Definition. Given a graph $\langle \mathcal{V}, \mathcal{E} \rangle$ and a labeling of each edge $e \in \mathcal{E}$ with a poset $\mathbf{R}_e$, the *design complexity* $\mathrm{DC}(\langle \mathcal{V}, \mathcal{E} \rangle)$ is defined as

$$\mathrm{DC}(\langle \mathcal{V}, \mathcal{E} \rangle) = \min_{F \text{ is an AFS}} \mathsf{width}(\prod_{e \in F} \mathbf{R}_e).$$