Raytheon anti-demonstration energy weapon

Due: Feb 10th

Raytheon has been developing a millimeter-wave device that is supposed to keep demonstrators at bay. According to http://www.redicecreations.com/specialreports/v-mads.html a beam of radiation with frequency $95\,GHz$ will be aimed at demonstrators, and will be energetic enough to heat up the top 0.3mm of skin by 30K within 2 seconds. The sudden increase of temperature of the skin’s surface is perceived as pain, although causes no damage.

- Estimate the electric field component of the radiation used as it hits its target.

You may make any reasonable assumptions in your estimate regarding properties of skin etc.