# Interference from Unlicensed Devices in the The Broadcast Bands – Fixed Access Network Analysis Re: FCC NPRM ET Docket No. 04-186

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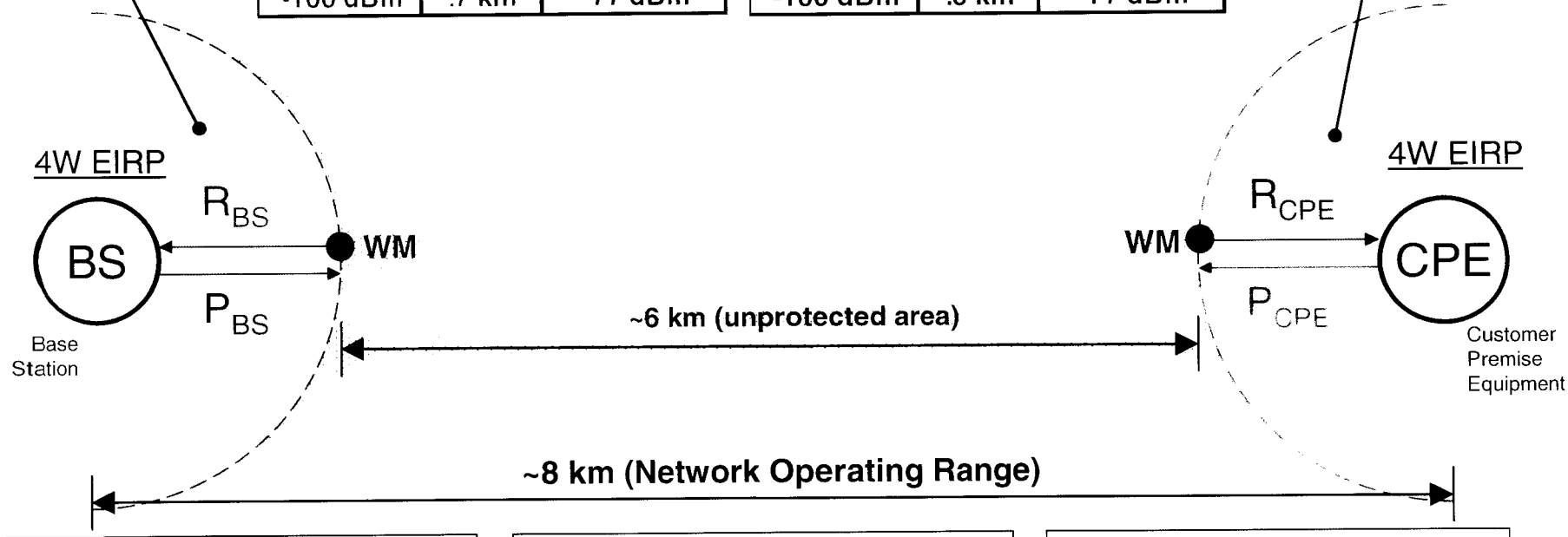
# Sensing a Wireless Microphone (WM) from a 4W (EIRP) Fixed Access Network

Sensing range from WM to BS

| Sensing Threshold | $R_{BS}$ | $P_{BS}$ @ WM |
|---|---|---|
| -107 dBm | 1.5 km | -84 dBm |
| -100 dBm | .7 km | -77 dBm |

| Sensing Threshold | $R_{CPE}$ | $P_{CPE}$ @ WM |
|---|---|---|
| -107 dBm | .7 km | -84 dBm |
| -100 dBm | .3 km | -77 dBm |

Sensing range from WM to CPE




**Base Station:**
Height = 37.5 m
TX Power = +30 dBm (1 W)
Ant. Gain = +6 dB
Cable Loss = -3 dB
$P_{LB}$ = +33 dBm

**Wireless Microphone WM:**
Height = 1 m
TX Power = +10 dBm (10 mW)
Ant. Gain = +0 dB
Cable Loss = +0 dB
$P_{LB}$ = +10 dBm

**CPE:**
Height = 10 m
TX Power = +30 dBm (1 W)
Ant. Gain = +6 dB
Cable Loss = -4 dB
$P_{LB}$ = +32 dBm

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