

Studio B Gold Lion 32R 0dBu UNBAL 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 5/7/2021 1:10:49 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)	-0.052 dBu	< 3 dBu > -3 dBu
RMS amplitude (Channel B)	0.046 dBu	< 3 dBu > -3 dBu
Inter-channel phase	-0.07 °	< 10 ° > -10 °

CTA Readings		
Gain (Channel A RMS)	-0.052 dB	< 3 dB > -3 dB
Gain (Channel B RMS)	0.046 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		

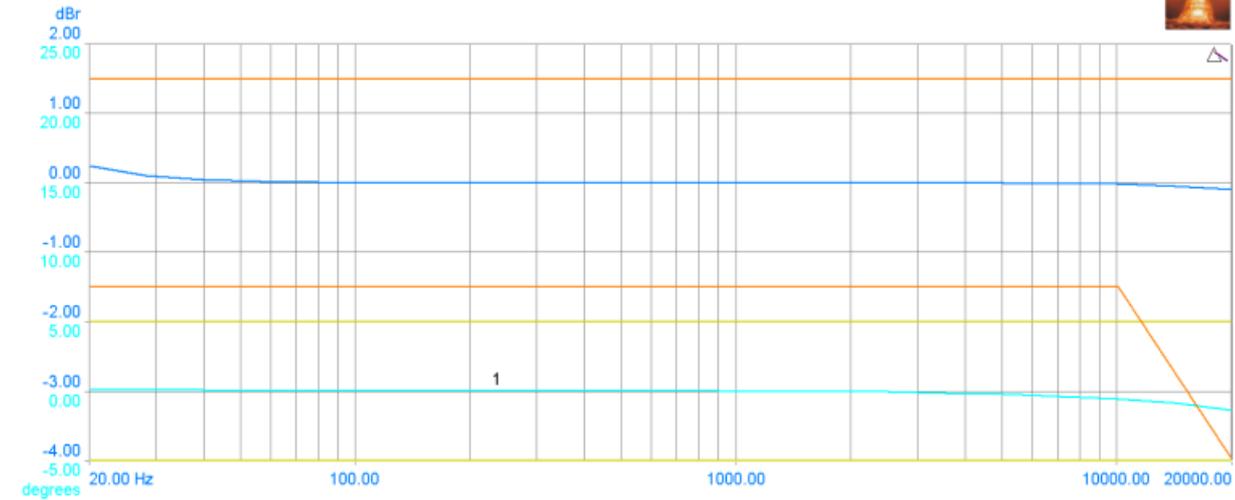
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A02 Ampl, Phase vs Freq: PASSED

Measured at 5/7/2021 1:10:51 PM

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

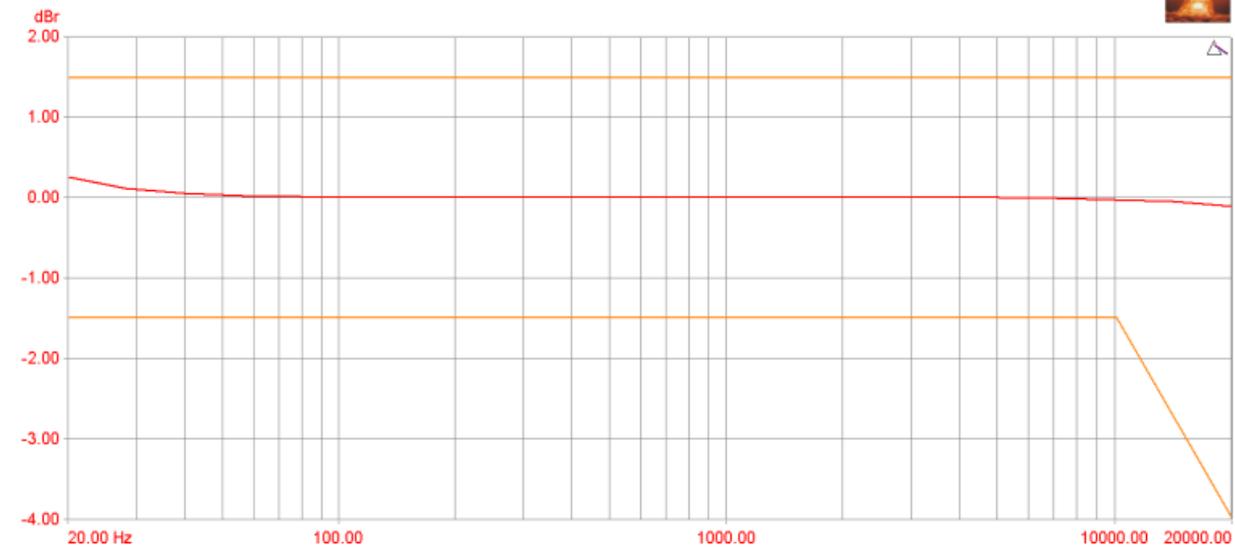
Frequency Response and Inter-channel Phase



Line	Name	Points	Log X	Log Y	Cursor X	Cursor Y	Comment/Label
1	Sweep of Ch A RMS ampli	21	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Max limit: Sweep of Ch A RMS ampli	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Min limit: Sweep of Ch A RMS ampli	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Sweep of Phase	21	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Max limit: Sweep of Phase	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Min limit: Sweep of Phase	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

1: Sweep timed out

Frequency Response and Inter-channel Phase



Line	Name	Points	Log X	Log Y	Cursor X	Cursor Y
	Sweep of Ch B RMS ampli	21	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Max limit: Sweep of Ch B RMS ampli	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Min limit: Sweep of Ch B RMS ampli	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

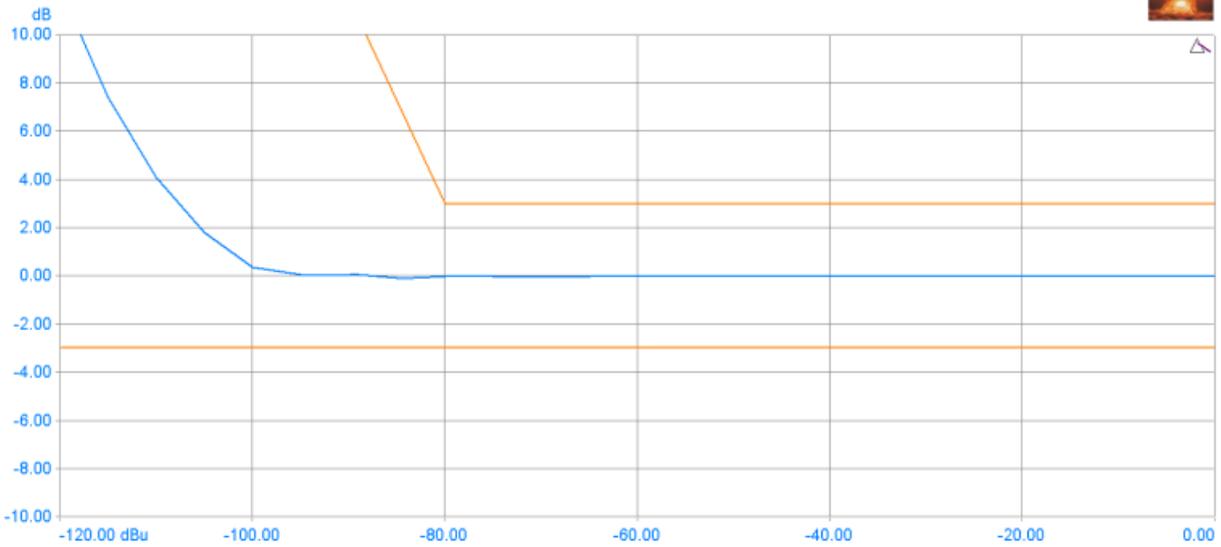
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A03 Gain vs Ampl: PASSED

Measured at 5/7/2021 1:11:04 PM

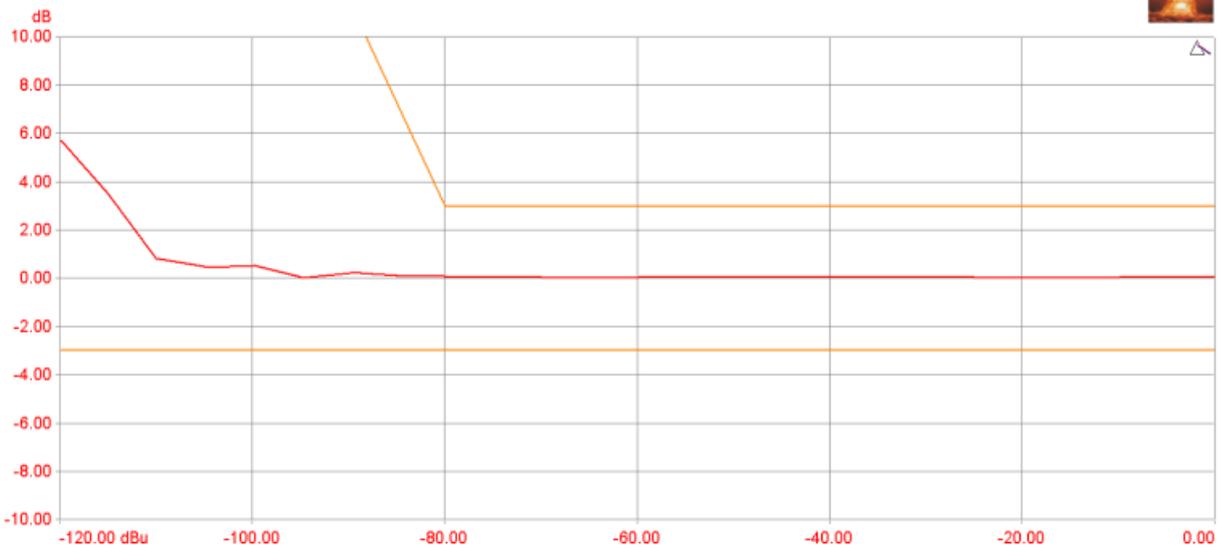
Generator Settings	
Channel A:	sine, 0 dBu at 1000 Hz
Channel B:	sine, 0 dBu at 1000 Hz

Gain vs Amplitude



Line	Name	Points	Log X	Log Y	Cursor X	Cursor Y
1	Sweep of CT Det : Gain : Ch A	25	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Max limit: Sweep of CT Det : Gain : Ch A	3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Min limit: Sweep of CT Det : Gain : Ch A	3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Gain vs Amplitude



Line	Name	Points	Log X	Log Y	Cursor X	Cursor Y
1	Sweep of CT Det : Gain : Ch B	25	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Max limit: Sweep of CT Det : Gain : Ch B	3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Min limit: Sweep of CT Det : Gain : Ch B	3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

Measured at 5/7/2021 1:11:18 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)	-0.051 dBu	Not limit checked.
RMS amplitude (Channel B)	0.046 dBu	Not limit checked.

CTA Readings		
THD+N - relative (Channel A RMS)	0.14630 %	< 200 % > 0 %
THD+N - relative (Channel B RMS)	0.11444 %	< 200 % > 0 %
Settings: Self relative, 22 Hz - 22 kHz, unweighted RMS with 1/3rd octave band-reject filter at the input frequency		

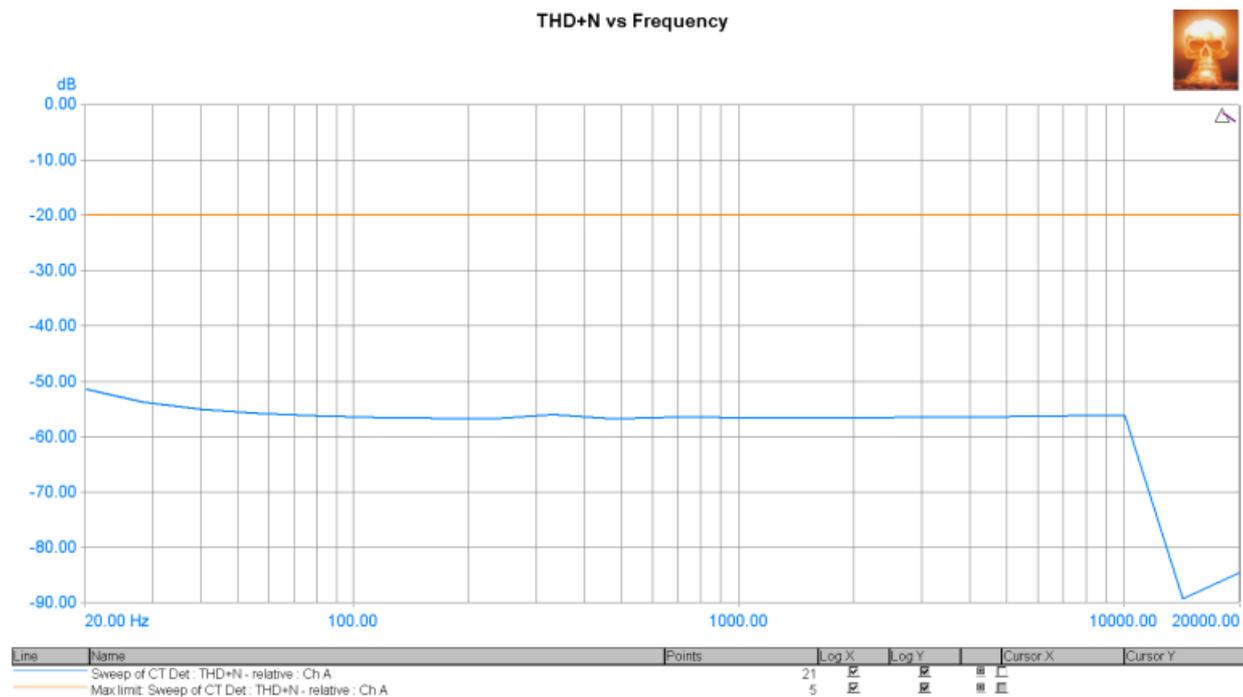
FFT Detector Readings		
THD (Channel A)	0.15654 %	<200 % >0 %
THD (Channel B)	0.12245 %	<200 % >0 %
FFTD 1 Settings: Self relative, 22 Hz - 22 kHz, unweighted with band-pass notch filters from the 2nd to 10th harmonics		
2nd Harmonic Distortion (Channel A)	0.15650 %	<200 % >0 %
2nd Harmonic Distortion (Channel B)	0.12240 %	<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)	0.00337 %	<200 % >0 %
3rd Harmonic Distortion (Channel B)	0.00359 %	<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)	0.00025 %	Not limit checked.
4th Harmonic Distortion (Channel B)	0.00046 %	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)	0.00044 %	Not limit checked.
5th Harmonic Distortion (Channel B)	0.00036 %	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)	0.00145 %	<0.05 % >0 %
4+HD + N (Channel B)	0.00136 %	<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)	0.00087 %	<0.017783 % >0 %
Hum (Channel B)	0.00083 %	<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)	0.00135 %	<0.017783 % >0 %
Noise (residual) (Channel B)	0.00121 %	<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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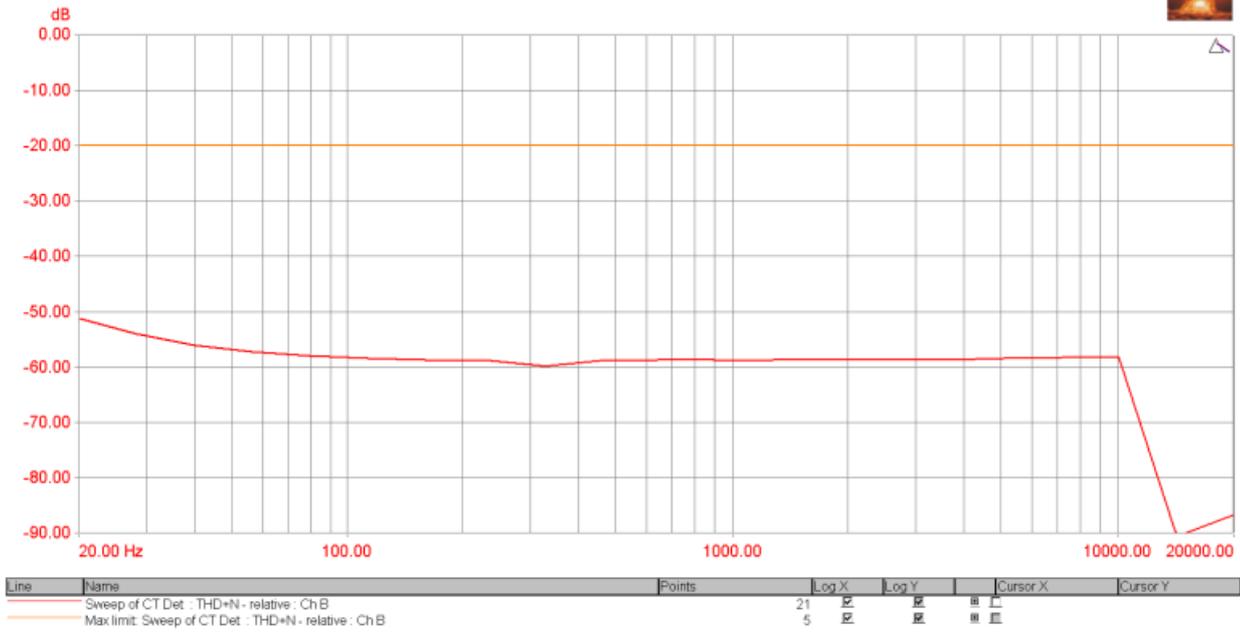
A05 THD+N vs Freq: PASSED

Measured at 5/7/2021 1:12:21 PM

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



THD+N vs Frequency



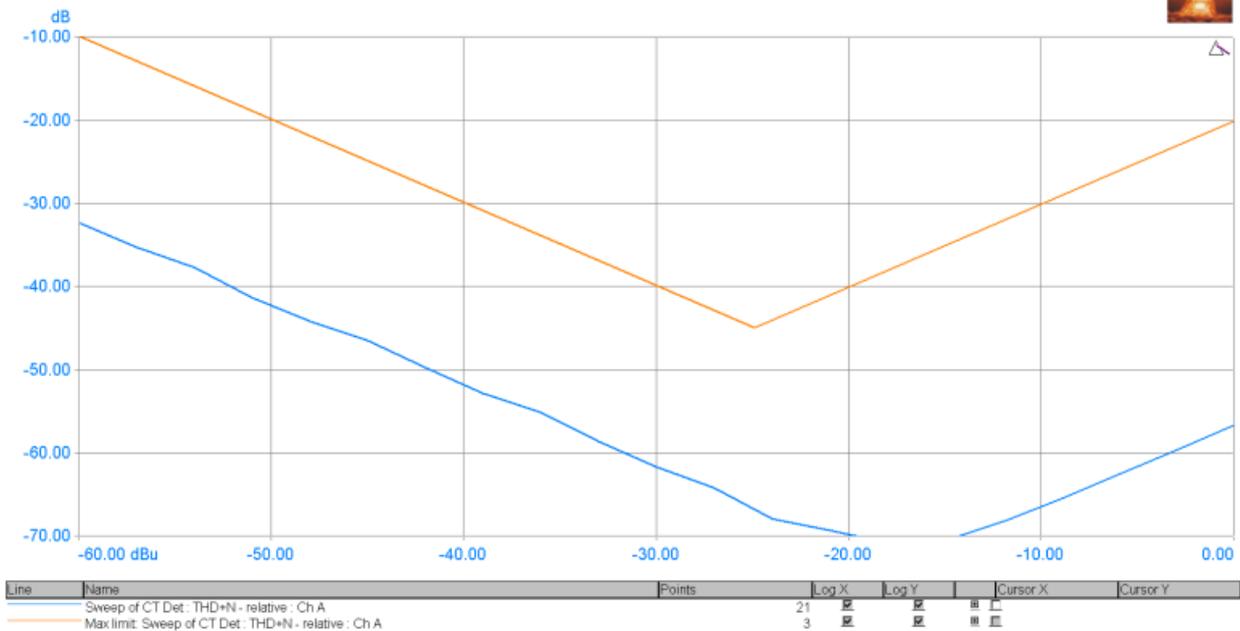
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A06 THD+N vs Ampl: PASSED

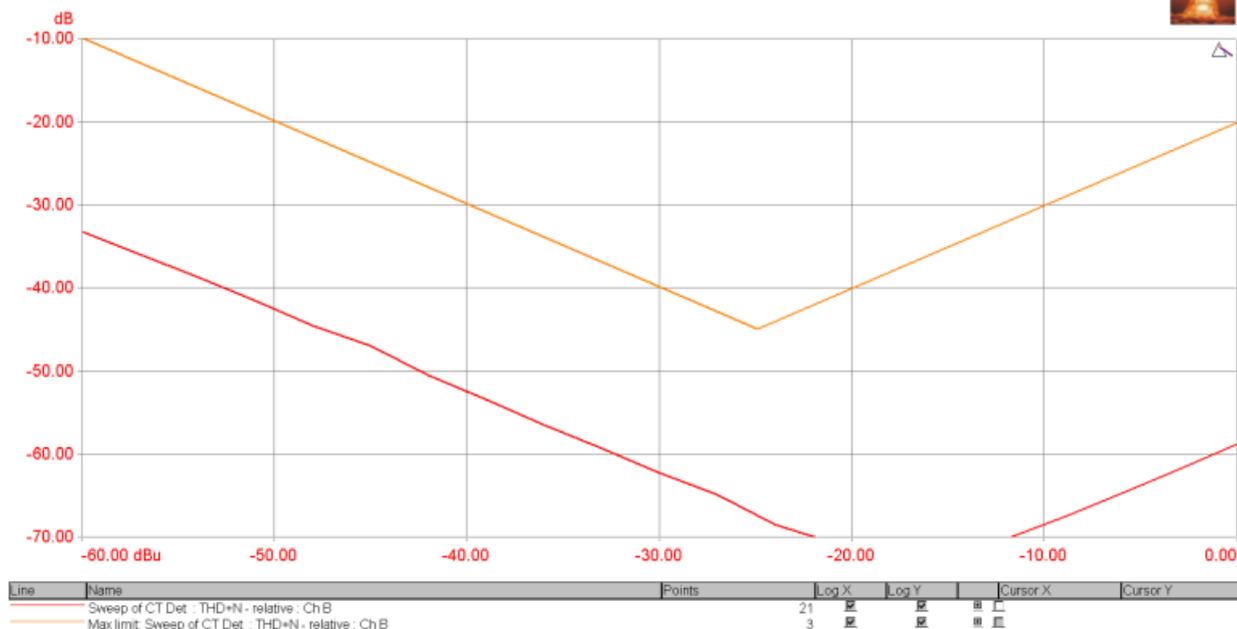
Measured at 5/7/2021 1:12:29 PM

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 5/7/2021 1:12:43 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)	-106.431 dBr	< 200 dBr > -200 dBr
Noise (unweighted) (Channel B)	-107.933 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)	-106.525 dBr	< 200 dBr > -200 dBr
SNR (Channel B)	-107.970 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 5/7/2021 1:12:46 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)	-76.435 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 5/7/2021 1:12:48 PM

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

CTA Readings

Cross-talk (Channel A RMS)

-74.000 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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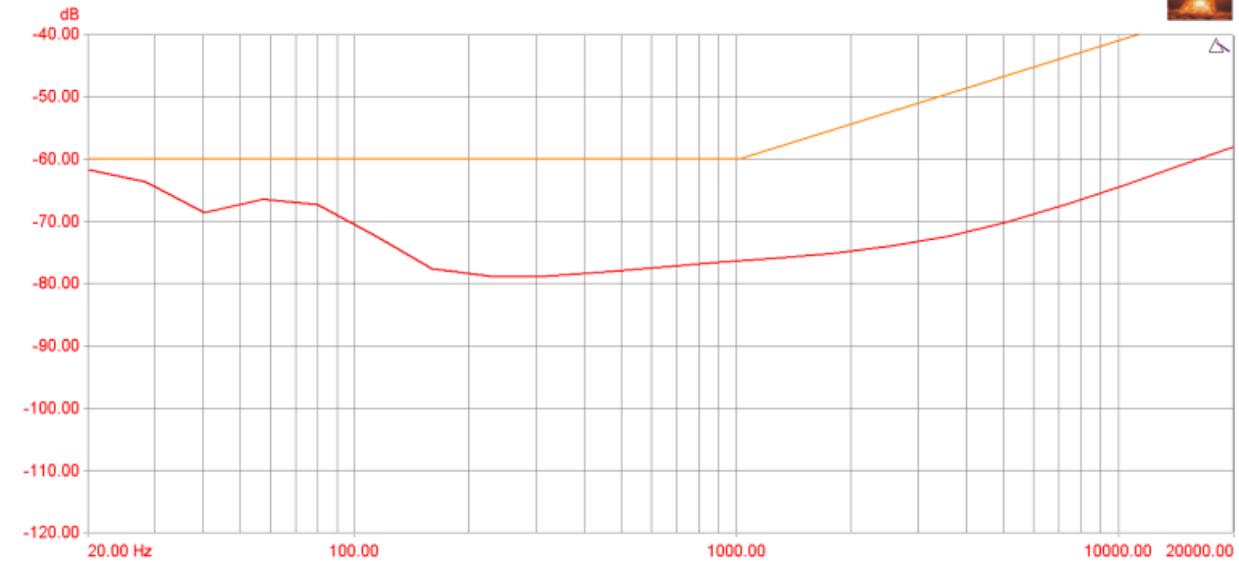
A10 Crosstalk A to B vs Freq: PASSED

Measured at 5/7/2021 1:21:55 PM

Generator Settings

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

Cross-talk A to B vs Frequency



Line	Name	Points	Log X	Log Y	Cursor X	Cursor Y
1	Sweep of CT Det : Cross-talk : Ch B	21	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Max limit: Sweep of CT Det : Cross-talk : Ch B (Max_xtalk_CHB_SS_HP)	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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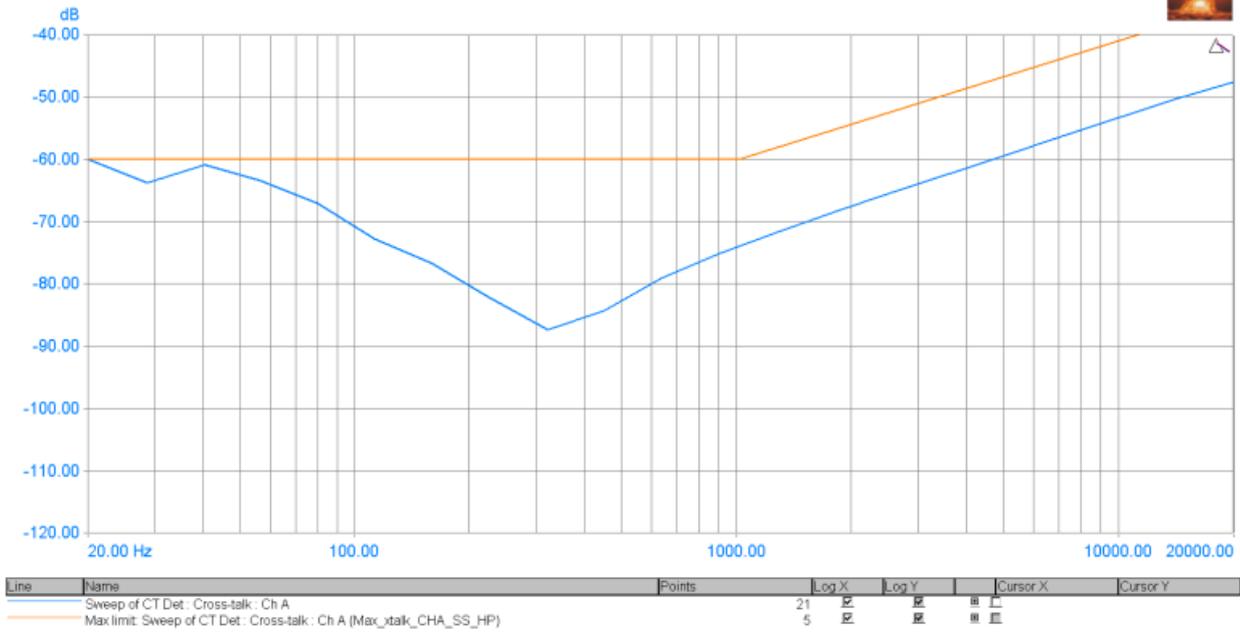
A11 Crosstalk B to A vs Freq: PASSED

Measured at 5/7/2021 1:30:26 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

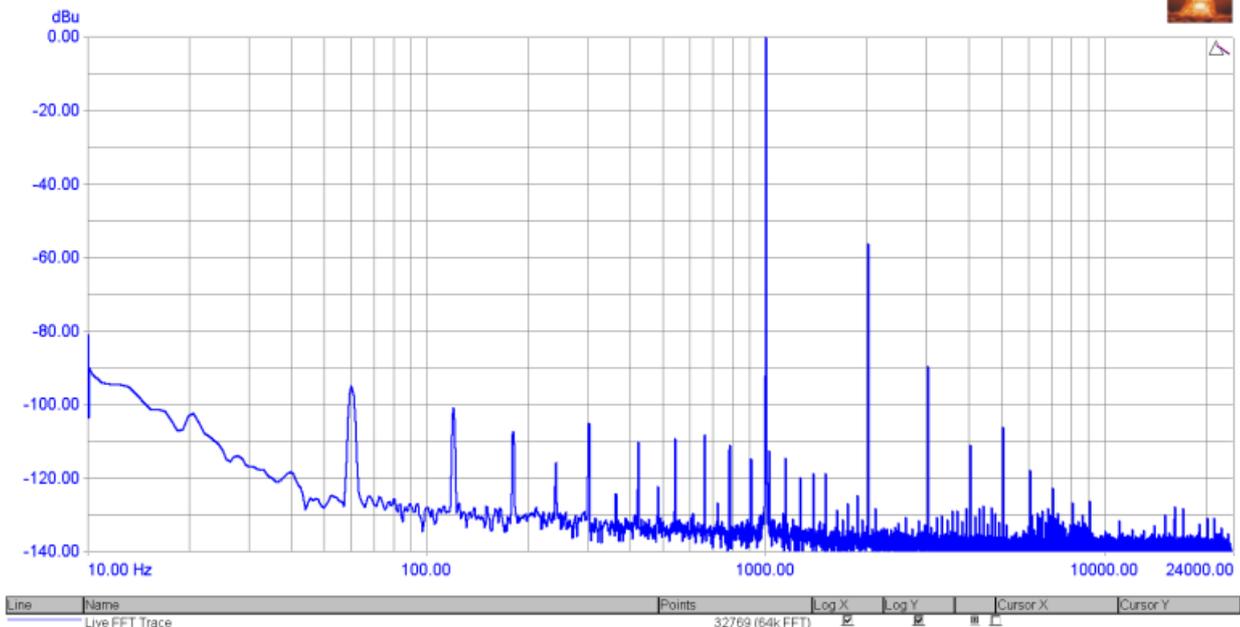
Measured at 5/7/2021 1:13:05 PM

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

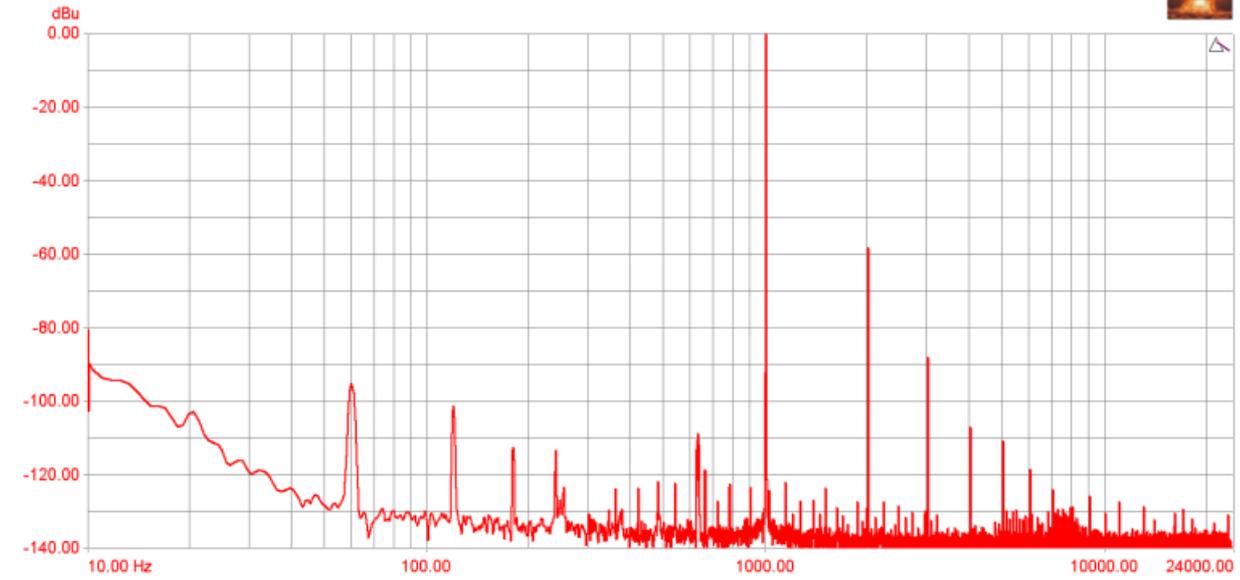
Signal Analyzer Readings		
RMS amplitude (Selected : Ch A)	-0.051 dBu	Not limit checked.
RMS amplitude (Non-selected : Ch A)	0.046 dBu	Not limit checked.

CTA Readings		
THD+N - relative (Selected : Ch ARMS)	0.14636 %	< 5 %
THD+N - relative (Non-selected : Ch ARMS)	0.11430 %	< 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



Line	Name	Points	Log X	Log Y	Cursor X	Cursor Y
1	Live FFT Trace	32769 (64k FFT)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		

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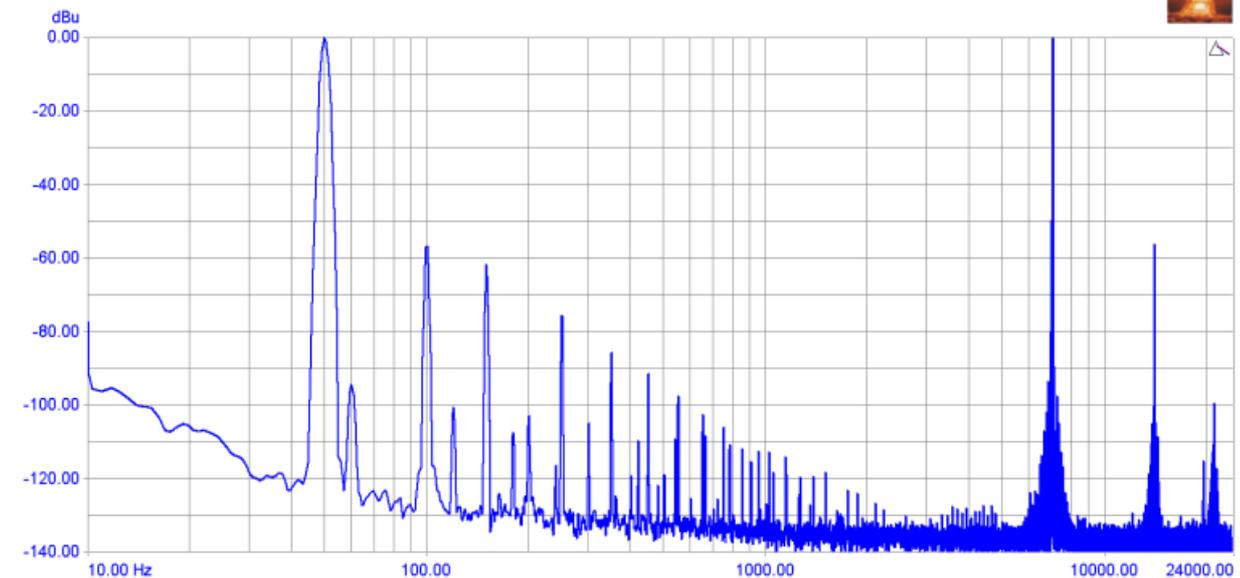
A13 FFT 50+7000Hz: PASSED

Measured at 5/7/2021 1:13:29 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

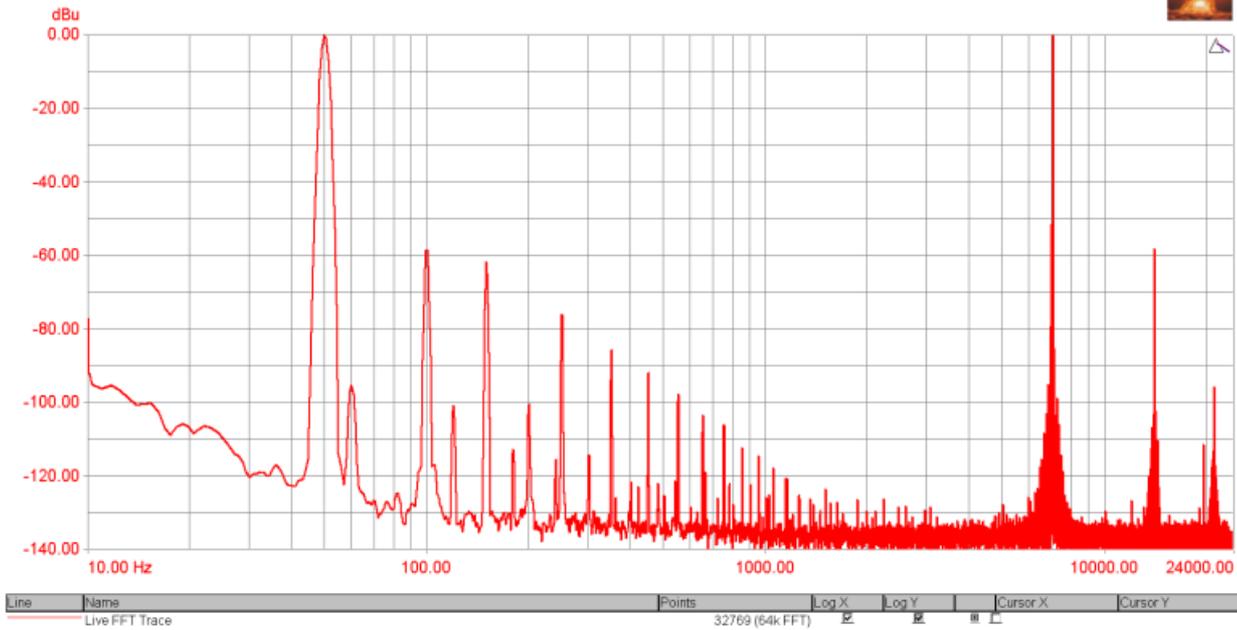
Signal Analyzer Readings		
RMS amplitude (Channel A)	2.962 dBu	Not limit checked.
RMS amplitude (Channel B)	3.052 dBu	Not limit checked.

FFT 50 + 7000 Hz



Line	Name	Points	Log X	Log Y	Cursor X	Cursor Y
1	Live FFT Trace	32769 (64k FFT)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		

FFT 50 + 7000 Hz



FFT Detector Readings

IMD SMPTE-DIN (Channel A)	0.30570 %	<7%
IMD SMPTE-DIN (Channel B)	0.23799 %	<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 5/7/2021 1:13:51 PM

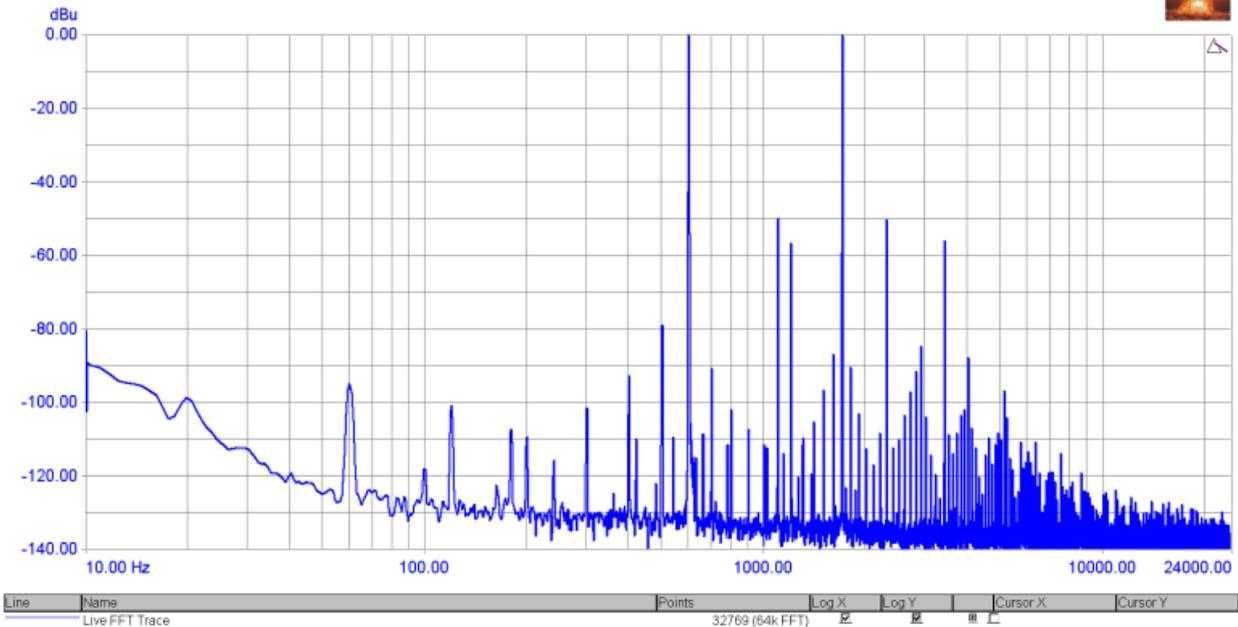
Generator Settings

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

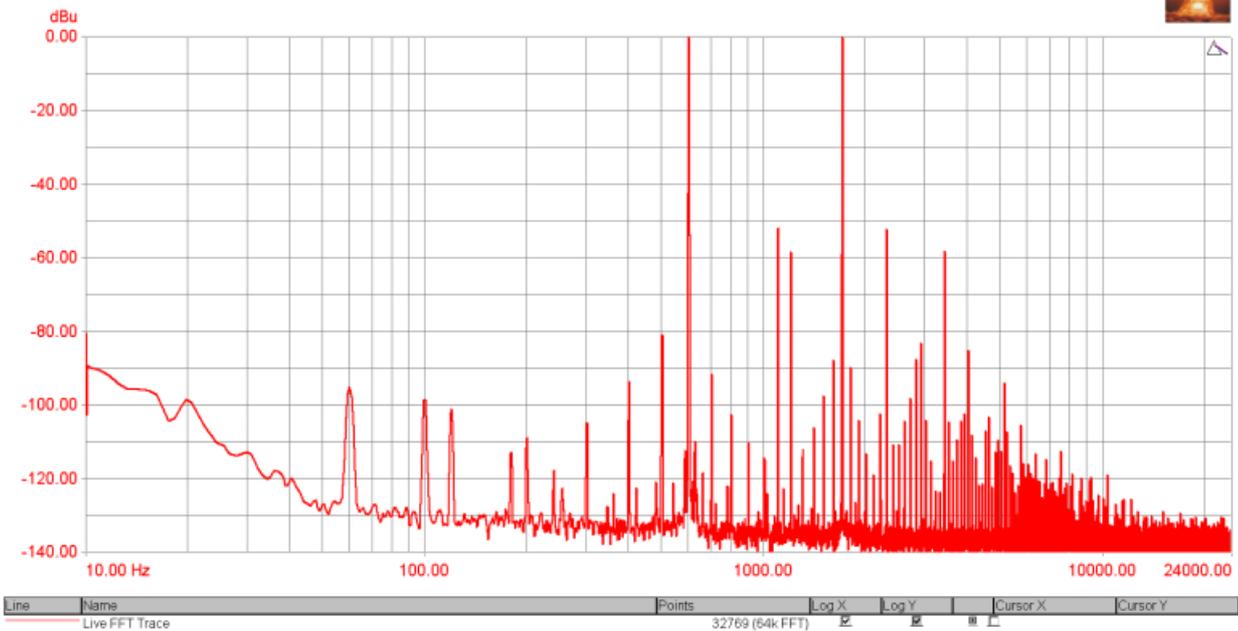
Signal Analyzer Readings

RMS amplitude (Channel A)	2.941 dBu	Not limit checked.
RMS amplitude (Channel B)	3.071 dBu	Not limit checked.

FFT 600 + 1700 Hz



FFT 600 + 1700 Hz



FFT Detector Readings

IMD SMPTE-DIN (Channel A)	0.32773 %	< 7% > 0%
IMD SMPTE-DIN (Channel B)	0.25829 %	< 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 5/7/2021 1:14:14 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

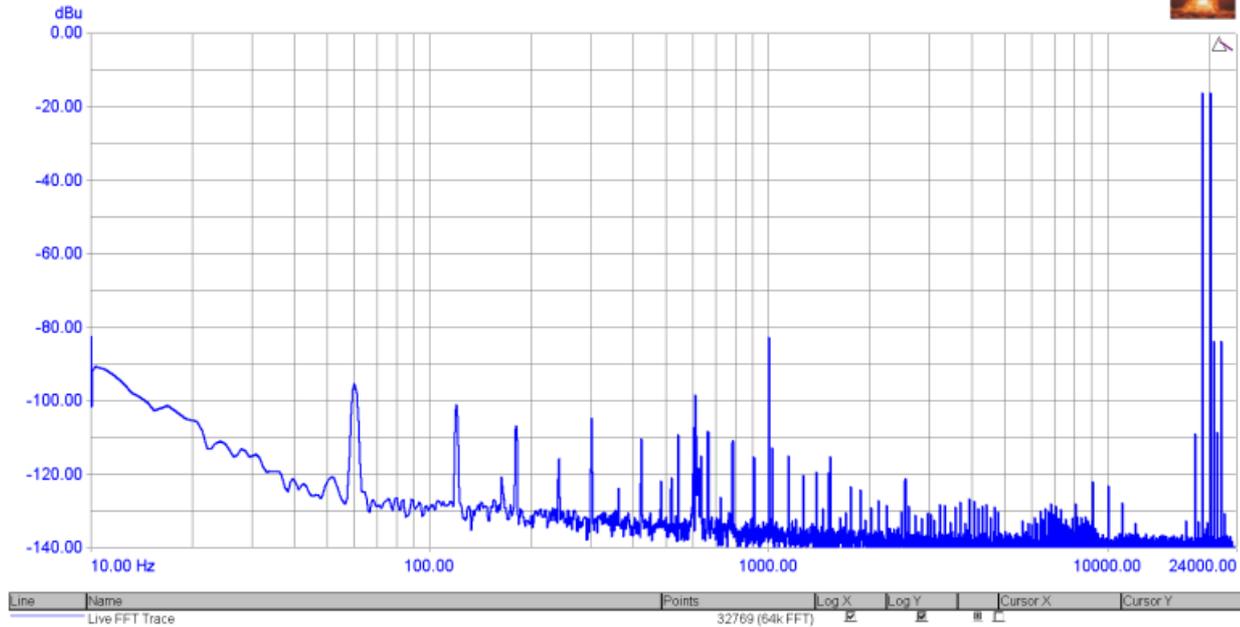
Signal Analyzer Readings

RMS amplitude (Channel A)	-13.141 dBu	Not limit checked.
RMS amplitude (Channel B)	-13.113 dBu	Not limit checked.

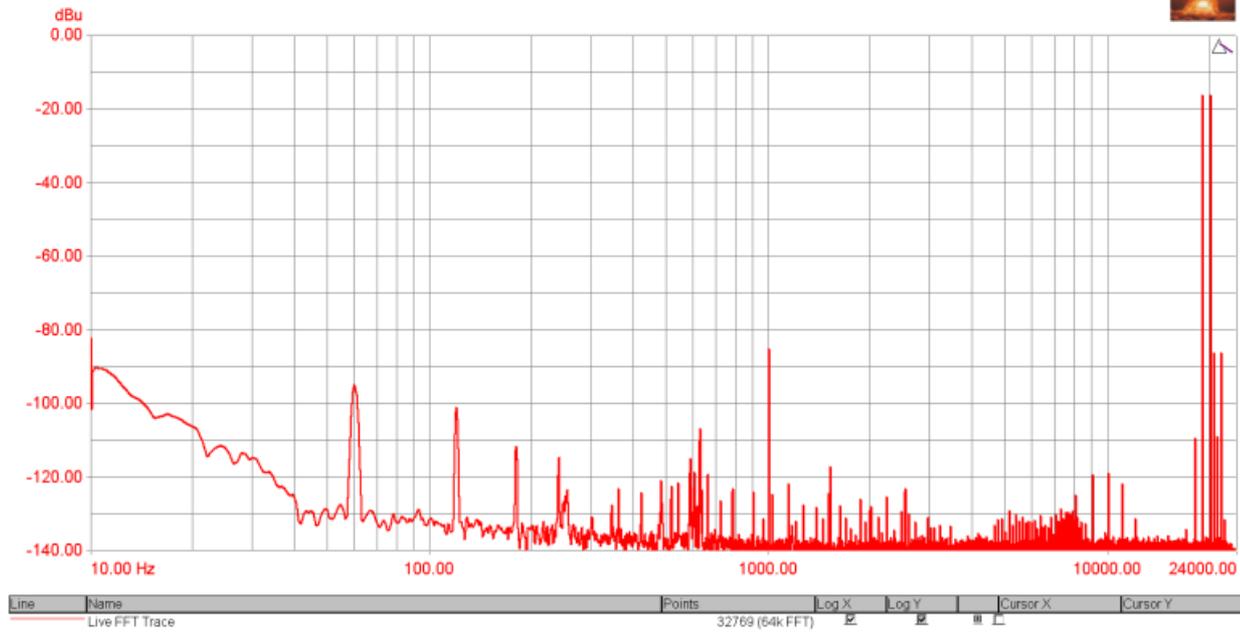
CTA Readings

IMD CCIF (Channel A RMS)	0.03376 %	< 1 %
IMD CCIF (Channel B RMS)	0.02468 %	< 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)	0.03368 %	< 1 %
IMD CCIF (Channel B)	0.02472 %	< 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 5/7/2021 1:14:41 PM

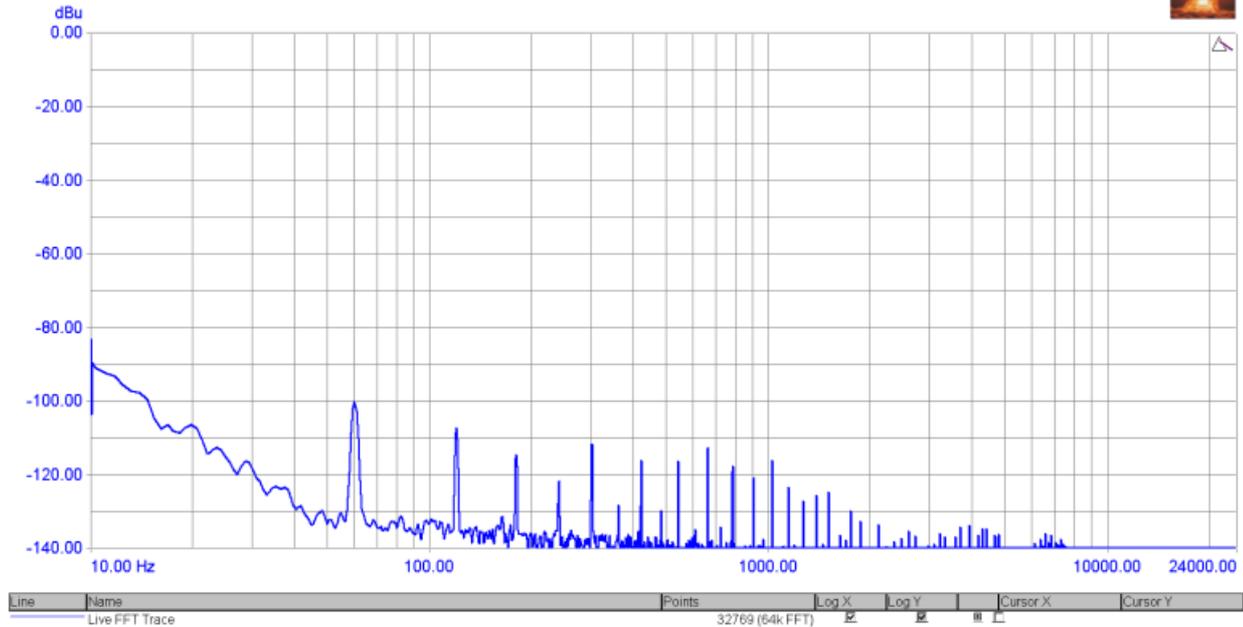
Generator Settings

Channel A:	Off
Channel B:	Off

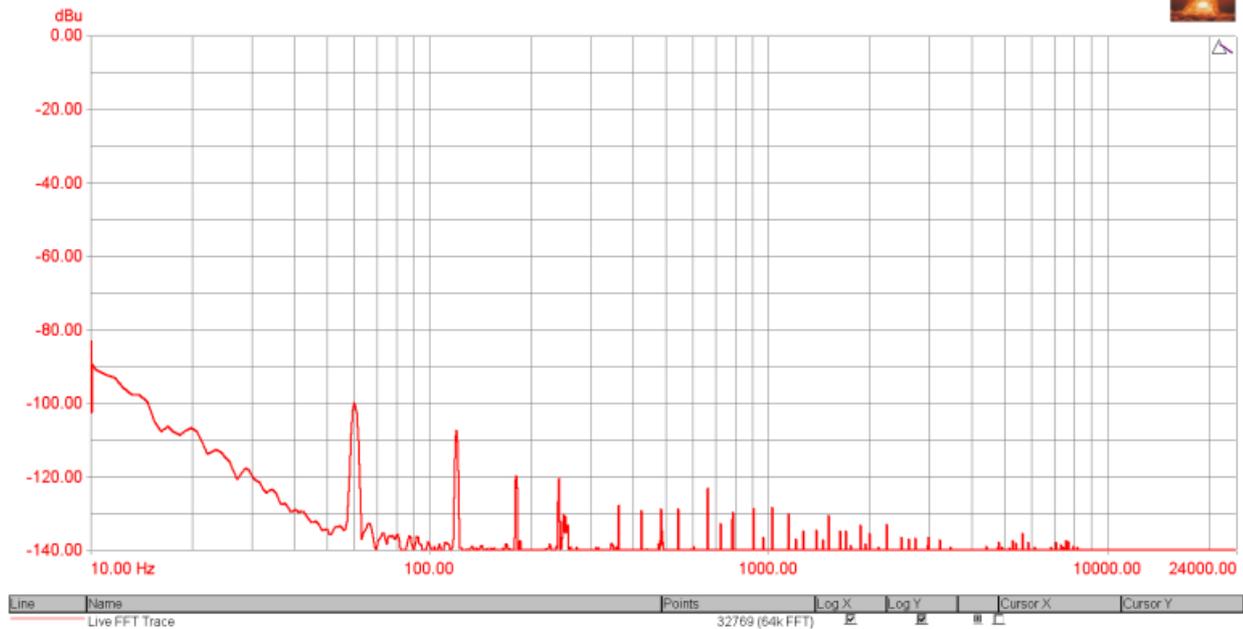
Signal Analyzer Readings

RMS amplitude (Channel A)	-77.454 dBu	Not limit checked.
RMS amplitude (Channel B)	-84.675 dBu	Not limit checked.

FFT residual noise



FFT residual noise



FFT Detector Readings

Noise (residual) (Channel A)	-100.962 dBu	< -80 dBu > -140 dBu
Noise (residual) (Channel B)	-99.297 dBu	< -80 dBu > -140 dBu

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