We prove the well posedness: global existence, uniqueness and regularity of the solutions, of a class of d-dimensional fractional stochastic active scalar equations. This class includes the stochastic, dD-quasi-geostrophic equation, $d\geq 1$, fractional Burgers equation on the circle, fractional nonlocal transport equation and the 2D-fractional vorticity Navier-Stokes equation. We consider the multiplicative noise with locally Lipschitz diffusion term in both, the free and no free divergence modes. The random noise is given by an $Q-$Wiener process with the covariance Q being either of finite or infinite trace. In particular, we prove the existence and uniqueness of a global mild solution for the free divergence mode in the subcritical regime ($\alpha>\alpha_0(d)\geq 1$), martingale solutions in the general regime ($\alpha\in (0, 2)$) and free divergence mode, and a local mild solution for the general mode and subcritical regime. Different kinds of regularity are also established for these solutions.

The method used here is also valid for other equations like fractional stochastic velocity Navier-Stokes equations (work is in progress). The full paper will be published in Arxiv after a sufficient progress for these equations