





Exercise on capture and validation of an AP30/30A notice for its submission to the Bureau

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Resolution COM5/3 (WRC-19) = Resolution 559 (WRC-19)

- Main idea: To replace national BSS assignments related to Appendices 30 and 30A for administrations in Regions 1 and 3 Plan with low EPM in order to improve their EPM values.
- > Conditions: This procedure can only be applied once by an administration with:
 - 1. No frequency assignments included in the List or for which complete Appendix 4 information has been received by the Bureau in accordance with the provisions of § 4.1.3 of Appendix 30; and
 - At least 50% of the total number of EPM values of the national assignments in the Regions 1 and 3 Plan in Appendix 30 are equal to or below -10 dB.

Procedure for application of Resolution 559 (WRC-19):

- 1. Administration to submit Appendix 4 information in accordance with § 4.1.3 of Appendices 30 and 30A, in particular:
 - Request to use the special procedure in the cover letter of the submission;
 - Service area limited to the national territory of the administration;
 - A set of maximum 20 test-points inside the national territory;
 - A minimal ellipse determined by the set of test-points (the Bureau may create it);
 - Ten consecutive odd or even channels with standard frequencies in the same polarization with a bandwidth of 27 MHz;
 - A corresponding submission for Appendix 30A with the same above principles.
- 2. Coordinate with affected administrations and include assignments in the List.
- 3. Request subsequent WRCs to consider the inclusion of these assignments in the Appendices **30** and **30A** Plans as a replacement of its national assignments appearing in the Plans.



Resolution 559 (WRC-19) - Conditions

Conditions: This procedure can only be applied once by an administration with:

1. No frequency assignments included in the List or for which complete Appendix 4 information has been received by the Bureau in accordance with the provisions of § 4.1.3 of Appendix 30:

Administration has not sent any submission under Appendix 30 to the Bureau

2. At least 50% of the total number of EPM values of the national assignments in the Regions 1 and 3 Plan in Appendix 30 are equal to or below –10 dB:

Example: Administration of Georgia

- Number of channels: 10
- Channel numbers: 1, 3, 5, 7, 9, 11, 13, 15, 17, 19
- Polarization: Circular right-hand
- Number of test-points: 7
- 54.29 % of their EPM values are below -10 dB!



Ch. No TP (Long; Lat)	1	3	5	7	9	11	13	15	17	19
40E ; 43.39N	-17.965	-18.3	-18.363	-18.422	-18.483	-18.543	-18.602	-18.661	-18.709	-18.71
41.55E ; 41.53N	-16.759	-17.096	-17.158	-17.217	-17.277	-17.337	-17.397	-17.455	-17.503	-17.503
42.81E ; 41.49N	-12.415	-12.754	-12.814	-12.871	-12.929	-12.987	-13.043	-13.1	-13.146	-13.146
43.59E ; 42.84N	-7.242	-7.552	-7.6	-7.645	-7.691	-7.737	-7.782	-7.827	-7.864	-7.864
44.95E ; 41.25N	-7.914	-8.225	-8.271	-8.314	-8.359	-8.404	-8.448	-8.491	-8.527	-8.527
46.44E; 41.89N	-9.037	-9.327	-9.372	-9.414	-9.458	-9.501	-9.544	-9.587	-9.622	-9.622
46.63E ; 41.11N	-9.681	-9.975	-10.019	-10.061	-10.105	-10.148	-10.191	-10.233	-10.268	-10.267

Procedure for application of Resolution 559 (WRC-19)

Technical

Initial characteristics

2

3





Practical information for submissions

- Orbital positions:
 - Further west than 37.2W; or
 - 35.99°W to 33.51°W, 32.49°W to 30.01°W, 28.99°W to 26.01°W, 23.99°W to 20.01°W, 17.99°W to 14.01°W, 11.99°W to 8.01°W, 5.99°W to 4.01°W, 3.99°W to 2.01°W, 0.01°E to 3.99°E, 6.01°E to 8.99°E and 9.01°E to 10°E.
- Elevation angle: desirable from 20 degrees
- Frequency bands and channels:
 - Downlink: **11.7-12.5 GHz**
 - Possible channels: 1 to 40
 - Ten consecutive odd or even channels with standard Appendix **30** assigned frequencies in the same polarization (Linear, Circular right or left).
 - Feeder-link:
 - 17.3-18.1 GHz
 - Possible channels: 1 to 40
 - Ten consecutive odd or even channels with standard Appendix **30A** assigned frequencies in the same polarization (Linear, Circular right or left).
 - 14.5-14.8 GHz
 - Possible channels: 1 to 14
 - The maximum of ten channels with standard Appendix **30A** assigned frequencies could have different polarization (Linear, Circular right or left).
- Bandwidth: 27 MHz
- EIRP: **58.4 dBW** for the downlink and **84 dBW** for the feeder-link. Then run GIBC/AP3030A for AP30 Hard Limits and increase EIRP for the downlink, if possible.
- Grouping existing Plan assignments and incoming assignments
- At the end of the first day of the workshop, you should have chosen an **orbital position** (for both AP30 and AP30A), **10 channels for downlink**, **10 channels for feeder-link**, **polarization for downlink** and **polarization for feeder-link**. Please use these values in the generation of the submissions.



Practical information for submissions

- Grouping existing Plan assignments and incoming assignments:
 - Interference from Plan assignments and incoming assignments and vice versa will not be taken into account
 - For interference to other networks, the worst interference signal (from Plan assignments and incoming assignments) is selected
- If Plan and incoming assignments are not grouped, they will interfere with each other!







- Submission of validated Appendix 4 data: GIMS + SNS databases
- BR validates GIMS + SNS databases:
 - Validation OK → Acknowledgement by telefax + further processing of the notice
 - Validation not OK → Notice is returned to the notifying administration





- 1. Capture AP4 data with SpaceCap and GIMS and generate SNS and GIMS databases
- 2. Validate with GIMS:
 - a. If there is any fatal error \rightarrow correct with SpaceCap and/or GIMS and validate
 - b. If there is no fatal error \rightarrow submission is ready to be sent to the Bureau



Exercise: Generate submission to apply the special procedure in Resolution 559

Main Steps:

- 1. Assign MSPACE group code to existing Plan assignments (to both AP30 and AP30A)
- 2. AP30 submission:
 - a) Generate GIMS database with graphical information with GIMS
 - Gain contour (-3 dB ellipse) + Service area (national territory)
 - b) Generate SNS database with SpaceCap
 - c) Run BR-SIS Validation with SNS and GIMS databases

3. AP30A submission:

- a) Generate GIMS database with graphical information with GIMS
 - Gain contour (-3 dB ellipse) + Service area (national territory)
- b) Generate SNS database with SpaceCap
- c) Run BR-SIS Validation with SNS and GIMS databases
- 4. Run GIBC/Appendix 30 30A to check Hard Limits
 - a) For AP30 submission
 - b) For AP30A submission

<u>Annex 1</u> - Proposed MSPACE group codes to existing Plan assignments and incoming assignments

Annex 2 - Submission AP30A in 14 GHz



Exercise: Generate submission to apply the special procedure in Resolution 559

1. Assign MSPACE group code to existing Plan assignments

- 2.a) AP30: Generate GIMS database
- 2.b) AP30: Generate SNS database
- 2.c) AP30: Run BR-SIS Validation
- 3.a) AP30A: Generate GIMS database
- 3.b) AP30A: Generate SNS database
- 3.c) AP30A: Run BR-SIS Validation

4.a) Run GIBC/Appendix 30 30A to check Hard Limits for AP30 submission

4.b) Run GIBC/Appendix 30 30A to check Hard Limits for AP30 submission



- Create a new folder named "AP30_30A" in your local drive under C:\BR_SOFT
- 2. From the USB key: Copy grefdb2913.mdb located in \\BRIFIC2913\Databases\GIMS_Data into C:\BR_SOFT\AP30_30A
- 3. From the USB key: Copy SPS_ALL_IFIC2913.mdb located in \\BRIFIC2913\Databases\AP30_30A into C:\BR_SOFT\AP30_30A
- 4. In C:\BR_SOFT\AP30_30A, select file SPS_ALL_IFIC2913.mdb and click on right button of the mouse
- 5. Go to Properties
- 6. Uncheck "Read-only" and click on "Apply" and "OK"



Open SpaceCap

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Exit	AP30_30A SPS_ALL_IFIC2913.mdb 27.01.2020 3:00 PM Microsoft A
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SpaceCap Start Page - PLAN - WRC-00 BSS Down-link Plan & List for Region 1. Click on PLAN		
Start Page Transaction Id:		
Open Notice		
Plan / List / Pending Plan / List Notification Space Operation Functions		
PLAN ID Description		
00DN WRC-00 BSS Down-link Plan & List for Regions 1 & 3 (Appendix 30)		
Select a 00UP WRC-00 Feeder-link Plans and Lists for Regions 1 and 3 at 14&17 0 Sendix 30A) 0 Plan 30_2 RARC BC SAT83 Plan for Region 2 (Appendices 30 & 30A) 0		
A30B WRC07 FSS Plan 6/4 AND 13/10-11 GHz Band (App 3 Double click on 00DN Plan		
(Appendix 30)		
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2. Unclick "Read-only mode"		



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		-1005501	25 [A]	G	KOR/	116E	KORE the d	ownlink (Appendix	30)		
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		-1005501	.27 [A]	G	KWT/	11E	KWT11300	02.06.2000	50			
		-1005501	.28 [A]	G	LAO/	122.2E	LAO28400	02.06.2000	50			
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		-1005501	.30 [A]	G	LBR/	33.5W	LBR24400	02.06.2000	50			
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		-1005501	.32[A]	G	LIE/	18.8W	L1E25300	02.06.2000	50			
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3. Close notice Group Emissions/Frequencies Srv Area/Assoc Earth Stn	
Notice 100550120 Satellite KEN24900 Beam Id E001 E Group Id: 3464 Split	
Characteristics Common to a Group of Frequencies 🔍 General Characteristics	
C3a. Assigned frequency bandwidth 27000 (kHz) C15a. MSPACE Group code Z9 2 Introduce the MSPACE group	
code in the <u>Annex 1</u> corresponding to your Administration	
Remarks	
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Second Start Page - PLAN - WRC-00 Feeder-link Plans and Lists for Regions 1 and 3 at 14&17 GHz (Appendix 30.A) Second Start Page - PLAN - WRC-00 Feeder-link Plans and Lists for Regions 1 and 3 at 14&17 GHz (Appendix 30.A) Second Image: Second Notice Explore Image: Second Notice Explore Image: Second Second Plan / List / Pending Plan / List / Pending Plan / List Notification Second Plan / List / Pending Plan / List / Pending Plan / List Notification Second Plan / List / Pending Plan / List / Pending Plan / List Notification Second Plan / List / Pending Plan / List / Pending Plan / List Notification Second Plan / List / Pending VIECUP Second Association Second Plan / List / Pending VIECUP Second Start Page VIECUP Second		
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		-1005	50768 [A]	G	KWT/	11E	KWT11300	02.06.2000	50			
		-1005	50769[A]	G	LAO/	122.2E	LA028400	02.06.2000	50			
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Exercise: Generate submission to apply the special procedure in Resolution 559

1. Assign MSPACE group code to existing Plan assignments

- 2.a) AP30: Generate GIMS database
- 2.b) AP30: Generate SNS database
- 2.c) AP30: Run BR-SIS Validation
- 3.a) AP30A: Generate GIMS database
- 3.b) AP30A: Generate SNS database
- 3.c) AP30A: Run BR-SIS Validation

4.a) Run GIBC/Appendix 30 30A to check Hard Limits for AP30 submission

4.b) Run GIBC/Appendix 30 30A to check Hard Limits for AP30 submission



🖌 GIMS





ITU







3. Select the coordinates of the test points and press Ctrl + C. Go back to GIMS and press Ctrl + V (copy and paste test-points). You may delete, modify or add new test-points in GIMS (max.20)









2.a) AP30: Generate GIMS database (SERVICE AREA)



2.a) AP30: Generate GIMS database (SERVICE AREA)



2.a) AP30: Generate GIMS database (SERVICE AREA)

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	4 100550189.SUI14000.E001.C.0 (CO) - GIMS	0 service point(s)	- Notifi	cation Reason: B (AP30/30)A)
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GIMS Database Explorer Database Location: c:\exercise_submission\r13_bss_sui_gims.mdb Browse for		2. Open the diag
Geostationary Satellites Non-geostationary Satellites Notice ID: Administration ✓ Administra	lites Filter Off (mission = Down Link)	3. Select the type of dia you want to display (we jenerated only 1 gain co and 1 service area
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	Downlink Feeder-link	



Exercise: Generate submission to apply the special procedure in Resolution 559

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- 2.a) AP30: Generate GIMS database
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- 3.a) AP30A: Generate GIMS database
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- 3.c) AP30A: Run BR-SIS Validation
- 4.a) Run GIBC/Appendix 30 30A to check Hard Limits for AP30 submission
- 4.b) Run GIBC/Appendix 30 30A to check Hard Limits for AP30 submission

2.b) AP30: Generate SNS database (CREATE DATABASE)

Open Database			1		RAST	PLAN B	RS40/552		
New Database	_ 1	. Create a new data	ibase	And C	1001 0	i biil Q	1013/332		
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Ce Vega, Alvaro		R13_BSS_SUI_GIMS.mdb	10.02.2020 5:20	PM Micro	soft A				
		SPS_ALL_IFIC2913.mdb	10.02.2020 5:14	PM Micro	soft A				
3D Objects									
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SDisk (C:)		2 Choose same	hath as fo	r					
\$Recycle.Bin				•					
00_SADC_Elevation			atabase						
1_VG_working		(C:\BR_SOFT\/	AP30_30A)						
Alvaro									
BR_SOFT			3. Se	lect th	he name	e of the	databas	е	
AP30_30A	- -	<	(eg "F	213 B	SS SUI") and cli	ick "One	∍n″	
DATCH			(0.9.	· · · _ ·	<u> </u>				

2.b) AP30: Generate SNS database (CREATE NOTICE)

SpaceCapture V8 - [Set Notice Template]	×
File Edit Tools Template Window Help	
□ 📴 📾 🚧 🗸 📢 ◀ 🗐 🖳 💡 📰 🔄 CR/NOTIF 🖻, API 🖻, RAST 🖻, PLAN 🛢, RS49/552	
	-
Start Page - PLAN - WRC-00 BSS Down-link Plan & List for Region 1. Click on PLAN	 2
Start Page Transaction Id:	
Open Notice 4. Click on "New Notice"	
New Notice Plan / List / Pending Plan / List Notification Space Operation Functions	
PLAN ID Description Notice Count	
Select a 00UP WRC-00 Feeder-link Plans and Lists for Regions 1 & 3 (Appendix 30) U Select a 00UP WRC-00 Feeder-link Plans and Lists for Regions 1 and 3 at 14&17 (Second x 30A) 0	
Search Plan 30_2 RARC BC SAT83 Plan for Region 2 (Appendices 30 & 30A) 0 A30B WRC07 FSS Plan 6/4 AND 13/10-11 GHz Band (App	
3. Double click on 00DN Plan	
(Appendix 30)	
Van/List/Pending notices (Status above 01) reaction/u mode	
2. Unclick "Read-only mode"	
Current DB : C:\Exercise_submission\R13_BSS_SUI.mdb Click on Notice Explorer to see a list of Notices, or New Notice to create one.	5:

2.b) AP30: Generate SNS database (NOTICE LEVEL)



2.b) AP30: Generate SNS database (BEAM LEVEL)


2.b) AP30: Generate SNS database (GROUP LEVEL)



2.b) AP30: Generate SNS database (GROUP LEVEL)

SpaceCapture V8 - [Forms of Notice PLAN - WRC-	00 BSS Down-link Plan & List for Re	gions 1 & 3 (Appendix 3	D)]		_	□ × - ₽ ×
		ta, CR/NOTIF	API 🔄 RAST	PLAN 5, RS49/5	52	
Attachments Coordination	n Group	1. (C	Click on Ge haracteris	eneral tics		
Notice 1 Satellite ITU_S	T Beam Id	E001 E 💽 Grou		Split Grp Id:		
Characteristics Con	mon to a Group of Fre	juencies 🔰 Ge	neral Charact	teristics		
A3a. Operating Administration o	Agency					
001 RADIO-SUISSE S.A. A3b. Besponsible Administration						
A FEDERAL OFFICE OF CO	IMUNICATION		-			
To apply this information to other groups, select the beam or notice optic	Apply to current group only	Apply to all groups C A in this beam C in	pply to all groups this notice			
2. Introduce any " "Operating Admin Please note that the sake of completent	Responsible Admi stration or Agency his information is less of the notice a	nistration" a " from the l required only and will be re	nd ist. y for the emoved			
once the assignme	nts are included i	nto the Plan				
Current DB : C:\Exercise_submission\R13_BSS_S	ll.mdb Plan lo	OODN	11:31 AM	17.12.2019		

2.b) AP30: Generate SNS database (EMISSIONS/FREQ LEVEL)



2.b) AP30: Generate SNS database (EMISSIONS/FREQ LEVEL)

· · · · · · · · · · · · · · · · · · ·	
3. Modulation Characteristics	- 🗆 ×
Current Designation of Emission 27M0G7W	
C9a. Modulation Characteristics for Each Carrier C9a1. Type of modulation C9a3.For a carrier frequency modulated by TV signal	
C9a3c. Multiplexing type DVB-S	List of proposed values. Any modulation characteristics may be introduced since they are not taken into account for the calculation of interference
C9a7. Energy dispersal type Carrier always spread by digital stream C9a9. TV standard DVB-S	• •
 Apply these characteristics to all emissions in this notice with the same designation of emission Apply these characteristics to the current emission OK 	

2.b) AP30: Generate SNS database (EMISSIONS/FREQ LEVEL)

Contractive VO. 15		Nexton DLAN _ MDC_00.00000 Deven link Directory Devices 1.9: 2 (Arrestedio 2001		 ,	~
Eile Edit Tools	view M	(indow Help	_	Í	^ ₁ ⊽
		Image Image			
Attachments Notice		Coordination Beam Group Emissions/Frequencies Srv Area/Assoc Earth Stn			
	Notice	d: 1 Satellite ITU_SAT Beam Id E001 E Group Id: 1 Mspace Grp Code:			
	• S ch as • F • (• A ch or	C8 Power Characteristics of the transmission C7a C3 Designation Modulation Power Power Designation Modulation Power Power Designation Modulation Power Power Power			

2.b) AP30: Generate SNS database (SRV AREA/EARTH STN)

🧱 SpaceCapture V8 -	[Forms of Notice PLA	N - WRC-00 BSS Down-link P	lan & Lis	List for Regions 1 & 3 (Appendix 30)] - [ב	Х
🚡 File Edit Tools	View Window H	elp			-	8 ×
D 🔊 🔂 🚳 🖊		> 6 🖢 🖻 ?		CR/NOTIF C API RAST PLAN RS49/552		
Attachments Notice Notice Notice C.10 Refe BO2 MOI Refe	s Co e Id: Sa C11a. Test Longitude Latitude degrees E degrees N 6.0308 46.2000 D.d.5 erence Pattern 2063-0 DRES D.d.5 erence Pattern 2063-0 DRES 9.5865 47.4174 9.7914 46.9835 10.0566 46.3085 10.3941 46.6938 10.4061 46.9353	ordination Beam Itellite twork: TU_SAT Points (maximum 100) Antenna Antenna Climatic Cone Antenna Climatic Cone Antenna Climatic Cone Cone Cone Cone Cone Cone Cone Cone	Grou	roup Emissions/Frequencies Srv Area/Assoc Earth Stn Beam Id E001 E Group Id Service area = 1 Service area contour C11a1. Service Area No. C11a5e. Minimal Elevation Associated Typical Earth Station Antenna Characteristics C10d5a. Radiation Pattern MODRES ==> APERR_007V01 C10d3. Maximum Isotropic Gain in dBi 355 C10d4. Half-power beamwidth in degrees 2.66 Note: These associated typical earth station antenna characteristics C10d8. Equivalent Diameter in meters 0.6 point. Maximum Gain and 3dB beamwidth should be consistent with submitted antenna diameters. - Radiation pattern shall contain both co-polar and cross-polar patterns. - Gain and 3dB beamwidth are stored with 2 digits after decimal.		

2.b) AP30: Generate SNS database (SRV AREA/EARTH STN)



2.b) AP30: Generate SNS database (SRV AREA/EARTH STN)

SpaceCapture V8 - [Set Notice Template]		- 🗆 X
File Edit Tools Template Window Help		
□┣▦ё₩₩✓₩◀▸₩₿₽₽?	CR/NOTIF & API & RAST	PLAN S. RS49/552
SpaceCap Notice Explorer PLAN - WRC-00 BSS Do Start Page Image: Comparison of the comparison of t	Num-link Plan 1. Select incoming notice a on right button of the moust on the right of the moust on the right of the moust on the right on t	nd click Control Box Show Clone Export Clone Export Delete SpaceVal Esub RS49/552 on "Prepare incoming or Mspace"



Exercise: Generate submission to apply the special procedure in Resolution 559

- 1. Assign MSPACE group code to existing Plan assignments
- 2.a) AP30: Generate GIMS database
- 2.b) AP30: Generate SNS database
- 2.c) AP30: Run BR-SIS Validation
- 3.a) AP30A: Generate GIMS database
- 3.b) AP30A: Generate SNS database
- 3.c) AP30A: Run BR-SIS Validation
- 4.a) Run GIBC/Appendix 30 30A to check Hard Limits for AP30 submission
- 4.b) Run GIBC/Appendix 30 30A to check Hard Limits for AP30 submission





۲	BRSIS -	Valid	lation v8	.0.1.25								
]		?							
No	otice Id.	1		0	0							
Sat	t. name:	ITU_	SAT									
Typ	oe of no	otice: I	Part A (R	1 <i>8</i> (3) D	Downlink	Stat	us: 24					
Ad	m./Org.	SUI		Orb. p	os.: 10W	Stat	tion ty	pe: G				
Va	lidation	Re	ports									
 created on 10/02/2020 - start time: 18:56:02 - duration: Omin. 15sec. by user devega us Validation: 2 Errors SRSFIX: 5 Errors VALIDATION RESULT: Warnings:2 Export and a non-start time: 18:56:02 - duration: Omin. 15sec. by user devega us 							W: Warning error F: Fatal error Displayed warnings: Ignore as we are using a new sat. name and a new orb. position					
	Beam	F/R	Gro Id	Table	Field	Value	Row	Valerr	Rule	E/W	An4 Ref	Frror Message
+	Jean		3.12.10	aeo	long nom	-10		101	3	w	A.4.A.1	sat name not found in ref table
				geo	sat_name	ITU_SAT		100	2	w	A.1.a	sat_name not found in ref table

No fatal errors should appear. If there is a fatal error, it should be corrected. Otherwise, the submission may be returned to your administration.

Warning errors should be corrected, although the submission will not be returned to your administration.



Exercise: Generate submission to apply the special procedure in Resolution 559

- 1. Assign MSPACE group code to existing Plan assignments
- 2.a) AP30: Generate GIMS database
- 2.b) AP30: Generate SNS database
- 2.c) AP30: Run BR-SIS Validation
- 3.a) AP30A: Generate GIMS database
- 3.b) AP30A: Generate SNS database
- 3.c) AP30A: Run BR-SIS Validation
- 4.a) Run GIBC/Appendix 30 30A to check Hard Limits for AP30 submission
- 4.b) Run GIBC/Appendix 30 30A to check Hard Limits for AP30 submission



🖌 GIMS











3. Select the coordinates of the test points and press Ctrl + C. Go back to GIMS and press Ctrl + V (copy and paste test-points). You may delete, modify or add new test-points in GIMS (max.20)









3.a) AP30A: Generate GIMS database (SERVICE AREA)



3.a) AP30A: Generate GIMS database (SERVICE AREA)



3.a) AP30A: Generate GIMS database (SERVICE AREA)

🕌 G	MS - *[CO] 00000001.C.? .?	.? .E.C.00.	.CO10.00 from R13 BSS SUI (GIMS on C:\Exercise	D	iagram key - Save to R	13_BSS_SUI_GIMS		×
Dia	gram GXT Database Info Points Edit New Open	View Capture Tools Ctrl+N Ctrl+O	Window Help ITU 최 🔨 역 역 🧐 🗐 🔶	≦ ∡ ∭ ⊛ ↓ R13_BSS_SU	E	inter the key elements a	nd a comment. Then dick OK to save.		ОК
	Open PFD Examination	.3 .3	? .E.C.00CO	-10.00 from R13_BSS_		Notice ID	2		Cancel
	Close					Notification Reason	B (AP30/30A)	-	
	Save As	1. Save the	Service area			Administration	SUI	-	
=	Import GXT File Ctrl+	-Shift+O	5	•		Satellite Name	ITU_SAT		
	Export to GXT File Ctrl-	+Shift+S	5			Beam Name	E001		
CT CT	Validate View GXT	Ctrl+G				Emission / Reception	R (Reception = Up Link)	-	
	Satellite Position					Polarization	C (Co-polar)	-	
	Move Satellite and Diagram	Confirm Save		1]		Service Area Number	1		
	Show History Show Key					Service Area Name	SA		
-	Print Print Multiple	Please check w	hat is going to be saved. ur diagram consisting of		ľ	Comment			
[م	Print Preview Page Setup 1 1.ITU_SAT.E001.C.1 (CO,SA) - R13_BSS_SUL_G	0 dig 0 ger	pitised contour(s) nerated contour(s)			3. In	troduce the inform	ation	
	2 100550005.ALG_100.E001.C.0 (CO) - GIMS	Saving service are	ea diagram consisting of		_	- Notice II	D: 2 (different from	AP30)	
	3 100550005.ALG100.E001.X.0 (CO) - GIMS 4 100550189.SUI14000.E001.C.0 (CO) - GIMS	0 ser	rvice point(s)	5		- Notifica	tion Reason: B (AP30)/30A)	
	5 100550139.MDA06300.E001.C.0 (CO) - GIMS	1 ser 0 ex	cluded region(s)	- 4 5		- Administ	tration: SUI		
	6 100550040.CBG29900.E001.C.0 (CO) - GIMS					- Satellite	e name: ITU_SAT		
_	Exit		Cancel			- Beam na	ame: E001		
			$\overline{\xi}$			- Emissior	n/Reception: R		
		2 Dross (\times		- Polariza	tion: C (Co-polar)		
		Z. Press C	JK 3.00			- Service	Area Number: 1		
$ \rangle$				i at		- Service	Area Name: SA		
┣-┾	<u>}</u>		Ę	~		Then press	OK		

		database (otherw	vise open the data
GIMS Database Explorer	R15_B55_SUI_GIMS on C:\Exercise_submission		
Database Location: c:\exercise_subn	nission\r13_bss_sui_gims.mdb	S 20	2. Open the c
© Geostationary Satellites Notice ID:	Non-geostationary Satellites Filter by Administration ✓ Apply last filters at startup Select only : ✓CO (Gain Contours) △AG/GSO (Gain towards the GSO) Ignore : C (Co-polar) □ E (Emission = Do	Svn Link)	elect the type of want to display erated only 1 gair and 1 service a
I I <thi< th=""> <thi< th=""> <thi< th=""> <thi< th=""></thi<></thi<></thi<></thi<>	in Contours) vice Area)	ame J Position 🖌 Status J -10 01 -10 01	
	4. Select diagrams want to dis	the you splay	
	DownlinkFeeder-line	nk	



Exercise: Generate submission to apply the special procedure in Resolution 559

- 1. Assign MSPACE group code to existing Plan assignments
- 2.a) AP30: Generate GIMS database
- 2.b) AP30: Generate SNS database
- 2.c) AP30: Run BR-SIS Validation
- 3.a) AP30A: Generate GIMS database
- 3.b) AP30A: Generate SNS database
- 3.c) AP30A: Run BR-SIS Validation
- 4.a) Run GIBC/Appendix 30 30A to check Hard Limits for AP30 submission
- 4.b) Run GIBC/Appendix 30 30A to check Hard Limits for AP30 submission

2.b) AP30A: Generate SNS database (CREATE DATABASE)



2.b) AP30A: Generate SNS database (CREATE NOTICE)

📓 SpaceCapture V8 - [Set Notice Template]	-	\times
File Edit Tools Template Window Help		
□ 📴 📾 🚰 🛤 🗸 📢 🖡 🕨 😥 😰 🚏 📰 🖪 🖪 CR/NOTIF 🖻 API 🖻 RAST 🖻 PLAN 🕏 RS49/552		
AP4 V/VI Advance Publication Plate		
SpaceCap Start Page - PLAN - WRC-00 Feeder-link Plans and Lists for Region 1. Click on PLAN		2
Start Page Transaction Id:		
Notice Evolution		
Open Notice		
4. Click on "New Notice"		
Plan / List / Pending Plan / List Notification Space Operation Functions		
ODD WRC-00 BSS Down-link Plan & List for Regions 1 & 3 (Appendix 30) 1 Select a 000 N Note: 5 and 5 a		
Search Plan 30_2 RARC BC SAT83 Plan for Regions 2 (Appendices 30 & 30A) 0 1000 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
A30B WRC0/FSS Plan 6/4 AND 13/10/11 GHz Band (Appendix 30RL 2)		
3. DOUDLE CITCK OIL OUOF FIGH		
(Appendix 30A)		
Plan/List/Pending notices (Status above 01) read-only mode		
2 Unclick "Read-only mode"		
2. Onenex Read-only mode		

2.b) AP30A: Generate SNS database (NOTICE LEVEL)



2.b) AP30A: Generate SNS database (BEAM LEVEL)



2.b) AP30A: Generate SNS database (GROUP LEVEL)



2.b) AP30A: Generate SNS database (GROUP LEVEL)

SpaceCapture V8 - [Forms of Notice PLAN - WRC-00 Feeder-li	ink Plans and Lists for Regions 1 and 3 at 1	4&17 GHz (Appendix 30A	0]	– 🗆 X
📸 File Edit Tools View Window Help				_ 8 ×
	2 💡 📰 🔄 CR/NOTIF 🖻), API (5), RAS	ST 🔄 PLAN 🔄 R	\$49/552
Assoc Specific Earth Stn Attachments Notice Beam	Coordination Group	1. Click on Characte	General eristics	
Notice 1 Satellite ITU_SAT	Beam Id E001 R	Group to.	Split Grp Id:	
💐 Characteristics Common	to a Group of Frequencies	💐 General Cha	aracteristics	
A3a. Operating Administration or Agence 001 RADIO-SUISSE S.A. A3b. Responsible Administration A FEDERAL OFFICE OF COMMUNIC To apply this information to other groups, select the beam or notice option	y CATION C Apply to current group only C Apply to all gr in this beam	oups C Apply to all group in this notice	8	
2. Introduce any "Res "Operating Administra Please note that this is sake of completeness once the assignments	ponsible Administrati ation or Agency" from information is require of the notice and wil are included into the	ion" and n the list. ed only for th I be removed e Plan.	e I	
Current DB : C:\Exercise_submission\R13_BSS_FL_SUI.mdb	Plan Id 00UP	11:27 AM	17.12.2019	//

2.b) AP30A: Generate SNS database (EMISSIONS/FREQ LEVEL)



2.b) AP30A: Generate SNS database (EMISSIONS/FREQ LEVEL)

5. Modulation Characteristics	_		×
Current Designation of Emission 27M0G7W			
C9a. Modulation Characteristics for Each Carrier C9a1. Type of modulation QPSK		•	
C9a3.For a carrier frequency modulated by TV signal			
C9a3c. Multiplexing type DVB-S		List o A chara introdu not tak the	f proposed values. ny modulation acteristics may be uced since they are ten into account for e calculation of interference
C9a7. Energy dispersal type Carrier always spread by digital stream C9a9. TV standard DVB-S C Apply these characteristics to all emissions in this notice with the same designation of emission A1 C Apply these characteristics to the current emission OK CANCEL	12. Range o gain co	f automatic	 Required only for the feeder-link. The value must be in the range 0 to 15 dB.

1 2.b) AP30A: Generate SNS database (EMISSIONS/FREQ LEVEL)

SpaceCapture V8 - [Forms of Notice PLAN - WRC-00 Feeder-link Plans and Lists for Regions 1 and 3 at	14&17 GHz (Appendix 30A)]
	API C. RAST C. PLAN C. RS49/552
Assoc Specific Earth Stri Notice Beam Group Emiss Notice C3 Power Characteristics of the transmissi C3 Power Characteristics of the transmissi Power Density Desity Over Bandwidth 27M0G7W- modehar 28.00 46.31 46.31 •Select ten consecutive odd or even channels with standard Appendix 30A assigned frequencies. •Frequency: •17.3-18.1 GHz (channels 1-40) •14.5-14.8 GHz (channels 1-40) •14.5-14.8 GHz (channels 1-14) •Automatic calculation of channel number from frequency or frequency from channel number. •In case of submission in the 14 GHz band, the maximum of ten channels with a bandwidth of	API RAST PLAN RS49/552 ions/Frequencies Group Id: 1 C2a. Assigned Frequencies Channel Frequency in C8 i Power Con (dB) C2a. Assigned Frequencies Channel Frequency in C8 i Power Con (dB) 2 17346.66 4 17385.02 6 17423.38 8 17461.74 10 17500.10 12 17538.48 14 17576.83 18 17653.54 20 17691.91 • Leave Power Control empty. Once the assignments are entered into the List, the Bureau will calculate and publish the final power control values (between 0)
(<u>Annex 2</u>)	and 10 dB)

2.b) AP30A: Generate SNS database (SRV AREA/EARTH STN)

SpaceCapture V8 - [Forms of Notice PLAN - WRC-00 Feeder-link Plans and Lists for Regions 1 and 3 at 14&17 GHz (Appendix 30A)] -	
🔂 File Edit Tools View Window Help	_ & ×
□ 📷 🗗 🚳 🧖 🗸 📢 ♦ > >> 🚳 🔛 🚍 🍞 📰 🖪 CR/NOTIF 🖻 API 🖻 RAST 🖻 PLAN 🖏 RS49/552	
Assoc Specific Earth Stn Attachments Coordination Notice Beam Group Emissions/Frequencies Srv Area/Assoc Earth Stn Notice Id: 1 Satellite Network: ITU_SAT Beam Id E001 R Group Id I Service area Service area contour C11a. Test Points (maximum 100) Service area contour C11a1. Service Area No. I C11a5e. Minimal Elevation Angle ° 6.0308 46.2000 0 Service area Contour C11a1. Service Area No. I C11a5e. Minimal Elevation Angle °	
C.10.a.5 maximum gain reference pattern Default Value R13TES 14GHz: 57+20*log(D/6) MODTES 17GHz: 57+20*log(D/5)	
C.10.d.5 reference pattern 3dB beamwidth Default Value typical earth station antenna characteristics are valid for each test point. R13TES MODTES 14GHz feeder-link: <=0.25 17GHz feeder-link: <=0.25	
 3.1403 47.8223 0 9.5383 46.3808 0 9.5865 47.4174 0 9.7914 46.9353 0 10.0566 46.3085 0 10.3941 46.6098 0 10.4061 46.9353 0 Overwrite Climat Overwrite Climat C Apply these of to all groups in the submitted antenna diameters. ✓ Radiation pattern shall contain both co-polar and cross-polar patterns. ✓ Gain and 3dB beamwidth are stored with 2 digits after decimal. 	

2.b) AP30A: Generate SNS database (SRV AREA/EARTH STN)


2.b) AP30A: Generate SNS database (NETWORK LEVEL)



2.b) AP30A: Generate SNS database (NETWORK LEVEL)

SpaceCapture V8 - [Set Notice Template]	- 🗆 ×
File Edit Tools Template Window Help	
□▷∞	CR/NOTIF C, API C, RAST C, PLAN C, RS49/552
SpaceCap Notice Explorer PLAN - WRC-00 Feeder-link Plans a Start Page Image Image Image Image	1. Select incoming notice and click on right button of the mouse Count=1 Count=1 Count=1 Control Box Show Open Notice Show Selected Entity View History Count=1 Coun
Open Notice New Notice Search	Print Notice Selecte Export Notice(s) To SNS Clone Delete Delete SpaceVal Assign Notice Id SpaceVal Modify Notice Action Code Staud Modify Date of Receipt Rs49/552 Paginate Groups RS49/552 Sort Frequencies Pelete Notice Links Create Notice Links Create Grp Links Create Grp Links Create Regulatory Dates
	Cost Recovery Analysis (Dec 482 C2008)
	Prepare incoming notice for Mspace



Exercise: Generate submission to apply the special procedure in Resolution 559

- 1. Assign MSPACE group code to existing Plan assignments
- 2.a) AP30: Generate GIMS database
- 2.b) AP30: Generate SNS database
- 2.c) AP30: Run BR-SIS Validation
- 3.a) AP30A: Generate GIMS database
- 3.b) AP30A: Generate SNS database

3.c) AP30A: Run BR-SIS Validation

4.a) Run GIBC/Appendix 30 30A to check Hard Limits for AP30 submission





) e	BRSIS - N	/alida	tion v8.(0.1.25								
No	Notice Id. 2											
Sat	t. name:	ITU_	SAT									
Typ	ne of no	tice: I	Part A (R	1 <i>8</i> (3) F	eeder-link	Stat	us: 24					
Ad	m./Org.	SUI		Orb. p	os.: 10W	Stat	tion ty	pe:G				
Va	lidation	Re	ports									
VA	 created on 10/02/2020 - start time: 19:17:46 - duration: Omin. 9sec. by user devega usin. Validation: 2 Errors SRSFIX: 3 Errors VALIDATION RESULT: Warnings:2 Export 2 Y 2 Q E Summary Warning error Displayed warnings: Ignore as we are using a new sat. name and a new orb. position 											
												-
	Beam	E/R	Grp Id	Table	Field	Value	Row	Valerr	Rule	F/W	Ap4 Ref	Error Message
►				geo	long_nom	-10		101	3	w	A.4.A.1	sat_name not found in ref table
				geo	sat_name	ITU_SAT		100	2	W	A.1.a	sat_name not found in ref table

No fatal errors should appear. If there is a fatal error, it should be corrected. Otherwise, the submission may be returned to your administration.

Warning errors should be corrected, although the submission will not be returned to your administration.



Exercise: Generate submission to apply the special procedure in Resolution 559

- 1. Assign MSPACE group code to existing Plan assignments
- 2.a) AP30: Generate GIMS database
- 2.b) AP30: Generate SNS database
- 2.c) AP30: Run BR-SIS Validation
- 3.a) AP30A: Generate GIMS database
- 3.b) AP30A: Generate SNS database
- 3.c) AP30A: Run BR-SIS Validation

4.a) Run GIBC/Appendix 30 30A to check Hard Limits for AP30 submission



Needed databases:

- SPS_ALL database published in latest BR IFIC containing the subject notice
- GIMS database of the subject notice

Main steps:

- 1. Copy latest SPS_ALL database from last published DVD-ROM BR IFIC to your local drive. Be sure the database is not "Read-only" (right click in windows explorer, Properties).
- 2. Export incoming AP30 notice into latest SPS_ALL database with SpaceCap
- 3. Connect above-mentioned SPS_ALL database in "SRS database" in "Tool-Options" in GIBC
- 4. Connect GIMS database of the subject notice in "GIMS database" in "Tool-Options" in GIBC
- 5. Go to section "Appendix 30 30A" in GIBC
- 6. Introduce "Network ID" of the subject network (1 in the example)
- 7. Press start
- 8. Once finished, click "Open Database"
- 9. Open "ap30_30a_clc_head" and check that "f_sucess"=Y
- 10. Open "ap30_pfd_res" and check that "pfd_excess" is equal or below to 0. Otherwise, there would be an excess in the PFD produced by the subject network.





3. Uncheck read-only mode







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Eile Edit Too	vo - [Set Notice Tempiate - Template Window	J Help					l
		- Help 	₽ १ ज	CL CR/NOTIF	API 🗅	RAST 🖸	PLAN C3 RS49/552
SpaceCap	Start Page - PLAN	- WRC-00 BSS	Down-link Plan &	List for Regions 1 a	& 3 (Appen	dix 30)	
Cheek Deere	Termenting Ide						
otait haye							
- B							
4 0 Notice Euplorer							
Notice Explorer				Double cl	ick		
				on "00DI	\ <i>\</i> "		
Open Notice					N		
open news							
New Notice	Plan / Li	st / Pending	Plan / List Notifi	Space Operation	Functions		
	PLAN ID	 Description				Notice Count	
	Colorba CODN	WRC-00 BSS Down-lin	k Plan & List for Regions	1 & 3 (Appendix 30)		1	
Search	Plan 30.2	WRC-UU Feeder-link Pl RARC BC SAT83 Plan	ans and Lists for Regions for Region 2 (Appendices	1 and 3 at 14&17 GHz (Appe s 30 & 30A)	endix 3UA)	0	
	A30B	WRC07 FSS Plan 6/4	AND 13/10-11 GHz Ban	d (Appendix 30B)		0	
	P.29						
	□ Plan/List/Pa	anding notices (Status a	bove 01) read-only mode				
		shang hotoos (ordius e	iss to orgroad only mode				















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	ap30_30a_clc_head Tabl Date Created: 13.03.2009 8:	e						ā	p30_30a_casad			
	Date Modified: 13.09.2012 Header describing AP30-30		🕗 onentc_id 🕞	start_time 🕞	end_tim	e 👻 oper_	id 🛛 f_deta	ils 👻 input	_filesoft_v	rs f_suco	cess 👻 f_proc	d 👻 module_id 👻
	ap30_pfd_res Tabl	e	119552006 *	.019 4:07:30 PN	.019 4:08:2	1 PM devega	Y	C:\DAT	A\Comr 4.1.0.0	Y	Y	AP30 PFD Hard
	AP30 Annex 1 section 1 PFD.								20. ()			
	ap30a_pfd_res Tabl	e 🛛 _							ap30_pfd_res			
	Date Created: 01.03.2010 1		/ ttpwbw	refbw -	es_se 🔹	gso_pos 👻	long_dec 🕞	lat_dec 🕞	pfd_produce -	pfd_limit -	pfd_excess 🚽	
	AP30A Annex 1 section 4 PF.		25.1355	27	2919	144.1	146.85	-2.18	-106.936	-103.	- <u>3.3 A</u>	Sort Smallest to Largest
	BR_Internal Tabl	e	25.1355	27	2919	144.1	146.85	-2.18	-106.936	-103.6	-3.3 _{Z↓}	Sort Largest to Smallest
	Date Created: 17.11.2009 1		25.1355		2922	144.1	146.91	-2.09	-100	-103.6	-3.3	Clear filter from pfd_excess
	Date Modified: 11.07.2016 Input data as read from SPS.		25.1355	27		144.1	146.85	-2.14	-106.936	-103.6	-3.3	Number Filters
	version Tabl	e	25.1355	27	255	144.1	146.91	50	-106.936	-103.6	-3.3	Number riters
	Date Created: 13.03.2009 8:		25.1355	2	2 1.		a fal ma a d		-106.936	-103.6	-3.3	
	Date Modified: 13.09.2012		25.1355	2	2. If	n ap30_	pra_res t	able,	-106.936	-103.6	-3.3	
	version of any template of .		25.1355	2	chec	k that "	pfd exc	ess" is	-100.930	-103.0	-3.330	
			25.1355	2			Lor bolo	w to 0	-106.936	-103.0	-3.330	
			25.1355	21	arwa	ys equa			-106.936	-103.6	-3.336	

NOTE: The maximum excess (subtracting 0.1 dB), is the amount we can increase the EIRP for the downlink while complying with the AP30 Hard limits



Exercise: Generate submission to apply the special procedure in Resolution 559

- 1. Assign MSPACE group code to existing Plan assignments
- 2.a) AP30: Generate GIMS database
- 2.b) AP30: Generate SNS database
- 2.c) AP30: Run BR-SIS Validation
- 3.a) AP30A: Generate GIMS database
- 3.b) AP30A: Generate SNS database
- 3.c) AP30A: Run BR-SIS Validation

4.a) Run GIBC/Appendix 30 30A to check Hard Limits for AP30 submission



Needed databases:

• SNS database of the subject notice related to the AP30A submission

Main steps:

- 1. Connect the SNS database in "SRS database" in "Tool-Options" in GIBC
- 2. Go to section "Appendix 30 30A" in GIBC
- 3. Introduce "Network ID" of the subject network (2 in the example)
- 4. Press start
- 5. Once finished, click "Open Database"
- 6. Open "ap30_30a_clc_head" and check that "f_sucess"=Y
- 7. Open "ap30a_pfd_res" and check that:
- *"pfd_excess" is equal or below to 0. Otherwise, there would be an excess in the PFD produced by the subject network.*
- "Compliance_c" is always "Y". Otherwise, there would be an excess in the co-polar component of the relative off-axis e.i.r.p. of the associated feeder-link antenna.
- "Compliance_x" is always "Y". Otherwise, there would be an excess in the cross-polar component of the relative off-axis e.i.r.p. of the associated feeder-link antenna.



GIBC SNS V8.	_	> ×	<			
EPFD Power Control Coordination 9.78 PFD Ap8 (Obsolete) PXT Appendix 7 Appendix New PFD Appendix 8 PFD Tools / Options	PFD Earth 30B Appe	1. G Manager	o to Tools/Op	otions		
GIMS Databases Container Database Container Path	Add Clear List					
SRS Database C:\Exercise_submission\R13_BSS_FL_SUI.mdb ESCC Database Transfer	Browse Add Clear List		2. Brow	/se SPS_AL	-L	
	Tra Oper	n in: E R13_BSS_F R13_BSS_S R13_BSS_S	xercise_submission 	3. Select for AP3 and	× st SNS databa 30A submissic click Open	ase on
	Pwd File na Files o	SPS_ALL_II ame:	FIC2910.mdb SRS_ALL.MDB Database files (*.db3,*mdb)		2:54 PM M > Open Cancel	
EXIT						











Summary of parameters for AP30 submission (1)

Level	AP4 Item	AP4 reference	Value	Conditions
	Notifying Administration	A.1.f.1	Any	Acronym of administration
	Satellite network name	A.1.a	Any	Up to 30 characters (see https://www.itu.int/ITU- R/go/space-naming-convention/en)
Notice	Nominal Orbital Longitude	A.4.a.1	Any	orbital positions for which the Annex 7 to Appendix 30 (Rev.WRC-15) limitations were suppressed by WRC-19
	Longitudinal tolerance west	A.4.a.2.b	0.1	-
	Longitudinal tolerance east	A.4.a.2.a	0.1	-
	Regular Hours of Operation start	A.11.a	0	-
	Regular Hours of Operation end	A.11.b	24	-
	Transmitting/Receiving	B.2	Transmitting	-
	Shape of the Beam	-	Elliptical	-
	Beam designation	B.1.a	Any	Avoid spaces (suggested name: E001)
	Co-polar gain	B.3.a.1	Any	10*log(27843/(min.axis*major axis))
	Radiation Pattern	B.3.c	Any	Extracted from ellipse parameters in GIMS
Beam	Pointing accuracy	B.3.d	0.1	-
	Boresight	B.3.f.1	Any	Extracted from ellipse parameters in GIMS
	Rotation accuracy	B.3.f.2.a	1	-
	Major axis orientation	B.3.f.2.b	Any	Extracted from ellipse parameters in GIMS
	Major axis at hal-power beamwidth	B.3.f.2.c	Any	Extracted from ellipse parameters in GIMS
	Minor axis at hal-power beamwidth	B.3.f.2.d	Any	Extracted from ellipse parameters in GIMS
	Operating Administration or Agency	A.3.a	Any	Just for completeness. Will be removed in Plan assignment
	Responsible Administration	A.3.b	Any	Just for completeness. Will be removed in Plan assignment
Group	Assigned frequency bandwidth	C.3.a	27000	-
	Class of station	C.4.a	EV	-
	Polarization	C.6	CR, CL or L	If linear, vector angle is mandatory



Summary of parameters for AP30 submission (2)

Level	evel AP4 Item ref		Value	Conditions
	Assigned frequencies	C.2.a	Any	Ten consecutive odd or even channels with standard Appendix 30 assigned frequencies
	Designation of emission	C.7.a	27M0G7W	27 MHz and digital
Emission/freq	Total Power	C.8.b.1	Any	PFD level shall not exceed –103.6 dB(W/m2. 27 MHz)) EIRP = total power (C.8.b.1) + Co-polar gain (B.3.a.1) Default EIRP _{DL} = 58.4 dBW
	Maximum power density	C.8.b.2	Any	Total power-10*log(27 MHz)
	Maximum power density over bandwidth	C.8.h	Any	Equal to maximum power density
	Modulation Characteristics	C.9	Any	Just for completeness.
	Maximum isotropic gain	C.10.d.3	Any	Default value depending on diameter and radiation pattern (suggested: 35.5 dBi)
	Half-power beamwidth	C.10.d.4	Any	Default value depending on diameter and radiation pattern (suggested: 2.86 degrees)
Srv Area/Assoc ES	Radiation Pattern	C.10.d.5.a	Any	(suggested: MODRES)
,	Equivalent antenna diameter	C.10.d.8	Any	Default value depending on gain and radiation pattern (suggested: 0.6 m)
	Service area No.	C.11.a.1	1	-
	Test-points coordinates	C.11.a	Any	Up to 20 test-points. On land and within national territory.

Summary of parameters for AP30A submission (1)

Level	AP4 Item	AP4 reference	Value	Conditions
	Notifying Administration	A.1.f.1	Any	Acronym of administration
	Satellite network name	A.1.a	Any	Up to 30 characters (see https://www.itu.int/ITU- R/go/space-naming-convention/en)
Notice	Nominal Orbital Longitude	A.4.a.1	Any	orbital positions for which the Annex 7 to Appendix 30 (Rev.WRC-15) limitations were suppressed by WRC-19. Same orbital position as AP30 submission.
	Longitudinal tolerance west	A.4.a.2.b	0.1	-
	Longitudinal tolerance east	A.4.a.2.a	0.1	-
	Regular Hours of Operation start	A.11.a	0	-
	Regular Hours of Operation end	A.11.b	24	-
	Transmitting/Receiving	B.2	Receiving	-
	Shape of the Beam	-	Elliptical	-
	Beam designation	B.1.a	Any	Avoid spaces (suggested name: E001)
	Co-polar gain	B.3.a.1	Any	10*log(27843/(min.axis*major axis))
	Radiation Pattern	B.3.c	Any	Extracted from ellipse parameters in GIMS
Beam	Pointing accuracy	B.3.d	0.1	-
	Boresight	B.3.f.1	Any	Extracted from ellipse parameters in GIMS
	Rotation accuracy	B.3.f.2.a	1	-
	Major axis orientation	B.3.f.2.b	Any	Extracted from ellipse parameters in GIMS
	Major axis at hal-power beamwidth	B.3.f.2.c	Any	Extracted from ellipse parameters in GIMS
	Minor axis at hal-power beamwidth	B.3.f.2.d	Any	Extracted from ellipse parameters in GIMS
	Operating Administration or Agency	A.3.a	Any	Just for completeness. Will be removed in Plan assignment
	Responsible Administration	A.3.b	Any	Just for completeness. Will be removed in Plan assignment
Group	Assigned frequency bandwidth	C.3.a	27000	-
	Class of station	C.4.a	EC	-
	Receiving system noise temperature	C.5.a	600 or 750	600 (for 17 GHz) or 750 (for 14 GHz)
	Polarization	C.6	CR, CL or L	If linear, vector angle is mandatory



Summary of parameters for AP30A submission (2)

Level	AP4 Item	AP4 reference	Value	Conditions
	Assigned frequencies	C.2.a	Any	Ten consecutive odd or even channels with standard Appendix 30 assigned frequencies
	Designation of emission	C.7.a	27M0G7W	27 MHz and digital
F	Total Power	C.8.b.1	Any	PFD level shall not exceed –76 dB(W/m2. 27 MHz)) EIRP = total power (C.8.b.1) + Co-polar gain (B.3.a.1) Default EIRP _{FL} = 84 dBW
Emission/freq	Maximum power density	C.8.b.2	Any	Total power-10*log(27 MHz)
	Maximum power density over bandwidth	C.8.h	Any	Equal to maximum power density
	Power control	C.8.i	Blank	Bureau will calculate and publish the final power control values
	Modulation Characteristics	C.9	Any	Just for completeness.
	Maximum isotropic gain	C.10.d.3	Any	Default value depending on diameter and radiation pattern (suggested: 57 dBi)
	Half-power beamwidth	C.10.d.4	Any	Default value depending on diameter and radiation pattern (suggested: 0.25 degrees)
Srv Area/Assoc ES	Radiation Pattern	C.10.d.5.a	Any	(suggested: MODTES)
	Antenna diameter	C.10.d.7	Any	Default value depending on gain and radiation pattern (suggested: 5 m)
	Service area No.	C.11.a.1	1	-
	Test-points coordinates	C.11.a	Any	Up to 20 test-points. On land and within national territory.



Thank you for your attention!



Any question?

alvarode.vega@itu.int

Annex 1: Assign MSPACE group code to existing Plan assignments

C	adm	ntc_id	sat_name	long_nom	plan_id	MSPACE_CODE	adm	ntc_id	sat_name	long_nom	plan_id	MSPACE_CODE
	AFS	100550002	AFS02100	4.8	00DN	4L	NIG	100550153	NIG11900	-19.2	00DN	4G
	AFS	100550401	AFS02101	4.8	00UP	4L	NIG	100550419	NIG11901	-19.2	00UP	4G
	AFS	100550402	AFS02102	4.8	00UP	4L	NIG	100550420	NIG11902	-19.2	00UP	4G
	BDI	100550026	BDI27000	11	00DN	Z 0	NMB	100550154	NMB02500	-18.8	00DN	4H
	BDI	100550671	BDI27000	11	00UP	Z 0	NMB	100550421	NMB02501	-18.8	00UP	4H
	BEN	100550028	BEN23300	-19.2	00DN	Z1	NMB	100550422	NMB02502	-18.8	00UP	4H
	BEN	100550673	BEN23300	-19.2	OOUP	Z1	RRW	100550170	RRW31000	11	00DN	ZF
	BOT	100550034	BOT29700	-0.8	00DN	Z2	RRW	100550805	RRW31000	11	00UP	ZF
	вот	100550679	BOT29700	-0.8	00UP	Z2	SDN	100550179	SDN_100	-7	00DN	4J
	COD	100550051	COD_100	-19.2	00DN	Z3	SDN	100550429	SDN_101	-7	00UP	4J
	COD	100550694	COD100	-19.2	00UP	Z3	SDN	100550430	SDN102	-7	00UP	4J
	COG	100550052	COG23500	-13.2	00DN	Z4	SEY	100550181	SEY00000	42.5	00DN	4T
	COG	100550695	COG23500	-13.2	00UP	Z4	SEY	100550433	SEY00001	42.5	00UP	4T
	СОМ	100550053	COM20700	29	00DN	Z5	SEY	100550434	SEY00002	42.5	00UP	4T
	СОМ	100550696	COM20700	29	00UP	Z5	SEY	100550814	SEY00000	42.5	00UP	4T
	IID	100550063	DJI09900	16.8	00DN	Z6	SOM	100550186	SOM31200	37.8	00DN	4Q
	D1I	100550706	DJI09900	16.8	00UP	Z6	SOM	100550435	SOM31201	37.8	00UP	4Q
	GAB	100550085	GAB26000	-13.2	00DN	Z7	SOM	100550436	SOM31202	37.8	00UP	4Q
	GAB	100550727	GAB26000	-13.2	00UP	Z7	SSD	?	?	?	00DN	ZG
	GNE	100550090	GNE30300	-18.8	00DN	Z 8	SSD	?	?	?	00UP	ZG
	GNE	100550731	GNE30300	-18.8	00UP	Z8	SWZ	100550194	SWZ31300	4.8	00DN	ZH
	KEN	100550120	KEN24900	-0.8	00DN	Z9	SWZ	100550826	SWZ31300	4.8	00UP	ZH
	KEN	100550762	KEN24900	-0.8	00UP	Z9	TCD	100550197	TCD14300	17	00DN	ZI
	LSO	100550133	LSO30500	4.8	00DN	ZA	TCD	100550829	TCD14300	17	00UP	ZI
	LSO	100550774	LSO30500	4.8	00UP	ZA	TUN	100550204	TUN15000	-25.2	00DN	55
	MAU	100550137	MAU_100	29	00DN	ZB	TUN	100550205	TUN27200	-25.2	00DN	55
	MAU	100550778	MAU100	29	00UP	ZB	TUN	100550835	TUN15000	-25.2	00UP	55
	MDG	100550140	MDG23600	29	00DN	ZC	TUN	100550836	TUN27200	-25.2	00UP	55
	MDG	100550781	MDG23600	29	00UP	ZC	TZA	100550208	TZA22500	11	00DN	ZJ
	MLI	100550145	MLI100	-19.2	00DN	ZD	TZA	100550839	TZA22500	11	00UP	ZJ
	MLI	100550786	MLI100	-19.2	00UP	ZD	UGA	100550210	UGA05100	17	00DN	ZK
	MOZ	100550148	MOZ30700	-1	00DN	4K	UGA	100550841	UGA05100	17	00UP	ZK
	MOZ	100550417	MOZ30701	-1	00UP	4K	ZMB	100550222	ZMB31400	-0.8	00DN	ZL
	MOZ	100550418	MOZ30702	-1	00UP	4К	ZMB	100550854	ZMB31400	-0.8	00UP	ZL
←	MWI	100550151	MWI30800	4.8	00DN	ZE	ZWE	100550223	ZWE13500	-0.8	00DN	ZM
	MWI	100550791	MWI30800	4.8	00UP	ZE	ZWE	100550855	ZWE13500	-0.8	00UP	ZM



Annex 2: Submission AP30A in 14 GHz

• In 14 GHz, possible channels are 1 to 14, so it is not possible to select 10 consecutive odd or even channels. So, it is necessary a combination of maximum 10 channels with different polarization (for example, 5 odd channels with circular right polarization and 5 even channels with circular left polarization).

Main steps:

- 1. Follow the instructions for the generation of the SNS database for the AP30A submission in exercise 3.b), selecting the first part of the channels (e.g. 5 odd channels with circular right polarization).
- 2. Once finished, close the notice and go to "Notice Explorer"
- 3. Select the AP30A notice and double click on it. The beam will be displayed.
- 4. Select the beam and double click on it. The group will be displayed.
- 5. Select the group and click on right button of the mouse. Select the option "Clone".
- 6. Press OK to create the new group in the same notice and the same beam.
- 7. Select new group (group id: 2) and click on "Show". The tab "Group" will open.
- 8. Change to the opposite polarization to group id 1 (e.g. CR vs CL, L/O vs L/90)
- 9. Go to tab "Emissions/Frequencies" and modify the channel numbers to select the rest of the channels not included in group id 1 (e.g. 5 even channels with circular left polarization).