

# Qualcomm® DDFA™ CSRA6620 4x80W Evaluation Kit

High-performance, multi-channel audio amplifier evaluation kit, featuring Qualcomm DDFA Digital Amplifier Technology.

Quickly and efficiently evaluate the capabilities of the CSRA6620 DDFA Controller and Feedback processor with this amplifier example design.

CSRA6620 System-on-Chip (SoC) is a highly integrated digital stereo amplifier controller designed to combine the power efficiency of class D technologies with the audio performance of linear amplifiers; designed to help developers bring high-end amplification into consumer audio products.

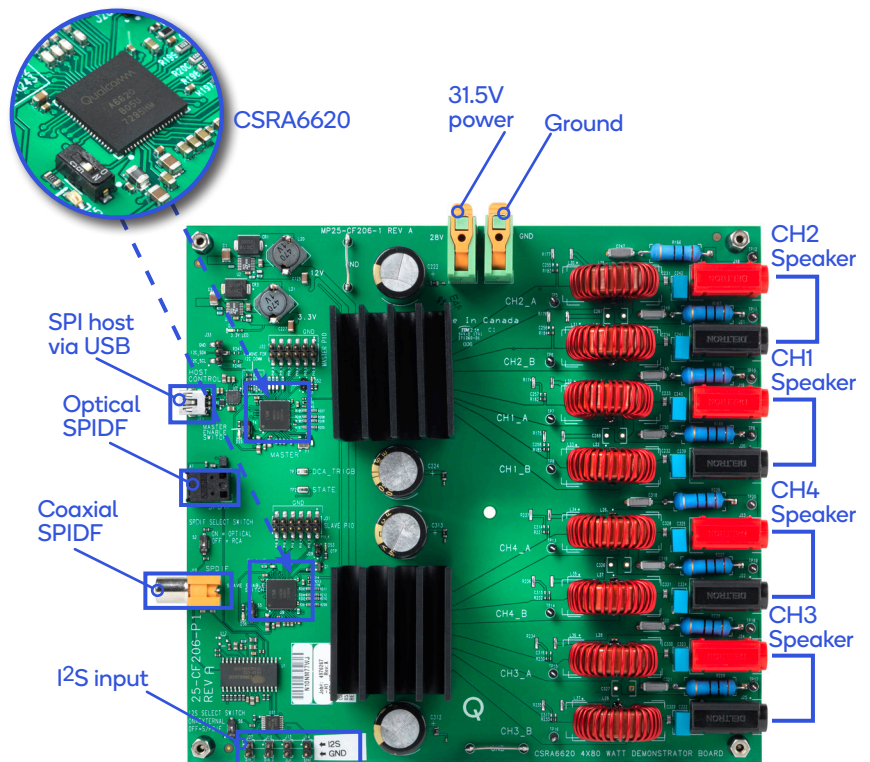
This evaluation kit combines two (2) CSRA6620 SoCs and the required external components on a single PCB, to support four channels of high-performance audio amplification with up to 80 Watts of output power per channel.

With support for multiple audio input formats, high-resolution audio and a PC tuning tool, this kit is an advanced amplifier example design. It offers an excellent starting point to evaluate the performance of both the DDFA technology and the CSRA6620 SoC.

## Kit Contents

- 30-CF406-1 evaluation board
- Setup guide
- USB Cable

## Evaluation Board





## CSRA6620 DDFA Applications

- Speakers
- Soundbars
- Hi-fi Amplifiers
- Networked Audio Products
- Headphone Amplifiers

## Features

- 4x80W Bridge-tied Load (BTL) Speaker outputs with 2x CSRA6620 DDFA controller and feedback processors
- I<sup>2</sup>S, Optical and Coaxial SPDIF stereo inputs, up to 384kHz, 32-bits PCM
- TDM 8-channels inputs up to 192kHz; 32-bits PCM
- Integrated configurable DSP with bi-quad filters, sample-rate conversion, dynamic compression and clipping management
- Integrated crossover filters for multichannel outputs and bi-amping configurations
- Choice of interpolation filters with different sound characters
- Integrated Digital Phase-locked loop (PLL) and sample rate conversion
- Control and debug via built-in USB-SPI Adaptor and a PC tuning tool, or external I<sup>2</sup>C interface
- AD and BD modulation options, 400kHz
- External power supply required, up to 31.5V, 20A

## Ordering Information

Product	Part Number
DDFA CSRA6620 Eval Kit	DK-DDFA-CSRA6620-4.80-1

To learn more visit: [qualcomm.com](http://qualcomm.com) or [createpoint.qti.qualcomm.com](http://createpoint.qti.qualcomm.com)

## Access to Product Kit on CreatePoint

Visit [CreatePoint](http://createpoint.qti.qualcomm.com), our portal for giving you the resources, tools, and support you need to create a device based on our products

1. Go to: <https://createpoint.qti.qualcomm.com> and login to your account. Please register if don't have an account already
2. The Product Kit is located under the Amplifier category:  
— [CSRA6620 DDFA Controller and Feedback Processor \(Platform\)](#)
3. Request access to the development kit to gain visibility to the tools and user guide. You can request access directly via the Upgrade [+] button and by following the instructions, or work with your local authorized reseller.

## CSRA6620 Eval Board Specifications\*

Maximum Output Power	>78W (4 Ohms, 1kHz, THD+N < 0.005%)
THD+N	< 0.002% (8 Ohms, AD 400Khz modulation, 1kHz, -1dBFS) < 0.01% (AD modulation, 20Hz-20kHz/ -1dBFS)
Signal-to-Noise Ratio	>114dB (AD modulation, A-wt, 1kHz, 0dBFS)
Dynamic Range	> 114dB (AD modulation, A-wt, 1kHz, 0dBFS)
Frequency Response	+/- 0.6dB (20Hz - 20kHz)
Noise Floor Modulation	< 2dB (-60dBFS to -1dBFS)
Residual Noise	< 35µVrms (AD modulation)
Board Size	170mm x 180mm

\* These specifications are based on typical performances, and may vary based on your design.



©2018 Qualcomm Technologies International, Ltd. All Rights Reserved. Qualcomm is a trademark of Qualcomm Incorporated, registered in the United States and other countries. DDFA is a trademark of Qualcomm Technologies International, Ltd., registered in the United States and other countries. Other products and brand names may be trademarks or registered trademarks of their respective owners. 0818A