

Solaris Headphone 0dBu 300R AES TESTS 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 - analyzer comparison	✓
A04 THD+N,THD, nth-HD	✓
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	✓
A17 FFT -90 dBFS	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.

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A01 Ampl, Phase, Gain: PASSED

Measured at 4/5/2019 1:37:20 PM

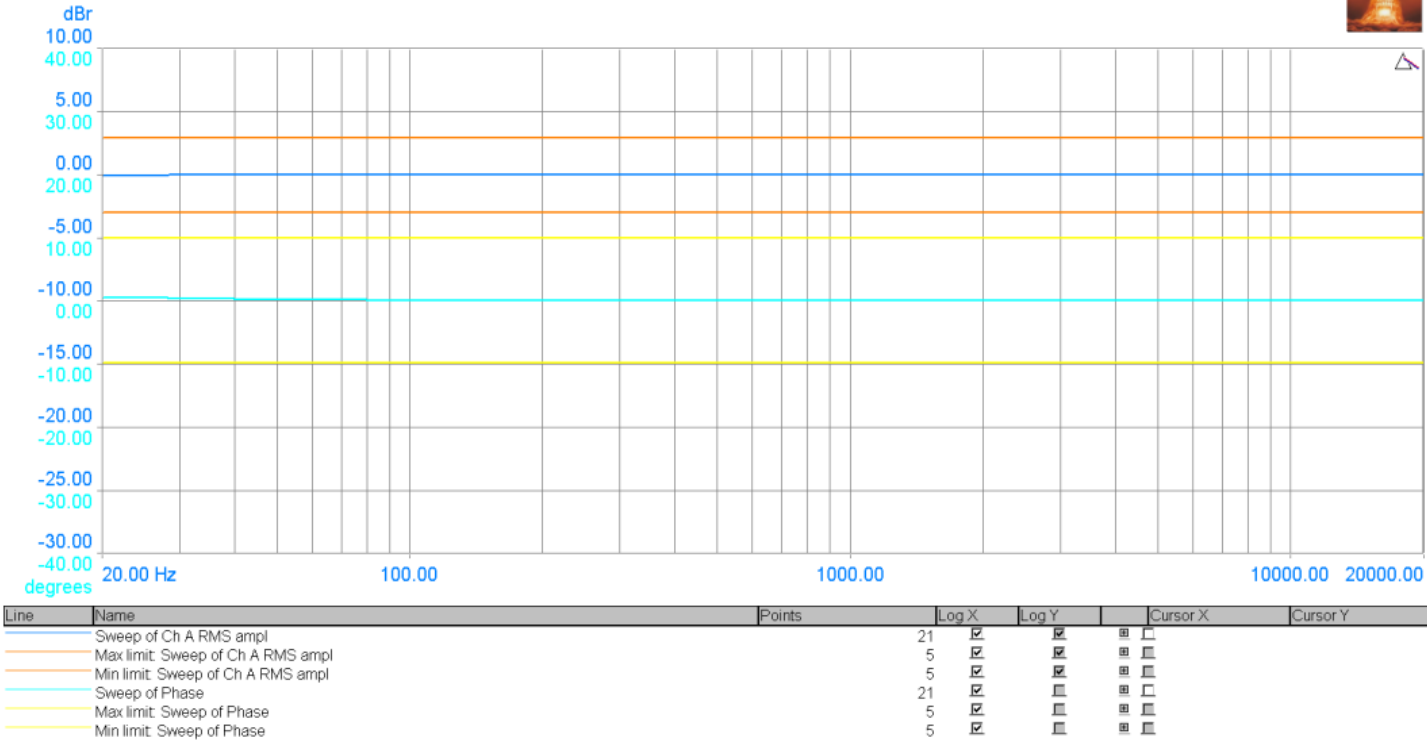
Generator Settings		
Channel A:	sine, -3 dBFS at 1000 Hz	
Channel B:	sine, -3 dBFS at 1000 Hz	
Signal Analyzer Readings		
RMS amplitude (Channel A)	0.496 dBu	< 3 dBu > -3 dBu
RMS amplitude (Channel B)	0.513 dBu	< 3 dBu > -3 dBu
Inter-channel phase	0.02 °	< 10 ° > -10 °
CTA Readings		
Gain (Channel A RMS)	-14.504 dB	< 20 dB > -40 dB
Gain (Channel B RMS)	-14.487 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		

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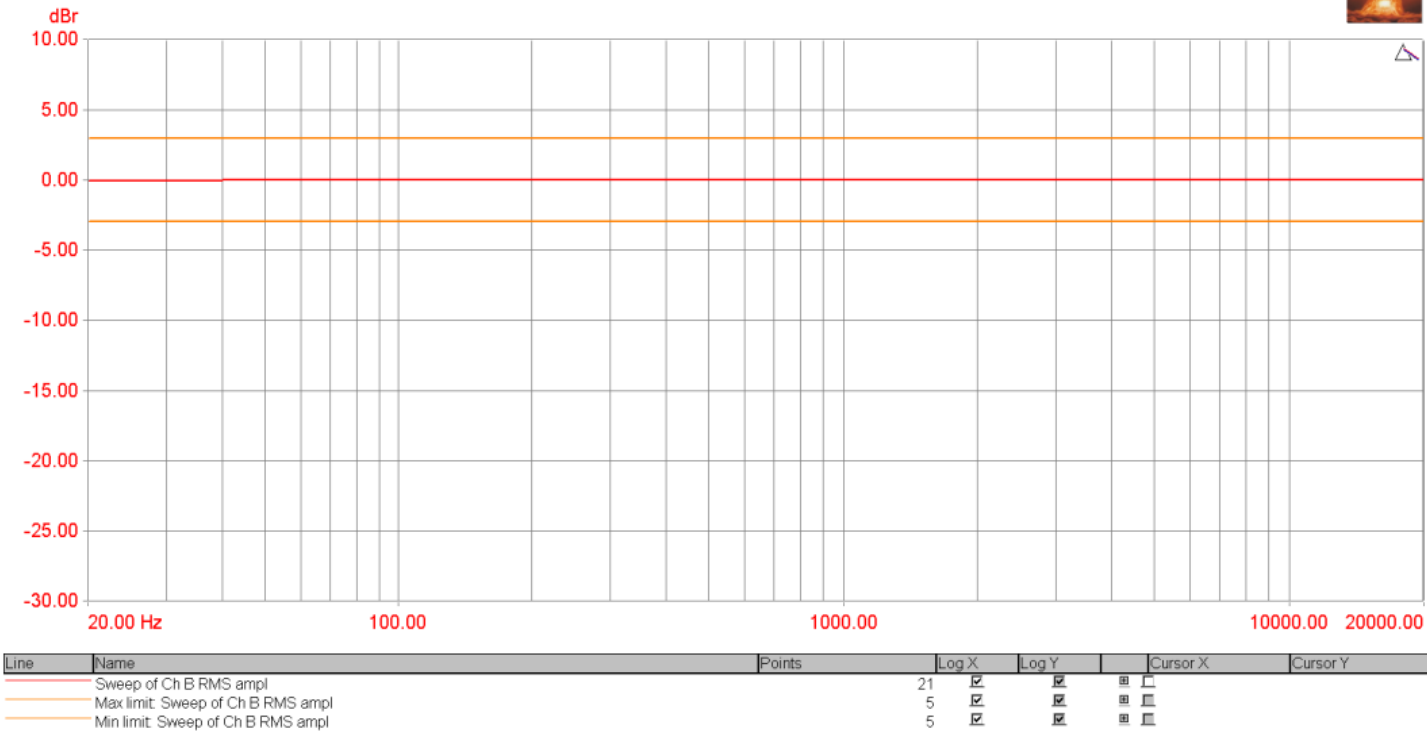
A02 Ampl, Phase vs Freq: PASSED

Measured at 4/5/2019 1:37:23 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



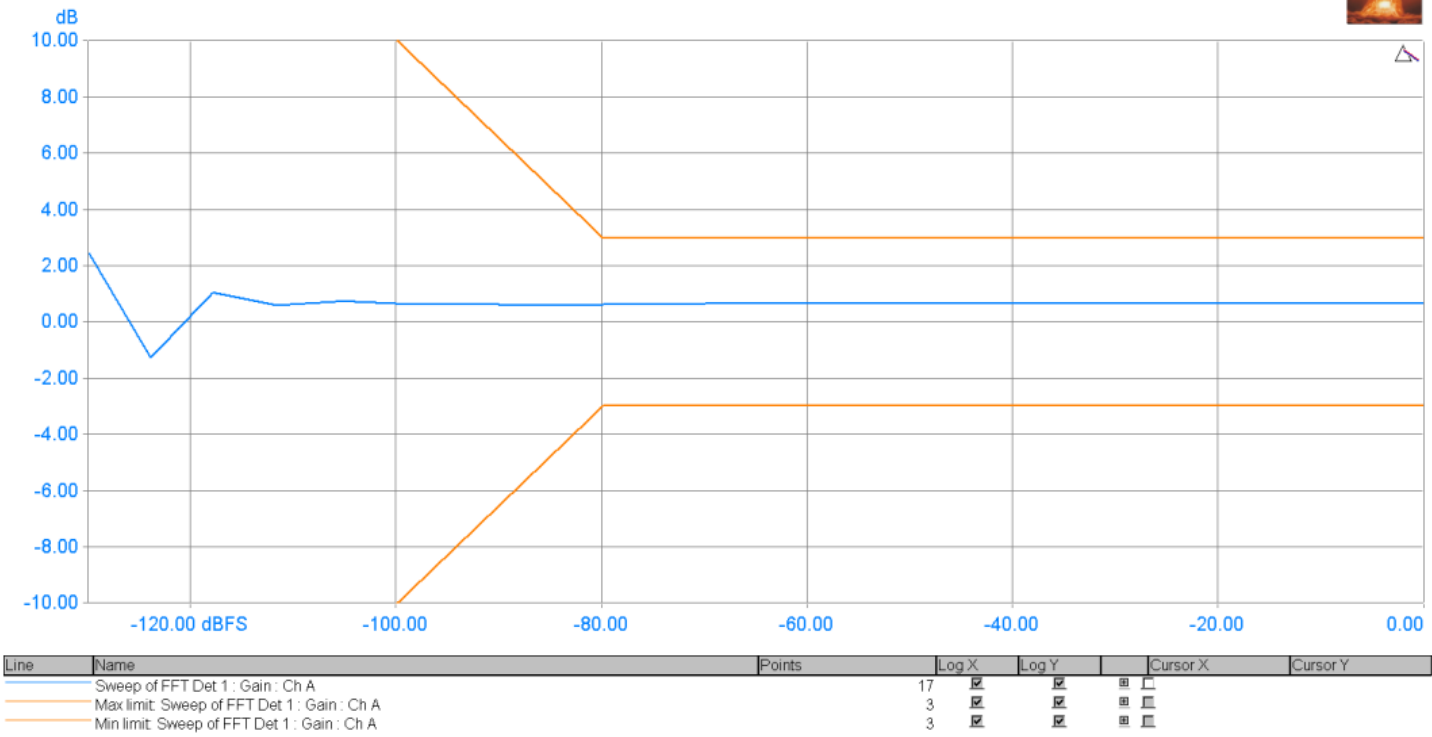
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A03 Gain vs Ampl: PASSED

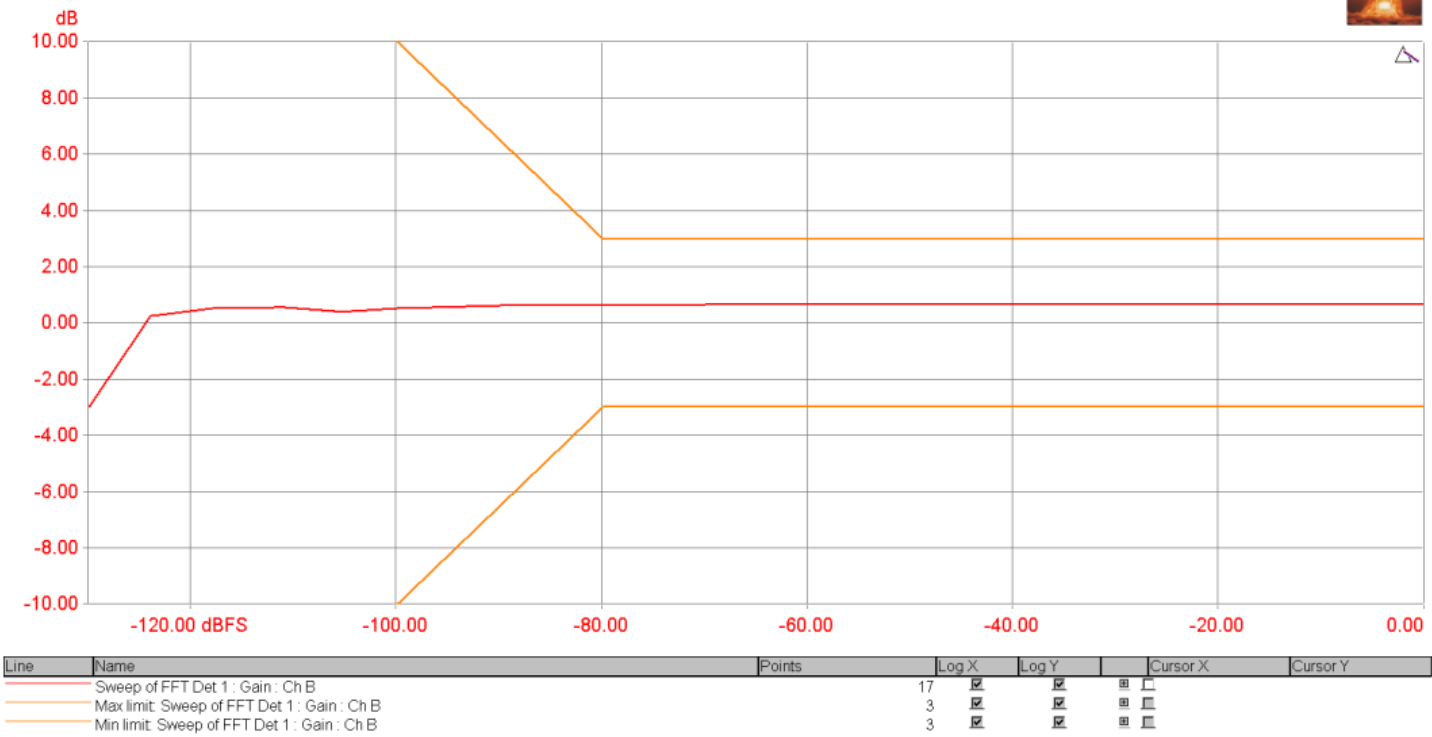
Measured at 4/5/2019 1:37:30 PM

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

Gain vs Amplitude



Gain vs Amplitude



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

Measured at 4/5/2019 1:38:33 PM

Generator Settings	
Channel A:	sine, -3 dBFS at 999.023 Hz
Channel B:	sine, -3 dBFS at 999.023 Hz

CTA Readings		
THD+N - relative (Channel A RMS)	0.00657 %	< 200 % > 0 %
Settings: Self relative, 22 Hz - 22 kHz, unweighted RMS with 1/3rd octave band-reject filter at the generator frequency		

FFT Detector Readings		
THD (Channel A)	0.00658 %	< 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)	0.00360 %	< 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)	0.00461 %	< 200 % > 0 %
FFTD 3 Settings: Self relative, 22 Hz - 22 kHz, unweighted with band-pass notch filter at the 3rd harmonic		

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

Measured at 4/5/2019 1:38:37 PM

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

CTA Readings		
THD+N - relative (Channel A RMS)	0.00648 %	< 200 % > 0 %
THD+N - relative (Channel B RMS)	0.00663 %	< 200 % > 0 %
Settings: Self relative, 22 Hz - 22 kHz, unweighted RMS with 1/3rd octave band-reject filter at the generator frequency		

FFT Detector Readings		
THD (Channel A)	0.00657 %	< 200 % > 0 %
THD (Channel B)	0.00672 %	< 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)	0.00357 %	< 200 % > 0 %
2nd Harmonic Distortion (Channel B)	0.00355 %	< 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)	0.00461 %	< 200 % > 0 %
3rd Harmonic Distortion (Channel B)	0.00483 %	< 200 % > 0 %
FFTD 3 Settings: Self relative, 22 Hz - 22 kHz, unweighted with band-pass notch filter at the 3rd harmonic		

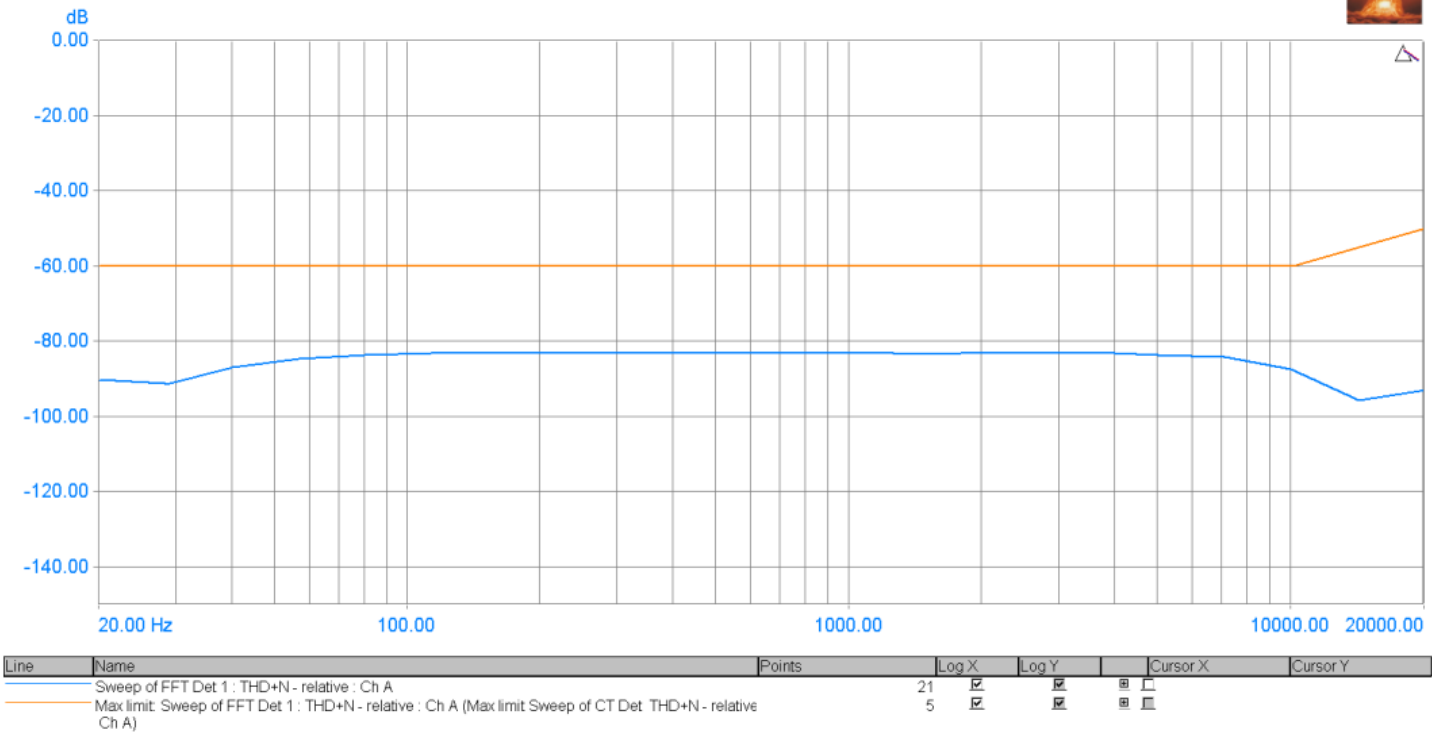
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A05 THD+N vs Freq: PASSED

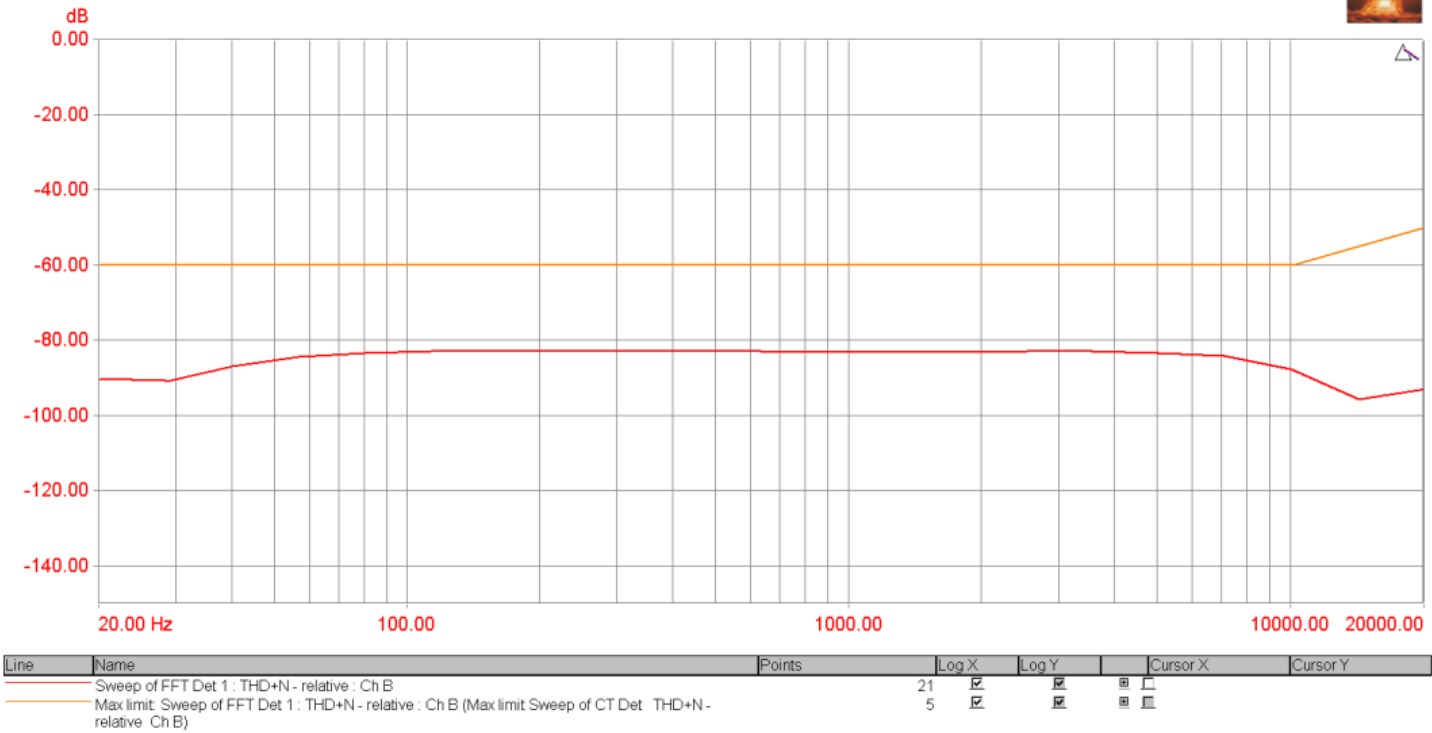
Measured at 4/5/2019 1:38:39 PM

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

THD+N vs Frequency



THD+N vs Frequency



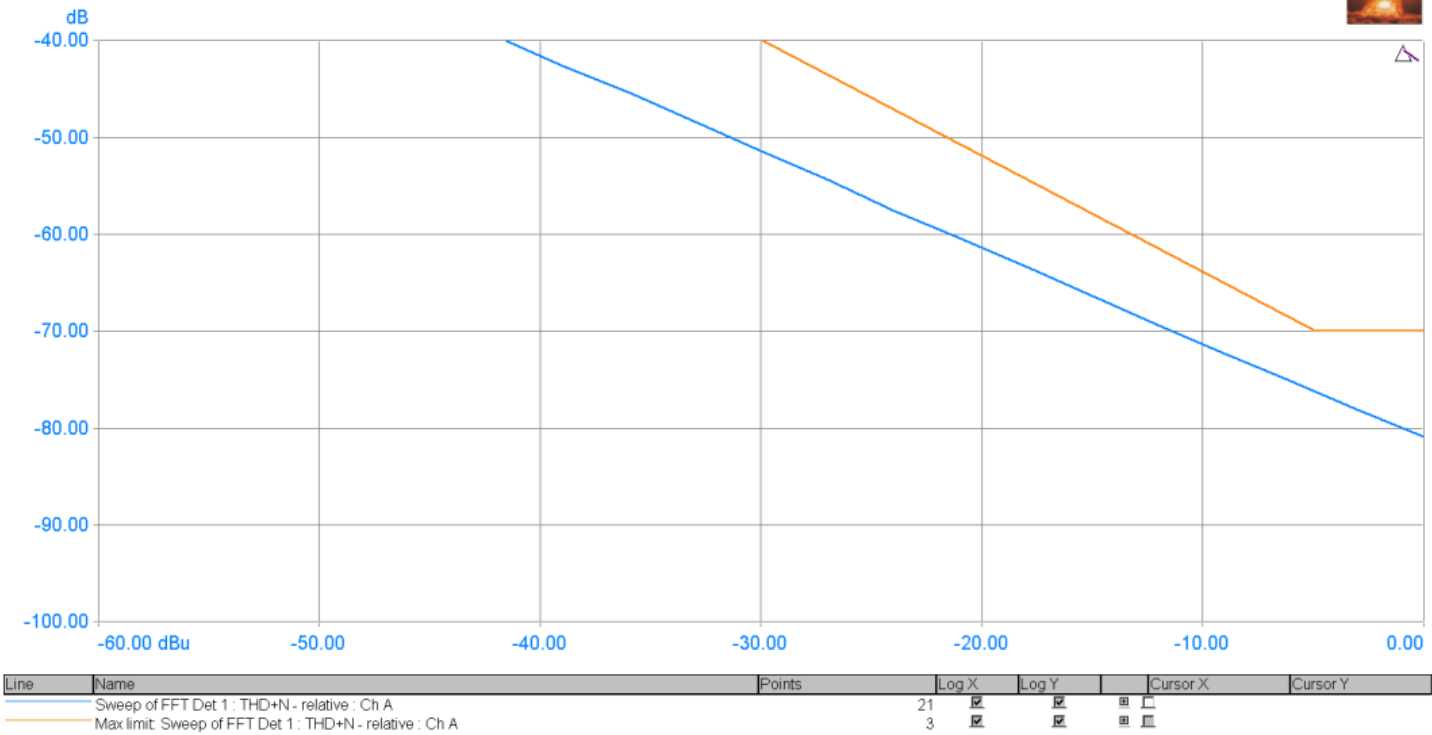
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A06 THD+N vs Ampl: PASSED

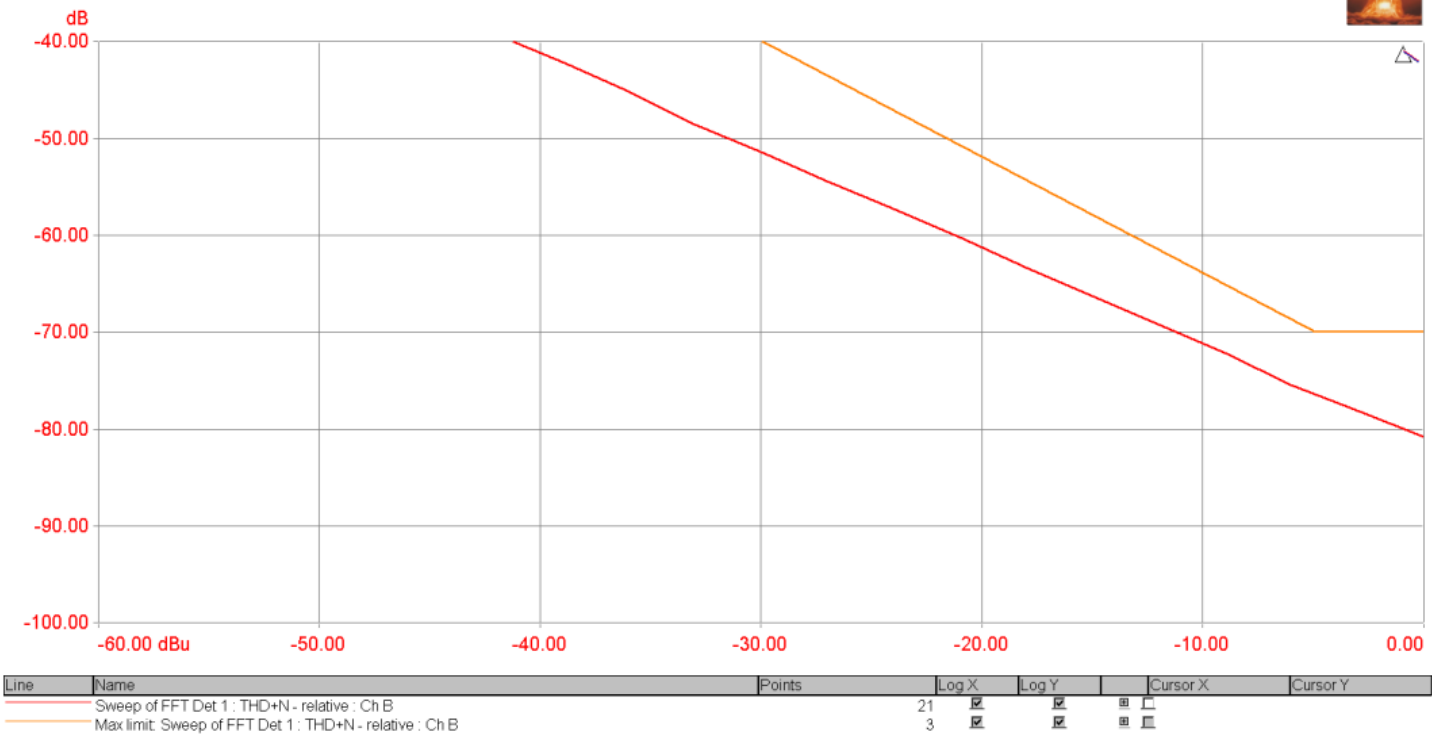
Measured at 4/5/2019 1:39:01 PM

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

THD+N vs Amplitude



THD+N vs Amplitude



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A07 Noise, SNR: PASSED

Measured at 4/5/2019 1:39:25 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)	-95.273 dBr	< 200 dBr > -200 dBr
Noise (unweighted) (Channel B)	-95.816 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)	-95.420 dBr	< 200 dBr > -200 dBr
SNR (Channel B)	-96.012 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 4/5/2019 1:39:28 PM

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)	-99.576 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 4/5/2019 1:39:32 PM

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)	-97.713 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		

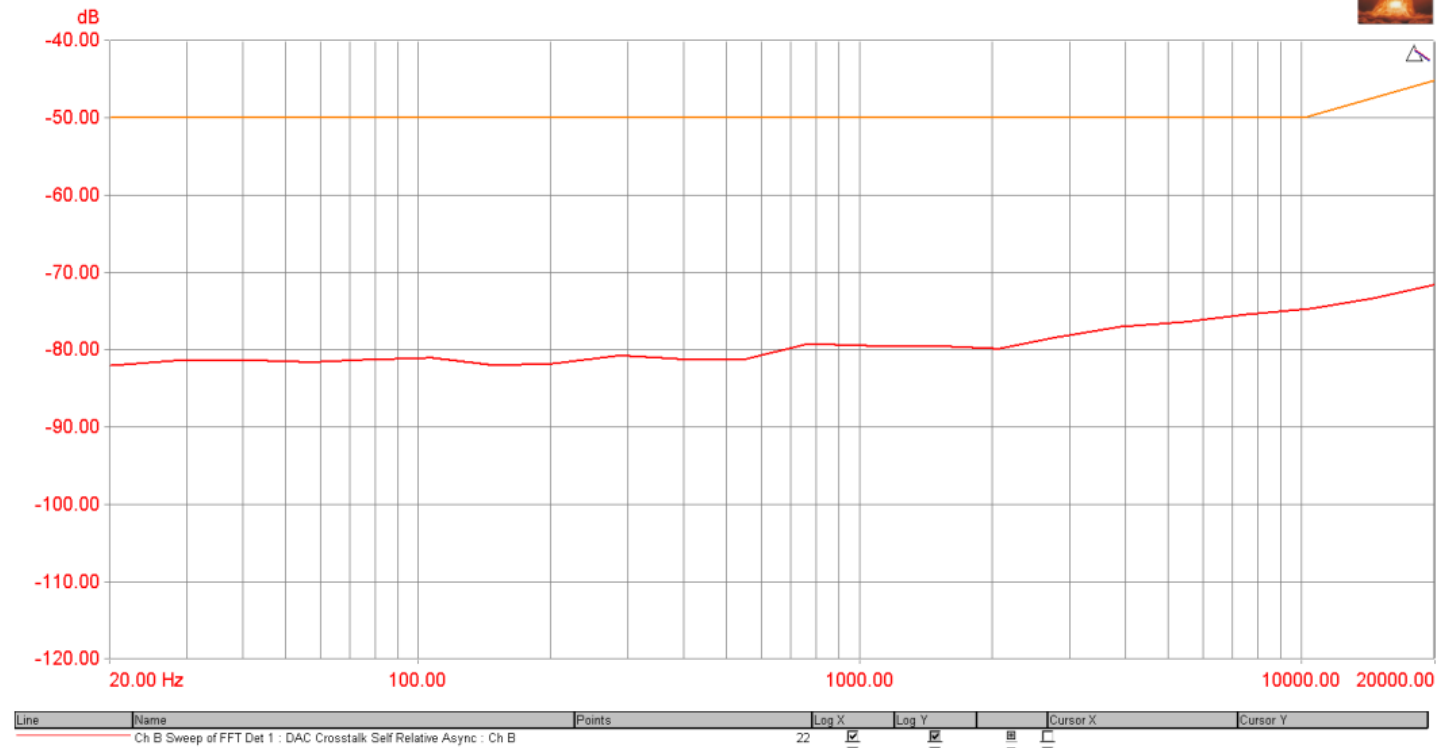
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#### A10 Crosstalk A to B vs Freq: PASSED

Measured at 4/5/2019 1:39:35 PM

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



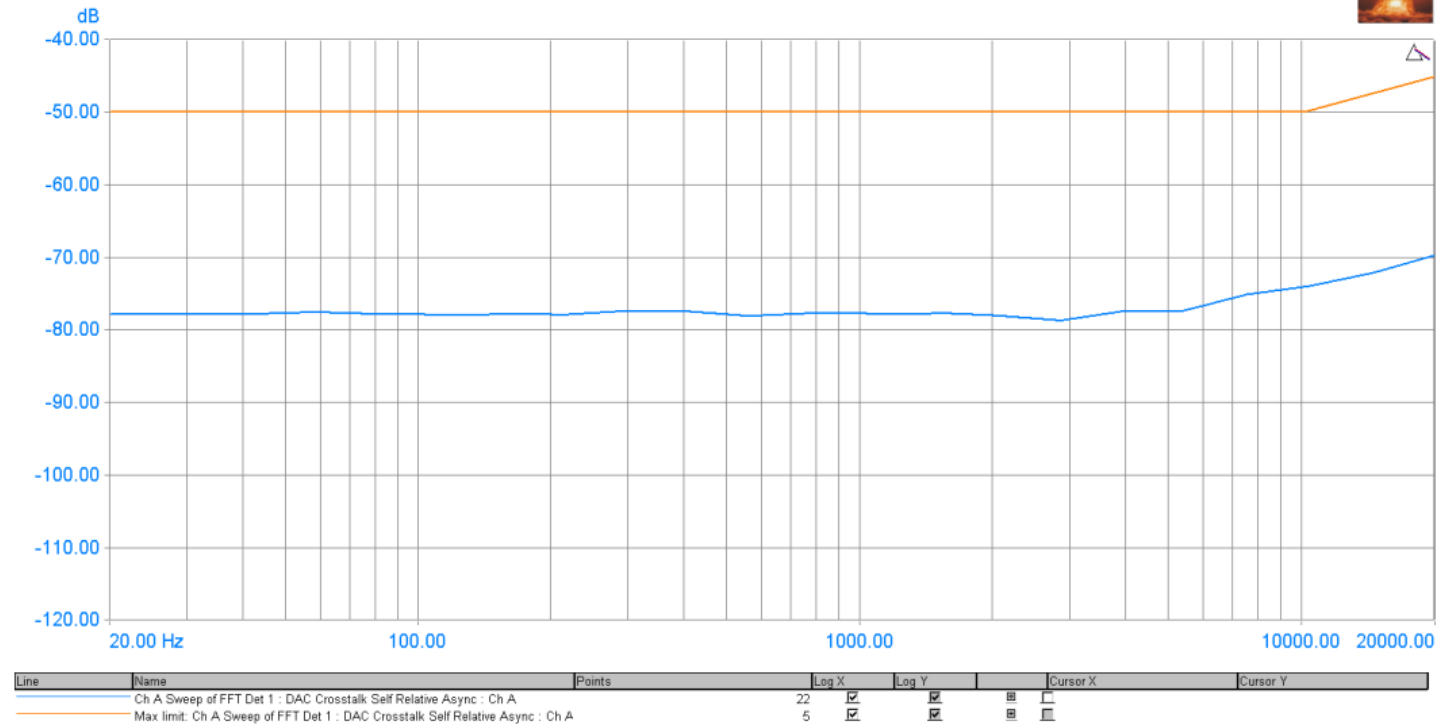
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A11 Crosstalk B to A vs Freq: PASSED

Measured at 4/5/2019 1:40:28 PM

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



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A12 FFT 1000 Hz THD+N: PASSED

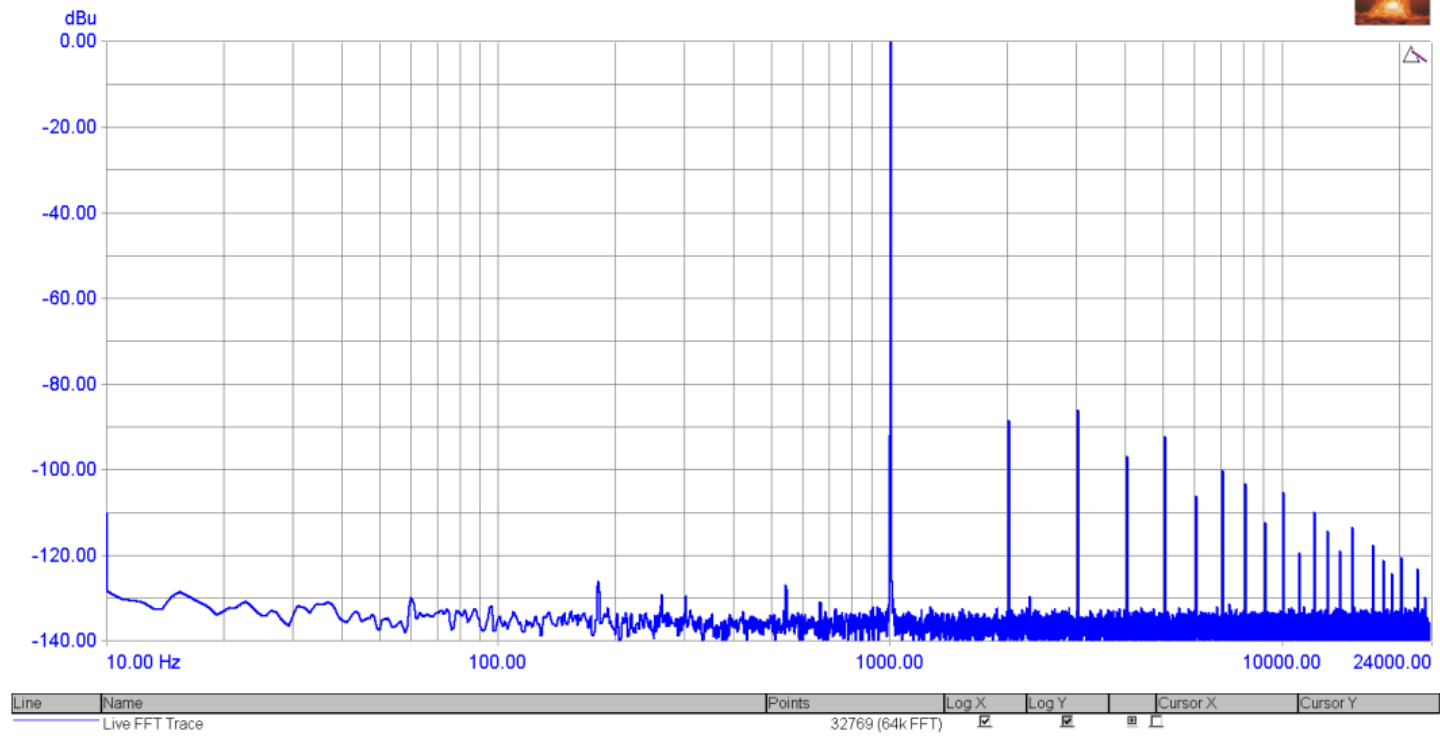
Measured at 4/5/2019 1:41:21 PM

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

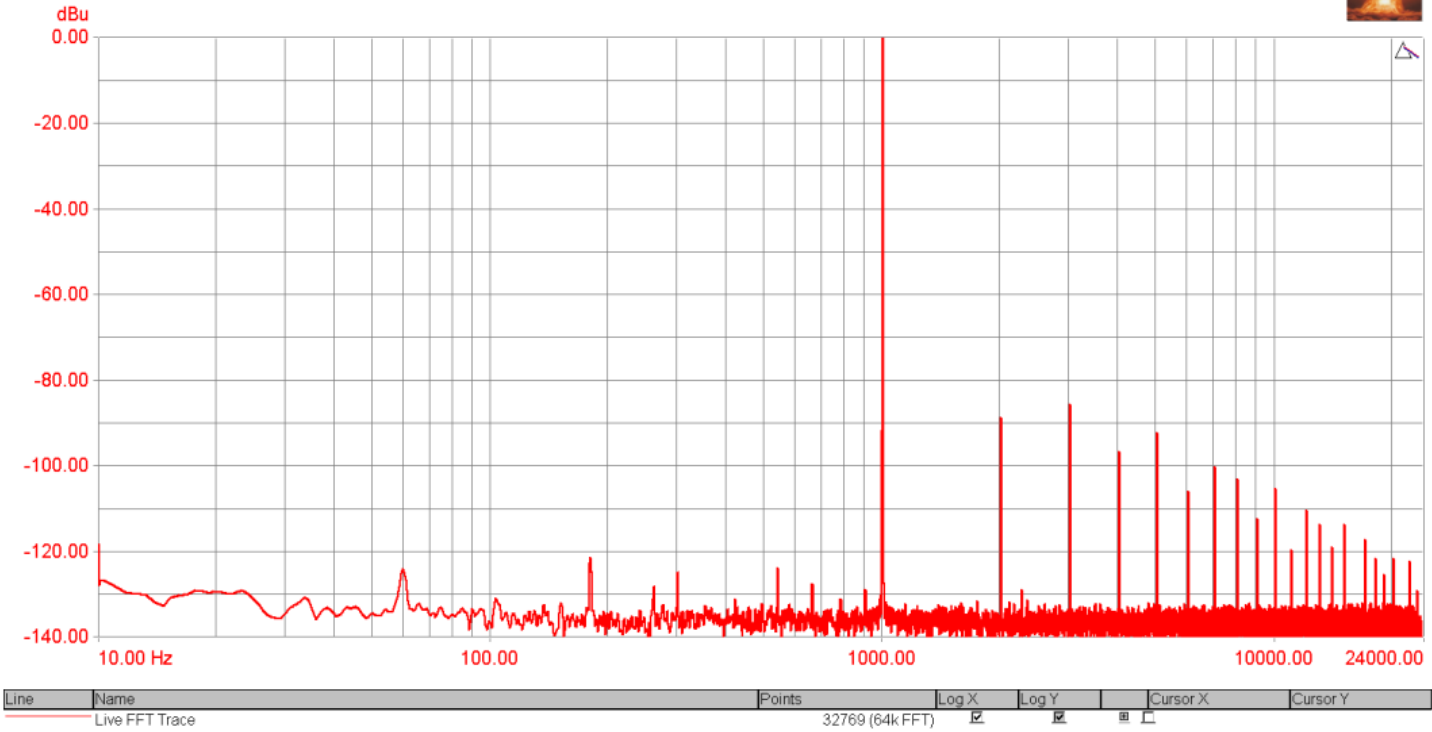
Signal Analyzer Readings		
RMS amplitude (Selected : Ch A)	0.496 dBu	Not limit checked.
RMS amplitude (Non-selected : Ch A)	0.513 dBu	Not limit checked.

CTA Readings		
THD+N - relative (Selected : Ch A RMS)	0.00656 %	< 0.1 % > 0 %
THD+N - relative (Non-selected : Ch A RMS)	0.00667 %	< 0.1 % > 0 %
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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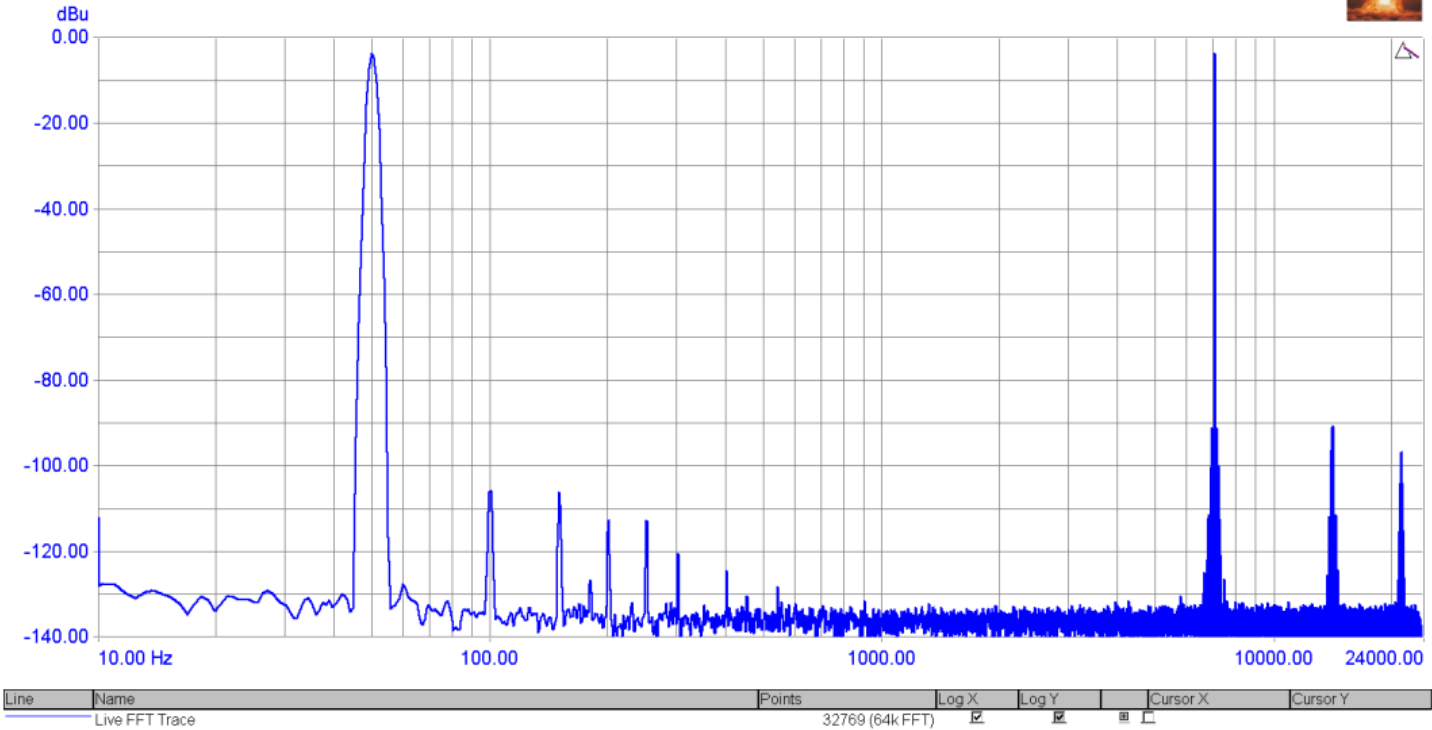
A13 FFT 50+7000Hz: PASSED

Measured at 4/5/2019 1:41:44 PM

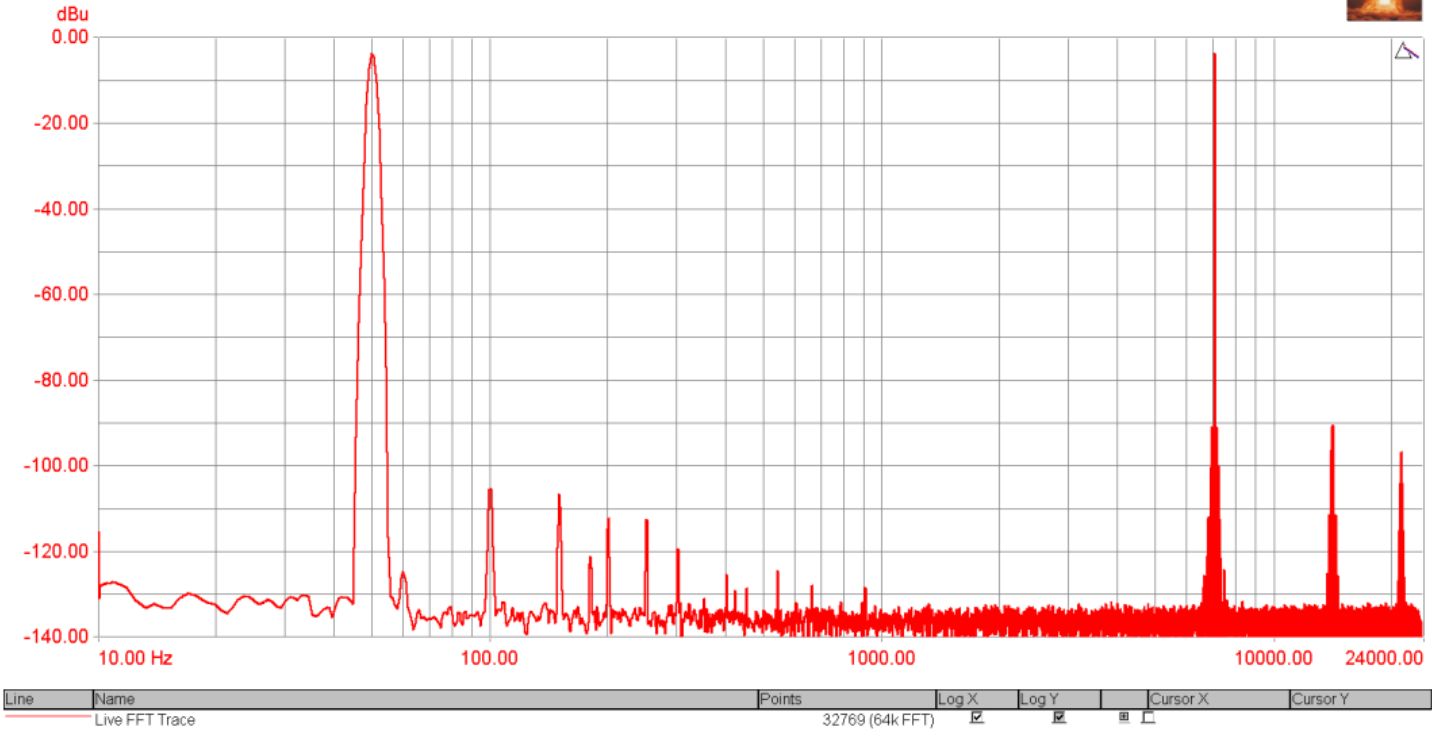
Generator Settings	
Channel A:	Twin-tone, -7 dBFS at 50 Hz and 1 amplitude ratio at 7000Hz
Channel B:	Twin-tone, -7 dBFS at 50 Hz and 1 amplitude ratio at 7000Hz

Signal Analyzer Readings		
RMS amplitude (Channel A)	-0.504 dBu	Not limit checked.
RMS amplitude (Channel B)	-0.490 dBu	Not limit checked.

FFT 50 + 7000 Hz



FFT 50 + 7000 Hz



FFT Detector Readings		
IMD SMPTE-DIN (Channel A)	0.00540 %	< 0.05 % > 0 %
IMD SMPTE-DIN (Channel B)	0.00555 %	< 0.05 % > 0 %
FFTD 1 Settings: Self relative, 22 Hz - 22 kHz, unweighted with intermodulation notch band reject		

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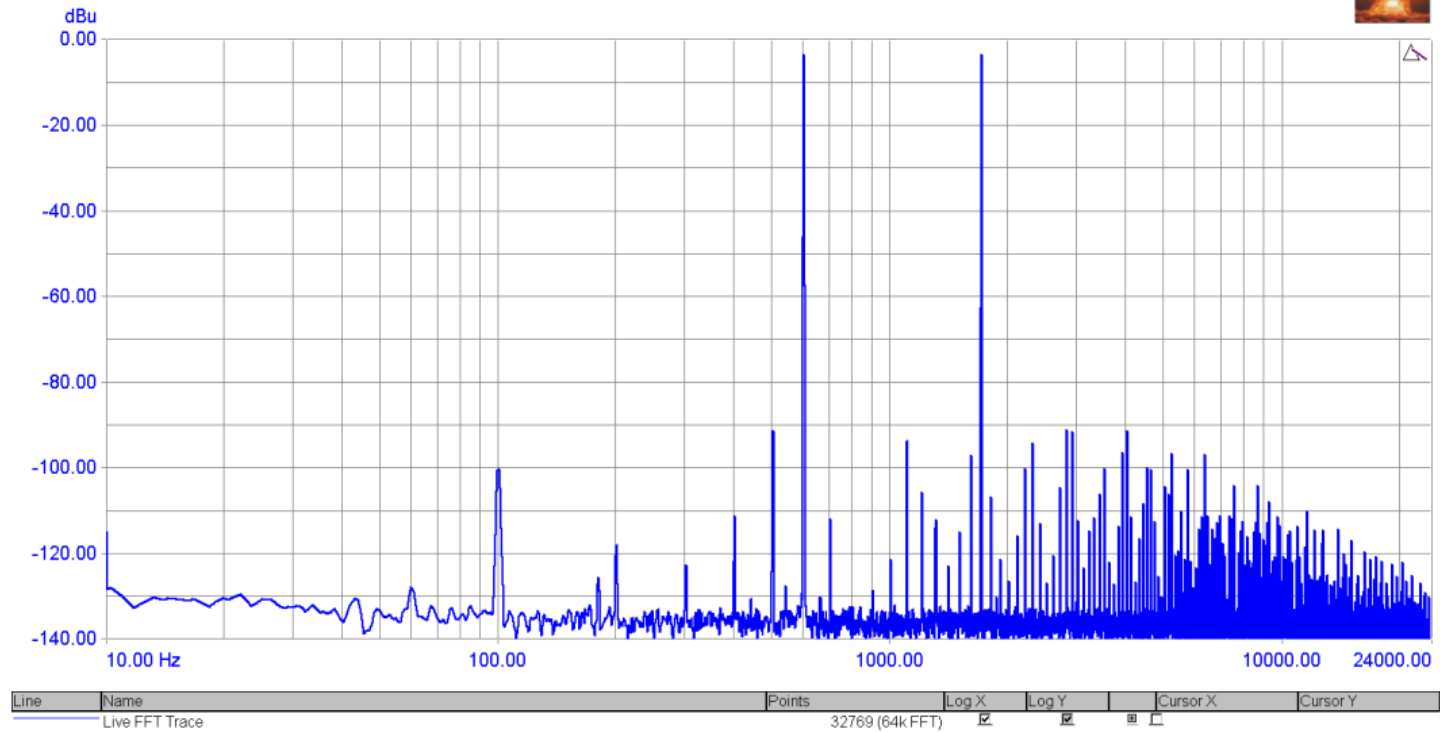
A14 FFT 600+1700 Hz: PASSED

Measured at 4/5/2019 1:42:07 PM

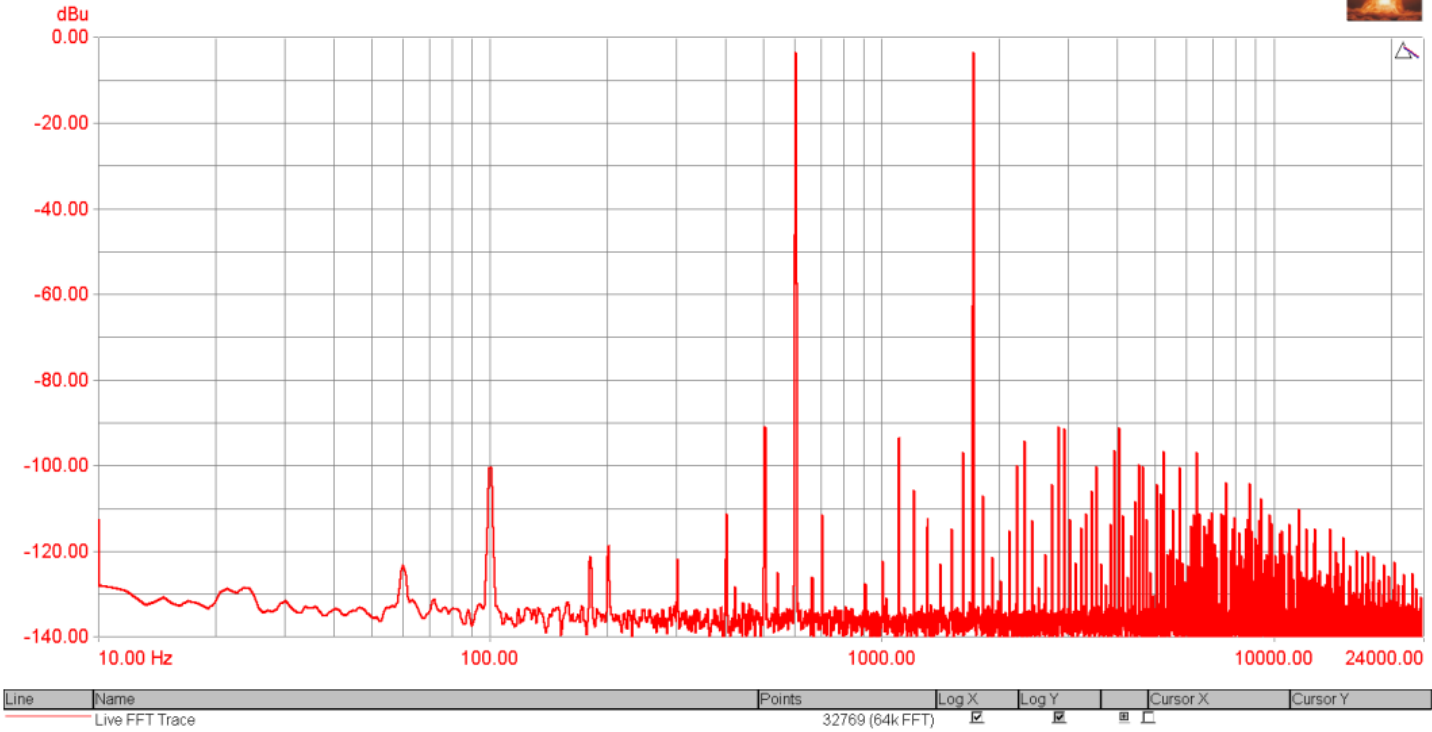
Generator Settings	
Channel A:	Twin-tone, -7 dBFS at 600 Hz and 1 amplitude ratio at 1700Hz
Channel B:	Twin-tone, -7 dBFS at 600 Hz and 1 amplitude ratio at 1700Hz

Signal Analyzer Readings		
RMS amplitude (Channel A)	-0.497 dBu	Not limit checked.
RMS amplitude (Channel B)	-0.491 dBu	Not limit checked.

FFT 600 + 1700 Hz



FFT 600 + 1700 Hz



FFT Detector Readings		
IMD SMPTE-DIN (Channel A)	0.00364 %	< 0.05 % > 0 %
IMD SMPTE-DIN (Channel B)	0.00366 %	< 0.05 % > 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**

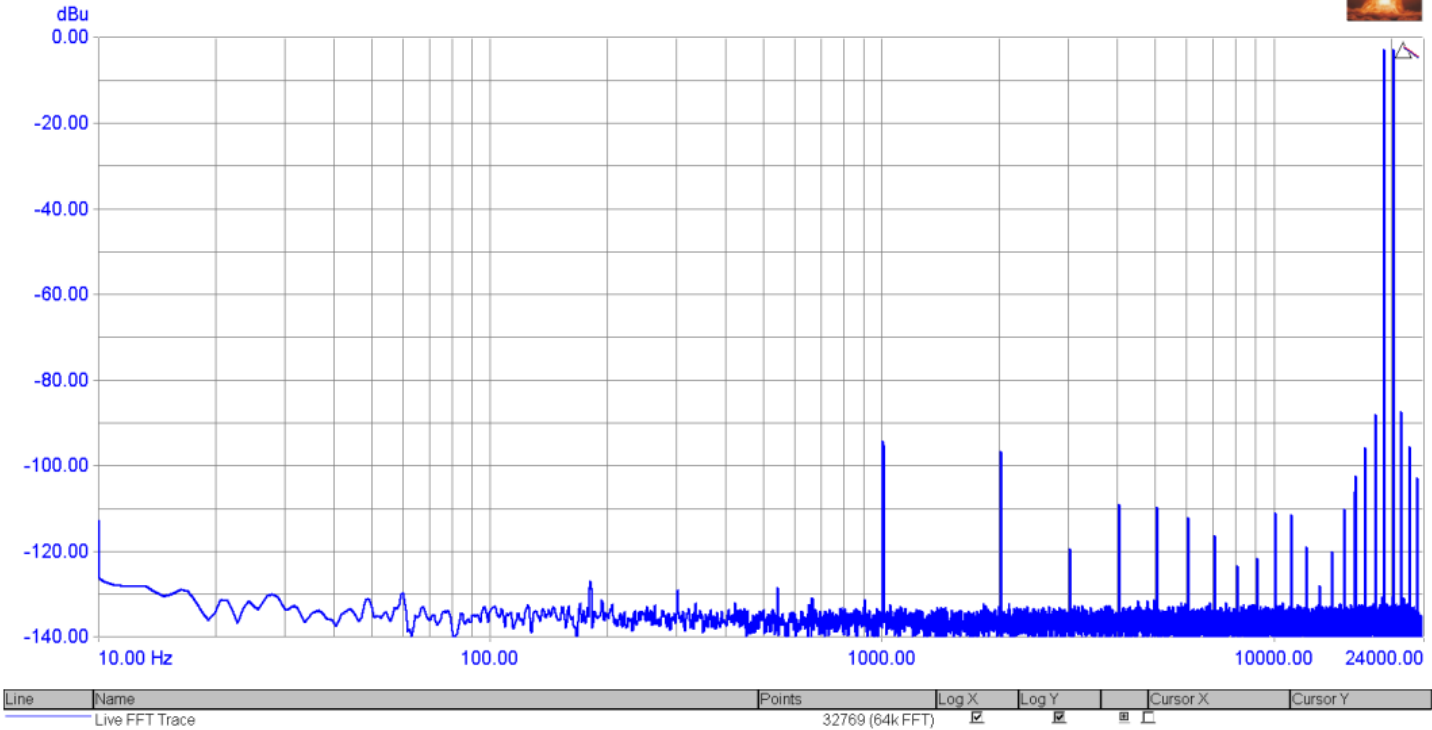
Measured at 4/5/2019 1:42:30 PM

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

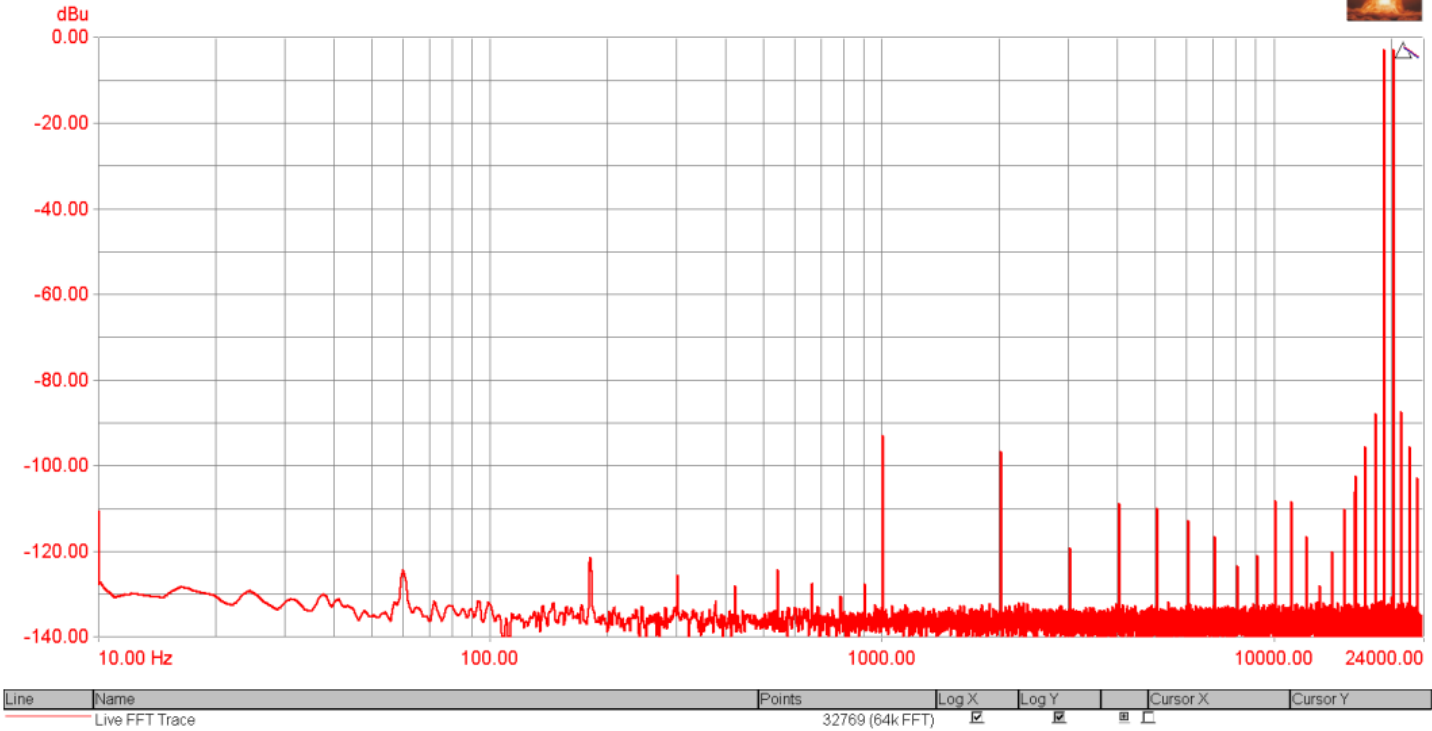
Signal Analyzer Readings		
RMS amplitude (Channel A)	0.416 dBu	Not limit checked.
RMS amplitude (Channel B)	0.416 dBu	Not limit checked.

CTA Readings		
IMD CCIF (Channel A RMS)	0.00184 %	< 0.1 %
IMD CCIF (Channel B RMS)	0.00218 %	< 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)	0.00185 %	< 0.1 %
IMD CCIF (Channel B)	0.00219 %	< 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		

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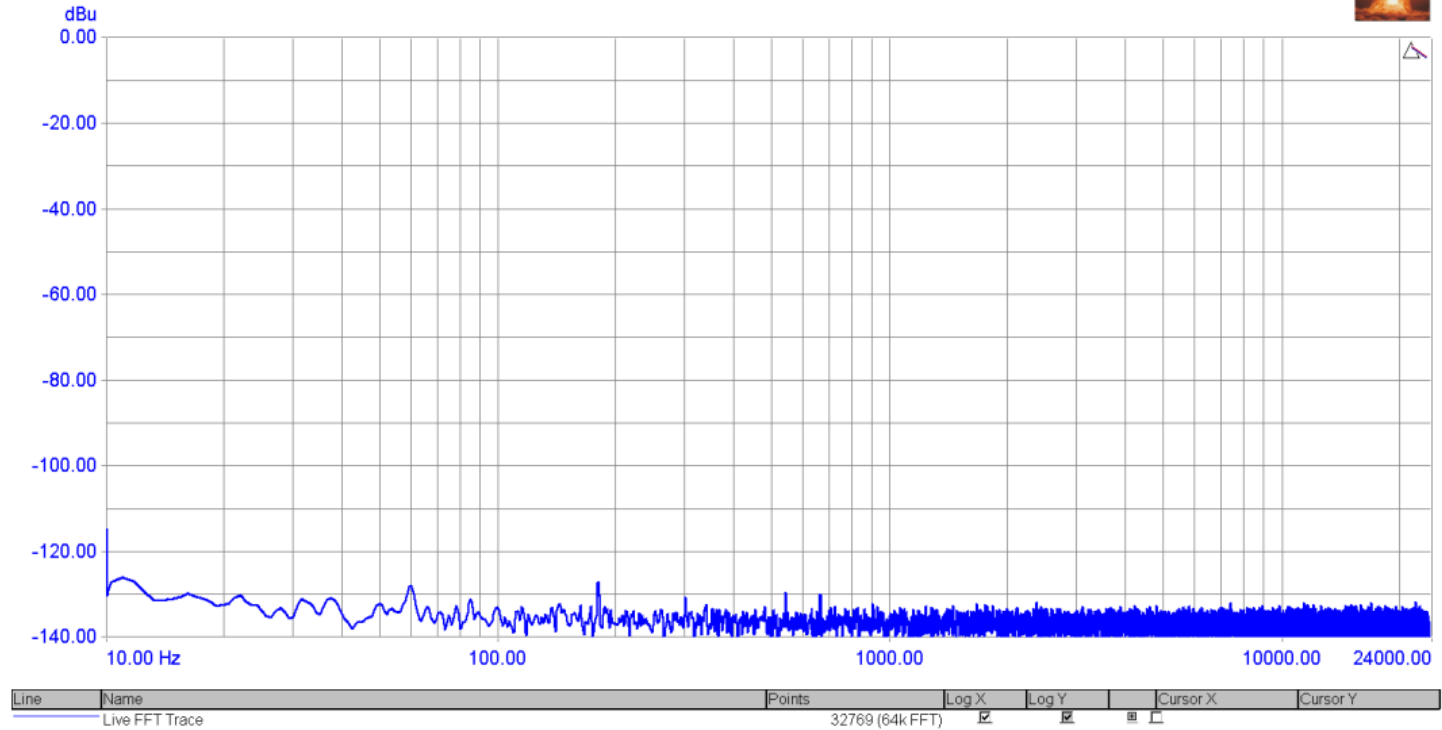
A16 FFT residual noise: PASSED

Measured at 4/5/2019 1:42:54 PM

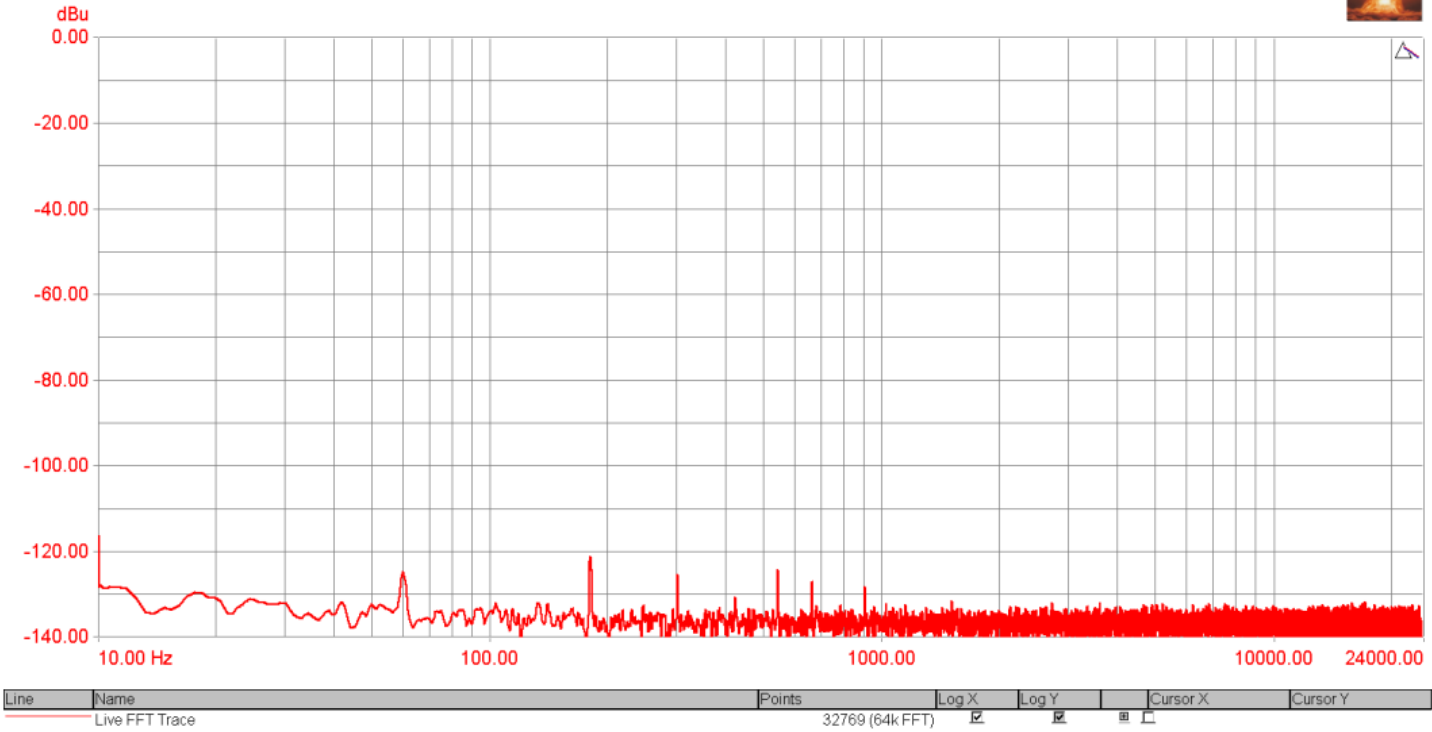
Generator Settings		
Channel A:		Off
Channel B:		Off

Signal Analyzer Readings		
RMS amplitude (Channel A)	-95.733 dBu	Not limit checked.
RMS amplitude (Channel B)	-95.321 dBu	Not limit checked.

FFT residual noise



FFT residual noise



FFT Detector Readings		
Noise (residual) (Channel A)	-95.968 dBu	< -80 dBu > -200 dBu
Noise (residual) (Channel B)	-95.877 dBu	< -80 dBu > -200 dBu
FFTD 1 Settings: 22 Hz - 22 kHz, unweighted with band-reject notch filters, fundamental to the 10th harmonic		

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A17 FFT -90 dBFS: Not limit checked.

Measured at 4/5/2019 1:43:16 PM

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)	-85.902 dBu	Not limit checked.



FFT -90 dBFS

