In recent years humans are more exposed to human-made fields than natural fields with developing technologies. Especially, widespread of wireless communication technologies in all areas of daily life and getting closer to sensitive organs like brain caused an increase in possible risks and worries about human health. In the study, a temperature measurement card has been designed and produced with the aim of observing the temperature rise at the phantom model generated by EM energy source. To that end, we present a study on the temperature rise of small dipole antenna (2450 MHz) that operate close to a user’s head (1, 4 and 7 cm). We found good correspondence between the temperature rise values evaluated in the phantom heads. According to the results of measure, expected temperature rise in the tissue exposed to RF energy may varies to the distance between radiated source and tissue.