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$c := 300 \cdot 10^6$ m/s $Zo := 377$ Ω $S := 1$ W/m^2 $l := 15$ m

$i := 1 .. 100$ $f_i := i \cdot 10^6$ Hz

$$Vthreat_i := \left| \begin{array}{l} \lambda \leftarrow \frac{c}{f_i} \\ Va \leftarrow \sqrt{S \cdot Zo} \cdot \frac{\lambda}{\pi} \\ Vb \leftarrow Va \sin\left(2 \cdot \pi \cdot \frac{l}{\lambda}\right) \\ Vc \leftarrow |Vb| \\ Vc \leftarrow 10.1 \quad \text{if} \quad Vc < 10 \end{array} \right.$$

$$Venv_i := \left| \begin{array}{l} \lambda \leftarrow \frac{c}{f_i} \\ Va \leftarrow \sqrt{S \cdot Zo} \cdot \frac{\lambda}{\pi} \\ Vb \leftarrow Va \sin\left(2 \cdot \pi \cdot \frac{l}{\lambda}\right) \\ Vb \leftarrow Va \quad \text{if} \quad l > \frac{\lambda}{4} \end{array} \right.$$

Figure 5.3.6 Calculating the relationship between threat voltage and frequency.

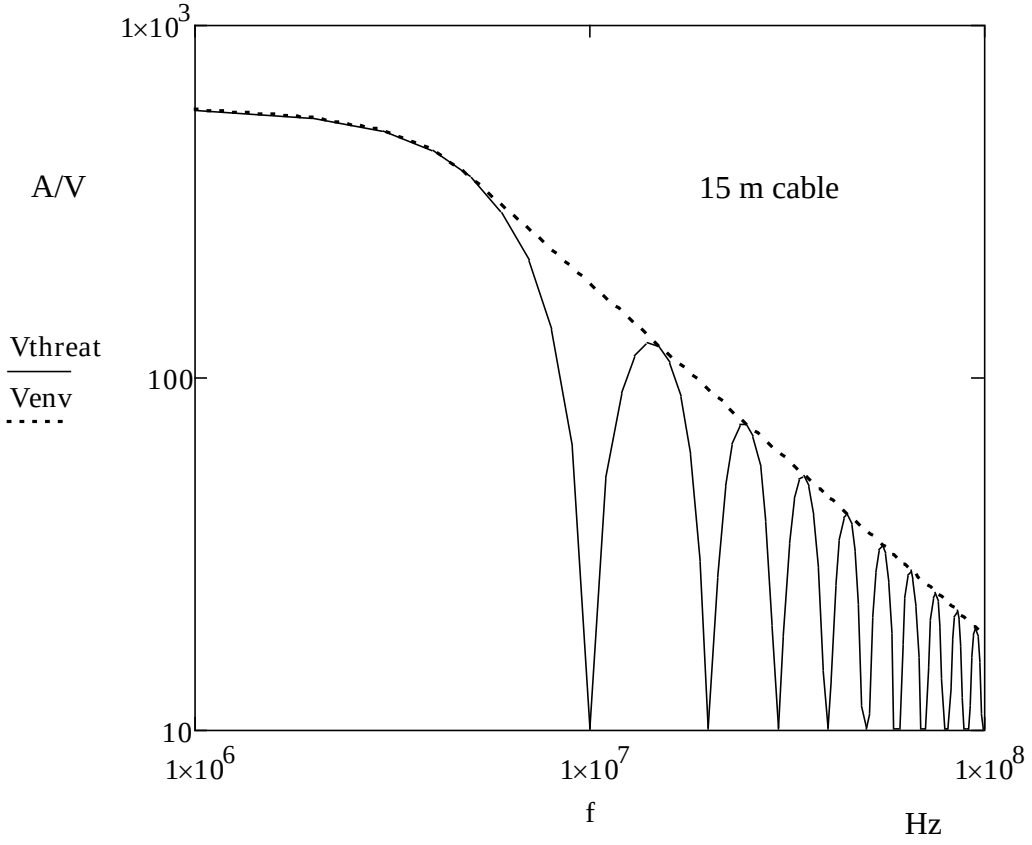

Figure 5.3.7 Relationship between threat voltage and frequency