

Technical & Regulatory Examination of Coordination Requests

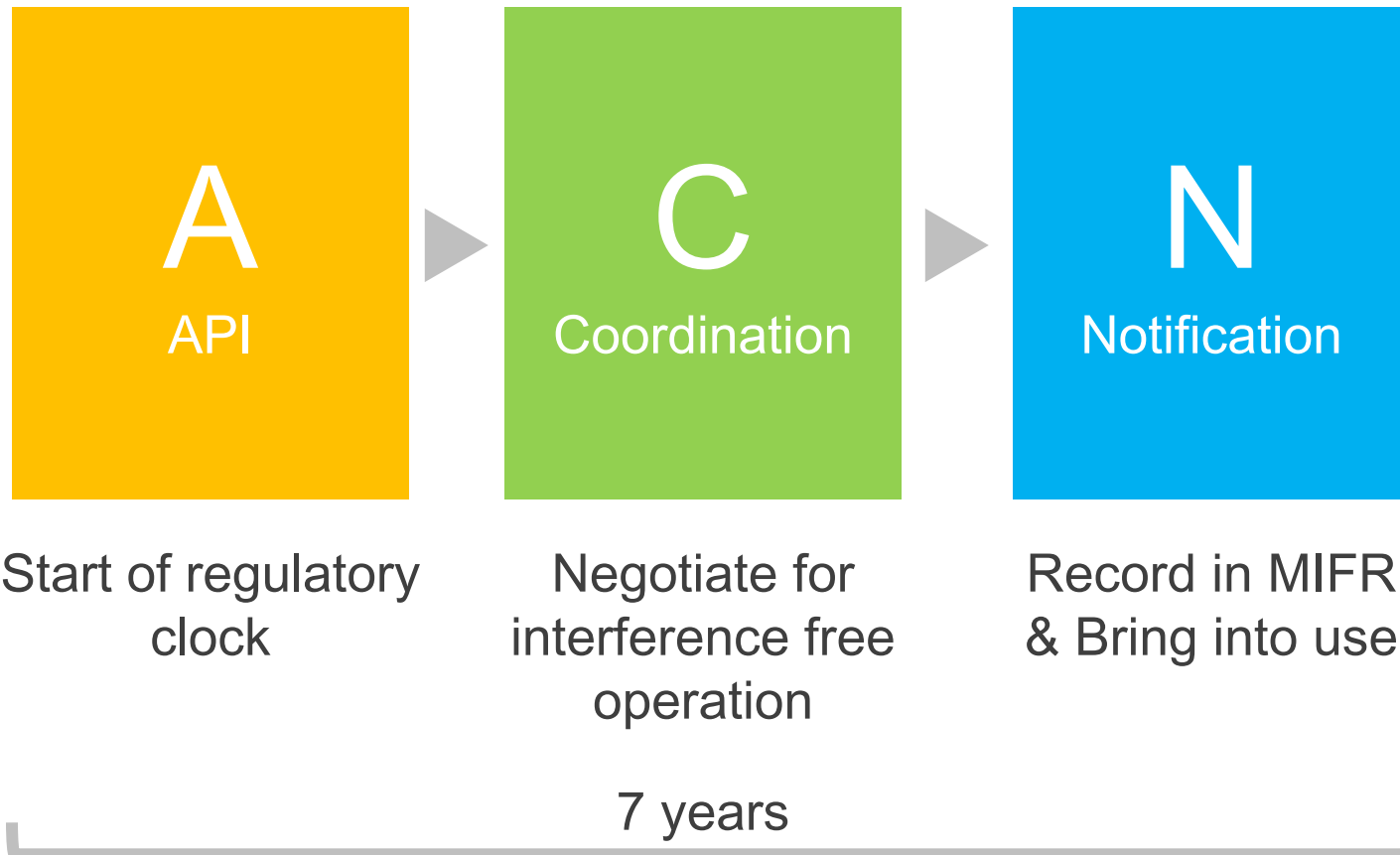
Danny Tham

Space Services Department

danny.tham@itu.int



Non Planned Space Services (Articles 9 & 11)



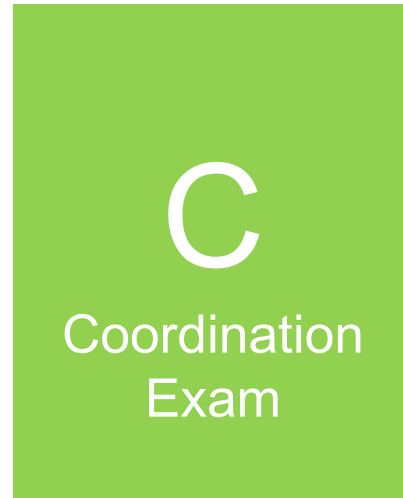
Input: Appendix 4 format data



BR: Validate/Check/Process



Conformity with
Radio Regulations
(No. 9.35 of RR)



Coordination
Requirements
(No. 9.36 of RR)



“BRIFIC, SNS online
and SNL online”
Space Workshop



Output: CR/C Publication
in BR IFIC DVD





Output: CR/C Publication
in BR IFIC DVD



UNION INTERNATIONALE DES TÉLÉCOMMUNICATIONS
BUREAU DES RADIOCOMMUNICATIONS

INTERNATIONAL TELECOMMUNICATION UNION
RADIOCOMMUNICATION BUREAU

UNIÓN INTERNACIONAL DE TELECOMUNICACIONES
OFICINA DE RADIOCOMUNICACIONES

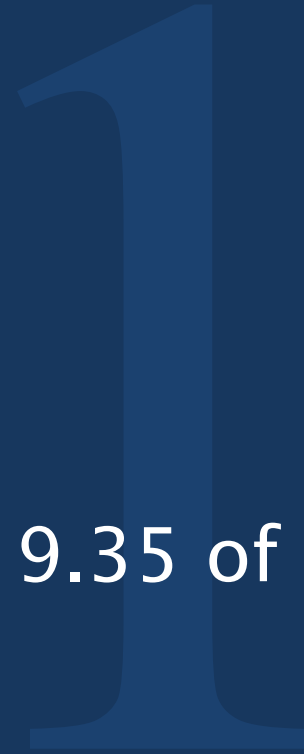
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RÉSEAU À SATELLITE SATELLITE NETWORK RED DE SATELITE		UKMMSAT-A3		SECTION SPÉCIALE N° SPECIAL SECTION No. SECCIÓN ESPECIAL N.º	CR/C/3186
STATION TERRIENNE EARTH STATION ESTACIÓN TERRENA		---		BR IFIC / DATE BR IFIC / DATE BR IFIC / FECHA	2732 / 13.11.2012
ADM. RESPONSABLE RESPONSIBLE ADM. ADM. RESPONSABLE	G	LONGITUDE NOMINALE NOMINAL LONGITUDE LONGITUD NOMINAL	33.5 W	NUMÉRO D'IDENTIFICATION IDENTIFICATION NUMBER NUMERO DE IDENTIFICACIÓN	112520178
RENSEIGNEMENTS REÇUS PAR LE BUREAU LE / INFORMATION RECEIVED BY THE BUREAU ON / INFORMACIÓN RECIBIDA POR LA OFICINA EL					09.05.2012
Cette demande de coordination, reçue par le Bureau des radiocommunications en vertu du numéro 9.30 du Règlement des radiocommunications, a été examinée au titre des numéros 9.35 et 9.36 et est publiée conformément au numéro 9.38. Elle est subordonnée au type de coordination indiqué dans la colonne de gauche par un X dans la case pertinente.		This request for coordination, received by the Radiocommunication Bureau pursuant to No. 9.30 of the Radio Regulations, has been examined under Nos. 9.35 and 9.36 and is published in accordance with No. 9.38. It is subject to the form of coordination indicated in the left-hand column by an X in the relevant box		Esta solicitud de coordinación, recibida por la Oficina de Radiocomunicaciones de conformidad con el punto N° 9.30 del Reglamento de Radiocomunicaciones, se ha examinado de conformidad con los N° 9.35 y 9.36 y se publica de conformidad con el N° 9.38. Está sujeta al formulario de coordinación indicado en la columna de la izquierda con una X en la casilla correspondiente.	
Type de coordination mentionné dans le Tableau I / Form of coordination referred to in Table I / Forma de coordinación mencionada en el cuadro I					
<input checked="" type="checkbox"/>	9.7	Conformément aux numéros 9.50 à 9.52 du Règlement des radiocommunications, les Administrations identifiées dans le Tableau I ci-après sont priées de communiquer leur décision à l'Administration responsable et au Bureau avant la date limite indiquée ci-dessous.	In accordance with Nos. 9.50-9.52 of the Radio Regulations, the Administrations identified in Table I below are requested to communicate their decision to the Responsible administration and the Bureau by the deadline indicated below.	De conformidad con los N° 9.50-9.52 del Reglamento de Radiocomunicaciones, se solicita a las administraciones señaladas en el cuadro I a continuación que comuniquen su decisión a la administración responsable y a la Oficina antes del plazo indicado más abajo.	
<input type="checkbox"/>	9.7A				
<input type="checkbox"/>	9.7B				
<input checked="" type="checkbox"/>	AP30#7.1				
<input type="checkbox"/>	AP30A#7.1				
<input type="checkbox"/>	RS539				
<input type="checkbox"/>	RS33#3				
Type de coordination mentionné dans le Tableau II / Form of coordination referred to in Table II / Formulario de coordinación remitido al cuadro II					
<input type="checkbox"/>	9.11	Les Administrations, énumérées ou non-énumérées dans le Tableau II ci-après, qui n'acceptent pas la demande de coordination au titre des numéros 9.11 à 9.14, 9.21 et RS33#2.1, sont priées de communiquer leurs observations à l'Administration responsable et au Bureau avant la date limite indiquée ci-dessous. Toute Administration qui ne réagira pas au titre du numéro 9.52 avant cette date limite sera considérée comme n'étant pas défavorablement influencée et, dans les cas couverts par les numéros 9.11 à 9.14 et RS33#2.1, les dispositions des numéros 9.48 et 9.49 s'appliqueront.	Administrations listed or not listed in Table II below, which do not agree to the request for coordination under Nos. 9.11 to 9.14, 9.21 and RS33#2.1 are requested to communicate their comments to the responsible administration and the Bureau by the deadline indicated below. Any administration not responding under No. 9.52 within this deadline shall be regarded as unaffected and, in the cases of Nos. 9.11 to 9.14 and RS33#2.1, the provisions of Nos. 9.48 and 9.49 shall apply.	Se invita a las administraciones, enumeradas o no en el cuadro II, que no estén de acuerdo con la solicitud de coordinación de conformidad con los N° 9.11 a 9.14, 9.21 y RS33#2.1 que comuniquen sus observaciones a la administración responsable y a la Oficina dentro del plazo indicado más abajo. Se considerará que toda administración que no responda de conformidad con el N° 9.52 dentro del plazo señalado, no está afectada y, en el caso de los N° 9.11 a 9.14 y RS33#2.1, se aplicarán las disposiciones de los N° 9.48 y 9.49	
<input type="checkbox"/>	9.11A				
<input type="checkbox"/>	9.12				
<input type="checkbox"/>	9.12A				
<input type="checkbox"/>	9.13				
<input checked="" type="checkbox"/>	9.14				
<input type="checkbox"/>	9.21/A				
<input type="checkbox"/>	9.21/B				
<input type="checkbox"/>	9.21/C				
<input type="checkbox"/>	RS33#2.1				
DATE LIMITE POUR LA DÉCISION / EXPIRY DATE FOR DECISION / FECHA LIMITE PARA LA DECISIÓN					13.03.2013

Output: CR/C Publication
in BR IFIC DVD

Conformity with Radio Regulations

(No. 9.35 of RR)





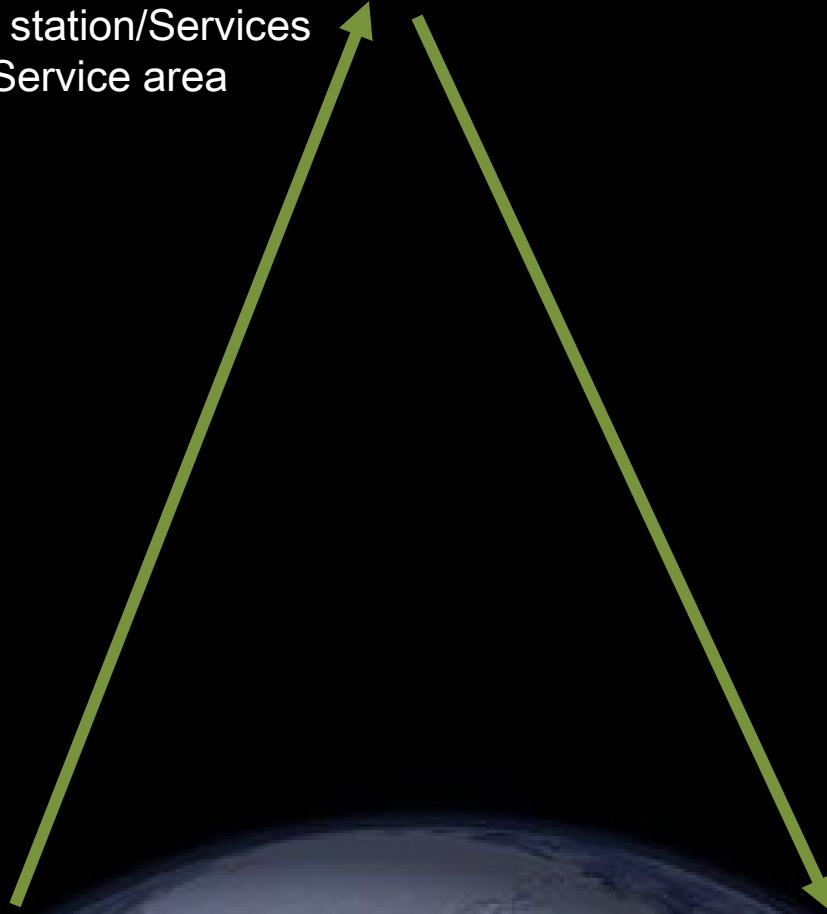
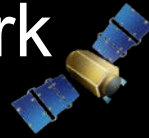
Conformity with Table of
Frequency Allocation &
other provisions (PFD/EIRP
Limits etc.)

Nos. 9.35, 11.31 of RR, RoP11.31

Conformity with RR (No. 9.35 of RR)

Summarize network

Frequency bands
Direction of transmission
Class of station/Services
Beams/Service area



Conformity with RR (No. 9.35 of RR)

Summarize network

- Frequency bands
- Direction of transmission
- Class of station/Services
- Beams/Service area

E/R	Freq	BW	MinFreq	MaxFreq	ClsStn	GU1/A	GU2/A	IC1/A	IKU/A
E	3422	40000	3402	3442	EC			A	
E	3462	40000	3442	3482	EC			A	
E	3502	40000	3482	3522	EC			A	
E	3542	40000	3522	3562	EC			A	
E	3582	40000	3562	3602	EC			A	
E	3622	40000	3602	3642	EC			A	
E	3662	40000	3642	3682	EC			A	
E	3702	40000	3682	3722	EC			A	
E	3742	40000	3722	3762	EC			A	
E	3782	40000	3762	3802	EC			A	
E	3822	40000	3802	3842	EC			A	
E	3862	40000	3842	3882	EC			A	
E	3902	40000	3882	3922	EC			A	
E	3942	40000	3922	3962	EC			A	
E	3982	40000	3962	4002	EC			A	
E	4022	40000	4002	4042	EC			A	
E	4062	40000	4042	4082	EC			A	
E	4102	40000	4082	4122	EC			A	

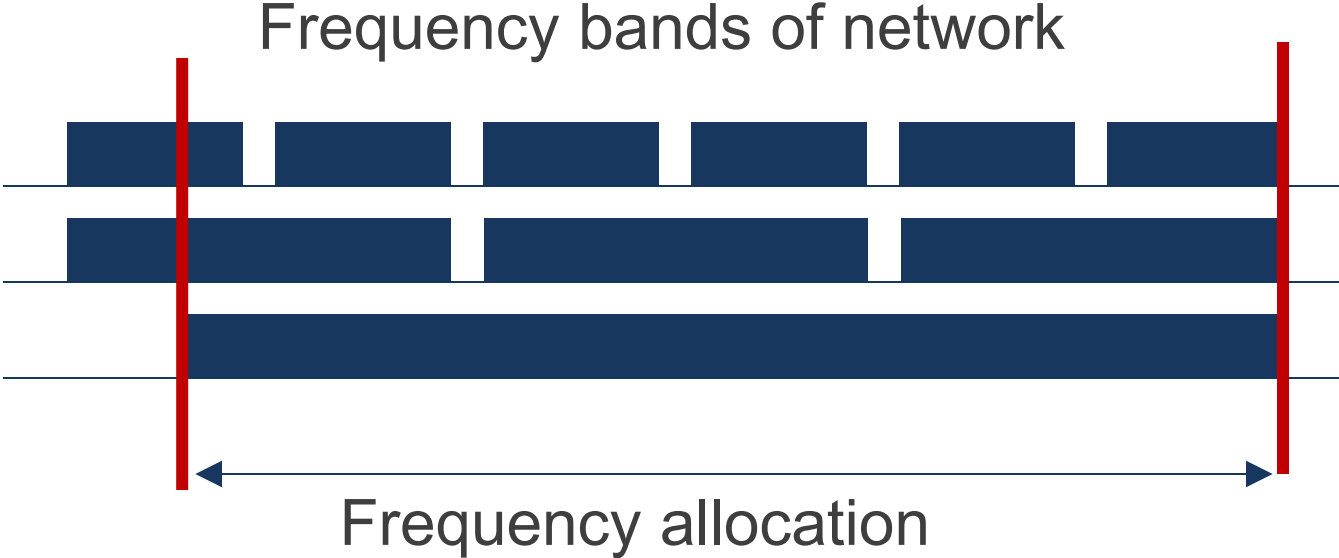
Example: MS Access query on SRS
(com_el, grp, freq, srv_cls tables)

Compare with Table of Frequency Allocation (Article 5 of Radio Regulations)

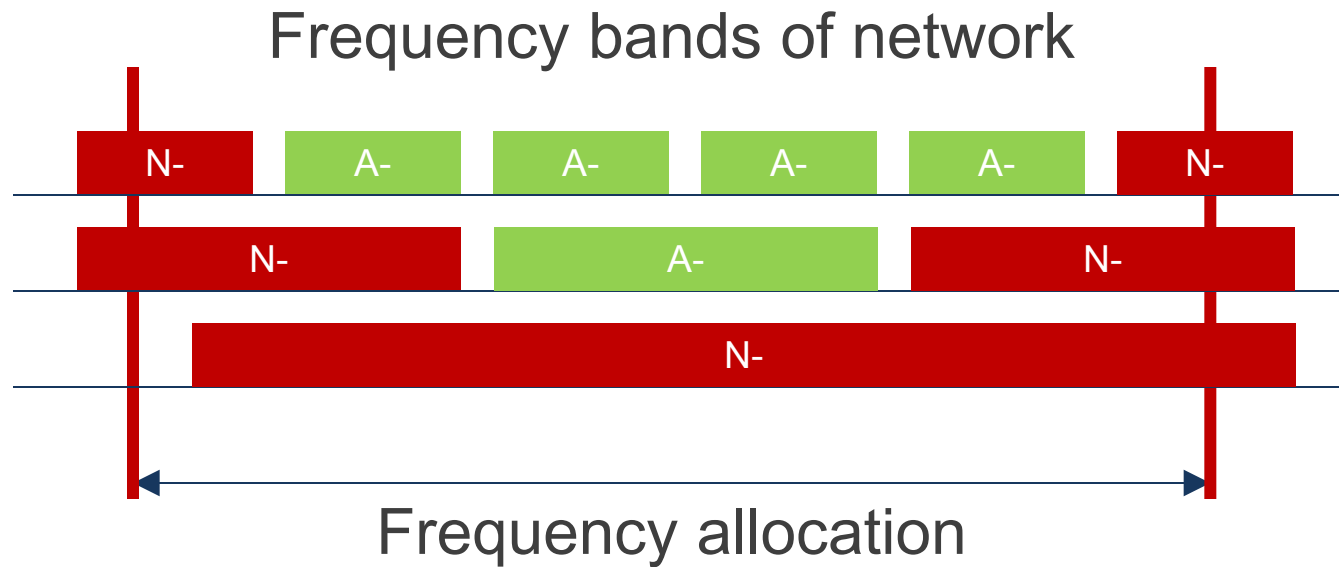
Region 1	Region 2	Region 3
3 400-3 600 FIXED FIXED-SATELLITE (space-to-Earth) Mobile 5.430A Radiolocation	3 400-3 500 FIXED FIXED-SATELLITE (space-to-Earth) Amateur Mobile 5.431A Radiolocation 5.433 5.282	3 400-3 500 FIXED FIXED-SATELLITE (space-to-Earth) Amateur Mobile 5.432B Radiolocation 5.433 5.282 5.432 5.432A
5.431	3 500-3 700 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile Radiolocation 5.433	3 500-3 600 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 5.433A Radiolocation 5.433
3 600-4 200 FIXED FIXED-SATELLITE (space-to-Earth) Mobile	3 700-4 200 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile	3 600-3 700 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile Radiolocation 5.435

Relevant footnotes

Conformity with RR (No. 9.35 of RR)



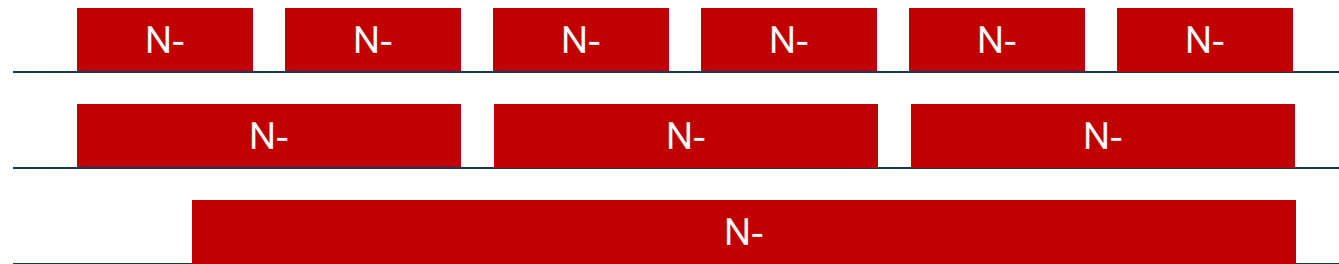
Conformity with RR (No. 9.35 of RR)



**Unfavourable (N-)
if not within allocation**

Conformity with RR (No. 9.35 of RR)

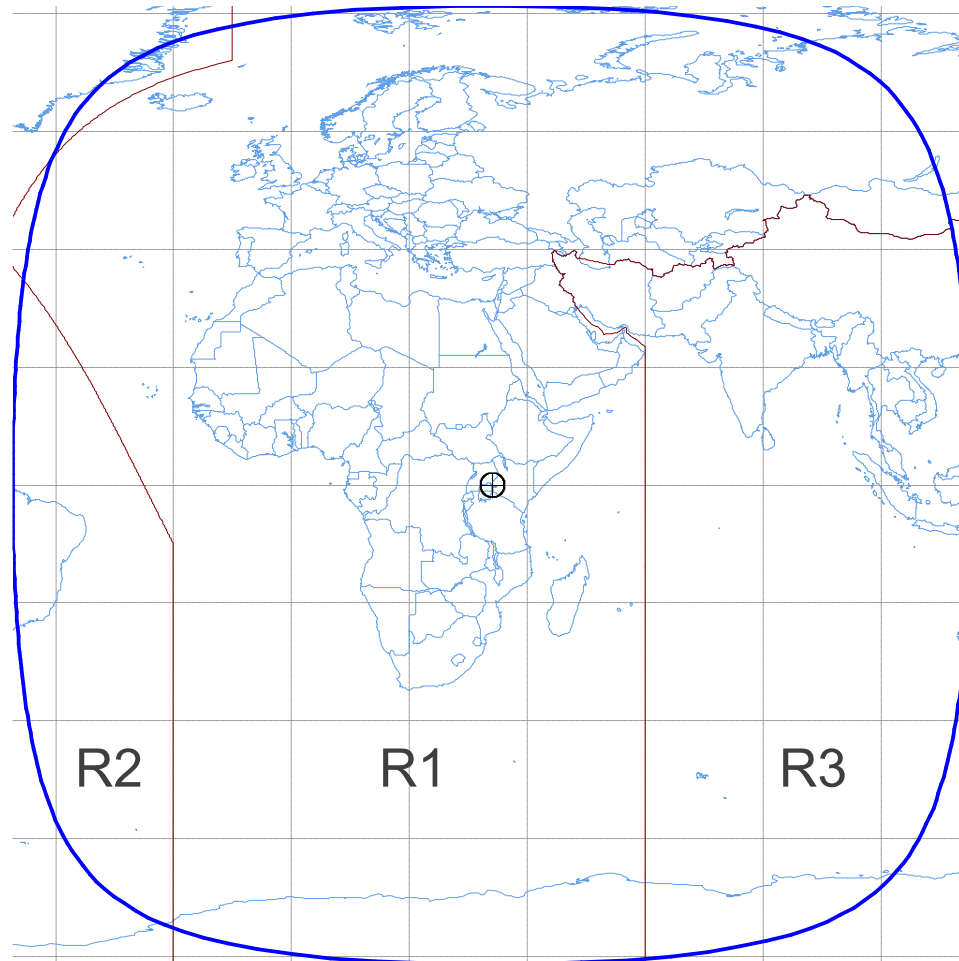
Frequency bands of network



Unfavourable (N-)
if wrong Service or Direction of Transmission

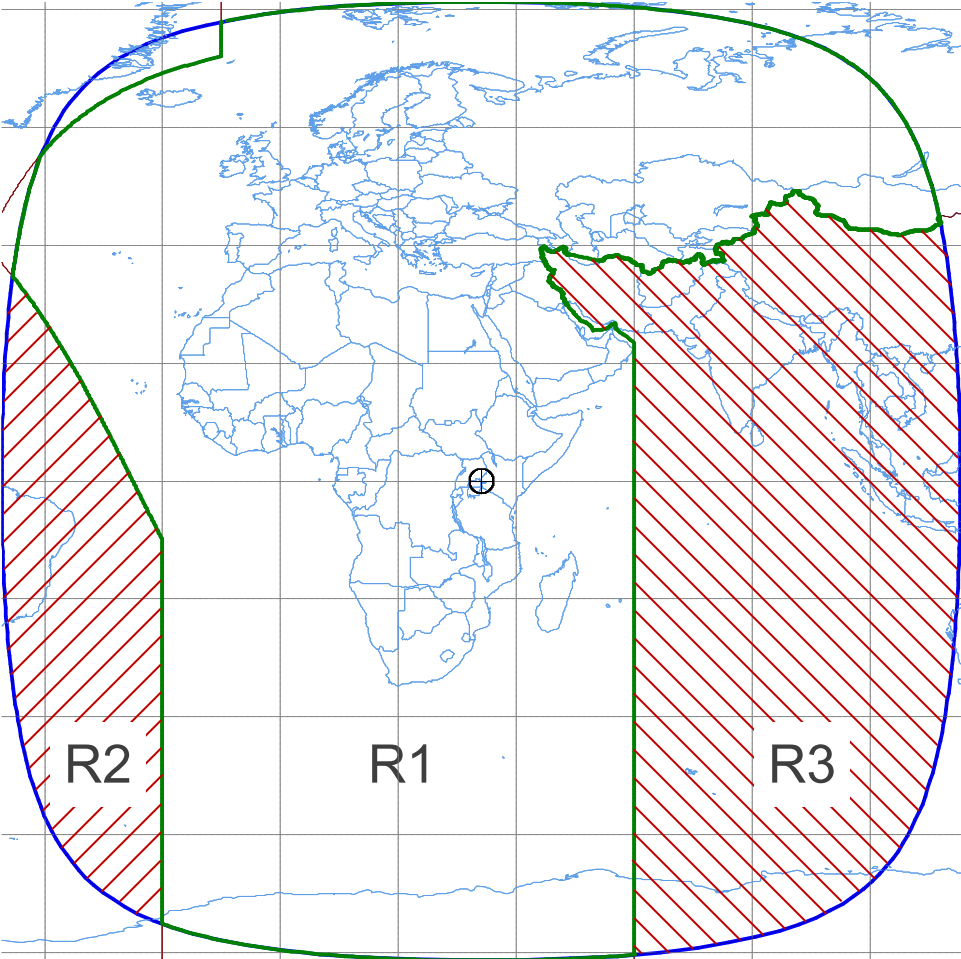
Conformity with RR (No. 9.35 of RR)

Service area of network



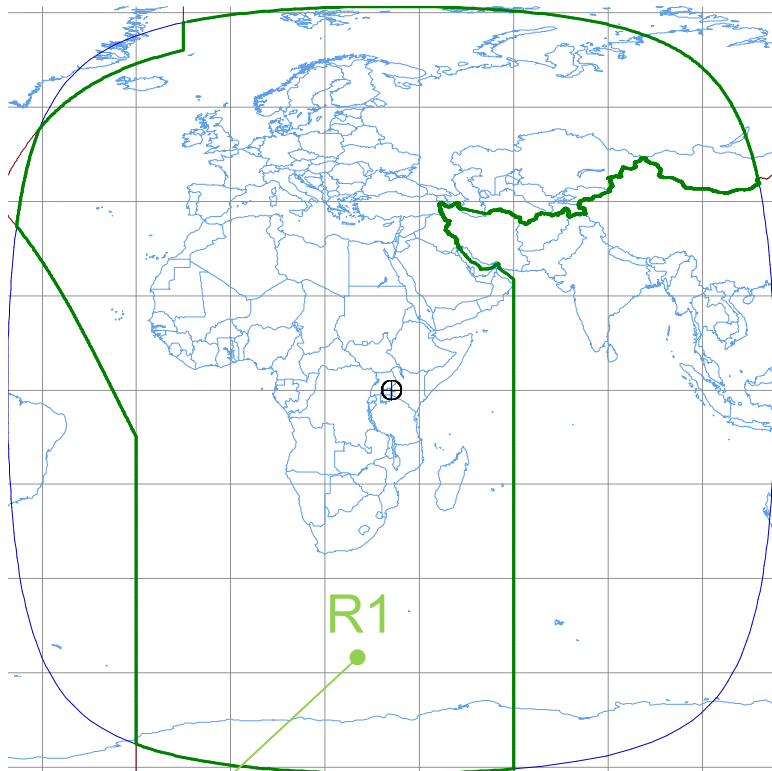
Conformity with RR (No. 9.35 of RR)

If allocation to Region 1 only

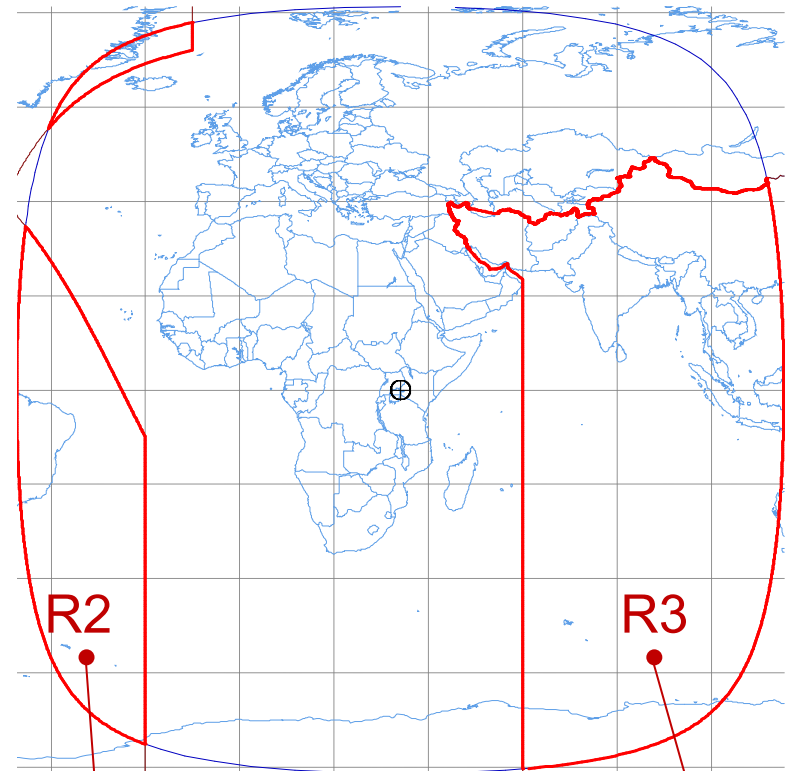


Conformity with RR (No. 9.35 of RR)

Service area is split

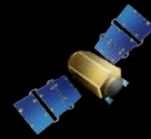


Favourable
(A-)



Unfavourable
(N-)

Conformity with RR (No. 9.35 of RR)



Power-flux density limits (PFD)

Articles 21, 22, footnotes, etc.

$$\text{PFD} = \text{Power Density} + 10\log(\text{Ref. Bandwidth}) + G(\theta) - 10\log(4\pi R^2) \text{ dB(W/m}^2\text{)}$$

Where G = Gain of transmitting space station
R = Distance from satellite to point on Earth's surface

EIRP limits

Articles 21, footnotes, etc.



Conformity with RR (No. 9.35 of RR)

“BRsoft/What is new
on version 7”
Space Workshop

Power-flux density
limits (PFD)



EIRP limits

GIBC Program v7
(Graphical Interface for Batch Calculations)

Conformity with RR (No. 9.35 of RR)

PFD (Terrestrial Services)

Enter Network ID

Select "Hard Limits"

Click Start

GIBC SNS V7 - Graphical Interface for Batch Calculations

Appendix 30 30A EPFD Tools / Options Chaining Manager

PFD Appendix 8 PXT Appendix 7 Appendix 30B

Operator ID: ng Schedule Start

Network ID:

Examination Data

Examination: Hard Limits

Region:

Power Control (dBW): 0 Output Level: Level 1

"Before" Examination

Perform "Before" Comparisons

Previous Networks:

Files Path

C:\BR_TEX_RESULTS\PFDA\

7.0.0.2 Part of TEX 7.0.0.1

EXIT

- FNDG5.LST
- FNDG5.TXT
- MSG.LST
- PARAM2.TXT
- PARAM.TXT
- PFD.LST

PFD.LST

ALL FINDINGS WITH RESPECT TO HARD LIMITS ARE FAVORABLE

PROGRAM SNSBPFED TERMINATED OK

Conformity with RR (No. 9.35 of RR)

PFD.LST

IC1	40.0 DB	POINTING ACC 0.20 DEG	(FIXED)	112.520039	
EC	40000 KHZ	03.07.18			112.646945
3422.00000	M 40000 KHZ	27M5G7W-- 23.8 DBW	-50.6 DBW/HZ		N- 0001
	(5) RR 21.16	FIXED-SATELLITE			REF. BW 0.004MHZ
	ALL WORLD		053E57 37N20 TKM	38.3 -138.7	3.3 -142.0 N-
3422.00000	M 40000 KHZ	64K0G7W-- -2.5 DBW	-50.6 DBW/HZ		N- 0001
	(5) RR 21.16	FIXED-SATELLITE			REF. BW 0.004MHZ
	ALL WORLD		053E57 37N20 TKM	38.3 -138.7	3.3 -142.0 N-
3462.00000	M 40000 KHZ	27M5G7W-- 23.8 DBW	-50.6 DBW/HZ		N- 0002
	(5) RR 21.16	FIXED-SATELLITE			REF. BW 0.004MHZ
	ALL WORLD		053E57 37N20 TKM	38.3 -138.7	3.3 -142.0 N-
3462.00000	M 40000 KHZ	64K0G7W-- -2.5 DBW	-50.6 DBW/HZ		N- 0002
	(5) RR 21.16	FIXED-SATELLITE			REF. BW 0.004MHZ
	ALL WORLD		053E57 37N20 TKM	38.3 -138.7	3.3 -142.0 N-
3502.00000	M 40000 KHZ	27M5G7W-- 23.8 DBW	-50.6 DBW/HZ		N- 0003
	(5) RR 21.16	FIXED-SATELLITE			REF. BW 0.004MHZ
	ALL WORLD		053E57 37N20 TKM	38.3 -138.7	3.3 -142.0 N-

Max Excess

Fixed beams

Steerable beams

Unfavourable (N-)

Split from groups with Favourable assignments

Conformity with RR (No. 9.35 of RR)

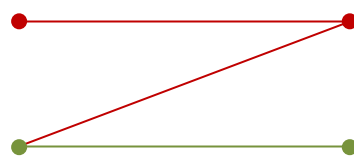
PFD.LST

IC1	40.0 DB	POINTING ACC 0.20 DEG	(FIXED)	112.520039	
EC	40000 KHZ	03.07.18			112.646945
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	(5) RR 21.16	FIXED-SATELLITE			REF. BW 0.004MHZ
	ALL WORLD		053E57 37N20 TKM	38.3 -138.7	3.3 -142.0 N-
3422.00000	M 40000 KHZ	64K0G7W--	-2.5 DBW -50.6 DBW/HZ		N- 0001
	(5) RR 21.16	FIXED-SATELLITE			REF. BW 0.004MHZ
	ALL WORLD		053E57 37N20 TKM	38.3 -138.7	3.3 -142.0 N-
3462.00000	M 40000 KHZ	27M5G7W--	23.8 DBW -50.6 DBW/HZ		N- 0002
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3502.00000	M 40000 KHZ	27M5G7W--	23.8 DBW -50.6 DBW/HZ		N- 0003
	(5) RR 21.16	FIXED-SATELLITE			REF. BW 0.004MHZ
	ALL WORLD		053E57 37N20 TKM	38.3 -138.7	3.3 -142.0 N-

Max Excess

Fixed beams

Steerable beams



Unfavourable (N-)

Split from groups with Favourable assignments

Favourable (A-)*

*2 Conditions

Provide method to meet PFD limit

&

One location PFD limit is met

(Annex 1 of RoP No. 21.16)

Steerable beams •————• Favourable (A-)*

*2 Conditions

Provide method to meet PFD limit
&

One location PFD limit is met

(Annex 1 of RoP No. 21.16)

Max Excess \leq 9.5 dB

(C, Ku, Ka-bands FSS GSO)

(Globally steerable but actual value depends on PFD limits)

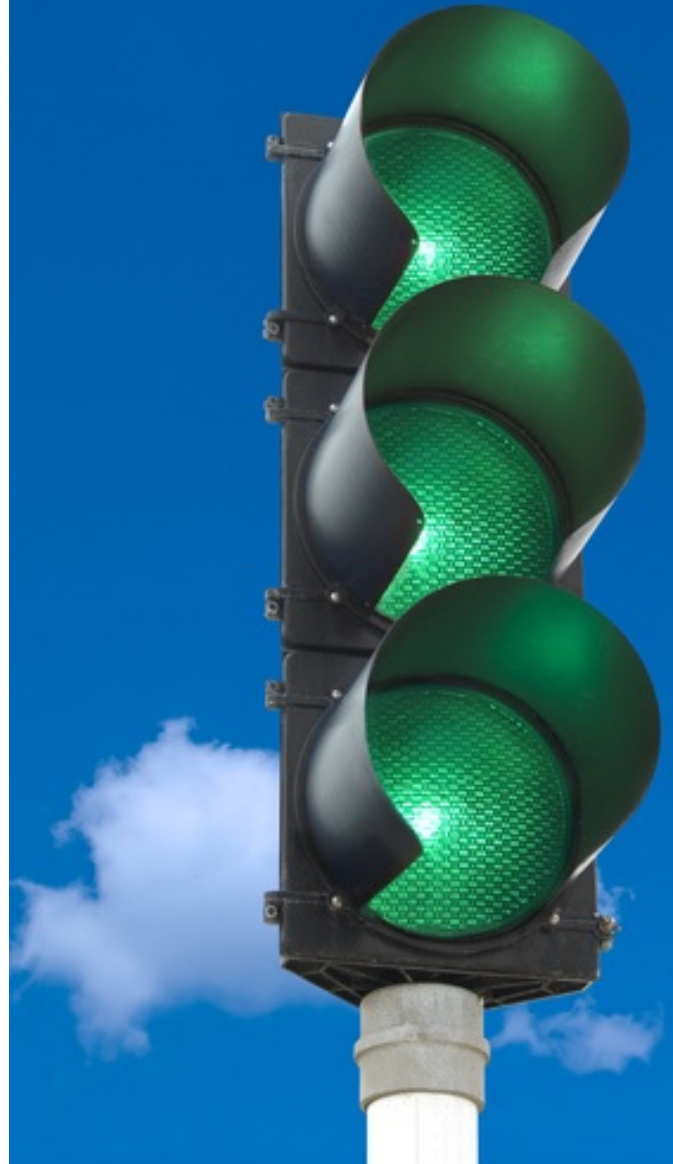


Top 3

Unfavourable Findings

- 1. EIRP/PFD hard limits exceeded**
Check GIBC/PFD results
- 2. Not in accordance with ToFA**
Check frequency bands, direction of transmission, class of station, service area
- 3. PFD limits exceeded for steerable beams and no method provided**
Submit reference to Annex 1 of RoP on No. 21.16

Only favourable
frequency
assignments
will proceed ...



Coordination requirements

(No. 9.36 of RR)

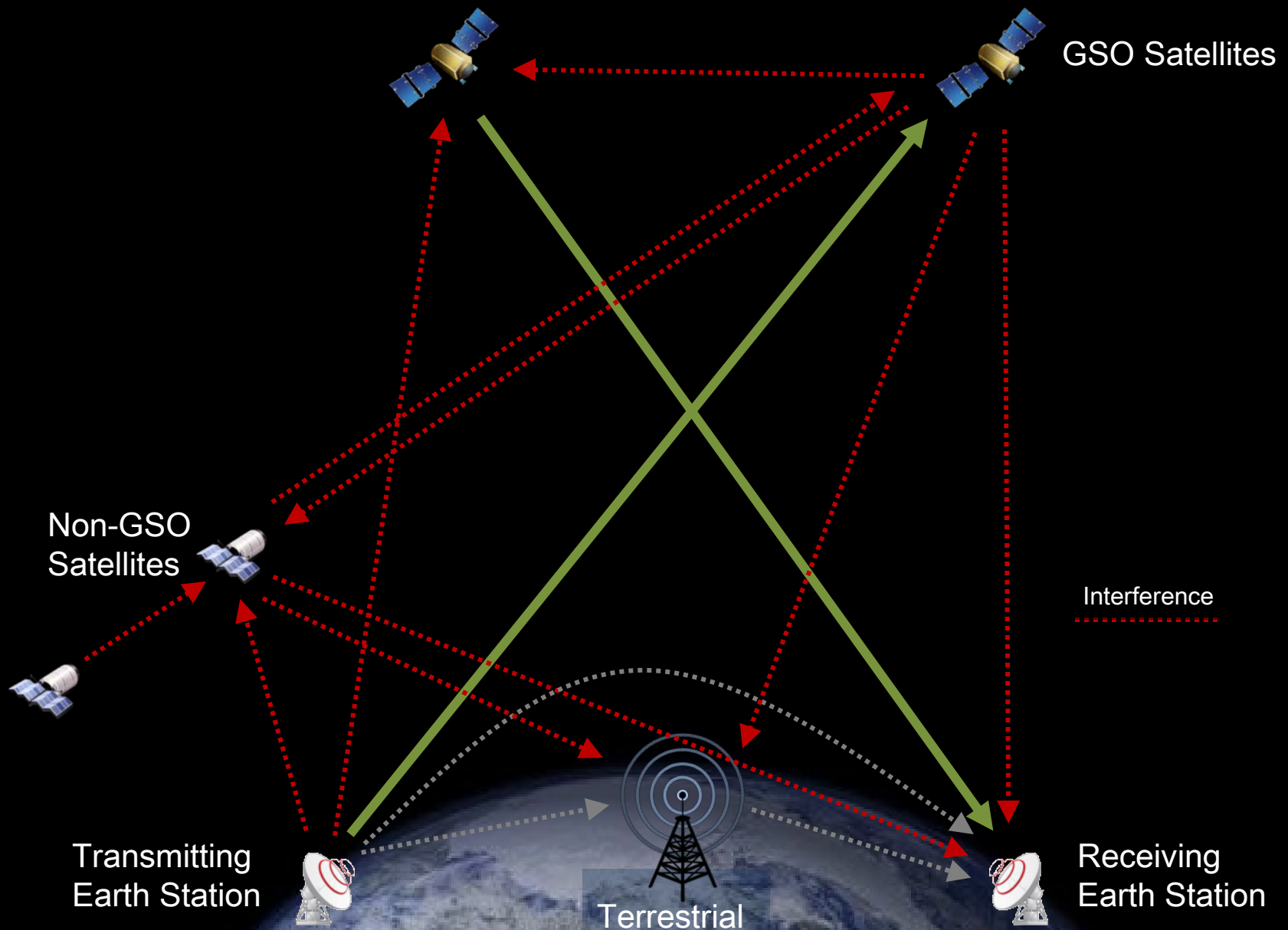




Identify any administration
with which coordination
may need to be effected

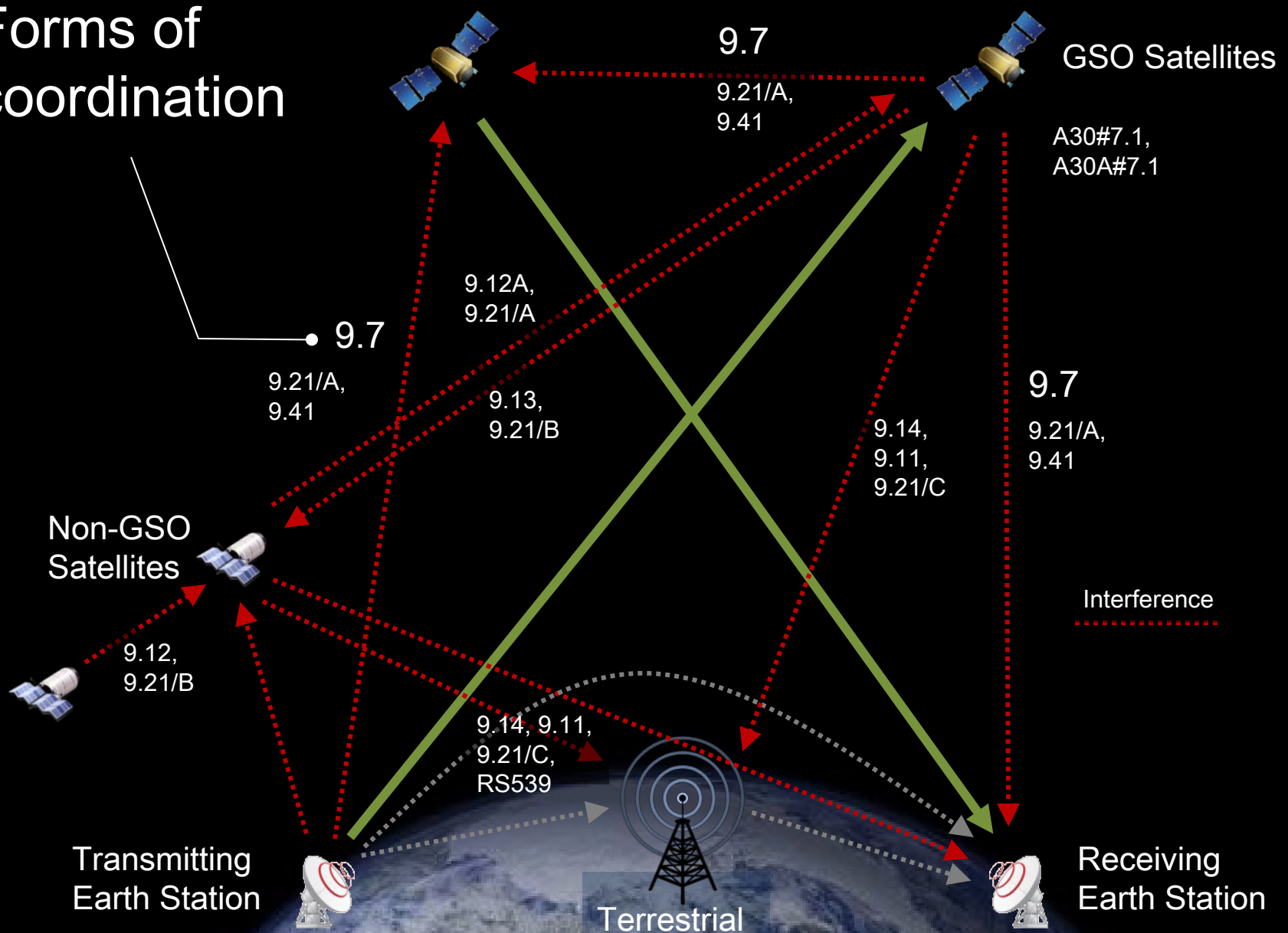
No. 9.36 of RR

Coordination requirements (No. 9.36 of RR)



Coordination requirements (No. 9.36 of RR)

Forms of coordination



Coordination requirements (No. 9.36 of RR)

Forms of coordination

GSO vs GSO

GSO/NGSO vs NGSO

GSO/NGSO vs Terrestrial

BSS (non-Plan) vs Terrestrial

GSO vs Plan

Agreement with administrations

9.7

9.11A (9.13, 9.12, 9.12A)

9.11A (9.14)

9.11, RS539

A30#7.1, A30A#7.1

9.21



Coordination requirements (No. 9.36 of RR)

Forms of coordination



UNION INTERNATIONALE DES TÉLÉCOMMUNICATIONS BUREAU DES RADIOCOMMUNICATIONS		INTERNATIONAL TELECOMMUNICATION UNION RADIOCOMMUNICATION BUREAU		UNIÓN INTERNACIONAL DE TELECOMUNICACIONES OFICINA DE RADIOCOMUNICACIONES		© I.T.U.	
RÉSEAU À SATELLITE SATELLITE NETWORK RED DE SATELITE		UKMMSAT-A3		SECTION SPÉCIALE N° SPECIAL SECTION No. SECCIÓN ESPECIAL N.º		CR/C/3186	
STATION TERRIENNE EARTH STATION ESTACIÓN TERRENA		---		BR IFIC / DATE BR IFIC / DATE BR IFIC / FECHA		2732 / 13.11.2012	
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RENSEIGNEMENTS REÇUS PAR LE BUREAU LE / INFORMATION RECEIVED BY THE BUREAU ON / INFORMACIÓN RECIBIDA POR LA OFICINA EL						09.05.2012	
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	9.7A						
	9.7B						
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	AP30A#7.1						
	RS539						
	RS33#3						
Type de coordination mentionné dans le Tableau II / Form of coordination referred to in Table II / Formulario de coordinación remitido al cuadro II							
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	9.12						
	9.12A						
	9.13						
	<input checked="" type="checkbox"/> 9.14						
	9.21/A						
	9.21/B						
	9.21/C						
	RS33#2.1						
DATE LIMITE POUR LA DÉCISION / EXPIRY DATE FOR DECISION / FECHA LÍMITE PARA LA DECISIÓN						13.03.2013	

Forms of coordination

Type de coordination mentionné dans le Tableau I	
X	9.7
	9.7A
	9.7B
X	AP30#7.1
	AP30A#7.1
	RS539
	RS33#3
Type de coordination mentionné dans le Tableau II	
	9.11
	9.11A
	9.12
	9.12A
	9.13
X	9.14
	9.21/A
	9.21/B
	9.21/C
	RS33#2.1

Network Summary

E/R	Freq	BW	MinFreq	MaxFreq	ClsStn	GU1/A	GU2/A	IC1/A	IKU/A
E	3422	40000	3402	3442	EC			A	
E	3462	40000	3442	3482	EC			A	
E	3502	40000	3482	3522	EC			A	
E	3542	40000	3522	3562	EC			A	
E	3582	40000	3562	3602	EC			A	
E	3622	40000	3602	3642	EC			A	
E	3662	40000	3642	3682	EC			A	
E	3702	40000	3682	3722	EC			A	
E	3742	40000	3722	3762	EC			A	
E	3782	40000	3762	3802	EC			A	
E	3822	40000	3802	3842	EC			A	
E	3862	40000	3842	3882	EC			A	
E	3902	40000	3882	3922	EC			A	
E	3942	40000	3922	3962	EC			A	
E	3982	40000	3962	4002	EC			A	
E	4022	40000	4002	4042	EC			A	
E	4062	40000	4042	4082	EC			A	
E	4102	40000	4082	4122	EC			A	

Identify forms of coordination

Article 9 & Appendix 5 for criteria
 Article 5 footnotes (9.21, 9.11A)
 Rules of Procedure (9.11A)
 Articles 7 of Appendices 30, 30A
 Resolutions 33, 539

Coordination requirements (No. 9.36 of RR)

GSO	
9.11 9.14 9.21/C RS33#2.1	9.7 9.21/A RS33#3

GSO	
A30A#7.1	A30#7.1

GSO	NGSO
9.13 9.21/B	9.12 9.12A 9.21/A 9.21/B

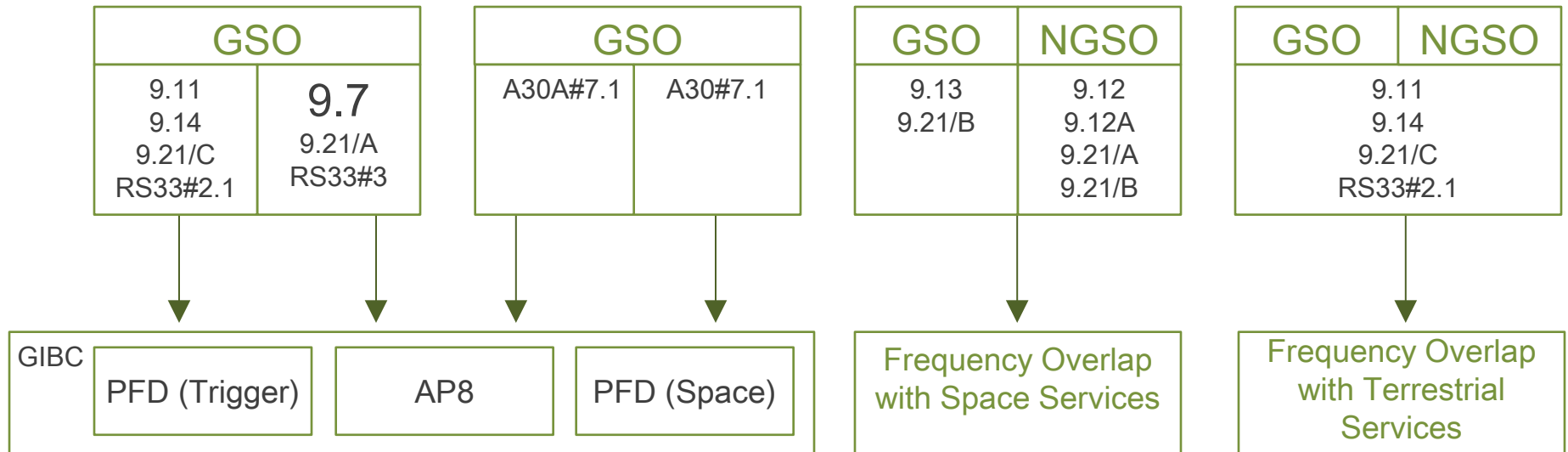
GSO	NGSO
	9.11 9.14 9.21/C RS33#2.1

Type de coordination mentionné dans le Tableau I	
X	9.7
	9.7A
	9.7B
X	AP30#7.1
	AP30A#7.1
	RS539
	RS33#3
Type de coordination mentionné dans le Tableau II	
	9.11
	9.11A
	9.12
	9.12A
	9.13
X	9.14
	9.21/A
	9.21/B
	9.21/C
	RS33#2.1

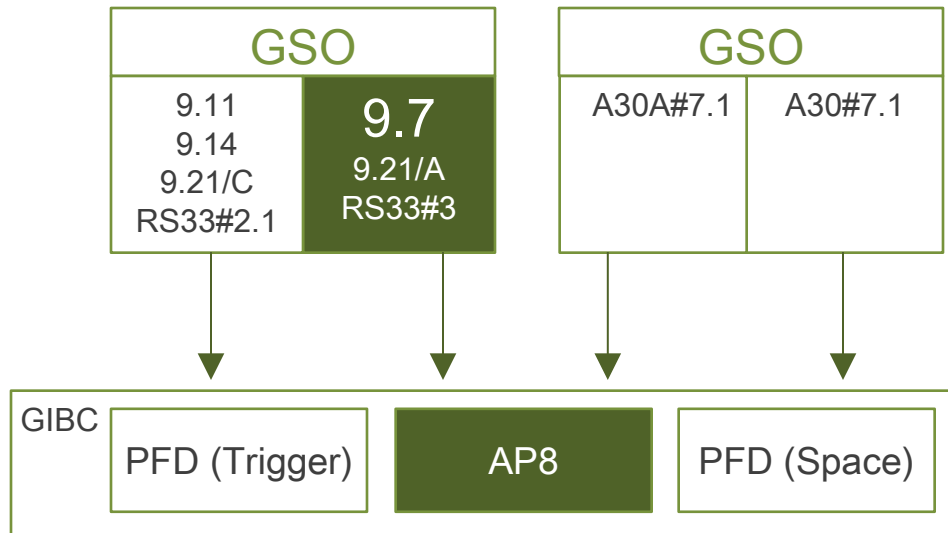
Identify forms of coordination

Article 9 & Appendix 5 for criteria
 Article 5 footnotes (9.21, 9.11A)
 Rules of Procedure (9.11A)
 Articles 7 of Appendices 30, 30A
 Resolutions 33, 539

Coordination requirements (No. 9.36 of RR)



Coordination requirements (No. 9.36 of RR)



90%

of satellite networks
in SRS are GSO
(No. 9.7: GSO vs GSO)

Coordination requirements (No. 9.36 of RR)

Appendix 8

Enter Network ID

Click Start

Controls display of
sample DT/T cases

- 1 - Per administration
- 2 - Per group
- 3 - Per assignment

GIBC SNS V7 - Graphical Interface for Batch Calculations

Appendix 30 30A EPFD Tools / Options Chaining Manager

PFD Appendix 8 PXT Appendix 7 Appendix 30B

Operator ID: ing Schedule Start

Network ID: Restart

Examination Data

Resolution 547 Findings Level: Group

App 8 Case II Output Level: Level 1

Resolution 55 Resolves 3 (WRC-03) Use Polarization

Application of 9.41

Existing

Check Against Existing Administration ID:

Transaction ID: Sat. Network Symbol:

Date

Date Year - Month - Day 1984 - 01 - 01

Files Path

C:\BR_TEX_RESULTS\AP8\

7.0.0.6 Part of TEX 7.0.0.1

EXIT

- APP8.LST
- APP8_OPT.LST
- batchresults.bk
- batchresults.mdb
- FNDGS2.SORT
- FNDGS2.TXT
- FNDGS.LST
- FNDGS.TXT
- MSG.LST
- NTW.LST
- NTW_OPT.LST
- PARAM2.TXT
- param.rmt
- PARAM.TXT

Coordination requirements (No. 9.36 of RR)

APP8.LST

“Coordination & Analysis of GSO Satellite Networks” Space Workshop —• DT/T > 6%

START OF JOB	SNSBAP29	12.11.12	14.42.11	VERSION	7.0.0.6	312520007	2	ng1GNN	NN	
SNS AP 8 /G /Case II for PACIFISAT-7 (312520007) EXAMINATION REQUESTED BY : ng DATE: 12/11/12 14:42:11										
EXI UP-LINK IS AFFECTED										
					MANDATORY EXAMINATION			DT/TS = 2983.25 %		
I S PNG	PACIFISAT-7	65.00E	0.05	0.05	30.12500	G	250000	K	18.04.12	
KA6R	EC M	45.4	DB						C312.520007/312.661424/0001	
45K0G1W--		-0.1	DBW	-46.6	DBW/HZ	-46.6	DBW/HZ (TOT. BW)	2D:18.04.12		
E S NOR	SE-KA-64E	64.00E	0.05	0.05	30.50000	G	1000000	K	11.11.11	
USU3	EI CR	43.0	DB	43.0	DB		549	K	DT/TS = 2983.25 %	
260KG7W--		9.3	DBW	-44.8	DBW/HZ	-44.8	DBW/HZ (TOT. BW)	2D:11.11.11		
I E PNG	TYPICAL-KA0.9M	136E1516	35S3730	REC-580-6			47.1	DB	31.5	DB
INC UP-LINK IS AFFECTED										
					MANDATORY EXAMINATION			DT/TS = 18856.86 %		
I S PNG	PACIFISAT-7	65.00E	0.05	0.05	30.12500	G	250000	K	18.04.12	
KA6R	EC M	45.4	DB	45.4	DB		860	K	DT/TS = 18856.86 %	
45K0G1W--		-0.1	DBW	-46.6	DBW/HZ	-46.6	DBW/HZ (TOT. BW)	2D:18.04.12		
E S NOR	SE-KA-64E	64.00E	0.05	0.05	30.50000	G	1000000	K	11.11.11	
USU3	EI CR	43.0	DB						A C111.520400/111.696649/0001	
260KG7W--		9.3	DBW	-44.8	DBW/HZ	-44.8	DBW/HZ (TOT. BW)	2D:11.11.11		
E E NOR	KA1	130E0919	05S0520	REC-580-6			41.1	DB	37.0	DB
EXI DOWN-LINK IS AFFECTED										
					MANDATORY EXAMINATION			DT/T = 742.02 %		
I S PNG	PACIFISAT-7	65.00E	0.05	0.05	20.32500	G	250000	K	18.04.12	
KA1R	EC M	45.4	DB	45.4	DB				C312.520007/312.661309/0001	
45K0G1W--		-8.9	DBW	-55.4	DBW/HZ	-55.4	DBW/HZ (TOT. BW)	2D:18.04.12		
E S D	GENESIS-9	63.00E	0.10	0.10	20.22000	G	30000	K	20.12.04	
D1KR	EI CR	33.9	DB						A C103.520331/103.641862/0001	
3M00G7W--		3.8	DBW	-60.9	DBW/HZ	-60.9	DBW/HZ (TOT. BW)	2D:24.10.03		
E E D	SGT, LARGE	129E2026	10S1221	AP8			58.0	DB	24.9	DB
261	K	-12.2	DB	SGT, LARGE			DT/T D =	742.02 %	DT/T =	742.02 %
2654	K	3.9	DB	SGT, LARGE			DT/T D =	72.97 %	DT/T =	72.97 %
INC DOWN-LINK IS AFFECTED										
					MANDATORY EXAMINATION			DT/TE = 81.13 %		
I S PNG	PACIFISAT-7	65.00E	0.05	0.05	20.32500	G	250000	K	18.04.12	
KA1R	EC M	45.4	DB						C312.520007/312.661309/0001	
45K0G1W--		-8.9	DBW	-55.4	DBW/HZ	-55.4	DBW/HZ (TOT. BW)	2D:18.04.12		
E S D	GENESIS-9	63.00E	0.10	0.10	20.22000	G	30000	K	20.12.04	
D1KR	EI CR	33.9	DB	33.9	DB				A C103.520331/103.641862/0001	
3M00G7W--		3.8	DBW	-60.9	DBW/HZ	-60.9	DBW/HZ (TOT. BW)	2D:24.10.03		
I E PNG	TYPICAL-KA0.3M	029E2222	05S0521	REC-580-6			33.8	DB	30.0	DB
							180	K	DT/TE =	81.13%

Existing network

Associated ES

Network under examination

Satellite name | Longitude | Frequency

Beam | Maximum Gain

Frequency Assignment | Power characteristics | Date of protection

Coordination requirements (No. 9.36 of RR)

APP8.LST (cont.)

9.7 Coordination Arc

WRC-12 reduced CA for C & Ku-bands to 8 & 7 degs

SUMMARY FOR TRANSACTION :			C 312.520007	PACIFISAT-7	PNG									
9.7 TRIGGER ARC ADM:			AZE, CHN, CYP, D, F, G, HOL, IRN, ISR, J, KAZ, NOR, QAT, RUS, RUS/IK, UAE, USA											
KA2R	R G312.661285	27 GHZ	:	AZE	CHN	CYP	F	G	HOL	IRN	ISR	J	KAZ	NOR
				QAT	RUS	RUS/IK	UAE							
KA2R	R G312.661286	27 GHZ	:	AZE	CHN	CYP	F	G	HOL	IRN	ISR	J	KAZ	NOR
				QAT	RUS	RUS/IK	UAE							
KA2R	R G312.661287	27 GHZ	:	AZE	CHN	CYP	F	G	HOL	IRN	ISR	J	KAZ	NOR
				QAT	RUS	RUS/IK	UAE							
KA2R	R G312.661288	27 GHZ	:	AZE	CHN	CYP	F	G	HOL	IRN	ISR	J	KAZ	NOR
				QAT	RUS	RUS/IK	UAE							
KA2R	R G312.661289	27 GHZ	:	AZE	CHN	CYP	F	G	HOL	IRN	ISR	J	KAZ	NOR
				QAT	RUS	RUS/IK	UAE							

9.7 DT/T

9.7 AP 8 MANDATORY ADM:			ARS, AUS, CHN, CYP, D, E, F, G, GRC, I, J, KOR, LUX, MLA, NOR, PAK, QAT, RUS, RUS/IK, S, TUR, UAE, USA											
KA2R	R G312.661285	27 GHZ	:	F										
KA2R	R G312.661286	27 GHZ	:	F										
KA2R	R G312.661287	27 GHZ	:	F										
KA2R	R G312.661288	27 GHZ	:	F										
KA2R	R G312.661289	27 GHZ	:	F										
KA2R	R G312.661290	27 GHZ	:	F										
KA2R	R G312.661291	27 GHZ	:	F										
KA2R	R G312.661391	28 GHZ	:	CHN	F									
KA2R	R G312.661392	30 GHZ	:	ARS	AUS	CHN	CYP	D	E	F	G	GRC	I	J
				KOR	LUX	NOR	PAK	QAT	RUS	S	UAE	USA		
KA2R	R G312.661393	28 GHZ	:	CHN	F									
KA2R	R G312.661394	30 GHZ	:	ARS	AUS	CHN	CYP	D	F	G	GRC	I	J	KOR
				LUX	NOR	PAK	QAT	RUS	UAE	USA				

SUMMARY FOR TRANSACTION :	C 312.520007	PACIFISAT-7	PNG
9.21 AP 8 ADM:	(NOT APPLICABLE)		
SUMMARY FOR TRANSACTION :	C 312.520007	PACIFISAT-7	PNG
RS33 ARC ADM:	(NOT APPLICABLE)		
SUMMARY FOR TRANSACTION :	C 312.520007	PACIFISAT-7	PNG
RS33 AP 8 MANDATORY ADM:	(NOT APPLICABLE)		
SUMMARY FOR TRANSACTION :	C 312.520007	PACIFISAT-7	PNG
AP30A 7.1 CASE I:	(NOT APPLICABLE)		
SUMMARY FOR TRANSACTION :	C 312.520007	PACIFISAT-7	PNG

9.21/A

RS33 (9.7 for API from 01.01.1999)

A30A#7.1

AP30A 7.1 CASE II:				ISR
KA1R	E G312.661264	17 GHZ	:	ISR
KA1R	E G312.661265	17 GHZ	:	ISR
KA1R	E G312.661266	17 GHZ	:	ISR

Coordination requirements (No. 9.36 of RR)

NTW.LST

A = Recorded in MIFR / Already published

T = Under examination

N = Notification / C = Coordination

Admin	Réseau Network Red	Position Position Posición	A/T ¹	N/C ²	Numéro ID ID Number Número ID	C ³	R ⁴	A ⁵
ARS	SAUDI-FMSS-7-R1	29.00E	A	C	109.520338	C	R	
	STRATSAT-5-R1	41.00E	A	C	109.520339	C	R	
AUS	ADF 152E GOVR	152.00E	A	C	108.520304		R	
	ADF 156E GOV	156.00E	A	C	102.520061	C		
	ADF 156E GOV	156.00E	A	N	110.500203	C		
	ADF 160E GOVR	160.00E	A	C	108.520305		R	
	ADF 164E GOVR	164.00E	A	C	108.520306		R	
	DDSP-104E	104.00E	A	C	108.520294	C	R	
	DDSP-108.5E	108.50E	A	C	108.520295	C	R	
	DDSP-2	88.00E	A	C	111.520201	C	R	
	DDSP-2	88.00E	T	N	112.500083	C	R	
	DDSP-4	95.00E	A	C	111.520202	C	R	
AZE	AZERSAT B1	58.50E	A	C	110.520124			A
	AZERSAT C	62.00E	A	C	111.520481			A

C = Network causing interference

R = Network receiving interference

A = Coordination Arc

Coordination requirements (No. 9.36 of RR)

Batchresults.mdb > tr_aff_ntw

Filter or Sort

ntc_id	coord_prov	agree_st	aff_ntc_id	adm	ntwk_org	ctry	sat_name	long_nom	ntf_rsn	coord_st	st_aff	f_cause	f_rec	d_prot_inc	wic_no
312520007	9.7	T	109520338	ARS			SAUDI-FMSS-7-R1	29	C		50	C	R	18.04.2012	9999
312520007	9.7	T	109520339	ARS			STRATSAT-5-R1	41	C		50	C	R	18.04.2012	9999
312520007	9.7	T	99520509	AUS			AUSSAT C 156E GOV	156	C		50	C		18.04.2012	9999
312520007	9.7	T	102520061	AUS			ADF 156E GOV	156	C		50	C		18.04.2012	9999
312520007	9.7	T	104500282	AUS			AUSSAT C 156E GOV	156	N		50	C		18.04.2012	9999
312520007	9.7	T	105520353	AUS			ADF WEST-2	88	C		50		R	18.04.2012	9999
312520007	9.7	T	105520356	AUS			ADF WEST-5	104	C		50		R	18.04.2012	9999
312520007	9.7	T	107520068	AUS			AUSSAT C 156E GOVR	156	C		50		R	18.04.2012	9999
312520007	9.7	T	108520294	AUS			DDSP-104E	104	C		50	C	R	18.04.2012	9999
312520007	9.7	T	108520295	AUS			DDSP-108.5E	108.5	C		50	C	R	18.04.2012	9999
312520007	9.7	T	108520304	AUS			ADF 152E GOVR	152	C		50		R	18.04.2012	9999
312520007	9.7	T	108520305	AUS			ADF 160E GOVR	160	C		50		R	18.04.2012	9999
312520007	9.7	T	108520306	AUS			ADF 164E GOVR	164	C		50		R	18.04.2012	9999
312520007	9.7	T	110500203	AUS			ADF 156E GOV	156	N		50	C		18.04.2012	9999
312520007	9.7	T	111520200	AUS			DDSP-1	86	C		50	C	R	18.04.2012	9999
312520007	9.7	T	111520201	AUS			DDSP-2	88	C		50	C	R	18.04.2012	9999
312520007	9.7	T	111520202	AUS			DDSP-4	95	C		50	C	R	18.04.2012	9999
312520007	9.7	T	112500083	AUS			DDSP-2	88	N		20	C	R	18.04.2012	9999
312520007	9.7	T	112500085	AUS			ADF WEST-2	88	N		20		R	18.04.2012	9999
312520007	9.7	A	110520124	AZE			AZERSAT B1	58.5	C		50			18.04.2012	9999
312520007	9.7	A	111520481	AZE			AZERSAT C	62	C		50			18.04.2012	9999

“Coordination & Analysis of
GSO Satellite Networks”
Space Workshop on tips to
reduce coordination
requirements

For a concise network list (eg. band specific):
Delete beams/groups of network with
SpaceCap & re-run GIBC

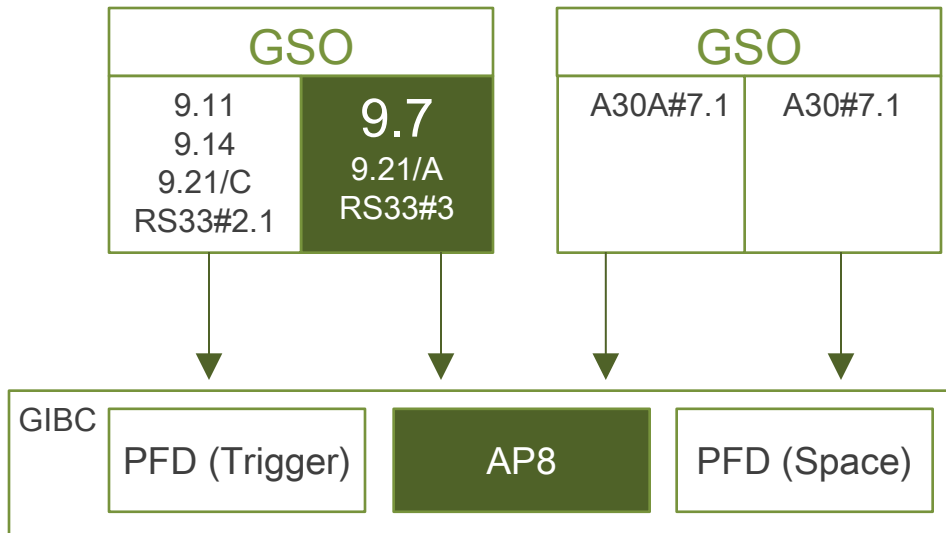
Coordination requirements (No. 9.36 of RR)

Batchresults.mdb > queries

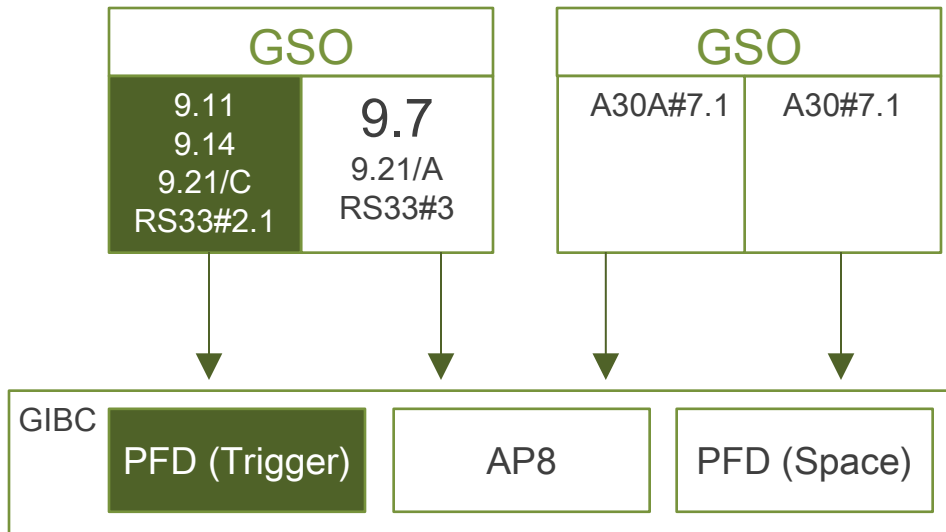
Example: com_el + grp + srv_cls + provn

ntc_id	sat_name	emi_rcp	beam_name	freq_min	freq_max	stn_cls	coord_prov	agree_st	adm	ntwk_org
312520007	PACIFISAT-7	E	KA1R	17700	17950	EC	9.7	A	AZE	
312520007	PACIFISAT-7	E	KA1R	17700	17950	EC	9.7	A	CHN	
312520007	PACIFISAT-7	E	KA1R	17700	17950	EC	9.7	A	CYP	
312520007	PACIFISAT-7	E	KA1R	17700	17950	EC	9.7	A	F	
312520007	PACIFISAT-7	E	KA1R	17700	17950	EC	9.7	A	G	
312520007	PACIFISAT-7	E	KA1R	17700	17950	EC	9.7	A	HOL	
312520007	PACIFISAT-7	E	KA1R	17700	17950	EC	9.7	A	IRN	
312520007	PACIFISAT-7	E	KA1R	17700	17950	EC	9.7	A	ISR	
312520007	PACIFISAT-7	E	KA1R	17700	17950	EC	9.7	A	J	
312520007	PACIFISAT-7	E	KA1R	17700	17950	EC	9.7	A	KAZ	
312520007	PACIFISAT-7	E	KA1R	17700	17950	EC	9.7	A	NOR	
312520007	PACIFISAT-7	E	KA1R	17700	17950	EC	9.7	A	QAT	
312520007	PACIFISAT-7	E	KA1R	17700	17950	EC	9.7	A	RUS	
312520007	PACIFISAT-7	E	KA1R	17700	17950	EC	9.7	A	RUS	IK
312520007	PACIFISAT-7	E	KA1R	17700	17950	EC	9.7	A	UAE	
312520007	PACIFISAT-7	E	KA1R	17700	17950	EC	9.7	T		
312520007	PACIFISAT-7	E	KA1R	17700	17950	EC	A30A#7.1	T	ISR	

Coordination requirements (No. 9.36 of RR)



Coordination requirements (No. 9.36 of RR)



Coordination requirements (No. 9.36 of RR)

PFD (Terrestrial Services)
Examination: Trigger

GIBC SMS V7 - Graphical Interface for Batch Calculations

Appendix 30 30A EPFD Tools / Options Chaining Manager

PFD Appendix 8 PXT Appendix 7 Appendix 30B

Operator ID: ng Schedule Start

Network ID:

Examination Data

Examination: Triggers

Region:

Power Control (dBW): 0 Output Level: Level 1

"Before" Examination

Perform "Before" Comparisons

Previous Networks:

Files Path

C:\BR_TEX_RESULTS\PFDA\

7.0.0.2 Part of TEX 7.0.0.2

EXIT

Enter
Network ID

Click Start

Coordination requirements (No. 9.36 of RR)

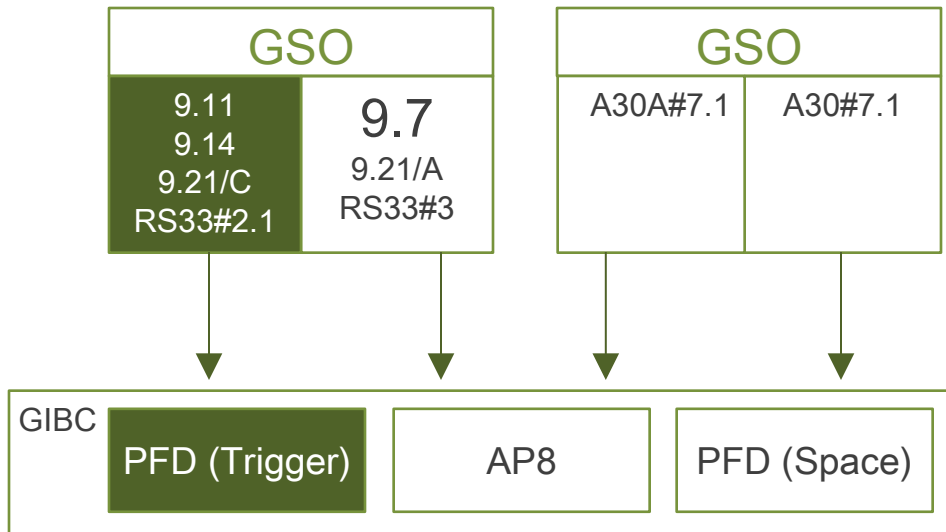
PFD (Terrestrial Services)

START OF JOB SNBPPFD 14.12.10 11.08.22 VERSION 6.3.0.1 110520332 T ng 01N
SPACE STATION PFD VALUES WILL BE CHECKED AGAINST **COORDINATION LIMITS ONLY**

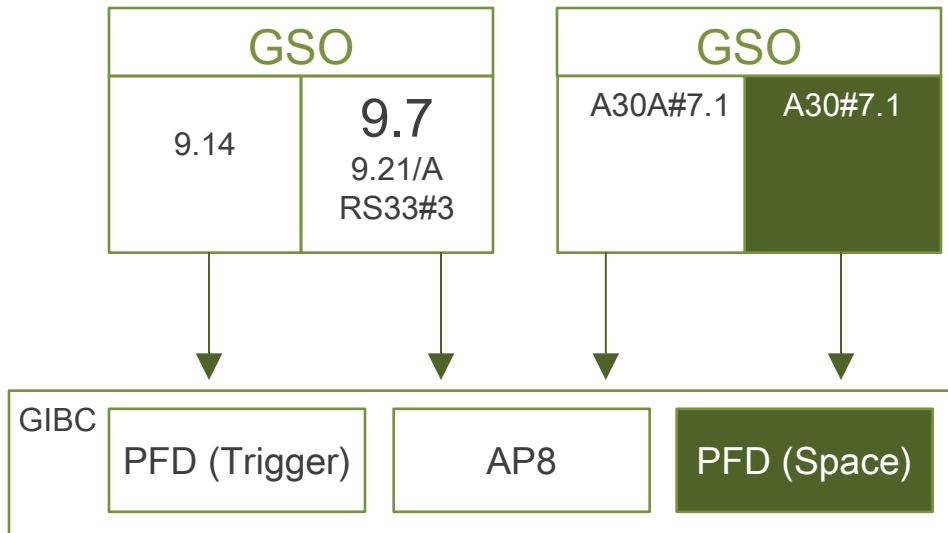
SNS	TRIGGER LIMITS for MEASAT-1A (110520332)										EXAMINATION REQUESTED BY : ng	DATE: 14/12/10 11:08:22	
MLA	MEASAT-1A	91.50E	0.10	0.10			30.09.10				C	110.520332	
KA5R	50.0 DB	POINTING ACC	0.05 DEG									110.520332	
EK ER	2000 KHZ	21.03.17										110.668945	
17.70100 G	2000 KHZ	800KG7D--	1.2 DBW	-53.6 DBW/HZ			A-	0001					
(57) RR	21.16/9.11	BROADCASTING-SATELLITE, SPACE OPERATION										REF. BW	1.000MHZ
ALL WORLD		020E18	42N55	SRB			50.0 -112.1	2.9 -115.0			N-		
AFS	2.9	AGL	2.9	ALB	2.9	ALG	2.8	AUS	2.9	AUS/NFK	2.9	AUT	2.9
BIH	2.9	BLR	2.9	BOT	1.4	BUL	2.3	CAF	2.9	CME	2.9	COD	2.9
COG	2.9	CZE	2.9	EST	2.9	F /NCL	2.9	FIN	2.9	FSM	2.9	GAB	2.9
GNE	2.8	GRC	2.9	HNG	2.9	HRV	2.9	I	2.9	KIR	2.9	LBY	2.9
LTU	2.9	LVA	2.9	MDA	1.6	MHL	2.9	MKD	2.7	MLT	2.9	MNE	2.9
NGR	2.9	NIG	2.9	NMB	2.9	NOR	2.8	NRU	2.5	NZL	2.9	POL	2.9
ROU	2.9	RUS	2.9	S	2.8	SLM	2.7	SRB	2.9	SVK	2.9	SVN	2.8
TCD	2.9	TUR	0.7	UKR	2.9	USA/WAK	2.7	VUT	2.9				

9.11, 9.14, 9.21/C

Coordination requirements (No. 9.36 of RR)



Coordination requirements (No. 9.36 of RR)



Coordination requirements (No. 9.36 of RR)

PFD (Space Services)

Enter
Network ID

Click Start

GIBCS SNS V7 - Graphical Interface for Batch Calculations

Appendix 30 30A EPFD Tools / Options Chaining Manager

PFD Appendix 8 PXT Appendix 7 Appendix 30B

Operator ID: ng Schedule Start

Network ID: |

Examination Data

BSS (21.4 -22 GHz) Output Level: Level 1

Resolution 547 Findings Level: Group

Power Control (dBW): 0

Existing

Check Against Existing Administration ID: |

Transaction ID: | Sat. Network Symbol: |

"Before" Examination

Perform "Before" Comparisons

Previous Networks: | | |

| |

Files Path

C:\BR_TEX_RESULTS\NXT\

7.0.0.4 Part of TEX 7.0.0.2

EXIT

Coordination requirements (No. 9.36 of RR)

PFD (Space Services)

START OF JOB SNSBPXT 14.12.10 10.28.39 VERSION 6.1.0.2
110520332-- ng1G ON

SNS **PXT for MEASAT-1A(110520332)** ANALYSIS REQUESTED BY : ng DATE: 14/12/10 10:28:39

EXI DOWN-LINK IS AFFECTED
I S MLA MEASAT-1A 91.50E 0.10 0.10 12.22500 G 50000 K 30.09.10 C110.520332/110.669023/0001
TK2R EC M 36.0 DB
36M0G7W-- 20.0 DBW -54.7 DBW/HZ 2D:
E S RUS RST-3 86.00E 0.10 0.10 12.18780 G 27000 K 02.06.00 A B100.550175/000.003530/0001
E001 EB CL R13TSS 37.7 DB
27M0G7W-- 17.2 DBW -57.0 DBW/HZ -57.0 DBW/HZ 2D:02.06.00
E E RUS TESTPOINT 1 087E1800 49N1312 MODRES 35.5 DB
AP30 AN4 FIXED-SATELLITE AND BROADCASTING-SATELLITE
REGION 1 087E18 49N13 RUS 32.00 -111.05 0.05 -111.09 A30#A4.1

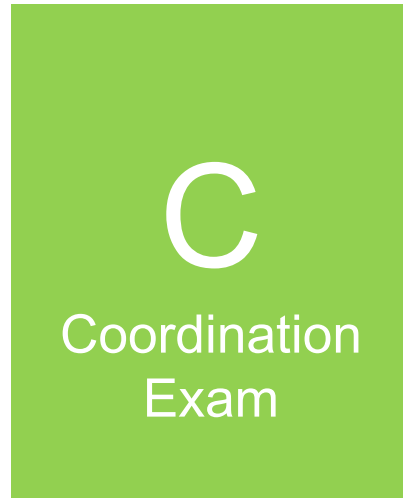
SUMMARY FOR TRANSACTION : C 110.520332 MEASAT-1A MLA
AP30 7.1 (ANNEX 4) ADMINISTRATIONS RECEIVING INTERFERENCE:

CONCERNED ADM: **F, HOL, RUS, RUS/IK, USA**

TK2R	E G110.669020	12 GHZ	:F	HOL	RUS
TK2R	E G110.669021	12 GHZ	:F	HOL	RUS
TK2R	E G110.669022	12 GHZ	:F	HOL	RUS
TK2R	E G110.669023	12 GHZ	:F	HOL	RUS
TK2R	E G110.669024	12 GHZ	:F	HOL	RUS

A30#7.1

Conformity with
Radio Regulations
(No. 9.35 of RR)



Coordination
Requirements
(No. 9.36 of RR)



Output: CR/C Publication
in BR IFIC DVD

CR/C

Publication

Network ID Date of Receipt



UNION INTERNATIONALE DES TÉLÉCOMMUNICATIONS
BUREAU DES RADIOCOMMUNICATIONS

INTERNATIONAL TELECOMMUNICATION UNION
RADIOCOMMUNICATION BUREAU

UNIÓN INTERNACIONAL DE TELECOMUNICACIONES
OFICINA DE RADIOCOMUNICACIONES

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RÉSEAU À SATELLITE SATELLITE NETWORK RED DE SATÉLITE		UKMMSAT-A3		SECTION SPÉCIALE N° SPECIAL SECTION No. SECCIÓN ESPECIAL N.º	CR/C/3186
STATION TERRIENNE EARTH STATION ESTACIÓN TERRENA		---		BR IFIC / DATE BR IFIC / DATE BR IFIC / FECHA	2732 / 13.11.2012
ADM. RESPONSABLE RESPONSIBLE ADM. ADM. RESPONSABLE	G	LONGITUDE NOMINALE NOMINAL LONGITUDE LONGITUD NOMINAL	33.5 W	NUMÉRO D'IDENTIFICATION IDENTIFICATION NUMBER NÚMERO DE IDENTIFICACIÓN	112520178
RENSEIGNEMENTS REÇUS PAR LE BUREAU LE / INFORMATION RECEIVED BY THE BUREAU ON / INFORMACIÓN RECIBIDA POR LA OFICINA EL					09.05.2012

Cette demande de coordination, reçue par le Bureau des radiocommunications en vertu du numéro 9.30 du Règlement des radiocommunications, a été examinée au titre des numéros 9.35 et 9.36 et est publiée conformément au numéro 9.38. Elle est subordonnée au type de coordination indiqué dans la colonne de gauche par un X dans la case pertinente.

This request for coordination, received by the Radiocommunication Bureau pursuant to No. 9.30 of the Radio Regulations, has been examined under Nos. 9.35 and 9.36 and is published in accordance with No. 9.38. It is subject to the form of coordination indicated in the left-hand column by an X in the relevant box.

Esta solicitud de coordinación, recibida por la Oficina de Radiocomunicaciones de conformidad con el punto N° 9.30 del Reglamento de Radiocomunicaciones, se ha examinado de conformidad con los N° 9.35 y 9.36 y se publica de conformidad con el N° 9.38. Está sujeta al formulario de coordinación indicado en la columna de la izquierda con una X en la casilla correspondiente.

Type de coordination mentionné dans le Tableau I / Form of coordination referred to in Table I / Forma de coordinación mencionada en el cuadro I					
<input checked="" type="checkbox"/>	9.7	Conformément aux numéros 9.50 à 9.52 du Règlement des radiocommunications, les Administrations identifiées dans le Tableau I ci-après sont priées de communiquer leur décision à l'Administration responsable et au Bureau avant la date limite indiquée ci-dessous.	In accordance with Nos. 9.50-9.52 of the Radio Regulations, the Administrations identified in Table I below are requested to communicate their decision to the Responsible administration and the Bureau by the deadline indicated below.	De conformidad con los N° 9.50-9.52 del Reglamento de Radiocomunicaciones, se solicita a las administraciones señaladas en el cuadro I a continuación que comuniquen su decisión a la administración responsable y a la Oficina antes del plazo indicado más abajo.	
	9.7A				
	9.7B				
<input checked="" type="checkbox"/>	AP30#7.1				
	AP30A#7.1				
	RS539				
	RS33#3				
Type de coordination mentionné dans le Tableau II / Form of coordination referred to in Table II / Formulario de coordinación remitido al cuadro II					
	9.11	Les Administrations, énumérées ou non-énumérées dans le Tableau II ci-après, qui n'acceptent pas la demande de coordination au titre des numéros 9.11 à 9.14, 9.21 et RS33#2.1, sont priées de communiquer leurs observations à l'Administration responsable et au Bureau avant la date limite indiquée ci-dessous. Toute Administration qui ne réagira pas au titre du numéro 9.52 avant cette date limite sera considérée comme n'étant pas défavorablement influencée et, dans les cas couverts par les numéros 9.11 à 9.14 et RS33#2.1, les dispositions des numéros 9.48 et 9.49 s'appliqueront.	Administrations listed or not listed in Table II below, which do not agree to the request for coordination under Nos. 9.11 to 9.14, 9.21 and RS33#2.1 are requested to communicate their comments to the responsible administration and the Bureau by the deadline indicated below. Any administration not responding under No. 9.52 within this deadline shall be regarded as unaffected and, in the cases of Nos. 9.11 to 9.14 and RS33#2.1, the provisions of Nos. 9.48 and 9.49 shall apply.	Se invita a las administraciones, enumeradas o no en el cuadro II, que no están de acuerdo con la solicitud de coordinación de conformidad con los N° 9.11 a 9.14, 9.21 y RS33#2.1 que comuniquen sus observaciones a la administración responsable y a la Oficina dentro del plazo indicado más abajo. Se considerará que toda administración que no responda de conformidad con el N° 9.52 dentro del plazo señalado, no está afectada y, en el caso de los N° 9.11 a 9.14 y RS33#2.1, se aplicarán las disposiciones de los N° 9.48 y 9.49.	
	9.11A				
	9.12				
	9.12A				
	9.13				
<input checked="" type="checkbox"/>	9.14				
	9.21/A				
	9.21/B				
	9.21/C				
	RS33#2.1				
DATE LIMITE POUR LA DÉCISION / EXPIRY DATE FOR DECISION / FECHA LÍMITE PARA LA DECISIÓN					13.03.2013

Deadline for comments



Tableau Table Cuadro 表一 / Таблица الجدول			
Disposition / Provision / Disposición / 條款 / Положение / الحكم	Résumé des conditions régissant la coordination		Summary of coordination requirements
	协调要求概述		Сводные потребности в координации
		Resumen de los requisitos de coordinación	
		موجز متطلبات التنسيق	
X	9.7	B, CHN, CLM, E, HOL, I, ISR, LUX, RUS/K, RUS, UAE, USA	
	9.7A		
	9.7B		
X	AP30#7.1	CPV, E, ISL, ISR, LBR, LUX, SRL, UAE, USA	
	AP30A#7.1		
	RS539		
	RS33#3		

Summary of affected administrations for entire network (mandatory)

“SpaceCom - Comments under No. 9.41”

Tableau II / Table II / Cuadro II / 表二 / Таблица II / II الجدول				
Disposition / Provision / Disposición / 条款 / Положение / الحكم		Administrations susceptibles d'être défavorablement influencées (à titre d'information uniquement, voir numéro 9.36.1)	Potentially affected administrations (for information only, see No. 9.36.1)	Administraciones posiblemente afectadas (sólo para información, véase el N° 9.36.1)
		可能受影响的主管部门(仅供参考, 见第 9.36.1款)	Потенциально затрагиваемые администрации (исключительно для информации, см. п. 9.36.1)	إدارات يحتمل أن تتأثر تأثراً غير موات (انظر الرقم 1.36.9، على سبيل الإطلاع فقط)
	9.11			
	9.11A			
	9.12			
	9.12A			
	9.13			
X	9.14	ARG, CAN, CHL/PAQ, CHL, DNK/GRL, F/CPT, NOR,		
	9.21/A ¹			
	9.21/B ¹			
	9.21/C ¹			
	RS33#2.1			

¹ 9.21/A, 9.21/B et 9.21/C – au titre du numéro 9.21, administrations ayant des réseaux OSG, des réseaux non-OSG et des stations de Terre, respectivement.

¹ 9.21/A, 9.21/B and 9.21/C – Under No. 9.21, administrations with GSO networks, Non-GSO networks and terrestrial stations, respectively.

¹ 9.21/A, 9.21/B y 9.21/C – De conformidad con el N° 9.21, administraciones con redes OSG, redes no OSG y estaciones terrestres, respectivamente.

¹ 9.21/A, 9.21/B 和 9.21/C – 根据第9.21款, 分别为有对地静止卫星轨道网络、非对地静止卫星轨道网络和地面站的主管部门

¹ 9.21/A, 9.21/B и 9.21/C – в соответствии с п. 9.21 администрации, имеющие сети ГСО, сети НГСО и наземные станции, соответственно.

¹ 9.21/A, 9.21/B و 9.21/C – بموجب الرقم 21.9، إدارات لها شبكات مستقرة بالنسبة إلى الأرض وشبكات غير مستقرة بالنسبة إلى الأرض ومحطات للأرض على التوالي.

“SpaceCom - Comments under Nos.
9.11- 9.14/9.21”

Summary of affected administrations for
entire network (for info)
Comment within 4 months, else
agreement

SECTION SPECIALE / SPECIAL SECTION / SECCIÓN ESPECIAL / 特节 / СПЕЦИАЛЬНАЯ СЕКЦИЯ / القسم الخاص										CRIC/3186	
A	A1a Sat. Network	UKMSAT-A3	A1H Notifying adm.	G	A1I Inter. sat. org.		BR1 Date of receipt	09.05.2012	BR20/BR21	BR IFIC no./part	2732/
	BR6a/BR6b Id. no.	112520178	BR3a/BR3b Provision reference	9.6	C		BR2 Adm. serial no.				

Recouvrement des coûts / Cost recovery / Recuperación de costes / 成本回收 / Возмещение расходов / استرداد التكاليف

B1a Beam designation	B2 Emi-Rcp	BR8 Action code	BR7a Group id.	BR9 Action code	13A Conformity with RR	C3a Assigned freq. band	BR47 Frequency band (MHz)			BR15 Provision reference	BR53 Nb of freq.	C4a Class of station	BR54 Nb of emiss.	BR55 Nb of units
SIX	R		112665648		A-----	250000	13750	-	14000	9.7	1	EC	1	1
			112665649		A-----	250000	13750	-	14000	9.7	1	EC	1	1
			112665650		A-----	500000	14000	-	14500	9.7	1	EC	1	1
			112665651		A-----	500000	14000	-	14500	9.7	1	EC	1	1
			112665652		A-----	500000	14000	-	14500	9.7	1	EC	1	1
			112665653		A-----	500000	14000	-	14500	9.7	1	EC	1	1
			112665654		A-----	250000	13750	-	14000	9.7	1	ED	1	1
			112665655		A-----	500000	14000	-	14500	9.7	1	ED	1	1
112665656		A-----	250000	13750	-	14000	9.7	1	EC	1	1			
FIVE	E		112665633		N-----	250000	12500	-	12750	1	EC	1	1	
FOUR	E		112665634		A-----	250000	12500	-	12750	9.7, A30#7.1	1	EC	1	1
			112665635		A-----	250000	12500	-	12750	9.7, A30#7.1	1	EC	1	1
			112665636		A-----	250000	12500	-	12750	9.7, A30#7.1	1	EC	1	1
			112665637		A-----	250000	12500	-	12750	9.7, A30#7.1	1	EK, ER	1	2
ONE	E		112665638		A-----	250000	10950	-	11700	9.7	2	EC	1	2
			112665639		A-----	250000	10950	-	11700	9.7	2	EC	1	2
			112665640		A-----	250000	10950	-	11700	9.7	2	EC	1	2
			112665641		A-----	250000	10950	-	11700	9.7	2	EK, ER	1	4
THREE	E		112665642		A-----	500000	11700	-	12200	9.14, 9.7, A30#7.1	1	EC	1	1
			112665643		A-----	500000	11700	-	12200	9.14, 9.7, A30#7.1	1	EC	1	1
			112665644		A-----	500000	11700	-	12200	9.14, 9.7, A30#7.1	1	EC	1	1
			112665645		A-----	500000	11700	-	12200	9.14, 9.7, A30#7.1	1	EC	1	1
			112665646		A-----	500000	11700	-	12200	9.14, 9.7, A30#7.1	1	EK, ER	1	2
TWO	E		112665647		N-----	250000	10950	-	11700	2	EC	1	2	
BR57 Category												C2		
BR58 Total number of units												33		

Conformity with RR
A-: Favourable
N-: Unfavourable

Forms of coordination

SECTION SPECIALE / SPECIAL SECTION / SECCIÓN ESPECIAL / 特节 / СПЕЦИАЛЬНАЯ СЕКЦИЯ / القسم الخاص										CR/C/3186
A	A1a Sat. Network	UKMSAT-A3	A1f1 Notifying adm.	0	A1f3 Inter. sat. org.		BR1 Date of receipt	09.05.2012	BR20/BR21 BR IFIC no./part	2732/
	BR6a/BR6b Id. no.	112520178	BR3a/BR3b Provision reference	9.6	C	BR2 Adm. serial no.				

<p>On trouvera le résumé de la transaction contenant les caractéristiques détaillées de la présente Section Spéciale CR/C dans le document:</p> <p>CRC3186_T.pdf</p>	<p>The transaction summary containing the detailed characteristics of the present Special Section CR/C can be found in the document:</p> <p>CRC3186_T.pdf</p>	<p>El resumen de la transacción, en el que se incluyen las características detalladas de la presente Sección Especial CR/C, figura en el documento:</p> <p>CRC3186_T.pdf</p>
<p>包含本CR/C特节详细特性的资料处理概要见以下文件:</p> <p>CRC3186_T.pdf</p>	<p>Со сводкой о транзакции, содержащей подробные характеристики настоящей Специальной секции CR/C, можно ознакомиться в документе:</p> <p>CRC3186_T.pdf</p>	<p>يمكن الاطلاع على موجز المختصر الذي يضم الخصائص التفصيلية للقسم الخاص الحالي CR/C في الوثيقة:</p> <p>CRC3186_T.pdf</p>

BR7a/BR7b Group id.	112665636	BR1 Date of receipt	09.05.2012	C2c RR No. 4.4	
A2a Date of bringing into use	02.04.2016	A2b Period of valid.	50	A3a Op. agency	187
A3b Adm. resp.	2	BR62 Expiry date for bringing into use	24.10.2018	BR63 Confirmed date of bringing into use	
BR14 Special Section	CR/C/3186				
C4a Class of station	EC	C3a Assigned freq. band	250000	C6	
C4b Nature of service	CP	C6a Polarization type	M		
C8d1 Max. tot. peak pwr.	14.9	C8d2 Contiguous bandwidth	250000		
C11a1 Service area no.	1	C11a2 Service area		C11a3 Service area diagram	1
A5/A6 Coordinations/Agreements	9.7 9.7 A30#7.1	A T Q	CHN E HOL I ISR LUX RUS/IK RUS UAE USA		

Detailed characteristics of network

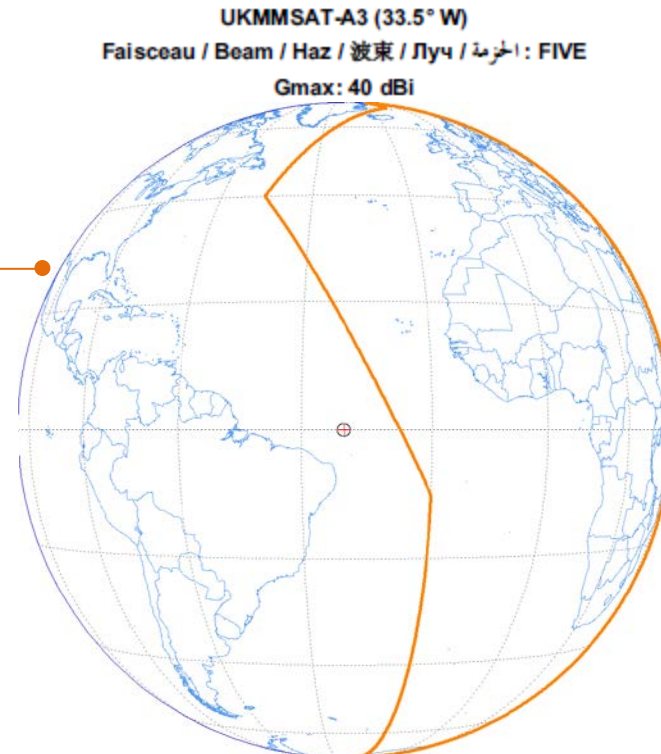
C2a1 Assigned frequency										
12.625	GHz									
A13 Ref. to Special Sections	C7a Design. of emission	C8a1/C8b1 Max. peak pwr	C8a2/C8b2 Max. pwr dens.	C8c1 Min. peak pwr	C8c2 Attch.	C8c3 Min. pwr dens.	C8c4 Attch.	C8e1 C/N ratio	C8e2 Attch.	
API/A /7212	1 836KG7W--	-9.9	-69.1	-29.9		-89.1		18		
C10b1 Assoc. earth station id.	C10b2 Type	C10c1 Geographical coord.	C10c2 Ctry	C10d1/C10d2 Cls. / Nat.	C10d3 Max. iso. gain	C10d4 Bmwth	C10d6 Noise temp.	C10d7 Ant. diameter		
TYPICAL KU7	T			1 TC CP	49.6	0.54	100			
C10d5a Co-polar antenna pattern										
C10b1 Assoc. earth station id.	Co-polar ref. pattern	Coef. A	Coef. B	Coef. C	Coef. D	Phi1	Co-polar rad. diag.			
TYPICAL KU7	A-25*LOG(FI)	29								
Findings	2D Date of protection	09.05.2012	13A Conformity with RR	A- -- --	13B1 Provision		13B2 Remarks		13B3 Date of Review	
13C Remarks										



Figure / Figura / 图 / Рисунок / 1 الشكل

ZONE DE SERVICE ET CONTOURS DE GAIN DE L'ANTENNE D'EMISSION DE LA STATION SPATIALE
SPACE STATION TRANSMITTING ANTENNA GAIN CONTOURS AND SERVICE AREA
ZONA DE SERVICIO Y CONTORNOS DE GANANCIA DE LA ANTENA TRANSMISORA DE LA ESTACION ESPACIAL
空间台站发射天线增益等值线和业务区
ЗОНА ОБСЛУЖИВАНИЯ И КОНТУРЫ УСИЛЕНИЯ ПЕРЕДАЮЩЕЙ АНТЕННЫ КОСМИЧЕСКОЙ СТАНЦИИ
منطقة الخدمة وأكفّة الكسب لحوالي الإرسال للمحطة الفضائية

Gain contour & service area diagrams



Align steerable beams with service area
(provide effective gain contours 0, -2, -4, -6, -10, -20 dB)
B.3.b1 of Appendix 4 (WRC-12)

Zone de service / Service area / Zona de servicio / 业务区 / Зона обслуживания / منطقة الخدمة : XR1 (No. 01)

CR/C/3186

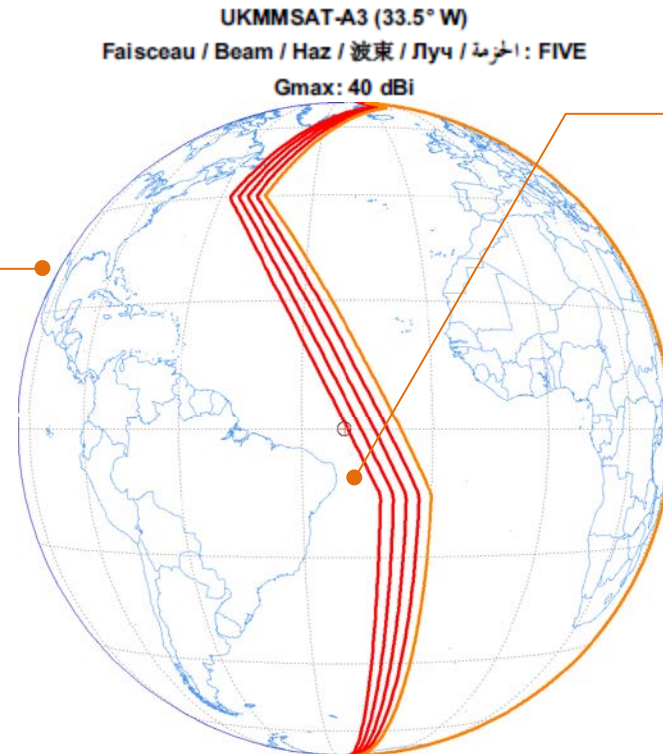
Page / Página / 页 / стр. / 8 الصفحة



Figure / Figura / 图 / Рисунок / 1 الشكل

ZONE DE SERVICE ET CONTOURS DE GAIN DE L'ANTENNE D'EMISSION DE LA STATION SPATIALE
SPACE STATION TRANSMITTING ANTENNA GAIN CONTOURS AND SERVICE AREA
ZONA DE SERVICIO Y CONTORNOS DE GANANCIA DE LA ANTENA TRANSMISORA DE LA ESTACION ESPACIAL
空间台站发射天线增益等值线和业务区
ЗОНА ОБСЛУЖИВАНИЯ И КОНТУРЫ УСИЛЕНИЯ ПЕРЕДАЮЩЕЙ АНТЕННЫ КОСМИЧЕСКОЙ СТАНЦИИ
منطقة الخدمة وأكثف الكسب لحوالي الإرسال للمحطة الفضائية

Gain contour & service area diagrams



Align steerable beams with service area
(provide effective gain contours 0, -2, -4, -6, -10, -20 dB)
B.3.b1 of Appendix 4 (WRC-12)

CR/C/3186

Page / Página / 页 / стр. / 8 الصفحة



OBSERVATIONS DU BUREAU DES RADIOCOMMUNICATIONS	RADIOCOMMUNICATION BUREAU COMMENTS	OBSERVACIONES DE LA OFICINA DE RADIOCOMUNICACIONES
<u>Relatives à la Conclusion conformément au N° 11.31</u>	<u>Relating to the Findings with respect to No. 11.31</u>	<u>Relativas a la Conclusión según N.º 11.31</u>
<u>Faisceau fixe TWO, assignations de fréquence 11.075 et 11.575 GHz avec une densité maximale de puissance =-54 dBW/Hz et une valeur maximale de la puissance en crête =20 dBW</u>	<u>Fixed beam TWO, frequency assignments 11.075 and 11.575 GHz with maximum power density =-54 dBW/Hz and maximum peak power =20 dBW</u>	<u>Haz fijo TWO, asignaciones de frecuencia 11.075 y 11.575 GHz con una densidad máxima de potencia =-54 dBW/Hz y un valor máximo de la potencia de cresta =20 dBW</u>
DEFAVORABLE Les limites de puissance surfacique prescrites au numéro 21.16 sont dépassées.	UNFAVOURABLE The power flux density limits specified in No. 21.16 are exceeded.	DESFAVORABLE Se han rebasado los límites de densidad de flujo de potencia especificados en el número 21.16.
<u>Faisceau fixe FIVE, assignation de fréquence 12.625 GHz avec une densité maximale de puissance =-54 dBW/Hz et une valeur maximale de la puissance en crête =20 dBW</u>	<u>Fixed beam FIVE, frequency assignment 12.625 GHz with maximum power density =-54 dBW/Hz and maximum peak power =20 dBW</u>	<u>Haz fijo FIVE, asignación de frecuencia 12.625 GHz con una densidad máxima de potencia =-54 dBW/Hz y un valor máximo de la potencia de cresta =20 dBW</u>
DEFAVORABLE Les limites de puissance surfacique prescrites au numéro 21.16 sont dépassées.	UNFAVOURABLE The power flux density limits specified in No. 21.16 are exceeded.	DESFAVORABLE Se han rebasado los límites de densidad de flujo de potencia especificados en el número 21.16.
FAVORABLE pour toutes les autres assignations de fréquence.	FAVOURABLE for all other frequency assignments.	FAVORABLE para todas las demás asignaciones de frecuencia.

Comments by BR, explanation of findings

CR/C/3186

I. Nécessité d'une coordination au niveau du groupe
 一、需要在组的层次进行的协调

I. Coordination requirements at group level
 I. Потребности в координации на уровне группы

I. Requisitos de coordinación a nivel de grupo
 I. متطلبات التنسيق على مستوى المجموعة

9.7 (DT/T)

9.7 (CA)

Administrations identifiées au titre du N° 9.7 par : 根据第9.7款识别的主管部门:				Administrations identified under No. 9.7 by : Администрации, идентифицированные согласно п. 9.7:			Administraciones identificadas según N.º 9.7 por : الإدارات المحددة وفقاً للرقم 7.9 بموجب:				
B1a Beam designation	B2 Emi-Rcp	BR7a Group id.	GHz	Delta T/T Delta T/T	Delta T/T Дельта T/T	Delta T/T T/T دلتا	Arc de coordination 协调弧	Coordination Arc Дуга координации	Arco de coordinación قوس التنسيق		
SIX	R	112665648	13				B CHN ISR LUX USA	E RUS/IK	HOL RUS	I UAE	
		112665649	13				B CHN ISR LUX USA	E RUS/IK	HOL RUS	I UAE	
		112665650	14				B CHN I ISR UAE USA	CLM LUX	E RUS/IK	HOL RUS	
		112665651	14				B CHN I ISR UAE USA	CLM LUX	E RUS/IK	HOL RUS	
		112665652	14				B CHN I ISR UAE USA	CLM LUX	E RUS/IK	HOL RUS	
		112665653	14				B CHN I ISR UAE USA	CLM LUX	E RUS/IK	HOL RUS	
		112665654	13				B CHN ISR LUX USA	E RUS/IK	HOL RUS	I UAE	
		112665655	14				B CHN I ISR UAE USA	CLM LUX	E RUS/IK	HOL RUS	
		112665656	13				B CHN ISR LUX USA	E RUS/IK	HOL RUS	I UAE	
FOUR	E	112665634	12				CHN LUX	E RUS/IK	HOL RUS	I UAE	ISR USA
		112665635	12				CHN LUX	E RUS/IK	HOL RUS	I UAE	ISR USA
		112665636	12				CHN LUX	E RUS/IK	HOL RUS	I UAE	ISR USA
		112665637	12				CHN LUX	E RUS/IK	HOL RUS	I UAE	ISR USA

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Coordination requirements at group level



Administrations identifiées au titre du N° 9.7 par : 根据第9.7款识别的主管部门:				Administrations identified under No. 9.7 by : Администрации, идентифицированные согласно п. 9.7:			Administraciones identificadas según N.º 9.7 por : الإدارات المحددة وفقاً للرقم 7.9 بموجب:				
B1a Beam designation	B2 Emi-Rcp	BR7a Group id.	GHz	Delta T/T Delta T/T	Delta T/T Дельта T/T	Delta T/T T/T دلتا	Arc de coordination 协调弧	Coordination Arc Дуга координации	Arco de coordinación فوس التنسيق		
ONE	E	112665638	11				B CHN I ISR UAE USA	CLM LUX	E RUS/IK	HOL RUS	
		112665639	11				B CHN I ISR UAE USA	CLM LUX	E RUS/IK	HOL RUS	
		112665640	11				B CHN I ISR UAE USA	CLM LUX	E RUS/IK	HOL RUS	
		112665641	11				B CHN I ISR UAE USA	CLM LUX	E RUS/IK	HOL RUS	
THREE	E	112665642	11				B CHN I ISR USA	CLM LUX	E RUS/IK	HOL UAE	
		112665643	11				B CHN I ISR USA	CLM LUX	E RUS/IK	HOL UAE	
		112665644	11				B CHN I ISR USA	CLM LUX	E RUS/IK	HOL UAE	
		112665645	11				B CHN I ISR USA	CLM LUX	E RUS/IK	HOL UAE	
		112665646	11				B CHN I ISR USA	CLM LUX	E RUS/IK	HOL UAE	

B1a Beam designation	B2 Emi-Rcp	BR7a Group id.	GHz	Administrations identifiées au titre du AP30#7.1 识别主管部门的依据是 AP30#7.1				Administrations identified under AP30#7.1 Администрации, идентифицированные согласно AP30#7.1				Administraciones identificadas según AP30#7.1 إدارات محددة بموجب AP30#7.1			
FOUR	E	112665634	12												
		112665635	12												
		112665636	12												
		112665637	12												
THREE	E	112665642	11	CPV	E	ISL	ISR	LBR	LUX	SRL	UAE	USA			
		112665643	11												
		112665644	11	CPV	ISL	ISR	UAE								
		112665645	11	CPV	E	ISL	ISR	LBR	LUX	SRL	UAE	USA			
		112665646	11	CPV	E	ISL	ISR	LBR	SRL	UAE					

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Other forms of coordination at group level

II. Liste des réseaux à satellite
(à titre d'information uniquement
二、卫星网络清单 (仅供参考, 见第

II. List of satellite networks (for information only, see No. 9.36.2)

os de satélite
rmación, véase el N.º 9.36.2)
5.9 قائمة بالشبكات الساتلية (انظر الرقم 9.7)

Liste des réseaux à satellite pour lesquels Delta T/T > 6% ou situés à l'intérieur de l'arc
List of satellite networks for which Delta T/T > 6% or which are within the coordi
Lista de redes de satélite para las que Delta T/T > 6% o que están dentro del arco d
Delta T/T > 6% 的卫星网络清单或位于协调弧内的卫星网络清单
Список спутниковых сетей, для которых Дельта Т/Т > 6% или которые находятся внутри дуги координации (согласно № 9.7)
قائمة بالشبكات الساتلية التي تكون فيها قيمة دلتا T/T > 6% أو التي تقع داخل قوس التنسيق (موجب الرقم 7.9)

Modified by WRC-12,
effective 01.01.2013

A1f1 Notifying adm.	A1f3 Inter. sat. org.	A1a Sat. Network	A4a1 Orbital long.	BR3b Category of notf.	BR25 A/T	BR6a Id. no.	BR26 Causing interference	BR27 Receiving interference	BR28 Deflected by coord. arc
B		B-SAT-1L	37 W	C	A	109520007			A
		B-SAT-1Y	26 W	C	A	110520466			A
CHN		CHINASAT-AL4	40 W	C	A	110520121			A
CLM		SATCOL 1P	38 W	C	A	110520469			A
E		HISPASAT 2A 36W	36 W	C	A	109520110			A
		HISPASAT 36W	36 W	C	A	107520253			A
		HISPASAT-1	31 W	C	A	90500187			A
		HISPASAT-1	30 W	N	A	92500108			A
		HISPASAT-1D KU	30 W	C	A	102520044			A
		HISPASAT-1D KU	30 W	N	A	106500012			A
		HISPASAT-2A KU	30 W	C	A	94520009			A
		HISPASAT-2A KU	30 W	N	A	102500409			A
		HISPASAT-2B KU	30 W	C	A	94520010			A
		HISPASAT-2B KU	30 W	N	A	100500226			A
		HISPASAT-2C3 KU	30 W	C	A	95520194			A
		HISPASAT-2C3 KU	30 W	N	A	100500225			A
		HISPASAT-2D KU	30 W	C	A	100520256			A
		HISPASAT-2D KU	30 W	N	A	104500108			A
		HISPASAT-6A	26 W	C	A	111520213			A
HOL		INTELSAT IBS 319.5E	40.5 W	C	A	90500656			A
		INTELSAT IBS 319.5E	40.5 W	N	A	92500290			A
		INTELSAT K 319.5E	40.5 W	C	A	90500964			A
		INTELSAT K 319.5E	40.5 W	N	A	102500108			A
		INTELSAT5A 319.5E	40.5 W	C	A	90500563			A
		INTELSAT5A 319.5E	40.5 W	N	A	92500194			A
		INTELSAT7 319.5E	40.5 W	C	A	90500763			A
		INTELSAT7 319.5E	40.5 W	N	A	102500109			A
		INTELSAT8 319.5E	40.5 W	C	A	92520096			A
		INTELSAT8 319.5E	40.5 W	N	A	101500580			A
		NSS-18	40.5 W	C	A	100520134			A

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Formal List of affected networks

3 key points

1. Coord exam = conformity with RR (No. 9.35) + establishment of coord requirements (No. 9.36)
2. N- findings can be eliminated & coord requirements can be managed
3. GIBC program is an essential tool