# Schiit Amp APx555 Standard Test Suite: Jotunheim

**** SEQUENCE CANCELED BY USER ****

## 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 Balanced | |
|---|---|
| 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 Balanced** | |
| 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 Balanced** | |
| 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 Balanced** | |
| 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 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 Balanced** | |
| 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 Balanced : Signal Path Setup

| | |
|---|---|
| Output Connector: | Analog Balanced |
| Channels: | 2 |
| Generator Mode: | High Performance Sine Generator |
| Configuration: | Normal (Differential) |
| Source Impedance: | 40 ohm |
| AG52 Generator Option: | Installed |
| Output EQ: | None |
| Input Connector: | Analog Balanced |
| Channels: | 2 |
| Termination: | 200 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 Balanced : Level and Gain

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 450.0 mVrms |
| Frequency: | 1.00000 kHz |

### RMS Level (5/21/2019 10:42:40.639 AM)

Ch1 1.123 Vrms
Ch2 1.123 Vrms

## 300 Ohm Low Balanced : 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 |

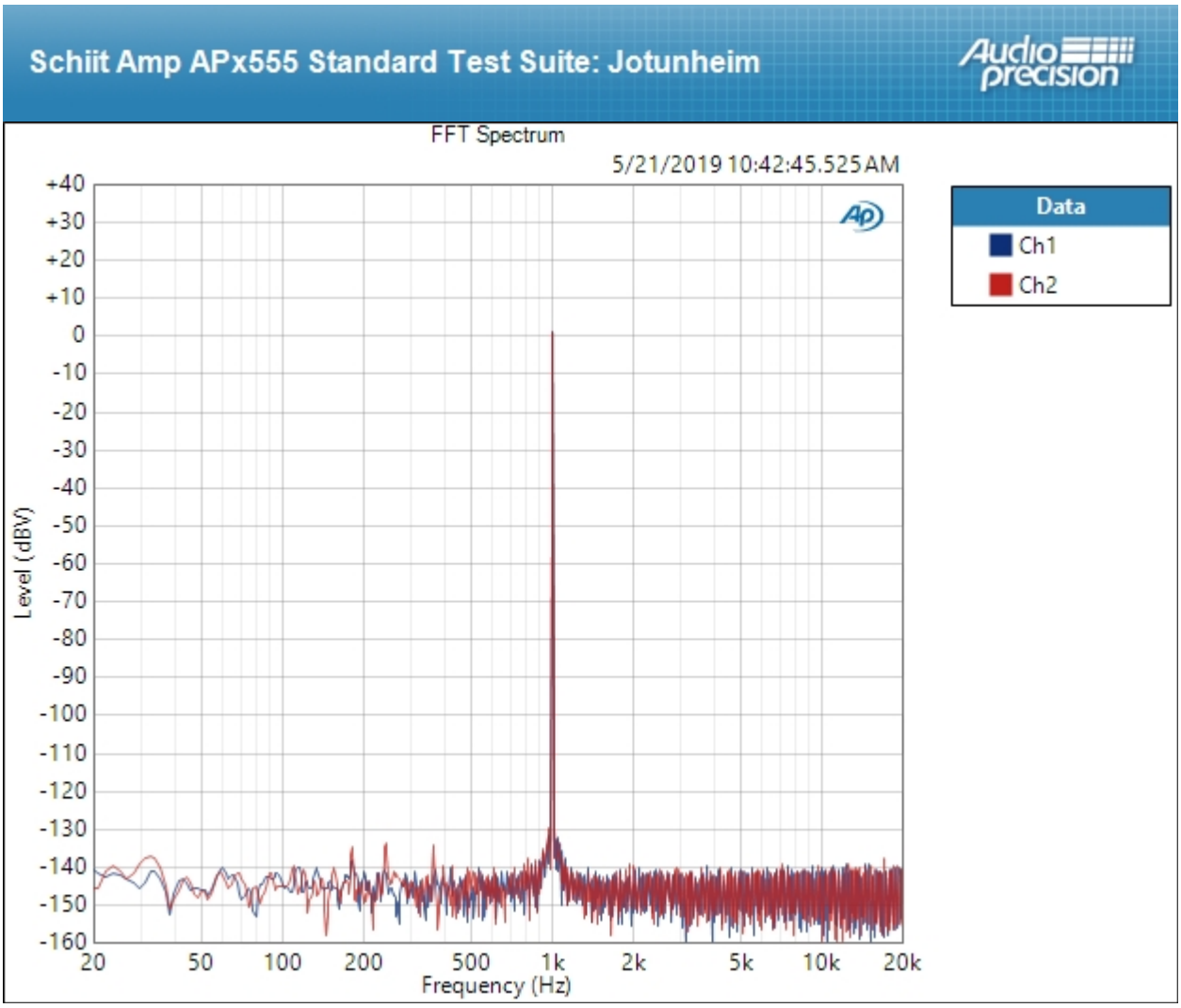
### DC Level (5/21/2019 10:42:41.805 AM)

Ch1 4.902 mV
Ch2 -353.4 uV

## 300 Ohm Low Balanced : Signal Analyzer

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 450.0 mVrms |
| Frequency: | 1.00000 kHz |
| Secondary Source: | None |
| Measured 1 | 5/21/2019 10:42:45 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 (5/21/2019 10:42:45.525 AM)

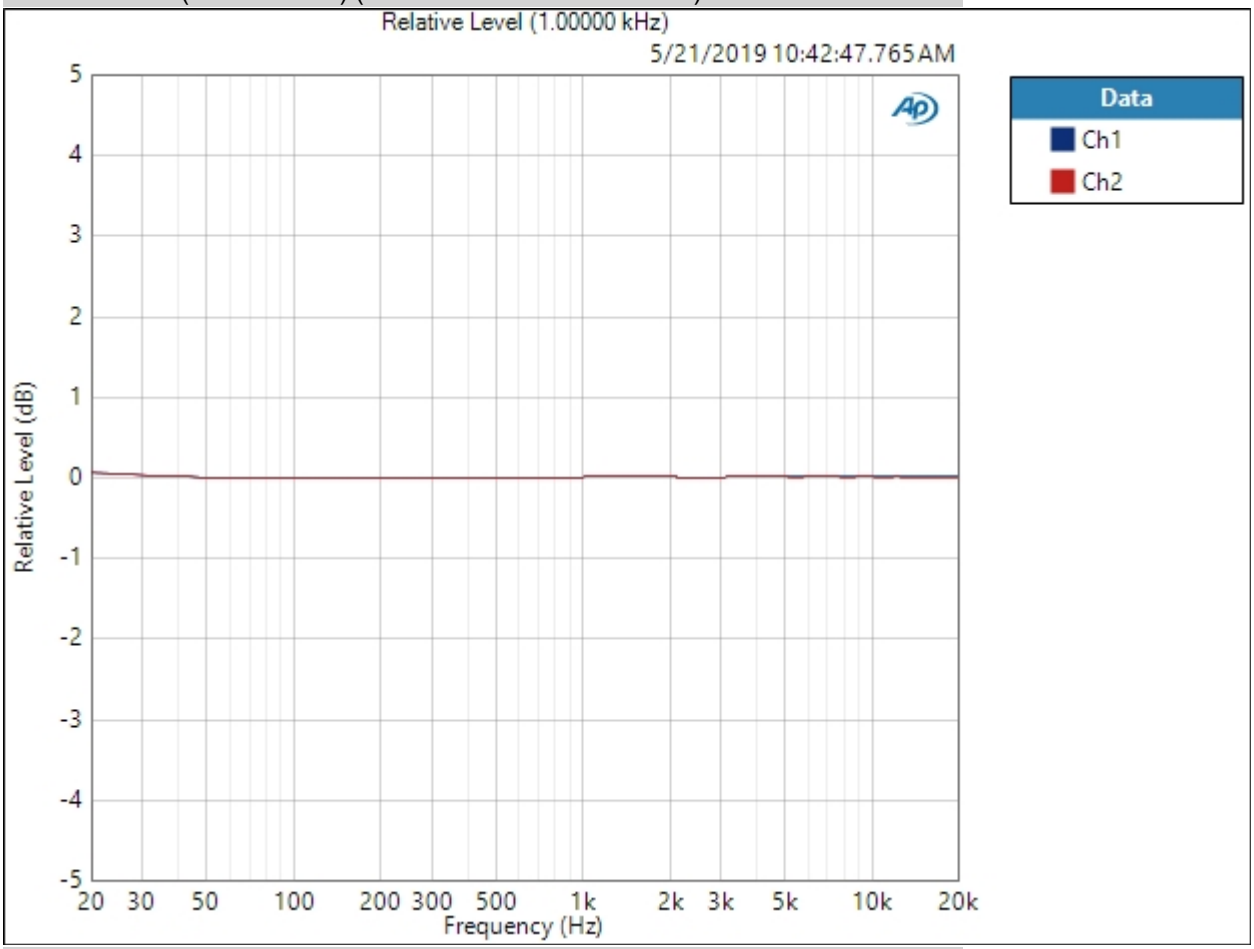



Result: PASSED

## 300 Ohm Low Balanced : Frequency Response

| | |
|---|---|
| Start Frequency: | 20.0000 Hz |
| Stop Frequency: | 20.0000 kHz |
| Generator Level: | 450.0 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 | 5/21/2019 10:42:47 AM |

### Relative Level (1.00000 kHz) (5/21/2019 10:42:47.765 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) (5/21/2019 10:42:47.765 AM)

Ch1 ±0.032 dB

Ch2 ±0.037 dB

Deviation (20.0000 Hz - 20.0000 kHz) Parameters

Min: 20.0000 Hz

Max: 20.0000 kHz

300 Ohm Low Balanced : Signal to Noise Ratio

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 450.0 mVrms |
| Frequency: | 1.00000 kHz |
| Low-pass Filter: | 20 kHz |
| Weighting Filter: | A-wt. |
| High-pass Filter: | 20 Hz |

Signal to Noise Ratio (5/21/2019 10:42:49.785 AM)

Ch1 111.567 dB

Ch2 111.645 dB

## 300 Ohm Low Balanced : THD+N

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 450.0 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 (5/21/2019 10:42:52.685 AM)

| | |
|---|---|
| Ch1 | 0.000333 % |
| Ch2 | 0.000332 % |

### THD Ratio (5/21/2019 10:42:52.685 AM)

| | |
|---|---|
| Ch1 | 0.000056 % |
| Ch2 | 0.000059 % |

### Noise Ratio (5/21/2019 10:42:52.685 AM)

| | |
|---|---|
| Ch1 | 0.000328 % |
| Ch2 | 0.000324 % |

### Distortion Product Ratio (5/21/2019 10:42:52.685 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 | -138.58 | -137.94 | -139.80 | -139.93 | -133.04 | -140.27 | -136.64 | -142.09 | -139.57 |
| | 1.000k | 2.000k | 3.000k | 4.000k | 5.000k | 6.000k | 7.000k | 8.000k | 9.000k | 10.00k |
| Ch2 | -0.00 | -136.63 | -135.55 | -138.09 | -137.56 | -136.00 | -137.17 | -141.22 | -145.29 | -134.71 |

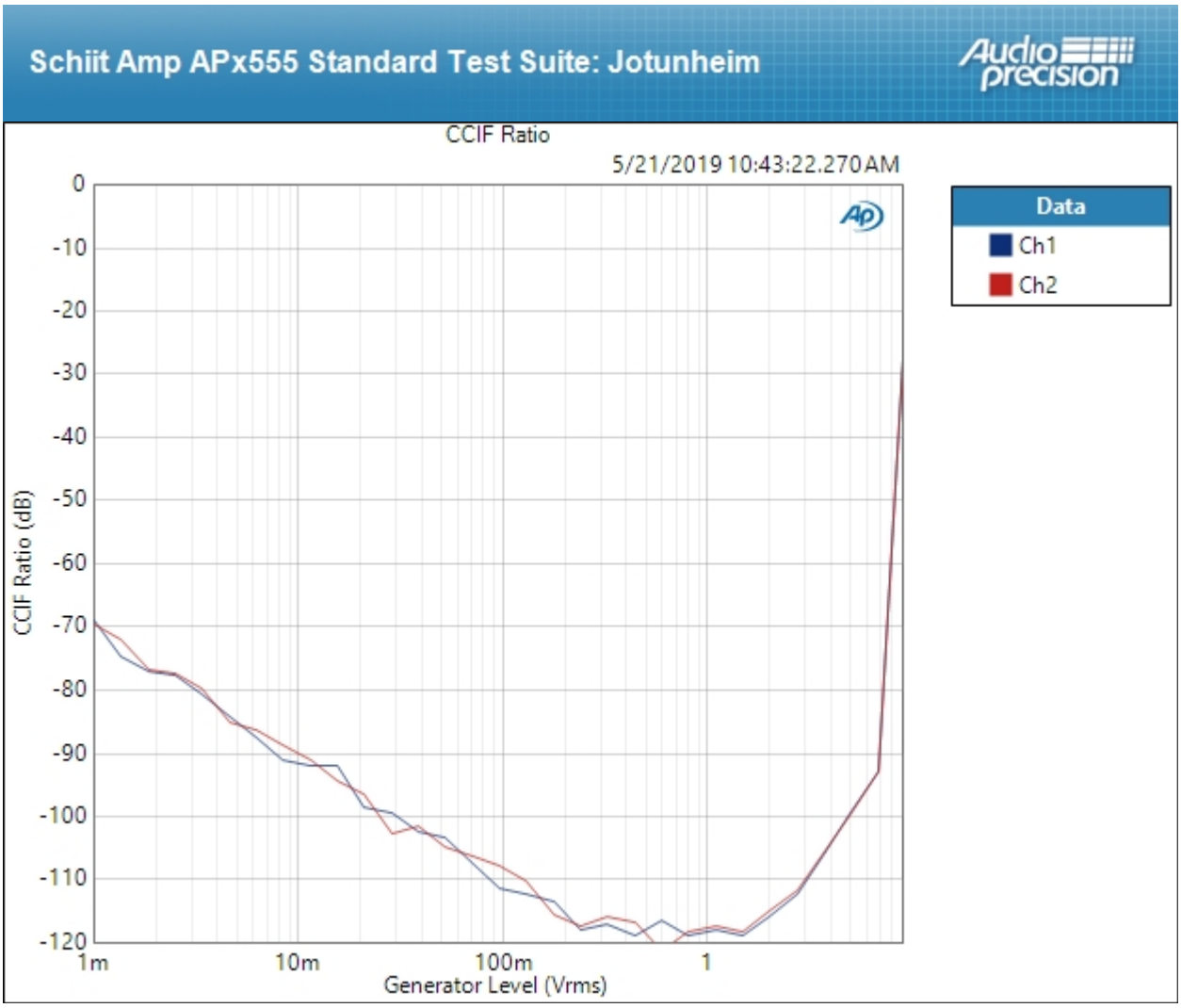
### Distortion Product Ratio Parameters

| | |
|---|---|
| Frequency Unit: | Hz |
| Ratio Unit: | dB |

300 Ohm Low Balanced : IMD Level Sweep ( CCIF )

| | |
|---|---|
| IMD Type: | CCIF |
| Waveform: | IMD |
| Generator Level: | 9.000 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: | 9.000 Vrms |
| Step Type: | Logarithmic |
| Number of Points: | 31 |
| Mode: | d2+d3 |
| Measured 1 | 5/21/2019 10:43:22 AM |

CCIF Ratio (5/21/2019 10:43:22.270 AM)

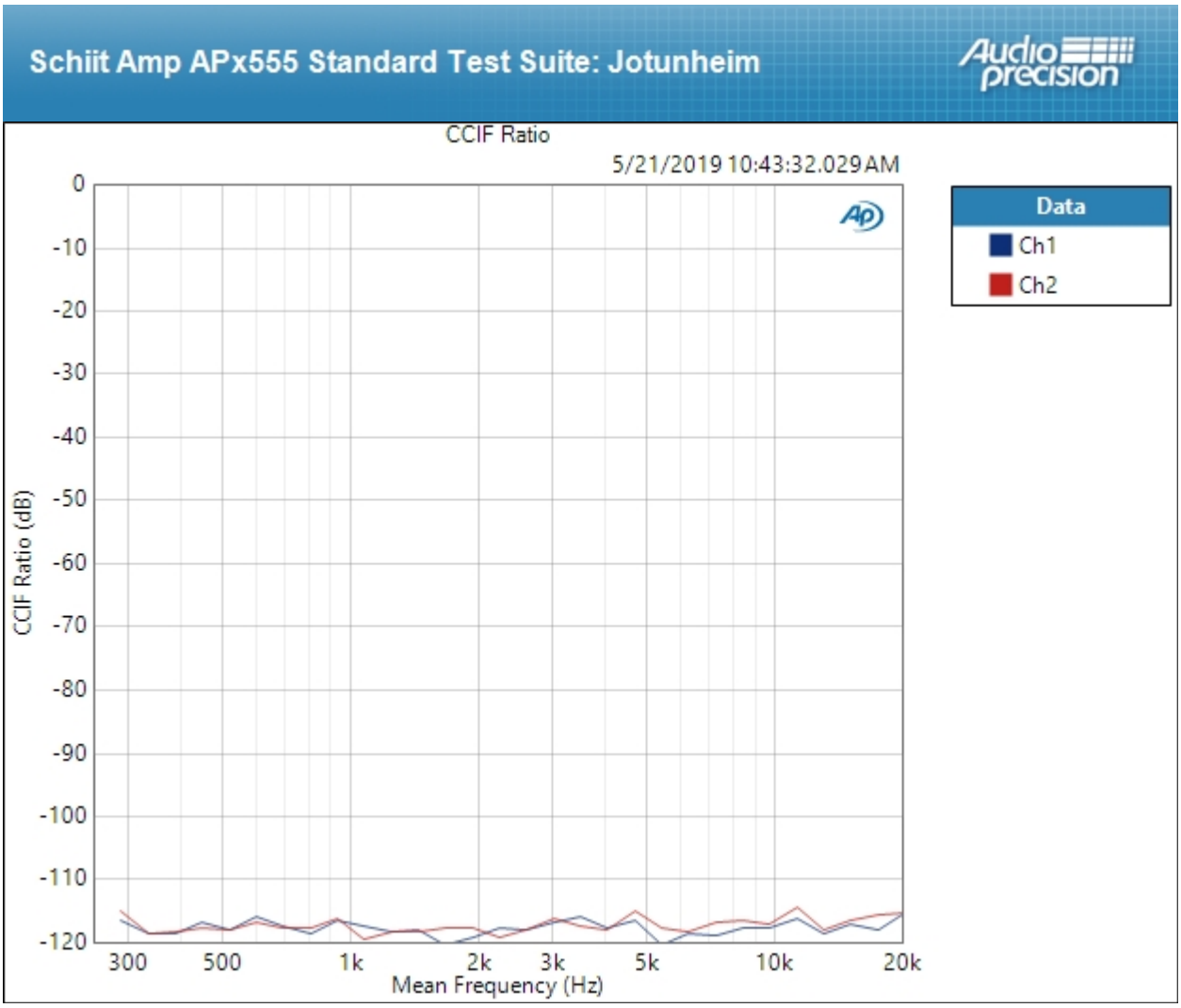



Result: PASSED

## 300 Ohm Low Balanced : IMD Frequency Sweep ( CCIF )

| | |
|---|---|
| Generator Level: | 450.0 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 | 5/21/2019 10:43:32 AM |

### CCIF Ratio (5/21/2019 10:43:32.029 AM)




Result: PASSED

300 Ohm Low Balanced : Crosstalk, One Channel Undriven

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 450.0 mVrms |
| Frequency: | 10.0000 kHz |

Crosstalk (5/21/2019 10:43:37.049 AM)

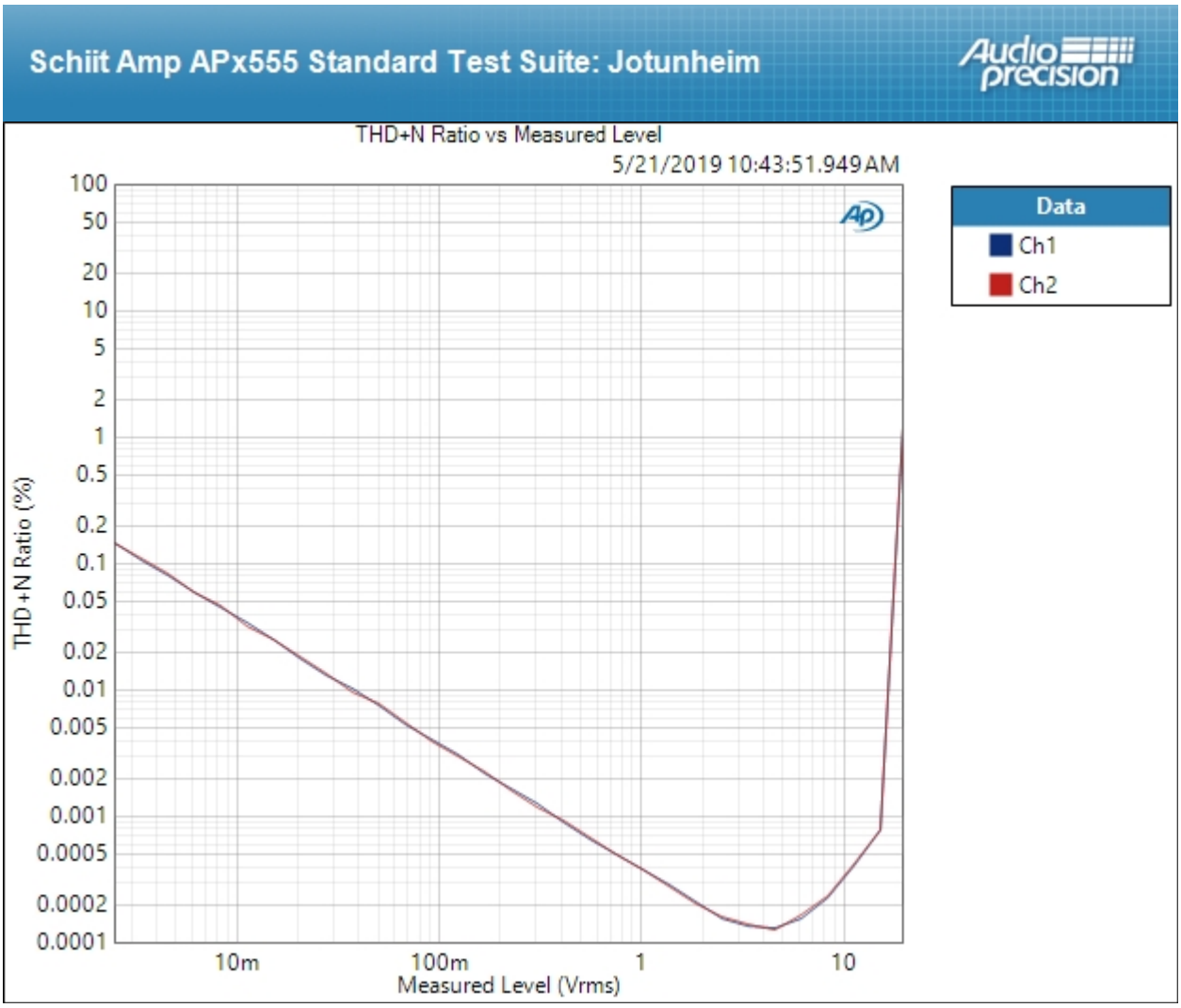
Ch1 96.651 dB

Ch2 100.574 dB

300 Ohm Low Balanced : 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: | 8.000 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 | 5/21/2019 10:43:51 AM |

THD+N Ratio vs Measured Level (5/21/2019 10:43:51.949 AM)




Result: PASSED

## 300 Ohm High Balanced : Signal Path Setup

| | |
|---|---|
| Output Connector: | Analog Balanced |
| Channels: | 2 |
| Generator Mode: | High Performance Sine Generator |
| Configuration: | Normal (Differential) |
| Source Impedance: | 40 ohm |
| AG52 Generator Option: | Installed |
| Output EQ: | None |
| Input Connector: | Analog Balanced |
| Channels: | 2 |
| Termination: | 200 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 Balanced : Level and Gain

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 140.0 mVrms |
| Frequency: | 1.00000 kHz |

#### RMS Level (5/21/2019 10:44:09.246 AM)

Ch1 1.114 Vrms
Ch2 1.114 Vrms

### 300 Ohm High Balanced : 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 |

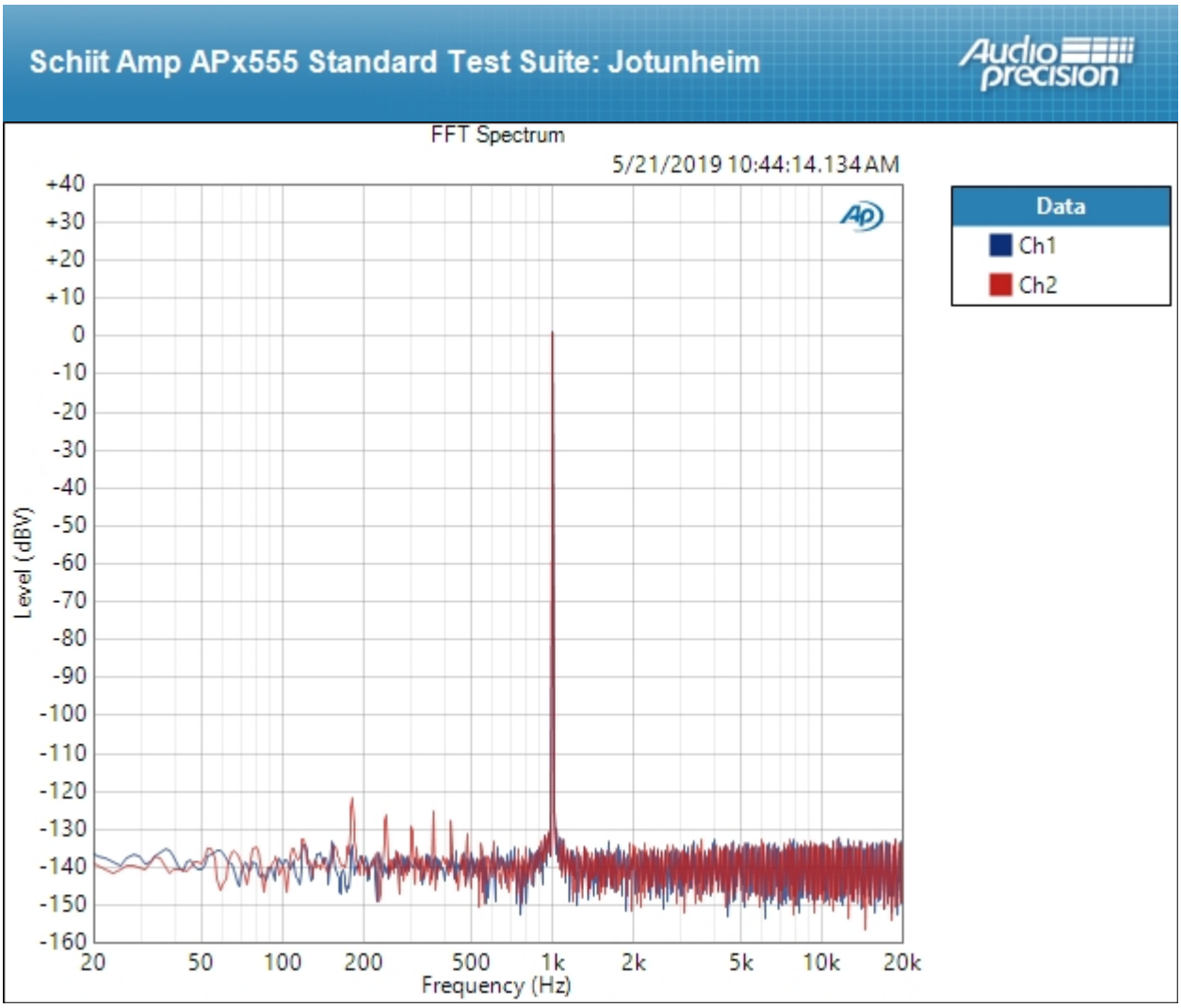
#### DC Level (5/21/2019 10:44:10.413 AM)

Ch1 8.105 mV
Ch2 1.705 mV

## 300 Ohm High Balanced : Signal Analyzer

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 140.0 mVrms |
| Frequency: | 1.00000 kHz |
| Secondary Source: | None |
| Measured 1 | 5/21/2019 10:44:14 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 (5/21/2019 10:44:14.134 AM)

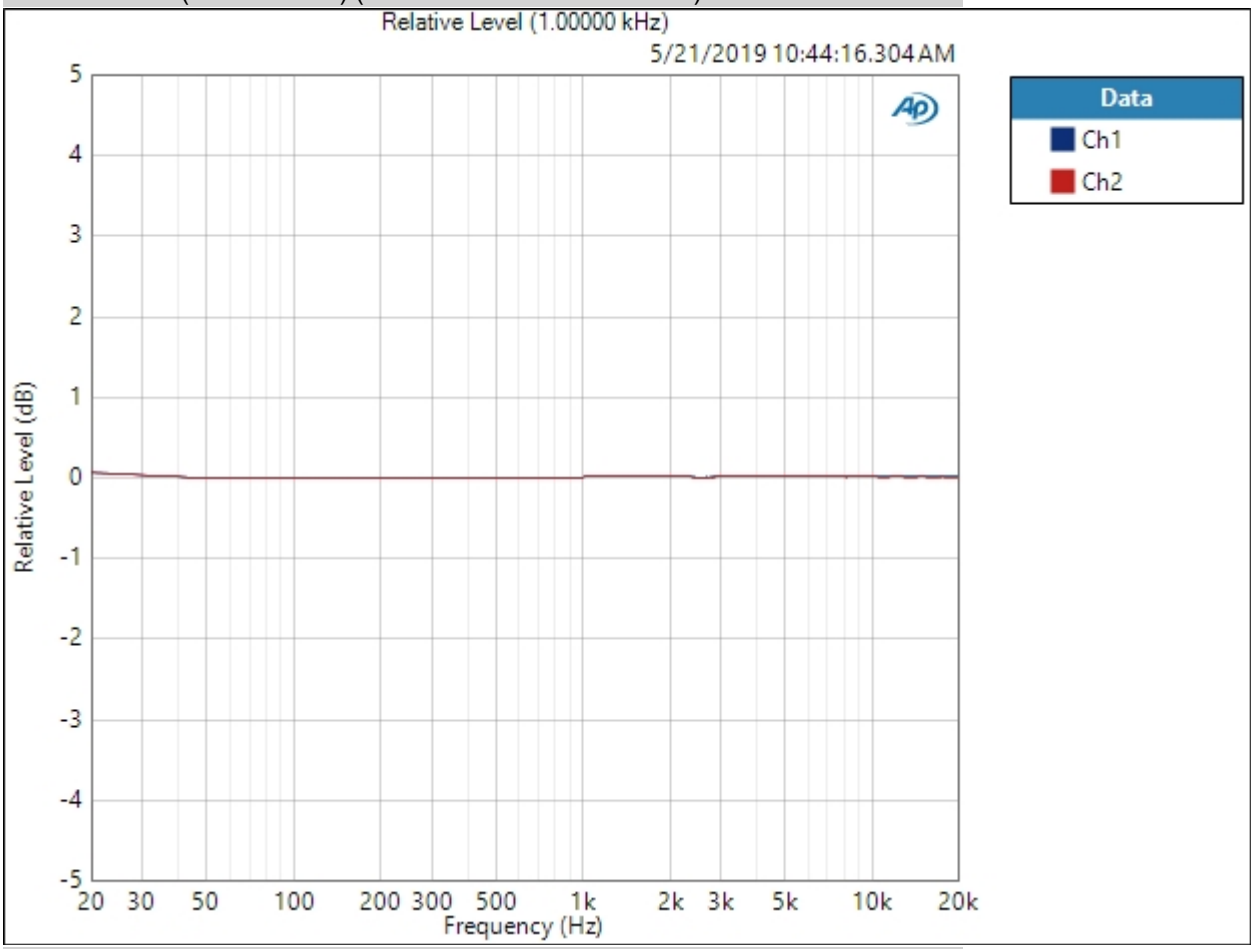



Result: PASSED

## 300 Ohm High Balanced : Frequency Response

| | |
|---|---|
| Start Frequency: | 20.0000 Hz |
| Stop Frequency: | 20.0000 kHz |
| Generator Level: | 140.0 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 | 5/21/2019 10:44:16 AM |

### Relative Level (1.00000 kHz) (5/21/2019 10:44:16.304 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) (5/21/2019 10:44:16.304 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 High Balanced : Signal to Noise Ratio

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 140.0 mVrms |
| Frequency: | 1.00000 kHz |
| Low-pass Filter: | 20 kHz |
| Weighting Filter: | A-wt. |
| High-pass Filter: | 20 Hz |

Signal to Noise Ratio (5/21/2019 10:44:18.324 AM)

Ch1 104.867 dB

Ch2 104.835 dB

## 300 Ohm High Balanced : THD+N

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 140.0 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 (5/21/2019 10:44:20.644 AM)

Ch1 0.022119 %

Ch2 0.022080 %

### THD Ratio (5/21/2019 10:44:20.644 AM)

Ch1 0.000113 %

Ch2 0.000128 %

### Noise Ratio (5/21/2019 10:44:20.644 AM)

Ch1 0.000705 %

Ch2 0.000702 %

### Distortion Product Ratio (5/21/2019 10:44:20.644 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 | -131.60 | -131.22 | -139.60 | -131.38 | -133.57 | -132.25 | -130.69 | -132.10 | -129.60 |
| | 1.000k | 2.000k | 3.000k | 4.000k | 5.000k | 6.000k | 7.000k | 8.000k | 9.000k | 10.00k |
| Ch2 | -0.00 | -131.08 | -132.65 | -132.84 | -128.78 | -127.93 | -134.17 | -129.57 | -127.18 | -130.61 |

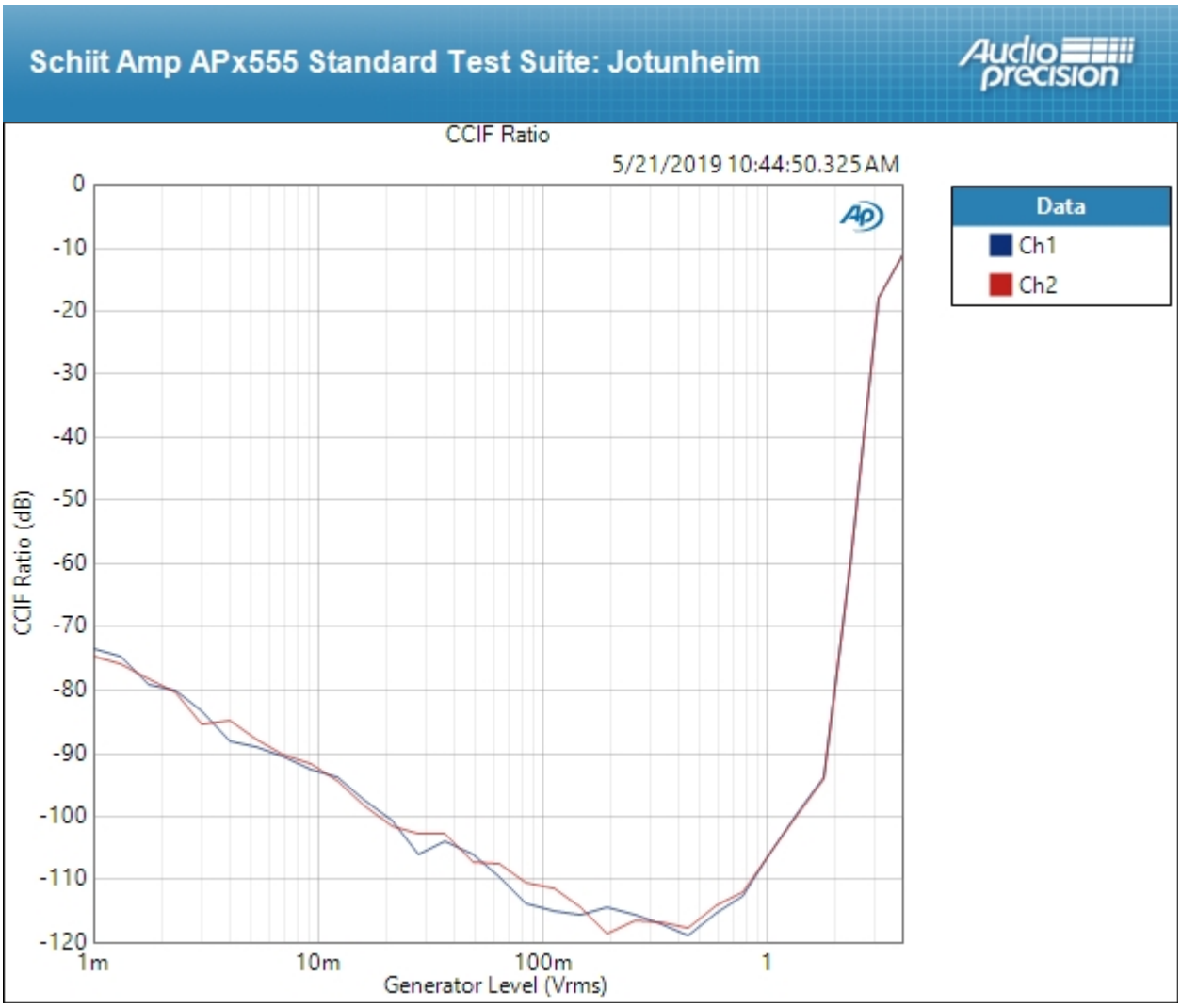
### Distortion Product Ratio Parameters

| | |
|---|---|
| Frequency Unit: | Hz |
| Ratio Unit: | dB |

300 Ohm High Balanced : IMD Level Sweep ( CCIF )

| | |
|---|---|
| IMD Type: | CCIF |
| Waveform: | IMD |
| Generator Level: | 4.000 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: | 4.000 Vrms |
| Step Type: | Logarithmic |
| Number of Points: | 31 |
| Mode: | d2+d3 |
| Measured 1 | 5/21/2019 10:44:50 AM |

CCIF Ratio (5/21/2019 10:44:50.325 AM)

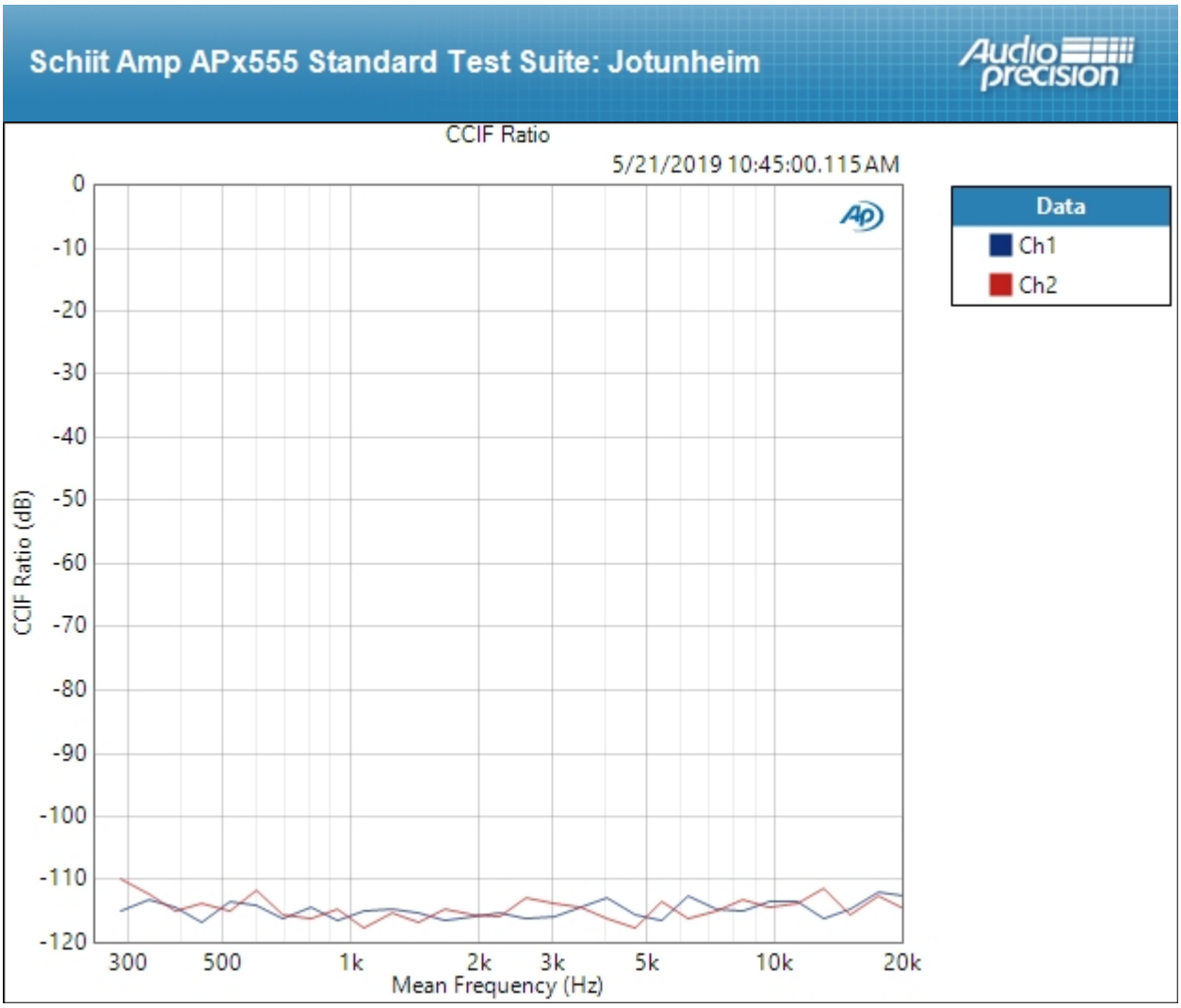



Result: PASSED

## 300 Ohm High Balanced : IMD Frequency Sweep ( CCIF )

| | |
|---|---|
| Generator Level: | 140.0 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 | 5/21/2019 10:45:00 AM |

### CCIF Ratio (5/21/2019 10:45:00.115 AM)




Result: PASSED

300 Ohm High Balanced : Crosstalk, One Channel Undriven

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 140.0 mVrms |
| Frequency: | 10.0000 kHz |

Crosstalk (5/21/2019 10:45:05.165 AM)

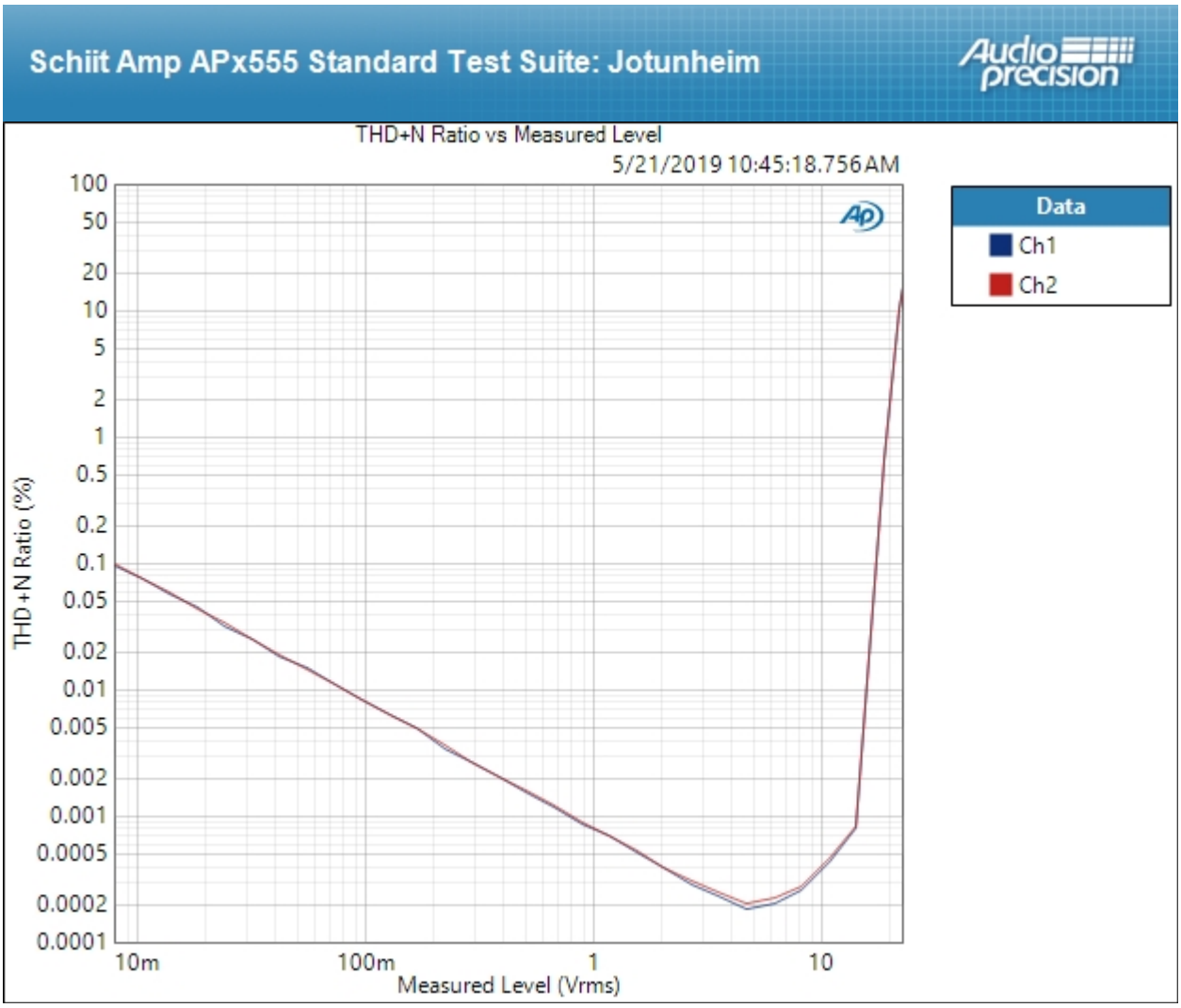
Ch1 112.611 dB

Ch2 96.202 dB

300 Ohm High Balanced : 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 | 5/21/2019 10:45:18 AM |

THD+N Ratio vs Measured Level (5/21/2019 10:45:18.756 AM)




Result: PASSED

## 32 Ohm Low Balanced : Signal Path Setup

| | |
|---|---|
| Output Connector: | Analog Balanced |
| Channels: | 2 |
| Generator Mode: | High Performance Sine Generator |
| Configuration: | Normal (Differential) |
| Source Impedance: | 40 ohm |
| AG52 Generator Option: | Installed |
| Output EQ: | None |
| Input Connector: | Analog Balanced |
| Channels: | 2 |
| Termination: | 200 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 Balanced : Level and Gain

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 450.0 mVrms |
| Frequency: | 1.00000 kHz |

#### RMS Level (5/21/2019 10:45:51.108 AM)

Ch1 1.120 Vrms
Ch2 1.120 Vrms

### 32 Ohm Low Balanced : 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 |

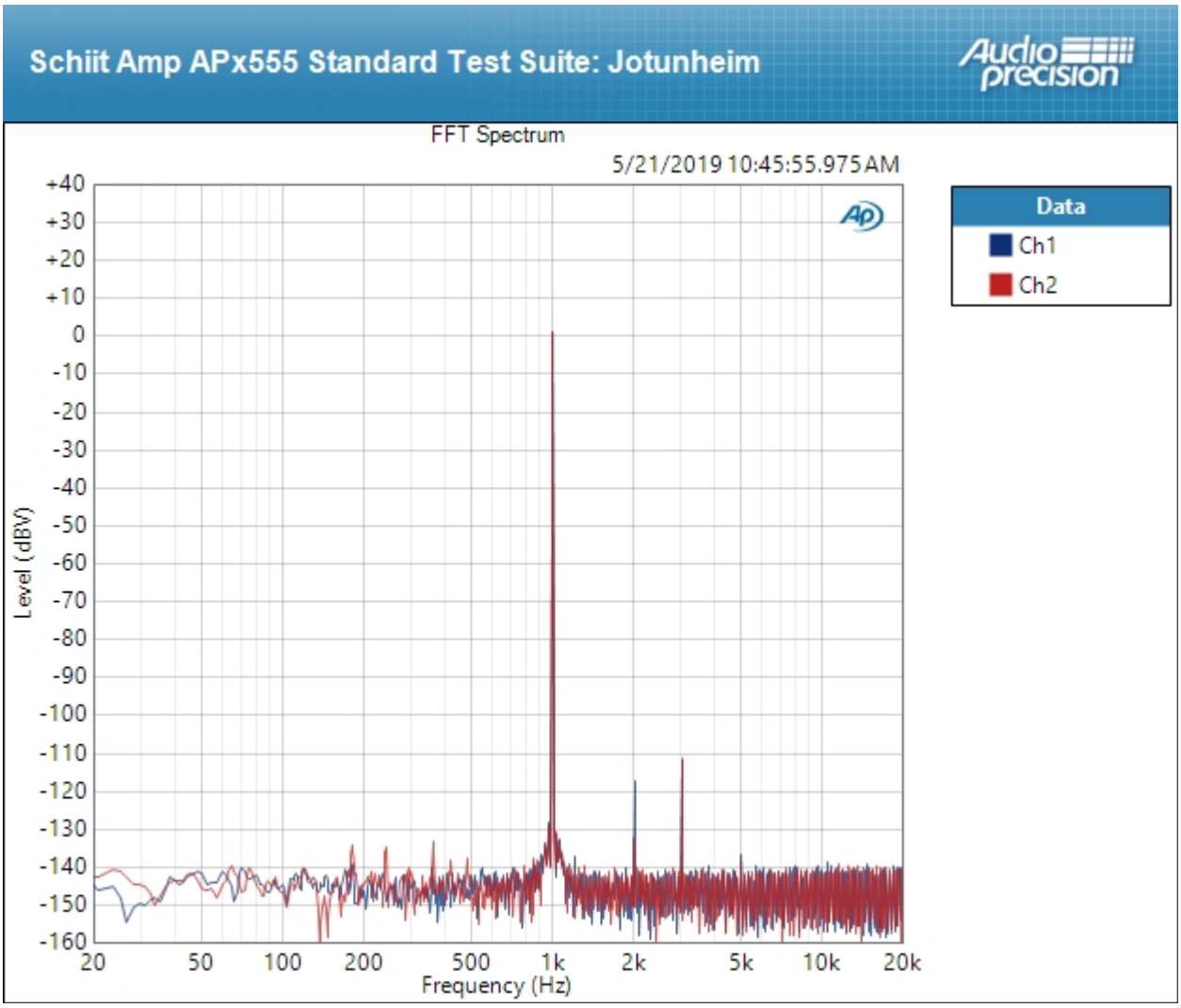
#### DC Level (5/21/2019 10:45:52.275 AM)

Ch1 9.403 mV
Ch2 2.162 mV

## 32 Ohm Low Balanced : Signal Analyzer

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 450.0 mVrms |
| Frequency: | 1.00000 kHz |
| Secondary Source: | None |
| Measured 1 | 5/21/2019 10:45:55 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 (5/21/2019 10:45:55.975 AM)

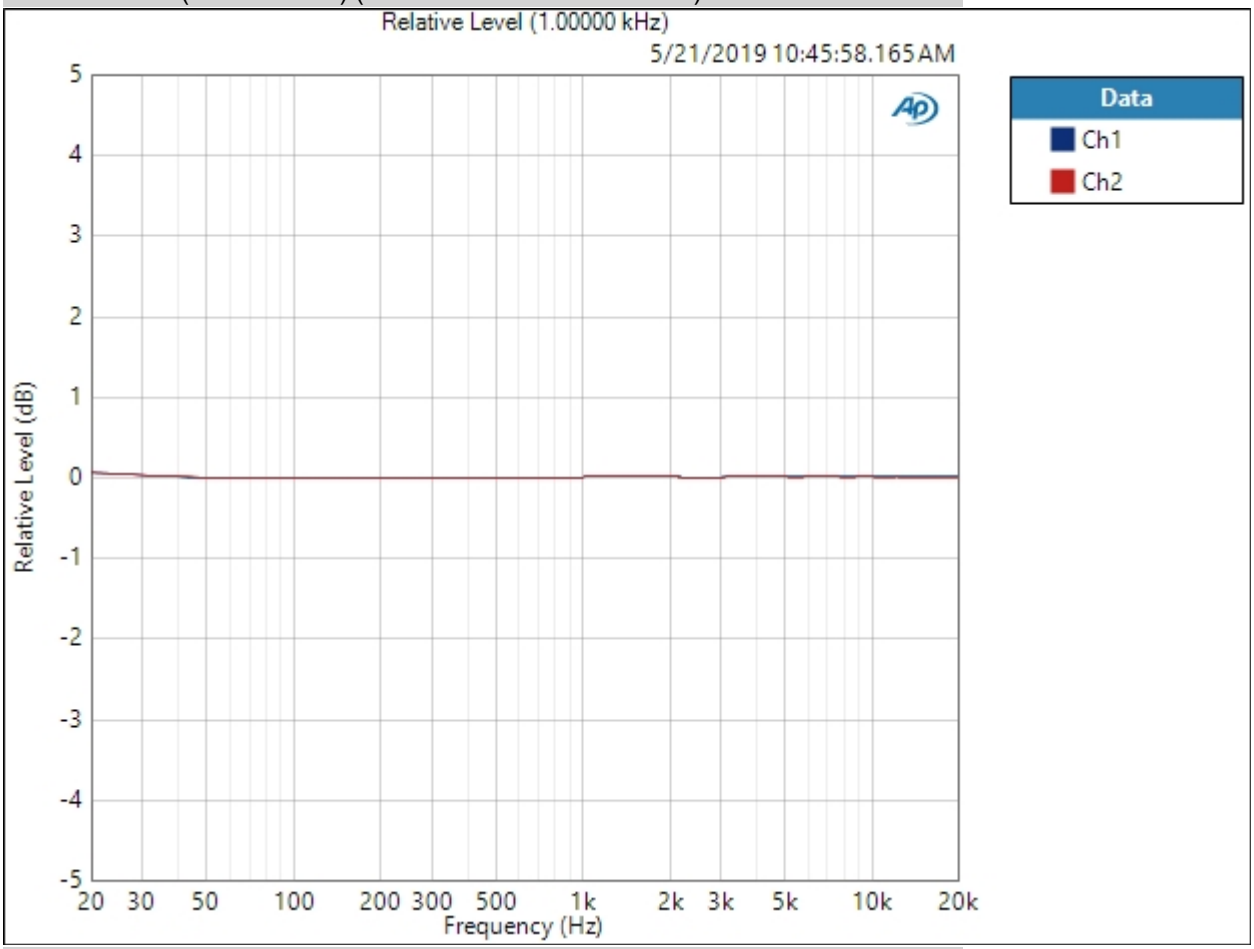



Result: PASSED

## 32 Ohm Low Balanced : Frequency Response

| | |
|---|---|
| Start Frequency: | 20.0000 Hz |
| Stop Frequency: | 20.0000 kHz |
| Generator Level: | 450.0 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 | 5/21/2019 10:45:58 AM |

### Relative Level (1.00000 kHz) (5/21/2019 10:45:58.165 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) (5/21/2019 10:45:58.165 AM)

Ch1 ±0.039 dB

Ch2 ±0.038 dB

Deviation (20.0000 Hz - 20.0000 kHz) Parameters

Min: 20.0000 Hz

Max: 20.0000 kHz

32 Ohm Low Balanced : Signal to Noise Ratio

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 450.0 mVrms |
| Frequency: | 1.00000 kHz |
| Low-pass Filter: | 20 kHz |
| Weighting Filter: | A-wt. |
| High-pass Filter: | 20 Hz |

Signal to Noise Ratio (5/21/2019 10:46:00.205 AM)

Ch1 111.764 dB

Ch2 111.624 dB

## 32 Ohm Low Balanced : THD+N

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 450.0 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 (5/21/2019 10:46:02.589 AM)

Ch1 0.000420 %

Ch2 0.000410 %

### THD Ratio (5/21/2019 10:46:02.589 AM)

Ch1 0.000261 %

Ch2 0.000242 %

### Noise Ratio (5/21/2019 10:46:02.589 AM)

Ch1 0.000326 %

Ch2 0.000325 %

### Distortion Product Ratio (5/21/2019 10:46:02.589 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 | -118.05 | -113.04 | -138.92 | -134.14 | -141.32 | -138.06 | -139.70 | -136.88 | -140.40 |
| | 1.000k | 2.000k | 3.000k | 4.000k | 5.000k | 6.000k | 7.000k | 8.000k | 9.000k | 10.00k |
| Ch2 | -0.00 | -136.48 | -112.58 | -136.72 | -134.17 | -140.39 | -140.57 | -134.84 | -141.33 | -137.26 |

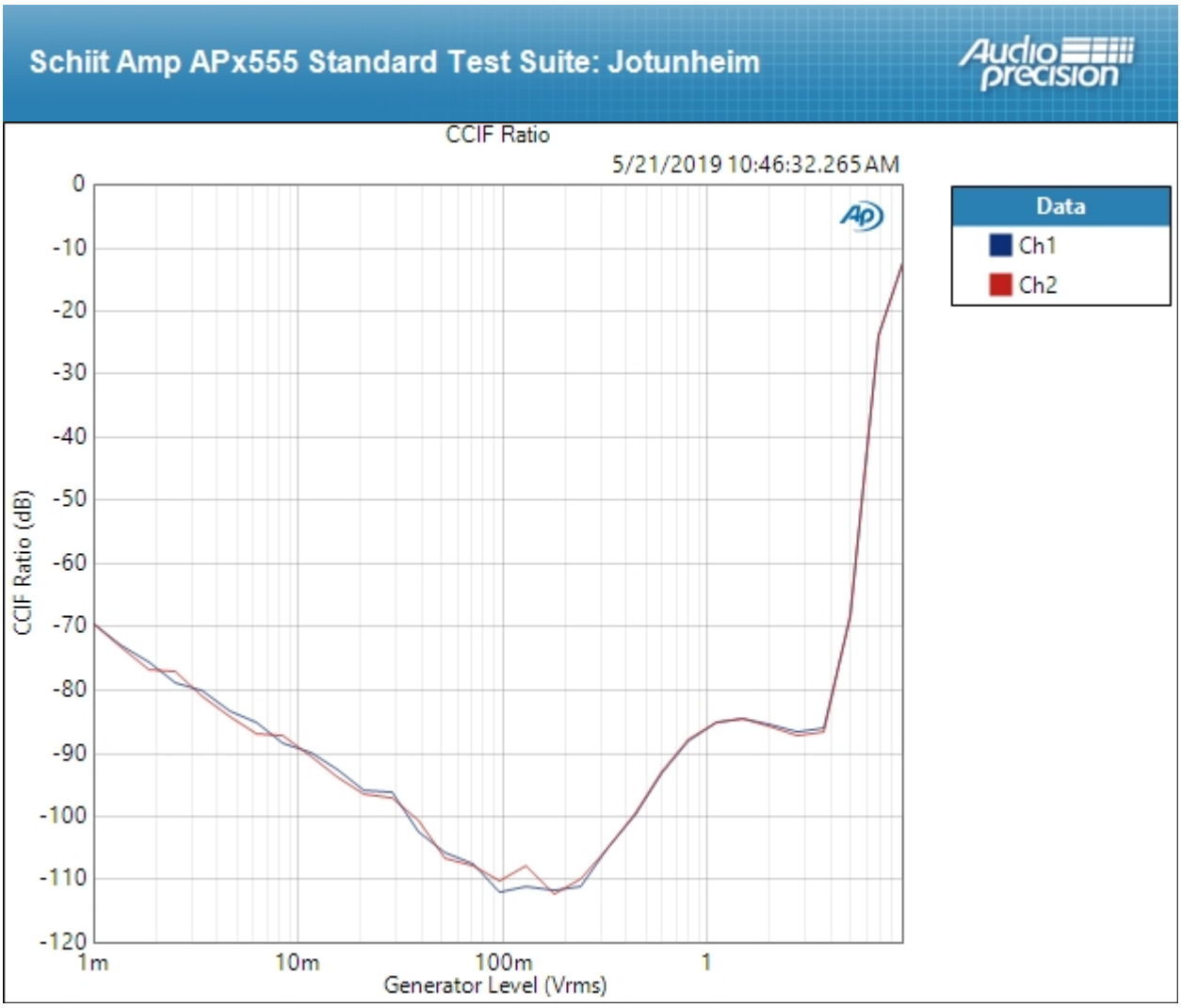
### Distortion Product Ratio Parameters

| | |
|---|---|
| Frequency Unit: | Hz |
| Ratio Unit: | dB |

32 Ohm Low Balanced : IMD Level Sweep ( CCIF )

| | |
|---|---|
| IMD Type: | CCIF |
| Waveform: | IMD |
| Generator Level: | 9.000 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: | 9.000 Vrms |
| Step Type: | Logarithmic |
| Number of Points: | 31 |
| Mode: | d2+d3 |
| Measured 1 | 5/21/2019 10:46:32 AM |

CCIF Ratio (5/21/2019 10:46:32.265 AM)

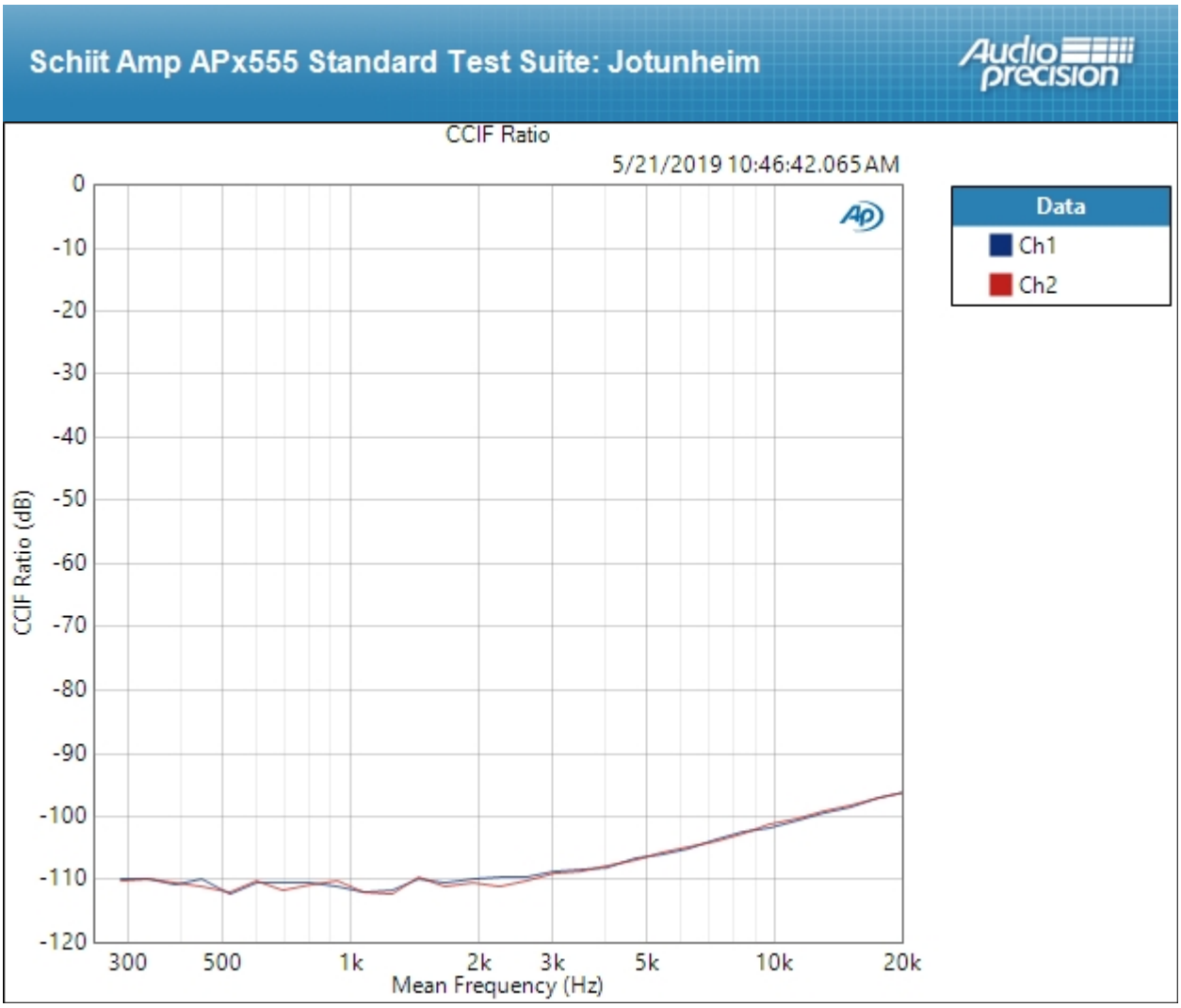



Result: PASSED

## 32 Ohm Low Balanced : IMD Frequency Sweep ( CCIF )

| | |
|---|---|
| Generator Level: | 450.0 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 | 5/21/2019 10:46:42 AM |

### CCIF Ratio (5/21/2019 10:46:42.065 AM)




Result: PASSED

32 Ohm Low Balanced : Crosstalk, One Channel Undriven

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 450.0 mVrms |
| Frequency: | 10.0000 kHz |

Crosstalk (5/21/2019 10:46:47.185 AM)

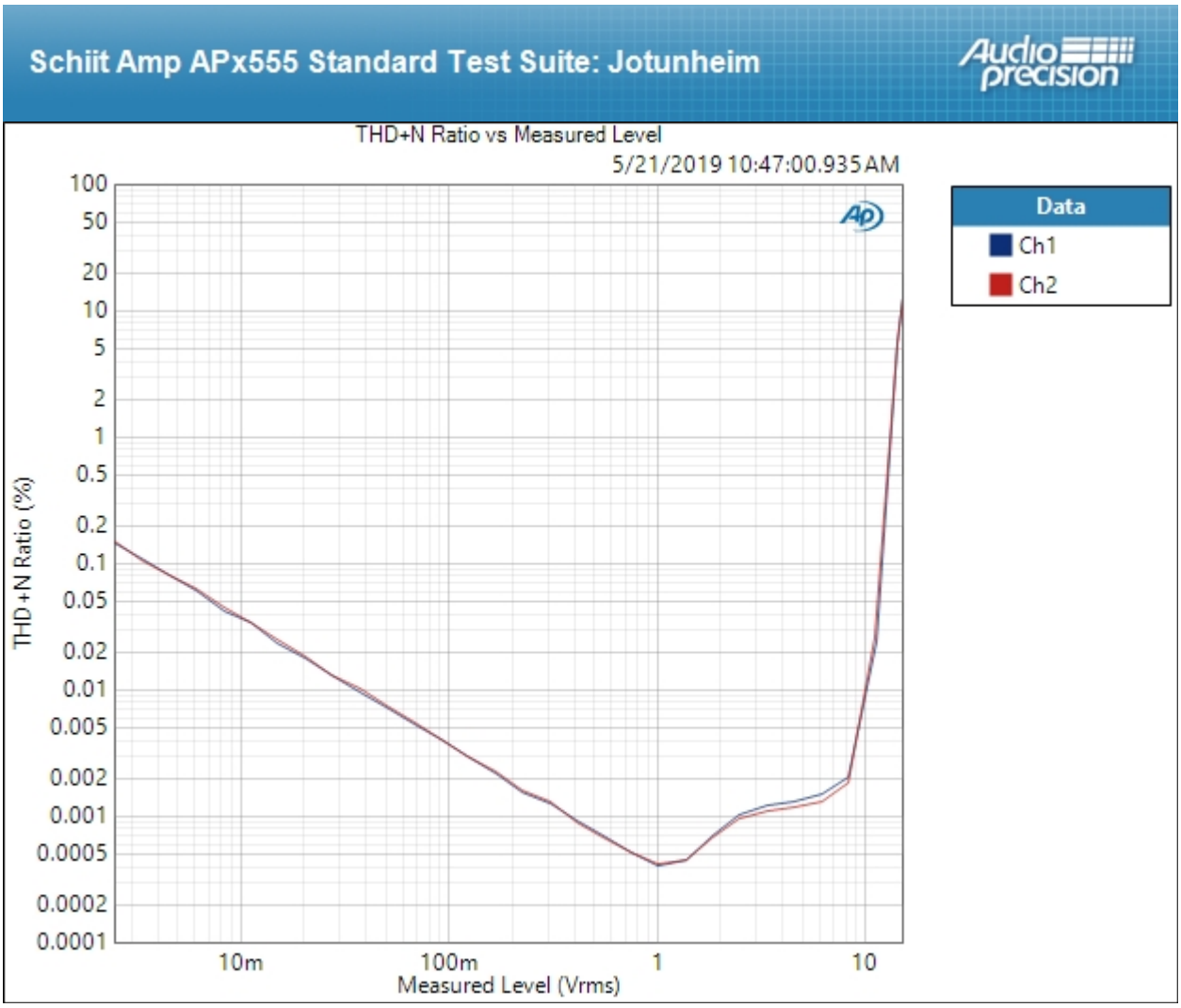
Ch1 100.067 dB

Ch2 99.456 dB

32 Ohm Low Balanced : 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: | 8.000 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 | 5/21/2019 10:47:00 AM |

THD+N Ratio vs Measured Level (5/21/2019 10:47:00.935 AM)




Result: PASSED

## 32 Ohm High Balanced : Signal Path Setup

| | |
|---|---|
| Output Connector: | Analog Balanced |
| Channels: | 2 |
| Generator Mode: | High Performance Sine Generator |
| Configuration: | Normal (Differential) |
| Source Impedance: | 40 ohm |
| AG52 Generator Option: | Installed |
| Output EQ: | None |
| Input Connector: | Analog Balanced |
| Channels: | 2 |
| Termination: | 200 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 Balanced : Level and Gain

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 140.0 mVrms |
| Frequency: | 1.00000 kHz |

RMS Level (5/21/2019 10:47:27.094 AM)

Ch1 1.111 Vrms
Ch2 1.111 Vrms

32 Ohm High Balanced : 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 |

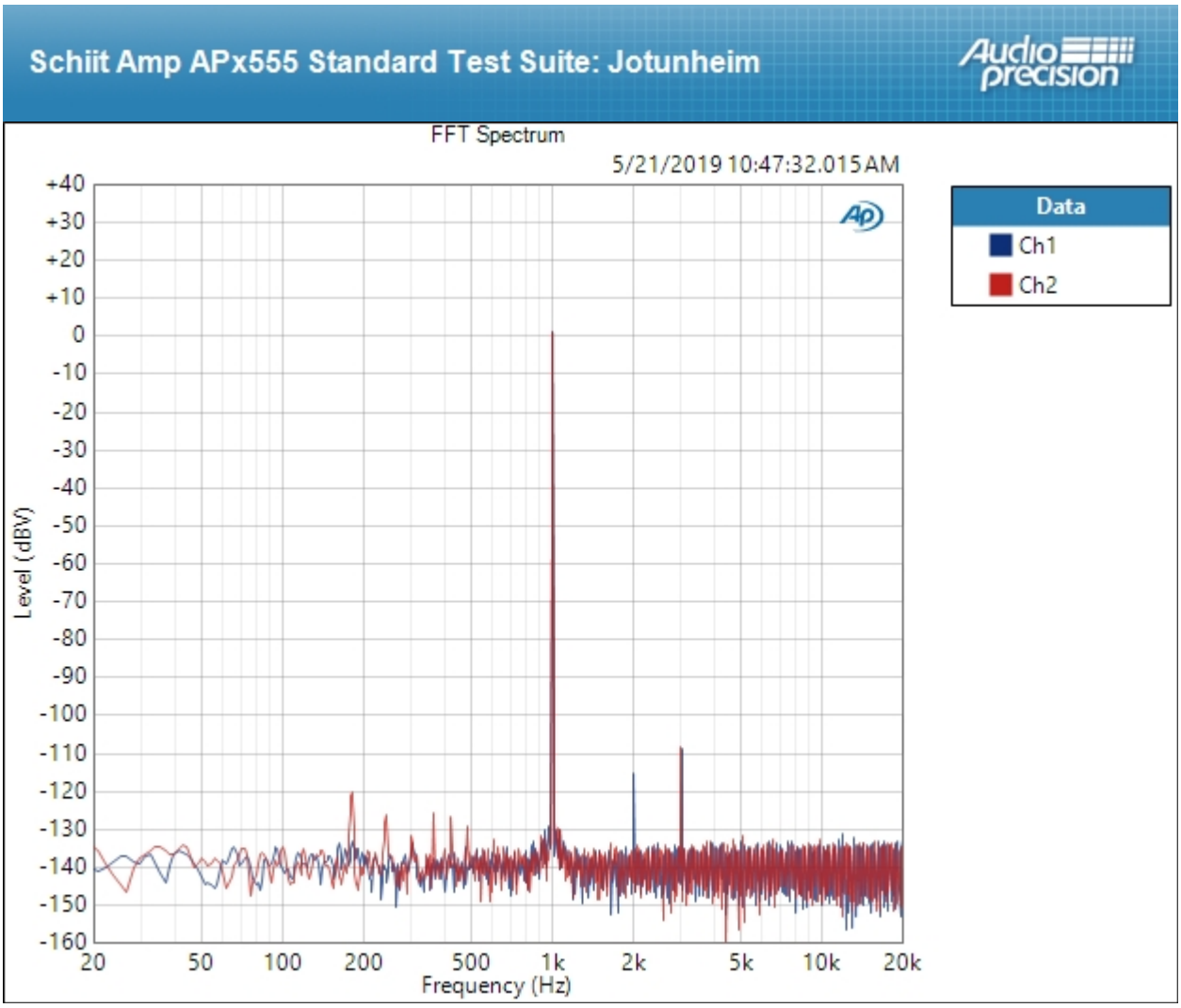
DC Level (5/21/2019 10:47:28.274 AM)

Ch1 9.405 mV
Ch2 5.890 mV

## 32 Ohm High Balanced : Signal Analyzer

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 140.0 mVrms |
| Frequency: | 1.00000 kHz |
| Secondary Source: | None |
| Measured 1 | 5/21/2019 10:47:32 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 (5/21/2019 10:47:32.015 AM)

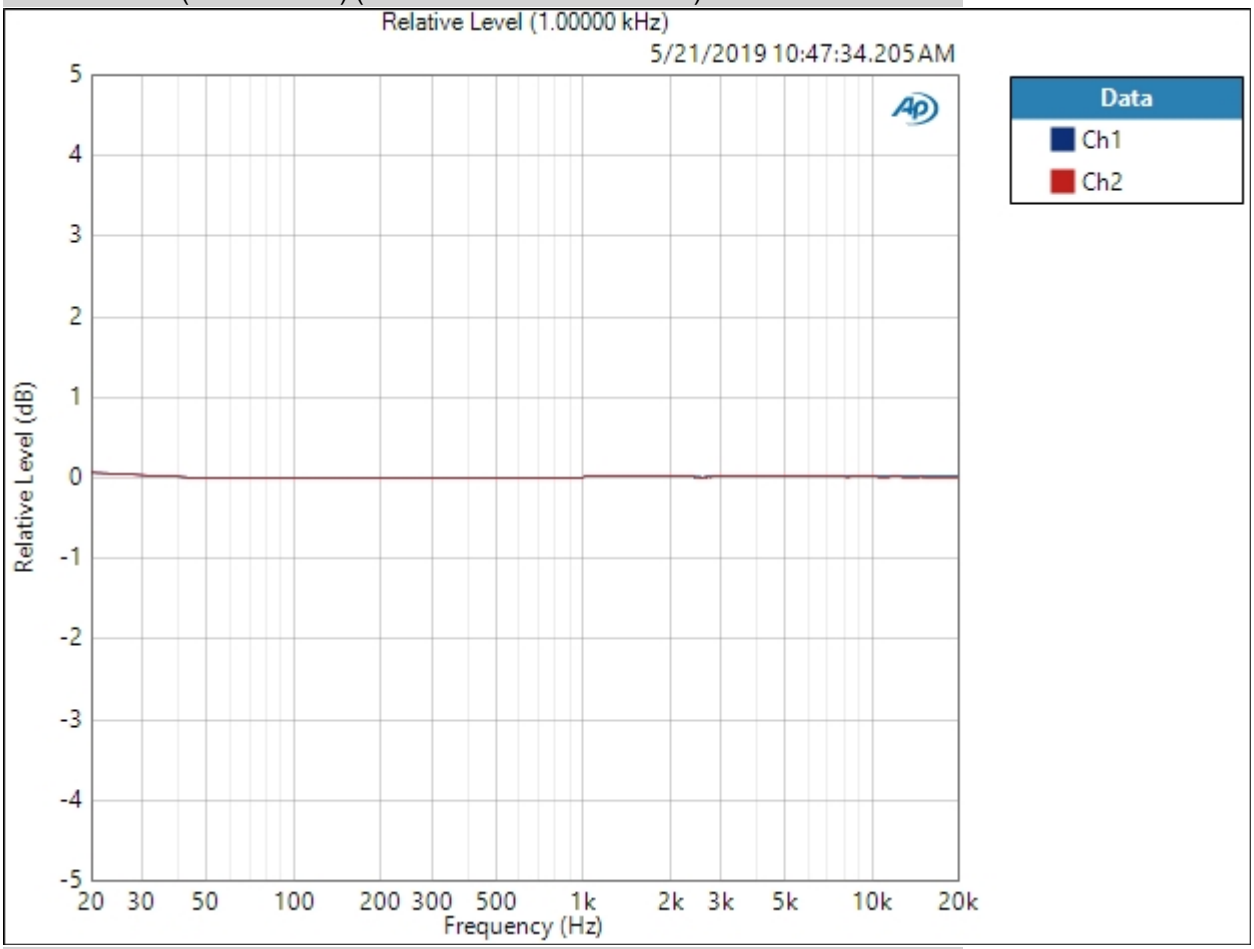



Result: PASSED

## 32 Ohm High Balanced : Frequency Response

| | |
|---|---|
| Start Frequency: | 20.0000 Hz |
| Stop Frequency: | 20.0000 kHz |
| Generator Level: | 140.0 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 | 5/21/2019 10:47:34 AM |

### Relative Level (1.00000 kHz) (5/21/2019 10:47:34.205 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) (5/21/2019 10:47:34.205 AM)

Ch1 ±0.037 dB

Ch2 ±0.036 dB

Deviation (20.0000 Hz - 20.0000 kHz) Parameters

Min: 20.0000 Hz

Max: 20.0000 kHz

32 Ohm High Balanced : Signal to Noise Ratio

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 140.0 mVrms |
| Frequency: | 1.00000 kHz |
| Low-pass Filter: | 20 kHz |
| Weighting Filter: | A-wt. |
| High-pass Filter: | 20 Hz |

Signal to Noise Ratio (5/21/2019 10:47:36.245 AM)

Ch1 105.011 dB

Ch2 104.908 dB

## 32 Ohm High Balanced : THD+N

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 140.0 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 (5/21/2019 10:47:38.645 AM)

Ch1 0.001534 %

Ch2 0.001342 %

### THD Ratio (5/21/2019 10:47:38.645 AM)

Ch1 0.000387 %

Ch2 0.000357 %

### Noise Ratio (5/21/2019 10:47:38.645 AM)

Ch1 0.000707 %

Ch2 0.000714 %

### Distortion Product Ratio (5/21/2019 10:47:38.645 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 | -114.90 | -109.66 | -132.64 | -134.89 | -134.07 | -135.10 | -134.69 | -130.51 | -137.86 |
| | 1.000k | 2.000k | 3.000k | 4.000k | 5.000k | 6.000k | 7.000k | 8.000k | 9.000k | 10.00k |
| Ch2 | -0.00 | -133.48 | -109.44 | -130.59 | -131.89 | -129.76 | -134.15 | -133.10 | -131.72 | -135.28 |

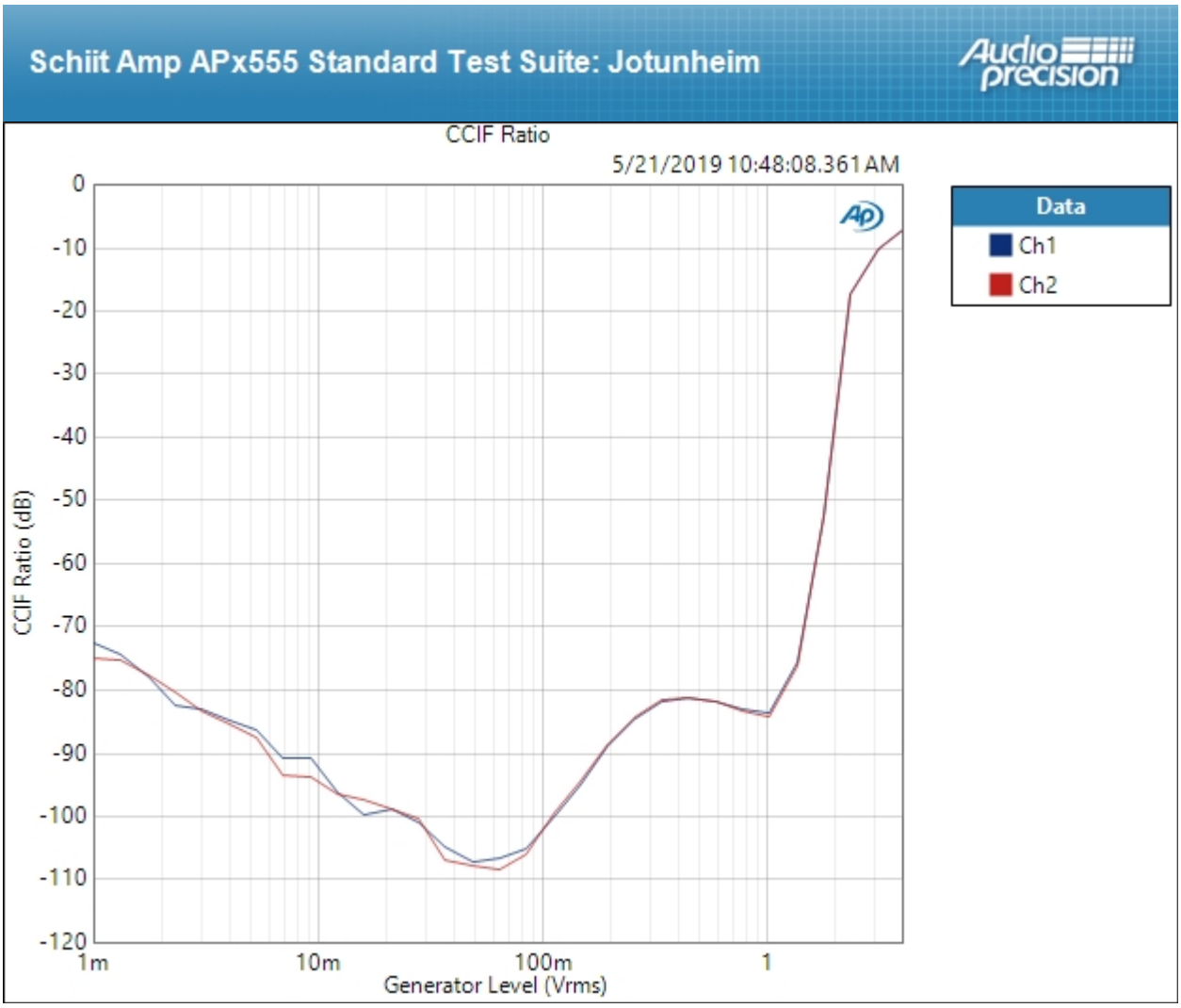
### Distortion Product Ratio Parameters

| | |
|---|---|
| Frequency Unit: | Hz |
| Ratio Unit: | dB |

32 Ohm High Balanced : IMD Level Sweep ( CCIF )

| | |
|---|---|
| IMD Type: | CCIF |
| Waveform: | IMD |
| Generator Level: | 4.000 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: | 4.000 Vrms |
| Step Type: | Logarithmic |
| Number of Points: | 31 |
| Mode: | d2+d3 |
| Measured 1 | 5/21/2019 10:48:08 AM |

CCIF Ratio (5/21/2019 10:48:08.361 AM)

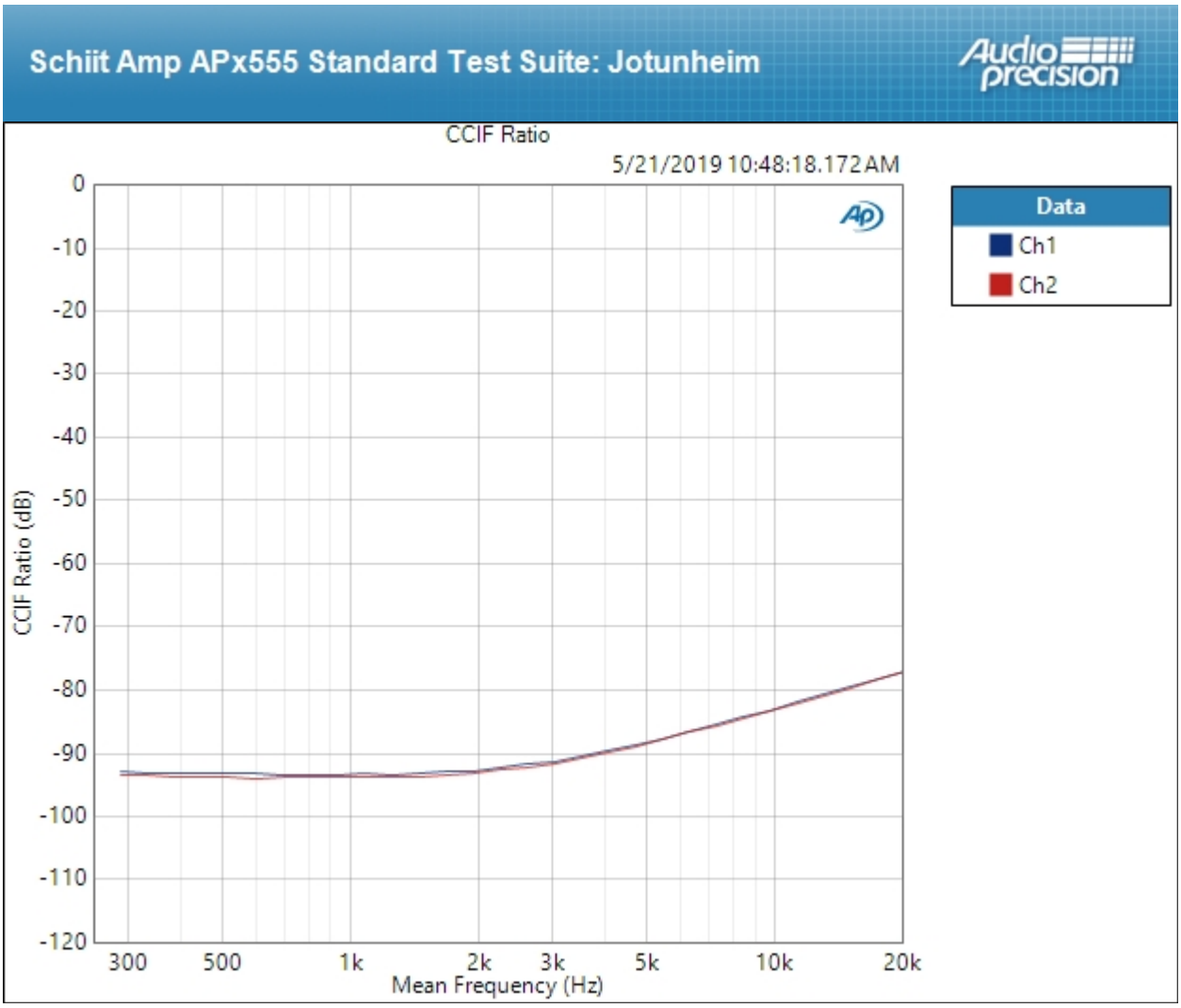



Result: PASSED

## 32 Ohm High Balanced : IMD Frequency Sweep ( CCIF )

| | |
|---|---|
| Generator Level: | 450.0 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 | 5/21/2019 10:48:18 AM |

### CCIF Ratio (5/21/2019 10:48:18.172 AM)




Result: PASSED

32 Ohm High Balanced : Crosstalk, One Channel Undriven

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 140.0 mVrms |
| Frequency: | 10.0000 kHz |

Crosstalk (5/21/2019 10:48:21.522 AM)

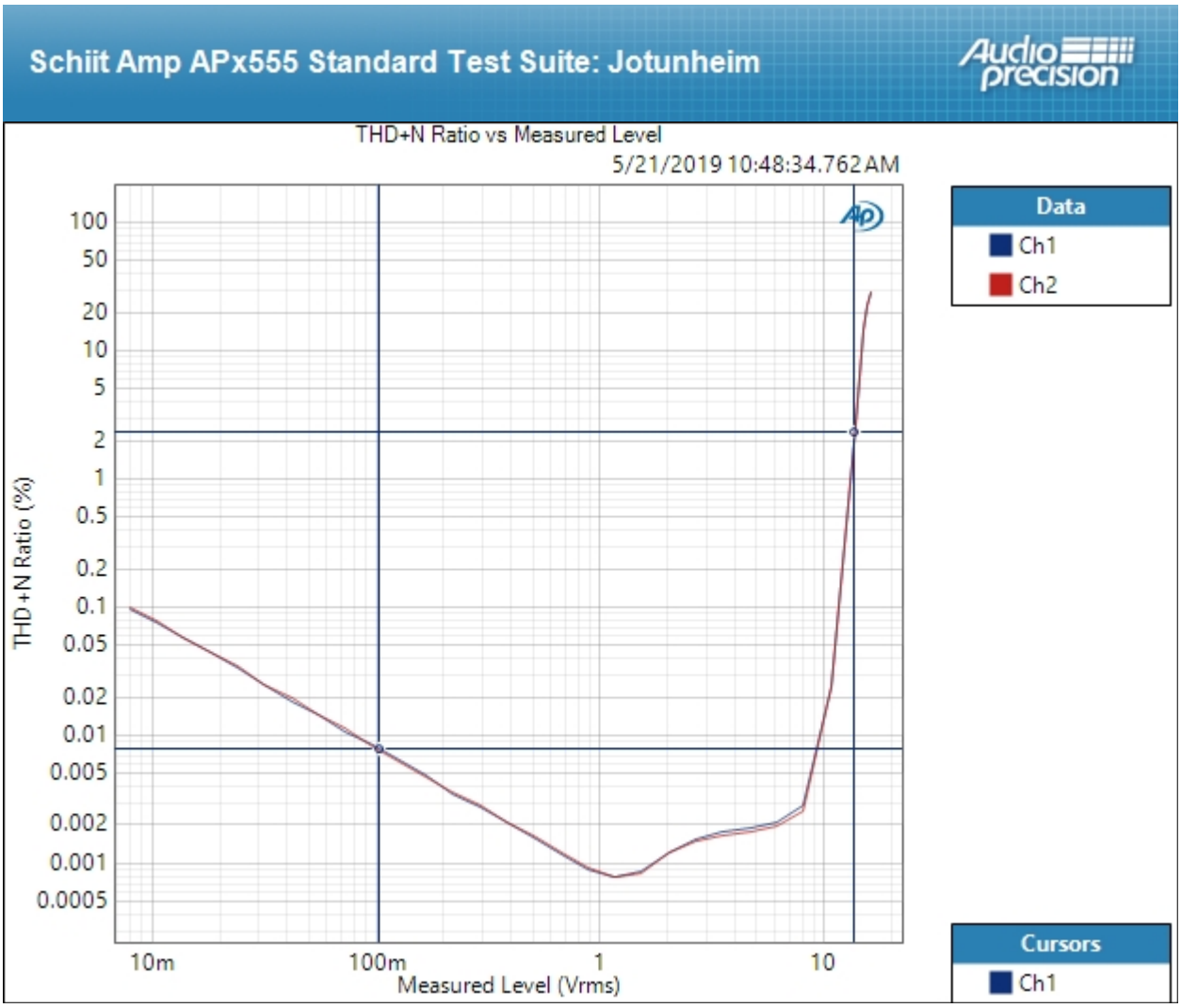
Ch1 108.071 dB

Ch2 91.942 dB

32 Ohm High Balanced : 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 | 5/21/2019 10:48:34 AM |

THD+N Ratio vs Measured Level (5/21/2019 10:48:34.762 AM)




Result: PASSED

## 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: | 550.0 mVrms |
| Frequency: | 1.00000 kHz |

#### RMS Level (5/21/2019 10:49:46.088 AM)

Ch1 1.098 Vrms
Ch2 1.098 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 |

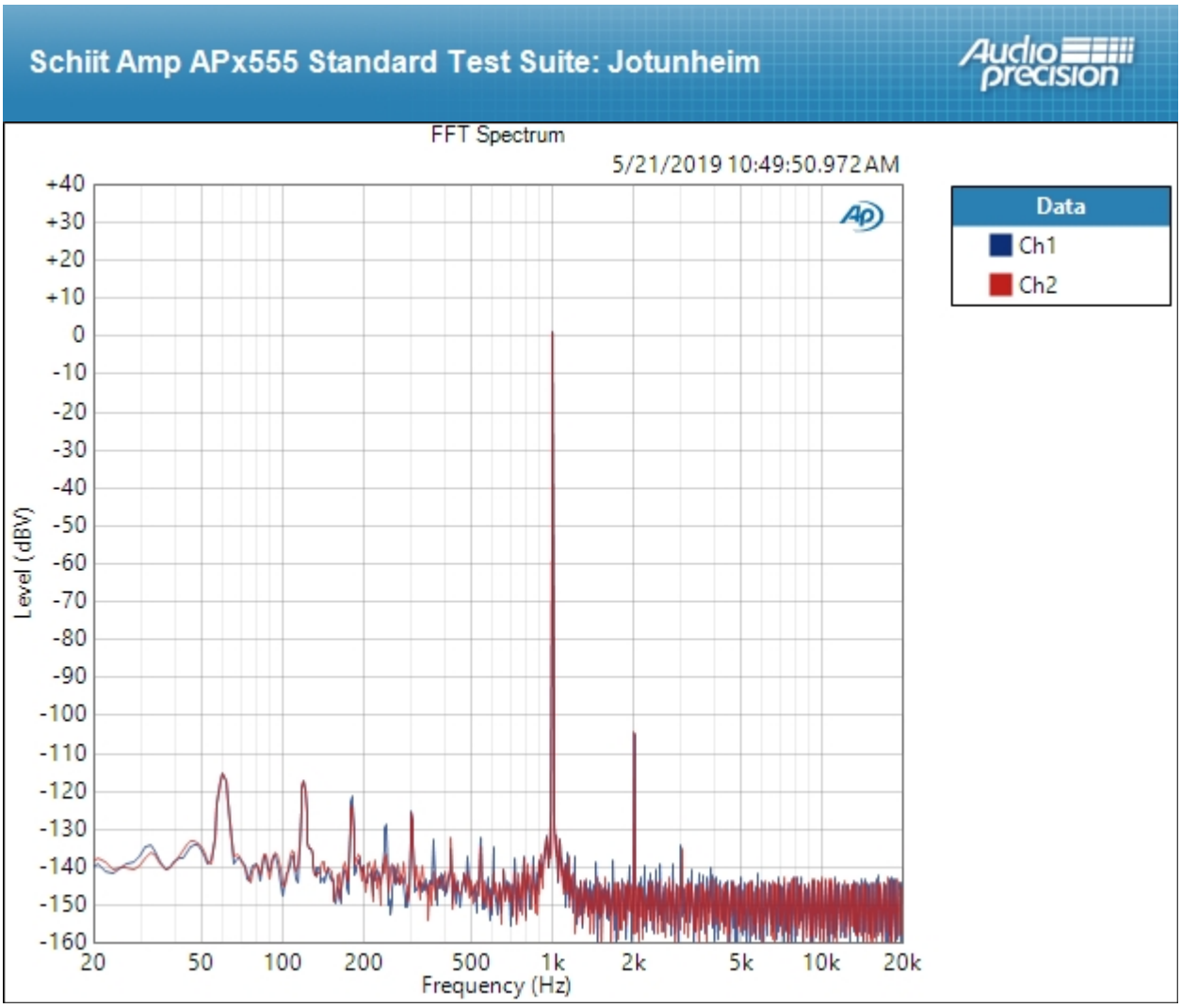
#### DC Level (5/21/2019 10:49:47.248 AM)

Ch1 -2.301 mV
Ch2 4.047 mV

## 300 Ohm Low SE : Signal Analyzer

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 550.0 mVrms |
| Frequency: | 1.00000 kHz |
| Secondary Source: | None |
| Measured 1 | 5/21/2019 10:49:50 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 (5/21/2019 10:49:50.972 AM)

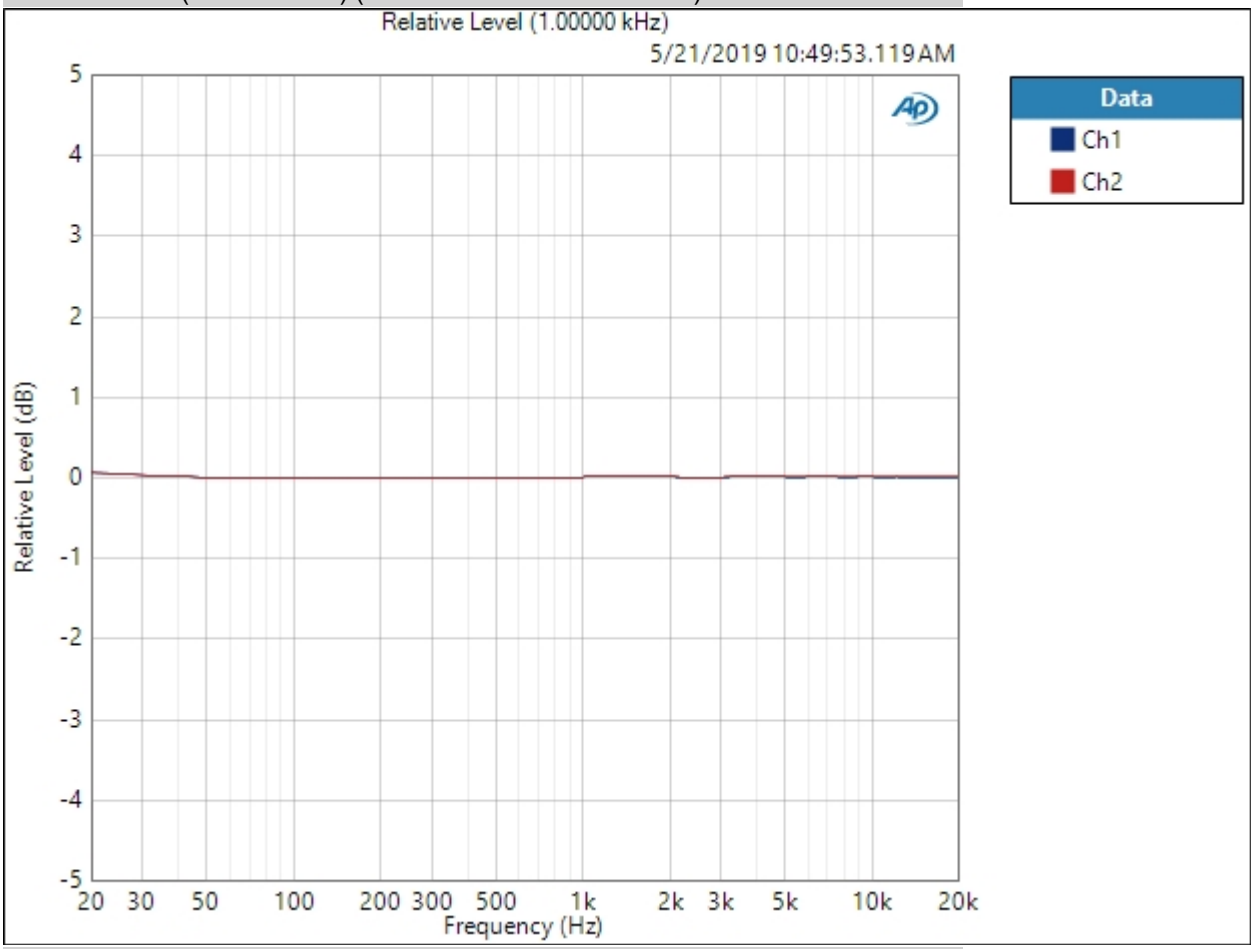



Result: PASSED

## 300 Ohm Low SE : Frequency Response

| | |
|---|---|
| Start Frequency: | 20.0000 Hz |
| Stop Frequency: | 20.0000 kHz |
| Generator Level: | 550.0 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 | 5/21/2019 10:49:53 AM |

## Relative Level (1.00000 kHz) (5/21/2019 10:49:53.119 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) (5/21/2019 10:49:53.119 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

300 Ohm Low SE : Signal to Noise Ratio

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 550.0 mVrms |
| Frequency: | 1.00000 kHz |
| Low-pass Filter: | 20 kHz |
| Weighting Filter: | A-wt. |
| High-pass Filter: | 20 Hz |

Signal to Noise Ratio (5/21/2019 10:49:55.132 AM)

Ch1 113.966 dB

Ch2 114.245 dB

## 300 Ohm Low SE : THD+N

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 550.0 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 (5/21/2019 10:49:57.515 AM)

Ch1 0.005634 %

Ch2 0.005186 %

### THD Ratio (5/21/2019 10:49:57.515 AM)

Ch1 0.000551 %

Ch2 0.000576 %

### Noise Ratio (5/21/2019 10:49:57.515 AM)

Ch1 0.000343 %

Ch2 0.000335 %

### Distortion Product Ratio (5/21/2019 10:49:57.515 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 | -105.21 | -130.39 | -138.05 | -142.40 | -141.65 | -140.28 | -142.40 | -138.54 | -141.13 |
| | 1.000k | 2.000k | 3.000k | 4.000k | 5.000k | 6.000k | 7.000k | 8.000k | 9.000k | 10.00k |
| Ch2 | -0.00 | -104.82 | -131.82 | -140.16 | -138.62 | -140.10 | -140.81 | -140.41 | -142.55 | -143.30 |

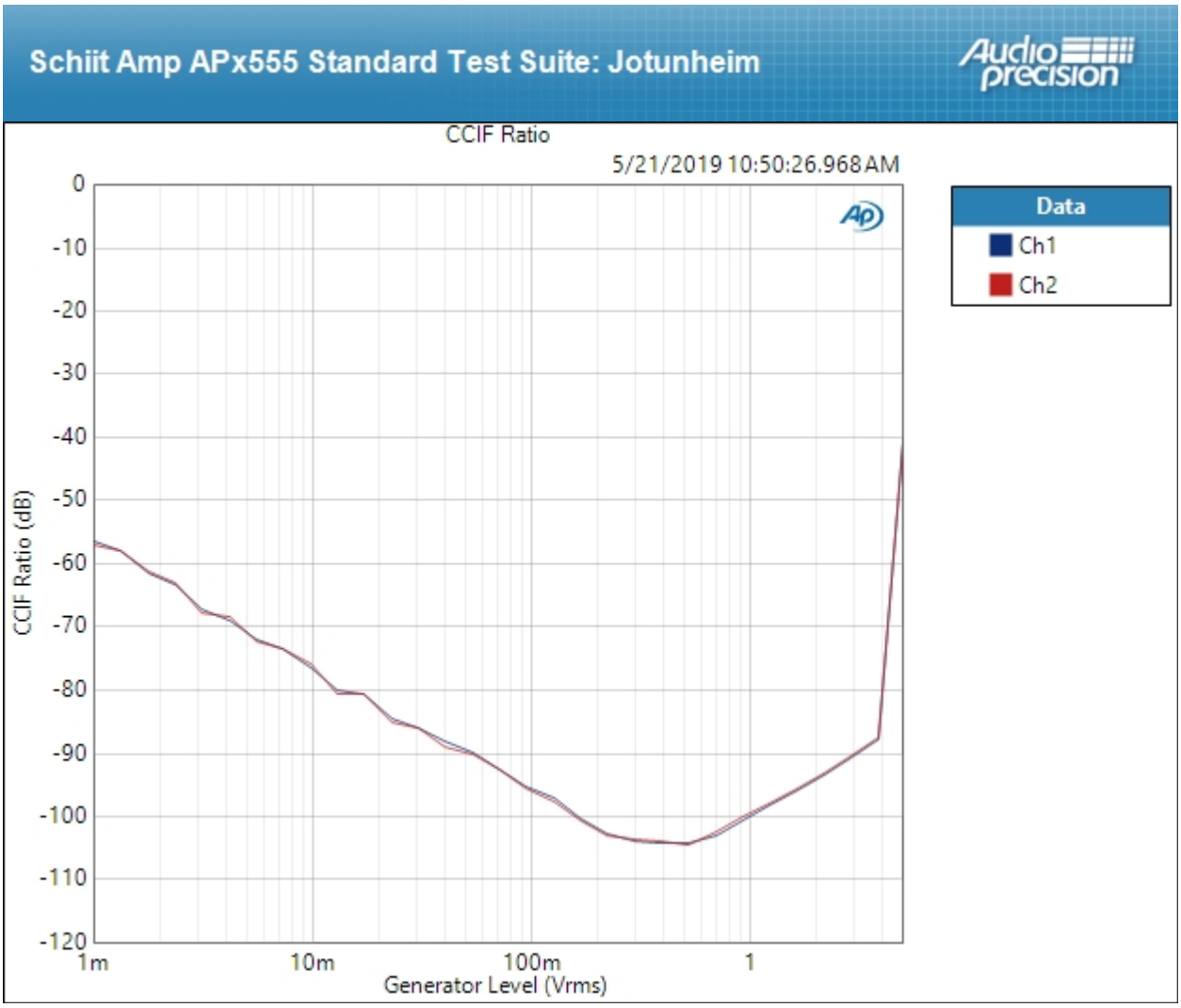
### Distortion Product Ratio Parameters

| | |
|---|---|
| Frequency Unit: | Hz |
| Ratio Unit: | dB |

## 300 Ohm Low SE : IMD Level Sweep ( CCIF )

| | |
|---|---|
| IMD Type: | CCIF |
| Waveform: | IMD |
| Generator Level: | 5.000 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: | 5.000 Vrms |
| Step Type: | Logarithmic |
| Number of Points: | 31 |
| Mode: | d2+d3 |
| Measured 1 | 5/21/2019 10:50:26 AM |

### CCIF Ratio (5/21/2019 10:50:26.968 AM)

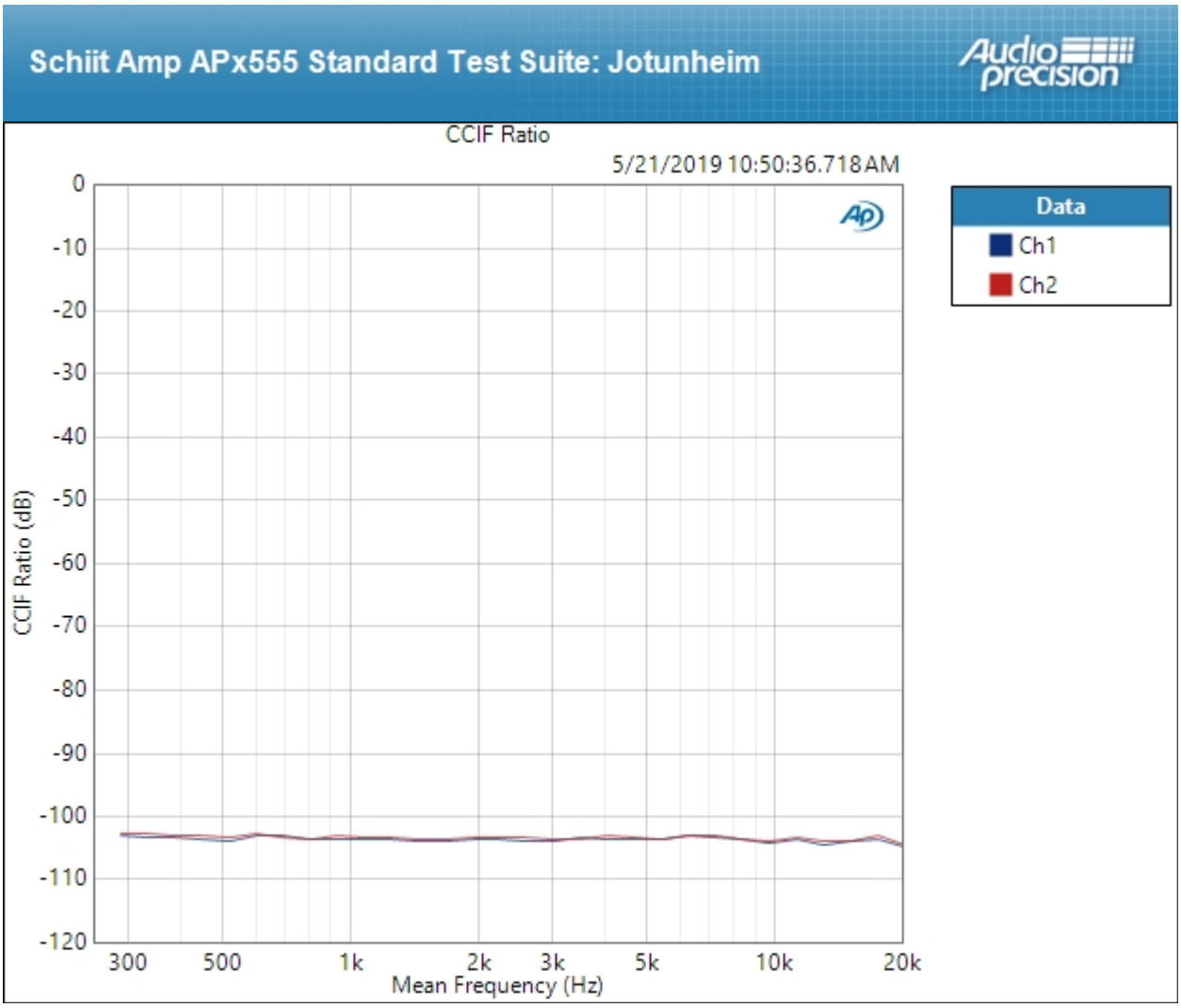



Result: PASSED

## 300 Ohm Low SE : IMD Frequency Sweep ( CCIF )

| | |
|---|---|
| Generator Level: | 550.0 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 | 5/21/2019 10:50:36 AM |

### CCIF Ratio (5/21/2019 10:50:36.718 AM)




Result: PASSED

300 Ohm Low SE : Crosstalk, One Channel Undriven

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 550.0 mVrms |
| Frequency: | 10.0000 kHz |

Crosstalk (5/21/2019 10:50:38.340 AM)

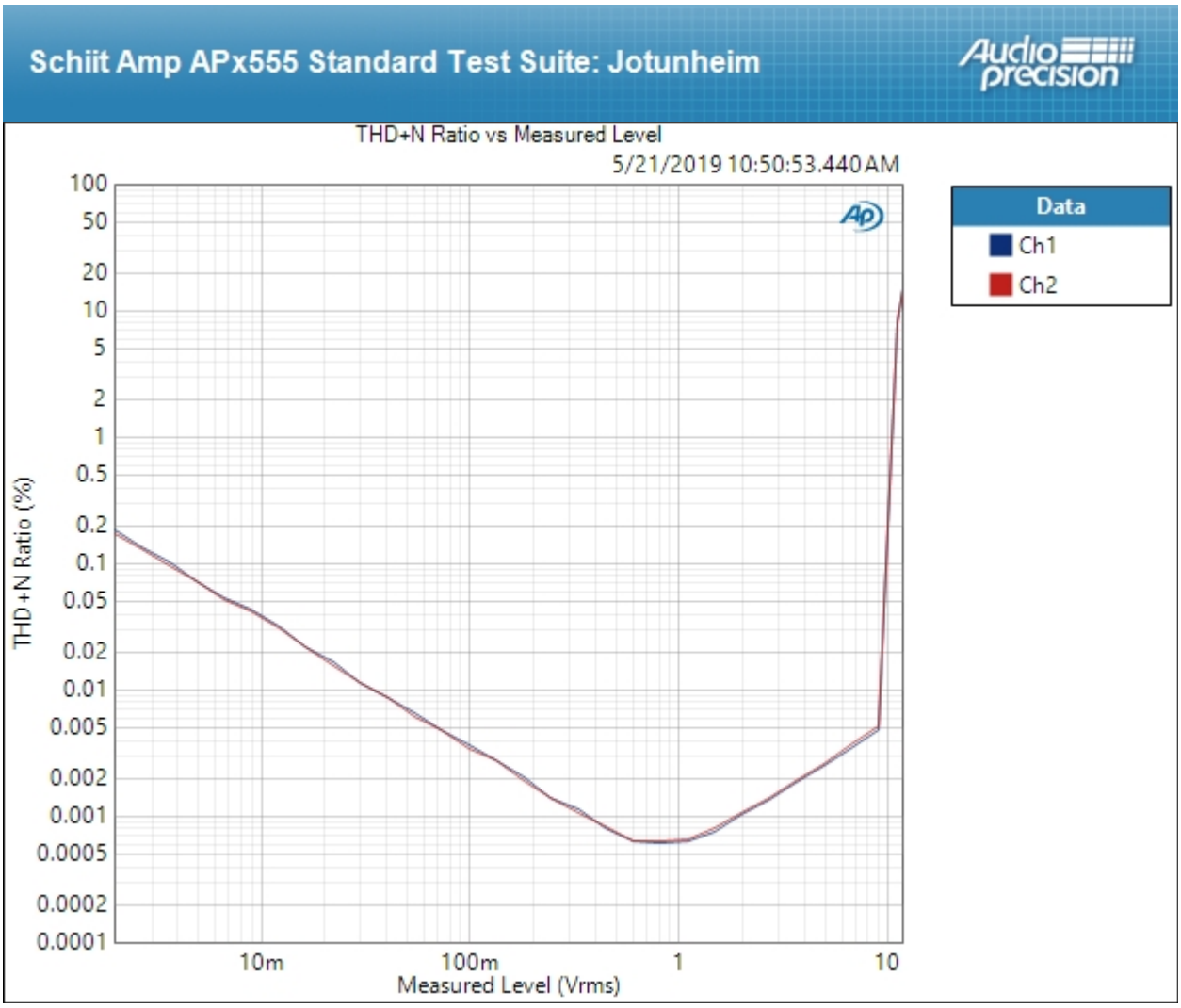
Ch1 -106.755 dB

Ch2 -102.098 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: | 8.000 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 | 5/21/2019 10:50:53 AM |

THD+N Ratio vs Measured Level (5/21/2019 10:50:53.440 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: | 225.0 mVrms |
| Frequency: | 1.00000 kHz |

#### RMS Level (5/21/2019 10:51:07.547 AM)

Ch1 1.063 Vrms
Ch2 1.063 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 |

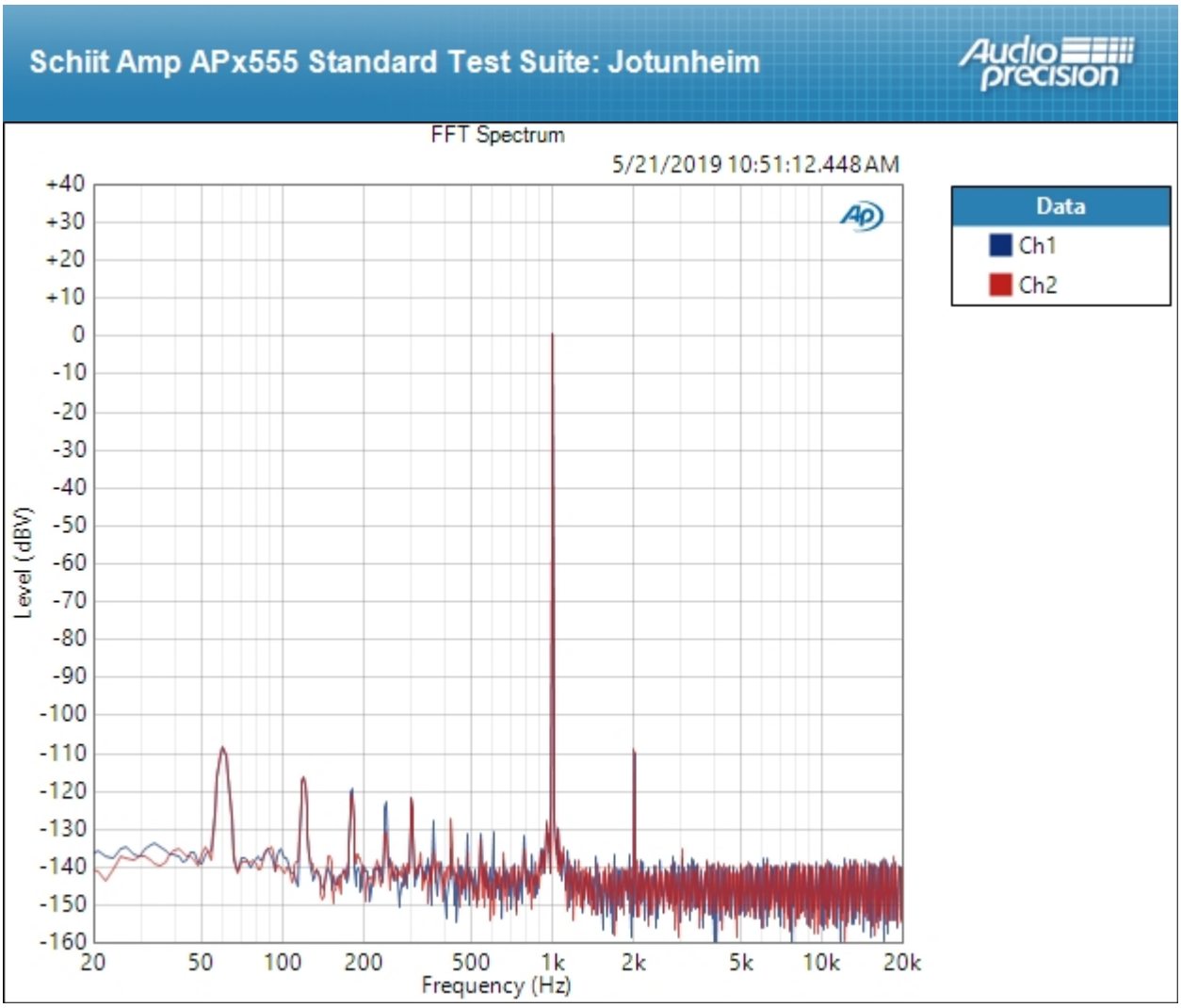
#### DC Level (5/21/2019 10:51:08.718 AM)

Ch1 0.989 mV
Ch2 4.346 mV

## 300 Ohm High SE : Signal Analyzer

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 225.0 mVrms |
| Frequency: | 1.00000 kHz |
| Secondary Source: | None |
| Measured 1 | 5/21/2019 10:51:12 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 (5/21/2019 10:51:12.448 AM)

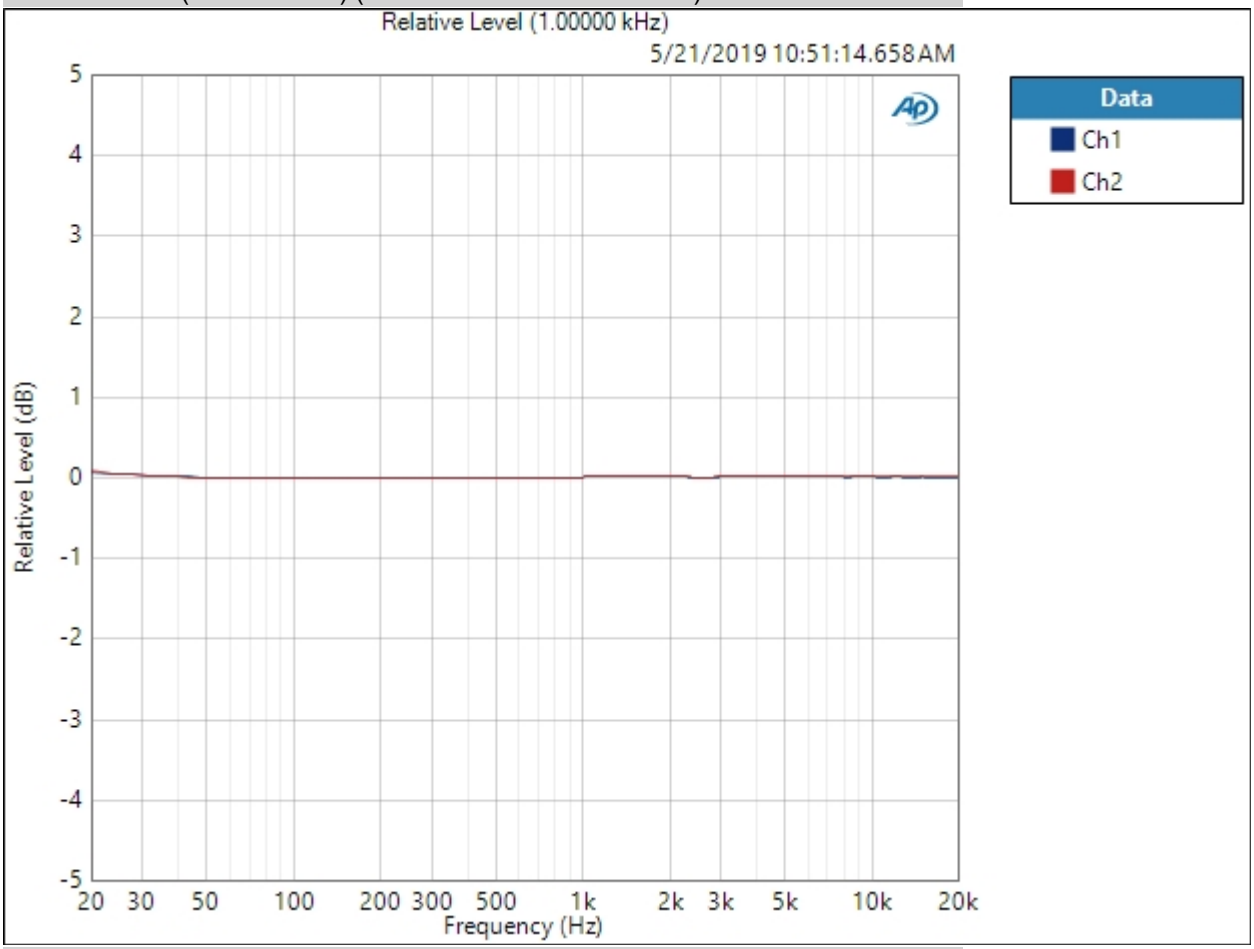



Result: PASSED

## 300 Ohm High SE : Frequency Response

| | |
|---|---|
| Start Frequency: | 20.0000 Hz |
| Stop Frequency: | 20.0000 kHz |
| Generator Level: | 225.0 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 | 5/21/2019 10:51:14 AM |

### Relative Level (1.00000 kHz) (5/21/2019 10:51:14.658 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) (5/21/2019 10:51:14.658 AM)

Ch1 ±0.035 dB

Ch2 ±0.041 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: | 225.0 mVrms |
| Frequency: | 1.00000 kHz |
| Low-pass Filter: | 20 kHz |
| Weighting Filter: | A-wt. |
| High-pass Filter: | 20 Hz |

Signal to Noise Ratio (5/21/2019 10:51:16.678 AM)

Ch1 109.326 dB

Ch2 109.540 dB

## 300 Ohm High SE : THD+N

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 225.0 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 (5/21/2019 10:51:19.028 AM)

| | |
|---|---|
| Ch1 | 0.001487 % |
| Ch2 | 0.001303 % |

### THD Ratio (5/21/2019 10:51:19.028 AM)

| | |
|---|---|
| Ch1 | 0.000315 % |
| Ch2 | 0.000351 % |

### Noise Ratio (5/21/2019 10:51:19.028 AM)

| | |
|---|---|
| Ch1 | 0.000599 % |
| Ch2 | 0.000603 % |

### Distortion Product Ratio (5/21/2019 10:51:19.028 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 | -110.29 | -131.86 | -133.19 | -139.63 | -136.95 | -136.95 | -133.06 | -138.32 | -136.90 |
| | 1.000k | 2.000k | 3.000k | 4.000k | 5.000k | 6.000k | 7.000k | 8.000k | 9.000k | 10.00k |
| Ch2 | -0.00 | -109.28 | -134.70 | -133.28 | -135.13 | -135.95 | -132.44 | -137.03 | -140.35 | -142.62 |

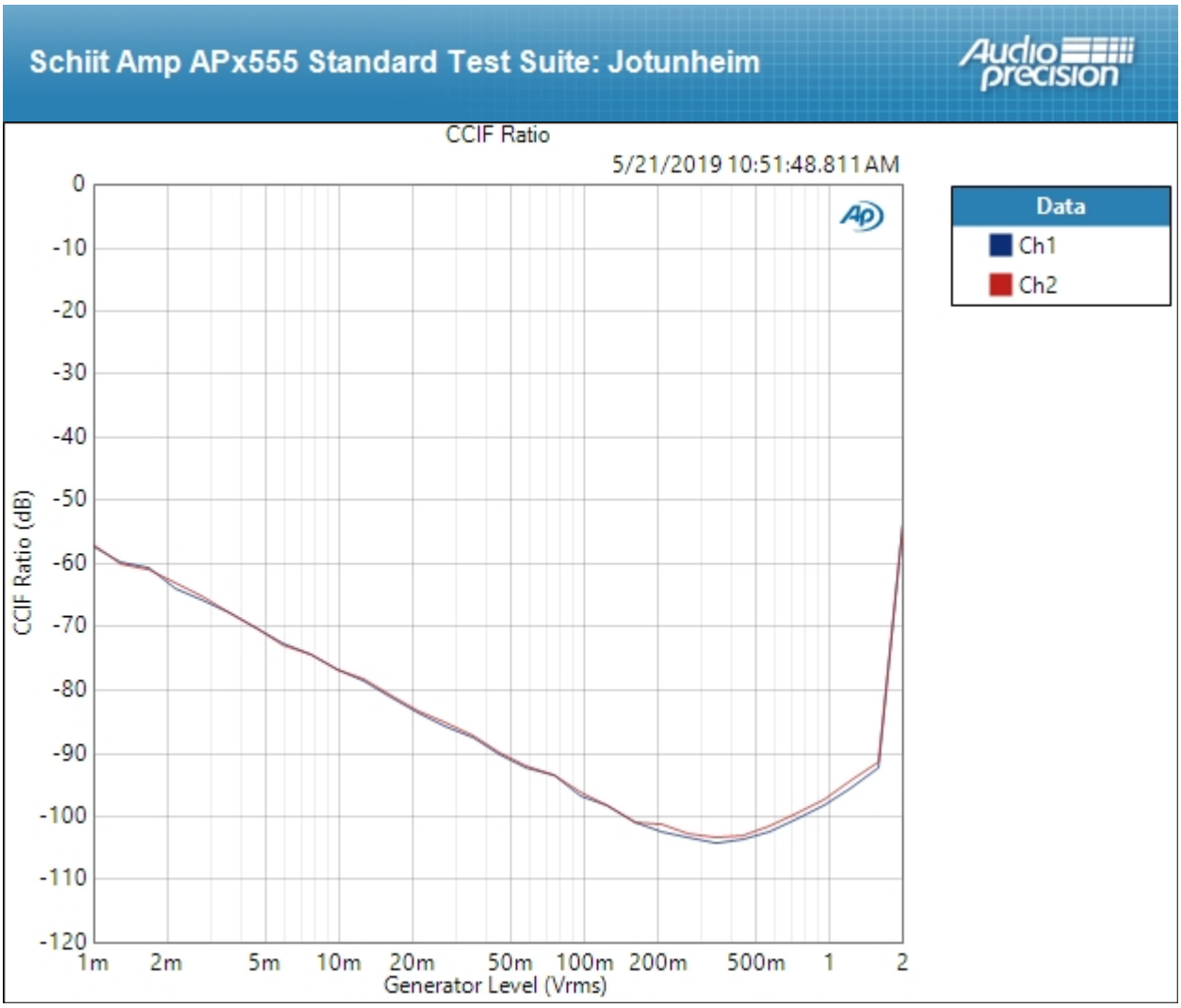
### Distortion Product Ratio Parameters

| | |
|---|---|
| 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 | 5/21/2019 10:51:48 AM |

CCIF Ratio (5/21/2019 10:51:48.811 AM)

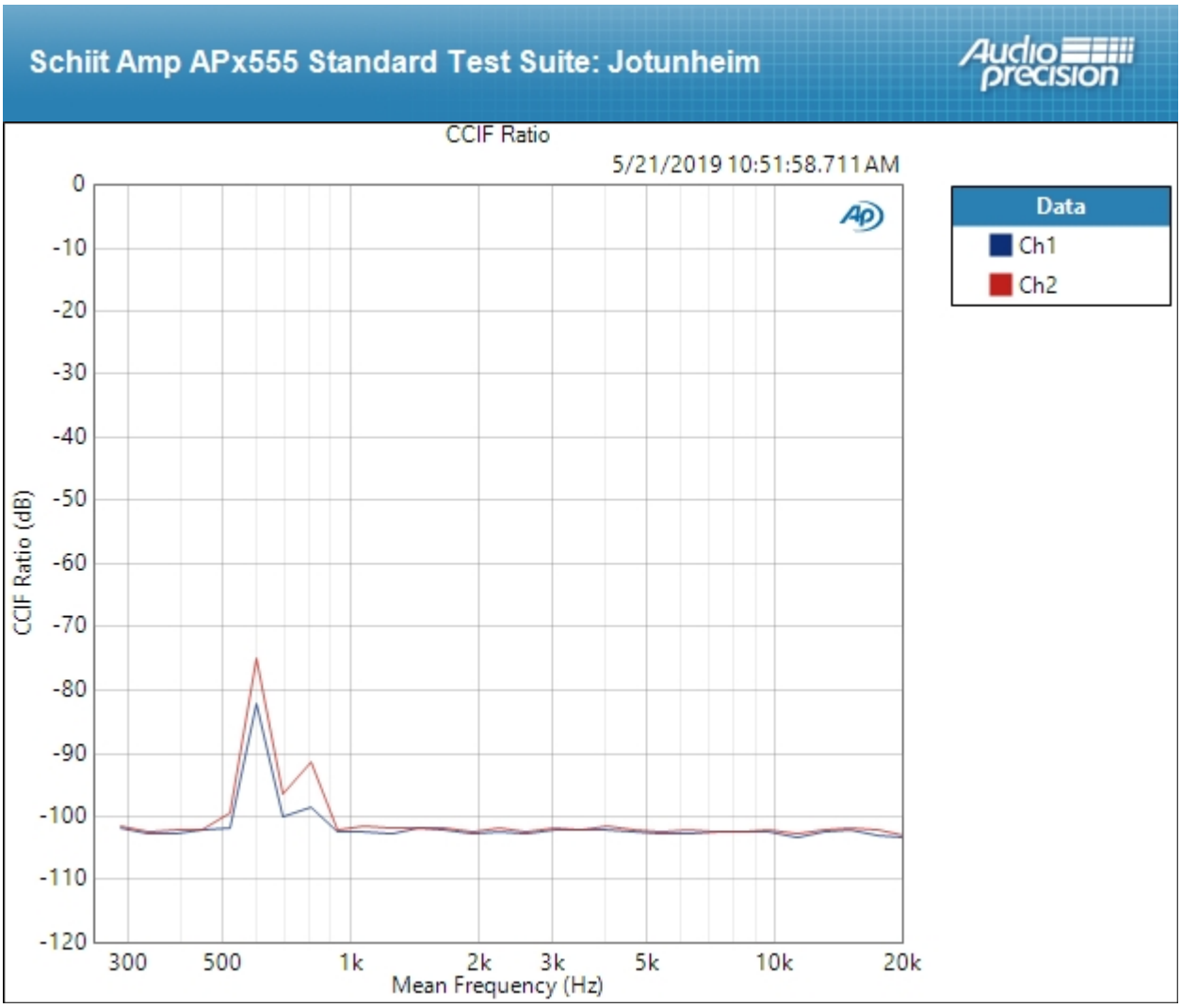



Result: PASSED

## 300 Ohm High SE : IMD Frequency Sweep ( CCIF )

| | |
|---|---|
| Generator Level: | 225.0 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 | 5/21/2019 10:51:58 AM |

### CCIF Ratio (5/21/2019 10:51:58.711 AM)




Result: PASSED

300 Ohm High SE : Crosstalk, One Channel Undriven

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 225.0 mVrms |
| Frequency: | 10.0000 kHz |

Crosstalk (5/21/2019 10:52:00.281 AM)

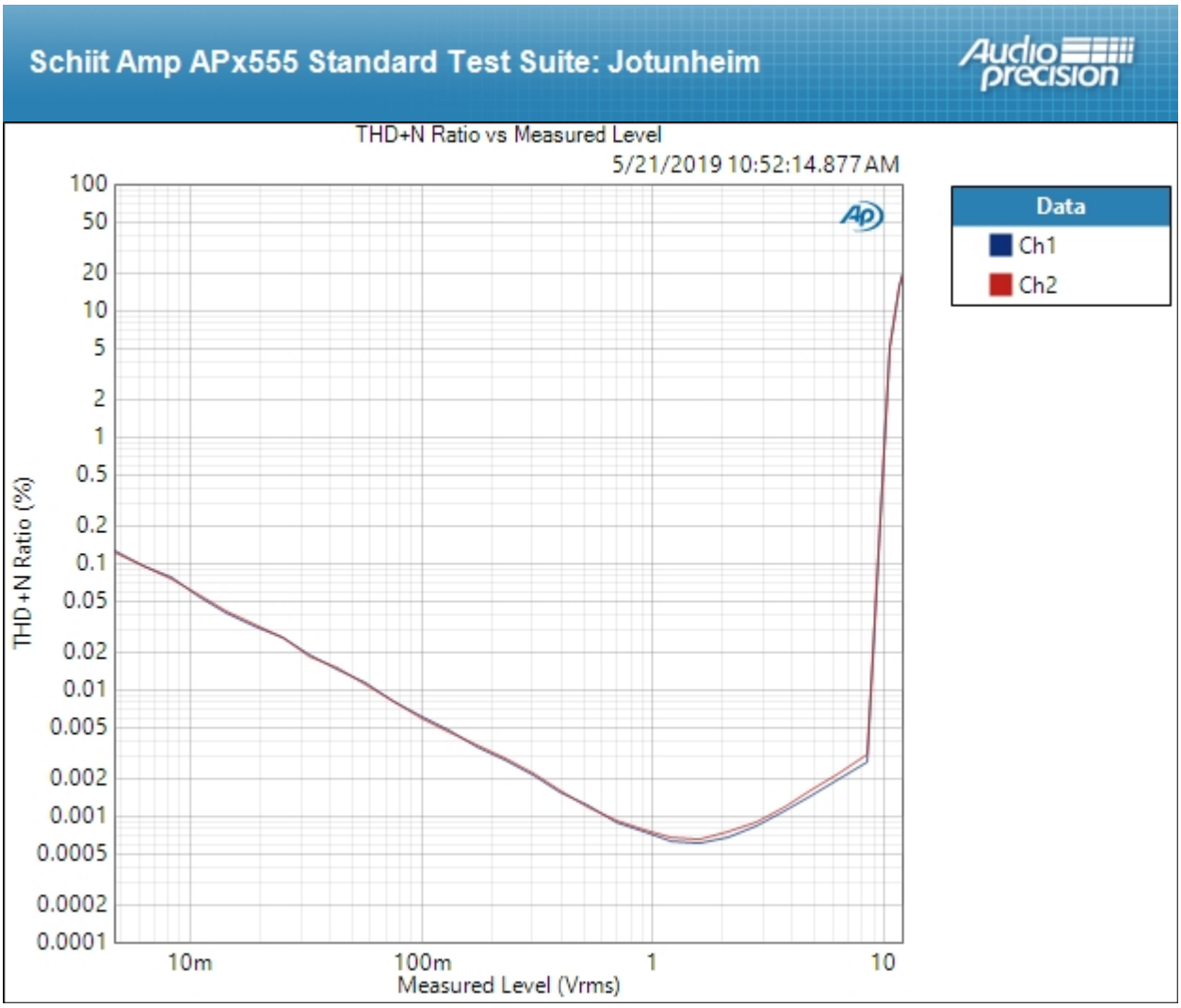
Ch1 -103.536 dB

Ch2 -96.261 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 | 5/21/2019 10:52:14 AM |

THD+N Ratio vs Measured Level (5/21/2019 10:52:14.877 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: | 550.0 mVrms |
| Frequency: | 1.00000 kHz |

#### RMS Level (5/21/2019 10:52:41.472 AM)

Ch1 1.096 Vrms
Ch2 1.096 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 |

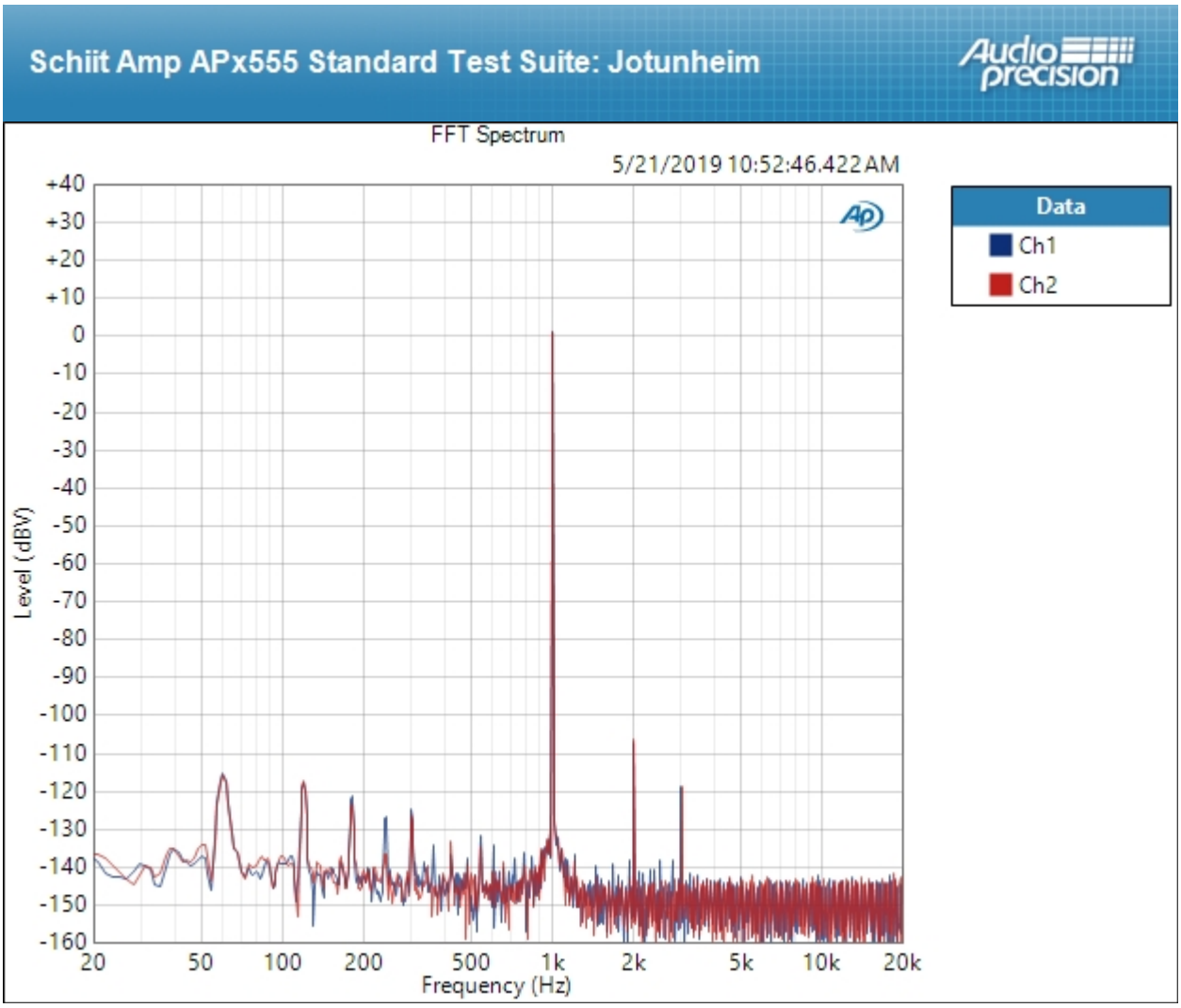
#### DC Level (5/21/2019 10:52:42.701 AM)

Ch1 -614.7 uV
Ch2 -159.4 uV

## 32 Ohm Low SE : Signal Analyzer

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 550.0 mVrms |
| Frequency: | 1.00000 kHz |
| Secondary Source: | None |
| Measured 1 | 5/21/2019 10:52:46 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 (5/21/2019 10:52:46.422 AM)

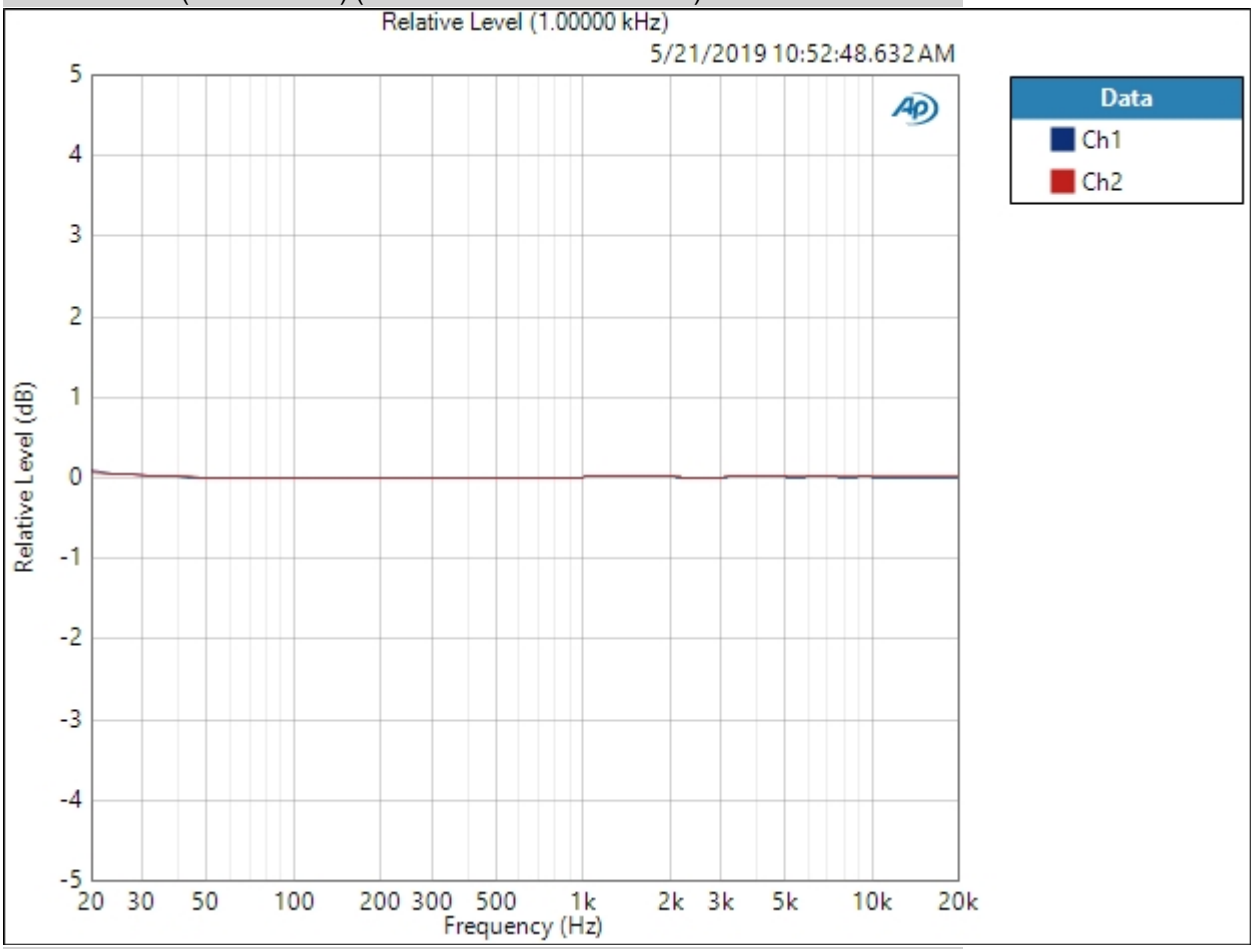



Result: PASSED

## 32 Ohm Low SE : Frequency Response

| | |
|---|---|
| Start Frequency: | 20.0000 Hz |
| Stop Frequency: | 20.0000 kHz |
| Generator Level: | 550.0 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 | 5/21/2019 10:52:48 AM |

### Relative Level (1.00000 kHz) (5/21/2019 10:52:48.632 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) (5/21/2019 10:52:48.632 AM)

Ch1 ±0.040 dB

Ch2 ±0.036 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: | 550.0 mVrms |
| Frequency: | 1.00000 kHz |
| Low-pass Filter: | 20 kHz |
| Weighting Filter: | A-wt. |
| High-pass Filter: | 20 Hz |

Signal to Noise Ratio (5/21/2019 10:52:50.652 AM)

Ch1 113.963 dB

Ch2 114.237 dB

## 32 Ohm Low SE : THD+N

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 550.0 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 (5/21/2019 10:52:53.012 AM)

Ch1 0.006009 %

Ch2 0.004637 %

### THD Ratio (5/21/2019 10:52:53.012 AM)

Ch1 0.000419 %

Ch2 0.000452 %

### Noise Ratio (5/21/2019 10:52:53.012 AM)

Ch1 0.000341 %

Ch2 0.000335 %

### Distortion Product Ratio (5/21/2019 10:52:53.012 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 | -107.90 | -119.38 | -139.77 | -140.56 | -138.05 | -138.66 | -138.40 | -140.85 | -141.06 |
| | 1.000k | 2.000k | 3.000k | 4.000k | 5.000k | 6.000k | 7.000k | 8.000k | 9.000k | 10.00k |
| Ch2 | -0.00 | -107.14 | -120.26 | -143.03 | -136.49 | -140.97 | -140.90 | -142.76 | -139.08 | -142.53 |

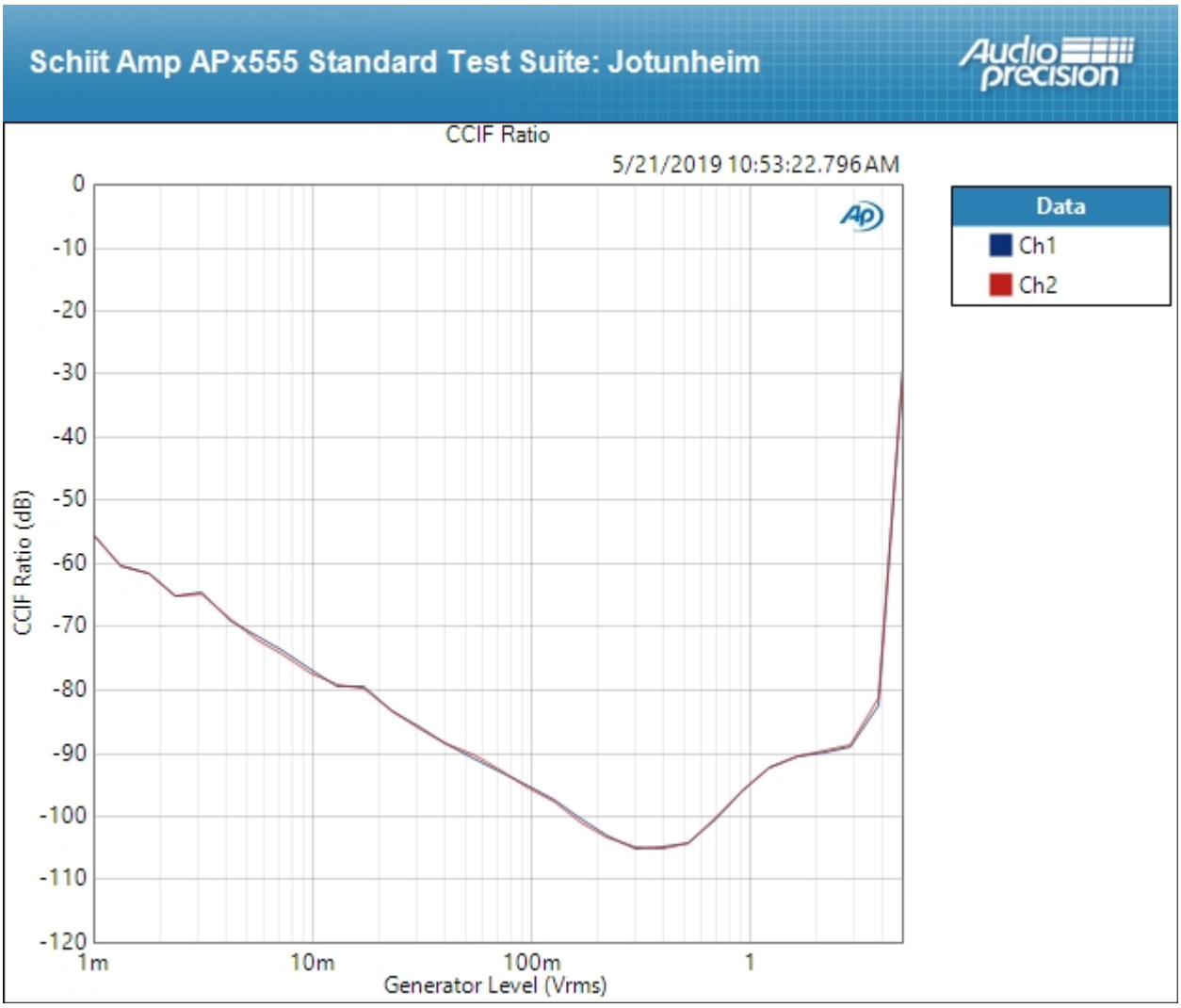
### Distortion Product Ratio Parameters

| | |
|---|---|
| Frequency Unit: | Hz |
| Ratio Unit: | dB |

## 32 Ohm Low SE : IMD Level Sweep ( CCIF )

| | |
|---|---|
| IMD Type: | CCIF |
| Waveform: | IMD |
| Generator Level: | 5.000 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: | 5.000 Vrms |
| Step Type: | Logarithmic |
| Number of Points: | 31 |
| Mode: | d2+d3 |
| Measured 1 | 5/21/2019 10:53:22 AM |

### CCIF Ratio (5/21/2019 10:53:22.796 AM)

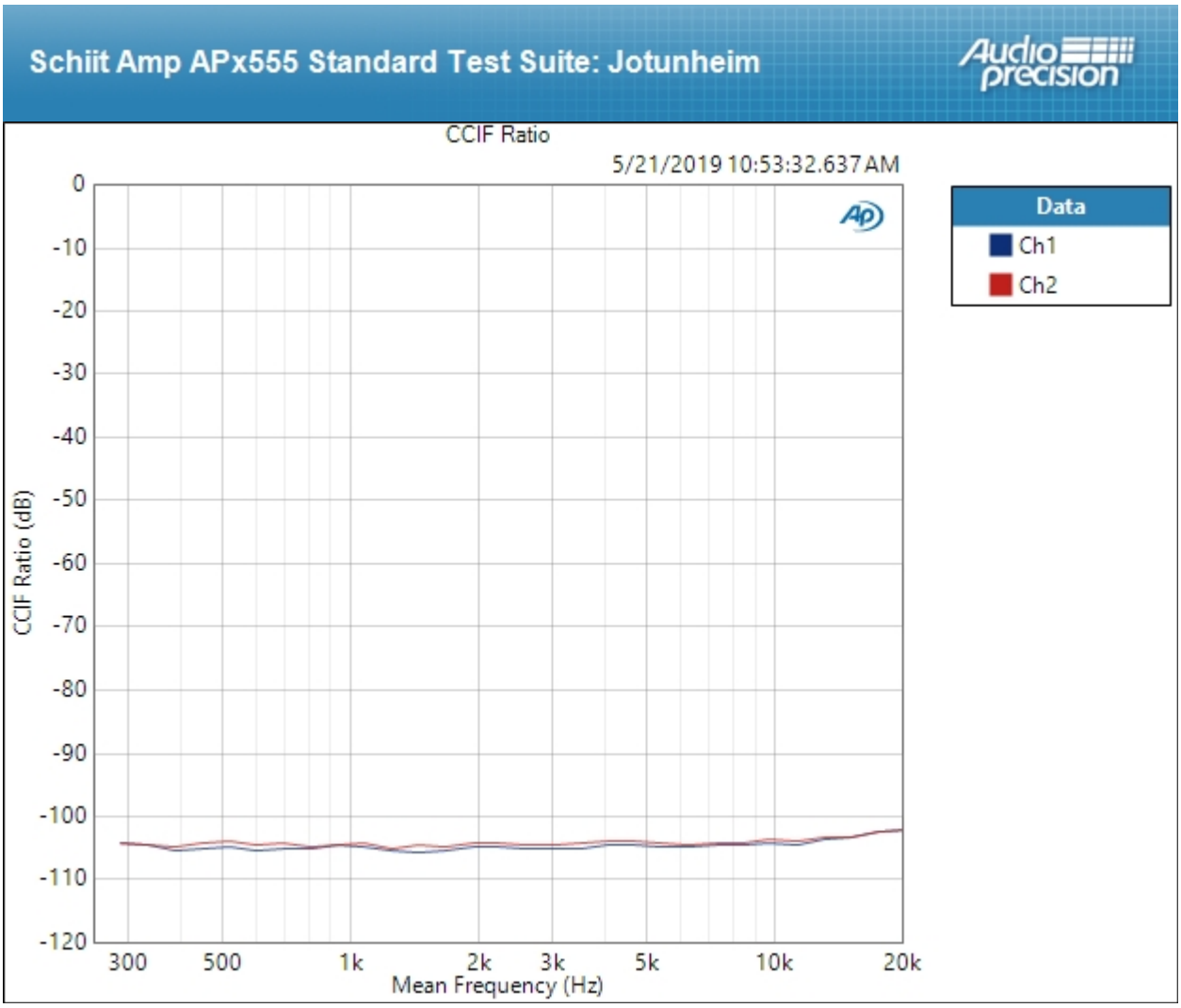



Result: PASSED

## 32 Ohm Low SE : IMD Frequency Sweep ( CCIF )

| | |
|---|---|
| Generator Level: | 550.0 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 | 5/21/2019 10:53:32 AM |

### CCIF Ratio (5/21/2019 10:53:32.637 AM)




Result: PASSED

32 Ohm Low SE : Crosstalk, One Channel Undriven

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 550.0 mVrms |
| Frequency: | 10.0000 kHz |

Crosstalk (5/21/2019 10:53:34.057 AM)

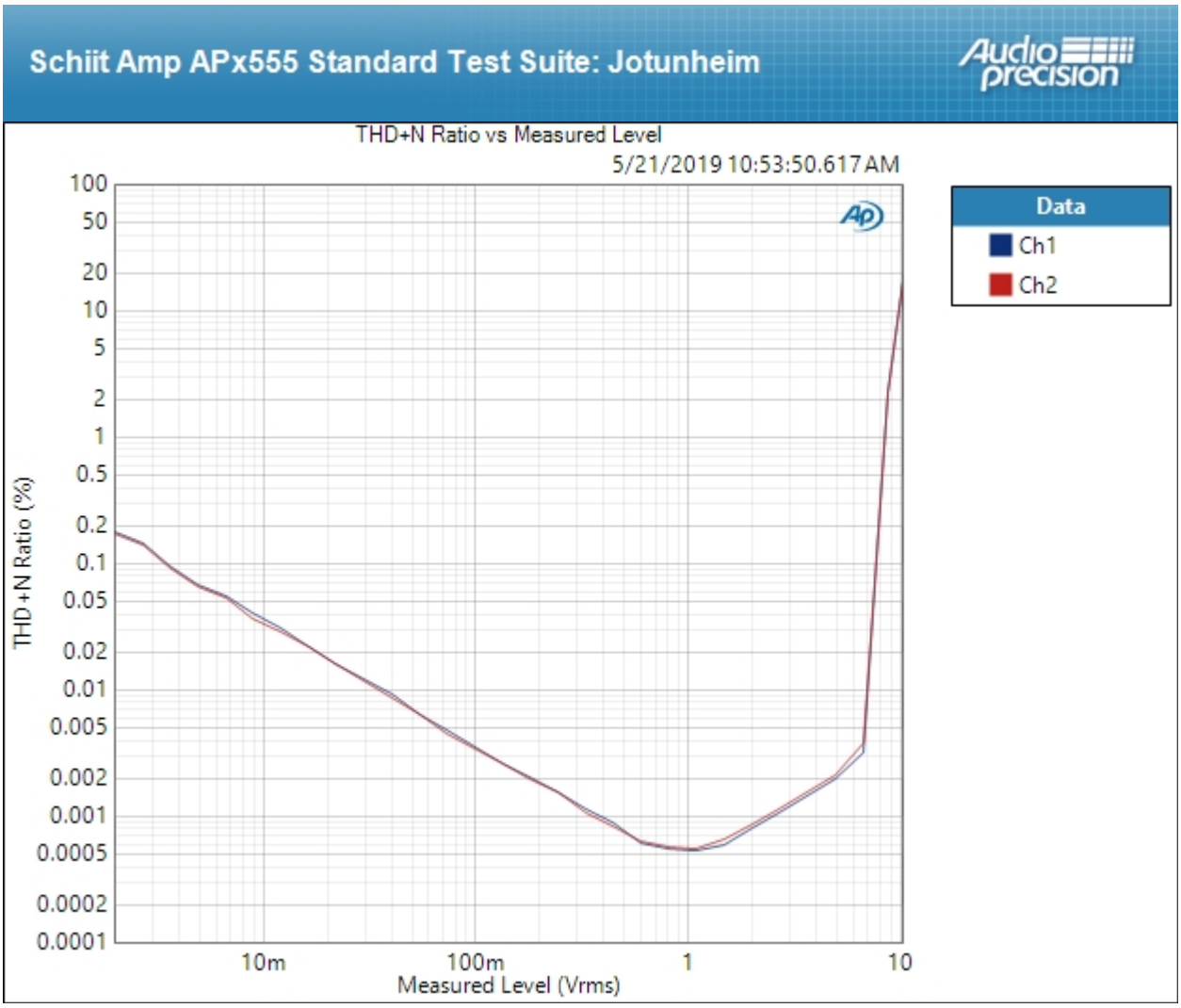
Ch1 -89.565 dB

Ch2 -92.084 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: | 8.000 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 | 5/21/2019 10:53:50 AM |

THD+N Ratio vs Measured Level (5/21/2019 10:53:50.617 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: | 225.0 mVrms |
| Frequency: | 1.00000 kHz |

RMS Level (5/21/2019 10:54:56.164 AM)

Ch1 1.062 Vrms
Ch2 1.062 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 |

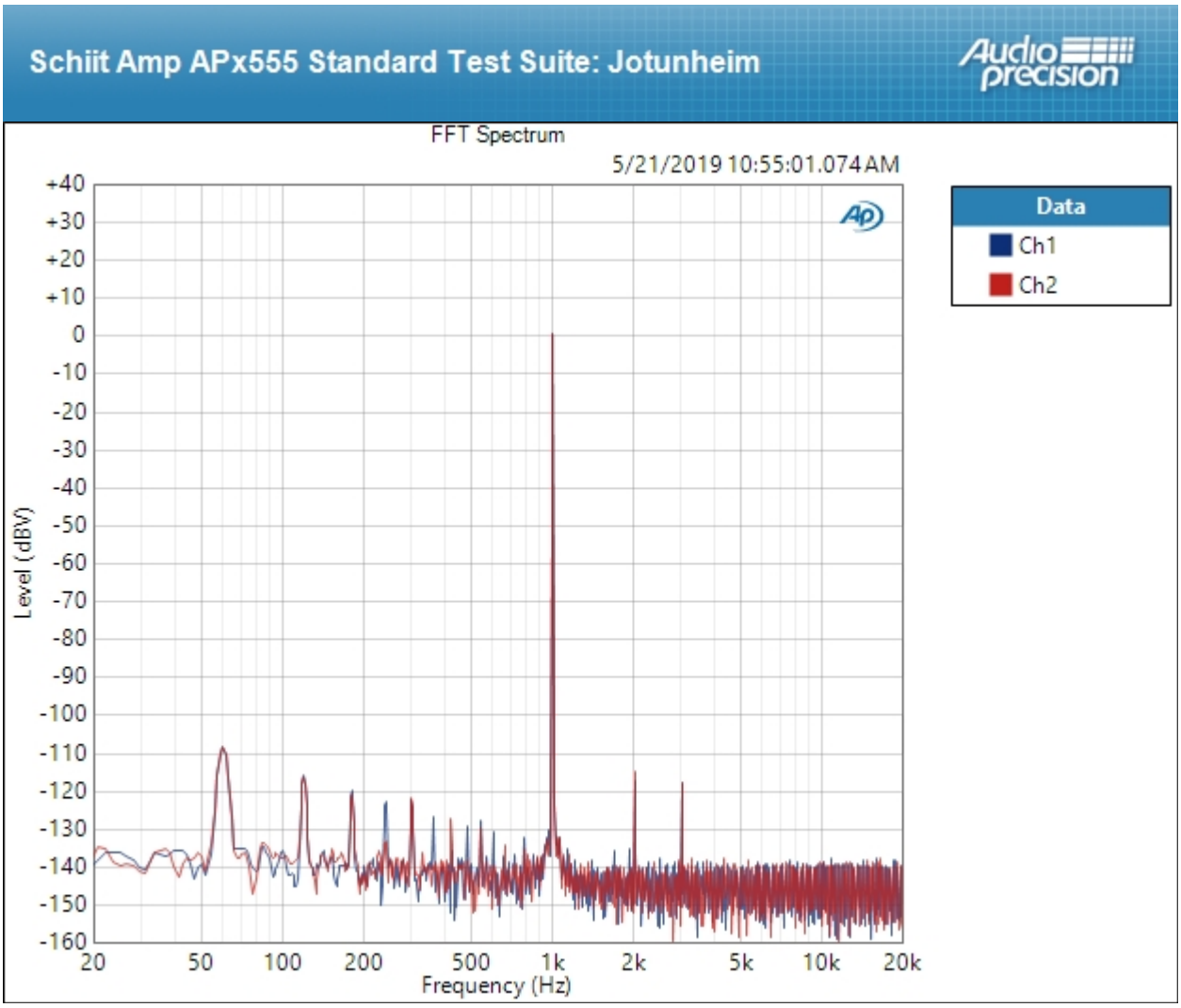
DC Level (5/21/2019 10:54:57.344 AM)

Ch1 -2.044 mV
Ch2 197.3 uV

## 32 Ohm High SE : Signal Analyzer

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 225.0 mVrms |
| Frequency: | 1.00000 kHz |
| Secondary Source: | None |
| Measured 1 | 5/21/2019 10:55:01 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 (5/21/2019 10:55:01.074 AM)

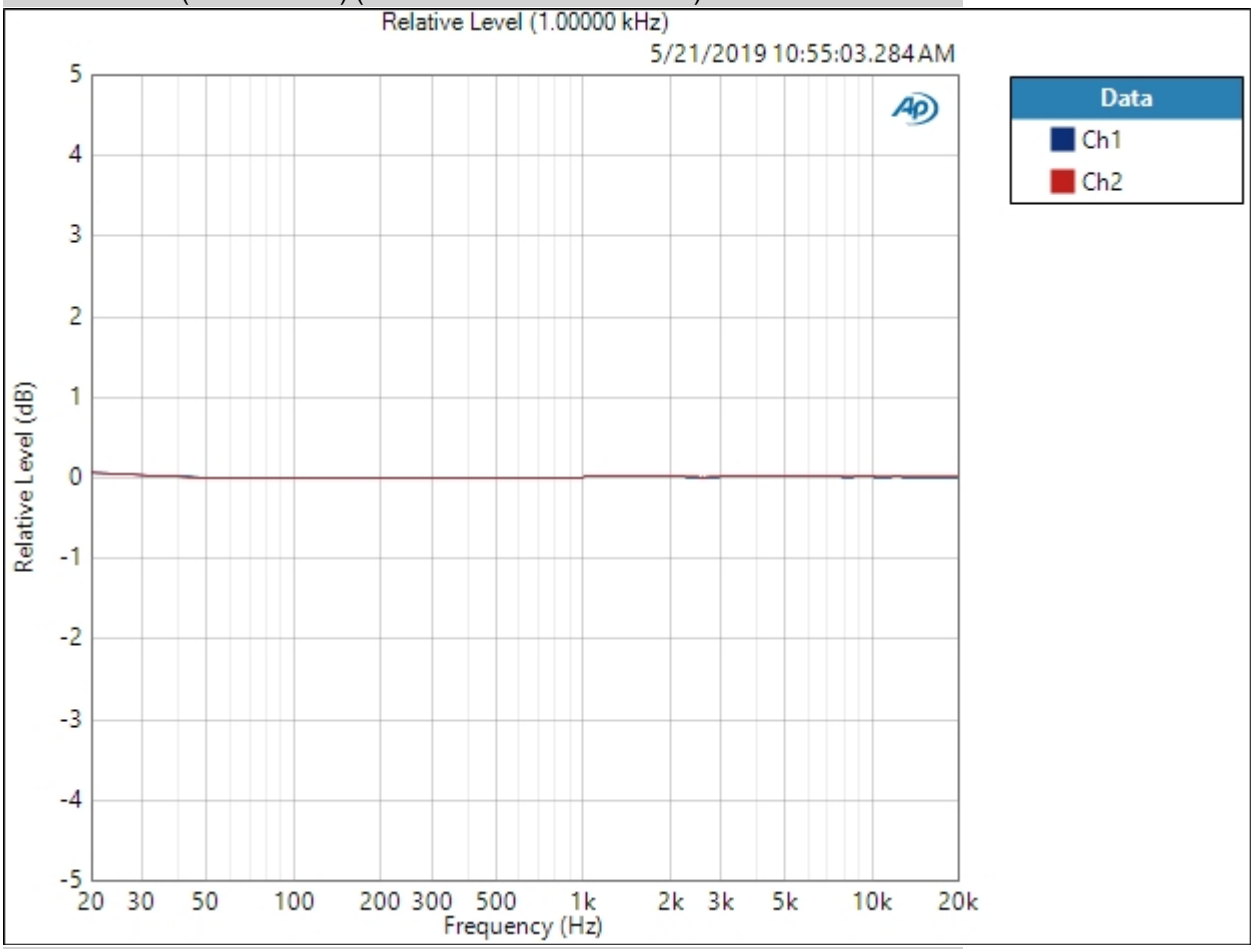



Result: PASSED

## 32 Ohm High SE : Frequency Response

| | |
|---|---|
| Start Frequency: | 20.0000 Hz |
| Stop Frequency: | 20.0000 kHz |
| Generator Level: | 225.0 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 | 5/21/2019 10:55:03 AM |

### Relative Level (1.00000 kHz) (5/21/2019 10:55:03.284 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) (5/21/2019 10:55:03.284 AM)

Ch1 ±0.035 dB

Ch2 ±0.037 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: | 225.0 mVrms |
| Frequency: | 1.00000 kHz |
| Low-pass Filter: | 20 kHz |
| Weighting Filter: | A-wt. |
| High-pass Filter: | 20 Hz |

Signal to Noise Ratio (5/21/2019 10:55:05.304 AM)

Ch1 109.319 dB

Ch2 109.467 dB

## 32 Ohm High SE : THD+N

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 225.0 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 (5/21/2019 10:55:07.654 AM)

Ch1 0.001876 %

Ch2 0.003724 %

### THD Ratio (5/21/2019 10:55:07.654 AM)

Ch1 0.000180 %

Ch2 0.000235 %

### Noise Ratio (5/21/2019 10:55:07.654 AM)

Ch1 0.000590 %

Ch2 0.000596 %

### Distortion Product Ratio (5/21/2019 10:55:07.654 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 | -117.72 | -119.40 | -138.29 | -137.40 | -138.34 | -131.67 | -139.45 | -136.10 | -137.64 |
| | 1.000k | 2.000k | 3.000k | 4.000k | 5.000k | 6.000k | 7.000k | 8.000k | 9.000k | 10.00k |
| Ch2 | -0.00 | -114.53 | -117.84 | -136.55 | -141.03 | -133.57 | -137.02 | -138.22 | -139.36 | -137.68 |

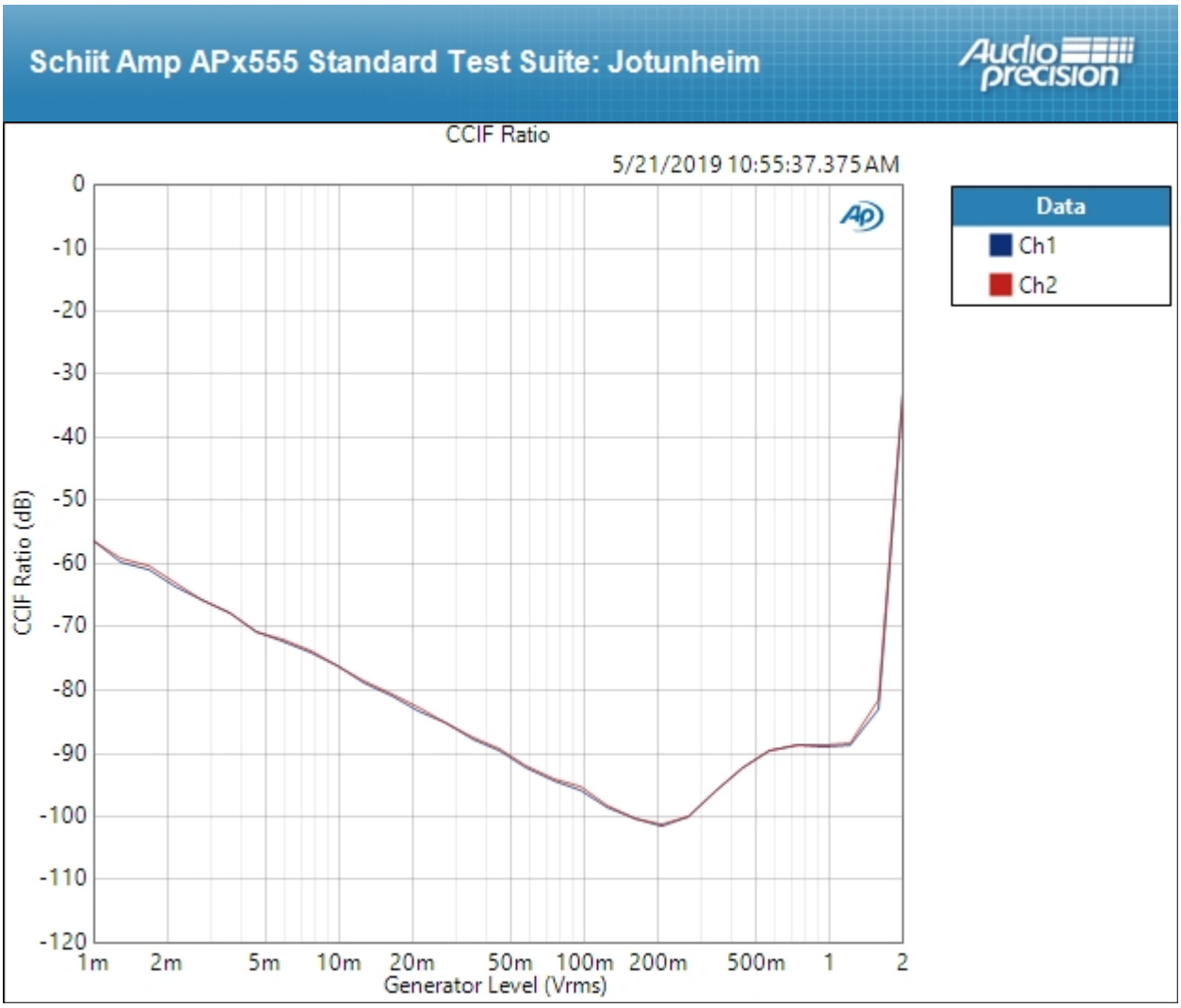
### Distortion Product Ratio Parameters

| | |
|---|---|
| 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 | 5/21/2019 10:55:37 AM |

### CCIF Ratio (5/21/2019 10:55:37.375 AM)

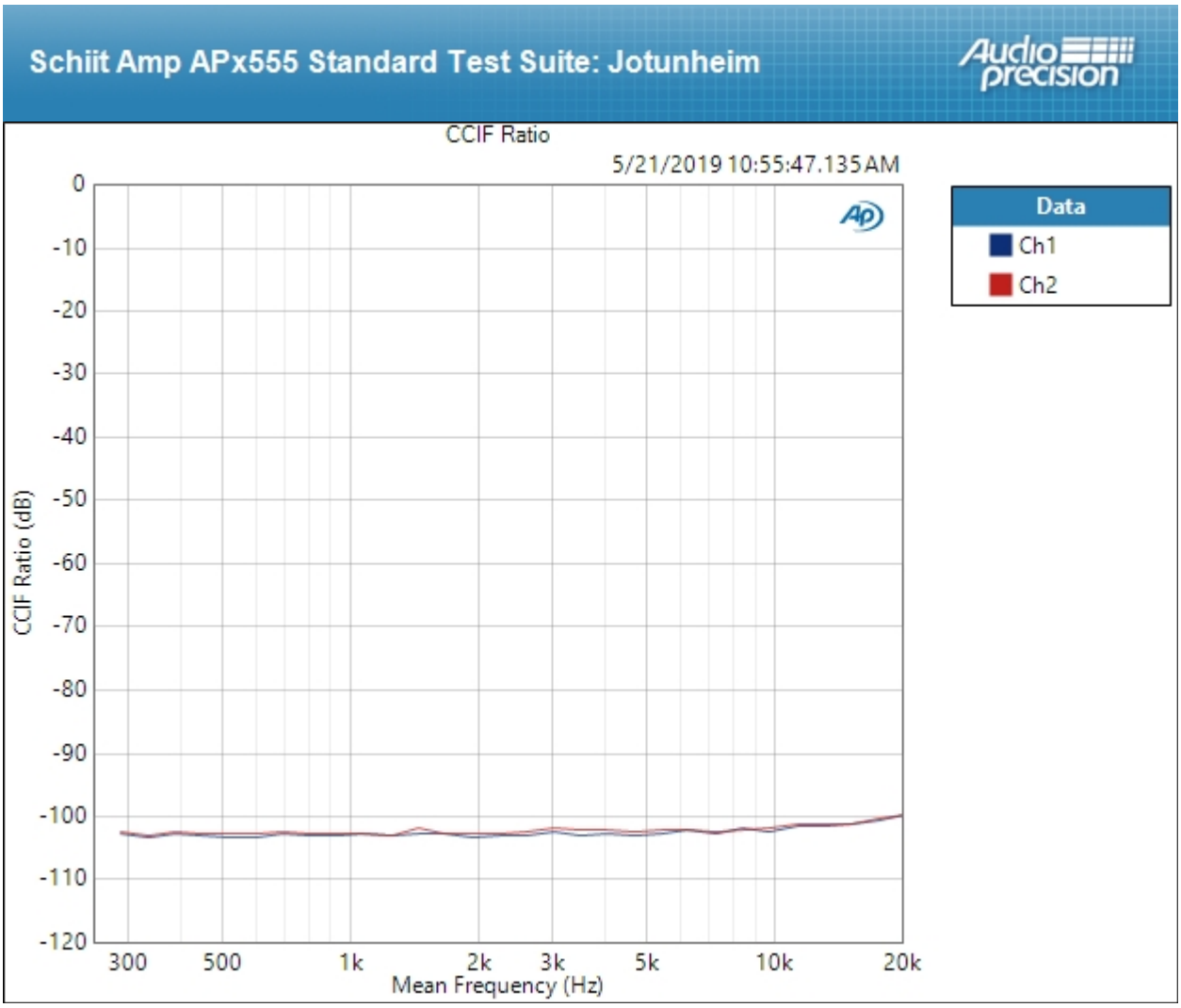



Result: PASSED

## 32 Ohm High SE : IMD Frequency Sweep ( CCIF )

| | |
|---|---|
| Generator Level: | 225.0 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 | 5/21/2019 10:55:47 AM |

### CCIF Ratio (5/21/2019 10:55:47.135 AM)




Result: PASSED

32 Ohm High SE : Crosstalk, One Channel Undriven

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 225.0 mVrms |
| Frequency: | 10.0000 kHz |

Crosstalk (5/21/2019 10:55:48.685 AM)

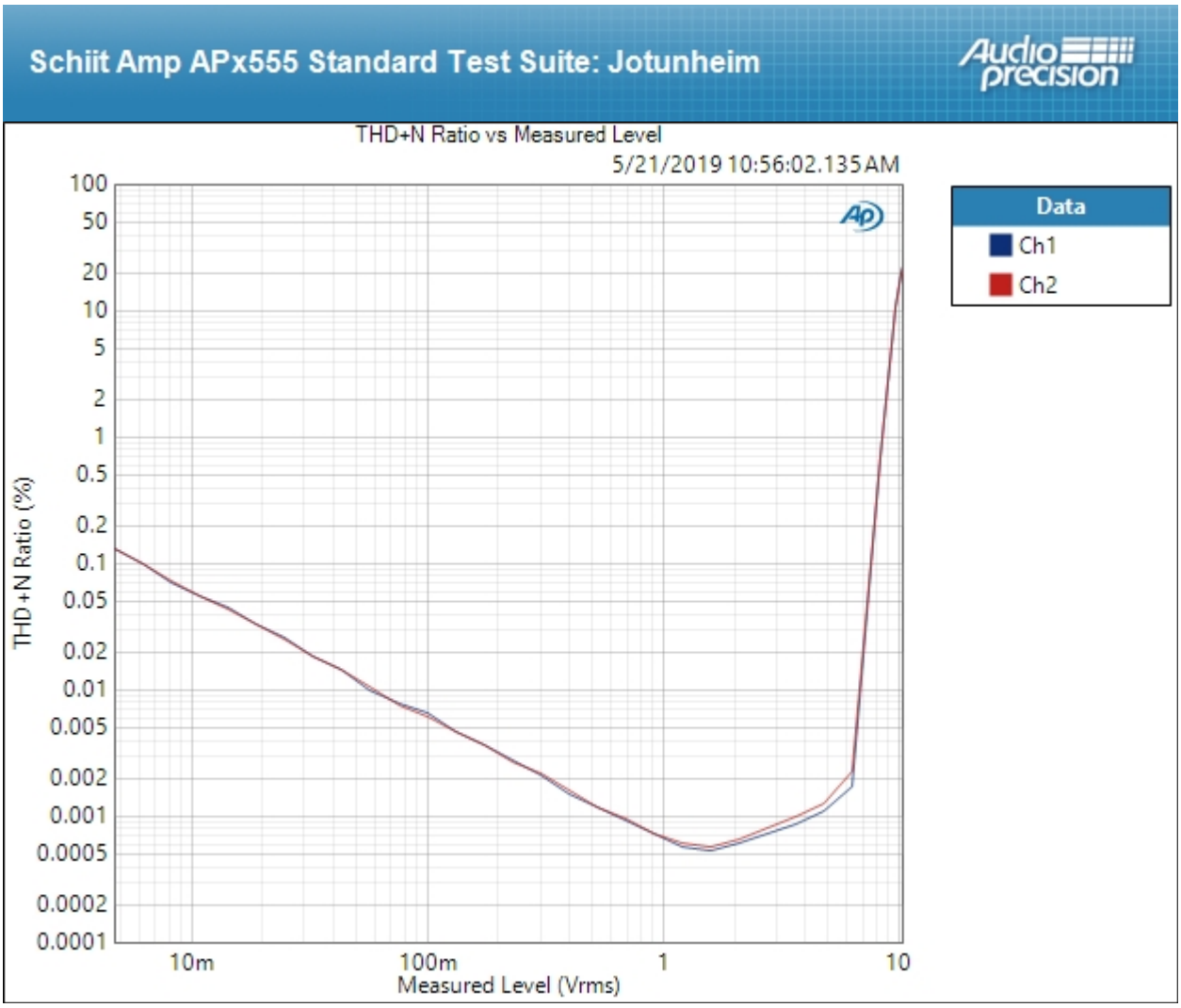
Ch1 -90.887 dB

Ch2 -89.564 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 | 5/21/2019 10:56:02 AM |

THD+N Ratio vs Measured Level (5/21/2019 10:56:02.135 AM)




Result: PASSED

## Preamp Balanced : Signal Path Setup

| | |
|---|---|
| Output Connector: | Analog Balanced |
| Channels: | 2 |
| Generator Mode: | High Performance Sine Generator |
| Configuration: | Normal (Differential) |
| Source Impedance: | 40 ohm |
| AG52 Generator Option: | Installed |
| Output EQ: | None |
| Input Connector: | Analog Balanced |
| Channels: | 2 |
| Termination: | 200 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 Balanced : Level and Gain

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 450.0 mVrms |
| Frequency: | 1.00000 kHz |

RMS Level (5/21/2019 10:57:20.048 AM)

Ch1 1.123 Vrms
Ch2 1.123 Vrms

Preamp Balanced : 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 |

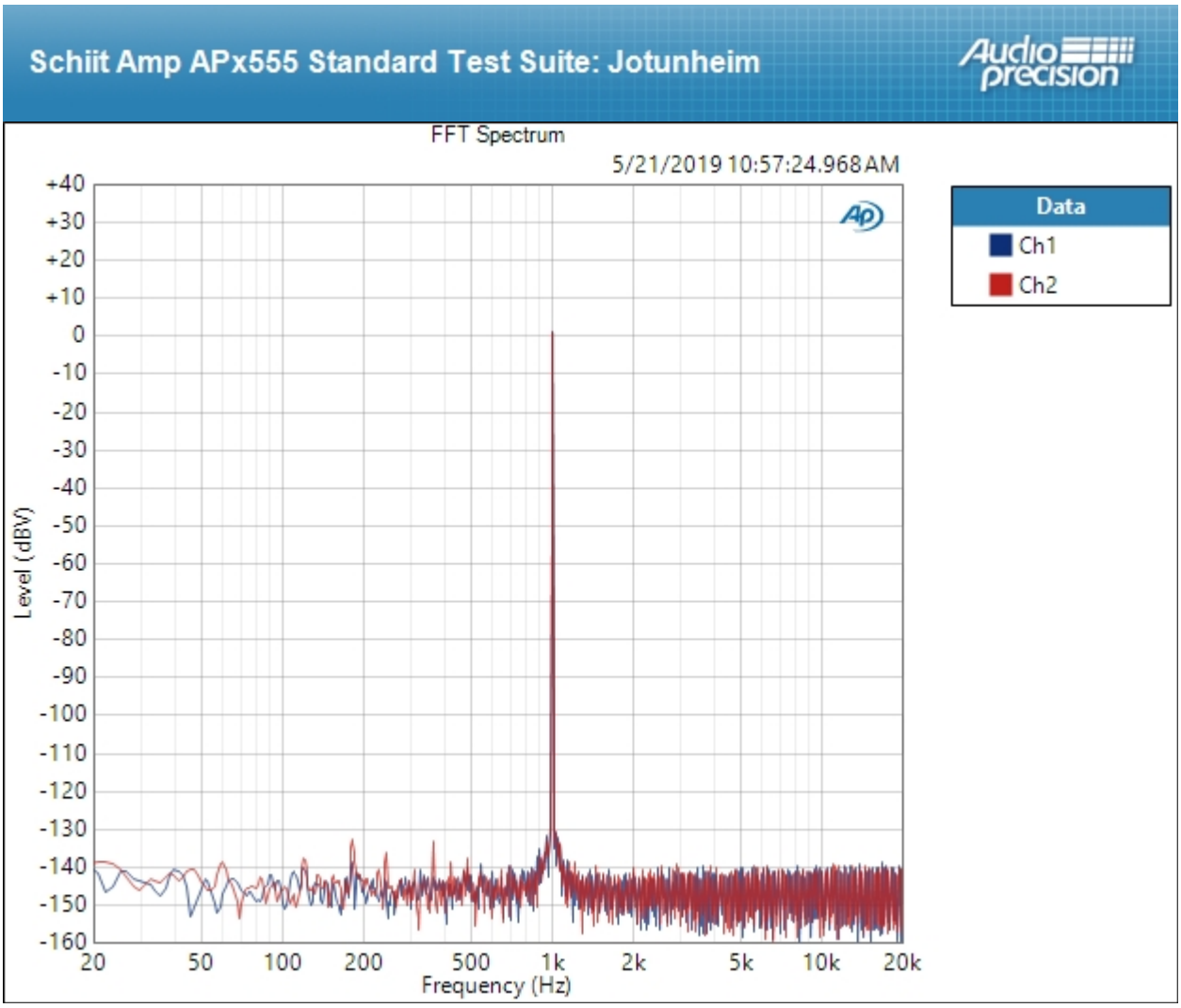
DC Level (5/21/2019 10:57:21.228 AM)

Ch1 4.930 mV
Ch2 2.886 mV

## Preamp Balanced : Signal Analyzer

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 450.0 mVrms |
| Frequency: | 1.00000 kHz |
| Secondary Source: | None |
| Measured 1 | 5/21/2019 10:57:24 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 (5/21/2019 10:57:24.968 AM)

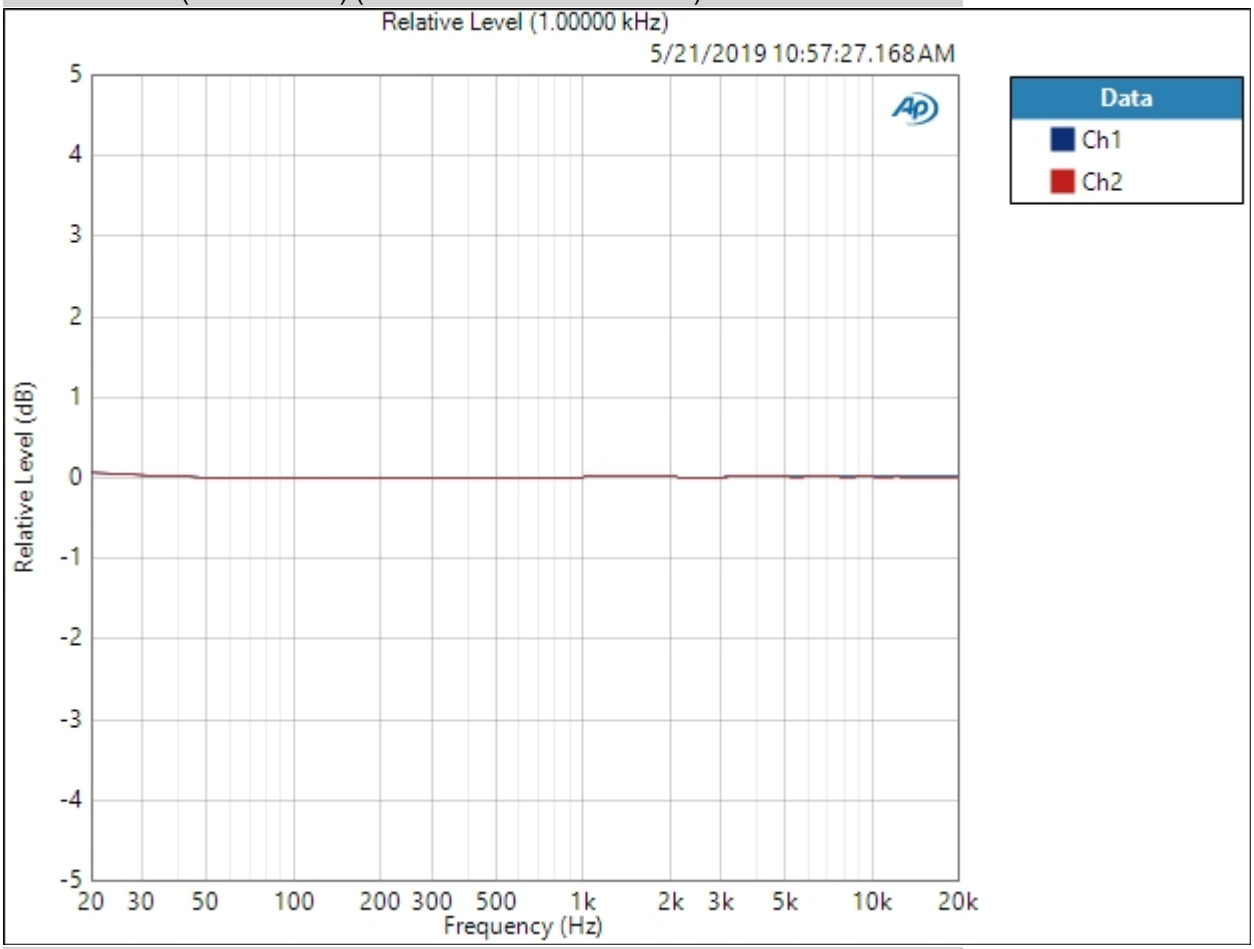



Result: PASSED

## Preamp Balanced : Frequency Response

| | |
|---|---|
| Start Frequency: | 20.0000 Hz |
| Stop Frequency: | 20.0000 kHz |
| Generator Level: | 450.0 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 | 5/21/2019 10:57:27 AM |

## Relative Level (1.00000 kHz) (5/21/2019 10:57:27.168 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) (5/21/2019 10:57:27.168 AM)

Ch1 ±0.035 dB

Ch2 ±0.037 dB

Deviation (20.0000 Hz - 20.0000 kHz) Parameters

Min: 20.0000 Hz

Max: 20.0000 kHz

Preamp Balanced : Signal to Noise Ratio

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 450.0 mVrms |
| Frequency: | 1.00000 kHz |
| Low-pass Filter: | 20 kHz |
| Weighting Filter: | A-wt. |
| High-pass Filter: | 20 Hz |

Signal to Noise Ratio (5/21/2019 10:57:29.221 AM)

Ch1 111.742 dB

Ch2 111.612 dB

## Preamp Balanced : THD+N

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 450.0 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 (5/21/2019 10:57:31.621 AM)

| | |
|---|---|
| Ch1 | 0.000331 % |
| Ch2 | 0.000333 % |

### THD Ratio (5/21/2019 10:57:31.621 AM)

| | |
|---|---|
| Ch1 | 0.000059 % |
| Ch2 | 0.000050 % |

### Noise Ratio (5/21/2019 10:57:31.621 AM)

| | |
|---|---|
| Ch1 | 0.000323 % |
| Ch2 | 0.000329 % |

### Distortion Product Ratio (5/21/2019 10:57:31.621 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 | -140.58 | -138.32 | -138.36 | -137.05 | -133.63 | -139.58 | -137.61 | -139.61 | -134.52 |
| | 1.000k | 2.000k | 3.000k | 4.000k | 5.000k | 6.000k | 7.000k | 8.000k | 9.000k | 10.00k |
| Ch2 | -0.00 | -140.47 | -137.98 | -141.22 | -137.45 | -139.28 | -140.12 | -136.93 | -143.63 | -137.83 |

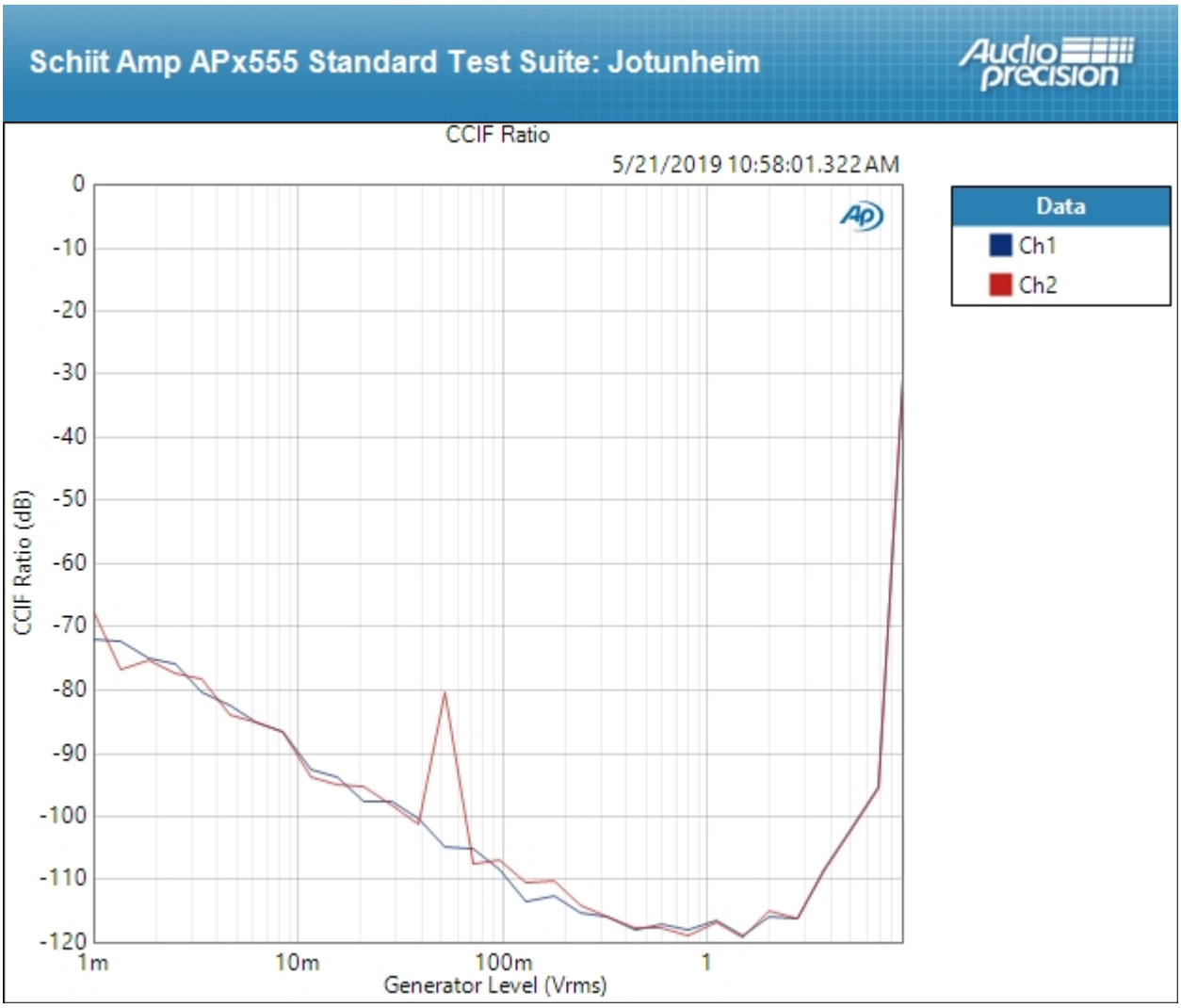
### Distortion Product Ratio Parameters

| | |
|---|---|
| Frequency Unit: | Hz |
| Ratio Unit: | dB |

## Preamp Balanced : IMD Level Sweep ( CCIF )

| | |
|---|---|
| IMD Type: | CCIF |
| Waveform: | IMD |
| Generator Level: | 9.000 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: | 9.000 Vrms |
| Step Type: | Logarithmic |
| Number of Points: | 31 |
| Mode: | d2+d3 |
| Measured 1 | 5/21/2019 10:58:01 AM |

### CCIF Ratio (5/21/2019 10:58:01.322 AM)

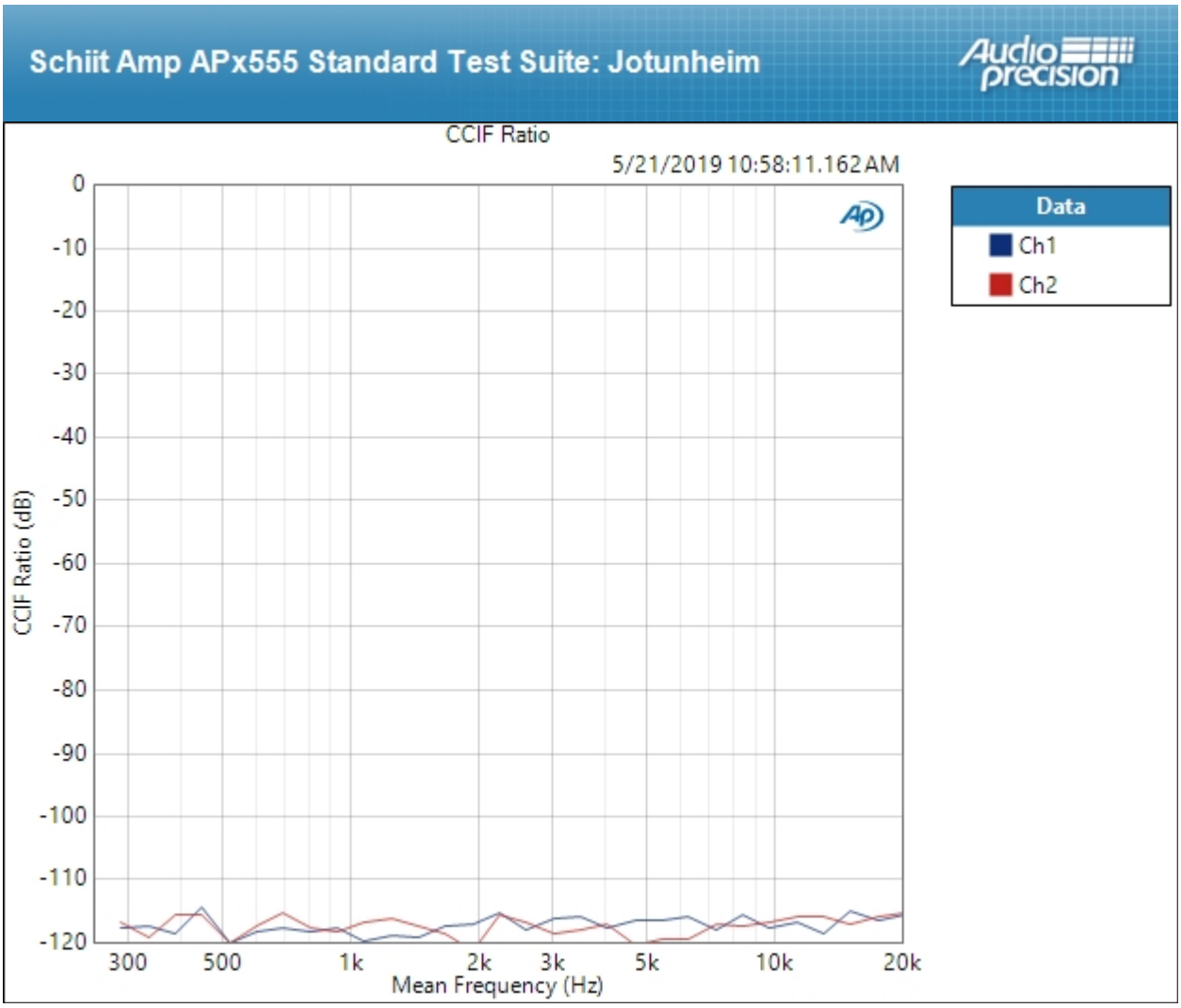



Result: PASSED

## Preamp Balanced : IMD Frequency Sweep ( CCIF )

| | |
|---|---|
| Generator Level: | 450.0 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 | 5/21/2019 10:58:11 AM |

### CCIF Ratio (5/21/2019 10:58:11.162 AM)




Result: PASSED

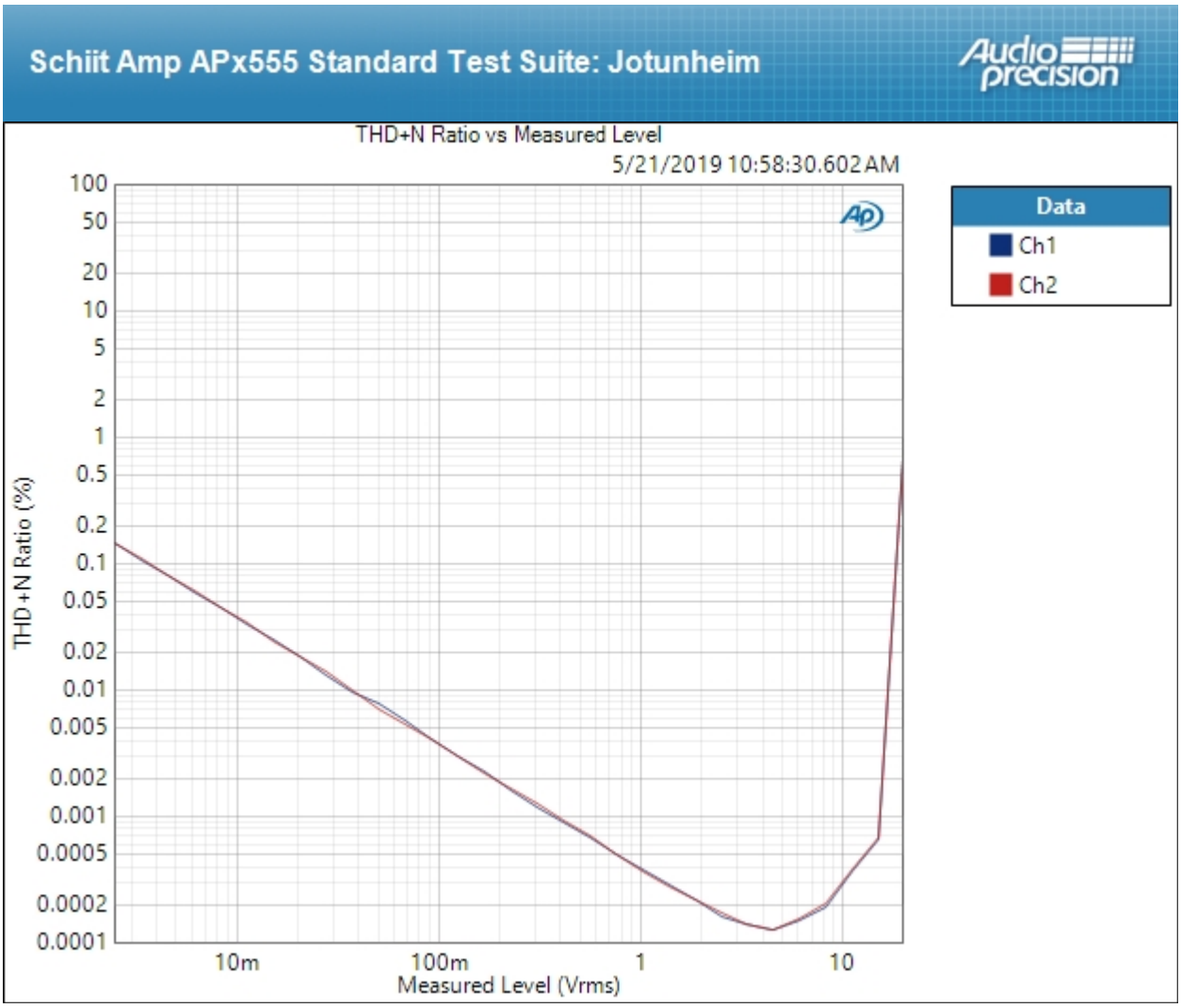
| Preamp Balanced : Crosstalk, One Channel Undriven | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 450.0 mVrms |
| Frequency: | 10.0000 kHz |

| Crosstalk (5/21/2019 10:58:16.152 AM) | |
|---|---|
| Ch1 | 102.145 dB |
| Ch2 | 100.884 dB |

Preamp Balanced : 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: | 8.000 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 | 5/21/2019 10:58:30 AM |

THD+N Ratio vs Measured Level (5/21/2019 10:58:30.602 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: | 550.0 mVrms |
| Frequency: | 1.00000 kHz |

### RMS Level (5/21/2019 10:59:15.701 AM)

Ch1 1.098 Vrms
Ch2 1.098 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 |

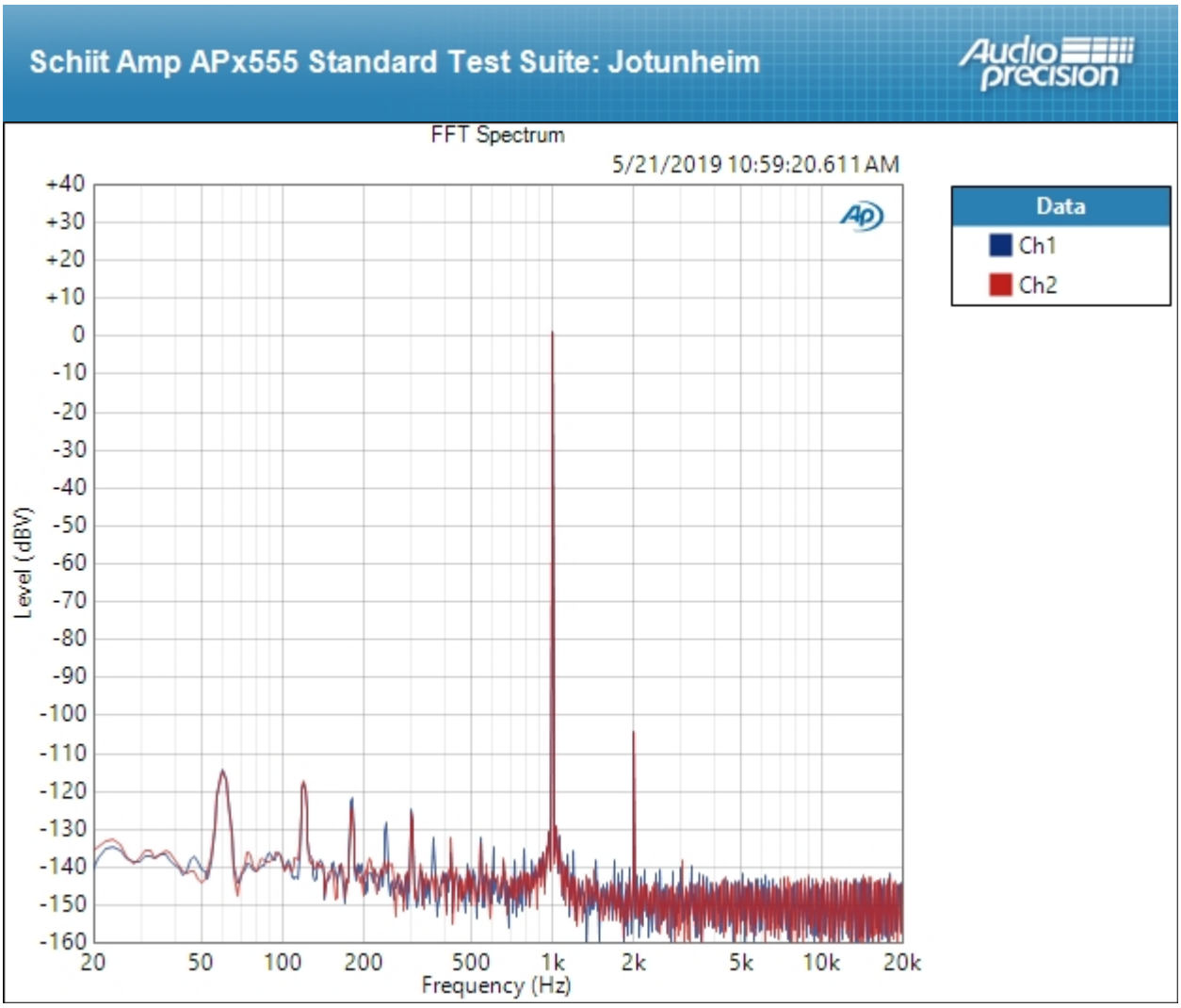
### DC Level (5/21/2019 10:59:16.881 AM)

Ch1 -6.207 mV
Ch2 5.354 mV

## Preamp SE : Signal Analyzer

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 550.0 mVrms |
| Frequency: | 1.00000 kHz |
| Secondary Source: | None |
| Measured 1 | 5/21/2019 10:59:20 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 (5/21/2019 10:59:20.611 AM)

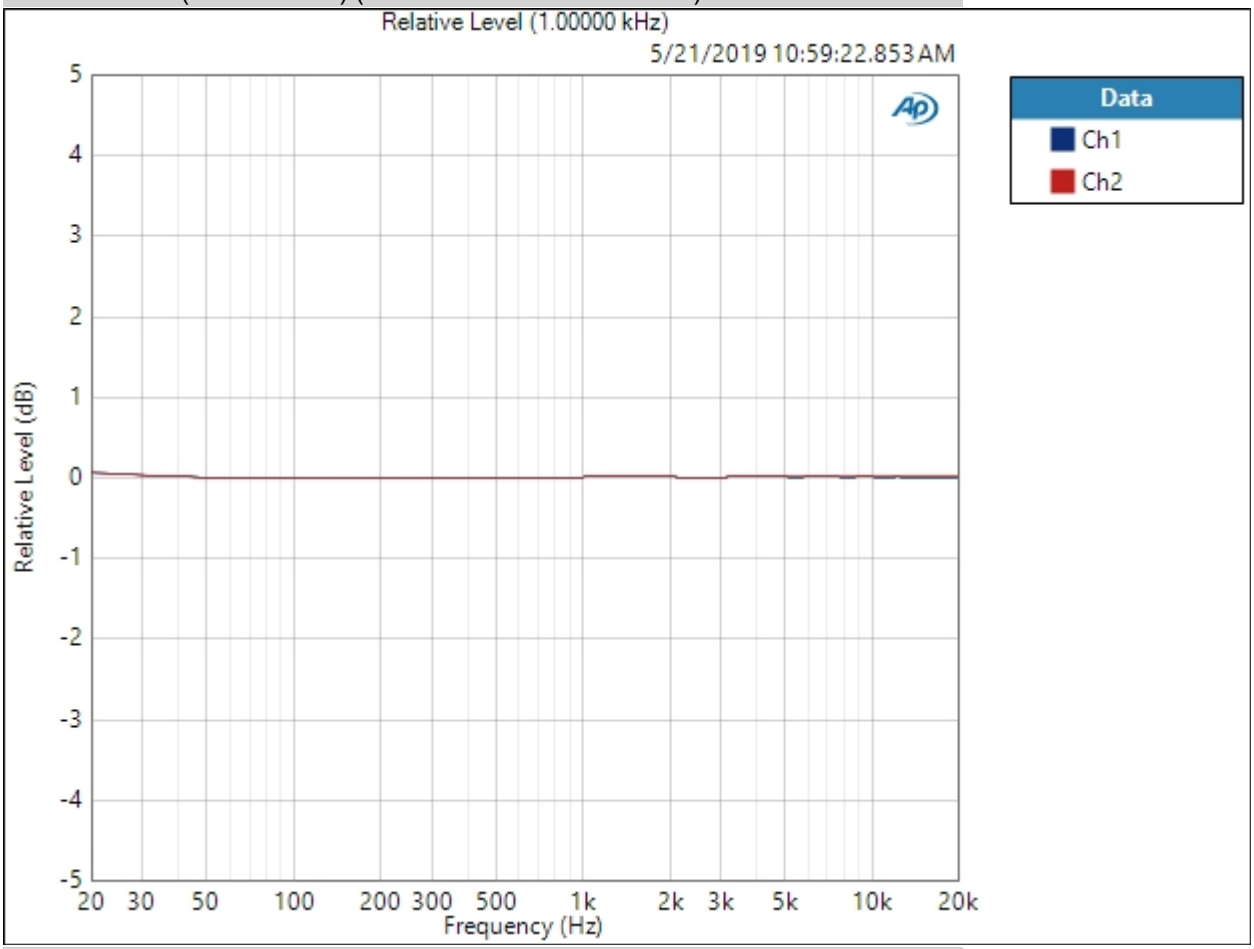



Result: PASSED

## Preamp SE : Frequency Response

| | |
|---|---|
| Start Frequency: | 20.0000 Hz |
| Stop Frequency: | 20.0000 kHz |
| Generator Level: | 550.0 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 | 5/21/2019 10:59:22 AM |

## Relative Level (1.00000 kHz) (5/21/2019 10:59:22.853 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) (5/21/2019 10:59:22.853 AM)

Ch1 ±0.038 dB

Ch2 ±0.036 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: | 550.0 mVrms |
| Frequency: | 1.00000 kHz |
| Low-pass Filter: | 20 kHz |
| Weighting Filter: | A-wt. |
| High-pass Filter: | 20 Hz |

Signal to Noise Ratio (5/21/2019 10:59:24.902 AM)

Ch1 114.028 dB

Ch2 114.287 dB

## Preamp SE : THD+N

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 550.0 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 (5/21/2019 10:59:27.302 AM)

Ch1 0.001334 %

Ch2 0.001409 %

### THD Ratio (5/21/2019 10:59:27.302 AM)

Ch1 0.000555 %

Ch2 0.000584 %

### Noise Ratio (5/21/2019 10:59:27.302 AM)

Ch1 0.000332 %

Ch2 0.000331 %

### Distortion Product Ratio (5/21/2019 10:59:27.302 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 | -105.14 | -132.58 | -142.41 | -138.88 | -143.83 | -145.50 | -139.86 | -144.99 | -141.34 |
| | 1.000k | 2.000k | 3.000k | 4.000k | 5.000k | 6.000k | 7.000k | 8.000k | 9.000k | 10.00k |
| Ch2 | -0.00 | -104.71 | -134.94 | -140.67 | -139.86 | -143.55 | -138.29 | -139.98 | -139.59 | -139.08 |

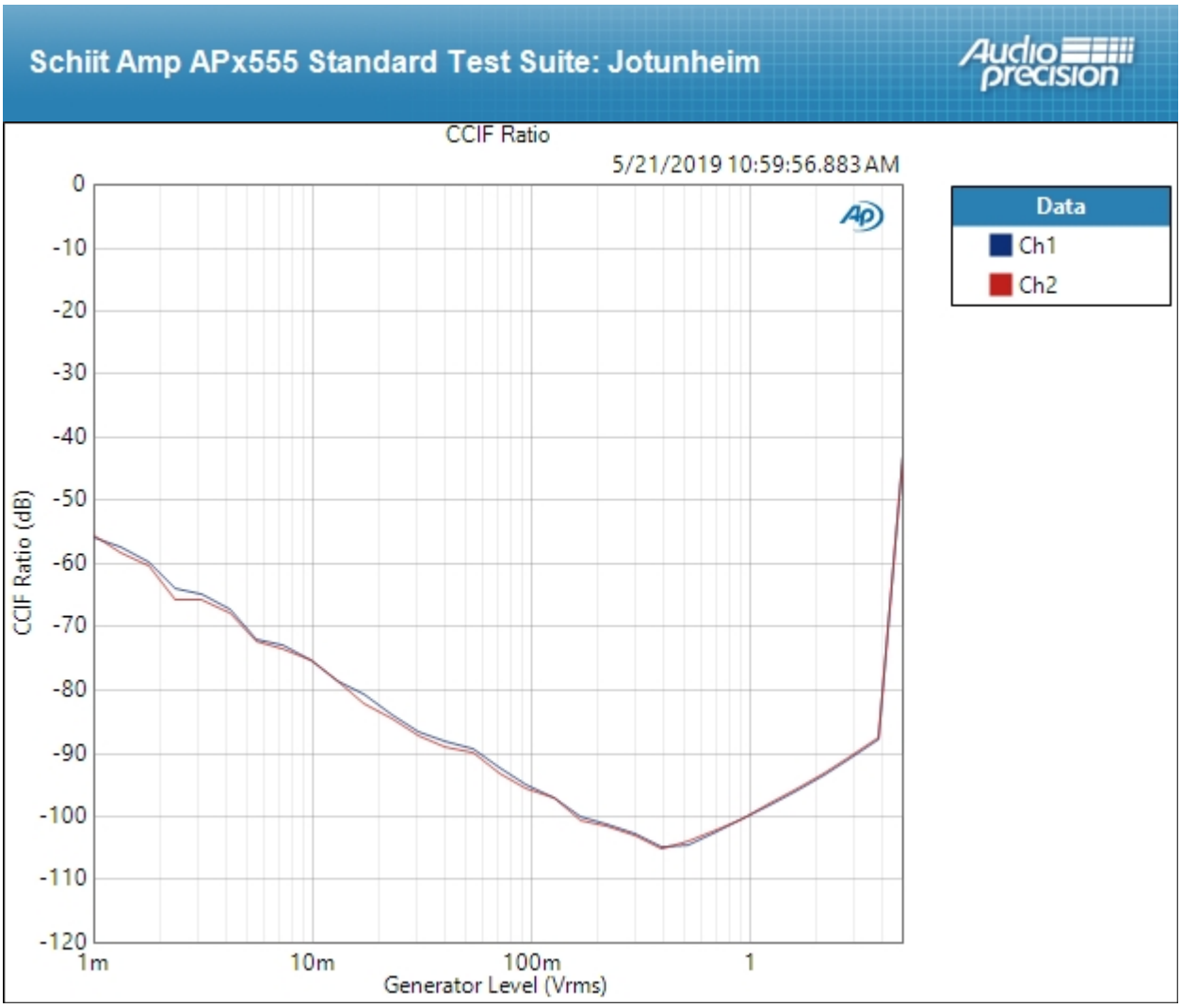
### Distortion Product Ratio Parameters

| | |
|---|---|
| Frequency Unit: | Hz |
| Ratio Unit: | dB |

## Preamp SE : IMD Level Sweep ( CCIF )

| | |
|---|---|
| IMD Type: | CCIF |
| Waveform: | IMD |
| Generator Level: | 5.000 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: | 5.000 Vrms |
| Step Type: | Logarithmic |
| Number of Points: | 31 |
| Mode: | d2+d3 |
| Measured 1 | 5/21/2019 10:59:56 AM |

### CCIF Ratio (5/21/2019 10:59:56.883 AM)

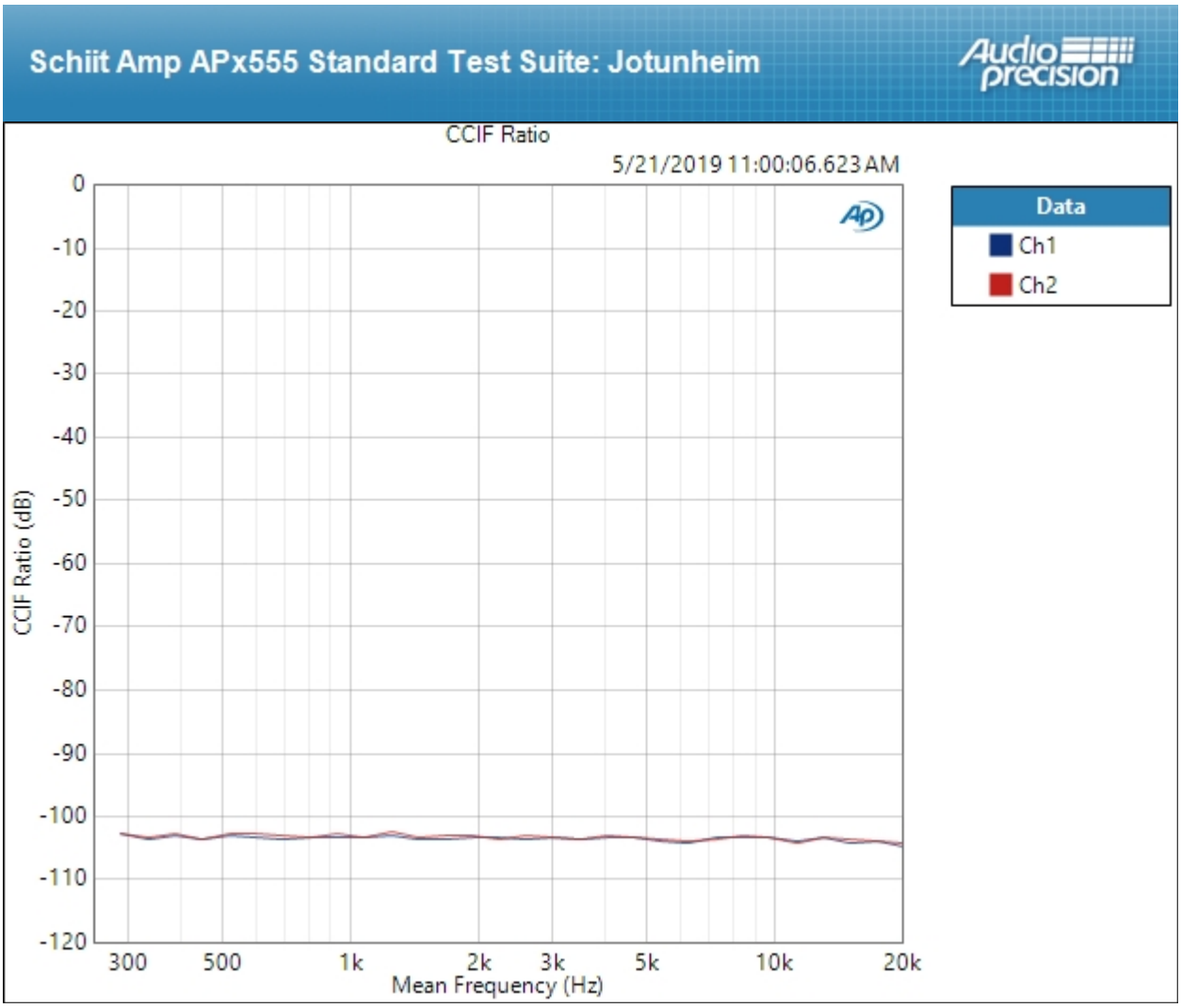



Result: PASSED

## Preamp SE : IMD Frequency Sweep ( CCIF )

| | |
|---|---|
| Generator Level: | 550.0 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 | 5/21/2019 11:00:06 AM |

### CCIF Ratio (5/21/2019 11:00:06.623 AM)




Result: PASSED

Preamp SE : Crosstalk, One Channel Undriven

| | |
|---|---|
| Waveform: | Sine |
| Generator Mode: | High Performance Sine Generator |
| Generator Level: | 550.0 mVrms |
| Frequency: | 10.0000 kHz |

Crosstalk (5/21/2019 11:00:08.293 AM)

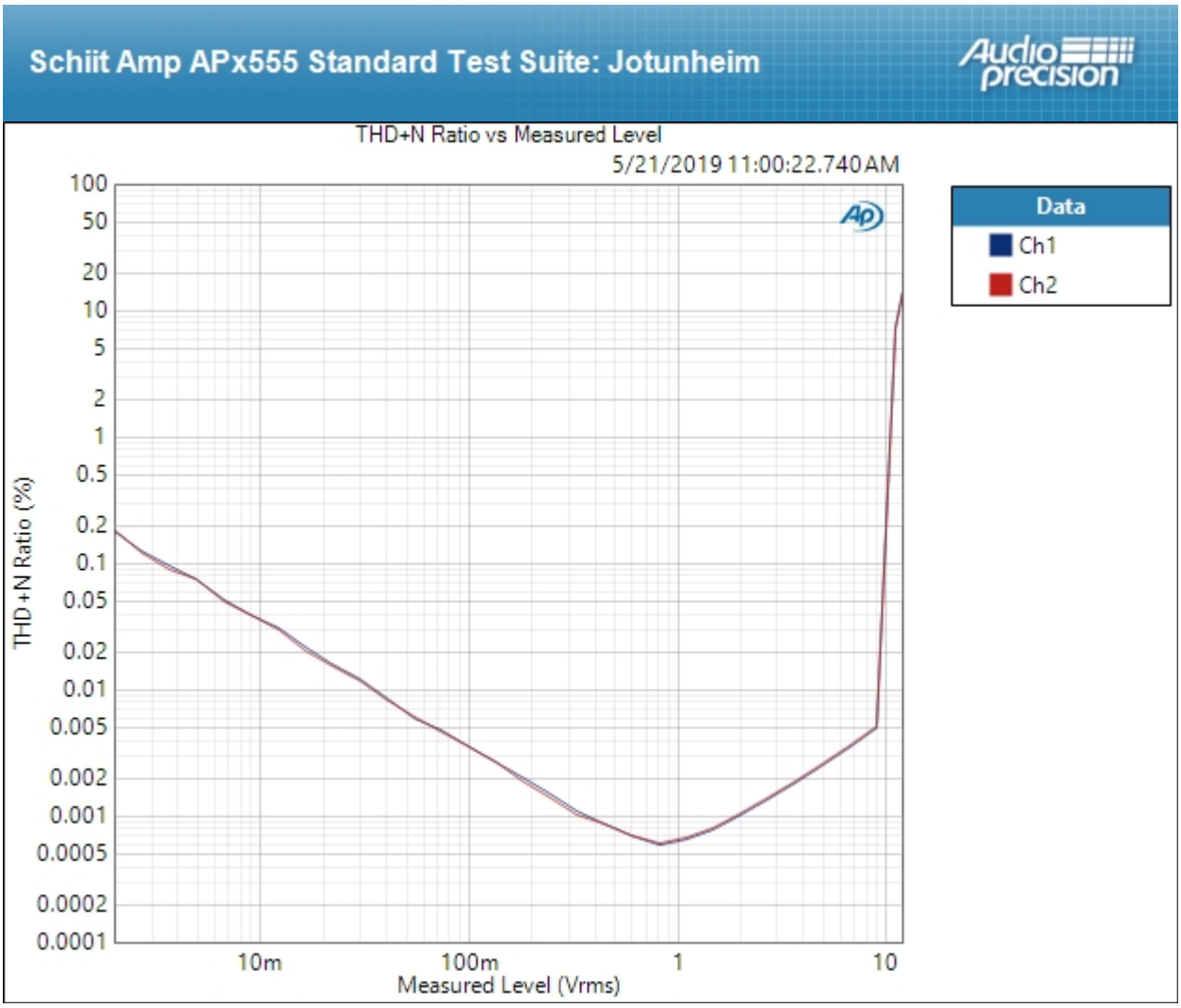
Ch1 -104.367 dB

Ch2 -102.157 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: | 8.000 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 | 5/21/2019 11:00:22 AM |

THD+N Ratio vs Measured Level (5/21/2019 11:00:22.740 AM)




Result: PASSED

## Dual 4490 DAC Card : Signal Path Setup

| | |
|---|---|
| Output Connector: | ASIO |
| Output Sample Rate: | 96.0000 kHz |
| Output EQ: | None |
| Input Connector: | Analog Balanced |
| Channels: | 2 |
| Termination: | 200 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

Dual 4490 DAC Card : Level and Gain

Waveform: Sine

Generator Level: -20.000 dBFS

DC Offset: 0.000 D

Frequency: 1.00000 kHz

RMS Level (5/21/2019 11:01:47.800 AM)

Ch1 10.34 uVrms

Ch2 13.34 uVrms

Dual 4490 DAC Card : 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 (5/21/2019 11:01:48.939 AM)

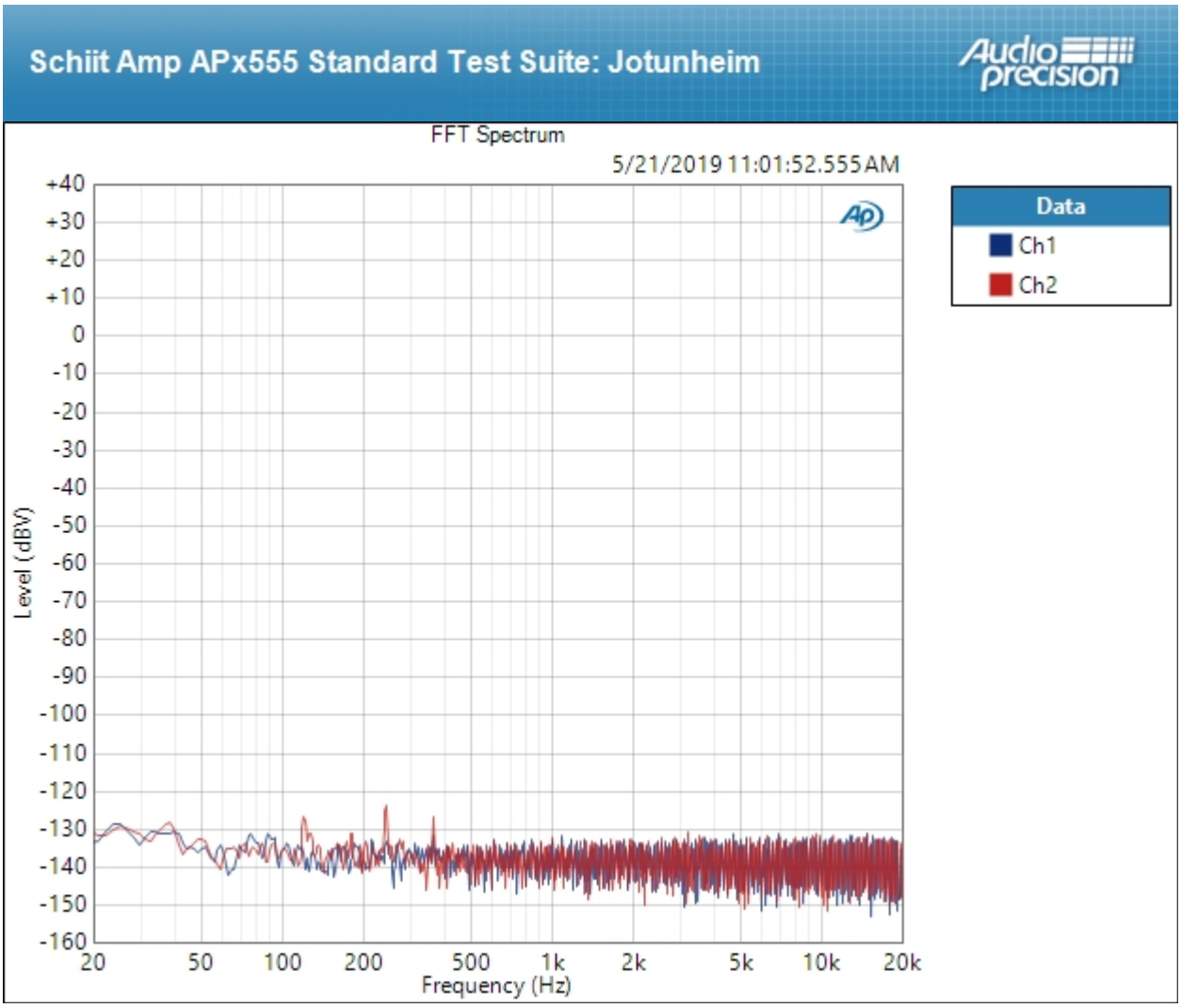
Ch1 12.33 mV

Ch2 -1.109 mV

## Dual 4490 DAC Card : Signal Analyzer

| | |
|---|---|
| Waveform: | Sine |
| Generator Level: | -20.000 dBFS |
| DC Offset: | 0.000 D |
| Frequency: | 1.00000 kHz |
| Secondary Source: | None |
| Measured 1 | 5/21/2019 11:01:52 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 (5/21/2019 11:01:52.555 AM)

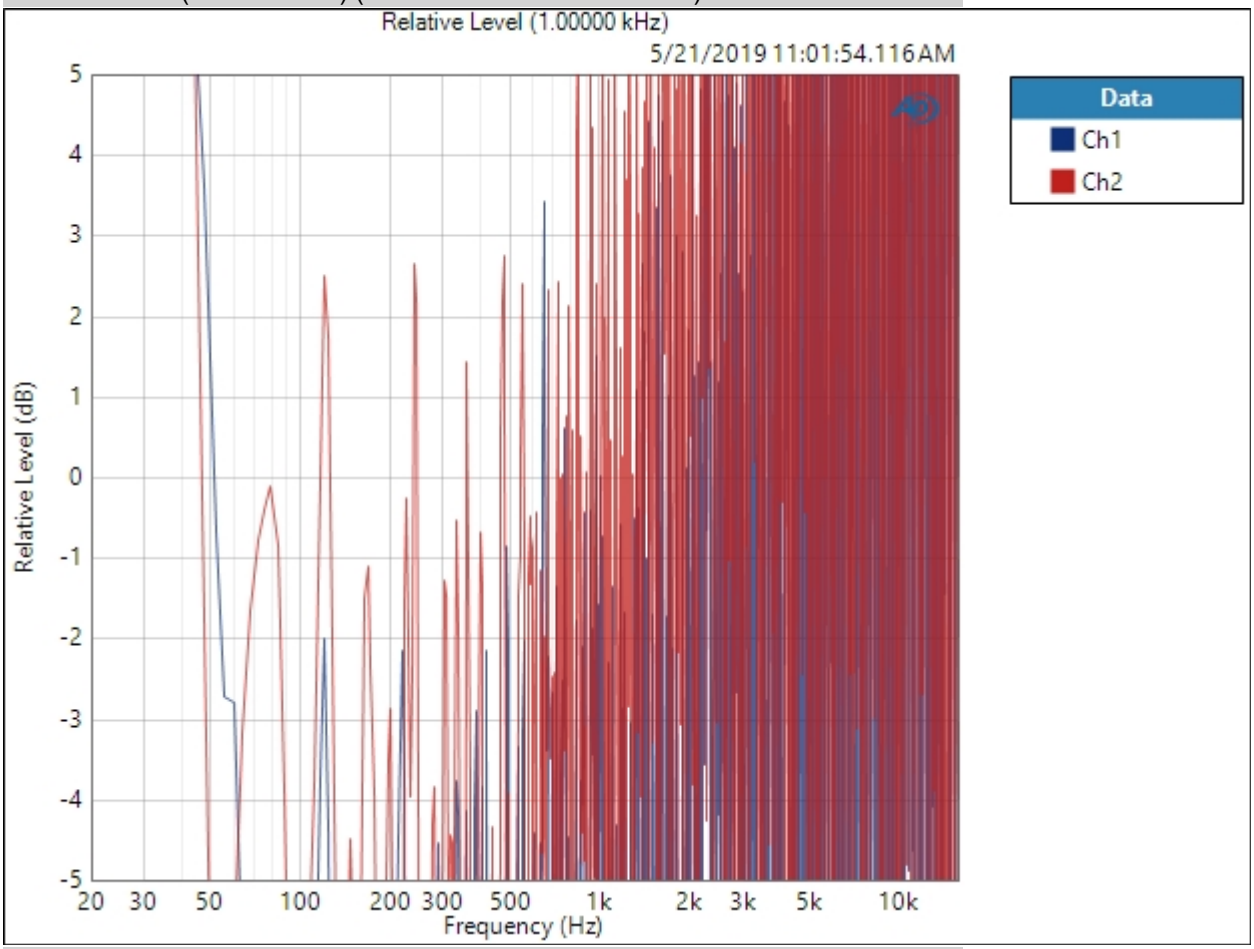



Result: PASSED

## Dual 4490 DAC Card : Frequency Response

| | |
|---|---|
| Start Frequency: | 20.0000 Hz |
| Stop Frequency: | 16.0000 kHz |
| Generator Level: | -20.000 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 | 5/21/2019 11:01:54 AM |

### Relative Level (1.00000 kHz) (5/21/2019 11:01:54.116 AM)




### Relative Level (1.00000 kHz) Parameters

| | |
|---|---|
| Mode: | Normalized at Reference |

Ref Frequency: 1.00000 kHz

Result: PASSED

Deviation (20.0000 Hz - 16.0000 kHz) (5/21/2019 11:01:54.116 AM)

Ch1 ±29.373 dB

Ch2 ±29.491 dB

Deviation (20.0000 Hz - 16.0000 kHz) Parameters

Min: 20.0000 Hz

Max: 16.0000 kHz

Dual 4490 DAC Card : Signal to Noise Ratio

| | |
|---|---|
| Waveform: | Sine |
| Generator Level: | -20.000 dBFS |
| DC Offset: | 0.000 D |
| Frequency: | 1.00000 kHz |
| Low-pass Filter: | 20 kHz |
| Weighting Filter: | A-wt. |
| High-pass Filter: | 20 Hz |

Signal to Noise Ratio (5/21/2019 11:01:56.620 AM)

Ch1 1.901 dB

Ch2 1.829 dB

## Dual 4490 DAC Card : THD+N

| | |
|---|---|
| Waveform: | Sine |
| Generator Level: | -20.000 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 (5/21/2019 11:01:58.133 AM)

Ch1 ---- %

Ch2 ---- %

### THD Ratio (5/21/2019 11:01:58.133 AM)

Ch1 ---- %

Ch2 ---- %

### Noise Ratio (5/21/2019 11:01:58.133 AM)

Ch1 ---- %

Ch2 ---- %

### Distortion Product Ratio (5/21/2019 11:01:58.133 AM)

| Channel | F | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 |
|---|---|---|---|---|---|---|---|---|---|---|
| | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Ch1 | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Ch2 | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |

### Distortion Product Ratio Parameters

| | |
|---|---|
| Frequency Unit: | Hz |
| Ratio Unit: | dB |