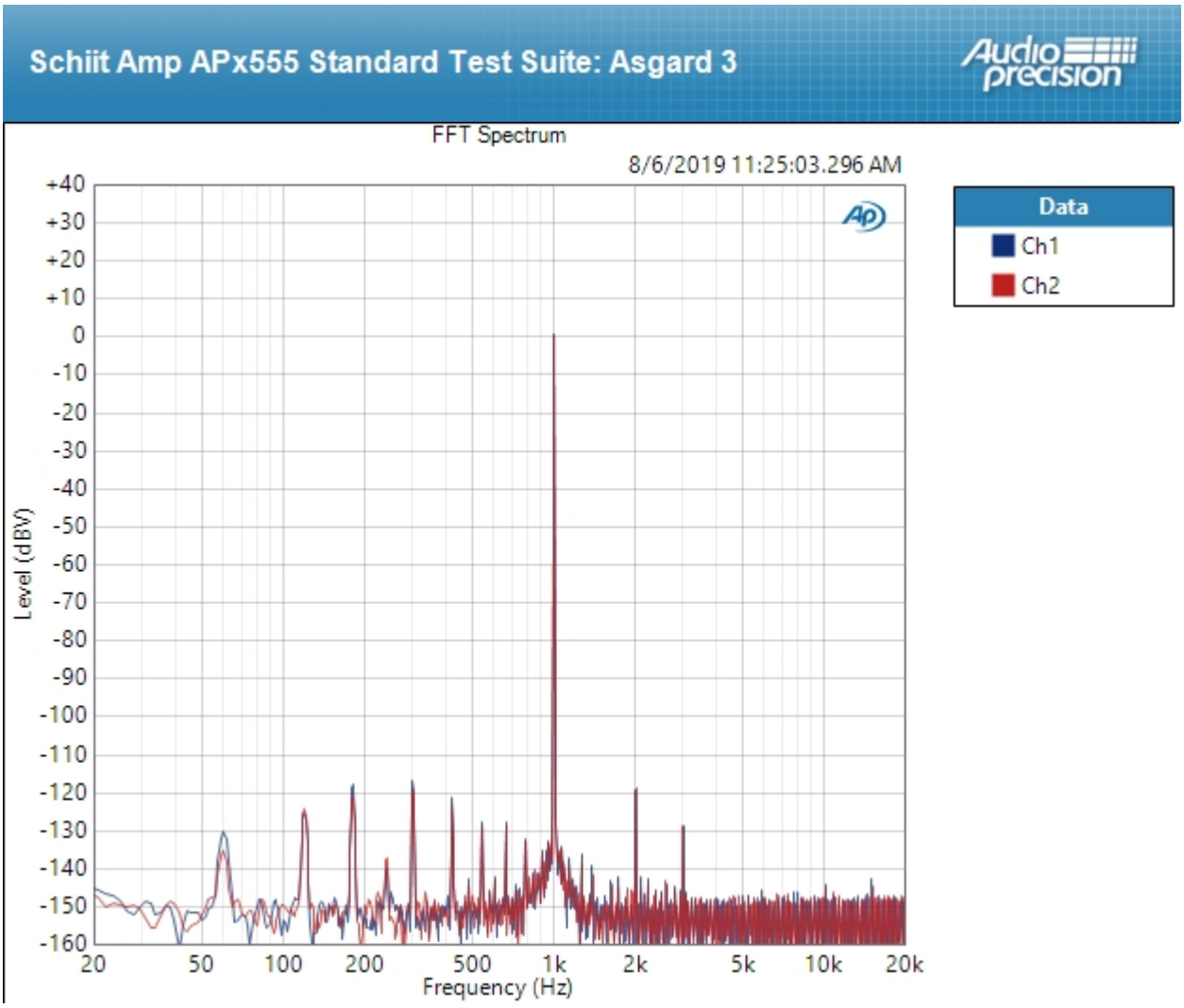
DC Level (8/6/2019 11:24:59.516 AM)

Ch1 685.3 uV
Ch2 0.998 mV

Preamp SE : Signal Analyzer

Waveform:	Sine
Generator Mode:	High Performance Sine Generator
Generator Level:	1.000 Vrms
Frequency:	1.00000 kHz
Secondary Source:	None
Measured 1	8/6/2019 11:25:03 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 (8/6/2019 11:25:03.296 AM)

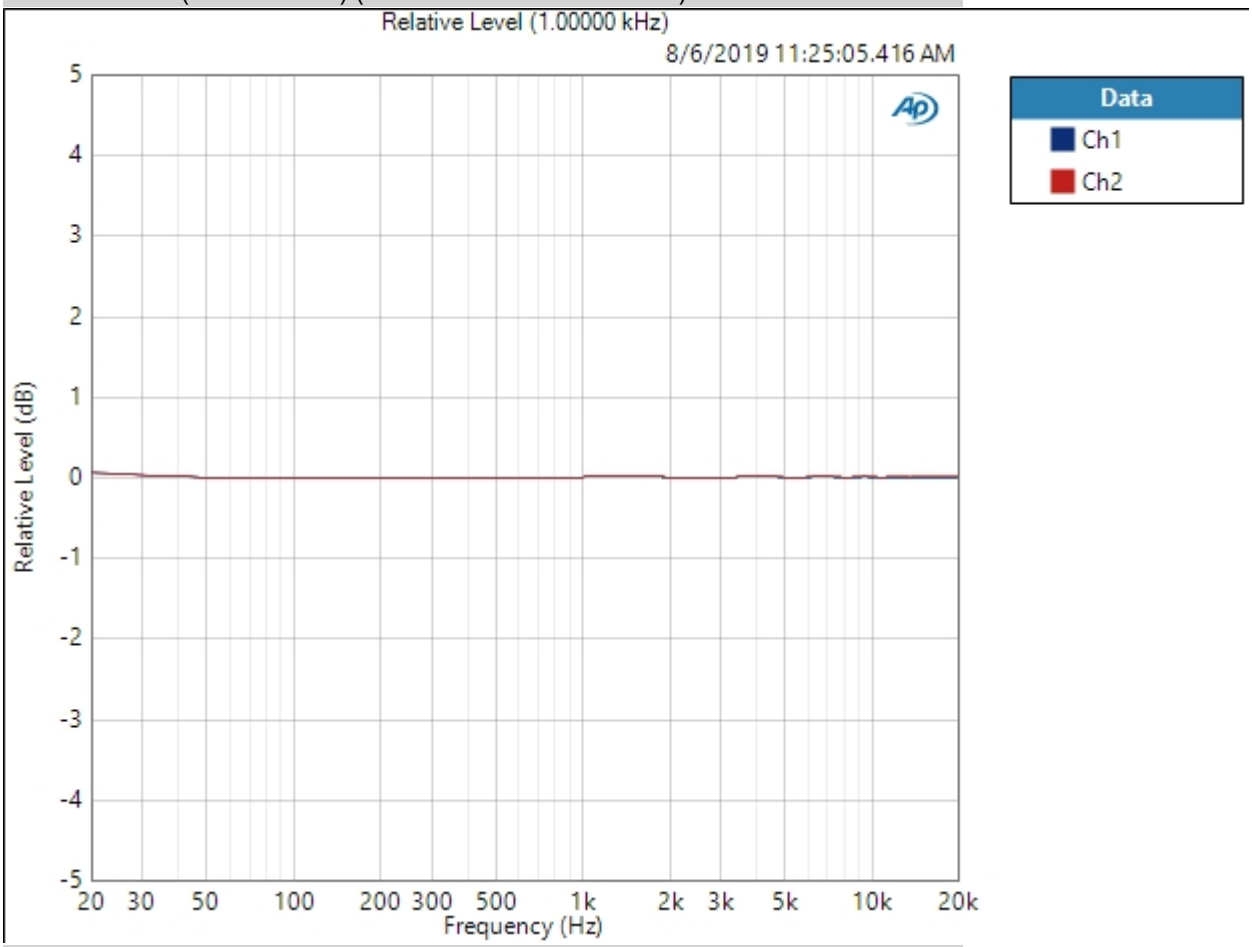


Result: PASSED

Preamp SE : 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:	50.00 ms
Secondary Source:	None
Measured 1	8/6/2019 11:25:05 AM

Relative Level (1.00000 kHz) (8/6/2019 11:25:05.416 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) (8/6/2019 11:25:05.416 AM)

Ch1 ±0.038 dB

Ch2 ±0.038 dB

Deviation (20.0000 Hz - 20.0000 kHz) Parameters

Min: 20.0000 Hz

Max: 20.0000 kHz

Preamp SE : 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 (8/6/2019 11:25:07.437 AM)

Ch1 115.883 dB

Ch2 116.800 dB

Preamp SE : 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 (8/6/2019 11:25:09.787 AM)

Ch1 0.001183 %

Ch2 0.001096 %

THD Ratio (8/6/2019 11:25:09.787 AM)

Ch1 0.000120 %

Ch2 0.000120 %

Noise Ratio (8/6/2019 11:25:09.787 AM)

Ch1 0.000284 %

Ch2 0.000234 %

Distortion Product Ratio (8/6/2019 11:25:09.787 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	9.001k	10.00k
Ch1	-0.00	-119.03	-128.92	-147.14	-145.75	-145.24	-139.62	-143.14	-144.98	-143.39
	1.000k	2.000k	3.000k	4.000k	5.000k	6.000k	7.000k	8.000k	9.001k	10.00k
Ch2	-0.00	-119.02	-128.89	-146.35	-143.21	-140.16	-147.16	-142.31	-143.97	-144.05

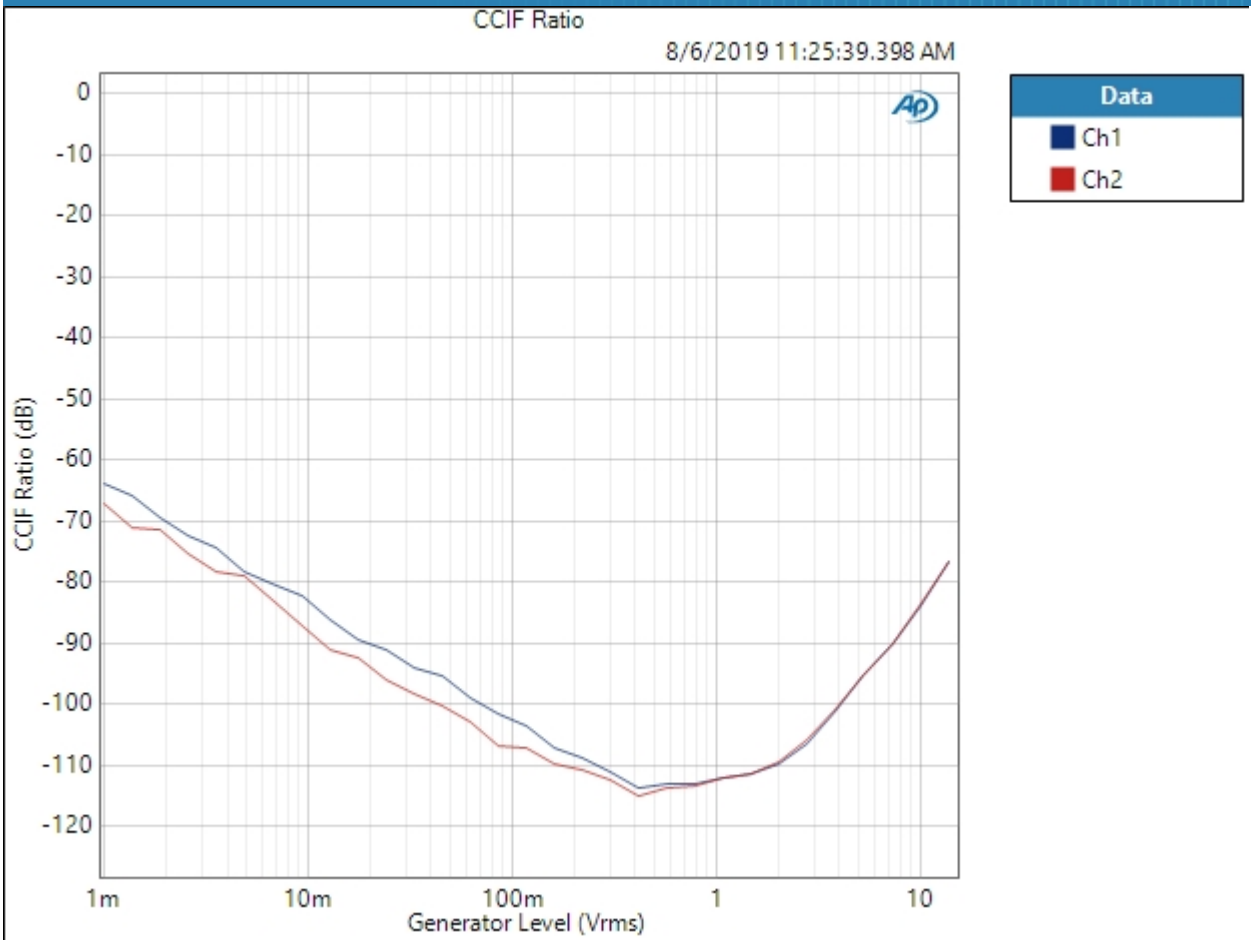
Distortion Product Ratio Parameters

Frequency Unit:	Hz
Ratio Unit:	dB

Preamp SE : IMD Level Sweep (CCIF)

IMD Type:	CCIF
Waveform:	IMD
Generator Level:	13.33 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:	13.33 Vrms
Step Type:	Logarithmic
Number of Points:	31
Mode:	d2+d3
Measured 1	8/6/2019 11:25:39 AM

CCIF Ratio (8/6/2019 11:25:39.398 AM)

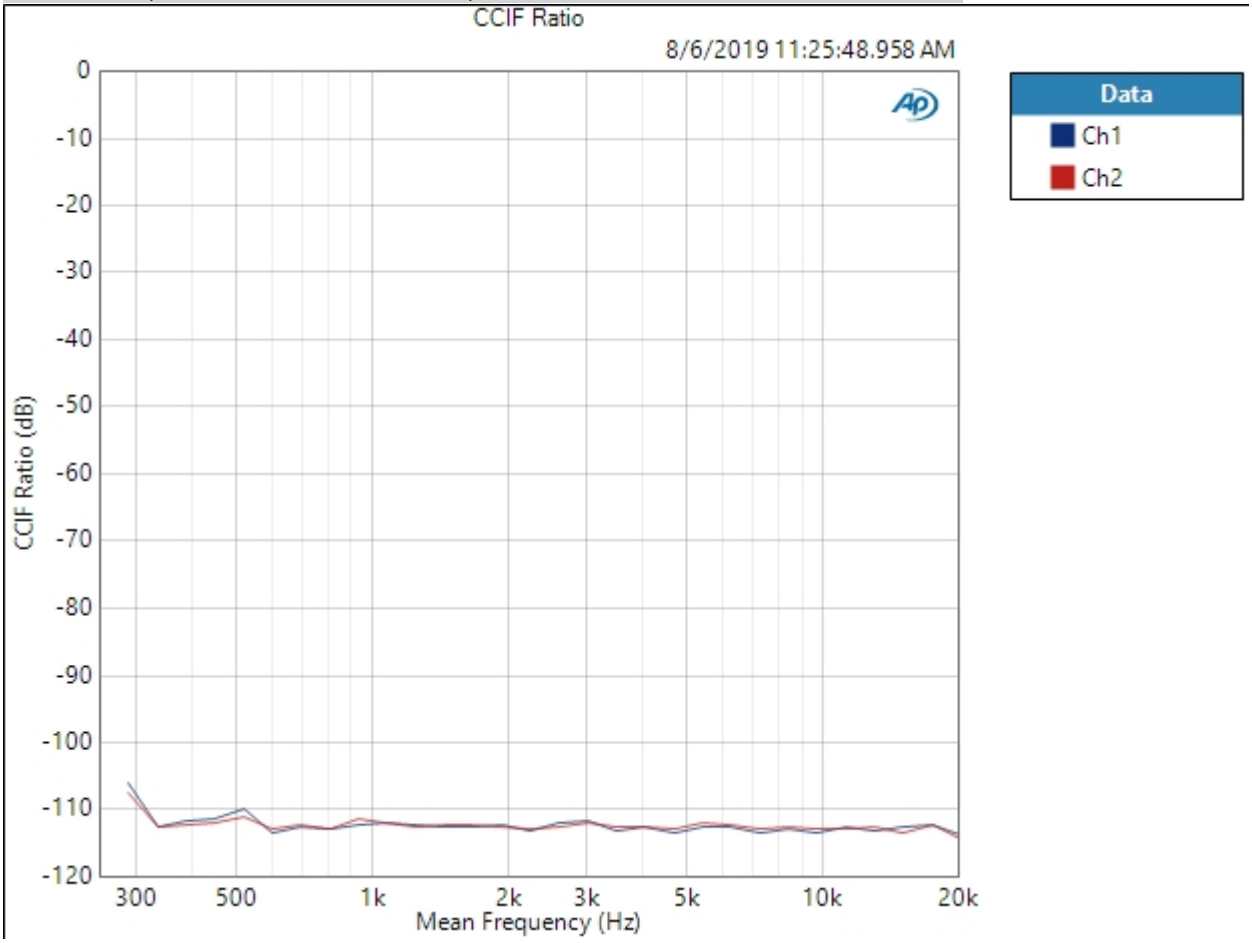


Result: PASSED

Preamp SE : 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	8/6/2019 11:25:48 AM

CCIF Ratio (8/6/2019 11:25:48.958 AM)



Result: PASSED

Preamp SE : Crosstalk, One Channel Undriven

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

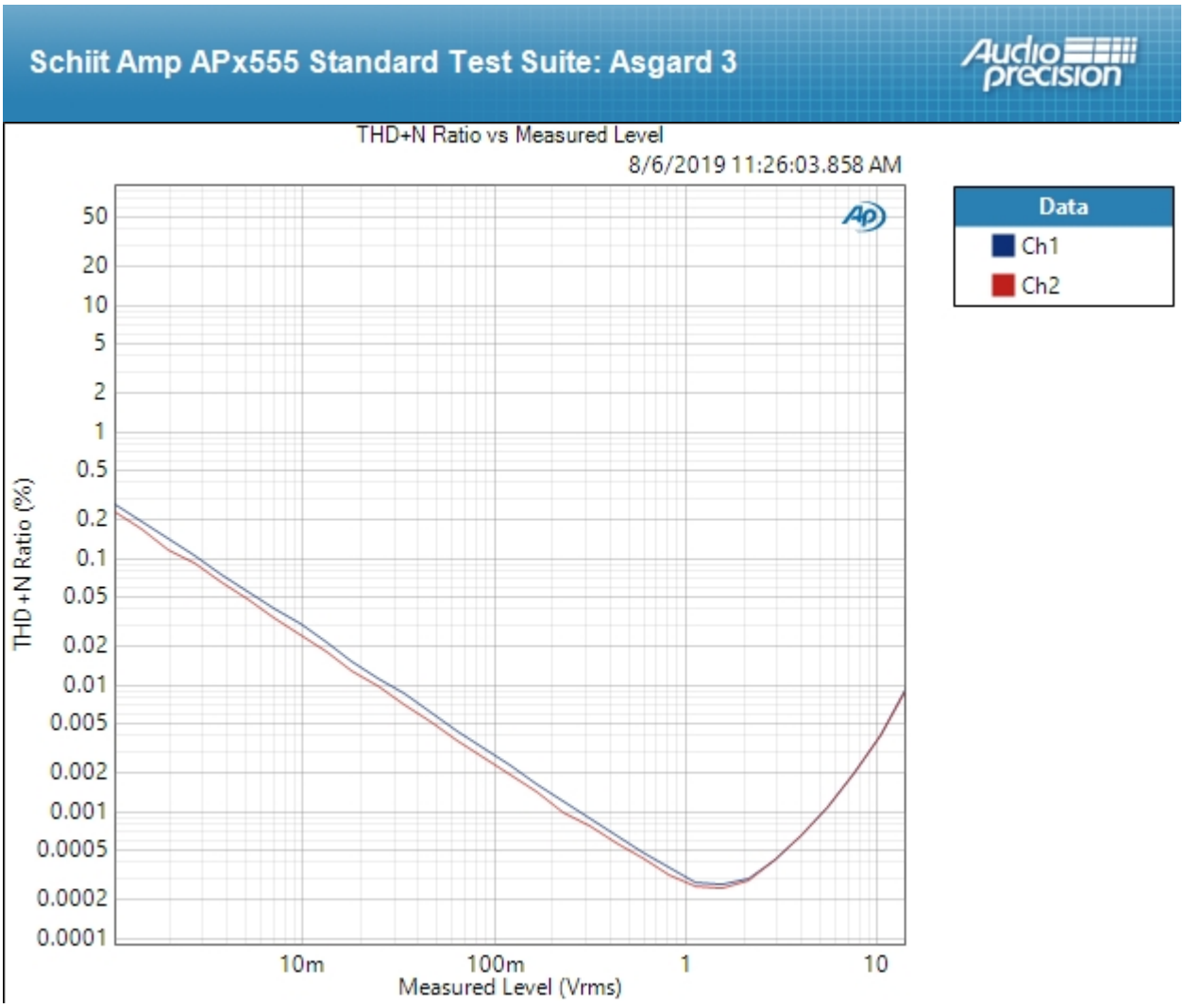
Crosstalk (8/6/2019 11:25:50.228 AM)

Ch1 -81.729 dB
Ch2 -85.526 dB

Preamp SE : 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:	13.33 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	8/6/2019 11:26:03 AM

THD+N Ratio vs Measured Level (8/6/2019 11:26:03.858 AM)



Result: PASSED