

Certificate

This is to certify that the thesis titled *Massive MIMO Systems: Channel Modeling and Efficient System Architecture*, submitted by *Suresh Dahiya (PG201282009)* to the Indian Institute of Technology Jodhpur for the award of the degree of *Doctor of Philosophy*, is a bonafide record of the research work done by him under my supervision. To the best of my knowledge, the contents of this report, in full or in parts, have not been submitted to any other Institute or University for the award of any degree or diploma.

Arun Kumar Singh
Ph.D. Thesis Supervisor

