FLAC-compressed wave file (96 kHz, 24 bit, stereo)
==
Please verify correctness of K-System meter values programmatically. In "RMS mode", make sure that peak and average readouts match for sine waves.

Please notice that K-System meter readings may deviate from the true value at very low frequencies (fluctuations due to meter ballistics and audio chunk size) and very high frequencies (aliasing in the wave file).

```
00:00 - 00:03  silence
00:03 - 01:03  sine sweep (10 Hz to 48 kHz, -4.00 dB FS peak, logarithmic)

               [average meters should read +16.00 dB (K-20)]
               [peak    meters should read +16.00 dB (K-20)]

01:03 - 01:06  silence
01:06 - 01:26  sine sweep (20 kHz to 24 kHz, -4.00 dB FS peak, linear)

01:11          [check peak meter for RMS filter cutoff @21 kHz]

01:26 - 01:29  silence
01:29 - 01:49  triangular sweep (20 Hz to 20 kHz, -4.00 dB FS peak, logarithmic)

               [average meters should read +14.24 dB (K-20)]
               [peak    meters should read +16.00 dB (K-20)]

01:49 - 01:52  silence
01:52 - 02:12  square sweep (20 Hz to 20 kHz, -4.00 dB FS peak, logarithmic)

               [average meters should read +19.01 dB (K-20)]
               [peak    meters should read +16.00 dB (K-20)]

02:12 - 02:15  silence
```


Validation settings
===================
```
File:     rms_sweeps.flac
```
Host SR: 96 000 Hz
```
Channel:  RMS: All, ITU-R: 1
Display:  [x] Peak meter level
          [x] Average meter level
          [ ] Maximum peak level
          [ ] Stereo meter value
          [ ] Phase correlation
```

```
RMS correction of K-System meter (sine wave, -4.00 dB FS peak)
==============================================================
RMS = A / sqrt(2)
RMS / A  = sqrt(2) = +3.01 dB
+3.01 dB + (-4.00 dB) = -0.99 dB

K-20 = 20.00 dB + (-0.99 dB) = 19.01 dB
K-14 = 14.00 dB + (-0.99 dB) = 13.01 dB
K-12 = 12.00 dB + (-0.99 dB) = 11.01 dB
Norm =  0.00 dB + (-0.99 dB) = -0.99 dB


Sine wave (-4.00 dB FS peak)
============================
RMS = A / sqrt(2)
A / RMS = 1/sqrt(2) = -3.01 dB

K-20 = 19.01 dB + (-3.01 dB) = 16.00 dB
K-14 = 13.01 dB + (-3.01 dB) = 10.00 dB
K-12 = 11.01 dB + (-3.01 dB) =  8.00 dB
Norm = -0.99 dB + (-3.01 dB) = -4.00 dB


Triangular or sawtooth wave (-4.00 dB FS peak)
==============================================
RMS = A / sqrt(3)
A / RMS = 1/sqrt(3) = -4.77 dB

K-20 = 19.01 dB + (-4.77 dB) = 14.24 dB
K-14 = 13.01 dB + (-4.77 dB) =  8.24 dB
K-12 = 11.01 dB + (-4.77 dB) =  6.24 dB
Norm = -0.99 dB + (-4.77 dB) = -5.76 dB


Square wave (-4.00 dB FS peak)
==============================
RMS = A
A / RMS = 1 = 0.00 dB

K-20 = 19.01 dB + ( 0.00 dB) = 19.01 dB
K-14 = 13.01 dB + ( 0.00 dB) = 13.01 dB
K-12 = 11.01 dB + ( 0.00 dB) = 11.01 dB
Norm = -0.99 dB + ( 0.00 dB) = -0.99 dB
```