

# ActiGraph wGT3X+ Monitor

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The wireless wGT3X+ monitor, in conjunction with the ActiLife analysis software, delivers objective 24 hour physical activity and sleep/wake measurements including raw acceleration, activity counts, energy expenditure, physical activity intensity, body position, and amount of sleep, while an integrated ambient light sensor provides valuable information about the subject environment. The ANT+ enabled wGT3X+ communicates wirelessly with the ActiLife software, ActiLife Mobile app and other compatible devices and sensors, allowing for the integration of additional information such as heart rate, weight and blood pressure into the ActiGraph data set. The wGT3X+ is fully backwards compatible with other ActiGraph devices.



## wGT3X+ Features

### Wireless Initialization

Improve efficiency and streamline workflow with wireless, multi-device initializations using the ActiLife software and the ActiLife Mobile app.

### Device Interoperability

Sync the ActiGraph system with compatible devices to integrate additional measurements such as heart rate, blood pressure and BMI into the ActiGraph data file.

### Real Time Summary Data

Perform burst downloads of active wGT3X+ devices to view real-time statistics on wear time, energy expenditure, steps taken and activity intensity.

### Device Operating Status

Monitor the operating status of active wGT3X+ devices, including battery voltage, data collection status and amount of recorded data.

## wGT3X+ Technical Specifications

<b>Dimensions</b>	4.6cm x 3.3cm x 1.9cm
<b>Weight</b>	19 grams
<b>Sample Rate</b>	30-100 Hertz (10 Hertz increments)
<b>Memory/Storage Capacity</b>	512 MB/40 days at 30 Hz
<b>Battery Life</b>	30 days*
<b>Communication</b>	USB, ANT+ wireless
<b>Water Resistance</b>	1 meter, 30 minutes
<b>Lux Range</b>	350-850 nm, 600 nm peak

\* 30 Hz, wireless disabled

## wGT3X+ Technology

The ActiGraph wGT3X+ uses a 3-axis MEMS accelerometer to record time varying accelerations ranging in magnitude from +/- 6 g's. The accelerometer output is sampled by a twelve-bit (12) Analog to Digital Converter ranging from 30 Hz to 100 Hz. This raw acceleration is stored in non-volatile flash memory. Utilizing the ActiLife software, the raw data collected by the wGT3X+ can be reviewed directly or further processed through ActiGraph's digitally matched filter. This digital filter band-limits the accelerometer to the frequency range of 0.25 to 2.5 Hz, which has been carefully chosen to detect normal human motion and to reject changing accelerations outside the pass band. Each sample is then summed over a user specified interval of time called an 'epoch'.

### ActiLife Mobile App

The iOS compatible ActiLife Mobile app supports in-field communication with wGT3X+ devices, increasing project flexibility and providing added security against errors and data loss.

- Wirelessly initialize devices in the lab or in the field
- View summary subject data, no downloads required!
- Verify device operating status in real time
- Enable subject feedback and interaction



The wGT3X+ is an FDA cleared Class II medical device within the United States and a Class I medical device within the European Union that abides by the regulatory requirements listed below:



ActiGraph is compliant with IEC standards for "Type BF Applied Part"



Part 15.109 (US) – Radiated Emission Limits of Unintentional Radiators  
Part 15.249 (US) – Radiated Emission Limits of Intentional Radiators

ICES-003 (Canada) – Interference Causing Equipment Standards for a Digital Apparatus.



EN60601-1-Medical Device General Safety Requirements



All ActiGraph products are manufactured Lead Free and are RoHS Compliant



The wGT3X+ is water resistant in accordance with IEC 60529 IPX7, or immersion in one (1) meter of water for up to 30 minutes.