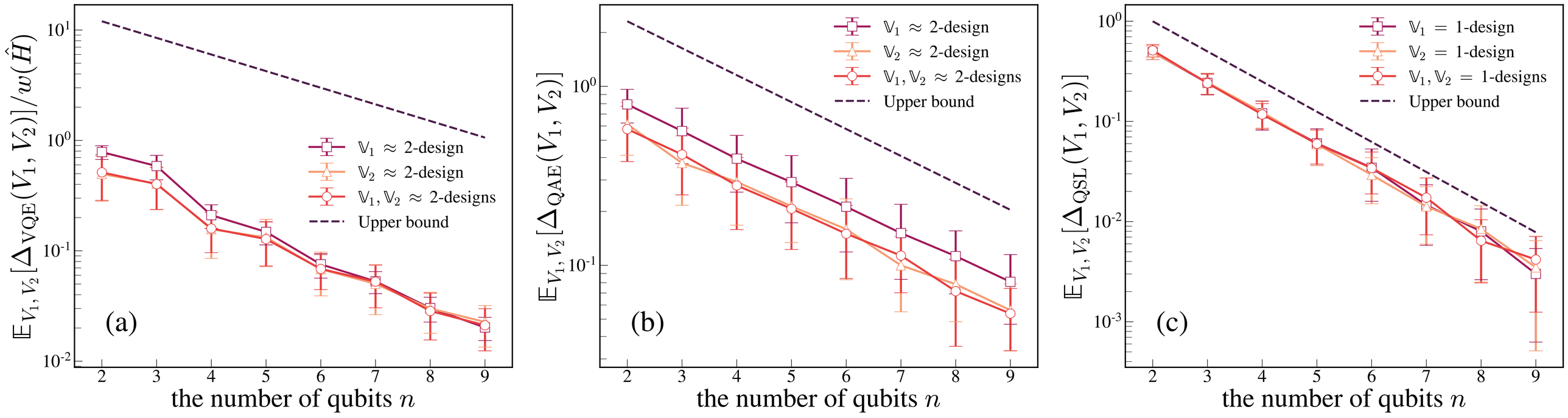
$\mathbb{E}_{V_1,V_2}[\Delta_{\mathrm{VQE}}(V_1,V_2)]/w(\hat{H})$
$10^1$
$10^0$
$10^{-1}$
$10^{-2}$
$\mathbb{V}_1 \approx$ 2-design
$\mathbb{V}_2 \approx$ 2-design
$\mathbb{V}_1, \mathbb{V}_2 \approx$ 2-designs
Upper bound
(a)
2 3 4 5 6 7 8 9
the number of qubits $n$
$\mathbb{E}_{V_1,V_2}[\Delta_{\mathrm{QAE}}(V_1,V_2)]$
$10^0$
$10^{-1}$
$\mathbb{V}_1 \approx$ 2-design
$\mathbb{V}_2 \approx$ 2-design
$\mathbb{V}_1, \mathbb{V}_2 \approx$ 2-designs
Upper bound
(b)
2 3 4 5 6 7 8 9
the number of qubits $n$
$\mathbb{E}_{V_1,V_2}[\Delta_{\mathrm{QSL}}(V_1,V_2)]$
$10^0$
$10^{-1}$
$10^{-2}$
$10^{-3}$
$\mathbb{V}_1 = 1$-design
$\mathbb{V}_2 = 1$-design
$\mathbb{V}_1, \mathbb{V}_2 = 1$-designs
Upper bound
(c)
2 3 4 5 6 7 8 9
the number of qubits $n$