

Distance Separation and Guard Band Evaluation between LTE and Space Operation Service Systems in Shared Frequency Band

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Abstract—Shared frequency operation of different radio systems causes the need to investigate electromagnetic compatibility conditions for these systems. According to the National Frequency Allocation Table the operation of communication facilities of LTE technology and space operation service is allowed in the 2.3–2.4 GHz band. Conditions ensuring joint action of communication facilities of LTE technology and space operation service in shared frequency band are considered. A procedure to evaluate the required frequency–distance separation between means of these different radio services and the necessary guard band is presented.

Keywords—radio service; LTE technology; space operation service; distance–frequency separation; guard band