Establishment of Harmonized Policies for the ICT Market in the ACP Countries

Cross-Border Frequency Coordination: Harmonized Calculation Method for Africa (HCM4A)

Agreement

HIPSSA

Harmonization of ICT Policies in Sub-Saharan Africa

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Foreword

Information and communication technologies (ICTs) are shaping the process of globalisation. Recognising their potential to accelerate Africa's economic integration and thereby its greater prosperity and social transformation, Ministers responsible for Communication and Information Technologies meeting under the auspices of the African Union (AU) adopted in May 2008 a reference framework for the harmonization of telecommunications/ICT policies and regulations, an initiative that had become especially necessary with the increasingly widespread adoption of policies to liberalise this sector.

Coordination across the region is essential if the policies, legislation, and practices resulting from each country's liberalization are not to be so various as to constitute an impediment to the development of competitive regional markets.

Our project to 'Support for Harmonization of the ICT Policies in Sub-Sahara Africa' (HIPSSA) has sought to address this potential impediment by bringing together and accompanying all Sub-Saharan countries in the Group of African, Caribbean and Pacific States (ACP) as they formulate and adopt harmonized ICT policies, legislation, and regulatory frameworks. Executed by the International Telecommunication Union (ITU), co-chaired by the AU, the project has been undertaken in close cooperation with the Regional Economic Communities (RECs) and regional associations of regulators which are members of the HIPSSA Steering Committee. A global steering committee composed of the representatives of the ACP Secretariat and the Development and Cooperation – EurepeAid (DEVCO, European Commission) oversees the overall implementation of the project.

This project is taking place within the framework of the ACP Information and Telecommunication Technologies (@CP-ICT) programme and is funded under the 9th European Development Fund (EDF), which is the main instrument for providing European aid for development cooperation in the ACP States, and co-financed by the ITU. The @CP-ICT aims to support ACP governments and institutions in the harmonization of their ICT policies in the sector by providing high-quality, globally-benchmarked but locally-relevant policy advice, training and related capacity building.

All projects that bring together multiple stakeholders face the dual challenge of creating a sense of shared ownership and ensuring optimum outcomes for all parties. HIPSSA has given special consideration to this issue from the very beginning of the project in December 2008. Having agreed upon shared priorities, stakeholder working groups were set up to address them. The specific needs of the regions were then identified and likewise potentially successful regional practices, which were then benchmarked against practices and standards established elsewhere.

These detailed assessments, which reflect sub-regional and country-specific particularities, served as the basis for the model policies and legislative texts that offer the prospect of a legislative landscape for which the whole region can be proud. The project is certain to become an example to follow for the stakeholders who seek to harness the catalytic force of ICTs to accelerate economic integration and social and economic development.

I take this opportunity to thank the European Commission and ACP Secretariat for their financial contribution. I also thank the Economic Community of West African States (ECOWAS), West African Economic and Monetary Union (UEMOA), Economic Community of Central African States (ECCAS), Economic and Monetary Community of Central Africa (CEMAC), East African Community (EAC), Common Market for Eastern and Southern Africa (COMESA), Common Market for Eastern and Southern Africa (COMESA), Southern African Development Community (SADC), Intergovernmental Authority on Development (IGAD), Communication Regulators' Association of Southern Africa (CRASA), Telecommunication Regulators' Association of Central Africa (ARTAC), United Nations Economic Commission for Africa (UNECA), and West Africa Telecommunications Regulators' Association (WATRA), for their contribution to this work. Without political will on the part of beneficiary countries, not much would have been achieved. For that, I express my profound thanks to all the ACP governments for their political will which has made this project a resounding success.

Brahima Sanou
BDT, Director

Acknowledgements

The present document represents an achievement of a global activity carried out under the HIPSSA project ("Support to the Harmonization of ICT Policies in Sub-Saharan Africa") officially launched in Addis Ababa in December 2008.

In response to both the challenges and the opportunities of information and communication technologies' (ICTs) contribution to political, social, economic and environmental development, the International Telecommunication Union (ITU) and the European Commission (EC) joined forces and signed an agreement aimed at providing "Support for the Establishment of Harmonized Policies for the ICT market in the ACP", as a component of the Programme "ACP-Information and Communication Technologies (@CP-ICT)" within the framework of the 9th European Development Fund (EDF). i.e., ITU-EC-ACP Project.

This global ITU-EC-ACP project is being implemented through three separate sub-projects customized to the specific needs of each region: Sub-Saharan Africa (HIPSSA), the Caribbean (HIPCAR), and the Pacific Island Countries (ICB4PAC).

As members of the HIPSSA Steering Committee co-chaired by the African Union's Commission (AUC) and the ITU, the African Union's Commission (AUC) and the African Telecommunication's Secretariat (ATU) provided guidance and support to the team of consultants, Mr Shola Taylor from Kemilinks Consulting for the Global Report, Mr Hilaire Mbega for Central Africa, Mr Andrew Kisaka for East Africa, Mr Carlos Alais for Southern Africa and Mr Ahmed Boreau for West Africa, who prepared the draft documents. These draft documents were reviewed, discussed and validated by broad consensus by participants of a workshop organised in collaboration with AUC and ATU in Nairobi from 29 October to the 2nd November 2012. At the said workshop the Draft Framework Agreement drafted by the Lead Consultant Mr Shola Taylor of Kemilinks Consulting and commented on by all the regional Experts and the Focal points in all the countries in Sub-Saharan Africa was consolidated and adopted.

ITU would like to thank the focal point delegates from the member states ICT and telecommunications ministries and regulators, from regional organisations' commissions and secretariats and regulators associations among them the Association of Regulators of Information and Communications Service of Eastern and Southern Africa (ARICEA), Association of African Telecommunications Regulators (ARTAC), Communication Regulators' Association of Southern Africa (CRASA), East African Community (EAC), East Africa Communications Organizations (EACO), Economic Community of Central African States (ECCAS), Economic Community of West African Countries (ECOWAS), Southern African Development Community (SADC), and West Africa Telecommunications Regulatory Assembly (WATRA), for their hard work and commitment in contributing to the data collection efforts of this unprecedented study. The contributions from the AUC and ATU are gratefully acknowledged.

The ITU also takes this opportunity to extends its gratitude to the HCM Body in Europe who sent an expert to attend the meeting in Nairobi in the person of Mr Herman Teinsma Adviser to the Radio Agency in the Netherlands, who was crucial in providing answers to participants questions on the workings of the European Body thereby providing invaluable insight to the expected role of the future African institution.

Without the active involvement of all of these stakeholders, it would have been impossible to produce a document such as this, reflecting the overall requirements and conditions of Sub-Saharan Africa while also representing international best practice.

Acknowledgements

The activities have been implemented by Ms. Ida Jallow, responsible for the coordination of the activities in Sub-Saharan Africa (HIPSSA Senior Project Coordinator), and Mr. Sandro Bazzanella, responsible for the management of the whole project covering Sub-Saharan Africa, Caribbean and the Pacific (ITU-EC-ACP Project Manager) with the overall support of Ms. Hiwot Mulugeta, HIPSSA Project Assistant, and of Ms. Silvia Villar, ITU-EC-ACP Project Assistant. The work was carried out under the overall direction of Mr. Cosmas Zavazava, Chief, Project Support and Knowledge Management (PKM) Department. The document was developed under the direct supervision of the then HIPSSA Senior Project Coordinator, Mr. Jean-François Le Bihan, and has further benefited from the comments of the ITU Telecommunication Development Bureau's (BDT) Technology and Network Development (TND) and ITU Radiocommunication Bureau (BR). The team at ITU's Publication Composition Service was responsible for its publication in hardcopy and online.

Agreement

AGREEMENT
Between the Administrations of:

1.	Angola	25.	Madagascar*
2.	Benin	26.	Malawi
3.	Botswana	27.	Mali
4.	Burkina Faso	28.	Mauritania*
5.	Burundi	29.	Mauritius
6.	Cameroon	30.	Mozambique
7.	Cape Verde	31.	Namibia
8.	Central African Republic	32.	Niger
9.	Chad	33.	Nigeria
10.	Congo	34.	Rwanda
11.	Côte d'Ivoire	35.	São Tomé and Príncipe
12.	Democratic Republic of the Congo	36.	Senegal
13.	Djibouti	37.	Seychelles
14.	Equatorial Guinea	38.	Sierra Leone
15.	Eritrea	39.	Somalia*
16.	Ethiopia*	40.	South Africa
17.	Gabon	41.	Sudan
18.	Gambia	42.	South Sudan*
19.	Ghana	43.	Swaziland
20.	Guinea	44.	Tanzania
21.	Guinea-Bissau	45.	Togo
22.	Kenya	46.	Uganda
23.	Lesotho	47.	Zambia
24.	Liberia	48.	Zimbabwe

on the co-ordination of frequencies between 29.7 MHz and 43.5 GHz for the fixed service and the land mobile service.

[Note: the Administrations with * did not participate in the HIPSSA Phase 1]

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This draft Agreement was prepared by a team of experts on the basis of the results of the first phase of the HISPPA project on **Cross-border frequency coordination: Harmonized Calculation Method for Africa (HCM4A)** and adaptation of an existing HCM for Europe.

List of acronyms

LIST OF ACRONYMS

DLL	Dynamic Link Libraries
EXE	Executable
HCM4A	Harmonised Calculation Method for Africa
IT	Information Technology
ITU	International Telecommunications Union
ITU-R	ITU Radiocommunication Sector
GHz	Giga Hertz
MD	Masks Discrimination
MHz	Mega Hertz
GHz	Giga Hertz
NFD	Net Filter Discrimination
SRDs	Short Range Devices
SWG-Program	Sub-Working Group Program

PREAMBLE

The representatives of the administrations listed below* have concluded the present Agreement, under Article 6 of the Radio Regulations, on the co-ordination of frequencies between 29.7 MHz and 43.5 GHz for the purposes of preventing mutual harmful interference to the Fixed and Land Mobile Services and optimising the use of the frequency spectrum above all on the basis of mutual agreements.

The Second Ordinary Session of the African Union Conference of Ministers in charge of Communication and Information Technologies (CIT) was held on 14 May2008 in Cairo (Arab Republic of Egypt).

In attendance were Ministers in charge of Telecommunications / ICT and Posts, and Experts from thirty four (34) African Union Member States as well as representatives of Regional Economic Communities (RECs), specialised institutions and regional & International partner organisations.

At the end of their deliberations**,** the Ministers adopted a Declaration named "2008 Cairo Declaration" in which, they have endorsed among others the reference framework for the harmonization of Telecommunications/ICT policies and regulations in Africa.

The "Decision of African Union Executive Council on the Second Session of the Conference of African Ministers in charge of Communication and Information Technologies, Thirteenth Ordinary Session" was adopted in Sharm El-Sheikh (Egypt) on the 24-28 June 2008.

The launching meeting of HIPSSA project was held at the United Nations Conference Center in Addis Ababa (Ethiopia) on the 11 and 12 December 2008.

This agreement is referred to as HCM4A Agreement [ ] 2013].

[*List of Administrations]

1.	Angola	25.	Madagascar*
2.	Benin	26.	Malawi
3.	Botswana	27.	Mali
4.	Burkina Faso	28.	Mauritania*
5.	Burundi	29.	Mauritius
6.	Cameroon	30.	Mozambique
7.	Cape Verde	31.	Namibia
8.	Central African Republic	32.	Niger
9.	Chad	33.	Nigeria
10.	Congo	34.	Rwanda
11.	Côte d'Ivoire	35.	São Tomé and Príncipe
12.	Democratic Republic of the Congo	36.	Senegal
13.	Djibouti	37.	Seychelles
14.	Equatorial Guinea	38.	Sierra Leone
15.	Eritrea	39.	Somalia*
16.	Ethiopia*	40.	South Africa
17.	Gabon	41.	Sudan
18.	Gambia	42.	South Sudan*
19.	Ghana	43.	Swaziland
20.	Guinea	44.	Tanzania

21.	Guinea-Bissau	45.	Togo
22.	Kenya	46.	Uganda
23.	Lesotho	47.	Zambia
24.	Liberia	48.	Zimbabwe

ARTICLE 1

1 Definitions

The definitions used in this Agreement shall be those of Article 1 of the Radio Regulations of ITU as well as those listed in this Section.

1.1 Administrations

NAME OF COUNTRY	SYMBOL	NAME OF ADMINISTRATION
1. Angola	AGL	Instituto Angolano das Comunicações (INACOM) / Angolan Institute of Communications
2. Benin	BEN	Autorité Transitoire de Régulation des Postes et Télécommunications (ATRPT)
3. Botswana	BOT	Botswana Telecommunications Authority (BTA)
4. Burkina Faso	BFA	Ministère des Transports, des Postes et de l'Economie Numérique (MTPEN)
5. Burundi	BDI	Agence de Régulation et de Contrôle des Télécommunications (ARCT)
6. Cameroon	CME	Ministère des Postes et Télécommunications (MINPOSTEL)
7. Cape Verde	CPV	Agência Nacional das Comunicações (ANAC)
8. Central African Republic	CAF	Agence de Régulation des Télécommunications (ART)
9. Chad	TCD	Office Tchadien de Régulation des Télécommunications (OTRT)
10. Congo	COG	Agence de Régulation des Postes et des Communications Electroniques (ARPCE)
11. Côte d'Ivoire	CTI	Agence Ivoirienne de Gestion des Fréquences (AIGF)
12. Democratic Republic of the Congo	COD	Autorité de Régulation de la Poste et des Télécommunications du Congo (ARPTC)
13. Djibouti	DJI	Djibout Telecommunication Company – Ministry of Culture, Communication and in charge of Telecommunication and postal
14. Equatorial Guinea	GNE	Órgano Regulador de las Telecomunicaciones (ORTEL)
15. Eritrea	ERI	Ministry of Transport and Communication – Standard and Regulation Division (MTCSRD)
16. Ethiopia*	ETH	Ministry of Transport and Communication – Standard and Regulation Division (MTCSRD)
17. Gabon	GAB	Agence Nationale des Infrastructures Numériques et des Fréquences (ANINF)
18. Gambia	GMB	Public Utilities Regulatory Authority (PURA)
19. Ghana	GHA	National Communication Authority (NCA)
20. Guinea	GUI	Ministère des Postes, Télécommunications et des Nouvelles Technologies de l'Information

Article 1

NAME OF COUNTRY	SYMBOL	NAME OF ADMINISTRATION
21. Guinea-Bissau	GNB	Autoridade Reguladora Nacional da Technologias de Informação e Comunicação (ARN – TIC)
22. Kenya	KEN	Communications Commission of Kenya (CCK)
23. Lesotho	LSO	Lesotho Communications Authority (LCA)
24. Liberia	LBR	Liberia Telecommunications Authority (LTA)
25. Madagascar*	MDG	Office Malgache d'Etudes et de Régulation des Télécommunications (OMERT)
26. Malawi	MWI	Malawi Communications Regulatory Authority (MACRA)
27. Mali	MLI	Autorité Malienne de Régulation des Télécommunications / ICT et Post (AMRTP)
28. Mauritania*	MRT	Autorité de Régulation, Mauritanie (ARM)
29. Mauritius	MAU	Information & Communication Technologies Authority (ICTA) / Ministry of Information Technology and Telecommunications
30. Mozambique	MOZ	Instituto Nacional das Comunicaçôes de Moçambique (INCM) / National Institute for Communications of Mozambique
31. Namibia	NMB	Communications Regulatory Authority of Namibia (CRAN)
32. Niger	NGR	Autorité de Régulation Multisectorielle (ARM)
33. Nigeria	NIG	Ministry of Communication Technology (MoCT)
34. Rwanda	RRW	Rwanda Utilities Regulatory Authorities (RURA)
35. São Tomé and Príncipe	STP	Autoridade Geral de Regulação (AGER) / General Regulation Authority
36. Senegal	SEN	Autorité de Régulation des Télécommunications et des Postes (ARTP)
37. Seychelles	SEY	The Communications Division of the Department of Information Communications Technology / Vice-President's Office
38. Sierra Leone	SRL	National Telecommunication Commission (NATCOM)
39. Somalia*	SOM	Ministry of Information, Post & Telecommunication
40. South Africa	AFS	Minister of Communications- Department of Communications
41. Sudan	SDN	National Telecommunication Corporation (NTC)
42. South Sudan*	SSD	Ministry of Telecommunication & Postal Services
43. Swaziland	SWZ	Swaziland Post and Telecommunications Corporation (SPTC)
44. Tanzania	TZA	Tanzania Communications Regulatory Authority (TCRA)
45. Togo	TGO	Autorité de Réglementation des secteurs de Postes et Télécommunications (ART&P)
46. Uganda	UGA	Uganda Communications Commission (UCC)

NAME OF COUNTRY	SYMBOL	NAME OF ADMINISTRATION
47. Zambia	ZMB	Zambia Information and Communication Technology Authority (ZICTA)
48. Zimbabwe	ZWE	Postal and Telecommunications Regulatory Authority of Zimbabwe (POTRAZ)

1.2 Frequencies

1.2.1 Frequencies in the bands listed below for the Land Mobile Service in the countries concerned shall be co-ordinated under the terms of this Agreement.

29,7	–	47	MHz	
68	–	74,8	MHz	
75,2	–	87,5	MHz	
146	–	149,9	MHz	
150,05	–	174	MHz	
380	–	385	MHz	
390	–	395	MHz	for emergency and security systems only
406,1	–	430	MHz	
440	–	470	MHz	
790	–	960	MHz	
1710	–	1785	MHz	for GSM 1800 systems only
1805	–	1880	MHz	for GSM 1800 systems only
1900	–	1980	MHz	for UMTS/IMT
2010	–	2025	MHz	for UMTS/IMT
2110	–	2170	MHz	for UMTS/IMT
2500	–	2690	MHz	

1.2.2 For the Land Mobile Service in frequency bands other than those defined in 1.2.1 and for all other services in these frequency bands, the co-ordination procedure set out in this Agreement may be used, and, if necessary, the technical parameters shall be agreed separately.

1.2.3 Frequencies in the bands listed below, used in the countries concerned for the Fixed Service shall be co-ordinated under the terms of this Agreement.

Article 1

Band (GHz)	Frequency range (GHz)	Recommendations ITU-R F Series	Channel separation (MHz)
0.4	0.4061-0.430 0.41305-0.450	1567, Annex 1 1567, Annex 1	0.05; 0.1; 0.15; 0.2; 0.25; 0.6; 0.25; 0.3; 0.5; 0.6; 0.75; 1; 1.75; 3.5
1.4	1.35-1.53	1242	0.25; 0.5; 1; 2; 3.5
2	1.427-2.69 1.7-2.1; 1.9-2.3 1.9-2.3 1.9-2.3 1.9-2.3 2.3-2.5 2.29-2.67	701 382 1098 1098, Annexes 1, 2 1098, Annex 3 746, Annex 1 1243	0.5 29 3.5; 2.5 14 10 1; 2; 4; 14; 28 0.25; 0.5; 1; 1.75 2; 3.5; 7; 14 2.5
3.6	3.4-3.8 3.4-3.8	1488, Annex 1 1488, Annex 2	25 0.25
4	3.8-4.2 3.7-4.2 3.6-4.2 3.6-4.2	382 382, Annex 1 635 635, Annex 1	29 28 10 90; 80; 60; 40; 30
U4	4.4-5.0 4.4-5.0 4.4-5.0 4.54-4.9	1099 1099, Annex 1 1099, Annex 3 1099, Annex 2	10 40; 60; 80 28 40; 20
L6	5.925-6.425 5.85-6.425 5.925-6.425 5.925-6.425 5.925-6.425	383 383, Annex 1 383, Annex 1 383, Annex 2 383, Annex 3	29.65 90 60; 40 28 40; 20; 10; 5
U6	6.425-7.11 6.425-7.11 6.425-7.11	384 384, Annex 1 384, Annex 2	40; 30; 20; 10; 5 80 30; 14; 7; 3.5
7	7.25-7.55 7.425-7.725 (7.125-7.425)(3) (7.250-7.550)(3) (7.550-7.850)(3) 7 125-7 425 7.425-7.725 7.435-7.75 7.11-7.75 7.425-7.90	385, Annex 5 385 385, Annex 1 385, Annex 1 385, Annex 2 385, Annex 3 385, Annex 4	3.5 7; 14; 28 1.75; 3.5; 7; 14; 28 1.75; 3.5; 7; 14; 28 5; 10; 20 28 28

Article 1

Band (GHz)	Frequency range (GHz)	Recommendations ITU-R F Series	Channel separation (MHz)
8	7.725-8.275 8.275-8.5 7.9-8.4 7.725-8.275 8.025-8.5 7.725-8.275 8.2-8.5	386, Annex 1 386, Annex 2 386, Annex 3 386, Annex 4 386, Annex 5 386, Annex 6 386, Annex 7	30; 20; 10; 5; 2.5; 1.25 14; 7 28; 14; 7 40; 20; 10; 5 28; 14; 7 29.65 11.662
10	10.0-10.68 10.0-10.68 10.15-10.65 10.15-10.65 10.15-10.65 10.5-10.68 10.55-10.68	747 747, Annex 4 747, Annex 3 1568, Annex 1 1568, Annex 2 747, Annex 1 747, Annex 2	1.25 ; 3.5 3.5; 7; 14; 28 3.5; 7; 14; 28 28 30 7; 3.5 5; 2.5; 1.25
11	10.7-11.7 10.7-11.7 10.7-11.7 10.7-11.7 10.7-11.7	387 387, Annex 2 387, Annex 1 387, Annex 3 387, Annex 4	40 60 80 5; 10; 20 7; 14; 28
12	11.7-12.5 12.2-12.7	746, Annex 2, § 3 746, Annex 2, § 2	19.18 20
13	12.75-13.25 12.7-13.25	497 746, Annex 2, § 1	28; 14; 7; 3.5 25; 12.5
14	14.25-14.5 14.25-14.5	746, Annex 3 746, Annex 4	28; 14; 7; 3.5 7; 14; 28
15	14.4-15.35 14.5-15.35 14.5-15.35	636 636, Annex 1 636, Annex 2 636, Annex 3	56; 28; 14; 7; 3.5 2.5 2.5 5; 10; 20; 30; 40; 50
18	17.7-19.7 17.7-19.7 17.7-19.7 17.7-19.7 17.7-19.7 17.7-19.7 17.7-19.7 17.7-19.7 18.58-19.16	595 595, Annex 1 595, Annex 2 595, Annex 3 595, Annex 4 595, Annex 5 595, Annex 6 595, Annex 7 595, Annex 7	220; 110; 55; 27.5 60 50; 40; 30; 20; 10; 5; 2.5 7; 3.5 27.5; 13.75; 7.5; 7; 3.5; 1.75 55; 110 55; 27.5; 13.75 60
23	21.2-23.6 21.2-23.6 22.0-23.6 21.2-23.6 21.2-23.6	637 637, Annex 1 637, Annex 2 637, Annex 3 637, Annex 4	3.5; 2.5 112 to 3.5 112 to 3.5 2.5; 5; 7.5; 10; 15; 20; 40; 50 112 to 3.5

Band (GHz)	Frequency range (GHz)	Recommendations ITU-R F Series	Channel separation (MHz)
27	24.25-25.25 24.25-25.25 25.25-27.5 25.27-26.98 24.5-26.5 27.5-29.5 27.5-29.5	748 748, Annex 3 748 748, Annex 3 748, Annex 1 748 748, Annex 2	3.5; 2.5 40 3.5; 2.5 60 112 to 3.5 3.5; 2.5 112 to 3.5
31	31.0-31.3 31.0-31.3	746, Annex 5 746, Annex 6	25; 50 28; 14; 7; 3.5
32	31.8-33.4 31.8-33.4	1520, Annex 1 1520, Annex 2	3.5; 7; 14; 28; 56; 112 56
38	36.0-40.5 36.0-37.0 37.0-39.5 38.6-39.48 38.6-40.0 39.5-40.5	749 749, Annex 2 749, Annex 1 749, Annex 2 749, Annex 2 749, Annex 3	3.5; 2.5 112 to 3.5 112; 56; 28; 14; 7; 3.5 60 50 112 to 3.5
42	40.5-43.5 40.5-43.5 40.5-43.5	F.2005, Annex 1 F.2005, Annex 2 F.2005, Annex 3	112; 56; 28; 14; 7 Variable size blocks Mixed 112 to 7 and blocks

1.2.3.1 The co-ordination procedure laid down in this Agreement for the Fixed Service is only valid if in both countries involved in the co-ordination process the respective frequency band is allocated to the Fixed Service and the respective frequency falls under the responsibility of the Administrations.

1.2.4 For frequencies below 1 GHz and listed under 1.2.1, used in the countries concerned for the Fixed Service, the co-ordination procedure and the technical provisions set out in this Agreement for the Land Mobile Service shall be used.

1.2.5 For frequencies above 1 GHz used in the countries concerned for the Fixed Service in frequency bands other than those listed in the frequency table given in paragraph 1.2.3, the co-ordination procedure set out in this Agreement for the Fixed Service may be used, and, if necessary, the technical parameters shall be agreed separately.

1.2.6 Short Range Devices (SRDs) as defined in ITU-R SM-2153-2 are not subject to this Agreement.

1.3 Frequency categories

1.3.1 Frequencies requiring co-ordination
Frequencies which Administrations are required to co-ordinate with the other Administrations affected (see 1.6) before a station is put into service.

1.3.2 Preferential frequencies
Frequencies which the Administrations concerned may assign, without prior co-ordination, on the basis of bi- or multilateral agreements under the terms laid down therein.

1.3.3 Shared frequencies
Frequencies which may be shared without prior co-ordination, on the basis of bi- or multilateral agreements under the terms laid down therein.

1.3.4 Frequencies for planned radio communication networks
Frequencies which the Administrations must co-ordinate with a view to the subsequent introduction of coherent radio communication networks, where the number of locations multiplied by the number of frequencies exceeds 36.

1.3.5 Frequencies used on the basis of geographical network plans
Frequencies used for the Land Mobile Service, in the countries concerned on the basis of a geographical network plan prepared and adopted in advance, taking into account the technical characteristics set out in that plan.

1.3.6 Frequencies using preferential codes
Frequencies which the Administrations concerned may assign, without prior co-ordination, on the basis of bi- or multilateral agreements under the terms laid down therein.

1.3.7 Frequencies used on the basis of arrangements between operators
Frequencies laid down in arrangements between operators may be used without prior co-ordination; on the condition that there is an existing agreement signed by the Administrations concerned authorising such arrangements. These arrangements between operators may also include the use of the codes.

A copy of each bi- or multilateral agreement mentioned in Sections 1.3.2, 1.3.3, 1.3.6 and 1.3.7, if not confidential, should be sent in electronic form to the Managing Administration which will inform all other Administrations by placing it on the server.

1.4 Frequency Register

The Frequency Register shall be made up of lists set out by every Administration, in line with this Agreement indicating its co-ordinated frequencies, its assigned preferential frequencies, its shared frequencies, its frequencies co-ordinated for planned radio communication networks, and its frequencies used on the basis of geographical network plans and frequencies using preferential codes. A list of the details to be included in the Frequency Register is given in Annex 2A and Annex 2B. All frequency assignments in this register shall be protected according to their status of co-ordination. There are as many lists as affected countries.

1.5 Harmful interference

Harmful interference shall be construed as any emission which causes serious degradation in the quality of the traffic of a radio communication service, or repeatedly disrupts or interrupts that service by exceeding the maximum permissible interference field strength specified for the Land Mobile Service in Annex 1 or in the case of the Fixed Service exceeding the maximum permissible threshold degradation in Annex 9.

1.6 Administration affected

Any Administration whose station could suffer from harmful interference as a result of the planned use of a frequency, or whose station could cause harmful interference to a planned receiving station of the requesting Administration.

1.6A Managing Administration

Administration who signed the HCM4A Agreement, and on a voluntary basis hosts the main server, manages hardware, software and human resources in keeping with the implementation of the Agreement. That Administration bears the related costs of managing the system

1.7 HCM4A Programs

1.7.1 The HCM4A (Harmonised Calculation Method for Africa) Programs are programs developed for the harmonised application of the calculation methods as provided in the Annexes of this Agreement.

Each 'HCMA Program' means the source code, the DLL, the test program (*.EXE) and the program documentation.

In computer programming, source code is a text file version of a computer program or software that contains instructions that the computer follows to do something. Source code is written in a programming language which a user can read and change. A large program may contain many different source code files that all work together. This translates the code into assembly language or machine language (binary code) which is much faster and easier for the computer to read.

The DLL (Dynamic Link Library) is a collection of small programs, which can be called upon when needed by the executable application software program (EXE) that is running. But DLL do not belong to executable program.

Every Administration is free to use the source code, the DLL, or the test program. In case of dispute, the test program will be used as a reference.

The managing Administration is responsible for the maintenance and registration of the HCM4A server.

A Technical Working Group (WG-HCM4A) created by the Administrations is composed by three Sub-Working Groups:

- The Sub Working Group for Mobile Land Service (SWG-LMS) is in charge of administrative and technical matters relating to Land Mobile Service [01(one) person at least per Administration].
- The Sub Working Group for Fixed Service is in charge of matters relating to Fixed Service (SWG-FS) [01(one) person at least per Administration].
- The sub Working Group Program (SWG-Program) is responsible of setting up adapted HCM4A programs to african needs for the Mobile Land Service and Fixed Service[01(one) person at least per Administration].

1.7.1 A new version of a HCM4A program has to be implemented by all Administrations at the same point in time to avoid keeping different versions for different neighbouring countries. Because the HCM4A software is only a subroutine, this subroutine has to be implemented in national surrounding programs. The following procedure is set up:

The Managing Administration announces new HCM4A program versions and the exact date of the implementation of them. The new HCM4A program is put on the data server of this Agreement for download. The version history is updated.

If an error is reported, SWG-Program will correct this error and provide a new program version if this group decides this is necessary.

The implementation phase is one month.

1.7.1.2 If modifications are done to the interface to the surrounding program (modifications of the surrounding program are required), a grace period of one year after the official announcement of the new version is granted.

1.7.2 For the harmonized application of the calculation method laid down in the Annexes to this Agreement new versions of the HCM4A programs will be developed.

1.8 HCM4A Agreement

"HCM4A Agreement" is the name used to designate the Agreement between the countries of sub Saharan Africa listed in 1.1, regarding the co-ordination of frequencies between 29.7 MHz and 39.5 GHz for the Fixed Service and the Land Mobile Service in accordance with Article 6 of the ITU Radio Regulations.

This Agreement deals with the co-ordination of frequencies between 29.7 MHz and 39.5 GHz, for the purposes of preventing mutual harmful interference to the Fixed Service and the Land Mobile Service and optimising the use of the frequency spectrum.

The HCM4A Agreement provides for detailed administrative procedures concerning frequency co-ordination and also includes technical provisions. The purpose of this Agreement is to predict possible interferences among different services and provide proper protection for existing networks, stations, and links or for future services

ARTICLE 2

2 General

2.1 This Agreement shall in no way affect the rights and obligations of the Administrations arising from the Constitution and Convention of the International Telecommunication Union (ITU), the administrative Regulations and Agreements concluded within the framework of the ITU as well as other pertinent inter-governmental agreements.

2.2 Administrations shall assign frequencies exclusively in accordance with the provisions of this Agreement. If co-ordination is required, it shall be done prior to the putting into operation of the radio station affected.

2.3 If necessary, the Administrations may agree on provisions that are different from or supplementary to the provisions of this Agreement, which, however, must not adversely affect Administrations that are not concerned.

2.4 The Fixed and Land Mobile Services which do not come under the responsibility of the Administrations or which usage is restricted for national defence purposes or for which information is not available due to security reasons shall not be governed by the provisions of this Agreement unless otherwise provided for.

2.5 In the case of the Land Mobile Service the effective radiated power and the effective antenna height of stations shall be chosen so that their range is confined to the area to be covered. Excessive antenna heights and transmitter outputs shall be avoided by using several locations and low effective antenna heights. Directional antennas shall be used in order to minimise the potential of interference to the Administrations affected. The maximum cross-border ranges of harmful interference for frequencies requiring co-ordination are given in Annex 1.

2.6 The effective radiated power and the antenna height of stations in the Fixed Service shall be chosen according to the radio links lengths and the required quality of service. Excessive antenna heights, excessive transmitter outputs and directionnel antennas shall be used in order to minimise the potential of interference to the Administrations affected.

ARTICLE 3

3 Technical provisions

The request for co-ordination of a station and the evaluation of this request shall be made in accordance with the following technical provisions:

3.1 In case of the Land Mobile Service the maximum permissible interference field strength is given in Annex 1.

In case of the Fixed Service, the maximum permissible threshold degradation is given in Annex 9.

3.2 Where in the case of the Land Mobile Service the nominal frequencies are different, the permissible interference field strength shall be increased as indicated in Annex 3A.

Where in the case of the Fixed Service the frequencies and/or the channel bandwidths are different, the interference level at the receiver input shall be decreased according to Annex 9 by the Masks Discrimination (MD) and the Net Filter Discrimination (NFD) as given in Annex 3B.

3.3 The interference field strength shall be determined in the case of the Land Mobile Service in accordance with Annex 5.

In the case of the Fixed Service, the threshold degradation shall be determined using Annex 9 where the basic transmission loss is calculated in accordance with Annex 10.

3.4 Administrations may agree to apply parameters other than the set values.

ARTICLE 4

4 Procedures

4.1 Frequencies requiring co-ordination

In the case of the Land Mobile Service a transmitting frequency shall be co-ordinated if the transmitter produces field strength, at the border of the country of the Administration affected, which, at a height of 10 m above ground level, exceeds the maximum permissible interference field strength as defined in Annex 1. A receiving frequency shall be co-ordinated if the receiver requires protection.

It is strongly recommended to co-ordinate radio-relay links in the Fixed Service if the shortest distance from the border of at least one station is less or equal to the one defined in Annex 11. All stations which may cause harmful interference to stations in other countries or need protection shall be co-ordinated regardless of the distance.

4.1.1 Any Administration wishing to take into operation a station shall circulate a request for co-ordination to all Administrations affected for their comment. This request shall include the characteristics in accordance with Annex 2A and Annex 2B.

4.1.2 If, for the purpose of technically evaluating this request, the Administration affected requires information that is lacking or needs to be supplemented in accordance with Annex 2A and Annex 2B, it shall ask for this information within 30 days upon receipt of the request for co-ordination. After this request, complete information concerning a request for co-ordination shall be sent by the requesting administration within 30 days, otherwise the coordination request shall be deemed null and void.

4.1.3 Having received complete information concerning a request for co-ordination, the Administration affected shall evaluate this information in accordance with the provisions of this Agreement. It shall notify the requesting Administration of the outcome within 45 days.

4.1.4 If the Administration which initiated the co-ordination procedure does not receive a reply within 45 days, it must send a reminder. The Administrations affected shall respond to this reminder with the outcome within 20 days.

4.1.5 If the Administration affected again fails to respond within the period fixed under Section 4.1.4, it shall be deemed to have given its consent, and the station shall be considered co-ordinated.

4.1.6 The periods specified under Sections 4.1.3 and 4.1.4 may be changed by mutual consent.

4.1.7 Any co-ordinated frequency assignment shall be notified to the Administrations affected as soon as the corresponding station is put into operation but not later than 180 days upon approval. Following such notification of the assignment, this assignment shall be included in the Frequency Register.

If no notification of assignment is given within 180 days, the Administration affected shall send a reminder to the Administration that has asked for co-ordination. If no notification of assignment is given within another 30 days, the request for co-ordination shall be deemed null and void.

No notification shall be required if the frequency registers are exchanged semi-annually in accordance with Section 4.9.1.

4.1.8 The Administration wishing to change the technical characteristics of stations registered in the Frequency Register, shall notify the Administrations affected of its intentions. Co-ordination shall be required if this change causes the probability of interference to increase in the affected country. If the situation remains unchanged with regard to interference or if it improves, the Administrations affected shall only be informed of such a change. The entry in the Frequency Register shall be corrected accordingly.

4.1.9 In special cases, the Administrations may assign frequencies for temporary use (up to 45 days) without co-ordination provided this does not cause harmful interference to co-ordinated stations. As soon as possible, the Administration affected shall be notified of the planned taking into operation. Such stations shall immediately be taken out of operation if they cause harmful interference to co-ordinated stations of the affected country. These assignments shall be made on preferential frequencies as far as possible.

4.1.10 If an assignment is no longer in force, the competent Administration shall notify the affected Administration within three months and the entry in the Frequency Register has to be deleted.

4.2 Preferential frequencies

4.2.1 Frequencies in the frequency bands specified in Section 1.2 may be defined by prior bi- or multilateral agreements concluded in the framework of this agreement as preferential frequencies for given Administrations.

4.2.2 The Administration which has been granted a preferential right may put stations operating on preferential frequencies within the terms of the relevant bi- or multilateral agreements into use without prior co-ordination.
If the conditions for the protection of the receiver in the mobile service are not defined in bi- or multilateral agreements, section 2.2 of Annex 1 will apply.

4.2.3 Mutually agreed preferential frequencies granted to an Administration shall have priority rights over assignments made to other Administrations concerned.

4.2.4 The entry into service of stations using preferential frequencies shall be notified to the Administrations affected, unless otherwise laid down in bi- or multilateral agreements. The notification shall include the characteristics as set out in Annex 2A and Annex 2B. These frequencies and their technical characteristics shall be entered with status “P” into the Frequency Register. No response to such a notification is required.

4.2.5 Preferential frequencies to be assigned on conditions other than those agreed in bi-or multilateral agreements mentioned in Section 1.3.2 shall be co-ordinated in accordance with Section 4.1.

4.2.6 Following a positive co-ordination procedure in accordance with Section 4.1, Administrations may bring into use another Administration's preferential frequencies. These shall have the same rights as frequencies co-ordinated in accordance with Section 4.1.

4.2.7 If the existing radio networks of one Administration cause harmful interference to the stations operated by another Administration on frequencies to which it has a preferential right, or if, in particular cases, frequency assignments not enjoying preferential rights have to be adjusted, the Administrations concerned shall determine the transition period by mutual consent.

4.3 Frequencies for planned radio communication networks

4.3.1 Prior to the co-ordination of a planned radio communication network the Administrations may embark on a consultative procedure in order to facilitate the taking into operation of this new network. The request for consultation shall include the planning criteria as well as the following data:

- planned frequencies (transmitting and receiving frequency of the station);
- coverage area of the entire radio communication network;
- class of the station;
- the coverage area of a station;
- effective radiated power;
- maximum effective antenna height;
- designation of the emission;
- network development plan;
- antenna characteristics for stations belonging to the network.

The Administration affected shall acknowledge receipt of the request for consultation and communicate its reply within 60 days.

In complicated planning issues this consultation may require a bi- or multilateral consultation meeting in order to assist the Administration planning a radio communication network in coming to a quicker solution.

4.3.2 To co-ordinate frequencies for a planned radio communication network the Administration affected shall apply, no sooner than three years prior to the planned taking into operation of the network, the procedure described in Section 4.1 together with the following changes:

4.3.2.1 The receipt of the request for co-ordination shall be acknowledged.

4.3.2.2 If there is no prior consultation the Administration affected shall submit its reply within 180 days from the day of the receipt of the request for co-ordination. Any request for co-ordination following a consultation process shall be responded to within 120 days.

4.3.2.3 The Administration requesting co-ordination shall notify to the Administration affected the date at which the radio communication network will be taken into operation.

4.3.3 Stations forming part of the radio communication network shall be entered into the Frequency Register together with the date of the termination of the co-ordination procedure, and enjoy the same rights as the stations co-ordinated in accordance with Section 4.1.

4.3.4 Co-ordination shall be null and void for those co-ordinated stations which have not been taken into operation within 30 months of the termination of the co-ordination procedure.

4.4 Frequencies used on the basis of geographical network plans

4.4.1 Geographical network plans covering certain parts of the frequency bands indicated in Section 1.2 may be prepared and co-ordinated, divergence from the defined parameters being permissible, subject to prior agreement reached between the Administrations affected. These frequencies shall be entered in the Frequency Register. On the basis of the geographical network plans adjusted in this fashion, an Administration shall be authorised to put stations into service without prior co-ordination with the Administration with which the plan has been agreed by mutual consent.

4.4.2 Frequencies used on the basis of geographical network plans and intended to be assigned on conditions other than those agreed between Administrations concerned, shall be co-ordinated in accordance with Section 4.1.

4.5 Frequencies using preferential codes

4.5.1 Preferential code groups or preferential code group blocks may be agreed between Administrations concerned where centre frequencies are aligned.

4.5.2 The Administration which has been granted a preferential right may put stations operating on preferential code groups or preferential code group blocks within the terms of the relevant bi- or multilateral agreements into use without prior co-ordination.

4.5.3 Preferential code groups or preferential code group blocks granted to an Administration shall have priority rights over assignments made to other Administrations concerned.

4.5.4 The entry into service of stations using preferential code groups or preferential code group blocks shall be notified to the Administrations affected, including the characteristics as set out in Annex 2A, unless otherwise laid down in bi- or multilateral agreements. These frequencies and their technical characteristics shall be entered with status “P” in the Frequency Register. No response to such notification is required.

4.5.5 Frequencies using preferential code groups or preferential code group blocks which have to be assigned on conditions other than those agreed in bi-or multilateral agreements mentioned in Section 1.3.6 shall be co-ordinated in accordance with Section 4.1.

4.5.6 Following a positive co-ordination procedure in accordance with Section 4.1, Administrations may bring into use frequencies using another Administration's preferential code groups or preferential code group blocks. These shall have the same rights as frequencies co-ordinated in accordance with Section 4.1.

4.5.7 If the existing radio networks of one Administration cause harmful interference to the stations operated by another Administration on frequencies using preferential code groups or preferential code group blocks, or if, in particular cases, frequency assignments not enjoying preferential code groups rights or preferential code group blocks rights, have to be adjusted, the Administrations concerned shall determine the transition period by mutual consent.

4.6 Frequencies used on the basis of arrangements between operators

4.6.1 Operators in neighbouring countries are allowed to conclude mutual arrangements on the condition that the Administrations concerned have signed an agreement authorizing such arrangements.

4.6.2 Such arrangements shall be the subject of agreements submitted to the preliminary validation of concerned Administrations.

4.6.3 Arrangements between operators may deviate from the technical parameters or other conditions laid down in the annexes of this Agreement or in relevant bi- or multilateral agreements between the Administrations concerned.

4.7 Evaluation of requests for co-ordination

4.7.1 In evaluating the requests for co-ordination, the Administration affected shall take into account the following frequencies:

– frequencies entered in the Frequency Register;

– frequencies used on the basis of bi- or multilateral agreements;
– frequencies awaiting an answer to a co-ordination request (in chronological order of requests).

4.7.2 A request for co-ordination of a transmitting frequency in the Land Mobile Service may only be rejected if the respective station:

4.7.2.1 produces an interference field strength exceeding the maximum permissible value as given in Annex 1 at a station entered in the Frequency Register or

4.7.2.2 intends to use a frequency without meeting the conditions agreed upon bi- or multilaterally or

4.7.2.3 produces an interference field strength exceeding the maximum permissible value as given in Annex 1 in the case of a station awaiting an answer to a co-ordination request or

4.7.2.4 does not meet the conditions governing the maximum cross-border ranges of harmful interference as given in Annex 1.

4.7.3 Within the Land Mobile Service the request for protection of a receiver may only be rejected if

4.7.3.1 at least one of the co-ordinated transmitters of the Administration affected produces at the respective receiver an interference field strength which is higher than the maximum permissible interference field strength given in Annex 1 or

4.7.3.2 the protection of the receiver would restrict the use of a preferential frequency of the Administration affected under the conditions agreed upon bi- or multilaterally or

4.7.3.3 one of the transmitters awaiting an answer to a co-ordination request of the Administration affected produces at the respective receiver an interference field strength which is higher than the maximum permissible interference field strength given in Annex 1 or

4.7.3.4 the conditions governing the cross-border ranges of harmful interference as given in Annex 1 are not met.

4.7.4 A request for co-ordination of a transmitter frequency in the Fixed Service may only be rejected if the respective station:

4.7.4.1 produces a threshold degradation exceeding the maximum permissible value given in Annex 9 at a station entered in the Frequency Register or

4.7.4.2 is intended for using a frequency without meeting the conditions agreed upon bi- or multilaterally or

4.7.4.3 produces a threshold degradation exceeding the maximum permissible value given in Annex 9 in the case of a station awaiting an answer to a co-ordination request.

4.7.5 Within the Fixed Service, the protection of a receiver may only be rejected if:

4.7.5.1 the request for co-ordination for the associated transmitter has been refused,

4.7.5.2 the protection of the receiver would restrict the use of a preferential frequency of the Administration affected under the conditions agreed upon bi- or multilaterally in accordance with Section 1.3.2.

4.7.6 If protection from interference cannot be guaranteed, a request for co-ordination must be accepted with "G" (Appendix 9 to Annex 2A and Annex 2B).

4.7.7 In case a request for co-ordination is rejected or a conditional reply is given to such a request, the reasons shall be given for this, indicating, if appropriate, either the radio station to be protected or the radio station which could cause harmful interference to the planned radio station.

4.7.8 An Administration making reference to Section 2.4 of this Agreement may only respond to a request for co-ordination by indicating "C" or "G" in accordance with Appendix 9 to Annex 2A and Annex 2B. No reason needs to be given for "G" in accordance with Section 4.7.7; reference to Section 2.4 shall be sufficient.

4.8 Evaluation in connection with tests

In order to make more efficient use of the radio spectrum, to avoid possible harmful interference and facilitate the enhancement of existing networks, the following procedure may be used:

4.8.1 If the Administrations affected arrive at different results in their evaluations of the interference situation, or if the request for co-ordination currently being processed justifies a trial basis, they shall agree to open the service on a trial basis. Stations falling into the above cases shall be given a temporary status “D” in accordance with Appendix 9 to Annex 2A and Annex 2B, until final status can be accomplished.

4.8.2 The provisions on measurement procedures are given in Annex 7.

4.8.3 On completion of the tests a final decision shall be communicated to the requesting Administration within 30 days, indicating the measured values of the interference field strength.

4.9 Exchange of Lists

4.9.1 Each Administration shall prepare an up-to-date Frequency Register in accordance with Section 1.4. The List corresponding to each affected Administration contained in the Frequency Register shall be exchanged bilaterally at least once every six months.

4.9.2 The Administrations shall undertake to use the data appearing in the Lists of other Administrations for service purposes only. These Lists may not be communicated to other Administrations or other third parties without the consent of the Administration affected.

ARTICLE 5

5 Report of harmful interference

Any harmful interference which is observed shall be reported to the Administration of the country in which the interfering station is located, in accordance with Annex 7. If harmful interference occurs on frequencies entered in the Frequency Register, the Administrations concerned shall endeavour to achieve a mutually satisfactory solution as soon as possible.

ARTICLE 6

6 Revision of this Agreement

6.1 This Agreement may be expanded or amended at any time at the initiative of any Administration, subject to approval by the two thirds of other signatory Administrations.

Planned amendments shall be communicated to the Managing Administration, which shall undertake to obtain the assent of the other Administrations through the appropriate channels. If assent is sought by correspondence, a reply shall be requested within one month. If any Administration fails to respond within this period, the Managing Administration will send a reminder, to which the Administration shall reply within one month. If this Administration again fails to respond, it shall be deemed to have given its consent.

6.2 Amendment relating to technical parameters of the software shall be adopted on consensus by the Technical Working Group and communicated as a revision of the associated Annex to all the Administrations. In the event consensus is not reached, the amendment shall comply with the 6.1 procedure.

ARTICLE 7

7 Accession to this Agreement

Any African administration which needs to co-ordinate with at least one signatory Administration may accede to this Agreement. A declaration to that effect shall be addressed to the Managing Administration. The accession shall take effect the day on which the requesting administration signs this Agreement.

ARTICLE 8

8 Withdrawal from this Agreement

Any Administration may withdraw from the Agreement by the end of a calendar month by giving notice of its intention at least six months before. A declaration to that effect shall be addressed to the Managing Administration.

ARTICLE 9

9 Status of co-ordinations prior to this Agreement

The new provisions shall not apply to frequency utilisations already agreed between Administrations prior to this Agreement being concluded. These frequencies shall be recorded in the Frequency Register.

In the case of the Fixed Service, information on frequency utilisation before [01.01.2013] within the co-ordination distances as defined in Annex 11 should be exchanged between the Administrations concerned. This frequency utilisation will be concluded as co-ordinated and shall be recorded in the Frequency Register.

ARTICLE 10

10 Languages of this Agreement

This Agreement exists in the English and French languages and should be translated into other Official African Languages; in the event of a dispute the French version shall be used.

ARTICLE 11

11 Entry into force of this Agreement

This Agreement shall enter into force [1st Jan 2013].

ANNEXES

Part A

Annexes related to the Land Mobile Service

Annex 1: Maximum permissible interference field strengths and maximum cross-border ranges of harmful interference for frequencies requiring co-ordination in the Land Mobile Service

Annex 2A: Data exchange in the Land Mobile Service

Annex 3A: Determination of the correction factor for the permissible interference field strength at different nominal frequencies in the Land Mobile Service

Annex 4: Propagation curves in the Land Mobile Service

Annex 5: Determination of the interference field strength in the Land Mobile Service

Annex 6: Coding instructions for antenna diagrams in the Land Mobile Service

Annex 7: Provisions on measurement procedures in the Fixed Service and the Land Mobile Service

Annex 8A: Method for combining the horizontal and vertical antenna patterns for the Land Mobile Service

Part B

Annexes related to the Fixed Service

Annex 2B: Data exchange in the Fixed Service

Annex 3B: Determination of the Masks Discrimination and the Net Filter Discrimination in the Fixed Service

Annex 7: Provisions on measurement procedures in the Fixed Service and the Land Mobile Service

Annex 8B: Method for combining the horizontal and vertical antenna patterns for the Fixed Service

Annex 9: Threshold Degradation in the Fixed Service

Annex 10: Determination of the basic transmission loss in the Fixed Service

Annex 11: Trigger for co-ordination in the Fixed Service

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