Let $\mathcal{A}$ be an indefinite rational division quaternion algebra with discriminant $d$ equal to $pq$ where $p$ and $q$ are primes such that $p, q > 2$ and let $\mathcal{O}_{pq}$ be a maximal order in $\mathcal{A}$. Further, let $\mathcal{O}_{pq,p^{2r}q^{2s}}, r, s \geq 1$ be an order of index $p^{2r}q^{2s}$ in $\mathcal{O}_{pq}$ with Eichler invariant equal to negative one at $p$ and at $q$. Finally, let $\mathcal{O}_{1,p^{2r}q^{2s}}$ be the cocompact Fuchsian group given as the group of units of norm one in $\mathcal{O}_{pq,p^{2r}q^{2s}}$. Using the classical the Selberg trace formula, we show that the positive Laplace eigenvalues, including multiplicities, for Maass newforms on $\mathcal{O}_{1,p^{2r}q^{2s}}$ coincides with the Laplace spectrum for Maass newforms defined on the Hecke congruence group $\Gamma_0(M)$ where, $M$, the level of the congruence group, is equal to $p^{2r+1}q^{2s+1}$, i.e., the discriminant of $\mathcal{O}_{pq,p^{2r}q^{2s}}$. (Received September 13, 2011)