



Player Analysis Technology Approval report

SwingVision

Test code: PAT-25-037

Serial no: n/a

Software versions:

iOS 17 and later

Version 11.9.6 (20/02/25)

Issue date: 31/10/2025

Objective: To test and evaluate SwingVision according to Rule 31 of the 2025 Rules of Tennis.

Result: Approved



SUMMARY

SwingVision is an iOS app that provides performance analysis through analysed video data collected with an iPhone or iPad. Either one or two devices are mounted at the back of the court on one or both ends, with full view of the court. The system automatically categorises shot types (forehand/backhand/serve) and ball spin (topspin/slice) and removes dead time between points to condense match footage. Footage can be reviewed after the match by players or coaches through password protected accounts.

An optional tablet can be placed on court to act as a user interface during the match. This can be used to keep score or to make electronic line calls, with impacts from the last four shots available to be challenged. Pairing with an Apple Watch is possible for use in recreational play but is not permitted for use in competition.

Restrictions on the access by a player to SwingVision components during periods when coaching is not and is allowed are as follows:

COMPONENT	NO COACHING	COACHING
Fence mounted iPhone	Permitted	Permitted
iPad	Permitted	Permitted
Apple Watch	Not permitted	Not Permitted

MAIN COMPONENTS

The main components of the system are described in Table 1 and depicted in Figure 1.

Table 1: Components of the System. The Apple Watch that can be used in recreational play is not permitted for use in competition so is not included

COMPONENT	FUNCTION(S)
Smartphone	Primary video capture and processing
OPTIONAL 2 nd smartphone	Additional video capture and processing
OPTIONAL Tablet	Line calls and officiating
OPTIONAL SwingStick	Phone mounting mechanism



Figure 1 – a) View of primary camera. b) Mounting mechanism.

DATA CAPTURE AND PROCESSING

SwingVision AI uses the rear camera of the iPhones used to record video at 60 fps. A series of machine learning models process the video to output tracking information on the ball, the court, and the players. Data collected is transferred to a backend server via WiFi connection to be logged. Ball trajectory data is sent to the on-court tablet to display line calling decisions.

SwingVision measures and records the following data:

- Location of the ball in 3D when it:
 - Is hit by a racket
 - Contacts the net
 - Bounces on the court
- Shot type for each trajectory (forehand/backhand/serve)
- Spin type of each trajectory (topspin/slice)
- Ball speed of each trajectory

COMMENTS

Data is mostly transferred using Bluetooth and WiFi connections. Where a WiFi connection is unavailable, a cellular network connection can be used for data transfer. All devices must be signed into the same account, using the same username and password for data transmission to occur. Data can only be transferred between paired devices. Pairing is authenticated through a username and password that must be entered on all devices.

DATA COMMUNICATION

The one or two devices used for data collection are mounted on the back of the court prior to the match starting. The phone(s) are only accessed again after the match has finished. The only user interface available is through the on-court tablet used to display the scoreline and communicate line calling decisions to the user. A chair umpire on court can use the tablet to keep score. Players are allowed three incorrect challenges per set as default.

Information available on the user interface:

- Duration of the match
- Set scores of each player/team*
- Number of challenges remaining for each player/team
- The challenge result** of a shot challenged by a player/team and approximate landing position

*if manually inputted by players during changeovers

** Approval does not attempt to, nor does it in fact, establish the accuracy or reliability of data or fidelity of its transmission, including (but not limited to) the provision of 'in'/'out' decisions for the purposes of line-calling.

COMMENTS

During play, the only information displayed on the on-court tablet is the scoreline, and the user is given the ability to make challenges. The on-court tablet is the only active user interface accessible during the match.

After the match, when reviewing the footage, a player is able to access additional information such as shot type, speed, and spin.

ADDITIONAL INFORMATION

Client:

SwingVision

SwingVision, Inc.
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Date received:

28th March 2025

Contact:

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Report prepared by: Tom Hewson

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Revision number: 0

Please note:

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