

2023-04-16 Advnaced EM HW 3-1

202321012 Seok Ha Nul

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$$A_n = -\frac{4V}{\pi n} + \frac{8V \sin \frac{\pi n}{2}}{\pi^2 n^2} \quad (1)$$

$$C = \sum_{n=odd}^{\infty} \epsilon \left(\frac{4\omega}{b} + \frac{32}{\pi^2} \left(\frac{\pi}{n} - \frac{2 \sin \frac{\pi n}{2}}{n^2} \right)^2 \right) \int_{\frac{\omega}{2}}^{\frac{a}{2}} \sinh^2 \frac{\pi n (\frac{a}{2} - x)}{b} \quad (2)$$

$$Z_0 = \frac{120\pi}{\sqrt{\epsilon_r} \sum_{n=odd}^{\infty} \epsilon \left(\frac{4\omega}{b} + \frac{32}{\pi^2} \left(\frac{\pi}{n} - \frac{2 \sin \frac{\pi n}{2}}{n^2} \right)^2 \right) \int_{\frac{\omega}{2}}^{\frac{a}{2}} \sinh^2 \frac{\pi n (\frac{a}{2} - x)}{b}} \quad (3)$$