A36.5.2.4 The applicant must report conditions of local topography, ground cover, and events that might interfere with sound recordings.

A36.5.2.5 The applicant must report the following:

(a) Type, model and serial numbers (if any) of airplane, engine(s), or propeller(s) (as applicable);

(b) Gross dimensions of airplane and location of engines;

(c) Airplane gross weight for each test run and center of gravity range for each series of test runs;

(d) Airplane configuration such as flap, airbrakes and landing gear positions for each test run;

(e) Whether auxiliary power units (APU), when fitted, are operating for each test run;

(f) Status of pneumatic engine bleeds and engine power take-offs for each test run;

(g) Indicated airspeed in knots or kilometers per hour for each test run;

(h) Engine performance data:

(1) For jet airplanes: engine performance in terms of net thrust, engine pressure ratios, jet exhaust temperatures and fan or compressor shaft rotational speeds as determined from airplane instruments and manufacturer's data for each test run;

(2) For propeller-driven airplanes: engine performance in terms of brake horsepower and residual thrust; or equivalent shaft horsepower; or engine torque and propeller rotational speed; as determined from airplane instruments and manufacturer's data for each test run;

(i) Airplane flight path and ground speed during each test run; and

(j) The applicant must report whether the airplane has any modifications or non-standard equipment likely to affect the noise characteristics of the airplane. The FAA must approve any such modifications or nonstandard equipment.

A36.5.3 *Reporting of noise certification reference conditions.*

A36.5.3.1 Airplane position and performance data and the noise measurements must be corrected to the noise certification reference conditions specified in the relevant sections of appendix B of this part. The applicant must report these conditions, including reference parameters, procedures and configurations.

A36.5.4 *Validity of results.*

A36.5.4.1 Three average reference EPNL values and their 90 percent confidence limits must be produced from the test results and reported, each such value being the arithmetical average of the adjusted acoustical measurements for all valid test runs at each measurement point (flyover, lateral, or approach). If more than one acoustic measurement system is used at any single measurement location, the resulting data for each test run must be averaged as a single measurement. The calculation must be performed by:

(a) Computing the arithmetic average for each flight phase using the values from each microphone point; and

(b) Computing the overall arithmetic average for each reference condition (flyover, lateral or approach) using the values in paragraph (a) of this section and the related 90 percent confidence limits.

A36.5.4.2 For each of the three certification measuring points, the minimum sample size is six. The sample size must be large enough to establish statistically for each of the three average noise certification levels a 90 percent confidence limit not exceeding ±1.5 EPNdB. No test result may be omitted from the averaging process unless approved by the FAA.

NOTE: Permitted methods for calculating the 90 percent confidence interval are shown in the current advisory circular for this part.

A36.5.4.3 The average EPNL figures obtained by the process described in section A36.5.4.1 must be those by which the noise performance of the airplane is assessed against the noise certification criteria.

Section A36.6 Nomenclature: Symbols and Units

Symbol	Unit	Meaning
antilog		Antilogarithm to the base 10.
C(k)	dB	*Tone correction factor.* The factor to be added to PNL(k) to account for the presence of spectral irregularities such as tones at the k-th increment of time.
d	s	*Duration time.* The time interval between the limits of t(1) and t(2) to the nearest 0.5 second.
D	dB	*Duration correction.* The factor to be added to PNLTM to account for the duration of the noise.
EPNL	EPNdB	*Effective perceived noise level.* The value of PNL adjusted for both spectral irregularities and duration of the noise. (The unit EPNdB is used instead of the unit dB).
$EPNL_r$	EPNdB	Effective perceived noise level adjusted for reference conditions.
f(i)	Hz	*Frequency.* The geometrical mean frequency for the i-th one-third octave band.