

**MOBILE PHONE MICROWAVES INTENSITY DECREASING  
IN THE RANGE OF SOUND FREQUENCIES UPPER  
THAN 4000 HZ: THE BASIS FOR FUTURE  
MOBILE PHONE FILTER DEVICES**

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**Abstract**

The aim of this study was to detect a frequency range where the electromagnetic field intensity produced by a mobile phone during a call can be minimized. A relevant number of models of mobile phones was used to transmit to mobile phones working a set of 15 tones whose the octave frequency analyses were acquired by means of a sound level meter. Wind and Vodafone provider were used for mobile phone calls with respect to various local base station in Southern-Italy. The relative electromagnetic field levels emitted by the receiving mobile phones were monitored by a selective radiation meter. A relationship between the sound frequencies and the relative electromagnetic field intensity emitted from a mobile phone was observed. The microwaves intensity emitted by the used phones decreased significantly after the increase of the sound frequencies to values greater than 4000 Hz. This result suggests the use of filter devices to minimize the microwaves intensity emitted by a mobile phone during a call.

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**Keywords :** Mobile phone; Electromagnetic field; Microwaves; Spectrum analysis; Sound frequencies.