

Common selection	$p_T^{l1,l2} > 25$ (20) GeV, $ \eta^{l1,l2} < 2.5$ (2.4), electron (muon), $p_T^\gamma > 20$ GeV, $ \eta^\gamma < 1.4442$ or $1.566 < \eta^\gamma < 2.5$, $p_T^{j1,j2} > 30$ GeV, $ \eta^{j1,j2} < 4.7$, $70 < m_{ll} < 110$ GeV, $\Delta R_{jj}, \Delta R_{j\gamma}, \Delta R_{jl} > 0.5, \Delta R_{l\gamma} > 0.7$,
Control region	$150 < m_{jj} < 400$ GeV, $m_{Z\gamma} > 100$ GeV, Common selection
EW signal region	500 GeV $< m_{jj}, \Delta\eta_{jj} > 2.5$, $m_{Z\gamma} > 100$ GeV, $z_{\text{pp}} < 2.4, \Delta\Phi_{Z\gamma,jj} > 1.9$, Common selection
Fiducial region	500 GeV $< m_{jj}, \Delta\eta_{jj} > 2.5$, Common selection
aQGC search region	$p_T^\gamma > 100$ GeV, 500 GeV $< m_{jj}, \Delta\eta_{jj} > 2.5$, Common selection