



Quadra™ Test Coverage Report V5.4

Application Frameworks

End to end tests use multiple apps. For specific versions used and supported, please see Integration Programming Guide:

- FFmpeg
- Gstreamer
- Libxcodec (NETINT provided Application)

Interoperability

Various hosts, platforms and virtualizations systems are used to test Quadra:

- ARM aarch64
- Intel x86_64
- Ubuntu
- CentOS
- Windows
- MacOS
- Docker
- Kubernetes
- KVM
- Android
- SR-IOV

Feature Testing

All Quadra features for encoder and decoder are tested. For a list of features, please see Integration Programming Guide. In conjunction with the features, we include the following test scenarios:

- Multi instance
- 2D Engine
- Hwframes and Swframes
- Resource Monitoring
- All codecs (h264, h265, vp9, av1, jpeg)

System Upgrade

Upgrade testing on various platforms from previous release:

- Cold upgrade from previous Release versions
- Warm upgrade from same Release versions

System Downgrade / Rollback

Rollback on various platforms to previous release:

- Cold upgrade to previous Release versions

Backwards Compatibility

Compatibility testing between the current and previous Releases with FW, SW, or applications:

- New FW + old SW + old FFmpeg
- Old FW + new SW + old FFmpeg
- New FW + new SW + old FFmpeg
- New FW + new SW + old FFmpeg
- New Firmware Loader + old FW
- Old Firmware Loader + new FW

Demos and Utilities

Tools and scripts are tested and used for upgrading, demoing, and other applications:

- Quick installer FW, SW, and application install scripts
- FW upgrade scripts
- Libavcodec app
- P2P AMD app
- Libxcoder apiexamples
- AI examples
- Ffmpeg demo
- Gstreamer demo

Endurance

Transcoding sessions during Long Term tests must reach between 5 and 10 days without stopping.

Various resolutions and codecs are used with some additional scenarios:

- 2D Engine
- Hwframes and Swframes
- Ladder

Reliability

Repeated stability and load checks:

- Overcapacity
- Overload
- Power cycle
- Powerloss
- Load Spike
- Core Resets
- Firmware Loader Resets
- Temperature Throttling
- Hotplug

Performance

Performance throughput and latency is measured for FFmpeg, Libxcodec, and Gstreamer.

For the results and performance, please see the **Performance Test Report** provided in the Release Package:

- FFmpeg Throughput
- Libxcodec Throughput
- FFmpeg Latency
- Decoder PPU Scaling
- Streaming Ladder Generation
- RGBA Encoding
- Encoder EnableRdoQuant/rdoLevel/lookaheadDepth
- Capped CRF
- Inplace Overlay
- MultiThread P2P DMA on AMD GPU
- AI
- Gstreamer Xstack Throughput
- Gstreamer Ladder Generation

Quality

Quadra has been evaluated using various settings in AVC, HEVC, and AV1 codecs. The results have been compared against x264 and x265, Nvidia's H.264 and H.265 hardware encoder, and also the SVT-AV1 software encoder, these being used as anchors.

For the results and quality, please see the **Quadra Video Quality Report** provided in the Release Package.

Note: For more detailed information on specific test cases, please contact your NETINT customer support representative.