Initialization	$\mathbf{w}(0) = [1,\ 0,\ \ldots,\ 0]$ $\mathbf{P}(0) = \delta^{-1}\mathbf{I}_{M\times M}$
Approximation and RLS update (For each iteration $n = 1, 2,)$	$\mathbf{z}(n) = \mathbf{u}(n)\mathbf{u}^H(n)\left\lvert\mathbf{u}^H(n)\mathbf{w}(n-1)\right\rvert^{p-2}$ $\mathbf{k}(n) = \frac{\mathbf{P}(n-1)\mathbf{z}(n)}{\lambda+\mathbf{z}^H(n)\mathbf{P}(n-1)\mathbf{z}(n)}$ $\xi(n) = 1 - \mathbf{w}^H(n-1)\mathbf{z}(n)$ $\mathbf{w}(n) = \mathbf{w}(n-1) + \mathbf{k}(n)\xi^*(n)$ $\mathbf{P}(n) = \lambda^{-1}\left(\mathbf{P}(n-1) - \mathbf{k}(n)\mathbf{z}^H(n)\mathbf{P}(n-1)\right)$

(1)