

Arreios for ATSC 3.0 provides a suite of automated test tools that enable device manufacturers and their supply chain to reliably and efficiently test a range of scenarios to verify conformance and correct implementation for the wide-range of technologies set-out in ATSC 3.0. It comes with a set of tests listed below which will be updated as more materials become available.

Test Type	Test Title
W3C Web Media API	Web Media API Snapshot - 2D Context Tests (626)
W3C Web Media API	Web Media API Snapshot - Content Security Policy Tests (118)
W3C Web Media API	Web Media API Snapshot - CSS Tests (212)
W3C Web Media API	Web Media API Snapshot - DOM Tests (156)
W3C Web Media API	Web Media API Snapshot - ECMAScript Tests (11717)
W3C Web Media API	Web Media API Snapshot - Fetch Tests (28)
W3C Web Media API	Web Media API Snapshot - HTML Tests (799)
W3C Web Media API	Web Media API Snapshot - IndexedDB Tests (66)
W3C Web Media API	Web Media API Snapshot - Media Source Tests (6)
W3C Web Media API	Web Media API Snapshot - Notifications Tests (1)
W3C Web Media API	Web Media API Snapshot - UI Events Tests (6)
W3C Web Media API	Web Media API Snapshot - Web Audio Tests (52)
W3C Web Media API	Web Media API Snapshot - Web Messaging Tests (79)
W3C Web Media API	Web Media API Snapshot - WebSockets Tests (61)
W3C Web Media API	Web Media API Snapshot - Web Storage Tests (19)
W3C Web Media API	Web Media API Snapshot - Workers Tests (84)
W3C Web Media API	Web Media API Snapshot - XHR Tests (175)
Video Playback (ROUTE/DASH)	Video and audio playback over ROUTE/DASH: HEVC 1280x720p 24 fps 16:9 PQ, 5.1 AC-4
Video Playback (ROUTE/DASH)	Video and audio playback over ROUTE/DASH: HEVC 1280x720p 24000/1001 fps 16:9 PQ, 2.0 AC-4
Video Playback (ROUTE/DASH)	Video and audio playback over ROUTE/DASH: HEVC 1280x720p 30 fps 16:9 SDR, 5.1 AC-4
Video Playback (ROUTE/DASH)	Video and audio playback over ROUTE/DASH: HEVC 1280x720p 60 fps 16:9 HLG, 5.1AC-4
Video Playback (ROUTE/DASH)	Video and audio playback over ROUTE/DASH: HEVC 1280x720p 60000/1001 fps 16:9 HLG, 2.0 AC-4
Video Playback (ROUTE/DASH)	Video and audio playback over ROUTE/DASH: HEVC 1280x720p 60000/1001 fps 16:9 PQ, 2.0 AC-4
Video Playback (ROUTE/DASH)	Video and audio playback over ROUTE/DASH: HEVC 1280x720p 60000/1001 fps 16:9 SDR, 2.0 AC-4
Video Playback (ROUTE/DASH)	Video and audio playback over ROUTE/DASH: HEVC 1920X1080p 60000/1001 fps 16:9 HLG, 2.0 AC-4
Video Playback (ROUTE/DASH)	Video and audio playback over ROUTE/DASH: HEVC 1920X1080p 60000/1001 fps 16:9 PQ, 2.0 AC-4
Video Playback (ROUTE/DASH)	Video and audio playback over ROUTE/DASH: HEVC 1920X1080p 60000/1001 fps 16:9 SDR, 2.0 AC-4
Video Playback (ROUTE/DASH)	Video and audio playback over ROUTE/DASH: HEVC 3840x2160p 60000/1001 fps 16:9 HLG, 2.0 AC-4
Video Playback (ROUTE/DASH)	Video and audio playback over ROUTE/DASH: HEVC 3840x2160p 60000/1001 fps 16:9 PQ, 2.0 AC-4
Video Playback (ROUTE/DASH)	Video and audio playback over ROUTE/DASH: HEVC 3840x2160p 60000/1001 fps 16:9 SDR, 2.0 AC-4
Video Playback (ROUTE/DASH)	Video and audio playback over ROUTE/DASH: HEVC 704x480p 30000/1001 fps 16:9 SDR, 2.0 AC-4
Video Playback (ROUTE/DASH)	Video and audio playback over ROUTE/DASH: HEVC 960x540p 30000/1001 fps 16:9 SDR, 2.0 AC-4
Video Playback (ROUTE/DASH)	Video and audio playback over broadband using setRMPURL: HEVC 1280x720p 30 fps 16:9 SDR, 5.1 AC-4
Video Playback (ROUTE/DASH)	Video and audio playback over broadband using setRMPURL: HEVC 1280x720p 60000/1001 fps 16:9 HLG, 2.0 AC-4
Video Playback (ROUTE/DASH)	Video and audio playback over broadband using setRMPURL: HEVC 1280x720p 60000/1001 fps 16:9 PQ, 2.0 AC-4
Video Playback (ROUTE/DASH)	Video and audio playback over broadband using setRMPURL: HEVC 1280x720p 60000/1001 fps 16:9 SDR, 2.0 AC-4
Video Playback (ROUTE/DASH)	Video and audio playback over broadband using setRMPURL: HEVC 1920X1080p 60000/1001 fps 16:9 HLG, 2.0 AC-4
Video Playback (ROUTE/DASH)	Video and audio playback over broadband using setRMPURL: HEVC 1920X1080p 60000/1001 fps 16:9 PQ, 2.0 AC-4
Video Playback (ROUTE/DASH)	Video and audio playback over broadband using setRMPURL: HEVC 1920X1080p 60000/1001 fps 16:9 SDR, 2.0 AC-4
Video Playback (ROUTE/DASH)	Video and audio playback over broadband using setRMPURL: HEVC 3840x2160p 60000/1001 fps 16:9 HLG, 2.0 AC-4
Video Playback (ROUTE/DASH)	Video and audio playback over broadband using setRMPURL: HEVC 3840x2160p 60000/1001 fps 16:9 PQ, 2.0 AC-4
Video Playback (ROUTE/DASH)	Video and audio playback over broadband using setRMPURL: HEVC 3840x2160p 60000/1001 fps 16:9 SDR, 2.0 AC-4
Video Playback (ROUTE/DASH)	Video and audio playback over broadband using setRMPURL: HEVC 704x480p 30000/1001 fps 16:9 SDR, 2.0 AC-4
Video Playback (ROUTE/DASH)	Video and audio playback over broadband using setRMPURL: HEVC 960x540p 30000/1001 fps 16:9 SDR, 2.0 AC-4
Video Transition	Transition from ROUTE/DASH with HLG video to broadband using setRMPURL with PQ video
Video Transition	Transition from ROUTE/DASH with HLG video to ROUTE/DASH with PQ video (service change)
Video Transition	Transition from ROUTE/DASH with PQ video to broadband using setRMPURL with HLG video

Video Transition	Transition from ROUTE/DASH with PQ video to ROUTE/DASH with HLG video (service change)
Captions	Image profile caption display over ROUTE/DASH: Latin characters
Captions	Image profile caption synchronization over ROUTE/DASH
Captions	Text profile caption display over ROUTE/DASH: Latin characters
Captions	Text profile caption display over ROUTE/DASH: non-Latin characters
Captions	Text profile caption synchronization over ROUTE/DASH
AC-4 Audio	5.1.2-channel audio playback over ROUTE/DASH: HEVC 1280x720 60000/1001 fps 16:9 SDR, 5.1.2 AC-4
AC-4 Audio	7.1.4-channel audio playback over ROUTE/DASH: HEVC 1280x720 60000/1001 fps 16:9 SDR, 7.1.4 AC-4
AC-4 Audio	Audio playback of alternative commentary over ROUTE/DASH: 5.1 AC-4 with alternative commentary track using Preselections
AC-4 Audio	Mixing AC-4 Music & Effects with Dialogue over ROUTE/DASH: 5.1 Music & Effects + Dialogue track AC-4 using Preselections
AC-4 Audio	Playback of original language track over ROUTE/DASH: 5.1 AC-4 with original language dialogue track using Preselections
AC-4 Audio	Playback of translated language track over ROUTE/DASH: 5.1 AC-4 with translated language track using Preselections
Broadcast Audio	Receiver can play broadcast audio-only service
Interactive Apps	Application Graphics: broadcaster application compositing
Interactive Apps	Application Lifecycle: application re-launch after service transition
Interactive Apps	Device Control API: audio volume
Interactive Apps	Device Control API: service acquisition
Interactive Apps	Receiver Notification API: service change
Interactive Apps	Receiver Query API: device information
Interactive Apps	Receiver Query API: RMP MPD URL
Interactive Apps	Receiver Query API: service information
Interactive Apps	RMP Control API: video scaling and positioning API
Interactive Apps	Websocket Connection: interface binding
Emergency Alerts	Query Alerting URL API: obtain AEAT
Emergency Alerts	Query Alerting URL API: obtain OSN

Additional tests will be released to our Arreios customers in the technical areas listed above and also in other areas that we have not covered yet, and this is what our roadmap currently looks like:

DRM

Includes support for CENC, TEE, Widevine, Application Code Signing, Signalling Message Signing, Client Authentication

VP1 Audio Watermark

For content recovery in redistribution scenarios

MMT (MPEG Media Transport)

Broadcast Audio Video using MMT instead of ROUTE/DASH

ESG (Electronic Service Guide)

DASH features

Includes Segment Timelines and Segment Numbering

Ad insertions

Ad insertions using MPD XLinks

SHVC

Includes Spatial Sub-Layering

Multiple Simultaneous PLPs

For a single service

LDM (Layered Divisional Multiplexing)

Also in combination with SHVC

RSAT (Regional Service Availability Table)

HFR (High Frame Rate)