

RECOMMENDATION ITU-R M.1823

Technical and operational characteristics of digital cellular land mobile systems for use in sharing studies

(Questions ITU-R 1/8 and ITU-R 7/8)

(2007)

Scope

This Recommendation provides technical and operational characteristics of digital cellular land mobile systems for use in sharing studies. It provides the relevant characteristics for some specific systems used for digital cellular land mobile communications, and complements the information available in Recommendation ITU-R M.1073-2.

The ITU Radiocommunication Assembly,

considering

- a) that digital cellular land mobile systems are heavily used in the land mobile service bands;
- b) that there is a need for technical and operational characteristics of digital cellular land mobile systems to be used in sharing studies;
- c) that the minimum receiver performance figures contained in equipment standards are not necessarily those on which systems are planned;
- d) that receiver performance characteristics vary for different digital modulation schemes;
- e) that previous radiocommunication conferences have invited ITU-R to continue its studies for all services,

noting

- a) that Recommendation ITU-R M.478-5 contains technical characteristics of equipment and principles governing the allocation of frequency channels between 25 and 3 000 MHz for the FM land mobile service;
- b) that Recommendation ITU-R M.1073-2 describes digital, cellular land mobile telecommunication systems;
- c) that Recommendation ITU-R M.1032 addresses the technical and operational characteristics of land mobile systems using multi-channel access techniques without a central controller;
- d) that Report ITU-R M.2014-1 contains description of digital land mobile systems for dispatch traffic;
- e) that Report ITU-R M.2039 contains characteristics of terrestrial IMT-2000 systems for frequency sharing/interference analyses;

- f) that Recommendation ITU-R SM.329-10 contains material on spurious emissions;
- g) that Recommendation ITU-R SM.1541-2 contains material on unwanted emissions in the out-of-band domain;
- h) that Recommendation ITU-R SM.1539-1 contains variations of the boundary between the out-of-band and spurious domains required for the application of Recommendations ITU-R SM.1541 and ITU-R SM.329;
- j) that Recommendation ITU-R SM.1540 deals with unwanted emissions in the out-of-band domain falling into adjacent allocated bands;
- k) that degradation of mobile reception curves in Report ITU-R M.358-5 can be used to determine protection ratios for mobile digital systems;
- l) that Recommendation ITU-R M.1808 describes the technical characteristics of conventional and trunked land mobile systems operating in the mobile service allocations below 960 MHz to be used in sharing studies,

recommends

- 1** that, for interservice and intraservice frequency sharing studies, the representative technical and operational characteristics of digital cellular land mobile systems given in Annex 1 should be used.

Annex 1

Technical and operational characteristics of digital cellular land mobile systems for use in sharing studies

TABLE 1

Summary of characteristics of digital cellular land mobile telecommunication systems for sharing studies

Feature	GSM	TIA-136 TDMA	TIA-95 ⁽¹⁾ , CDMA2000 (1X), HRPD ⁽²⁾ <i>Note – BC is band class.</i>	PDC ⁽³⁾
General:				
Class of emission				
– traffic channels	271KF7W	40K0G7WDT	1250K0B1W	32K0G7W
– control channels	271KF7W	40K0G1D	1250K0B1W	32K0G1D
Transmit frequency bands (MHz)				
– base stations	460.4-467.6 (GSM450) 747-762 (GSM 700) 925-960 (GSM 900) 869-894 (GSM 850) 1 805-1 880 (GSM 1800 ⁽⁵⁾) 1 930-1 990 (GSM 1900 ⁽⁶⁾)	869-894 (800 MHz) 1 930-1 990 (1.9 GHz)	Refer to TIA-1030-A ⁽⁴⁾ 869-894 (BC0) 869-894 (BC0) 1 930-1 990 (BC1) 917-960 (BC2) 832-870 (BC3) 1 840-1 870 (BC4) 460-467.5 (BC5) 421.7-430 (BC5) 489-493.5 (BC5) 2 110-2 170 (BC6) 746-764 (BC7) 1 805-1 880 (BC8) 925-960 (BC9) 851-869 (BC10) 935-940 (BC10) 461-467.5 (BC11) 420-430 (BC11) 915-921 (BC12) 2 620-2 690 (BC13) 1 930-1 995 (BC14) 2 110-2 170 (BC15)	810-828 870-885 838-843 1 477-1 501 1 513-1 516