No.
Date :

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3. $\mu = 50\% = 0{,}5$ $\quad \eta = -113\ dBW/Hz$
$m(t) = Sin(2000\pi t)$

a. $P_{pemancar} = 10\ kW = 10.000\ W = 40\ dBW$

$P_{penerima} = 40\ dBW - 90\ dB = -50\ dBW$
$= 10^{-5}\ W$

$P_{penerima} : W^{-5} = \frac{(\mu A_c)^2}{4} + \frac{A_c^2}{2}$

$W^{-5} = \frac{(0{,}5\ A_c)^2}{4} + \frac{A_c^2}{2}$

$W^{-5} = 0{,}5625\ A_c^2$

$A_c = \sqrt{\frac{W^{-5}}{0{,}5625}} = 4{,}2 \times W^{-3}\ V$

$r(t) = A_c\ (1 + \mu . m(t)) \cos(\omega_c t)$
$r(t) = 4{,}2 \times W^{-3} (1 + 0{,}5\ Sin(2000\pi t)) \cos(\omega_c t)\ V$

b. $S_i = P_{penerima} = W^{-5}\ W$

c. $\left(\frac{S}{N}\right)_v = \frac{S_i}{\eta . BW}$

$\eta = -113\ dBW/Hz = -100\ dBW - 10\ dBW - 3\ dBW$
$= 10^{-2} . W^{-1} . 2^{-1}$
$= 5 \times W^{-4}\ W/Hz$

$\left(\frac{S}{N}\right)_v = \frac{W^{-5}}{5 \times W^{-4} . W \times W^3} = 2 \times W^{-6}\ kali$
$= -56{,}98\ dB$
$= -57\ dB$

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1. $\left(\frac{S}{N}\right)_o = \frac{\mu^2}{2+\mu^2} \cdot \frac{S_i}{\eta \cdot f_m}$

$= \frac{0,5^2}{2+0,5^2} \cdot \frac{10^{-5}}{5 \times 10^{-9} \cdot 1000}$

$= 2,22 \times 10^{-6}$

$= -56,54$ dB