

ABSTRACT:

Coexistence analysis is exceedingly important in investigating the possibility for spectrum sharing between IMT-A system and existing wireless services. The 470-862 MHz frequency band is currently allocating to several services such fixed wireless access (FWA). International telecommunication union-radio (ITU-R) sector has allocated sub-bands within 470-862 MHz for IMT-A system. This concurrent operation causes a destructive interference that influences the coexisting feasibility between IMT-A and this existing service, FWA. This paper addresses a timely and topical problem dealing with spectrum sharing and coexistence between an IMT-A systems and FWA service within 790-862 MHz. Co-channel and adjacent channel with an overlapping band and with or without guard band are intersystem interference scenarios investigated. The deterministic analysis is carried out by spectral emission mask (SEM) technique. Different significant factors such as channel bandwidths, propagation path lengths, and clutter loss which influence the feasibility of coexistence are examined. Feasible coexistence coordination procedures in terms of separation distance, frequency offset, and guard band are suggested.