

DSHA-3FN 300R SE 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.

[Back to top](#)

A01 Ampl, Phase, Gain: PASSED

Measured at 6/30/2023 4:15:04 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)	-0.080 dBu	< 3 dBu > -3 dBu
RMS amplitude (Channel B)	0.069 dBu	< 3 dBu > -3 dBu
Inter-channel phase	0.04 °	< 10 ° > -10 °

CTA Readings		
Gain (Channel A RMS)	-0.080 dB	< 3 dB > -3 dB
Gain (Channel B RMS)	0.068 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		

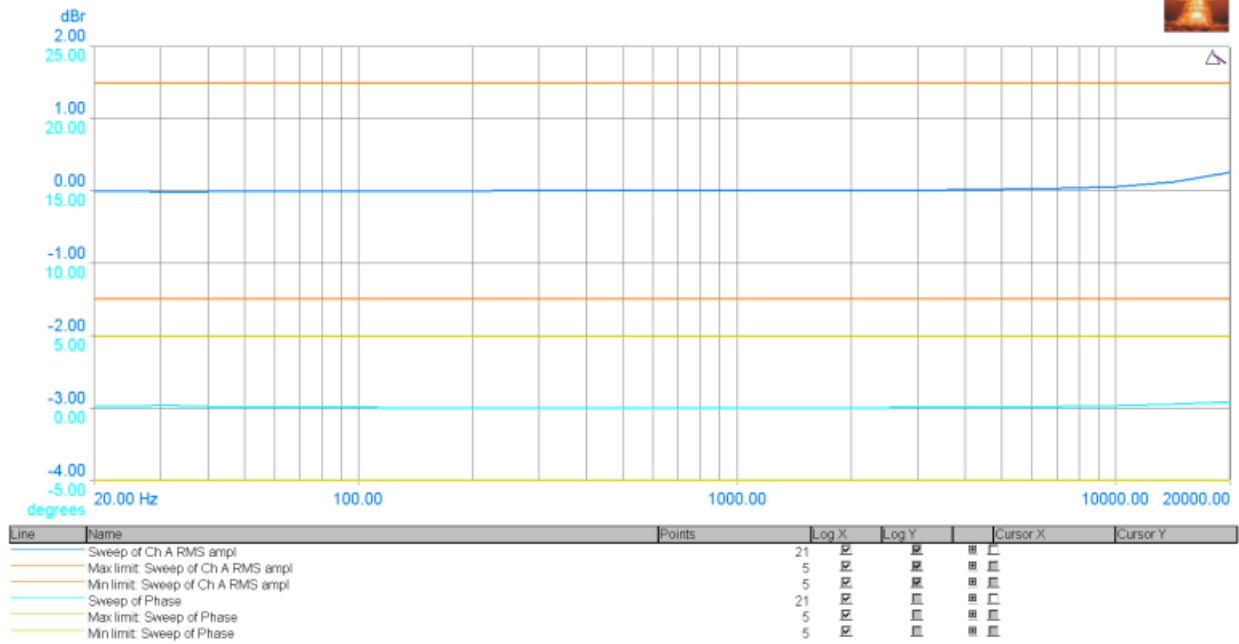
[Back to top](#)

A02 Ampl, Phase vs Freq: PASSED

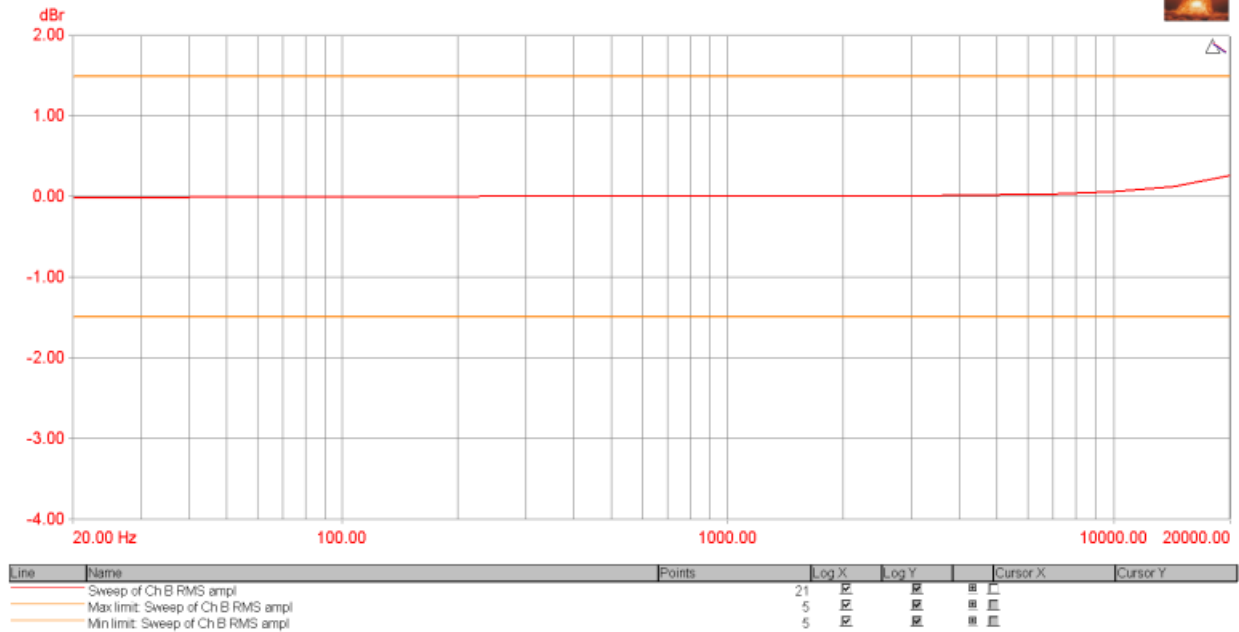
Measured at 6/30/2023 4:15:07 PM

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



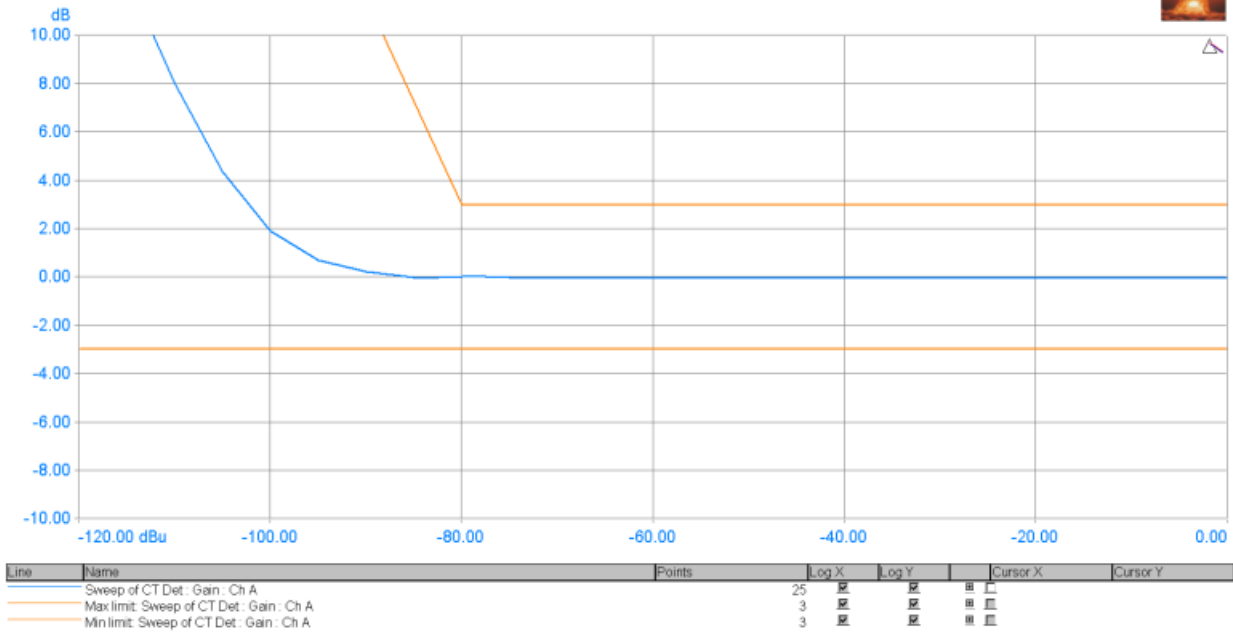
[Back to top](#)

A03 Gain vs Ampl: PASSED

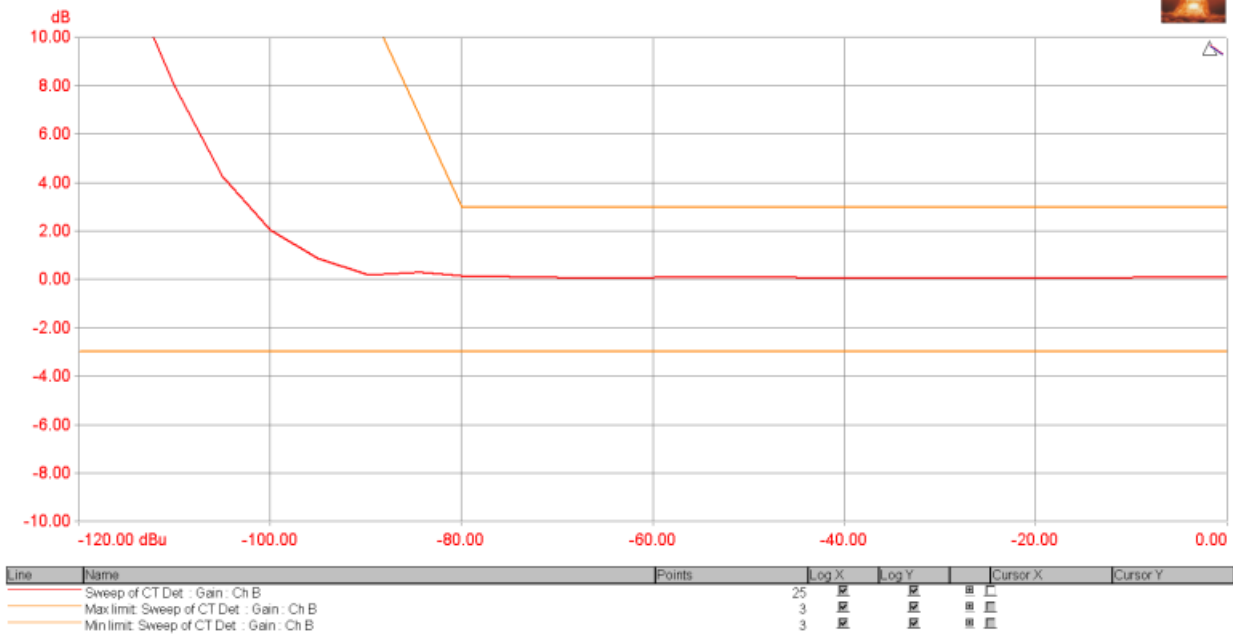
Measured at 6/30/2023 4:15:13 PM

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

Gain vs Amplitude



Gain vs Amplitude


[Back to top](#)
A04 THD+N,THD, nth-HD 2 3 4 - THD+N minus 2nd and 3rd harmonics: PASSED

Measured at 6/30/2023 4:15:23 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)	-0.079 dBu	Not limit checked.
RMS amplitude (Channel B)	0.069 dBu	Not limit checked.

CTA Readings		
THD+N - relative (Channel A RMS)	0.01351 %	<200 % >0 %
THD+N - relative (Channel B RMS)	0.01303 %	<200 % >0 %
Settings: Self relative, 22 Hz - 22 kHz, unweighted RMS with 1/3rd octave band-reject filter at the input frequency		

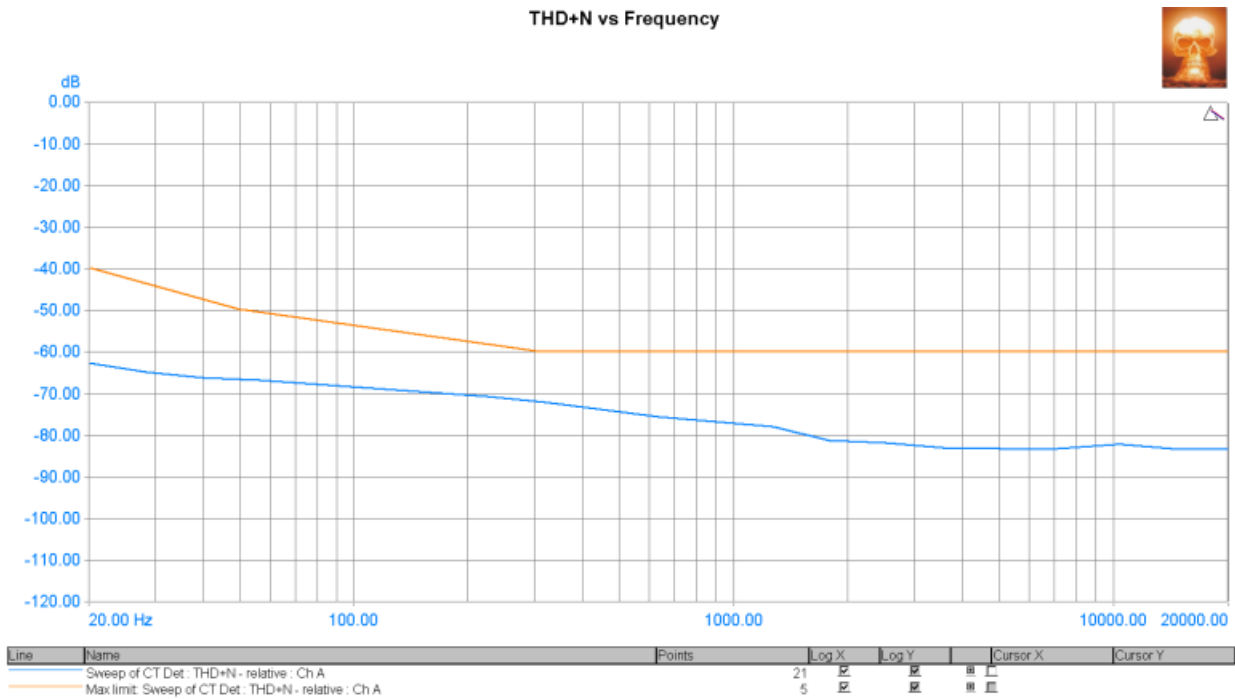
FFT Detector Readings		
THD (Channel A)	0.01449 %	<200 % >0 %
THD (Channel B)	0.01287 %	<200 % >0 %
FFTD 1 Settings: Self relative, 22 Hz - 22 kHz, unweighted with band-pass notch filters from the 2nd to 10th harmonics		
2nd Harmonic Distortion (Channel A)	0.00335 %	<200 % >0 %
2nd Harmonic Distortion (Channel B)	0.00190 %	<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)	0.01383 %	<200 % >0 %
3rd Harmonic Distortion (Channel B)	0.01255 %	<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)	0.00065 %	Not limit checked.
4th Harmonic Distortion (Channel B)	0.00024 %	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)	0.00259 %	Not limit checked.
5th Harmonic Distortion (Channel B)	0.00205 %	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)	0.00433 %	<0.05 % >0 %
4+HD + N (Channel B)	0.00396 %	<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)	0.00227 %	<0.017783 % >0 %
Hum (Channel B)	0.00216 %	<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)	0.00337 %	<0.017783 % >0 %
Noise (residual) (Channel B)	0.00336 %	<0.017783 % >0 %
FFTD 8 Settings: Self relative, 22 Hz - 22 kHz, unweighted with band-reject notch filters, fundamental to the 10th harmonic		

[Back to top](#)

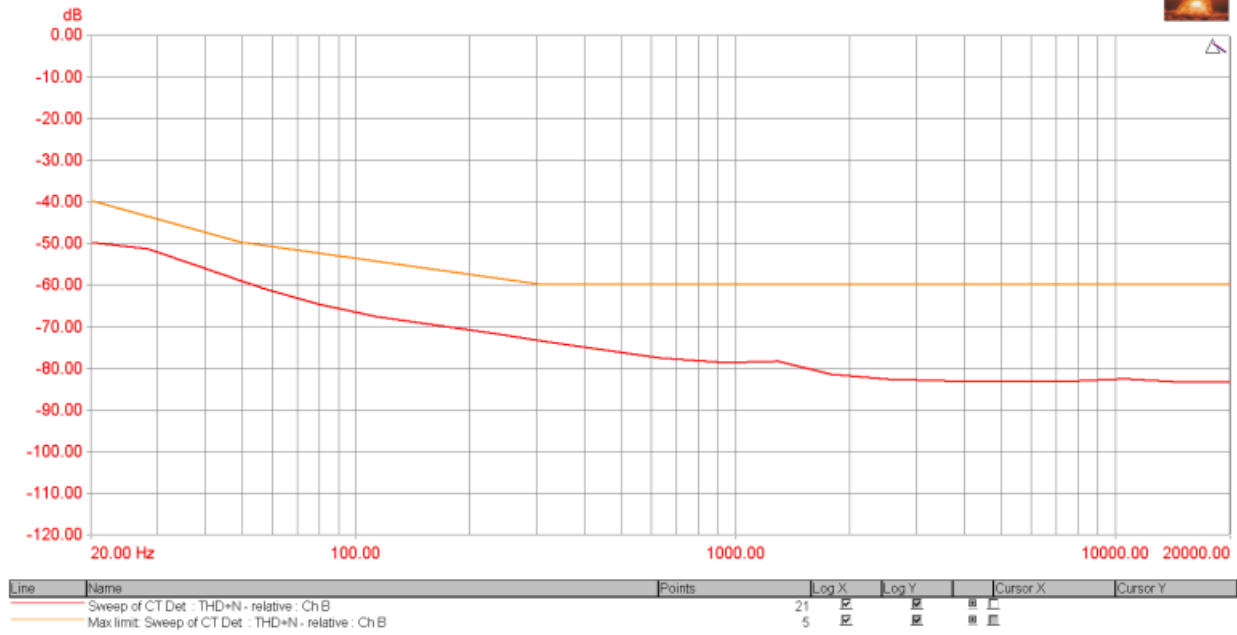
A05 THD+N vs Freq: PASSED

Measured at 6/30/2023 4:16:26 PM

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



THD+N vs Frequency



[Back to top](#)

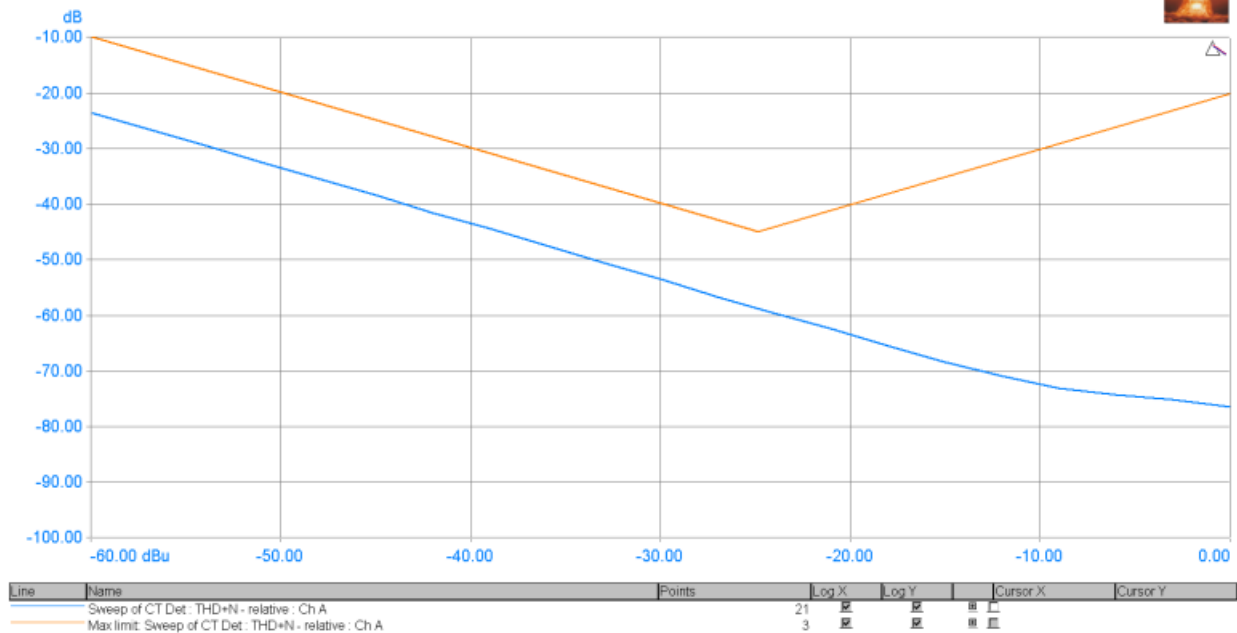
A06 THD+N vs Ampl: **PASSED**

Measured at 6/30/2023 4:16:36 PM

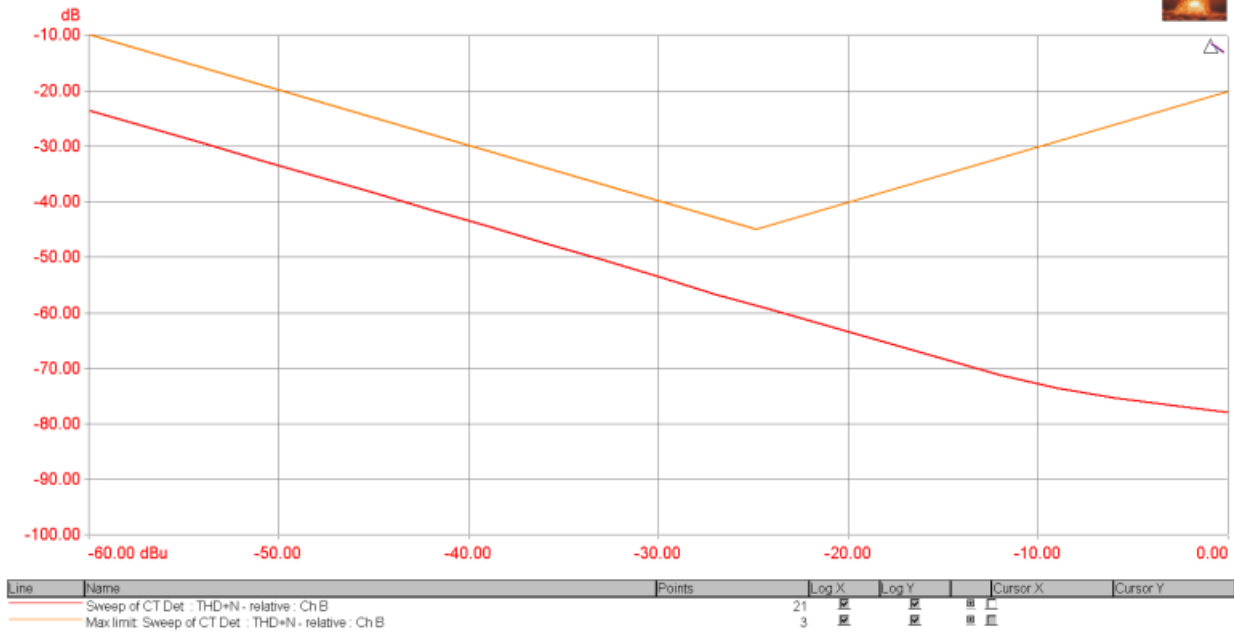
Generator Settings

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

THD+N vs Amplitude



THD+N vs Amplitude



[Back to top](#)

A07 Noise, SNR: PASSED

Measured at 6/30/2023 4:16:44 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)	-101.628 dBr	< 200 dBr	> -200 dBr
Noise (unweighted) (Channel B)	-101.495 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)	-101.833 dBr	< 200 dBr	> -200 dBr
SNR (Channel B)	-101.692 dBr	< 200 dBr	> -200 dBr
FFTD 2 Settings: 22 Hz - 22 kHz, unweighted with 1/3rd octave band-reject filter at the generator frequency			

[Back to top](#)

A08 Crosstalk A to B: PASSED

Measured at 6/30/2023 4:16:46 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)		-111.858 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 6/30/2023 4:16:49 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)

-87.247 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

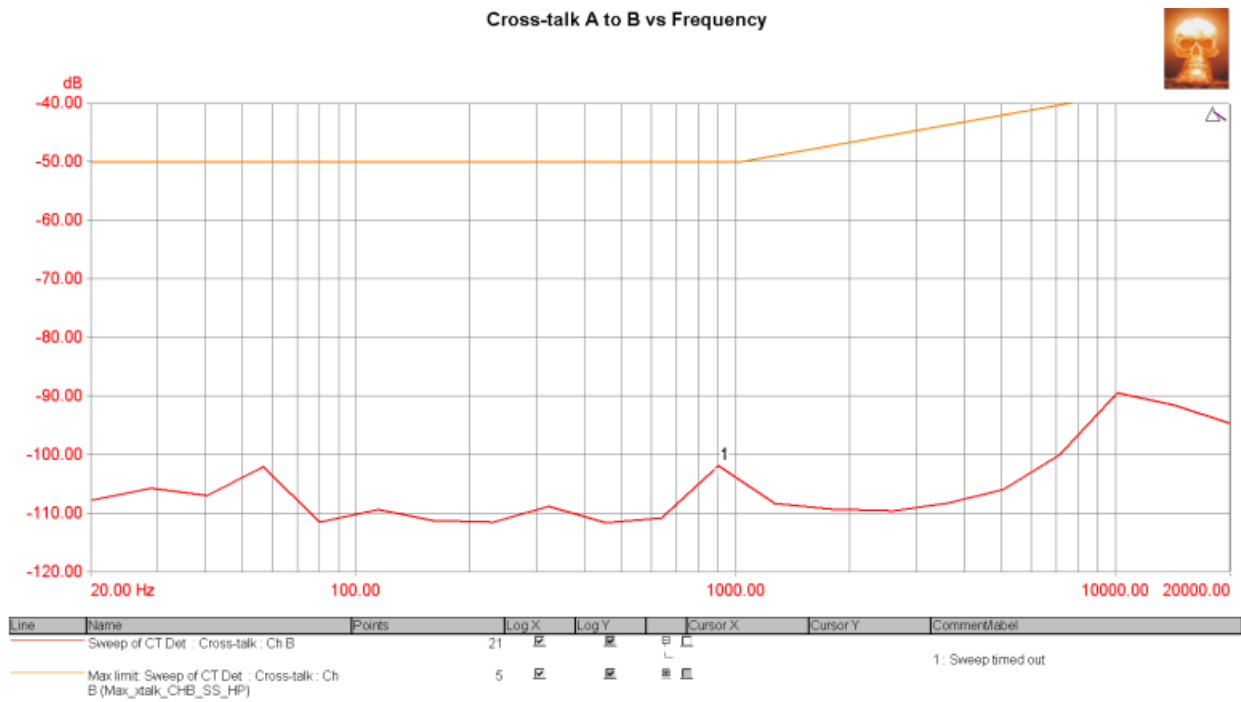
[Back to top](#)

A10 Crosstalk A to B vs Freq: PASSED

Measured at 6/30/2023 4:16:51 PM

Generator Settings

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



[Back to top](#)

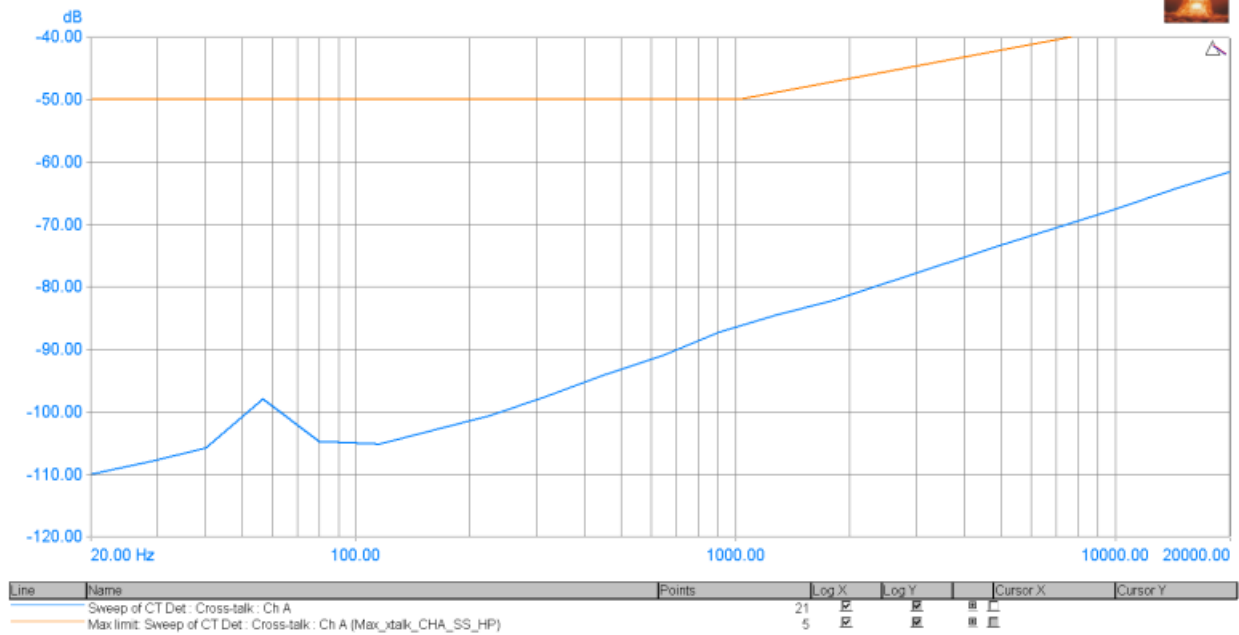
A11 Crosstalk B to A vs Freq: PASSED

Measured at 6/30/2023 4:17:02 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



[Back to top](#)

A12 FFT 1000 Hz THD+N: PASSED

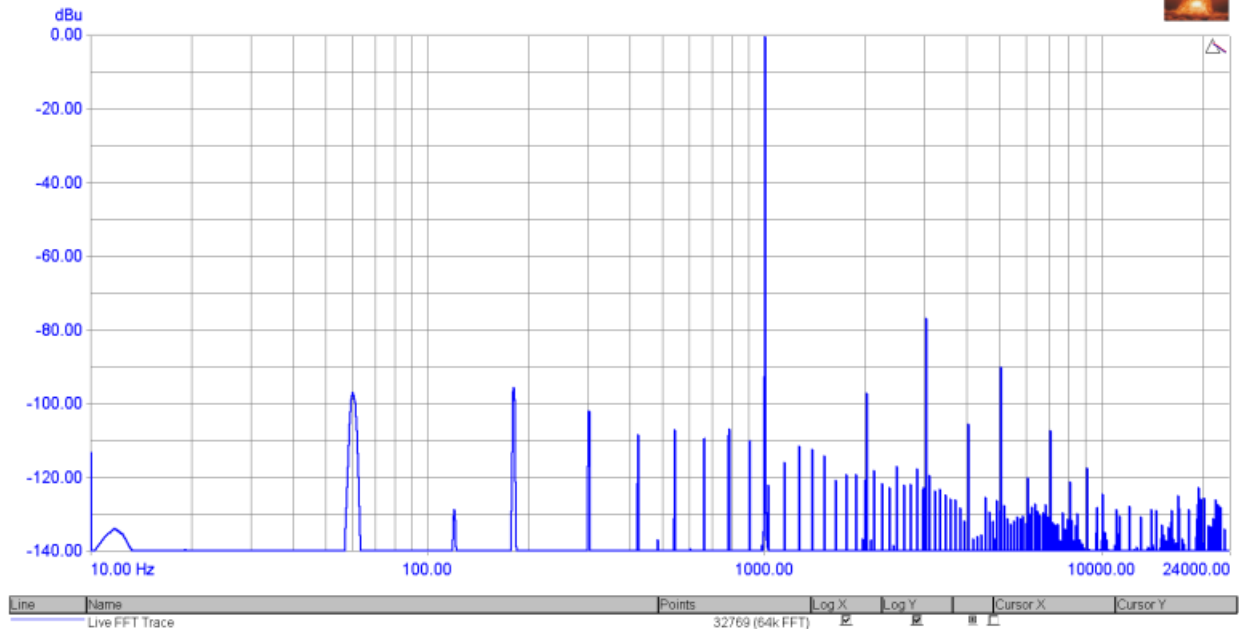
Measured at 6/30/2023 4:17:09 PM

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

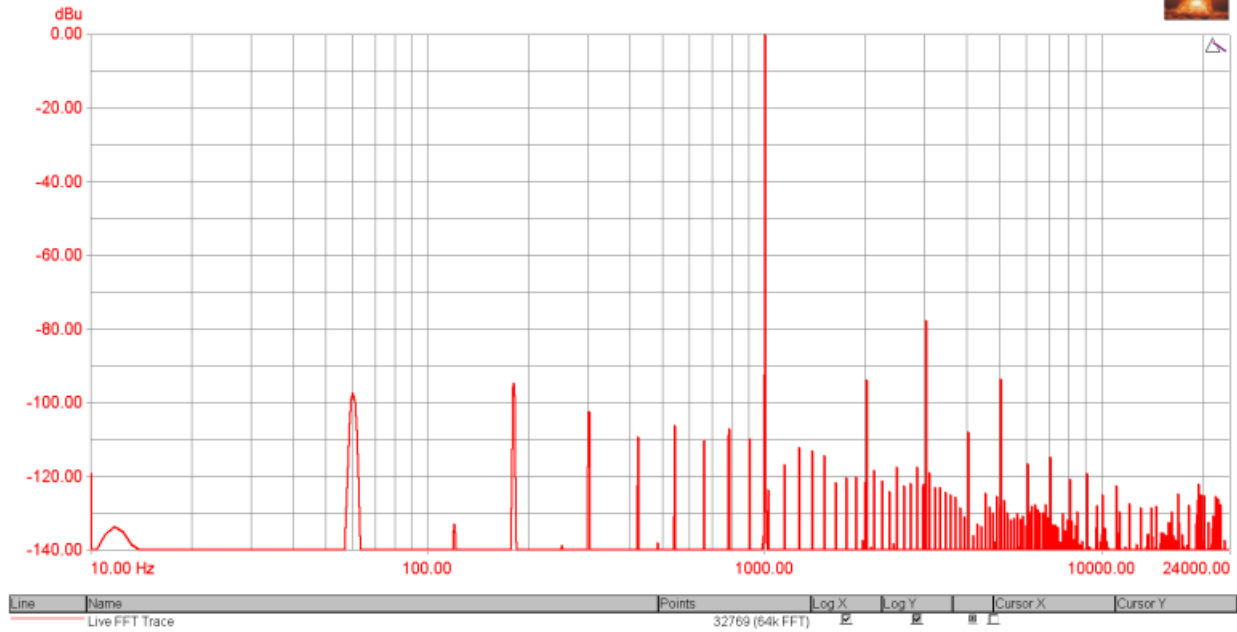
Signal Analyzer Readings		
RMS amplitude (Selected : Ch A)	-0.080 dBu	Not limit checked.
RMS amplitude (Non-selected : Ch A)	0.069 dBu	Not limit checked.

CTA Readings		
THD+N - relative (Selected : Ch ARMS)	0.01394 %	< 5 %
THD+N - relative (Non-selected : Ch ARMS)	0.01263 %	< 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



[Back to top](#)

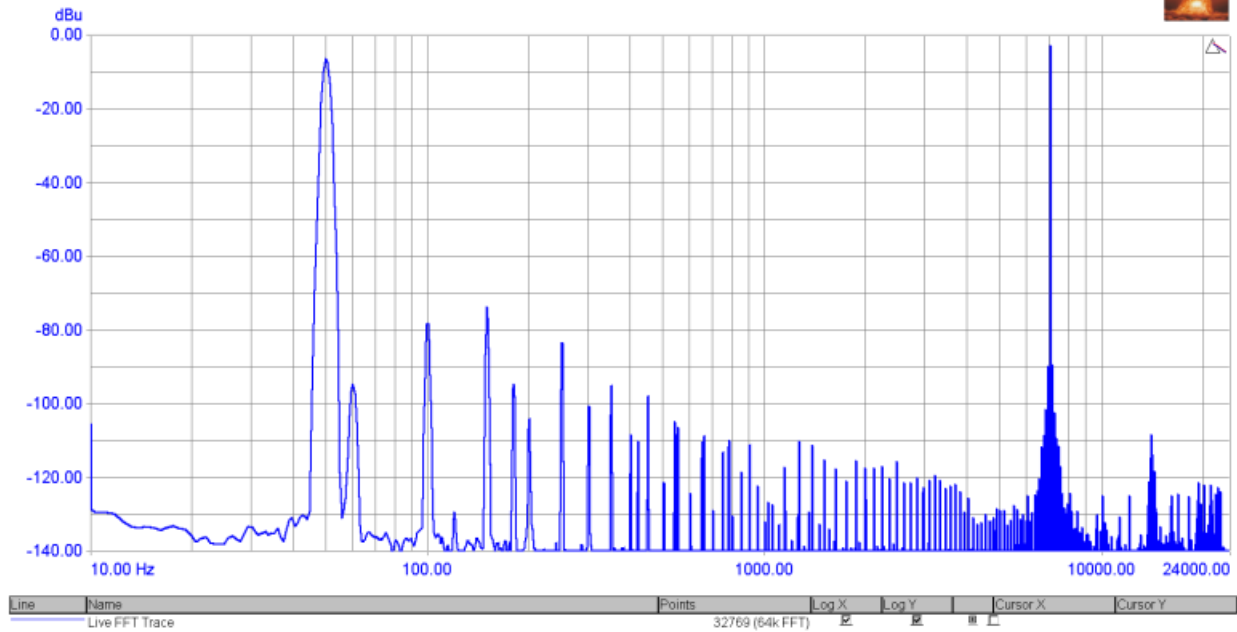
A13 FFT 50+7000Hz: PASSED

Measured at 6/30/2023 4:18:32 PM

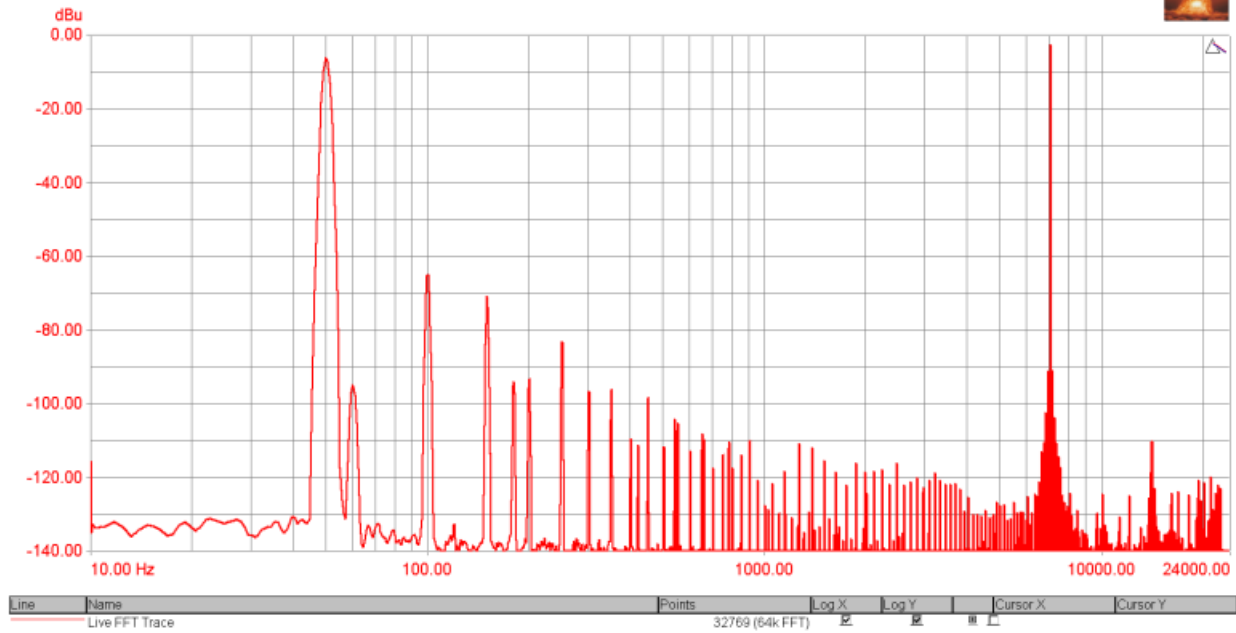
Generator Settings	
Channel A:	Twin-tone, 0 dBu at 50 Hz and 1 amplitude ratio at 7000Hz
Channel B:	Twin-tone, 0 dBu at 50 Hz and 1 amplitude ratio at 7000Hz

Signal Analyzer Readings		
RMS amplitude (Channel A)	2.941 dBu	Not limit checked.
RMS amplitude (Channel B)	3.081 dBu	Not limit checked.

FFT 50 + 7000 Hz



FFT 50 + 7000 Hz



FFT Detector Readings

IMD SMPTE-DIN (Channel A)	0.00793 %	≤ 7 %
IMD SMPTE-DIN (Channel B)	0.00715 %	≤ 7 %
FFTD 1 Settings: Self relative, 22 Hz - 22 kHz, unweighted with intermodulation notch band reject		

[Back to top](#)

A14 FFT 600+1700 Hz: PASSED

Measured at 6/30/2023 4:19:53 PM

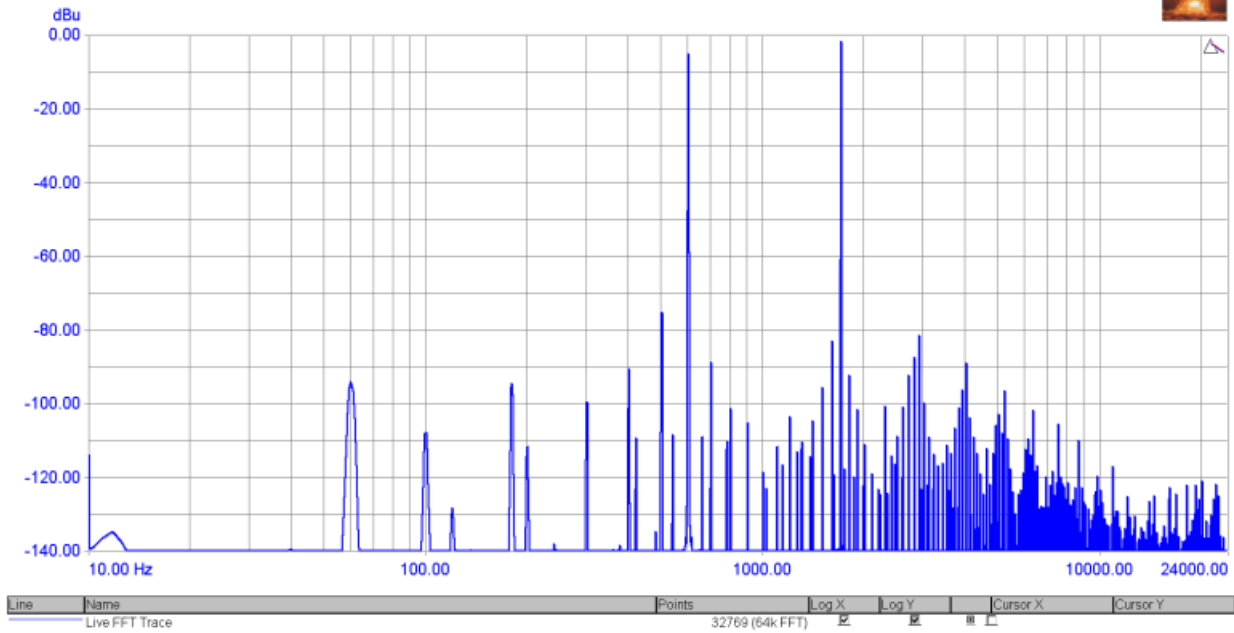
Generator Settings

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

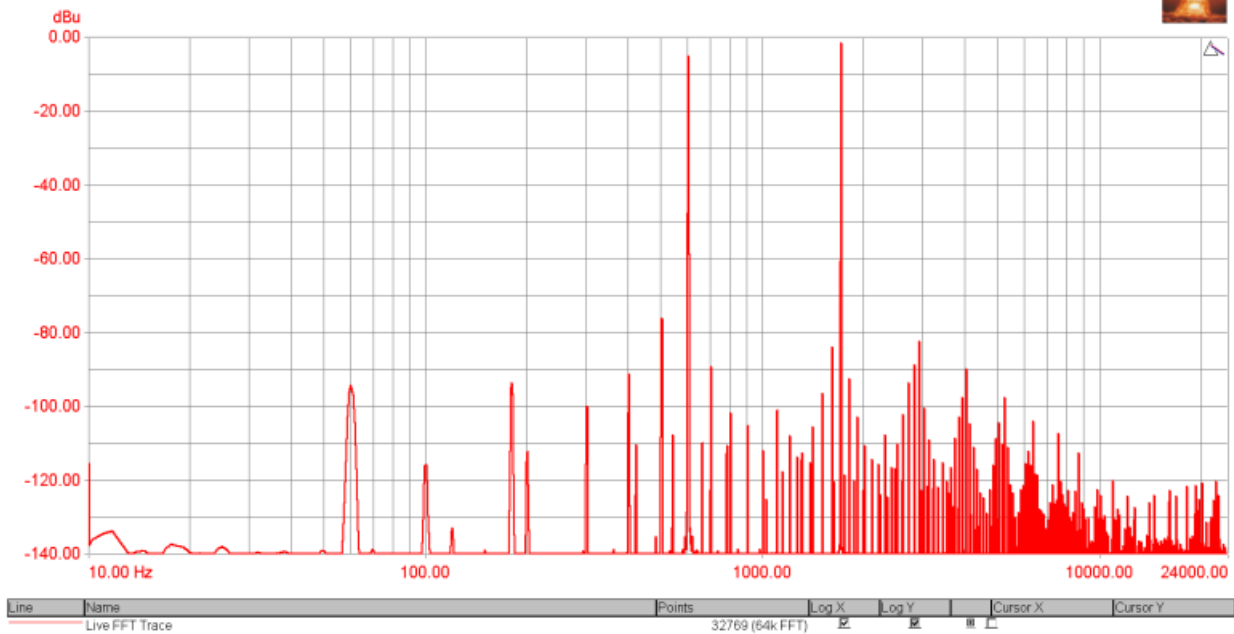
Signal Analyzer Readings

RMS amplitude (Channel A)	2.911 dBu	Not limit checked.
RMS amplitude (Channel B)	3.067 dBu	Not limit checked.

FFT 600 + 1700 Hz



FFT 600 + 1700 Hz



FFT Detector Readings

IMD SMPTE-DIN (Channel A)	0.00696 %	<7%
IMD SMPTE-DIN (Channel B)	0.00620 %	<7%

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

[Back to top](#)

A15 FFT 19+20 KHz: PASSED

Measured at 6/30/2023 4:21:14 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)	-12.851 dBu	Not limit checked.
RMS amplitude (Channel B)	-12.723 dBu	Not limit checked.

CTA Readings

IMD CCIF (Channel A RMS)

0.00056 %

< 1 %

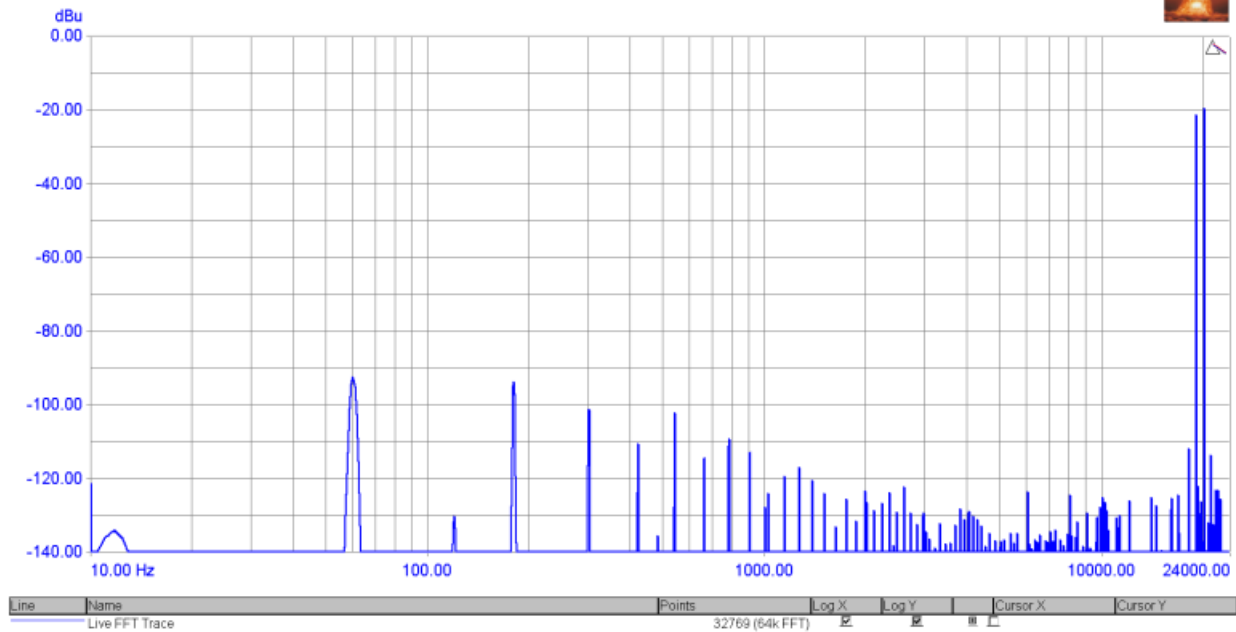
IMD CCIF (Channel B RMS)

0.00046 %

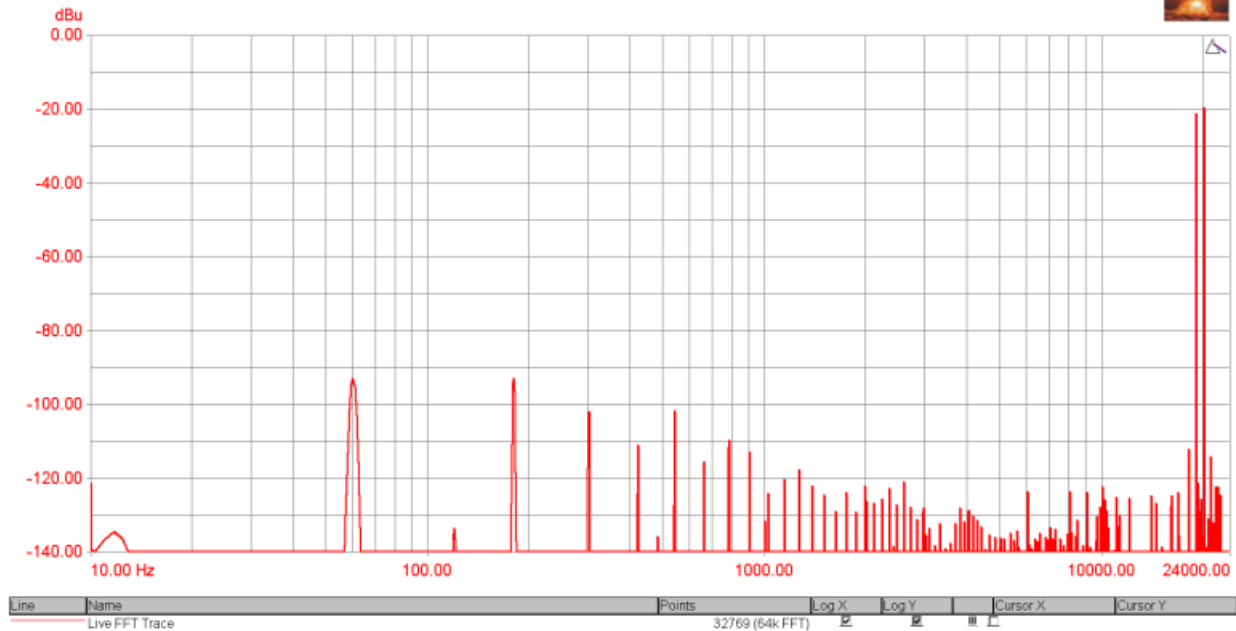
< 1 %

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)

0.00031 %

< 1 %

IMD CCIF (Channel B)

0.00020 %

< 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 6/30/2023 4:22:39 PM

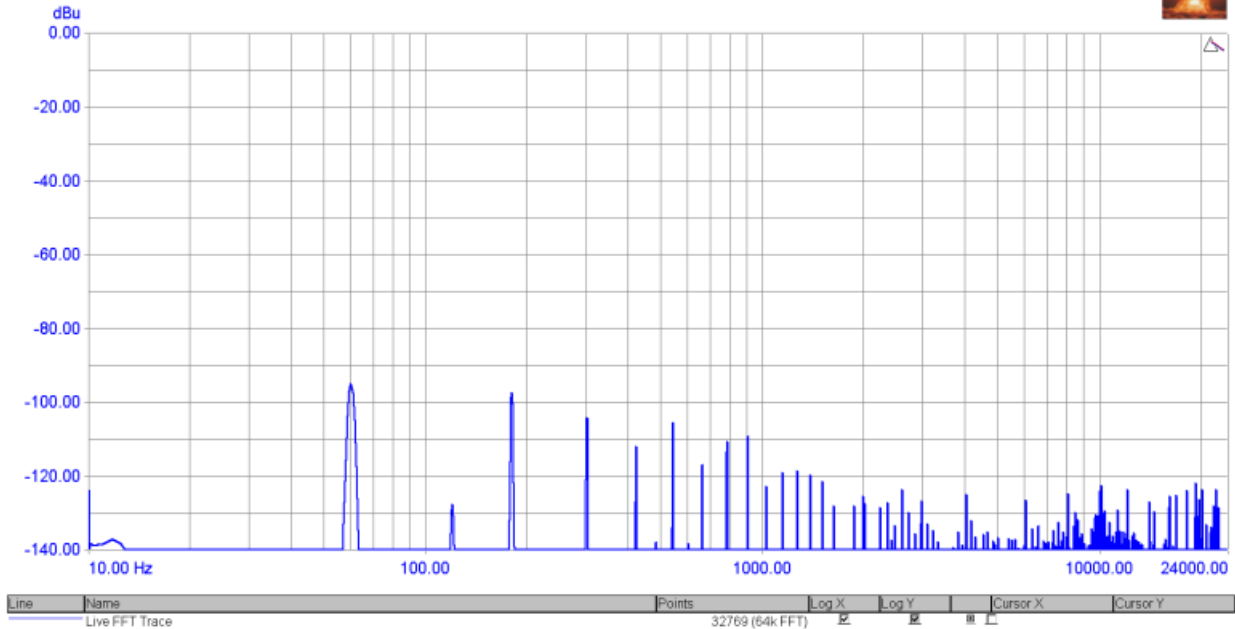
Generator Settings

Channel A:	Off
Channel B:	Off

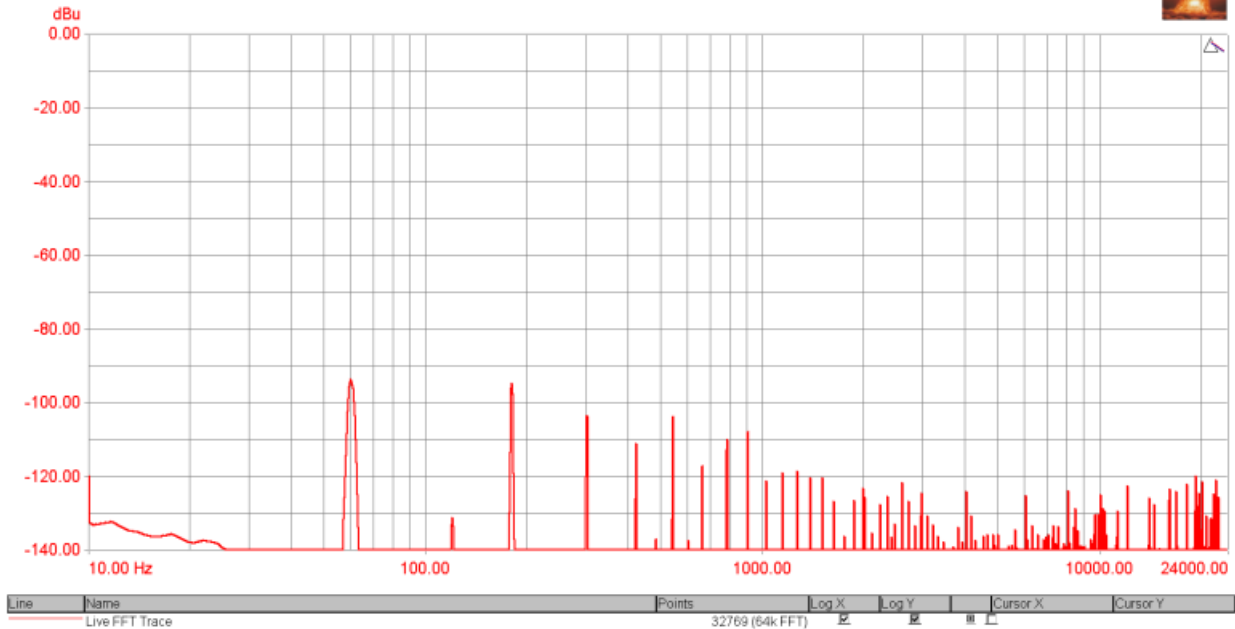
Signal Analyzer Readings

RMS amplitude (Channel A)	-88.905 dBu	Not limit checked.
RMS amplitude (Channel B)	-83.484 dBu	Not limit checked.

FFT residual noise



FFT residual noise



FFT Detector Readings

Noise (residual) (Channel A)	-93.894 dBu	< -80 dBu > -140 dBu
Noise (residual) (Channel B)	-92.671 dBu	< -80 dBu > -140 dBu

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