

The **M8** is a **Digital to Analog Converter** especially design for Hi-Fi system, The **M8** features a very high dynamic range , very low THD+N and very compact size, make it ideal for desktop like Hi-Fi system.

The M8 is also Features:

Source: USB, Optical, Coaxial

Bit Depth:

PCM 16bit - 32bit

DSD 1bit

Sampling Frequency:

PCM 32kHz - 384kHz

DSD 2.8MHz, 5.6MHz

USB Compatible:

Windows XP, 7, 8, 8.1 (Require Driver);

Mac OS X 10.6 or later;

iOS 6 or later;

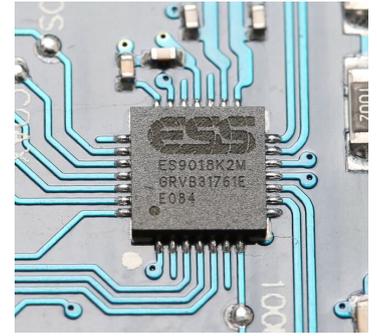
Android 4.1 or later (Some brand may not support)



DAC

The M8 use the **ES9018K2M** as DAC, the ES9018K2M is the newest DAC of ESS technology.

The ES9018K2M SABRE32 Reference DAC is a high-performance 32-bit, 2-channel audio D/A converter, Using the critically acclaimed ESS patented 32-bit Hyperstream DAC architecture and Time Domain Jitter Eliminator.



USB

The M8 use the most advanced USB receiver solution :
the **XMOS U8** solution.

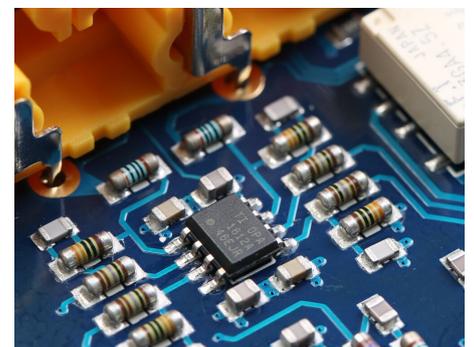
This USB use a 500mips x-core chip to decode the USB audio, And it can support PCM up to 32bit/384kHz and DSD up to 5.6MHz sampling frequency. So this is the Spec of M8 in USB input.

And the XMOS is also asynchronous USB transfer, so the accuracy of the USB just depend on how good oscillator you use, and we use two very low phase noise oscillators, one is 22.5792MHz for 44.1k, 88.2k, 176.4k, 352.8k and the other one is 24.576MHz for 48k, 96k, 192k, 384k.



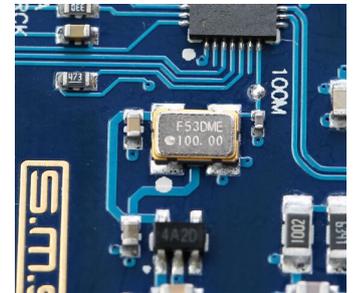
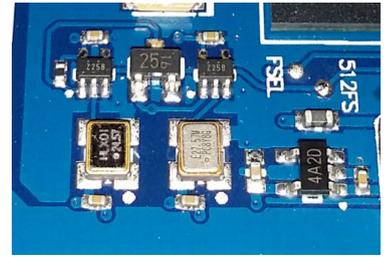
FILTER

The M8 use a low noise 2-pole dual differential active filter to filter out the out-band noise , and also has 7 kind of digital filter to remove the digital noise. 3 for PCM and 4 for DSD, and user can select which to be used, and different filter makes different sound.



CLOCK

The M8 use 3 Accurate oscillator as Audio clock, two for USB section, 1 for ES9018K2M, and use 100MHz Oscillator for ES9018K2M for high SNR.

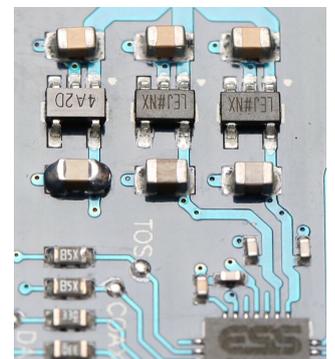


POWER

The M8 use total 10 ways LDO to supply the power. Each oscillator use a single LDO. And for ES9018K2M, we use 2 Ultra low noise LDO ADP150, which output noise just 9 μ Vrms. So making the M8 achieved 0.0004% in THD+N.

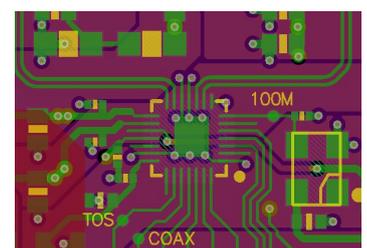
We also use a very good quality AC adapter to supply the 9V power to M8.

And if the user wants to Upgrade the sound quality, we also have a very good linear power supply -- **P1**, user can buy this and the P1 is just design for M8, so they will work together very well.



COMPONENTS

The M8 use a lot of low noise high performance component to make it sounds better, such as the TI OPA1612 op amp, the VISHAY MELF resistor, the TDK COG capacitor, and use 4 layers PCB.

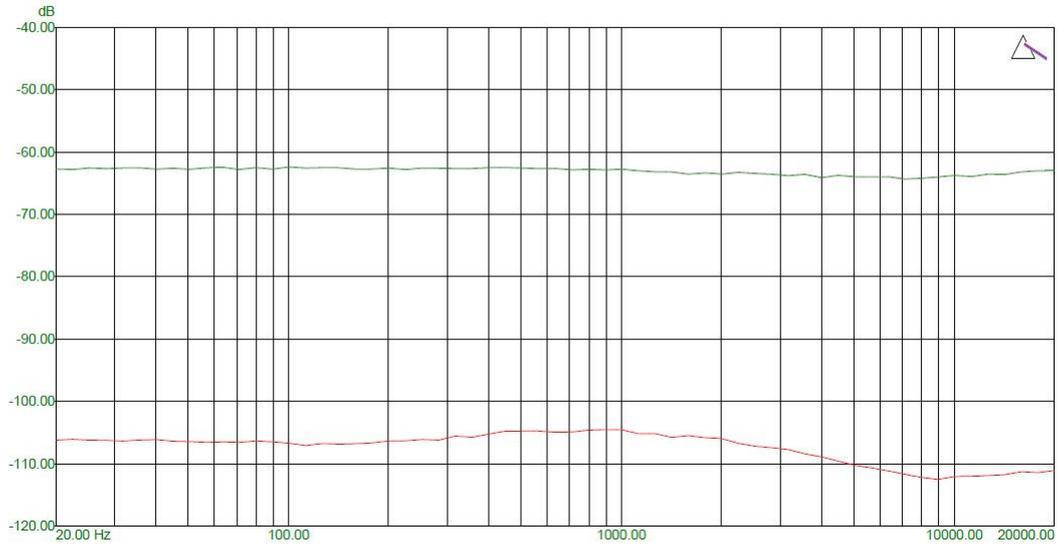


1) THD+N 0dBFS & -60dBFS :

Prism Sound dScope Series III

Page 1 of 1

SMSL M8 THD+N vs FREQ 0dB & -60dB

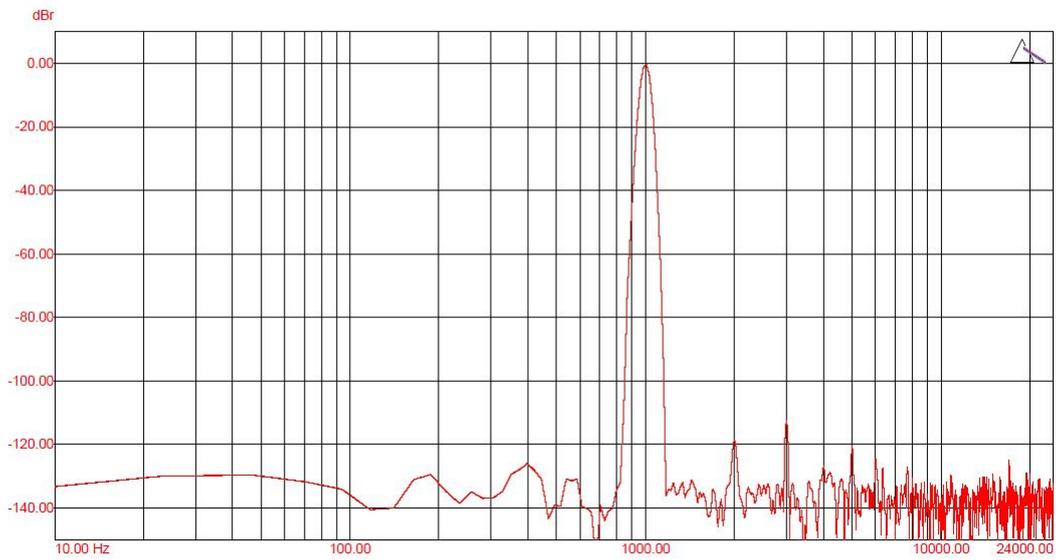


2) 1kHz 0dBFS FFT :

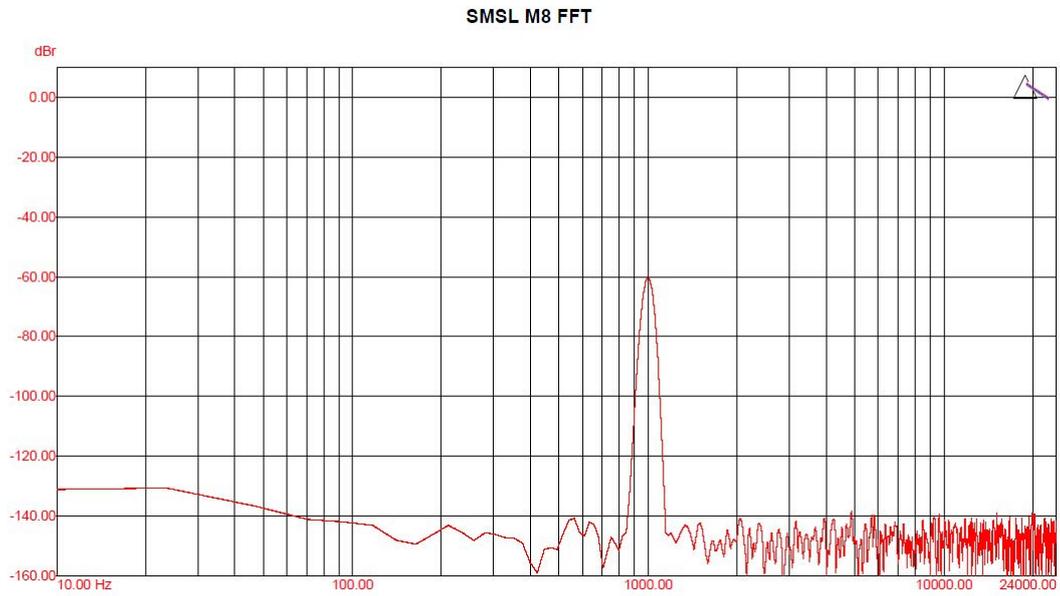
Prism Sound dScope Series III

Page 1 of 1

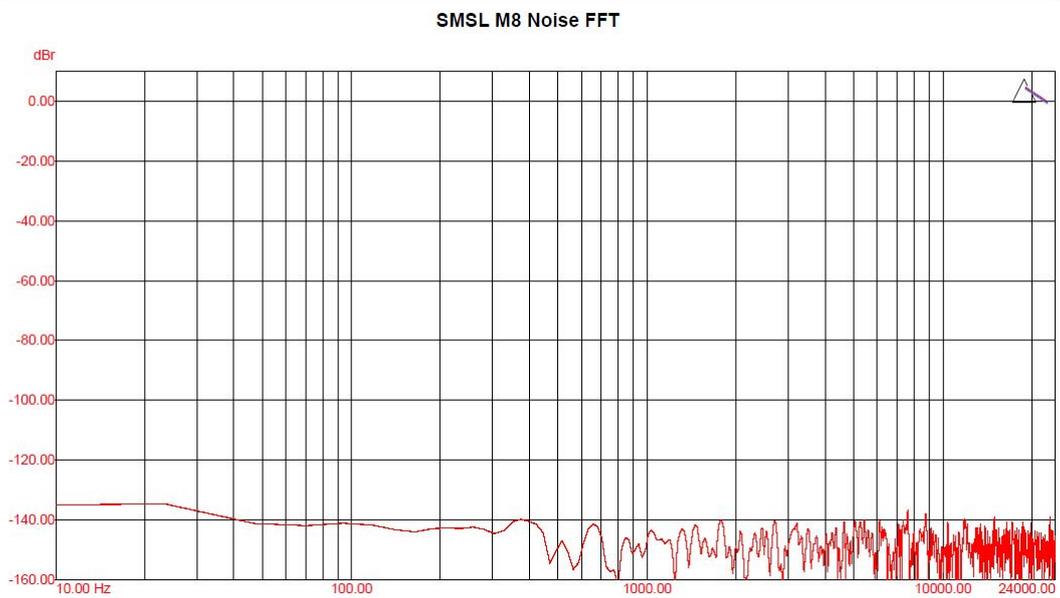
SMSL M8 FFT



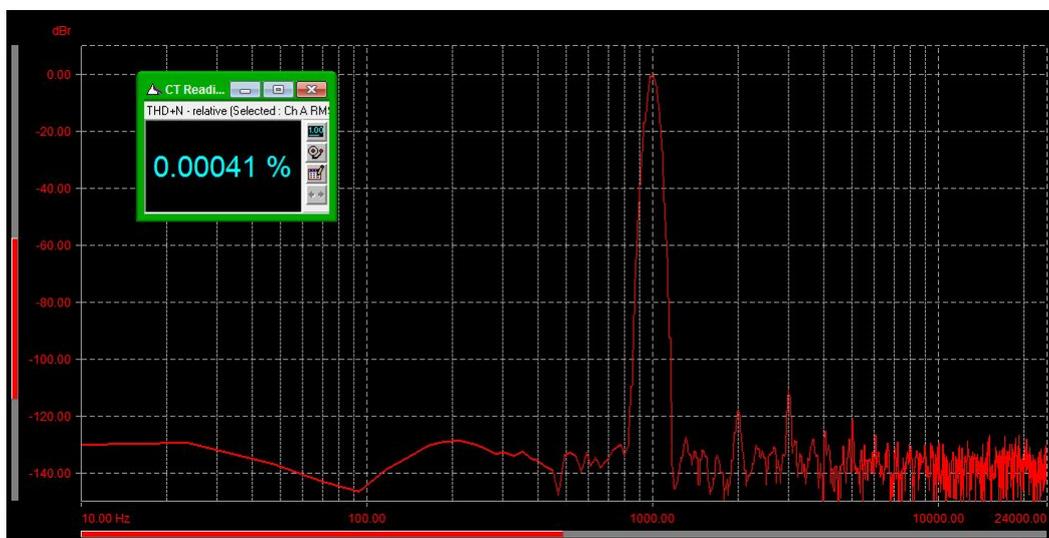
3) 1kHz -60dBFS FFT :



4) Noise FFT:



5) 0dBFS THD+N in numbers:



5) Specifications :

Output level 输出电平 :	2.15 Vrms
THD+N 失真度:	0.0004% (1kHz)
Dynamic Range 动态范围:	120dB
SNR 信噪比:	125dB (A-WTD)
Crosstalk 串音:	-120dB (1kHz)
Frequency Response 频响范围:	10Hz – 40kHz (-3dB)
Power consumption 电源消耗:	4.5W
Standby power 待机功耗:	0.8W
Size 尺寸(长 x 宽 x 厚):	120mm x 90mm x 22mm
Case material:	Aluminum
Weight 重量 :	0.6kg (Including package)

* All the audio spec are test by dScope Series III of PrismSound of UK.