

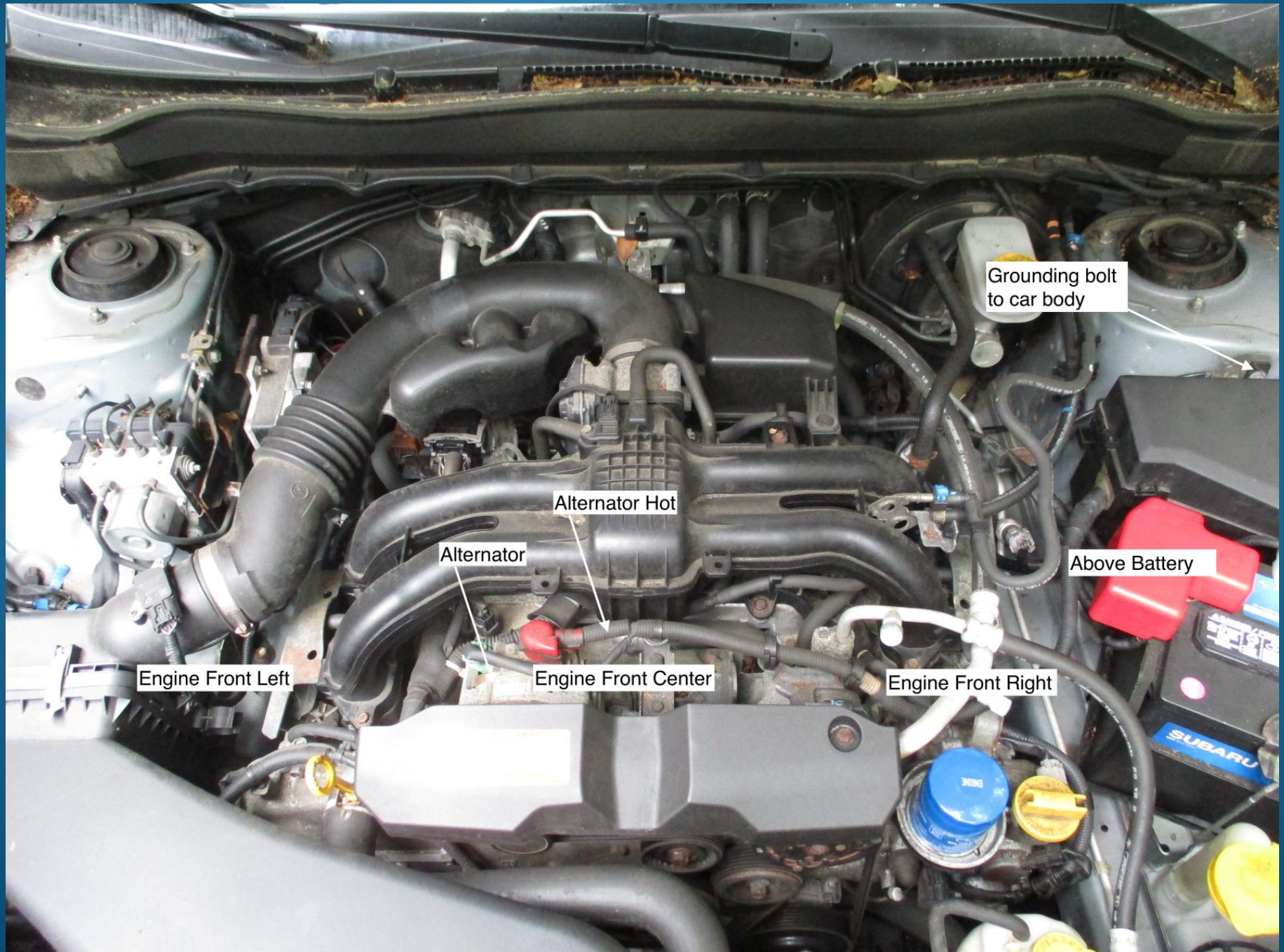
Reducing Magnetic Fields of Alternator

2016 Subaru Forester (vin JF2SJADC8GH439900)



Testing the addition of grounding wires running next to alternator cable (between the alternator metal housing and the metal car chassie near the battery) as an additional path to complete the alternator circuit and lower Alternator cable net amps and total magnetic fields.

Before addition of grounding wires.



Before addition of grounding wires.

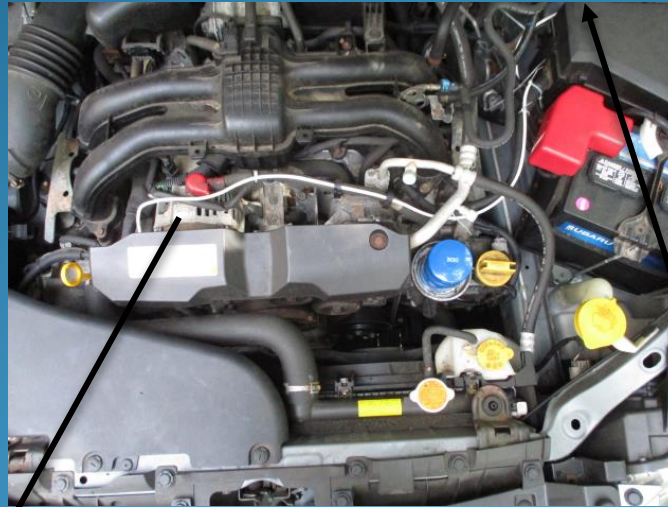


Engine warm, 750 rpm, alternator cable 3.0 amps, 30.0 mG. The alternator generated current travels through alternator cable to charging controller and then to the positive battery terminal. To complete the alternator circuit, the current leaves the negative battery terminal which is electrically connected to the metal car chassis. The current takes all paths available back to the alternator housing.

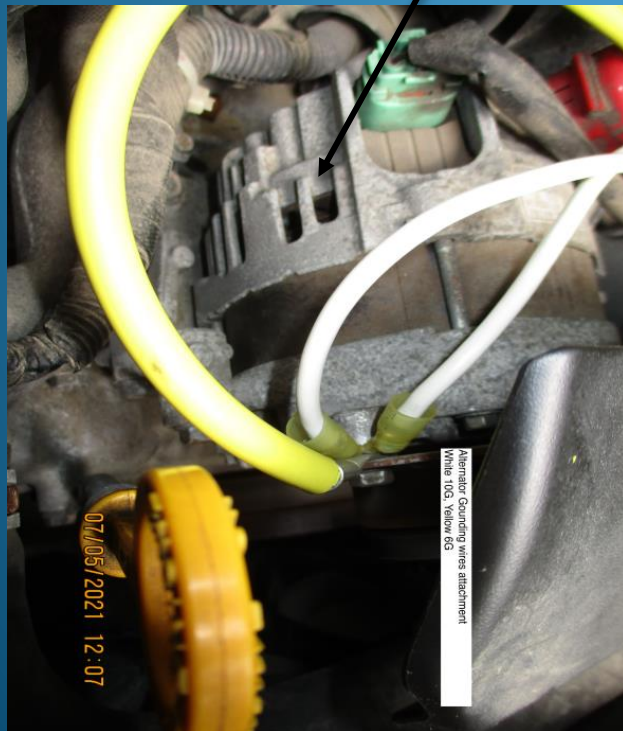
Addition of grounding wires that will follow close to alternator cable

Three grounding wires
Two white 10 G wire
One Yellow 6 G wire

Grounding Wires
Bolted to Alternator



Grounding Wires
Bolted to Car Chassie

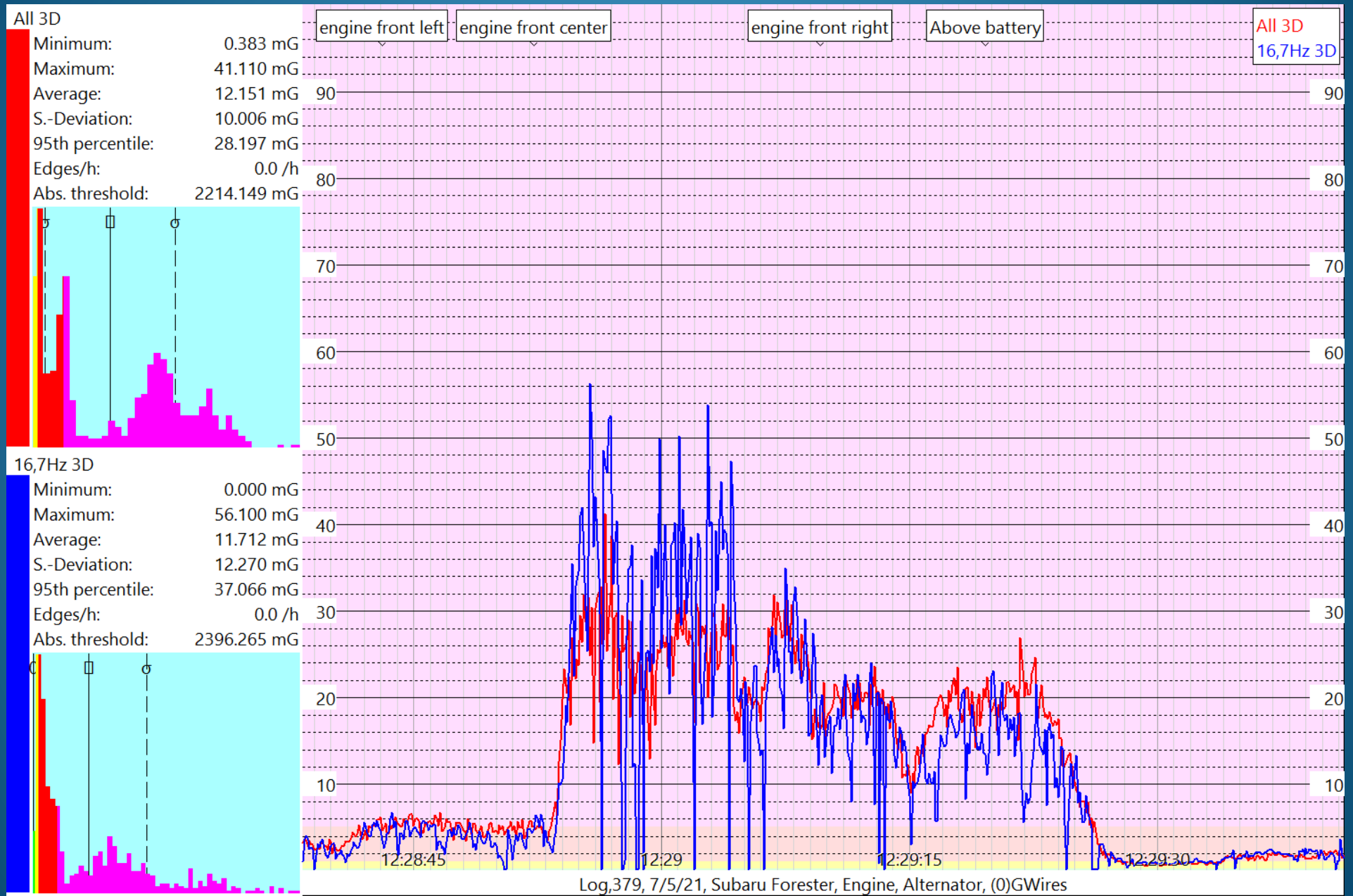


Testing Procedure

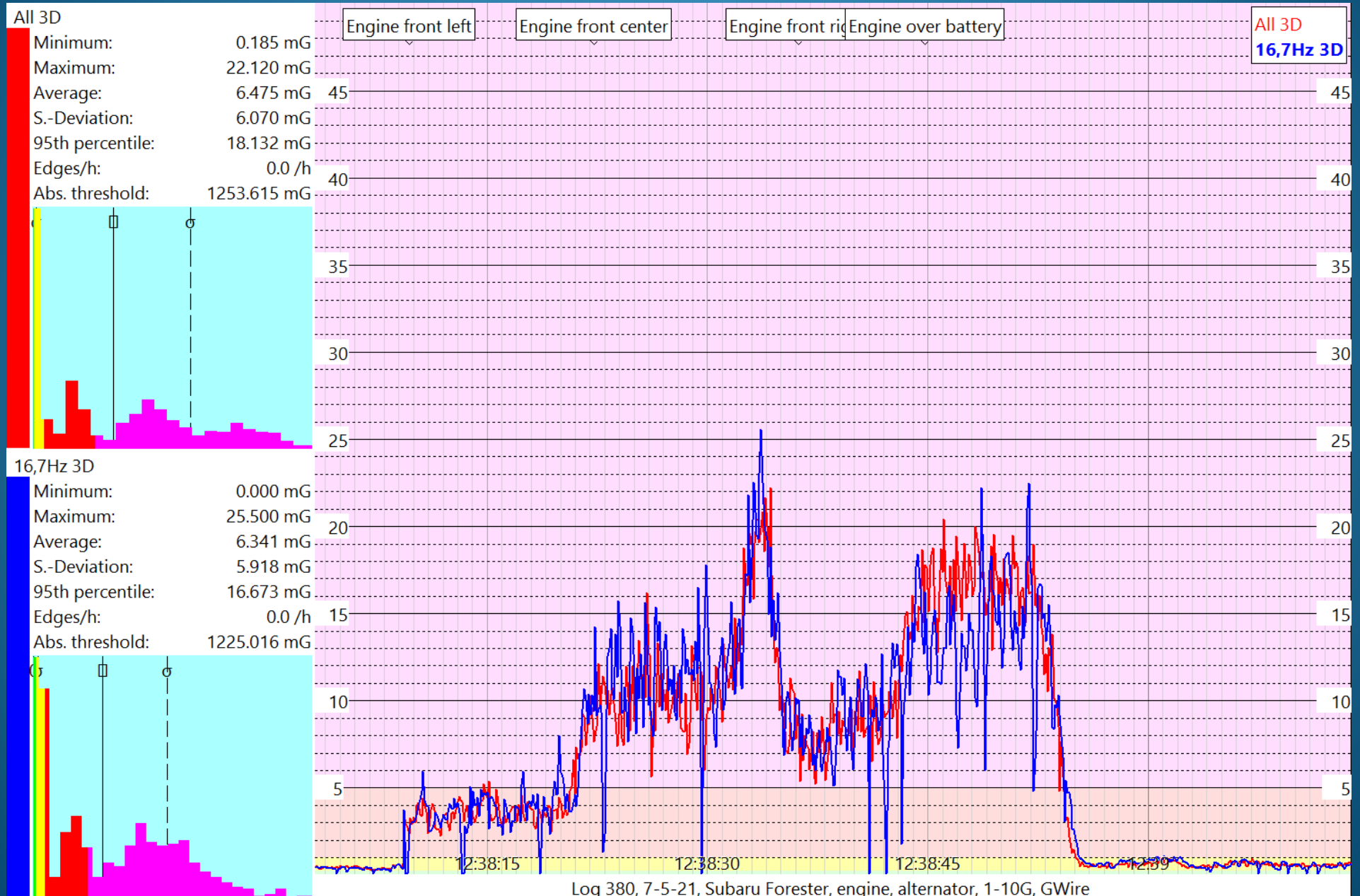
The NFA 1000 was used to data log the magnetic fields at four locations , above the front left of engine, above the front center of the engine, above the front right of engine, and above the battery. The car engine was warmed up and at an idle of 750 rpm. Measurement was taken with no grounding cables, with one white grounding cable, with two white grounding cables, and with two white and one yellow cables. The white cables are 10 gauge, and the Yellow cable is 6 gauge.

The NFA 1000 was used to data log the magnetic fields inside the car on the Drivers side and the Passengers side. (Drivers left footrest, brake peddle, and the gas peddle, Passengers left side of fire wall, center fire wall, right fire wall, and under door .).

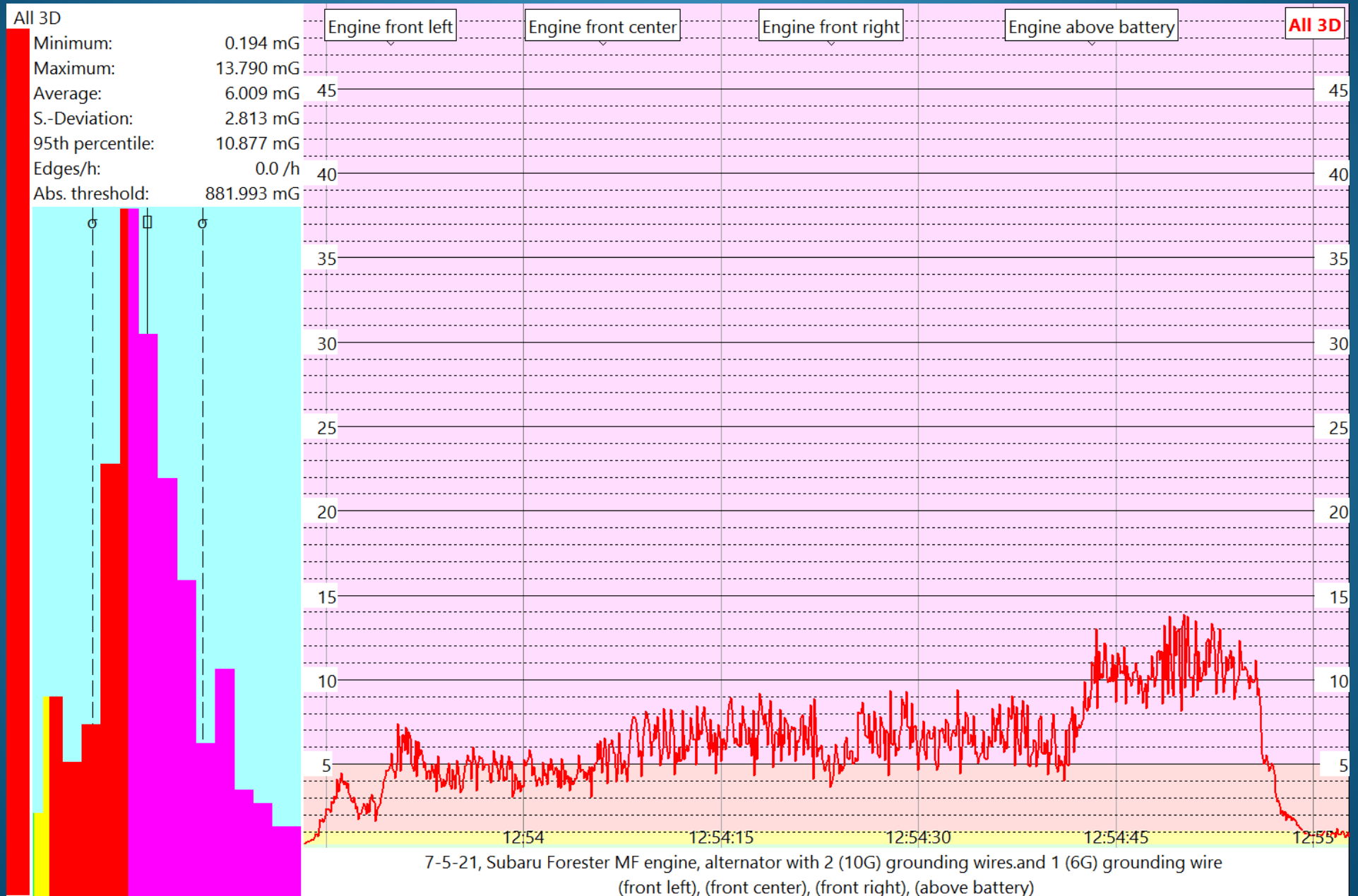
Data log magnetic fields at four locations, no grounding wires.



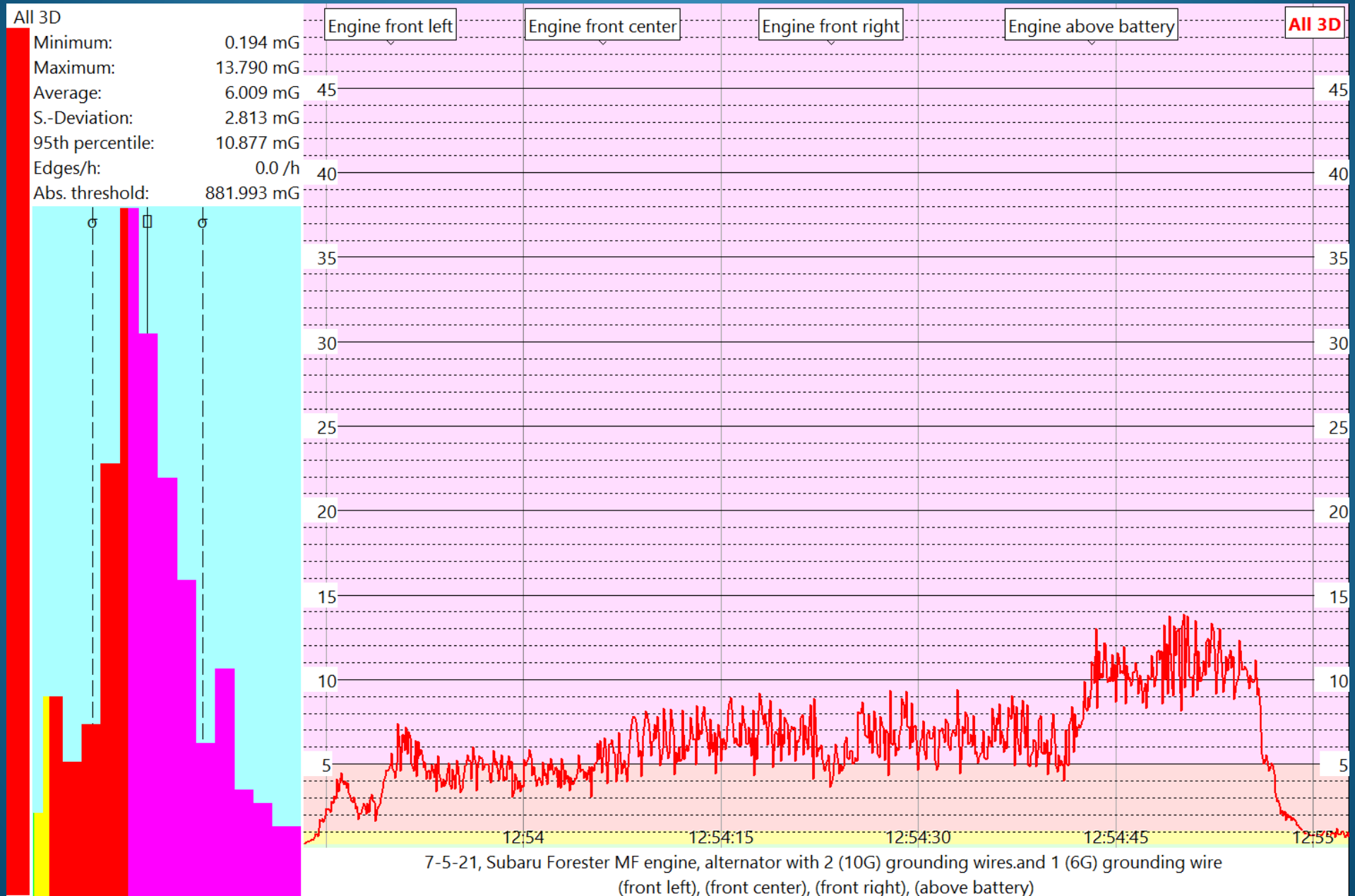
Data log magnetic fields at four locations, one white grounding wire.



Data log magnetic fields at four locations, two white grounding wires.



Data log magnetic fields at four locations, two white, and one yellow grounding wires



Data log magnetic fields inside car near firewall on driver and passenger sides



Drivers

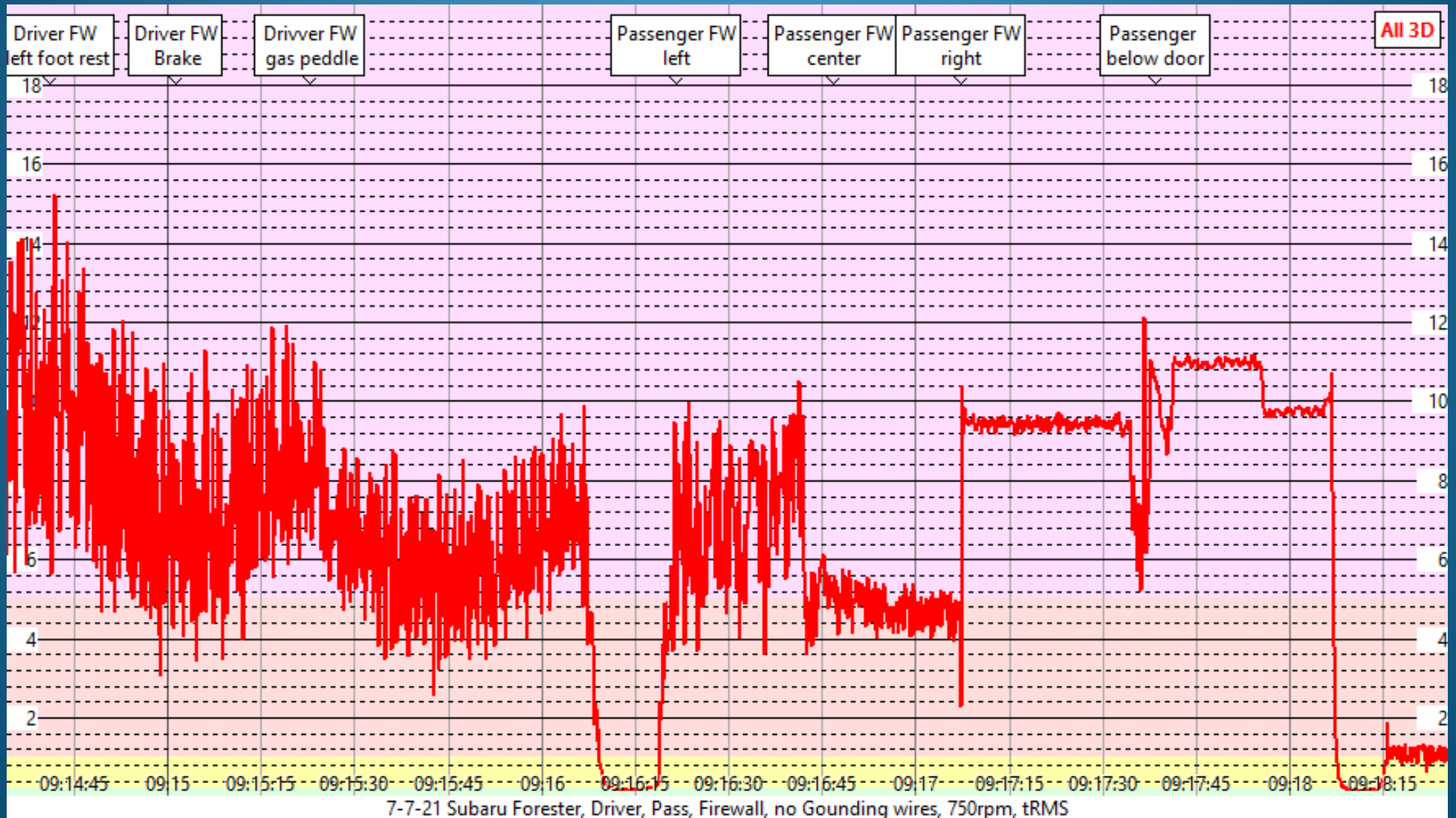
- Left footrest
- Brake peddle
- Gas peddle



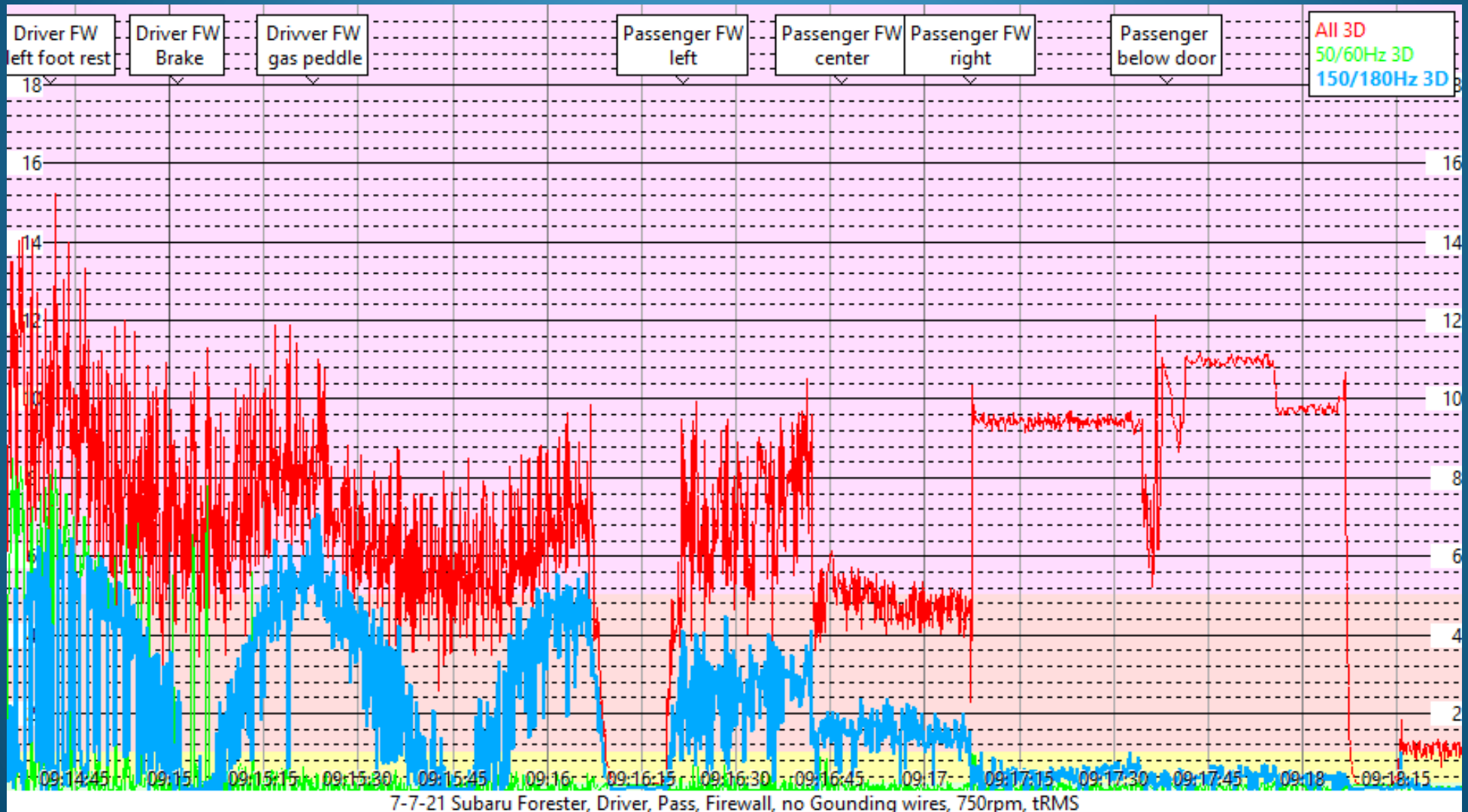
Passengers

- Left firewall
- Center firewall
- Left firewall
- Under door

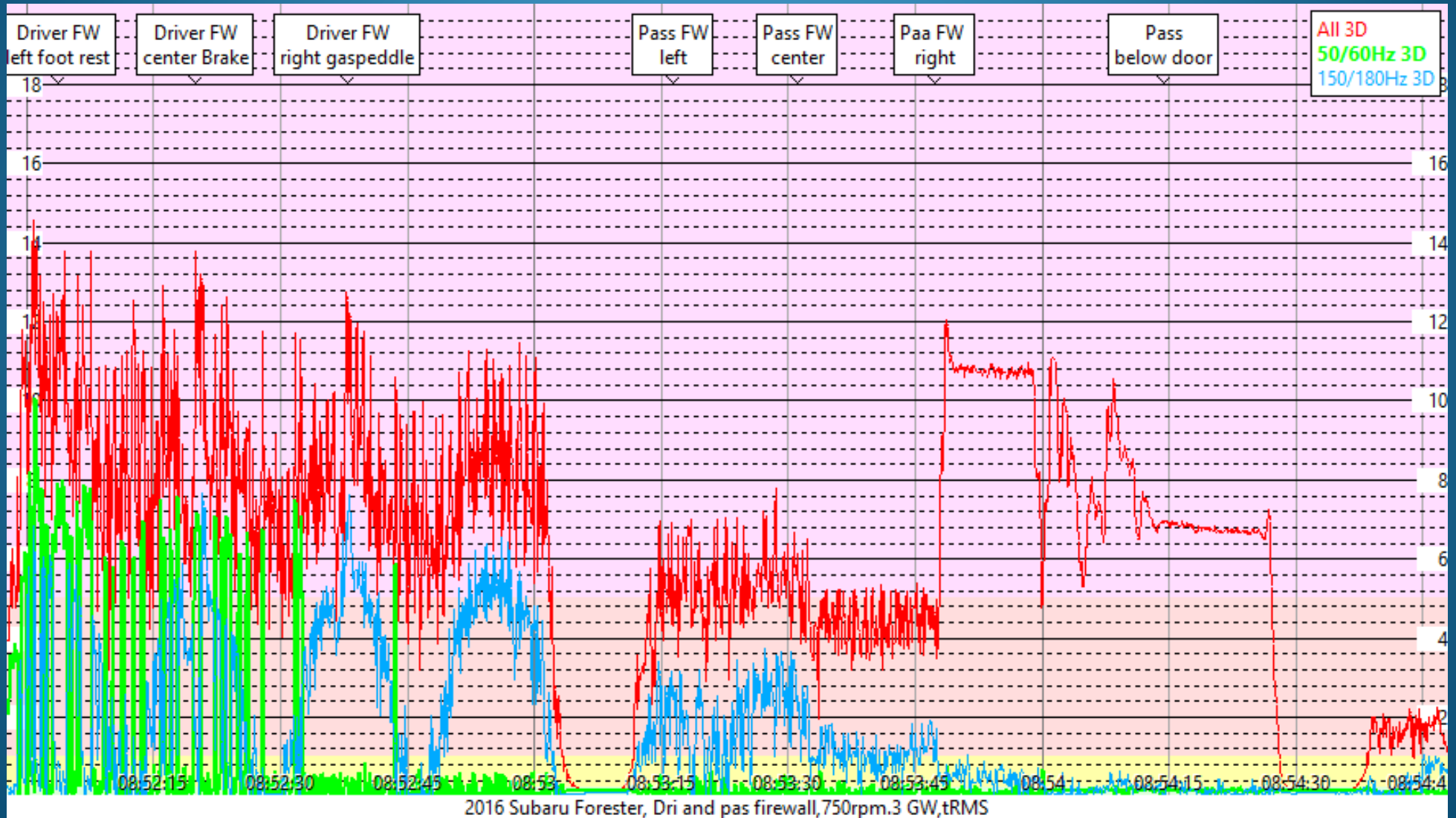
Data log driver and passenger fire wall area no grounding wires connected.



Data log driver and passenger fire wall area no grounding wires connected



Data log driver and passenger fire wall area three grounding wires connected





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