Deterministic $\mu$ is nowadays very well established in the control analysis community due to its proven capability to perform robust stability and performance analysis for uncertain systems. Nevertheless a common criticism for its use in clearance and certification processes is the lack of quantitative measures on the likelihood occurrence for the identified worst-cases. In addressing this shortcoming, probabilistic $\mu$ appeared in the early 1990s but due to the complexity of its calculation it is only recently that toolboxes have started to appear and be used. Probabilistic $\mu$ provides a measure of rare events to the worst-case, i.e. they provide upper and lower bounds on the cumulative distribution function of the worst-case gain. In this paper a comparison between deterministic $\mu$ and probabilistic $\mu$ is presented through their application to the analysis of a study case extracted from the VEGA launcher during the atmospheric phase.