| Symbol | Unit | Meaning |
|---|---|---|
| SPL′ (i, k) .... | dB re 20 μPa ..... | *Adjusted sound pressure level.* The first approximation to background sound pressure level in the i-th one-third octave band for the k-th instant of time. |
| SPL(i) ..... | dB re 20 μPa ..... | *Maximum sound pressure level.* The sound pressure level that occurs in the i-th one-third octave band of the spectrum for PNLTM. |
| $SPL(i)_r$ ..... | dB re 20 μPa ..... | *Corrected maximum sound pressure level.* The sound pressure level that occurs in the i-th one-third octave band of the spectrum for PNLTM corrected for atmospheric sound absorption. |
| SPL′ (i, k) .... | dB re 20 μPa ..... | *Final background sound pressure level.* The second and final approximation to background sound pressure level in the i-th one-third octave band for the k-th instant of time. |
| t ..... | s ..... | *Elapsed time.* The length of time measured from a reference zero. |
| t(1), t(2) ..... | s ..... | *Time limit.* The beginning and end, respectively, of the noise time history defined by h. |
| Δt ..... | s ..... | *Time increment.* The equal increments of time for which PNL(k) and PNLT(k) are calculated. |
| T ..... | s ..... | *Normalizing time constant.* The length of time used as a reference in the integration method for computing duration corrections, where T = 10s. |
| t(°F) (°C) ..... | °F, °C ..... | *Temperature.* The ambient air temperature. |
| α(i) ..... | dB/1000ft db/100m. | *Test atmospheric absorption.* The atmospheric attenuation of sound that occurs in the i-th one-third octave band at the measured air temperature and relative humidity. |
| $\alpha(i)_o$ ..... | dB/1000ft db/100m. | *Reference atmospheric absorption.* The atmospheric attenuation of sound that occurs in the i-th one-third octave band at a reference air temperature and relative humidity. |
| $A_1$ ..... | Degrees ..... | First constant climb angle (Gear up, speed of at least $V_2$ + 10 kt ($V_2$ + 19 km/h), takeoff thrust). |
| $A_2$ ..... | Degrees ..... | Second constant climb angle (Gear up, speed of at least $V_2$ + 10 kt ($V_2$ + 19 km/h), after cut-back). |
| δ ..... ε | Degrees ..... | *Thrust cutback angles.* The angles defining the points on the takeoff flight path at which thrust reduction is started and ended respectively. |
| η ..... | Degrees ..... | Approach angle. |
| $\eta_r$ ..... | Degrees ..... | Reference approach angle. |
| θ ..... | Degrees ..... | *Noise angle (relative to flight path).* The angle between the flight path and noise path. It is identical for both measured and corrected flight paths. |
| ψ ..... | Degrees ..... | *Noise angle (relative to ground).* The angle between the noise path and the ground. It is identical for both measured and corrected flight paths. |
| μ ..... | ..... | Engine noise emission parameter. |
| $\mu_r$ ..... | ..... | Reference engine noise emission parameter. |
| $\Delta_1$ ..... | EPNdB ..... | *PNLT correction.* The correction to be added to the EPNL calculated from measured data to account for noise level changes due to differences in atmospheric absorption and noise path length between reference and test conditions. |
| $\Delta_2$ ..... | EPNdB ..... | *Adjustment to duration correction.* The adjustment to be made to the EPNL calculated from measured data to account for noise level changes due to the noise duration between reference and test conditions. |
| $\Delta_3$ ..... | EPNdB ..... | *Source noise adjustment.* The adjustment to be made to the EPNL calculated from measured data to account for noise level changes due to differences between reference and test engine operating conditions. |

*Section A36.7 Sound Attenuation in Air*

A36.7.1 The atmospheric attenuation of sound must be determined in accordance with the procedure presented in section A36.7.2.

A36.7.2 The relationship between sound attenuation, frequency, temperature, and humidity is expressed by the following equations.

A36.7.2(a) For calculations using the English System of Units:

$$\alpha(i) = 10^{\left[2.05\log\left(f_0/1000\right)+6.33\times10^{-4}\theta-1.45325\right]} + \eta(\delta)\times10^{\left[\log\left(f_0\right)+4.6833\times10^{-3}\theta-2.4215\right]}$$

and

$$\delta = \sqrt{\frac{1010}{f(0)}}\,10^{\left(\log H-1.97274664+2.288074\times10^{-2}\theta\right)} \times 10^{\left(-9.589\times10^{-5}\theta^2+3.0\times10^{-7}\theta^3\right)}$$