Spectrum suppressed transmission for achieving higher spectral efficiency

Frequency Sharing Between Wireless Communication Systems Without Concern for Interference

Our proposal is spectrum-suppressed transmission to overcome the frequency resource shortage problem. Since the effect of radio interference can be reduced by using a spectrum suppression and equalization scheme, additional signals can be assigned to the guard band, which is traditionally set to avoid adjacent channel interference. Therefore total frequency utilization efficiency is greatly improved.

Features
- Frequency utilization efficiency is highly improved by spectrum suppression to enable exclusion of the frequency guard band.
- Radio interference can be reduced by 2-stage signal processing at the receiver; first interference is suppressed by spectrum suppression processing, then residual signal distortion of the desired signal is compensated for by a spectrum equalization with autologous spectrum regeneration technique.
- Since the proposed technology does not depend on a transmission scheme, frequency sharing between different wireless communication systems can be achieved while maintaining transmission speed.

Application Scenarios
- Sharing frequency bandwidth between different wireless communication systems
- Extending wireless communication systems and enabling area overlapping in them
- Increasing channel capacity

NTT Group Global Advantage
NTT has developed wireless communication technology for achieving frequency sharing without needing to be concerned about interference. We will consider applying the technology for next-generation satellite communication services in the future.

- This work is related to research sponsored by the Ministry of Internal Affairs and Communications through grants for “Research and Development on Dynamic Polarization and Frequency Control Technologies for High-Capacity Satellite Communications”.

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