



Spirent **Umetrix**[®] Video | HD Streaming

Assuring Superior Quality of Experience
for Streaming Video Services



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Mobile is Now a Video Distribution Business

Mobile data demand is exponentially growing, with video as the main driver. According to Cisco's Visual Networking Index, 78% of the world's mobile data traffic will be video by 2021.¹ The ecosystem for video content delivery is expanding, too, across wireless carriers, device and chipset manufacturers, and streaming service providers, who each have their own specialized needs to address:

- **Global carriers** are at the center of delivering streaming video content as strategically important to their business, yet at the same time, must balance network optimization and Quality of Experience (QoE)
- **Handset and chipset manufacturers** must deliver devices optimized for video delivery, while specialty device manufacturers are actively creating new video devices and services
- **Streaming service providers** need to deliver apps that perform across a wide variety of devices and carrier networks

Video delivery is complicated, and as organizations implement their video strategies, there are a myriad of challenges and questions that arise. These questions, and many others, can be answered through comprehensive testing methods, but there are several different ways to measure video performance. Rather than analyzing packets or frames for diagnostic testing, many performance evaluation methods use pixel comparisons of the source versus the delivered video to determine overall quality. This is a common standardized method, but unfortunately it is not applicable to most Over-the-Top (OTT) streaming applications. Now there's something new.

Spirent has developed a leading-edge methodology to evaluate video performance without the need for a reference source. The Umetrix® Video solution can "view pixels like a person" and score QoE according to a Video Mean Opinion Score (VMOS), as if hundreds of human viewers were watching and rating overall performance.

Umetrix Video supports any video service (e.g., mobile, home, 5G applications), analyzes the video content itself to detect artifacts, and performs scoring without prior view of the original video. This analysis is via Spirent's content-trained non-reference algorithm, which uses machine learning on thousands of sample videos to understand the variations in different types of content (sports, drama, animation). Content training is based on de facto industry standards that correlate to human perceptual scoring. The result: **faster and less expensive repeatable design validation, regression testing, and competitive benchmarking.**



Applications:

OTT video streaming | OTT video chat | IR.94
Non-commercial live streaming
Mission-Critical Video (MCVideo) for PS-LTE

¹ Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2016-2021 White Paper

Launch, Optimize and Benchmark

	Mobile LTE and 5G	Home Fixed 5G, Cable and Fiber	Specialized
Device	Assure new devices and chipsets deliver acceptable QoE before launch	Assure media players, smart devices and set tops deliver acceptable QoE before launch	For new types of connected video devices (i.e. smart home, sports, transportation)
Service	Assure video services deliver acceptable QoE before launch, and as content, devices and networks evolve Compare performance to competitors and over different devices and networks	Assure home video services deliver acceptable QoE before launch and compare performance to competitors	For specialized video applications (i.e. telemedicine, mission critical video, V2X)

Spirent Umetrix Video facilitates faster and less expensive repeatable design validation, regression testing, and competitive benchmarking.

- Assess live streaming or chat services without specific reference test content
- Enables streaming video assessment of wireless service providers TV services in Fit4Launch
- Provides foundation for the ability to tune the algorithm for specific use cases and conditions (optional service)
- Currently supported capture resolutions: 480p, 720p, 1080p at 24, 30 and 60 FPS



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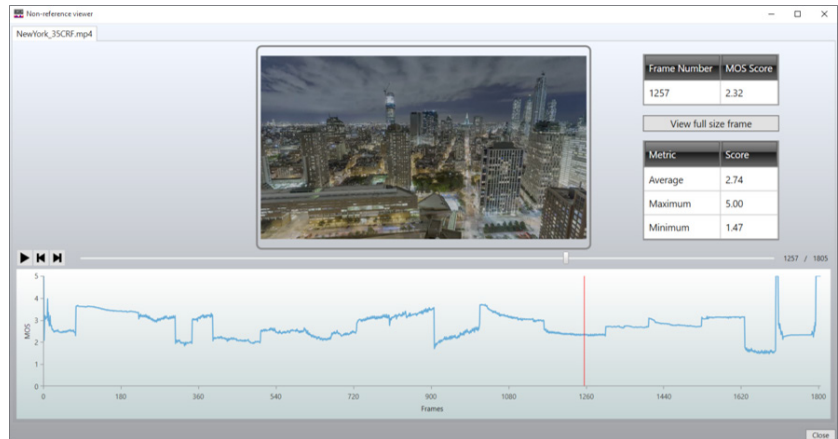
About Spirent Communications

Spirent Communications (LSE: SPT) is a global leader with deep expertise and decades of experience in testing, assurance, analytics and security, serving developers, service providers, and enterprise networks.

We help bring clarity to increasingly complex technological and business challenges.

Spirent's customers have made a promise to their customers to deliver superior performance. Spirent assures that those promises are fulfilled.

For more information, visit: www.spirent.com



Interactive viewer showing video vs. MOS score

Spirent Expertise

Others may know mobile or video individually, but Spirent is unique in our understanding of the reciprocal impact of mobile and video on each other.

Spirent is a trusted provider for over 25 years spanning multiple generations of mobile technologies. Our validated test solutions have been used throughout the world for certifying mobile devices on global carrier networks; over 90% of all mobile user equipment (UEs) have touched our solutions.

Spirent knows video. We have a strong history of delivering QoE assessments and years of experience with video quality assessment methodologies, algorithms, impairments, and root cause diagnostics. Spirent's overall video approach is algorithm-agnostic, allowing us to offer a variety of methodologies and algorithms to provide the right KPIs for each individual customer.



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