

# MSU Video Quality Measurement Tool

MSU Graphics & Media Lab. Video Group.



## 3 reasons to use VQMT:

Fastest implementation of VMAF

Fastest SSIM/MS-SSIM speed on 4K/8K video

Professional video analysis with NIQE and artifact metrics



video-measure@compression.ru

## 1. Widest Range of Metrics & Formats

### 1.1 20+ Objective Metrics

PSNR several versions	Spatio-Temporal SSIM
MSAD	MSU Blurring Metric
Delta	MSU Brightness Flicking Metric
MSE	MSU Brightness Independent PSNR
VQM	MSU Drop Frame Metric
SSIM	MSU Noise Estimation Metric
MS-SSIM	MSU Scene Change Detector
3-SSIM	MSU Blocking Metric
VMAF	NIQE (no-reference comparison)

### 1.2 HDR support

### 1.3 Hundreds Video and 30+ Image Formats

All popular video codecs, including H264 and HEVC.

Special support for: RAW, Y4M, AviSynth, PXM.

All popular image formats: PNG, JPEG, TIFF (with HDR support), EXR, BMP, PSD, and others

### 1.4 2k, 4k, 8k support

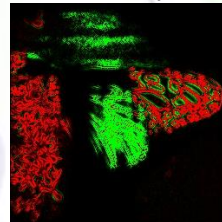
## 2. Fastest Video Quality Measurement

2.1 Up to 11.7x faster calculation of metrics with GPU (CUDA & OpenGL support)

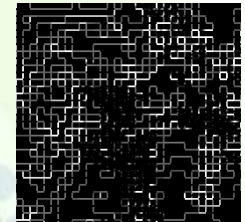
2.2 Multi-core Processors Support

## Visualization Examples

Allows easily detect where codec/filter fails



MSU Blurring Metric



MSU Blocking Metric



VQMT average Speedup

## 3. Easy Integration

### 3.1 Linux support

DEB & RPM packages

### 3.2 Batch Processing with JSON and CSV output

### 3.3 Plugins SDK

## 4. Professional Analysis

### 4.1 Comparative Analysis

### 4.2 Metric Visualization

### [MSU VQMT Official Page](#)

Tool was downloaded more than 200 000 times!

Free and Professional versions are available

## Big thanks to our contributors:

