



ITUWRS

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2-6 December 2024
Geneva, Switzerland



Resolution 121 (WRC-23)

Earth Stations in Motion on aircraft and vessels communicating with Geostationary space stations in the Fixed-satellite service in the 12.75-13.25 GHz frequency band

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2-6 December 2024, Geneva, Switzerland

Radio Regulations Articles

Edition of 2024

1

Radio Regulations Resolutions and Recommendations

Edition of 2024

3

Allocation to services

Region 1	Region 2	Region 3
12.75-13.25	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE Space research (deep space) (space-to-Earth)	5.44 5.496A

5.496A The frequency band 12.75-13.25 GHz (Earth-to-space) may be used by earth stations in motion, limited to earth stations on aircraft and vessels, communicating with geostationary space stations in the fixed-satellite service. Resolution 121 (WRC-23) shall apply. (WRC-23)



RES121-1

RESOLUTION 121 (WRC-23)

Use of the frequency band 12.75-13.25 GHz by earth stations in motion on aircraft and vessels communicating with geostationary space stations in the fixed-satellite service

The World Radiocommunication Conference (Dubai, 2023),

considering

a) that WARC Orb-88 established an Allotment Plan for the use of the frequency bands 4 500-4 800 MHz, 6 725-7 025 MHz, 10.70-10.95 GHz, 11.20-11.45 GHz and 12.75-13.25 GHz by the fixed-satellite service (FSS);

b) that WRC-07 revised the regulatory regime governing the use of the frequency bands referred to in *considering a)* above;

c) that the objective of providing broadband mobile-satellite communications may also be met by allowing earth stations in motion (ESIMs), on aircraft (A-ESIMs) and vessels (M-ESIMs), to communicate with geostationary space stations of an FSS network in the frequency bands 12.75-13.25 GHz (Earth-to-space) and the associated downlink frequency bands of that satellite; thus, for example, the frequency bands 10.70-10.95 GHz and 11.20-11.45 GHz of Appendix 30B may be used;

d) that the frequency band 12.75-13.25 GHz is currently allocated on a primary basis to the FSS (Earth-to-space), fixed and mobile services and on a secondary basis to the space research service (deep space) (space-to-Earth);

e) that the operation of services to which the frequency band 12.75-13.25 GHz is allocated and of services in adjacent bands needs to be protected from A-ESIMs and M-ESIMs;

f) that the frequency band 12.75-13.25 GHz (Earth-to-space) is used in the geostationary-satellite orbit (GSO) by FSS networks in accordance with the provisions of Appendix 30B (No. 5.441) and that there are many existing GSO FSS satellite networks operating in that frequency band;

1. The objective of the resolution is to ensure that the use of the frequency band 12.75-13.25 GHz by earth stations in motion on aircraft and vessels communicating with geostationary space stations in the fixed-satellite service is consistent with the provisions of the Radio Regulations.

Outcome of Agenda Item 1.15 at WRC-23

Earth stations in Motion on aircraft and vessels operating based on supporting Appendix 30B assignments (AP30B-ESIM)

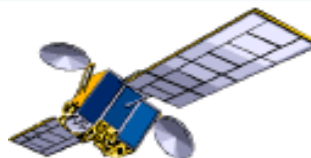
AP30B Geostationary Space Station

Communication with Gateway can be done in AP30B frequency bands or in other bands

Gateway NCMC



The downlink to ESIM, if operated in the AP30B bands, cannot claim protection from other services and cannot change to accommodate ESIM



AP30B-ESIM



Under the scope of Resolution **121(WRC-23)**

Earth stations in Motion on aircraft in the frequency band (12.75-13.25 GHz): **AP30B A-ESIMs (Aeronautical)**

Earth stations in Motion on vessels in the frequency band (12.75-13.25 GHz): **AP30B M-ESIMs (Maritime)**

Key elements for AP30B-ESIM on aircraft and vessels communicating with geostationary space stations in the fixed-satellite service in the 12.75-13.25 GHz frequency band

ESIMs communicate with AP30B GSO space station

Only Appendix 30B assignments recorded in the List and MIFR can be used for AP30B-ESIMs

Notifying administration is the same as the notifying administration of supporting AP30B assignments

Operation must comply with Resolution **121 (WRC-23)** and Radio Regulations

Three-steps registration procedure



Date of receipt
of a complete
Part A notice

**Max 8 years
regulatory time limit**

Date of receipt of a
complete Notification
notice and bringing
into use

Part A

§A1 of Part I of
Annex 1 to
Resolution 121
(WRC-23)

Not_Adm checks Hard limits and
submits complete notice

BR checks hard limits and asks
clarifications

Not_Adm replies within 30 days

BR carries on examination and
publishes the Special Section

Pot_adm sends comments

Not_Adm carries on coordination

Part B

§A11 or §A20 of
Part I of Annex 1 to
Resolution 121
(WRC-23)

Not_Adm checks Hard limits and
submits complete Part B notice

BR checks hard limits and asks
clarifications

Not_Adm replies within 30 days

BR carries on examination and
publishes Special Section for
entering the new AP30B-ESIM
assignments in the AP30B-ESIM List

Notification

§B1 of Part I of
Annex 1 to
Resolution 121
(WRC-23)

Not_Adm checks Hard limits and submits
complete notice with commitments

BR checks hard limits including pfd
limits in case of AP30B A-ESIM and
asks clarifications

Not_Adm replies within 30 days

BR examines and publishes Part I-S,
II-S, III-S as appropriate

Appendix 4 – Annex 2

TABLE A (Rev.WRC-23)

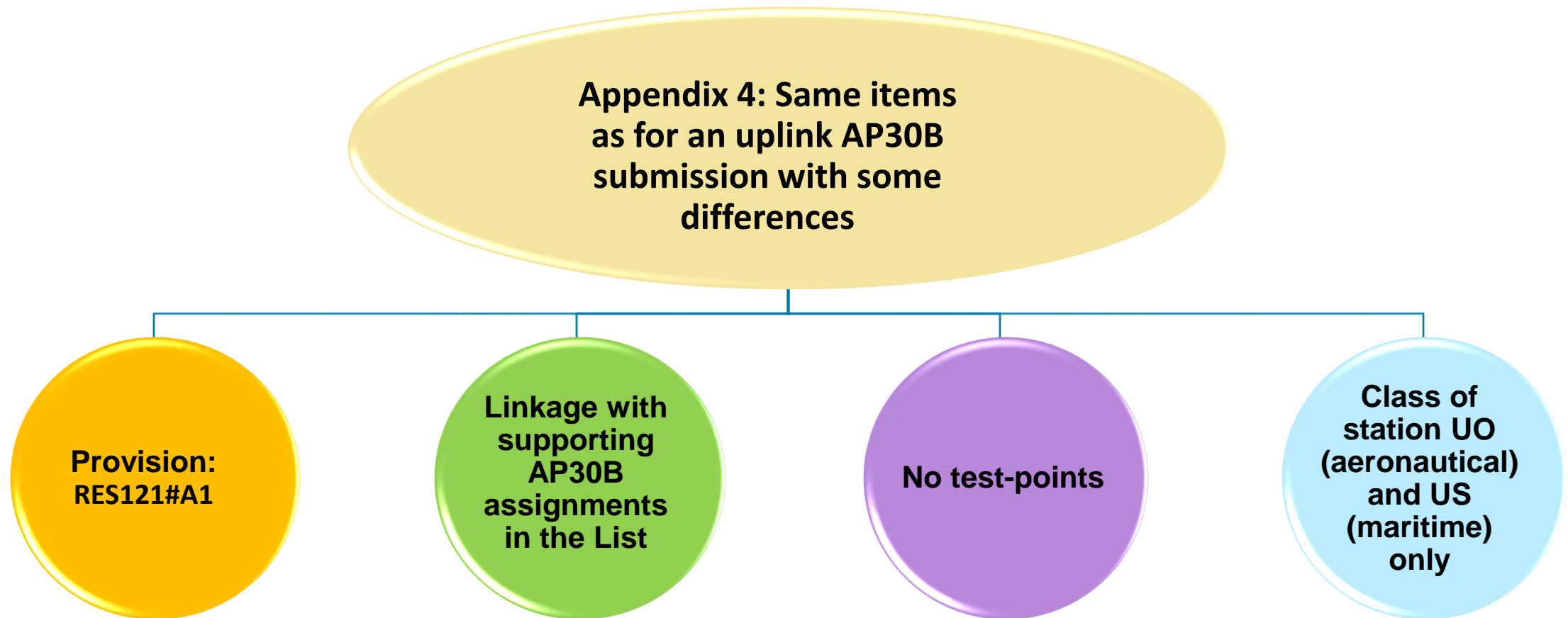
Notice for a satellite network in the fixed-satellite service under Appendix 30B (Articles 6 and 8) or for Appendix 30B ESIM in accordance with Resolution 121 (WRC-23)



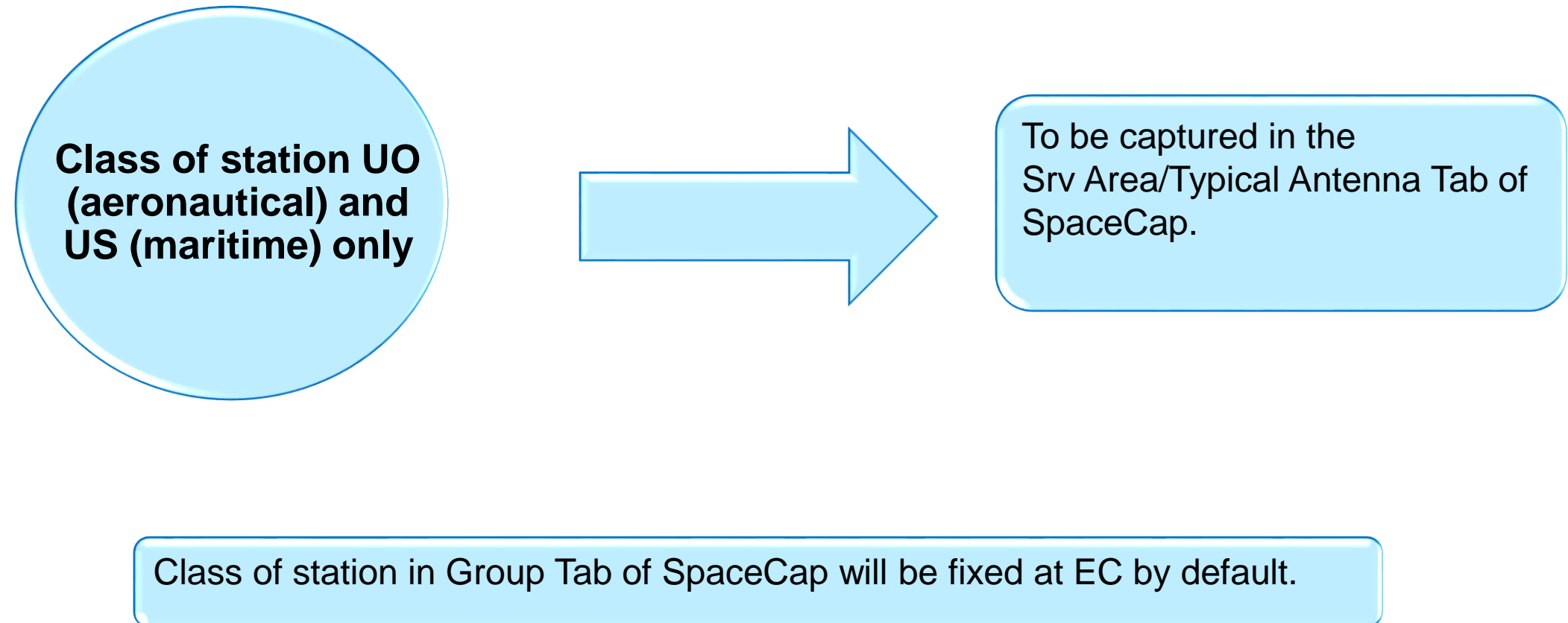
Items in Appendix	A - GENERAL CHARACTERISTICS OF THE SATELLITE NETWORK OR SYSTEM, EARTH STATION OR RADIO ASTRONOMY STATION	Advance publication of a geostationary-satellite network	Advance publication of a non-geostationary-satellite network or system not subject to coordination under Section II of Article 9	Notification or coordination of a geostationary-satellite network (including space operation functions) under Article 2A of Appendices 30A or 30B	Notification or coordination of a non-geostationary-satellite network or system	Notification or coordination of an earth station (including notification under Appendices 30A or 30B)	Notice for a satellite network in the broadcasting-satellite service under Appendix 30 (Articles 4 and 5)	Notice for a satellite network (feeder-link) under Appendix 30A (Articles 4 and 5)	Notice for a satellite network in the fixed-satellite service under Appendix 30B (Articles 6 and 8) or for Appendix 30B ESIM in accordance with Resolution 121 (WRC-23)	Items in Appendix	Radio Regulations
A.13	REFERENCES TO THE PUBLISHED SPECIAL SECTIONS OF THE BUREAU'S INTERNATIONAL FREQUENCY INFORMATION CIRCULAR (see the Preface)									A.13	
A.13.a	the reference and number of the advance publication information in accordance with No. 9.1		X	X						A.13.a	
A.13.b	the reference and number of the coordination request in accordance with No. 9.6 For the notification of an earth station, the reference to the Special Section of the associated satellite network or system has to be provided For the notification of an earth station coordinated under No. 9.7A, the coordination Special Section number of this earth station has to be provided		X	X	X					A.13.b	
A.13.c	the reference and number of the information in accordance with Article 4 of Appendix 30						X			A.13.c	
A.13.d	the reference and number of the information in accordance with Article 4 of Appendix 30A							X		A.13.d	
A.13.e	the reference and number of the information in accordance with Article 6 of Appendix 30B or, in the case of an Appendix 30B ESIM, the reference and number of the information in accordance with Resolution 121 (WRC-23) and the reference to the supporting Appendix 30B assignment(s)					X			X	A.13.e	
A.14	FOR STATIONS OPERATING IN A FREQUENCY BAND SUBJECT TO Nos. 22.5C, 22.5D, 22.5F OR 22.5L: SPECTRUM MASKS									A.14	
A.14.a	For each e.i.r.p. mask used by the non-geostationary space station:									A.14.a	
A.14.a.1	the mask identification code				X					A.14.a.1	
A.14.a.2	the lowest frequency for which the mask is valid				X					A.14.a.2	
A.14.a.3	the highest frequency for which the mask is valid				X					A.14.a.3	
A.14.a.4	the mask pattern defined in terms of the power in the reference bandwidth for a series of angles measured at the non-geostationary space station between the line to the sub-satellite point and the line to a point on the geostationary arc, together with the bandwidth used				X					A.14.a.4	
A.14.a.5	the reference bandwidth used for the mask pattern of A.14.a.4				X					A.14.a.5	
A.14.b	For each associated earth station e.i.r.p. mask:									A.14.b	
A.14.b.1	the mask identification code				X					A.14.b.1	
A.14.b.2	the lowest frequency for which the mask is valid				X					A.14.b.2	
A.14.b.3	the highest frequency for which the mask is valid				X					A.14.b.3	
A.14.b.4	Not used									A.14.b.4	
A.14.b.5	Not used									A.14.b.5	
A.14.b.6	the mask pattern defined in terms of the power in the reference bandwidth as a function of latitude and the off-axis angle between the non-geostationary earth station boresight line and the line from the non-geostationary earth station to a point on the GSO arc or as a function of latitude, the non-geostationary earth station pointing angles (azimuth, elevation) and the difference in longitude between the non-geostationary earth station and a point on the geostationary arc				X					A.14.b.6	
A.14.b.7	the reference bandwidth used for the mask pattern of A.14.b.6				X					A.14.b.7	

- X - Mandatory information
- + - Mandatory under the conditions
- O - Optional information
- C - Mandatory if used as a basis to effect coordination with another administration
- The data item is not applicable to the corresponding notice

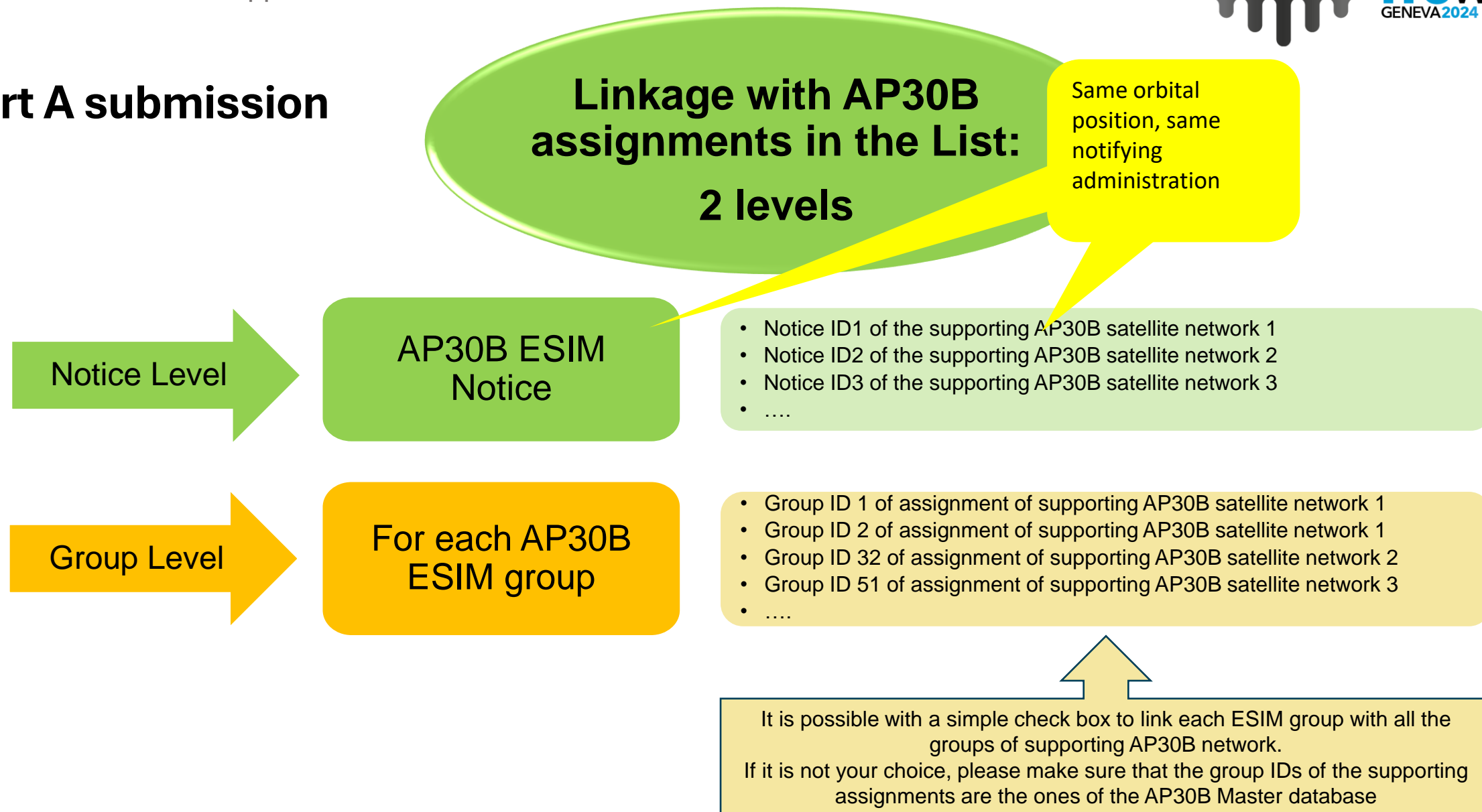
Part A submission



Part A submission

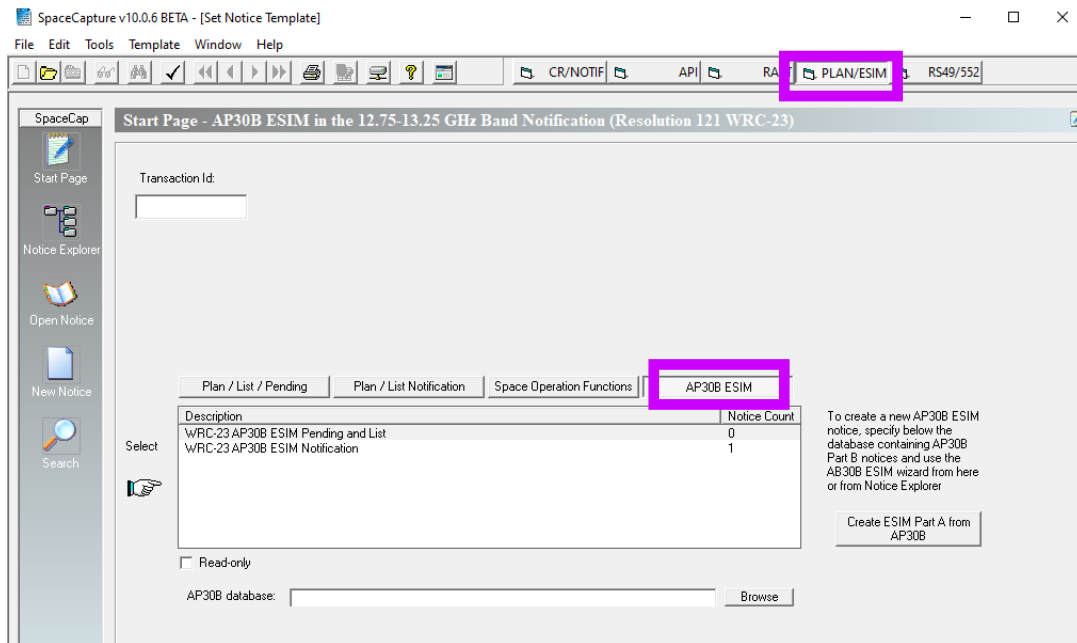


Part A submission



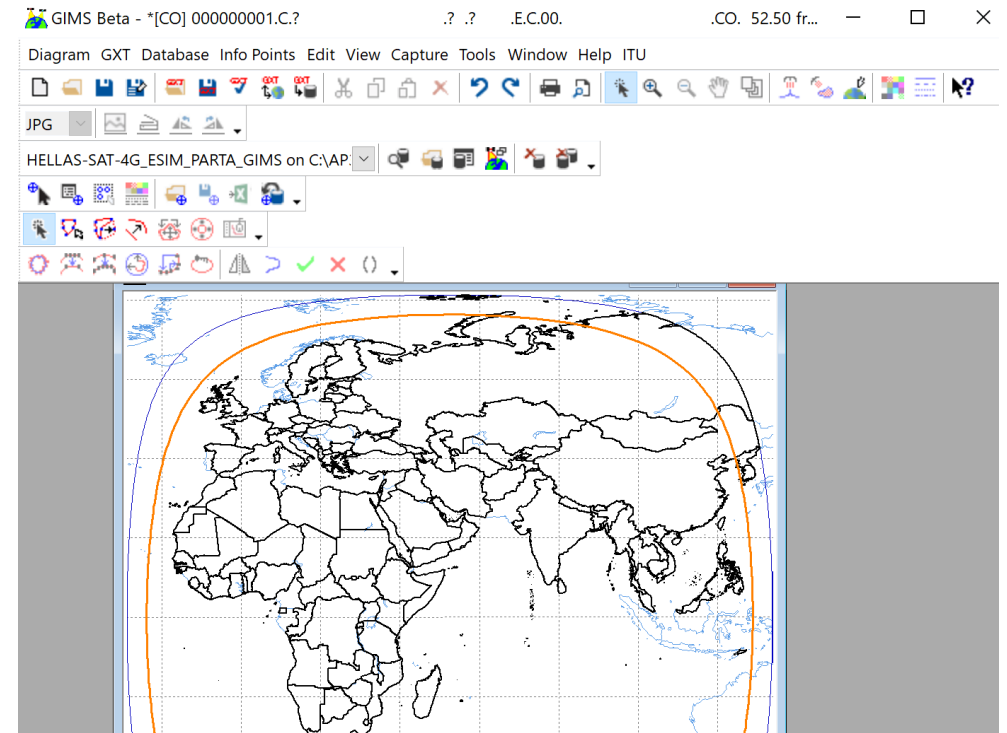
BR Application to be used To capture the notice

SpaceCap Version 10



Go to SpaceCap

GIMS Version 10

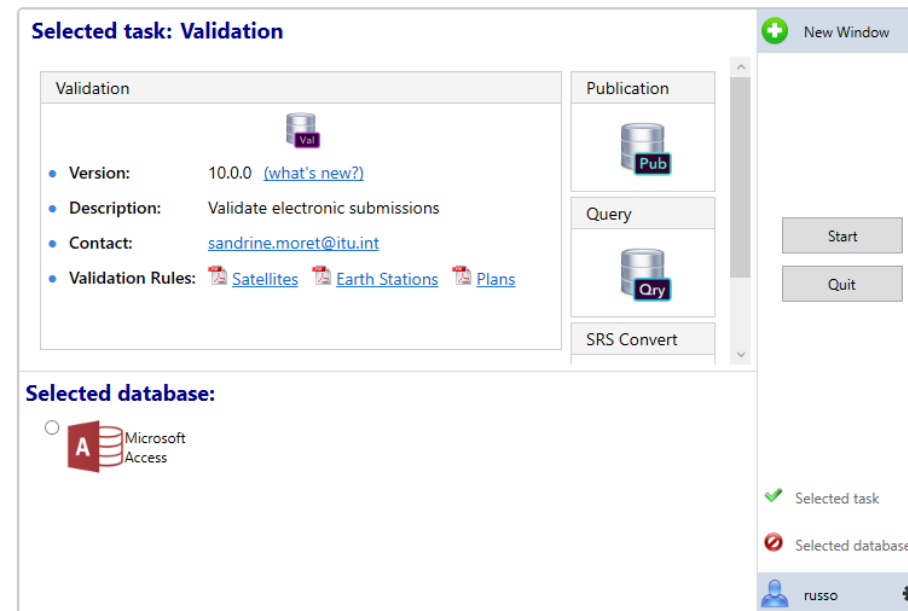


BR Application to be used To validate the notice

BRSIS Validation Version 10



Space Information System (SNS v10.0)



Part A Hard limits: performed at group level

1. Independent checks:

Class of Station UO/US

No 22.8 (check with BRSIS
Validation V 10)

No 22.26

Annex 3 of AP30B:

calculated **from the uplink grid
points**, generated by the
Bureau

2. Checks related to the supporting AP30B assignments:

Frequency Band

within the frequency bands of
the **linked supporting AP30B
assignments**

Service area

Shall be included in the service
area of the **linked supporting
AP30B assignments**, but can
include the sea

EIRP on-axis and off-axis

within the envelope of the
**linked supporting AP30B
assignments**

Only unfavourable groups will be returned

1. Independent checks

How to meet them?

Class of stations
22.8

Class of stations: UO or US
Longitudinal tolerance: $\pm 0.1^\circ$

easy to fix 😊

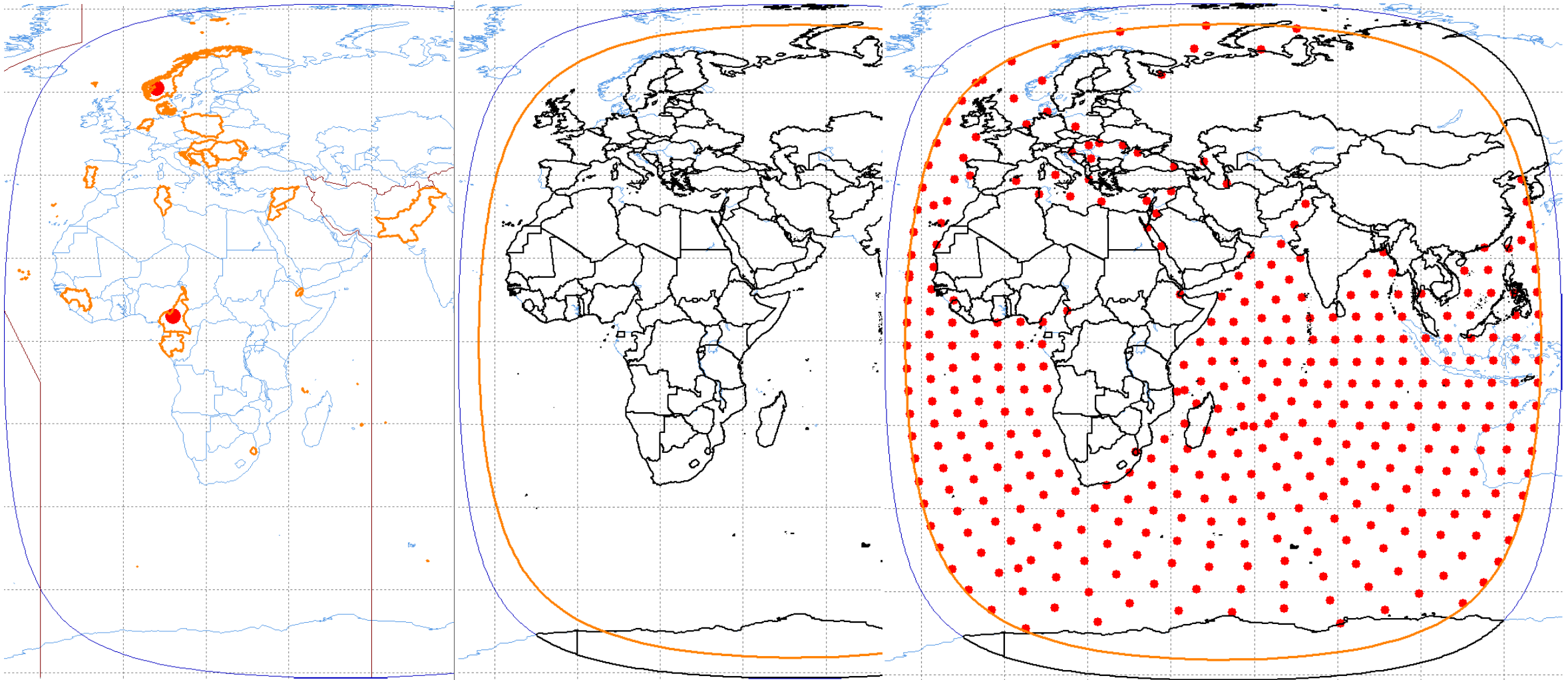
22.26

Same as for Appendix 30B filings You are an expert 😊

Annex 3

- It is calculated **on grid points** generated by the Bureau on the whole service area of AP30B-ESIM, while for Appendix 30B it is calculated only from test-points
- You may need to decrease the power densities (GIBC results)

Considerations derived by the special nature of service area in Appendix 30B



2. Checks related to the supporting AP30B assignments

How to meet them?

Frequency overlap

- 2 blocks of 250MHz: 12.75-13.00 GHz and 13.00-13.25 GHz
- Check the frequency bands of the supporting groups linked to the N- group
- Change supporting group or reduce the frequency bands of the ESIM group

e.i.r.p. on-axis and off-axis

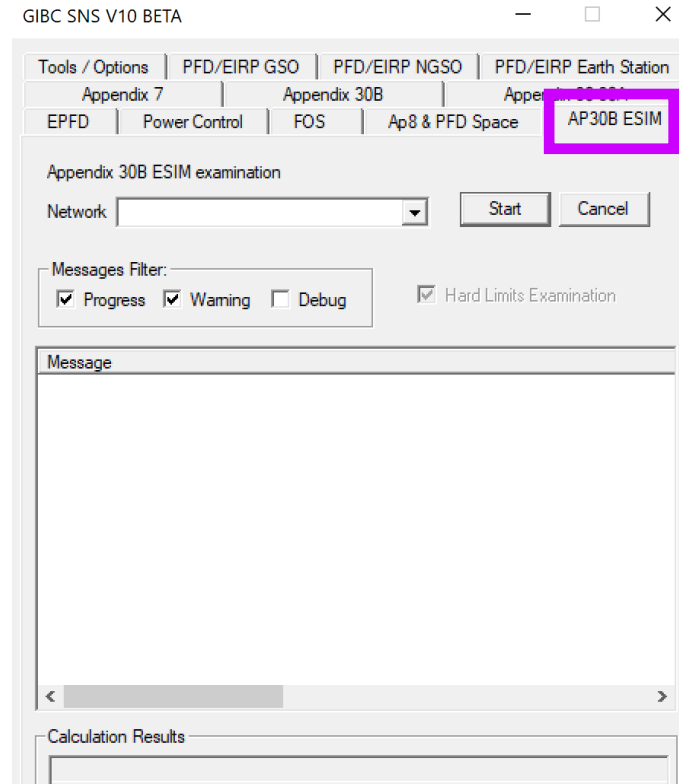
- Reduce the power densities
- Change the AP30B-ESIM antenna pattern
- Change the maximum gain and beamwidth of the AP30B-ESIM antenna

Service area

- Remove from the service area the territories of the administrations who didn't give the agreement to the supporting AP30B assignment
- It is not possible to increase the service area even if an additional agreement has been obtained

BR Application to be used To check Hard Limits

GIBC/AP30B ESIM Version 10



Go to GIBC

BR Application to be used To send to the Bureau

E-Submission Version 10

API and Coordination



Notification



Due Diligence



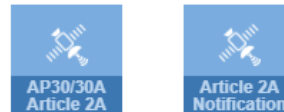
Spacecom Comments



Broadcasting Satellite Service (AP30/30A)



Space Operation Functions supporting BSS (AP30/30A)



Fixed Satellite Service (AP30B)



AP30B ESIM



Upload AP30B ESIM Part A for Validation

- SNS Database structure Version 10 was introduced.
- All users are strongly requested to use [Space Software v10](#) and submit notice in v10
- The system only accepts uploaded filings in SNS 10 format on and after 01.01.2025.
- Please don't forget to upload files before submitting for validation.
- Click the '+' button to upload other than SNS and GIMS mdb files.

SNS(MDB) : MDB file with Notice Data *

RES121_ESIM_PartA_v10_mod.mdb

×

GIMS(MDB) : MDB with GIMS data. *

RES121_ESIM_PartA_gims.mdb

×

Browse...

Upload

*Attachments in "other" fields are for information only and should relate to MDB files

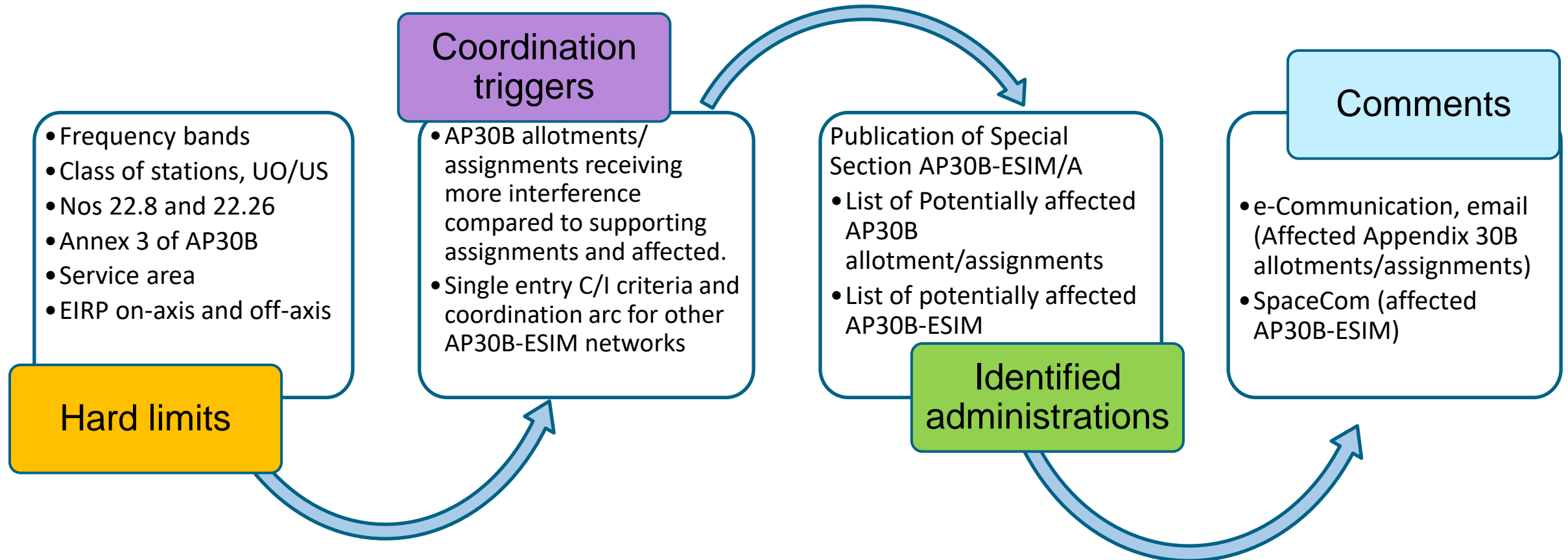
+

Add additional documents or drag files here

Upload All

[Submit for Validation](#)

Part A Examination & Coordination



Part A Coordination Triggers

1. Protection of Appendix 30B Assignments/allotments

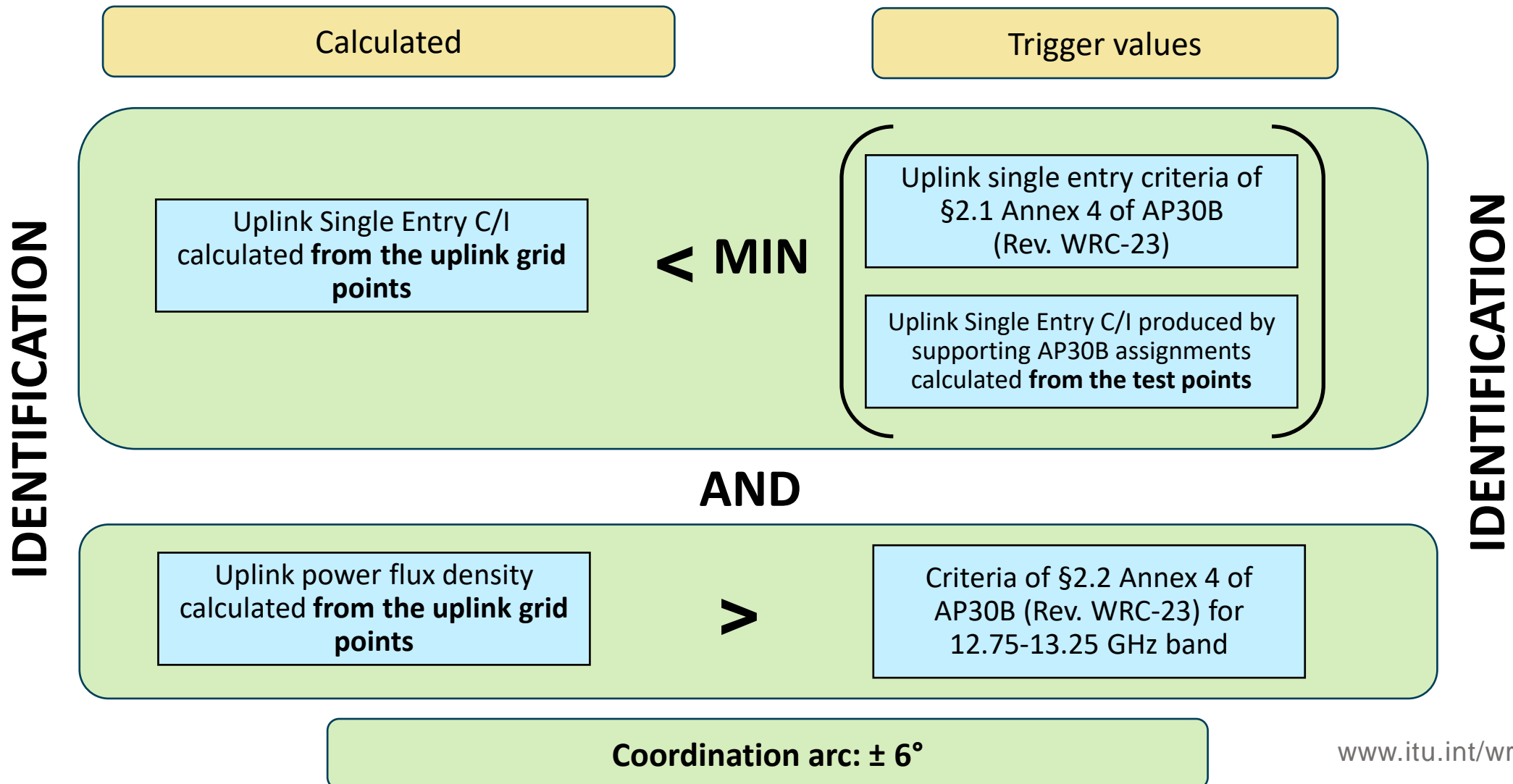
Incoming AP30B-ESIM causes more degradation (**from grid points**) than the supporting AP30B assignments (**from test-points**) to the single entry C/I of any allotment/assignments in AP30B

AND

That allotment/assignment is affected according the Annex 4 criteria

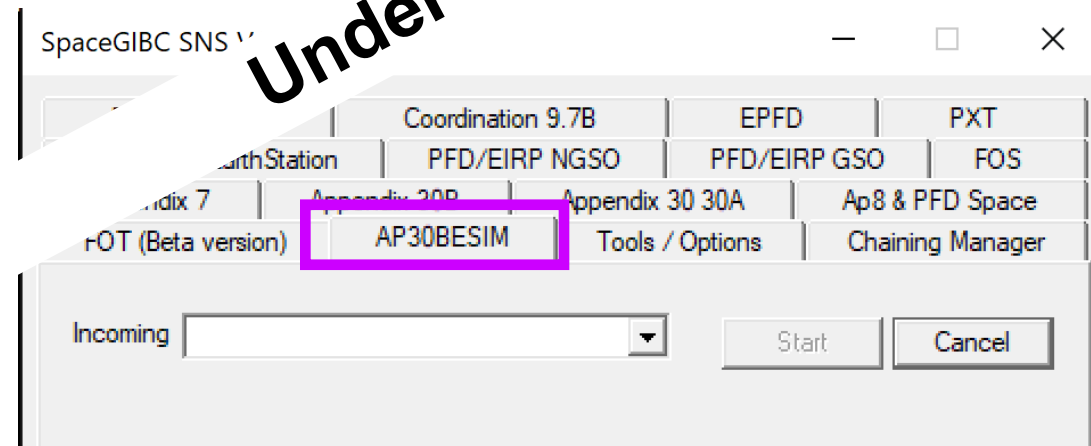
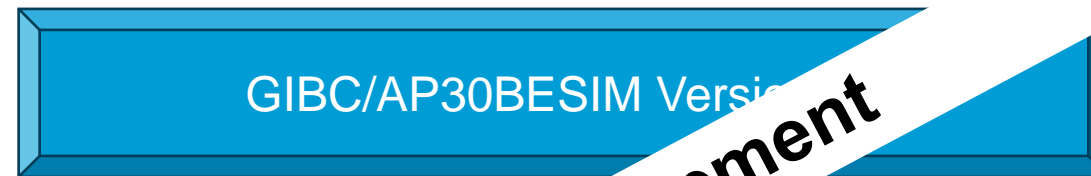
Same
principle as
§6.22
examination

2. Protection of other AP30B-ESIM



BR Application to be used

To identify coordination requirements



Comments to Part A Special Section (AP30B-ESIM/A)

Commenting period: **4 months** from the date of publication of the relevant AP30B ESIM Part A Special Section (AP30B-ESIM/A)

Allotments

Conversions within envelope

Art 7 transferred to Art 6

Application of Resolution 170

- Comment via e-Communication or email
- If no comment within 4 months: **disagreement. Not possible for NotAdm to ask assistance to the Bureau for giving Aff_Adm last 30 days to provide an answer (Procedure §§6.13-6.15)**

AP30B assignments
other than above

- Comment via e-Communication or email
- If no comment within 4 months: **disagreement. Procedure §§6.13-6.15 applicable**

Existing AP30B ESIM

- Comment with SpaceCom
- Send SpaceCom database with e-Submission
- **No SpaceCom database received by the Bureau within 4 months: agreement**
- Publication of **AP30B-ESIM/D** with coordination requirement for AP30B-ESIM

BR Applications to be used to comment for protection of AP30B-ESIM

SpaceCom Version 10

SpaceCom Template Selection



API/A	Manage comments for the publication of API/B Special Sections
CR/C	Manage comments for the publication of CR/D Special Sections
9.41 Request	Manage comments for the publication of CR/E Special Sections
AP30-30A/E Part A	Manage comments for the publication of Article 4 AP30-30A/E Part D Special Sections related to Region 2
AP30-30A/F/C	Manage comments for the publication of Article 2A AP30-30A/F/D Special Sections related to Region 2
AP30B ESIM	Manage comments for the publication of AP30B-ESIM/D Special Sections
11.28.1 Part I-S	Manage comments for the publication of Part I-S subject to 11.28.1



E-Submission

API and Coordination



Notification



Due Diligence



Spacecom Comments



Broadcasting Satellite Service (AP30/30A)



Space Operation Functions supporting BSS (AP30/30A)



Fixed Satellite Service (AP30B)



AP30B ESIM



Notifying administration carries on coordination with

Administrations responsible for potentially affected AP30B allotments/assignments as identified in the AP30B-ESIM/A

AND

Administrations responsible for other AP30B-ESIM networks as published in the AP30B-ESIM/D

Three-steps registration procedure

Date of receipt
of a complete
Part A notice

**Max 8 years
regulatory time limit**

Date of receipt of a
complete Notification
notice and bringing
into use

Part A

§A1 of Part I of
Annex 1 to
Resolution 121
(WRC-23)

Not_Adm checks Hard limits and
submits complete notice

BR checks hard limits and asks
clarifications

Not_Adm replies within 30 days

BR carries on examination and
publishes the Special Section

Pot_adm sends comments

Not_Adm carries on coordination

Part B

§A11 or §A20 of
Part I of Annex 1 to
Resolution 121
(WRC-23)

Not_Adm checks Hard limits and
submits complete Part B notice

BR checks hard limits and asks
clarifications

Not_Adm replies within 30 days

BR carries on examination and
publishes Special Section for
entering the new AP30B-ESIM
assignments in the AP30B-ESIM List

Notification

§B1 of Part I of
Annex 1 to
Resolution 121
(WRC-23)

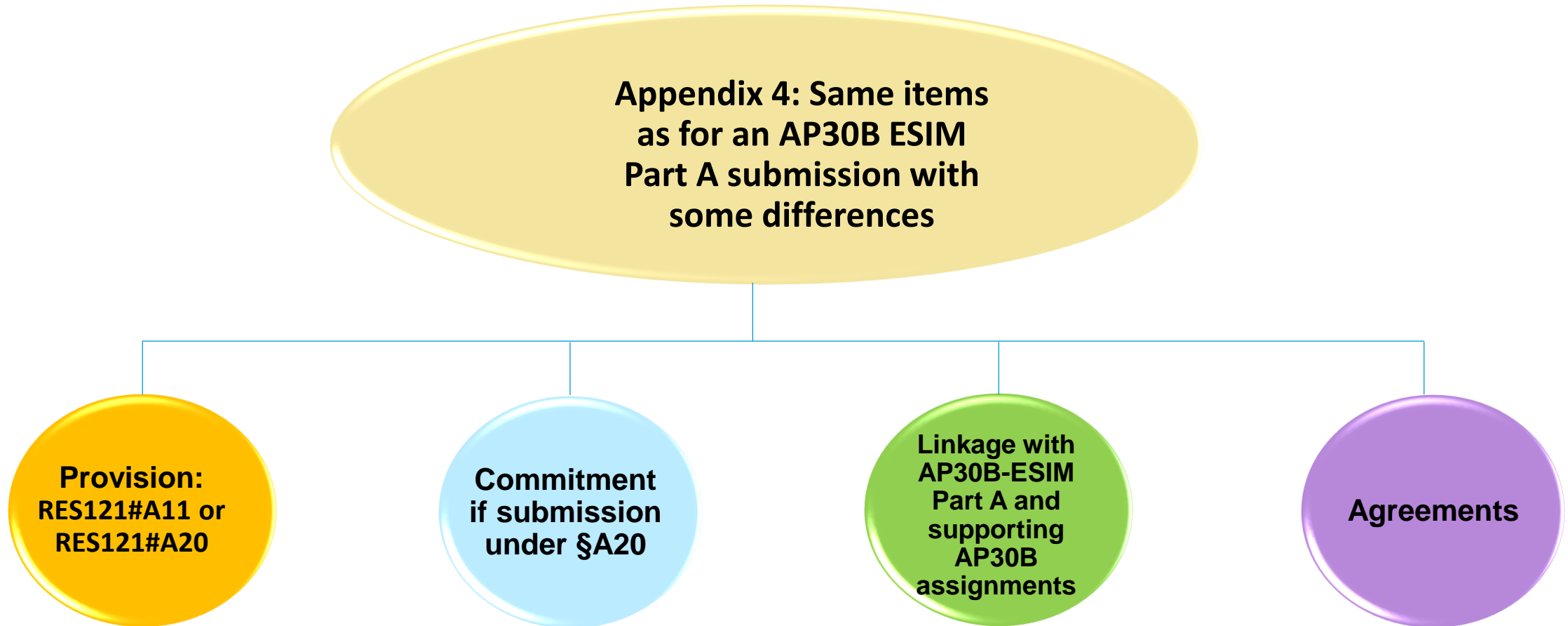
Not_Adm checks Hard limits and submits
complete notice with commitments

BR checks hard limits including pfd
limits in case of A-ESIM and asks
clarifications

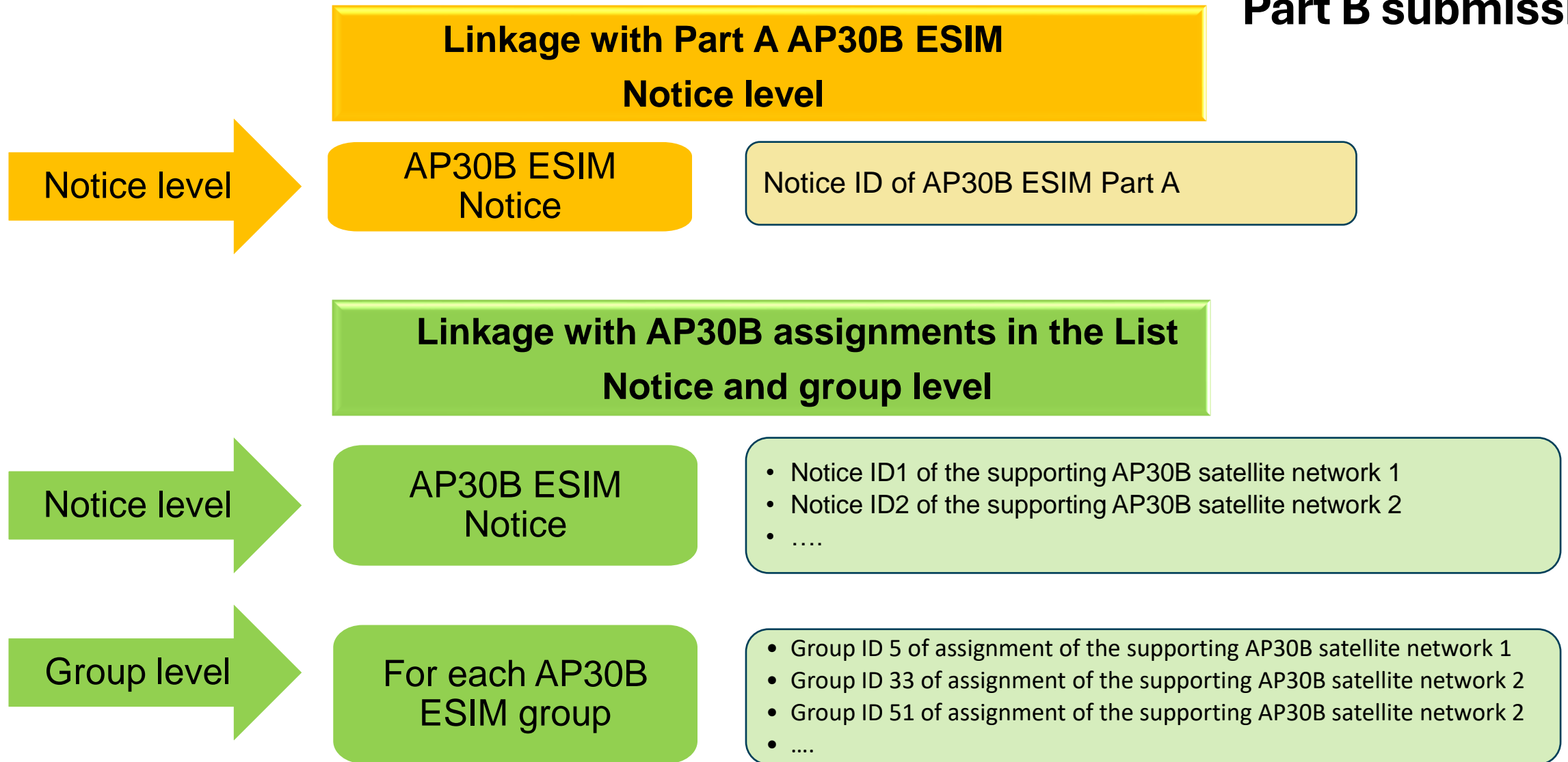
Not_Adm replies within 30 days

BR examines and publishes Part I-S,
II-S, III-S as appropriate

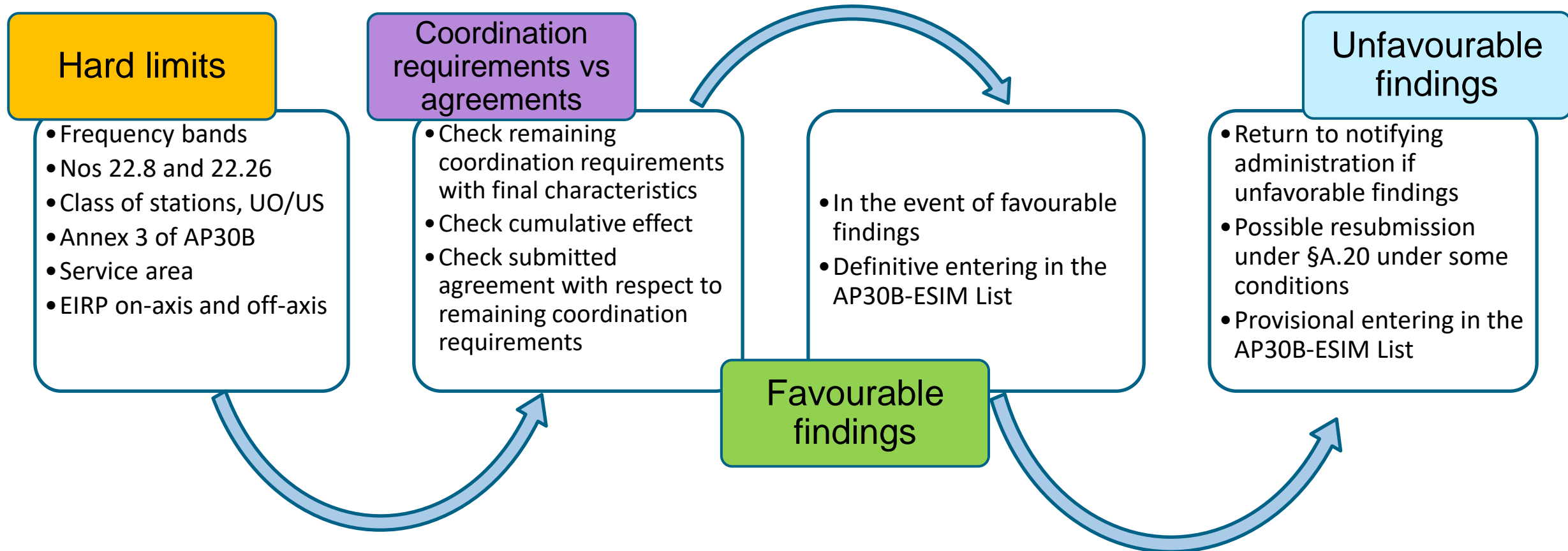
Part B submission



Part B submission



Part B Examination & Entering in the AP30B-ESIM List



The notifying administration may also ask the Bureau to examine the characteristics submitted for Part B also for notification

Part B Hard limits: performed at group level

1. Independent checks:

Class of Station UO/US

No 22.8 (check with BRSIS
Validation V 10)

No 22.26

Annex 3 of AP30B:

calculated from the uplink grid
points, generated by the
Bureau

2. Checks related to the AP30B ESIM Part A

Frequency Band

within the frequency bands of
the **corresponding AP30B-
ESIM Part A** as published

Service area

Shall be included in the service
area of the **corresponding
AP30B-ESIM Part A** as
published

EIRP on-axis and off-axis

within the envelope of the
**corresponding AP30B-ESIM
Part A** as published

In case of one or more unfavourable groups the whole notice will be returned www.itu.int/wrs-24 30

Part B examination

With respect to Appendix 30B assignments/allotments: 2 different examinations

Examination 1: Part A scenario §A16

Reproduce the scenario of Part A,
Replace Part A with Part B characteristics
Same examination as for Part A
Check if pending agreements

For AP30B assignments in the coordination arc
which were pending and entered in the List in
the meantime, 2nd examination is performed
regardless if identified as affected or not

Part B examination

With respect to Appendix 30B Assignments/allotments: 2 examinations

Examination 2: cumulative effect §A17

Calculate the impact on the overall aggregate C/I of AP30B allotments/assignments considering other AP30B-ESIMs previously entered in the AP30B-ESIM List

Tolerance of 0.05dB for allotments, conversions of allotments into assignments within the envelope and assignments related to Article 7

Tolerance of 0.25dB for other assignments

Part B examination

With respect to other AP30B-ESIM

Reproduce the scenario of Part A,
Replace Part A with Part B characteristics
Same examination as for Part A
Check if missing agreements

Part B submission

**Submission under §A20 only
possible if affected assignments
are not**

- ✓ an allotment
- ✓ a conversion of an allotment into an assignment without modification or with a modification within the envelope of the initial allotment
- ✓ an Article 7 request transferred to Article 6
- ✓ a submission in accordance with Resolution **170 (Rev.WRC 23)**

**Submission under §A20 subject to
commitment**

the use of an assignment provisionally recorded in the Appendix 30B ESIM List shall not cause unacceptable interference to, or claim protection from, those assignments for which agreement still needs to be obtained.

Provisional entering in the AP30B-ESIM List can become definitive only if missing agreements are obtained or the affected assignments are deleted

Publication (AP30B-ESIM/B) and entering in the AP30B-ESIM List

AP30B-ESIM List

Provisional entry of the AP30B-ESIM List if pending coordination

Independent from Appendix 30B List

No update of the reference situation of Appendix 30B allotments/assignments

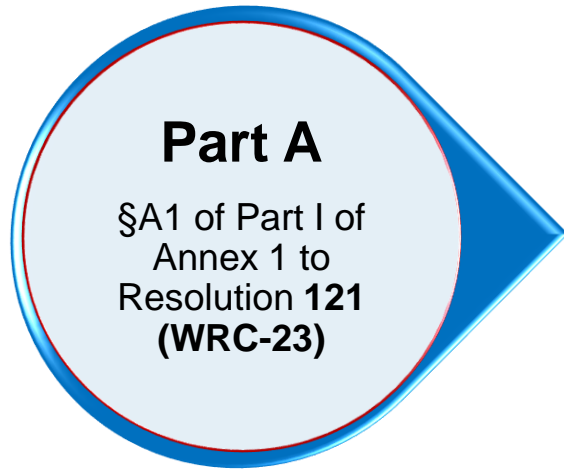
No change on AP30B allotments/assignments following the entry in the AP30B-ESIM List of AP30B-ESIM assignments

No reference situation for AP30B-ESIM assignments

Once in the AP30B-ESIM List, the validity period of AP30B-ESIM assignments is related to the supporting Appendix 30B assignments

Three-steps registration procedure

Date of receipt
of a complete
Part A notice



Not_Adm checks Hard limits and
submits complete notice

BR checks hard limits and asks
clarifications

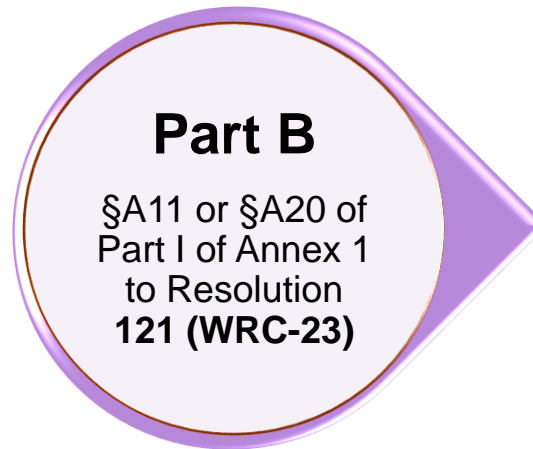
Not_Adm replies within 30 days

BR carries on examination and
publishes Special Section

Pot_adm sends comments

Not_Adm carries on coordination

**Max 8 years
regulatory time limit**



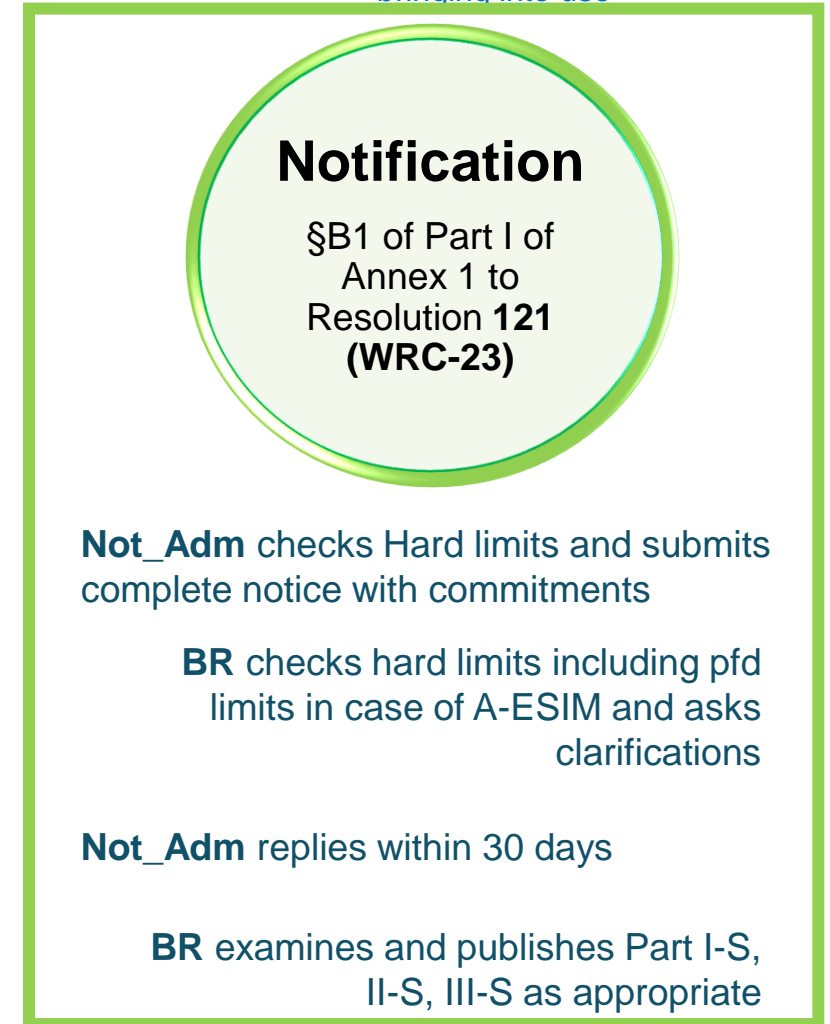
Not_Adm checks Hard limits and
submits complete Part B notice

BR checks hard limits and asks
clarifications

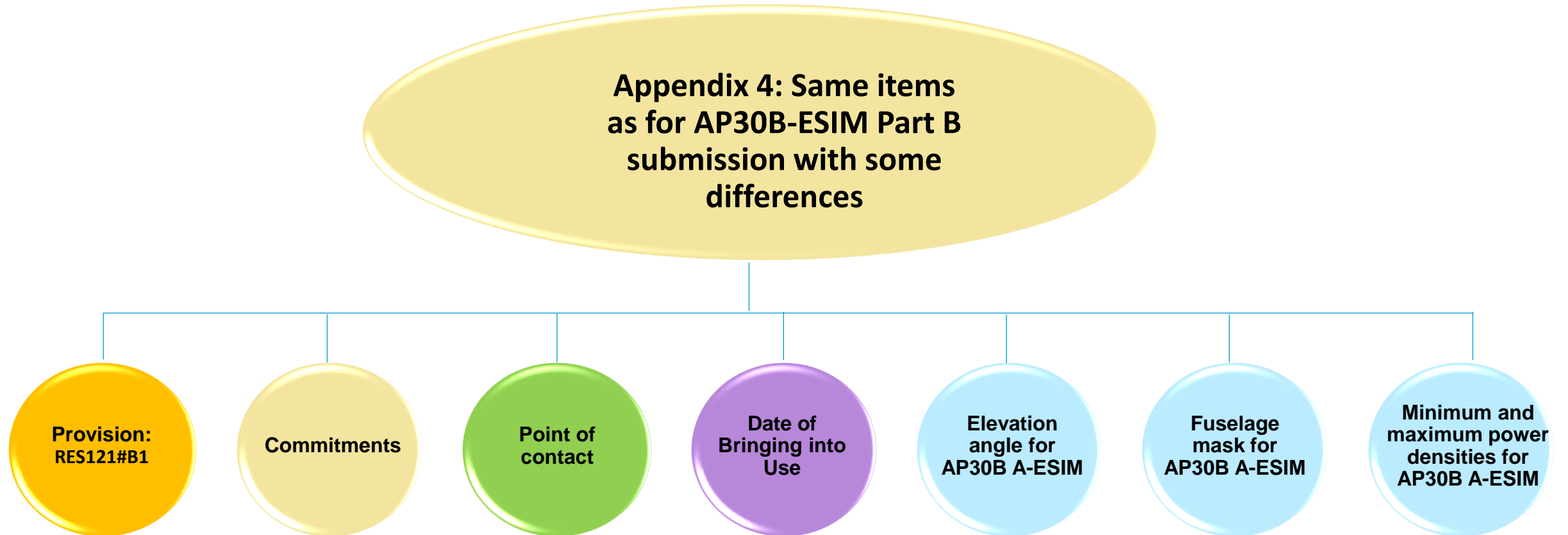
Not_Adm replies within 30 days

BR carries on examination and
publishes Special Section for
entering the new AP30B-ESIM
assignments in the AP30B-ESIM List

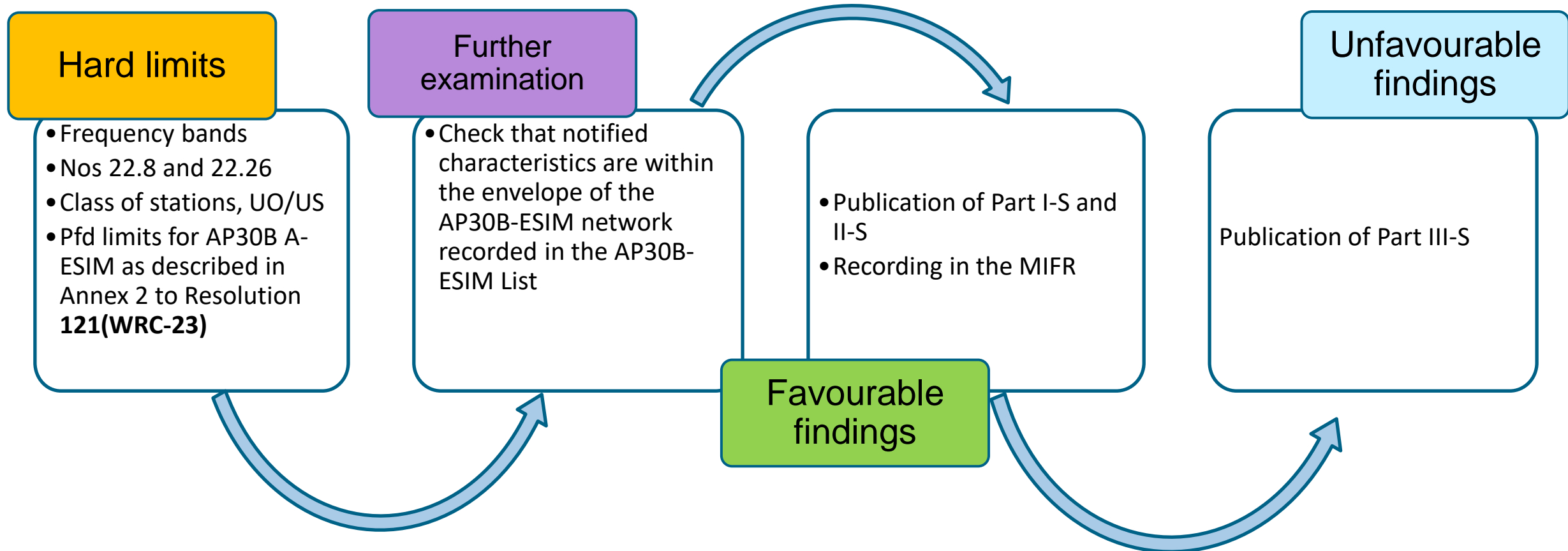
Date of receipt of a complete
Notification notice and
bringing into use



Notification submission



Notification Examination & Recording in the MIFR



Notification Hard limits: performed at group level

1. Independent checks:

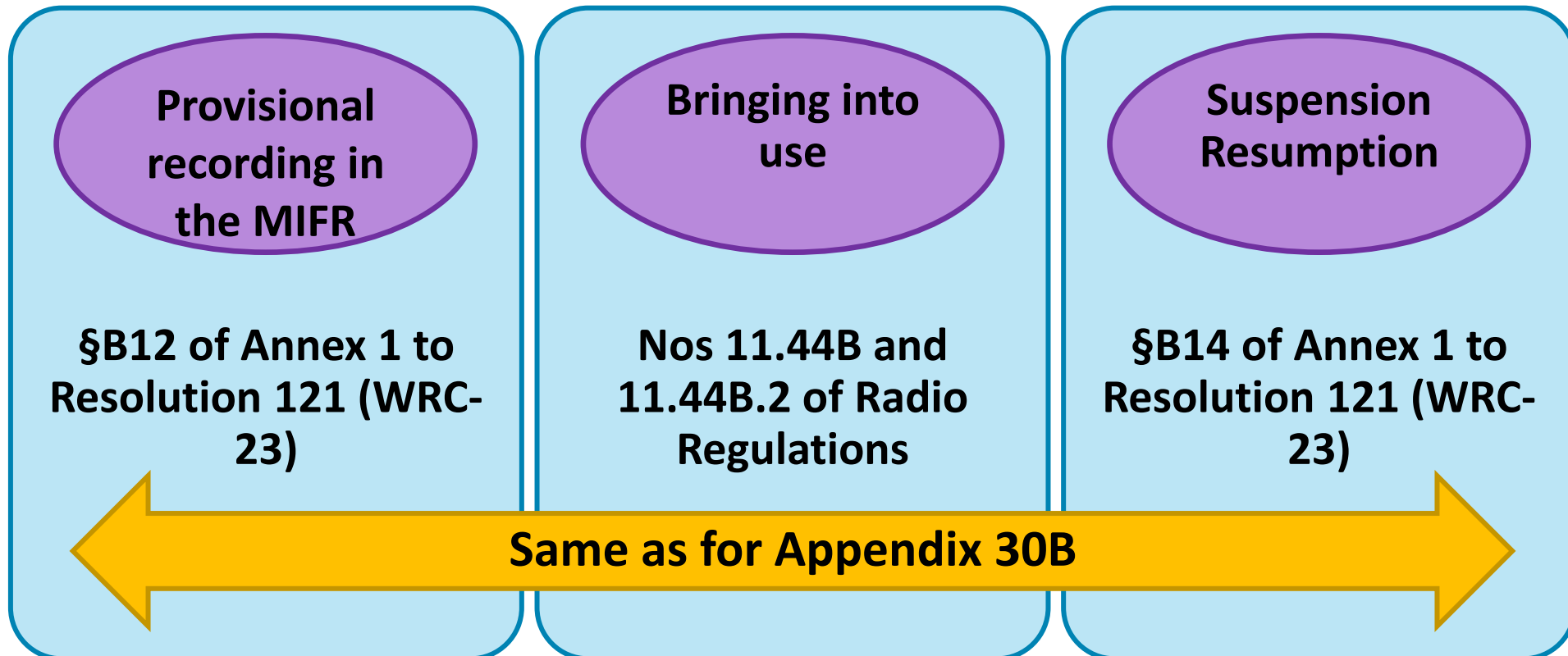
Class of Station UO/US
and No 22.8 (check with
BRSIS Validation)

No 22.26

**Pfd limits for protection
of terrestrial services
from AP30B A-ESIM as
described in Annex 2**

Recording in the MIFR and Operational Procedures

AP30B-ESIM procedures



Notification Stage and Commitments

Operating within the envelope of supporting Appendix 30B assignments

Compliance with Radio Regulations and Resolution 121

Immediately eliminating unacceptable interference

Preventing interference with other services

Notice	Beam	Strapping	Coordination
<p>Notice Id: <input type="text" value="3"/> Plan <input type="text" value="AP30B ESIM in the 12.75-13.25 GHz Band Notification (Resolution 121 WRC-23)"/> Status <input type="text" value="50"/></p>			
<p>Date of Receipt: DD.MM.YYYY <input type="text" value="17.11.2023"/> Administration Serial Number <input type="text"/></p>			
<p>A1f1. Notifying Administration <input type="text" value="GRC"/></p> <p>A1f3. Intergovernmental Satellite <input type="text"/></p>		<p>Notice Submitted under</p> <ul style="list-style-type: none"> <input checked="" type="radio"/> RES121#B1 ESIM Notification 	
<p>A.29.a Commitment of compliance with resolves 1.1.2 of Resolution 121 (WRC-23): the characteristics of Appendix 30B ESIMs shall remain within the envelope of typical characteristics of notified Appendix 30B earth stations associated with the satellite networks with which ESIMs communicate, as published by the Bureau</p> <p><input checked="" type="checkbox"/></p>		<p>A.31.a Commitment of compliance with resolves 2.2 of Resolution 121 (WRC-23): the Appendix 30B ESIM operation would be in conformity with resolves 2.1 and further resolves 2, 2.1 and 2.2 of Resolution 121 (WRC-23)</p> <p><input checked="" type="checkbox"/></p>	
<p>A.30. Commitment of compliance with resolves 1.1.3 of Resolution 121 (WRC-23): the Appendix 30B ESIM operation would be in conformity with the Radio Regulations and Resolution 121 (WRC-23)</p> <p><input checked="" type="checkbox"/></p>		<p>A.32.a Commitment of compliance with further resolves 2 of Resolution 121 (WRC-23): upon receiving a report of unacceptable interference, the notifying administration for the GSO FSS network with which the Appendix 30B ESIM communicates shall follow the procedures in resolves 9 of Resolution 121 (WRC-23)</p> <p><input checked="" type="checkbox"/></p>	
<p>A4a1. Nominal Orbital Longitude <input type="text" value="39.00"/> <input type="text" value="E"/></p>		<p>A1a. Identity of the AP30B ESIM <input type="text" value="HELLAS-SAT-4G_AP30BESIM"/></p>	
		<p>A4a2. Longitudinal tolerance</p> <p>b. West <input type="text" value="0.1"/> °</p> <p>a. East <input type="text" value="0.1"/> °</p>	
		<p>A4a2c. Inclination Excursion <input type="text"/></p>	
<p>List of Available Beams</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Beam CUS 			
<p><input type="checkbox"/> Downlink operated in AP30B bands</p>			

Post-WRC-23 Actions and Tools

Resolution 121 enters into force on 1st January 2025

Bureau's actions include:

Maintaining an independent master database for AP30B-ESIMs

Proposing Rules of Procedure

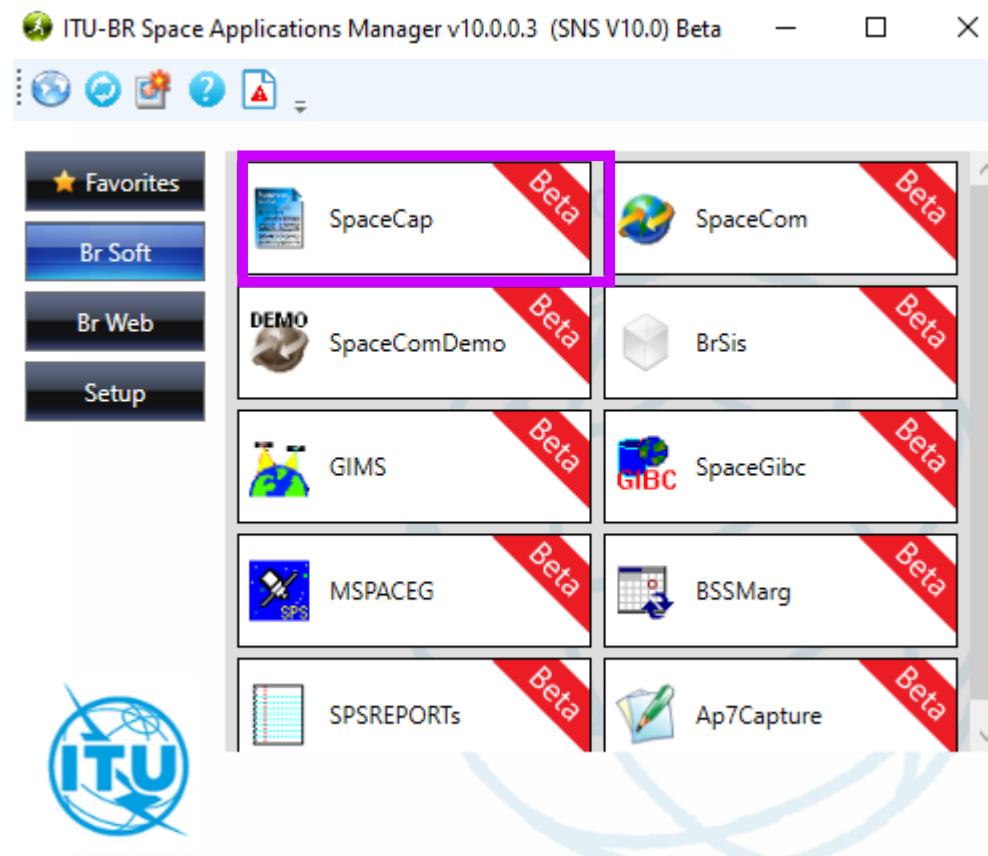
Developing BR software applications V.10 for AP30B-ESIM submission and processing. For instance:
SpaceCap, GIBC/AP30BESIM, BRSIS Validation, SpaceCom, BRSIS Publication, e-Submission...

Thank you

Annex 1

Create a Notice with SpaceCap

**Create an
AP30B ESIM notice
with Spacecap**



SpaceCapture v10.0.13 BETA - [Set Notice Template]

File Edit Tools Template Window Help

CR/NOTIF API RAST **PLAN/ESIM** RS49/552

SpaceCap

Start Page

Notice Explorer

Open Notice

New Notice

Search

Start Page - AP30B ESIM in the 12.75-13.25 GHz Band Pending and List (Resolution 121 WRC-23)

Transaction Id:

Plan / List / Pending Plan / List Notification Space Operation Functions **AP30B ESIM**

Description	Notice Count
WRC-23 AP30B ESIM Pending and List	1
WRC-23 AP30B ESIM Notification	0

Select

☐ Read-only

AP30B database: C:\AP30B\01_ESIM\Test_dBs\30B_3035_v10.mdb Browse

Create ESIM Part A from AP30B

1.

2.

3.

To create a new AP30B ESIM notice, specify below the database containing AP30B Part B notices and use the AP30B ESIM wizard from here or from Notice Explorer

SpaceCap

Start Page

Notice Explorer

Open Notice

New Notice

Search

Transaction Id:

Start Page - AP30B ESIM in the 12.75-13.25 GHz Band Pending and List (Resolution 121 WRC-23)

Create AP30B ESIM Part A

Please follow the steps below to create a new AP30B ESIM Part A notice:

Step 1) Select AP30B database: C:\AP30B\01_ESIM\Test_dbs\30B_3035_v10.mdb

Step 2) Select the notices from which to create the ESIM notice:

Step 2.1) A4a1. Nominal Orbital Longitude: 39.00° E

Step 2.2) Click on '+' and when finished click in this list box:

Step 3) Provide the notice ID for the new or existing AP30B ESIM Part A notice: 1

Step 3.1) For a new notice, please also provide:

A1f1. Notifying Administration: [dropdown]

A1f3. Intergovernmental Satellite: [dropdown]

Step 4): Generate AP30B ESIM Part A notice or append beams to existing notice

1. Select from the proposed list

2. Select the AP30B database

3. Click on '+'

4. Select from the proposed list

5. Click here

6. Provide the notice ID

7. Provide the notifying administration and intergovernmental satellite

8. You can find your database at this location

Current DB : C:\USERS\RUSSO\ITU\BR_SPACE_V10.0\NEWDB.MDB

Click on Notice

List of AP30B Part B Notice Ids

Notice Id	Notice Description
<input checked="" type="checkbox"/> 108559011	GRC HELLAS-SAT-3G 39.00E
<input type="checkbox"/> 110559018	CYP KYPROS-SAT-3 39.00E
<input type="checkbox"/> 115559040	CYP KYPROS-SAT-6 39.00E
<input type="checkbox"/> 115559056	GRC HELLAS-SAT-4G 39.00E

SpaceCapture v10.0.13 BETA - [Set Notice Template]

File Edit Tools Template Window Help

CR/NOTIF API RAST PLAN/ESIM RS49/552

SpaceCap

Start Page

Notice Explorer

Open Notice

New Notice

Search

NOTICE EXPLORER - AP30B ESIM in the 12.75-13.25 GHz Band Pending and List (Resolution 121 WRC-23)

Notice id.	Type	Adm./Org.	Orb. Pos.	Station name	Date rcv.	Status
List of notices Count=1						
000000001[A]	G	/	39E		no date	01

Control Panel

Show

Clone

Export

Delete

To SNS

Create ESIM Part A from AP30B

Validation

Esub

Current DB : C:\Users\russo\ITU\BR SPACE v10.0\newDB.mdb

Plan Id ESIM

Connected Refl

3:24 PM

02.12.2024

SpaceCapture v10.0.13 BETA

File Edit Tools View Window Help

CR/NOTIF API RAST PLAN/ESIM RS49/552

Forms of Notice AP30B ESIM Pending and List

Notice

Beam

Strapping

Coordination

You can now fill in others items, also in other Tabs

Notice Id: 1 Plan AP30B ESIM in the 12.75-13.25 GHz Band (Resolution 121 WRC-23) Status 01

Date of Receipt: DD.MM.YYYY

Administration Serial Number

A1f1. Notifying
Administration

GRC

A1f3.
Intergovernmental
Satellite

Notice Submitted under

☒ RES121#A1 ESIM Part A New ESIM system

☐ RES121#A11 ESIM Part B Inclusion of ESIM system in the List

☐ RES121#A20 ESIM Part B Provisional inclusion of ESIM system in the List

A13e. Notice ID of the
supporting AP30B
assignment(s)

108559011

115559056

A4a1. Nominal Orbital Longitude

39.00°

E

A1a. Identity of the AP30B ESIM

A4a2. Longitudinal tolerance

b. West

a. East

A4a2c. Inclination Excursion

List of Available Beams

Beam ESIM_001

Beam ESIM_002

Beam ESIM_003

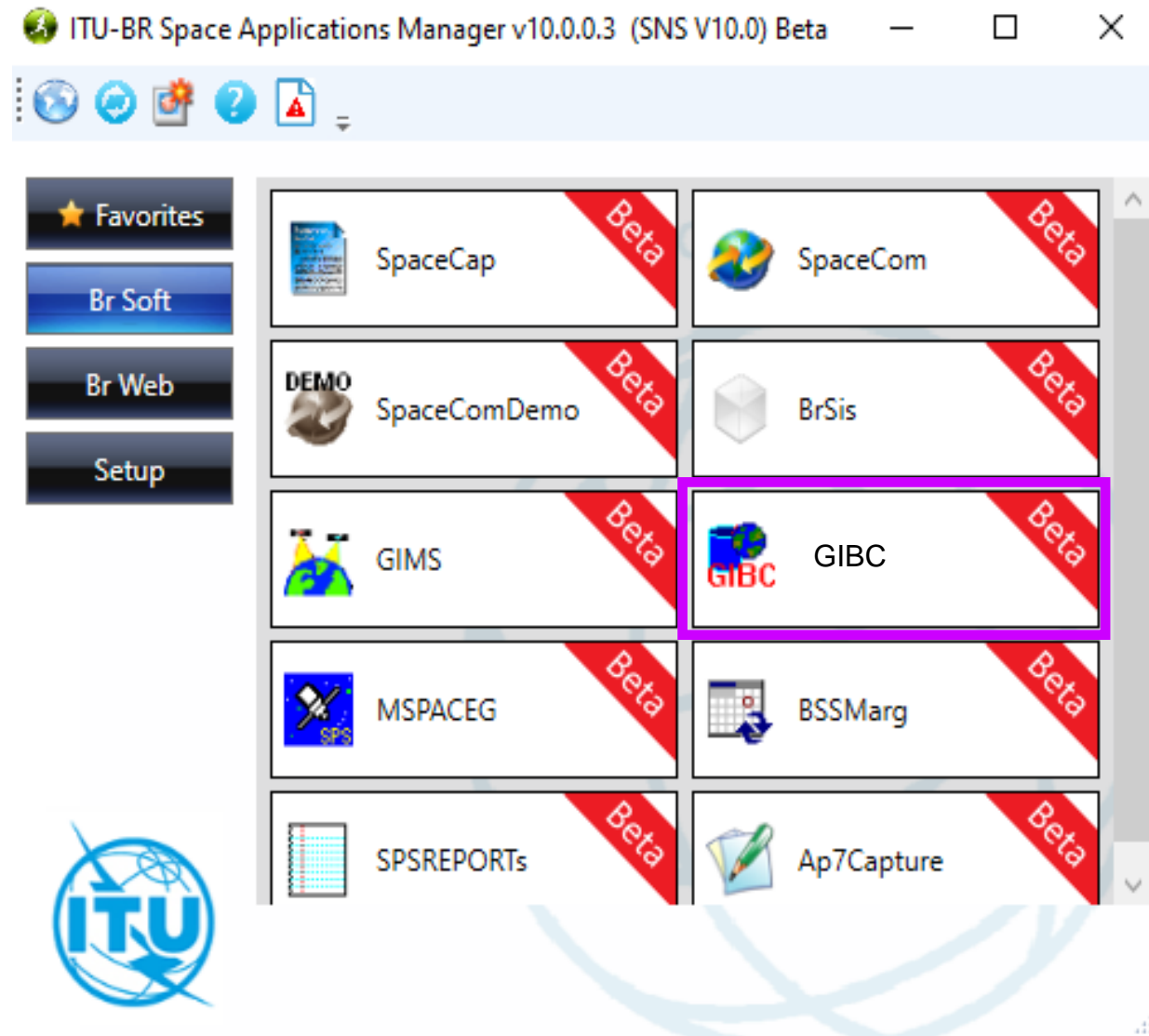
Beam ESIM_004

Go Back

Annex 2

GIBC – Hard Limits

**Hard Limits
examination with
GIBC/AP30B ESIM**



GIBC SNS V10 BETA

EPFD | Power Control | FOS | Ap8 & PFD Space | AP30B ESIM

Appendix 30B | Appendix 30 30A

Tools / Options | PFD/EIRP GSO | PFD/EIRP NGSO | PFD/EIRP Earth Station

GIMS Databases

Database	Container Path
HELLAS-SAT-4G_ESIM_Part...	C:\AP30B\01_ESIM\Test_dBs\
gims3035_part1of3	C:\AP30B\08_Earth Station\Series 2

Add... Clear List

SRS Database

C:\AP30B\01_ESIM\Test_dBs\HELLAS-SAT-4G_ESIM Browse...

Additional SRS DB Path

C:\AP30B\01_ESIM\Test_dBs\HELLAS-SAT-4G... Add Clear

EXIT Help

Databases to give as input to GIBC

GIMS database containing at least the GIMS data of the AP30B-ESIM network and the GIMS data of the supporting AP30B assignments. Notice ID and status shall match with the ones in the SNS databases

AP30B-ESIM database containing the new incoming AP30B-ESIM notice. The linkage information provided in this database shall be coherent with the group Ids and notice ID in the AP30B database provided below

AP30B database containing at least the AP30B supporting assignments. It is advisable to use one official master database. The group IDs used in the linkage information shall match the ones in this database

GIBC/AP30B ESIM Hard Limits

GIBC SNS V10 BETA

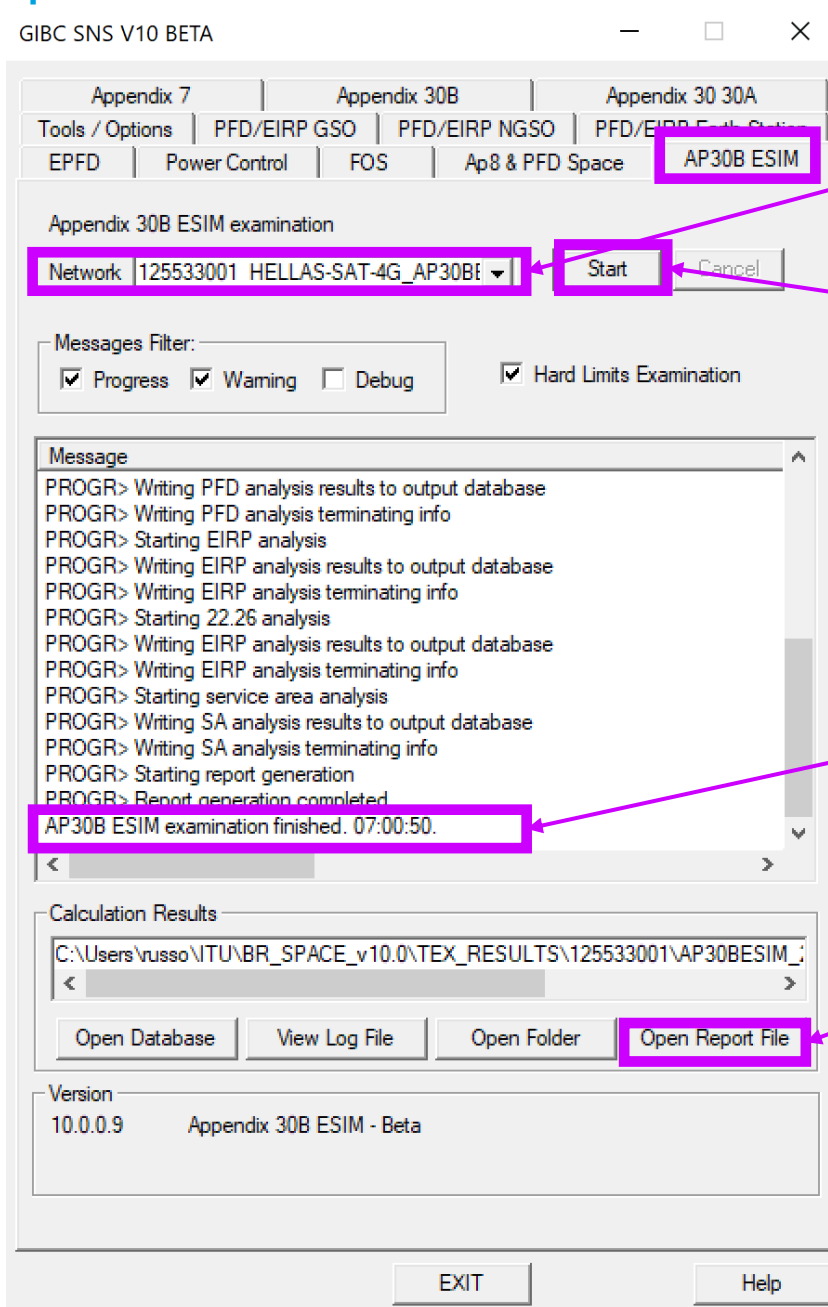
1. Go to AP30B ESIM

2. Select the notice ID of the incoming AP30B-ESIM

3. Click on start to initiate the hard limits checks of No 22.26, Service area, Frequency bands, Annex 3 and e.i.r.p. on-axis and off-axis

Once the calculation is finished without Errors...

4. ...you can View the Report of the results...



The screenshot shows the 'Appendix 30B ESIM examination' window. The 'Network' dropdown is set to '125533001 HELLAS-SAT-4G_AP30B'. The 'Start' button is highlighted. Below the 'Messages Filter' section, the 'Hard Limits Examination' checkbox is checked. The 'Message' log shows the progress of the analysis, including 'PROGR> Starting 22.26 analysis' and 'PROGR> Report generation completed'. The final message in the log is 'AP30B ESIM examination finished. 07:00:50.'. Below the log, the 'Calculation Results' section shows the file path 'C:\Users\russo\ITU\BR_SPACE_v10.0\TEX_RESULTS\125533001\AP30BESIM_'. The 'Open Report File' button is highlighted. At the bottom, the version is '10.0.0.9 Appendix 30B ESIM - Beta'.

Report

AP30B ESIM Report for ntc_id 125533001

AP30B ESIM HARD LIMITS ANALYSIS FINISHED OK			
Completed on	29.11.2024 7:00:48 AM		
Production	N		
Run by	russo		
Started on	29.11.2024 6:59:48 AM		
Version			
Analysis Type	Started On	Completed On	Successful
FPD Annex 3 Analysis	2024-11-29 06:59:48	2024-11-29 07:00:07	Y
Frequency Overlap	2024-11-29 06:59:48	2024-11-29 06:59:48	Y
EIRP Anlaysis	2024-11-29 07:00:07	2024-11-29 07:00:08	Y
Service Area Coverage Analysis	2024-11-29 07:00:08	2024-11-29 07:00:48	Y
EIRP 22.26 Analysis	2024-11-29 07:00:08	2024-11-29 07:00:08	Y
DATABASE DETAILS			
GIMS DB 1	C:\AP30B\08_Earth		
GIMS DB 2	Station\Serie_2024_kaz_ARS_ARB_53_stations\6.22_3035\gims3035_part1of3.mdb		
RESULTS DB	C:\Users\russo\ITU\BR_SPACE_v10.0\TEX_RESULTS\125533001\AP30BESIM_241129_065945\AP30		
SRS DB 1	BESIM_results.mdb		
SRS DB 2	C:\AP30B\01_ESIM\Test_dbs\HELLAS-SAT-4G_ESIM_PartA_v10_grp_link.mdb		
	C:\AP30B\01_ESIM\Test_dbs\HELLAS-SAT-4G original remove 12GHzfrom 46760.mdb		
ESIM NETWORK DETAILS			
ADMIN	GRC		
DATE OF RCV	20231117		
LONGITUDE NOM	39.00		
NOTICE ID	125533001		
SAT NAME	HELLAS-SAT-4G_AP30BESIM		
STATUS	24		
SUPPORTING NETWORKS DETAILS			
ADMIN	GRC		
DATE OF RCV	20231117		
LONGITUDE NOM	39.00		
NOTICE ID	115559056		
SAT NAME	HELLAS-SAT-4G		
STATUS	50		
SUMMARY FOR Frequency Overlap			
ANALYSIS COMPLETED SUCCESSFULLY			
UNFAVORABLE GROUPS:			
E001	000000002		
SUMMARY FOR FPD Annex 3 Analysis			
ANALYSIS COMPLETED SUCCESSFULLY			
UNFAVORABLE GROUPS:			
E001	000000002		
SUMMARY FOR EIRP Anlaysis			
ANALYSIS COMPLETED SUCCESSFULLY			
UNFAVORABLE GROUPS:			
E001	000000002		
E001	000000004		
E001	000000005		
E001	000000006		
SUMMARY FOR EIRP 22.26 Analysis			
ANALYSIS COMPLETED SUCCESSFULLY			
UNFAVORABLE GROUPS:			
E001	000000002		

AP30B ESIM Report for ntc_id 125533001	
SUMMARY FOR Service Area Coverage Analysis	
ANALYSIS COMPLETED SUCCESSFULLY	
UNFAVORABLE GROUPS:	
E001	000000001
E001	000000002
E001	000000003
E001	000000004
E001	000000005
E001	000000006

GIBC/AP30B ESIM Hard Limits

GIBC SNS V10 BETA

Appendix 7 | Appendix 30B | Appendix 30 30A

Tools / Options | PFD/EIRP GSO | PFD/EIRP NGSO | PFD/EIRP Earth Station

EPFD | Power Control | FOS | Ap8 & PFD Space | AP30B ESIM

Appendix 30B ESIM examination

Network: 125533001 HELLAS-SAT-4G_AP30B [Start] [Cancel]

Messages Filter: ☒ Progress ☒ Warning ☐ Debug ☒ Hard Limits Examination

Message

PROGR> Writing PFD analysis results to output database
PROGR> Writing PFD analysis terminating info
PROGR> Starting EIRP analysis
PROGR> Writing EIRP analysis results to output database
PROGR> Writing EIRP analysis terminating info
PROGR> Starting 22.26 analysis
PROGR> Writing EIRP analysis results to output database
PROGR> Writing EIRP analysis terminating info
PROGR> Starting service area analysis
PROGR> Writing SA analysis results to output database
PROGR> Writing SA analysis terminating info
PROGR> Starting report generation
PROGR> Report generation completed
AP30B ESIM examination finished. 07:00:50.

Calculation Results

C:\Users\russo\ITU\BR_SPACE_v10.0\TEX_RESULTS\125533001\AP30BESIM_...

[Open Database] [View Log File] [Open Folder] [Open Report File]

Version
10.0.0.9 Appendix 30B ESIM - Beta

[EXIT] [Help]

5. ...or you can open the output Database to check the results

All Access Objects

Tables

- ap30b_esim_a4_6_22_c2i_degr
- ap30b_esim_a4_affected
- ap30b_esim_a4_c2i
- ap30b_esim_a4_pfd
- ap30b_esim_a4_view
- ap30b_esim_clc_det
- ap30b_esim_clc_head**
- ap30b_esim_eirp_2226_res
- ap30b_esim_eirp_res
- ap30b_esim_fo_res
- ap30b_esim_gims_db
- ap30b_esim_grid
- ap30b_esim_messages
- ap30b_esim_pfd_res
- ap30b_esim_sa_res
- ap30b_esim_tr_res
- BR_fdg_ref**
- BR_grp**
- BR_internal
- BR_internal2
- BR_internal3
- BR_internal4
- tex_version
- tr_aff_ntw
- tr_provn

oper_id	f_grid	f_details	details_grp_i	input_db_1	input_db_2	parta_db	parta_6_22	soft_vrs	f_success	f_prod	module_id
russo				C:\AP30B\01_E	C:\AP30B\01_E				Y	Y	FO
russo				C:\AP30B\01_E					Y	Y	PFD
russo				C:\AP30B\01_E	C:\AP30B\01_E				Y	Y	EIRP
russo				C:\AP30B\01_E					Y	Y	2226
russo				C:\AP30B\01_E	C:\AP30B\01_E				Y	Y	SA
*											

Record: 1 of 5

grp_id	ntc_id	emi_rcp	beam_name	rdg_reg	Click to Add
1	125533001	R	E001	N-	
2	125533001	R	E001	N-	
3	125533001	R	E001	N-	
4	125533001	R	E001	N-	
5	125533001	R	E001	N-	
6	125533001	R	E001	N-	
*					

Record: 1 of 6

grp_id	seq_no	d_fdg_rev	d_type	fdg_prov	Click to Add
1	1			RES121_SA	
2	1			RES121_FREQ	
2	2			AP30B#Annex3	
2	3			RES121_EIRP	
2	4			RES121_SA	
3	1			RES121_SA	
4	1			RES121_EIRP	
4	2			RES121_SA	
5	1			RES121_EIRP	
5	2			RES121_SA	
6	1			RES121_EIRP	
6	2			RES121_SA	
*					

Record: 1 of 12

All Access Objects

Tables

- ap30b_esim_a4_6_22_c2i_degr
- ap30b_esim_a4_affected
- ap30b_esim_a4_c2i
- ap30b_esim_a4_pfd
- ap30b_esim_a4_view
- ap30b_esim_clc_det
- ap30b_esim_clc_head
- ap30b_esim_eirp_2226_res
- ap30b_esim_eirp_res
- ap30b_esim_fo_res
- ap30b_esim_gims_db
- ap30b_esim_grid
- ap30b_esim_messages
- ap30b_esim_pfd_res
- ap30b_esim_sa_res
- ap30b_esim_tr_res
- BR_fdg_ref
- BR_grp
- BR_internal
- BR_internal2
- BR_internal3
- BR_internal4
- tex_version
- tr_aff_ntw
- tr_provn

On-axis and off-axis EIRP

grp_id_esim	eirp_esim	eirp_support	off_axis	f_covered	Click to Add
1				Y	
2	23.500001907	-47.09999847	0 N		
3				Y	
4	-46.85500429	-47.47725120	0.8 N		
5	-52.07243237	-52.45903949	1.8 N		
6	-42.35400500	-44.35378279	0.6 N		
*					

Service area

grp_id_esim	esim_geo_areas	support_geo_areas	f_covered
1	BLR EST LTU NOR POL RUS	BLR D EST EUR G HOL LTU NOR POL N	
2	AMS ASC AZR B BLR BVT CPV CRO D DGA EST FLK G GCA HMD HOL ICO KER LTU MAU MRN NOR POL REU ROD SHN TRC	BLR EST EUR LTU NOR POL	N
3	AMS ASC AZR B BLR BVT CPV CRO D DGA EST FLK G GCA HMD HOL ICO KER LTU MAU MRN NOR POL REU ROD SHN TRC	BLR D EST EUR G HOL LTU NOR POL N	
4	BLR EST LTU NOR POL RUS	BLR D EST EUR G HOL LTU NOR POL N	
5	AMS ASC AZR B BLR BVT CPV CRO D DGA EST FLK G GCA HMD HOL ICO KER LTU MAU MRN NOR POL REU ROD SHN TRC	BLR D EST EUR G HOL LTU NOR POL N	
6	AMS ASC AZR B BLR BVT CPV CRO D DGA EST FLK G GCA HMD HOL ICO KER LTU MAU MRN NOR POL REU ROD SHN TRC	BLR D EST EUR G HOL LTU NOR POL N	
*			

Frequency check

grp_id_esim	f_overlap	Click to Add
1	Y	
2	N	
3	Y	
4	Y	
5	Y	
6	Y	
*	0	

No 22.26

grp_id_esim	eirp_esim	eirp_excess	off_axis	Click to Add
1	-41.78240735	-44.75137641	48	
2	34.192568927	4.1206002947	3	
3	-42.87940161	-45.84837068	48	
4	-6.155248534	-29.6461813	5.5	
5	-10.38331305	-37.60669788	3.9	
6	-2.429561738	-32.50153037	3	
*	0			

Annex 3

grp_id	seq_pt	long_dec	lat_dec	pfd_excess	pfd_limit	gso_pos	Click to Add
2	39	-31.45345	1.750173	10.25887	-133	45.01	
2	40	-31.42195	-3.634773	10.2583	-133	45.01	
2	8	-35.22147	26.24208	10.25747	-133	45.01	
2	38	-31.30427	7.133159	10.25619	-133	45.01	
2	41	-31.20841	-9.015631	10.25451	-133	45.01	
2	15	-34.93946	-28.16543	10.25247	-133	45.01	
2	37	-30.9679	12.508	10.25036	-133	45.01	
2	42	-30.80342	-14.38606	10.24761	-133	45.01	
2	62	108.7252	-15.19027	10.24632	-133	32.99	
2	7	-34.35222	31.64387	10.24278	-133	45.01	
2	36	-30.42923	17.8679	10.24156	-133	45.01	
2	43	-30.18859	-19.73895	10.23782	-133	45.01	

Go Back