



EAS eGaNAMP 2.1 Evaluation Kit

Class-D High-Performance eGaN FET Amplifier Platform

Gallium Nitride

Complete Class-D Amplifier Platform

- EAS eGaNAMP2016 Amplifier Modules
- D2Audio DAE-3HT/DAE-6 Controller/DSP
- Audio Canvas III Programmability
- Stereo, 2.0 and 2.1 Channel Audio Configurations

High-Performance Audio Reference

- EAS eGaNAmp2016
 - 200W per Channel into 8 ohms
 - 400W per Channel into 4 ohms

Fully Programmable DSP Front-End

- Integrated S/PDIF and AES-EBU Digital Inputs
- Integrated Asynchronous Sample Rate Conversion
- Full Complement of Programmable Audio Signal Processing Blocks

- USB Interface to PC/Laptop for Programming
- Support for All D2Audio DAE-3, DAE-3HT and DAE-6 IC's on a Single Platform
- Support for Dolby Digital AC3, DTS 5.1 and AAC-LC Audio Decoders

Audio Input Source Interfaces

- Stereo Analog Audio Inputs
- Optical S/PDIF Digital Audio Input
- AES-EBU Digital Audio Input

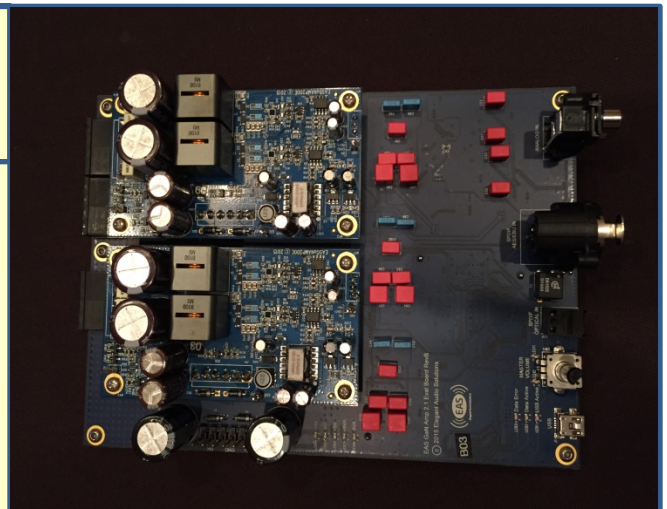
Simple Integrated Demonstration/Evaluation Platform

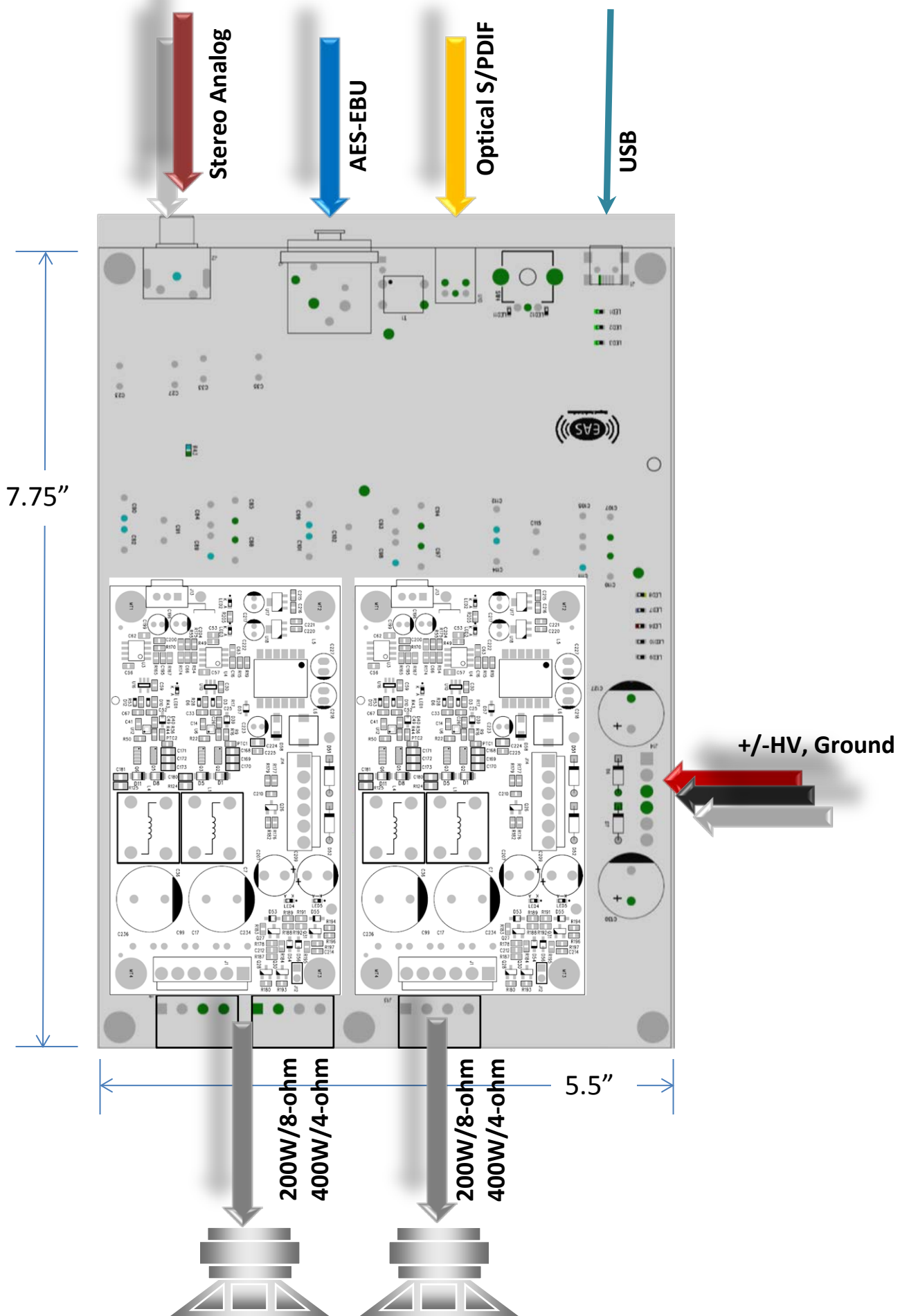
- Uses Single Split-Rail Power Supply (+/-32VDC)
- Configurability for Multiple Professional and Consumer Audio Platforms
 - 2.1-Channel Consumer Platform
 - 2.0/Stereo Consumer Audio Amplifier

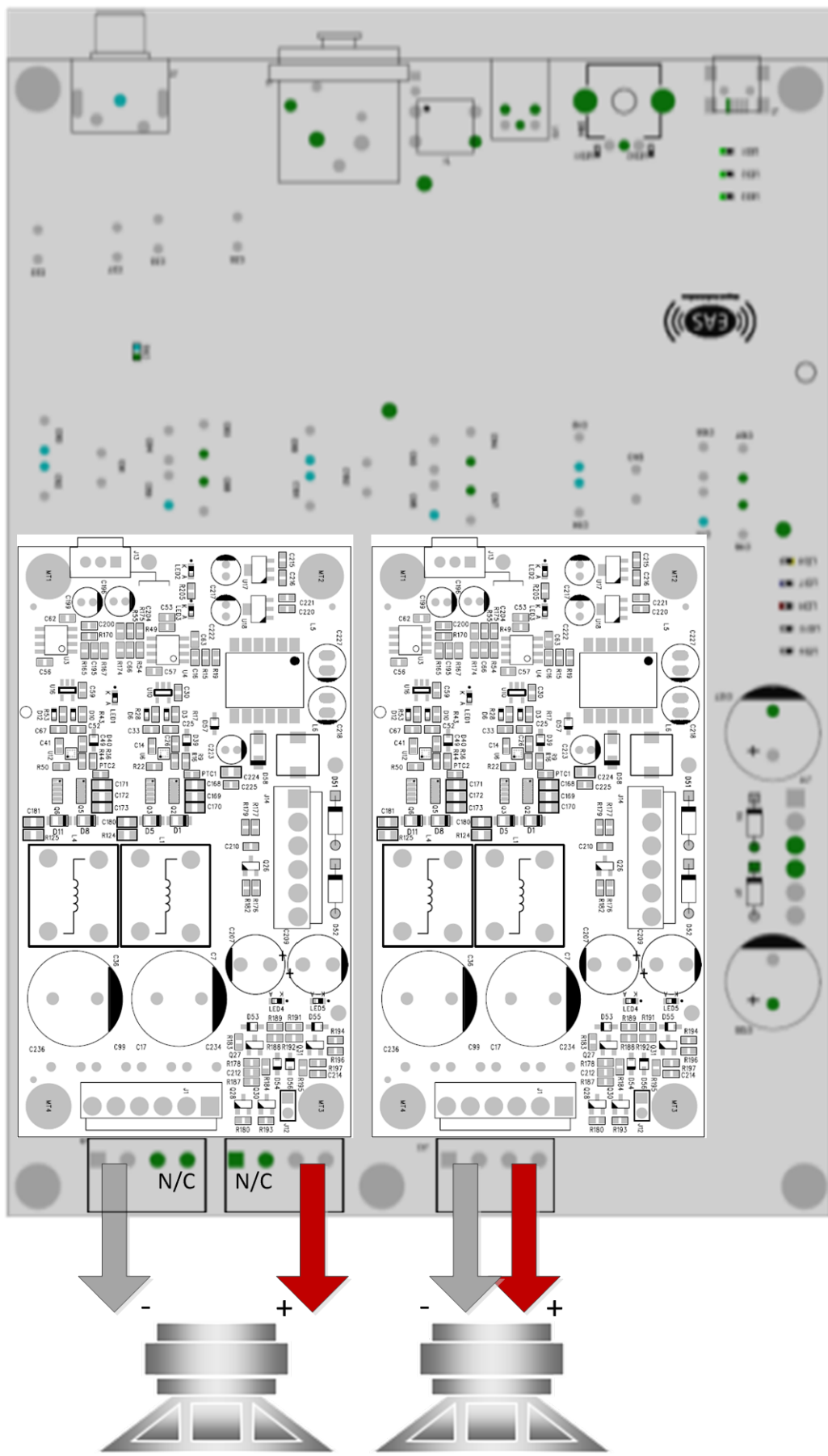
The EAS™ eGaNAMP 2.1 Evaluation Kit is a self-contained Class-D Amplifier Reference Platform for manufacturers of Consumer Powered Loudspeakers, Powered Reference Monitors and stand-alone Stereo or Multi-Channel Power Amplifiers. The eGaNAMP 2.1 EVM is developed around the next-generation eGaNAMP2016 Gallium Nitride Class-D Amplifier Modules and the latest in High-Performance DSP technology. These next-generation technologies are combined with highest quality Audio Source Interfaces for uncompromised audio quality and sound.

EAS™ eGaNAMP 2.1 Reference

- Complete Stand-alone GaN Audio Amplifier Reference
- 200 watts/channel, 8 ohms
- < 0.05% THD+N, > 102dB SNR
- Stereo Analog, Optical S/PDIF and AES-EBU Source Inputs
- Half-Bridge and Bridge-Tied-Load (BTL) Topology for Ground-Referenced Outputs







Left Right
Figure 0-1 Stereo Output Wiring Configuration

1. eGaNAMP2016 PERFORMANCE PLOTS

Test Conditions: Topward 6306D Power Supply, 25 degrees C Ambient, 1kHz Analog Audio Input

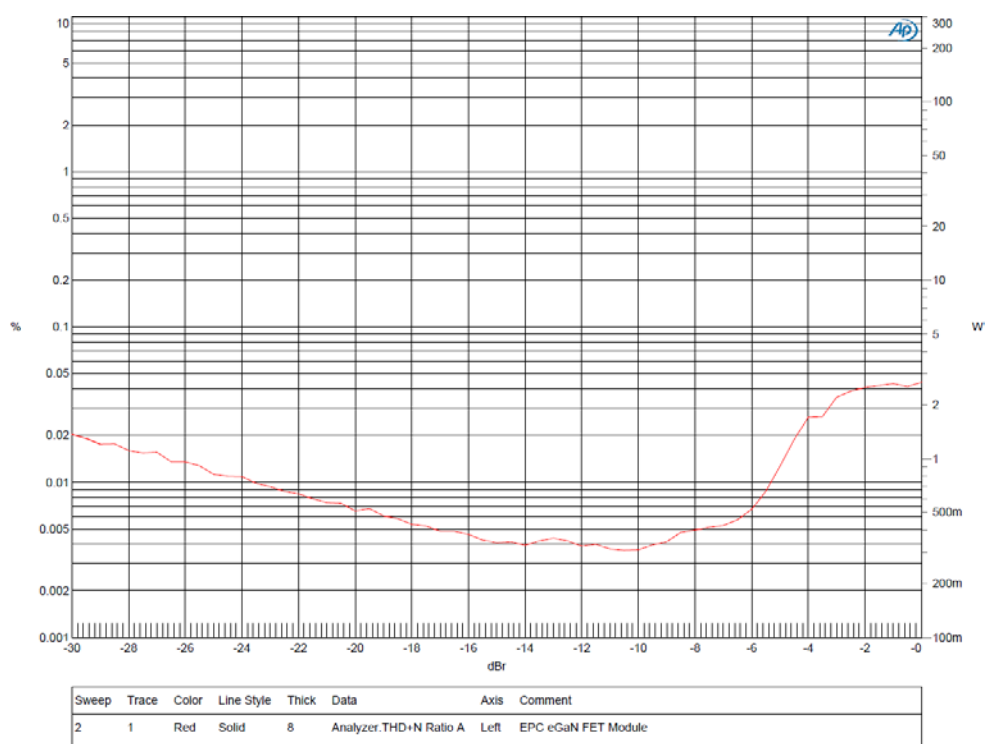


Figure 1-1 THD+N vs. Power

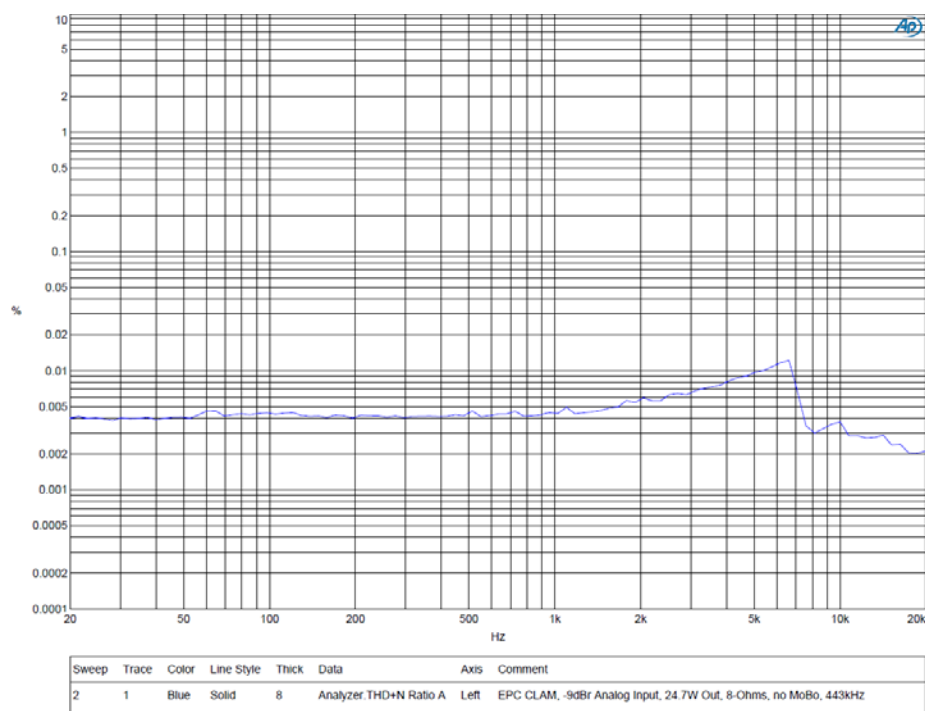


Figure 1-2 THD+N vs. Frequency

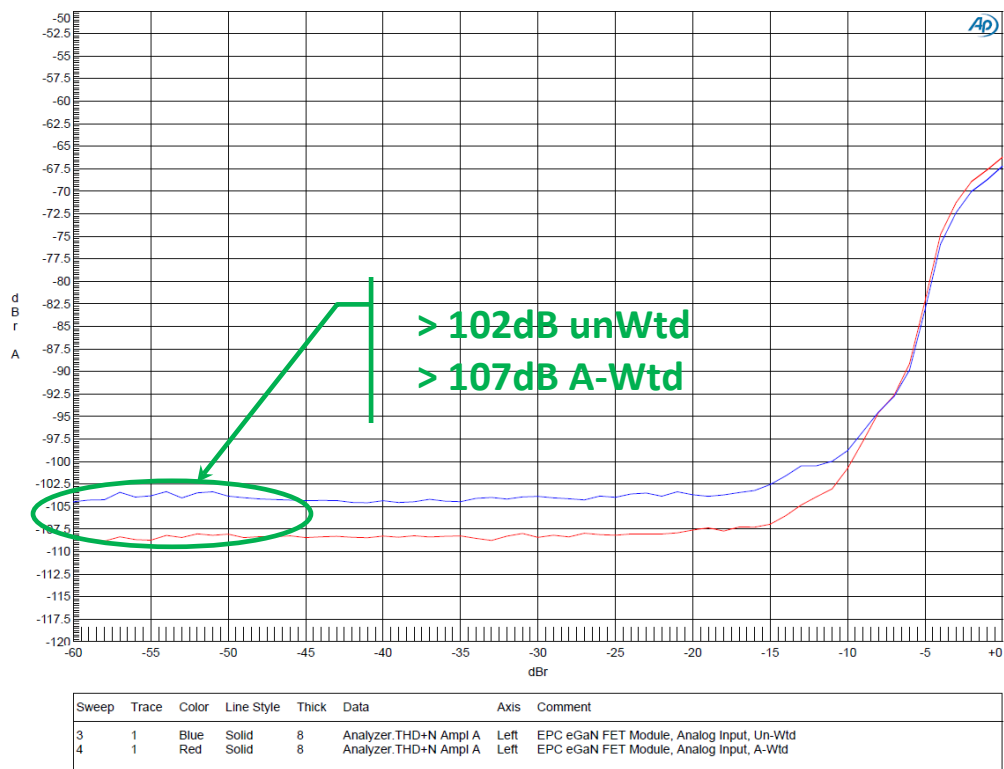


Figure 1-3 Noise Floor

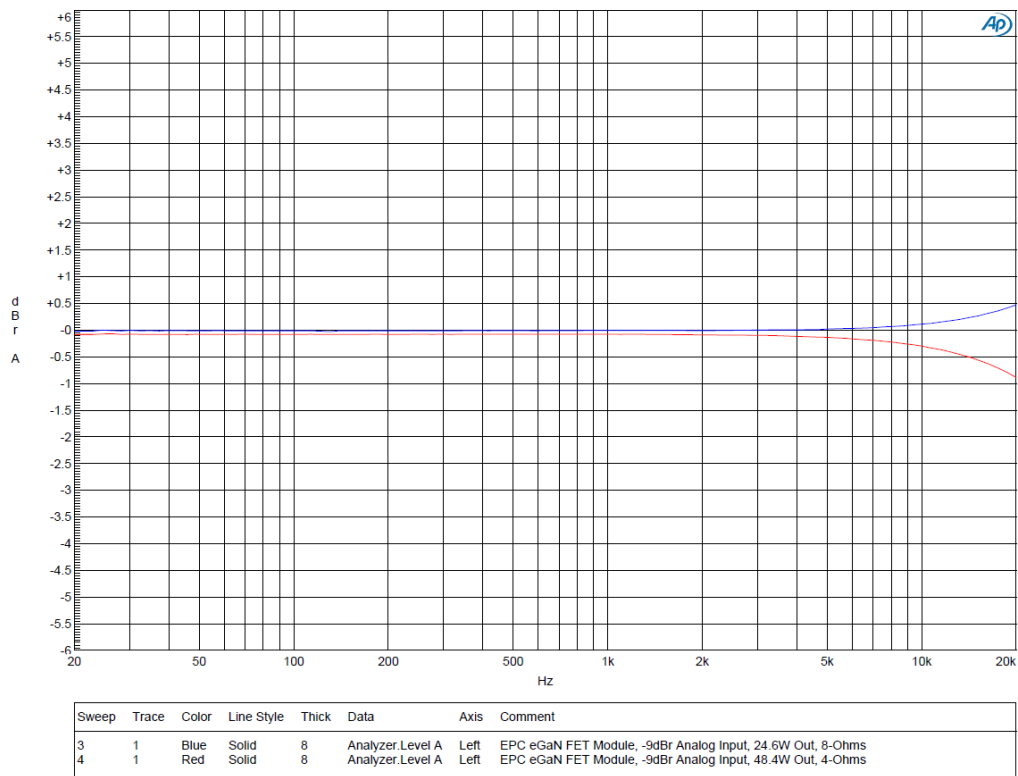


Figure 1-4 Frequency Response

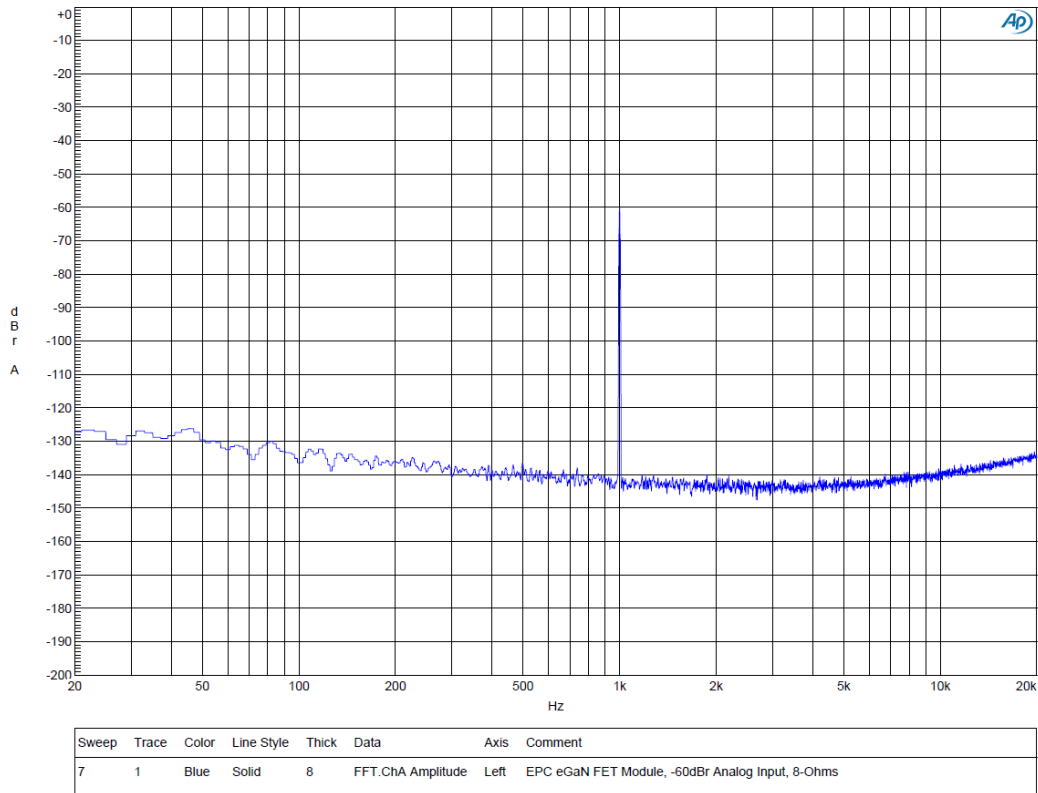


Figure 1-5 FFT Multi-Channel with -60dBr Audio Input Signal

eGaNAMP2016 PERFORMANCE DATA

Power Supply = +/-30VDC, Load = 8Ω

Parameter	Min	Typical	Max	Units	Comments
Output Power	200W			W	THD < 0.05%
Distortion	-	-	0.05	%	THD+N
Output Noise	102	-	-	dB	Unwtd, 200W/8Ω
Frequency Response	10	-	20k	Hz	+/- 0.5dB
Voltage Gain	+25.5	+26	+26.5	dB	
Current Limit	15	16	18	A	
Power Supply Rejection	+65			dB	Either Rail

AUDIO INPUT CHARACTERISTICS

Parameter	Min	Typical	Max	Units	Comments
Input Impedance	-	100k	-	Ω	Either Input to Ground
Common-Mode Rejection	-	75	-	dB	20Hz to 20kHz

ABSOLUTE MAXIMUM RATINGS

Operation beyond these limits may cause catastrophic and irreversible damage

Parameter	Rating	Units	Comments
Power Supply Voltage	+/- 37	V	Over-Voltage will Shut-Down Unit
Peak Output Current	20	A	Maximum Current Limit @ 18A
Ambient Temperature	35	$^{\circ}\text{C}$	Effects Operation w/ Heat Sink
Heat Sink Temperature	90	$^{\circ}\text{C}$	Additional Heat Sink might be required

RECOMMENDED OPERATING CONDITIONS

Parameter	Min	Typical	Max	Units	Comments
Power Supply Voltage	+/- 20	-	+/- 35	V	
Load Impedance	2	-	-	Ω	
Source Impedance	-	-	10k	Ω	
Effective Power Supply Capacitance	1000 μ	-	-	F	Per rail, per attached Amplifier Module

2. eGaNAMP2016 CONNECTIVITY

Connector: J4

Pin	Type	Description
1, 2	Input	+HV Power Supply Rail
3, 4	Input	Power Supply Ground
5, 6	Input	-HV Power Supply Rail

Connector: J2

Pin	Type	Description
1	Input	Positive Audio Signal Input
2	Input	Signal Input Ground
3	Input	Negative Audio Signal Input

Connector: J1

Pin	Type	Description
1, 2	Output	Positive Audio Amplifier Output
3, 4	Output	Audio Amplifier Output Ground
5, 6	Output	Negative Audio Amplifier Output