ABSTRACT

When compared to analog TV, digital TV has a better reception quality, the transmit power needs of the smaller, resistance to radio interference and track conditions changing with time and bandwidth usage more efficient. Digital TV transmitter systems can be realized with software-based and hardware-based. At transmitter DVB-T system digital TV with software-based, the system uses software to manage, produce, process and make the broadcast multiplex in the form of MPEG-2 modulated OFDM and QAM.

In this thesis, we designed a digital TV transmitter DVB-T software-based open-caster and transmission modulator was based PCI card. Results of the can in this thesis is the realization of digital TV DVB-T software-based measurement and analysis of the spectrum RF / IF and receiver sensitivity measurements. To know the level of satisfaction with television viewers to digital TV broadcasting, carried out the method MOS (Mean Opinion Score) at each change of modulation parameters. The measurement results show that the resulting RF spectrum does not deviate from the spectrum mask at the recommendation of the RRC in 2006 about the planning of terrestrial digital TV broadcasting system and also obtained the minimum of the receiver's power is below-91dBm.

Key words: Digital TV, DVB-T, transmitter-based software, open caster software
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