

Space Workshop Request for Coordination – Capture and Validation

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Request for Coordination

- Radio Regulations
- Section II of Article 9 : Procedure for effecting coordination
- No.9.30:
 - Requests for coordination made under Nos. 9.7 to 9.14 and 9.21 shall be sent by the requesting administration to the Bureau, together with the appropriate information listed in Appendix 4 to these Regulations.



Request for Coordination

Actions by the Bureau

- No.9.34 On receipt of the complete information sent under No. 9.30 or No. 9.32 the Bureau shall promptly:
 - 9.35 a) examine that information with respect to its conformity with No. 11.31;
 - **9.36** *b)* identify in accordance with No. **9.27** any administration with which coordination may need to be effected;
 - 9.37 c) include their names in the publication under No. 9.38;
 - **9.38** *d)* publish, as appropriate, the complete information in the BR IFIC within four months. Where the Bureau is not in a position to comply with the time-limit referred to above, it shall periodically so inform the administrations, giving the reasons therefor.
 - **9.40** *e)* inform the administrations concerned of its actions and communicate the results of its calculations, drawing attention to the relevant BR IFIC.
- No. 9.40A If the information is found to be incomplete, the Bureau shall immediately seek from the administration concerned any clarification required and information not provided.
 - See also §3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9 of Rules of Procedure on Receivability



Request for Coordination

Information required and format

- Annex 2 of Appendix 4
 - 3 separate columns for requests for coordination
 - Notification or coordination of a geostationary-satellite network
 - Notification or coordination of a non-geostationary-satellite network
 - Note additional requirements for NGSO that are subject to No.9.11A, 22.5C, 22.5D and 22.5F
 - Notification or coordination of an earth station
- Resolution 55
 -shall be submitted in electronic format comptatible with the BR electronic notice form capture software (Spacecap)



Request for Coordination – Common problems

- Missing Confirmation fax
- Some frequency assignments not covered by API
- Regional limitations for some frequency assignments
- Missing diagrams
- Missing antenna diameters when required
- Missing 0 dBi relative gain contours for steerable beams
- Did not supply a statement of commitment <u>and</u> a description of the method required under ROP relating to No.21.16 for steerable beams.



Software for submission

- Software
 - Spacecap for capturing the information
 - Spaceval for validating the information
 - Spacequery for viewing the validation report
 - Spacepub for viewing/printing detailed information
 - GIMs for capturing and viewing graphical information
- Database
 - Must be mdb in SNS format for alphanumeric data, and GIMs mdb format for GIMs data



Exercise to capture a request for coordination for a Geostationary satellite network

Data to be captured

Provision – No.9.6 Coordination

- Notifying administrtaion CHL
- Type of Satellite Network Geostationary Satellite network



Data to be captured

Name of satellite network:
ITUSAT

Nominal Orbital Longitude: 70 ° W

Longitudinal Tolerance to West: 0.1°

Longitudinal Tolerance to East: 0.1°

Inclination Excursion:
0.05°

Compliance with off-axis power limitations:
YES

RECEIVING BEAM KR1 DATA

Maximum Isotropic Gain: 35 dBi

Pointing Accuracy: 0.2°

Antenna Gain Contours Diagram No. 1

Antenna Gain vs Orbit Longitude Diagram No. 2



Beam KR1/R
- Group Data

First Group

Assigned Frequency Bandwidth: 72000 kHz

Class of Station: EC

Nature of Service: CV

Polarization: Vertical

Receiving System Noise Temperature: 500 K

Service Area Number: 1

Service Area Diagram Number.

Beam KR1/R First Group General Characteristics of this Group

Operating Agency: 001

Responsible Administration: A

Special Sections for this group

API/A 1234

Beam KR1/R First Group Emissions Data for this Group

Designation of Emission: 70M00G7W--

Maximum Peak Power: 36.4 dBW

Maximum Power Density: -42 dBW/Hz

Minimum Peak Power: -3.5 dBW

Minimum Power Density: -82 dBW/Hz

C/N objective: 7 dB

Beam KR1/R First Group Frequency Data for this Group

Assigned Frequency:

14.058 GHz

Beam KR1/R First Group Associated Earth Station for this Group

Type of Station: Typical

Associated Earth Station Name: T1

Class of Station: TB

Nature of Service: CV

Maximum Isotropic Gain: 60.4 dBi

Beamwidth: 0.16°

Diameter of Antenna: 9m

Antenna Radiation pattern: REC-580-6

TRANSMITTING BEAM DATA FOR KT1

Maximum Isotropic Gain: 35 dBi

Pointing Accuracy 0.2°

Antenna Gain Contours Diagram No. 4

Beam KT1/E First Group Group Data

Assigned Frequency Bandwidth: 72000 kHz

Class of Station: EC

Nature of Service: CV

Polarization: Vertical

Maximum Total Peak Power: 21 dBW

Contiguous Bandwidth: 72000 kHz

Service Area Number: 1

Service Area Diagram Number: 5

Beam KT1/E First Group General Characteristics of First Group

Operating Agency: 001

Responsible Administration: A

Special Sections for this group

API/A 1234

Beam KT1/E First Group Emissions Data for this Group

Designation of Emission: 72M0G7W--

Maximum Peak Power: 21

Maximum Power Density: -57.4

Minimum Peak Power: 15.4

Minimum Power Density: -63

C/N objective: 7

Beam KT1/E First Group Frequency Data for this Group

Assigned Frequency:

12.08 GHz

Beam KT1/E First Group Associated Earth Station for this Group

Type of Station: Typical

Associated Earth Station Name: R1

Class of Station: TC

Nature of Service: CV

Maximum Isotropic Gain: 32.8 dBi

Beamwidth: 4.1°

Diameter of Antenna: 0.45m

Receiving System Noise Temperature: 120 K

Antenna Radiation pattern: REC-580-6

Beam KT1/E Second Group - Group Data

Assigned Frequency Bandwidth: 2000 kHz

Class of Station: ER

Nature of Service: CV

Polarization: Vertical

Maximum Total Peak Power: -10.5 dBW

Contiguous Bandwidth: 2000 kHz

Service Area Number: 1

Service Area Diagram Number: 5

Beam KT1/E Second Group - General Characteristics

Operating Agency: 001

Responsible Administration:

Special Sections for this group

API/A 1234

Beam KT1/E - Emissions Data

Second Group

Designation of Emission:

300KG9X--

Maximum Peak Power:

-10.5 dBW

Maximum Power Density:

-65.2 dBW/Hz

Minimum Peak Power:

-25.5 dBW

Minimum Power Density:

-80.2 dBW/Hz

C/N objective:

10 dB

Beam KT1/E - Frequency Data

Second Group

Assigned Frequency:

11.71 GHz

Beam KT1/E Second Group - Associated Earth Station

Type of Station: Typical

Associated Earth Station Name: R1

Class of Station: TR

Nature of Service: CV

Maximum Isotropic Gain: 32.8 dBi

Beamwidth: 4.1°

Diameter of Antenna: 0.45m

Receiving System Noise Temperature: 120 K

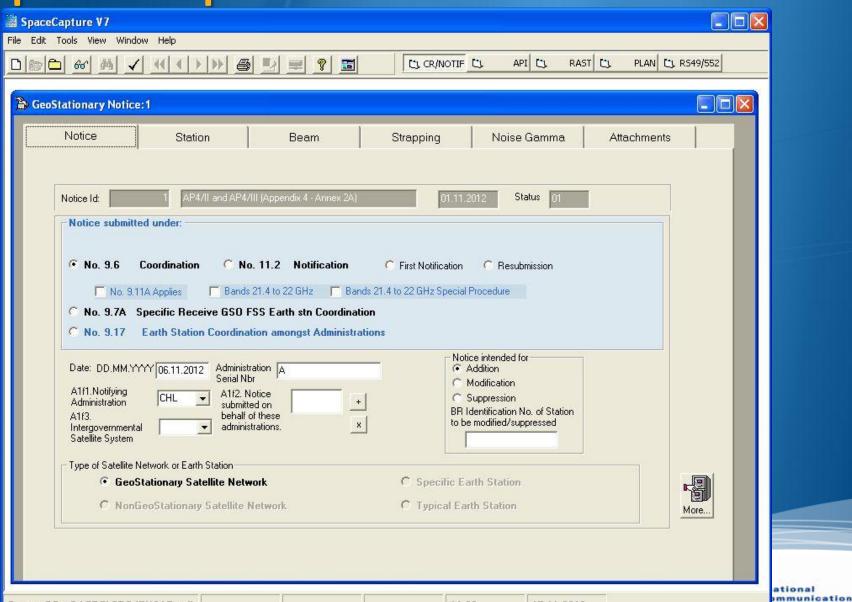
Antenna Radiation pattern: REC-580-6

Spacecap

- Launch spacecap
 - File -> New database -> create a new database "CRC ITUSAT.mdb"
 - Select "CR/Notif" Tab at the top
 - Select icon "New Notice" on the left
 - Start entering the information

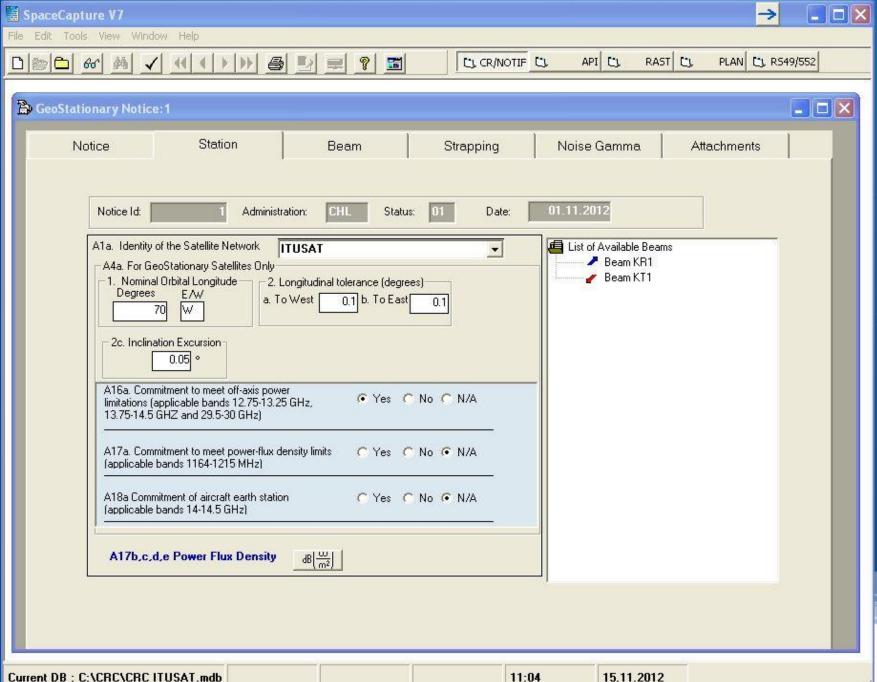
Spacecap

Current DB : C:\CRC\CRC ITUSAT.mdb



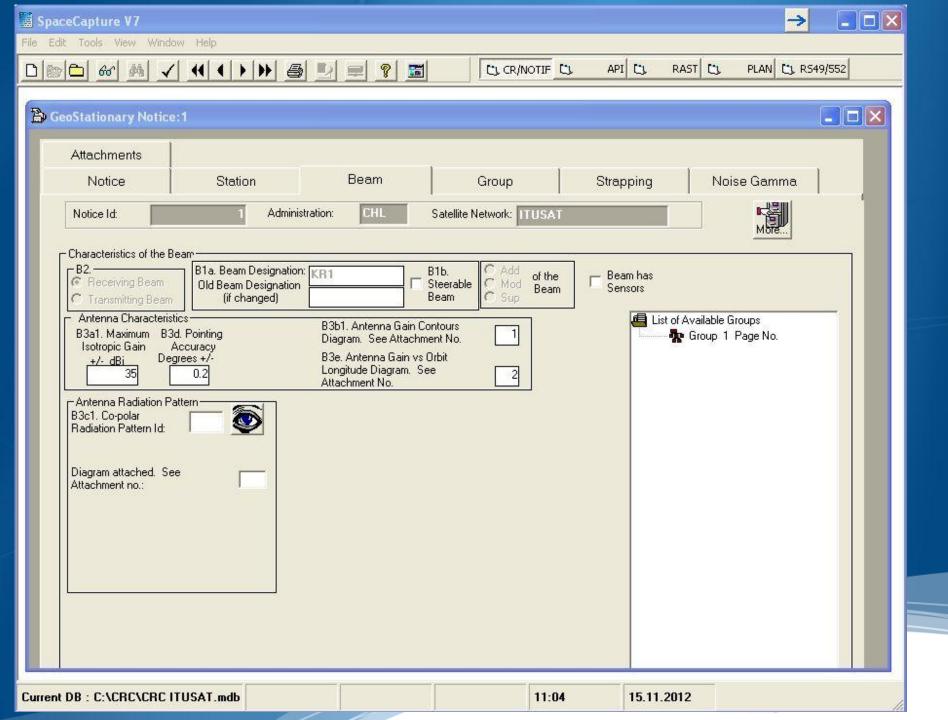
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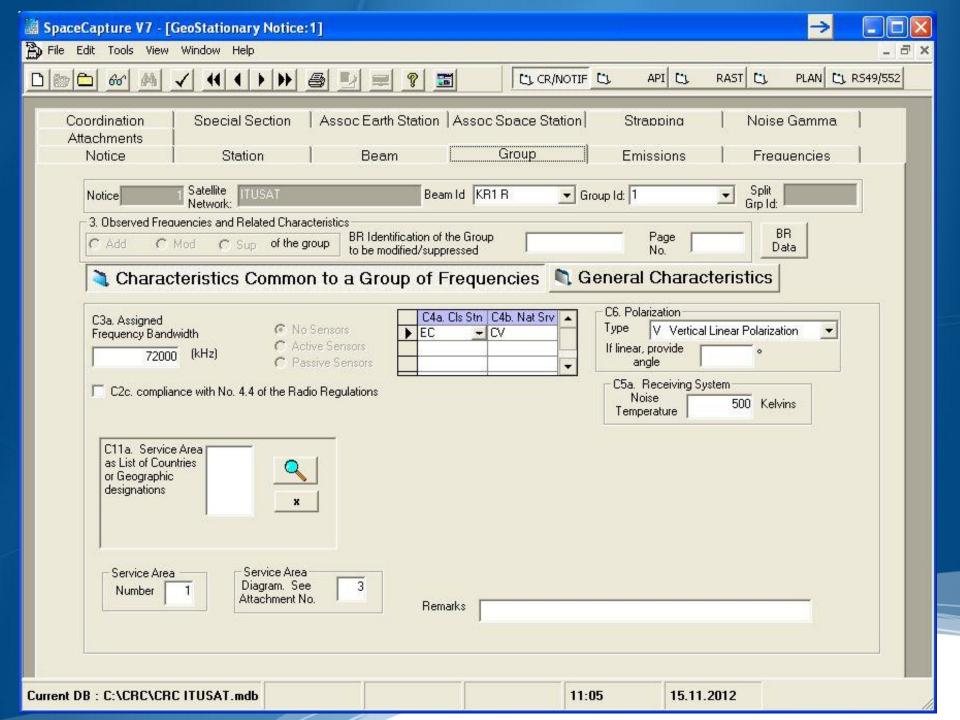
15.11.2012

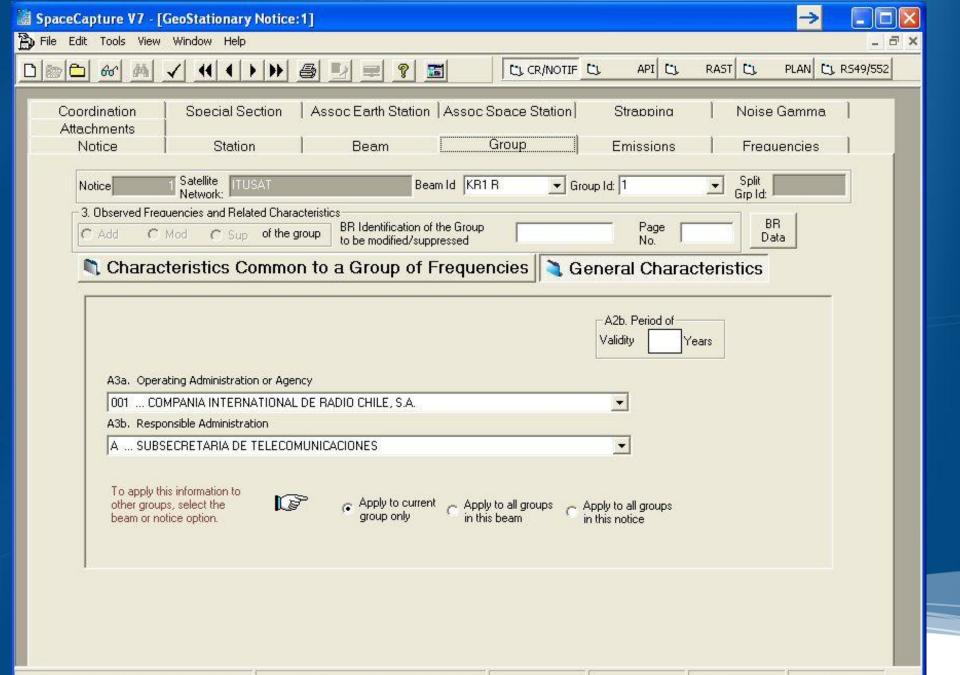


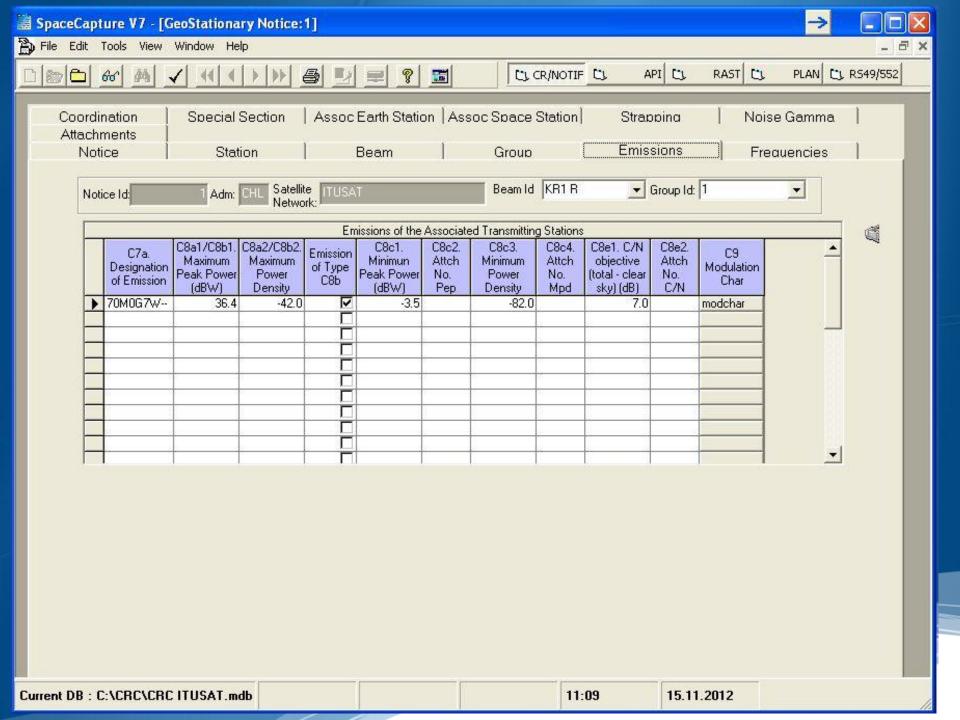
11:04

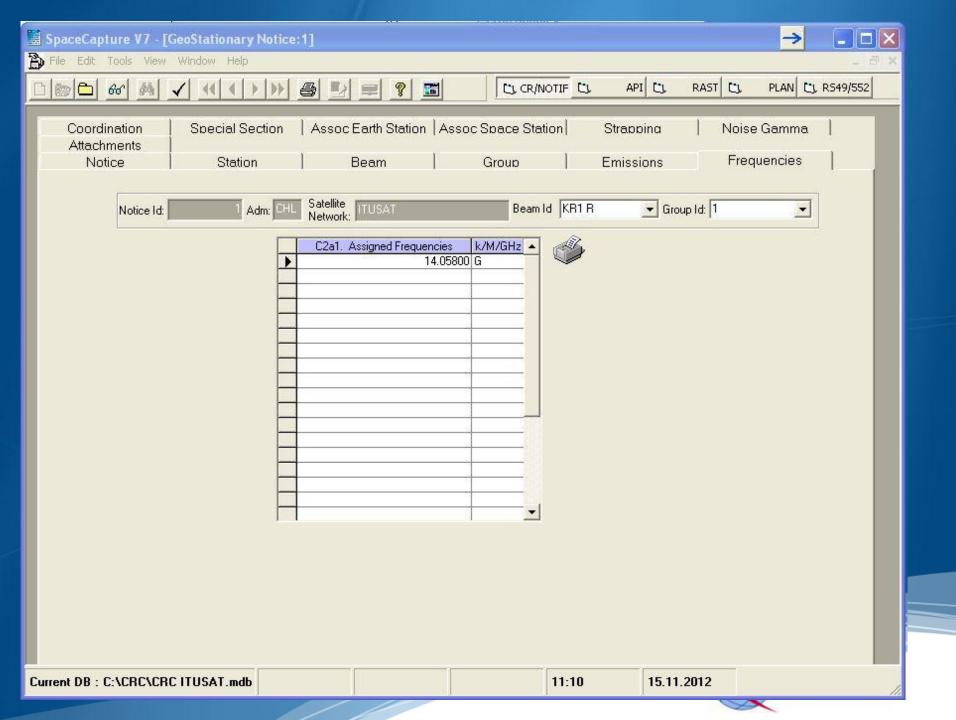
15.11.2012

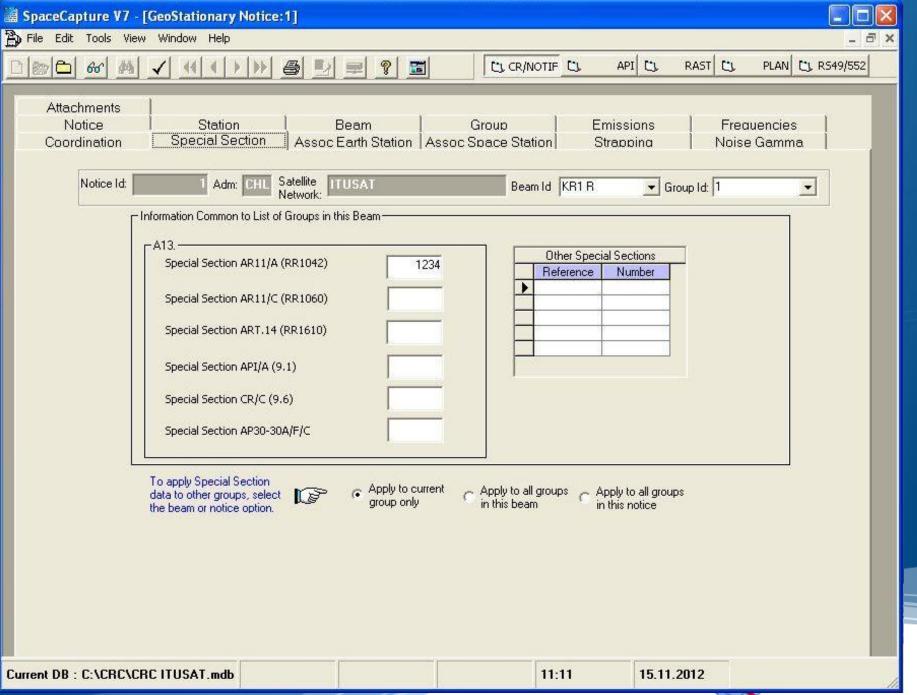


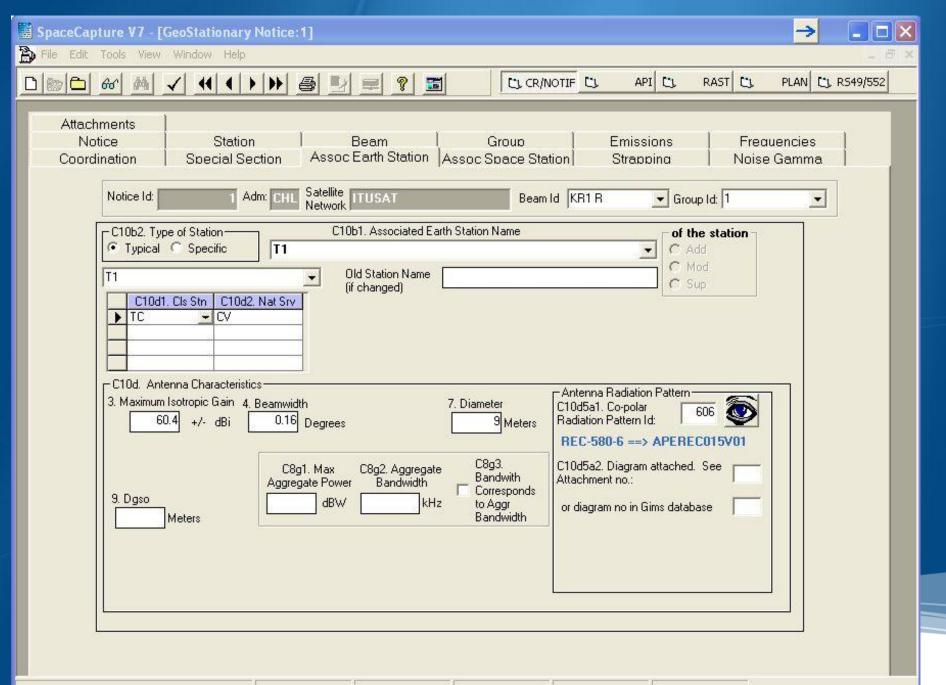


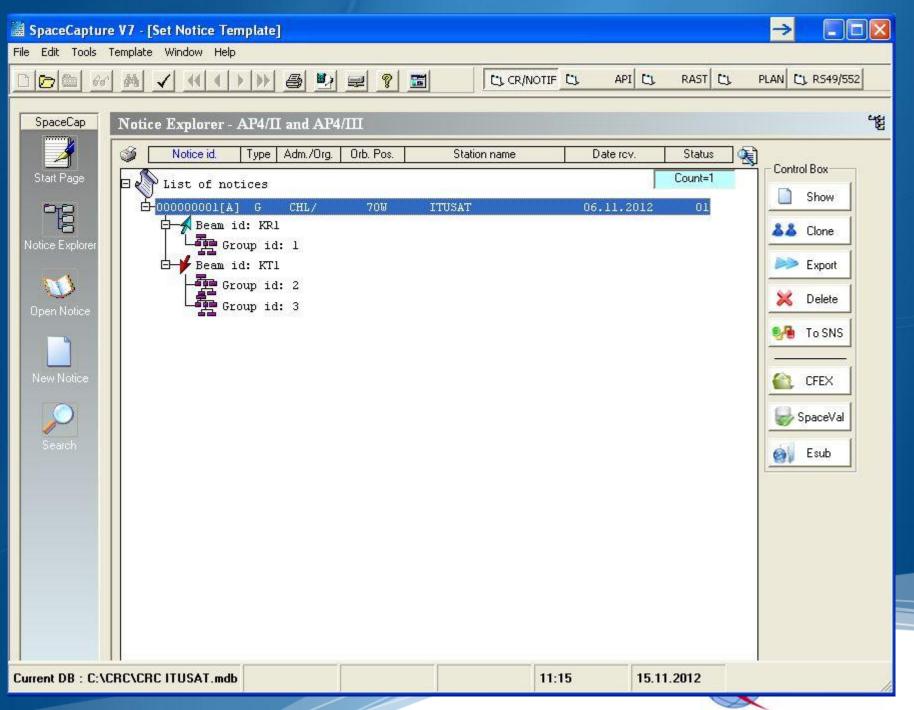


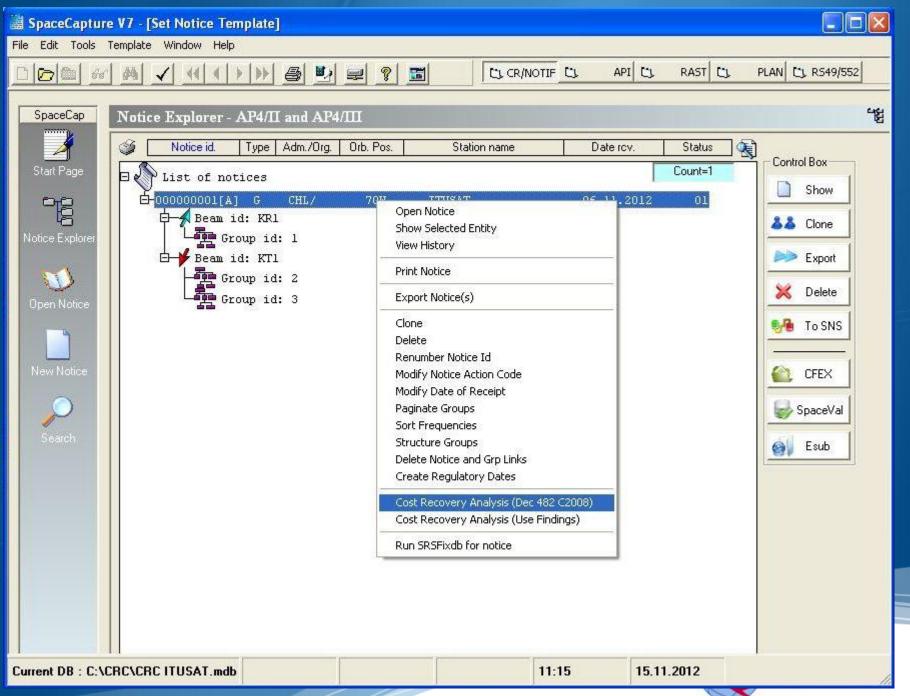


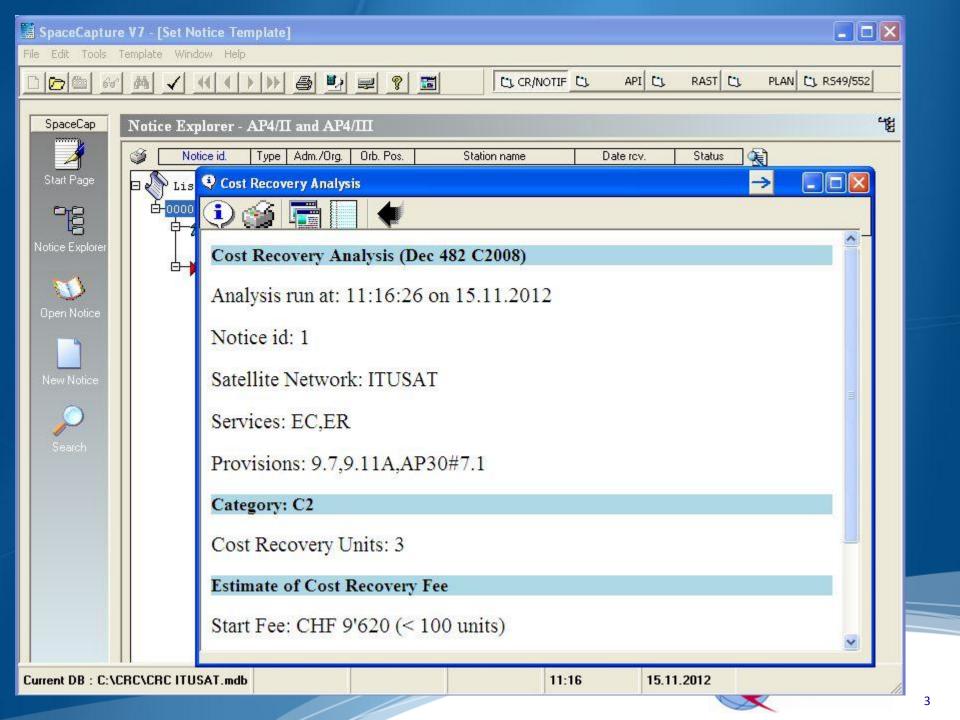






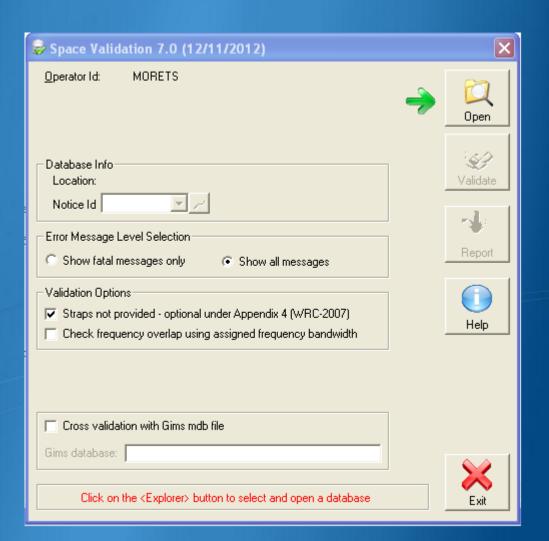






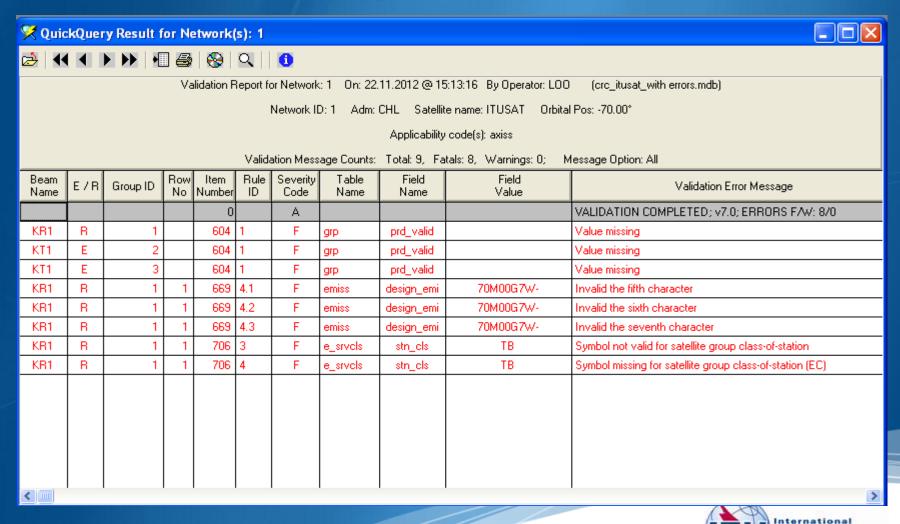
Spaceval

- Launch spaceval
 - Click on Open
 - Browse and select the database that you have captured
 - Select notice ID
 - Click on Validate
 - Click on Report
 - launches Spacequery





Spacequery – validation report (with errors)



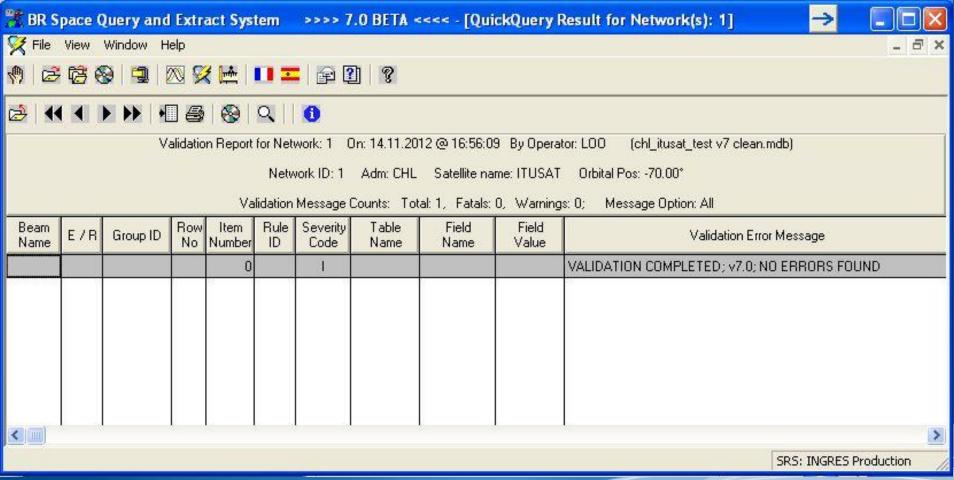
Telecommunication

Corrections of fatal errors

- Period of validity
 - Group tab -> General characteristics tab
 - For the field Period of Validity, enter "15" years
 - Select "apply to all groups in the notice"
- Designation of Emissions
 - Emission tab
 - Error in designation of emission 70M00G7W
 - Change to 70M0G7W (refer to Appendix 1 for details on symbols)
- Earth Station class of station
 - Associated earth station tab
 - Earth station class of station must correspond to Space station class of station
 - Change TB to TC

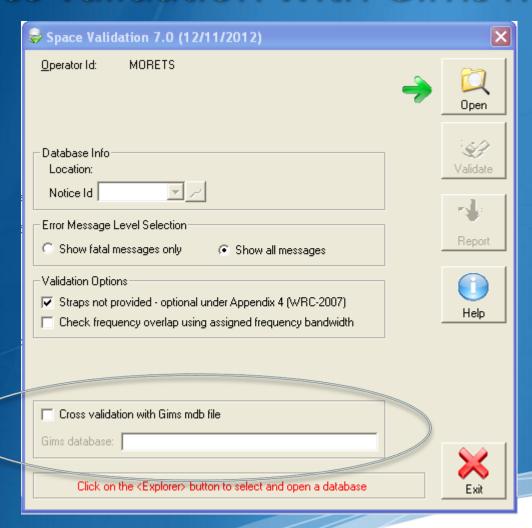


Spacequery – validation report (no errors)

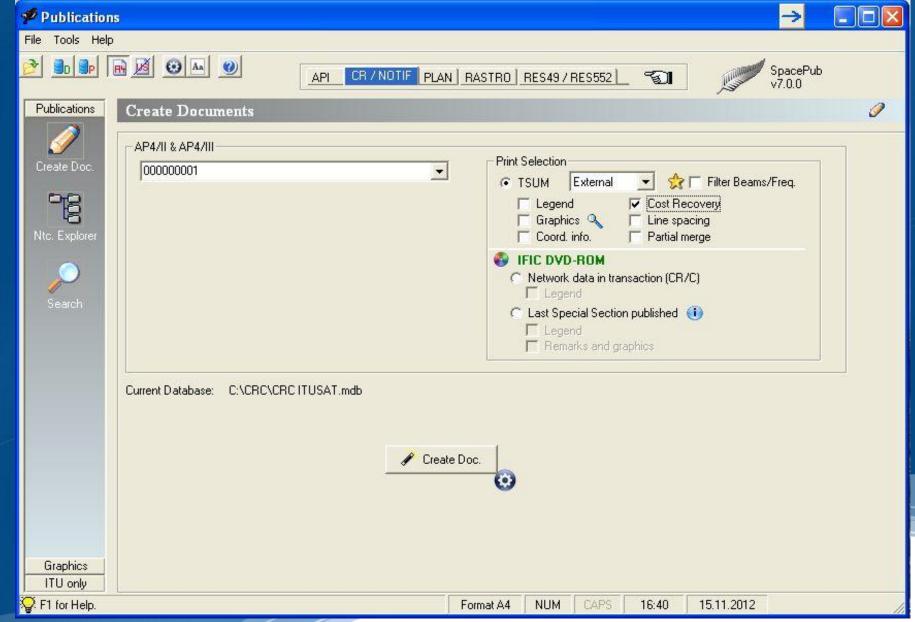


Spaceval

- Cross validation with Gims mdb



Spacepub



Submission to Bureau

- Create a zip file ITUSAT.zip containing
 - CRC ITUSAT.mdb
 - ITUSAT GIMS.mdb
 - Any other attachments or notes in Word or PDF format
- Change the file extension from ".zip" to ".itu"
- Send email with attachment ITUSAT.itu to BRMAIL@ITU.INT
- Send confirmation telefax to BR at +41 22 7305785



Questions?

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