

## RECOMMENDATION ITU-R S.1427

**METHODOLOGY AND CRITERION TO ASSESS INTERFERENCE FROM  
RADIO LOCAL AREA NETWORK (RLAN)\* TRANSMITTERS TO  
NON-GSO MSS FEEDER LINKS IN THE BAND 5 150-5 250 MHz**

(Question ITU-R 248/4)

(2000)

The ITU Radiocommunication Assembly,

*considering*

- a) that the band 5 150-5 250 MHz is allocated worldwide to FSS (Earth-to-space) for use by non-GSO MSS feeder links on a co-primary basis without restriction in time as per RR No. S5.447A;
- b) that the band 5 150-5 250 MHz is also allocated on a worldwide primary basis to the aeronautical radionavigation service (ARNS);
- c) that the band 5 150-5 216 MHz is also allocated to feeder links of the radiodetermination-satellite service (space-to-Earth) subject to RR No. S5.446;
- d) that the band 5 150-5 216 MHz, under RR No. S5.447B and the provisions of RR No. S9.11A, is also allocated to the FSS (space-to-Earth) for use by non-GSO MSS feeder links on a worldwide primary basis;
- e) that the band 5 150-5 250 MHz is allocated via RR No. S5.447 to the mobile service in a number of countries subject to coordination under RR No. S9.21;
- f) that some administrations are considering the introduction of RLANs in the band 5 150-5 250 MHz on a national/regional basis;
- g) that the potential large-scale deployment of RLAN transmitters in the band 5 150-5 250 MHz could cause interference to non-GSO MSS satellite systems operating their feeder uplinks in this band;
- h) that the potential large-scale deployment of RLAN transmitters in the band 5 150-5 250 MHz could cause significant reduction in MSS satellite transponder capacity;
- j) that RLAN manufacturers are proposing and administrations are considering that RLAN transmitters should operate in the band 5 150-5 250 MHz on an unlicensed basis;
- k) that the non-GSO MSS feeder-link beam coverage is of a regional and/or global nature;
- l) that RLAN interference can only be accounted for in terms of an aggregate and constant increase in the non-GSO MSS feeder-link noise floor and its consequences to reduction in satellite capacity;
- m) that the evolution of RLANs in the marketplace will occur independently on a national or regional basis;
- n) that there is a need to protect the non-GSO MSS feeder links from RLAN interference,

*recommends*

**1** that the assessment of interference from RLAN emissions to non-GSO MSS satellite feeder-link receivers, operating in the band 5 150-5 250 MHz, should be based on the increase ( $\Delta T_{\text{satellite}}$ ) in satellite noise temperature ( $T_{\text{satellite}}$ );

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\* In this Recommendation RLAN is to mean radio local area network, or any other transportable or fixed devices offering local network connectivity (e.g. high performance RLANs (HIPERLANs), U-NII, wireless local area network (WLAN), or others; see also Recommendation ITU-R F.1244).

2 that in order to ensure the adequate protection for the non-GSO MSS feeder links from RLAN emissions in the band 5 150-5 250 MHz the aggregate  $\Delta T_{\text{satellite}}/T_{\text{satellite}}$  should be no more than 3%.

NOTE 1 – The impact of the aggregate long-term interference due to RLANs into non-GSO MSS feeder links, in terms of the reduction in non-GSO MSS satellite capacity, should also be considered in conjunction with the methodology proposed in the above *recommends*. This is to ensure that the interference power captured by the non-GSO MSS satellites should account for a reduction in available satellite capacity less than or equal to 1%. This value may require further study.

NOTE 2 – By the term “aggregate” it is meant that the interference to the satellite receiving beam is to be calculated from all of the RLAN devices within the field of view of the non-GSO satellite feeder-link receiving beam.

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