ORGANIZACION DE LOS ESTADOS AMERICANOS
ORGANIZATION OF AMERICAN STATES

Comisión Interamericana de Telecomunicaciones
Inter-American Telecommunication Commission

IX MEETING OF PERMANENT CONSULTATIVE COMMITTEE II: RADIOCOMMUNICATIONS INCLUDING BROADCASTING
April 17 to 20, 2007
San Salvador, El Salvador

OEA/Ser.L/XVII.4.2
CCP.II-RADIO/doc. 1419/07 rev.1
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FINAL REPORT

(Item on the Agenda: 7)

(Document submitted by the Drafting Group)

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FINAL REPORT

IX MEETING OF THE PERMANENT CONSULTATIVE COMMITTEE II: RADIOCOMMUNICATIONS INCLUDING BROADCASTING

The IX Meeting of the Permanent Consultative Committee II: Radiocommunications including Broadcasting was held in San Salvador, El Salvador, April 17 to 20, 2007.

I. AGENDA [1]

1. Approval of the agenda and calendar.

2. Appointment of the Drafting Group for the Final Report.

3. Working methods of PCC.II.

4. Meeting of the Chairs of the Working Groups on:
   - 4.1 WG on Preparation for Regional and World Communication Conferences.
   - 4.2 WG on Terrestrial Fixed and Mobile Radiocommunication Services.
   - 4.3 WG on Satellite Systems to Provide Fixed and Mobile Services.
   - 4.4 WG on Broadcasting.
   - 4.5 Rapporteur Group on the Technical and Regulatory Aspects Related to the Effects of Electromagnetic Non-ionizing Emissions.

5. Agenda, Venue and Date of the X Meeting of PCC.II.

6. Other matters.

7. Approval of the Final Report of the IX Meeting.

II. AUTHORITIES OF THE MEETING

Alternate Chair:	Mr. Mikhail Marsiglia (Venezuela)
Vice-Chair:	Mr. Héctor Budé (Uruguay)
Executive Secretary:	Mr. Clovis Baptista (CITEL)
Drafting Group:	
Chair	Mr. Oscar A. Estrada (El Salvador)
Members	Ms. Suzanne Lambert (Canada).
	Mr. Alexander Tejada (El Salvador).
	Mr. Pablo A. Carranza (El Salvador).
	Mr. Luis Escobar (Paraguay).
	Ms. Mindel de la Torre (United States of America).

[1] CCP.II-RADIO/doc. 1244/07 rev.1

III. RESOLUTIONS

PCC.II/RES. 41 (IX-07)[2]

INTER-AMERICAN PROPOSALS FOR WRC -2007

The IX Meeting of Permanent Consultative Committee II: Radio Communications including Broadcasting,

CONSIDERING:

a) The procedure for "Submitting Inter-American Proposals to World Radiocommunication Conferences" approved by Resolution CCP.II/RES. 26 (VI-05);

b) That during the LIMIT meeting for the preparation of the WRC-07 were approved a list of Inter-American proposals (IAP) and a list of DRAFT IAP (DIAP) that in spite of the efforts done they did not reach the IAP status;

c) That the administrations which wish to support DIAPs and IAPs before the following PCC.II, will be able to do so by means of written communications (letter, fax or e-mail) through the CITEL Secretariat, and

d) That in the limit meeting the decision to extend the deadline for submission of proposals on behalf of the administrations was approved,

RESOLVES:

1. To request the Secretariat of CITEL to submit to all Member States of CITEL, 2 weeks after the close of the IX meeting of PCC.II, the IAPs and, exclusively for information purposes, the DIAPs still in consideration. These lists are attached to the present Resolution.

2. To inform the CITEL administrations that they have until May 18th, 2007 to notify the Executive Secretary their position regarding the IAPs and DIAPs mentioned.

3. That during the FINAL meeting the adoption of a complementary resolution to this Resolution will be considered, if necessary.

INSTRUCTS THE SECRETARY:

a) To inform The administrations that although the deadline indicated in this Resolution must be strictly observed for the submission of the corresponding proposals to the ITU, CITEL administrations may support any of the IAPs stated in the Annex or the DIAPs in accordance to the existing procedure.

b) To send the IAPs to the ITU as soon as possible after the deadline indicated in *resolves* 2 has expired.

[2] CCP.II-RADIO/doc. 1412/07

ANNEX TO RESOLUTION PCC.II/RES. 41 (IX-07)

TABLE OF STATUS OF THE INTER-AMERICAN PROPOSALS (IAP)

	Agenda item of the WRC-07	**PROP.**	**ATG**	**ARG**	**BAH**	**BRB**	**BLZ**	**BOL**	**B**	**CAN**	**CHL**	**CLM**	**CTR**	**DMA**	**DOM**	**EQA**	**SLV**	**USA**	**GRD**	**GTM**	**GUY**	**HTI**	**HND**	**JMC**	**MEX**	**NCG**	**PNR**	**PRG**	**PRU**	**SCN**	**LCA**	**VCT**	**SUR**	**TRD**	**URG**	**VEN**	**TOTAL**
1.2	Allocation of the band 18.0-18.3 GHz	1		x						x					x			x							x			x					x		x		8
1.2	Allocation of the band 15,4-18,4 GHz	2		x						x					x			x										x					x		x		7
1.2	Appendix 5 (Rev.WRC-073): Identification of administrations with which coordination is to be effected or agreement sought under the provisions of Article 9	3		x						x					x			x							x			x					x		x		8
1.2	Resolution 746 (WRC-03) Issues dealing with allocations to science services	4		x						x					x										x			x					x		x		7
1.3	The upgrade of Radiolocation Service in the band 9 000-9 200 MHz. and 9 300-9 500 MHz	5-6-7		x					x	x					x			x							x			x							x		8
1.3	The 200 MHz extension of the primary EESS (active) and SRS (active) allocations	8-9-10		x						x			x		x		x	x		x			x	x	x			x							x		12
1.4	Allocation of the band 3 600-4 200 MHz	11		x					x		x	x			x		x			x								x	x			x		x		11
1.4	Allocation of the band 2 700-2 900 MHz	12							x	x					x		x	x							x			x	x						x		9
1.5	Allocations for aeronautical telecommand and high bit-rate aeronautical telemetry	13-14-15							x	x					x			x					x		x			x							x		8

	Agenda item of the WRC-07	PROP.	ATG	ARG	BAH	BRB	BLZ	BOL	B	CAN	CHL	CLM	CTR	DMA	DOM	EQA	SLV	USA	GRD	GTM	GUY	HTI	HND	JMC	MEX	NCG	PNR	PRG	PRU	SCN	LCA	VCT	SUR	TRD	URG	VEN	TOTAL
1.9	Allocation of the bands 2 500 – 2 520 MHz and 2 670 – 2 690 MHz	16-17		x					x		x		x		x		x						x		x				x						x		10
1.9	Article 21	18&20		x					x				x		x		x	x					x		x				x						x		10
1.9	Article 21 - footnote to Table 21-4	19		x					x				x		x								x		x										x		7
1.9	Entry into force and provisional application of the Radio Regulations	21-22		x					x				x		x								x		x										x		7
1.11	Protection of the current and future usage of the broadcast, mobile, and fixed services in the 620-790 MHz band	23-24-25-26-27							x	x			x		x			x		x					x			x							x		9
1.12	Appendix 4: Characteristics of satellite networks, earth stations or radio astronomy stations	28								x					x		x	x					x	x	x										x		8
1.12	Appendix 4: Consolidated list and tables of characteristics for use in the application of the procedures of Chapter III	29		x						x					x		x	x					x	x	x										x		9
1.12	Resolution 49 (Rev. WRC-03): Administrative due diligence applicable to some satellite radiocommunication services	30		x					x	x					x			x							x										x		7
1.12	Extension of the deadline for implementation of the satellite network "Simón Bolívar 2"	31						x				x	x		x	x	x			x			x		x				x						x	x	12
1.13	Resolution 729 (WRC-97) (resolves 2 and 3)	32							x	x			x		x			x		x			x		x								x		x		10

	Agenda item of the WRC-07	PROP.	ATG	ARG	BAH	BRB	BLZ	BOL	B	CAN	CHL	CLM	CTR	DMA	DOM	EQA	SLV	USA	GRD	GTM	GUY	HTI	HND	JMC	MEX	NCG	PNR	PRG	PRU	SCN	LCA	VCT	SUR	TRD	URG	VEN	TOTAL
1.13	Article 5: Table of Frequency Allocations, frequency band 4-10 MHz	33		x					x	x			x		x		x	x		x			x		x			x					x		x		13
1.13	Resolution 544 (WRC-03) : Identification of additional spectrum for the broadcasting service in the HF bands	34		x					x	x			x					x		x			x		x			x					x				10
1.13	Amateur service at 7 200-7 300 kHz in Region 2	35		x					x	x			x		x	x	x	x		x			x		x			x					x		x		14
1.15	Consider a secondary allocation to the amateur service in the frequency band 135.7-137.8 kHz	36-37		x					x	x			x		x		x						x		x			x							x		10
1.17	Proposals for the suppression of the secondary FSS allocations in the bands 1 390-1 392 MHz and 1 430-1 432 MHz	38-39-40		x					x	x								x							x			x							x		7
1.19	Identify possible global harmonized FSS frequency bands for the use of Internet applications	41		x					x	x			x					x		x					x			x	x						x		10
1.21	Resolution 739: Compatibility between the radio astronomy service and the active space services in certain adjacent and nearby frequency bands	42-43-44-45							x	x					x			x							x								x		x		7
1.21	Table of frequency allocations, frequency bands: 75.2-137.175 MHz & 335.4-410 MHz & 460-890 MHz & 1 525-1610 MHz	46-47							x	x					x			x							x								x		x		7
1.21	Resolution 740: Future compatibility analyses between the radio astronomy service and active space services in certain adjacent and nearby frequency bands	48							x	x					x			x							x								x		x		7
7.1	Extending the time-limits for the bringing into use of the VENESAT-1 network	49										x	x		x	x	x			x			x		x			x					x		x	x	12

TABLE OF STATUS OF THE DRAFT INTER-AMERICAN PROPOSALS (DIAP)

TABLE OF SUPPORTS

	WRC-07 Agenda item	PROP.	ATG	ARG	BAH	BRB	BLZ	BOL	B	CAN	CHL	CLM	CTR	DMA	DOM	EQA	SLV	USA	GRD	GTM	GUY	HTI	HND	JMC	MEX	NCG	PNR	PRG	PRU	SCN	LCA	VCT	SUR	TRD	URG	VEN	TOTAL
1.2	Resolution 746: Use of the frequency band 18-18.4 GHz.	1,2		x						x																		x					x		x		5
1.4	NOC 410 – 460 MHz band	1																x							x												2
1.4	NOC 2700-4800 MHz & 4800-5570 MHz bands	2																x							x												2
1.4	Bands 1525-1610 MHz, 1610-1660 MHz & 1980-2500 MHz	3A,3B, 3C								x															x												2
1.5	Additional allocation of the band 5 091-5 150 MHz to the aeronautical mobile service	1,2		x					x	x					x			x																			5
1.5	Aeronautical mobile telemetry	3,4,5,6													x			x																			2
1.6	Resolution 414 (WRC-03): aeronautical mobile (R) service	1 to 11								x								x																			2
1.6	Resolution 415 (WRC-03): Current satellite frequency allocations and the modernization of civil aviation telecommunications systems	12								x								x																			2
1.6	NOC in band 10.7 – 12.75 GHz regarding this agenda item	13							x	x								x																	x		4
1.6	Allocation of the band 117.975-136 MHz to the aeronautical mobile-satellite (R) service on a secondary basis	14								x								x																			2
1.6	NOC 5.504A	15							x	x								x																	x		4
1.8	Resolution 145 (WRC-03): High altitude platform stations operating in the bands 27.5-28.35 GHz and 31-31.3 GHz	1,2,3								x								x							x			x							x		5
1.8	Resolution 122 (WRC-03): High altitude platform stations operating in the bands 47.2-47.5 GHz and 47.9-48.2 GHz	4,5,6								x								x							x			x							x		5
1.12	Power flux-density limits for the 27.5 GHz band	1,2								x								x																	x		3
1.12	Appendix 5 Coordination arc in the band 17.3-17.8 GHz and other closely related proposals	3,4,5,6,7							x	x					x			x																	x		5
1.12	Provisions of Radio Regulations No. 11.47	8								x								x																			2
1.12	Provisions of Radio Regulations No. 22.2	9								x																									x		2
1.12	Appendix 7 Table 10 for ground-based earth	10								x								x																	x		3

	WRC-07 Agenda item	PROP.	ATG	ARG	BAH	BRB	BLZ	BOL	B	CAN	CHL	CLM	CTR	DMA	DOM	EQA	SLV	USA	GRD	GTM	GUY	HTI	HND	JMC	MEX	NCG	PNR	PRG	PRU	SCN	LCA	VCT	SUR	TRD	URG	VEN	TOTAL
	stations and aircraft terrestrial stations																																				
1.12	Appendix 4 data element (C.8.d.2) contiguous satellite bandwidth	11								x								x																x		3
1.12	Annex 2 of Appendix 4	12,13								x								x																x		3
1.12	Resolution 88 (WRC-03)	14								x								x																x		3
1.12	Coordination of the radionavigation-satellite service (space-to-space) in the bands 1 215-1 300 MHz and 1 559-1 610 MHz	15,16								x								x																x		3
1.12	Provisions of Radio Regulations No. 11.49	17								x								x																		2
1.12	Provisions of Radio Regulations No. 9.1	18							x	x					x			x																		4
1.12	Resolution 86 (WRC-03)	19							x	x																										2
1.12	Application of the provisions of Radio Regulations No. 9.14	20								x					x			x																	x		4
1.12	Nos. 9.15 al 9.18	21								x								x																		2
1.12	Non-Payment of Satellite Network Cost Recovery for Notification	22 to 33							x	x					x			x																	x		5
1.14	Issue A – Transition to GMDSS	1 to 163								x								x																		2
1.14	Issue B – New technologies for maritime VHF	164 to 172								x								x																		2
1.16	Maritime Mobile Service Identities (MMSIs)	1 to 13							x	x								x																		3
2	Recommendation ITU-R M.541, ITU-R P.833, ITU-R M.1174, ITU-R M.1642	1 to 4							[x]	[x]					x			x										x					[x]		x		4
2	References to ITU-R Recommendations in the Radio Regulations requiring modification to bring them into accordance with Resolution 27 (Rev.WRC-03) (Annex 2, No. 5)	5 to 13								x																		x								2
2	Incorporation by reference of ITU-R Recommendations mentioned in WRC Resolutions	14 to 15								x																		x								2
2	ITU-R Recommendations incorporated by reference in the Radio Regulations which have been revised and approved since WRC-03	16 to 28								x																		x								2
4	Resolution 33 (Rev. WRC-03)	1								x								x										x								3

TABLE OF OPPOSITIONS

	WRC-07 Agenda item	PROP.	ATG	ARG	BAH	BRB	BLZ	BOL	B	CAN	CHL	CLM	CTR	DMA	DOM	EQA	SLV	USA	GRD	GTM	GUY	HTI	HND	JMC	MEX	NCG	PNR	PRG	PRU	SCN	LCA	VCT	SUR	TRD	URG	VEN	TOTAL
1.4	NOC band 410 – 460 MHz								x																												1

PCC.II/RES. 42 (IX-07) [3]

AGENDA, VENUE AND DATE FOR THE X PCC.II MEETING

The IX Meeting of the Permanent Consultative Committee II: Radiocommunications including Broadcasting.

RESOLVES:

1. To hold the X Meeting of PCC.II from July 30 to August 2, 2007 in Orlando, Florida, United States of America.

2. To approve the draft agenda for the X Meeting, which is attached as an Annex.

ANNEX TO RESOLUTION PCC.II/RES. 42 (IX-07)

1. Approval of the agenda and calendar.

2. Appointment of the Drafting Group for the Final Report.

3. Working methods of PCC.II.

4. Meeting of the Chairs of the Working Groups on:

   4.1 WG on Preparation for Regional and World Communication Conferences.
   4.2 WG on Terrestrial Fixed and Mobile Radiocommunication Services.
   4.3 WG on Satellite Systems to Provide Fixed and Mobile Services.
   4.4 WG on Broadcasting.
   4.5 Rapporteur Group on the Technical and Regulatory Aspects Related to the Effects of Electromagnetic Non-ionizing Emissions.

5. Agenda, Venue and Date of the XI Meeting of PCC.II.

6. Other matters.

7. Approval of the Final Report of the X Meeting.

DRAFT AGENDAS OF WORKING GROUPS

4.1 Draft Agenda of the Working Group on the preparation of CITEL for Regional and World Radiocommunication Conferences

1. Presentation and approval of the agenda.

[3] CCP.II-RADIO/doc. 1418/07

2. Working methods.
3. Assignment of documents to the sub-groups:

WSG 1	1.2, 1.3, 1.5, 1.6, 1.13, 1.14, 1.15, 1.16, 1.20
WSG 2	1.7, 1.8, 1.10, 1.11, 1.17, 1.18, 1.19, 1.21
WSG 3	1.1, 1.12, 2, 3, 4, 5, 6, 7.1
WSG 4	1.4, 1.9
WSG– AD-HOC	7.2

4. Reports of the spokespersons to other organization's meetings.
5. Work plan 2007-2010.
6. Other matters.

4.2 Draft Agenda of the Working Group on Terrestrial Fixed and Mobile Radiocommunication Services

1. Opening remarks.
2. Approval of the agenda.
3. Broadband Power Line Communications (BPL).
4. BWA.
5. Cell phone blockers.
6. Work plan 2007-2010.
7. Other business.

4.3 Draft Agenda of the Working Group on Satellite Systems to Provide Fixed and Mobile Services

1. Approval of the agenda.
2. General guidelines for licensing global mobile personal communication system networks (GMPCS).
3. Procedures to be followed for authorization of earth stations on board vessels (ESV).
4. Implementation of regulations providing for the deployment of satellite services.
5. Harmful interferences by non authorized transmissions in satellite networks.
6. Work plan 2007-2010.
7. Use, operation and applications of the band C by the administrations of CITEL.
8. Existent data bases on satellite systems.
9. Other business.

4.4 Draft Agenda of the Working Group on Broadcasting

1. Opening remarks.
2. Approval of the agenda.
3. Reports on the advances reached on the 1981 Río de Janeiro Plan
4. Report on the contributions introduced in the electronic forum regarding Digital Television.
5. Study, analysis and discussions of the contributions received regarding Digital Television.
6. Study, analysis and discussions of the contributions received regarding Digital Sound Broadcasting, including the results of the measurement of interference of digital

transmissions to analogue service.

7. Work plan 2007-2010.

6. Other business.

IV. RECOMMENDATIONS

PCC.II/REC. 21 (IX-07) [4]

GENERAL REQUIREMENTS FOR THE OPERATION OF LOW POWER RADIOCOMMUNICATION DEVICES

The IX Meeting of the Permanent Consultative Committee II: Radiocommunications including Broadcasting,

CONSIDERING:

a) That Resolution PCC III/RES. 74 (XI-98) includes "Low Power Radiocommunication Devices" within the terms of reference of the Working Group on Terrestrial Mobile Services;

b) That the number of applications of Low Power Radiocommunication Devices as well as the radio frequencies they use are increasing;

c) That a number of CITEL administrations have made provisions for Low Power Radiocommunication Devices to operate within their national boundaries;

d) That it is the interest of CITEL member countries to harmonize their regulations on Low Power Radiocommunication Devices, and

e) That the regulation of Low Power Radiocommunication Devices would be facilitated by the harmonization of regulations throughout CITEL member countries,

RECOGNIZING:

That PCC.II has developed Recommendations on specific Low Power technologies and applications such as RFIDs and 5 GHz RLANs,

RECOMMENDS:

1. That CITEL Member States should consider appropriate actions for "Low Power Radiocommunication Devices" and the general requirements listed in the Annex.

2. That CITEL Member States should consider appropriate actions for these devices so that they are subjected to recognized certification and verification procedures.

[4] CCP.II-RADIO/doc.1392/07 rev.1

RESOLVES:

To derogate Recommendation PCC.III/REC. 67(XIX-01) on General Requirements for Low Power Radiocommunication Devices.

INSTRUCTS THE SECRETARIAT:

To notify that to CITEL administrations and PCC.II Associate Members. .

ANNEX TO RECOMMENDATION PCC.II/REC. 21 (IX-07)

1 Introduction

This Recommendation sets out common technical and non-technical parameters for low power radiocommunication devices and widely recognized approaches for managing their use on a national basis. When using this Recommendation it should be remembered that it represents the most widely accepted views but it should not be assumed that all given parameters are accepted in all countries.

It should also be remembered that the pattern of radio use is not static. It is continuously evolving to reflect the many changes that are taking place in the radio environment; particularly in the field of technology. Radio parameters must reflect these changes and thus the views set out in this Recommendation are subject to periodic review.

Moreover, almost all administrations have national regulations. For these reasons, those wishing to develop or market low power radiocommunication devices based on this Recommendation are advised to contact the relevant national administration in advance to verify whether the guidelines set out herein apply.

Low power radiocommunication devices operate on a variety of frequencies. They must share these frequencies with other applications and are generally prohibited from causing harmful interference to those applications. If a low power radiocommunication device does cause interference to authorized radiocommunications, then its operator will be required to cease operation, at least until the interference problem is resolved; even if the device complies with all of the technical standards and equipment authorization requirements established within the national regulations.

2 Definition of low power radiocommunication devices

For the purpose of this Recommendation the term "low power radiocommunication devices" is intended to cover radio transmitters which have low capability of causing interference to other radio equipment**.**

Due to the small probability of low power radiocommunication devices causing interference to licensed services, operation on a license exempt basis is preferred. If necessary, however, simple licensing requirements may be applied, e.g. general licenses or general frequency assignments. Information about the regulatory requirements for placing low power radiocommunication equipment on the market and for their use should be obtained by contacting individual national administrations.

3 Applications

Due to the many different applications provided by these devices, their descriptions can be exhaustive. However, Recommendation ITU -R SM.1538 provides a comprehensive list of these applications provided by low power radiocommunication devices.

4 Frequency Ranges

Certain frequency bands are used worldwide for low power radiocommunication. These common bands are indicated in the table below. Although this table represents the most widely accepted set of frequency bands for low power radiocommunication devices it should not be assumed that all of these bands are available in all countries.

It should be noted that low power radiocommunication devices operating within the frequency bands designated for industrial, scientific and medical (ISM) applications must accept harmful interference which may be caused by these applications. Since low power radiocommunication devices generally operate on a non-interference, no protection from interference basis, ISM bands, among others, have been selected as home for these devices.

Table 1: Commonly used frequency ranges

ISM within bands under Radio Regulations 5.138 and 5.150	
6 765-6 795 kHz	
13 553-13 567 kHz	
26 957-27 283 kHz	
40.66-40.70 MHz	
902-928 MHz	
2 400-2 483.5 MHz	
5 725-5 875 MHz	
24-24.25 GHz	
61-61.5 GHz	
122-123 GHz	
244-246 GHz	
Other Commonly used frequency ranges	
9-135 kHz	Commonly used for inductive low power radiocommunication applications
402-405 MHz	Ultra Low Power Active Medical Implants, Recommendation ITU-R SA.1346
433.5-434.5 MHz	Radio Frequency Identification (RFID) systems
5 150-5 350 MHz	Characteristics of broadband radio local area networks

	Recommendations ITU-R M.1450 & M.1652
5 470-5 725 MHz	Characteristics of broadband radio local area networks Recommendations ITU-R M.1450 & M.1652
5 795-5 805 MHz	Transport Information and Control Systems Recommendation ITU-R M.1453
5 805-5 815 MHz	Transport Information and Control Systems Recommendation ITU-R M.1453
76-77 GHz	Transport Information and Control System (Radar) Recommendation ITU-R M.1452

However, it should be noted that low power radiocommunication devices may generally not be permitted to use bands allocated to the radioastronomy, aeronautical mobile services and safety of life services including radionavigation.

Low power radiocommunication devices are not permitted to operate in the following bands:

Table 2: Restricted Bands - Spurious Emissions Only with Limited Exceptions (not indicated)

MHz	MHz	MHz	GHz
0.090-0.110 2.1735-2.1905 4.125-4.128 4.17725-4.17775 4.20725-4.20775 6.215-6.218 6.26775-6.26825 6.31175-6.31225 8.291-8.294 8.362-8.366 8.37625-8.38675 8.41425-8.41475 12.29-12.293 12.51975-12.52025 12.57675-12.57725 13.36-13.41	16.42-16.423 16.69475-16.69525 16.80425-16.80475 25.5-25.67 37.5-38.25 73-74.6 74.8-75.2 108-121.94 123-138 156.52475-156.52525 156.7-156.9 242.95-243 322-335.4 399.9-410 608-614 960-1 215	1 300-1 427 1 435-1 626.5 1 645.5-1 646.5 1 660-1 710 1 718.8-1 722.2 2 200-2 300 2 655-2 900 3 260-3 267 3 332-3 339 3 345.8-3 352.5 4200-4 400 4800-5150 5350-5460 8025-8500 9000-9200	9.3-9.5 10.6-11.7 12.2-12.7 13.25-13.4 14.47-14.5 15.35-16.2 20.2-21.26 22.01-23.12 23.6-24.0 31.2-31.8 36.43-36.5 38.6-46.7 46.9-59.0 64.0-76.0 Above 77 GHz

Other restricted bands in some CITEL countries are listed in the Attachments.

5 Power, Magnetic or Electric Field Strength

The electric field strength or power limits shown in the tables below are the required values to allow satisfactory operation of low power radiocommunication devices. The levels were determined after careful analysis and are dependent on the frequency range, the specific application chosen and the services and systems already used or planned in these bands. These field strengths define a limit chosen to

guarantee that spurious emissions emanating from a transmitter with a higher power fundamental will not interfere with other communications. These field strengths will generally limit the operating range of a given low power device to approximately ten feet, depending on frequency. As a result, specific provisions for low power devices appear as Exceptions to the General Limits and are listed in Table 4.

Some administrations may establish additional radiated power limits or restrictions within their national regulations.

Table 3: General Limits

Frequency (MHz)	Electric Field Strength (microvolts/metre)	Measurement Distance (metres)
0.009-0.490	2 400/F(kHz)	300
0.490-1.705	24 000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

The following table contains exceptions or exclusions (indicated) to the general limits, otherwise the general limits can still be used. The emission limit for each type of operation, and the type of detector used to measure emissions (average with a peak limit, "A", or quasi-peak, "Q") is specified. When a transmitter power limit is specified instead of an emission limit, no emission detector is specified.

Table 4: Exception or Exclusions from the General Limits

Frequency Band	Type of Use	Emission Limit	Detector A-Average Q-Quasi-peak
9-45 kHz	Cable locating equipment	10 Watts peak output power	
45-490 kHz	Cable locating equipment	1 Watt peak output power	
119-135 MHz	RFID	(2400/F) µV/m @ 300m	A
13.11-13.36 MHz	RFID	106 000 µV/m @ 30 m	A
13.41-14.01 MHz	RFID	106 000 µV/m @ 30 m	A
26.96-27.28 MHz	Any	10 000 µV/m @ 3 m	A
43.71-44.49 MHz	Cordless Telephones	10 000 µV/m @ 3 m	A
46.6-46.98 MHz	Cordless Telephones	10 000 µV/m @ 3 m	A
48.75-49.51 MHz	Cordless Telephones	10 000 µV/m @ 3 m	A
49.66-49.82 MHz	Cordless Telephones	10 000 µV/m @ 3 m	A
49.82-49.9 MHz	Any	10 000 µV/m @ 3 m	A

	Cordless Telephones	10 000 µV/m @ 3 m	A
49.9-50 MHz	Cordless Telephones	10 000 µV/m @ 3 m	A
72-73 MHz	Auditory Assistance Devices	80 000 µV/m @ 3 m	A
74.6-74.8 MHz	Auditory Assistance Devices	80 000 µV/m @ 3 m	A
75.2-76 MHz	Auditory Assistance Devices	80 000 µV/m @ 3 m	A
174-216 MHz[1]	Biomedical Telemetry Devices	1 500 µV/m @ 3 m	A
433.5-434.5 MHz	RFID	70 359 µV/m @ 3m	A
902-928 MHz[2]	Digital Transmission Systems / Spread Spectrum Transmitters[3]	1 Watt Output Power	
	Field Disturbance Sensors	500 000 µV/m @ 3 m	A
	RFID	70 359 µV/m @ 3m	A
	Any	50 000 µV/m @ 3 m	Q
2.4-2.435 GHz	Digital Transmission Systems / Spread Spectrum Transmitters	1 Watt Output Power	
	Any	50 000 µV/m @ 3 m	A
2.435-2.465 GHz	Digital Transmission Systems / Spread Spectrum Transmitters	1 Watt Output Power	
	Field Disturbance Sensors	500 000 µV/m @ 3 m	A
	Any	50 000 µV/m @ 3 m	A
2.465-2.4835 GHz	Digital Transmission Systems / Spread Spectrum Transmitters	1 Watt Output Power	
	Any	50 000 µV/m @ 3 m	A
2.9-3.26 GHz	Automatic Vehicle Identification Systems	3 000 µV/m per MHz of bandwidth @ 3 m	A
3.267-3.332 GHz	Automatic Vehicle Identification Systems	3 000 µV/m per MHz of bandwidth @ 3 m	A
3.339-3.3458 GHz	Automatic Vehicle Identification Systems	3 000 µV/m per MHz of bandwidth @ 3 m	A
3.358-3.6 GHz	Automatic Vehicle Identification Systems	3 000 µV/m per MHz of bandwidth @ 3 m	A
5.150-5.350 GHz	Indoor WAS/RLAN	200 mW e.i.r.p. [4]	A

5.250-5.350 GHz	WAS/RLAN	200 mW or 1 Watt e.i.r.p. [4]	A
5.470-5.725 GHz	WAS/RLAN	1 Watt e.i.r.p. [4]	A
5.725-5.785 GHz	Digital Transmission Systems / Spread Spectrum Transmitters / WAS/RLAN	1 Watt Output Power	
	Any	50 000 µV/m @ 3 m	A
5.785-5.815 GHz	Digital Transmission Systems / Spread Spectrum Transmitters / WAS/RLAN	1 Watt Output Power	
	Field Disturbance Sensors	500 000 µV/m @ 3 m	A
	Any	50 000 µV/m @ 3 m	A
5.815-5.85 GHz	Digital Transmission Systems / Spread Spectrum Transmitters	1 Watt Output Power	
	Any	50 000 µV/m @ 3 m	A
5.85-5.875 GHz	Any	50 000 µV/m @ 3 m	A
10.5-10.55 GHz	Field Disturbance Sensors	2 500 000 µV/m @ 3 m	A
24-24.075 GHz	Any	250 000 µV/m @ 3 m	A
24.075-24.175 GHz	Field Disturbance Sensors	2 500 000 µV/m @ 3 m	A
	Any	250 000 µV/m @ 3 m	A
24.175-24.25 GHz	Any	250 000 µV/m @ 3 m	A

Notes:

[1] In the United States no new biomedical telemetry devices are approved for use in this band.

[2] In Paraguay and Venezuela, only partial use of this band for certain applications is permitted.

[3] In Brazil other modulation schemes are allowed in using this frequency band.

[4] According to CITEL Recommendation PCC.II/REC. 11(VI-05). This Recommendation also specifies a maximum e.i.r.p. density of 10 mW/MHz in any 1 MHz band in the 5150-5250 MHz band.

Additional specific exceptions or exclusions from the general limits in some CITEL countries are indicated in the attachments.

6 Antenna Requirements

Basically three types of transmitter antennas are used for low power radiocommunication transmitters: Integral (no external antenna socket); Dedicated (included in the equipment certification); and, External (not included in the equipment certification).

In most cases low power radiocommunication transmitters are equipped with either integral or dedicated antennas, because changing the antenna on a transmitter can significantly increase, or decrease, the strength of the signal that is ultimately transmitted. Except for some special applications, the RF requirements are not based solely on output power but also take into account the antenna characteristics.

Thus, a low power radiocommunication transmitter that complies with the technical standards with a particular antenna attached could exceed the power limits given if a different antenna is attached. Should this happen a serious interference problem to authorized radio communications such as emergency, broadcast and air-traffic control communications could occur.

In order to prevent such interference problems, low power radiocommunication transmitters shall be designed to ensure that no type of antenna can be used unless it has been included in the transmitter certification to show conformity with the appropriate emission level. This means that normally low power radiocommunication transmitters must have permanently attached, or detachable antennas with a unique connector. A "unique connector" is one that is not of a standard type found in electronic supply stores. National administrations may define the term "unique connector" differently.

Some administrations allow the use of antennas of equal or lower gain that are not specifically listed in the certification report to be substituted for the one in the actual certification report.

7 Mutual Recognition Agreements (MRA)

Administrations have in many cases found it is beneficial and efficient to establish mutual agreements between countries providing for the recognition by one country of the conformity test results of a recognized/accredited test laboratory in the other country/region.

These MRAs enable manufacturers to have the conformity of their products assessed in accordance with the regulatory requirements of the relevant third country by appropriately designated laboratories, inspection bodies and Conformity Assessment Bodies (CABs) in their own countries, hence reducing the costs of such assessments and the time needed to access markets.

The agreements comprise a "framework" agreement which establishes the mutual recognition principles and procedures, and a series of sectoral annexes which detail, for each sector, the scope in terms of products and operations, the respective legislation, and any specific procedures.

ATTACHMENT 1

Brazil

Some specific exceptions

1. The bands listed below are also considered restricted for operation of low power radicommunication devices in Brazil:

Table 1: Restricted Bands

MHz	MHz
0.495-0.505 21.87-21.924 23.2-23.35 121.94-123 149.9-150.5	1626.5-1645.5 2483.5-2500 6650-6675.2 59000-64000

2. Besides those listed in the Annex, the following table contains other exceptions or exclusions to the general limits in Brazil. Additionally, under special conditions telecommand systems can operate in some specific frequencies of 26 MHz, 27 MHz, 50 MHz, 71 MHz and 75 MHz bands.

Table 2: Exception or Exclusions from the General Limits

Frequency Band	Type of Use	Emission Limit	Detector A-Average Q-Quasi-peak
40.66-40.7 MHz	Intermittent Control Signals	2 250 µV/m @ 3 m	A or Q
	Periodic Transmissions	1 000 µV/m @ 3 m	A or Q
	Any	1 000 µV/m @ 3 m	Q
	Perimeter Protection Systems	500 µV/m @ 3 m	A
54-70 MHz	Exclusively Non-Residential Perimeter Protection Systems	100 µV/m @ 3 m	Q
	Wireless microphone	50 mW	
	Telemetry Devices	50 mW	
70-72 MHz	Intermittent Control Signals	1 250 µV/m @ 3 m	A or Q
	Periodic Transmissions	500 µV/m @ 3 m	A or Q

	Non-Residential Perimeter Protection Systems	100 µV/m @ 3 m	Q
	Wireless microphone	50 mW	
72-73 MHz	Intermittent Control Signals	1 250 µV/m @ 3 m	A or Q
	Periodic Transmissions	500 µV/m @ 3 m	A or Q
74.6-74.8 MHz	Intermittent Control Signals	1 250 µV/m @ 3 m	A or Q
	Periodic Transmissions	500 µV/m @ 3 m	A or Q
75.2-76 MHz	Intermittent Control Signals	1 250 µV/m @ 3 m	A or Q
	Periodic Transmissions	500 µV/m @ 3 m	A or Q
76-88 MHz	Intermittent Control Signals	1 250 µV/m @ 3 m	A or Q
	Periodic Transmissions	500 µV/m @ 3 m	A or Q
	Non-Residential Perimeter Protection Systems	100 µV/m @ 3 m	Q
	Wireless microphone	50 mW	
88-108 MHz	Intermittent Control Signals	1 250 µV/m @ 3 m	A or Q
	Periodic Transmissions	500 µV/m @ 3 m	A or Q
	Wireless microphone	250 mW	
121.94-123 MHz	Intermittent Control Signals	1 250 µV/m @ 3 m	A or Q
	Periodic Transmissions	500 µV/m @ 3 m	A or Q
138-149.9 MHz	Intermittent Control Signals	(625/11) × f(MHz) - (67500/11) µV/m @ 3 m	A or Q
	Periodic Transmissions	(250/11) × f(MHz) - (27000/11) µV/m @ 3 m	A or Q
150.05-156.52475 MHz	Intermittent Control Signals	(625/11) × f(MHz) - (67500/11) µV/m @ 3 m	A or Q
	Periodic Transmissions	(250/11) × f(MHz) - (27000/11) µV/m @ 3 m	A or Q
156.52525-156.7 MHz	Intermittent Control Signals	(625/11) × f(MHz) - (67500/11) µV/m @ 3 m	A or Q
	Periodic Transmissions	(250/11) × f(MHz) - (27000/11) µV/m @ 3 m	A or Q
156.9-162.0125 MHz	Intermittent Control Signals	(625/11) × f(MHz) - (67500/11) µV/m @ 3 m	A or Q
	Periodic Transmissions	(250/11) × f(MHz) - (27000/11) µV/m @ 3 m	A or Q
167.17-167.72 MHz	Intermittent Control Signals	(625/11) × f(MHz) - (67500/11) µV/m @ 3 m	A or Q

	Periodic Transmissions	(250/11) × f(MHz) - (27000/11) µV/m @ 3 m	A or Q
173.2-174 MHz	Intermittent Control Signals	(625/11) × f(MHz) - (67500/11) µV/m @ 3 m	A or Q
	Periodic Transmissions	(250/11) × f(MHz) - (27000/11) µV/m @ 3 m	A or Q
174-216 MHz	Intermittent Control Signals	3 750 µV/m @ 3 m	A or Q
	Periodic Transmissions	1 500 µV/m @ 3 m	A or Q
	Wireless microphone	50 mW	
216-225 MHz	Intermittent Control Signals	3 750 µV/m @ 3 m	A or Q
	Periodic Transmissions	1 500 µV/m @ 3 m	A or Q
225-240 MHz	Intermittent Control Signals	3 750 µV/m @ 3 m	A or Q
	Periodic Transmissions	1 500 µV/m @ 3 m	A or Q
	Indoor Sound System	580000 µV/m @ 3 m	
240-242.95 MHz	Indoor Sound System	580000 µV/m @ 3 m	
243-270 MHz	Indoor Sound System	580000 µV/m @ 3 m	
285-322 MHz	Intermittent Control Signals	(125/3) × f(MHz) - (21250/3) µV/m @ 3 m	A or Q
	Periodic Transmissions	(50/3) × f(MHz) - (8500/3) µV/m @ 3 m	A or Q
335.4-399.9 MHz	Intermittent Control Signals	(125/3) × f(MHz) - (21250/3) µV/m @ 3 m	A or Q
	Periodic Transmissions	(50/3) × f(MHz) - (8500/3) µV/m @ 3 m	A or Q
402-405 MHz	Medical Implant Communication Systems (MICS)	25 µW (e.i.r.p.) per 300 kHz Bandwidth	
410-462.53 MHz	Intermittent Control Signals	(125/3) × f(MHz) - (21250/3) µV/m @ 3 m	A or Q
	Periodic Transmissions	(50/3) × f(MHz) - (8500/3) µV/m @ 3 m	A or Q
433-435 MHz	Intermittent Control Signals	(125/3) × f(MHz) - (21250/3) µV/m @ 3 m	A or Q
	Periodic Transmissions	(50/3) × f(MHz) - (8500/3) µV/m @ 3 m	A or Q
	Any	10 mW (e.i.r.p.)	
462.53-462.74 MHz	Intermittent Control Signals	(125/3) × f(MHz) - (21250/3) µV/m @ 3 m	A or Q

	Periodic Transmissions	(50/3) × f(MHz) - (8500/3) µV/m @ 3 m	A or Q
	General Usage Radio Equipment	500 mW (e.r.p.)	
462.74-467.53 MHz	Intermittent Control Signals	(125/3) × f(MHz) - (21250/3) µV/m @ 3 m	A or Q
	Periodic Transmissions	(50/3) × f(MHz) - (8500/3) µV/m @ 3 m	A or Q
467-53-467.74 MHz	Intermittent Control Signals	(125/3) × f(MHz) - (21250/3) µV/m @ 3 m	A or Q
	Periodic Transmissions	(50/3) × f(MHz) - (8500/3) µV/m @ 3 m	A or Q
	General Usage Radio Equipment	500 mW (e.r.p.)	
470-512 MHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A or Q
	Periodic Transmissions	5 000 µV/m @ 3 m	A or Q
	Wireless Microphone	250 mW	
512-566 MHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A or Q
	Periodic Transmissions	5 000 µV/m @ 3 m	A or Q
	Biomedical Telemetry Devices for Hospitals	200 µV/m @ 3 m	Q
	Wireless Microphone	250 mW	
566-608 MHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A or Q
	Periodic Transmissions	5 000 µV/m @ 3 m	A or Q
	Wireless Microphone	250 mW	
614-806 MHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A or Q
	Periodic Transmissions	5 000 µV/m @ 3 m	A or Q
	Wireless Microphone	250 mW	
806-864 MHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A or Q
	Periodic Transmissions	5 000 µV/m @ 3 m	A or Q
864-868 MHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A or Q
	Periodic Transmissions	5 000 µV/m @ 3 m	A or Q
	Wireless PABX System	250 mW	
868-890 MHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A or Q
	Periodic Transmissions	5 000 µV/m @ 3 m	A or Q
890-902 MHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A or Q

	Periodic Transmissions	5 000 µV/m @ 3 m	A or Q
	Signals Used to Measure the Characteristics of a Material	500 µV/m @ 30 m	A
902-907.5 MHz	Signals Used to Measure the Characteristics of a Material	500 µV/m @ 30 m	A
	Intermittent Control Signals	12 500 µV/m @ 3 m	A or Q
	Periodic Transmissions	5 000 µV/m @ 3 m	A or Q
915-928 MHz	Signals Used to Measure the Characteristics of a Material	500 µV/m @ 30 m	A
	Intermittent Control Signals	12 500 µV/m @ 3 m	A or Q
	Periodic Transmissions	5 000 µV/m @ 3 m	A or Q
928-940 MHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A or Q
	Periodic Transmissions	5 000 µV/m @ 3 m	A or Q
	Signals Used to Measure the Characteristics of a Material	500 µV/m @ 30 m	A
940-944 MHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A or Q
	Periodic Transmissions	5 000 µV/m @ 3 m	A or Q
944-948 MHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A or Q
	Periodic Transmissions	5 000 µV/m @ 3 m	A or Q
	Wireless PABX System	250 mW	
948-960 MHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A or Q
	Periodic Transmissions	5 000 µV/m @ 3 m	A or Q
1.24-1.3 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
1.427-1.435 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
1.6265-1.6455 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
1.6465-1.66 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
1.71-1.7188 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A

1.7222-2.2 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
1.91-1.93 GHz	Wireless PABX System	250 mW	
2.3-2.31 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
2.39-2.4 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
2.4-2.4835 GHz	Spread Spectrum or OFDM Transmitters	1 Watt e.i.r.p.[5]	
2.5-2.655 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
2.9-3.26 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
3.267-3.332 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
3.339-3.3458 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
3.358-3.6 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
4.4-4.5 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
5.15-5.25 GHz	Indoor RLAN	200 mW e.i.r.p.	A
5.25-5.35 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
	Indoor RLAN[6]	200 mW e.i.r.p.	A
5.46-5.47 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
5.47-5.725 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
	RLAN	1 Watt e.i.r.p.	A
5.875-7.25 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A

[5] Limited to 400 mW e.i.r.p. when used in cities with population greater than 500,000 habitants.
[6] In accordance with Resolution 229 (WRC-03).

7.75-8.025 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
8.5-9 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
9.2-9.3 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
9.5-10.5 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
10.5-10.55 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
10.55-10.6 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
12.7-13.25 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
13.4-14.47 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
14.5-15.35 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
16.2-17.7 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
19.156-19.635 GHz	Any P-MP Radio System	100 mW output power	
21.4-22.01 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
23.12-23.6 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
24.25-31.2 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
31.8-36.43 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
36.5-38.6 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
46.7-46.9 GHz	Vehicle mounted field disturbance sensors	Varies	
76-77 GHz	Vehicle mounted field	Varies	

	disturbance sensors		

ATTACHMENT 2

Canada

Some specific exceptions

1. The bands listed below are also considered restricted for operation of low power radicommunication devices in Canada:

Table 1: Restricted Bands

MHz	MHz
3.020-3.026	4500-4800
5.677-5.683	7250-7750
121.94-123	11700-12200
240-242.95	17700-20200
243-285	21260-21400
1215-1300	46700-46900
2310-2390	59000-64000
3352.5-3358	76000-77000
3500-4200	

2. Besides those listed in the Annex, the following table contains other exceptions or exclusions to the general limits in Canada.

Table 2: Exception or exclusions from the General Limits

Frequency Band	Type of Use	Emission Limit	Detector A-Average Q-Quasi-peak
Any frequency except restricted frequencies	Underground and tunnel radio	< 110 W Tx power	A or Q
Any frequency	Any	# 6 nW total input power – battery consumption	A or Q
0-9 kHz	Any	N/A	-
9 - 45 kHz	Cable Locating Equipment	10 W peak output power	A or Q
45-490 kHz	Cable locating equipment	1 Watt peak output power	A or Q
160 - 190 kHz	Any	1 W final stage	Q
510-1705 kHz	Any	100 mW final stage or	Q

		250 µV/m @ 30 m	
1.705 - 10 MHz	Any	100 µV/m @ 30 m	A
0 - 30 MHz	AC Wire Carrier Current Devices	N/A	N/A
1.705-37 MHz	Swept frequency devices	100 µV/m @ 30 m for <10 MHz 30 µV/m @ 30 m for >10 MHz and < 30 MHz 100 µV/m @ 3 m for >30 MHz	Q
6.765-6.795 MHz	Any	15 500 µV/m @ 30 m	Q
13.110 - 14.010 MHz	Any	15.484 µV/m @ 30 m (13.533 - 13.567 MHz) 334 µV/m @ 30 m (13.567 - 13.710 MHz) 106 µV/m @ 30 m (13.110 - 13.410 and 13.567 - 14.010 MHz) 30 µV/m @ 30 m (outside the 13.110- 14.010 MHz band)	
13.553-13.567 MHz	Any	15 500 µV/m @ 30 m	Q
26.96-27.41 MHz	General Radio Service	4-6 W Tx power	Q
26.96 - 27.28 MHz	Any	10 µV/m @ 30 m	A
26.99-27.20 MHz[7]	Momentary remote control	2.5-4 W peak Tx power	A or Q
40.66-40.70 MHz	Any	10 000 µV/m @ 3 m	A
		233 000 µV/m @ 3 m	Q
44/49 MHz	Cordless telephones	10 000 µV/m @ 3 m	A
47 MHz[8]	Road traffic controllers	100 mW	-
49.82-49.90	Any	10 000 µV/m @ 3 m	Q
70-130 MHz	Any momentary	500 µV/m @ 3 m	A or Q
72-73 MHz	Momentary model aircraft	0.75 W peak Tx power	A or Q
	Wireless microphone	80 000 µV/m @ 3 m	A
74.6-74.8 MHz	Wireless microphone	80 000 µV/m @ 3 m	A
75.2-76.0 MHz	Wireless microphone	80 000 µV/m @ 3 m	A
75.4-76.0 MHz[9]	Momentary remote control	0.75 W peak Tx power	A or Q

[7] Only the following channel carrier frequencies are permitted: 26.995; 27.045; 27.095; 27.145; 27.195 MHz.
[8] One-way communication only
[9] Voice modulation is permitted for emergency use if it is of the push-to-talk type.

88 - 108 MHz	Any	250 µV/m @ 3 m	A
121.5 MHz	Radiobeacon	25 000 µV/m @ 3 m	Q
130-174 MHz	Any momentary	500 µV/m to 1 500 µV/m @ 3m	A or Q
174-216 MHz	Medical telemetry	1 500 µV/m @ 3m	A
174-260 MHz	Any momentary	3 750 µV/m @ 3m	A or Q
216-216.450 MHz; 216.500-217 MHz[10]	Auditory assistance, medical telemetry, goods tracking	100 mW Tx power	Q
216.45-216.50 MHz	Law enforcement	100 mW Tx power	Q
243 MHz	Radiobeacon	25 mW to 50 mW min Tx power	Q
260-470 MHz	Any momentary	1 500 µV/m to 5 000 µV/m @ 3m	A or Q
402 – 405 MHz	Active Medical Implants	25 µW e.i.r.p.	A
406-406.1 MHz	Radiobeacon	25 mW to 50 mW min Tx power	Q
433.5 - 434.5 MHz	RFID	11 mV/m @ 3m	A
462 and 467 MHz	FRS	0.5 W e.r.p. output power	Q
	GMRS	2.0W e.r.p. output power	Q
Above 470 MHz	Any momentary	5 000 µV/m @ 3m	A or Q
608-614 MHz	Medical telemetry	200 µV/m @ 3 m	Q
902 - 928 MHz	Any	1 W Tx power (hopset ≥ 50 channels hopset)	A
	Spread Spectrum (frequency hopping and digital modulated system)	0.25 W Tx power (hopset < 50 channels)	
		Digital Modular Systems: 1W Tx power	
	Field Disturbance Sensors	500 mV/m @ 30 m	A
902-902.1 MHz / - 927.9-928 MHz	Rural radiophones	0.5 W Tx power	Q
944-948.5 MHz	CT2+ Cordless telephones (private/commercial use)	10 mW	Q
1910-1920 MHz	Personal Communication Service Device	112 mW Tx power	A

[10] These bands are channelized and available for voice or data transmission b not two-way voice.

	(asynchronous)		
1920-1930 MHz	Personal Communication Service Device (isochronous)	112 mW Tx power	A
2400 - 2483.5 MHz	Any	50 mV/m @ 3 m	A
	Spread Spectrum (frequency hopping and digital modulated systems)	0.125W Tx power (hopset < 75 channels)	A
		Digital Modulated Systems: 1W Tx power	A
2435 - 2465 MHz	Field Disturbance Sensors	500 mV/m @ 3 m	A
2900 - 3260; 3267 - 3332; 3339 - 3345.8 and 3358 - 3600 MHz	Vehicle Identification	3 mV/m per 1 MHz beamwidth @ 3m in antenna main beam	A
		400 μV/m @ 3 m per 1 MHz beamwidth @ 3m over ± 10 degrees of horizontal plane of antenna	A
5150-5250 MHz[11]	Local area network	200 mW	A
5250-5350 MHz	Local area network	250 mW Tx power	A
5470 - 5725 MHZ	Local area network	250 mW Tx power	A
5725-5825 MHz	Local area network	(4 W) 1 W Tx power	A
5725-5850 MHz	Any	50 000 μV/m @ 3 m	A
8.5-10.55 GHz	Inside metal container	8 mW peak Tx power	A
10.5-10.55 GHz	Field Disturbance Sensors	2500 mW/m @3m	A
17.15 GHz	Any	300 mW e.i.r.p	A
24.075 - 24.175GHz	Field Disturbance Sensors	2500 mW/m @ 3m	A

[11] For indoors use only.

46.7 - 46.9 and 76 - 77 GHz	Vehicle-Mounted Field Disturbance Sensors	200 nW/cm^2 if the vehicle is moving less than 1 km/hour.	A
		60 µW/cm^2 for forward-looking vehicle-mounted field disturbance sensors, if the vehicle is in motion.	A
		30 µW/cm^2 for side-looking or rear-looking vehicle-mounted field disturbance sensors; if the vehicle is in motion.	
57 - 64 GHz	Any	Average power density ≤ 9 µW/cm^2; Peak power density ≤ 18 µW/cm^2 (@ 3 metres)	A
	Field Disturbance Sensors for fixed operation	Occupy 500 MHz or less of bandwidth within 61.0-61.5 GHz; Average power density ≤ 9 µW/cm^2; Peak power density ≤ 18 µW/cm^2 (@ 3 metres)	A
	Field Disturbance Sensors for fixed operation	Emission outside 61.0-61.5 GHz but within the 57-64 GHz; Average power density ≤ 9 nW/cm^2; Peak power density ≤ 18 nW/cm^2 (@ 3 metres)	A
	Field Disturbance Sensors for fixed operation	Senors other than those operating under subsection A13.2.2(i)(b) of RSS-210, the peak Tx ≤ 0.1 mW; Peak power density ≤ 9 nW/cm2 (@ 3 metres)	A
94 GHz	Any	400 mW	A

ATTACHMENT 3

United States of America

Some specific exceptions

1. The bands listed below are also considered restricted for operation of low power radicommunication devices in the United States of America:

Table 1: Restricted Bands

MHz	MHz
0.495-0.505	2483.5-2500
149.9-150.5	3352.5-3358
162.0125-167.17	3600-4200
167.72-173.2	4500-4800
240-242.95	7250-7750
243-285	11700-12200
1215-1240	17700-20200
2310-2390	21260-21400

2. Besides those listed in the Annex, the following table contains other exceptions or exclusions to the general limits in the United States of America.

Table 2: Exception or Exclusions from the General Limits

Frequency Band	Type of Use	Emission Limit	Detector A-Average Q-Quasi-peak
101.4 kHz	Telephone company electronic marker detectors	23.7 µV/m @ 300 m	A
160-190 kHz	Any	1 Watt input to final RF stage	
510-525 kHz	Any	100 mW input to final RF stage	
525-1 705 kHz	Any	100 mW input to final RF stage	
	Transmitters on grounds of educational institutions	24 000/f(kHz) µV/m @ 30 m outside of campus boundary	Q
	Carrier current and leaky coax systems	15 µV/m @ 47 715/f(kHz) m from cable	Q

1.705-10 MHz	Any, when 6 dB bandwidth ≥10% of centre frequency	100 µV/m @ 30 m	A
	Any, when 6 dB bandwidth < 10% of centre frequency	15 µV/m @ 30 m or bandwidth in (kHz)/f(MHz)	A
13.110-13.410 MHz	Any	106 µV/m @ 30 m	Q
13.410-13.553 MHz	Any	334 µV/m @ 30 m	Q
13.553-13.567 MHz	Any	15 848 µV/m @ 30 m	Q
13.567-13.710 MHz	Any	334 µV/m @ 30 m	Q
13.710-14.010 MHz	Any	106 µV/m @ 30 m	Q
40.66-40.7 MHz	Intermittent Control Signals	2 250 µV/m @ 3 m	A or Q
	Periodic Transmissions	1 000 µV/m @ 3 m	A or Q
	Any	1 000 µV/m @ 3 m	Q
	Perimeter Protection Systems	500 µV/m @ 3 m	A
54-70 MHz	Exclusively Non-Residential Perimeter Protection Systems	100 µV/m @ 3 m	Q
70-72 MHz	Exclusively either Intermittent Control Signals	1 250 µV/m @ 3 m	A or Q
	Or Periodic Transmissions	500 µV/m @ 3 m	A or Q
	Or Non-Residential Perimeter Protection Systems	100 µV/m @ 3 m	Q
72-73 MHz	Intermittent Control Signals	1 250 µV/m @ 3 m	A or Q
	Periodic Transmissions	500 µV/m @ 3 m	A or Q
74.6-74.8 MHz	Intermittent Control Signals	1 250 µV/m @ 3 m	A or Q
	Periodic Transmissions	500 µV/m @ 3 m	A or Q
75.2-76 MHz	Intermittent Control Signals	1 250 µV/m @ 3 m	A or Q
	Periodic Transmissions	500 µV/m @ 3 m	A or Q
76-88 MHz	Exclusively either Intermittent Control Signals	1 250 µV/m @ 3 m	A or Q
	Or Periodic Transmissions	500 µV/m @ 3 m	A or Q
	Or Non-Residential Perimeter Protection Systems	100 µV/m @ 3 m	Q
88-108 MHz	Any (≤ 200 kHz bandwidth)	250 µV/m @ 3 m	A

121.94-123 MHz	Intermittent Control Signals	1 250 µV/m @ 3 m	A or Q
	Periodic Transmissions	500 µV/m @ 3 m	A or Q
138-149.9 MHz	Intermittent Control Signals	(625/11) × f(MHz) - (67500/11) µV/m @ 3 m	A or Q
	Periodic Transmissions	(250/11) × f(MHz) - (27000/11) µV/m @ 3 m	A or Q
150.05-156.52475 MHz	Intermittent Control Signals	(625/11) × f(MHz) - (67500/11) µV/m @ 3 m	A or Q
	Periodic Transmissions	(250/11) × f(MHz) - (27000/11) µV/m @ 3 m	A or Q
156.52525-156.7 MHz	Intermittent Control Signals	(625/11) × f(MHz) - (67500/11) µV/m @ 3 m	A or Q
	Periodic Transmissions	(250/11) × f(MHz) - (27000/11) µV/m @ 3 m	A or Q
156.9-162.0125 MHz	Intermittent Control Signals	(625/11) × f(MHz) - (67500/11) µV/m @ 3 m	A or Q
	Periodic Transmissions	(250/11) × f(MHz) - (27000/11) µV/m @ 3 m	A or Q
167.17-167.72 MHz	Intermittent Control Signals	(625/11) × f(MHz) - (67500/11) µV/m @ 3 m	A or Q
	Periodic Transmissions	(250/11) × f(MHz) - (27000/11) µV/m @ 3 m	A or Q
173.2-174 MHz	Intermittent Control Signals	(625/11) × f(MHz) - (67500/11) µV/m @ 3 m	A or Q
	Periodic Transmissions	(250/11) × f(MHz) - (27000/11) µV/m @ 3 m	A or Q
174-216 MHz	Exclusively either Intermittent Control Signals	3 750 µV/m @ 3 m	A or Q
	Or Periodic Transmissions	1 500 µV/m @ 3 m	A or Q
216-240 MHz	Periodic Transmissions	1 500 µV/m @ 3 m	A or Q
	Intermittent Control Signals	3 750 µV/m @ 3 m	A or Q
285-322 MHz	Intermittent Control Signals	(125/3) × f(MHz) - (21250/3) µV/m @ 3 m	A or Q
	Periodic Transmissions	(50/3) × f(MHz) - (8500/3) µV/m @ 3 m	A or Q
335.4-399.9 MHz	Intermittent Control Signals	(125/3) × f(MHz) - (21250/3) µV/m @ 3 m	A or Q
	Periodic Transmissions	(50/3) × f(MHz) - (8500/3) µV/m @ 3 m	A or Q

410-433.5 MHz	Intermittent Control Signals	(125/3) × f(MHz) - (21250/3) µV/m @ 3 m	A or Q
	Periodic Transmissions	(50/3) × f(MHz) - (8500/3) µV/m @ 3 m	A or Q
433.5-434.5 MHz	Devices to identify the contents of commercial shipping containers	11 000 µV/m @ 3 m	A
	Intermittent Control Signals	(125/3) × f(MHz) - (21250/3) µV/m @ 3 m	A or Q
	Periodic Transmissions	(50/3) × f(MHz) - (8500/3) µV/m @ 3 m	A or Q
434.5-470 MHz	Intermittent Control Signals	(125/3) × f(MHz) - (21250/3) µV/m @ 3 m	A or Q
	Periodic Transmissions	(50/3) × f(MHz) - (8500/3) µV/m @ 3 m	A or Q
470-512 MHz	Exclusively either Intermittent Control Signals	12 500 µV/m @ 3 m	A or Q
	Or Periodic Transmissions	5 000 µV/m @ 3 m	A or Q
512-566 MHz	Exclusively either Intermittent Control Signals	12 500 µV/m @ 3 m	A or Q
	Or Periodic Transmissions	5 000 µV/m @ 3 m	A or Q
566-608 MHz	Exclusively either Intermittent Control Signals	12 500 µV/m @ 3 m	A or Q
	Or Periodic Transmissions	5 000 µV/m @ 3 m	A or Q
614-806 MHz	Exclusively either Intermittent Control Signals	12 500 µV/m @ 3 m	A or Q
	Or Periodic Transmissions	5 000 µV/m @ 3 m	A or Q
806-890 MHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A or Q
	Periodic Transmissions	5 000 µV/m @ 3 m	A or Q
890-902 MHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A or Q
	Periodic Transmissions	5 000 µV/m @ 3 m	A or Q
	Signals Used to Measure the Characteristics of a Material	500 µV/m @ 30 m	A
902-928 MHz	Signals Used to Measure the Characteristics of a Material	500 µV/m @ 30 m	A
	Intermittent Control Signals	12 500 µV/m @ 3 m	A or Q
	Periodic Transmissions	5 000 µV/m @ 3 m	A or Q
	Frequency hopping systems	1 W output power (if ≥ 50	A

		hopping channels) 0.25 W output power (if ≥ 25 hopping channels but less than 50)	
	Digital modulation	1 W output power	A
928-940 MHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A or Q
	Periodic Transmissions	5 000 µV/m @ 3 m	A or Q
	Signals Used to Measure the Characteristics of a Material	500 µV/m @ 30 m	A
940-960 MHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A or Q
	Periodic Transmissions	5 000 µV/m @ 3 m	A or Q
1.24-1.3 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
1.427-1.435 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
1.6265-1.6455 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
1.6465-1.66 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
1.71-1.7188 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
1.7222-2.2 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
1.92-1.93 GHz	Isocronous PCS devices	Varies	
2.3-2.31 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
2.39-2.4 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Asyncronous PCS devices	Varies	
	Periodic Transmissions	5 000 µV/m @ 3 m	A
2.4-2.4835 GHz	Frequency hopping system	1 W output power (if ≥ 75 non-overlapping hopping channels); otherwise, 0.125 W output power	A
	Digital modulation	1 W output power	A
2.5-2.655 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A

2.9-3.26 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
3.267-3.332 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
3.339-3.3458 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
3.358-3.6 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
4.4-4.5 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
5.15-5.25 GHz	National Information Infrastructure devices	Indoor only. Output power: lesser of 50 mW or 4 dBm + 10 log B (where B = 26 dB bandwidth in MHz)	A
5.25-5.35 GHz	National Information Infrastructure devices	Output power: lesser of 250 mW or 11 dBm + 10 log B (where B = 26 dB bandwidth in MHz)	A
	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
5.46-5.47 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
5.47-5.725 GHz	National Information Infrastructure devices	Output power: lesser of 250 mW or 11 dBm + 10 log B (where B = 26 dB bandwidth in MHz)	A
	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
5.725-5.825 GHz	National Information Infrastructure devices	Output power: lesser of 1 W or 17 dBm + 10 log B (where B = 26 dB bandwidth in MHz)	A
5.725-5.85 GHz	Frequency hopping or digital modulation system	1 W output power	A
5.875-7.25 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
7.75-8.025 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
8.5-9 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A

	Periodic Transmissions	5 000 µV/m @ 3 m	A
9.2-9.3 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
9.5-10.5 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
10.5-10.55 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
10.55-10.6 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
12.7-13.25 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
13.4-14.47 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
14.5-15.35 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
16.2-17.7 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
21.4-22.01 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
23.12-23.6 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
24.25-31.2 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
31.8-36.43 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
36.5-38.6 GHz	Intermittent Control Signals	12 500 µV/m @ 3 m	A
	Periodic Transmissions	5 000 µV/m @ 3 m	A
46.7-46.9 GHz	Vehicle mounted field disturbance sensors	Varies	
57-64 GHz	Not aircraft, not satellite, not field disturbance sensors (with a qualified fixed exception)	Varies	
76-77 GHz	Vehicle mounted field disturbance sensors	Varies	

92-95 GHz	Indoor use, not permitted on aircraft or satellite	Varies	

PCC.II/REC. 22 (IX-07)[12]

REQUIREMENTS FOR DEPLOYMENT OF 5 GHZ RLANS INSTALLED ON BOARD AIRCRAFT

The IX Meeting of the Permanent Consultative Committee II: Radiocommunication including Broadcasting,

CONSIDERING:

a) That WRC-03 allocated the bands 5 150 – 5 250 MHz, 5 250 – 5 350 MHz and 5 470 – 5 725 MHz on a primary basis to the mobile service for the implementation of wireless access systems (WAS), including radio local area networks (RLANs);

b) That WRC-03 adopted Resolution 229 which places technical and operational restrictions on the use of these bands by WAS, including RLANs;

c) That CITEL PCC.II adopted Recommendation CCP.II/REC.11 (VI-05)[13] which provides technical and operational limits for the deployment of RLANs covering the bands 5150 – 5250 MHz, 5250 -5350 MHz, 5470 – 5725 MHz and 5725 – 5825 MHz;

d) That the technical basis of Resolution 229 (WRC-03) and CITEL PCC.II Recommendation CCP.II/REC.11 (VI-05) addressed terrestrial deployments of RLANs and did not specifically address their deployment on board aircraft;

e) That the deployment of RLANs on board aircraft would be both beneficial and useful to manufacturers, airlines and the traveling public;

f) That use of RLANs installed on board aircraft have the potential to impact other users of the radiofrequency spectrum beyond national boundaries due to the inherent nature of air traffic;

g) That the vast majority of RLANs will be operated on a license-exempt basis;

h) That a typical deployment of RLANs installed on board aircraft will require the number of transmitters or Access Points (APs) to be very small, in order to maximize throughput by minimizing self-interference;

i) That studies[14] have shown that RLAN operations inside an aircraft will provide equal or better protection to other users of the bands 5150-5250 MHz, 5250-5350 MHz, 5470-5725 MHz and 5725-5825 MHz bands compared with terrestrial deployments;

[12] CCP.II-RADIO/doc. 1409/07 rev.1 Base document is CCP.II-RADIO/doc. 1193/07 rev.1
[13] See CCP.II-RADIO/doc. 871/05 cor. 1
[14] See document CCP.II-RADIO/doc. 1339/07 rev.1, CCP.II-RADIO/doc.0977/06, CCP.II-RADIO/doc. 0642/05.

CONSIDERING FURTHER:

a) That the use and installation of equipment on board aircraft is subject to approval of the appropriate national authorities and their applicable regulatory framework;

b) That some administrations have completed trials in the bands 5150 – 5 250 MHz and 5 250 – 5 350 MHz that indicate there is no harmful interference from RLANs to essential aircraft radiocommunication and radionavigation systems of the aircraft tested;

c) That some Civil Aviation Authorities have already approved the use of RLANs, on board aircraft; and

d) That electronic devices are typically turned off at altitudes less than 10000 feet (or 3000 meters) or less due to restrictions associated with the take off and landing phases of flight,

RECOGNIZING:

a) That in Europe, CEPT adopted ECC Decision (04)08 and the European Union (with relevance in the European Economic Area) adopted Decision 2005/513/EC, which considers that the use inside aircraft of 5 GHz Wireless Access Systems/RLAN devices as being indoor, and

b) That in Asia Pacific, the APT Wireless Forum has approved a draft recommendation[15] on the Use of 5 GHz Wireless LANs on Board Aircraft which recognizes that RLANs will be restricted to a maximum mean e.i.r.p of 100 mW and recommends that APT administrations allow use of the 5 GHz band by airborne RLANS consistent with Resolution 229 (WRC-03), subject to ensuring protection of other radio services operating in these bands;

c) That the shielding provided by both a metallic and composite fuselage will provide comparable attenuation to the values used in ITU-R studies for building attenuation losses.[16] ,

RECOMMENDS:

1. That the use of RLANS installed on board aircraft in the bands 5 150-5 250 MHz, 5 250 – 5 350 MHz, 5 470-5 725 MHz and 5 725-5 825 MHz be on a license-exempt basis in those cases where permitted by national regulatory frameworks;

2. That administrations consider the operation of RLANs installed on board aircraft in the frequency band 5 150 – 5 250 MHz and 5 250-5 350 MHz, to be an indoor use as specified in Resolution 229 (WRC-03);

3. That administrations adopt requirements for the deployment of RLANs installed on board aircraft that are in accordance with CITEL PCC.II Recommendation CCP.II/REC.11 (VI-05), including dynamic frequency selection (DFS) in those bands requiring DFS;

4. That, in addition to the provision of *recommends 3)*, administrations limit the mean maximum[17] e.i.r.p. for RLAN transmitters installed on board aircraft to 100 mW;

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[15] See document AWF-IM3/09(Rev.2), 13 January 2007, APT/AWF-AVI_RLAN

[16] See ITU-R M.1352. See also ITU-R Recommendation P.1238 "Propagation data and prediction methods for the planning of indoor radiocommunication systems and radio local area networks in the frequency range 900 MHz to 100 GHz".

5. That, in addition to the provision of *recommends 3)*, administrations require RLAN systems to be installed on board aircraft to limit operation on no more than 2 identical frequencies at the same time;

6. That, in addition to the provision of *recommends 3)*, for the protection of terrestrial radars, administrations restrict the use of RLAN transmitters or APs installed on board aircraft, in the 5600-5650 MHz band, when the aircraft is in flight at an altitude less then 10,000 feet (or 3000 meters).

INSTRUCTS THE SECRETARIAT OF CITEL:

To send this Recommendation to the regional telecommunication organizations.

V. DECISIONS

The IX meeting of the Permanent Consultative Committee II, Radiocommunications including Broadcasting,

DECIDES:

CCP.II/DEC. 52 (IX-07)[18]	To send the document PCC.II-RADIO/doc. 1385/07 COMMENTS ON PROJECT RECOMMENDATION PCC.II/REC. XXX (IX-07) ON TRANSMISSION OF PUBLIC DIGITAL TERRESTRIAL TELEVISION (DTT) to the member States requesting their comments and contributions for the X meeting of the PCC.II. The point of contact in case any explanations are required, is Mr. Javier García (jgarcia@indotel.gov.do).
CCP.II/DEC. 53 (IX-07)[19]	That for the consideration at the X Meeting of PCC.II, Administrations can send new draft proposals for the WRC-07 before 0:00 on Saturday, June 16, 2007 (Washington, D.C. time). The Administrations are encouraged, to the extent possible, to submit their proposals by that date.

VI. LIST OF BASIC DOCUMENTS

Summary Minutes of the Inaugural Session and the First Plenary Session:	CCP.II-RADIO/doc. 1388/07 rev.3
Summary Minutes of the Second Plenary Session:	CCP.II-RADIO/doc. 1414/07 rev.1
Summary Minutes of the Third Plenary Session and Closing Session:	CCP.II-RADIO/doc. 1420/07 rev.1

[17] The mean maximum refers to the e.i.r.p. during the transmission burst which corresponds to the highest power, if power control is implemented. See Resolution 229 (WRC-03).
[18] CCP.II-RADIO/doc. 1387/07 cor.1
[19] CCP.II-RADIO/doc. 1416/07 cor.1

List of Documents:	CCP.II-RADIO/doc. 1242/03 rev.4
List of Participants:	CCP.II-RADIO/doc. 1243/07 rev.2
Final Report for the Meeting	CCP.II-RADIO/doc. 1419/07 rev.1