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Coexistence of a TETRA system with a Terrestrial DTV system in White Spaces

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Research Object & Direction

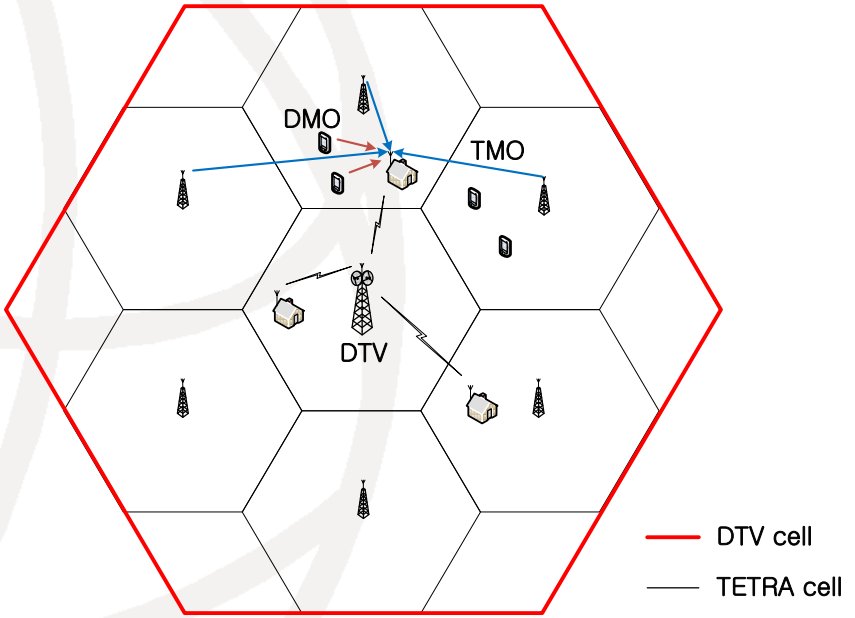
- Why was TETRA system considered to DTV White Space applications?
  - Can be applied to Small idle space in DTV Band, i.e. 25kHz channel BW @ Release I
  - Usually used to public purpose such as PPDR
- What is the direction of research?
  - Investigate the possibility of coexistence of TETRA system with DTV in terms of interference according to the operating powers and frequency offsets

Interference Scenario

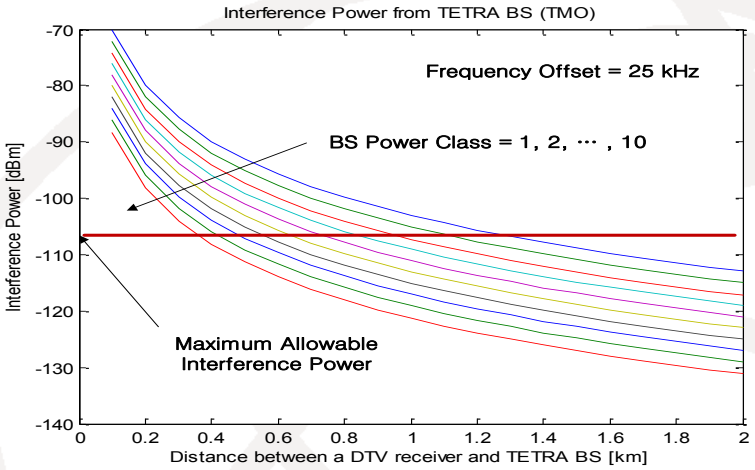
- TETRA BSs: Centered in hexagonal shaped cells
- TETRA MSs: Uniformly randomly distributed over their cell areas

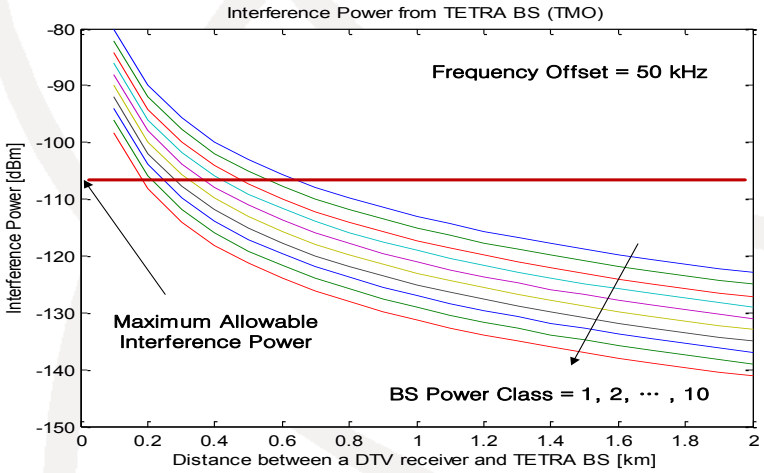
$$I = \sum_{j=1}^{J} \alpha_j d_j^{-\gamma}$$

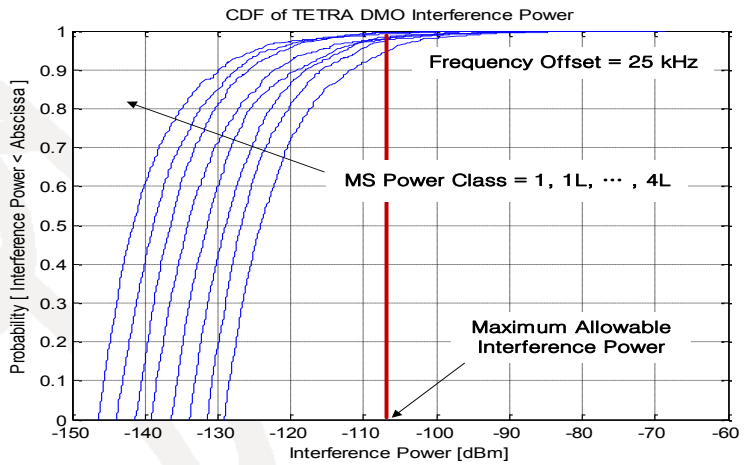
$$I = I_{TMO} + I_{DMO}$$

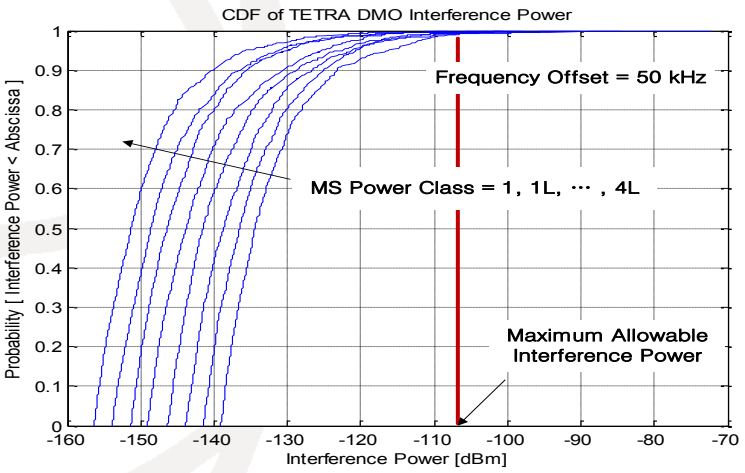


Simulation Results









- Interference Power(BSs)
- CDF of Interference Power(MSs)