## Special Problem II.B-4

An antenna couples noise into the front-end of a receiver. The average spectral power density of this noise is  $2 \times 10^{-21}$  W/ Hz.

- a) What is the antenna noise temperature?
- b) If this noise is passed through a filter with bandwidth of 10 MHz, what is the power of the noise (Watts) at the filter output?

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