

# MATLAB Simulation and HDL Implementation of DVB-S2 Modulator

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*Abstract: Ongoing improvements in the region of satellite communication are making conceivable minimal effort information transmission and TV broadcasting to gently populated zones spread over a huge environmental district. As a result of direct and non-direct manner of satellite subsystems and station, audio and video transmissions through satellite transponders face corruption. These damages make an antagonistic impact on the end to end interface execution. This Project is centered around reproduction of the Digital Video Broadcasting – Satellite second era computerized TV transmission. For this simulation, an application in MATLAB is created. It tends to be utilized for re-enactment of entire preparation in DVB-S2 transmitter including stream adjustment, FEC coding with interleaving, modulation, channel damage & also opposite tasks in the receiver. The main aim of this model is to manage Digital Video Broadcasting – Satellite second era parameters using filter in different modulation scheme like QPSK, 8PSK, 16APSK and 32APSK, to get better roll off factor, with all the possible code rates, and use Hardware Description Language to prepare this model, since this way of implementation will make the model cost efficient and also enables the user for the customized code rates.*

*Keywords: DVB-S2, BCH, LDPC, QPSK, 8PSK, 16APSK, 32APSK, PLSCRAMBLER*