MQA_HPM_CS131 Headphone AMP

MQA Full Decoder, Hi-Res Quality，XMOS Processor

Now there are more music lovers and HiFi enthusiasts who want to get a better listening experience on their cell phones, however, in reality, the use is often hindered by the following reasons:

- The phone only has Type-C/Lighting interface, lack of headphone jack, and no built-in Hi-Res sound card
- Limited device storage space/network bandwidth, unable to store/play too much high bit rate HD audio online
- Traditional HiFi decoder is large, inconvenient to carry outside, the common portable DACs sound quality and can not meet the requirements of HiFi enthusiasts

A small MQA Headphone AMP connected to the phone can effectively meet the user's needs. MQA_HPM_CS131 uses UAC2.0 asynchronous transmission mode with external clock, which makes its clock jitter very low. Using MQA_HPM_CS131 to connect the phone to the headphones via Type-C, users can get high quality Hi-Res music on the go without sacrificing portability.

MQA_HPM_CS131 supports MQA Full Decoder. MQA encoding technology compresses the file size to near CD-level size by folding and compressing the original recording while retaining Hi-Res audio information. MQA_HPM_CS131 fully (Full Decoder) unfolds MQA audio by MQA decoding algorithm to restore high sample rate audio and provide richer spectrum information.

- The MQA_HPM_CS131 has been certified by MQA and is suitable for customers iterating on existing portable DACs products or looking to enter the HIFI community.

Features

MQA Full Decoder

Folding and unfolding of audio by MQA processing

MQA (Master Quality Authenticated) is a breakthrough audio technology that enables music lovers to receive master-quality recordings streamed to the highest quality audio with minimal space/bandwidth cost.

The MQA_HPM_CS131 uses MQA technology to receive and decode MQA audio, and supports full MQA decoder, enabling maximum mastering level audio restoration and unfolding up to 384kHz sample rate.

Hi-Res Quality

Supporting multiple audio stream formats with CS43131 DAC chip

In addition to MQA full decoder, MQA_HPM_CS131 supports multiple Hi-Res audio stream formats up to PCM 32bit/384kHz and Native DSD256.

Meanwhile, MQA_HPM_CS131 uses CS43131 as the DAC decoder chip, with 123dB SNR and a thrust of up to 60mW.

XMOS Processor

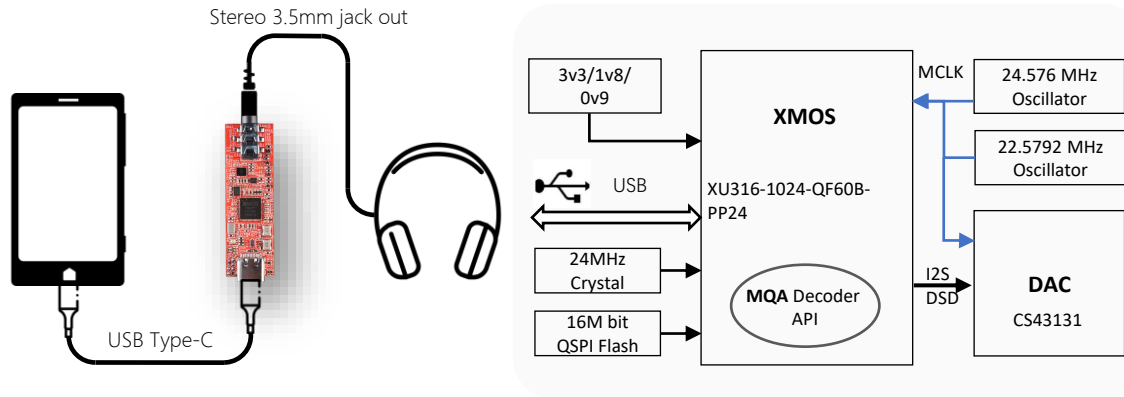Using the latest XMOS processor to provide a Bit-perfect listening experience

The MQA_HPM_CS131 uses XMOS' latest processor XU316-1024-QF60B-PP24, a new IC that provides 16 Logical Cores with a maximum speed of 2400 MIPS. It supports MQA Full Decoder, UAC2.0 asynchronous transmission, and uses independent crystals as the audio clock source to achieve low audio jitter and a bit-perfect listening experience.

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Application Diagram

Stereo 3.5mm jack out

USB Type-C

3v3/1v8/0v9		XMOS		MCLK	24.576 MHz Oscillator
USB		XU316-1024-QF60B-PP24			22.5792 MHz Oscillator
24MHz Crystal		MQA Decoder API		I2S DSD	DAC CS43131
16M bit QSPI Flash					

Specifications

Supported Formats

- PCM 44.1KHz~384KHz/32bit
- DSD64~DSD256
- MQA Full Decoder

Audio Specifications

- THD+N: 0.0005%/0.0006% (60mW@32Ω)
- SNR: 122dB/123dB
- Rated power: 62.17mW/61.75mW@32Ω
- Frequency Response: 20Hz~20kHz <0.1dB
- Idle noise(+A): 0.985uV/1.017uV

Hardware specifications

- Size: 50mm x 16mm x 6mm
- Power consumption: 5V @103mA
- Chips: XMOS XU316-1024-QF60B-PP24
        DAC   CS43131

Interface

- USB Type-C Interface
    - USB Audio Class 2.0 (UAC 2.0)
    - USB Firmware Upgrade (DFU)

- 3.5 mm headphone dock Stereo out (60mW@32Ω) analog output

Order Information

The MQA_HPM_CS131 Headphone AMP is for branded equipment manufacturer applications and is ideal for use in MQA Headphone AMP evaluations or as a product application

Pawpaw Electronics provides pre-sales and after-sales technical services for users, learn more at: www.pawpaw.cn

Order platform: Pawpaw Electronics official Taobao Mall or Alibaba.

Product Name	Product Model	Products & Accessories
MQA_HPM_CS131 Headphone AMP	MQA_HPM_CS131	MQA_HPM_CS131 x1

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