RECOMMENDATION ITU-R M.1072

INTERFERENCE DUE TO INTERMODULATION PRODUCTS IN THE LAND MOBILE SERVICE BETWEEN 25 AND 3 000 MHz

(Question ITU-R 99/8)

(1994)

The ITU Radiocommunication Assembly,

considering

a) that large numbers of base station transmitters and receivers may be operated within the same geographical area;

b) that such transmitters may produce high-level intermodulation emissions which may fall on receive frequencies of land mobile stations;

c) that channel plans can be devised so as to minimize the effects of intermodulation products;

d) that receivers may have spurious intermodulation responses as a result of two or more strong input signals;

e) that external non-linearly conducting elements may produce intermodulation products from two or more signals;

f) that Report ITU-R M.739-1 contains detailed information on the production of intermodulation products in transmitters and the intermodulation response at the output of a receiver and further information on site engineering can be obtained in ETSI Technical Report 053:1992,

recommends

1. that ferrite isolators, cavity filters and cavity resonators be used in order to reduce the effects of transmitter non-linearities that cause intermodulation;

2. that the appropriate use be made of filters and attenuators as these can reduce the effects of receiver non-linearities and thus the level of receiver intermodulation;

Note 1 – The use of attenuators will have no effect on reception of externally generated intermodulation, the receive level relative to the wanted signal would be unchanged by the addition of attenuation.

3. that proper site engineering practice (see § f)) be employed to reduce non-linearity in external elements and thus the level of externally generated intermodulation products;

4. that frequency planning techniques and site separation be employed to reduce the likelihood of the production of intermodulation products at critical frequencies and levels.