

Process	Before preselection	After FH preselection (efficiency)
$\gamma\gamma + \text{jets}$	302978	6247 (2.1%)
$t\bar{t}\gamma + \text{jets}$	765	402 (52.5%)
$\gamma + \text{jet}$	830909	2466 (0.002%)
$t\bar{t} + \text{jets}$	23.6	18.8 (55.1%)
$\text{ggF H} \rightarrow \gamma\gamma$	2227	18.4 (0.83%)
$\text{ttH} \rightarrow \gamma\gamma$	23.9	14.4 (60.5%)
$\text{VBF H} \rightarrow \gamma\gamma$	158.2	1.07 (0.675%)
$\text{VH} \rightarrow \gamma\gamma$	85.6	4.44 (5.2%)
$\text{FH HH} \rightarrow \text{WW} \gamma\gamma$	0.3012	0.0966 (32%)