



# How many watts of electricity does a communication base station generally use

How much power does a cellular base station use?

This problem exists particularly among the mobile telephony towers in rural areas, that lack quality grid power supply. A cellular base station can use anywhere from 1 to 5 kW power per hour depending upon the number of transceivers attached to the base station, the age of cell towers, and energy needed for air conditioning.

How do base stations affect mobile cellular network power consumption?

Base stations represent the main contributor to the energy consumption of a mobile cellular network. Since traffic load in mobile networks significantly varies during a working or weekend day, it is important to quantify the influence of these variations on the base station power consumption.

How much power does a CB radio use?

The FCC allows a maximum of 4 watts of output power for CB radios to avoid signal interference with other devices, such as TV and emergency communication radios. That varies because a manufacturer can be fined for putting out a radio with excess power, so they produce output values between 3 and 4 Watts, and in rare cases, only 2 Watts.

How much power does an antenna use?

The antenna output power level is typically between 20 watts and a few hundred watts for an outdoor base station. Television transmitters, by comparison, have 10-1000 times higher output power than outdoor base stations. Antennas mounted indoors use very low power levels, typically around a few watts or less.

Is there a direct relationship between base station traffic load and power consumption?

The real data in terms of the power consumption and traffic load have been obtained from continuous measurements performed on a fully operated base station site. Measurements show the existence of a direct relationship between base station traffic load and power consumption.

How much power does a radio network use?

This consumption is vast, and on the level of the operator's radio access part of the network, equals approximately 7,700.54 MW. Translated into financial costs, this corresponds to the amazing amount of approximately 5.3 million euros that the operator pays to the electricity supply company.

### 6.3. Reactive Site Power Consumption

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Use our Cordless Phone Base Station calculator to determine the power consumption, wattage, and running

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cost for 4.5 hours. Calculate how this 5-watt appliance impacts your electricity bill, ...

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