



Resolution SFCG 27-1

**INTERFERENCE MITIGATION TECHNIQUES FOR FUTURE SYSTEMS
PLANNING TO OPERATE IN THE 2025-2110 MHZ BAND**

The SFCG

CONSIDERING

- a) that interference can occur to satellites operating in the 2025-2110 MHz band from multiple earth station uplinks
- b) that the number of systems using the 2025-2110 MHz band is expected to continue to increase in the future causing a corresponding increase in interference levels;
- d) that use of large earth station antennas with high gains and low sidelobe levels reduces the impact of potential interference;
- e) that future increases in interference in the band can be reduced by ensuring that earth stations transmit only when in view of their cooperating satellites;
- f) that future interference in the band can also be reduced by selection of the minimum bandwidth necessary to accomplish the intended mission;
- g) that Recommendation ITU-R SA.1154 concludes that sharing with high density mobile services in this band is not feasible and should be avoided;
- h) that data relay satellites are compatible with low density mobile service systems in this band and that Earth stations are incompatible with low density mobile service systems unless sufficient RF isolation exists between the mobile systems and the earth station.
- i) that low density mobile terminals currently exist in this band and operate principally as electronic news gathering (ENG);
- j) that sufficient earth station isolation from these low density mobile systems may not be feasible in all cases.

NOTING

- a) that this frequency band is also heavily used by entities other than SFCG member agencies;
- b) that the use of data relay satellites will continue to facilitate use of the 2025-2110 MHz band by reducing interference resulting from earth stations uplinks;
- c) that the 2025-2110 MHz does not allow high data rates transmissions;
- d) that ITU RR No. 5.391 precludes the deployment of high density mobile service systems in the 2025-2110 MHz band.

RESOLVES

1. that earth stations or data relay satellites using the 2025-2110 MHz band not transmit when their cooperating satellites are beyond their view;;
2. that systems using this band be designed to minimize their bandwidths to reduce the potential interference to other systems in the band to reduce future congestion in the band;
3. that due consideration be given to interference mitigation techniques including earth station geographical diversity, increased earth station antenna gain , reduced earth station antenna sidelobe levels, earth station isolation from mobile links and the use of data relay satellites, if available, to augment and replace earth stations;
4. that other frequency bands should be made available as alternatives to the band 2025-2110 MHz for high data rates;