Design Channel Non Persistent CSMA MAC Protocol Model for Complex Wireless Systems Based on SoC

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Abstract : This paper presents Carrier Sense Multiple Access (CSMA) communication model based on SoC design methodology. Such model can be used to support the modelling of the complex wireless communication systems, therefore use of such communication model is an important technique in the construction of high performance communication. SystemC has been chosen because it provides a homogeneous design flow for complex designs (i.e. SoC and IP based design). We use a swarm system to validate CSMA designed model and to show how advantages of incorporating communication early in the design process. The wireless communication created through the modeling of CSMA protocol that can be used to achieve communication between all the agents and to coordinate access to the shared medium (channel).

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