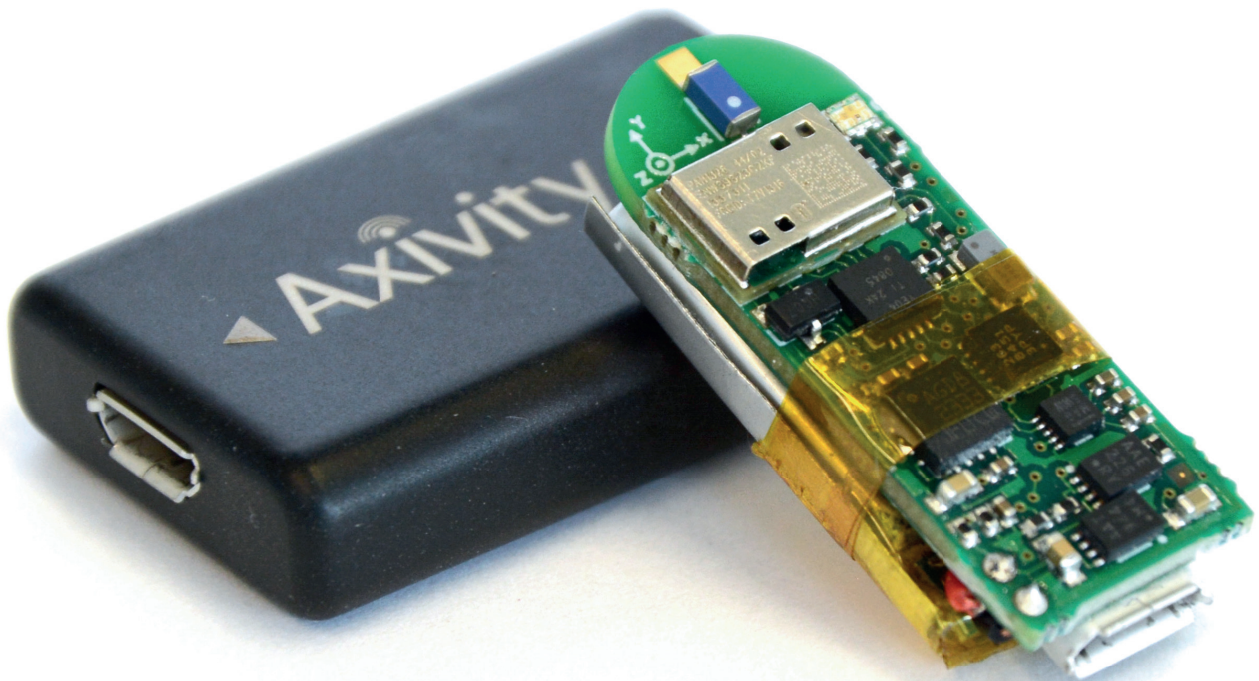


# WAX9 Data Sheet

9-Axis Bluetooth Compatible Streaming IMU



# WAX9

9-Axis Bluetooth Compatible Streaming IMU

## Description

The WAX9 is a streaming inertial measurement unit (IMU). The sensor combines a MEMS accelerometer, gyro and magnetometer with a Bluetooth Low Energy (BLE) compatible radio. The WAX9 sensor is an ideal platform for wirelessly gathering real-time movement data. Additionally, the WAX9 also features a barometric pressure sensor and temperature sensor.

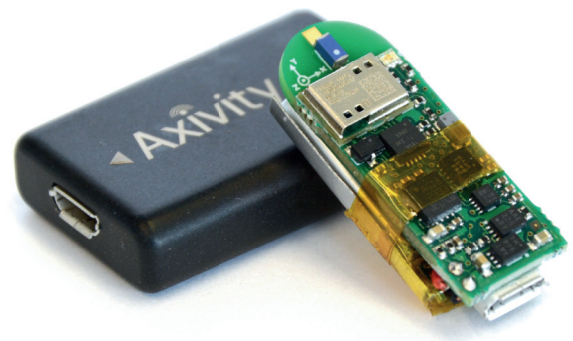
The WAX9 is fully configurable and can provide its output in a range of format options at a variety of rates. The WAX9 sensor is provided in a convenient Puck form factor.

## Summary

- 3-axis accelerometer
- 3-axis gyroscope
- 3-axis magnetometer
- Temperature sensor
- Barometric pressure sensor
- Bluetooth compatible 4.0 radio

## Applications

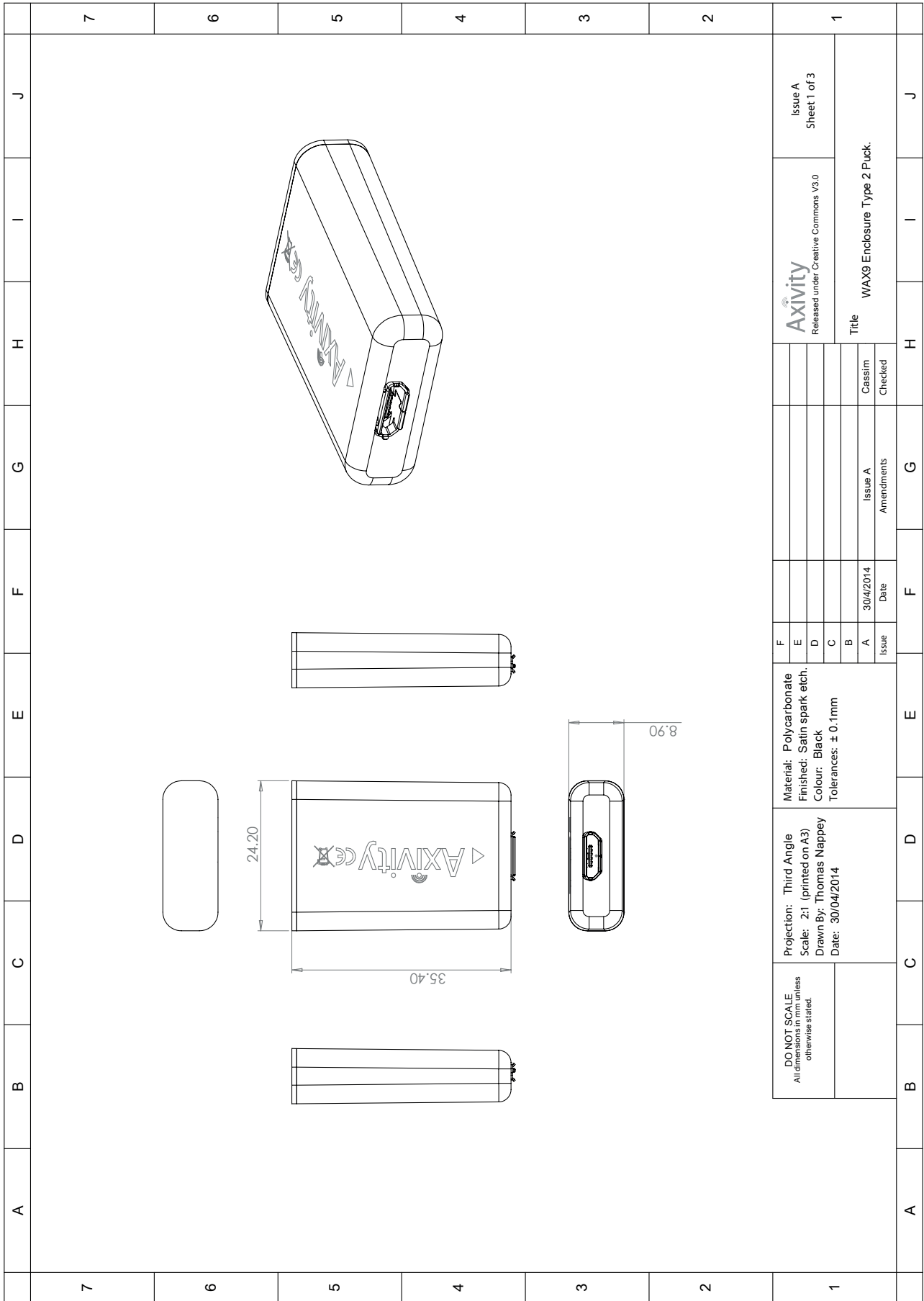
- Human movement science
- Sports research
- Instrumented environments
- Digital interaction
- Activity recognition



## Specification: WAX9

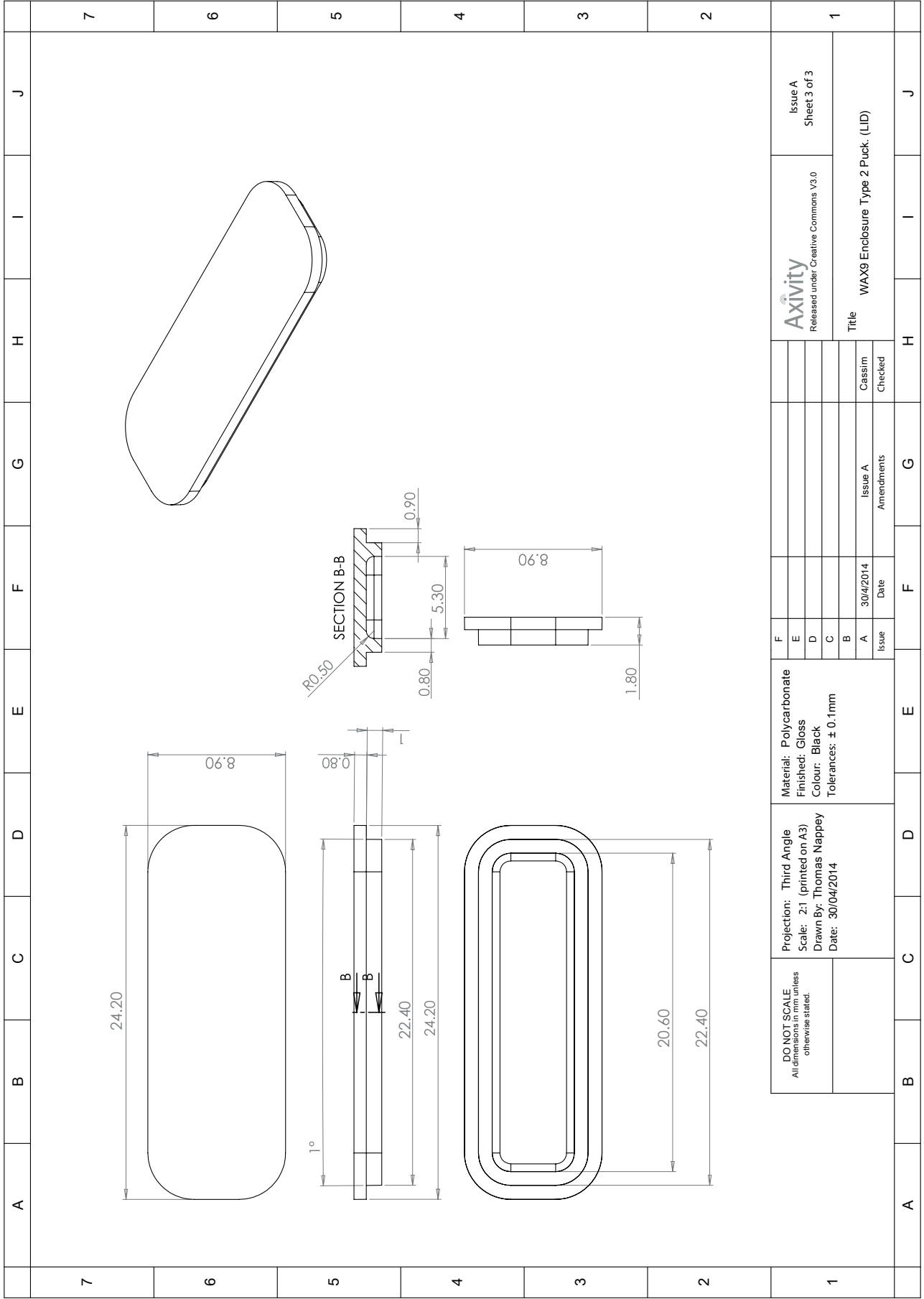
PARAMETER	VALUE	NOTES
Puck Size	23x32.5x8.9 mm	
Puck Weight	8g	
Enclosure Material	Polycarbonate	
Battery Capacity	85mAh	Rechargeable lithium polymer
Battery Charge Current	100mA	
Connectivity	Micro USB	
<b>MAXIMUM LIFE (full charge)</b>		
Hibernate	56 days	
Discoverable	117 hours	
Connected (not showing)	3 hours	Bluetooth Basic Rate
Connected (50Hz stream)	2 hours	Bluetooth Basic Rate
LE Mode Connected (not showing)	25 hours	Bluetooth 4.0 Low Energy
LE Mode Connected (50Hz stream)	6 hours	Bluetooth 4.0 Low Energy
<b>ENVIRONMENTAL PROTECTION</b>		
Dust Ingress	Dust tight (IP6X)	
Operating Temperature	0°C to 65°C (not charging)	40°C if charging
<b>MEASUREMENT CAPABILITIES</b>		
Output Data Rate	Configurable 1Hz - 400Hz	See developer guide for details
<b>ACCELEROMETER</b>		
Sensor Type	MMA8451Q	
Range	±2/4/8g	
Resolution	14-bit	up to 0.1mg
<b>MAGNETOMETER</b>		
Sensor Type	MAG 3110	
Range	±1mT	
Resolution	16-Bit	
<b>GYRO</b>		
Sensor Type	L3G4200D	
Range	±250/500/2000 dps	
Resolution	16-Bit	
<b>TEMPERATURE</b>		
Sensor Type	BMP180	Linear thermistor
Range	0°C - 65°C	
Resolution	0.1°C	
<b>PRESSURE</b>		
Sensor Type	BMP180	
Range	30-110 kPa	
Resolution	1Pa	

# Dimensions: WAX9



DO NOT SCALE All dimensions in mm unless otherwise stated.		Projection: Third Angle Scale: 2:1 (printed on A3) Drawn By: Thomas Nappay Date: 30/04/2014		Material: Polycarbonate Finished: Satin spark etch. Colour: Black Tolerances: $\pm 0.1\text{mm}$		Issue A 30/4/2014 Date		Issue A Amendments		Cassim Checked		Title WAX9 Enclosure Type 2 Puck.		Issue A Sheet 1 of 3	
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