

Wavelight AES 44K Bal 160dBFS REPORT

Overall Result: **PASS**

SUMMARY:	RESULT
A01 Ampl, Phase, Gain	✓
A02 Ampl, Phase vs Freq	✓
A03 Gain vs Ampl	✓
A04 THD+N, THD, nth-HD	✓
A05 THD+N vs Freq	✓
A06 THD+N vs Ampl	✓
A07 Noise, DNR	✓
A08 Crosstalk A to B	✓
A09 Crosstalk B to A	✓
A10 Crosstalk A to B vs Freq	✓
A11 Crosstalk B to A vs Freq	✓
A12 FFT 1000 Hz THD+N	✓
A13 FFT 50+7000Hz	✓
A14 FFT 600+1700 Hz	✓
A15 FFT 19+20 KHz	✓
A16 FFT residual noise	✓
A17 FFT -90 dBFS	OK
A17a FFT -120 dBFS	OK
A18 FFT -90 dBFS 16 bit	OK
A19 FFT imaging	OK
A20 FFT inferred jitter	OK

KEY: ✓ = Test passes, ✗ = Test fails, OK = Test has run but has no limit checking, (✗) = Test has failed to run or has not completed,
[✓] = Test passes but is not required, [✗] = Test fails but is not required, ? = Test is required but has not been run.
- = Test is not required.

[Back to top](#)

A01 Ampl, Phase, Gain: PASSED

Measured at 4/29/2021 11:38:05 AM

Generator Settings	
Channel A:	sine, 0 dBFS at 1000 Hz
Channel B:	sine, 0 dBFS at 1000 Hz

Signal Analyzer Readings		
RMS amplitude (Channel A)	17.512 dBu	< 24 dBu > -20 dBu
RMS amplitude (Channel B)	17.513 dBu	< 24 dBu > -20 dBu
Inter-channel phase	-0.03 °	< 10 ° > -10 °

CTA Readings		
Gain (Channel A RMS)	0.000 dB	< 20 dB > -40 dB
Gain (Channel B RMS)	0.000 dB	< 20 dB > -40 dB
Settings: Generator relative, 22 Hz - 22 kHz, unweighted RMS with 1/3rd octave band-pass filter at the generator frequency		

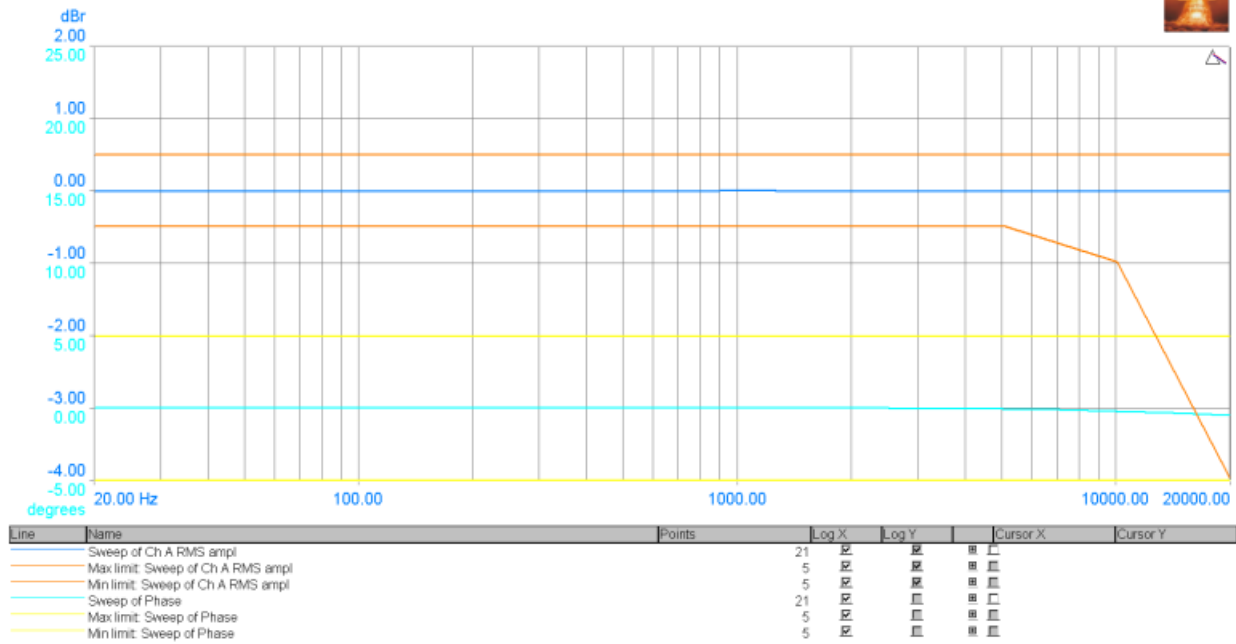
[Back to top](#)

A02 Ampl, Phase vs Freq: PASSED

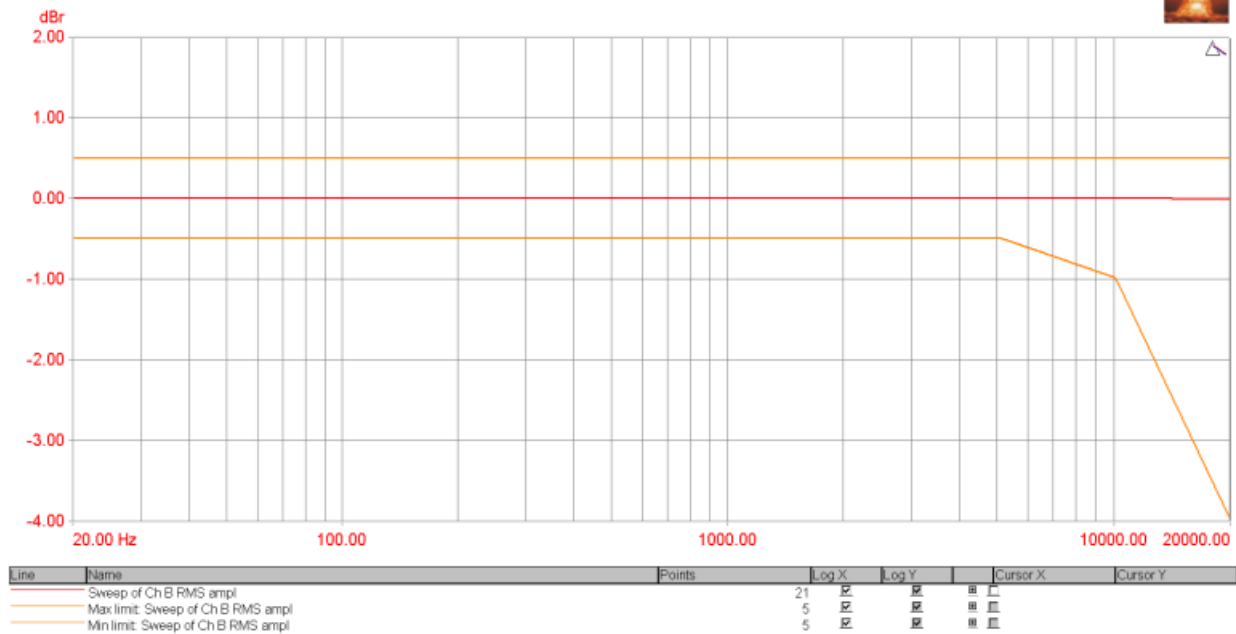
Measured at 4/29/2021 11:38:07 AM

Generator Settings	
Channel A:	sine, -3 dBFS at 1000 Hz
Channel B:	sine, -3 dBFS at 1000 Hz

Frequency Response and Inter-channel Phase



Frequency Response and Inter-channel Phase



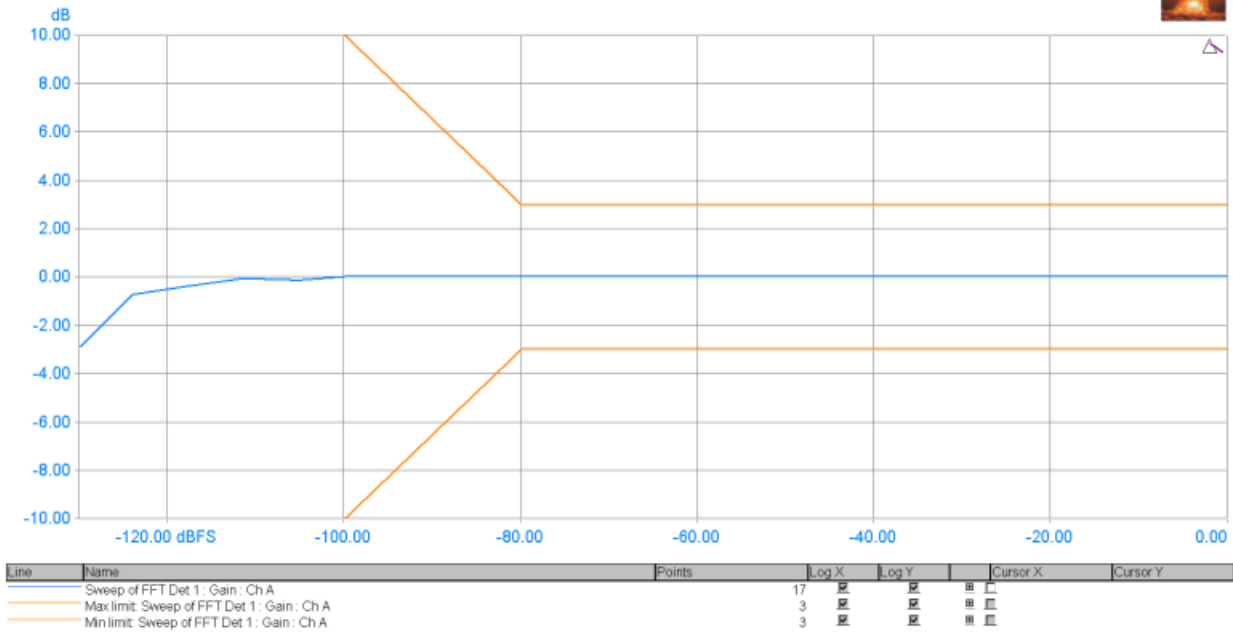
[Back to top](#)

A03 Gain vs Ampl: PASSED

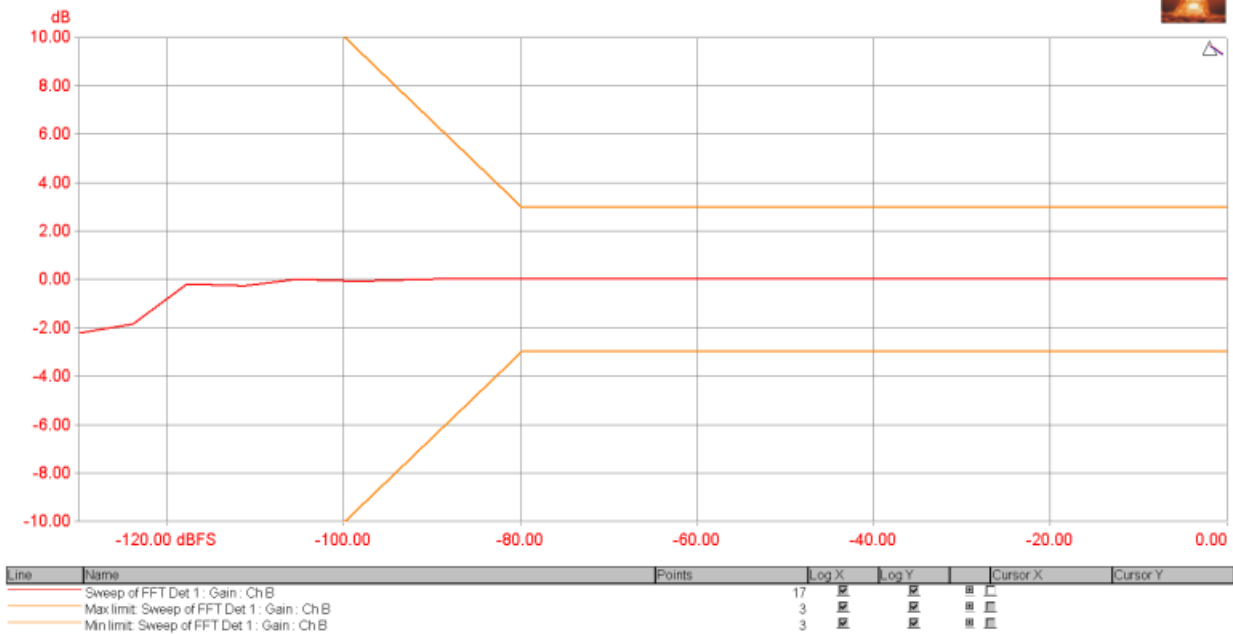
Measured at 4/29/2021 11:38:15 AM

Generator Settings	
Channel A:	sine, -6 dBFS at 1000 Hz
Channel B:	sine, -6 dBFS at 1000 Hz

Gain vs Amplitude



Gain vs Amplitude



[Back to top](#)

A04 THD+N, THD, nth-HD: **PASSED**

Measured at 4/29/2021 11:39:18 AM

Generator Settings	
Channel A:	sine, 0 dBFS at 1000 Hz
Channel B:	sine, 0 dBFS at 1000 Hz

CTA Readings		
THD+N - relative (Channel A RMS)	0.00539 %	<200 % >0 %
THD+N - relative (Channel B RMS)	0.00603 %	<200 % >0 %
Settings: Self relative, 22 Hz - 20kHz AES17, unweighted RMS with 1/12th octave band-reject filter at the generator frequency		

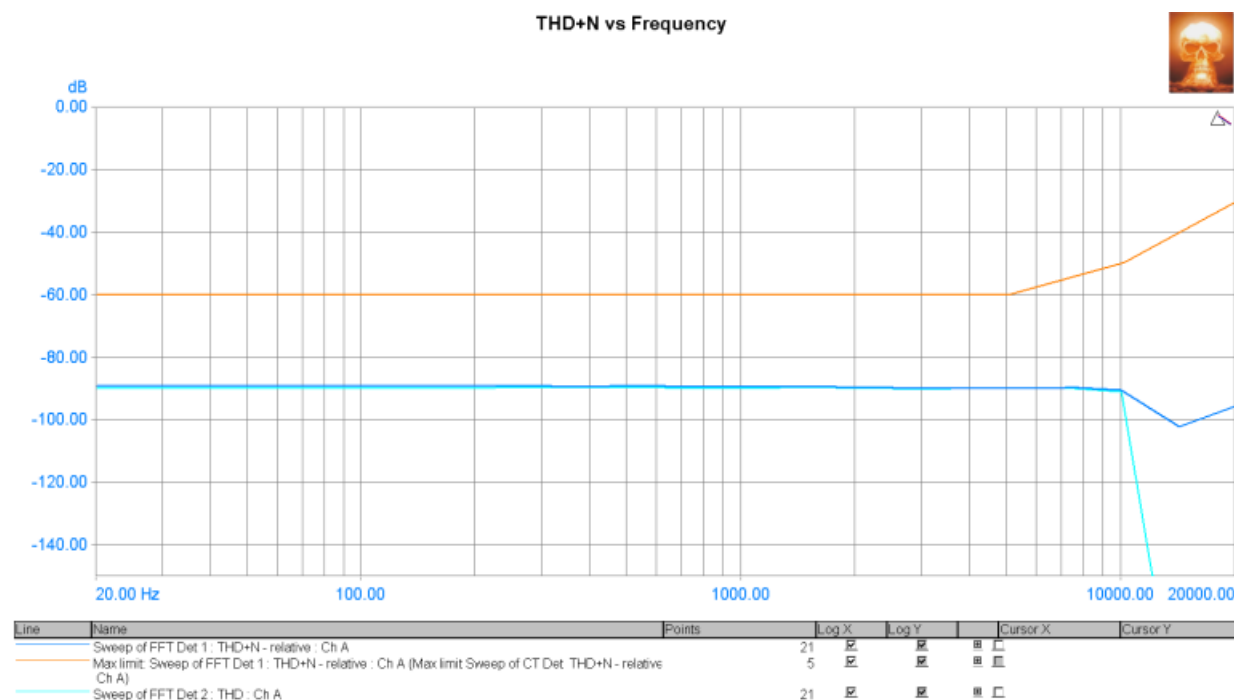
FFT Detector Readings		
THD (Channel A)	0.00532 %	<200 % >0 %
THD (Channel B)	0.00600 %	<200 % >0 %
FFTD 1 Settings: Self relative, 22 Hz - 20kHz AES17, unweighted with band-pass notch filters from the 2nd to 10th harmonics		
2nd Harmonic Distortion (Channel A)	0.00311 %	<200 % >0 %
2nd Harmonic Distortion (Channel B)	0.00415 %	<200 % >0 %
FFTD 2 Settings: Self relative, 22 Hz - 20kHz AES17, unweighted with band-pass notch filter at the 2nd harmonic		
3rd Harmonic Distortion (Channel A)	0.00430 %	<200 % >0 %
3rd Harmonic Distortion (Channel B)	0.00431 %	<200 % >0 %
FFTD 3 Settings: Self relative, 22 Hz - 20kHz AES17, unweighted with band-pass notch filter at the 3rd harmonic		
THD+N - relative (Channel A)	0.00535 %	<200 % >0 %
THD+N - relative (Channel B)	0.00602 %	<200 % >0 %
FFTD 4 Settings: Self relative, 22 Hz - 20kHz AES17, unweighted with window notch (14 bins) band-reject filter at the input frequency		

[Back to top](#)

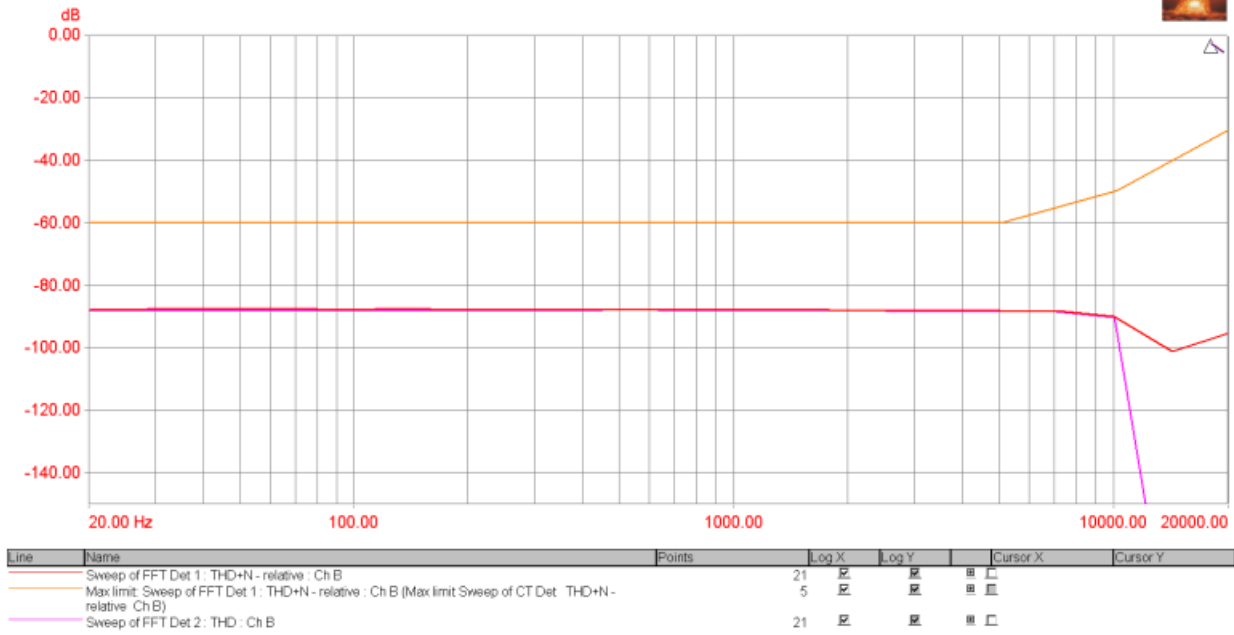
A05 THD+N vs Freq: PASSED

Measured at 4/29/2021 11:39:29 AM

Generator Settings	
Channel A:	sine, -3 dBFS at 1000 Hz
Channel B:	sine, -3 dBFS at 1000 Hz



THD+N vs Frequency


[Back to top](#)

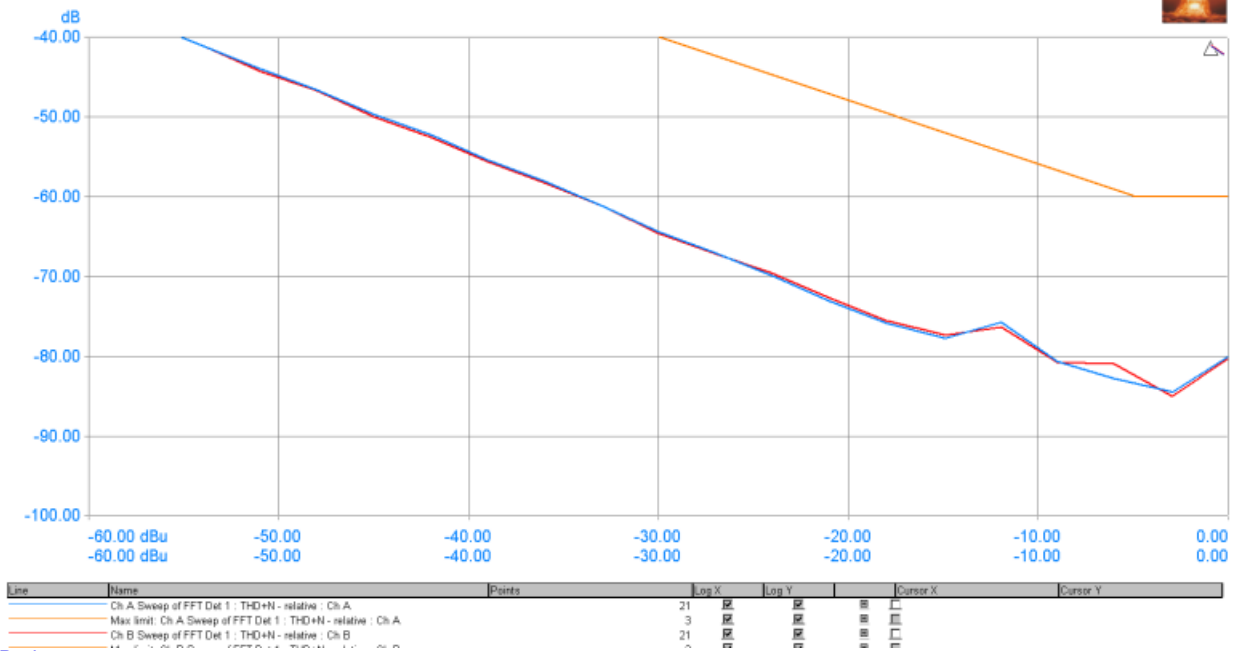
A06 THD+N vs Ampl: PASSED

Measured at 4/29/2021 11:40:26 AM

Generator Settings

Channel A:	sine, -3 dBFS at 1000 Hz
Channel B:	sine, -3 dBFS at 1000 Hz

THD+N vs Amplitude


[Back to top](#)

A07 Noise, DNR: PASSED

Measured at 4/29/2021 11:40:56 AM

Generator Settings

Channel A:	sine, -60 dBFS at 1000.488 Hz
Channel B:	sine, -60 dBFS at 1000.488 Hz

FFT Detector Readings		
THD+N - relative (Channel A)	-60.744 dB	Not limit checked.
THD+N - relative (Channel B)	-61.411 dB	Not limit checked.
FFTD 1 Settings: Self relative, 22 Hz - 20kHz AES17, unweighted with 1/3rd octave band-reject filter at the generator frequency		
Noise (residual) (Channel A)	-108.204 dBu	Not limit checked.
Noise (residual) (Channel B)	-108.220 dBu	Not limit checked.
FFTD 2 Settings: 22 Hz - 22 kHz, unweighted with band-reject notch filters, fundamental to the 10th harmonic		
DAC DNR Residual Async	125.726 dB	< 150 dB > 60 dB
DAC DNR Residual Async	125.739 dB	< 150 dB > 60 dB
FFTD 3 Settings: User: DAC SNR Residual Async		

[Back to top](#)

A08 Crosstalk A to B: PASSED

Measured at 4/29/2021 11:41:14 AM

Generator Settings	
Channel A:	sine, -3 dBFS at 1000 Hz
Channel B:	sine, -3 dBFS at 1000 Hz

CTA Readings		
Cross-talk (Channel B RMS)	-100.645 dB	< -45 dB
Settings: Channel relative, 22 Hz - 22 kHz, unweighted RMS with 1/24th octave band-pass filter at the opposite channel generator frequency		

[Back to top](#)

A09 Crosstalk B to A: PASSED

Measured at 4/29/2021 11:41:17 AM

Generator Settings	
Channel A:	sine, -3 dBFS at 1000 Hz
Channel B:	sine, -3 dBFS at 1000 Hz

CTA Readings		
Cross-talk (Channel A RMS)	-99.159 dB	< -45 dB
Settings: Channel relative, 22 Hz - 22 kHz, unweighted RMS with 1/24th octave band-pass filter at the opposite channel generator frequency		

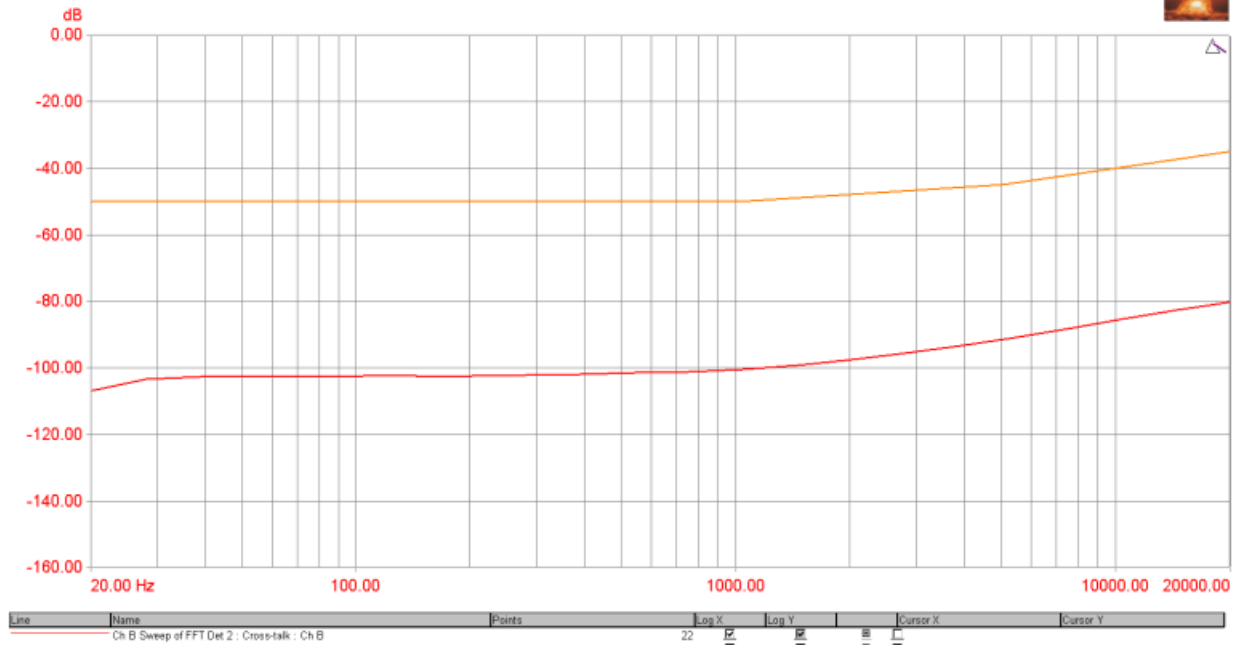
[Back to top](#)

A10 Crosstalk A to B vs Freq: PASSED

Measured at 4/29/2021 11:41:19 AM

Generator Settings	
Channel A:	sine, -3 dBFS at 1000 Hz
Channel B:	sine, -3 dBFS at 1000 Hz

Cross-talk A to B vs Frequency


[Back to top](#)

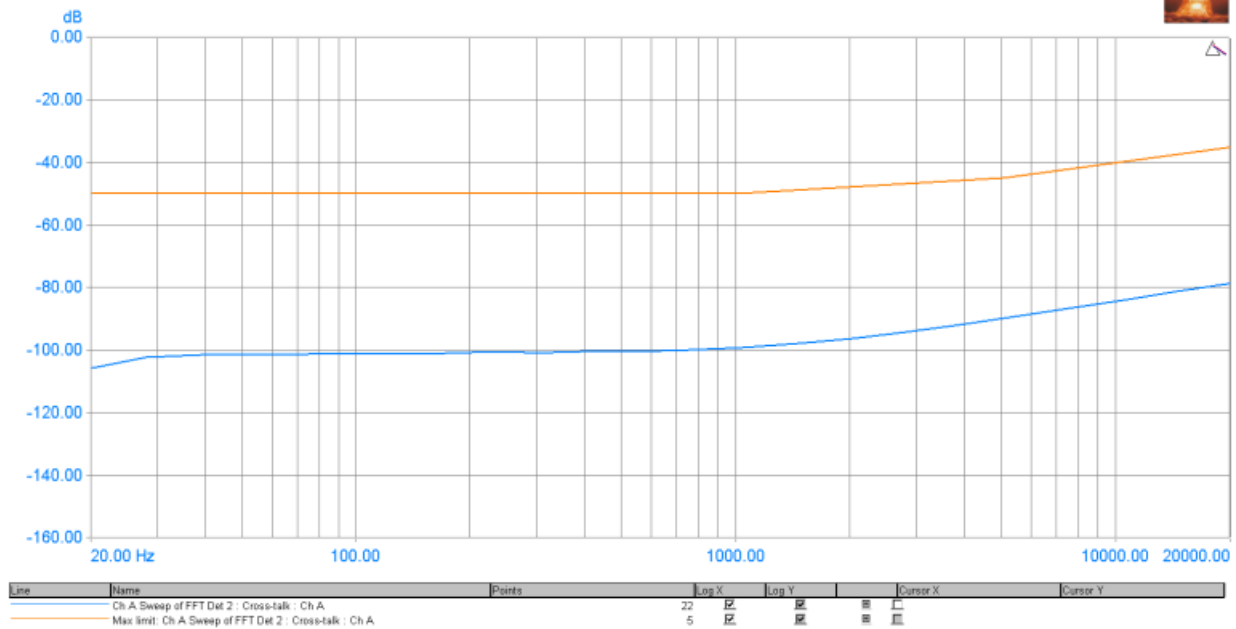
A11 Crosstalk B to A vs Freq: PASSED

Measured at 4/29/2021 11:42:14 AM

Generator Settings

Channel A:	sine, -3 dBFS at 1000 Hz
Channel B:	sine, -3 dBFS at 1000 Hz

Cross-talk A to B vs Frequency


[Back to top](#)

A12 FFT 1000 Hz THD+N: PASSED

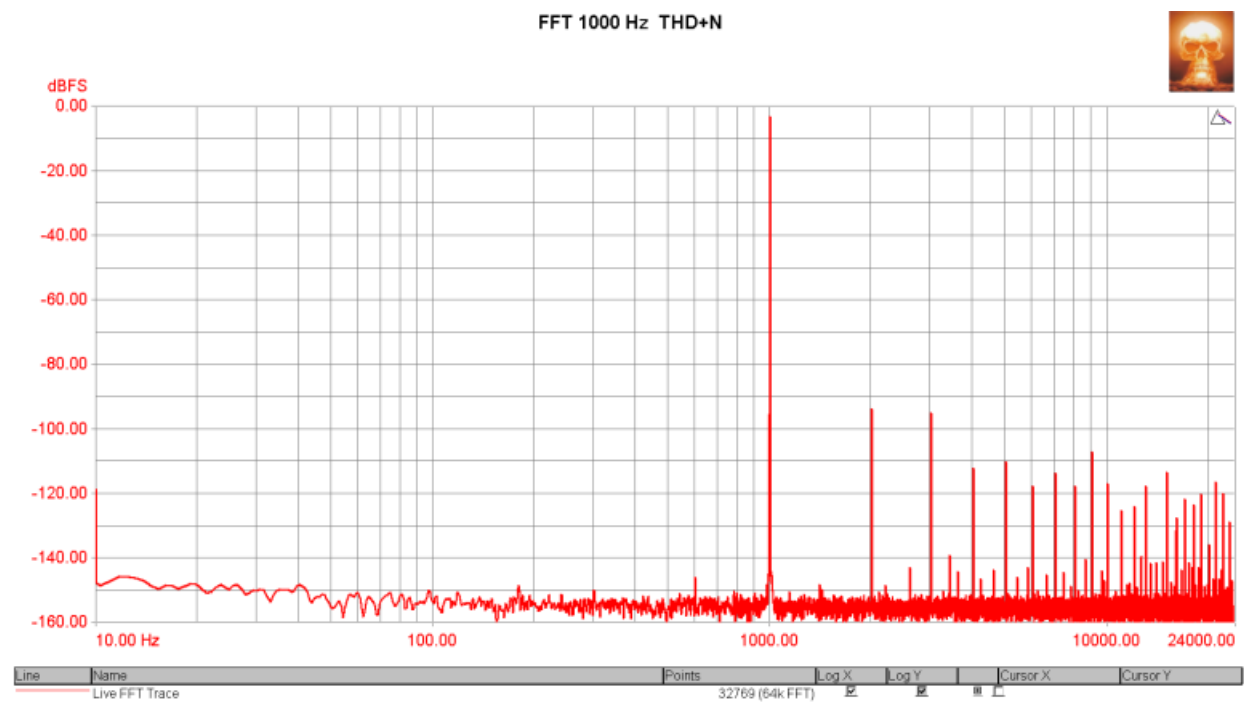
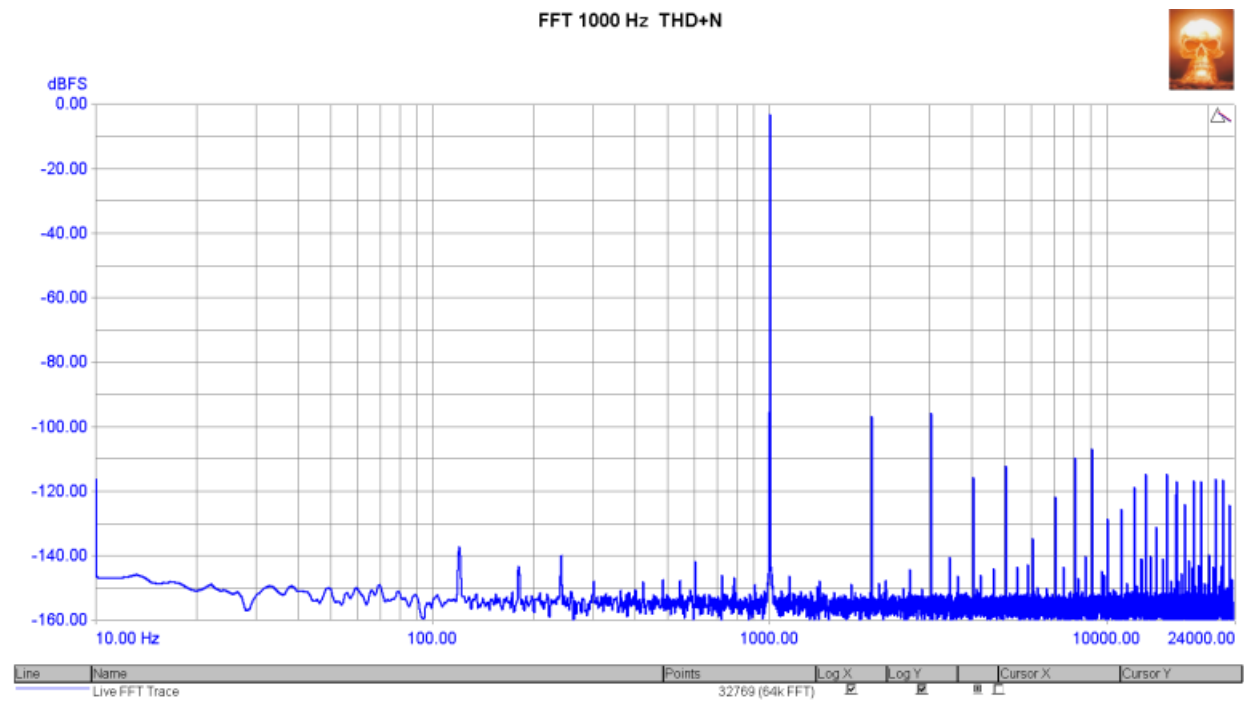
Measured at 4/29/2021 11:43:06 AM

Generator Settings

Channel A:	sine, -3 dBFS at 1000 Hz
Channel B:	sine, -3 dBFS at 1000 Hz

Signal Analyzer Readings		
RMS amplitude (Selected : Ch A)	14.512 dBu	Not limit checked.
RMS amplitude (Non-selected : Ch A)	14.512 dBu	Not limit checked.

CTA Readings		
THD+N - relative (Selected : Ch ARMS)	0.00315 %	< 0.075 % > 0.00000001 %
THD+N - relative (Non-selected : Ch ARMS)	0.00375 %	< 0.075 % > 0.00000001 %
Settings: Self relative, 22 Hz - 20kHz AES17, unweighted RMS with 1/3rd octave band-reject filter at the input frequency		



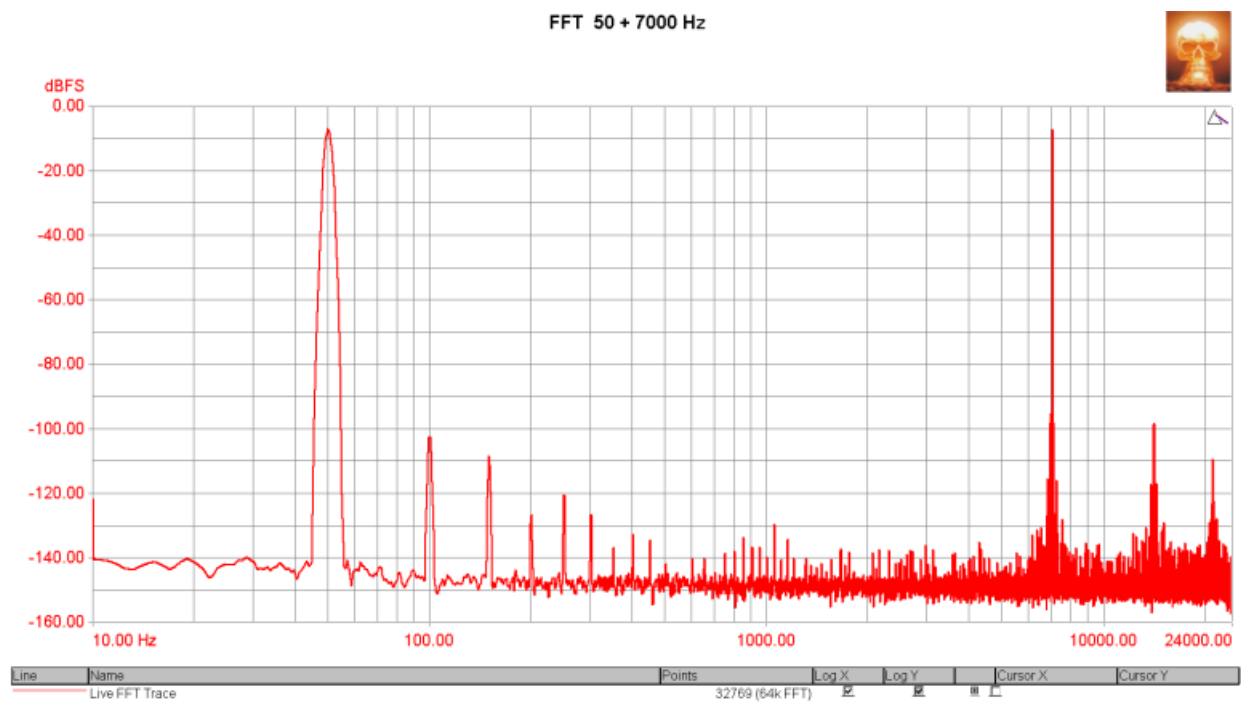
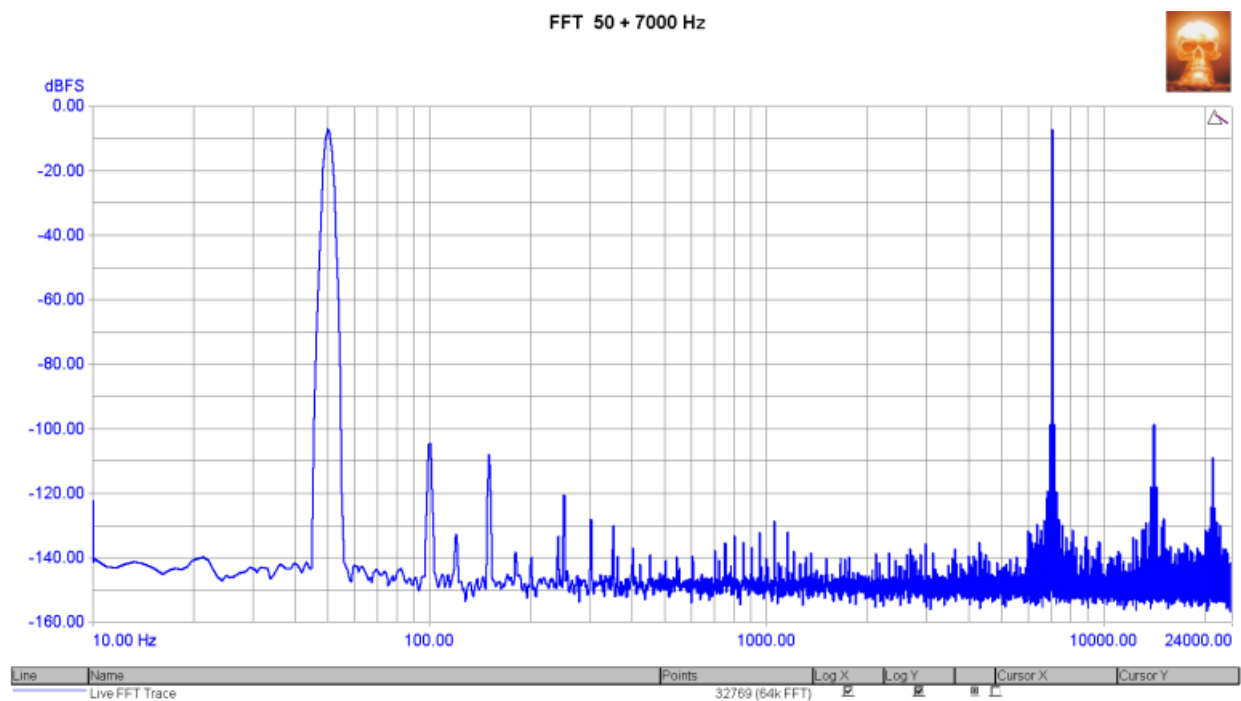
FFT Detector Readings		
THD+N - relative (Channel A)	0.00321 %	Not limit checked.
THD+N - relative (Channel B)	0.00390 %	Not limit checked.
FFTD 1 Settings: Self relative, 22 Hz - 20kHz AES17, unweighted with window notch (14 bins) band-reject filter at the input frequency		

Measured at 4/29/2021 11:44:27 AM

Generator Settings	
Channel A:	Twin-tone, -7 dBFS at 50 Hz and 1 amplitude ratio at 7000Hz
Channel B:	Twin-tone, -7 dBFS at 50 Hz and 1 amplitude ratio at 7000Hz

Signal Analyzer Readings		
RMS amplitude (Channel A)	13.521 dBu	Not limit checked.
RMS amplitude (Channel B)	13.521 dBu	Not limit checked.

CTA Readings		
IMD SMPTE-DIN (Channel A RMS)	0.00361 %	< 0.05 % > 0 %
IMD SMPTE-DIN (Channel B RMS)	0.00460 %	< 0.05 % > 0 %
Settings: Self relative, 22 Hz - 22 kHz, unweighted RMS using SMPTE-DIN IMD demodulation.		



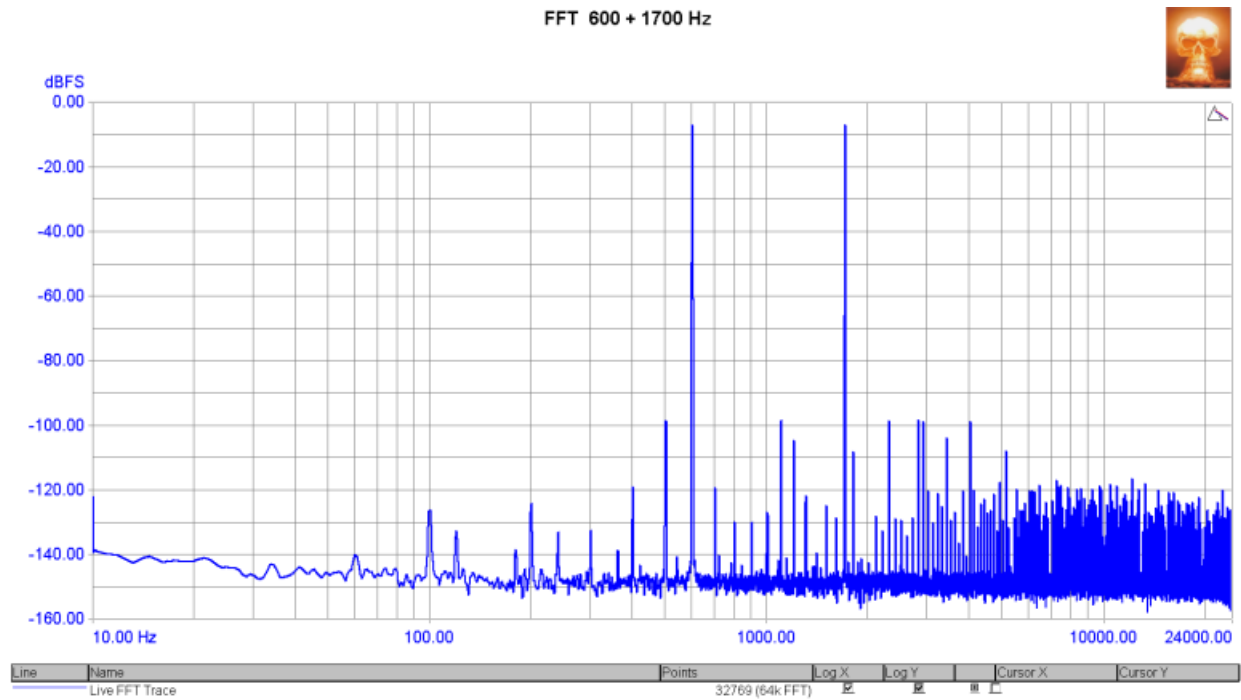
A14 FFT 600+1700 Hz: PASSED

Measured at 4/29/2021 11:44:50 AM

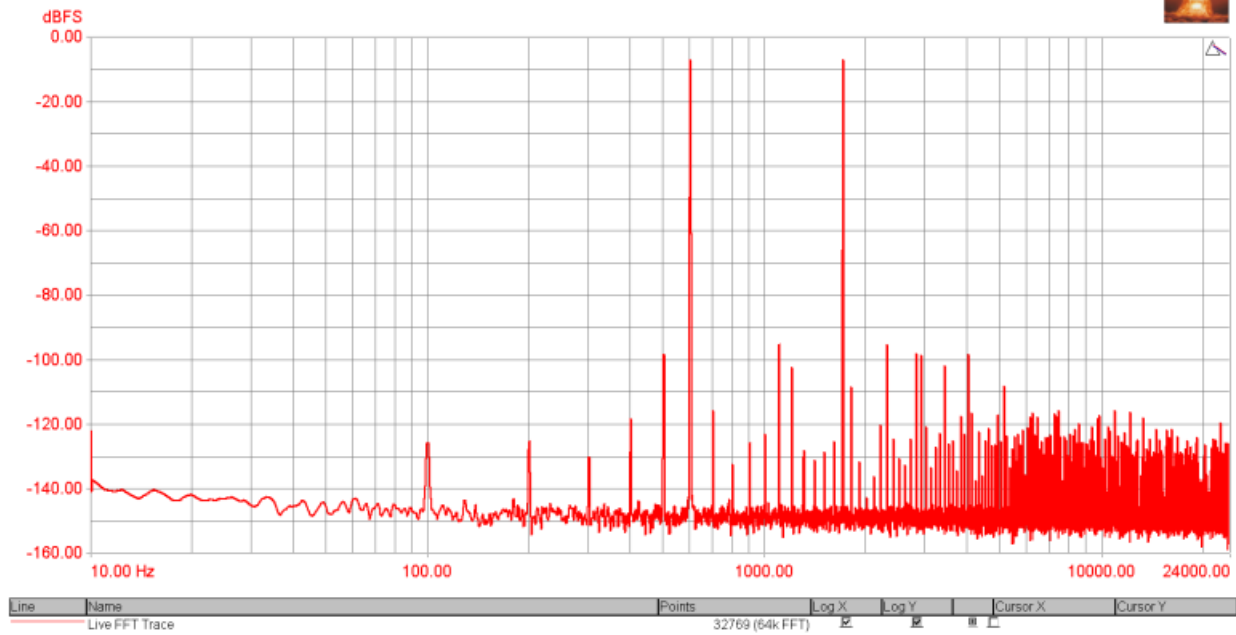
Generator Settings	
Channel A:	Twin-tone, -7 dBFS at 600 Hz and 1 amplitude ratio at 1700Hz
Channel B:	Twin-tone, -7 dBFS at 600 Hz and 1 amplitude ratio at 1700Hz

Signal Analyzer Readings		
RMS amplitude (Channel A)	13.554 dBu	Not limit checked.
RMS amplitude (Channel B)	13.511 dBu	Not limit checked.

CTA Readings		
IMD SMPTE-DIN (Channel A RMS)	0.01286 %	< 0.02 % > 0 %
IMD SMPTE-DIN (Channel B RMS)	0.01296 %	< 0.02 % > 0 %
Settings: Self relative, 22 Hz - 22 kHz, unweighted RMS using SMPTE-DIN IMD demodulation.		



FFT 600 + 1700 Hz


[Back to top](#)

A15 FFT 19+20 KHz: PASSED

Measured at 4/29/2021 11:45:12 AM

Generator Settings

Channel A:	Twin-tone, -6.03 dBFS at 19000 Hz and 0 dB offset at 1000 Hz offset
Channel B:	Twin-tone, -6.03 dBFS at 19000 Hz and 0 dB offset at 1000 Hz offset

Signal Analyzer Readings

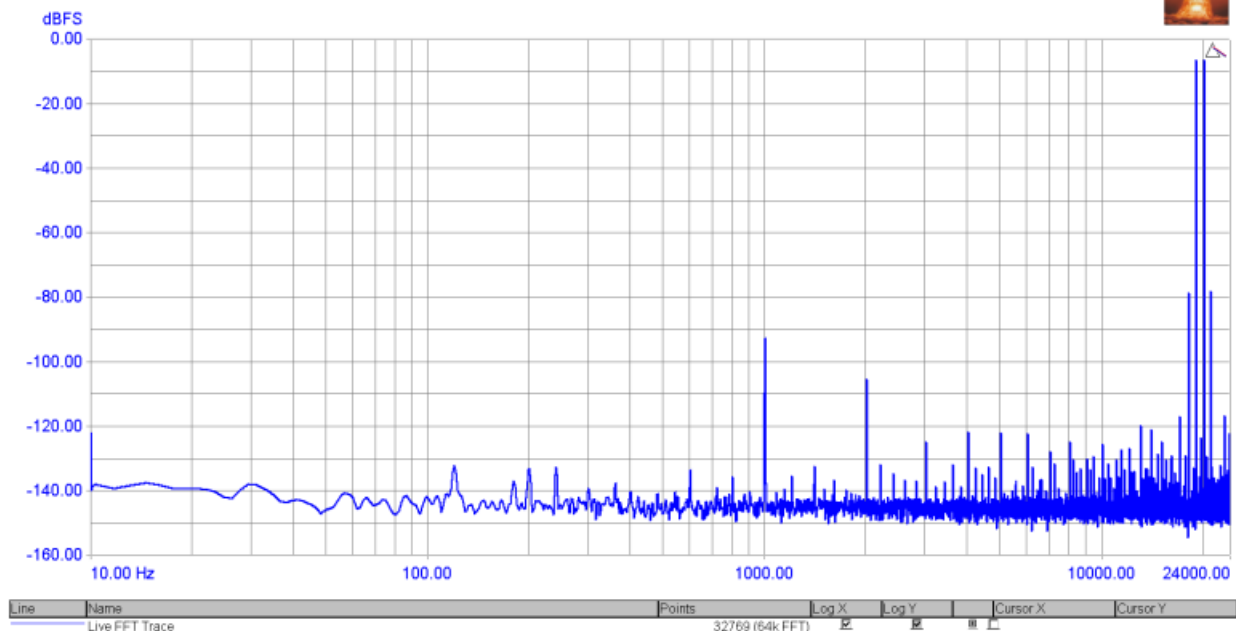
RMS amplitude (Channel A)	14.469 dBu	Not limit checked.
RMS amplitude (Channel B)	14.514 dBu	Not limit checked.

CTA Readings

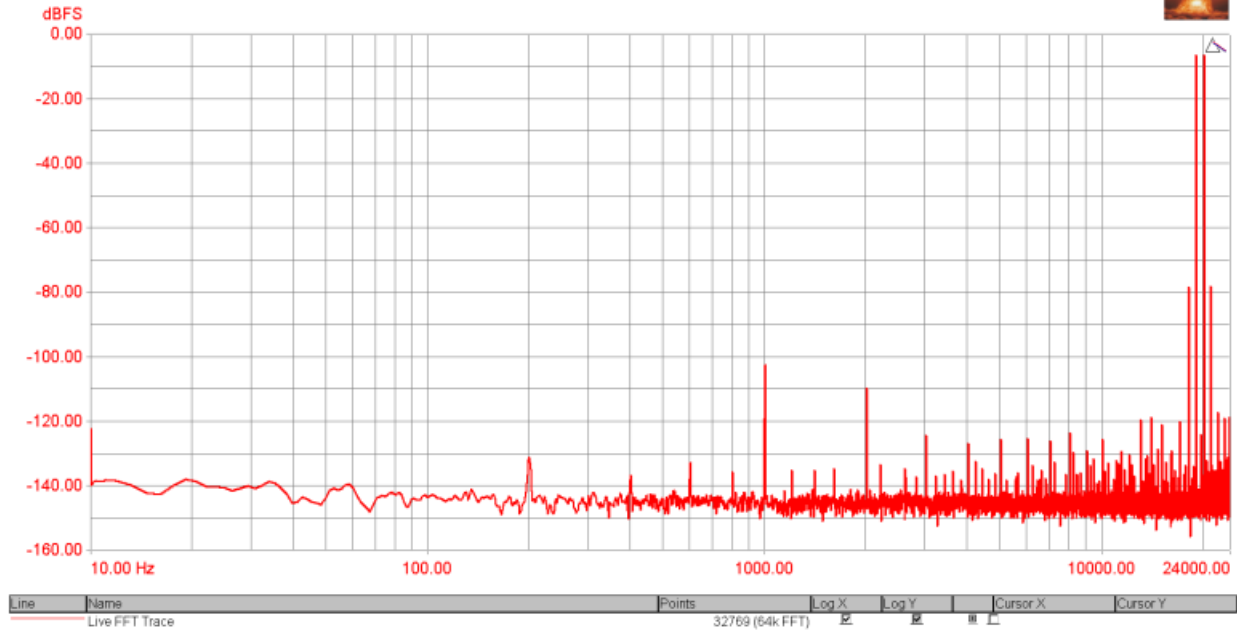
IMD CCIF (Channel A RMS)	0.00340 %	< 0.1 %
IMD CCIF (Channel B RMS)	0.00113 %	< 0.1 %

Settings: Self relative, 22 Hz - 22 kHz, unweighted RMS with 1/24th octave band-pass filter at the intermodulation difference frequency

FFT 19 + 20 KHz



FFT 19 + 20 KHz



FFT Detector Readings

IMD CCIF (Channel A)	0.00323 %	< 0.1 %
IMD CCIF (Channel B)	0.00105 %	< 0.1 %
FFTD 1 Settings: Self relative, 22 Hz - 22 kHz, unweighted with window notch (14 bins) band-pass filter at the intermodulation difference frequency		

[Back to top](#)

A16 FFT residual noise: PASSED

Measured at 4/29/2021 11:45:37 AM

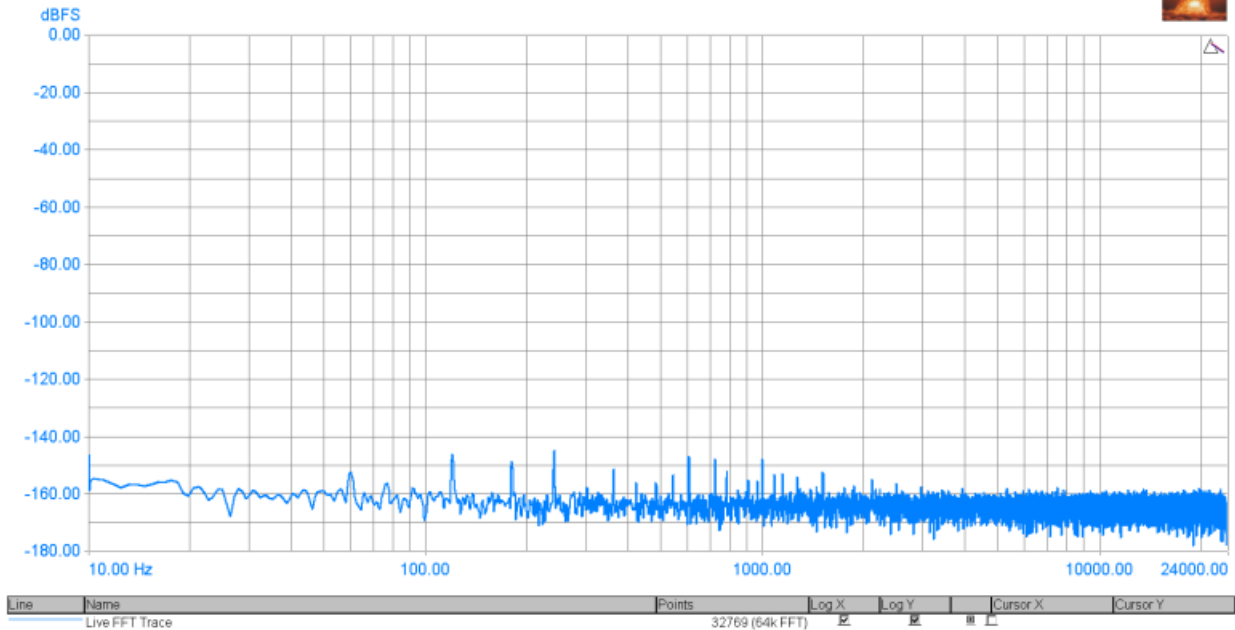
Generator Settings

Channel A:	Off
Channel B:	Off

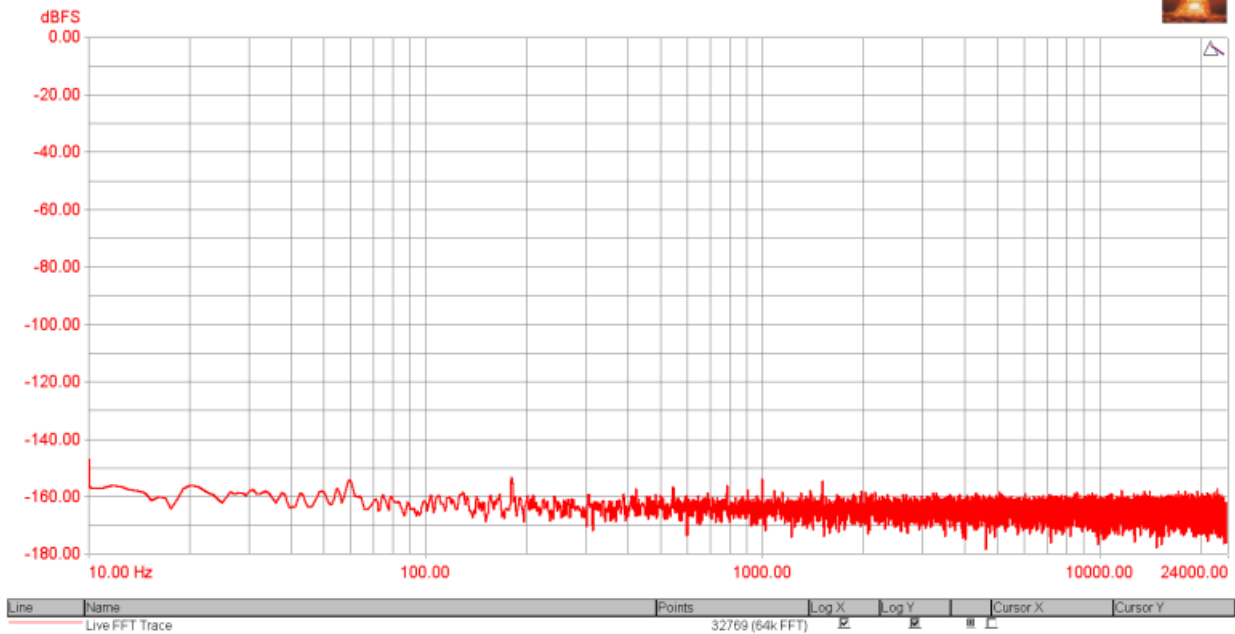
Signal Analyzer Readings

RMS amplitude (Channel A)	-94.505 dBu	Not limit checked.
RMS amplitude (Channel B)	-94.615 dBu	Not limit checked.

FFT residual noise



FFT residual noise



FFT Detector Readings

Noise (residual) (Channel A)	-123.232 dBFS	< -60 dBFS > -150 dBFS
Noise (residual) (Channel B)	-123.312 dBFS	< -60 dBFS > -150 dBFS

FFTD 1 Settings: 22 Hz - 22 kHz, unweighted with band-reject notch filters, fundamental to the 10th harmonic

[Back to top](#)

A17 FFT -90 dBFS: Not limit checked.

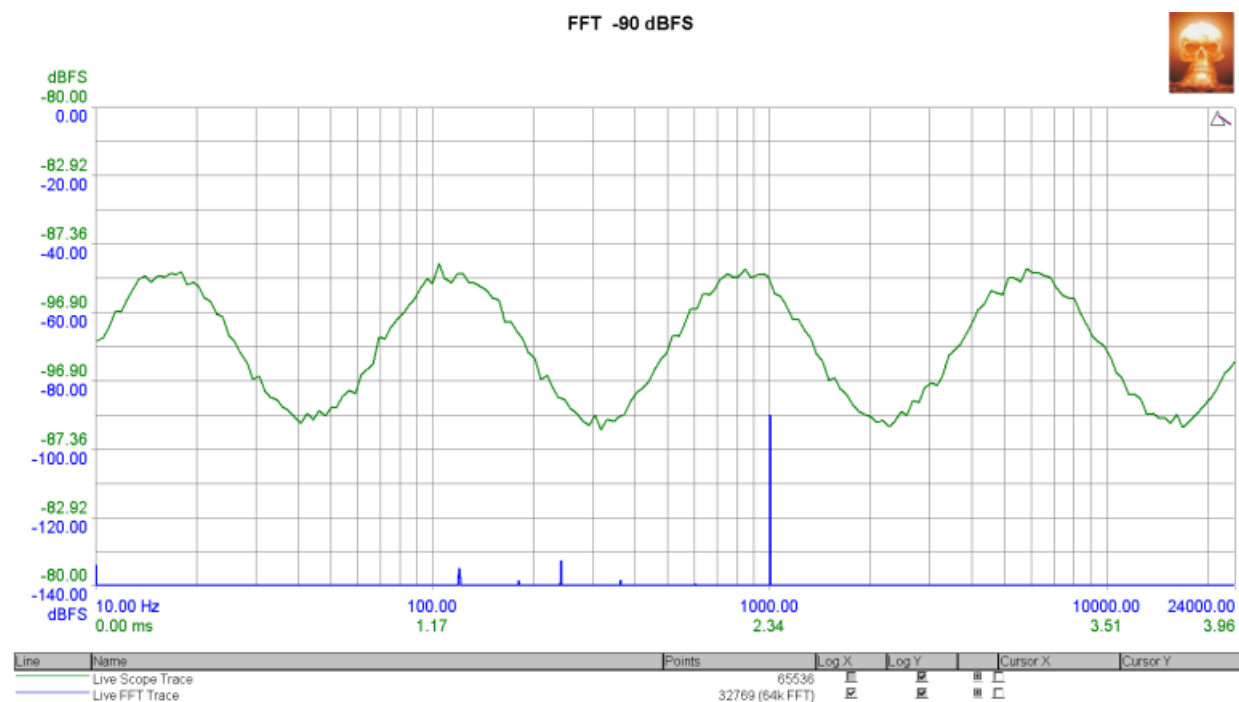
Measured at 4/29/2021 11:47:37 AM

Generator Settings

Channel A:	sine, -90 dBFS at 1000 Hz
Channel B:	sine, -90 dBFS at 1000 Hz

Signal Analyzer Readings

RMS amplitude (Selected : Ch A)	-72.467 dBu	Not limit checked.
---------------------------------	-------------	--------------------



[Back to top](#)

A17a FFT -120 dBFS: Not limit checked.

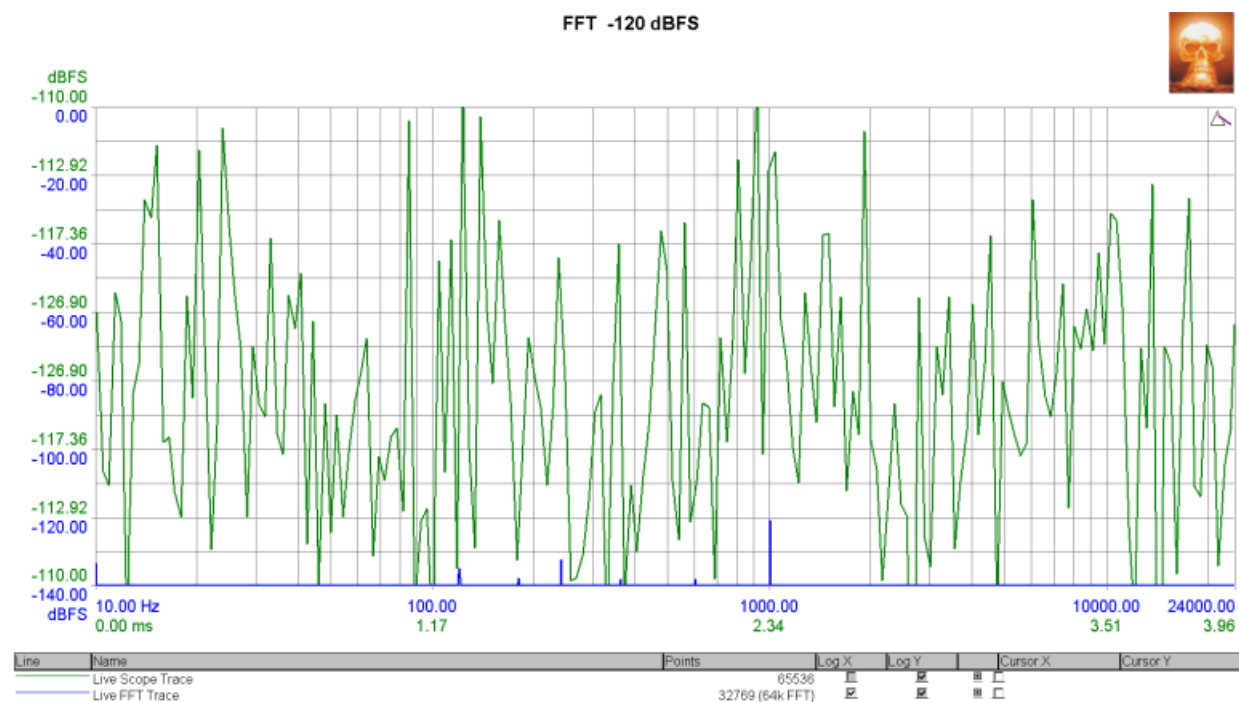
Measured at 4/29/2021 11:47:51 AM

Generator Settings

Channel A:	sine, -120 dBFS at 1000 Hz
Channel B:	sine, -120 dBFS at 1000 Hz

Signal Analyzer Readings

RMS amplitude (Selected : Ch A)	-94.093 dBu	Not limit checked.
---------------------------------	-------------	--------------------



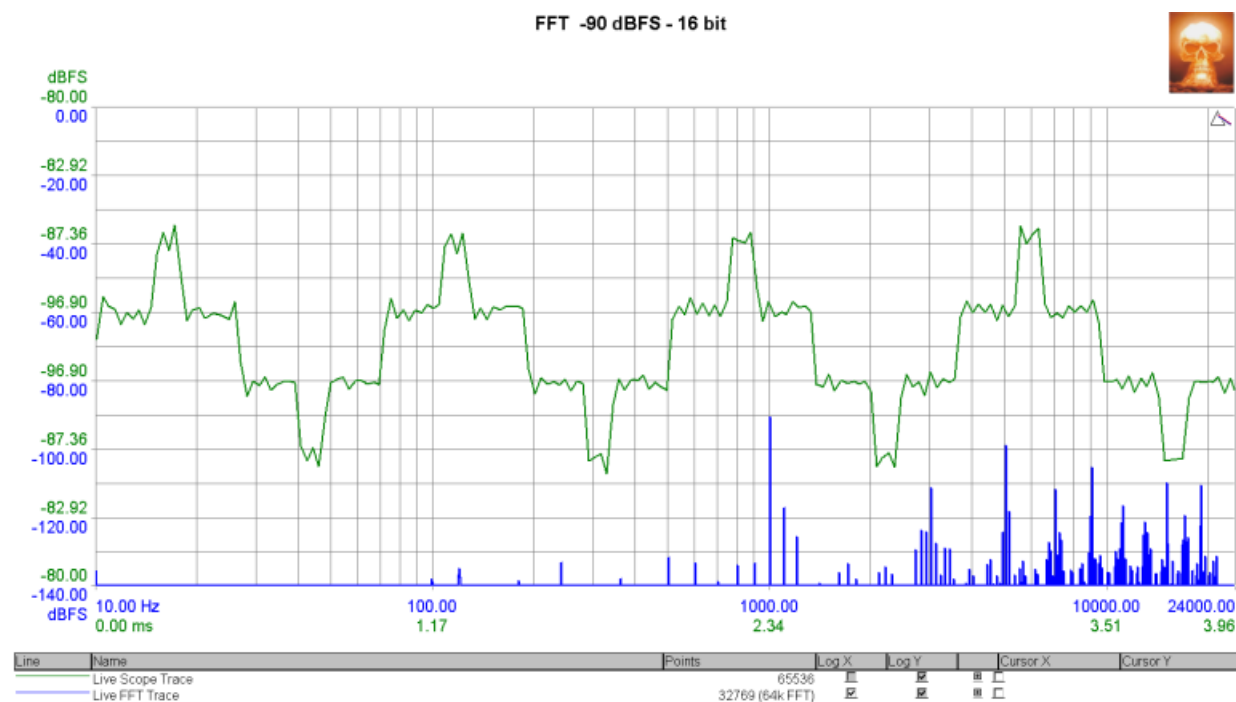
[Back to top](#)

A18 FFT -90 dBFS 16 bit: Not limit checked.

Measured at 4/29/2021 11:48:05 AM

Generator Settings	
Channel A:	sine, -90 dBFS at 1000 Hz
Channel B:	sine, -90 dBFS at 1000 Hz

Signal Analyzer Readings		
RMS amplitude (Selected : Ch A)	-72.140 dBu	Not limit checked.

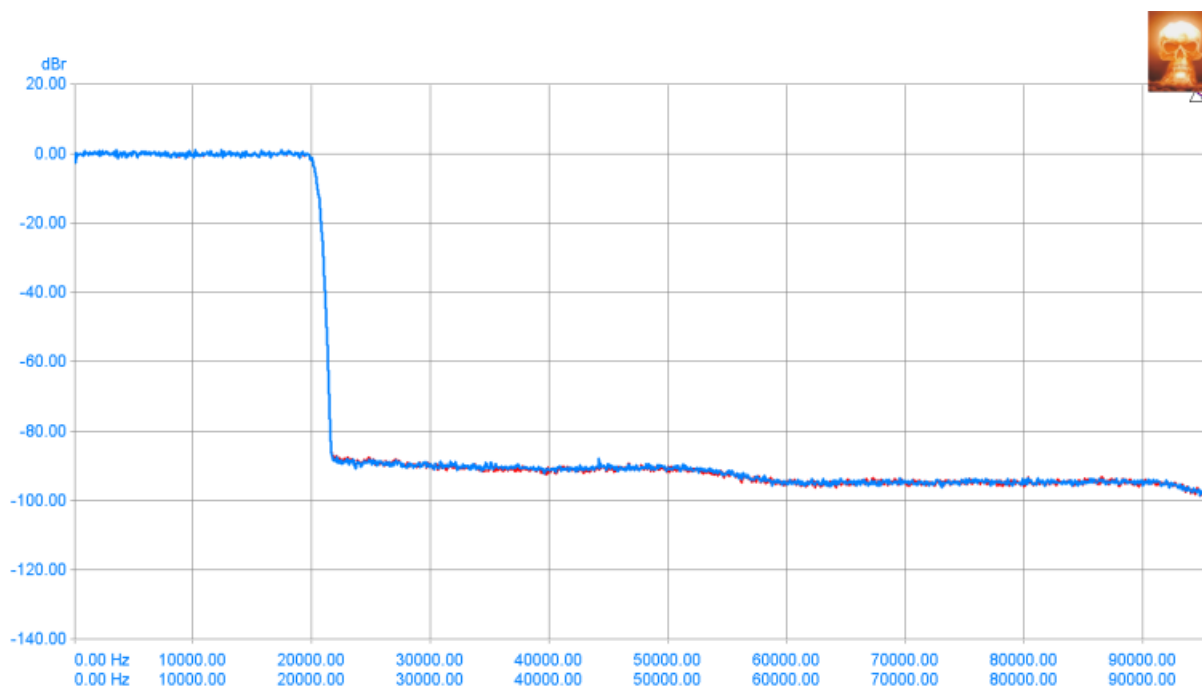


[Back to top](#)

A19 FFT imaging: Not limit checked.

Measured at 4/29/2021 11:48:19 AM

Generator Settings	
Channel A:	white noise, -6 dBFS
Channel B:	white noise, -6 dBFS (inverted)



[Back to top](#)

A20 FFT inferred jitter: Not limit checked.

Measured at 4/29/2021 11:48:41 AM

Generator Settings	
Channel A:	sine, -6 dBFS at 11025 Hz
Channel B:	sine, -6 dBFS at 11025 Hz (inverted)

