

Audiovisual experiments:

For VQEG Activities

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SAMVIQ (Subjective Assessment Methodology of Video Quality):



- Context
 - Discriminate video or audiovisual quality, in order to give a very simple conclusion.
- Overview of SAMVIQ.
 - Standard ITU-R- BT.1788 (for video only)
 - Continuous quality scale (0 to 100) with 5 Quality Items
 - Global evaluation from 10 to 20s
 - Discard methodology (better than ITU BT 500).
 - Random Access to the test conditions.
 - Low and High quality anchors.
 - Explicit reference available.
 - The observer manage their subjective test.
- Goals
 - Evaluate video encoding chain
 - comparison between encoders performance.
 - Impact with or without transmission IP or radio errors.
- Numbers of observers
 - 15 no experts viewers after rejection method applied.

General Environnement1/2:



- Test instructions
 - A very simple and short question without guidance. NO indications about the artefacts.
- Rooms illumination and viewing conditions
 - Respect ITU-R BT. 500.
 - Using a pluge patterns to setup the display.
- Working
 - SAMVIQ is implemented in SEOVQ software (PC).
- Display available:
 - CRT,LCD for SDTV application
 - LCD, PLASMA SDTV/HDTV application.
 - PC screen for multimedia application

General Environnement 2/2:



- Capacities
 - Playback in real-time in raw audio and video samples (up to 1920x1080p60).
- Players:
 - DVS Pronto disk arrays,
 - Video cards AJA, Bluefish.
 - Windows media player, RealOne, QuickTime.
- Audio channels.
 - Often stereo, possible to work in multi-channels.
- Samples.
 - No decoding application during a test, all sequences are decoded before subjective tests.

For multimedia context 1/2



- Video Framerate.
 - Can be mixed in a same subjective test.
- Video formats
 - QCIF to VGA formats (can be mixed in the same test).
- Audio sampling rate.
 - Often 48 khz, but sometimes lower for mobile application.
- Audio bitrate.
 - Can be several
- Headphones or speakers ?
 - Audio level is adjusted by the observers.
 - Mono or stereo signal but binaural presentation.
 - For multimedia often in headphones

For multimedia context 2/2



- Viewing distance.
 - For multimedia: Not fixed, the observers can adjust their own viewing distance according to the image size.
- Image size.
 - Emulation of the real image size of the terminal by modifying the resolution PC.
- Noise environment.
 - No noise audio is simulated.
- Source materials
 - Come from broadcast solution, or low cost camera (introduce blur).
 - Using low to high complexity scenes.

SAMVIQ : Interface in SEOVQ software (for PC display)

The screenshot shows the SAMVIQ software interface. The main window is titled "Subjective Evaluation and Optimization of Video Quality - Presentation view". It features a central video player displaying a basketball game from "Stade 2". To the right of the video player is a control panel with the following elements:

- Observer: vv
- Scene: BAF (1/5)
- Vote section with a vertical scale from -100 to 0. The scale has labels: "excellent" (around 90), "good" (around 70), "fair" (around 50), "poor" (around 30), and "bad" (around 10). The current score is 90.

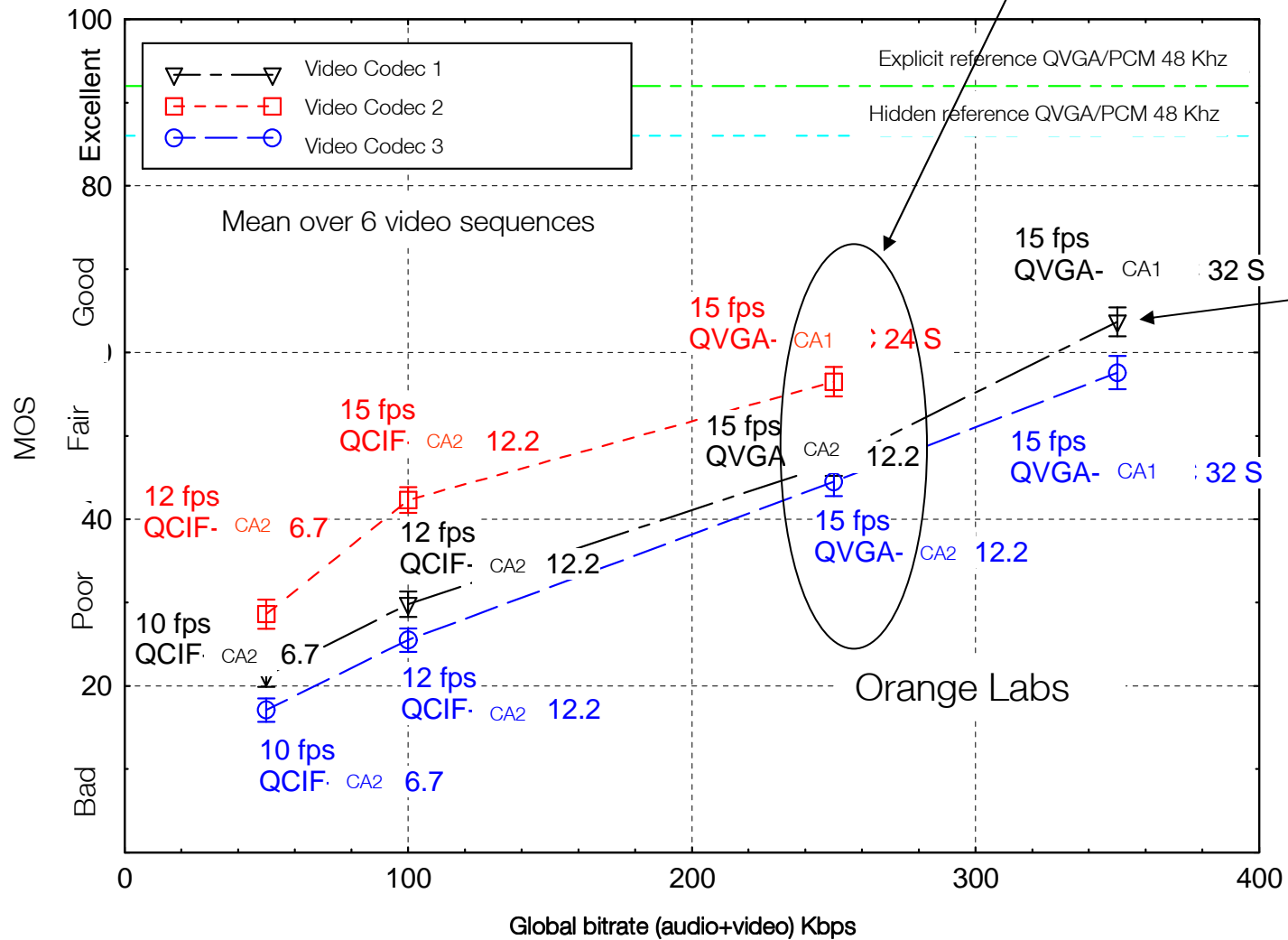
At the bottom of the interface, there is a row of buttons labeled "Ref", "A", "B", "C", "D", "E", "F", and "G". Below these buttons are playback controls: a play button, a stop button, a progress bar, a previous button, a next button, and an "End" button. The status bar at the bottom left shows "Ready" and the bottom right shows "NUM".

Audiovisual test : example of intrinsic results

Audiovisual test (SAMVIQ)

Comparison between vidéo codecs
(PC screen)

Same global bitrate, but different audio and video bitrate



Even if the intrinsic video quality is of C1 lower than C2. The global audiovisual Codec 1+ audio CA1 32 kbits/s is better than Codec 2 + audio CA1 24 kbits/s