ABSTRACT

One of solution from Digital Mobile TV standard nowadays is DVB-H (Digital Video Broadcasting for Handheld), which offering high data rate, however still having limitation, that is need high power in the transmitter and less flexible at a high speed user. This matter have reversed technologically by DAB (Digital Audio Broadcasting) what more suited for applied moving user but limited to overcome the audio and data. Both of them have same technique in code and modulation by using COFDM (Coded Orthogonal Frequency Division Multiplexing).

Technology adoption from DVB and DAB are expected to link the desire of user mobility with a high quality picture reception and better on efficiency level. Standard of technology in the simulation are ETSI TS 102 427 (DAB for *Data Broadcasting* – MPEG-2 TS *Streaming*) which is little addition in block code from DVB system. The adoption system adopts outer coding on DVB and modulation DQPSK (DAB) with data rate at 9.2 Mbps. From simulation result in AWGN channel, DVB have the best performance of all because they have high data rate with small BER, however adoption system had capability to handle various Rayleigh channels on VHF-6, to reach BER<10^{-6} need SNR = 14 dB. To get better aceptance, adding DAB system with outer code DVB will give BER <10^{-8} with maximal service data rate at 1.824 Mbps. Because of the data rate limitation, audio video service standard that can be implemented are MPEG-4 H.264 (384 kbps) for TV service and HE-AAC (48 kbps) for digital radio service.

From planning service coverage on terrestrial implementation in Bandung areas, 1 main transmitter are co-located with analog TV transmitter, and 3 transmitter co-located with BTS Cellular CDMA 2001X (Mobile 8) had MAPL 131,2 dBm with configuration 2 Urban Cells dan 1 Sub Urban Cell. Finally will be a new ideal system by joining the technology as the alternative technology besides DVB-H.