Guide for Capturing and Submitting Graphical Information in GIMS

for Advance Publication Information for NGSO Satellite Network

ITU BR
Space Support

Last updated by Xiuqi Wang on 05 Nov 2020

Why ?

- New requirement from revised Resolution **55** from **WRC-19** to submit all graphical information in electronic format (GIMS mdb)

  *all graphical data associated with the submissions addressed in resolves 1, 2 and 3 should be submitted in graphics data format compatible with the Bureau's data capture software (graphical interference management system (**GIMS**))*

How ?

1. Install **latest** BR software **GIMS** on your computer
   - Please install it from the latest BR IFIC DVD or from the website below:

     https://www.itu.int/en/ITU-R/software/Pages/gims.aspx
   - **Administrator privilege** for the PC is required

2. Open GIMS and follow instructions described here

When ?

- BR requires all diagrams to be contained in GIMS mdb file, otherwise the notices will be returned as incomplete

- Send to the Bureau the GIMS format mdb file along with your submission through the **e-Submission** system

  more information about this system is available in the following website:
  https://www.itu.int/en/ITU-R/space/e-submission/Pages/default.aspx

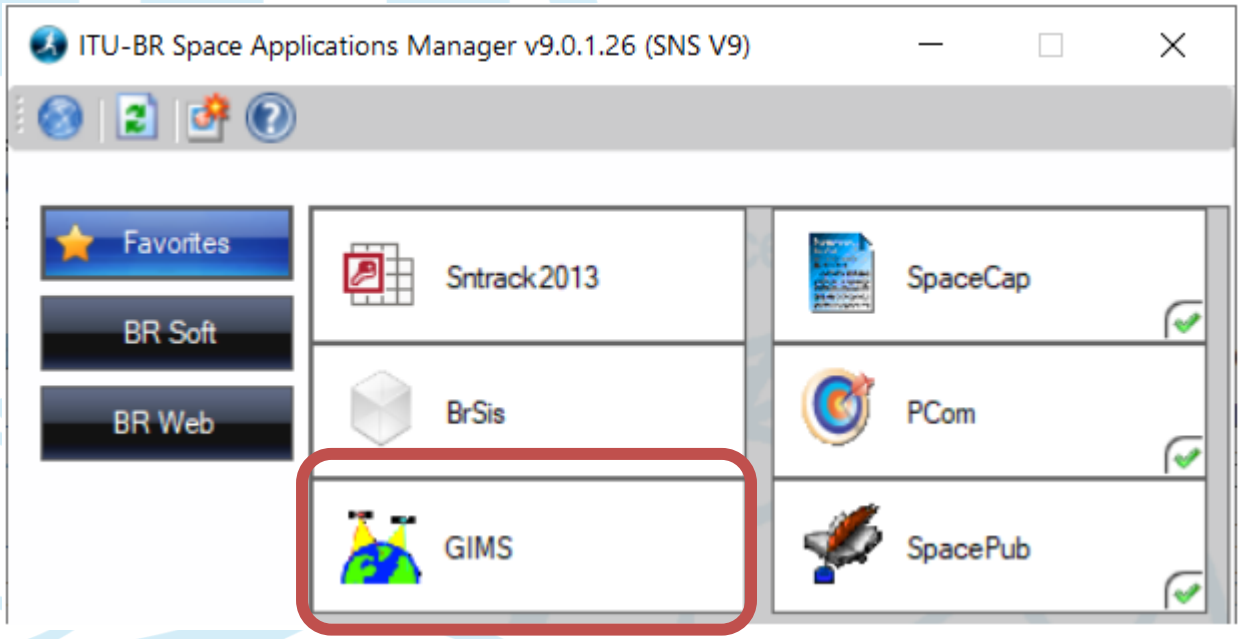
To capture diagrams as images in Gims

- For API submission, it is possible to submit them as images since there is no technical examinations performed by the Bureau for API
- However, these images must be imported into a **Gims database** and marked with the **correct header elements**
- Please follow the instructions indicated in the following slides

GIMS

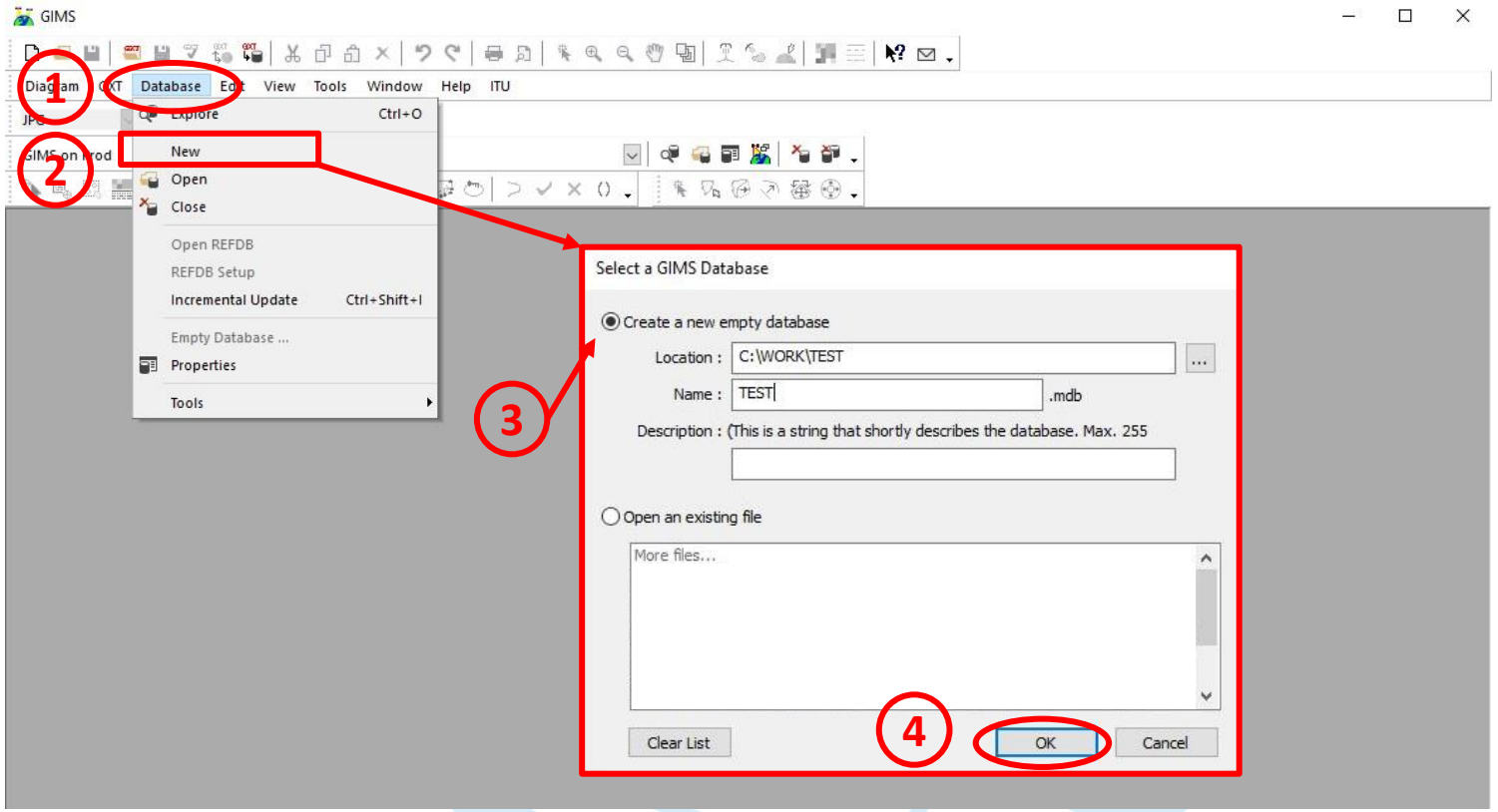
To start

- Launch **GIMs** software via **BRSAM**
- Create a new GIMs database (mdb file) to store all diagrams for one satellite network
- Capture all the patterns for the space station antennas
- Capture all the diagrams for the earth station antennas
- Pay more attention to the directions
- Browse the database to check that all diagrams have been captured with all the correct keys



Step 1: Create a new GIMS database

that will be used to store all diagrams for the satellite network



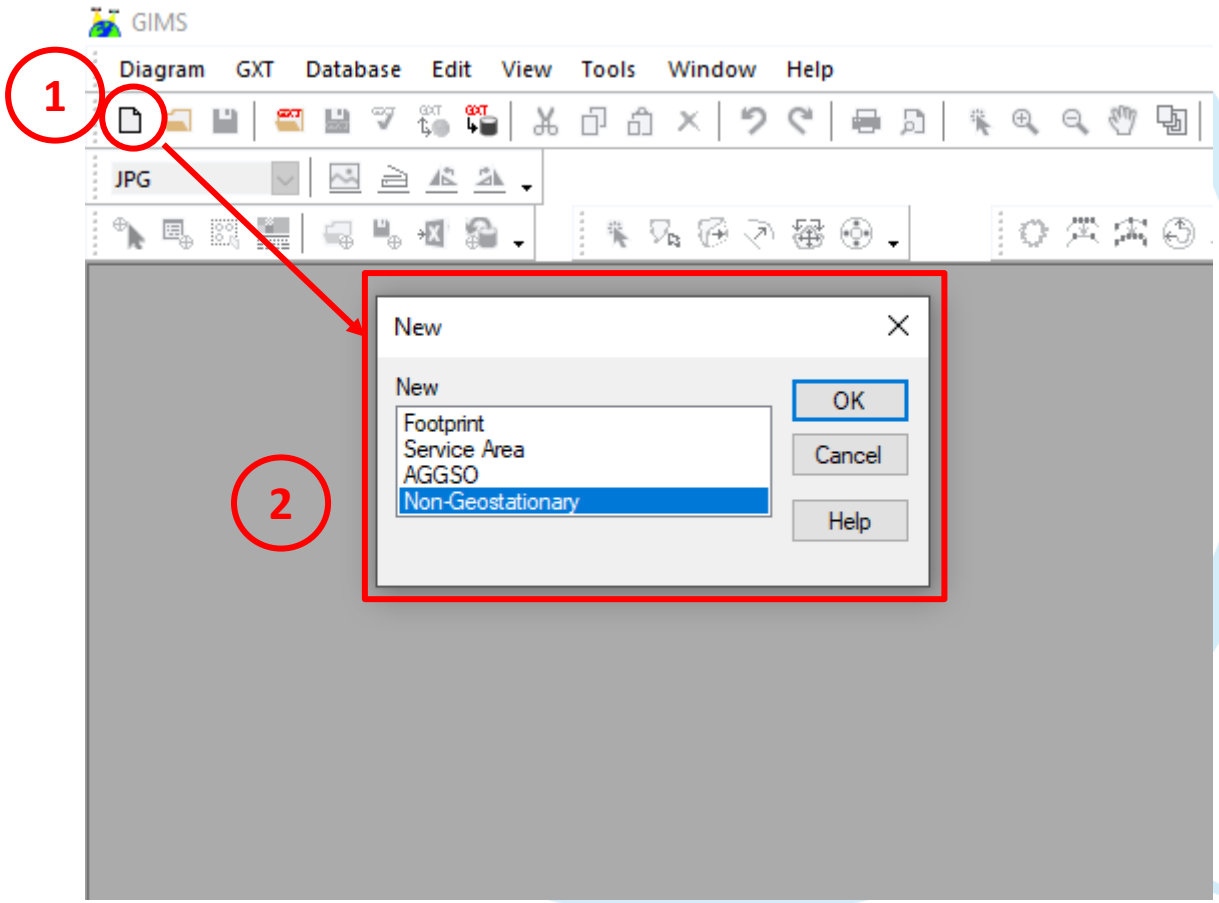
One Gims database should contain only one satellite network please

GIMS

Step 2: To capture an antenna pattern diagram for a space station antenna

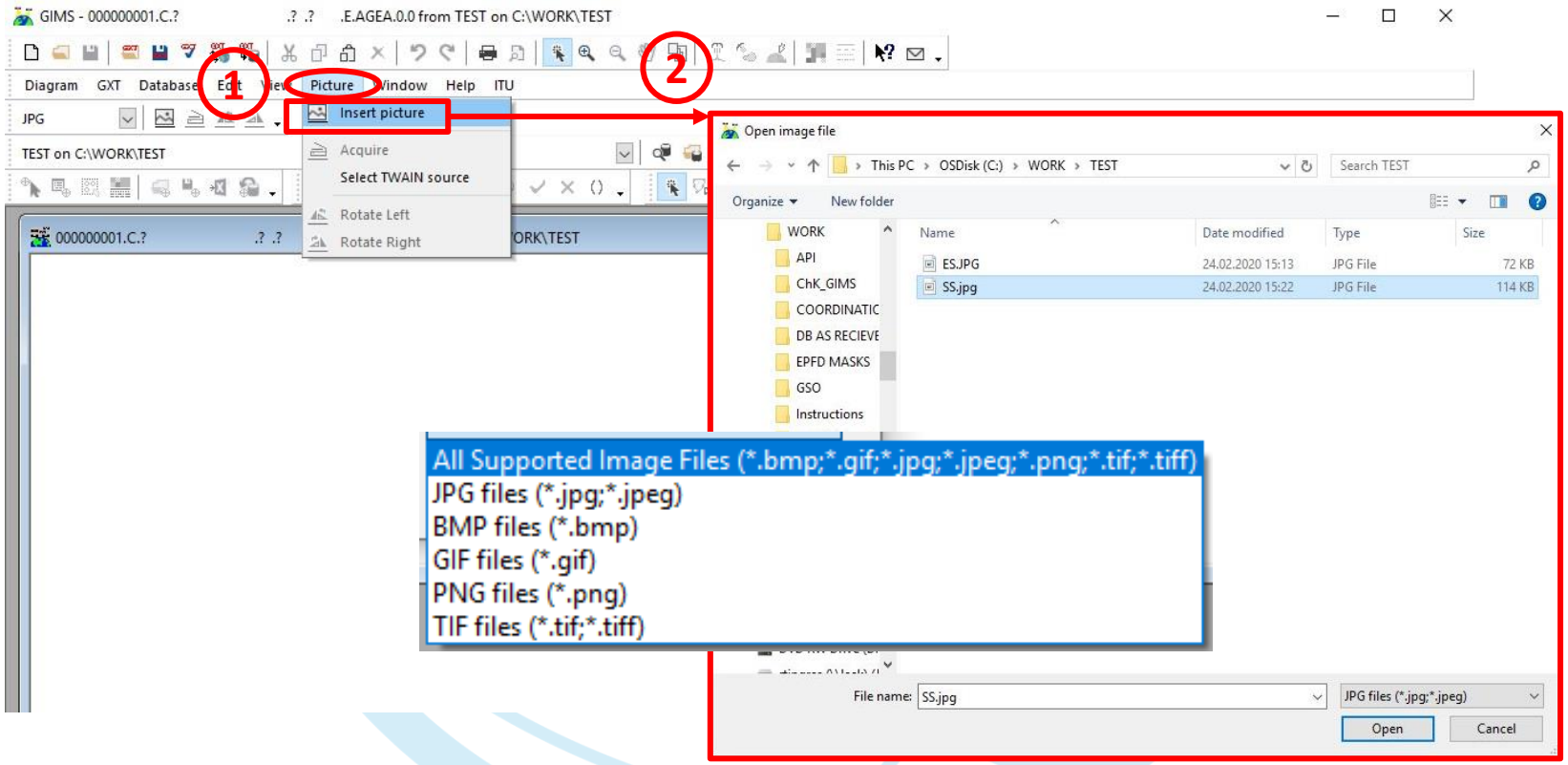
- To be captured for all transmitting and receiving beams that do not contain an antenna pattern ID in the SNS mdb

Step 2.1: Create a new NGSO diagram



GIMS

Step 2.2: Insert picture for a new diagram

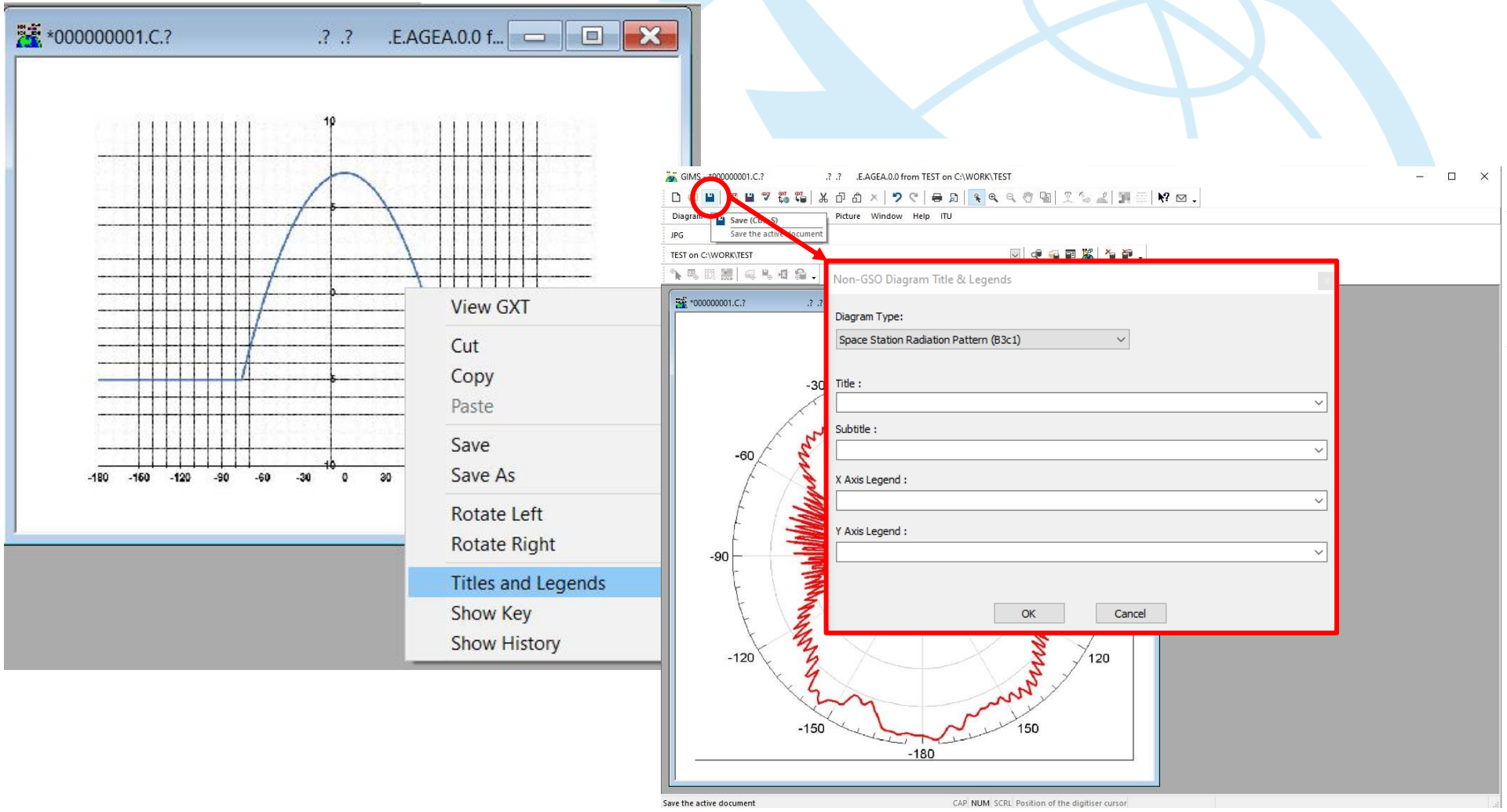


The picture must first be shaped and crop properly in supported image files. Remember to remove those titles, subtitles and X/Y legends, because you will capture them via Gims

GIMS

Step 2.3: Click on save, select a diagram type

in this case, diagram type should be “Space Station Radiation Pattern (B3c1)



- For the Title, enter or select from the drop-down list:

Space Station Receiving Antenna Radiation Pattern

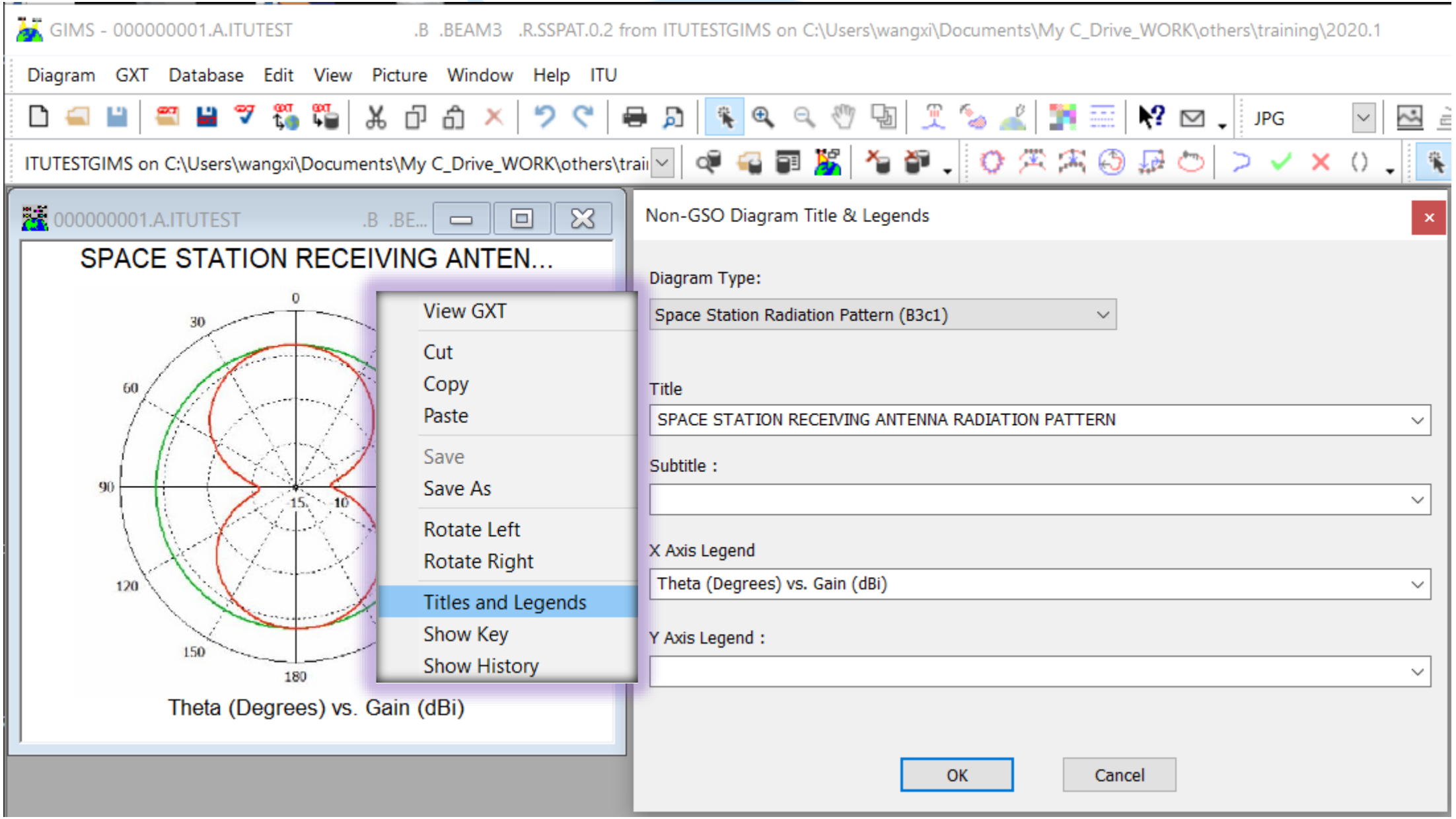
or

Space Station Transmitting Antenna Radiation Pattern

- Subtitle is not necessary, but may include things like *H-plane* or *V-plane*

- It is useful to enter also x-axis and y-axis legend when needed

Another way for **step 2.3**: By right click on the pattern inserted, you can select “Titles and Legends” from the drop-down list to get the same dialog for title, subtitle etc.:

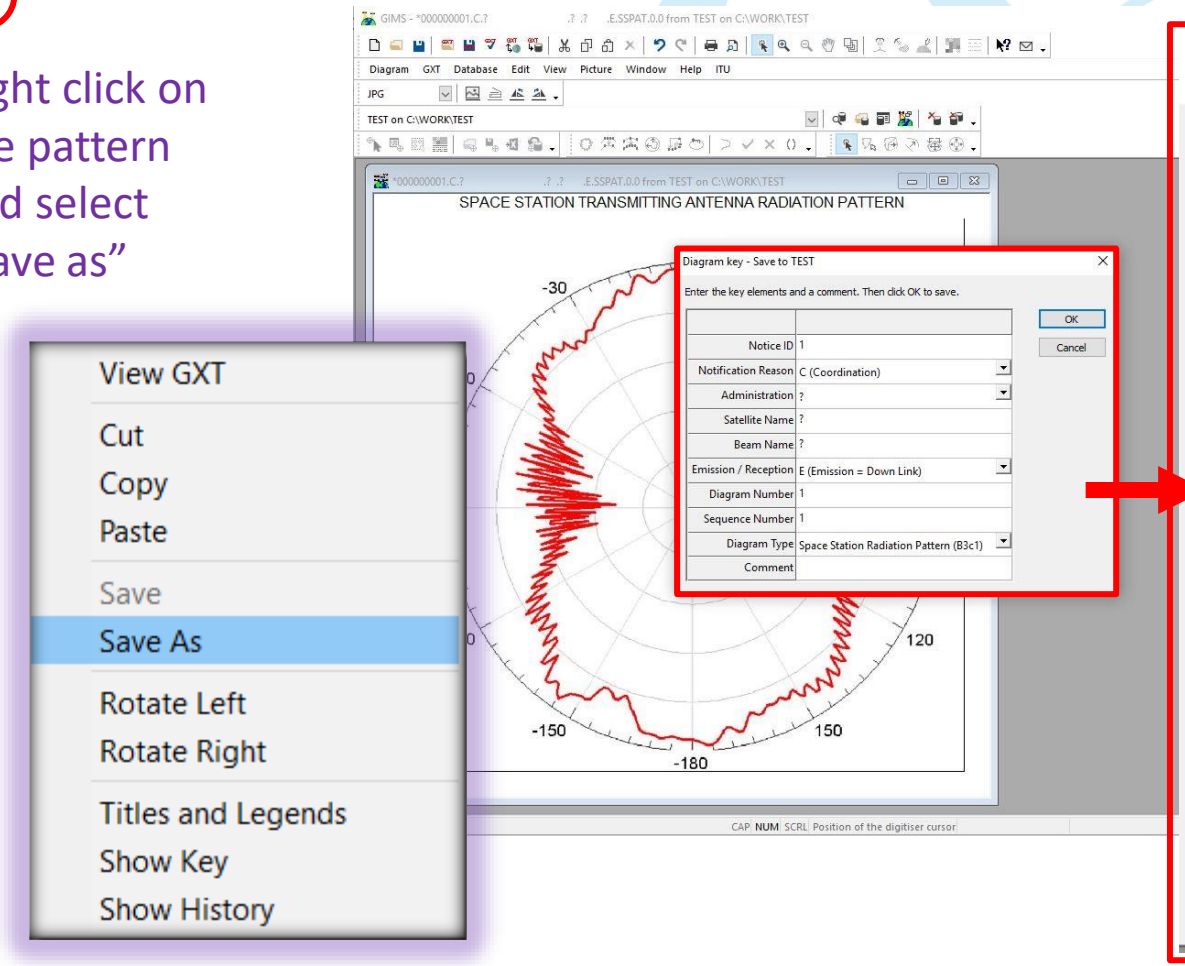


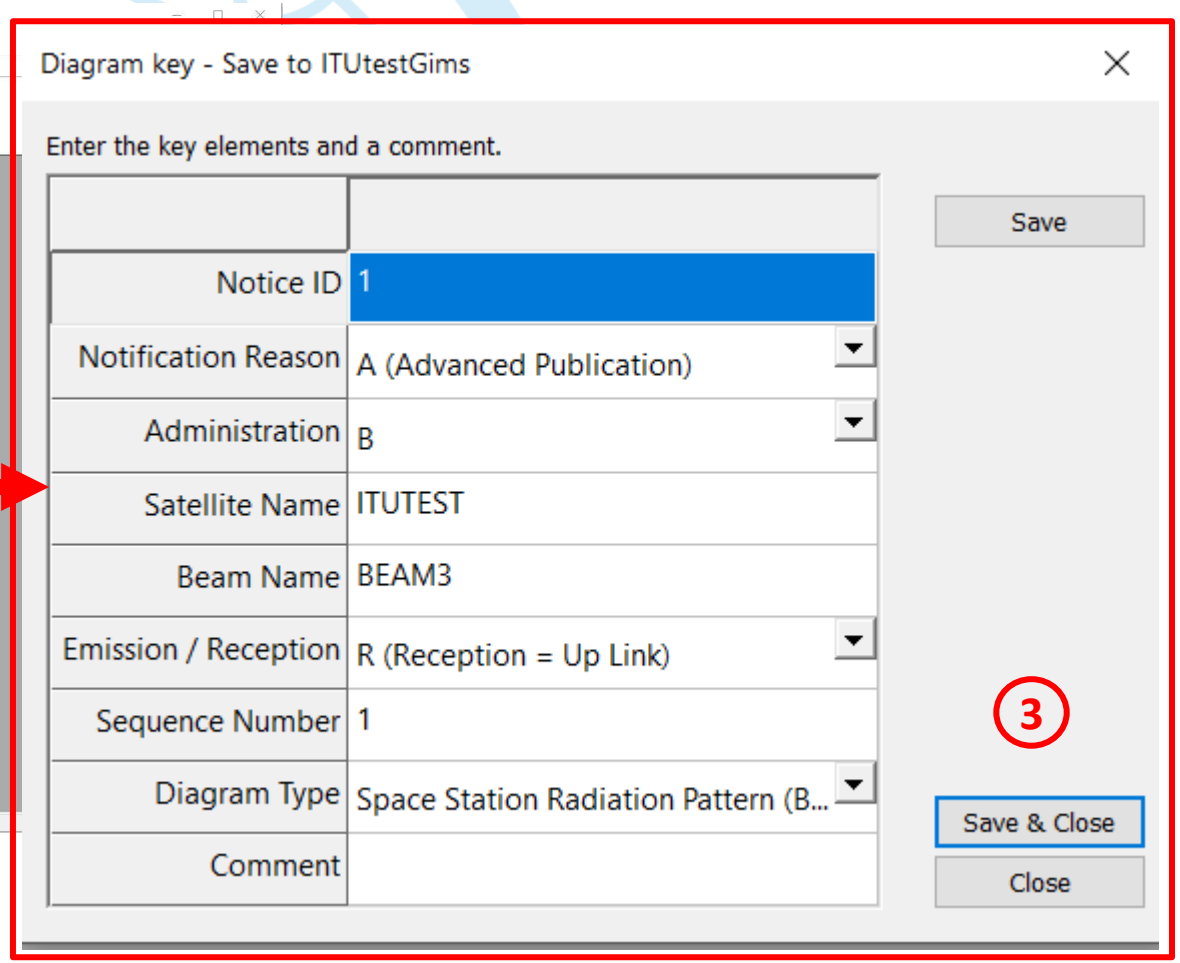
Step 2.4: Save as space station radiation pattern

2 Fill in all required diagram keys (e.g. Notice ID, Satellite name…)

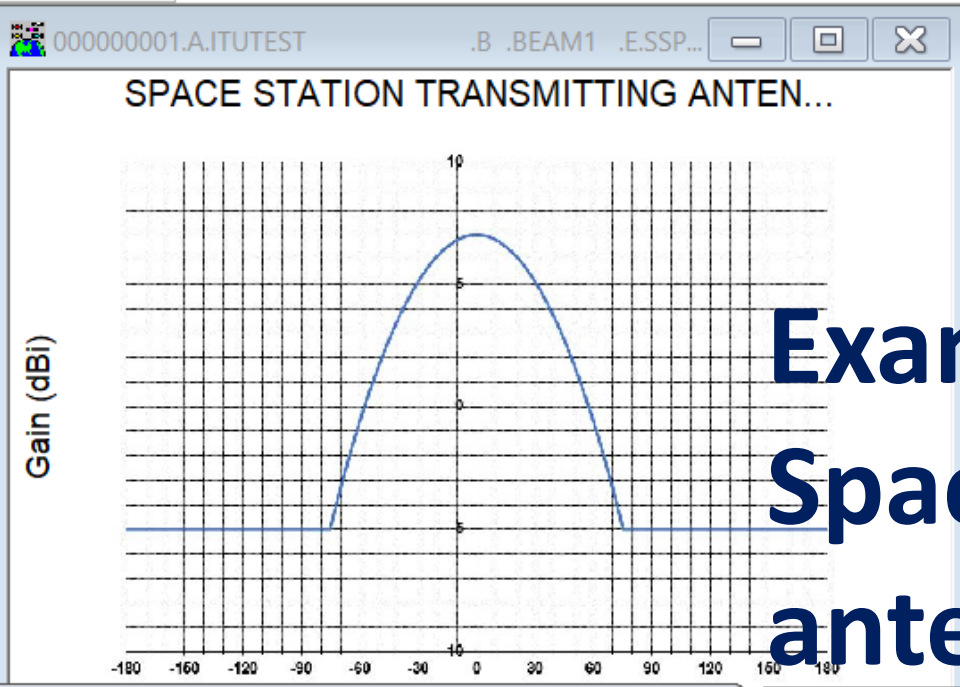
Ensure that they correspond to what is captured in the SNS format mdb file

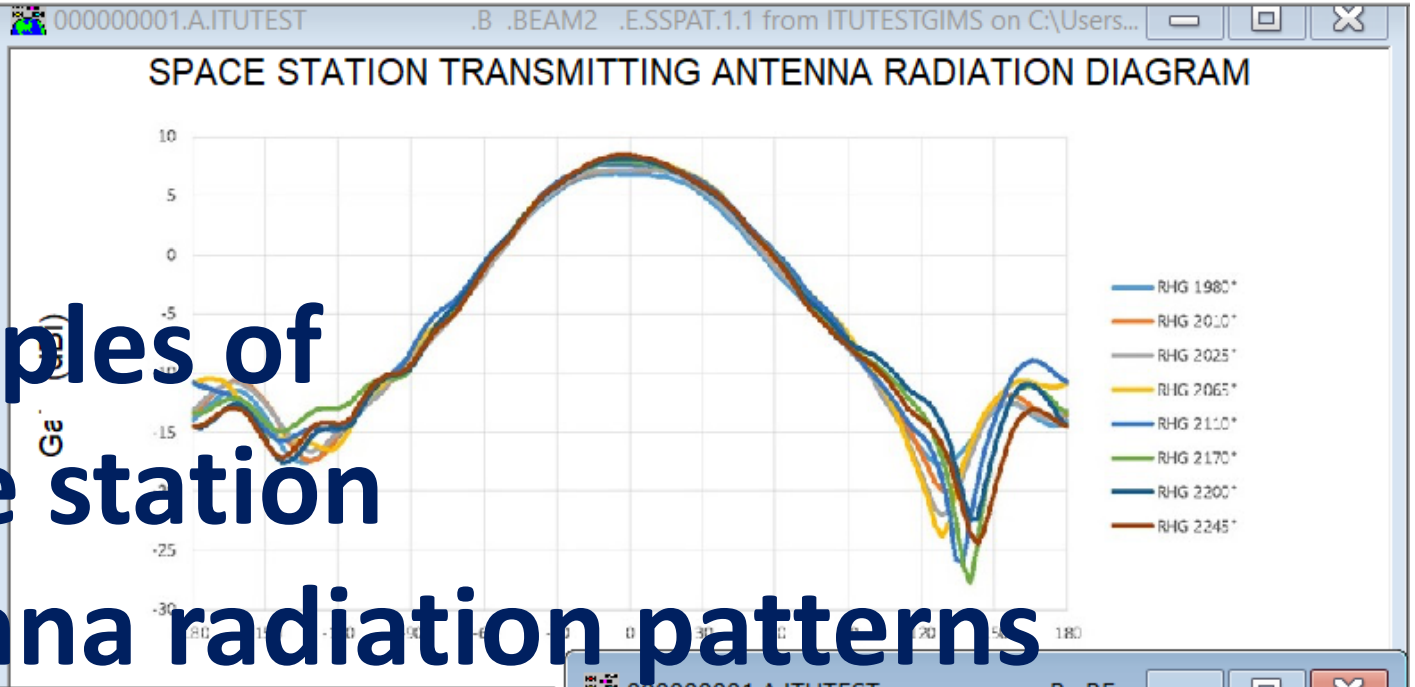
1 Right click on the pattern and select “save as”

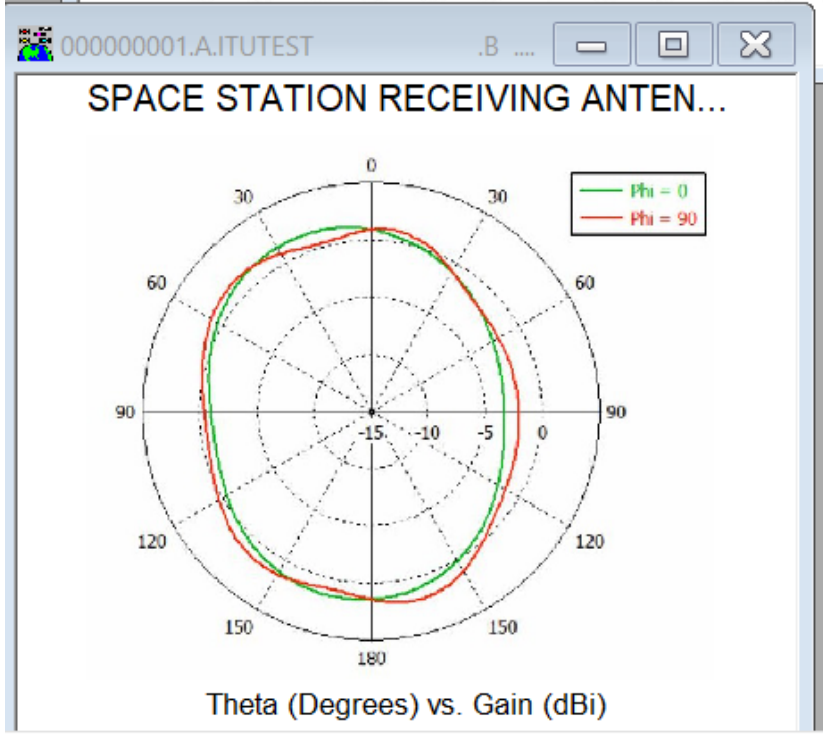


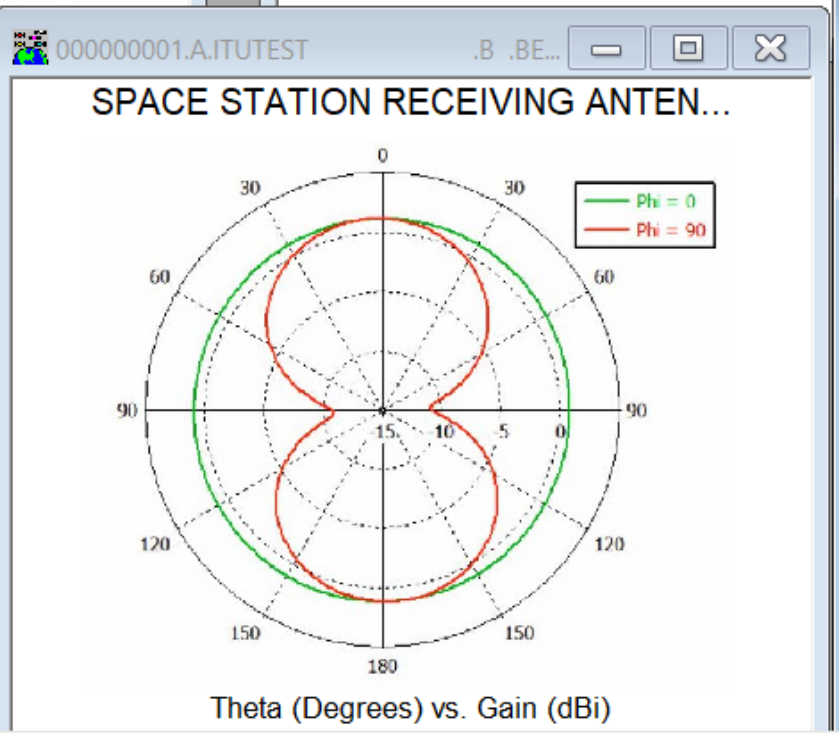


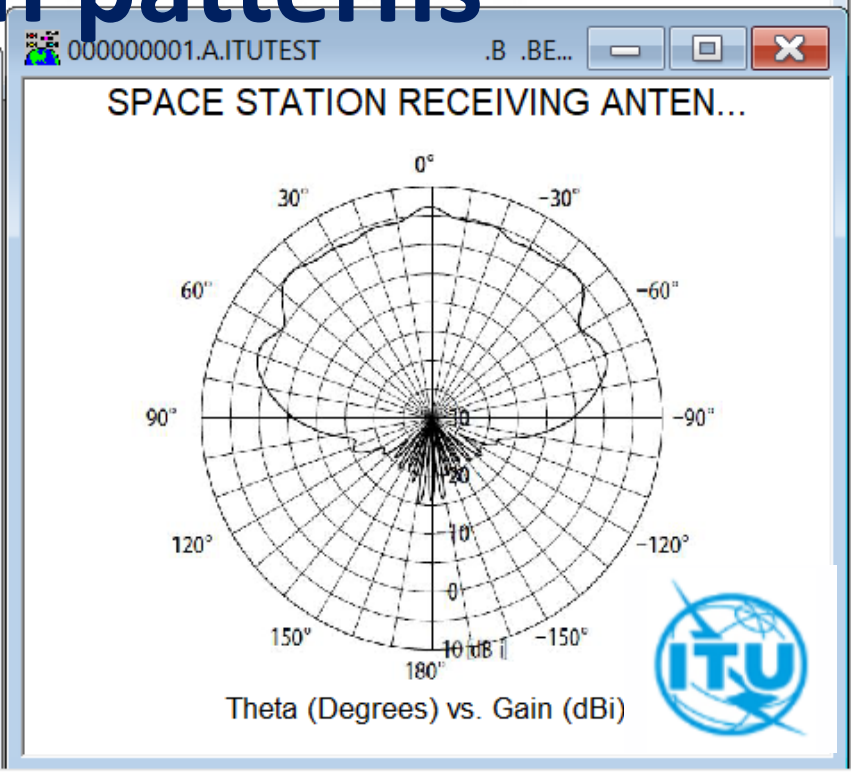
Examples of Space station antenna radiation patterns





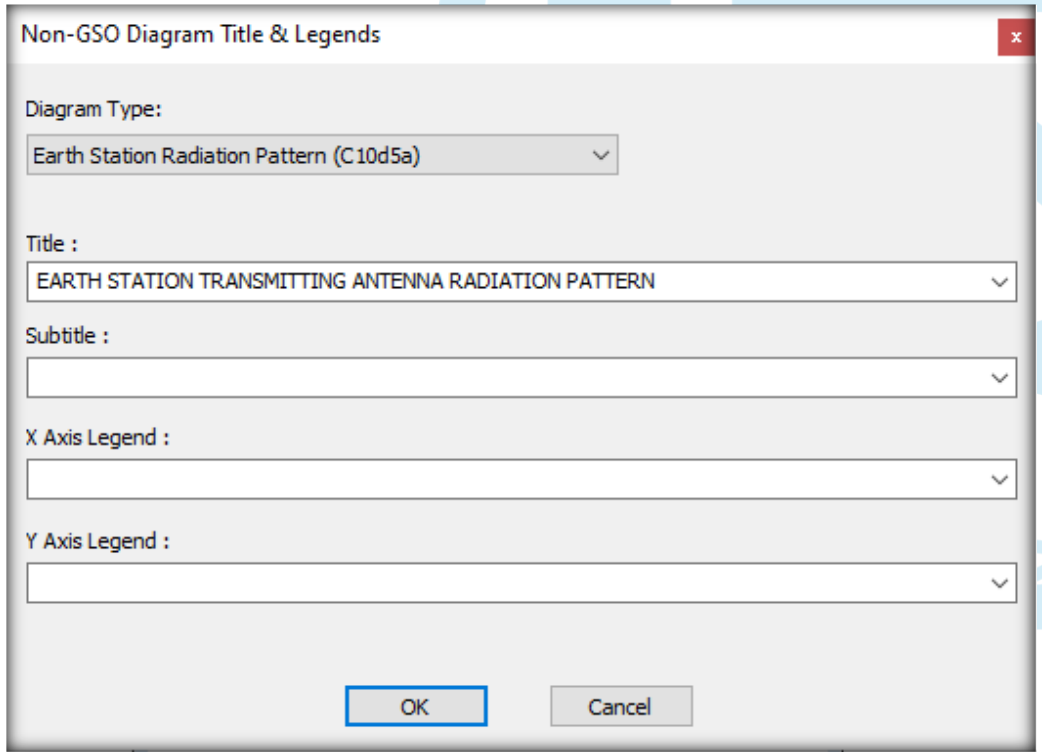


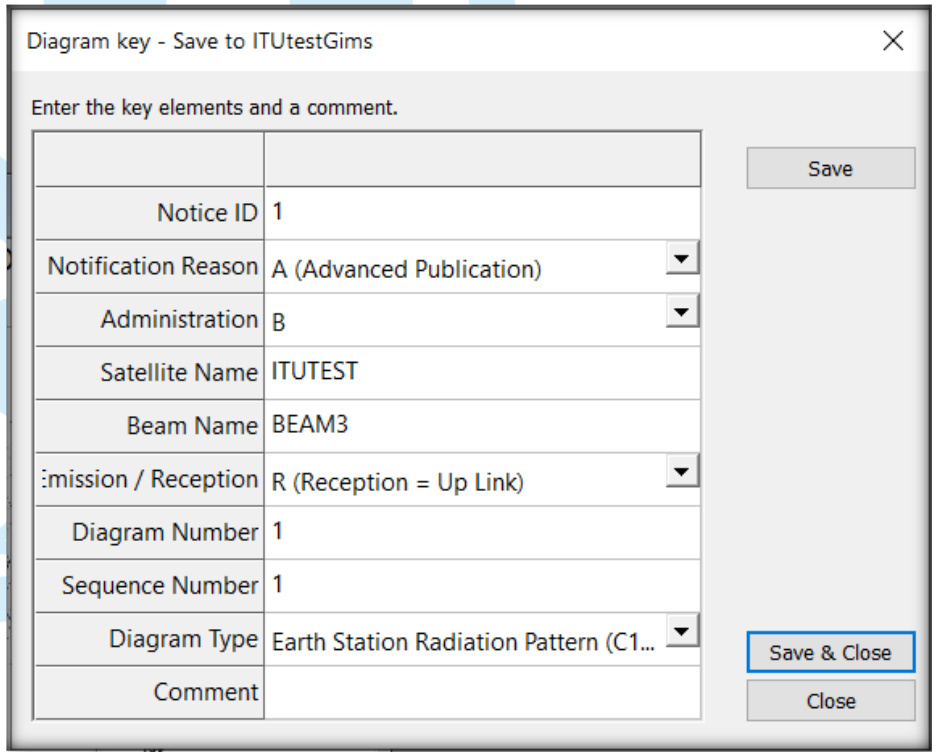




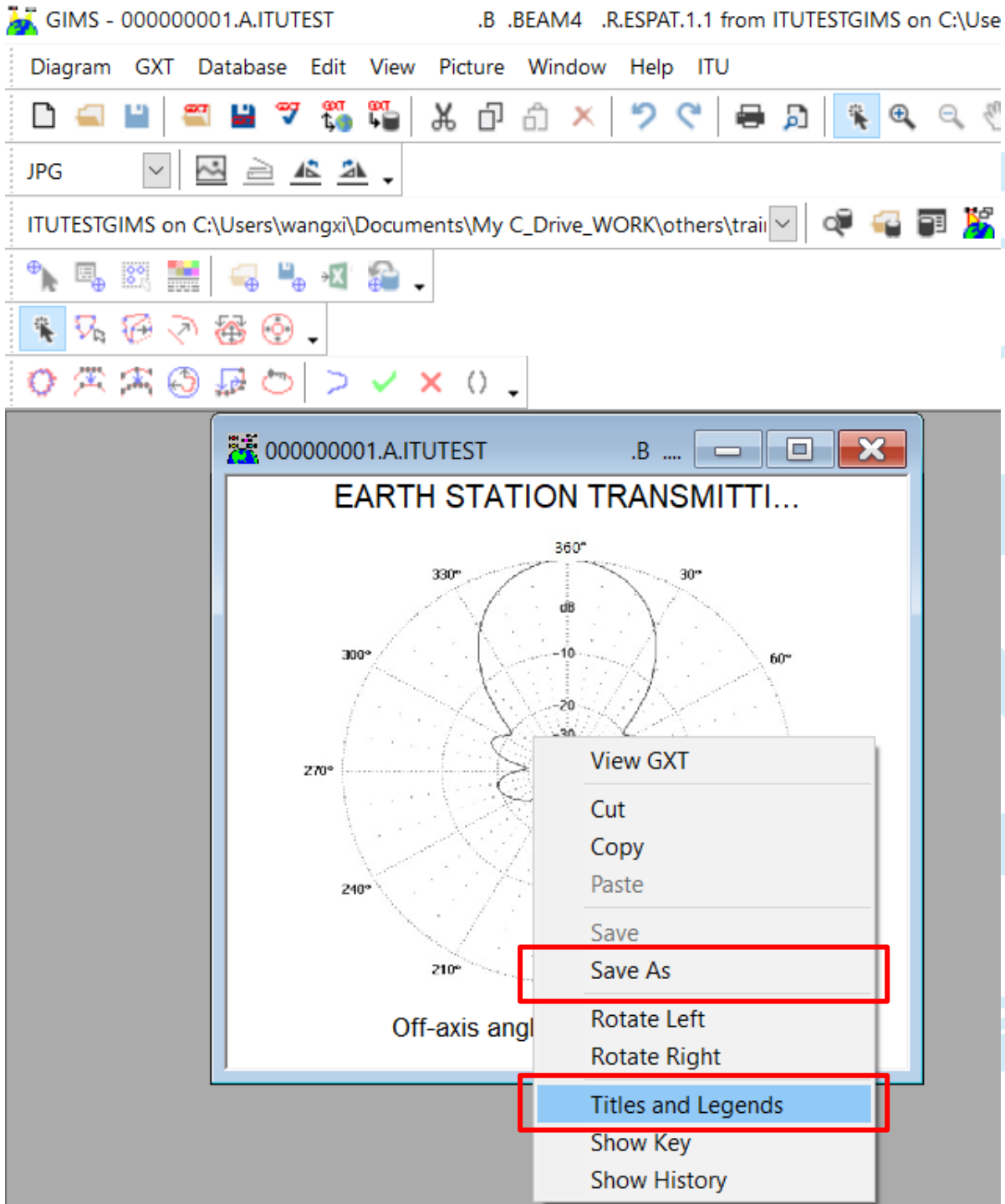
Step 3: To capture an antenna pattern diagram for an associated earth station

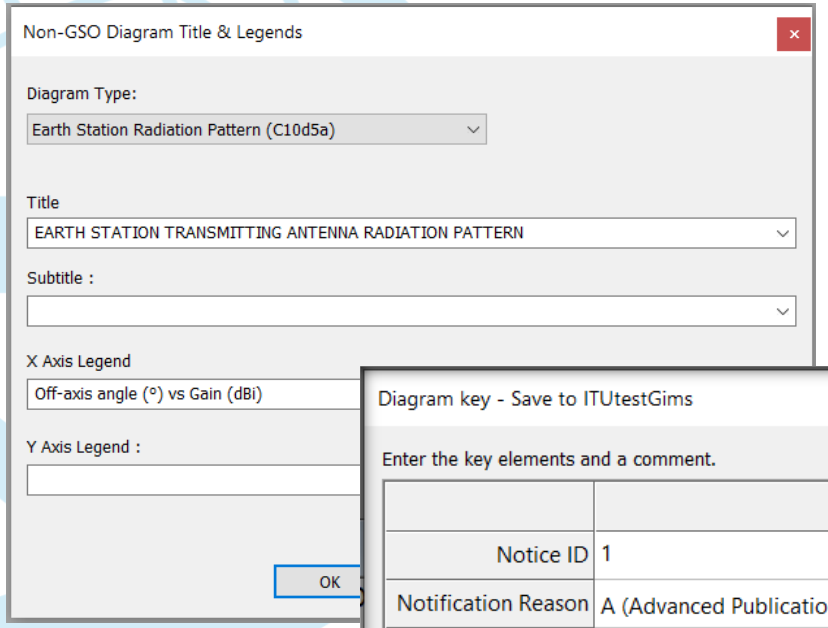
- To be captured for all associated earth stations where the antenna pattern IDs are not captured in the SNS format mdb
- Same steps as in Step 2 for “antenna pattern diagram for space station”, except that the diagram type should be “Earth station radiation pattern”

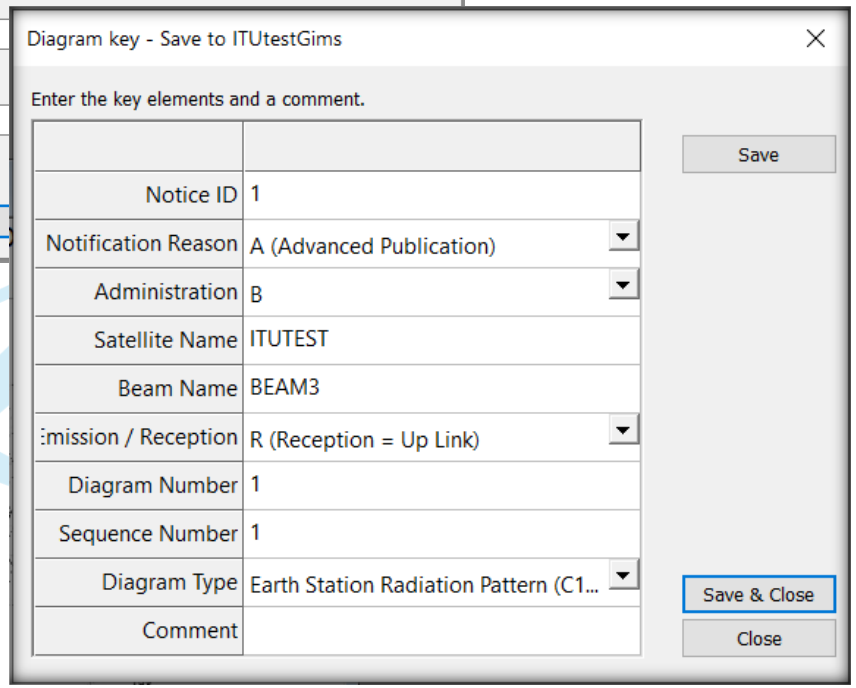


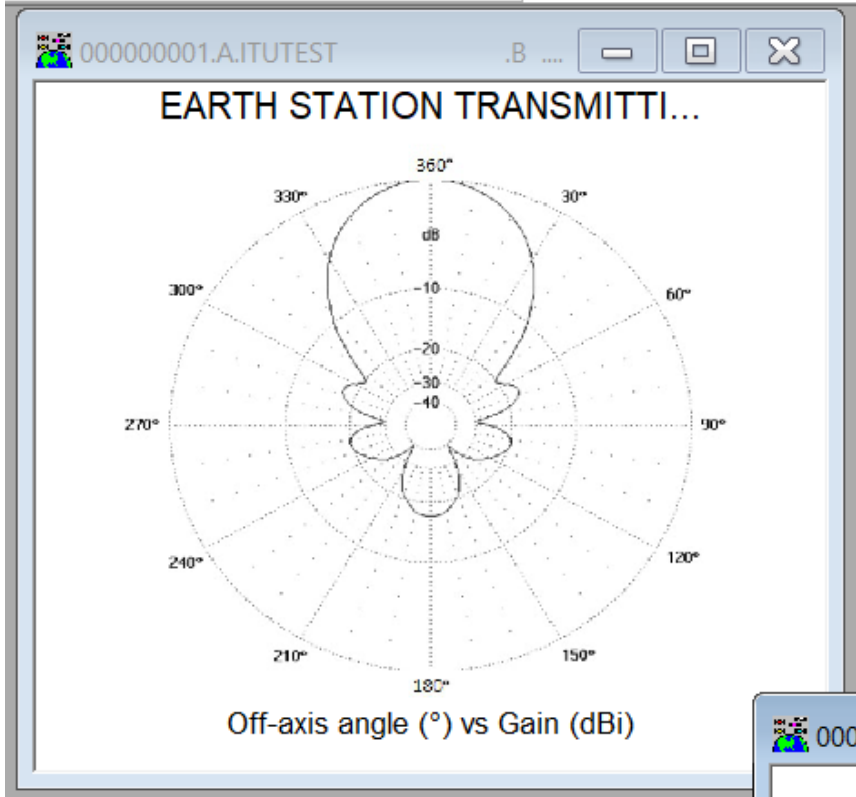


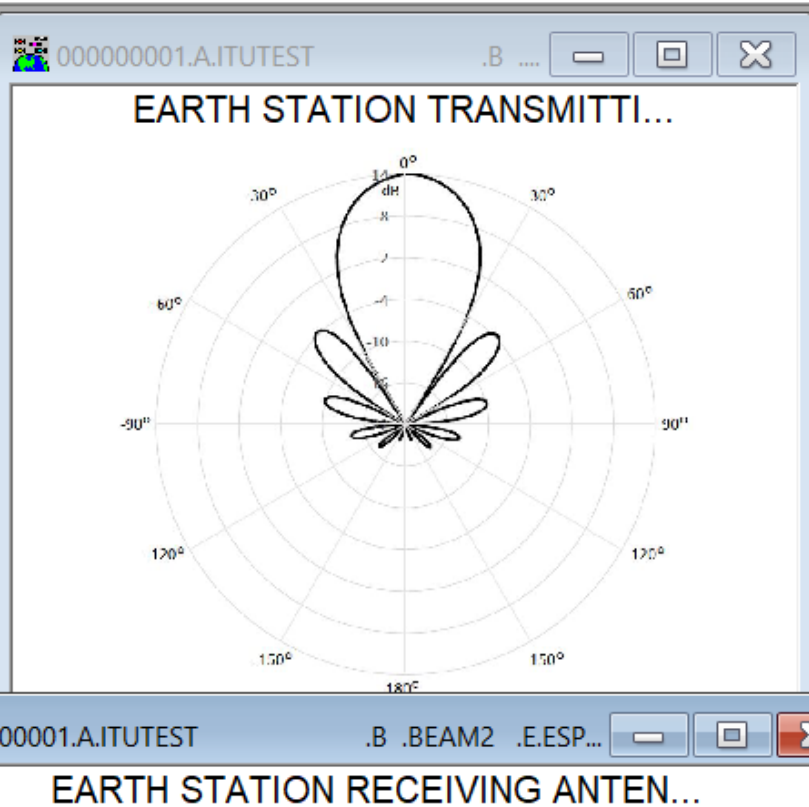
- By right click on the pattern inserted, you can select “Titles and Legends” and “save as” from the drop-down list to get the same dialogs:

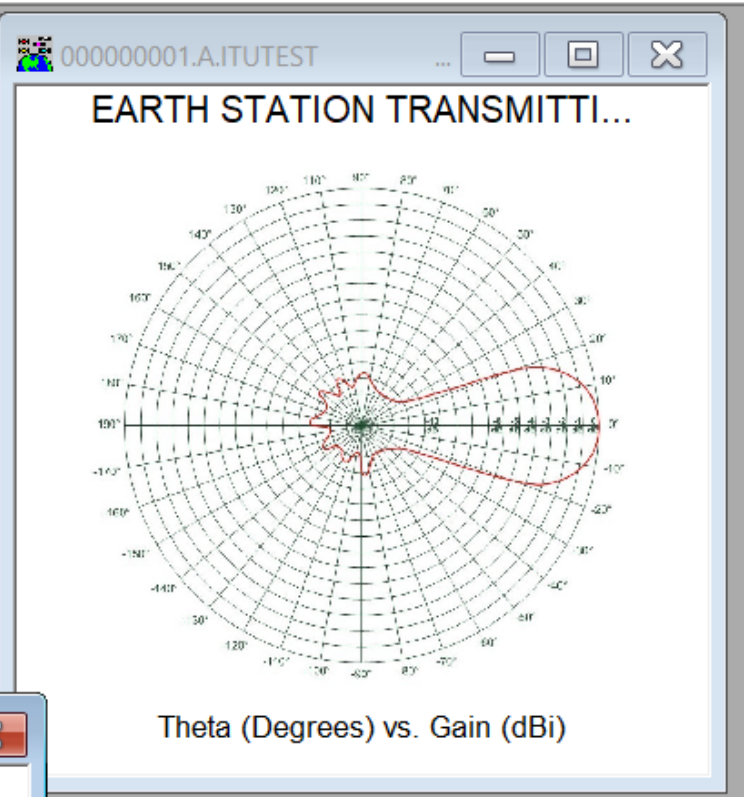


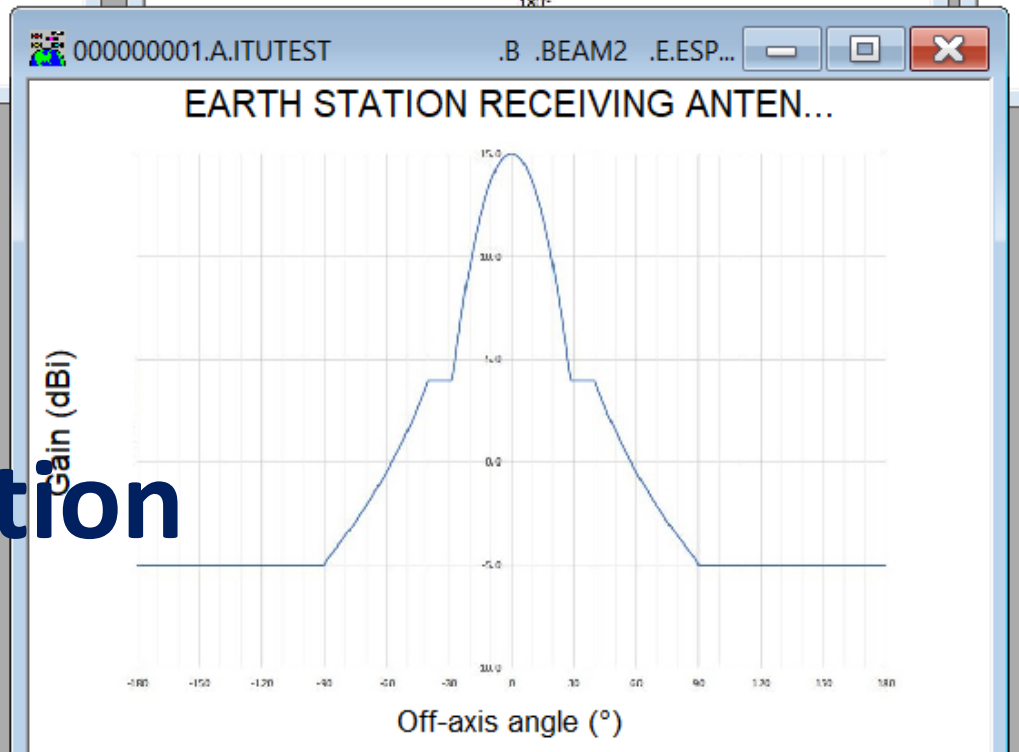










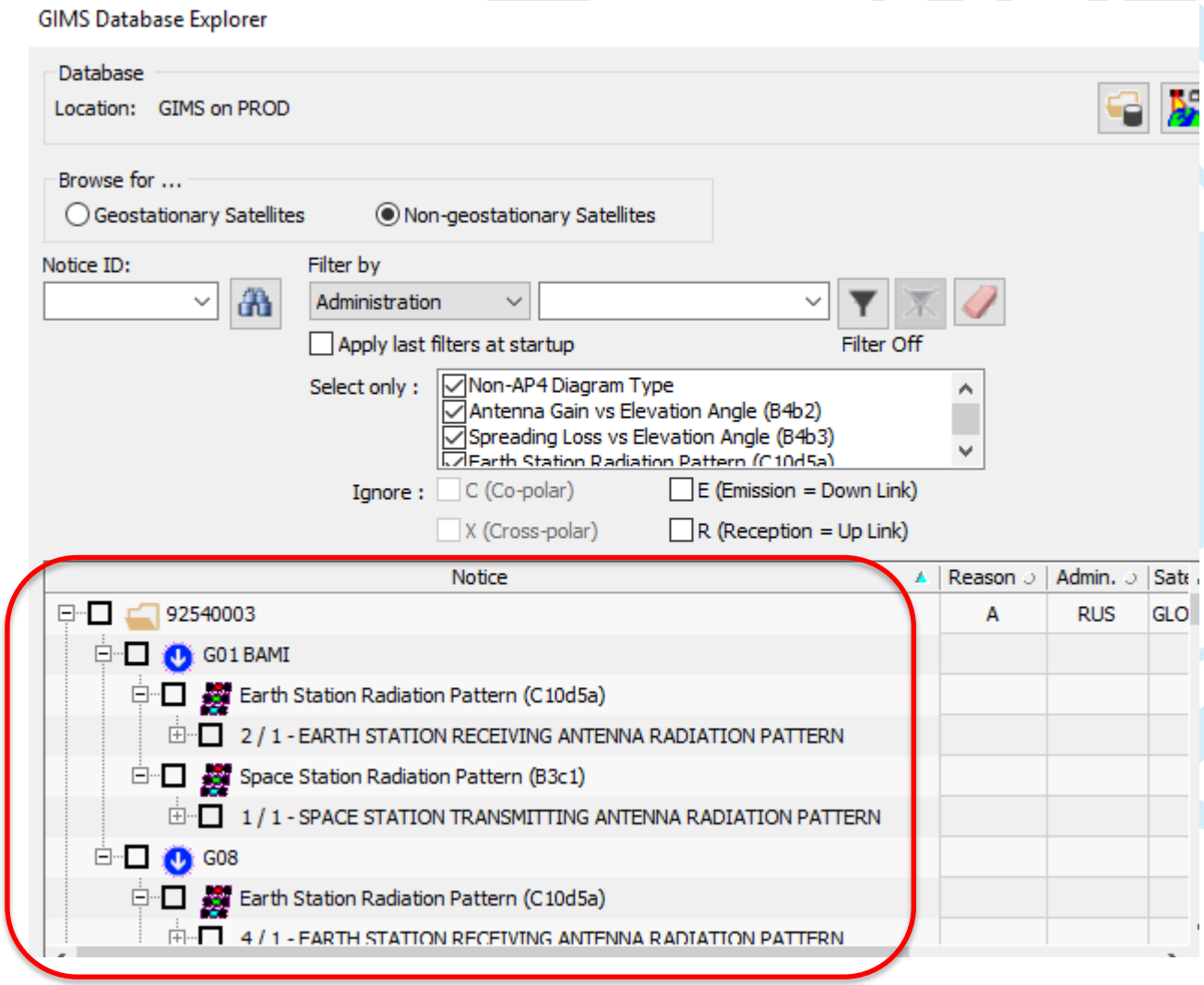


Examples of Earth station antenna radiation patterns

GIMS

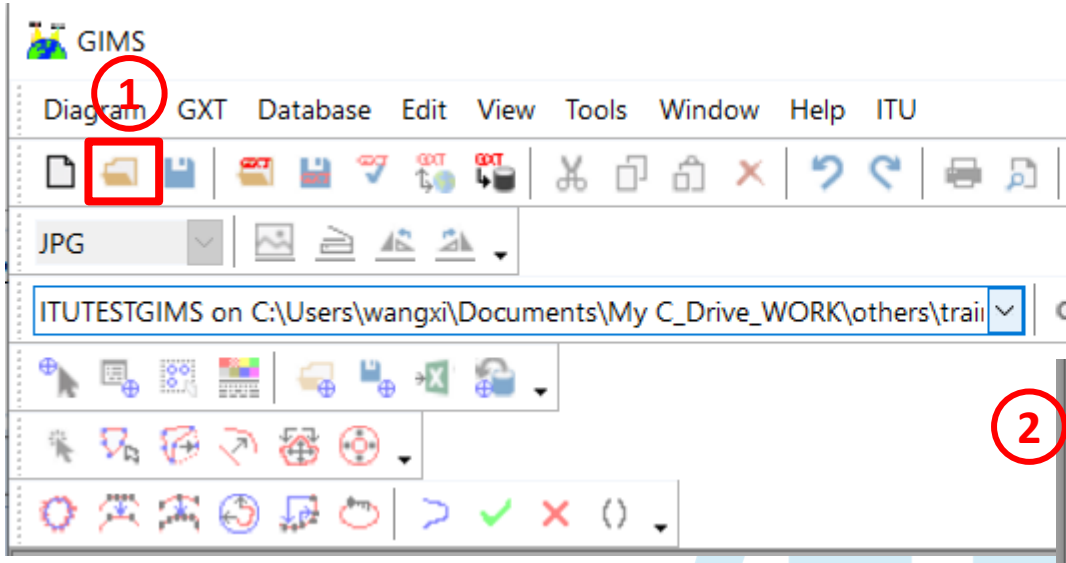
ITU

Step 4: Check all diagrams contained in the GIMS database



Way 1:

Use the GIMs database explorer to check the structure of the database, and ensure that all necessary diagrams have been captured



Way 2: From the Gims explorer window

you can get the structure created for all the diagrams

- **E**: emission/transmitting **R**: receiving
- **ESPAT**: Earth station antenna radiation pattern
- **SSPAT**: Space station antenna radiation pattern

2

Notice	Reason	Admin.	Satellite Name	Status
1	A	B	ITUTEST	01
BEAM3				
BEAM4				
BEAM1				
BEAM2				
2	A	B	ITUTEST	01

3

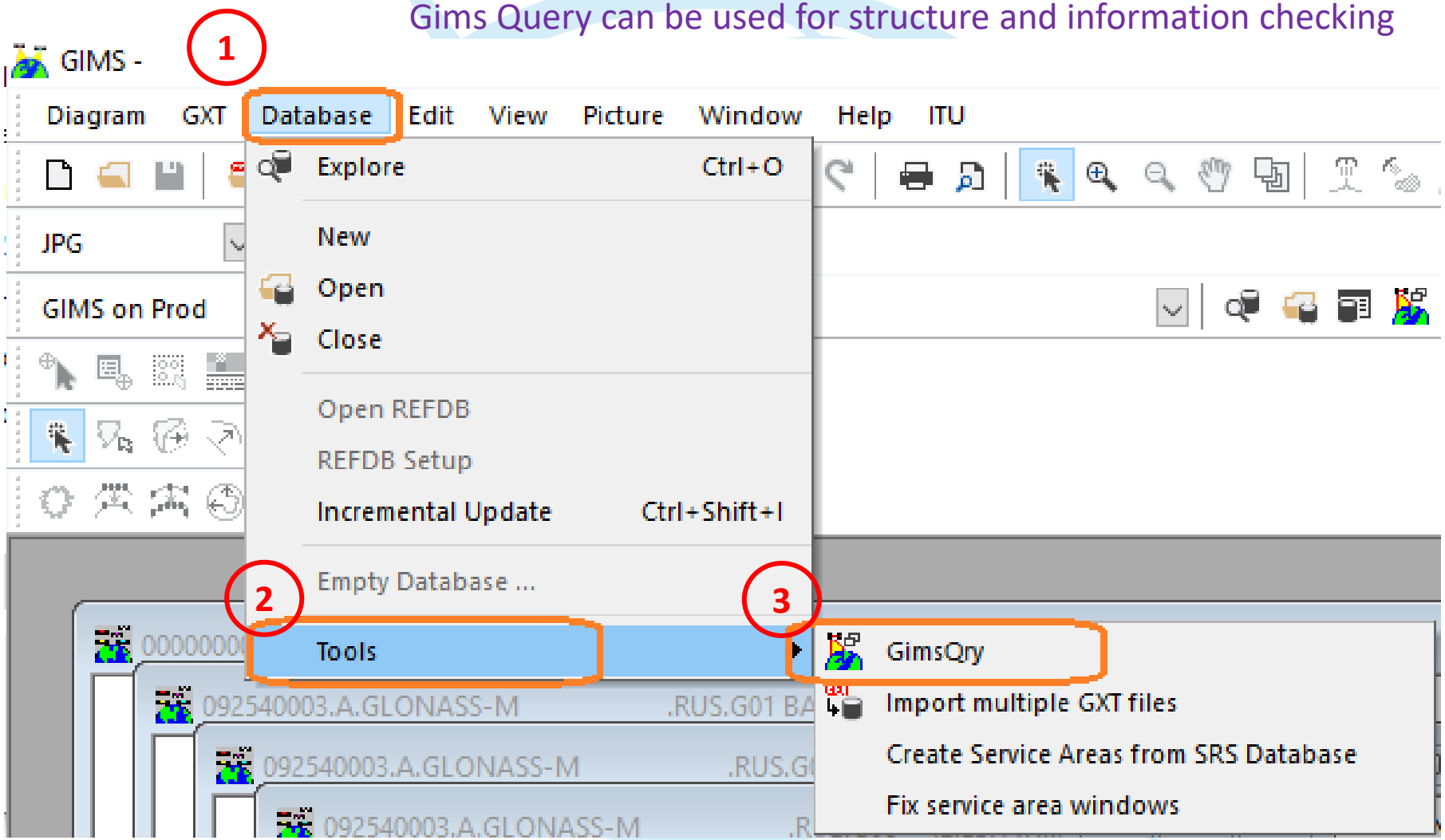
```
000000001;A;ITUTEST          ;B ;BEAM1  ;E;ESPAT;1;1
000000001;A;ITUTEST          ;B ;BEAM1  ;E;SSPAT;0;1
000000001;A;ITUTEST          ;B ;BEAM2  ;E;ESPAT;1;1
000000001;A;ITUTEST          ;B ;BEAM2  ;E;SSPAT;0;1
000000001;A;ITUTEST          ;B ;BEAM3  ;R;ESPAT;1;1
000000001;A;ITUTEST          ;B ;BEAM3  ;R;SSPAT;0;1
000000001;A;ITUTEST          ;B ;BEAM3  ;R;SSPAT;0;2
000000001;A;ITUTEST          ;B ;BEAM4  ;R;ESPAT;1;1
000000001;A;ITUTEST          ;B ;BEAM4  ;R;ESPAT;2;1
000000001;A;ITUTEST          ;B ;BEAM4  ;R;ESPAT;2;2
000000001;A;ITUTEST          ;B ;BEAM4  ;R;SSPAT;0;1
```

For ESPAT, e.g. 1;1:
diagram number 1
sequence number 1

For SSPAT, e.g. 0;1:
no diagram number
only sequence number 1

Way 3: Run Gims Qry

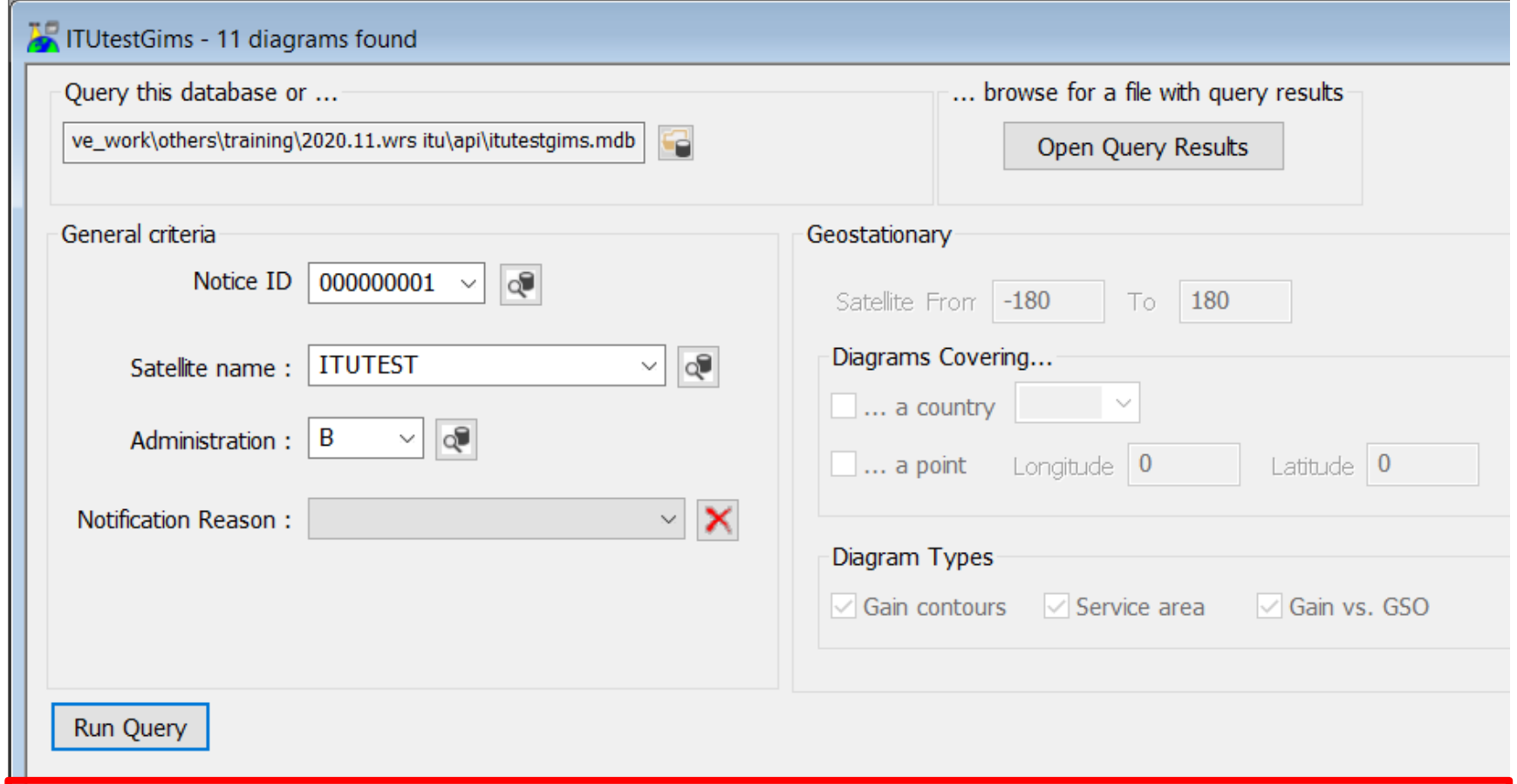
Gims Query can be used for structure and information checking



4 Select **NGSO Query**, **Run Query**, then you will get the report in detail

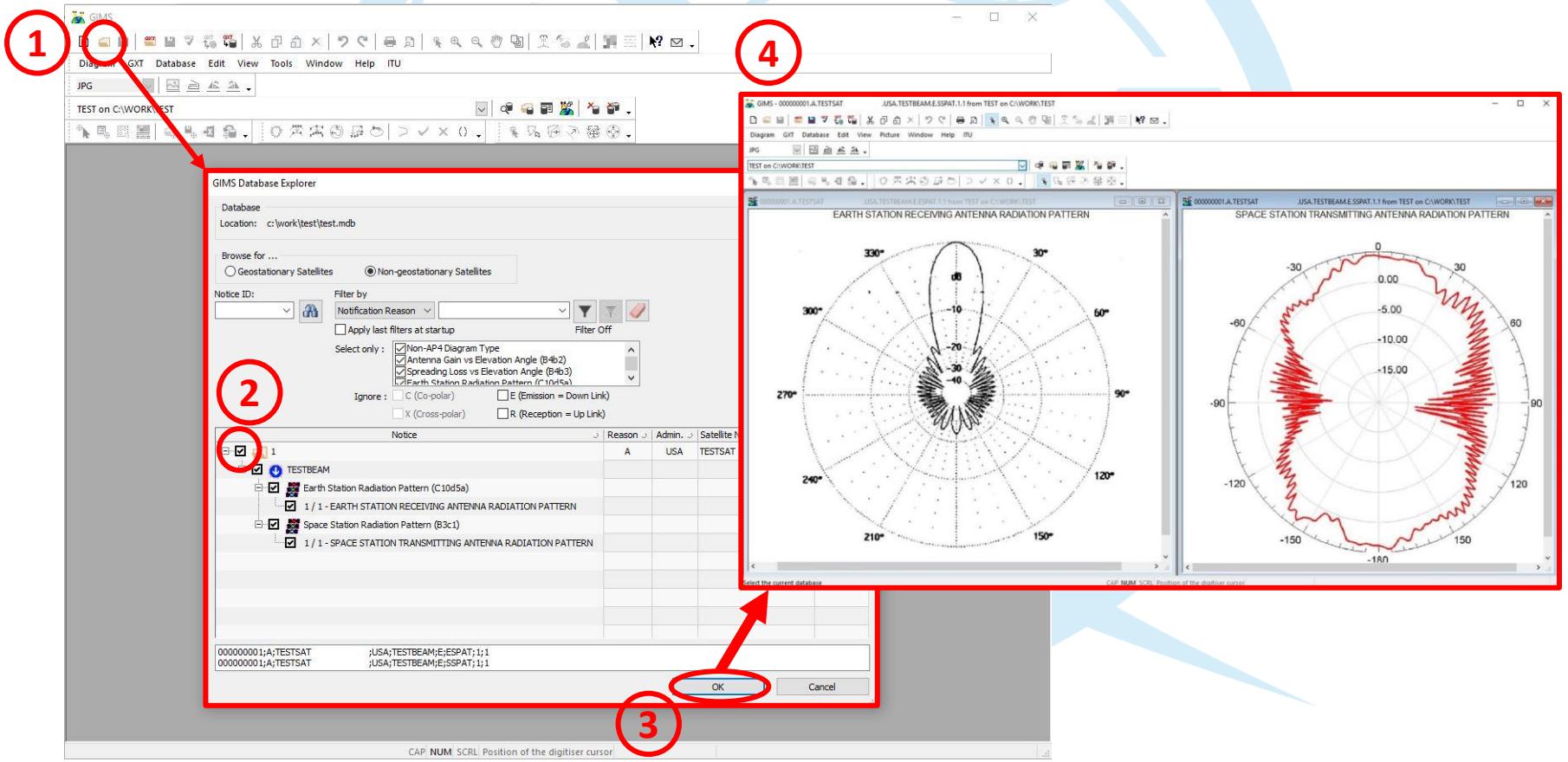
From Gims Query Report

you can also get the structure and information created in the Gims

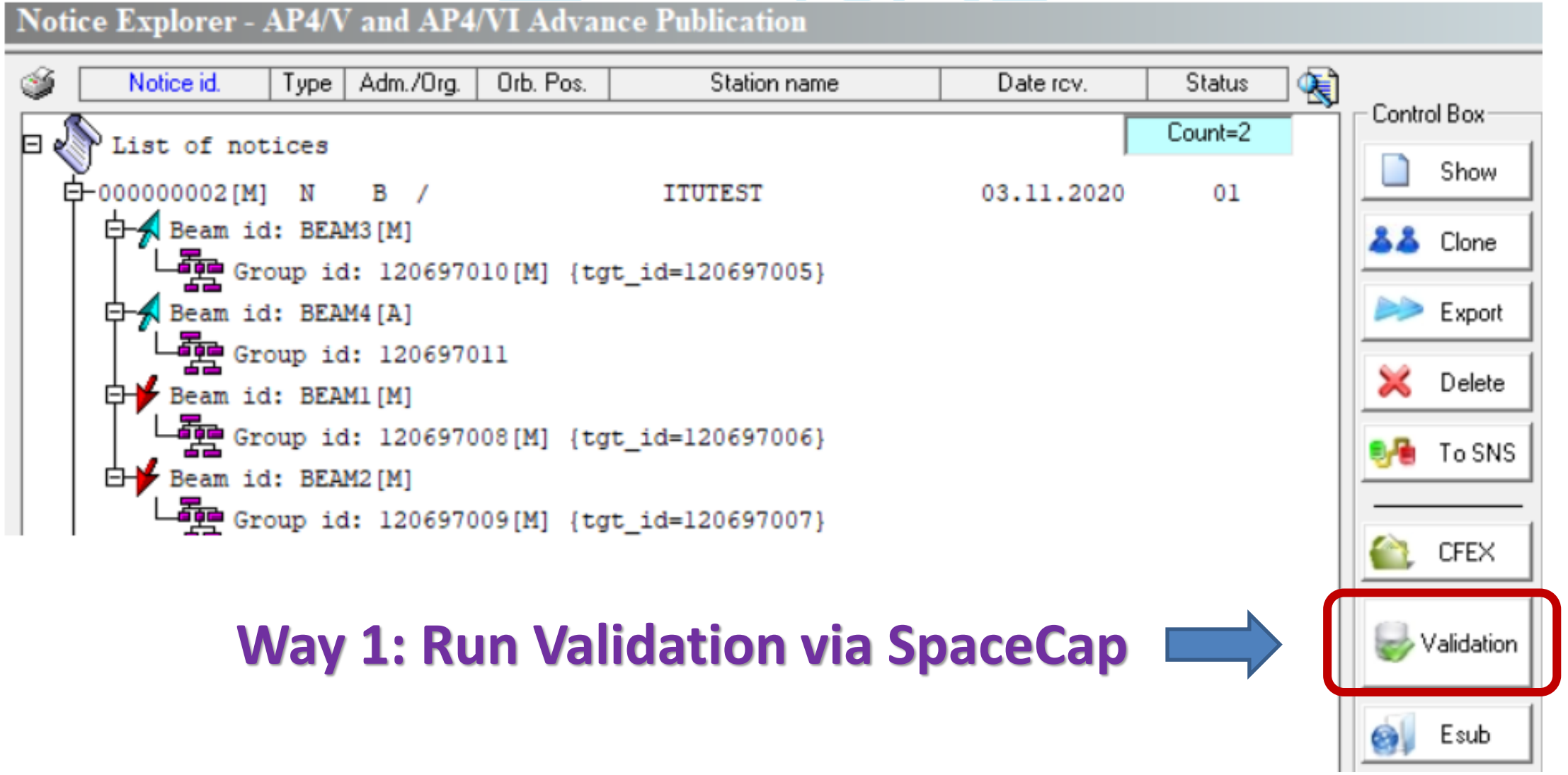


	Notice ID	Notification Reason	Satellite Name	Administration	Beam Name	Emission/Reception Flag	Diagram Type	Diagram Number	Sequence Number
1	000000001	A	ITUTEST	B	BEAM1	E	ESPAT	1	1
2	000000001	A	ITUTEST	B	BEAM2	E	ESPAT	1	1
3	000000001	A	ITUTEST	B	BEAM3	R	ESPAT	1	1
4	000000001	A	ITUTEST	B	BEAM4	R	ESPAT	1	1
5	000000001	A	ITUTEST	B	BEAM4	R	ESPAT	2	1
6	000000001	A	ITUTEST	B	BEAM4	R	ESPAT	2	2
7	000000001	A	ITUTEST	B	BEAM1	E	SSPAT	0	1
8	000000001	A	ITUTEST	B	BEAM2	E	SSPAT	0	1
9	000000001	A	ITUTEST	B	BEAM3	R	SSPAT	0	1
10	000000001	A	ITUTEST	B	BEAM3	R	SSPAT	0	2
11	000000001	A	ITUTEST	B	BEAM4	R	SSPAT	0	1

Check that all diagrams are there, and with all the correct keys and labels compatible with the notice database

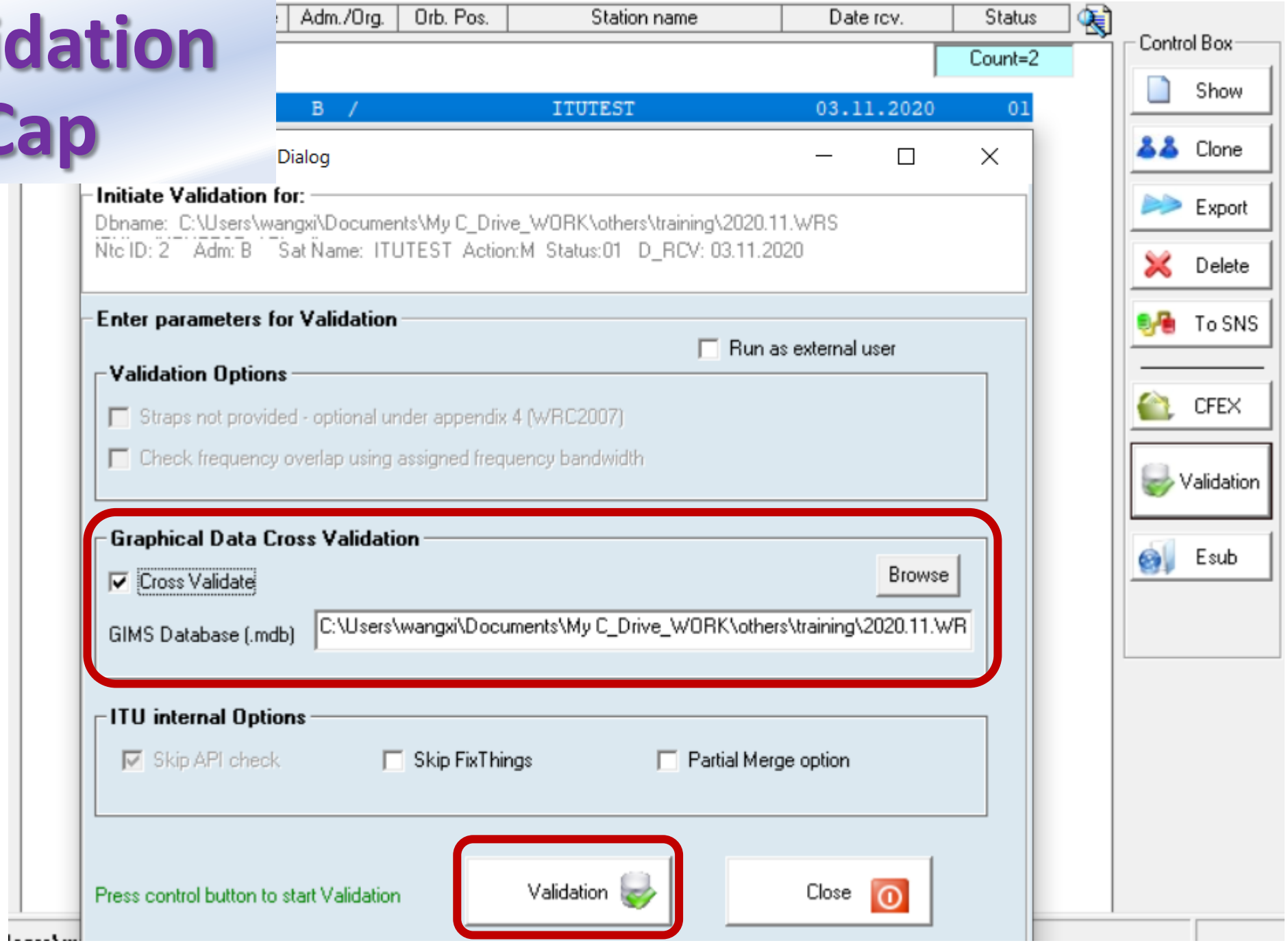


Step 6: Final check: Cross-Validation verify all information in the GIMS database

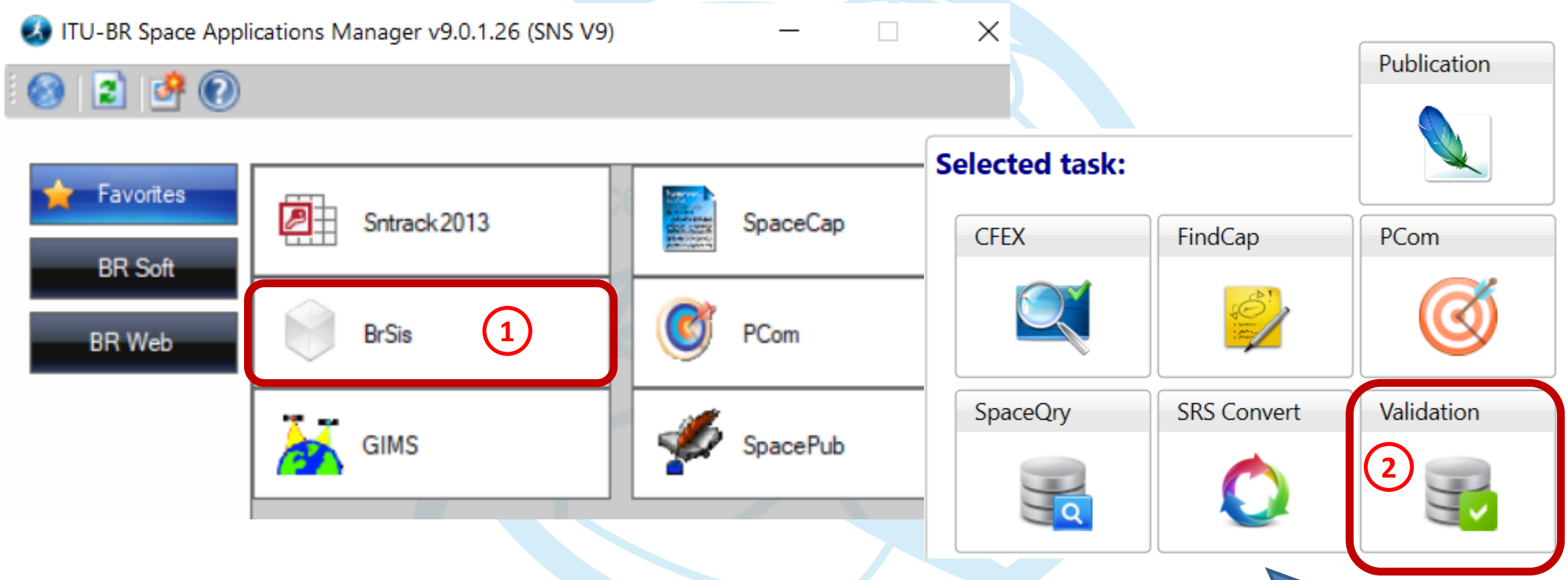


Way 1: Run Validation via SpaceCap

Cross_Validation via SpaceCap



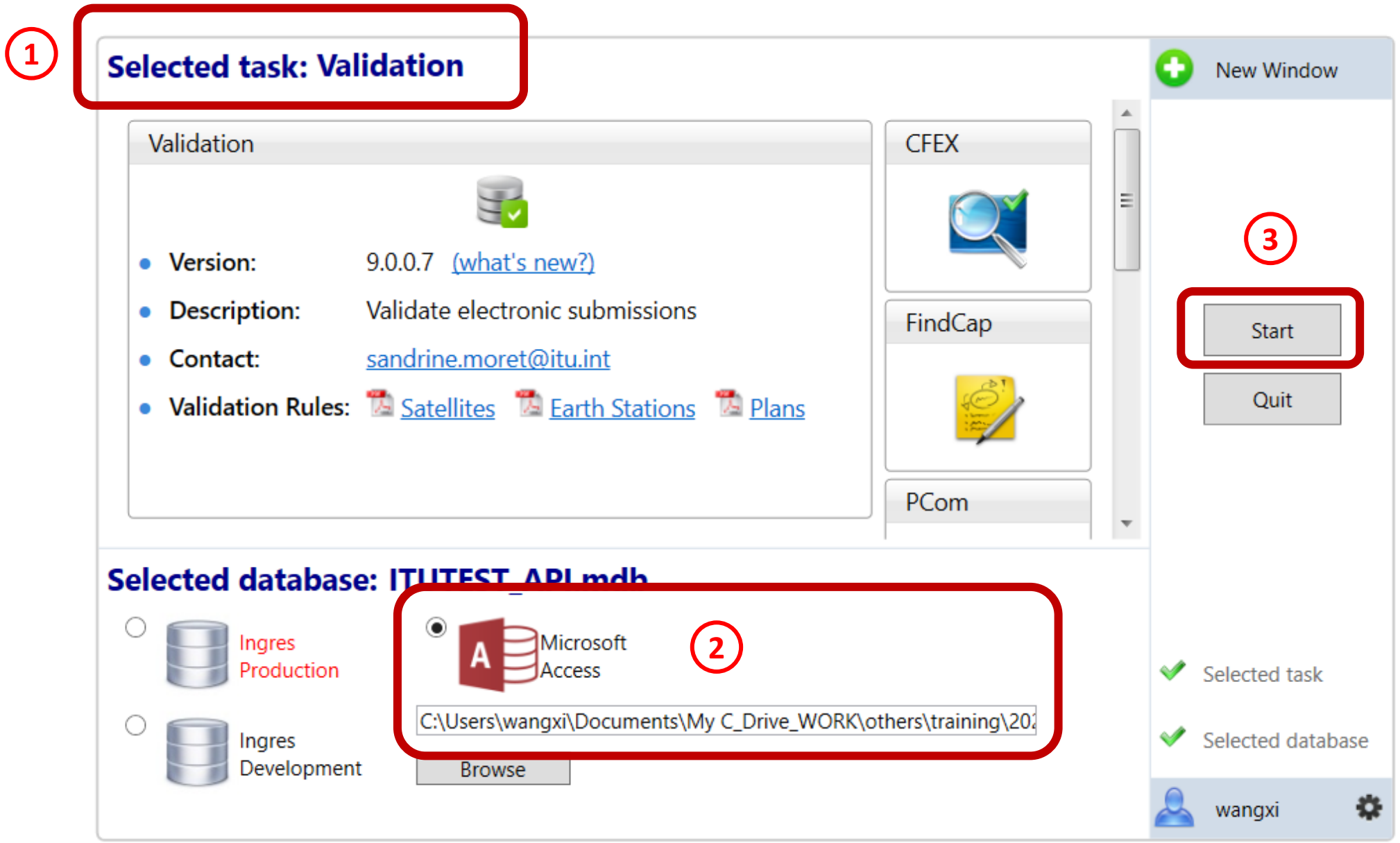
Way 2: Cross_Validation via BRSIS



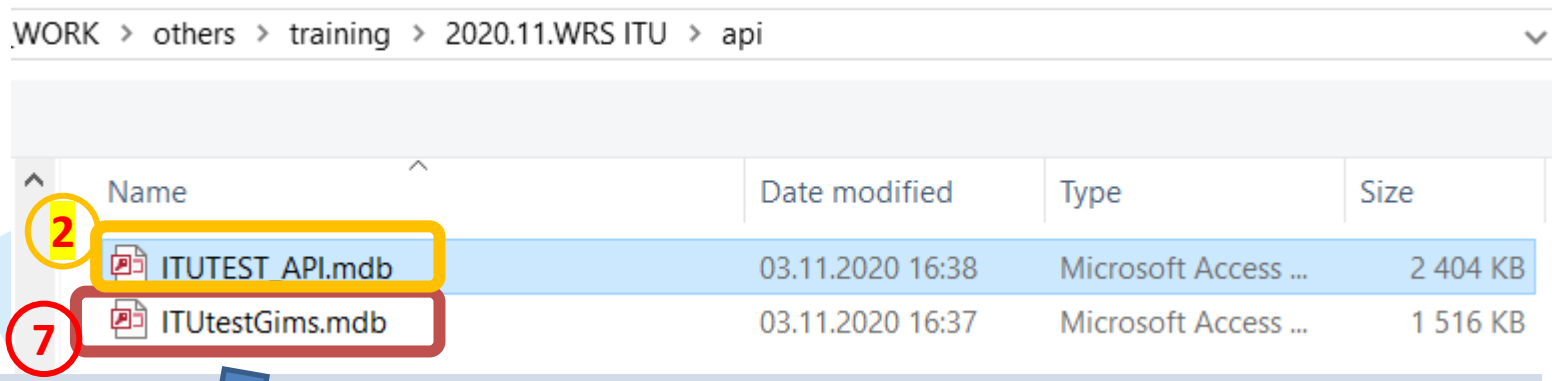
Run Validation via BRSIS

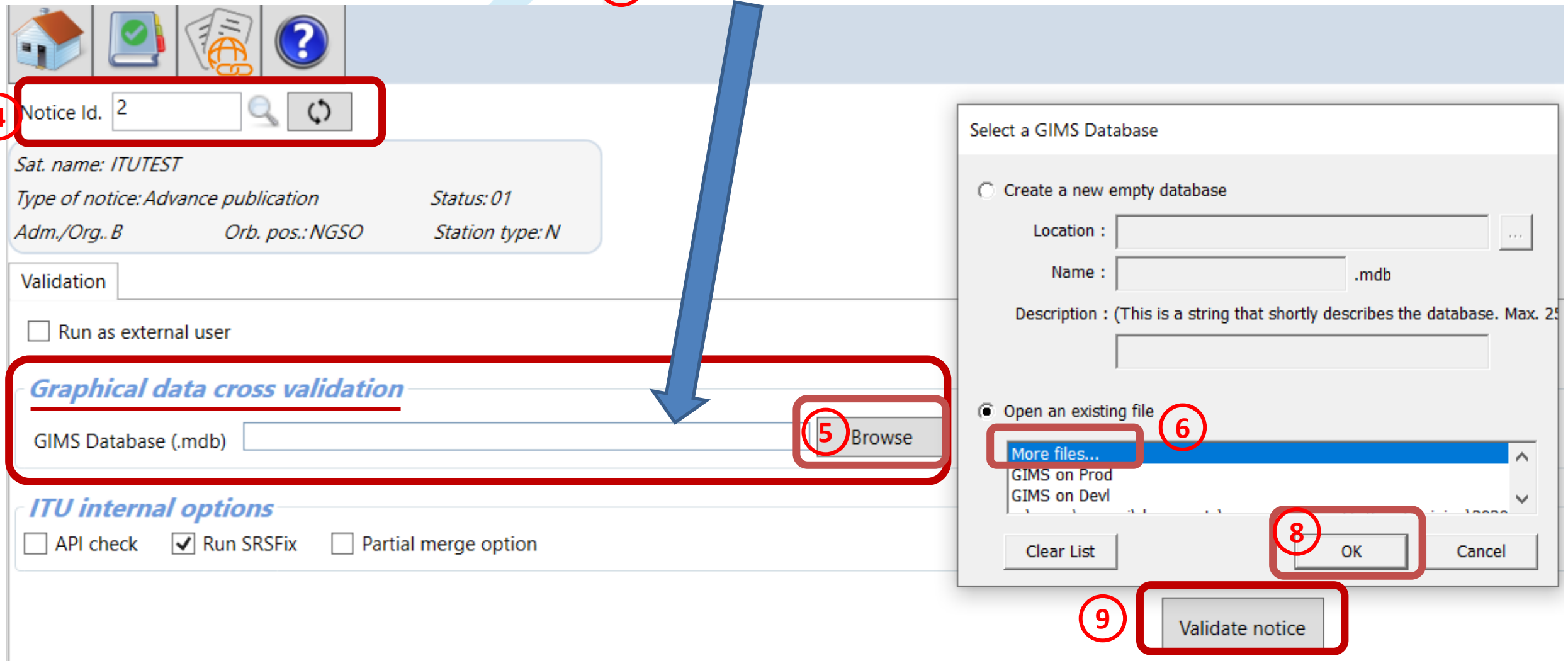
Validation

Space Information System (SNS v9)

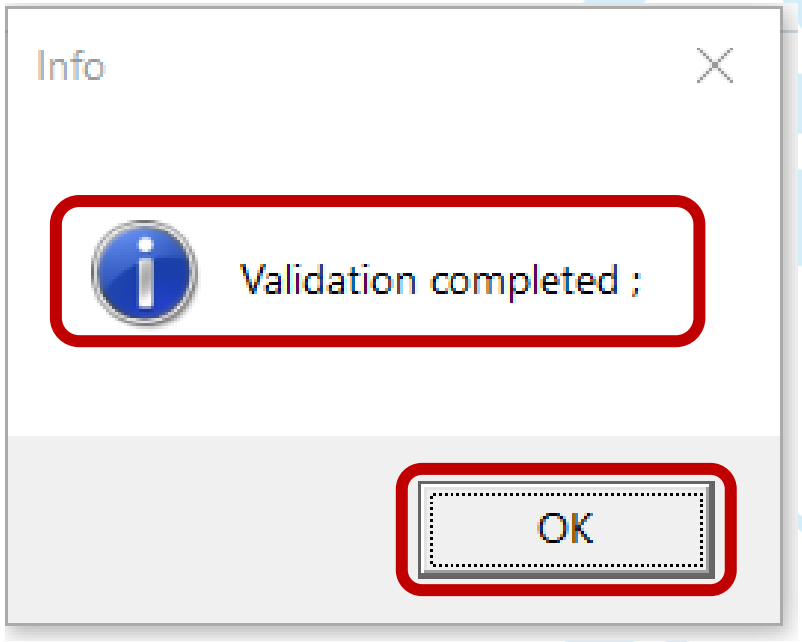


Cross_Validation via BRSIS





Check Cross Validation Report



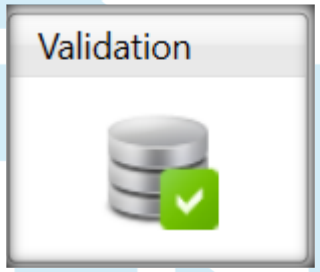
- Make sure that **validation completed**
- Make sure there is **no fatal error**
- If there is, fix before submitting
- Seek other's support to fix further
- If really can not fix, ask your administration to explain in the cover letter or notes for submission

To sum up:
Capture both notice database and diagram/Gims database and run Cross Validation

Appendix 4

Notice Database

BR SIS



Cross validation
Without fatal erros

Diagram Database

Use the latest BR software V9.0

Check completeness and **correctness**
to **establish a formal date of receipt**

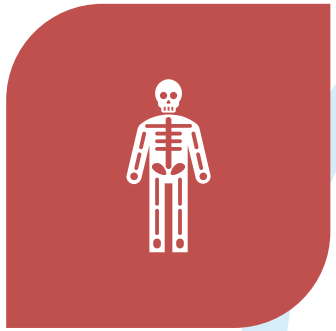
CR/464 only GIMS mdb format
shall be receivable under **RES 55** (WRC-19).

RoP ; RES 55, RES 908; CR/464

Reminders before submission

- Submit one notice in one Gims (.mdb) file
- Note that Notice ID, Notification reason, Administration, Satellite name, Beam names and Diagram numbers for each Beam and Earth station should be identical with ones in the electronic notice created with BR software SpaceCap.
- If you wish to capture antenna diagrams for Vertical and Horizontal planes for one beam, use the same Diagram number but with different Sequence numbers when you save them.
- If there is fatal error still, remember to explain it in the notes

Entry into force (WRC-19)



THE ENTRY INTO FORCE
OF THE REVISED RESOLUTION **55**
(WRC-19) IS **23.11.2019**.

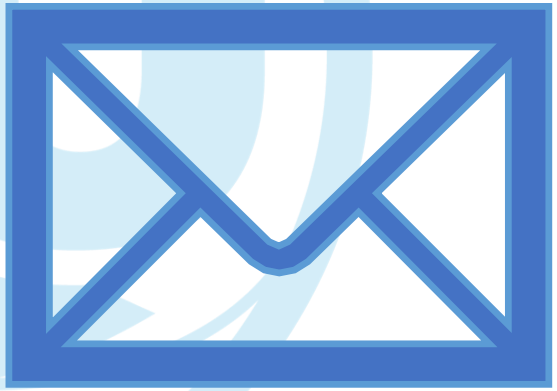
THE BUREAU ENFORCE THIS
STRICTLY NOW
THAT THE CROSS VALIDATION
SOFTWARE IS READY

SEND TO THE BUREAU THE
GRAPHICAL DATABASE
(GIMS FORMAT MDB FILE)
WITH YOUR SUBMISSION
(SNS FORMAT MDB FILE)
THROUGH E-SUBMISSION SYSTEM

You could find more information about the e-submission system in the following website
https://www.itu.int/en/ITU-R/space/e-submission/Pages/default.aspx.

Who to help when necessary
Contact Points

- For help concerning the content of the submission, the regulations, the engineering aspects
  - BRMAIL@ITU.INT
- For help concerning the submission to the ITU via the e-submission system
  - BRSPACEHELP@ITU.INT
- For help with the use of the BR software
  - SAS@ITU.INT



GIMS

Many thanks
for your corporation !

www.itu.int