PCC.III/REC.53 (XIII-99)[1/]

BROADBAND WIRELESS SYSTEMS OPERATING IN THE 38 GHZ FREQUENCY RANGE

The Thirteenth Meeting of the Permanent Consultative Committee III: Radiocommunications,

CONSIDERING:

a) That the band 37.0-40.0 GHz (38 GHz band) is allocated, *inter alia*, to the Fixed Service;

b) That several ITU-R groups (TG8/1, JRG 8A/9B, WP 9A, and WP 4-9S) are currently studying the spectrum needs, channelization plans, and performance requirements of fixed wireless access (FWA) systems, including Broadband Fixed Wireless Access (BWA);

c) That High Density Fixed Services (HDFS) systems can be characterized as BWA systems that have the capability to use large bandwidth segments to offer a range of multimedia, broadband Internet and packet data, and voice services, to private and business customers;

d) That broadband wireless systems operating in the 38 GHz range include point to point and point to multipoint fixed systems;

e) That several CITEL Administrations have adopted band plans and issued licenses or are planning to issue licenses in the 38 GHz band for HDFS services (see Annex);

f) That the implementation of BWA services within the 37.0-40.0 GHz band will be according to the national allocation plans of each administration, and

g) That WRC-2000 Conference is expected to consider the issues of sharing between HDFS and other co-primary services in the 37.0-40.0 GHz band according to Resolution 133 of WRC-97,

RECOGNIZING:

a) That it could be beneficial to CITEL Administrations to reach consensus on BWA band planning and performance characteristics;

b) That it is important to amend the ITU-R Recommendation F.749-1 to include a new annex concerning the channelization planning arrangement for the 38 GHz band preferred by the CITEL Administrations; and

c) That Res. PCC III 76/98 determined that the terms of reference should be modified and recommendations developed for harmonization of spectrum use by CITEL Administrations for BWA systems operating in the 38 GHz band,

NOTING:

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1 Reference document: PCC.III/doc.1426/99 Rev.1

a) That implementation of BWA systems by member Administrations will provide an alternative method for offering broadband multimedia, Internet and packet data, and voice services to individuals and businesses;

b) That it is important to ensure that these BWA systems can offer the broadband services with a high degree of availability, spectrum efficiency, and flexibility;

c) That it is desirable for Administrations to adopt band planning based on frequency blocks, with flexibility afforded to operators to divide the blocks into multiple smaller segments or to combine the blocks into super blocks;

d) That frequencies may be reused in geographically contiguous, cellular-type deployments;

e) That national band planning should accommodate both frequency division duplex (FDD) and time division duplex (TDD) systems, in an efficient manner;

f) That it is necessary to consider both point-to-point (P-P) and point-to-multipoint (P-MP) systems in developing the BWA planning parameters, and

g) That compatibility with systems of other co-primary radio services operating in this band must be taken into consideration,

RECOMMENDS:

That the CITEL Administrations consider, according to their rules on regulations, frequency block plans described in Annex 1 for broadband wireless systems operating in the 38 GHz range with a view to harmonize their spectrum use.

INVITES:

CITEL Administrations to provide additional information on broadband wireless systems operating in the 38 GHz bands and to submit any proposals for possible harmonization of parts or all of the 37.0-40.0 GHz channelization plans in Region 2[2].

INSTRUCTS THE EXECUTIVE SECRETARIAT:

To include in Annex 1 the additional information on the broad band wireless systems operating in the 38 GHz bands provided by the Administrations members of CITEL.

ANNEX 1

Frequency Block Plans for Broadband Wireless Systems Operating in the 38 GHz Band

1. **Argentina**

[2] It is up to individual Administrations to adopt the channel plans.

	BAND 37/40 GHz			
	T X		R x	
	From (GHz)	To (GHz)	From (GHz)	To (GHz)
Band A	37,140	37,240	37,840	37,940
Band B	37,240	37,340	37,940	38,040
Band C	38,600	38,700	39,300	39,400
Band D	38,700	38,800	39,400	39,500
Band E	39,100	39,200	39,800	39,900
Band F	39,200	39,300	39,900	40,000
Band G	37,340	37,440	38,040	38,140
Band H	37,440	37,540	38,140	38,240
Band I	38,240	38,340	39,500	39,600
Band J	37,040	37,140	37,740	37,840
Band K	37,640	37,740	38,340	38,440
Band L	38,900	39,000	39,600	39,700
Band M	38,440	38,540	39,700	39,800

MXD		
1	37,5445	38,8045
2	37,5515	38,8115
3	37,5585	38,8185
4	37,5655	38,8255
5	37,5725	38,8325
6	37,5795	38,8395
7	37,5865	38,8465
8	37,5935	38,8535
9	37,6005	38,8605
10	37,6075	38,8675
11	37,6145	38,8745
12	37,6215	38,8815
13	37,6285	38,8885
14	37,6355	38,8955

2. **Brazil**

The frequency band 37 to 39.5 GHz to **Point to Point Digital Microwave Radio Relay Systems**, with transmission capacities ranging from 2Mbit/s up to 155 Mbit/s. The frequency plans adopted, based on the ITU-R Recommendation F. 749, are shown below.

Capacity (Mb/s):	**Occupied BW (MHz):**	**Freq plan:**
2	3.5	Fn = 3700.25 +3.5xn F'n = 38260.25 +3.5xn n =1 to 353
8	7	Fn = 36998.5 +7xn F'n = 38258.5 +7xn n =1 to 175
17	14	Fn = 36995 +14xn F'n = 38255 +14xn n =1 to 88
34	28	Fn = 36988 +28xn F'n = 38248 +28xn n =1 to 144
140	56	Fn = 36974 +56xn F'n = 38234 +56xn n =1 to 122
155	56	Fn = 36974 +56xn F'n = 38234 +56xn n =1 to 122

Also, there are allocations for Point to Point TV signal repetition in the band 38.6 to 39.5 GHz and for Point to Point transmission for News Gathering purposes at 39.5 to 40.0 GHz, both with 50MHz wide bandwidth, as follows:

a) TV signal repetition

Ch 1 38,600-38650 MHz
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. .
. .
Ch 18 39,450-39,500 MHz

b) News Gathering

Ch 1 39,500-39,550 MHz
. .
. .
. .
Ch 10 39,950-40,000 MHz

3)

3a) Canada, Peru and United States

Frequency Band: 38.6-40 GHz
Block Pairing: 50+50 MHz
Usage: Point to Point
Point to Multipoint

BLOCK PAIR			**LOWER FREQUENCY BLOCK (MHz)**	**UPPER FREQUENCY BLOCK (MHz)**
Canada	**Peru**	**United States**		
A/A’	1	1-A/1-B	38600-38650	39300-39350
B/B’	2	2-A/2-B	38650-38700	39350-39400
C/C’	3	3-A/3-B	38700-38750	39400-39450
D/D’	4	4-A/4-B	38750-38800	39450-39500
E/E’	5	5-A/5-B	38800-38850	39500-39550
F/F’	6	6-A/6-B	38850-38900	39550-39600
G/G’	7	7-A/7-B	38900-38950	39600-39650
H/H’	8	8-A/8-B	38950-39000	39650-39700
I/I’	9	9-A/9-B	39000-39050	39700-39750
J/J’	10	10-A/10-B	39050-39100	39750-39800
K/K’	11	11-A/11-B	39100-39150	39800-39850
L/L’	12	12-A/12-B	39150-39200	39850-39900
M/M’	13	13-A/13-B	39200-39250	39900-39950
N/N’	14	14-A/14-B	39250-39300	39950-40000

3b) Additionally, Canada has allocated

Frequency Band: 38.4-38.6 GHz

Block: 50 MHz
Usage: Point to Point (One way)

Point to Multipoint (One way)

BLOCK	**FREQUENCY (MHz)**
A	38400-38450
B	38450-38500
C	38500-38550
D	38550-38600

3c) Additionally, Peru has allocated

Channel	**Lower Frequency Block (MHz)**	**Upper Frequency Block (MHz)**
15	37 350 – 37 400	38 050 – 38 100
16	37 400 – 37 450	38 100 – 38 150
17	37 450 – 37 500	38 150 – 38 200
18	37 500 – 37 550	38 200 – 38 250