



Popcorn by mobile phones: Hoax

Some video clips have been circulating on the internet claiming that it is possible to cook popcorn using the electromagnetic energy from three or four transmitting mobile phones. Such video clips are a hoax.

The claim that RF energy from several mobile phones can cook popcorn cannot be true as they do not generate anywhere near enough RF energy to pop the corn. We can demonstrate this as follows: even if you assume that each mobile phone is emitting RF energy at its maximum average power of 0.25 W (based on a peak power of 2 W per phone) for 1 minute; and even if the total power of each phone ($4 * 0.25 \text{ W} = 1 \text{ W}$) was completely absorbed by the popcorn then the temperature rise will be minimal and still far below the 190 °C temperature actually needed for cooking popcorn.

In reality, a microwave oven of about 1000 Watts takes anywhere from 30 seconds to a minute to cook popcorn. As indicated above, even with three or four phones, the total power is at least a 1000 times below what would be required.

Also it is worth noting that in the various clips, several of the phones appear to only be ringing. When a mobile phone receives a call it only transmits intermittently until a call is answered.¹

Therefore for all of the above reasons, these phones are not the source of the energy that is cooking the popcorn.

Subsequently a company admitted that they were responsible for making the video clips and that the "videos are factitious and humorous optical illusions designed for entertainment".²

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¹ See also: Physicist Debunks Cellphone Popcorn Viral Videos, <http://blog.wired.com/underwire/2008/06/cellphones-cant.html>

² <http://www.cardowireless.com/pop/>