

Dosimetric Analysis in Dense Transceiver Scenarios

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The advent of Internet of Things requires the use of multiple wireless communication systems, in order to provide seamless interaction to a large number of devices. In these scenarios, large densities of transceivers are foreseen to operate, particularly in indoor locations, with the use of wearable devices and multiple access points close to users. In this work, estimation on the impact of dosimetric levels as a function of transceiver location and density will be analyzed, with the aid of in-house deterministic 3D Ray Launching code, as well as simplified human body model coupled to the simulation code. Different frequencies of operation and transceiver characteristics have been considered, replicating HetNet behavior. Potential hot-spots as well as wearable operation will be analyzed, in order to provide assessment in the compliance with different standards of future IoT context aware systems.

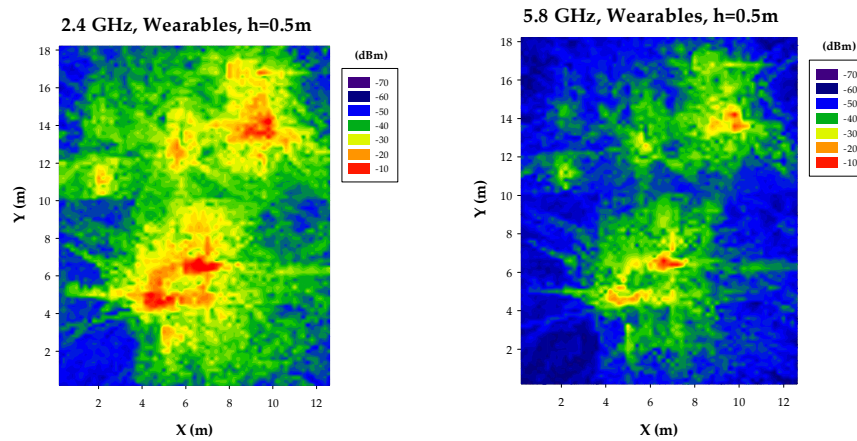


Figure 1. Estimation of RF power levels for indoor operation of wearable devices, for a frequency of operation of 2.4GHz and 5.8GHz.