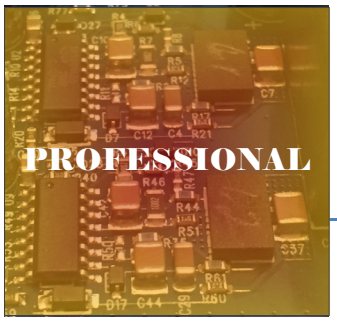

EAS GaNAMP2001 Product Brief

Class-D High-Performance eGaN FET Amplifier Module

Gallium Nitride

Complete Class-D Amplifier Solution

- Differential Analog Audio Input
- Next Gen High-Side/Low-Side Driver
- GaN FET Half-Bridge Output Stage
- Bridge-Tied Load Output Topology
- Easy Integration w/EAS SMPS Solutions

High-Performance Audio Reference

- 200W per Channel into 8 ohms
- 400W per Channel into 4 ohms
- > 108dB SNR and Dynamic Range
- < 0.01% THD+N (8Ω, 1W, 20Hz to 20kHz)
- 20Hz-20kHz +/-0.5dB Frequency Response (8Ω)

96% Efficiency Reduces Heat and System Size

- Easy Attachment to Chassis
- No Heat Sink Required

Graceful Protection and Auto Recovery

- Complete Non-Intrusive Short-Circuit, Thermal and Over-Current Protection
- Over-Voltage and Under-Voltage Protection
- Graceful Handling of Complex and Lower Impedance Loads

Package Configurations

- Complete GaN FET Class-D Amplifier Module
- 8mm Stand-offs with Mounting Screws

Custom DSP Solutions (Optional)

- Easy Integration w/EAS DSP Solutions
- Customer Programming of DSP Audio Signal Flow
- Integrated I^2S Digital, S/PDIF and Auxiliary Analog Inputs

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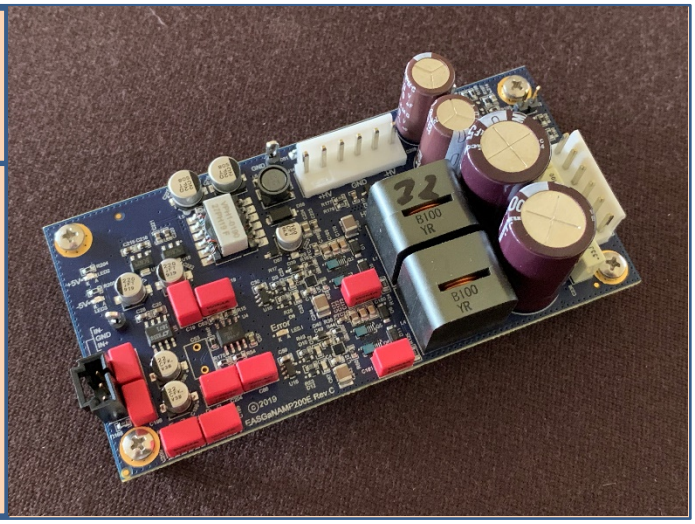
The EAS™ eGaNAMP2001 is a self-contained 200 watts per channel Class-D Amplifier Module for manufacturers of Powered Loudspeakers and stand-alone Stereo and Multi-Channel Amplifiers. The eGaNAMP2001 is developed around the next-generation Driver technology and the new eGaN FET Power Device technology. These next-generation technologies are combined with highest quality Output Filters for uncompromised audio quality and sound.

The Module is designed with best-practices EMI considerations, and for compliance with FCC, UL, CSA and CE requirements.

Under normal operating conditions, a heat sink is not typically required. Thermal Protection is provided for worst-case thermal environments.

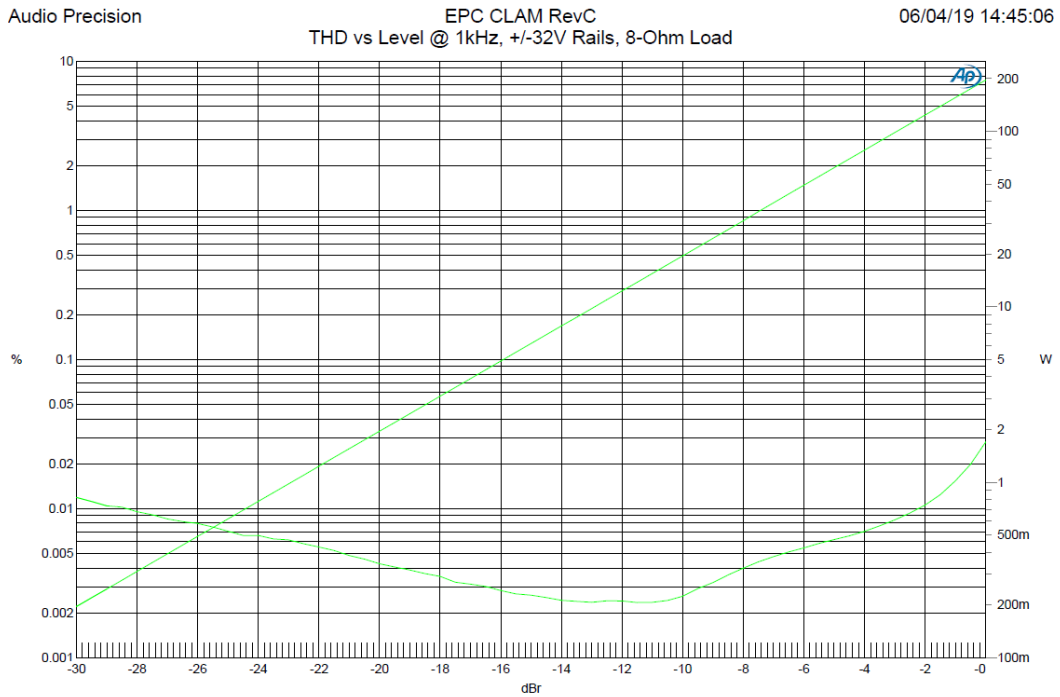
EAS™ eGaNAMP2001

- Complete Stand-alone Class-D Amplifier Module
- 200 watts/channel, 8 ohms
- < 0.05% THD+N, > 108dB SNR
- Differential Analog Input
- Bridge-Tied-Load (BTL) Topology for Ground-Referenced Output
- Integrated, non-intrusive over-current, short-circuit and over-voltage protection



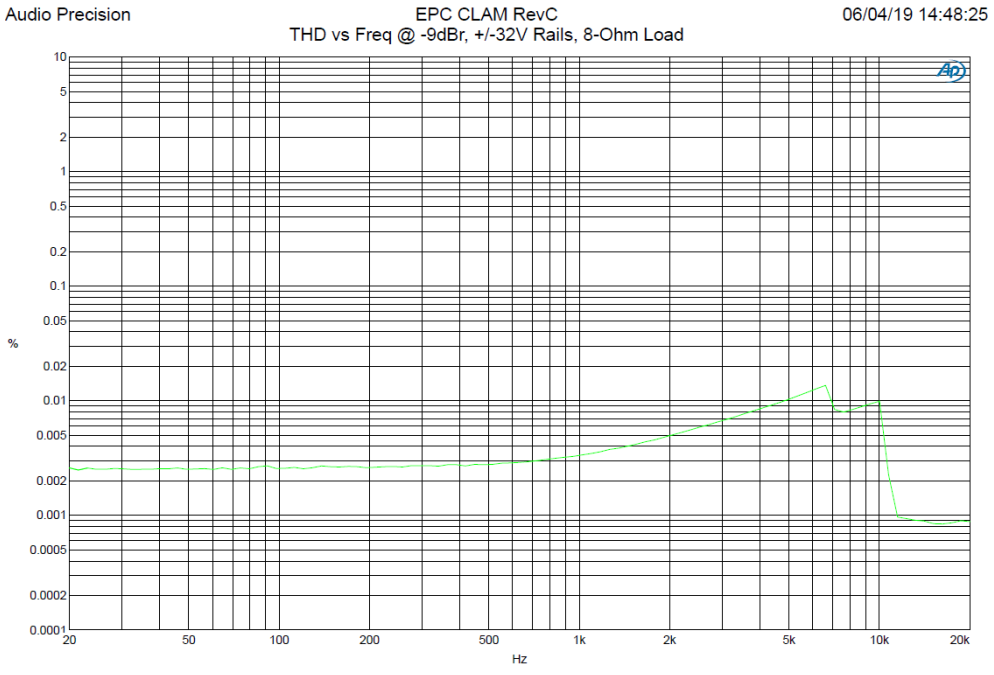
1. PERFORMANCE PLOTS

Test Conditions: Topward 6306D Power Supply, 25 degrees C Ambient



Sweep	Trace	Color	Line Style	Thick	Data	Axis	Comment
1	1	Green	Solid	8	Anlr.THD+N Ratio	Left	8-Ohm Load
1	2	Green	Solid	8	Anlr.Level A	Right	

Figure 1-1 THD+N vs. Power



Sweep	Trace	Color	Line Style	Thick	Data	Axis	Comment
1	1	Green	Solid	8	Anlr.THD+N Ratio	Left	-9dBr In (ref to 2Vrms), 24.5W Out into 8-Ohms

Figure 1-2 THD+N vs. Frequency

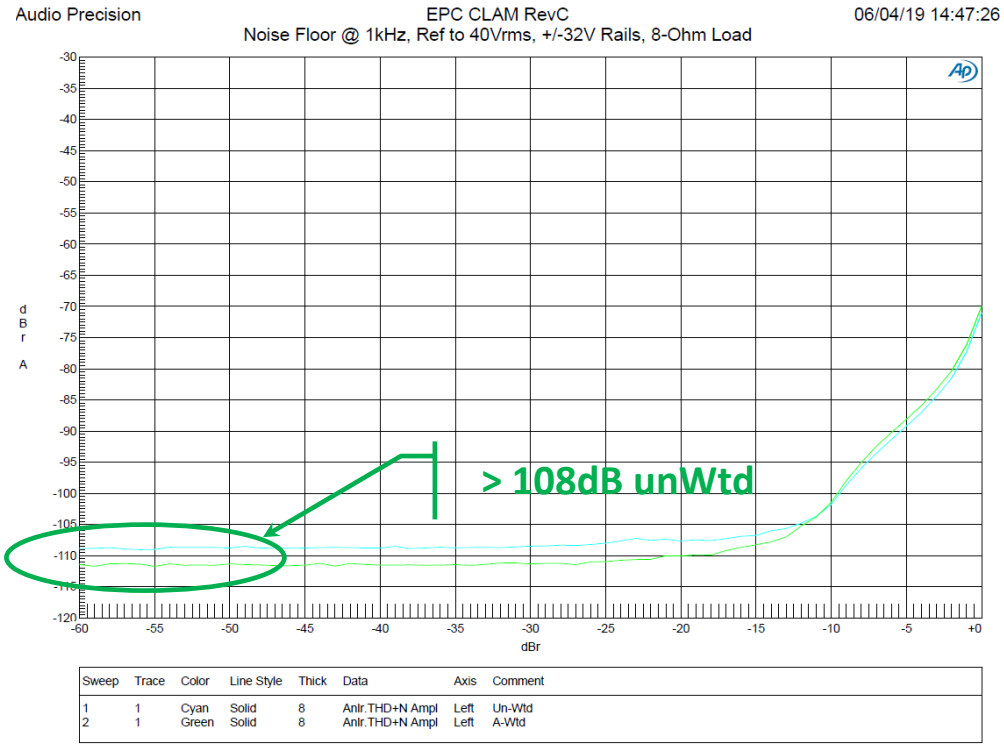


Figure 1-3 Noise Floor

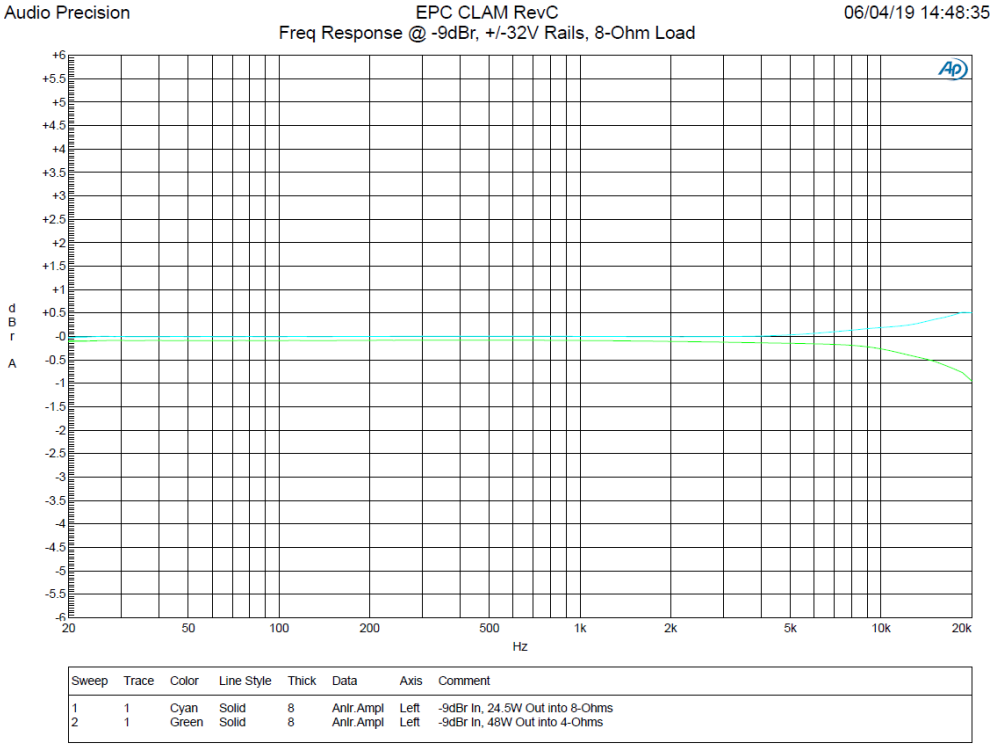


Figure 1-4 Frequency Response

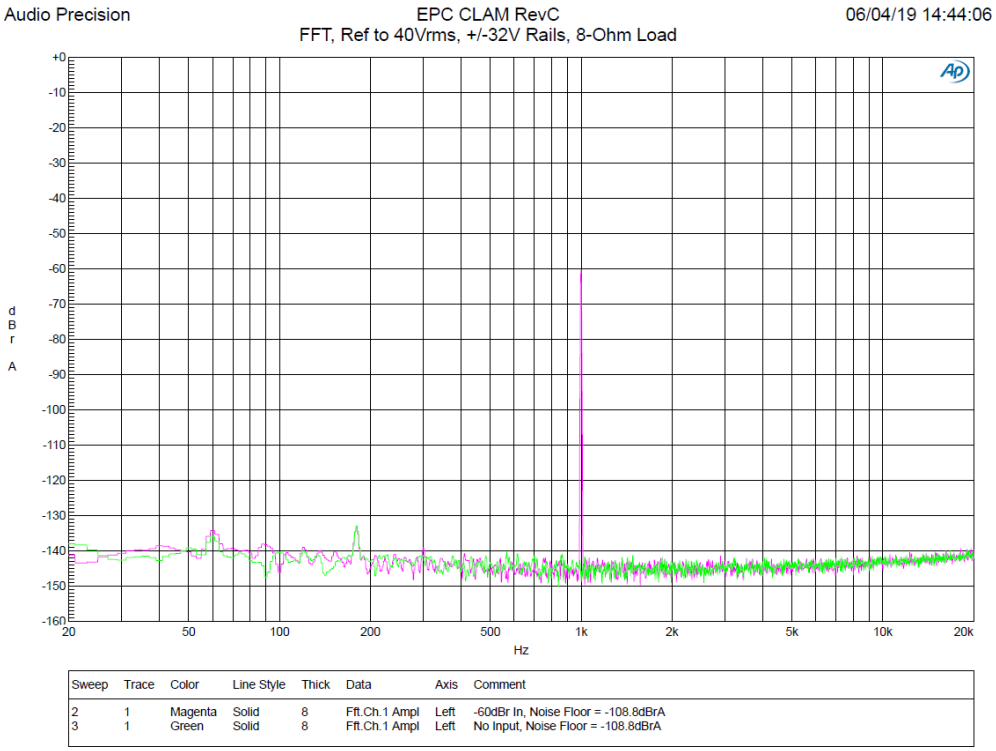


Figure 1-5 FFT with and without Audio Input Signal

PERFORMANCE DATA

Power Supply = +/-32VDC, Load = 8Ω

Parameter	Min	Typical	Max	Units	Comments
Output Power	200W			W	THD < 0.03%
Distortion	-	-	0.02	%	THD+N, 1kHz,
Output Noise	108	-	-	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

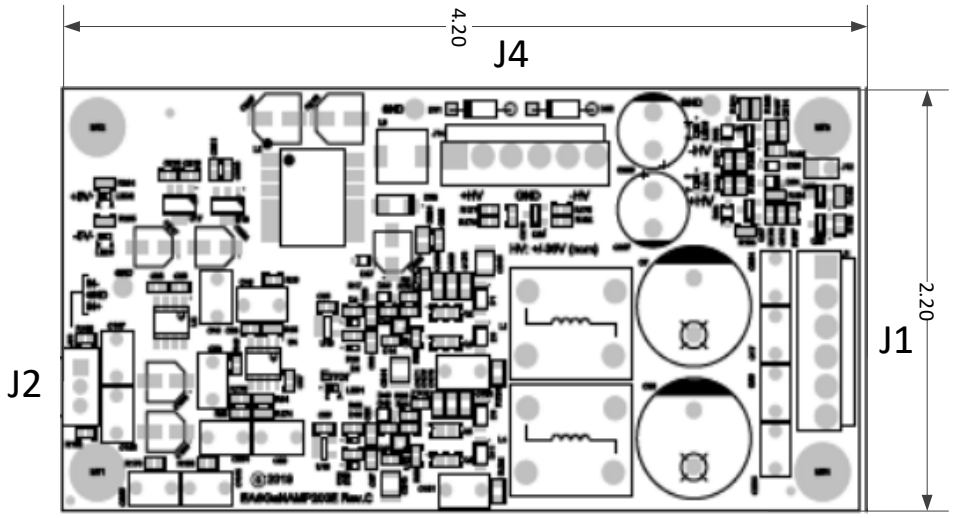
ABSOLUTE MAXIMUM RATINGS

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	25	^{o}C	Normal Operation w/o Heat Sink
Heat Sink Temperature	90	^{o}C	Heat Sink might be required

RECOMMENDED OPERATING CONDITIONS

Parameter	Min	Typical	Max	Units	Comments
Power Supply Voltage	+/- 20	-	+/- 32	V	UnderVoltage @ +/-20V
Load Impedance	2	-	-	Ω	
Source Impedance	-	-	10k	Ω	
Effective Power Supply Capacitance	1000µ	-	-	F	Per rail, per attached Amplifier Module



2. CONNECTIVITY

Connector: J4 (Mating JST Connector: VHR-6N; Pin: SVH-41T-P1.1)

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 (Mating Molex Connector: 50-57-9403; Pin: 0430300007)

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

Connector: J1 (Mating JST Connector: VHR-6N; Pin: SVH-41T-P1.1)

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