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Analysis of AP30B examination results

By Alexander Klyucharev
Space Services Department
ITU-R

ITU HQ Geneva, 6 December, 2018



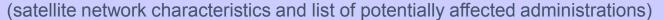
Radiocommunication Bureau



Regulatory / Technical Examinations (§§ 6.3, 6.5, 6.6 AP30B)



Special Section AP30B/A6A



Results of technical examination can be found in BR IFIC (see ...\Databases\AP30B\TEX_Results)



UNION INTERNATIONALE DES TÉL BUREAU DES RADIOCOMM			TELECOMMUNICATION BURE	ON UNION UNIÓN INTERNACIO	NAL DE TELECOMUNICACIONES RADIOCOMUNICACIONES © I.T.U.
RÉSEAU À SATELLITE SATELLITE NETWORK RED DE SATÉLITE		F-SAT-30B-11.5	E	SECTION SPÉCIALE Nº SPECIAL SECTION No. SECCIÓN ESPECIAL N.º	AP30B/A6A/548
ADM. RESPONSABLE RESPONSIBLE ADM. ADM. RESPONSABLE	F	LONGITUDE NOMINALE NOMINAL LONGITUDE LONGITUD NOMINAL	11.5 E	BR IFIC / DATE BR IFIC / DATE BR IFIC/ FECHA	2883 / 13.11.2018
NOTIFIÉ AU NOM DE NOTIFIED ON BEHALF OF NOTIFICADA EN NOMBRE DE				NUMÉRO D'IDENTIFICATION IDENTIFICATION NUMBER NÚMERO DE IDENTIFICACIÓN	117559064
RENSEIGNEMENTS REÇUS PAR LE	BUREAU LE / INF	DRMATION RECEIVED BY THE	BUREAU ON / INFO	RMACIÓN RECIBIDA POR LA OFICINA E	22.12.2017

ASS ASS

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Publication au titre des dispositions de l'Article 6 de l'Appendice 30B du Règlement des radiocommunications		Publication under provisions of Article 6 of Appendix 30B to the Radio Regulations		Publicación con arregio a las disposiciones del Artículo 6 del Apéndice 30B del Reglamento de Radiocomunicaciones		
Renseignements concernant:		Information regarding:		Información relativa a:		
[x]	une fiche de notification reçue au titre du § 6.1, ou	[X] Notice received under § 6.1, or	[x]	Notificación recibida con arreglo al § 6.1, o		
[1	une fiche de notification considérée comme une soumission au titre du § 6.1 conformément au § 7.7 de l'Article 7.	[] Notice treated as a submission under § 6.1 in accordance with § 7.7 of Article 7.	[]	Notificación tramitada como una presentación con arreglo al § 6.1 de conformidad con el § 7.7 del Artículo 7.		
	ninés et publiés conformément aux dispositions suivantes de cle 6:	Examined and published in accordance with the following provisions of Article 6:		Examinada y publicada de conformidad con las siguientes disposiciones del Artículo 6:		
	Assignations examinées au titre des § 6.3, 6.5 et 6.6 et publiées au titre du § 6.7.	[X] Assignments examined under § 6.3, § 6.5 and § 6.6, and published under § 6.7.	[x]	Asignaciones examinadas con arreglo al \S 6.3, \S 6.5 y \S 6.6 y publicadas con arreglo al \S 6.7.		
[]	Assignations examinées au titre du § 6.3 et retournées à l'administration notificatrice au titre du § 6.4.	Assignments examined under § 6.3 and returned to the notifying administration under § 6.4.	[]	Asignaciones examinadas con arreglo al § 6.3 y devueltas a la administración notificante con arreglo al § 6.4.		

DATE LIMITE POUR LA RÉCEPTION DES COMMENTAIRES:

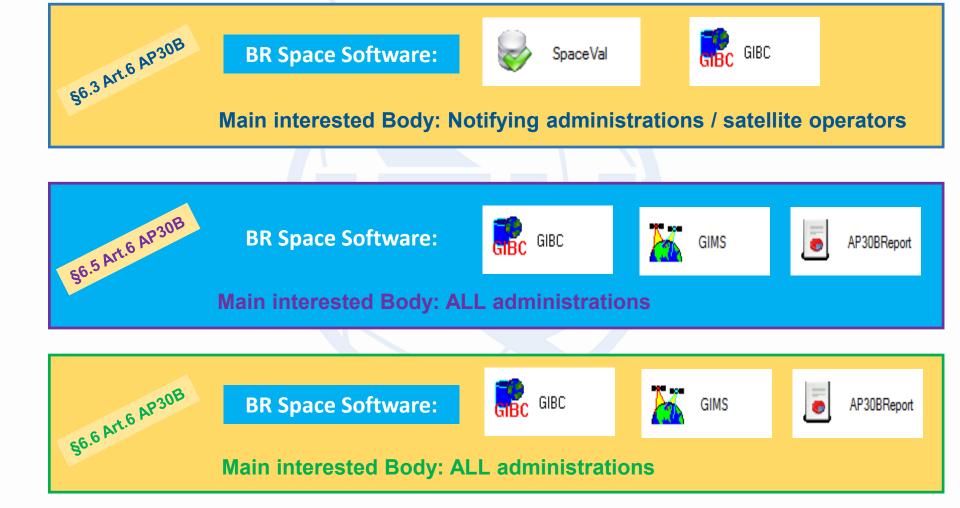
EXPIRY DATE FOR THE RECEIPT OF COMMENTS:

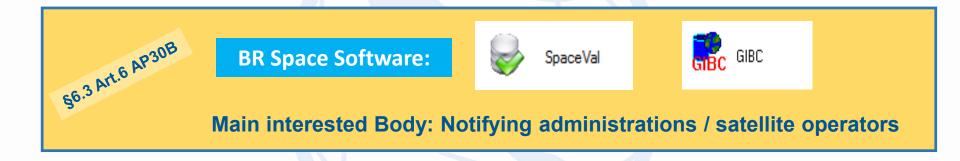
13.03.2019

FECHA LIMITE PARA LA RECEPCIÓN DE LOS COMENTARIOS:



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SpPlans_C.pdf	24.11.2016 10:07 AM
SpPlans_E.pdf	24.11.2016 10:07 AM
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SpPlans_R.pdf	24.11.2016 10:07 AM
SpPlans_S.pdf	24.11.2016 10:08 AM



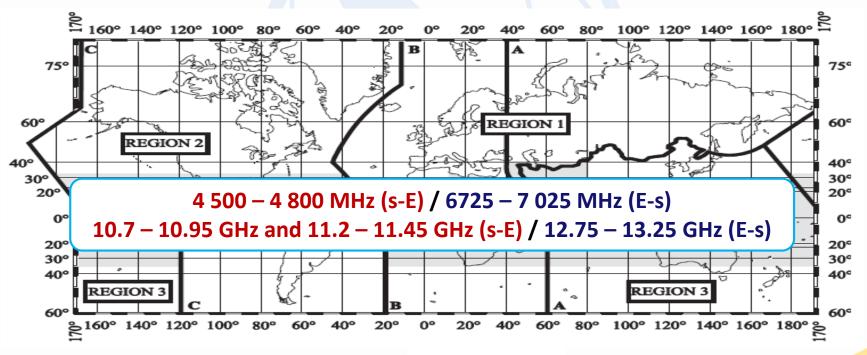


Examination results (under §6.3 of AP30B) and BR Notes

In respect to conformity with:

The **Table of Frequency Allocations** and *the other provisions* of the RR a)

Plan for FSS («Appendix 30B»)





Examination results (under §6.3 of AP30B) and BR Notes

In respect to conformity with:

- a) The Table of Frequency Allocations and <u>the other provisions</u> of the RR Article 21 of RR, in particular in respect to provisions of:
 - => Section III ("Power limits for earth stations");
 - => Section IV ("Minimum angle of elevation of earth stations");
 - => Section V ("Limits of power flux-density from space stations")

Article 22 of RR, in particular in respect to provisions of:

- => Section III ("Station keeping of space stations");
- => Section IV ("Pointing accuracy of antennas on GEO satellites");
- => Section VI ("Off-axis power limits on earth stations of a GEO satellite network in the FSS")





Examination results (under §6.3 of AP30B) and BR Notes

In respect to conformity with:

b) Annex 3 to AP30B

Limits applicable to submissions received under Article 6 or Article 7¹⁵

Under assumed free-space propagation conditions, the power flux-density (space-to-Earth) of a proposed new allotment or assignment produced on any portion of the surface of the Earth shall not exceed:

- 127.5 dB(W/(m² · MHz)) in the 4 500-4 800 MHz band; and
- 114.0 dB(W/(m² · MHz)) in the 10.70-10.95 GHz and 11.20-11.45 GHz bands.

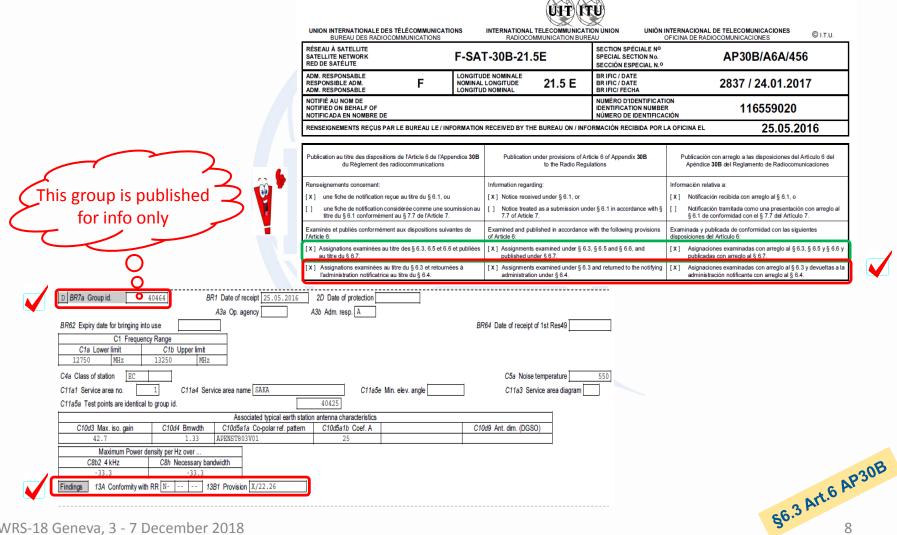
Under assumed free-space propagation conditions, the power flux-density (Earth-to-space) of a proposed new allotment or assignment shall not exceed:

- 140.0 dB(W/(m² · MHz)) towards any location in the geostationary-satellite orbit located more than 10° from the proposed orbital position in the 6 725-7 025 MHz band, and
- 133.0 dB(W/(m² · MHz)) towards any location in the geostationary-satellite orbit located more than 9° from the proposed orbital position in the 12.75-13.25 GHz band.





Examination results (under §6.3 of AP30B) and BR Notes



Examination results (under §6.3 of AP30B) and BR Notes





Radiocommunication Bureau Notes

Note relating to the return of assignments having favourable findings but without any favourable associated linked assignment

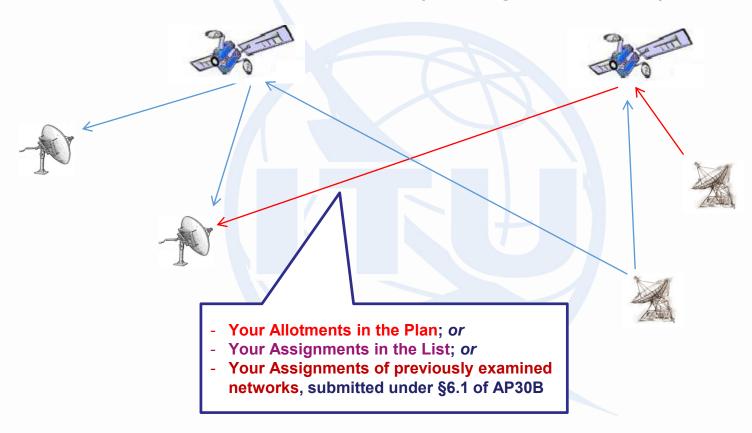
Assignments receiving a favourable finding that do not have any associated linked assignment with a favourable finding have also been returned



Remark: When the examination with respect to §6.3 leads to an unfavourable finding, the relevant part of the notice shall be returned to the notifying administration (under §6.4). This part is not taken into account for further examinations under §6.5 and 6.6.



Examination results (under §6.5 of AP30B)









Examination results (under §6.5 of AP30B)

Annex 4 to AP30B

Criteria for determining whether an allotment or an assignment is considered to be affected

Apply

- if the orbital spacing between its orbital position and the orbital position of the proposed new allotment or assignment is equal to or less than:
- 1.1 10° in the 4 500-4 800 MHz (space-to-Earth) and 6 725-7 025 MHz (Earth-to-space)
- 9° in the 10.70-10.95 GHz (space-to-Earth), 11.20-11.45 GHz (space-to-Earth) and 1.2 12.75-13.25 GHz (Earth-to-space) bands;
- 2 if at least one of the following three conditions is not satisfied:
- 2.1 §2.1 (6/4 GHz) §2.1 (13/10-11 GHz)

the calculated 16 Earth-to-space single-entry carrier-to-interference $(C/I)_u$ value at each test point associated with the allotment or assignment under consideration is greater than or equal to a reference value that is 30 dB, or $(C/N)_u + 9 dB^{17}$, or any already accepted Earth-to-space single-entry $(C/I)_{u}^{18}$, whichever is the lowest;

2.2 §2.2 (6/4 GHz) §2.2 (13/10-11 GHz)

the calculated 16 space-to-Earth single-entry $(C/I)_d$ value everywhere within the service area of the allotment or assignment under consideration is greater than or equal to a reference value ¹⁹ that is 26.65 dB, or $(C/N)_d + 11.65 dB^{20}$, or any already accepted spaceto-Earth single-entry $(C/I)_d$ value, whichever is the lowest;

2.3 §2.3 (6/4 GHz) §2.3 (13/10-11 GHz) the calculated overall aggregate (C/I) agg value at each test point associated with the allotment or assignment under consideration, is greater than or equal to a reference value that is 21 dB, or $(C/N)_t + 7$ dB²¹, or any already accepted overall aggregate $(C/I)_{agg}$ value, \$6.5 Art.6 AP30B whichever is the lowest, with a tolerance of 0.25 dB22 in the case of assignments not stemming from the conversion of an allotment into an assignment without modification, or when the modification is within the envelope characteristics of the initial allotment.

Examination results (under §6.5 of AP30B)



INTERNATIONAL TELECOMMUNICATION UNION RADIOCOMMUNICATION BUREAU

UNIÓN INTERNACIONAL DE TELECOMUNICACIONES OFICINA DE RADIOCOMUNICACIONES

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RÉSEAU À SATELLITE SATELLITE NETWORK RED DE SATÉLITE	F-SAT-30B-11.5E	SECTION SPÉCIALE Nº SPECIAL SECTION No. SECCIÓN ESPECIAL N.º	AP30B/A6A/548
ADM. RESPONSABLE RESPONSIBLE ADM. ADM. RESPONSABLE	LONGITUDE NOMINALE NOMINAL LONGITUDE LONGITUD NOMINAL	BR IFIC / DATE BR IFIC / DATE BR IFIC/ FECHA	2883 / 13.11.2018
NOTIFIÉ AU NOM DE NOTIFIED ON BEHALF OF NOTIFICADA EN NOMBRE DE		NUMÉRO D'IDENTIFICATION IDENTIFICATION NUMBER NÚMERO DE IDENTIFICACIÓN	117559064

RENSEIGNEMENTS REÇUS PAR LE BUREAU LE / INFORMATION RECEIVED BY THE BURE

Publication au titre des dispositions de l'Article 6 de l'Appendice 30B Publication under pro du Règlement des radiocommunications Renseignements concernant Information regarding:

[X] une fiche de notification reçue au titre du § 6.1, ou [X] Notice received under [] une fiche de notification considérée comme une soumission Notice treated as a sul au titre du § 6.1 conformément au § 7.7 de l'Article 7. § 7.7 of Article 7. Examinés et publiés conformément aux dispositions suivantes de Examined and published in of Article 6:

[X] Assignations examinées au titre des § 6.3, 6.5 et 6.6 et [X] Assignments examine publiées au titre du § 6.7. published under § 6.7. [] Assignations examinées au titre du § 6.3 et retournées à Assignments examine l'administration notificatrice au titre du § 6.4. notifying administration

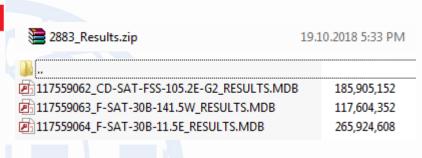
DATE LIMITE POUR LA RÉCEPTION DES COMMENTAIRES : EXPIRY DATE FOR THE RECEIPT OF COMMENTS: FECHA LÍMITE PARA LA RECEPCIÓN DE LOS COMENTARIOS: Administrations et/ou réseaux à satellite affectés / Affected administrations and/or satellite networks / Administraciones y/o redes de satélite afectadas و الشبكات السائلية المائرة الإدارات و / 受影响的主管部门和/或卫星网络 / Затронутые администрации и/или спутниковые сети أو الشبكات السائلية المائرة الإدارات و

	A5 Coordinations	A1f1 Notif. adm.	A1f3 Inter. sat. org.	BR80 Status of identified network	A1a Sat. Network / A1b Plan beam identification	BR6a ld. no.	A4a1 Orbital long.	BR79 Max. degradation
	App.30B, Art.6, § 6.5 - Annexe 4 App.30B, Art.6, § 6.5 - Annex 4 Ap.30B, Art.6, § 6.5 - Anexo 4 附录30B, 第6家, 第6.5段- 附件4 Пр. 30B, Ст. 6, п. 6.5 - Дополнение 4 التأنيط, 30B, كالدة 6.1 اللغرة – 5.4 لللحق التأنيط, 30B كالدة 6.1 اللغرة – 5.4 لللحق							
	§2.1 (6/4 GHz)	ALB		Allotment	ALB00000	90558006	4.13 F	0.996
_		BFA		Allotment	BFA00000	90558031	10.79 H	35.287
		BHR		Allotment	BHR00000	90558033	13.6 F	15.079
		CAF		Allotment	CAF00000	90558042	14.4 F	1.166
		CHN		Pending	ITS-30B-13.5	112559012	13.5 F	14.444
		F		Pending	F-SAT-30B-10E	116559015	10 F	13.202
				Pending	F-SAT-30B-13E	117559005	13 F	16.019
				Pending	F-SAT-30B-7E	117559040	7 I	1.019
				Pending	F-SAT-E-30B-13E	111559011	13 F	16.050
				Pending	F-SAT-E-30B-7E	114559035	7 I	0.999
		GHA		Allotment	GHA00000	90558084	15.9 F	7.505
		LUX		Allotment	LUX00000	90558130	19.2 F	3.395
		uma.		***	MD G G G G G	00550104	100	7 000

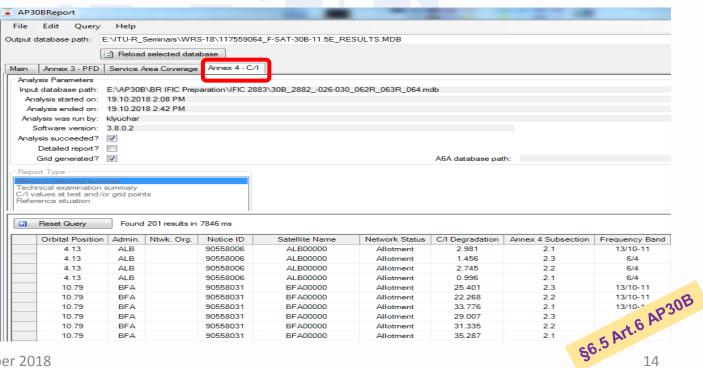
\$6.5 Art.6 AP30B

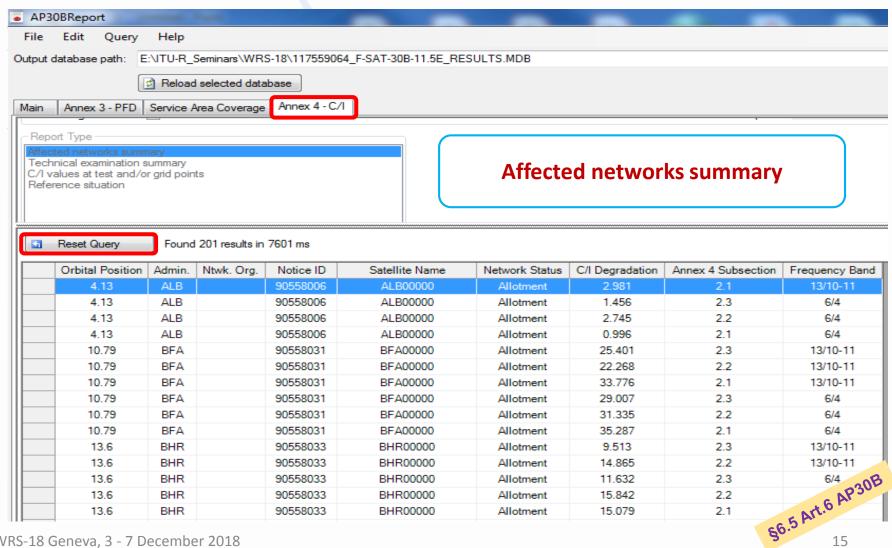


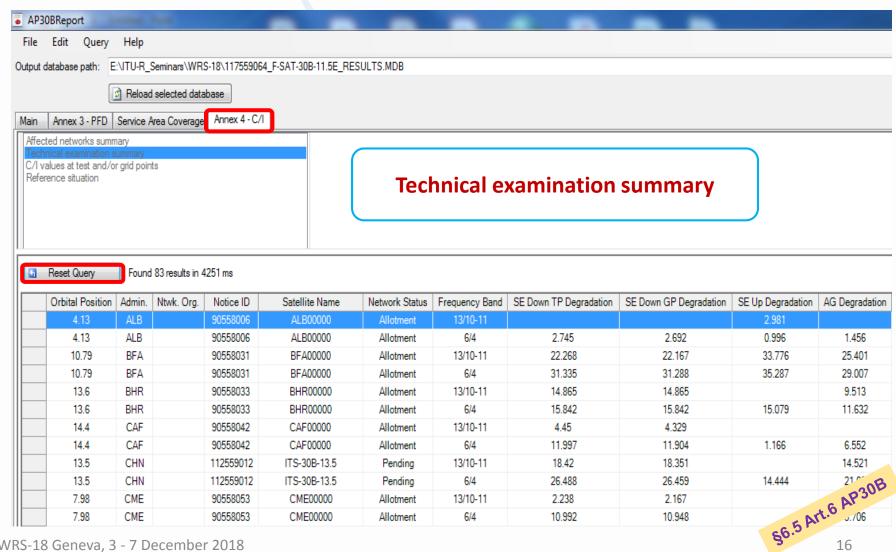
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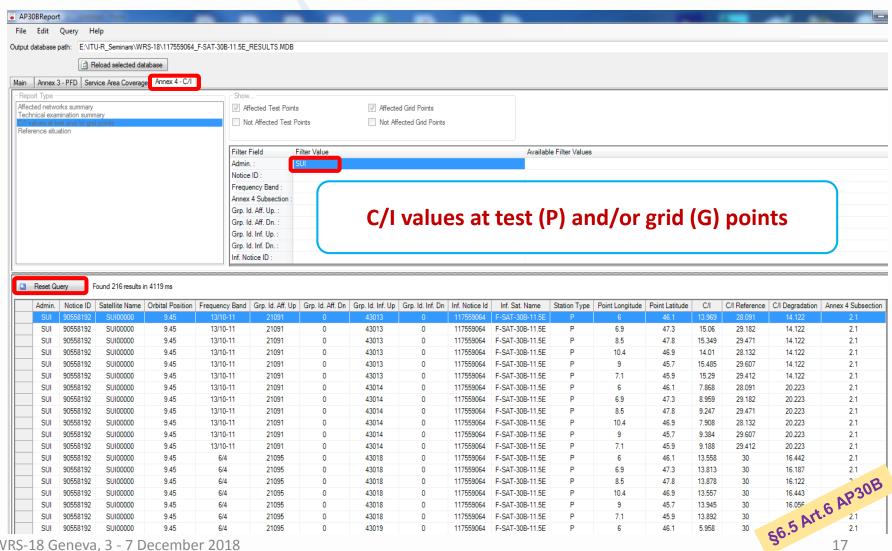


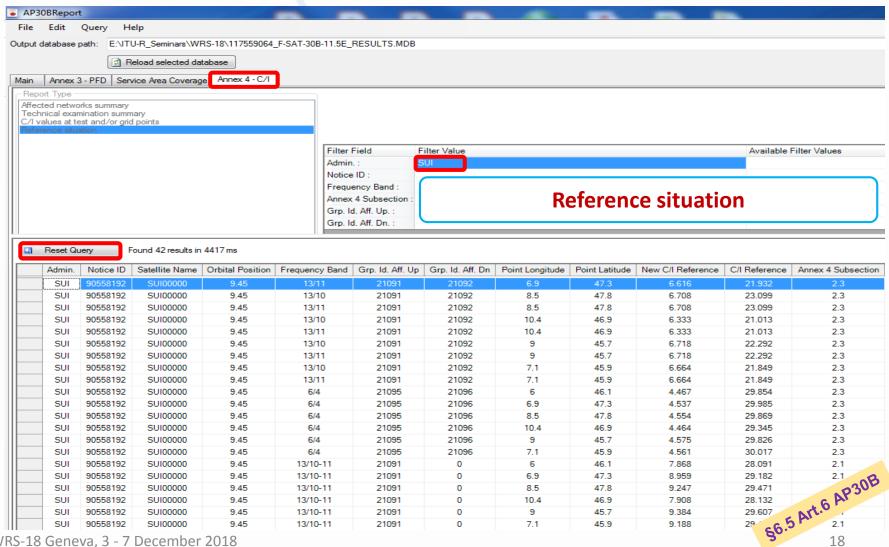






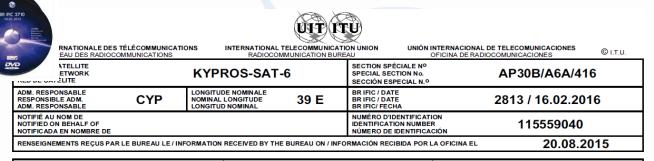








Examination results (under §6.6 of AP30B)



Publication au titre des dispositions de l'Article 6 de l'Appendice 30B du Règlement des radiocommunications

Publication under provisions of Article 6 of Appendix 30B

Publicación con arreglo a las disposiciones del Artículo 6 del

Renseignements concernant:

- [X] une fiche de notification reçue au titre du § 6.1, ou
- une fiche de notification considérée comme une soumissi titre du § 6.1 conformément au § 7.7 de l'Article 7.

Examinés et publiés conformément aux dispositions suivantes d

- [X] Assignations examinées au titre des § 6.3, 6.5 et 6.6 et pub au titre du § 6.7.
- [] Assignations examinées au titre du § 6.3 et retournées à l'administration notificatrice au titre du § 6.4.

Liste des administrations dont l'accord est requis au titre du § 6.6 List of Administrations whose agreements are required under § 6.6 Lista de las Administraciones cuyo acuerdo se necesita al título del § 6.6 根据第6.6款需要征得其同意的主管部门的列表

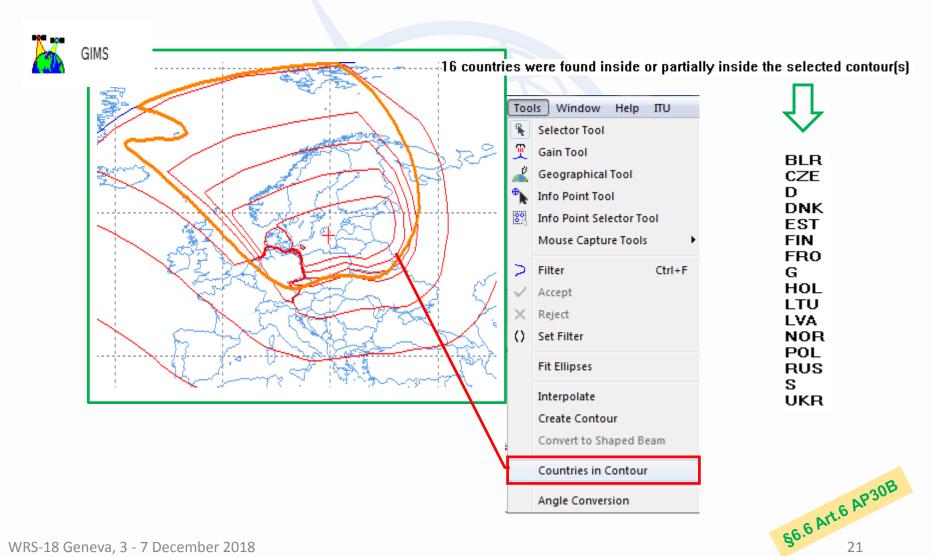
Список администраций, согласие которых требуется в соответствии с п. 6.6

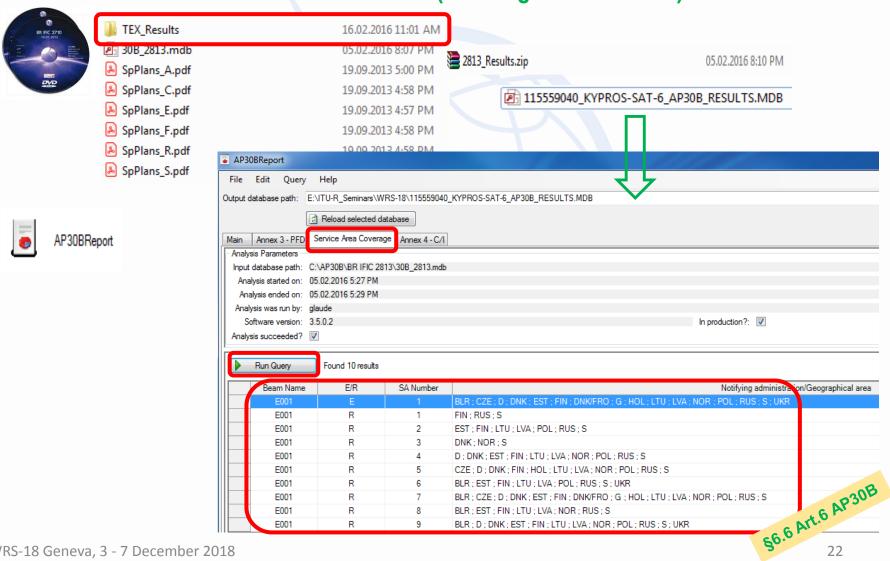
قائمة الإدارات المطلوب الحصول على موافقتها بموجب الفقرة 6.6

Provision	11C2 Agreement symbol	A1f1 Notifying adm. / BR5. Geographical area	
30B#6.6	R	BLR, CZE, D, DNK, DNK/FRO, EST, FIN, G, HOL, LTU, LVA, NOR, POL, RUS, S, UKR	
30B#6.6	0	Néant / None / Ninguna / 无 / Het / يوجد	

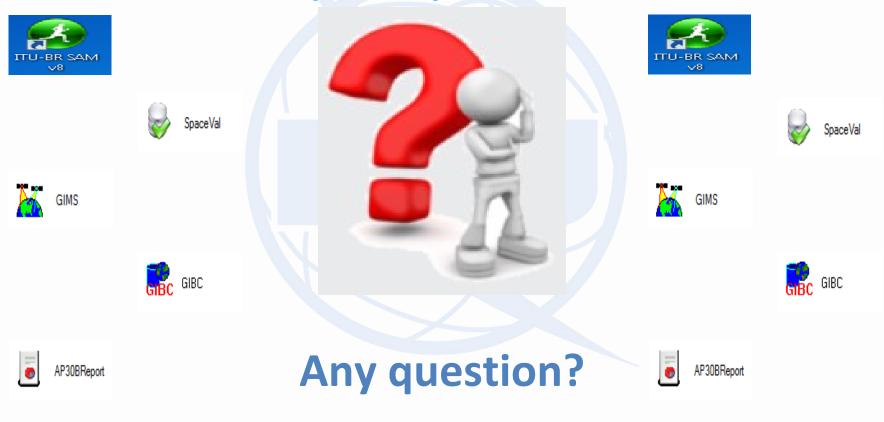


Remark: There is no criteria / limit for this identification, it is only a confirmation of the fact that the territory of the subject Administration is partially or wholly included in the intended service area of the assignment under examination. §6.6 Art.6 AP30B It does not mean that any stations / services are affected within this Administration.





Thank you for your attention!



alexander.klyucharev@itu.int