
40 C.F.R. § 205.54-1

Low speed sound emission test procedures.

(a) *Instrumentation.* The following instrumentation shall be used, where applicable.

- (1) A sound level meter which meets the Type 1 requirements of ANSI S1.4-1971, Specification for Sound Level Meters, or a sound level meter may be used with a magnetic tape recorder and/or a graphic level recorder or indicating meter, providing the system meets the requirements of § 205.54-2.
- (2) A sound level calibrator. The calibrator shall produce a sound pressure level, at the microphone diaphragm, that is known to within an accuracy of ± 0.5 dB. The calibrator shall be checked annually to verify that its output has not changed.
- (3) An engine-speed tachometer which is accurate within ± 2 percent of meter reading.
- (4) An anemometer or other device for measurement of ambient wind speed accurate within ± 10 percent.
- (5) A thermometer for measurement of ambient temperature accurate within ± 1 C.
- (6) A barometer for measurement of ambient pressure accurate within ± 1 percent.

(b)

- (1) The test site shall be such that the truck radiates sound into a free field over a reflecting plane. This condition may be considered fulfilled if the test site consists of an open space free of large reflecting surfaces, such as parked vehicles, signboards, buildings or hillsides, located within 100 feet (30.4 meters) of either the vehicle path or the microphone.
- (2) The microphone shall be located 50 feet ± 4 in. (15.2 ± 0.1 meter) from the centerline of truck travel and 4 feet ± 4 in. (1.2 ± 0.1 meters) above the ground plane. The microphone point is defined as the point of intersection of the vehicle path and the normal to the vehicle path drawn from the microphone. The microphone shall be oriented in a fixed position to minimize the deviation from the flattest system response over the frequency range 100 Hz to 10 kHz for a vehicle traversing from the acceleration point through the end zone.

The microphone shall be oriented with respect to the source so that the sound strikes the diaphragm at the angle for which the microphone was calibrated to have the flattest frequency response characteristic over the frequency range 100 Hz to 10 kHz.

- (3) An acceleration point shall be established on the vehicle path 50 feet (15 m) before the microphone point.
 - (4) An end point shall be established on the vehicle path 100 feet (30 m) from the acceleration point and 50 feet (15 m) from the microphone point.
 - (5) The end zone is the last 40 feet (12 m) of vehicle path prior to the end point.
-

(6) The measurement area shall be the triangular paved (concrete or sealed asphalt) area formed by the acceleration point, the end point, and the microphone location.

This document is only available to subscribers. Please log in or purchase access.

[Purchase Login](#)