No.
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2. $V_c(t) = 20 \cos(2\pi \cdot \omega^9 t)$
$V_s(t) = 2 \cos(\pi \cdot \omega^9 t)$
Null carrier pertama → $\beta = 2,4$

a. $f_c = \omega^9$ Hz $= \omega^5$ kHz
$f_m = 5 \cdot \omega^3$ Hz $= 5$ kHz

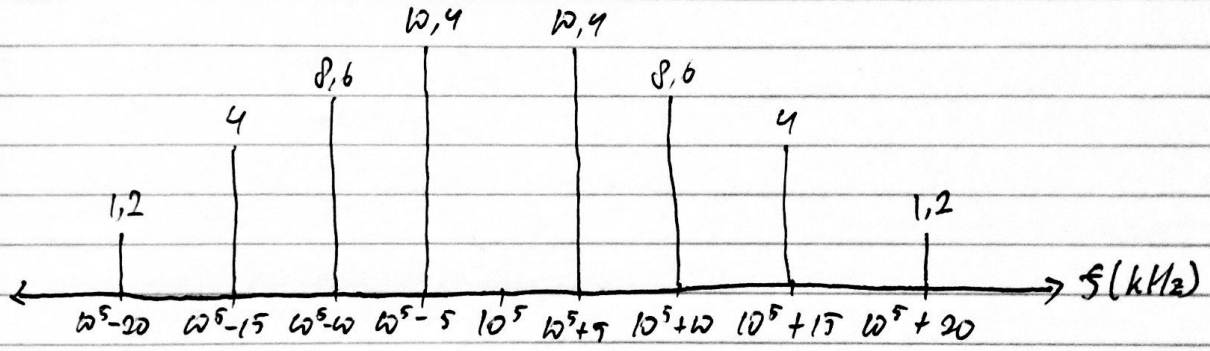
$\beta = \frac{\Delta f}{f_m} \rightarrow \Delta f = \beta \cdot f_m = 2,4 \cdot 5 \cdot \omega^3$ Hz

$= 12.000$ Hz $= 12$ kHz

$BW = 2(\Delta f + f_m) = 2(12 \text{ kHz} + 5 \text{ kHz}) = 34$ kHz

$P = \frac{A_c^2}{2R} = \frac{20^2}{2R} = 200$ W/Ω

b.



c. $V_s'(t) = 4 \cos(24\pi \cdot \omega^3 t)$
$f_m' = 12$ kHz

$k_f = \frac{\beta \cdot f_m}{A_m} = \frac{2,4 \cdot 5 \text{ kHz}}{2} = 6$ kHz/V

$\beta = \frac{\Delta f}{f_m} \rightarrow \Delta f = \beta \cdot f_m = \frac{A_m \cdot k_f}{f_m} \cdot f_m$

$\Delta f' = A_m' \cdot k_f$
$\Delta f' = 4 \cdot 6 = 24$ kHz

$\beta' = \frac{A_m' \cdot k_f}{f_m'} = \frac{4 \cdot 6}{12 \text{ kHz}}$

$= 2$

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$$BW = 2(\Delta f' + f_m') = 2(24\,kHz + 12\,kHz)$$
$$= 72\,kHz$$

$$P = \frac{A_c^2}{2R} = \frac{20^2}{2R} = 200\,W/\Omega$$