

MBSFN coverage evaluation for AL-FEC enabled eMBMS transmission

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Abstract—In Long Term Evolution (LTE), EvolvedMultimedia Broadcast/Multicast Services (eMBMS) offers functionality to transmit multimedia contents over a single frequency network (SFN) where a time-synchronized common waveform is transmitted from multiple cells for a given duration. It is called Multimedia Broadcast multicast service Single Frequency Network (MBSFN). The optimized Modulation and Coding Scheme (MCS) level will result in the acceptable coverage performance and signal quality. The MBSFN coverage is primary determined by Signal Interference Noise Ratio (SINR), Block Error Rate (BLER), and MCS. In this paper we investigate the impact of Application Layer Forward Error Correction (AL-FEC) against the selection of the MCS that will be utilized for the transmission of the MBSFN data. We examine the efficient working point between AL-FEC overhead and BLER with given MCS and SINR.

Keyword—LTE, eMBMS, AL-FEC, MBSFN