Instructions for Clarity Powertrain_Report…

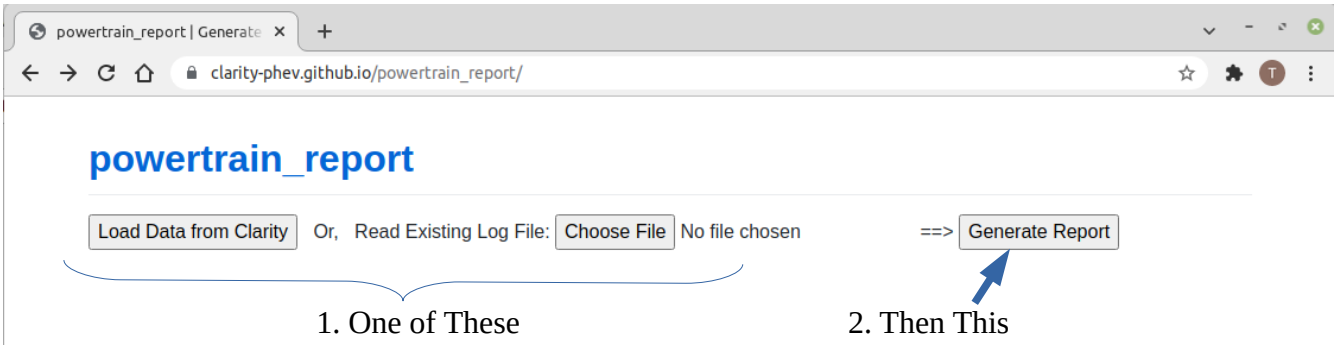
Assumptions:

1. You are using a known good ELM327 OBD2 device
   - Click here for specific recommendations
2. Your PC is running Linux, Windows, or macOS.
3. Your browser is Chrome, Edge, or Opera
   - Does not currently work with Android or iOS (future enhancement possible)
   - Firefox does not work at this time

*Note - Remember, your PC must be located within range of Bluetooth (mine works up to maybe 30')

Operating Procedure:

- Connect the Vgate Device to the vehicle
- 'Start' the car (Run Mode)
- Configure the device on your computer (see subsequent pages for Linux, Windows, or macOS steps)
- Browse to this page: https://clarity-phev.github.io/powertrain_report/
- Your page will look like this:



- Click on "Load Date from Clarity"
  - Select your device from the menu ('RFCOMM0' for Linux, or "COMx" for Windows)
- When data has been read, you will be prompted to save it on your machine as a log file
  - This is highly recommended as it lets you save a history of measurements
- Now, click on "Generate Report" to display the results.
  - If you want to save the formatted results, just 'print' this page to a .pdf file

- Note: by using the "Choose File" option, you can read a previously saved log file, and re-generate a report at any time.

Here is a sample report: (OK, a little hard to read. Yours will be much nicer!)

powertrain_report

Load Data from Clarity | Or, Read Existing Log File: Choose File SessJava_2...13_03_11.txt ==> Generate Report

Electric Powertrain Report Wed Oct 06 2021 13:03:19 GMT-0400 (Eastern Daylight Time)
VIN: JHMZC5F38JC017995
Odometer: 26430 mi.
Distance traveled since Battery Connected: 25225 mi.
Distance since DTC Cleared: 25236 mi.

HV Battery Module 1A Temperature: 22.8C, 73.0F
HV Battery Module 2A Temperature: 22.8C, 73.0F
HV Battery Module 3A Temperature: 22.6C, 72.7F
HV Battery Module 1B Temperature: 22.7C, 72.9F
HV Battery Module 2B Temperature: 22.4C, 72.3F
HV Battery Module 3B Temperature: 22.6C, 72.7F
HV Battery Module 4B Temperature: 22.7C, 72.9F
ES Coolant Temperature 1: 22.5C, 72.5F
ES Coolant Temperature 2: 22.6C, 72.7F
ES Coolant Temperature 3: 22.9C, 73.2F
ES Coolant Temperature 4: 22.5C, 72.5F

Air Temperature Inside Vehicle: 22.0C, 71.6F
Air Temperature Outside Vehicle: 22.0C, 71.6F
A/C Freon Pressure: 77.0 PSI

HV Battery Voltage A: 340.4V
HV Cell Max SOC A: 94.36%
HV Cell Min SOC A: 93.65%
SOC: 98%

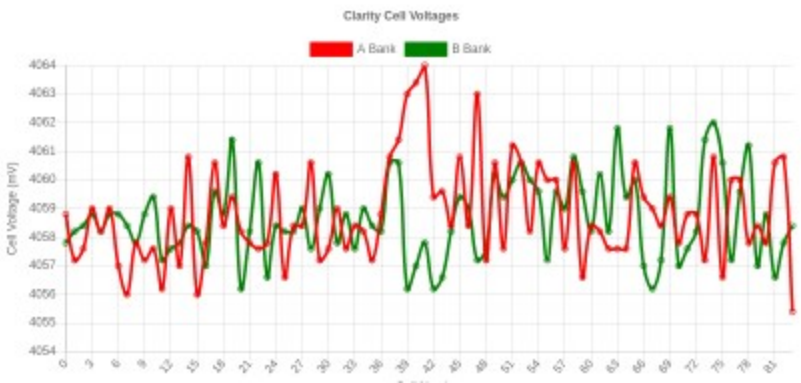
HV Battery Voltage B: 340.2V
HV Cell Max SOC B: 94.21%
HV Cell Min SOC B: 93.57%

HV Battery Capacity (A+B): 48.02ah
HV Battery Capacity A: 23.84ah
HV Battery Capacity B: 24.18ah

Input Voltage of Normal Charger: 3.4V
Output Voltage of Normal Charger: 340.7V
Charging Voltage Target: 4093.8mV
Current Limit during Plug-in Charging: -201.9A

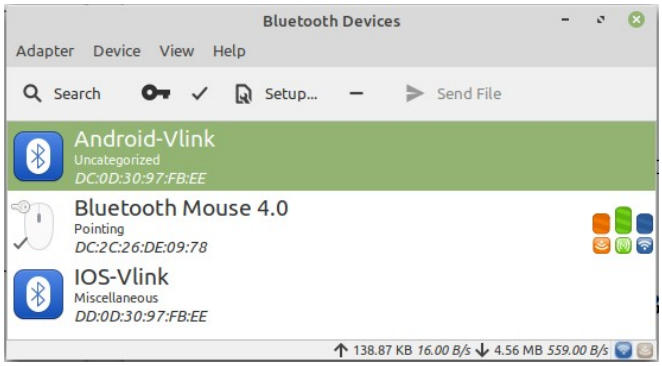
Maintenance Minder
A - Oil & Filter : 25 days
0 - General Inspection : 25 days
1 - Rotate Tires : 110 days
2 - Cabin Filter : 318 days
3 - Transmission Fluid : 1123 days
4 - Spark Plugs & Valves: 9999 days
5 - Engine Coolant : 2583 days
7 - Brake Fluid : 28 days
8 - Air Filter : 4262 days

Cell Statistics, mV:				
	min	max	delta	avg
Bank A	4055.4	4064.0	8.60	4058.8
Bank B	4056.2	4062.0	5.80	4058.7



Connection to Computer:

- Connecting to Device in Linux
  - Identify the Bluetooth ID of your device -
    - Search for Bluetooth devices… You will see something like this:



    - The 'Android-Vlink' is what you want, and the Bluetooth ID in this example is – DC:0D:30:97:FB:EE. This is unique to your device and will never change.
  - From a Linux command window, use this commands:

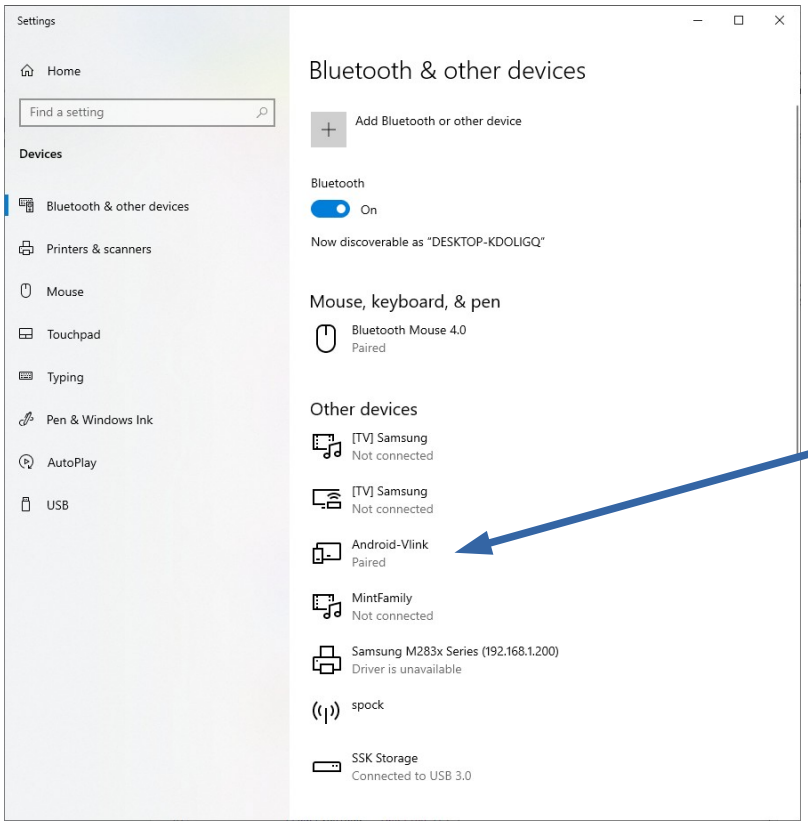
$sudo rfcomm bind 0 DC:0D:30:97:FB:EE 1 (replace the ID with your unique ID)

Check the result with this:
$rfcomm

This should report one of these two results, either should work:
rfcomm0: DC:0D:30:97:FB:EE channel 1 clean
or
rfcomm0: DC:0D:30:97:FB:EE channel 1 closed

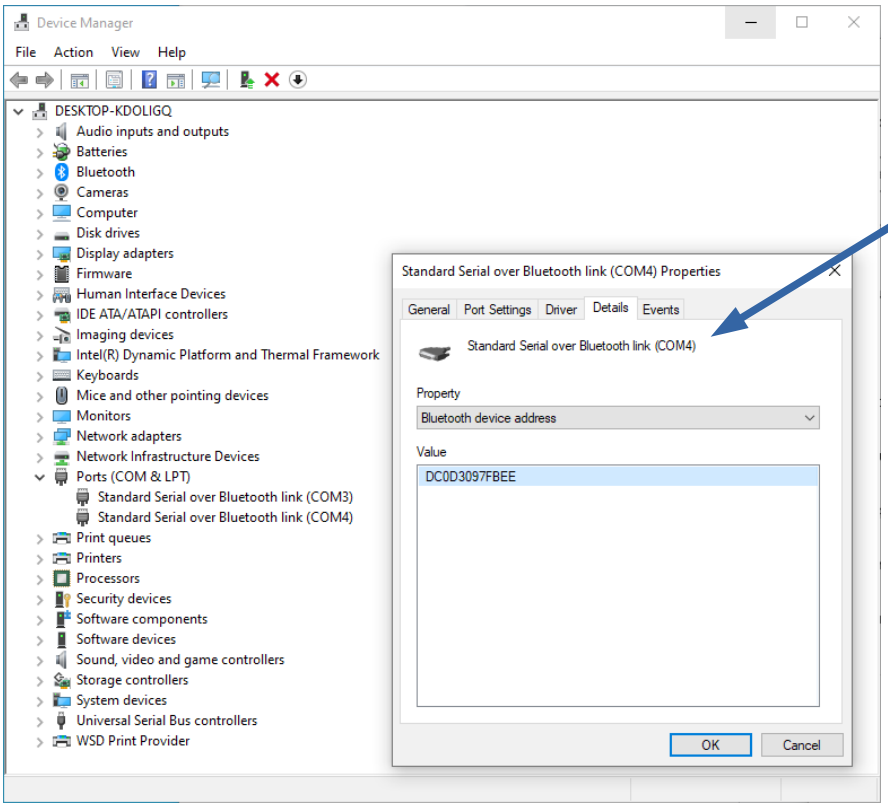
If you need to manually disconnect the device, use this command:
$ sudo rfcomm release rfcomm0

- Connecting to Device in Windows
  - Go to Settings Bluetooth and Other Devices. You should see something like this:



This is the device. 'Pair' it if it does not show 'paired'.

In your Device Manager, you will see something like this:



Note the COM port number. Select this when loading data

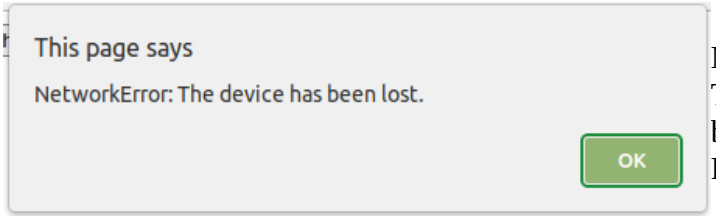
It is not always clear which port is right if more than one show here.

Trial-and-error is best for now.

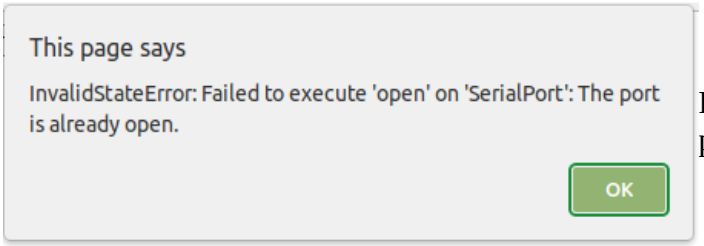
- Connecting to Device in macOS
  - Connect to the device in System Settings > Bluetooth like a normal device
  - the vGate iCar Pro BLE 4.0 for iOS/Android's Bluetooth is 1234 (very important, 0000 for others perhaps)
  - Must use Chrome
  - As described above:
    - go to https://clarity-phev.github.io/powertrain_report/
    - Connect to the device, Load Data, Generate Report

Possible Errors, and Corrective Action:

Dealing with the Bluetooth Device from a web program is a little tricky. This program is not extremely robust when it come to error detection an handling. Here are a few errors that sometimes occur, and what I have found can possibly help:



Make sure you ar close enough to the vehicle, This could indicate that the Bluetooth is beyond range.
Refresh browser page an try again



Refresh your browser page (releases the serial port) and try again.

The program is written in Javacript. If there are any serious JavaScript programmers who are interested, your inputs are welcome.

This project is maintained in a GitHub repository here:
https://github.com/clarity-phev/powertrain_report

These instructions can be found in the repository as: ‘How to Use.pdf’