

HEALTH EFFECTS OF RADIOFREQUENCY RADIATION FROM WIRELESS COMMUNICATION TECHNOLOGY

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INTRODUCTION

The first demonstration of the generation and propagation of radiofrequency (RF) electromagnetic waves was by Heinrich Hertz in 1888. A few years later, Guglielmo Marconi succeeded in transmitting, wirelessly, a radio signal over a long terrestrial distance in 1896 and then across the Atlantic Ocean in 1901 [Marconi, 1909]. Ever since, the number of devices and systems that emit RF radiation has been increasing at an accelerating rate. The first commercial microwave communication link was established in 1945. It was based on vacuum tube technology. By 1971, the number of communication systems using RF and microwave radiation had increased to over 70,000 items. Some have estimated that there were over 50 million users of mobile telephones by the end of 1994. Today, microwave semiconductor devices form the basis of virtually all transceivers used in cellular telephones, satellite communications, radar systems, and high speed network interfaces. Uses of RF and microwave energy have also experienced phenomenal growth in health care, scientific discovery, industrial process, safety, transportation and entertainment.

Now, wireless communication service is sweeping the world and has brought two-way radio communication to many people constantly on the move. Wireless communication service not only allows instantaneous contact, it also provides a means to keep in touch regardless where one may happen to be, whether it be in a car, on the street, or at a store. The sight of people talking into a small portable telephone has become commonplace.