

DSHA-3FN 300R Bal input 0dBu 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 2 3 4 - THD+N minus 2nd and 3rd harmonics	✓
A05 THD+N vs Freq	✓
A06 THD+N vs Ampl	✓
A07 Noise, SNR	✓
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	✓

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.

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A01 Ampl, Phase, Gain: PASSED

Measured at 6/27/2023 6:00:30 PM

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

Signal Analyzer Readings		
RMS amplitude (Channel A)	-0.078 dBu	< 3 dBu > -3 dBu
RMS amplitude (Channel B)	0.063 dBu	< 3 dBu > -3 dBu
Inter-channel phase	0.02 °	< 10 ° > -10 °

CTA Readings		
Gain (Channel A RMS)	-0.078 dB	< 3 dB > -3 dB
Gain (Channel B RMS)	0.063 dB	< 3 dB > -3 dB
Settings: Generator relative, 22 Hz - 22 kHz, unweighted RMS with 1/3rd octave band-pass filter at the generator frequency		

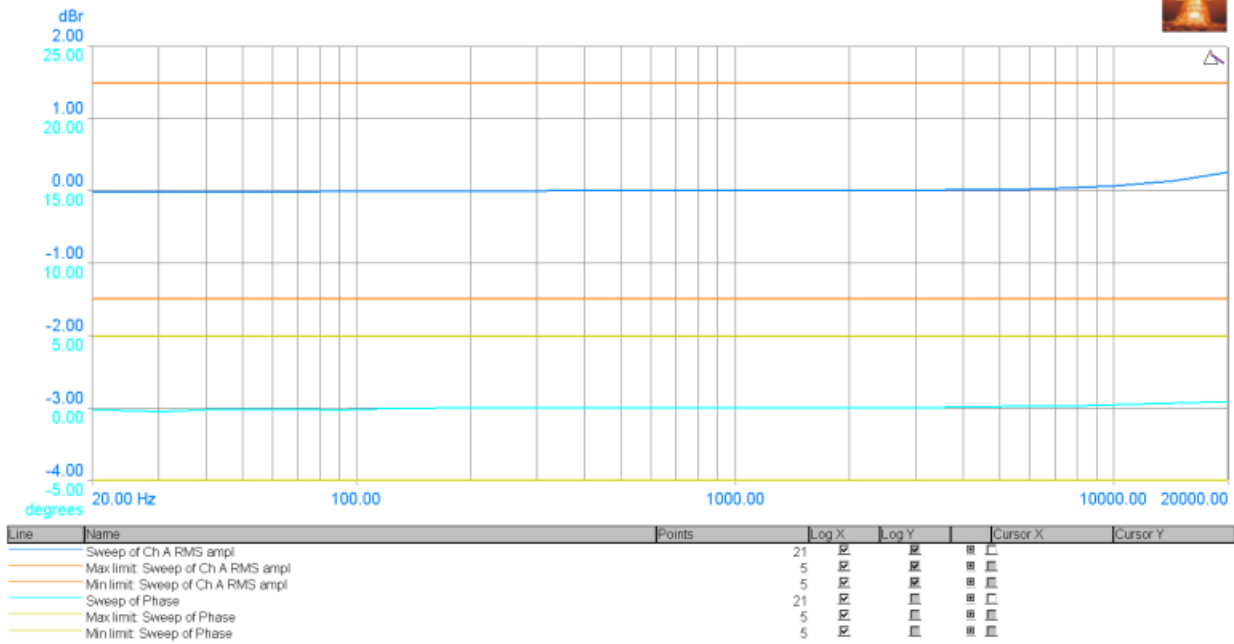
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A02 Ampl, Phase vs Freq: PASSED

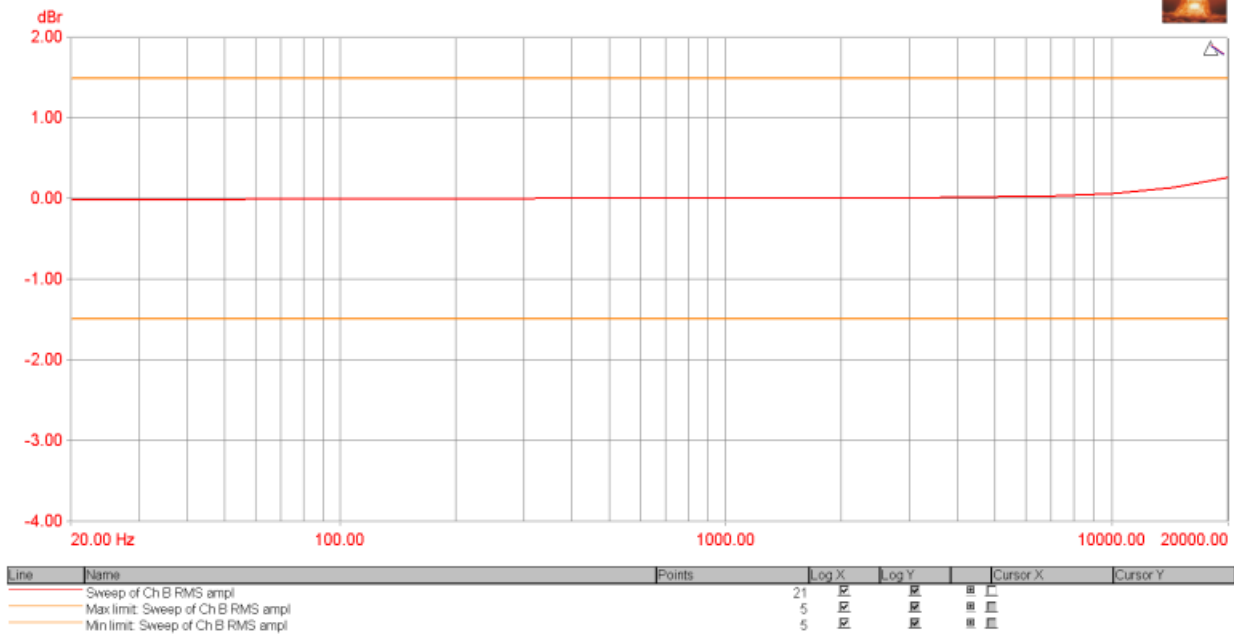
Measured at 6/27/2023 6:00:33 PM

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



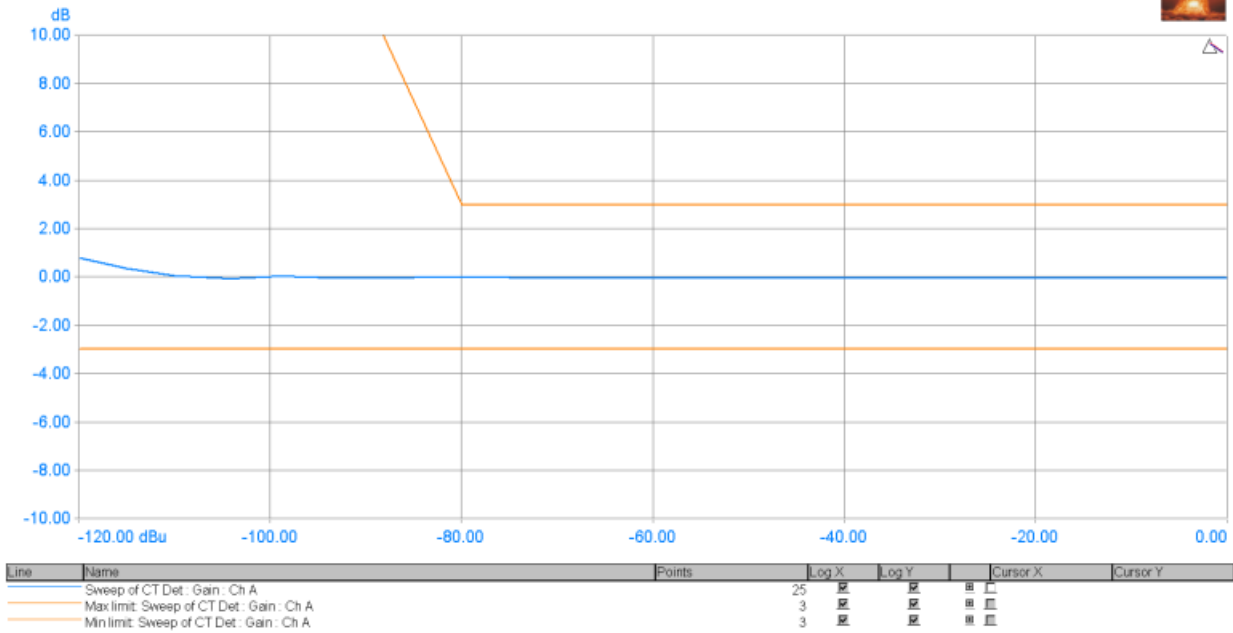
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A03 Gain vs Ampl: PASSED

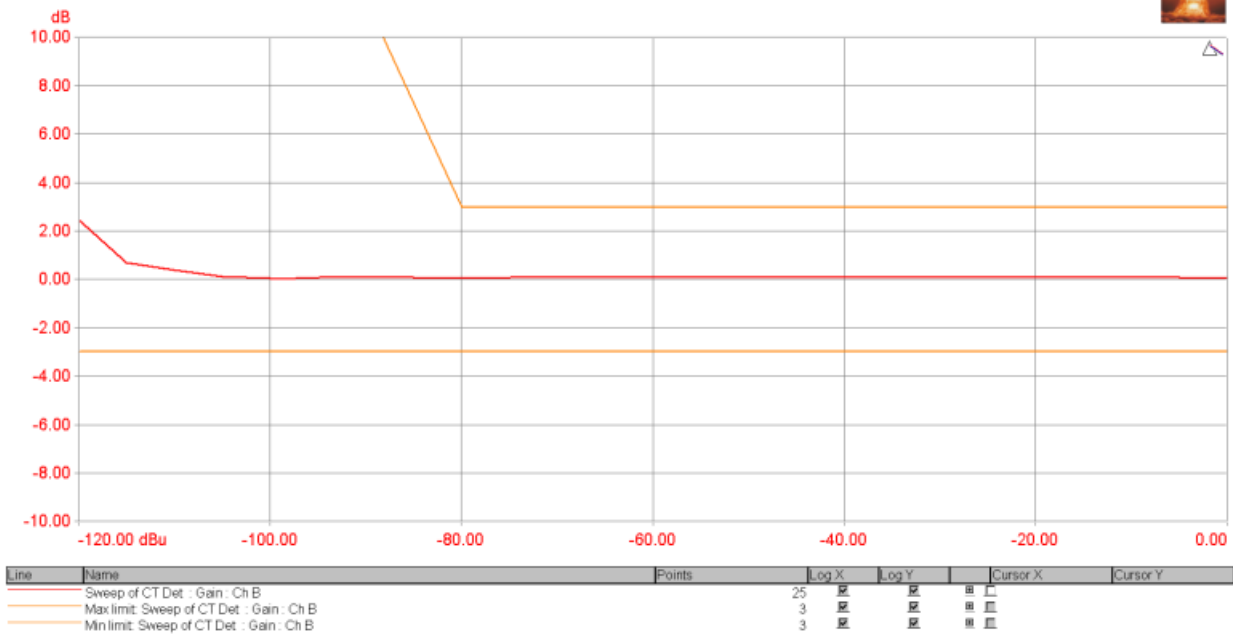
Measured at 6/27/2023 6:00:40 PM

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

Gain vs Amplitude



Gain vs Amplitude



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A04 THD+N,THD, nth-HD 2 3 4 - THD+N minus 2nd and 3rd harmonics: **PASSED**

Measured at 6/27/2023 6:00:49 PM

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

Signal Analyzer Readings		
RMS amplitude (Channel A)	-0.078 dBu	Not limit checked.
RMS amplitude (Channel B)	0.064 dBu	Not limit checked.

CTA Readings		
THD+N - relative (Channel A RMS)	0.01034 %	<200 % >0 %
THD+N - relative (Channel B RMS)	0.00907 %	<200 % >0 %
Settings: Self relative, 22 Hz - 22 kHz, unweighted RMS with 1/3rd octave band-reject filter at the input frequency		

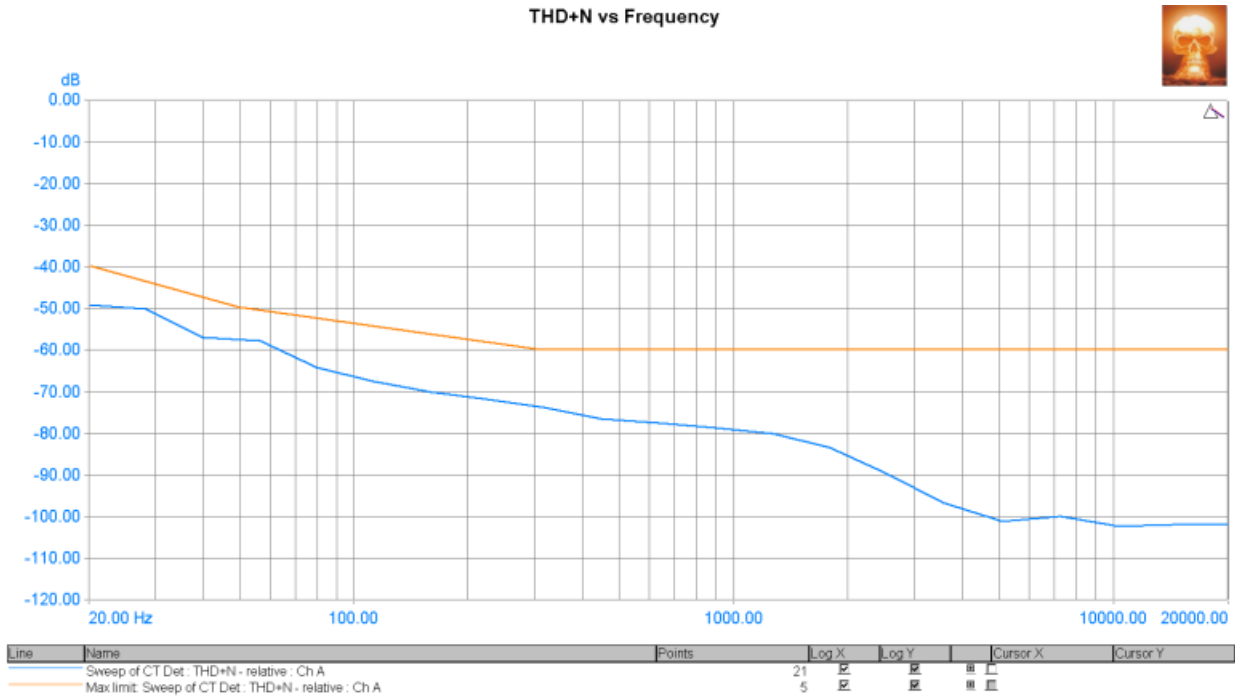
FFT Detector Readings		
THD (Channel A)	0.01223 %	<200 % >0 %
THD (Channel B)	0.01124 %	<200 % >0 %
FFTD 1 Settings: Self relative, 22 Hz - 22 kHz, unweighted with band-pass notch filters from the 2nd to 10th harmonics		
2nd Harmonic Distortion (Channel A)	0.00160 %	<200 % >0 %
2nd Harmonic Distortion (Channel B)	0.00215 %	<200 % >0 %
FFTD 2 Settings: Self relative, 22 Hz - 22 kHz, unweighted with band-pass notch filter at the 2nd harmonic		
3rd Harmonic Distortion (Channel A)	0.01170 %	<200 % >0 %
3rd Harmonic Distortion (Channel B)	0.01086 %	<200 % >0 %
FFTD 3 Settings: Self relative, 22 Hz - 22 kHz, unweighted with band-pass notch filter at the 3rd harmonic		
4th Harmonic Distortion (Channel A)	0.00058 %	Not limit checked.
4th Harmonic Distortion (Channel B)	0.00018 %	Not limit checked.
FFTD 4 Settings: Self relative, 22 Hz - 22 kHz, unweighted with band-pass notch filter at the 4th harmonic		
5th Harmonic Distortion (Channel A)	0.00307 %	Not limit checked.
5th Harmonic Distortion (Channel B)	0.00191 %	Not limit checked.
FFTD 5 Settings: Self relative, 22 Hz - 22 kHz, unweighted with band-pass notch filter at the 5th harmonic		
4+HD + N (Channel A)	0.00319 %	<0.05 % >0 %
4+HD + N (Channel B)	0.00197 %	<0.05 % >0 %
FFTD 6 Settings: Self relative, 22 Hz - 22 kHz, unweighted with band-reject notch filters, fundamental to the 3rd harmonic		
Hum (Channel A)	0.00004 %	<0.017783 % >0 %
Hum (Channel B)	0.00006 %	<0.017783 % >0 %
FFTD 7 Settings: Self relative, 22 Hz - 22 kHz, unweighted with window notch (14 bins) band-pass filter at 60 Hz		
Noise (residual) (Channel A)	0.00037 %	<0.017783 % >0 %
Noise (residual) (Channel B)	0.00041 %	<0.017783 % >0 %
FFTD 8 Settings: Self relative, 22 Hz - 22 kHz, unweighted with band-reject notch filters, fundamental to the 10th harmonic		

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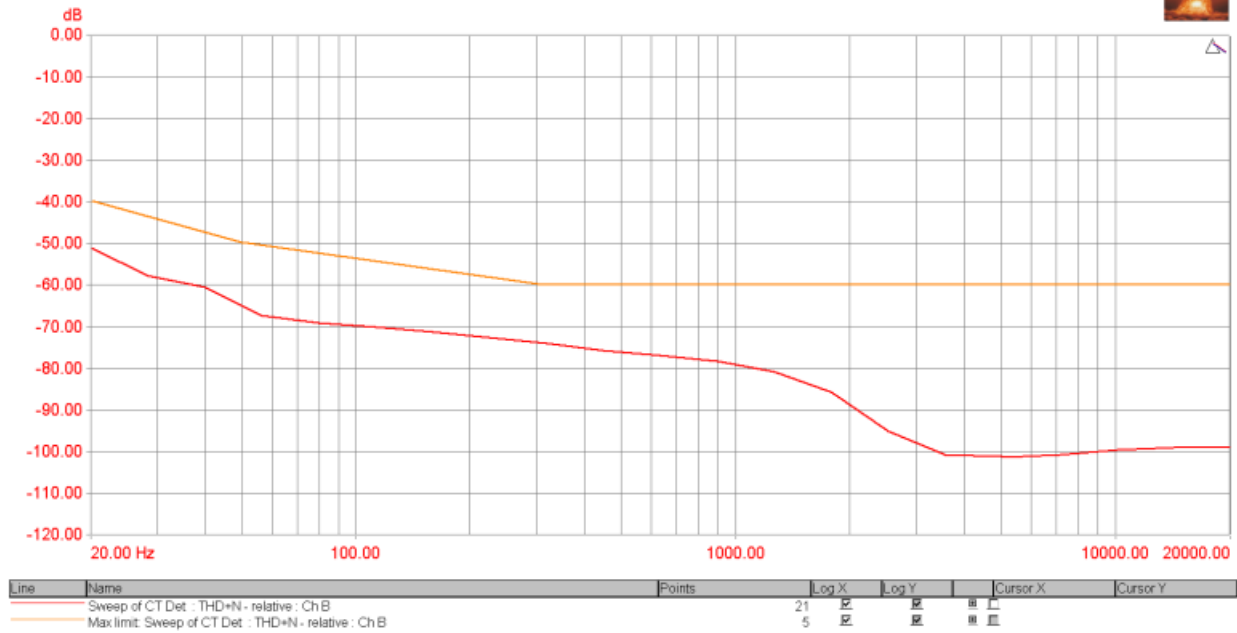
A05 THD+N vs Freq: PASSED

Measured at 6/27/2023 6:01:52 PM

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



THD+N vs Frequency

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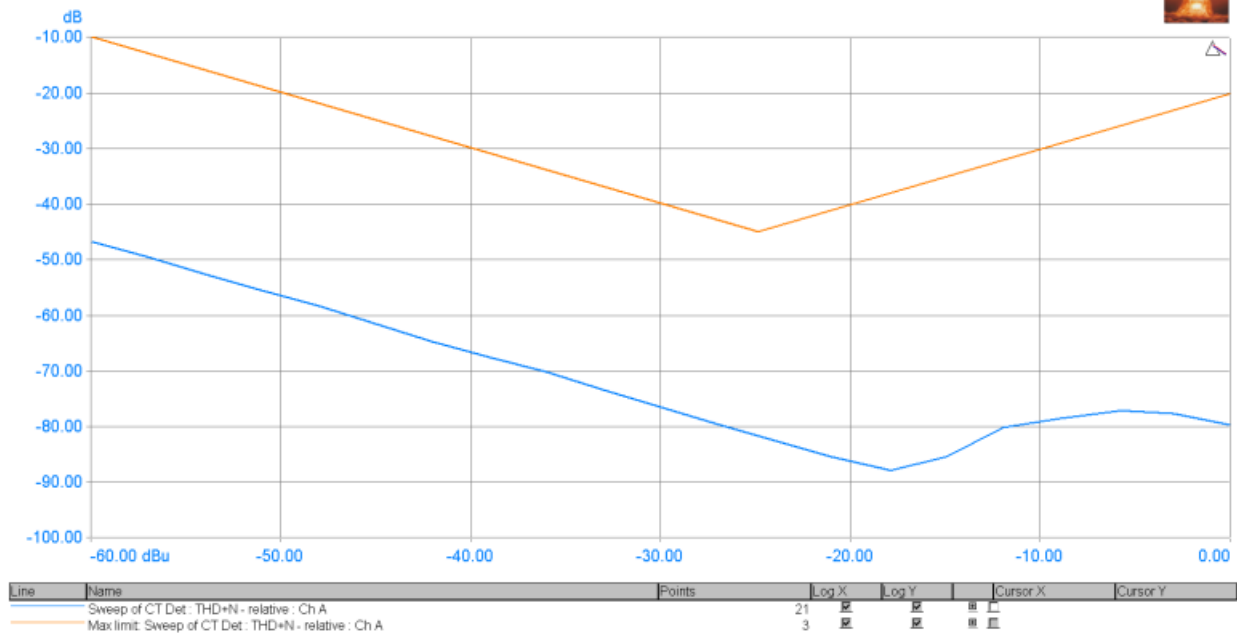
A06 THD+N vs Ampl: PASSED

Measured at 6/27/2023 6:02:01 PM

Generator Settings

Channel A:	sine, 0 dBu at 1000 Hz
Channel B:	sine, 0 dBu at 1000 Hz

THD+N vs Amplitude



THD+N vs Amplitude


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A07 Noise, SNR: PASSED

Measured at 6/27/2023 6:02:10 PM

Generator Settings

Channel A:	sine, -60 dBFS at 1000 Hz
Channel B:	sine, -60 dBFS at 1000 Hz

FFT Detector Readings

Noise (unweighted) (Channel A)	-124.232 dBr	< 200 dBr > -200 dBr
Noise (unweighted) (Channel B)	-122.978 dBr	< 200 dBr > -200 dBr
FFTD 1 Settings: 22 Hz - 22 kHz, unweighted with window notch (14 bins) band-reject filter at the generator frequency		
SNR (Channel A)	-124.446 dBr	< 200 dBr > -200 dBr
SNR (Channel B)	-123.268 dBr	< 200 dBr > -200 dBr
FFTD 2 Settings: 22 Hz - 22 kHz, unweighted with 1/3rd octave band-reject filter at the generator frequency		

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A08 Crosstalk A to B: PASSED

Measured at 6/27/2023 6:02:13 PM

Generator Settings

Channel A:	sine, 0 dBu at 1000 Hz
Channel B:	sine, 0 dBu at 1000 Hz

CTA Readings

Cross-talk (Channel B RMS)	-134.132 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		

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A09 Crosstalk B to A: PASSED

Measured at 6/27/2023 6:10:55 PM

Generator Settings

Channel A:	sine, 0 dBu at 1000 Hz
Channel B:	sine, 0 dBu at 1000 Hz

CTA Readings

Cross-talk (Channel ARMS)

-82.878 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

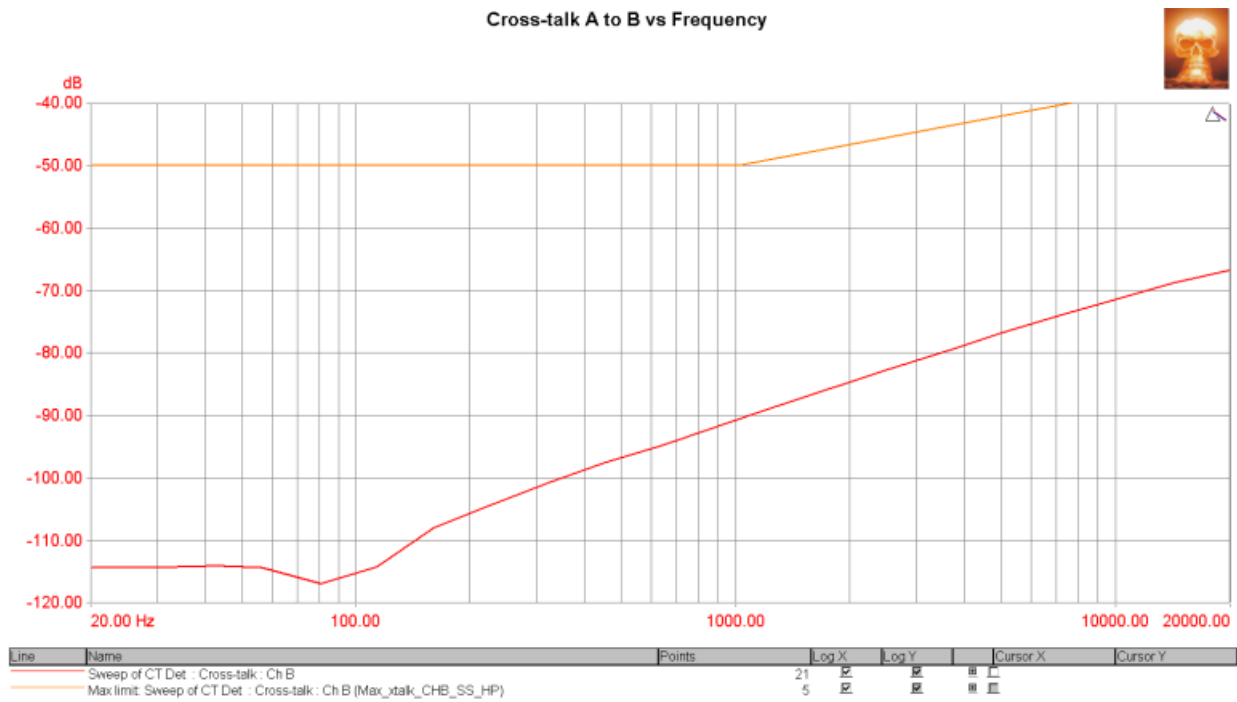
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A10 Crosstalk A to B vs Freq: PASSED

Measured at 6/27/2023 6:02:21 PM

Generator Settings

Channel A:	sine, 0 dBu at 1000 Hz
Channel B:	sine, 0 dBu at 1000 Hz



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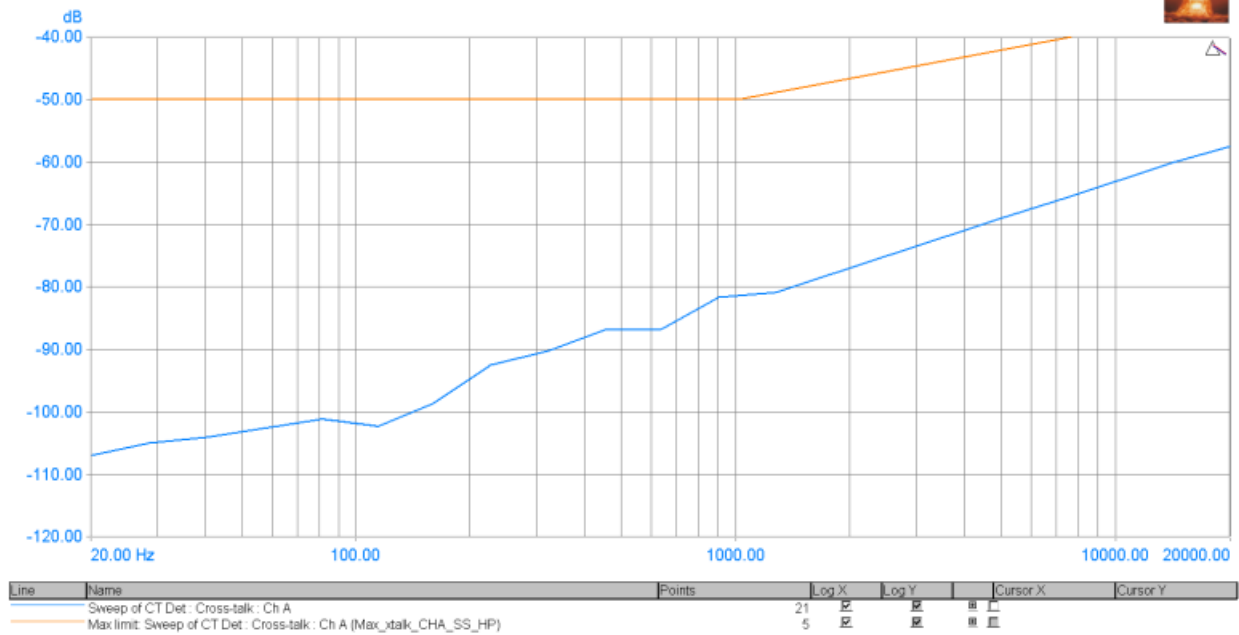
A11 Crosstalk B to A vs Freq: PASSED

Measured at 6/27/2023 6:02:27 PM

Generator Settings

Channel A:	sine, 0 dBu at 1000 Hz
Channel B:	sine, 0 dBu at 1000 Hz

Cross-talk B to A vs Frequency



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A12 FFT 1000 Hz THD+N: PASSED

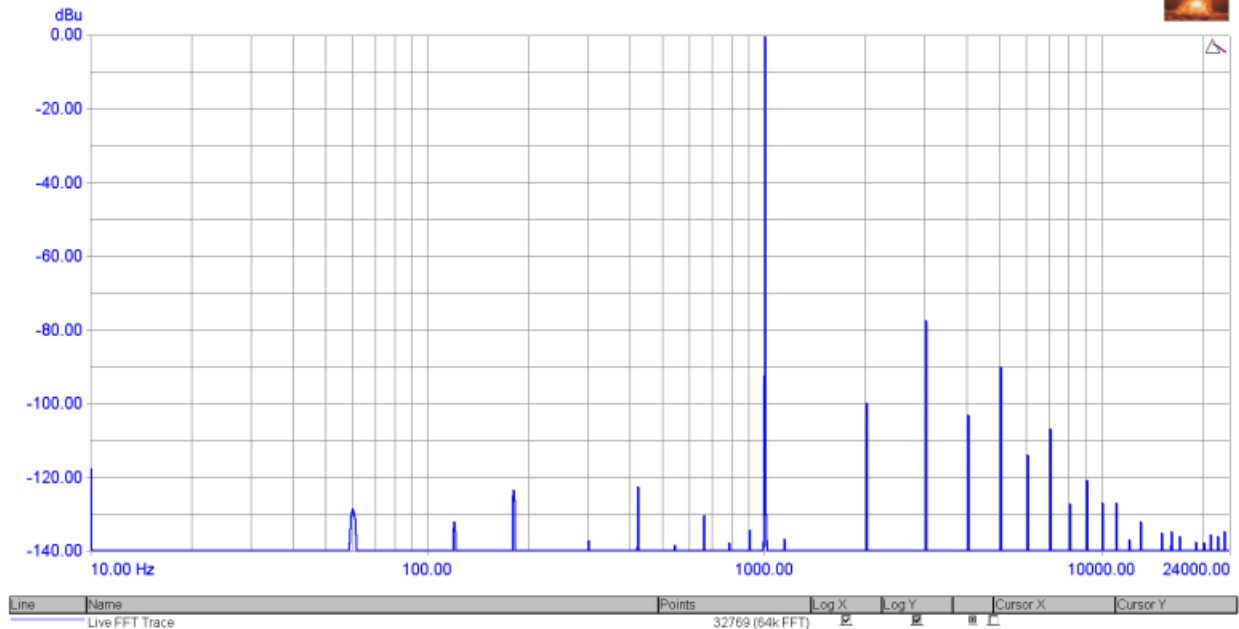
Measured at 6/27/2023 6:02:33 PM

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

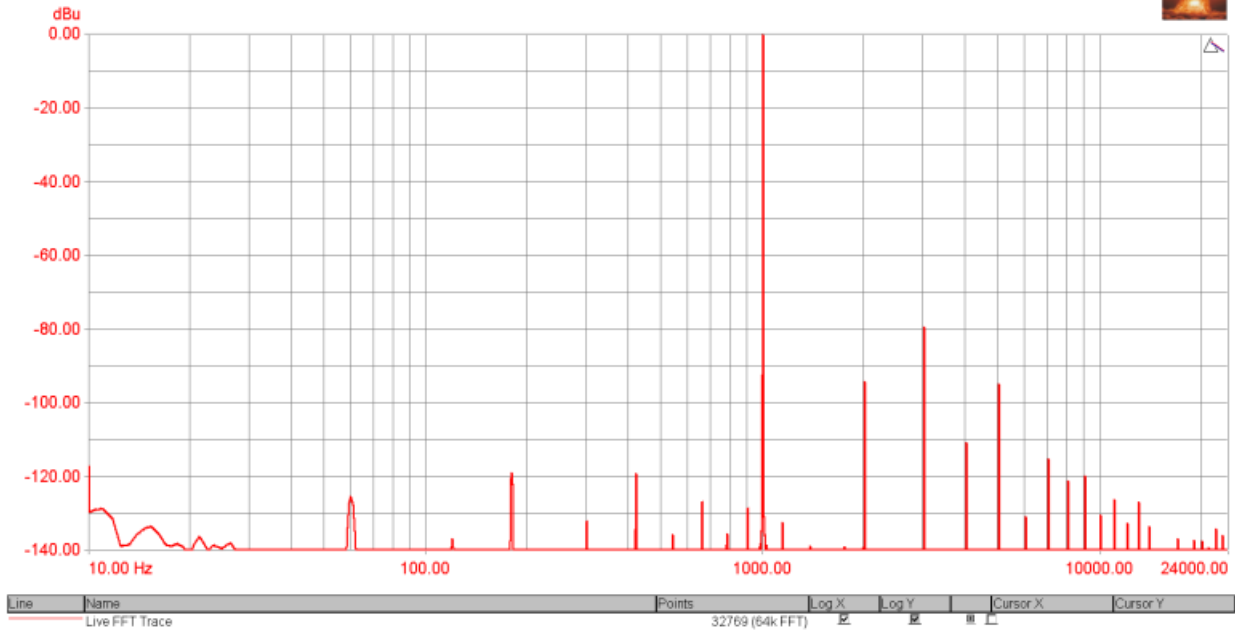
Signal Analyzer Readings		
RMS amplitude (Selected : Ch A)	-0.078 dBu	Not limit checked.
RMS amplitude (Non-selected : Ch A)	0.065 dBu	Not limit checked.

CTA Readings		
THD+N - relative (Selected : Ch ARMS)	0.01181 %	< 5 %
THD+N - relative (Non-selected : Ch ARMS)	0.00856 %	< 5 %
Settings: Self relative, 22 Hz - 22 kHz, unweighted RMS with 1/3rd octave band-reject filter at the input frequency		

FFT 1000 Hz THD+N



FFT 1000 Hz THD+N



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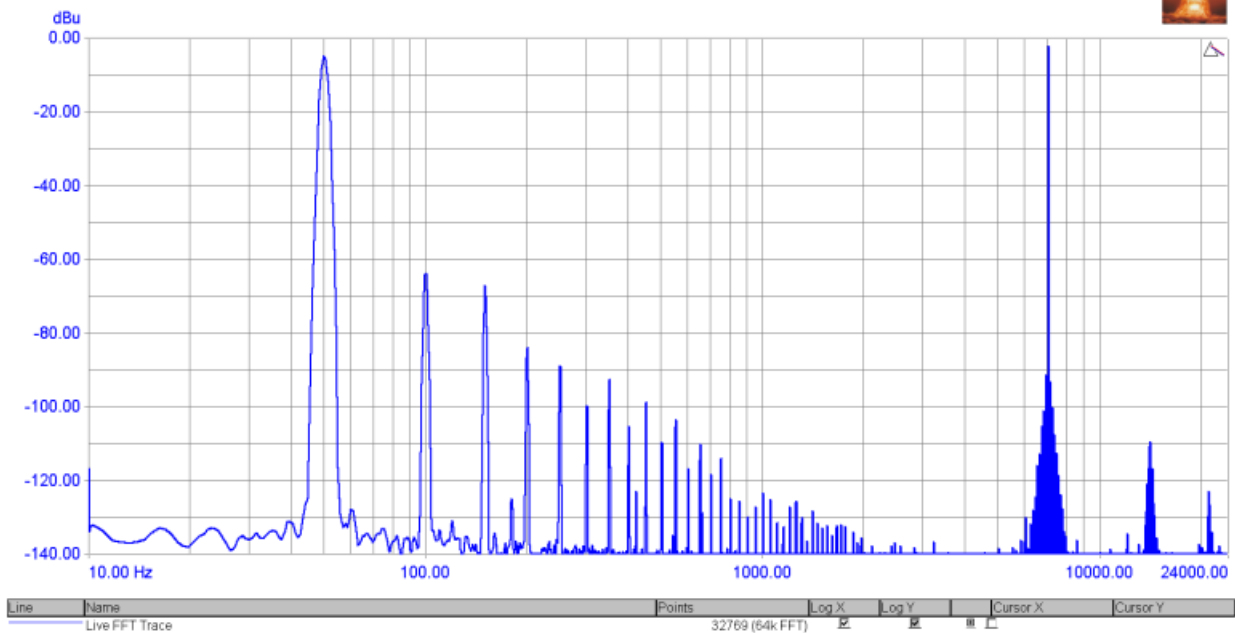
A13 FFT 50+7000Hz: PASSED

Measured at 6/27/2023 6:03:56 PM

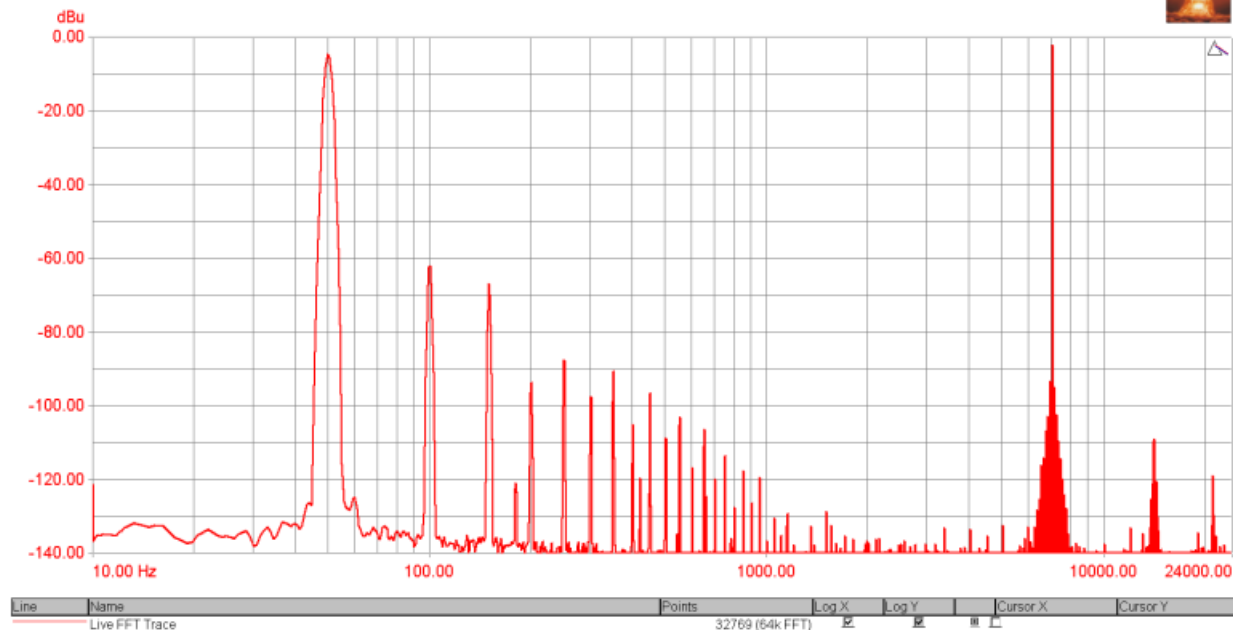
Generator Settings		
Channel A:	Twin-tone, 0 dBu at 50 Hz and 1 amplitude ratio at 7000Hz	
Channel B:	Twin-tone, 0 dBu at 50 Hz and 1 amplitude ratio at 7000Hz	

Signal Analyzer Readings		
RMS amplitude (Channel A)	2.943 dBu	Not limit checked.
RMS amplitude (Channel B)	3.083 dBu	Not limit checked.

FFT 50 + 7000 Hz



FFT 50 + 7000 Hz



FFT Detector Readings

IMD SMPTE-DIN (Channel A)	0.00586 %	≤ 7%
IMD SMPTE-DIN (Channel B)	0.00514 %	≤ 7%
FFTD 1 Settings: Self relative, 22 Hz - 22 kHz, unweighted with intermodulation notch band reject		

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A14 FFT 600+1700 Hz: PASSED

Measured at 6/27/2023 6:05:17 PM

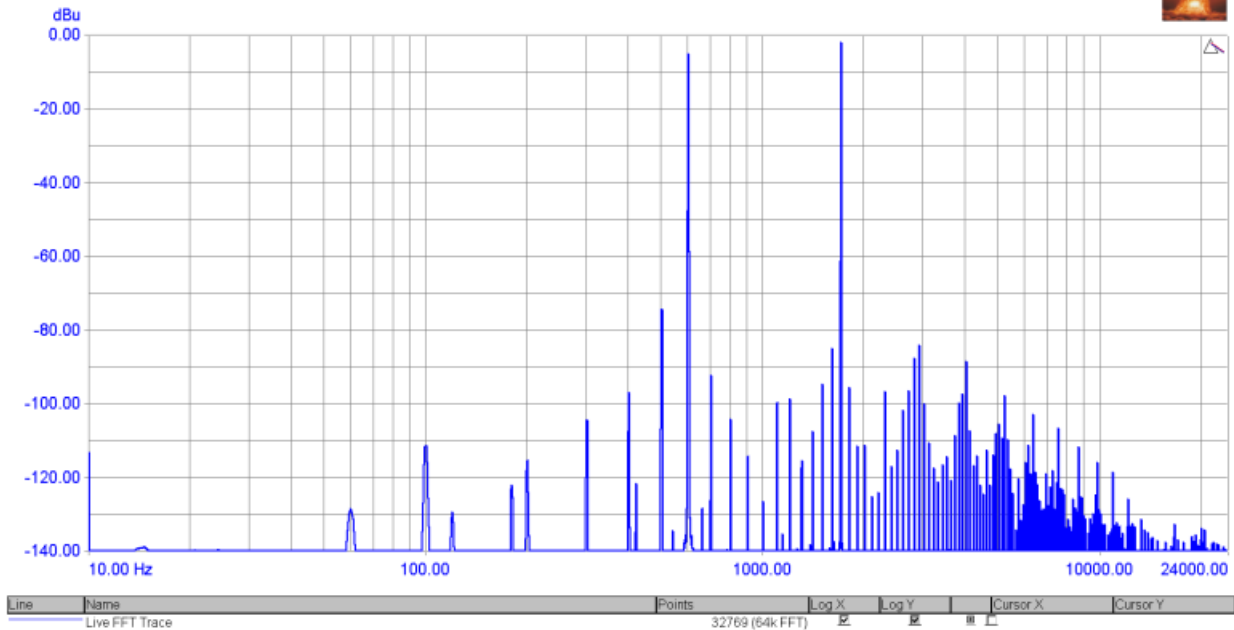
Generator Settings

Channel A:	Twin-tone, 0 dBu at 600 Hz and 1 amplitude ratio at 1700Hz
Channel B:	Twin-tone, 0 dBu at 600 Hz and 1 amplitude ratio at 1700Hz

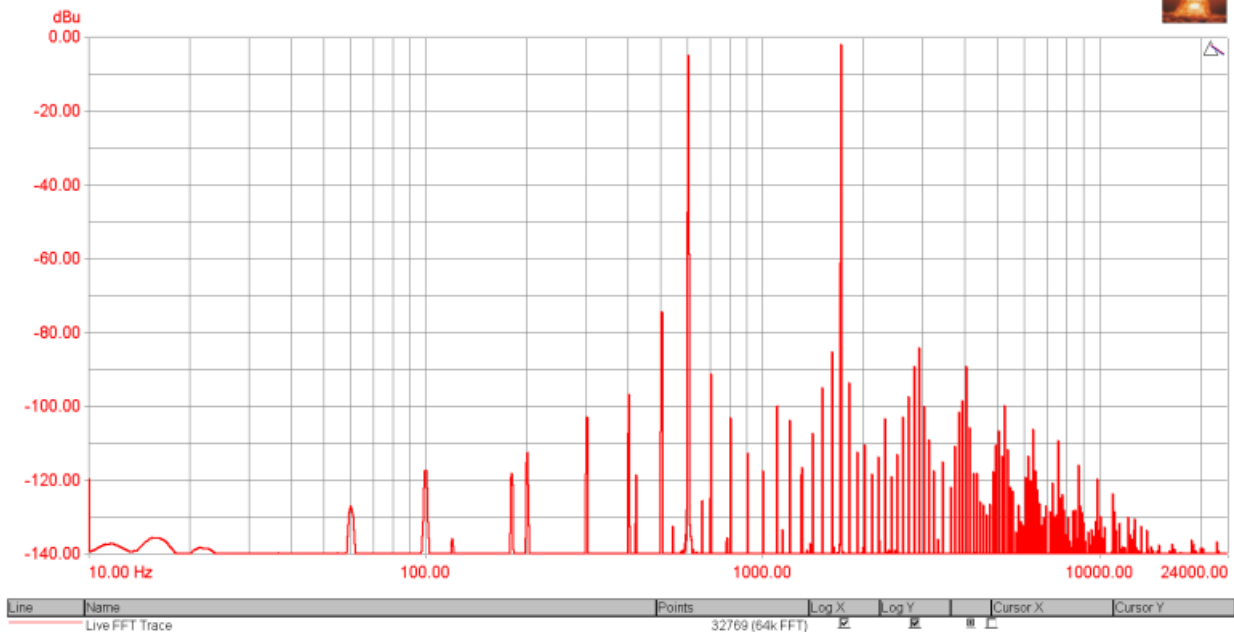
Signal Analyzer Readings

RMS amplitude (Channel A)	2.923 dBu	Not limit checked.
RMS amplitude (Channel B)	3.057 dBu	Not limit checked.

FFT 600 + 1700 Hz



FFT 600 + 1700 Hz



FFT Detector Readings

IMD SMPTE-DIN (Channel A)	0.00731 %	<7% >0%
IMD SMPTE-DIN (Channel B)	0.00697 %	<7% >0%

FFTD 1 Settings: Self relative, 22 Hz - 22 kHz, unweighted with intermodulation notch band reject

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A15 FFT 19+20 KHz: PASSED

Measured at 6/27/2023 6:06:38 PM

Generator Settings

Channel A:	Twin-tone, -16 dBu at 19000 Hz and 1 amplitude ratio at 1000 Hz offset
Channel B:	Twin-tone, -16 dBu at 19000 Hz and 1 amplitude ratio at 1000 Hz offset

Signal Analyzer Readings

RMS amplitude (Channel A)	-12.815 dBu	Not limit checked.
RMS amplitude (Channel B)	-12.700 dBu	Not limit checked.

CTA Readings

IMD CCIF (Channel A RMS)

0.00032 %

< 1 %

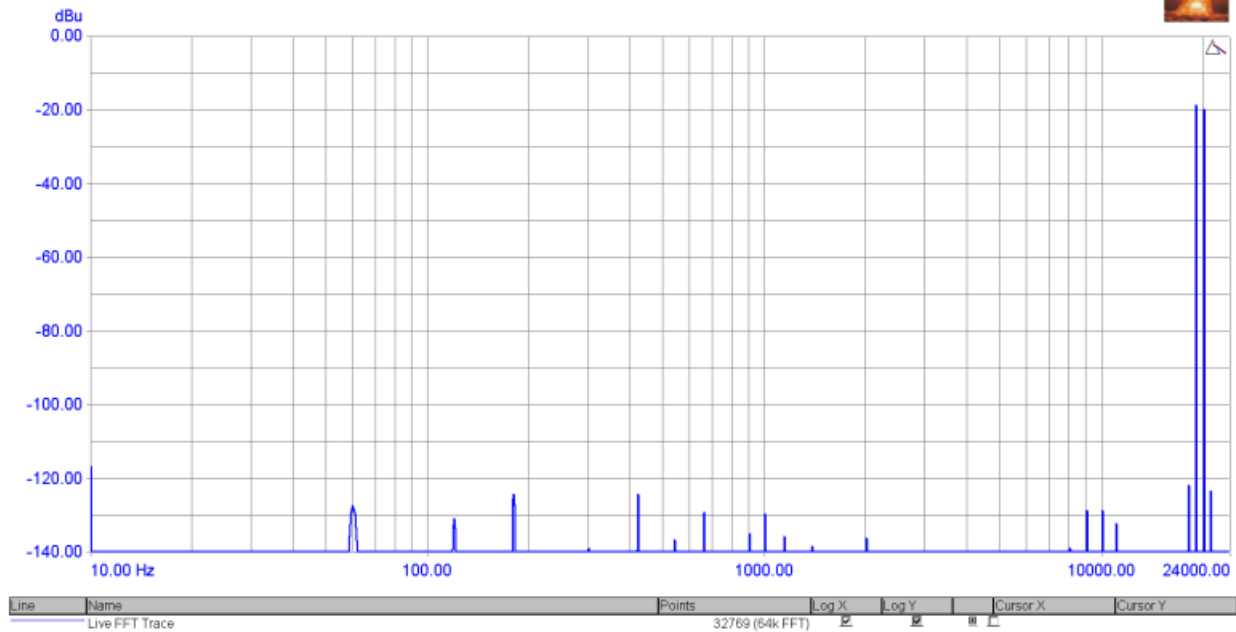
IMD CCIF (Channel B RMS)

0.00019 %

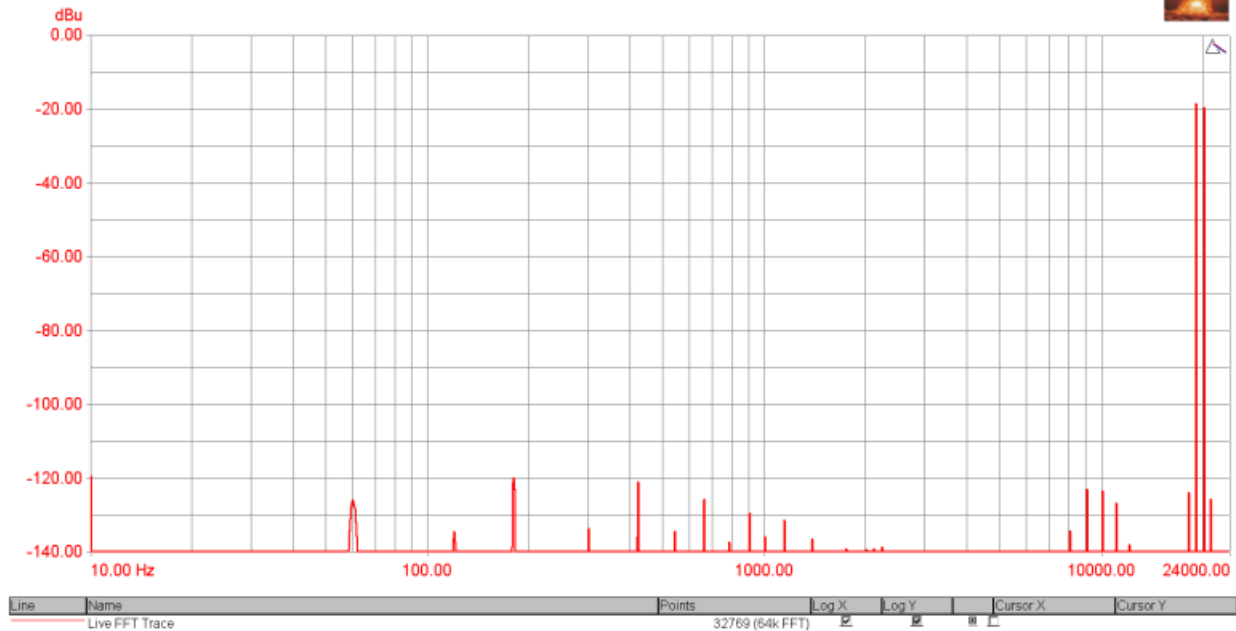
< 1 %

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)

0.00027 %

< 1 %

IMD CCIF (Channel B)

0.00014 %

< 1 %

FFTD 1 Settings: Self relative, 22 Hz - 22 kHz, unweighted with window notch (14 bins) band-pass filter at the intermodulation difference frequency

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A16 FFT residual noise: PASSED

Measured at 6/27/2023 6:08:01 PM

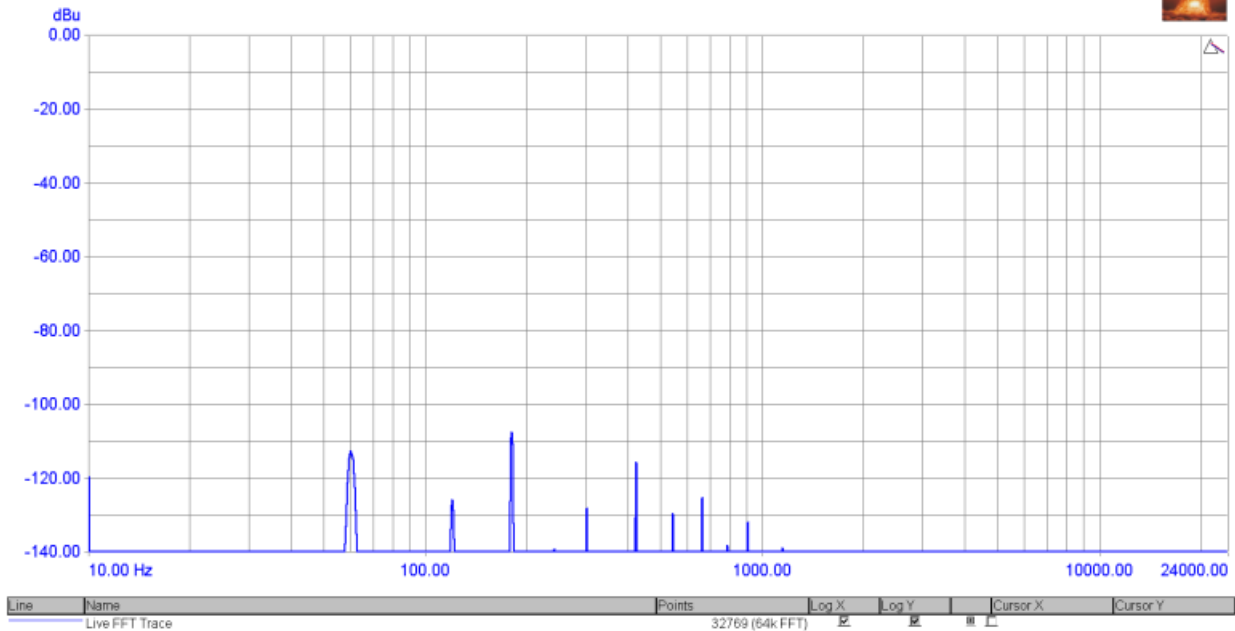
Generator Settings

Channel A:	Off
Channel B:	Off

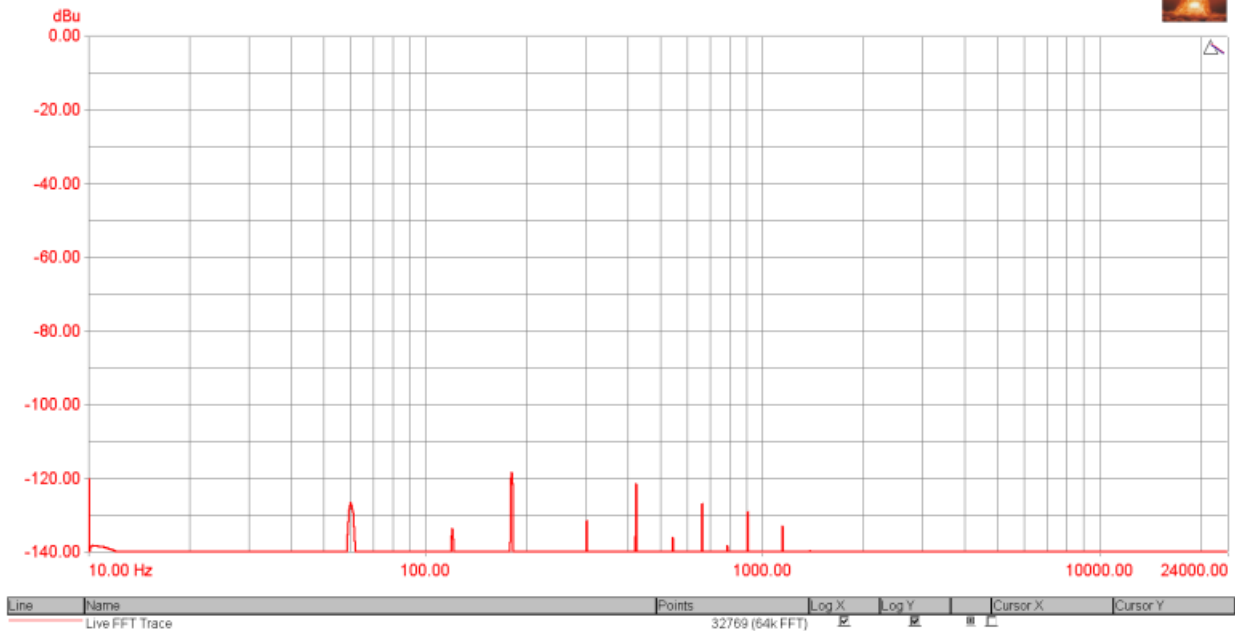
Signal Analyzer Readings

RMS amplitude (Channel A)	-98.345 dBu	Not limit checked.
RMS amplitude (Channel B)	-104.201 dBu	Not limit checked.

FFT residual noise



FFT residual noise



FFT Detector Readings

Noise (residual) (Channel A)	-104.943 dBu	< -80 dBu > -140 dBu
Noise (residual) (Channel B)	-111.284 dBu	< -80 dBu > -140 dBu

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