EG-247

$f(t) \rightarrow F(\omega)$ compute energy in signal between 5kHz → 10kHz

$2\pi f = \omega$

$$\vec{E}_{[10{,}000\pi,\ 20{,}000\pi]} = \frac{1}{2\pi}\left[\int_{10{,}000\pi}^{20{,}000\pi} |F(\omega)|^2 d\omega + \int_{10{,}000\pi}^{20000\pi} |F(\omega)|^2 d\omega\right]$$

$$= \frac{1}{\pi}\int_{10{,}000\pi}^{20000\pi} |F(\omega)|^2 d\omega.$$