We show that every odd order $2(n + 1)$-regular connected Cayley graph on a rank $n$ elementary abelian group is Hamilton decomposable. This result is applied to Paley graphs to show that when given odd prime power $q = p^n$, and even order multiplicative subgroup $S$ of the finite field $\mathbb{F}_q$, that the Cayley graph with connection set $S$ is Hamilton decomposable, whenever $|S| \geq 2n^2$. This extends the recent result of Alspach, Bryant and Dyer on Paley graphs.