

# Electrically Isolated

## EZO™ Carrier Board Gen 2

Data input

**UART or I<sup>2</sup>C**

Voltage input

**3.0V – 5.0V**

Probe connector

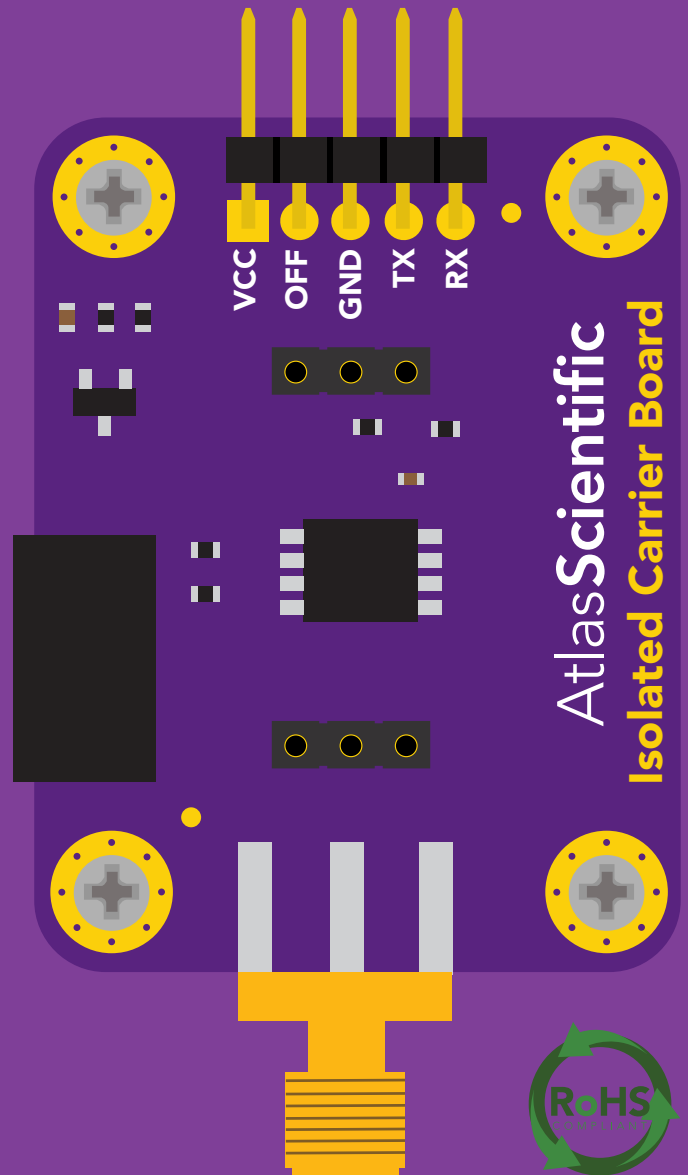
**Female SMA**

Current consumption

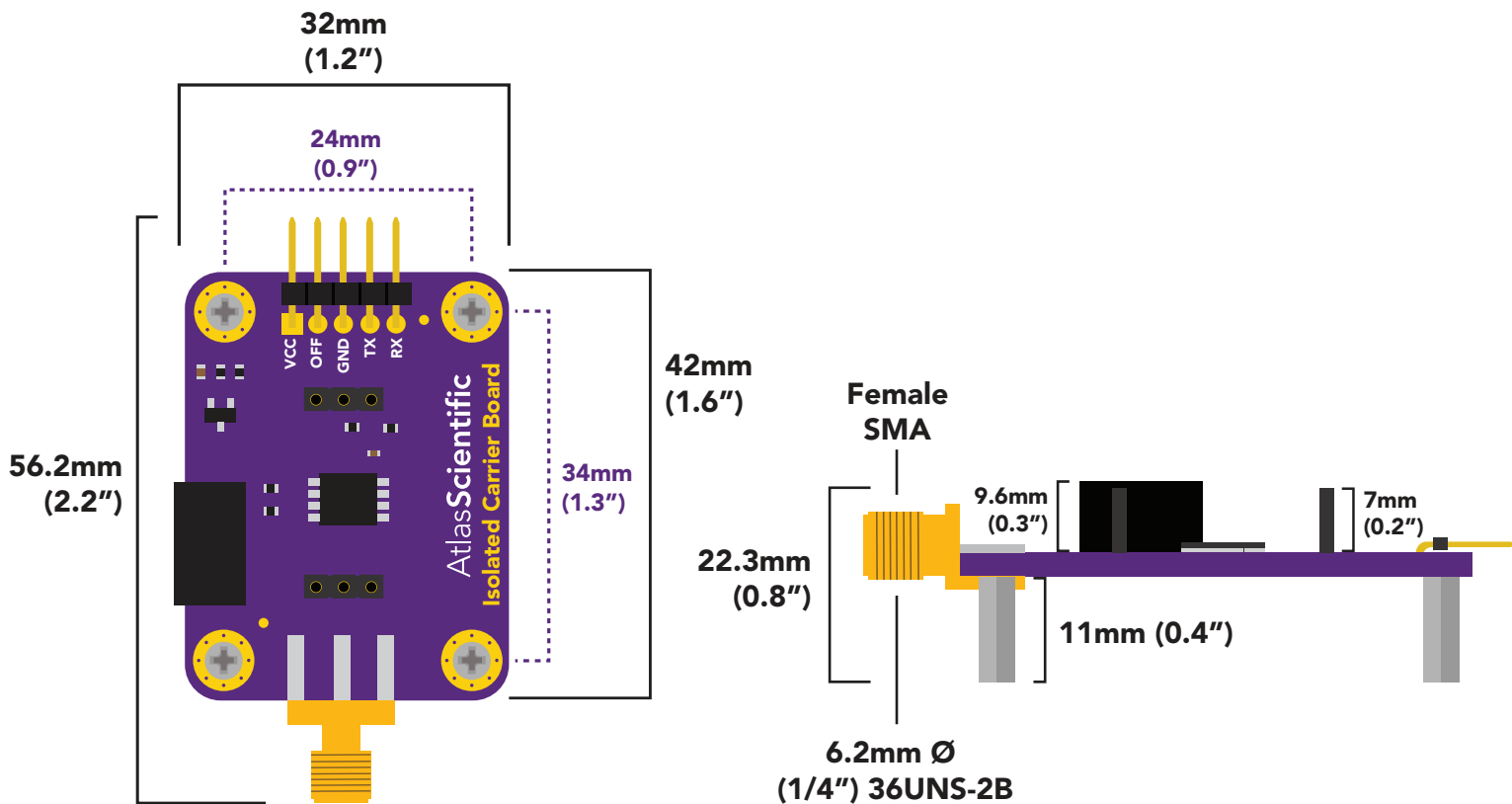
5V **28 mA**  
3.3V **22 mA**

Power saving mode  
(OFF pin)

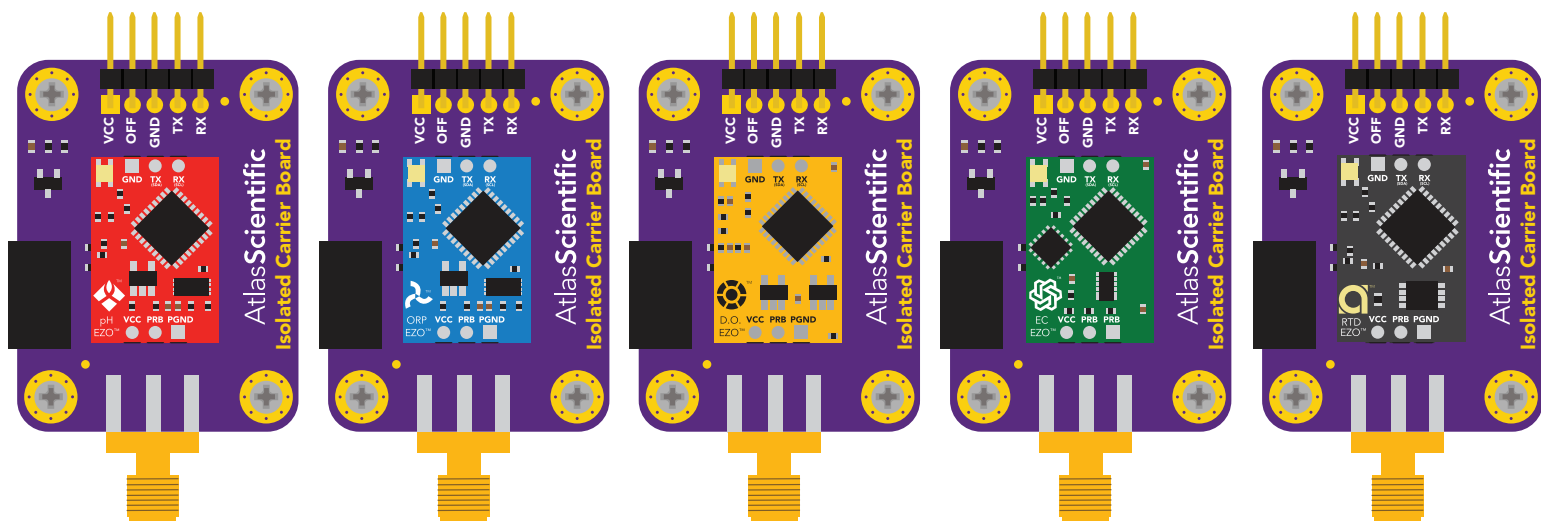
**2.6mA**



# Carrier board dimensions

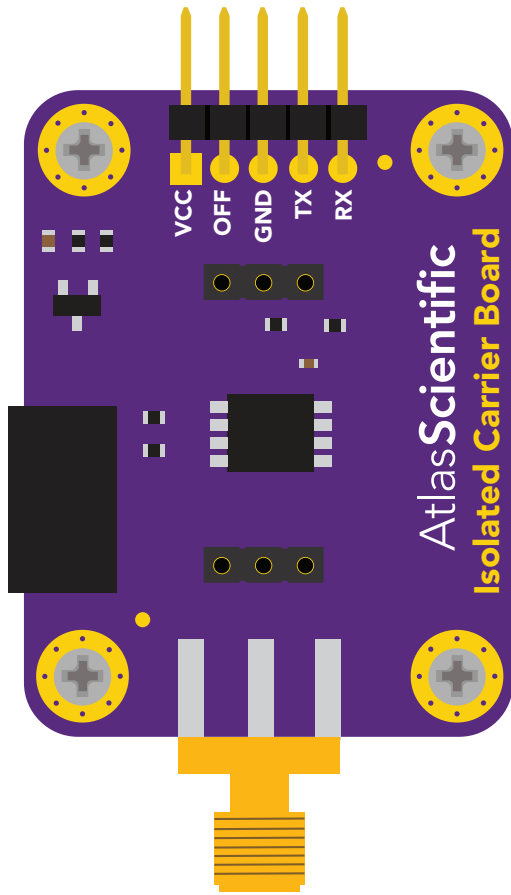


The Electrically Isolated EZO™ Carrier Board works with almost all EZO™ circuits, except the EZO™ Embedded Flow Meter Totalizer.

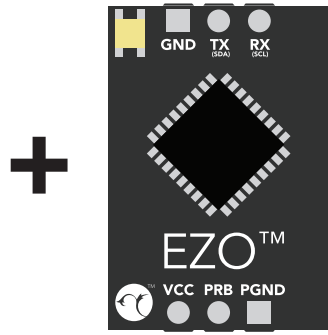


The Electrically Isolated EZO™ Carrier Board does not come with EZO™ class devices.

# Current consumption



$i = 28\text{mA}$



$i = X\text{mA}$

$= 28 + X\text{mA}$

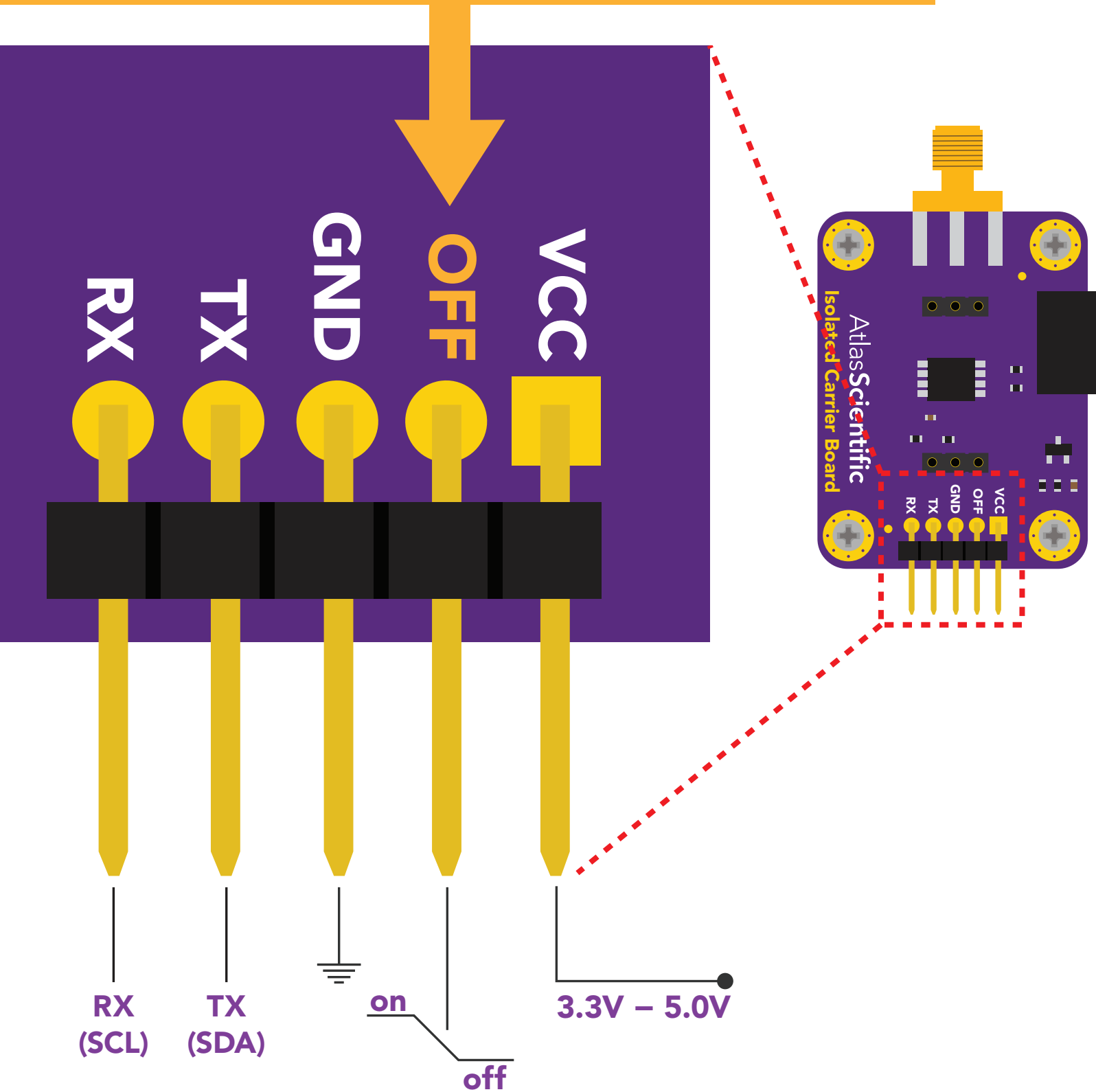
The current consumption for the Electrically Isolated EZO™ Carrier Board is linear. The table below shows how much current will be consumed when an EZO™ circuit is connected to the Electrically Isolated EZO™ Carrier Board.

	5V	3.3V
No Load	28mA	22mA
EZO™ pH	44mA	35mA
EZO™ ORP	44mA	35mA
EZO™ Dissolved oxygen	44mA	35mA
EZO™ Conductivity (no probe)	55mA	43mA
EZO™ RTD Temperature	44mA	35mA

# Pin out

Setting the OFF pin low will shut off the Carrier Board, along with the connected EZO™ circuit. Current consumption will drop to **2.6mA**.

*If the OFF pin is not used, leave it unconnected or pull to VCC.*



# Data isolation

This schematic shows exactly how we isolate power and data using the RFM-0505s, SI8600, and a few passive components. The RFM-0505s Isolates the power up to 200mA, 5 volts input = 5 volts output, 3 Volts input = 3 volts output, The SI8600 has two bidirectional data channels, making it ideal for UART and I2C communication. Each channel has a 10kΩ pull up resistor on both the isolated and non-isolated lines.

**Isolated ground is different from non-isolated ground, these two lines should not be connected together.**

