

**PCC.III/REC.55(XIV-99) <sup>1</sup>**

**BROADBAND WIRELESS SYSTEMS OPERATING IN THE 38 GHz FREQUENCY RANGE<sup>2</sup>**

The Fourteenth 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 Services;
- 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 (see Annex);
- f) That 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 Resolution 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,

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<sup>1</sup> Document PCC.III/doc.1453 Rev.1 12/99

<sup>2</sup> Revision to PCC.III/REC.53 (XIII-99).

**NOTING:**

- 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 deployment;
- 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 CITEL Administrations consider, according to their rules on regulations, frequency block plans 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<sup>13</sup>.

NOTE: This Recommendation repeals Recommendation PCC.III/REC. 53 (XIII-99).

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<sup>13</sup> It is up to individual administrations to adopt the channel plans.

# **ANNEX 1A - 38 GHz BAND PLAN “A”**

Frequency Range: 37.0 - 39.8 GHz

Adopting Administration(s): ARGENTINA

Block Designation	Frequency Block, MHz		Occupied BW, MHz	Separation Tx/Rx, MHz
	Lower	Upper		
J	37040 - 37140	37740 - 37840	100	700
A	37140 - 37240	37840 - 37940	100	700
B	37240 - 37340	37940 - 38040	100	700
G	37340 - 37440	38040 - 38140	100	700
H	37440 - 37540	38140 - 38240	100	700
K	37640 - 37740	38340 - 38440	100	700
M	38440 - 38540	39700 - 39800	100	1260
L	38900 - 39000	39600 - 39700	100	700
1	37541 - 37548	38801 - 38808	7	1260
⋮	⋮	⋮	⋮	⋮
14	37362 - 37639	38892 - 38899	7	1260

# ANNEX 1B - 38 GHz BAND PLAN “B”

Frequency Range: 37.0 - 39.5 GHz

Usage: Point-to-Point Digital MW Radio Relay Systems

Adopting Administration(s): BRAZIL

Block Designation	Frequency Block, MHz		Occupied BW, MHz	Separation Tx/Rx MHz	Remarks
	Lower	Upper			
1	37000.25 - 37003.75	38260.25 – 38263.75	3.5	1260	$F_n = 37000.25 + 3.5x_n$ $F'_n = 38260.25 + 3.5x_n$ where $n = 1$ to 353 Capacity: 2 Mb/s
⋮	⋮	⋮	⋮	⋮	
353	38232.25 - 38235.75	39492.25 - 39495.75	3.5	1260	
1	36998.5 - 37005.5	38258.5 - 38265.5	7	1260	$F_n = 36998.5 + 7x_n$ $F'_n = 38258.5 + 7x_n$ where $n = 1$ to 175 Capacity: 8 Mb/s
⋮	⋮	⋮	⋮	⋮	
175	38216.5 - 38223.5	39476.5 - 39483.5	7	1260	
1	36995 - 37009	38255 - 38269	14	1260	$F_n = 36995 + 14x_n$ $F'_n = 38255 + 14x_n$ where $n = 1$ to 88 Capacity: 17 Mb/s
⋮	⋮	⋮	⋮	⋮	
88	38213 - 38227	39473 - 39487	14	1260	
1	36988 - 37016	38248 - 38276	28	1260	$F_n = 36988 + 28x_n$ $F'_n = 38248 + 28x_n$ where $n = 1$ to 44 Capacity: 34 Mb/s
⋮	⋮	⋮	⋮	⋮	
44	38192 - 38220	39452 - 39480	28	1260	
1	36974 - 37030	38234 - 38290	56	1260	$F_n = 36974 + 56x_n$ $F'_n = 38234 + 56x_n$ where $n = 1$ to 22 Capacity: 140 Mb/s, or 155 Mb/s
⋮	⋮	⋮	⋮	⋮	
22	38150 - 38206	39410 - 39466	56	1260	

# ANNEX 1C - 38 GHz BAND PLAN “C”

Frequency Range: 37.0 - 38.6 GHz

Usage: Point-to-Point Systems

Adopting Administration(s): PERU

Block Designation	Frequency Block, MHz		Occupied BW, MHz	Separation Tx/Rx, MHz
	Lower	Upper		
1	37058 - 37065	38318 - 38325	7	1260
⋮	⋮	⋮	⋮	⋮
40	37331 - 37338	38591 – 38598	7	1260
1	37058 - 37072	38318 – 38332	14	1260
⋮	⋮	⋮	⋮	⋮
20	37324 - 37338	38584 – 38598	14	1260
1	37058 - 37086	38318 – 38346	28	1260
⋮	⋮	⋮	⋮	⋮
10	37310 - 37338	38570 - 38598	28	1260

## ANNEX 1D - 38 GHz BAND PLAN “D”

Frequency Range: 37.35 - 38.25 GHz  
Usage: Point-to-Point and Point-to-Multipoint Systems

Adopting Administration(s): PERU

Block Designation	Frequency Block, MHz		Occupied BW, MHz	Separation Tx/Rx, MHz
	Lower	Upper		
1	37350 - 37400	38050 - 38100	50	700
2	37400 - 37450	38100 - 38150	50	700
3	37450 - 37500	38150 - 38200	50	700
4	37500 - 37550	38200 - 38250	50	700

## **ANNEX 1E - 38 GHz BAND PLAN “E”**

Frequency Range: 38.4 - 38.6 GHz  
Usage: One-way Point-to-Point and Point-to-Multipoint Systems

Adopting Administration(s): CANADA

Block Designation	Frequency Block, MHz	Occupied BW, MHz
A	38400 – 38450	50
B	38450 – 38500	50
C	38500 – 38550	50
D	38550 – 38600	50

# ANNEX 1F - 38 GHz BAND PLAN “F”

Frequency Range: 38.6 - 40.0 GHz

Adopting Administrations: BRAZIL, CANADA, PERU, USA

Blck Des-ignation	Frequency Block, MHz		Occupied BW, MHz	Sepa-ration Tx/Rx MHz	Remarks
	Lower	Upper			
1	38600 - 38650	39300 - 39350	50	700	<u>BRAZIL</u> <ul style="list-style-type: none"> <li>- One-way Point-to-Point systems.</li> <li>- 28 channels (combination of lower and upper blocks) are available.</li> <li>- First 18 channels are in the band 38.6 - 39.5 GHz and are allocated for Point-to-Point TV STL.</li> <li>- Remaining 10 channels are in the band 39.5 - 40.0 GHz and are allocated for ENG – Electronic News Gathering.</li> </ul>
2	38650 - 38700	39350 - 39400	50	700	
3	38700 - 38750	39400 - 39450	50	700	
4	38750 - 38800	39450 - 39500	50	700	
5	38800 - 38850	39500 - 39550	50	700	
6	38850 - 38900	39550 - 39600	50	700	
7	38900 - 38950	39600 - 39650	50	700	
8	38950 - 39000	39650 - 39700	50	700	
9	39000 - 39050	39700 - 39750	50	700	
10	39050 - 39100	39750 - 39800	50	700	
11	39100 - 39150	39800 - 39850	50	700	
12	39150 - 39200	39850 - 39900	50	700	<u>CANADA, PERU and USA</u> <ul style="list-style-type: none"> <li>- Two-way Point-to-Point and/or Point-to-Multipoint transmission.</li> <li>- Block designations are A/A’ to N/N’ for Canada, and 1-A/1-B to 14-A/14-B for USA.</li> </ul>
13	39200 - 39250	39900 - 39950	50	700	
14	39250 - 39300	39950 - 40000	50	700	



# **ANNEX 1G – 38 GHz BAND PLAN “G”**

Frequency Range: 37.0 – 40.0 GHz  
Usage: Point-to-Point and Point-to-Multipoint Systems

Adopting Administration(s): URUGUAY

Block Designation	Frequency Block, MHz	Occupied BW, MHz
1	37000 - 37250	250
2	37250 - 37500	250
3	37500 - 37750	250
4	37750 - 38000	250
5	38000 - 38250	250
6	38250 - 38500	250
7	38500 - 38750	250
8	38750 - 39000	250
9	39000 - 39250	250
10	39250 - 39500	250
11	39500 - 39750	250
12	39750 - 40000	250

