



Player Analysis Technology Approval report

K-AI Wearable Tech

Test code: PAT-26-037

Serial no: n/a

Software versions: K-AI app / desktop software v1.0.20 (iOS/Android; Windows 10+; macOS 12+)

Firmware version: v3.05

Issue date: 29/04/2026



Objective: To test and evaluate K-AI Wearable Tech according to Rule 31 of the Rules of Tennis.

Result: Approved

SUMMARY

K-AI Wearable Tech is worn on the upper back (between the shoulder blades) in a sport bra/harness. It uses GPS and an inertial measurement unit (IMU) to record position and movement and can also capture heart-rate via an optional textile sensor integrated into the harness. Data is stored on internal non-removable memory during activity and downloaded after the session. The app/software uploads data to a secure cloud platform for processing and visualisation. An optional Courtside Antenna enables real-time data reception via a native iOS app; the device/bra/harness provides no real-time feedback.

Restrictions on the access by a player to K-AI Wearable Tech components during periods when coaching is and is not allowed are as follows:

COMPONENT	NO COACHING	COACHING
Wearable device and sport bra/harness (including optional HR textile sensor)	Permitted	Permitted
Auxiliary device for: companion app / desktop software/ cloud platform / web dashboards	Not permitted	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.

COMPONENT	FUNCTION(S)
GPS tracker	Record and store data.
Sport bra/harness (with optional built-in HR textile sensor)	Positions GPS tracker on upper back; optionally captures heart-rate
Antenna (optional)	Enable optional real-time data transfer to auxiliary device
Companion smartphone app / desktop software	Downloads raw data from wearable and uploads to cloud; manages device memory
Cloud platform (web)	Processes and visualises data
Auxiliary device (smartphone/tablet/iPad /PC)	Hosts the companion app/software and provides user interface and internet connectivity for upload/viewing



Figure 1 - Components of the System: a) The device removed from the harness; b) the device placed in the harness to be worn between the shoulder blades; c) the smartphone app; d) the courtside antenna for optional LIVE data transfer.

DATA CAPTURE AND PROCESSING

The sports bra/harness positions the wearable device (78 x 42 x 12.4 mm, 60 g) between the player's shoulder blades. The device records raw GPS and IMU (3-axis accelerometer and 3-axis gyroscope) data to internal non-removable memory. K-SPORT offer two variations of the sports bra/harness, one of which includes an integrated heart-rate sensor. This can be activated by the user by securing the device to the connection points in the harness.

The data capture system can also connect with Polar and Firstbeat heart-rate sensor products, using the data collected by the K-AI Wearable Tech in combination with the Polar/Firstbeat data to display in the Dynamix cloud platform when not used with the integrated K-SPORT heart rate sensor.

The data measured by the device are as followed:

- Position (latitude and longitude)
- Velocity
- 3-axis acceleration
- 3-axis angular velocity
- Heart-rate (bpm) (when activated by the user)

Following the session, the user connects to the wearable using the companion smartphone app via Bluetooth Low Energy (BLE) or the desktop application via USB. There is no removable storage on the device. Recorded sessions are downloaded and uploaded to the cloud platform via an HTTPS-encrypted connection. The data is then processed and physical metrics are calculated. The processed results are made available to the user through login-protected cloud dashboards. Without the K-AI Live application and antenna, data can only be uploaded after a session is complete.

COMMENTS

Data upload to the cloud requires user authentication in the app/desktop software and uses HTTPS encryption. Wireless communication between the wearable and the app uses BLE pairing, and the wearable does not use removable storage. These measures reduce susceptibility to unauthorised access during transmission and storage.

DATA COMMUNICATION

Players have no access to coaching information during the playing of a point. Coaching information is communicated to users via the companion app/desktop software and the Dynamix cloud platform, which require user login. When coaching is permitted, information may be accessed via an auxiliary device by the user and any authorised support staff according to the player's account access controls.

The Dynamix cloud platform provides:

- Player Profiles
- Team management
- Session data storage
- Analysis
- Metric Configuration
- Threshold Setting
- Device management
- Access Control

The device, positioned between the player's shoulder blades, has five LEDs to indicate power status, activity recording status, battery level and memory status. It emits no tactile or audible signal, and thus meets the threshold of a reasonable measure to restrict communication during the playing of a point.

The live monitoring system is made available using the antenna. The antenna must be placed within 150 m of the court, with the K-SPORT logo facing towards play. Once turned on, the antenna connects to the player-worn device using a BLE connection. LEDs on the base of the antenna indicate operational status. This must be configured and connection established pre-match to ensure real-time data transmission.

Real-time data is displayed on the K-AI LIVE native iPad application. Authentication with the Dynamix platform synchronises the following information:

- User authentication and authorisation
- Player profiles and team data
- Metric definitions, calculated thresholds, and performance targets
- Device list and access permissions

Once authenticated, the app connects to the Wi-Fi emitted by the antenna (range: 40 m, frequency: 2.4 GHz or 5 GHz – user configurable) and receives real-time data from the antenna to be displayed.

Data available on the K-AI LIVE app in real-time if using the antenna or via the app/Dynamix cloud platform post-match include:

- Distance covered (total and by speed zone)
- Speed (instantaneous/average/max)
- Sprints
- Accelerations and decelerations (counts and intensity bands)
- Metabolic power,
- High-speed running distance and configurable thresholds
- Time in heart-rate zones*
- Max heart-rate*
- Average heart-rate*
- Activity duration*
- Session timeline*

*(when heart-rate is enabled).

COMMENTS

The wearable device and harness do not present coaching information directly. Therefore, restricting player access to auxiliary devices when coaching is prohibited is sufficient to prevent access to coaching information during play.

When the system is used in real-time using the K-AI LIVE app, data is displayed visually in the iPad app. A player accessing the iPad in a scenario where coaching is not permitted would constitute a violation of the coaching rule. Without access to the iPad, no information produced can be communicated to the player, thus aligning with the Rules of Tennis.

ADDITIONAL INFORMATION

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Please note:

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