

RECOMMENDATION ITU-R M.1388*

**THRESHOLD LEVELS TO DETERMINE THE NEED TO COORDINATE
BETWEEN SPACE STATIONS IN THE BROADCASTING-SATELLITE
SERVICE (SOUND) AND PARTICULAR SYSTEMS IN THE LAND
MOBILE SERVICE IN THE BAND 1452-1492 MHz**

(Question ITU-R 106/8)

(1999)

Summary

Until such time as additional studies are complete, the power flux-density level specified in this Recommendation may be applied as coordination trigger threshold level to space stations in the broadcasting-satellite service (sound) operating in the frequency band 1 452-1 492 MHz to share this frequency band with particular land mobile systems.

The ITU Radiocommunication Assembly,

considering

- a) that WARC-92 allocated the band 1 452-1 492 MHz on a primary basis in worldwide basis to the broadcasting-satellite service (sound) (BSS(s)), subject to the provisions of the Radio Regulations (RR) Nos. S5.342, S5.343, S5.344 and S5.347, and to Resolution 528 (WARC-92);
- b) that the frequency band in a) is also allocated to the mobile service;
- c) that there are a number of common characteristics and parameters among the various land mobile systems (LMS) now in operation;
- d) that the protection criteria for LMS in general is yet to be determined;
- e) that the performance objectives for the LMS in general are yet to be determined;
- f) that land mobile service stations may receive interference caused by emissions from satellite transmitters in the BSS(s);
- g) that this Recommendation does not negate the ability of administrations to seek coordination under Resolution 33 (WARC-79);
- h) that there is already a coordination threshold between the mobile-satellite service and the land mobile service in No. S5.348A in the RR in the band 1 492-1 525 MHz;
- j) that there are no appropriate coordination threshold levels to protect the land mobile service in the band 1 452-1 492 MHz;
- k) that it is difficult to change technical parameters in the existing systems operating in the above band;
- l) that the coordination threshold specified in Recommendation ITU-R F.1338 dealing with the interference from the BSS(s) to the fixed service may not be appropriate for this purpose;
- m) that methods and techniques for effective coordination need to be established,

* This Recommendation should be brought to the attention of Radiocommunication Study Group 10.

recommends

1 that for BSS(s) geostationary space stations, and until such time as further studies related to *considerings* d) and e) are completed, the following power flux-density (pfd) levels at the surface of the Earth may be applied as the coordination threshold with particular systems in the land mobile service operating in the band 1 452 to 1 492 MHz (see Notes 1 to 4):

–150 dB (W/m²) in 4 kHz for all angles of arrival (Notes 5 and 6).

NOTE 1 – LMS technical parameters based on particular digital systems referred to in *recommends* 1 are given in Annex 1 to this Recommendation.

NOTE 2 – The pfd level set out in *recommends* 1 was derived using a deterministic analysis methodology for the mobile station at the service area boundary.

NOTE 3 – The use of a probabilistic analysis based on the acceptability of a marginal reduction in service availability within a small percentage of the total service area may lead to higher coordination trigger thresholds.

NOTE 4 – Administrations are encouraged to consider the sharing measures set out in Annex 2 to this Recommendation. In the specific case that coordination is necessary in the band used for repeater station receivers in LMS systems, § 2.2 of Annex 2 would be relevant as the measures described there may enhance the prospect of sharing.

NOTE 5 – Analogue LMS systems also operate in the shared band and until such time as sharing studies related to such a use of the LMS band are completed, the pfd trigger threshold in *recommends* 1 may be provisionally applied.

NOTE 6 – The reference bandwidth of 4 kHz may be reviewed in the actual coordination process.

ANNEX 1

Technical parameters of particular systems in the land mobile service

Table 1 gives technical parameters of a digital system in the land mobile service, which are already operating in the band 1 452 to 1 492 MHz in one country. The value in Table 1 represents the requirements around the edge of each service coverage area.

TABLE 1

Carrier level	dB (W/4 kHz)	–146.2
Thermal noise	dB (W/4 kHz)	–162.8
Total interference noise	dB (W/4 kHz)	–161.7
Antenna aperture	dB (m ²)	–22.8
Allowable pfd for inter-service interference	dB (W/m ² /4 kHz)	–148.9