

# Comparison of software and hardware video codecs from perspective of power consumption

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Abstract

Your abstract here.

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Acronyms

- MS-SSIM Multi-Scale Structural Similarity.. 2
- PSNR-HVS-M Peak Signal-to-Noise Ratio taking into account Contrast Sensitivity Function (CSF) and between-coefficient contrast masking of DCT basis functions.. 2
- VMAF Video Multi-Method Assessment Fusion. 2
- VQMT Video Quality Measurement Tool. 2

# 1 Introduction

Video encoding and decoding are processes with many variables which can influence the output of whole process of video transfer. Visual quality of video is determined by chosen coding standard, its implementation and encoding settings. All these three key elements have direct impact on energy resources we need for completing encode. Video coding standard defines complexity of algorithm and usually the more effective compression the more complex algorithm - the more power demanding. There are many types of implementations but usually the more hardwired algorithms it uses the less power demanding it is. At last, used encoding settings determine time needed for compression. That also means power necessary for encode. From this point of view, power consumption one, it is interesting to create comparison of different video codecs to see how much quality of video costs in used energy.

## 1.1 Theoretical framework/literature study

PSNR-HVS-MMS-SSIM

## 1.2 Research questions, hypotheses

XXXXX XXXX XXXX

# 2 Method(s)

Comparison is done for all codecs as follows:

1. Power measuring tools are enabled
2. Encoding proceeds
3. Power measuring tools are disabled
4. Encoded video is trans-coded to YUV420P
5. Quality is measured by VMAF and VQMT

# 3 Results and Analysis

XXXXX XXXX XXXX

# 4 Discussion

XXXXX XXXX XXXX

# A Insensible Approximation

Note that the Appendix or Appendices are Optional.