$$\langle 0|\left[\phi^{\dagger}(x),\phi(y)\right]|0\rangle = \int \frac{d^3p}{(2\pi)^3}\frac{1}{2E_{\vec{p}}}\left(e^{-ip_\mu(x-y)^\mu} - e^{ip_\mu(x-y)^\mu}\right)\Big|_{p0=E_p}$$

$$= \int \frac{d^3p}{(2\pi)^3}\frac{1}{2E_{\vec{p}}}\left(e^{-ip_\mu(x-y)^\mu}\Big|_{p0=E_p} - e^{-ip_\mu(x-y)^\mu}\Big|_{p0=-E_p}\right) \quad (3)$$