CHSH = 
$$A_1B_1 + A_1B_2 + A_2B_1 - A_2B_2 \le 2$$

$$|\Phi^{+}\rangle = \frac{1}{\sqrt{2}}(|00\rangle + |11\rangle)$$

$$A_{1} = \sigma_{\chi}$$

$$A_{2} = \sigma_{2}$$

$$A_{1} = \sigma_{\chi}$$

$$A_{2} = \sigma_{2}$$

$$B_{1} = \frac{\sigma_{\chi} + \sigma_{Z}}{\sqrt{2}}$$

$$B_{2} = \frac{\sigma_{\chi} - \sigma_{Z}}{\sqrt{2}}$$

$$\langle \text{CHSH} \rangle = \langle A_1 B_1 \rangle_{\Phi^+} + \langle A_1 B_2 \rangle_{\Phi^+} + \langle A_2 B_1 \rangle_{\Phi^+} - \langle A_2 B_2 \rangle_{\Phi^+} = 2\sqrt{2} > 2$$