1.1

	dB_W $[10\log_{10}(X)]$	dB_m $[10\log_{10}(X)+30]$
$50\,\mu W$	-43	-13
$1\,mW$	-30	0
$100\,mW$	-10	20

1.2 $75\,Km$, $2\,dB/Km$ $\rightarrow A = 150\,dB$

$P_{out} = P_{im} - A = -145\,dB_W \rightarrow 3\times10^{-15}\,W = 3\,fW$ ou $-115\,dB_m$

$P_{im} = 3\,W \rightarrow P_{im} = 4.77\,dB_W$

1.3 $P_{im} = 1\,mW \Rightarrow P_{im} = 0\,dB_m = -30\,dB_W$

$P_{out} = 0\,dB_W$

Logo: $P_{out} = P_{im} - A \Leftrightarrow A = -30\,dB \Rightarrow G = 30\,dB$ Amplificador