Performance Evaluation of DVB-S2X Satellite Transmission according to Sharp Roll off Factors

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***Abstract*—Frequency usage is steadily increased according to growth in communication services. Researchers develop communication technologies to get an additive spectrum efficiency on this account. ETSI also upgrades existing DVB-S2 standard to meet increased frequency usage. The new standard, DVB-S2X, offers sharp roll off factor values to gain spectrum efficiency in satellite communication systems. In this paper, we experiment IF loopback and satellite tests to check validity of DVB-S2X roll off factors. Those tests used by the geostationary Cheonrian satellite. The test results show that 5% roll off factor offers about 14% spectrum efficiency gain, though threshold Es/No has loss of values about 0.3dB than 20% roll off factor value. We conclude that low roll off factor values in the DVB-S2X is effective in the real satellite communication environment.**

***Keyword*—Satellite communication, Broadcasting, DVB-S2X, Roll off factor, MODCOD.**

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