Test of the diphoton + missing transverse energy background model in ATLAS KAMILE YAGCI, Southern Methodist University, ATLAS COLLABORATION — I present the data and MC comparisons for the selection variables of the two photon + $E_T^{miss}$ final state in ATLAS experiment. The data is taken from the proton-proton collisions of the 7 TeV center of mass energy at the Large Hadron Collider. The data sample studied was the initial 3.1 pb$^{-1}$ taken in the 2010 run. This analysis excluded the gravity mediated One Universal Extra Dimension model with $\Delta R=20$, $N=6$ and $M_D = 5$ TeV for a curvature $1/R \leq 725$ GeV at 95% C.L., where $\Lambda$ is the cutoff scale, $N$ is the number of large extra dimensions and $M_D$ is the (4+N)-dimensional Planck scale.