



SciFi Datasheet

High bandwidth neural recording headstage with display

Product Datasheet (Version 1.1)

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www.science.xyz/technologies/scifi
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Disclaimers

FCC Compliance

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

RF Exposure Information

To maintain compliance with the FCC radio frequency exposure limits, body proximity to the antenna shall not be less than 20cm during normal operation.

Adapters

Omnetics, Cereplex, Cereport, and Intan are trademarks of their respective owners. Science Corporation's adapters are not affiliated with these companies.

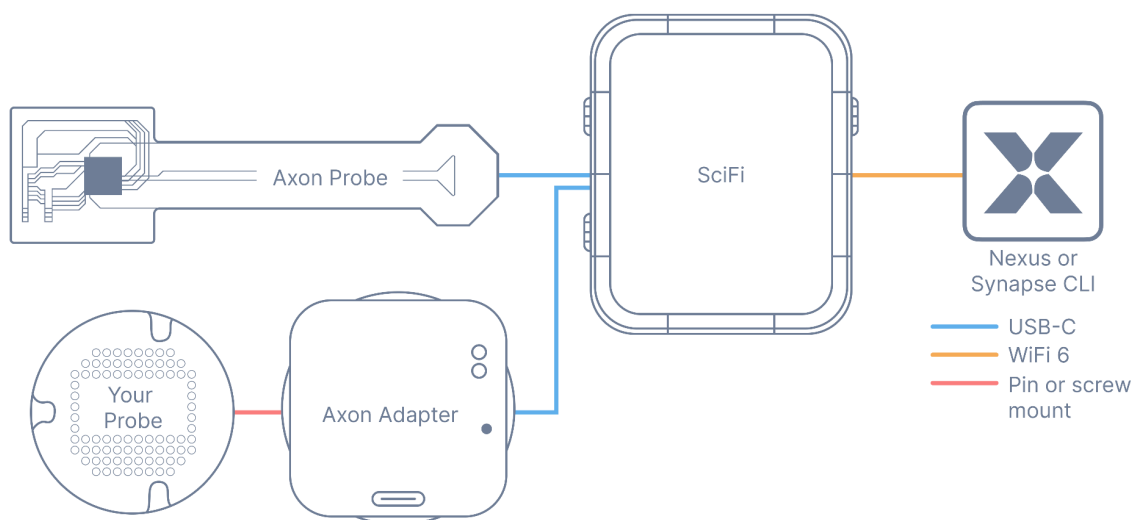
Overview

SciFi is a high bandwidth neural recording headstage. It features WiFi 6 (2x2 MIMO) wireless connectivity for ultra-low latency, with flexible antenna configurations (both internal and external). It is ruggedized to meet harsh operating conditions and it is plug and play compatible with Science [Axon Probes](#) and the [Synapse API](#).



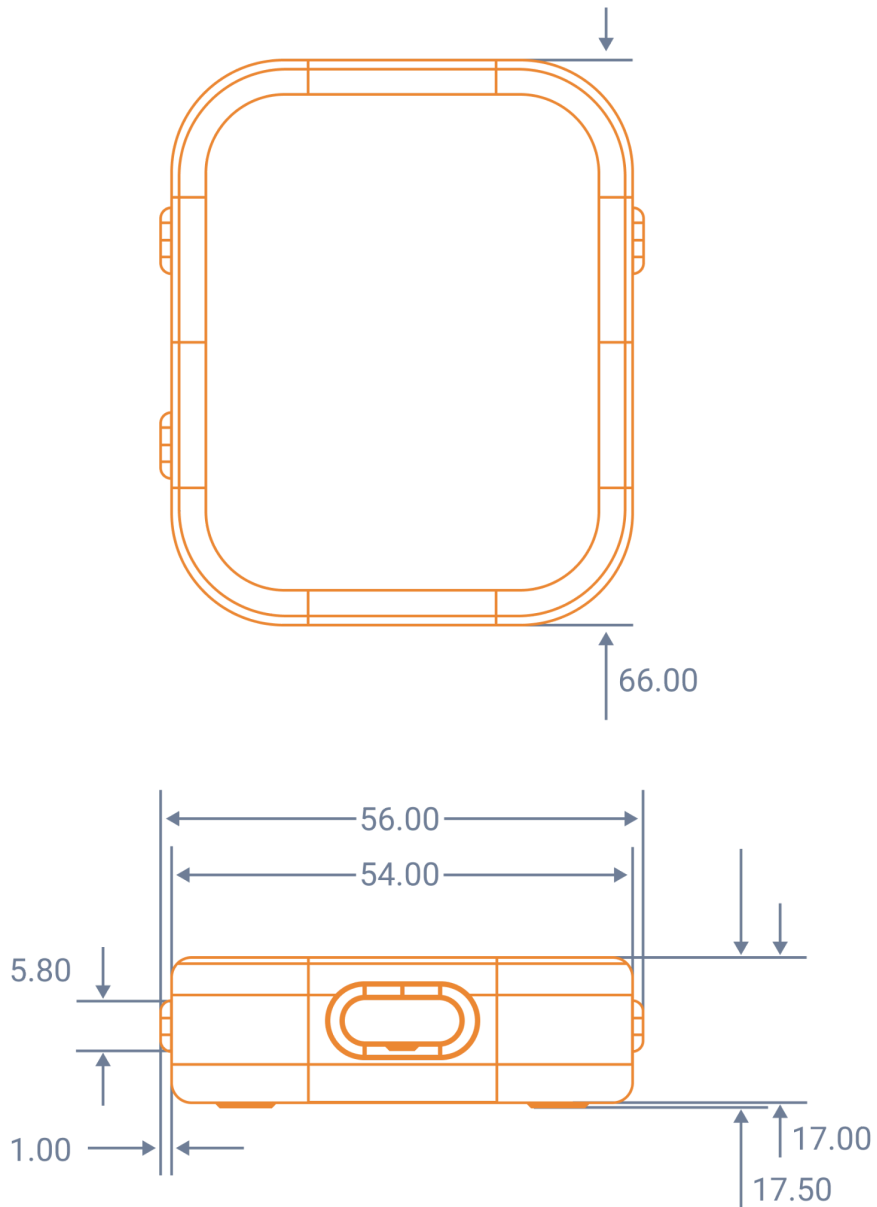
Key Features

- WiFi 6 connectivity for minimal latency and connection speed of up to 2.4 Gbps.
- High contrast OLED display for detailed status and experiment information.
- High visibility RGB light ring for status indication provides information about the device to users who may be some distance away. The light is also customizable by the user for their experiment goals.
- Automatic switching between internal and external WiFi antennas.
- 1400 mAh battery (2–4 hour battery life in active use).
- 128 GB of internal high speed storage available for saving recordings on-device.
- Octa-core processor with integrated GPU: up to 15 TOPS.
- Status indication through LED ring and AMOLED display panel.
- USB Type-C® port for connectivity.



Physical Dimensions

The SciFi headstage measures 66.00 mm top to bottom, 17.50 mm front to back, and 56 mm side to side.



All dimensions shown in mm

Summary Table

Body	Dimensions	56 x 66 x 17.5 mm
		2.20 x 2.60 x 0.69 in
Display	Display technology	AMOLED, 60 Hz
	Viewing angle	160 degrees
	Resolution	368 x 448
	Brightness	350 nits
	Contrast	100000:1
	Diagonal	45.21 mm
Wireless Connectivity	WLAN	802.11 ax 160 MHz (5 GHz only)
	Max PHY rate	2400 Mbps *
	Iperf: Max up-link TCP	850 Mbps *
	Iperf: Max down-link TCP	850 Mbps *
Probe Connectivity	Physical interface	USB-C
	USB Spec	USB 3.1 5Gbps
	Compatible probes	Science Axon Probes
Battery	Battery capacity	5.6 Wh
	Safety features	Undervoltage, overcurrent, JEITA battery charging
	Battery life	2–4 hours in active use or 9 hours idle
Storage	Storage capacity	128 GB
	Approx. storage capacity (full bandwidth Axon record)	120 minutes **
Platform	OS	Linux Ubuntu

* Ideal conditions: minimal RF noise and interference and local WiFi router with minimal traffic.

** Based on 512 channel, 16 kHz, 12-bit, 100 GB free storage

Hardware Requirements

In order to make use of SciFi, you will require the following:

- USB-C data cable (USB 3.1 required - 10 Gbps, USB 3.1, 2x2 on the packaging are good indicators).
- A WiFi network:
 - Capable of WiFi 5 (802.11ac) or later. To get best performance, use WiFi 6 (802.11ax 160MHz).
 - Supporting UDP multicast.
- A PC with [synapsect](#) software installed.
- A Science [Axon Probe](#).

Interfaces

Up/Down	Navigate between options on the AMOLED screen.
Power/Select	Holding the power button serves to turn on and off the device, with short presses serving as a select key.
LED Status Ring	<p>The LED status ring can express a range of intuitive status signals about your experiment or the device:</p> <ul style="list-style-type: none"> ● Customized color per device ● Low battery ● Experiment running <p>Note the LED ring and display can be dimmed in the device menu. Please contact us if you require custom functionality for the LED status ring.</p>



Contact Information



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This preliminary product datasheet may change without notice.