Looking through historically to statistical convergence of single sequence, we re-call that the concept of statistical convergence of sequences was first introduced by Fast as an extension of the usual concept of sequential limits (Fast, 1950). In 2014, Aizpuru et al. introduced a new concept of density for sets of natural num-bers with respect to the modulus function. They studied and characterized the ge-nerealization of this notion of module density with statistical convergence and pro-ved that ordinary convergence is equivalent to the module statistical convergence for every unbounded modulus function (Aizpuru et., 2014). In this paper, we study statistical convergence defined by the concept of modulus density in 2-Banach spaces. We also define the notion of a f-statistical Cauchy sequence in 2-normed space. We obtain the sets of fstatistically convergent and f-statistically Cauchy sequences coincides in a 2-Banach spaces.