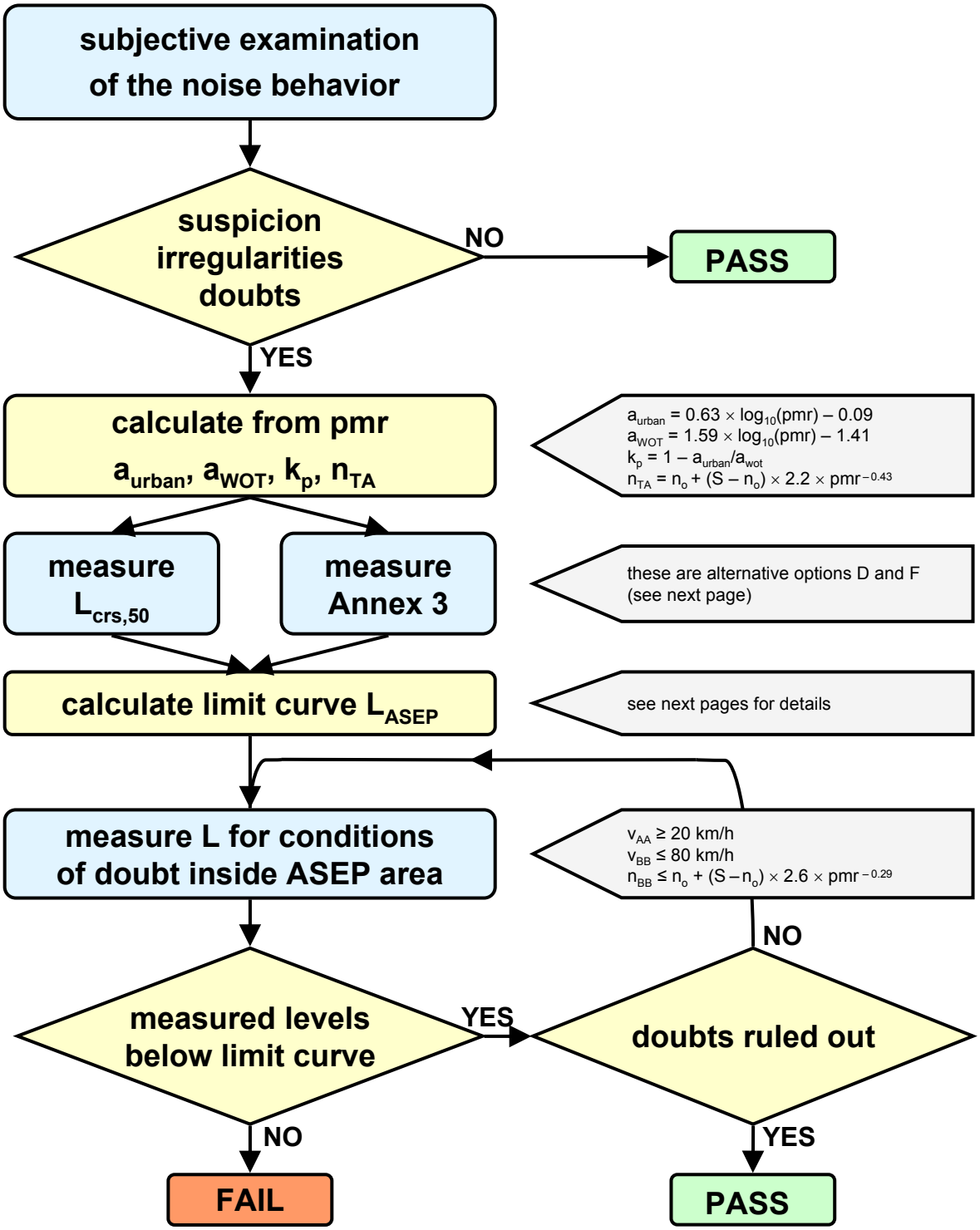
Flow Chart for the F/D ASEP-Proposal



Calculation of the Limit Curve $L_{ASEP}(n,v)$

Step 1:

determine the power-to-mass-ratio pmr and calculate a_{urban}, a_{WOT}, k_p and n_{TA}

$$a_{urban} = 0.63 \times \log_{10}(pmr) - 0.09$$
$$a_{WOT} = 1.59 \times \log_{10}(pmr) - 1.41$$
$$k_p = 1 - a_{urban}/a_{wot}$$
$$n_{TA} = n_o + (S - n_o) \times 2.2 \times pmr^{-0.43}$$

Option 1:

Step 2:

measure $L_{crs,50}$

The cruise-by level should be measured in the highest gear used in Annex 3 (i.e. gear i for single gear tests and gear i+1 otherwise).

Step 3:

calculate the anchor point $L_{TA,ASEP}$

$$L_{TA,ASEP} = (LV - k_p \times L_{crs,50}) / (1 - k_p)$$

where LV is the limit value of Annex 3.

Option 2:

Step 2:

measure Annex 3

The test result L_{urban}, the cruise-by level in gear i+1 (gear i for a single gear test) $L_{crs,50}$ and the WOT level $L_{wot,i}$ are used below.

Step 3:

calculate the anchor point $L_{TA,ASEP}$

$$L_{TA,ASEP} = L_{wot,i} + [1] \times (LV - L_{urban})$$

where LV is the limit value of Annex 3.

Step 4:

calculate the limit curve $L_{ASEP}(n,v)$

$$L_{ASEP}(n,v) = L_{TA,ASEP} - \Delta + 10 \times \log_{10}\{ (10^{\Delta/10} - 1) \times 10^{\Gamma_n \times (n - n_{TA})/10} + (v/50)^{\Gamma_v/10} \} + [0] \text{ dB}$$

with

$$\Delta = MAX(2 ; L_{TA,ASEP} - L_{crs,50})$$
$$\Gamma_n = [4] \text{ dB(A)} / 1000 \text{ rpm} \quad \text{for} \quad n \le n_{TA}$$
$$\Gamma_n = [5] \text{ dB(A)} / 1000 \text{ rpm} \quad \text{for} \quad n > n_{TA}$$
$$\Gamma_v = [34] \text{ dB(A)}$$

Figures in red square brackets are tuning parameters to be fixed as part of the setting of limit values