Common Amplifier Format

Rane RAD24*

*Note: This amplifier module requires a Rane HAL host DSP. Some specs include the HAL response.

General	
Serial #:	844017
# Channels:	1
Topology:	Class D Switch-mode
Sample Rate:	48 kHz
Mfg Website:	www.rane.com

Physical	
Height:	2 Gang
Depth:	0.5/3.3 in./cm.
AC Mains:	100-240 VRMS
Power Draw:	55 W Max
Weight:	.182/6.4 kg/oz
UL Wire Class:	CAT5e

Tested by	
Company:	www.etcinc.us
Tech:	Pat Brown
Date:	JUL 2014

Instrumentation
Audio Precision APx515 Voltmeter
Hioki 3334 Power Analyzer
NTI XL2 SLM
NTI MA220 Preamp
ACO 7052 Microphone

As Measured

As Given

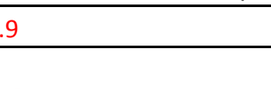
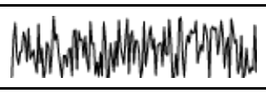
Ref	Plot	Specification	As Measured	As Given
1.1	A	Input Sensitivity (1 kHz, 8 ohms, user-selectable)	**NA** Vrms	**NA** dBu
1.2	A	Voltage Gain (Sensitivity-dependent)	**NA** dB	
1.3	A	Maximum Output Voltage	**2.5** Vrms	**4** Vpeak
1.4		Maximum Input Voltage (@ min sens)	**NA** Vrms	**NA** dBu
1.5	K	Noise Floor (20 Hz - 20 kHz)	**-42** dBu	
1.6		Dynamic Range (1 kHz A-wtd)	**83** dB	
1.7	C	Frequency Response Deviation (20 Hz - 20 kHz 8 ohms)	**+-0.5** dB	
1.8	G	Latency (1 kHz)	**2.3** ms	
1.9	I	CMRR @ 1 kHz (see Plot H)	**NA** dB	
1.10		Input Impedance (1 kHz)	**NA** kohms	
1.11		Damping Factor	**47**	
1.12	L	Fan Noise - Maximum (Front)	**NA** dBA-Slow ref. 1 m	

	Plots	I/O Matrix
A	**Input vs. Output Level**	
B	**Frequency Response (20 Hz - 20 kHz)**	**Mono (1ch)**
C	**Frequency Response (2 Hz - 80 kHz)**	
D	**THD Ratio vs. Frequency**	
E	**IMD Difference Frequency Distortion**	
F	**Excess Phase Response**	
G	**Group Delay vs. Frequency**	
H	**Crosstalk**	
I	**Common-Mode Rejection Ratio (CMRR)**	
J	**Noise Floor Spectrum**	
K	**Pin 1 Response**	**Links to Data**
M	**Short-Circuit Behavior**	

I/O Matrix

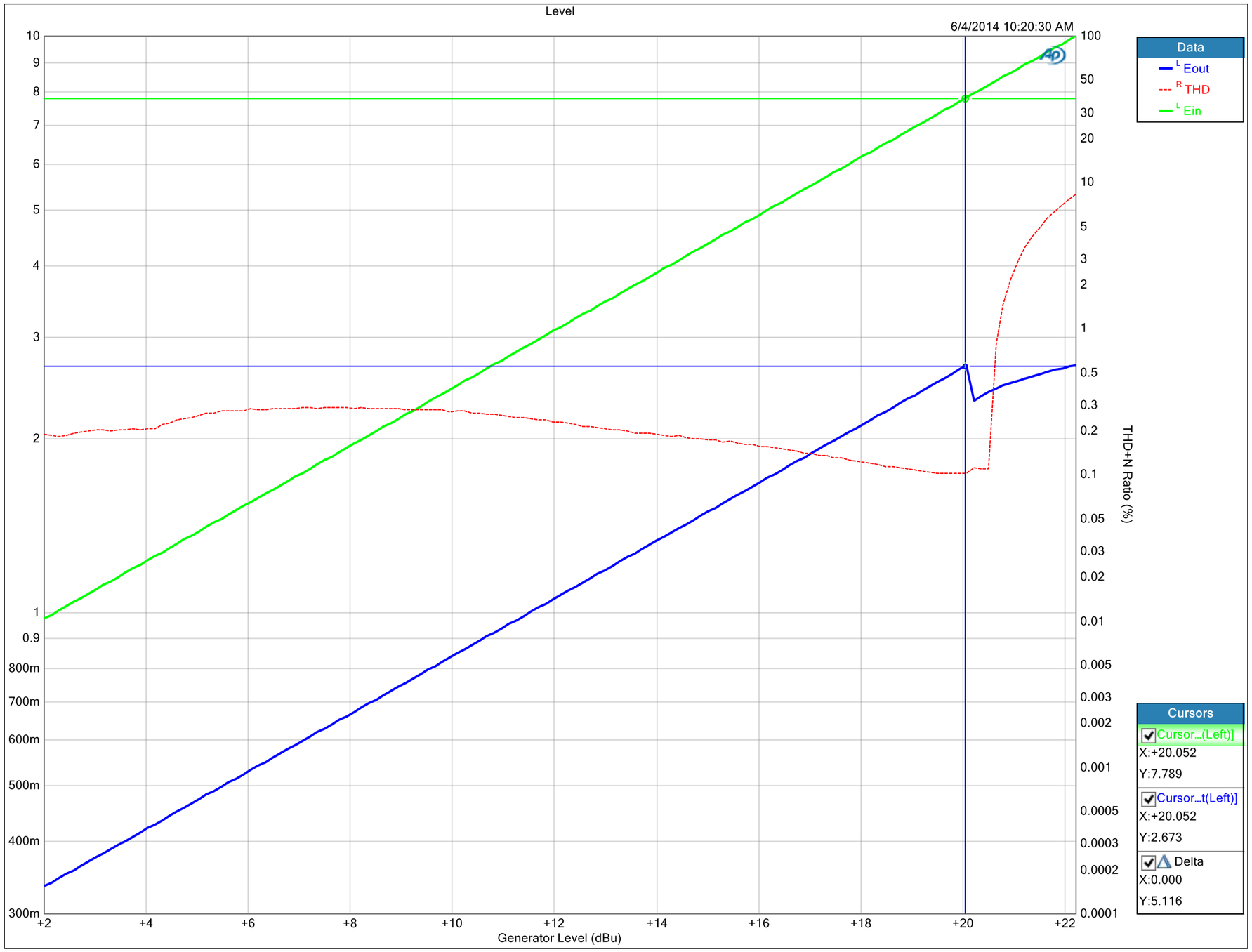
Mode: Mono
Channels: 1
Line Vrms: 120

To Main Page

Ref			A	B	C	D	E	F	G	H	I	J	K	L	M
					Audio (per channel)						Supply (total)			Thermal Output	
	Stimulus	Stimulus	Crest Factor	Load R	dBu In	Vrms Out	Loading Eff. (dB)	Rated Watts	Meas. Watts	Meas. dBW	Amps	Watts	Power Factor	BTU/hr	kCal/hr
2.1	Burst	CEA2006 1 kHz	17	8	20.6	2.5	0	**1**	1	-1.1					
		1% THD		4											
				2											
2.2	Burst	CEA2006 50 Hz	17	8	21.0	2	0		1	-1.8					
		*1% THD*		4											
				2											
2.3	Tone	1 kHz 15 sec	3	8	21.0	2.5	0		1	-1.1	0.37	29	0.66	97	25
				4											
				2											
2.4	Tone	50 Hz 15 sec	3	8	21.0	2.4	0		1	-1.4	0.37	29	0.66	98	25
				4											
				2											
2.5	Noise	Pink 60 sec	9	8	16	1.3	0		0.21	-6.8	0.35	28	0.66	94	24
		*1/4 Power*		4											
				2											
2.6	Noise	Pink 60 sec	12	8	13	1.0	0		0.13	-9.0	0.4	28	0.66	94	24
		*1/8 Power*		4											
				2											
2.7		Inrush Current													
2.8		Idle ("On" but no signal)									0.26	20	0.65	69	17
2.9		Standby										0			
Ref			A	B	C	D	E	F	G	H	I	J	K	L	M

A Input vs. Output Voltage

To Main Page

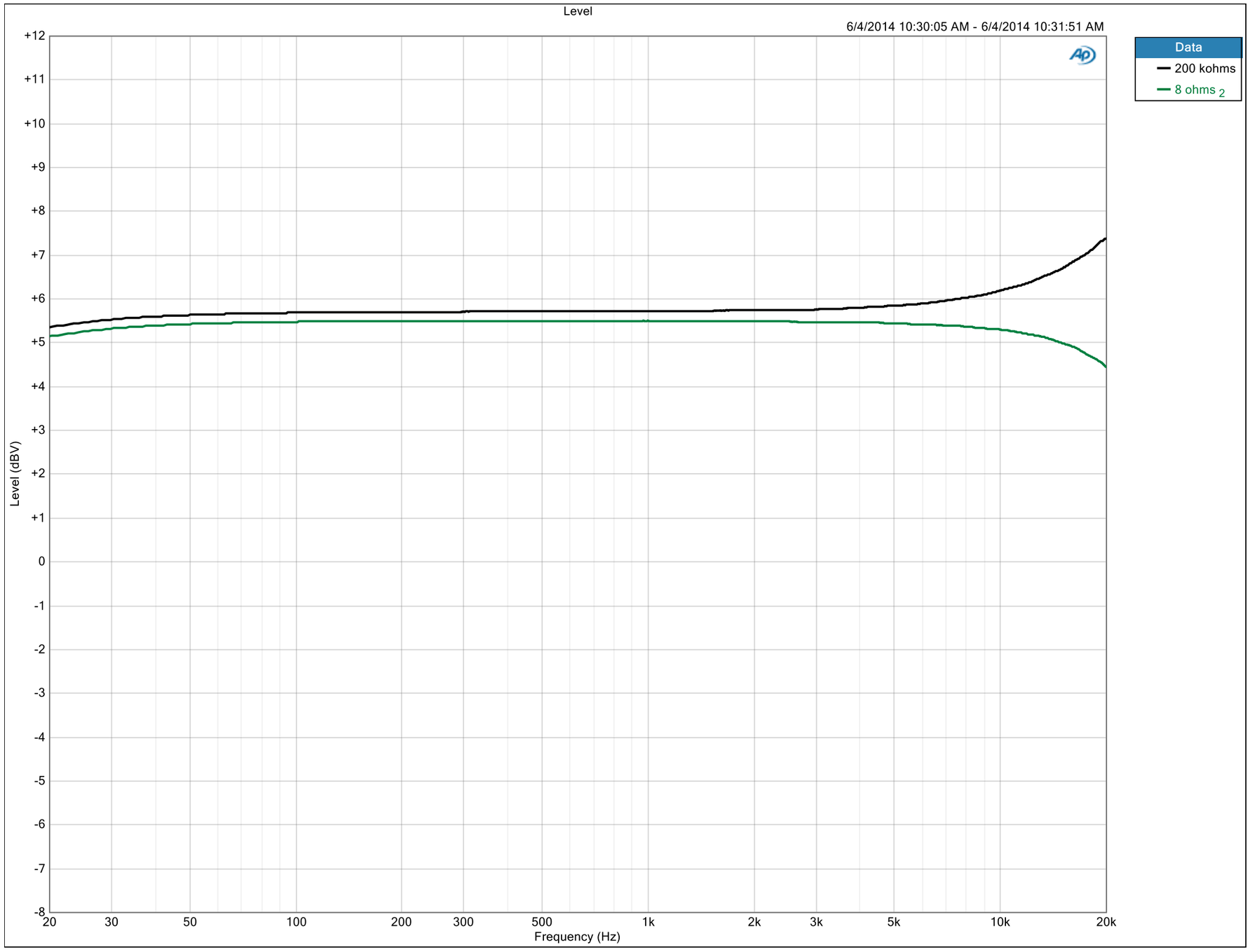


Note: The cursors are set for the determination of input sensitivity, maximum linear output voltage, and voltage gain.

See CAF Reference for measurement setup.

B Frequency Response Magnitude (20 Hz - 20 kHz at -3 dB re. rated sensitivity)

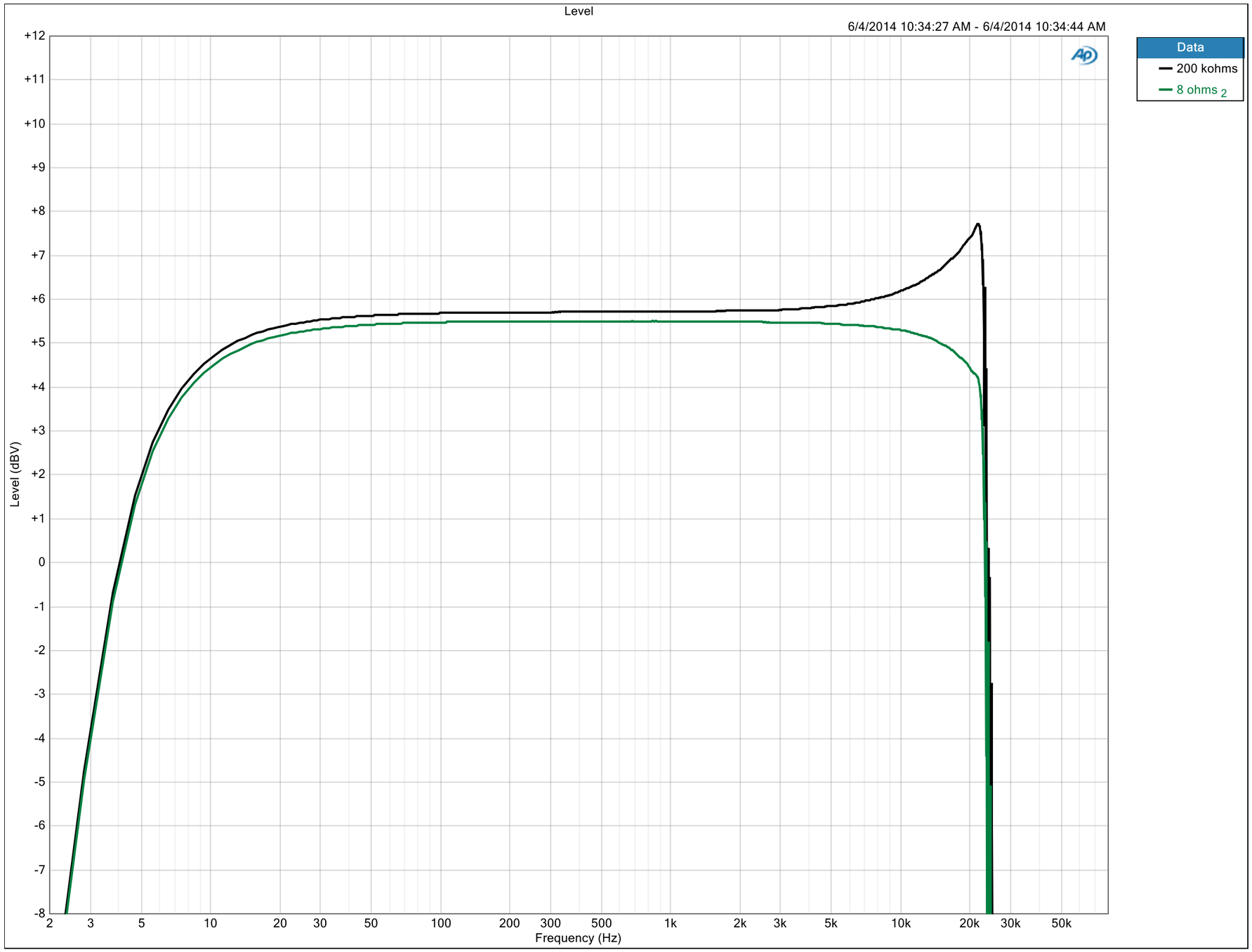
To Main Page



See CAF Reference for measurement setup.

C Frequency Response Magnitude (2 Hz - 80 kHz at -3 dB re. rated sensitivity)

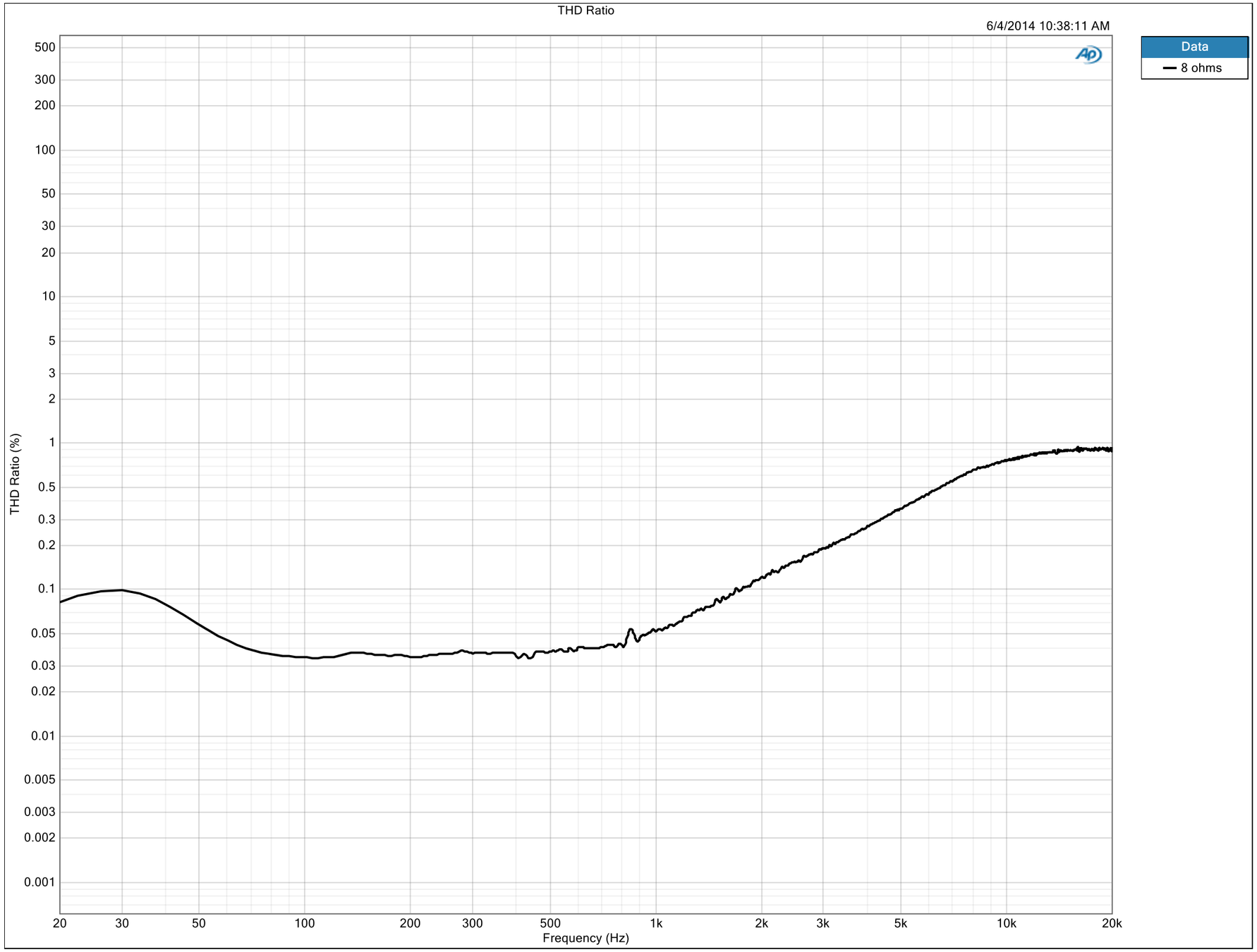
To Main Page



See CAF Reference for measurement setup.

D THD Ratio vs. Frequency (20 Hz - 20 kHz at -3 dB re. rated sensitivity)

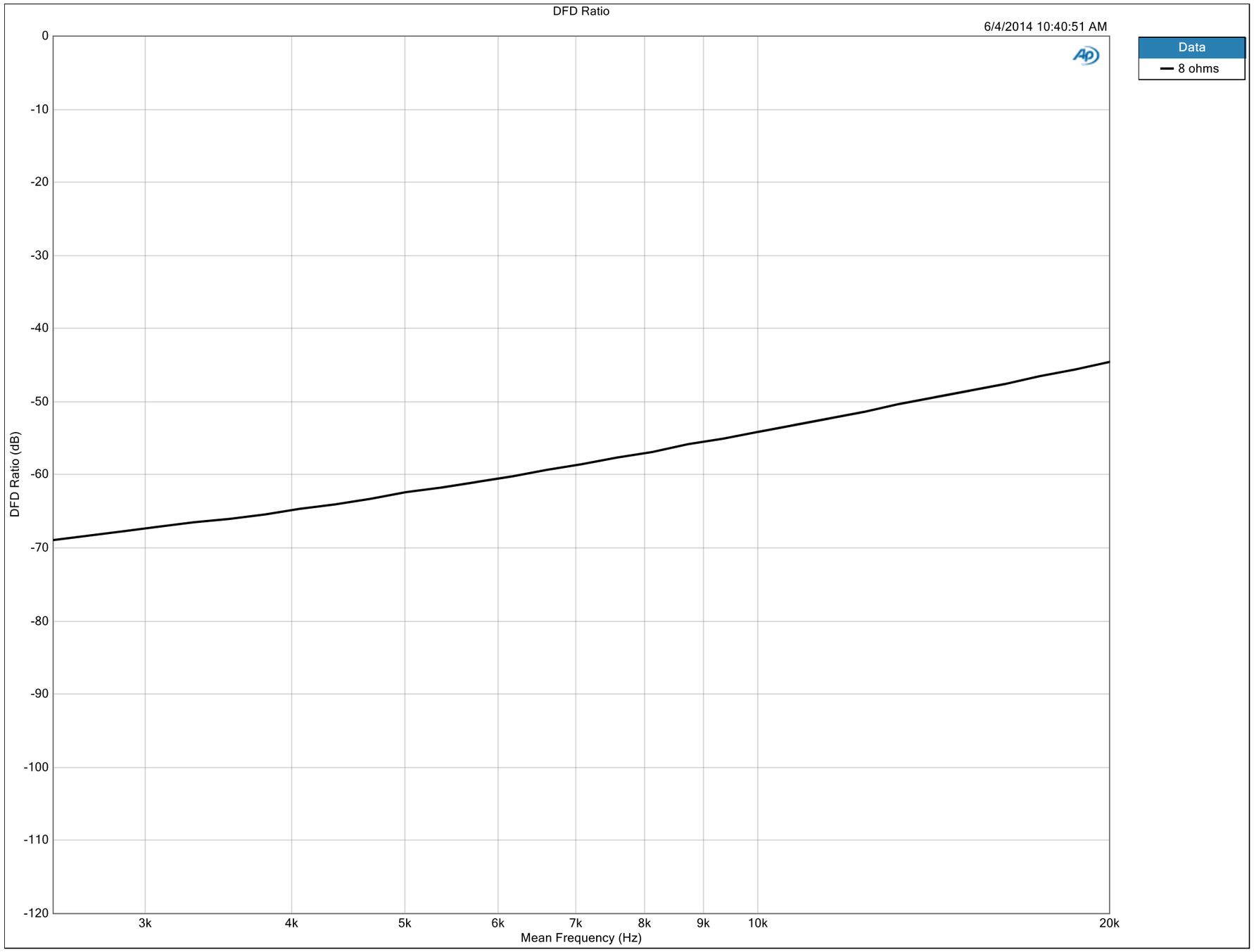
To Main Page



See CAF Reference for measurement setup.

E IMD Difference Frequency Distoration (20 Hz - 20 kHz at -3 dB re. rated sensitivity)

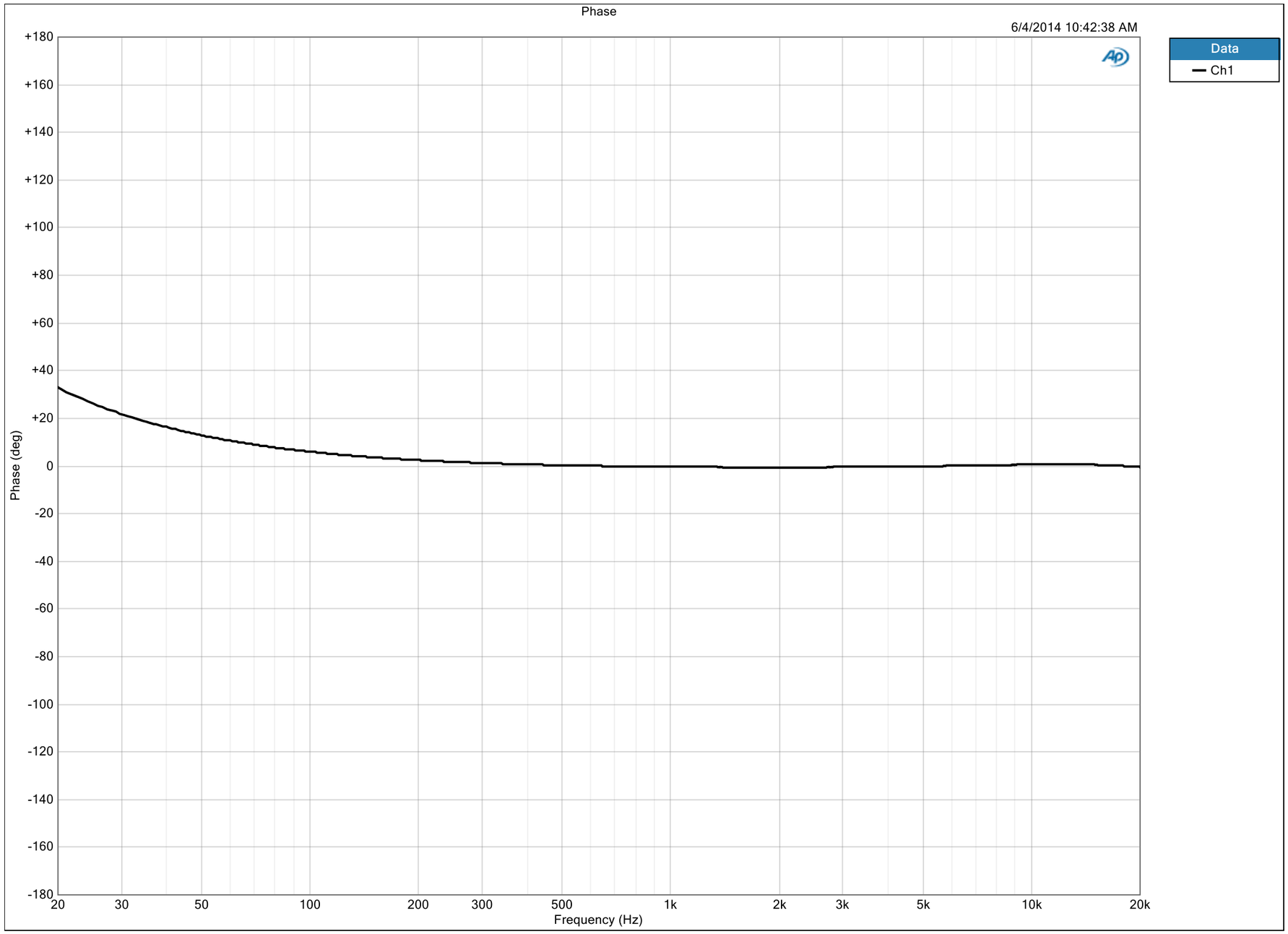
To Main Page



See CAF Reference for measurement setup.

F Excess Phase (20 Hz - 20 kHz at -3 dB re. rated sensitivity)

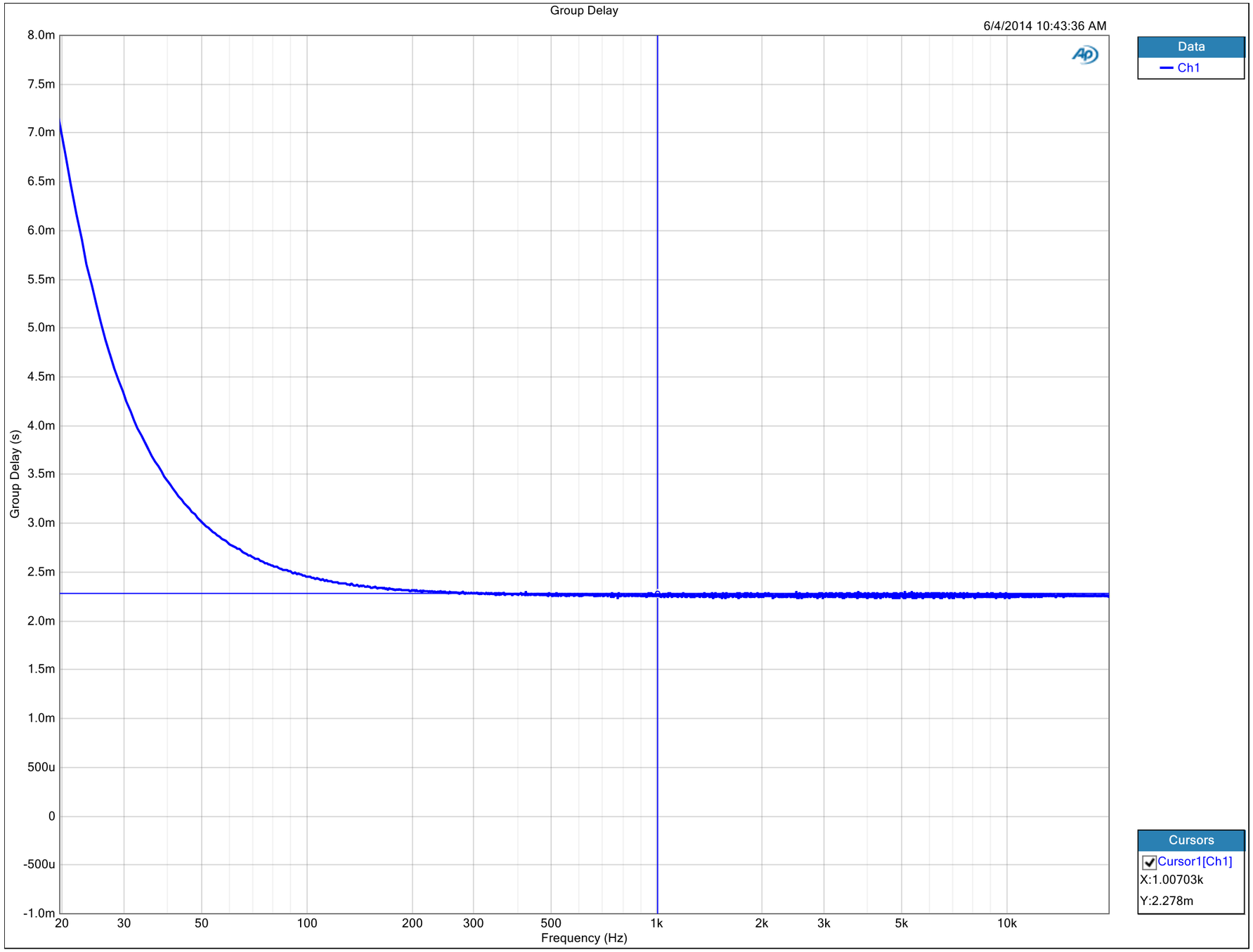
To Main Page



See CAF Reference for measurement setup.

G Group Delay (20 Hz - 20 kHz at -3 dB re. rated sensitivity)

To Main Page



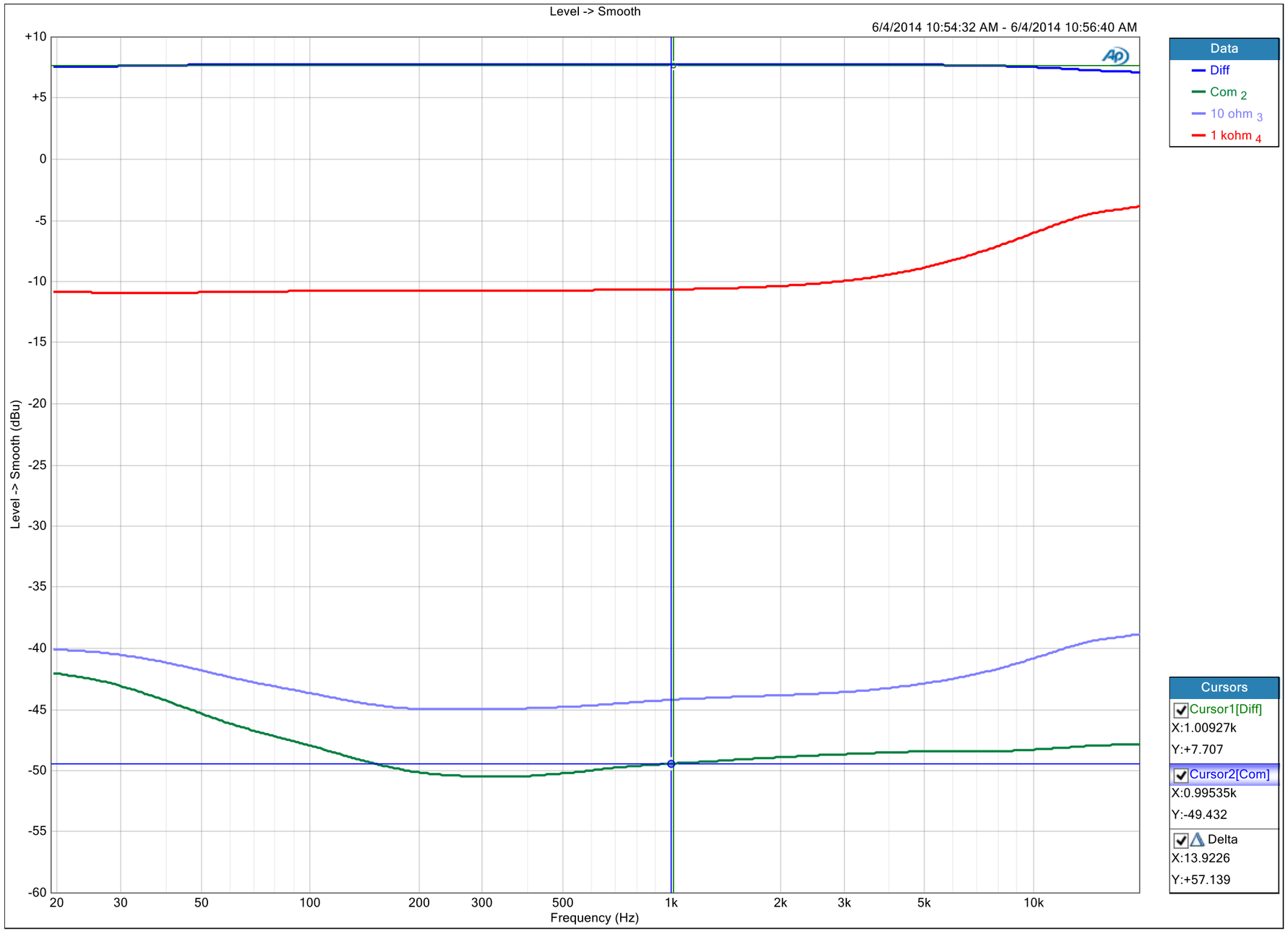
See CAF Reference for measurement setup.

NA

See CAF Reference for measurement setup.

I Common-Mode Rejection Ratio (CMRR) (of HAL Host DSP)

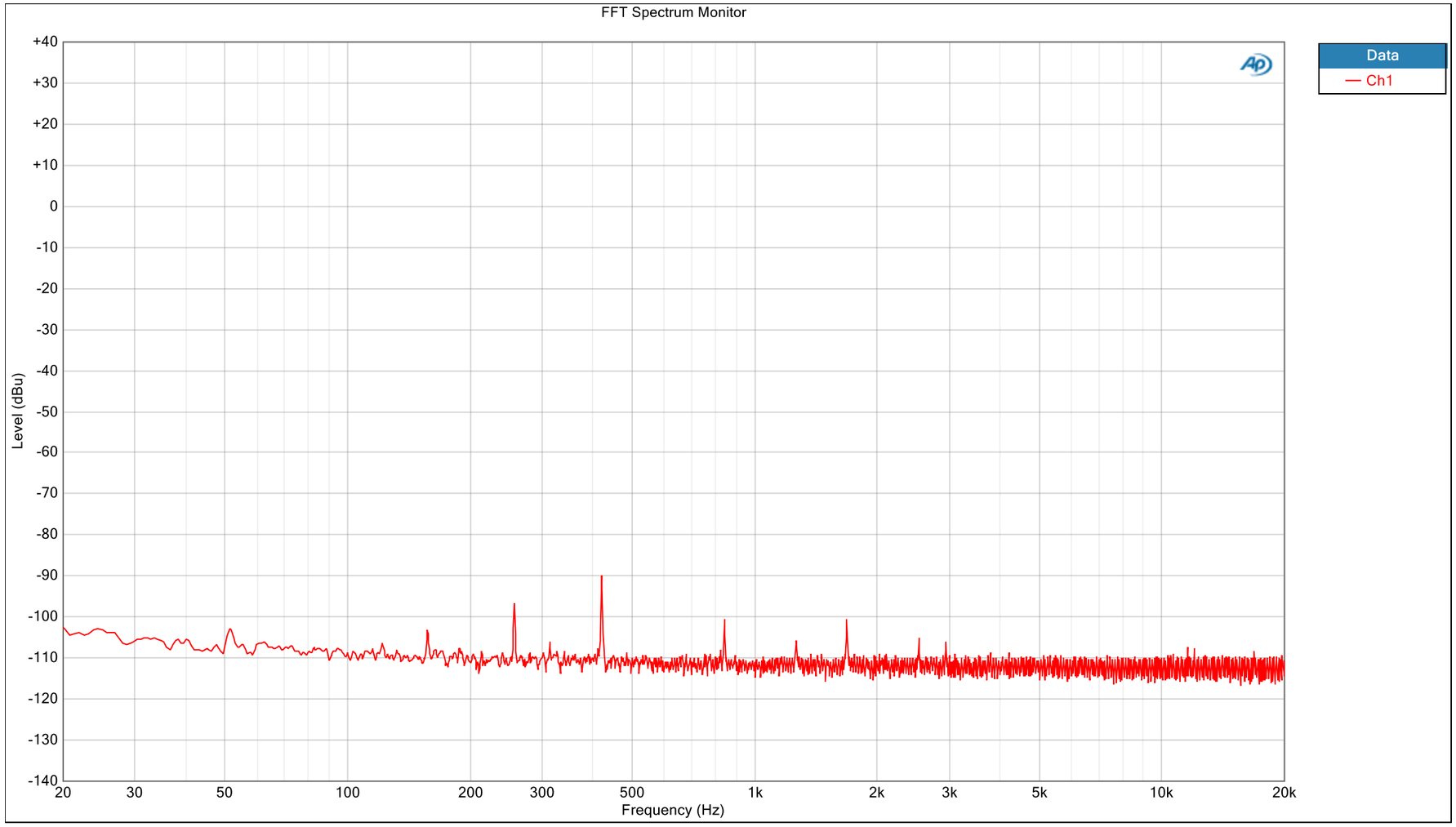
To Main Page



See CAF Reference for measurement setup.

J Noise Floor Spectrum (20 Hz - 20 kHz)

To Main Page

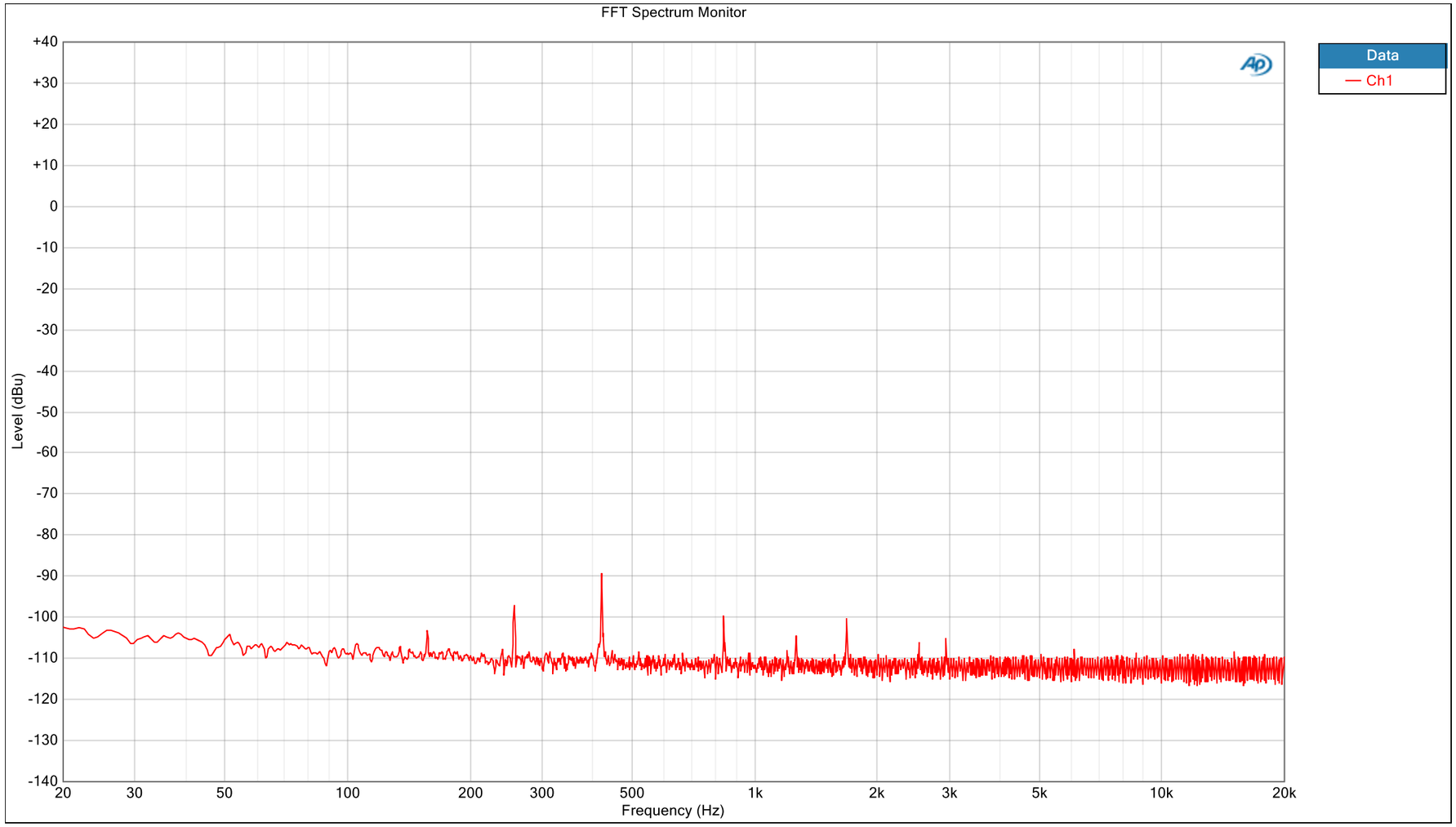


FFT Size:	300k
#Averages:	20
Window:	AP-Equiripple

See CAF Reference for measurement setup.

K Pin 1 Test - 50 Hz Square Wave Injected into Shield Connection

To Main Page

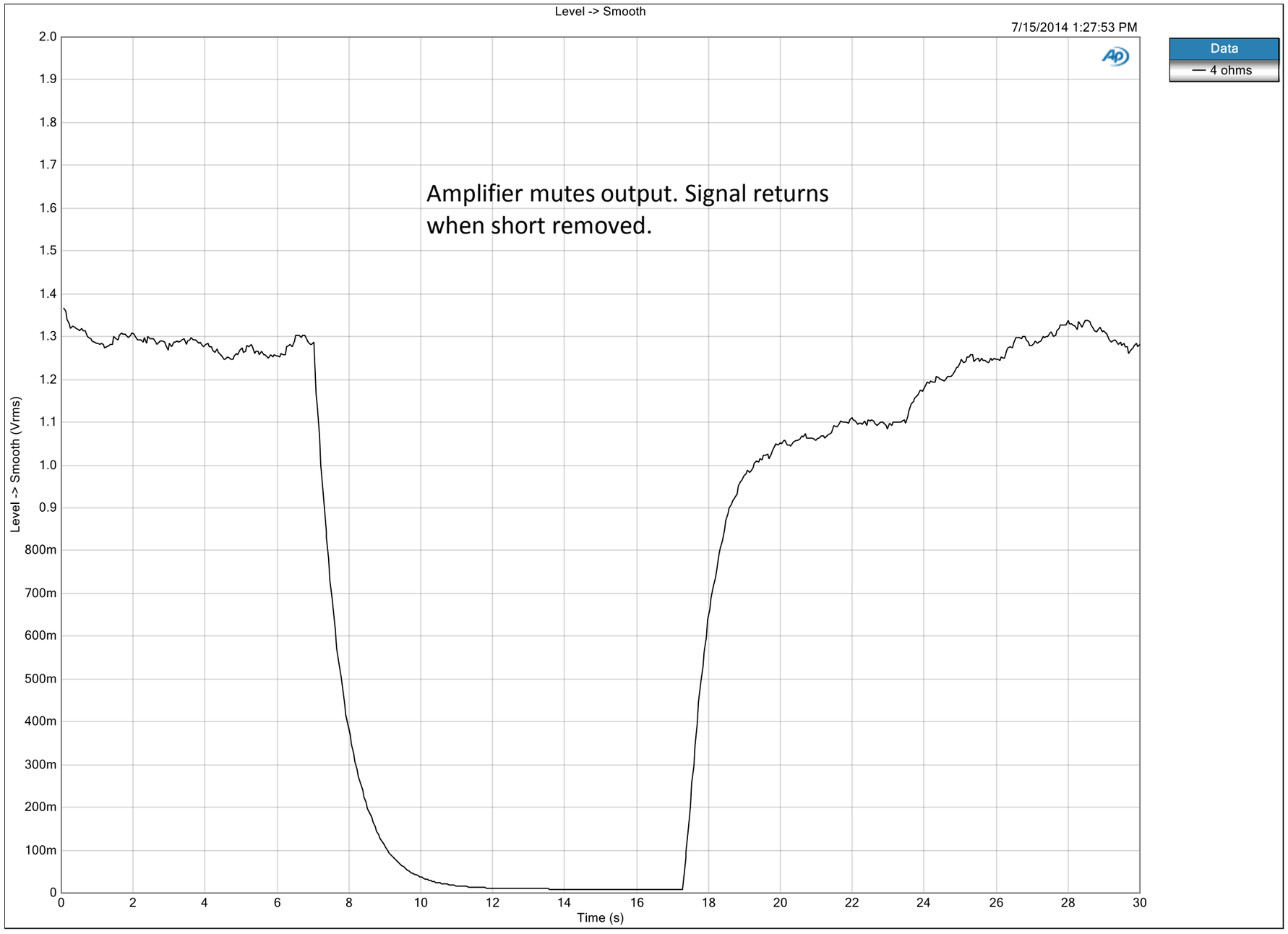


FFT Size:	300k
#Averages:	20
Window:	AP-Equiripple

See CAF Reference for measurement setup.

NA

See CAF Reference for measurement setup.



See CAF Reference for measurement setup.