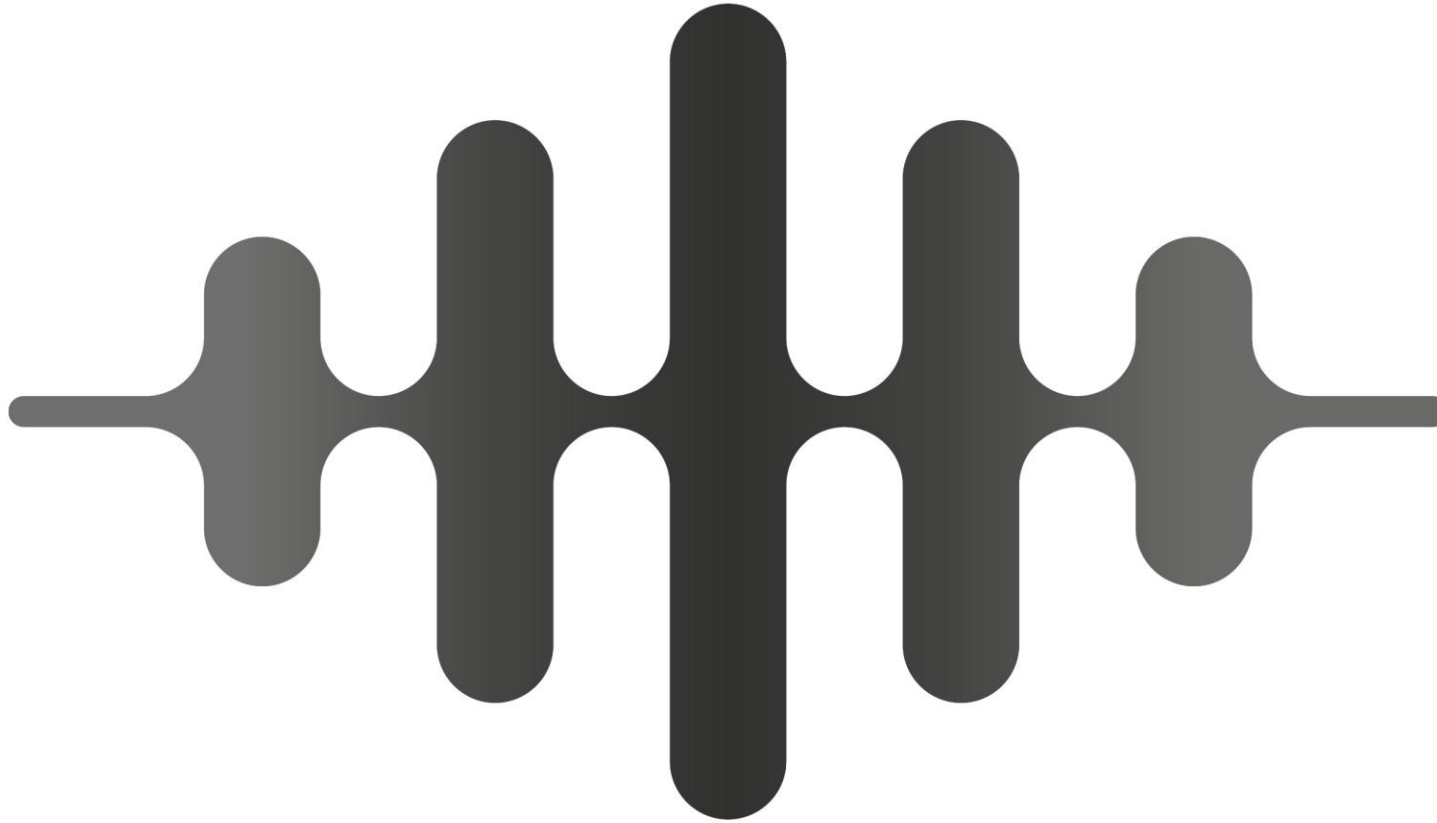
32ND ITU WORLD
RADIOCOMMUNICATION SEMINAR

ITUWRS GENEVA2026

7–11 December 2026
Geneva, Switzerland

itu.int/go/ITU-R/WRS-26
#ITUWRS



Organized by:

ITU

ITU World Radiocommunication Seminar

GE84 Agreement - Advanced

7-11 December 2026, Geneva, Switzerland

Geneva 1984 Software Tool for Optimization

11.12.2026
9:00 – 10:20



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GE84 Optimization tool

Software tools for the GE84 Agreement



Outline

1. The GE84 Optimization Tool
2. Exercises

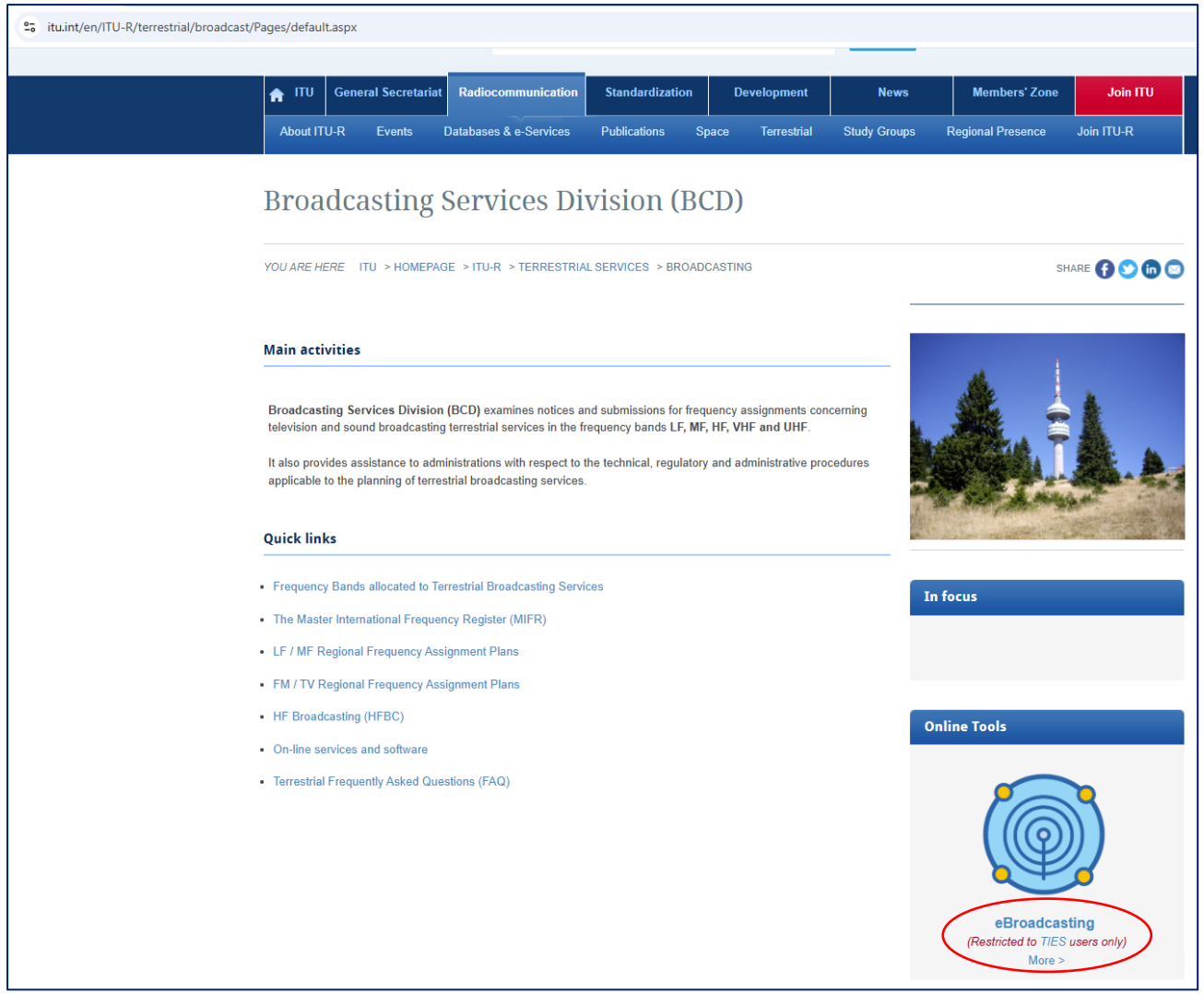
Purposes of the GE84 Optimization Tool

- The tool is used primarily to identify available frequencies for new assignments.
- The tool has been developed to:
  - support the efficient use of the 87.5-108 MHz band for analogue sound broadcasting (FM)
  - identify frequencies for new FM broadcasting assignments in response to demand from administrations that are parties to the GE84 Agreement.

Principles of the tool

- The tool allows to:
  - assess, in accordance with Article 4 of the Agreement, the impact of an FM requirement on other assignments and the impact of other assignments on that requirement.
  - submit calculation requirements with either flexible frequencies (FLEX) or fixed frequencies.
- In the case of a flexible-frequency requirement, designated as FLEX:
  - The available FM channels from 87.6 to 107.9 MHz are analyzed at 100 kHz intervals.
  - As a first step, FLEX requirements are initially submitted to identify suitable frequencies.
  - In subsequent iterations, suitable frequencies can progressively be fixed by the user, until each FLEX requirement is converted into a fixed-frequency requirement.

Access to eTools



https://www.itu.int/ITU-R/eTerrestrial/eBroadcasting/ECalculations

Exercise outline

1. Prepare a new requirement (notice) to the GE84 Plan, for a sound broadcasting station located at the WRS26 site in Iraq.
2. The station operates at 40 dBW ERP in vertical polarization with no directional discrimination.
3. Determine whether a usable FM channel is available at the site.

Requirement

- The electronic notice file, with one file per calculation job, can be created using:
  - **TerRaNotices**, available on the BR IFIC DVD

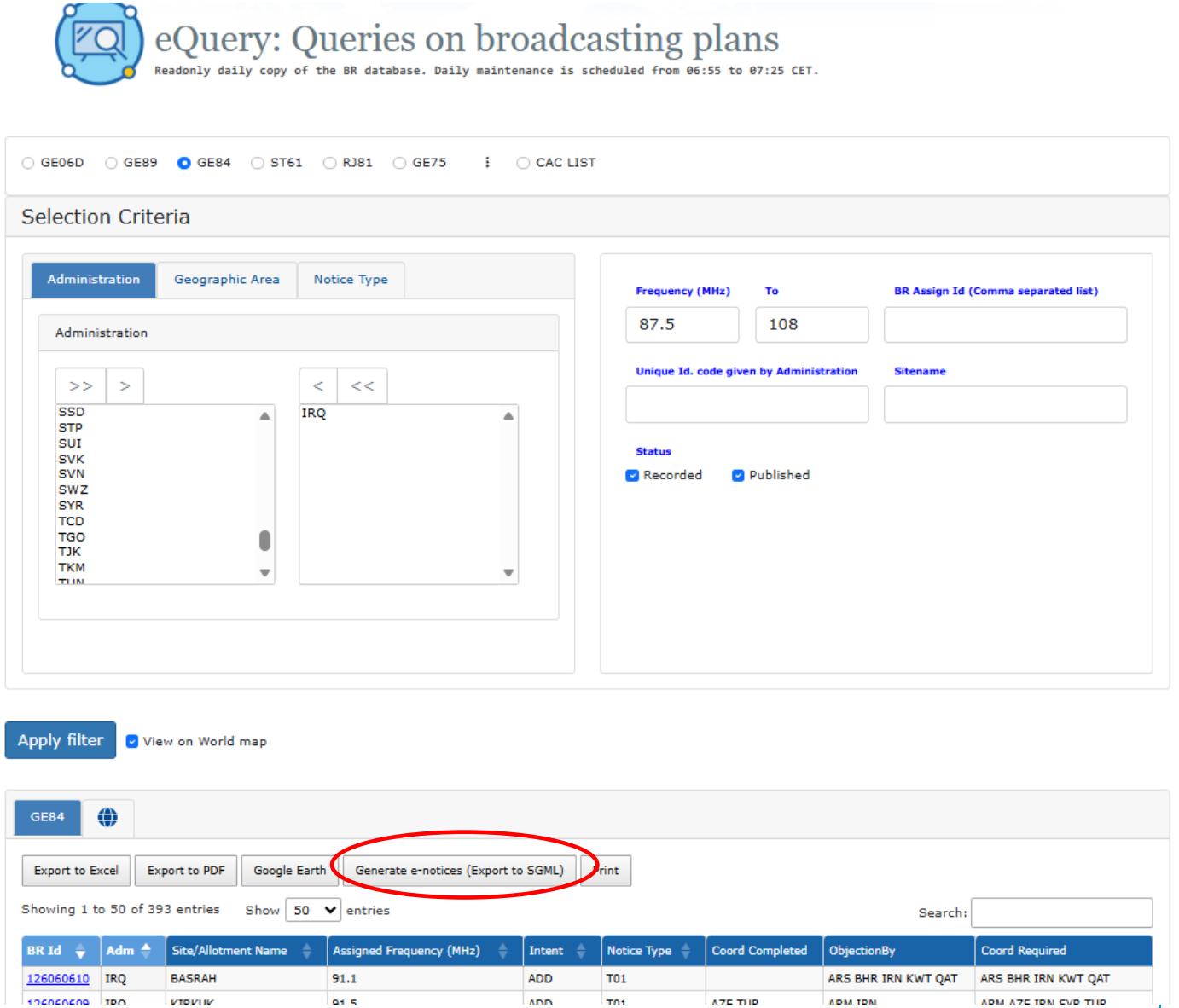
  or
  - **myAdmin** or **eQuery**, available on the **eBroadcasting** platform.

PARAMETER	VALUE
Administration/Country	IRQ
Notice Type	T01
Intent	ADD
Fragment	GE84
Adm Ref Id	GE84-T01-IRQ
Site name	WRS26
Frequency[MHz]	**TBD**
Longitude	44ºE25'00''
Latitude	33ºN19'00''
ERP[dBW]	40
Polarization	V
Antenna directivity	ND
Antenna height AGL[m]	10
Bandwidth[kHz]	300
Transmission system	4

The electronic notice files containing the input data are prepared in the same manner for both the GE84 Compatibility Analyses and GE84 Optimization tools

Create input in eQuery

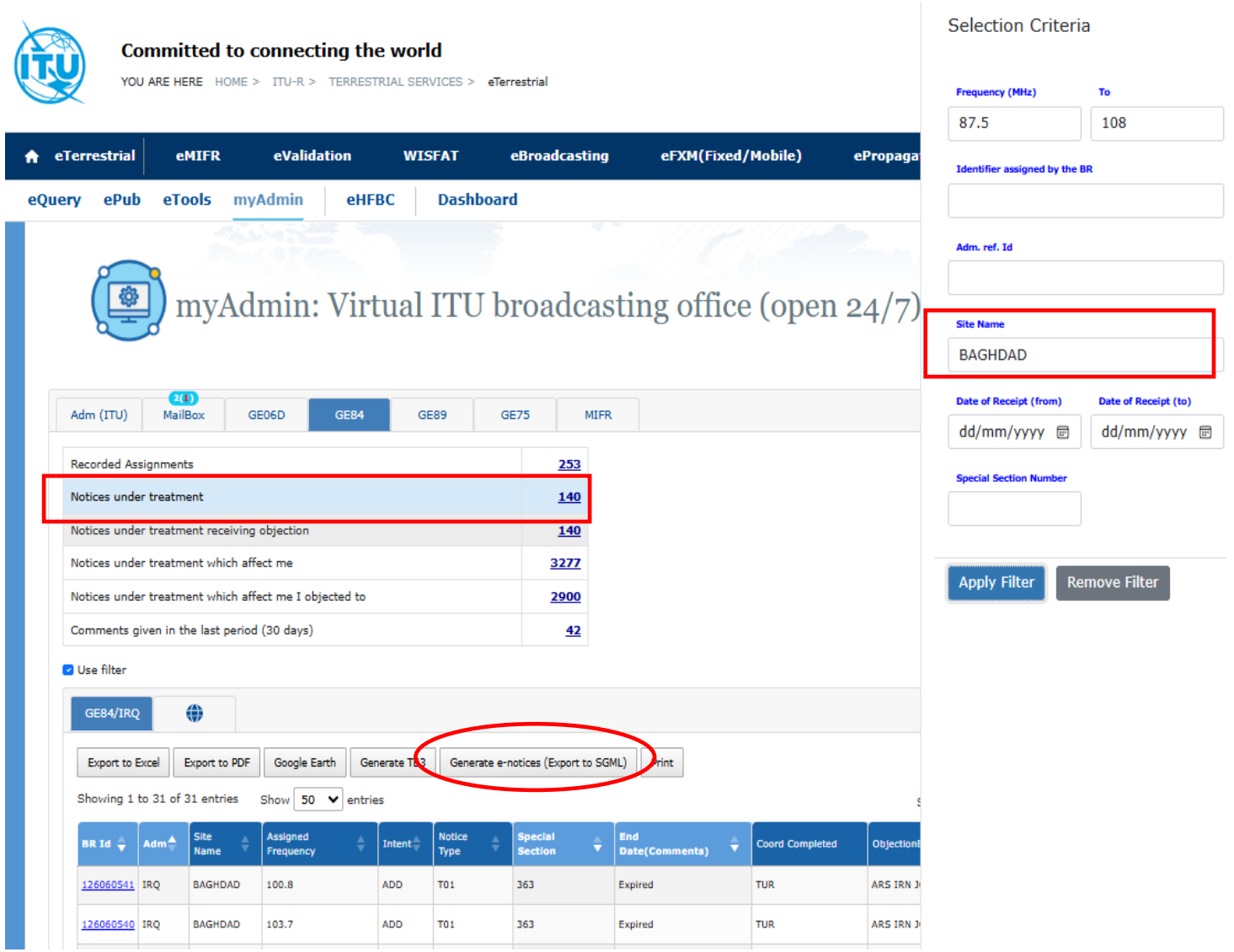
1. Define the selection criteria (e.g. Administration, Site name, Recorded/Published, etc.)
2. Select "**Apply Filter**" to display the summary list.
3. Select the notice of interest.
4. Select **“Generate e-notices (Export to SGML)”**.



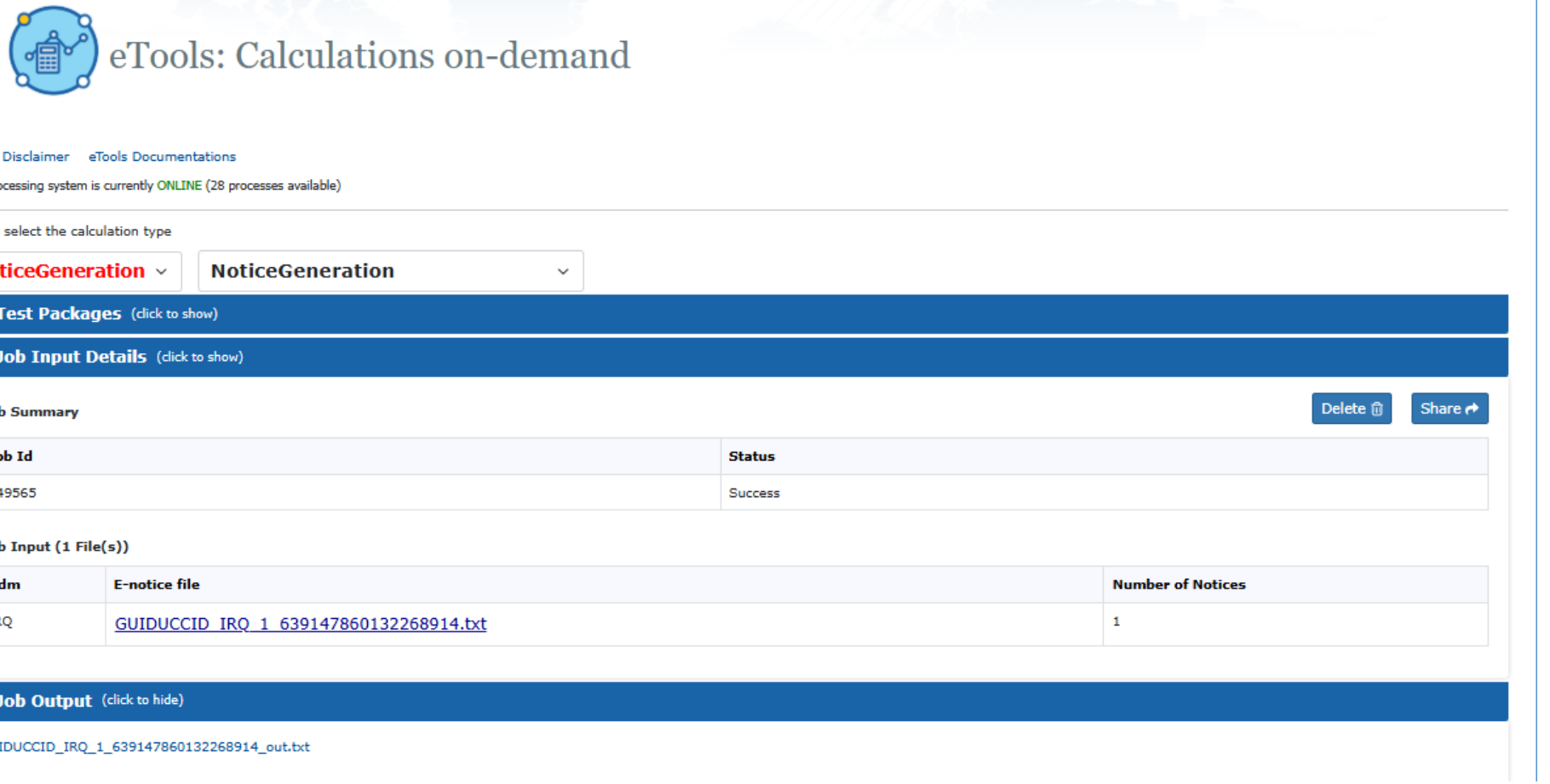
Create input in myAdmin

1. Select the fragment **GE84**
2. Select the number of notices corresponding to the required notice group.
3. When the summary list appears, refine the selection by selecting **"Use Filter"**
4. Select the notice
5. Click on the button **"Generate e-notices (Export to SGML)".**

> **myAdmin** is available **to focal points** only

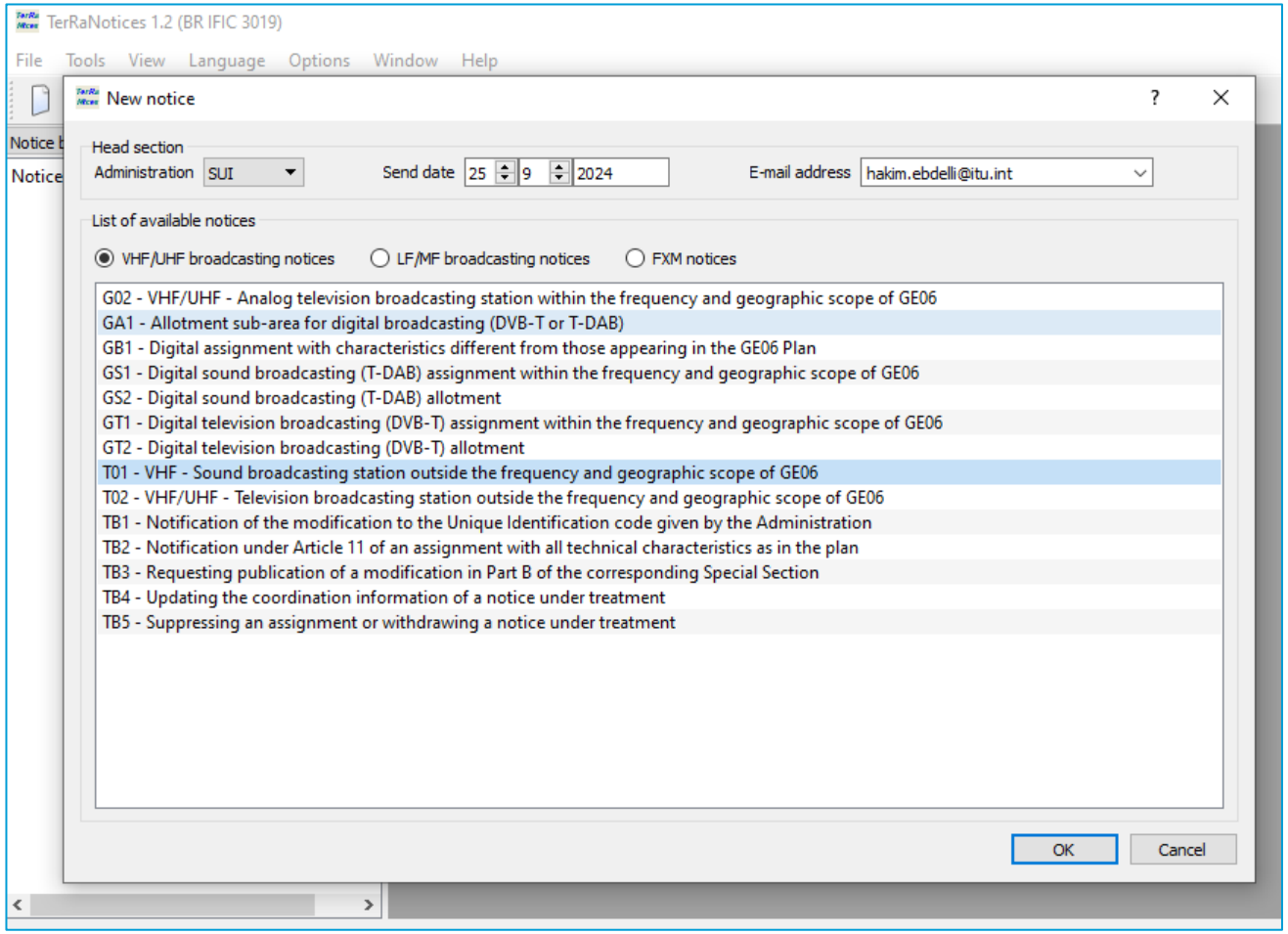


Retrieve notice in eTools



Create input in TerRaNotices

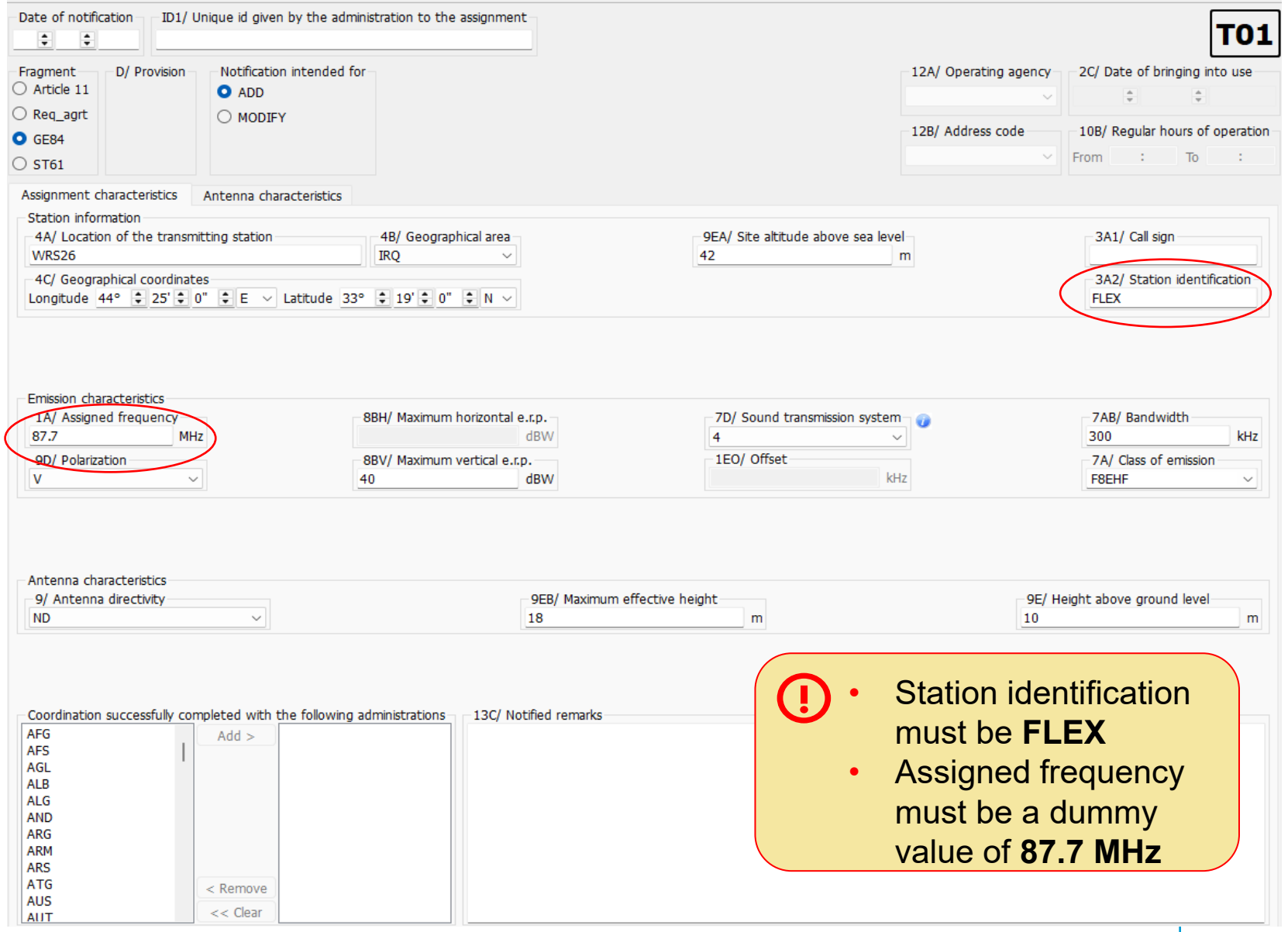
1. Create the electronic notice file from scratch, or extract and modify an existing notice from the BR IFIC
2. Validate the file using eValidation (https://www.itu.int/ITU-R/eTerrestrial/eValidation)
3. Save the file



Create the notice

Use **TerRaNotices** to prepare the notice for a sound broadcasting station notified by the Administration of Iraq (**IRQ**). The station operates with an ERP of 40 dBW in vertical polarization and uses a **FLEX** channel.

An existing notice extracted from the database may be used as a basis.



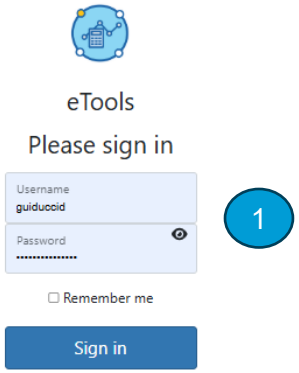
- Station identification must be **FLEX**
- Assigned frequency must be a dummy value of **87.7 MHz**

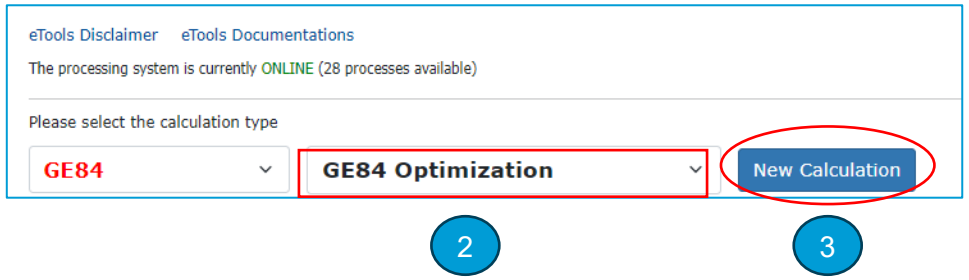
Upload and submit a new calculation

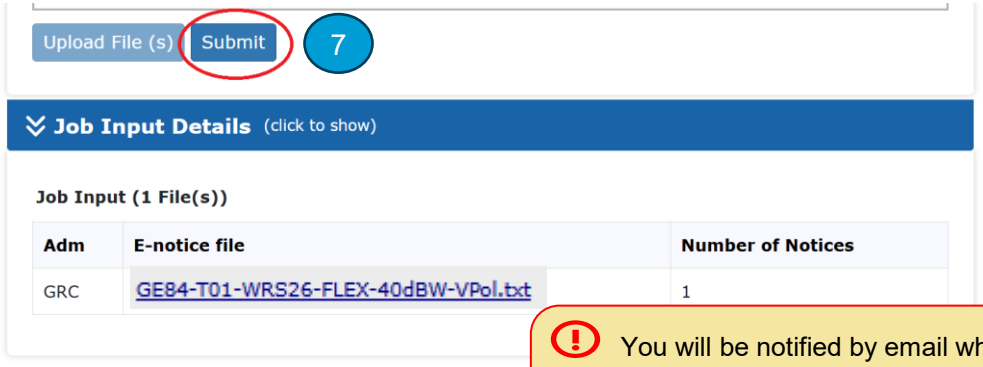
1. Login to: https://www.itu.int/ITU-R/eTerrestrial/eBroadcasting/ECalculations (TIES account needed)
2. Select the **GE84 Optimization** option.
3. Select **New Calculation**.
4. **Add/Drop** the previously prepared electronic notice file(s).
5. **Upload** the electronic notice file(s).
6. **Select** the options in the configuration information section.
7. Finally **Submit** the uploaded notice file(s) with the Submit button.

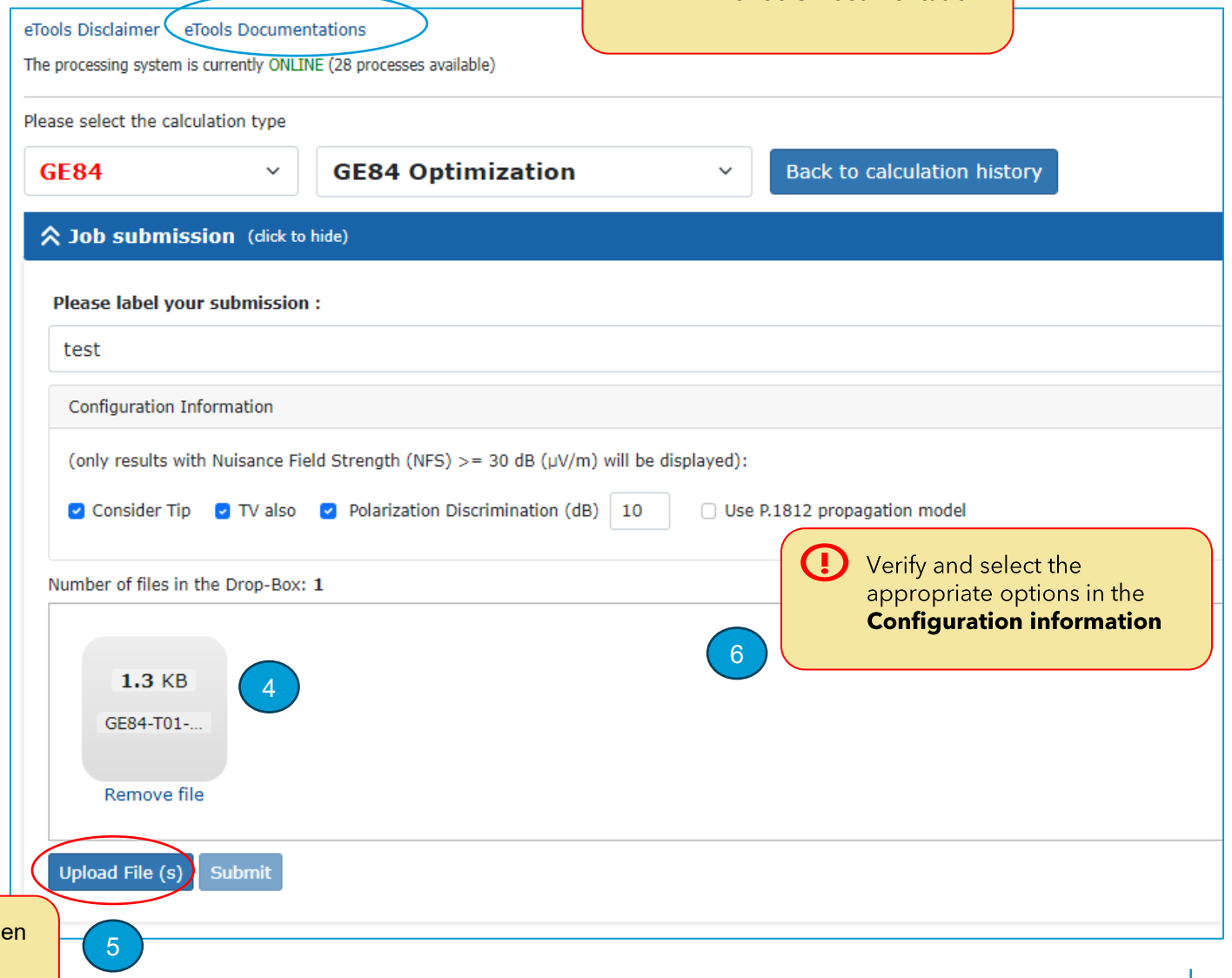
You will receive a notification at the email address associated with your TIES account when the calculation is complete. You can also monitor the submission status in the calculation history.

GE84 Optimization – Submission of calculations









Detailed documentation for GE84 Optimization is available under **eTools Documentation**

Verify and select the appropriate options in the **Configuration information**

You will be notified by email when the results are ready.
You can also monitor the execution of your job in the calculation history

GE84 Optimization – Results

Job Output (click to hide)

Job Output

Input notice file validated by the OnlineValidation process on 1/16/2026 3:17:52 PM

☑ Ignore self interference ☐ Ignore interference received Acceptable NFS (dB (µV/m)) 54

Select Analysis option: Evaluate Statistics | Select Administration: IRQ | Evaluate Statistics

Adm	Submitted	Assignable	Non Assignable
IRQ	1	1	0

Summary [WRS26 | FLEX (ADD)]

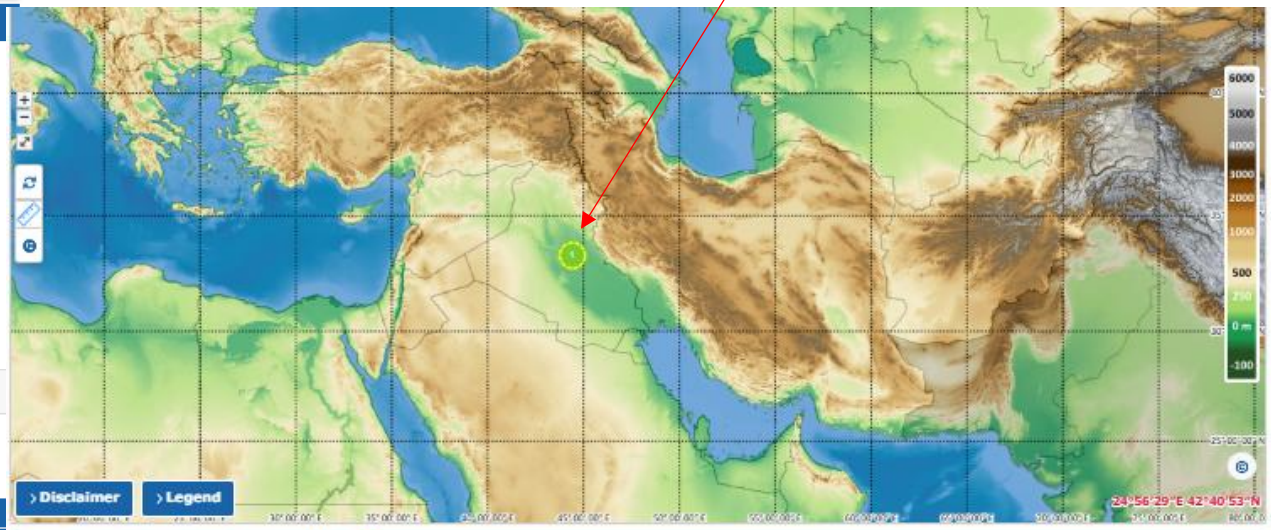
◉ Show top 5 interferers in the summary ○ Show top 5 affected in the summary ☐ Show assignable frequencies on top GE84 Optimization Description

Excel

Frequency (MHz)	Max NFS Received (dB(µV/m))	Max NFS Generated (dB(µV/m))	Top 5 Interferers														
			Assign ID	Adm.	Intent	Class	Freq.	Pol.	Site Name	Dist.	Cold Sea	Warm Sea	Sup. Refr.	ERP	Azim.	Prot. Ratio	NFS
87.6	56.33	72.69	084102915	IRN	RECORDED	BC	87.6	H	SAMIDEH	323	0	0	0	47.8	294.2	37	56.33
			084102921	IRN	RECORDED	BC	87.6	H	DARKHOVEIN	473	0	0	20	51.8	308.2	37	49.58
			084026201	IRQ	RECORDED	BC	87.7	H	KILO 100	194	0	0	0	44.8	88.9	25	46.98
			126060471	IRQ	ADD	BC	88	V	BAGHDAD	2	0	0	0	13	219.9	-20	42.77
			084026290	IRQ	RECORDED	BC	87.6	H	HATRA	296	0	0	0	34.8	147.3	37	42.68
87.7	58.98	85.69	084026201	IRQ	RECORDED	BC	87.7	H	KILO 100	194	0	0	0	44.8	88.9	37	58.98
			126060471	IRQ	ADD	BC	88	V	BAGHDAD	2	0	0	0	13	219.9	-7	55.77
			084102915	IRN	RECORDED	BC	87.6	H	SAMIDEH	323	0	0	0	47.8	294.2	25	44.33
			084103155	IRN	RECORDED	BC	87.7	H	GHASRESHIRIN	173	0	0	0	23	218.8	37	41.65
			084026079	IRQ	RECORDED	BC	87.9	H	KERKUK	230	0	0	0	52	178.5	7	38.99
87.8	69.77	99.69	126060471	IRQ	ADD	BC	88	V	BAGHDAD	2	0	0	0	13	219.9	7	69.77
			084026079	IRQ	RECORDED	BC	87.9	H	KERKUK	230	0	0	0	52	178.5	25	56.99
			084026201	IRQ	RECORDED	BC	87.7	H	KILO 100	194	0	0	0	44.8	88.9	25	46.98
			084025515	SYR	RECORDED	BC	87.8	H	DEIR AL ZOR	460	0	0	0	51.8	119.6	37	45.56
			124057065	IRN	ADD	BC	87.8	V	MAHABAD	403	0	0	0	30	196.9	37	41.85
87.9	95.77	125.69	126060471	IRQ	ADD	BC	88	V	BAGHDAD	2	0	0	0	13	219.9	33	95.77
								H	KERKUK	230	0	0	0	52	178.5	37	68.99
								V	BAGHDAD	1	0	0	0	13	0	-20	64.62
								H	TRABIEL	499	0	0	0	52	82.2	37	43.82
								V	TEKRET	157	0	0	0	13	153.6	37	41.11

Green indicates a potentially suitable channel

Location of the requirement



Showing results for submitted requirements from IRQ

Select requirement (1):

WRS26 | FLEX (044°25'00"E-33°19'00"N) System 4 POL V - Id: 1 (ADD)

Details of the requirement under consideration (click to show)

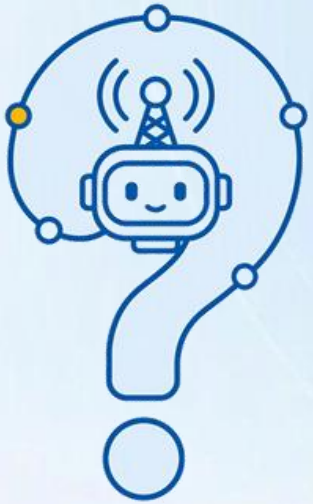
Summary [WRS26 | FLEX (ADD)]

◉ Show top 5 interferers in the summary ○ Show top 5 affected in the summary ◉ Show assignable frequencies on top GE84 Optimization Description

Excel

Frequency (MHz)	Max NFS Received (dB(µV/m))	Max NFS Generated (dB(µV/m))	Top 5 Interferers														
			Assign ID	Adm.	Intent	Class	Freq.	Pol.	Site Name	Dist.	Cold Sea	Warm Sea	Sup. Refr.	ERP	Azim.	Prot. Ratio	NFS
107.6	38.08	61.45	084026273	IRQ	RECORDED	BC	107.6	H	BAWA NOOR	194	0	0	0	24.8	209.7	37	38.98
			126060560	IRQ	ADD	BC	107.5	V	HILLA	93	0	0	0	14.8	0	25	35.09
			124057289	IRN	ADD	BC	107.5	V	SARDASHT	330	0	0	0	30	197.2	25	33.71
			084103355	IRQ	RECORDED	BC	107.3	H	RAMADI	103	0	0	0	44.8	98	-7	30.98
			084107343	IRN	RECORDED	BC	107.7	H	KUH-E-NOGHREH	405	0	0	0	38.5	190.6	25	30.08
107.8	39.21	40.91	084103275	IRN	RECORDED	BC	107.8	H	SOFREH KUH	344	0	0	0	29	259.2	37	39.21
			084107343	IRN	RECORDED	BC	107.7	H	KUH-E-NOGHREH	405	0	0	0	38.5	190.6	25	30.08

Thank you



Questions

brmail@itu.int or brbcd@itu.int