Methodology for finding of new channels for digital terrestrial television

ITU Radiocommunication Bureau

Overview

- Tools to be used

- Frequency bands and TV channels

- Procedure diagram

- CA Display tool

Tools to be used

eBCD 2.0
Broadcasting Online

eQry
ePub
eTools
myAdmin

TerRaQ

TerRaNotices

CA Display

WISFAT

Frequency bands and TV channels

- ✓ **Frequency bands:** 174 – 216 MHz
  470 – 698 MHz
- ✓ **TV channels (assigned frequencies):**
  - 6 MHz raster: 7 (177 MHz) – 13 (213 MHz)
    14 (473 MHz) – 51 (695 MHz), excl. ch.37 (611 MHz)
  - 8 MHz raster: 5 (178 MHz) – 9 (210 MHz)
    21 (474 MHz) – 48 (690 MHz), excl. ch.38 (610 MHz)
  - special case ("flexible channel"):
    - 6 MHz raster: 83 (887 MHz)
    - 8 MHz raster: 69 (858 MHz)

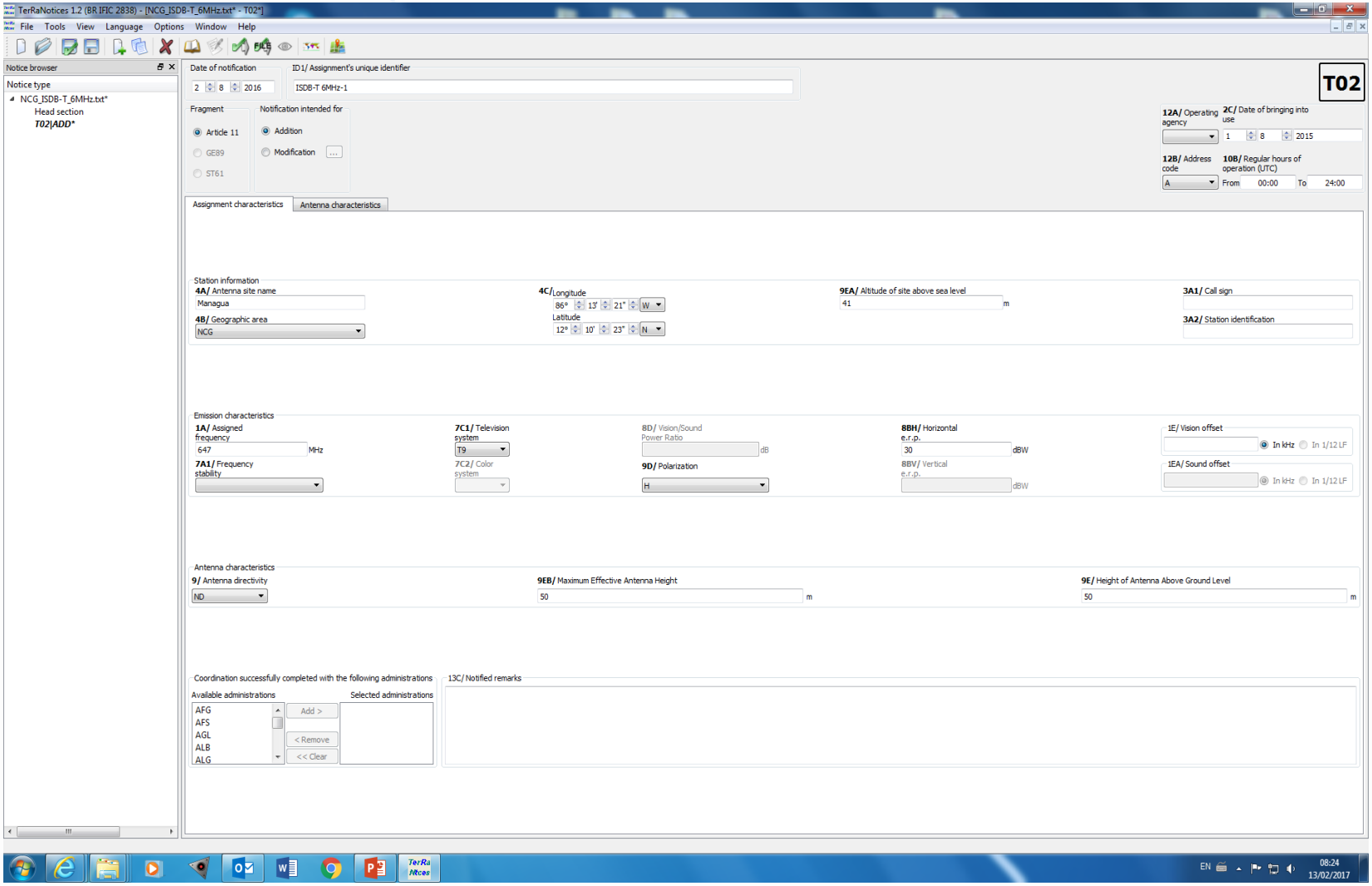
  "flexible channel" – means that during compatibility analysis calculations, the software will scan all available channels in the frequency bands mentioned above and show electromagnetic situation on each channel

- ✓ **List of TV channels and corresponding frequencies – see Doc. INFO-1**

Find a frequency channel process diagram

At the end of the coordination meetings, submit officially to the BR using WISFAT

Creation/Modification of a T02 notice



Validation and Submission of the notice file to eBCD

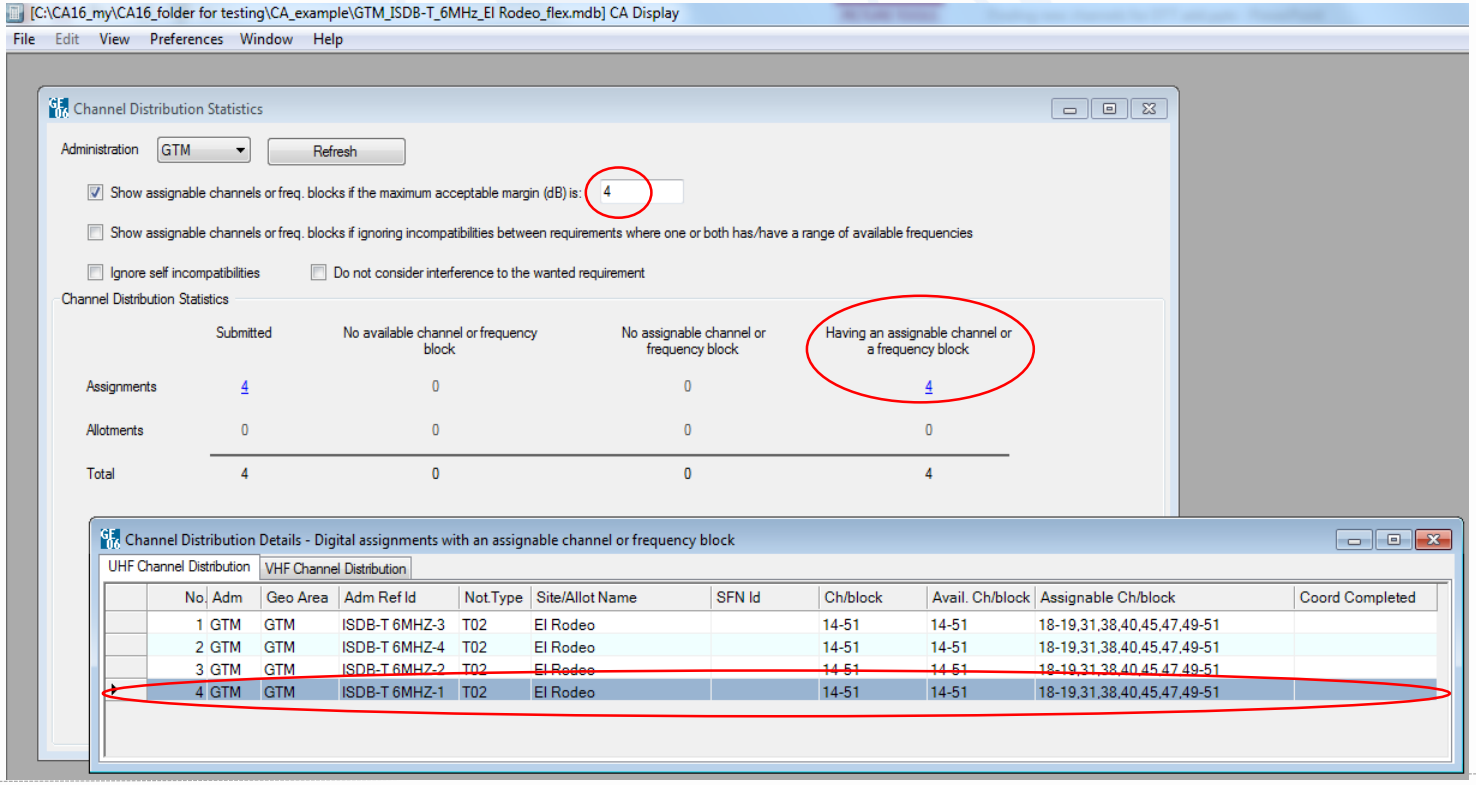
- ✓ Validate and save the notice file
- ✓ Browse and upload it together with the notice files of neighboring countries to eBCD web-portal - eTools: https://www.itu.int/ITU-R/eBCD/MemberPages/eCalculations.aspx
- ✓ Complete Submission

Getting Compatibility Analysis results

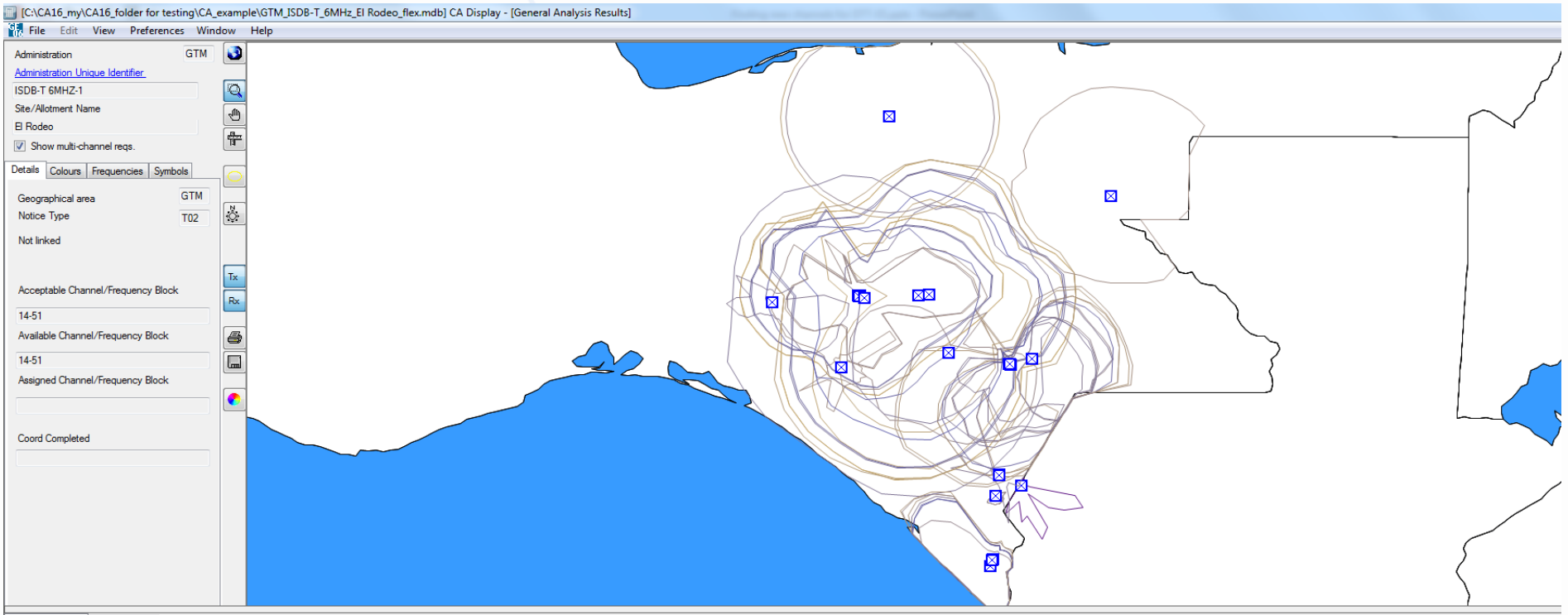
- ✓ Click on Back to calculation history
- ✓ Wait for results
- ✓ Launch CA Display and open saved .mdb file to view the results

CA Display (example)

- ✓ File -> Open compatibility results file GTM_ISDB-T_6MHz_El Rodeo_flex.mdb
- ✓ View -> Channel distribution statistics
- ✓ Check appropriate boxes and set a default margin
- ✓ Select Administration and click Refresh
- ✓ Select item of interest and click on the blue number
- ✓ List of requirements will appear
- ✓ Select the requirement of interest and click on it



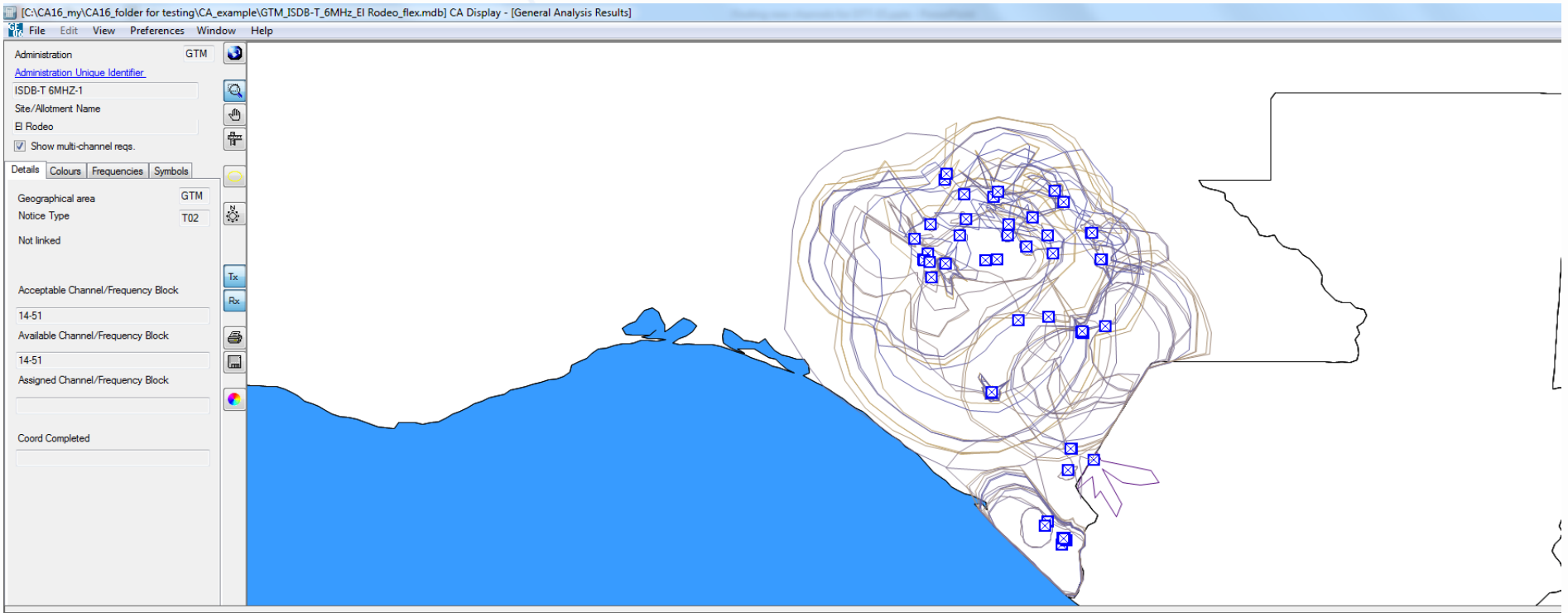
Analysis of the results (example): List of interferers on ch. 31 (575 MHz)



Digital Interferers | Digital Affected

No.	Adm	Geo Area	Not.Type	Adm Ref Id	Site/Allot Name	SFN Id		Ch/block	Avail. Ch/block	Assigned ch/bl	8BH (dBW)	8BV (dBW)	Wanted chann	Interf. channel	Distance (km)	CNFS (dB(uV/	Margin (dB)	Relation
25	MEX	MEX	T02	TVXHCTTH0P00CHP0029	TAPACHULA HUEHUET			29	29	29	48.1		29	29	64.8	58.5	6.63	Interference
26	MEX	MEX	T02	TVXHTUA00P00CHP0029	TUXTLA GUTIERREZ CH			29	29	29	46.5		29	29	191.3	51.8	2.46	Interference
27	MEX	MEX	T02	TVXHCOM00P00CHP0030	COMITAN DE DOMINGU			30	30	30	36.5		30	30	102.8	64.2	11.55	Interference
28	MEX	MEX	T02	TVXHCOM00C01CHP0030	Las Margaritas CHIS			30	30	30	36.1		30	30	108	54.2	3.67	Interference
29	MEX	MEX	T02	TVXHTAP00P00CHP0030	TAPACHULA CHIS			30	30	30	47.1		30	30	69.1	52.3	2.7	Interference
30	MEX	MEX	T02	TVXHTAP00C02CHP0030	Motozintla CHIS			30	30	30	37.8		30	30	23.2	51.1	2.21	Interference
31	MEX	MEX	T02	TVXHPBFU0P00TAB0031	VILLAHERMOSA CARDE			31	31	31	50		31	31	301.7	49.4	1.61	Interference
32	MEX	MEX	T02	TVXHITC00C02CHP0034	Las Rosas CHIS			34	34	34	27.7		34	34				Overlap
33	MEX	MEX	T02	TVXHITC00P00CHP0034	COMITAN DE DOMINGU			34	34	34	29.7		34	34	103.6	60	7.83	Interference
34	MEX	MEX	T02	TVXHTAH00P00CHP0034	TAPACHULA CHIS			34	34	34	47.9		34	34	65.2	51.3	2.28	Interference
35	MEX	MEX	T02	TVXHCIC00P00CHP0034	CINTALAPA DE FIGUER			34	34	34	41.8		34	34	230.7	50.1	1.81	Interference
36	MEX	MEX	T02	TVXHDZ000P00CHP0035	COMITAN DE DOMINGU			35	35	35	36.5		35	35	102.8	64	11.42	Interference

Analysis of the results (example): List of affected on ch. 31 (575 MHz)



No.	Adm	Geo Area	Not.Type	Adm Ref Id	Site/Allot Name	SFN Id		Ch/block	Avail. Ch/block	Assigned Ch/bl	8BH (dBW)	8BV (dBW)	Wanted Chann	Interf. Channel	Distance (km)	CNFS (dB(uV/	Margin (dB)	Relation
44	MEX	MEX	T02	TVXHTUA00P00CHP0029	TUXTLA GUTIERREZ CH			29	29	29	46.5	29	29		138.8	37.4	1.98	Interference
45	MEX	MEX	T02	TVXHTUA00C04CHP0029	San Fernando CHIS			29	29	29	25.8	29	29		205.8	35.7	1.43	Interference
46	MEX	MEX	T02	TVXHTUA00C05CHP0029	San Francisco Ixhuatan C			29	29	29	25.6	29	29		233.1	35	1.25	Interference
47	MEX	MEX	T02	TVXHTAP00C02CHP0030	Motozintla CHIS			30	30	30	37.8	30	30		23	94.5	54.67	Interference
48	MEX	MEX	T02	TVXHCOM00P00CHP0030	COMITAN DE DOMINGU			30	30	30	36.5	30	30		38.3	70.8	31	Interference
49	MEX	MEX	T02	TVXHTAP00C01CHP0030	Huehuetan CHIS			30	30	30	19.5	30	30		74	59.5	19.7	Interference
50	MEX	MEX	T02	TVXHTAP00P00CHP0030	TAPACHULA CHIS			30	30	30	47.1	30	30		56.8	57.9	18.12	Interference
51	MEX	MEX	T02	TVXHCOM00C01CHP0030	Las Margaritas CHIS			30	30	30	36.1	30	30		106.1	51.4	11.88	Interference
52	MEX	MEX	T02	TVXHOPTC0P00CHP0031	TUXTLA GUTIERREZ CH			31	31	31	39.5	31	31		140.9	37.5	1.96	Interference
53	MEX	MEX	T02	TVXHHUC00P00CHP0032	HUIXTLA CHIS			32	32	32	46	32	32		44.2	56.3	16.37	Interference
54	MEX	MEX	T02	TVXHOCC00P00CHP0032	OCOSINGO CHIS			32	32	32	45.9	32	32		173	40	3	Interference
55	MEX	MEX	T02	TVXHTAA00P00CHP0033	TAPACHULA CHIS			33	33	33	44.3	33	33		46	63.5	23.45	Interference

Outcome of the analysis of the compatibility results on ch. 31 (575 MHz)

Conclusions:

1) Calculated margins in both directions (for incoming and outgoing interference) do not exceed the established default margin, therefore channel 31 (assigned frequency 575 MHz) can be assigned to this site.

2) To fix this, it is necessary to modify the initial notice containing flexible channel 83 (887 MHz) by assigning channel 31 (575 MHz).

What is next?

Repeat the same analysis for the other possible channels.

For this example, it can be noticed that channels:

18 (497 MHz), 19 (503 MHz), 38 (617 MHz),

40 (629 MHz), 45 (659 MHz), 47 (671 MHz),

49 (683 MHz), 50 (689 MHz) and 51 (695 MHz)

can also be assigned to that site.

Thank you for your attention!

Questions?

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