

RECOMMENDATION ITU-R F.1568-1

**Radio-frequency block arrangements for fixed wireless access systems
in the range 10.15-10.3/10.5-10.65 GHz**

(Questions ITU-R 136/9 and ITU-R 229/9)

(2002-2005)

Scope

This Recommendation provides radio-frequency (RF) block arrangements for fixed wireless access (FWA) systems in the range 10.15-10.3/10.5-10.65 GHz. Annexes 1 and 2 present RF block arrangements based on 28 MHz blocks and 30 MHz blocks, respectively. Homogeneous patterns with a channel slot of 0.25 MHz are also given in Annexes 1 and 2.

The ITU Radiocommunication Assembly,

considering

- a) that fixed wireless access (FWA) systems in the range 10.15-10.65 GHz can provide enhanced telephony and data services;
- b) that several administrations have introduced FWA systems in bands within the range 10.15-10.65 GHz;
- c) that a flexible block (sub-band) arrangement, rather than use of a conventional point-to-point (P-P) channel arrangement can accommodate various FWA technologies, whilst remaining consistent with good spectrum management principles, including provision for inter-systems/ services operation and overall spectrum efficiency;
- d) that in some countries there may be cases where FWA systems need to coexist with P-P systems in the same fixed service (FS) allocation;
- e) that a standardized block width might offer benefits through economies of scale and simplified inter-system and inter-operator frequency planning in the same deployment area;
- f) that there are a number of different access technologies that may be used, for which different channelling and/or frequency allocation schemes may be appropriate;
- g) that Recommendation ITU-R F.747, Annexes 1 and 2, presents radio-frequency arrangements for fixed wireless systems operating in the 10.5-10.68 GHz band;
- h) that Recommendation ITU-R F.746, Annex 3, presents radio-frequency arrangements for fixed wireless systems operating in the 10.3-10.68 GHz band;
- j) that in some cases administrations may use other Recommendations to harmonize more readily with P-P channel arrangements;
- k) that Recommendation ITU-R F.1191 provides limitation of unwanted emissions of FS systems for the adjacent bands,

recognizing

- a) that according to Article 5 of the Radio Regulations (RR), the frequency band 10.5-10.68 GHz is allocated to the FS on a worldwide basis and the frequency band 10-10.45 GHz in Regions 1 and 3;
- b) that the band 10.6-10.68 GHz is allocated to the Earth exploration-satellite service (passive), space research service (passive) and radio astronomy service on a primary basis;
- c) that the World Radiocommunication Conference (Istanbul, 2000) (WRC-2000) amended RR No. 5.480 to allocate the band 10-10.45 GHz for the FS in 14 countries of Region 2,

noting

- a) that Recommendation ITU-R F.746 provides the basis for the development of radio-frequency arrangements and defines the main parameters affecting the choice of radio-frequency channel arrangements,

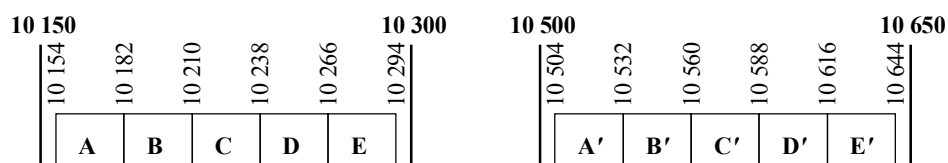
recommends

- 1 that those administrations, planning to implement FWA systems in the frequency bands 10.15-10.3/10.5-10.65 GHz, should consider the block arrangements presented in Annexes 1 and 2;
- 2 that administrations should consider the adoption of carrier centre frequencies, within the preferred frequency blocks, from the channel slots of 0.25 MHz, as derived in Annexes 1 and 2;
- 3 that administrations wishing to adopt other homogeneous patterns, should consider the use of one or multiple slots of 0.25 MHz, as derived in Annexes 1 and 2.

Annex 1**Radio-frequency arrangement based on 28 MHz blocks**

- 1 This arrangement consists of five adjacent blocks of 28 MHz bandwidth in the band 10.15-10.3 GHz, paired with five adjacent blocks of 28 MHz in the band 10.5-10.65 GHz, as per Fig. 1 (see Note 1).

FIGURE 1
28 MHz block plan for the ranges 10.15-10.3/10.5-10.65 GHz
(Frequencies in MHz)



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NOTE 1 – In some countries blocks of 7 MHz may be accommodated within each 28 MHz block. These blocks can be aggregated to form larger blocks.

2 Derivation of discrete channel slots of 0.25 MHz

The discrete channel slots of 0.25 MHz are derived as follows:

$$f_n = 10\,150 + 0.25 n \quad \text{MHz}$$

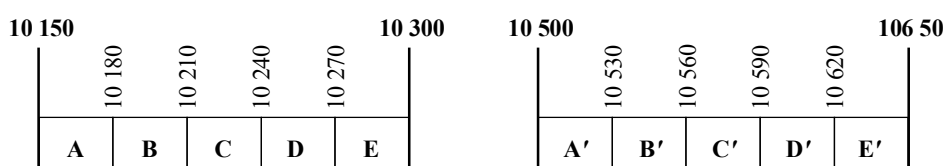
where f_n is the centre frequency (MHz) of each slot, and n ranges from 17 to 575, within the band 10.15-10.3 GHz, and from 1 417 to 1 975, within the band 10.5 to 10.65 GHz.

Annex 2

Radio-frequency arrangement based on 30 MHz blocks

1 This arrangement consists of five adjacent blocks of 30 MHz bandwidth in the band 10.15-10.3 GHz, paired with five adjacent blocks of 30 MHz in the band 10.5-10.65 GHz, as per Fig. 2.

FIGURE 2
30 MHz block plan for the ranges 10.15-10.3/10.5-10.65 GHz
(Frequencies in MHz)



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2 Derivation of discrete channel slots of 0.25 MHz

The discrete channel slots of 0.25 MHz are derived as follows:

$$f_n = 10\,150 + 0.25 n \quad \text{MHz}$$

where f_n is the centre frequency (MHz) of each slot, and n ranges from 1 to 599, within the band 10.15-10.3 GHz, and from 1 401 to 1 999, within the band 10.5 to 10.65 GHz.