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INTERNATIONAL CIVIL AVIATION ORGANIZATION

A UN SPECIALIZED AGENCY

ICAO Workshop on Frequency Finder

Easy Reference for Exercise

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ICAO

Bangkok, Thailand | 09-13 October 2023

Prep for FF operation

1. Download Runtime version of the Frequency Finder

Download from the FSMP website the zip-file
FF2023.02.RT.exe
www.icao.int/safety/fsmp/documents/frequencyfinder

Remove earlier version of Frequency Finder, if any.

Unzip and run the installer file FF2023.02.Rsetup.exe

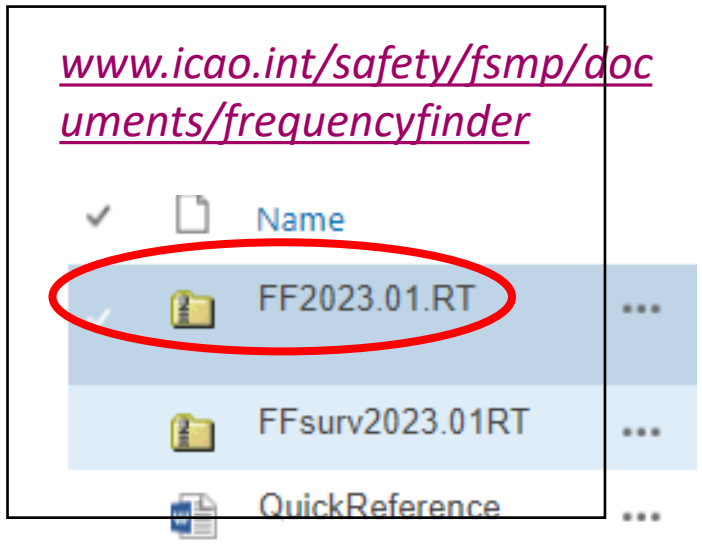
Select to create desktop icon

--See next slides

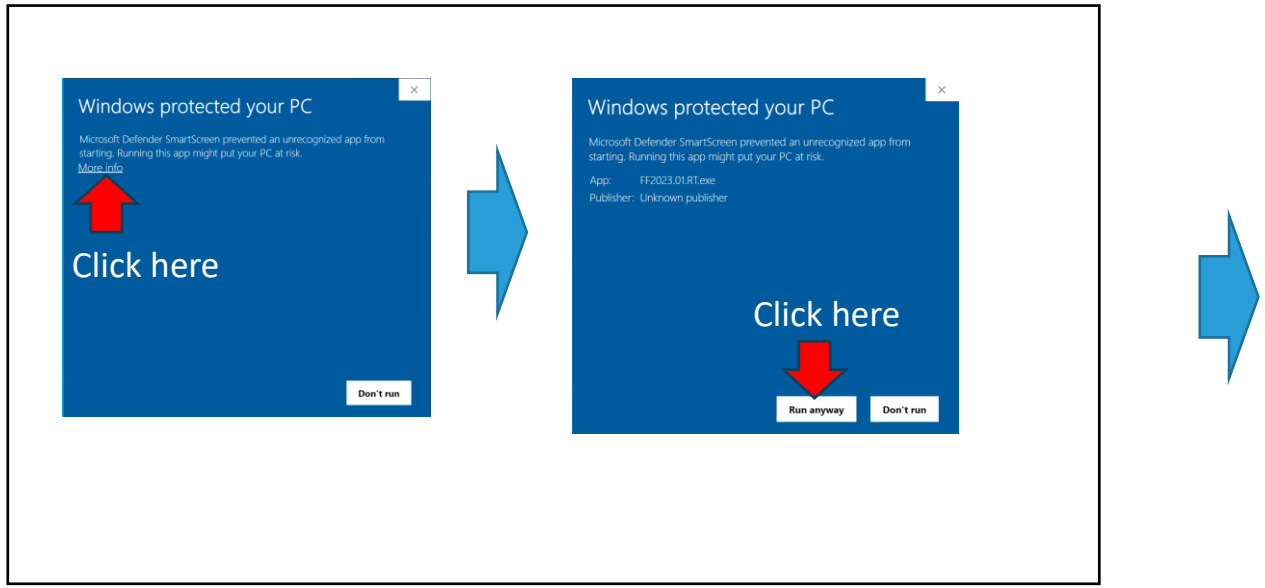
1. ***Go to the FSMP website. Unzip and run the installer file. (FF2023.02.RT.exe)***
2. ***Depending on the Windows version, you might get security related checks like below. In that case, please act as required.***

1

www.icao.int/safety/fsmp/documents/frequencyfinder

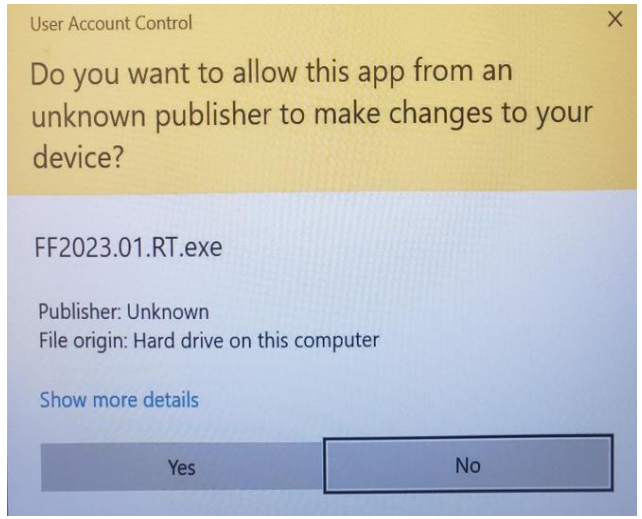


2

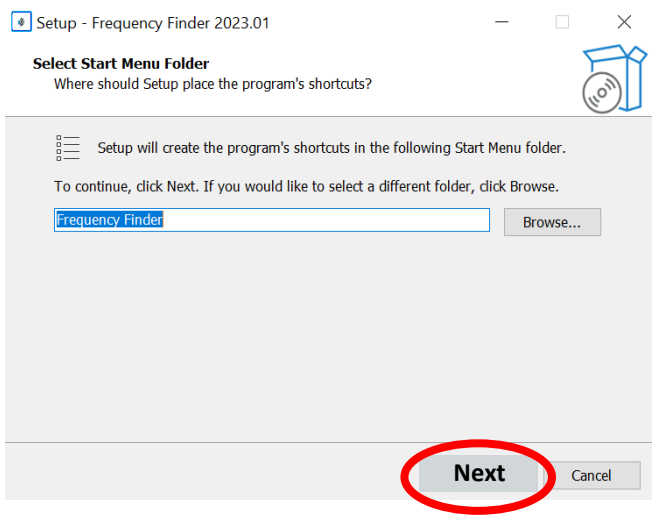


3. *Click "Yes" in the Welcome to the Setup Wizard message*
4. *Click "Next" in Select Start Menu Folder*
5. *Check ☑ to Create a desktop shortcut and click "Next" in Select Additional Tasks message*

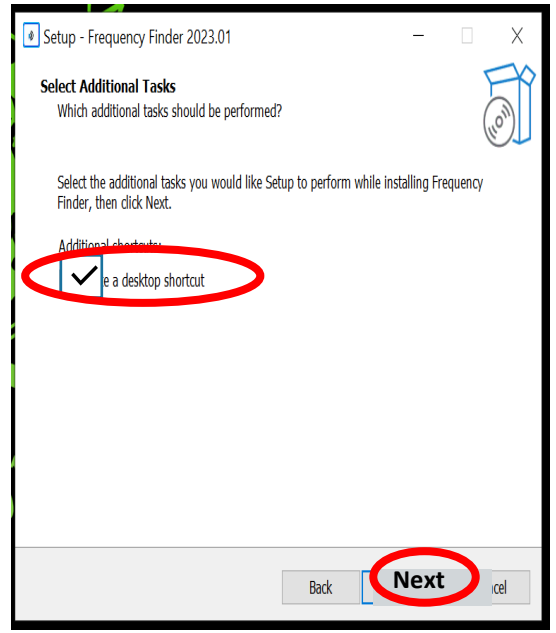
3



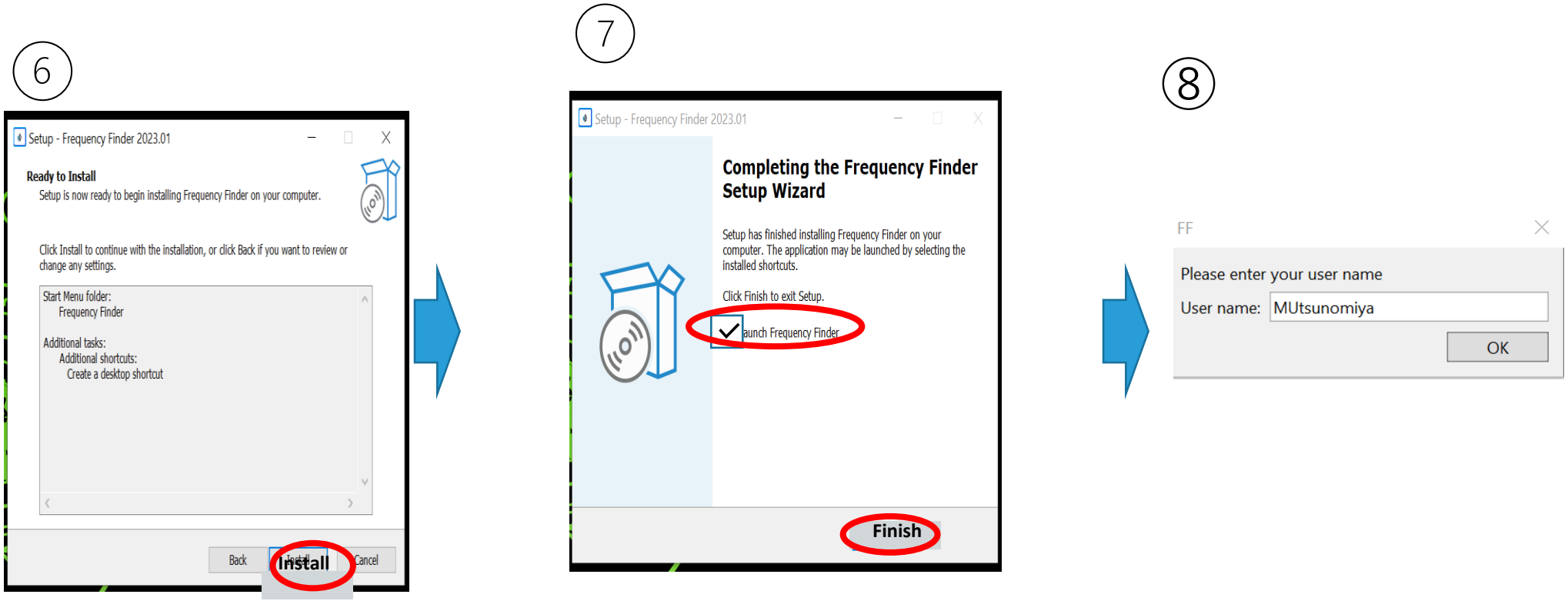
4



5



6. *Click “Install” reply to a message, Ready to Install,*
7. *Check ☑ to Launch Frequency Finder and click “Finish” for completing the Frequency Finder Setup Wizard.*
8. *Enter your user name (enter your user name, see example)*



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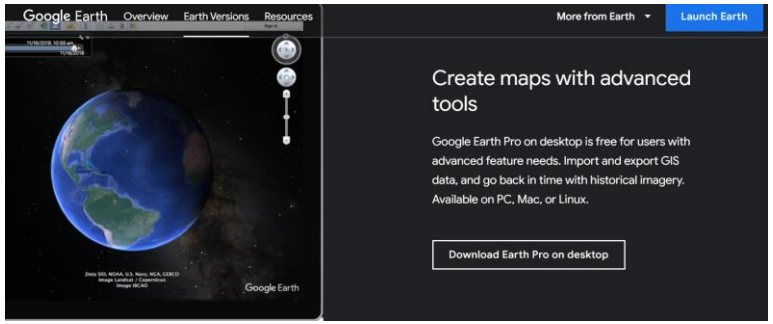
Prep for FF operation

2. Download and install google Earth

https://www.google.com/earth/versions/#earth-pro

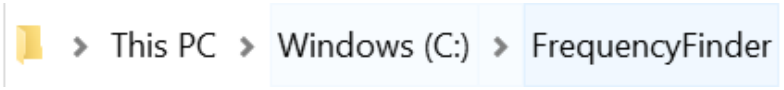


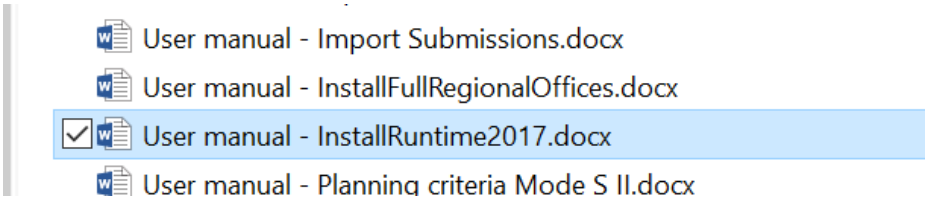
The following settings in Google Earth are recommended:

Tools -> Options
-> Navigation -> set Fly-To Speed to Fast
-> Navigation ->Click “Do not automatically tilt while zooming”
-> General-> click KML Error Handling: Silently accept all unrecognized data.

3. More details can be found in the user manual:

(Installing Frequency Finder(Run-time version))





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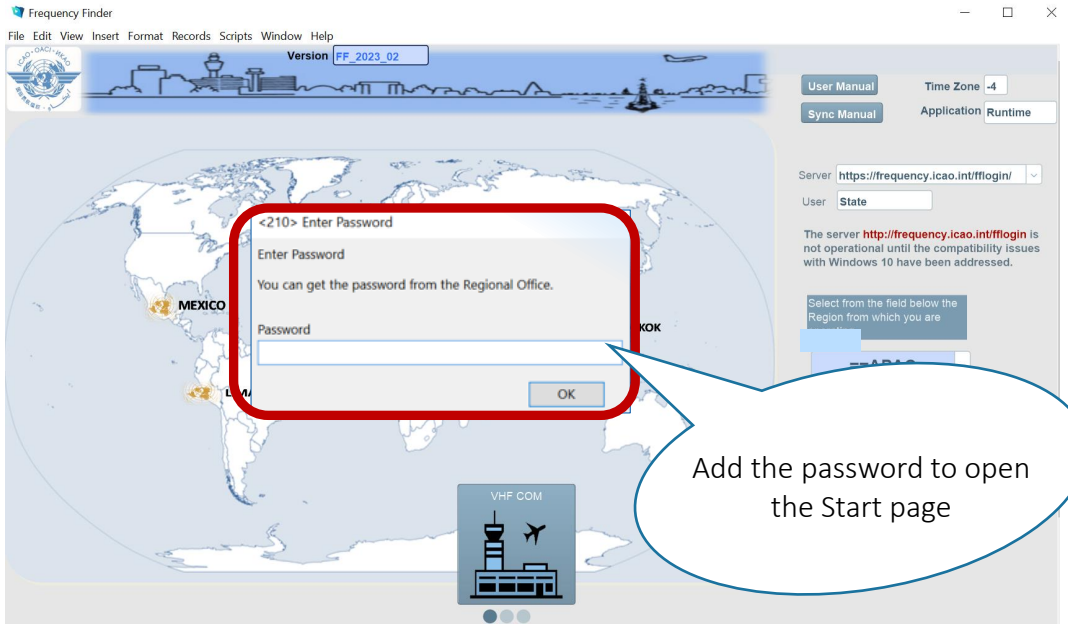
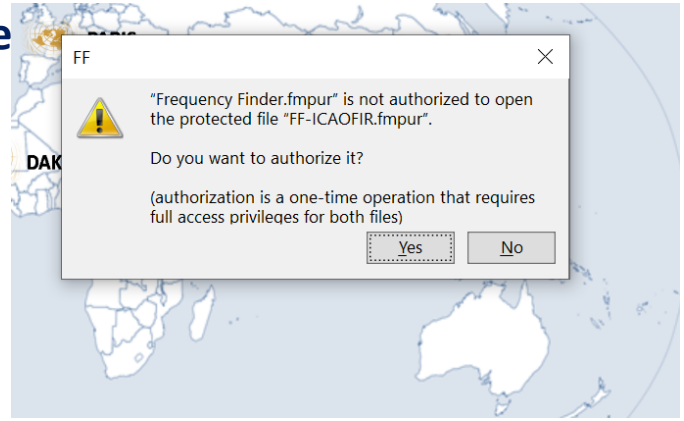
Exercises- Start page/Home page

Open Frequency Finder - Start page

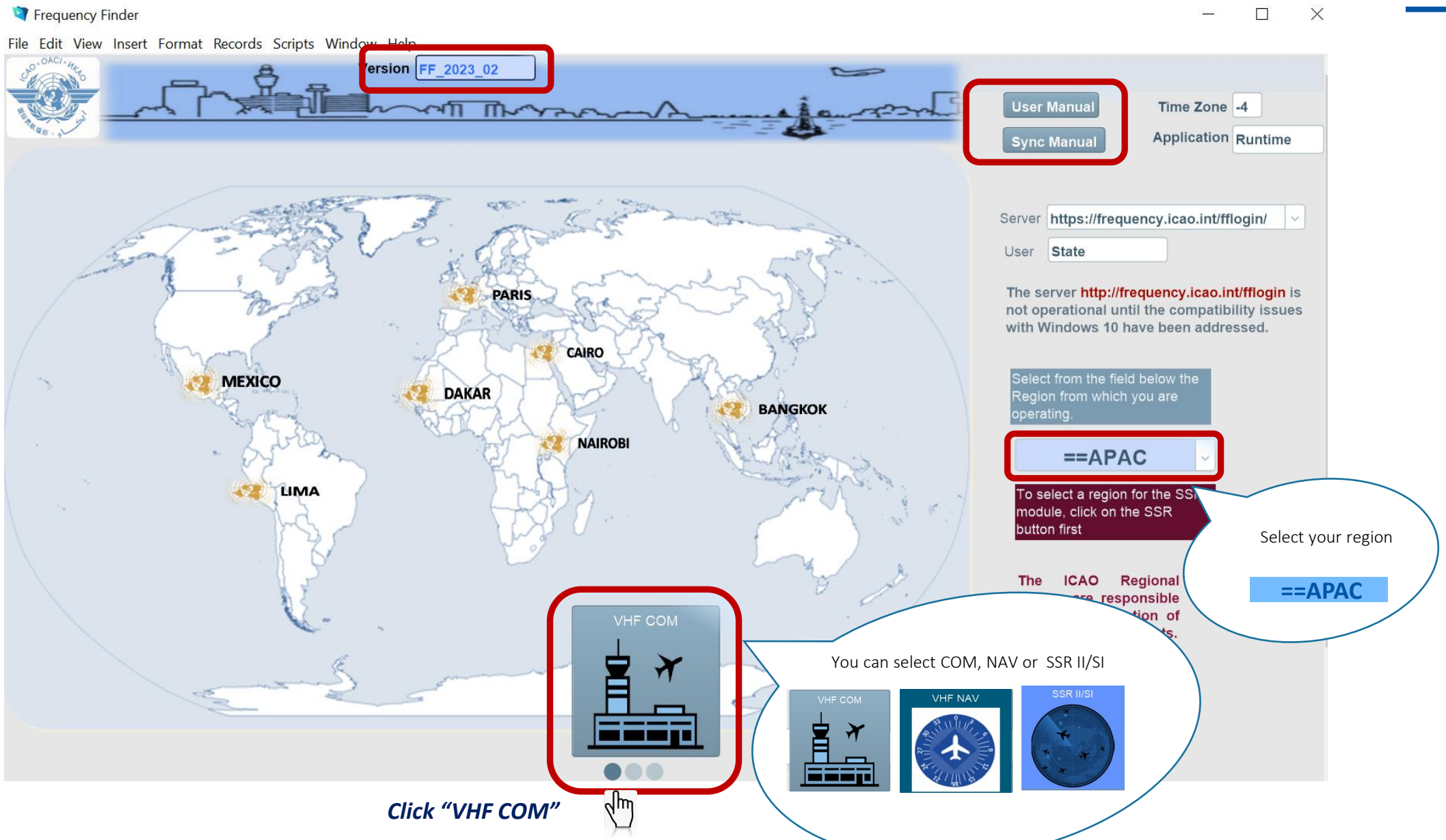


You might get this message

– select “Yes”



Start page and the selection of VHF-COM module



Start page and VHF Home page

Start

① *Click "APAC"*

② *Click "VHF COM"*

You might get this message.

– select "Yes"

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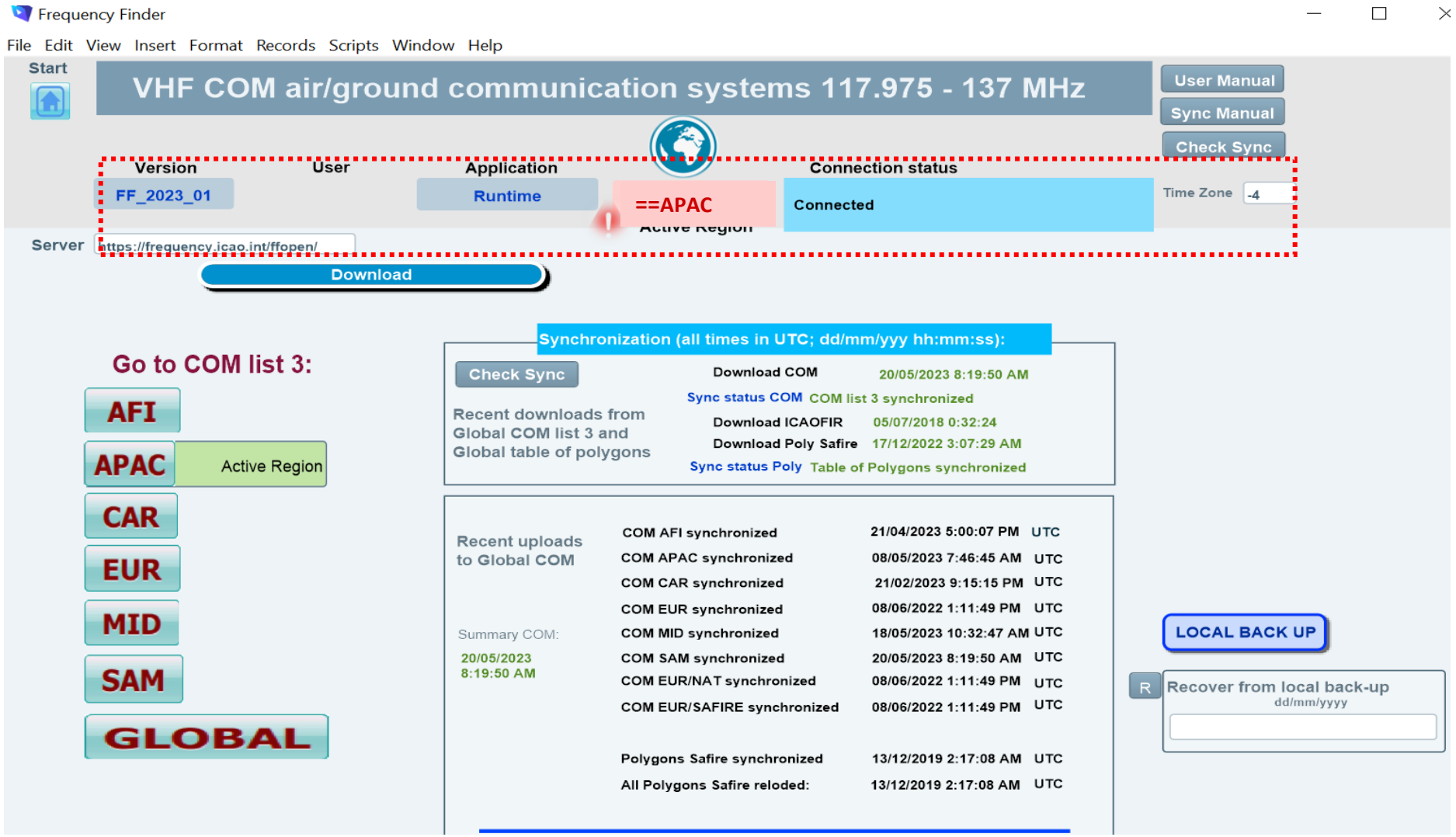
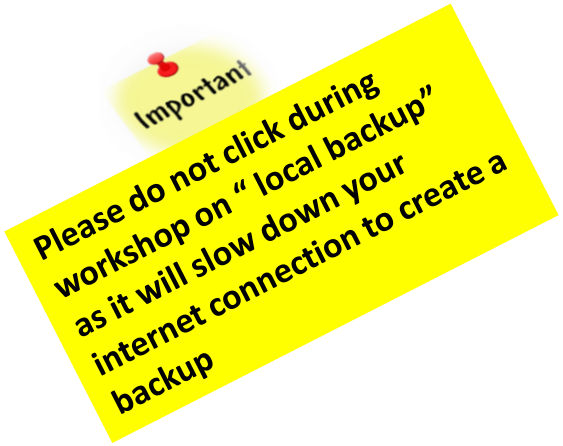
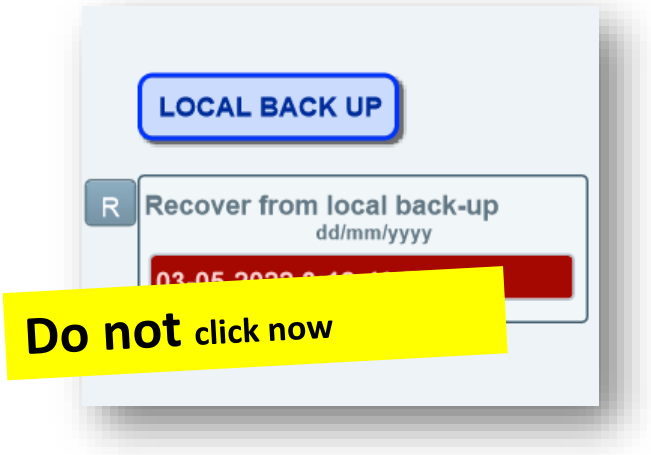
Home page VHF COM



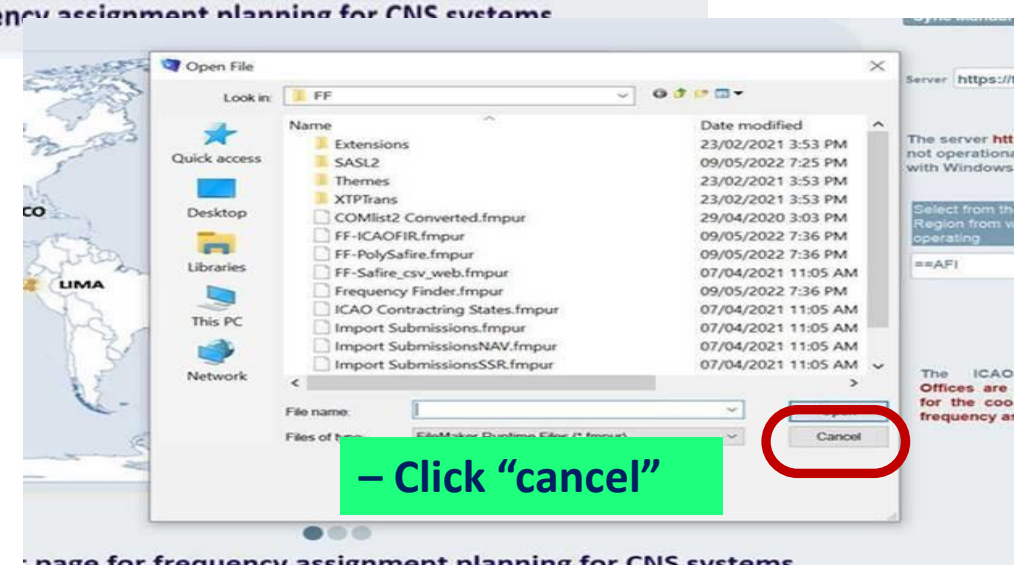
Home page VHF COM list 3
Back-up and recovery

- Click “LOCAL BACK UP” to create a backup
- Click “R” to recover from local backup
- See user manual 4.4.4.2 to recover from a back-up created with an earlier version of Frequency Finder

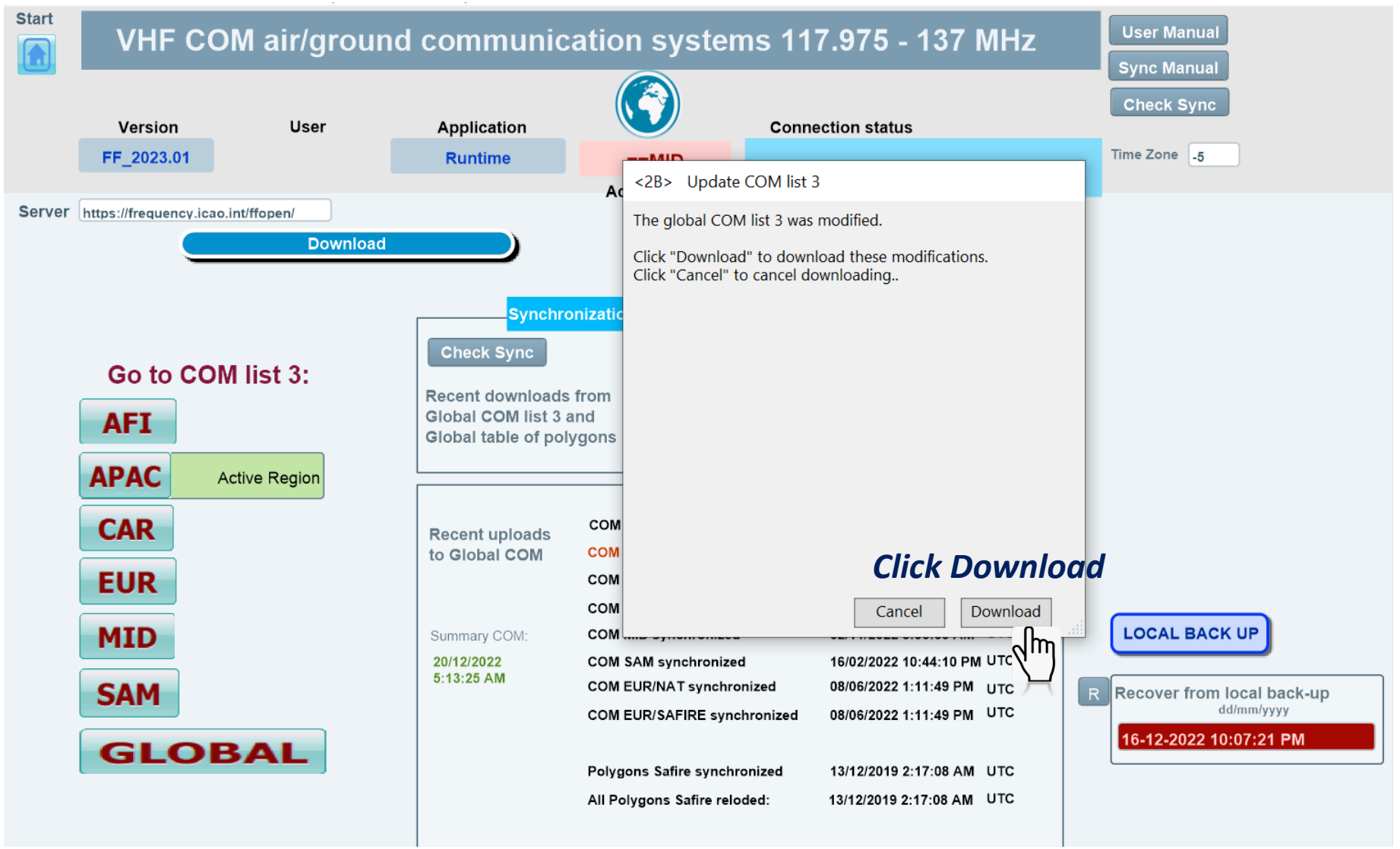




You might get following messages below.

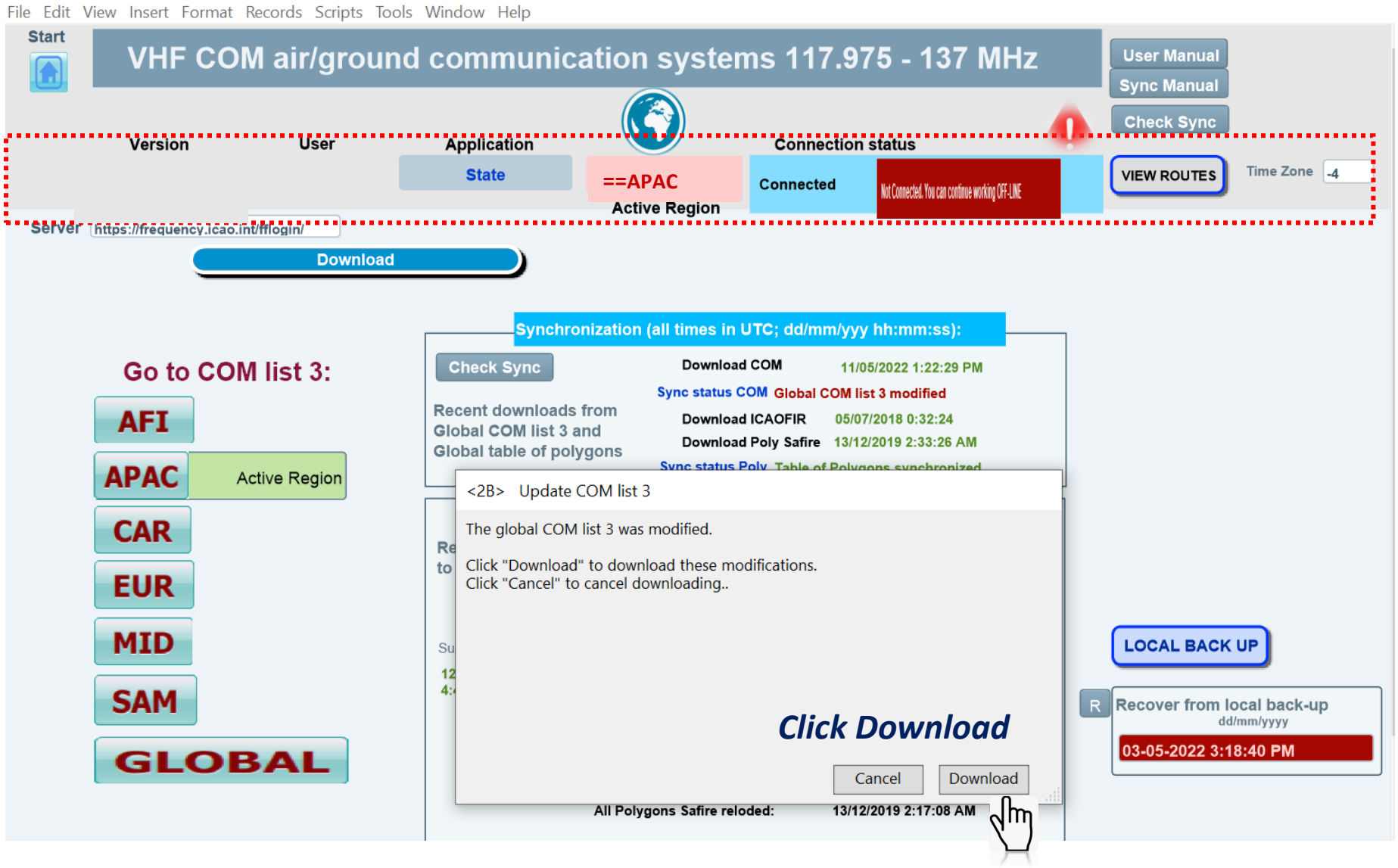


Note that those do not affect any work of the software but we are working on removing those.

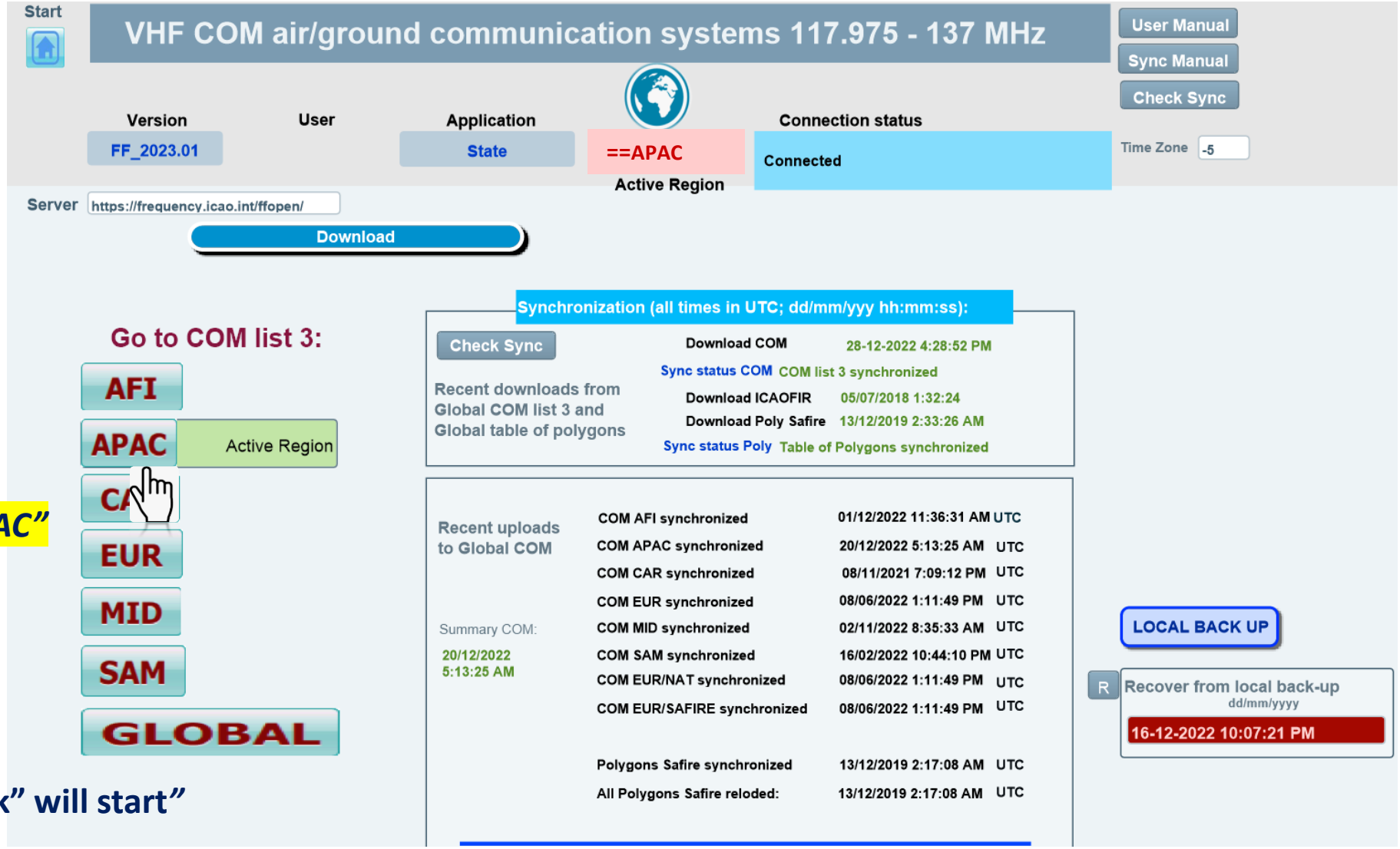

Start
VHF COM air/ground communication systems 117.975 - 137 MHz
User Manual
Sync Manual
Check Sync
Version
FF_2023.01
User
Application
Runtime
Connection status
Time Zone
-5
Server
https://frequency.icao.int/ffopen/
Download
<2B> Update COM list 3
The global COM list 3 was modified.
Click "Download" to download these modifications.
Click "Cancel" to cancel downloading..
Synchronizatic
Check Sync
Recent downloads from Global COM list 3 and Global table of polygons
Go to COM list 3:
AFI
APAC
Active Region
CAR
EUR
MID
SAM
GLOBAL
Recent uploads to Global COM
COM
COM
COM
COM
COM
Summary COM:
20/12/2022 5:13:25 AM
COM SAM synchronized 16/02/2022 10:44:10 PM UTC
COM EUR/NAT synchronized 08/06/2022 1:11:49 PM UTC
COM EUR/SAFIRE synchronized 08/06/2022 1:11:49 PM UTC
Polygons Safire synchronized 13/12/2019 2:17:08 AM UTC
All Polygons Safire reloded: 13/12/2019 2:17:08 AM UTC
Click Download
Cancel
Download
LOCAL BACK UP
R
Recover from local back-up
dd/mm/yyyy
16-12-2022 10:07:21 PM

Exercises- Integrity Check

Start page and VHF Home page



Start page and VHF Home page

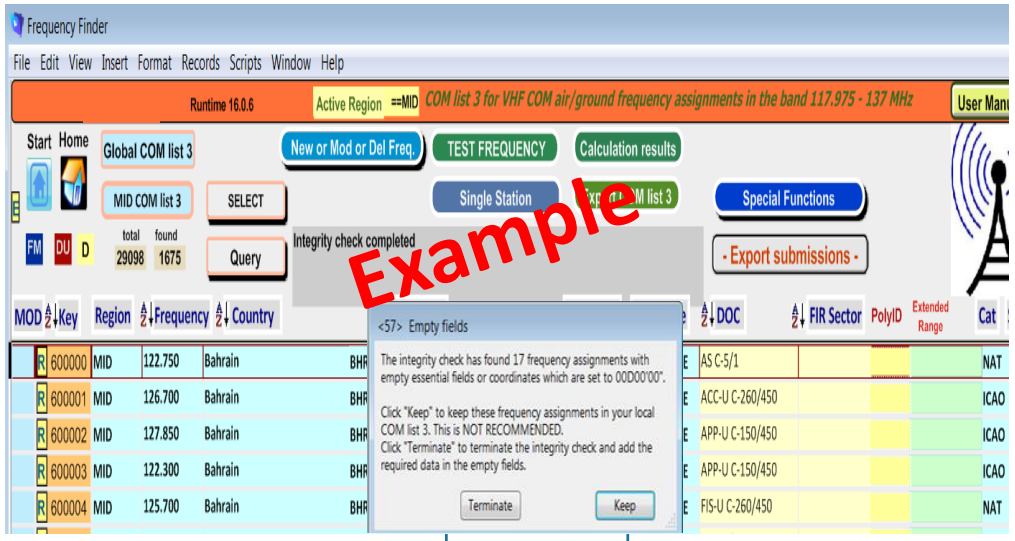


① ***Click "APAC"***

② **"Integrity Check" will start"**

– See Next slide

Integrity Check



Integrity Check – *Empty Essential Field*

Click "Keep" to continue integrity check

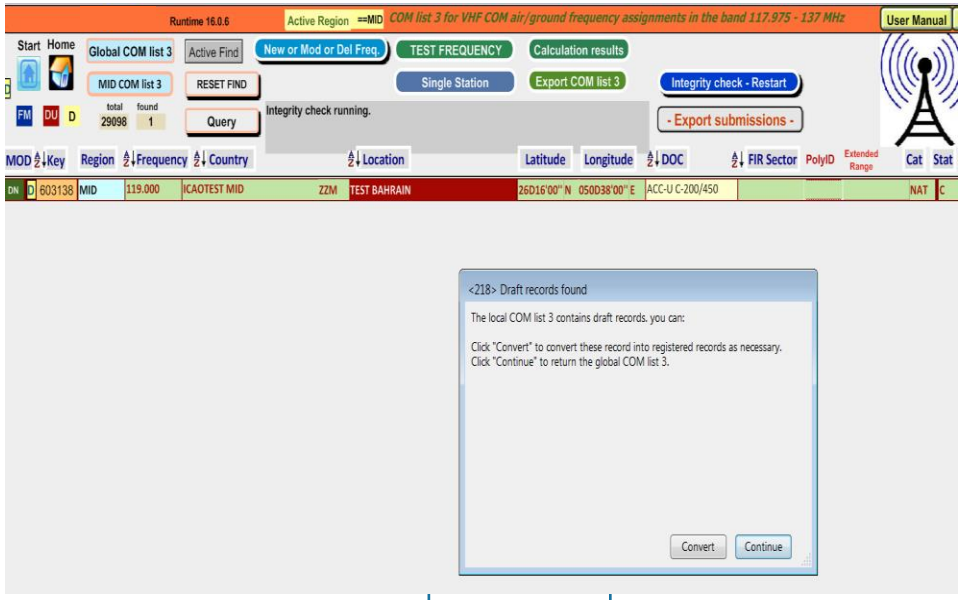
If you have data with you and can correct some of them, then Click "Terminate" to correct data

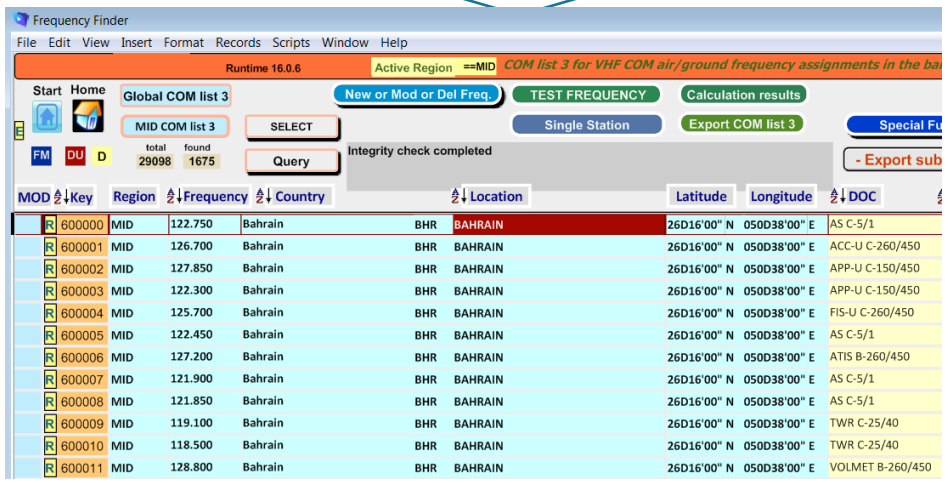
Integrity Check – *Outside the range*

Click "Keep" to continue integrity check

If you have data with you and can correct some of them, then Click "Terminate" to correct data

Integrity Check





Integrity Check – *Draft Records*

Click "Continue" to continue integrity check

If you finished drafting and believe you can convert/delete them as registered/deleted frequency, then you can click "convert" to correct data

Integrity check is completed!

Now you are in *the COM List 3*

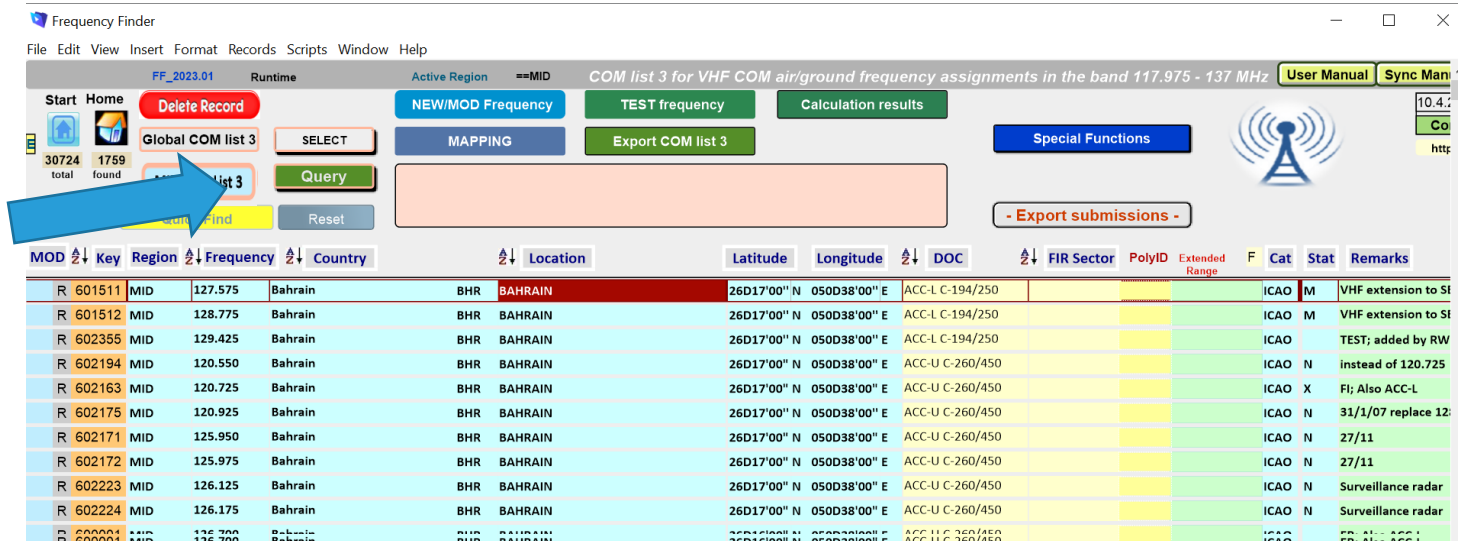
Exercises- Query

Query

Integrity check is completed!

Now you are in *the Regional COM List 3*

Click "Query"



Select "information" required for your investigation

Click "Find"

Then you will see the outcome of your Query

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Query

Query – Select Frequency, Service or FIR Sector

Selection of Frequency, Service or FIR Sector is mutually exclusive.

Only one (1) parameter can be selected.

Button ***Find*** returns the COM list 3 with the found frequencies, Services or FIR Sectors for the selected:

Region, If no Country/Location was selected

Country, if no Location was selected

Location, if a Location was selected

Button New Query – Enter or re-enter query parameters

Button Modify/Redo last find: Enters the query parameters for the most recent query

Button Regional COM list 3 – Returns the COM list 3 for the Active Region

Exercises- Query

Exercise 1 - Query database
– New Zealand– DUNEDIN TWR – 120.700

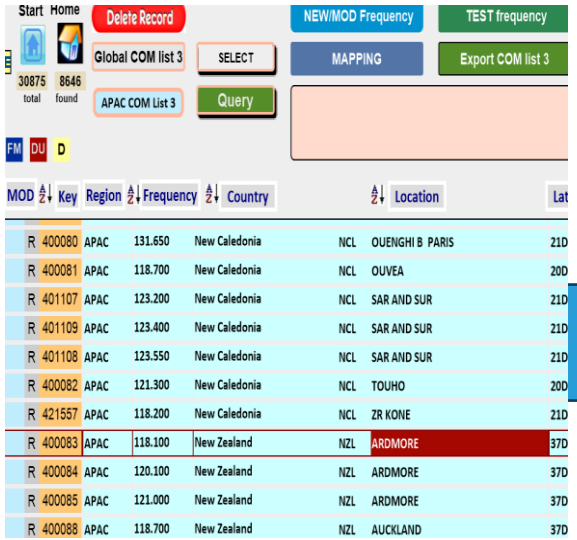
Exercise 2 - Re-do and modify query
–New Zealand– DUNEDIN – 120.700

Exercise 3 - Go back to APAC COM List 3 and return the results of the last Query

Exercise 4 - Find all frequency assignments for the service TWR in your country.

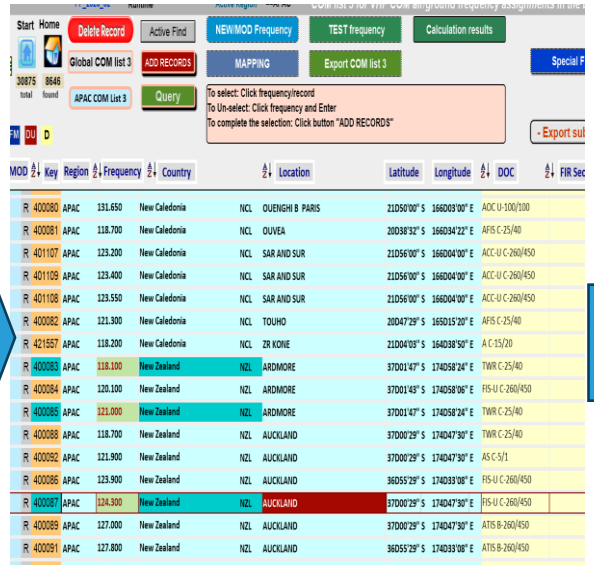
Exercise 5 - Select frequencies (select several frequencies)
– Select New Zealand - ARDMORE- 118.100
- ARDMORE- 121.000
- AUCKLAND- 124.300

Exercise 5 - - Select frequencies (select several frequencies)
– Select New Zealand - ARDMORE- 118.100
- ARDMORE- 121.000
- AUCKLAND- 124.300



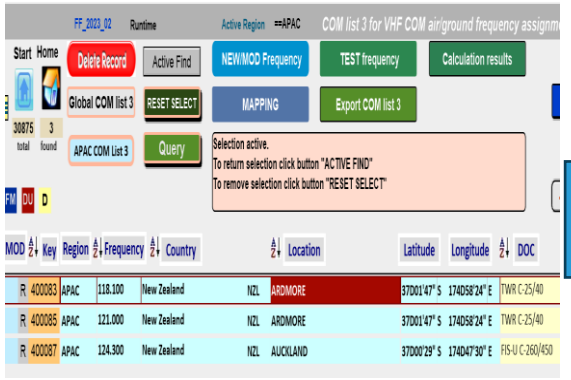
Select the first one

Click



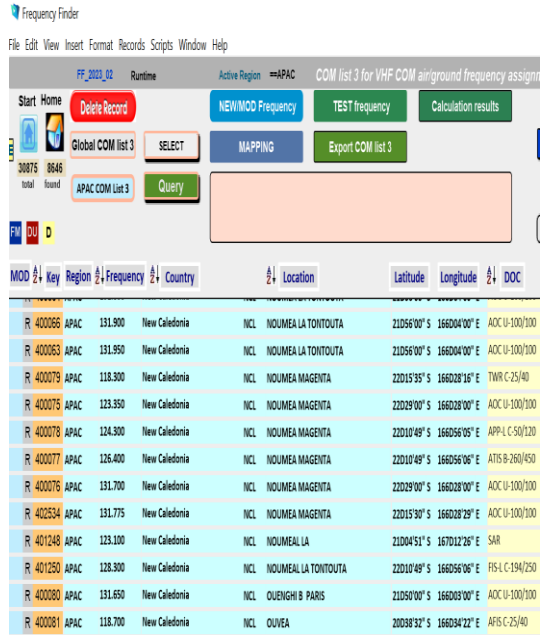
Select the other two frequencies

Click



Now you selected those three correctly

Click



Go back to APAC COM List 3

Exercises- Test frequency

Exercises- Test frequency

1. Perform compatibility test – single frequency
- Query: Bhutan, BUMTHANG, Frequency 122.550
- Click test frequency and single frequency

2. Perform compatibility test - found frequencies
- Select: French Polynesia– APATAKI 122.000 and BORA BORA 118.900
- Click Add Records
- Then click Test frequencies and found frequencies

3. Perform compatibility test - found frequencies
- Query: Samoa
- Then click Test frequencies and found frequencies

4. Perform compatibility tests in your country.
For example, find all frequency assignments for the service TWR in your country and perform compatibility tests.

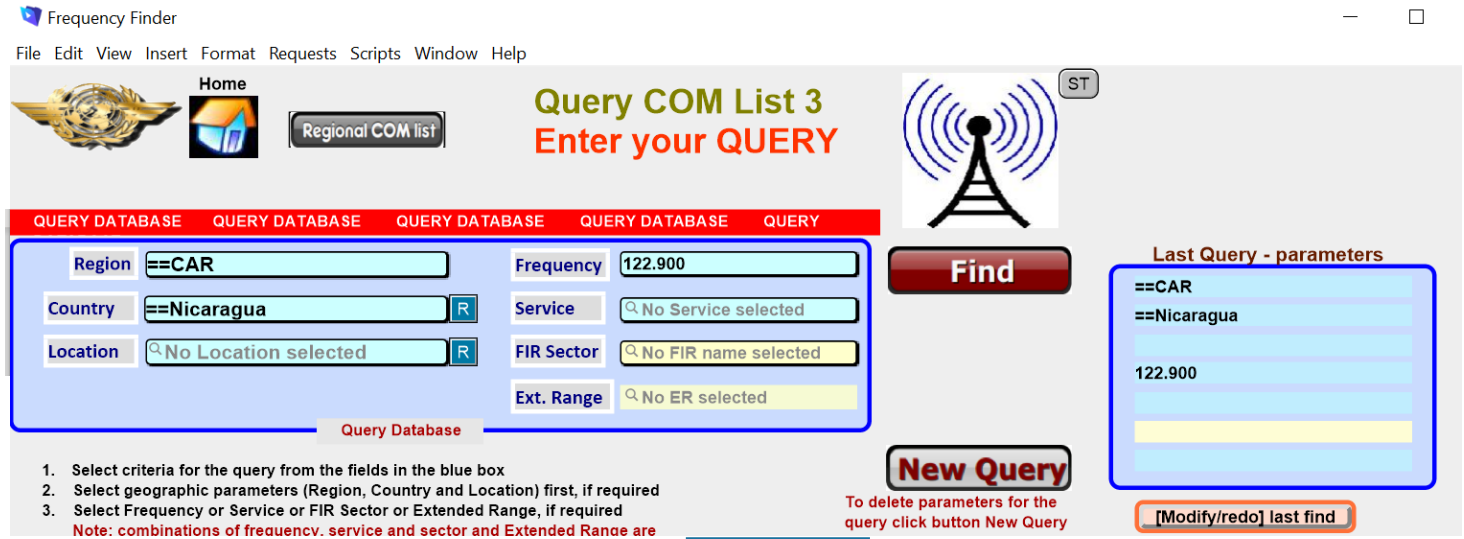
Exercises
Test Frequency & Understand the result

Exercises
Test Frequency & Understand the result

1. Perform compatibility test – single frequency
   - Query: Papua New Guinea, PORT MORESBY 123.400 MHz
   - Click test frequency and single frequency

2. Perform compatibility test - found frequencies
   - Select: French Polynesia– APATAKI 122.000 and BORA BORA 118.900
   - Click Add Records
   - Then click Test frequencies and found frequencies

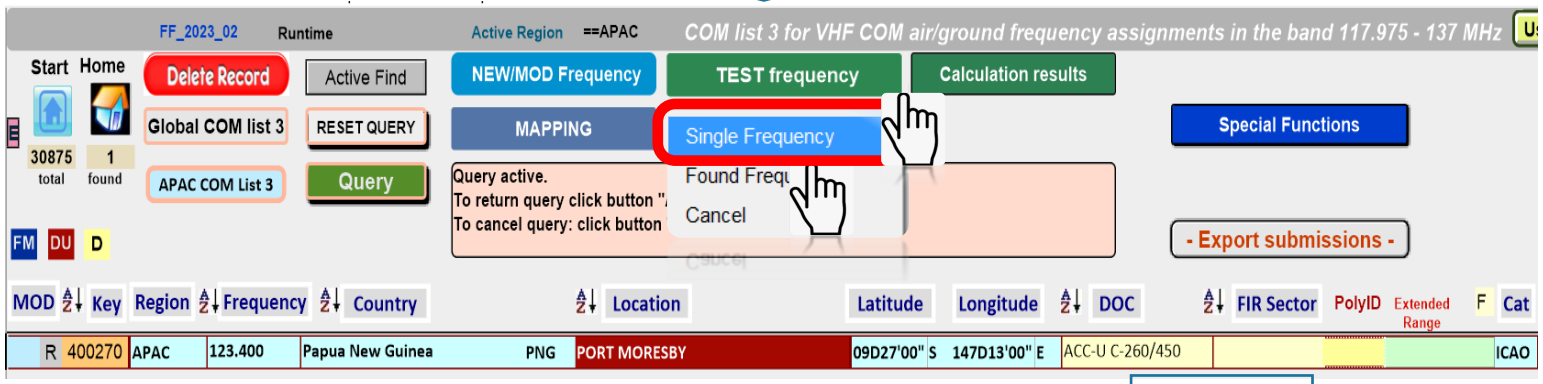
Test Frequency – Exercise 1: Papua New Guinea, PORT MORESBY 123.400 MHz



① *Click "Query"*

② *Select State: Papua New Guinea*
Location: PORT MORESBY
Frequency 123.400

③ *Click "Find"*



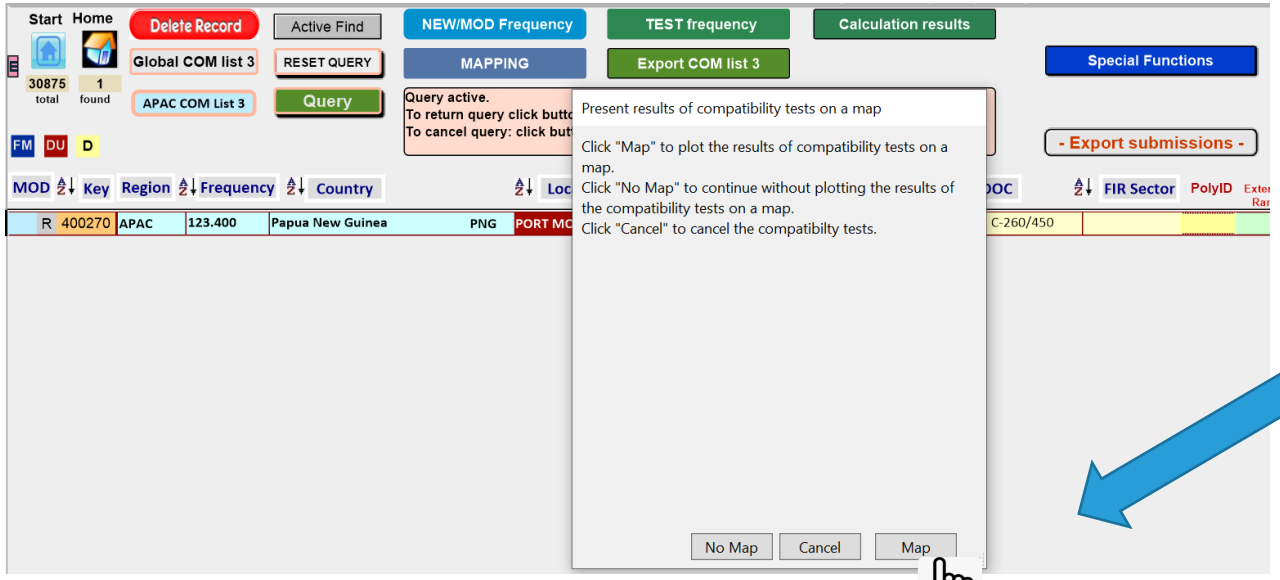
Frequency Finder found 1 entry with the 123.400 MHz in PORT MORESBY of Papua New Guinea

Select Key 400270 (Papua New Guinea)

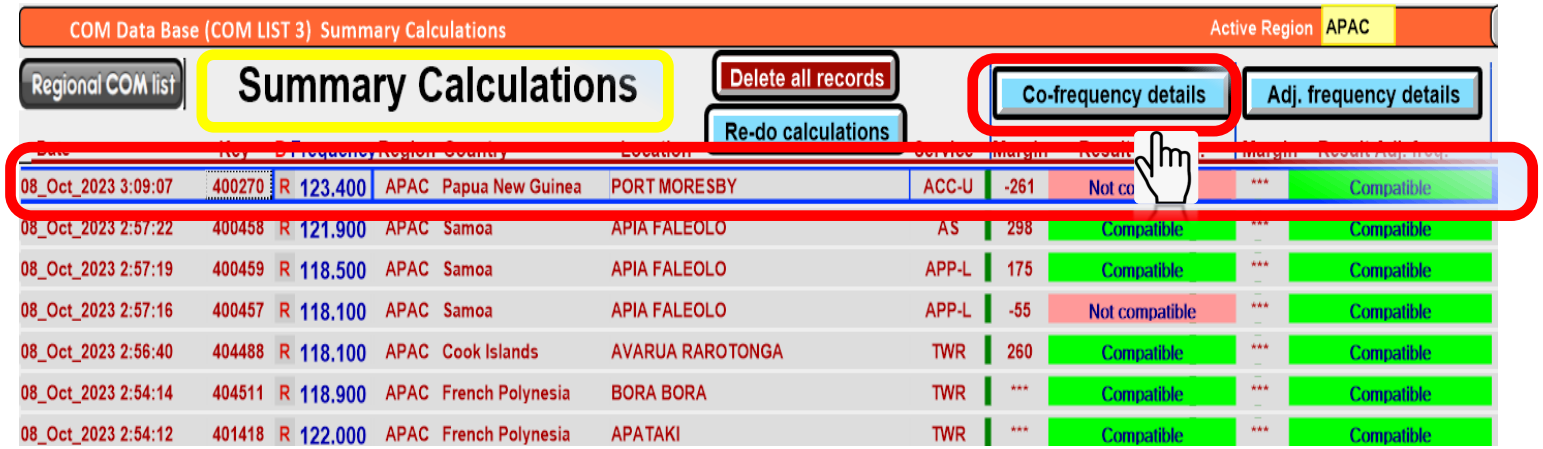
④ *Click "Test Frequency"*

⑤ *Select" Single frequency"*

Test Frequency
– Exercise 1: Papua New Guinea, PORT MORESBY 123.400 MHz



⑥ *Select "Map" if you want to see the result on Map as well*



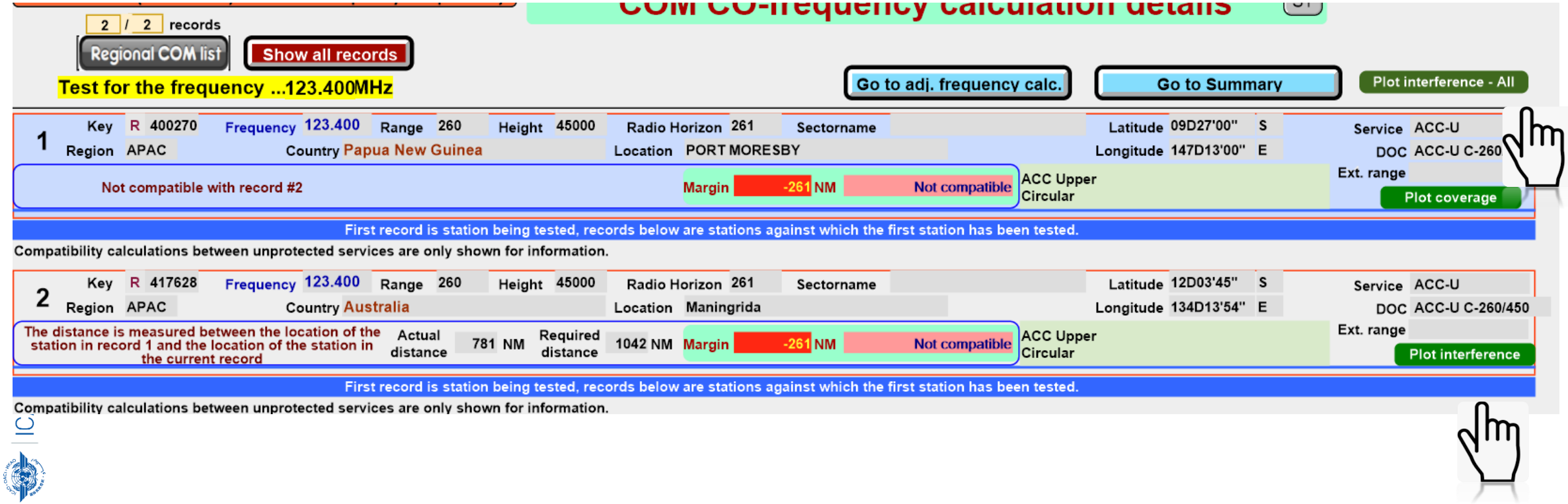
⑦ ***Summary Calculation is displayed***

⑧ *Click "Co-Frequency details" to view the most recent test result*

Test Frequency – Exercise 1: Papua New Guinea, PORT MORESBY 123.400 MHz

Result indicated :

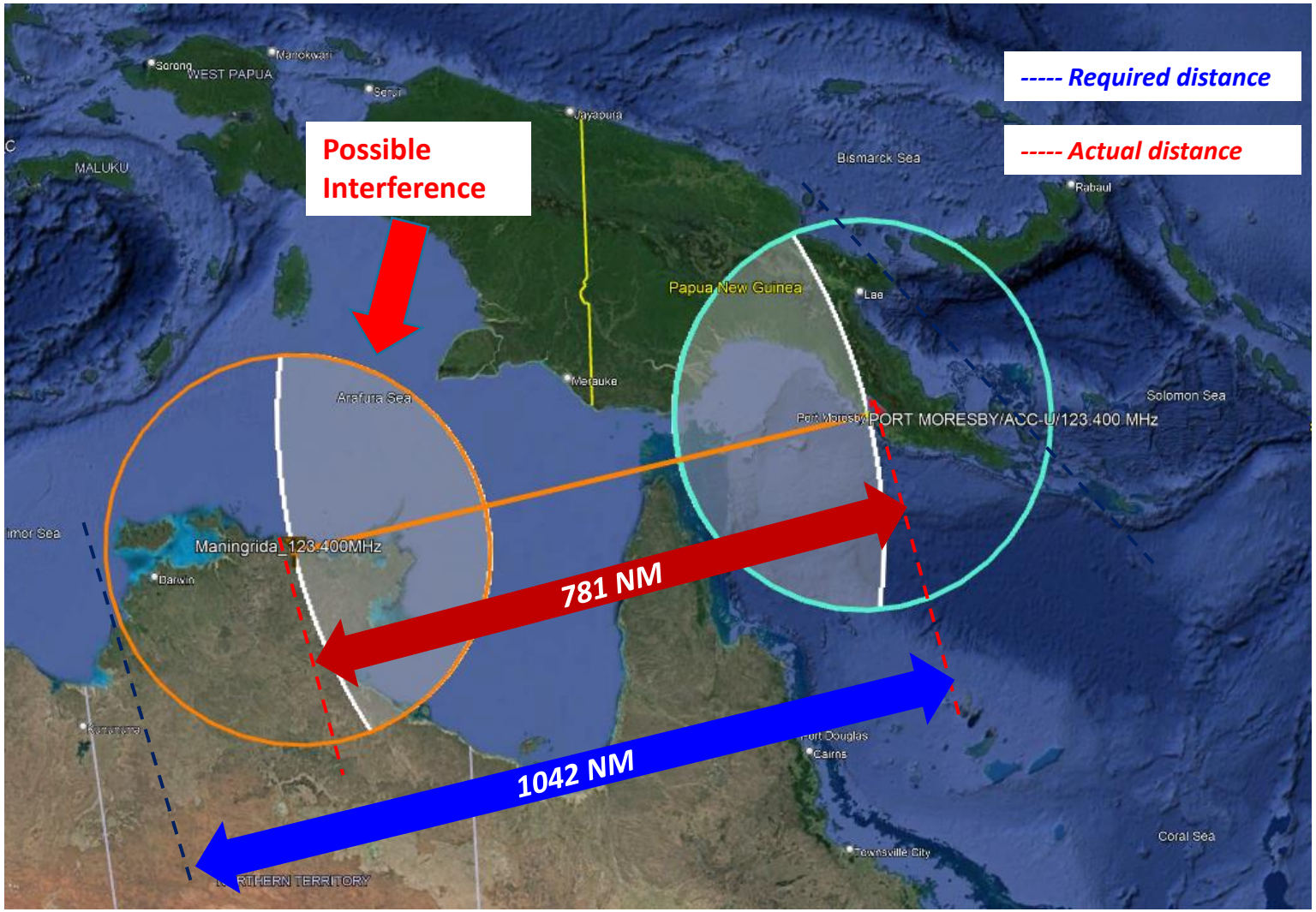
400270 (Papua New Guinea) is Not compatible with 417628



Click on plot interference (- all) if required

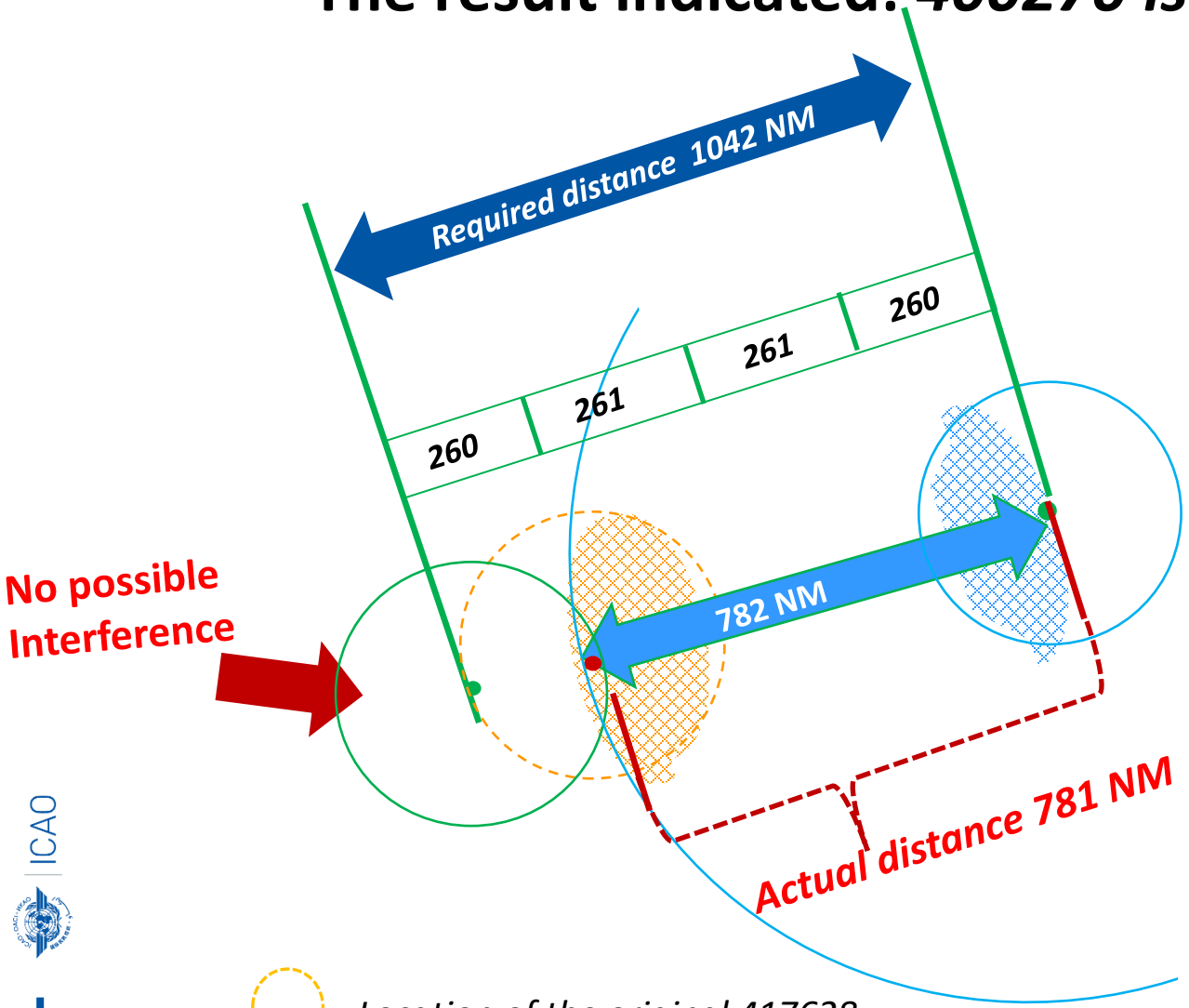
Compatibility test result (Exercise 1)

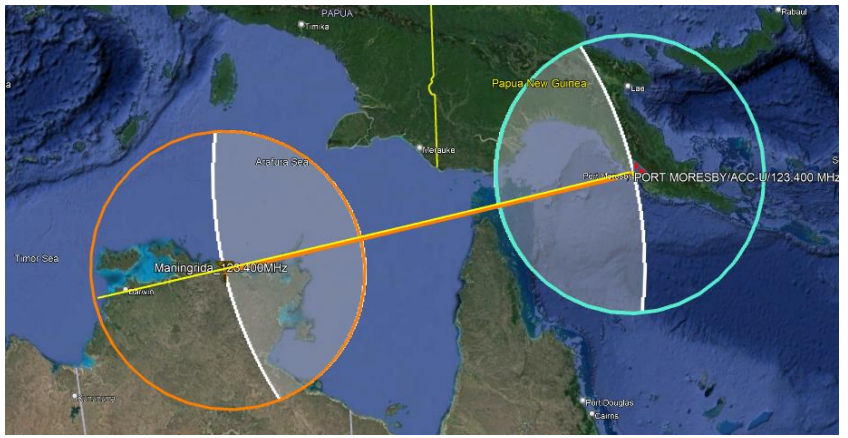
The result indicated: *400270 is Not compatible with 417628*



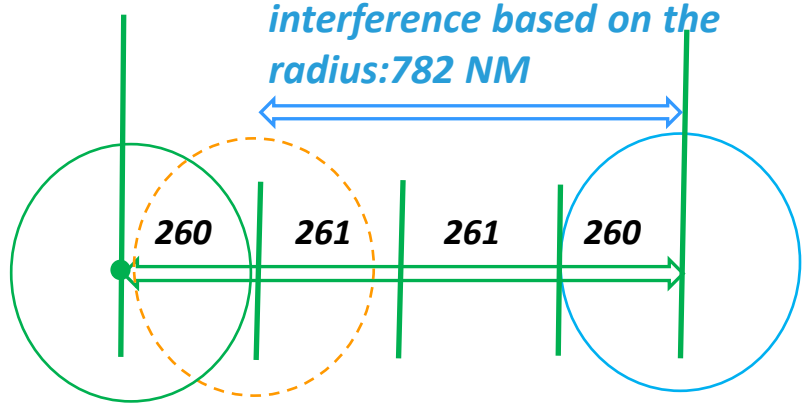
Compatibility test result (Exercise 1)

The result indicated: *400270 is Not compatible with 417628*





FF calculates the possible interference based on the radius:782 NM



Required distance 1042 NM

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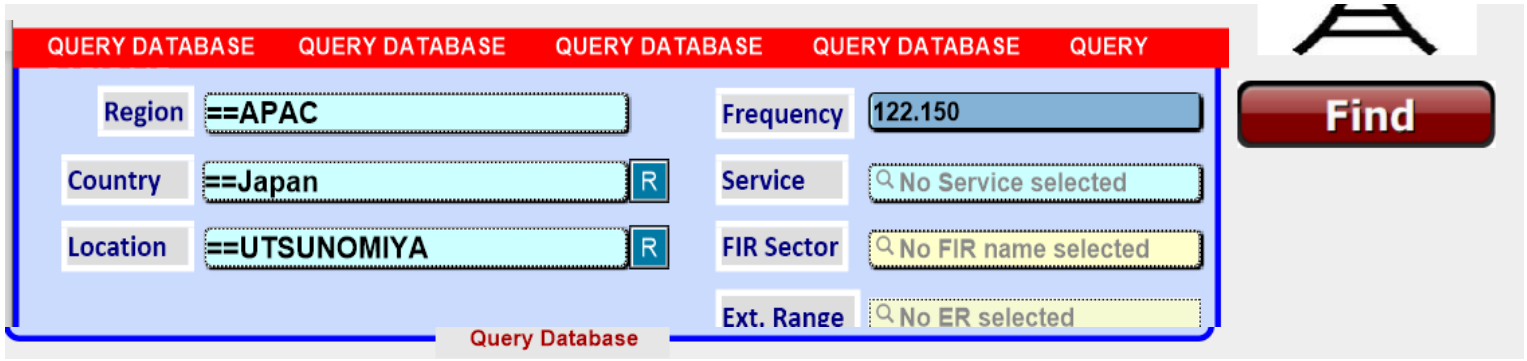
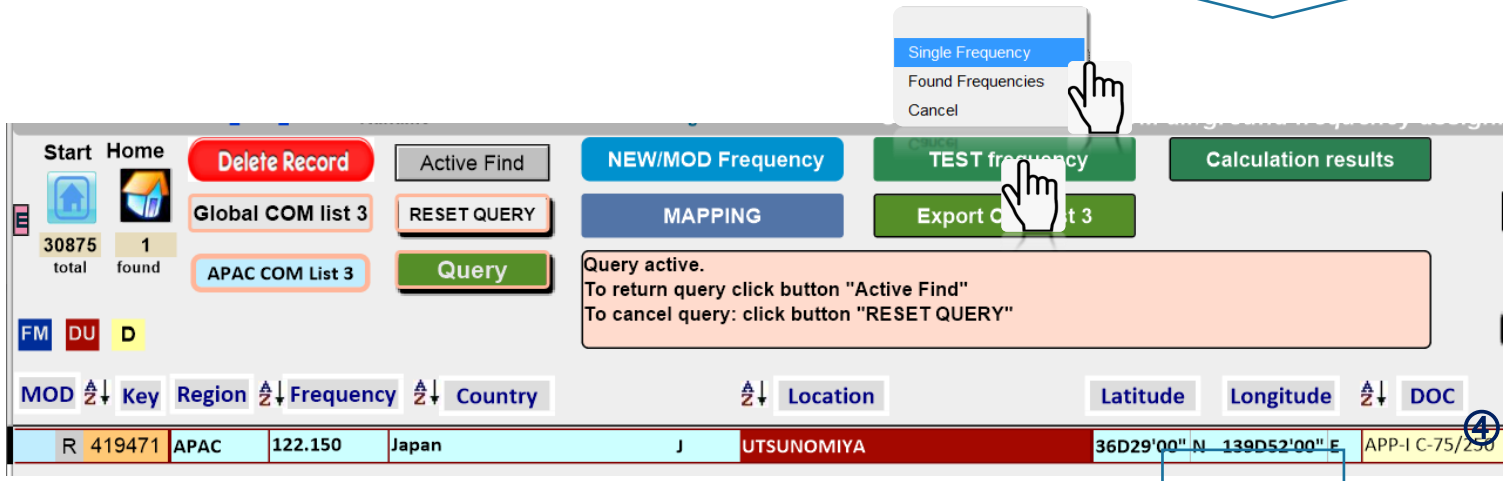
Test Frequency
– Exercise 2: Japan, UTSUNOMIYA, 122.150 MHz



① *Click "Query"*

② *Select State: Japan,*
Location: UTSUNOMIYA
Frequency: 122.150 Mhz

③ *Click "Find"*

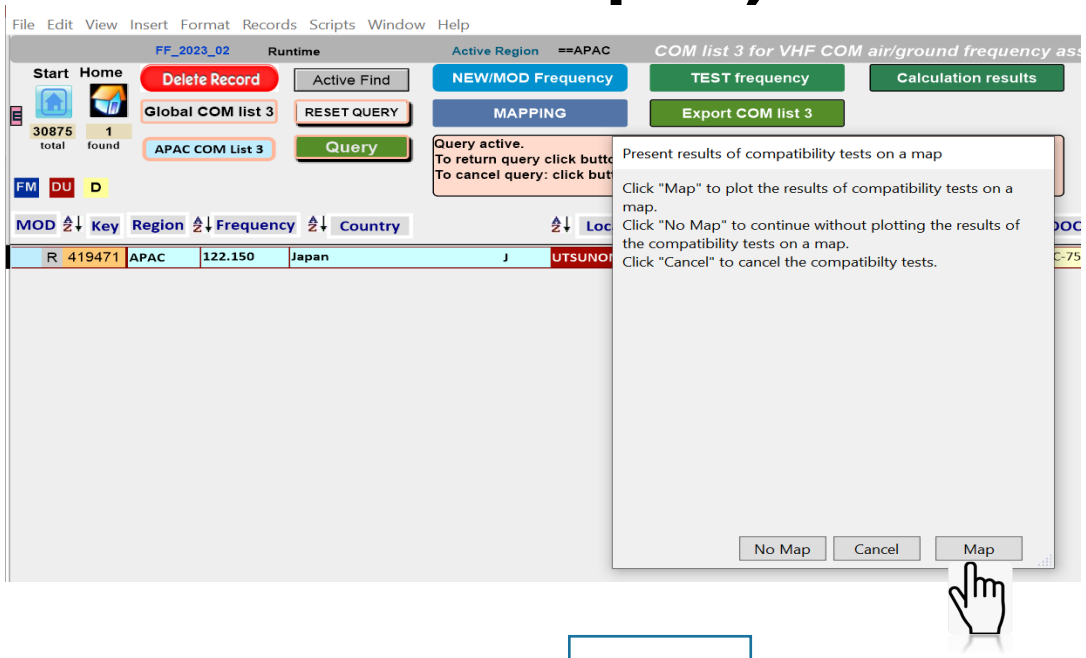


Frequency Finder found a 122.150, UTSUNOMIYA, Japan (Key codes 419471)

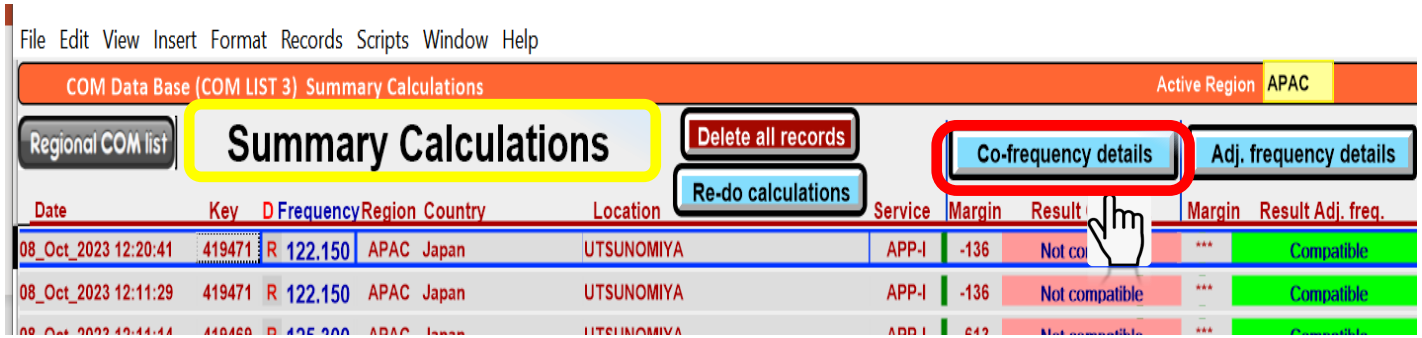
④ *Click "Test Frequency"*

⑤ *Select" Single frequency"*

Test Frequency – Exercise 2: Japan, UTSUNOMIYA, 122.150 MHz



⑥ *Select "Map" if you want to see the result on Map as well*

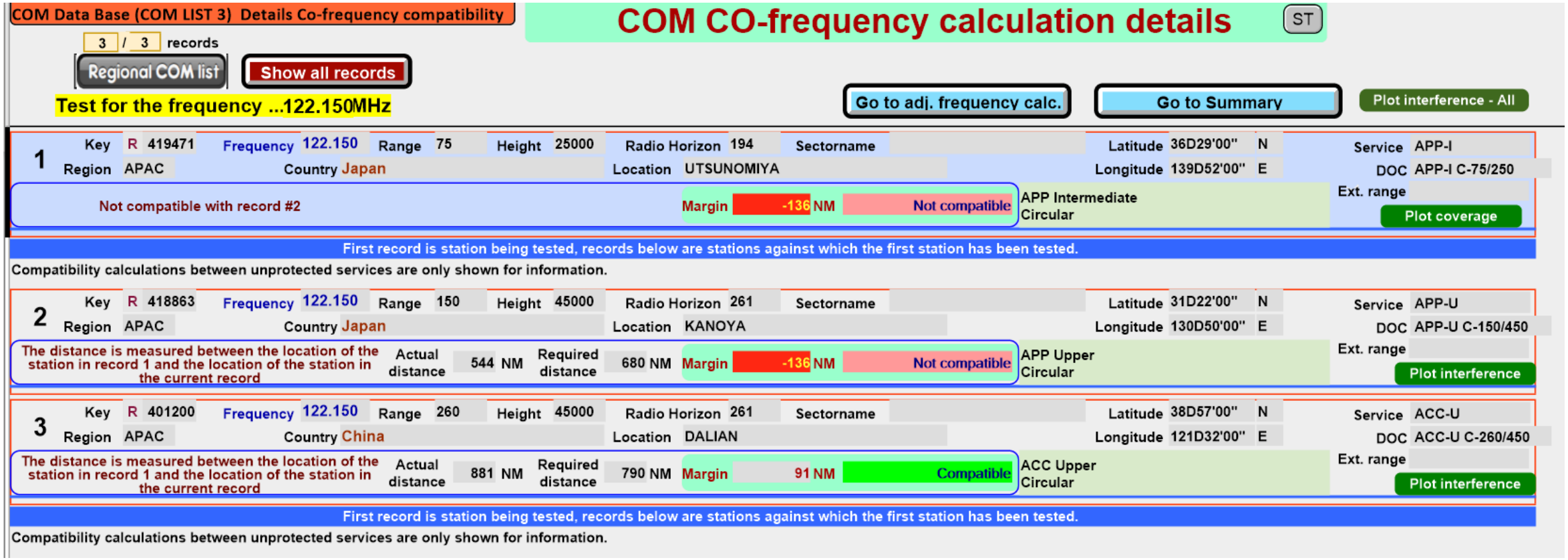


⑦ *Summary Calculation is displayed*

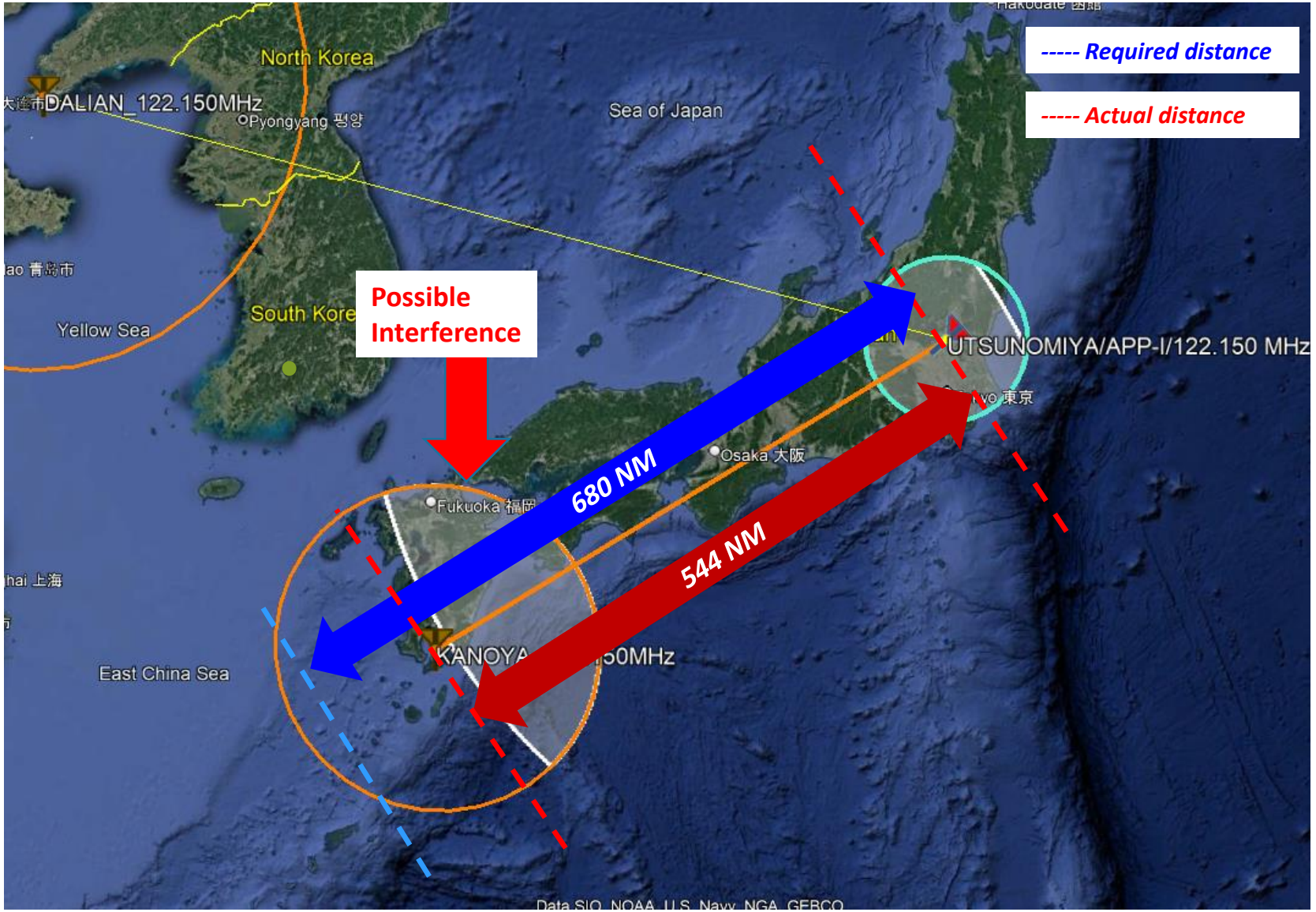
⑧ *Click "Co-Frequency details" to view the most recent test result*

Test Frequency – Exercise 2: Japan, UTSUNOMIYA, 122.150 MHz

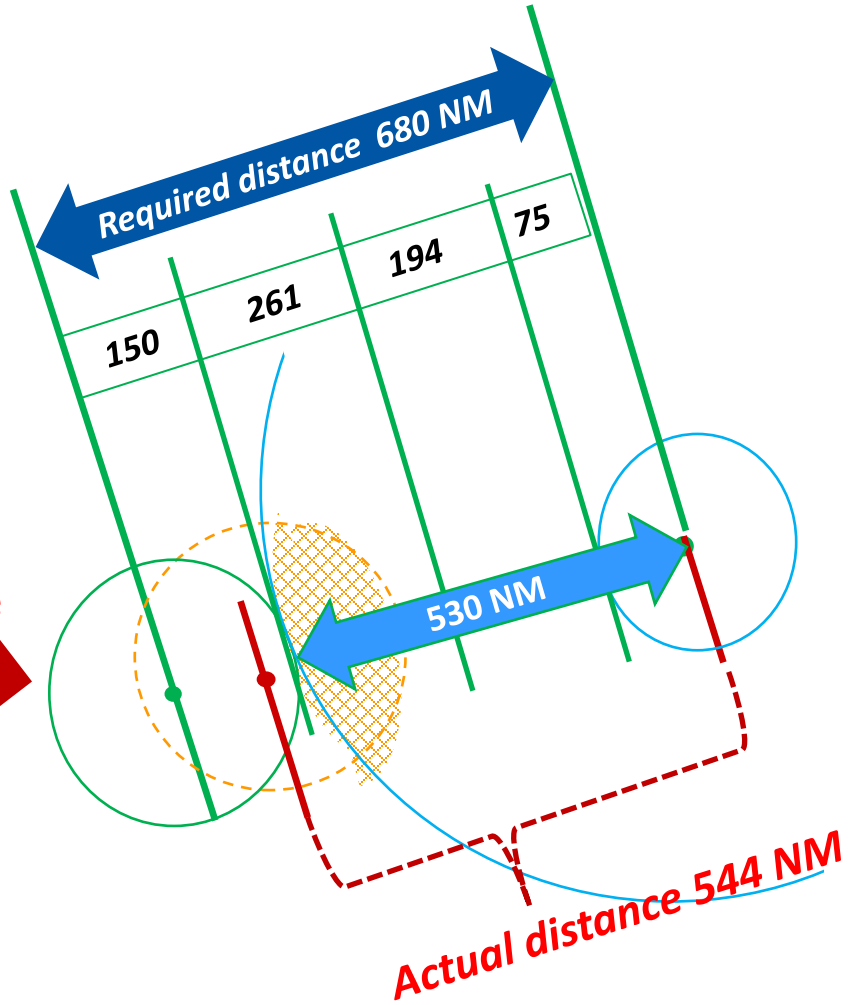
Result indicated : 419471 is Not compatible with 418863

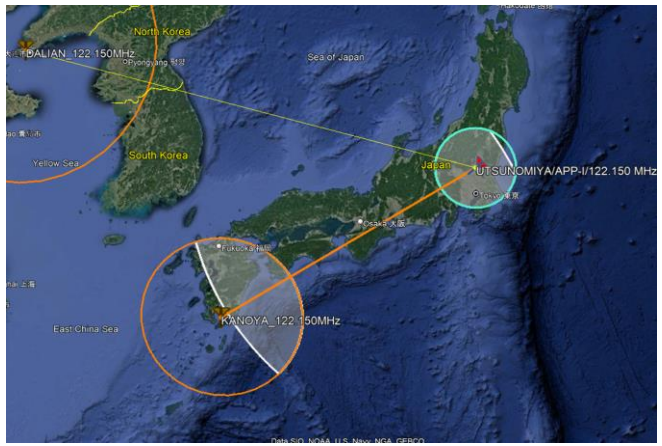


Compatibility test result (Exercise 2)
419471 is Not compatible with 418863

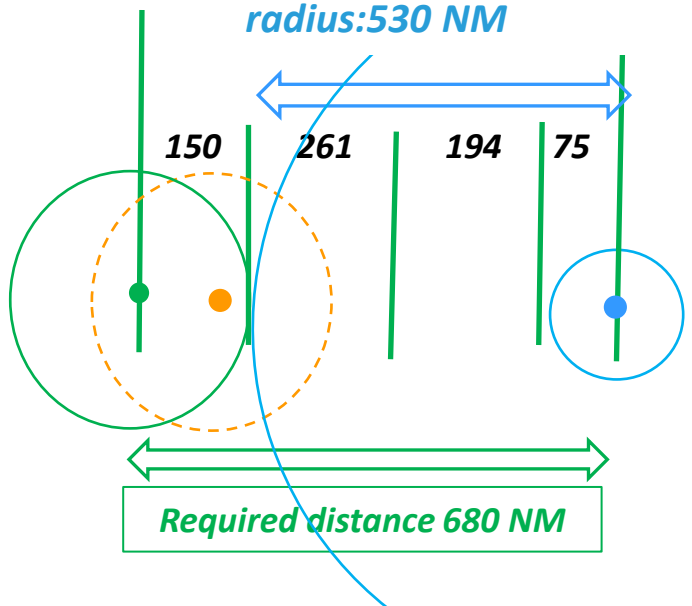


Compatibility test result (Exercise 2)
419471 is Not compatible with 418863





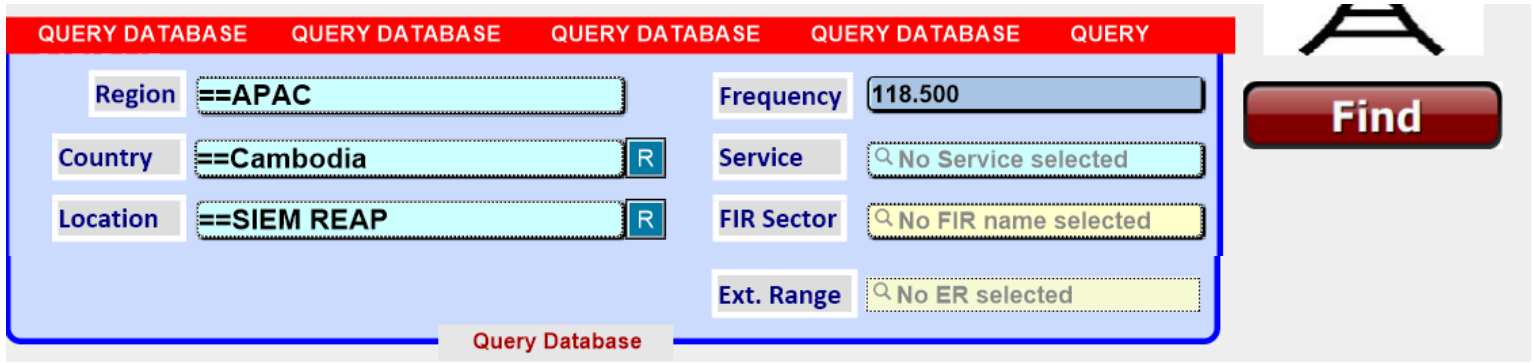
FF calculates the possible interference based on the radius:530 NM



Location of the original 418863

If ***418863*** *is located here, It should be compatible*

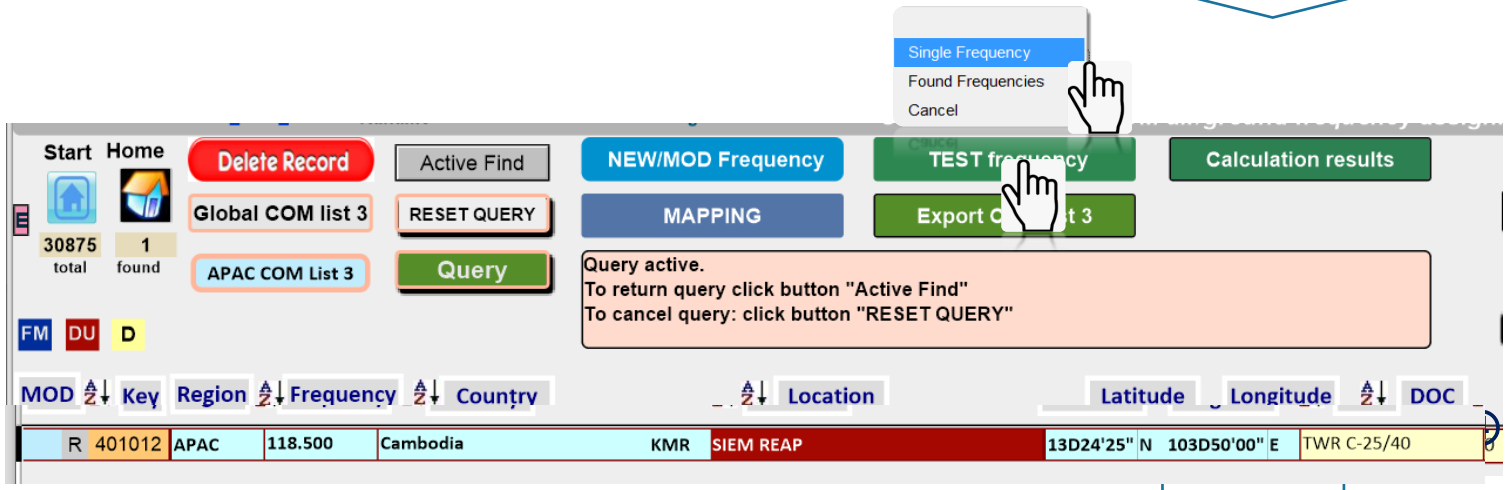
–Test Frequency
– Exercise 3: Cambodia, SIEM REAP, 118.500 MHz



① *Click "Query"*

② *Select State: Cambodia,*
Location: SIEM REAP
Frequency: 118.500 Mhz

③ *Click "Find"*



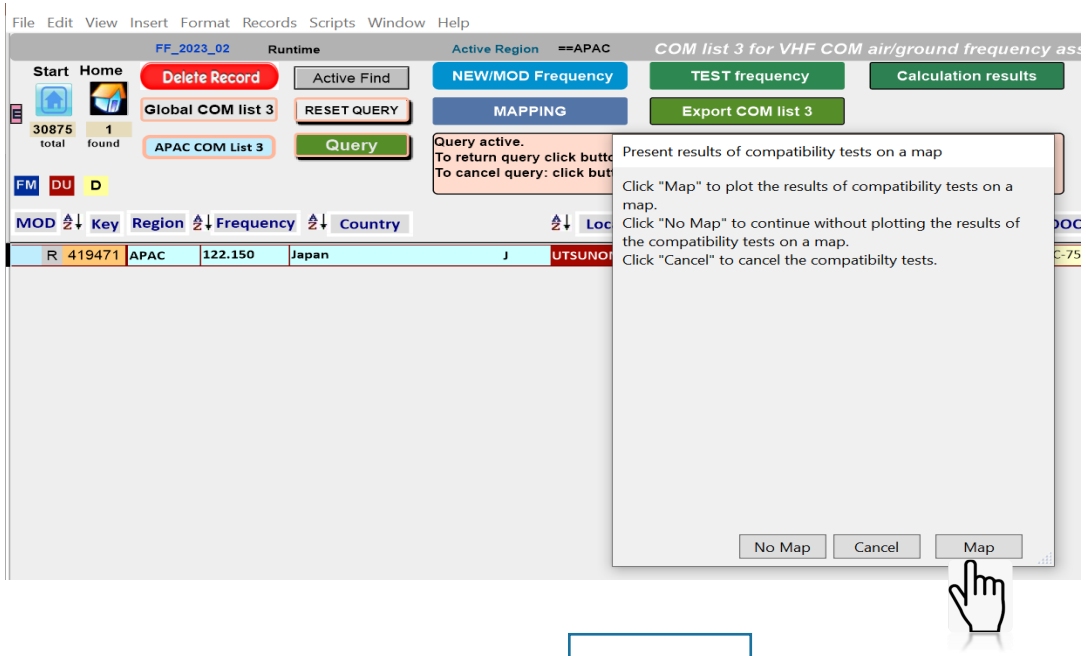
Frequency Finder found a 118.500, SIEM REAP, Cambodia (Key codes 401012)

Click "Test Frequency"

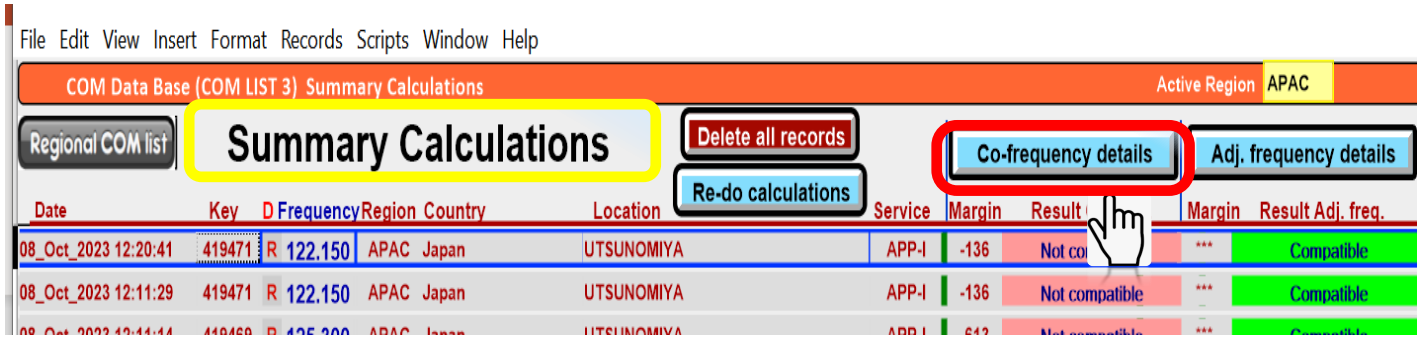
⑤ *Select" Single frequency"*

ICAO

–Test Frequency
– Exercise 3: Cambodia, SIEM REAP, 118.500 MHz



⑥ *Select "Map" if you want to see the result on Map as well*

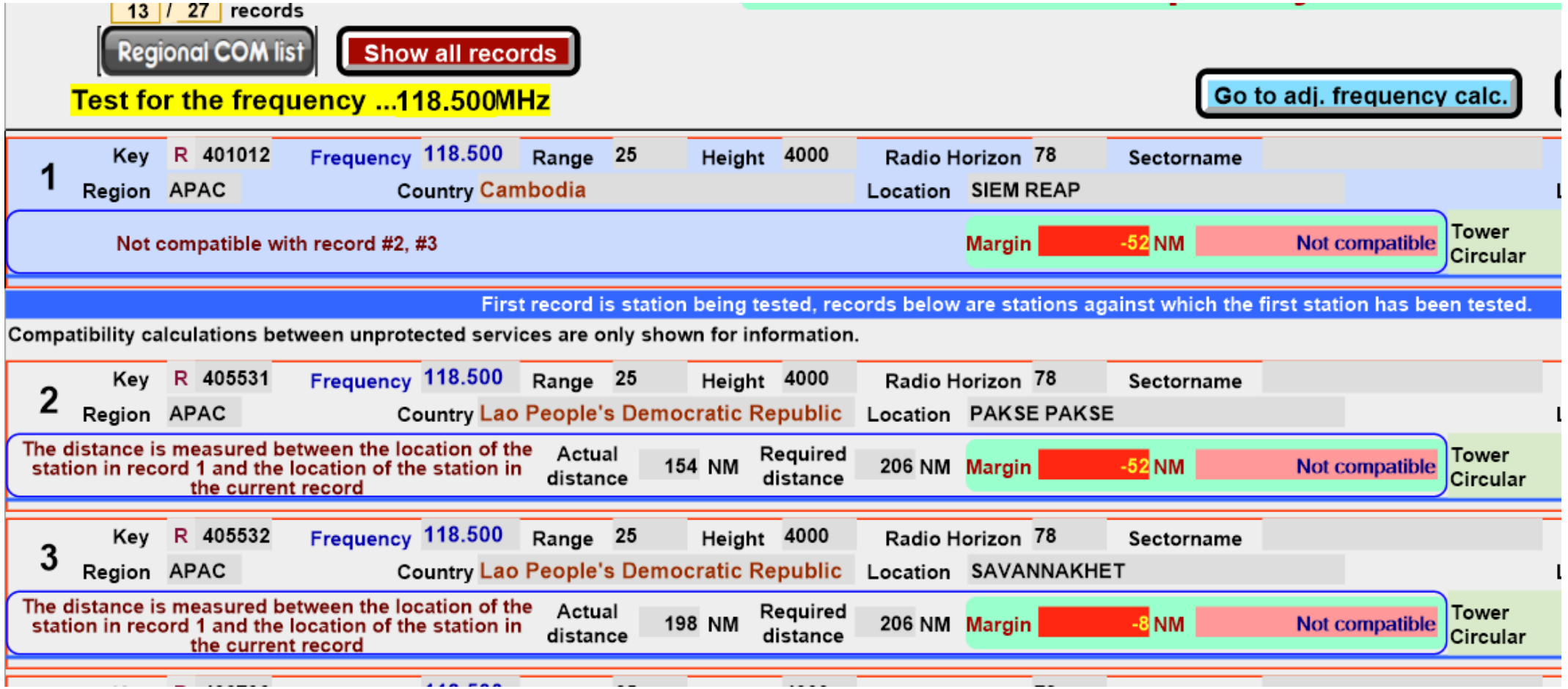


⑦ ***Summary Calculation is displayed***

⑧ *Click "Co-Frequency details" to view the most recent test result*

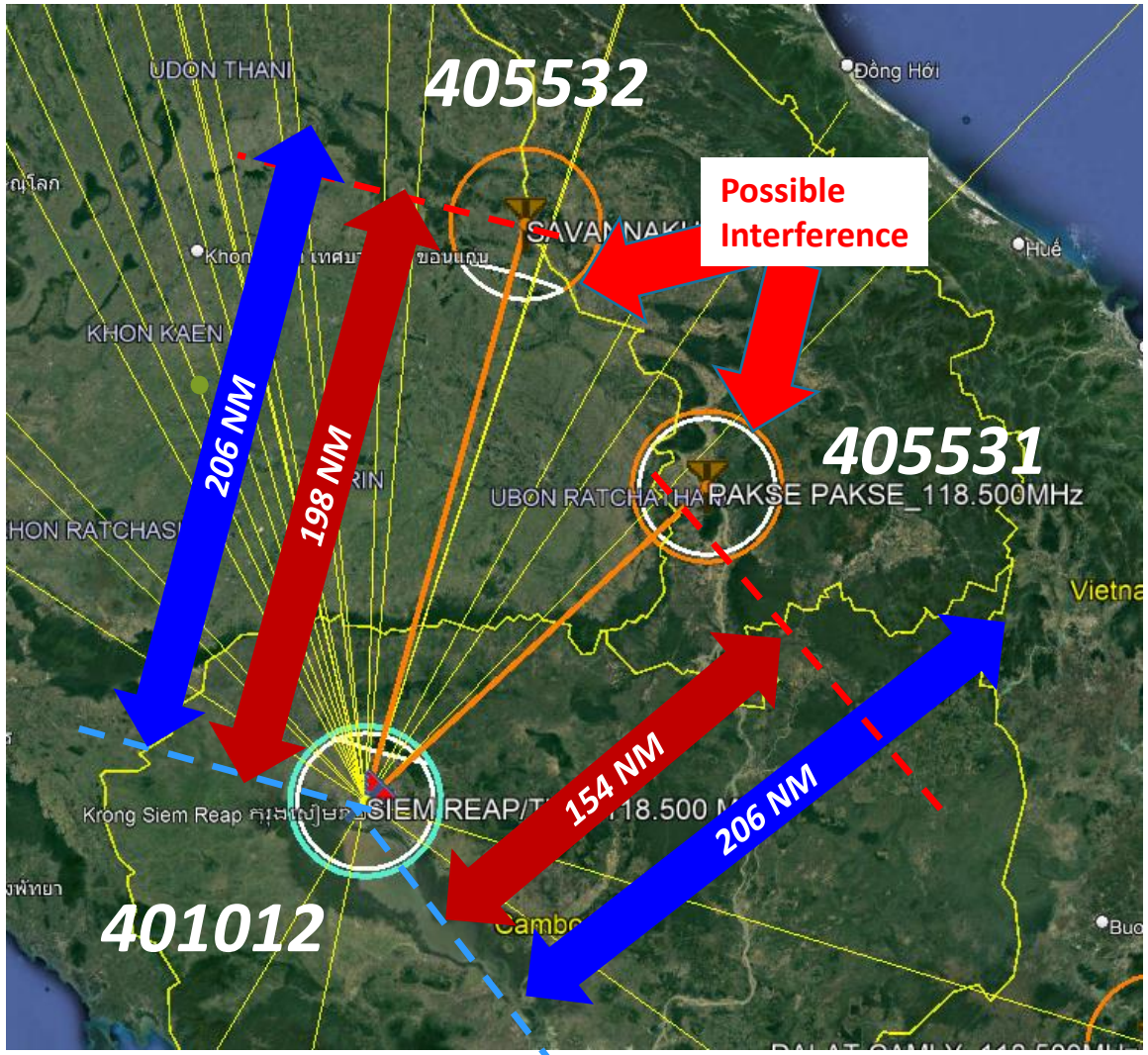
Test Frequency – Exercise 3: Cambodia, SIEM REAP, 118.500 MHz

Result indicated : 401012 is Not compatible with 405531 ,and with 405532



– Exercise 3: Cambodia, SIEM REAP, 118.500 MHz

Result indicated : 401012 is Not compatible with 405531 405532

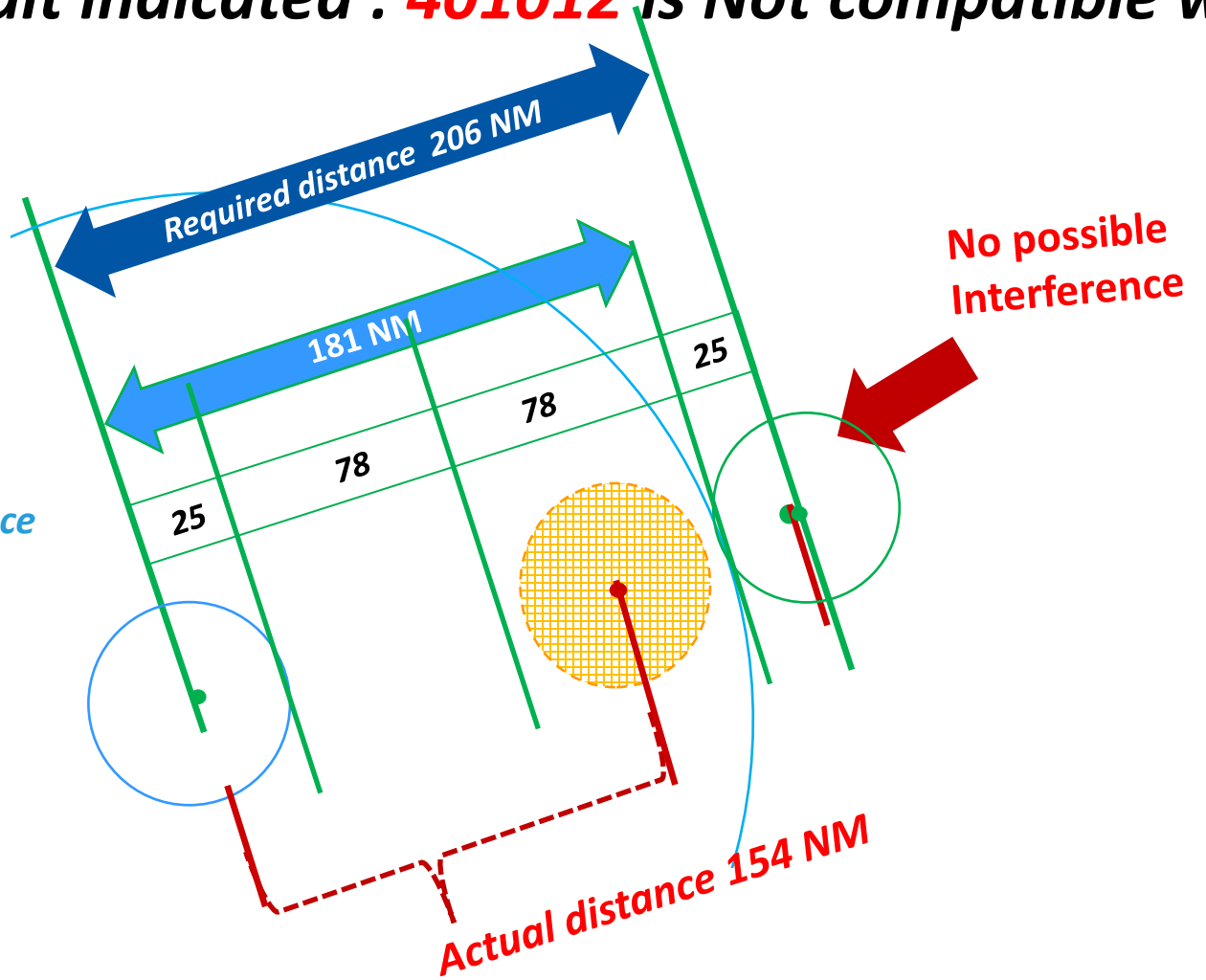


----- Required distance

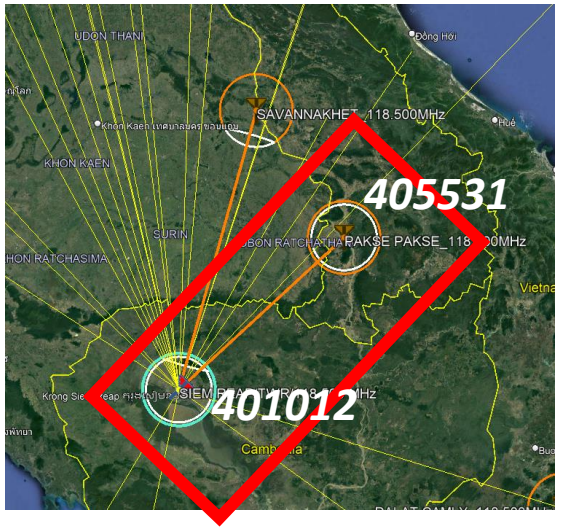
----- Actual distance

– Exercise 3: Cambodia, SIEM REAP, 118.500 MHz

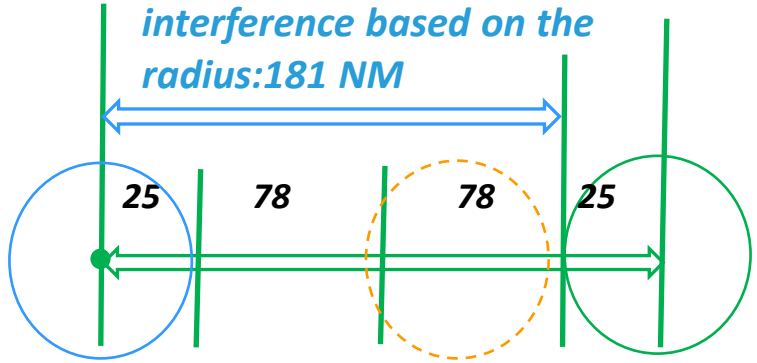
Result indicated : 401012 is Not compatible with 405531



FF calculates the possible interference based on the radius:181 NM



FF calculates the possible interference based on the radius:181 NM



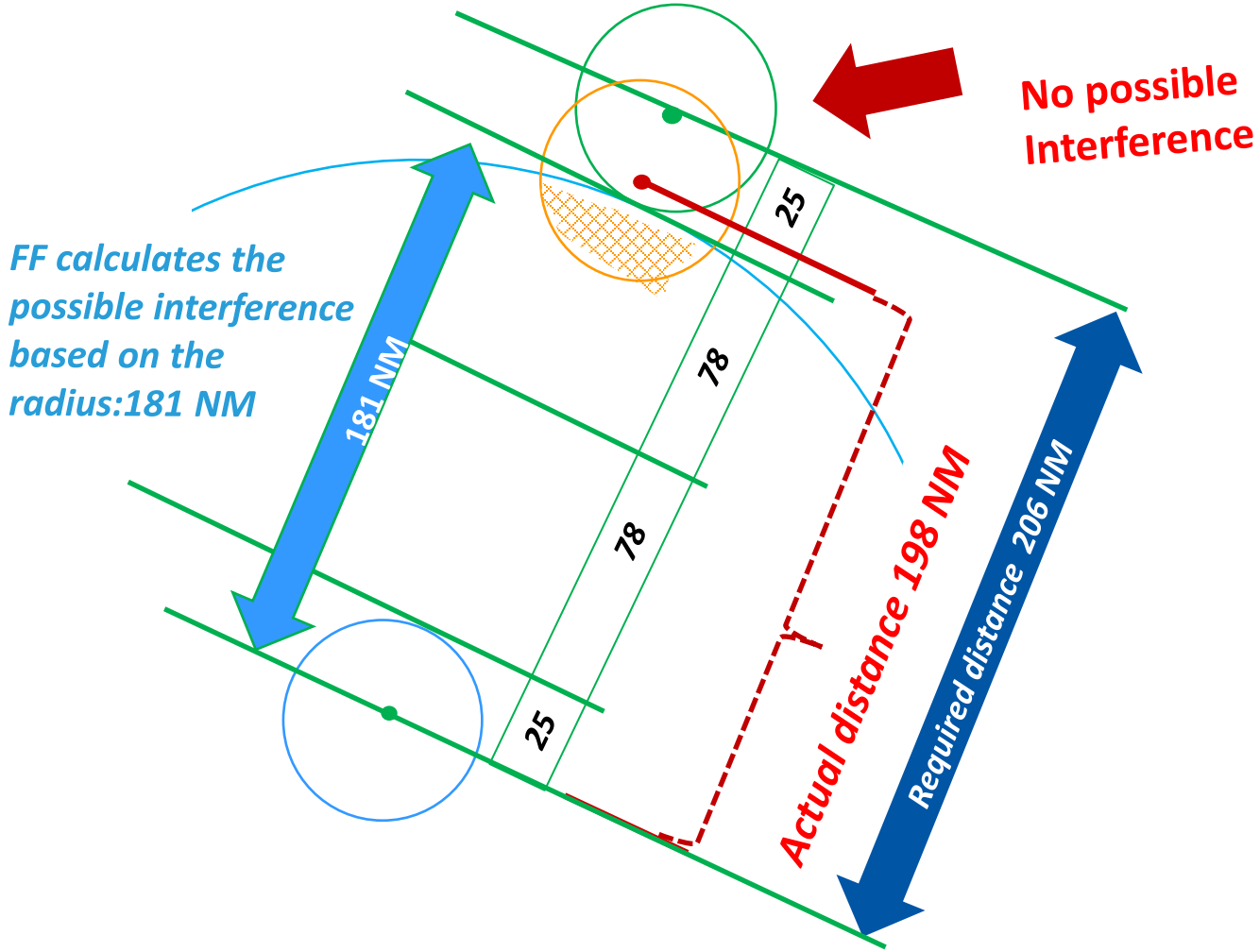
Required distance 206 NM

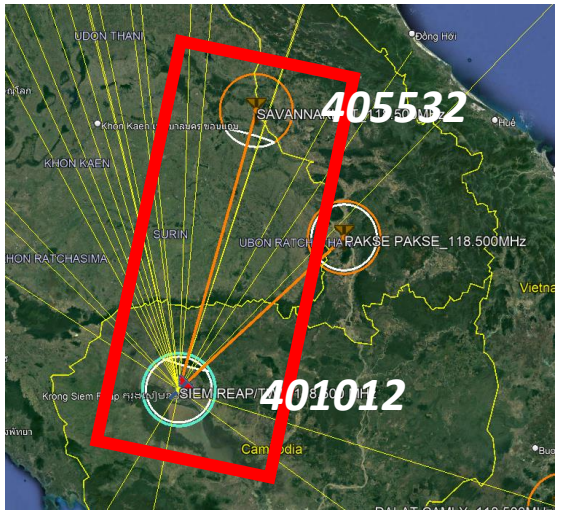
Location of the original 405531

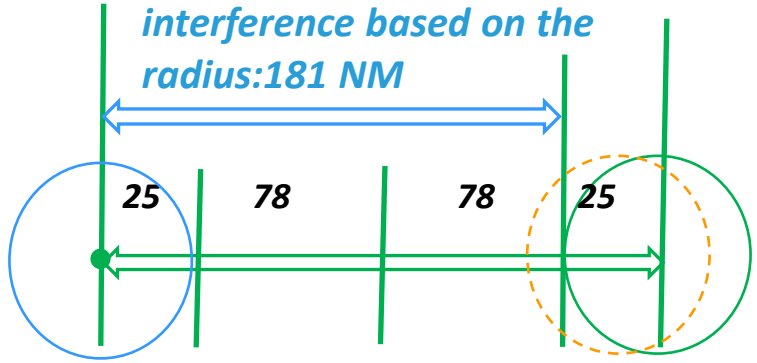
***If 405531** is located here, It should be compatible*

– Exercise 3: Cambodia, SIEM REAP, 118.500 MHz

Result indicated : 401012 is Not compatible with 405532







Required distance 206 NM

Location of the original 405532

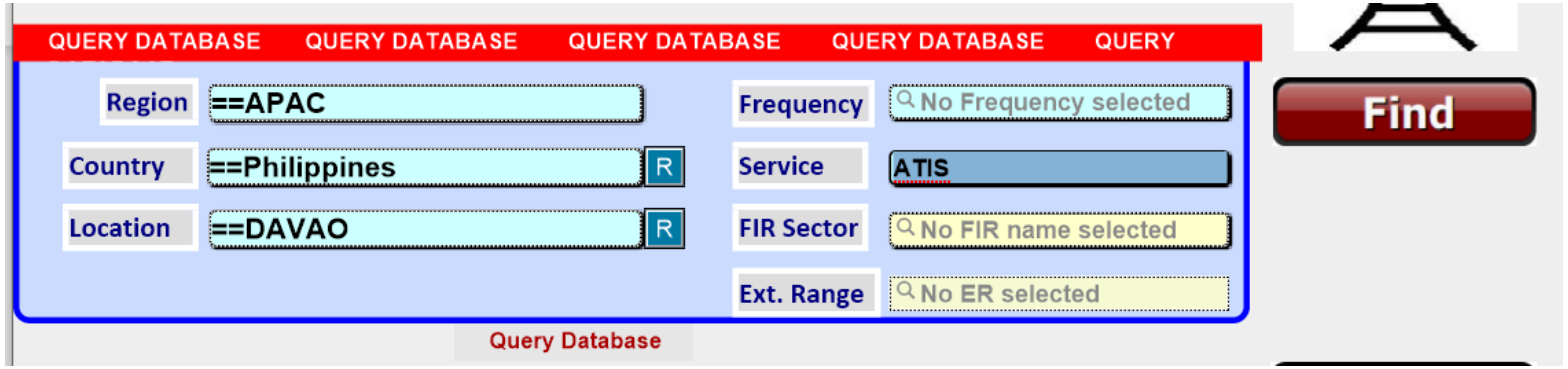
If ***405532*** *is located here, It should be compatible*

Exercises- Test Frequency & Understand the result

Exercise 4. Perform compatibility test – single frequency - ATIS

- Query: State: Philippines, DAVAO, ATIS
- Select key “401639”
- Click test frequency and single frequency

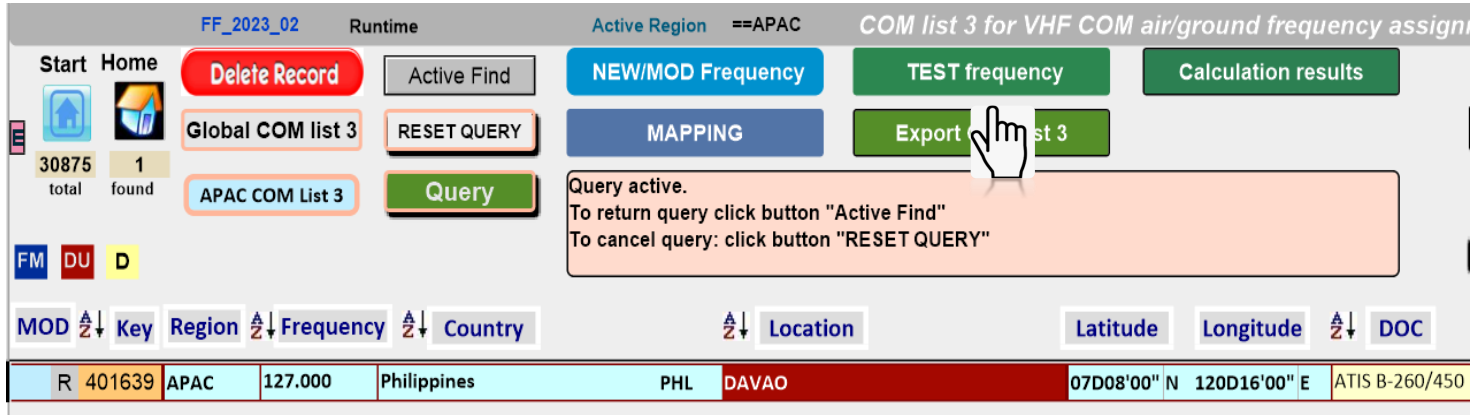
Test Frequency – Exercise 4: Philippines, DAVAO, ATIS



① *Click "Query"*

② *Select State: Philippines, Location: DAVAO Service: ATIS*

③ *Click "Find"*



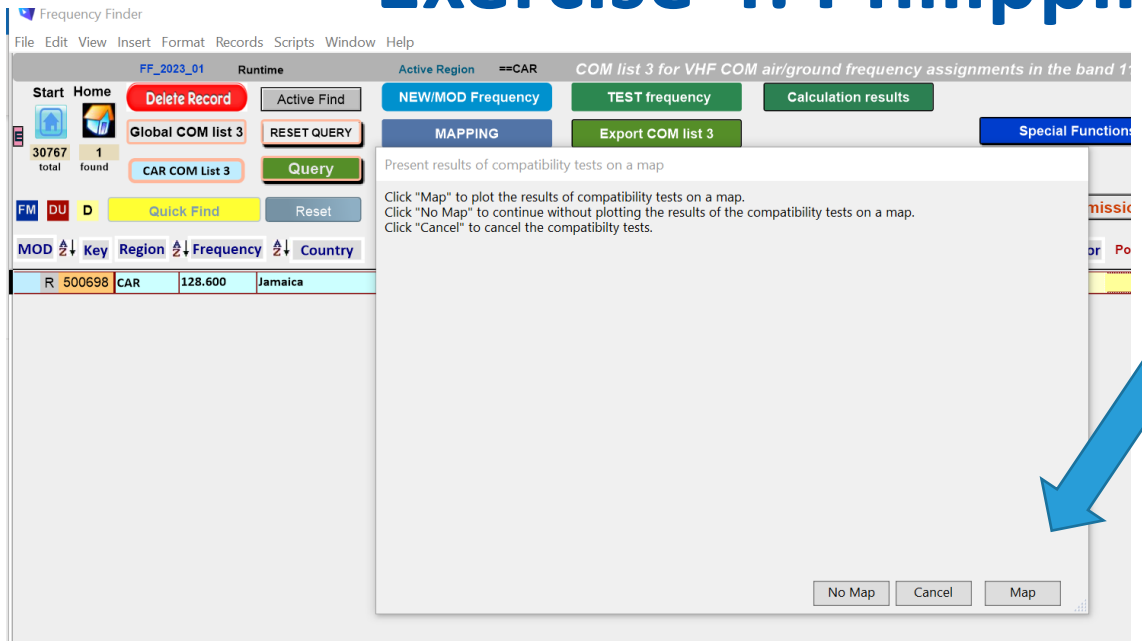
Frequency Finder found one user case of 128.600 MHz in Jamaica

④ *Select Key "401639"*

⑤ *Click "Test Frequency"*

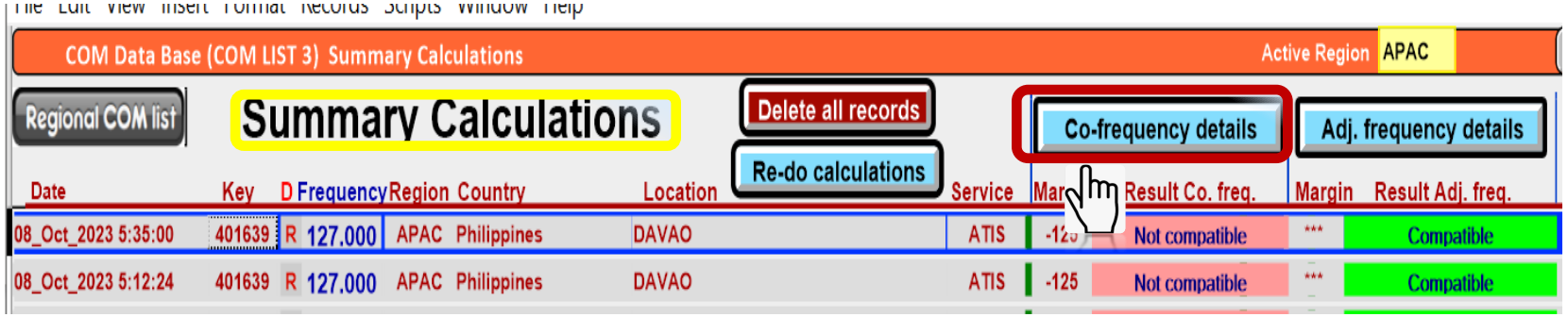
⑥ *Select" Single frequency"*

Test Frequency – Exercise 4: Philippines, DAVAO, ATIS



⑦ *Select "Map" if you want to see the result on Map as well*

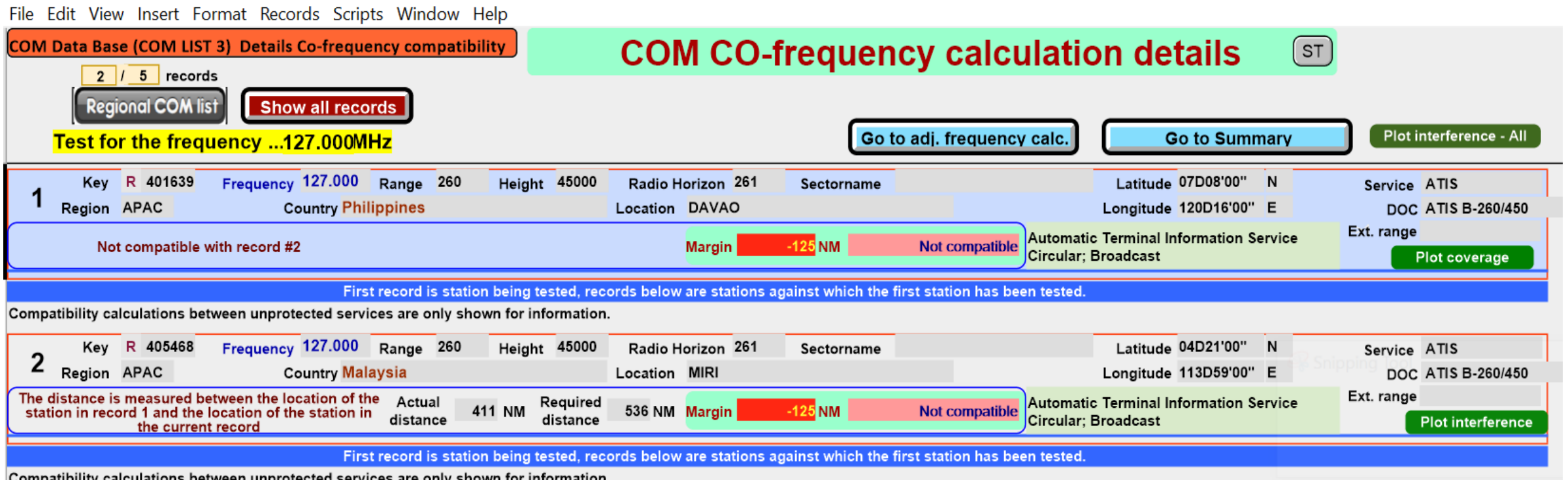
⑧ *Summary Calculation is displayed*



⑨ *Click "Co-Frequency details" to view the most recent test result*

ICAO

Test Frequency – Exercise 4: Philippines, DAVAO, ATIS

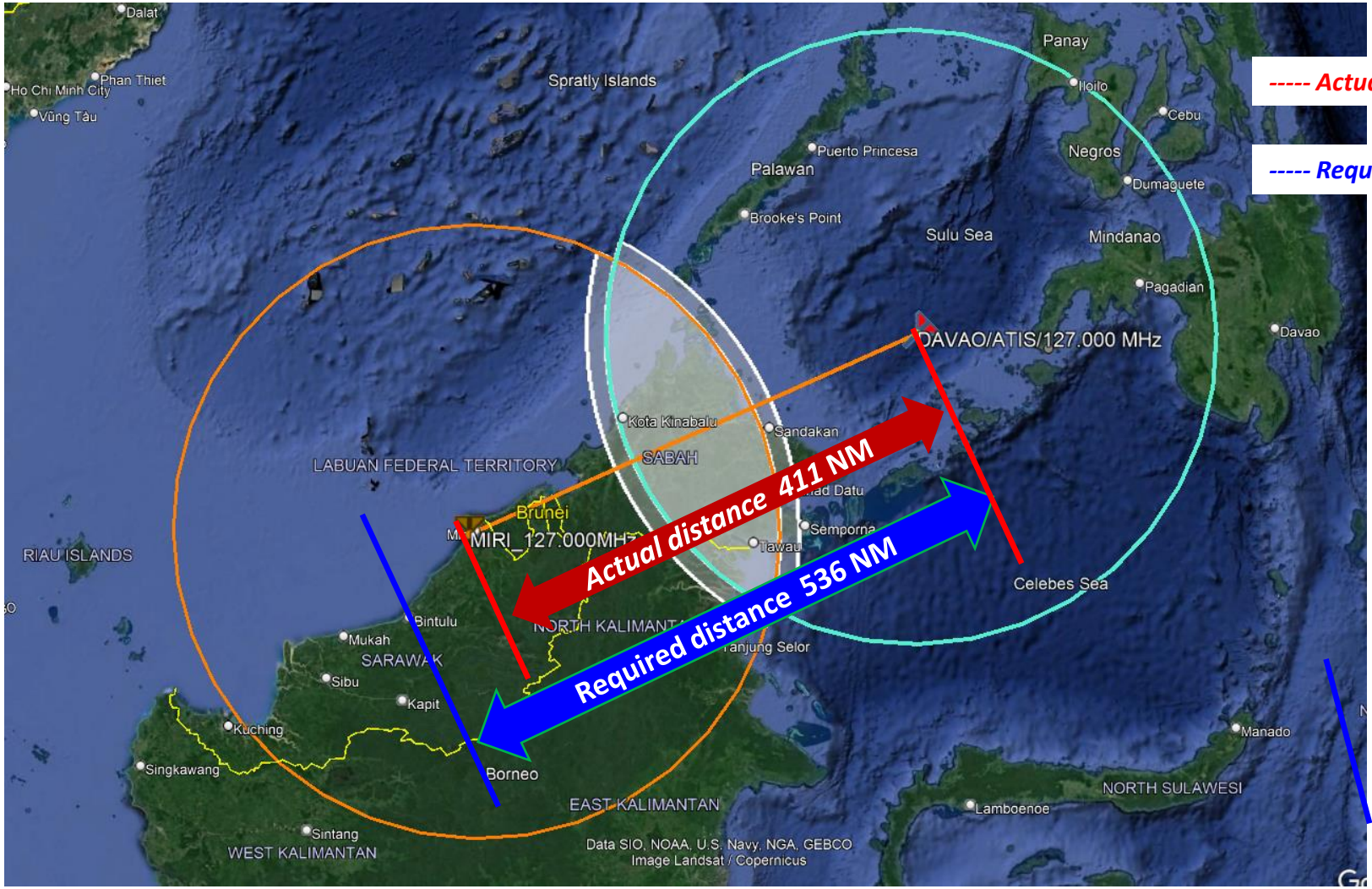


Result indicated :

401639 is Not compatible with 405468

Test Frequency – Exercise 4: Philippines, DAVAO, ATIS

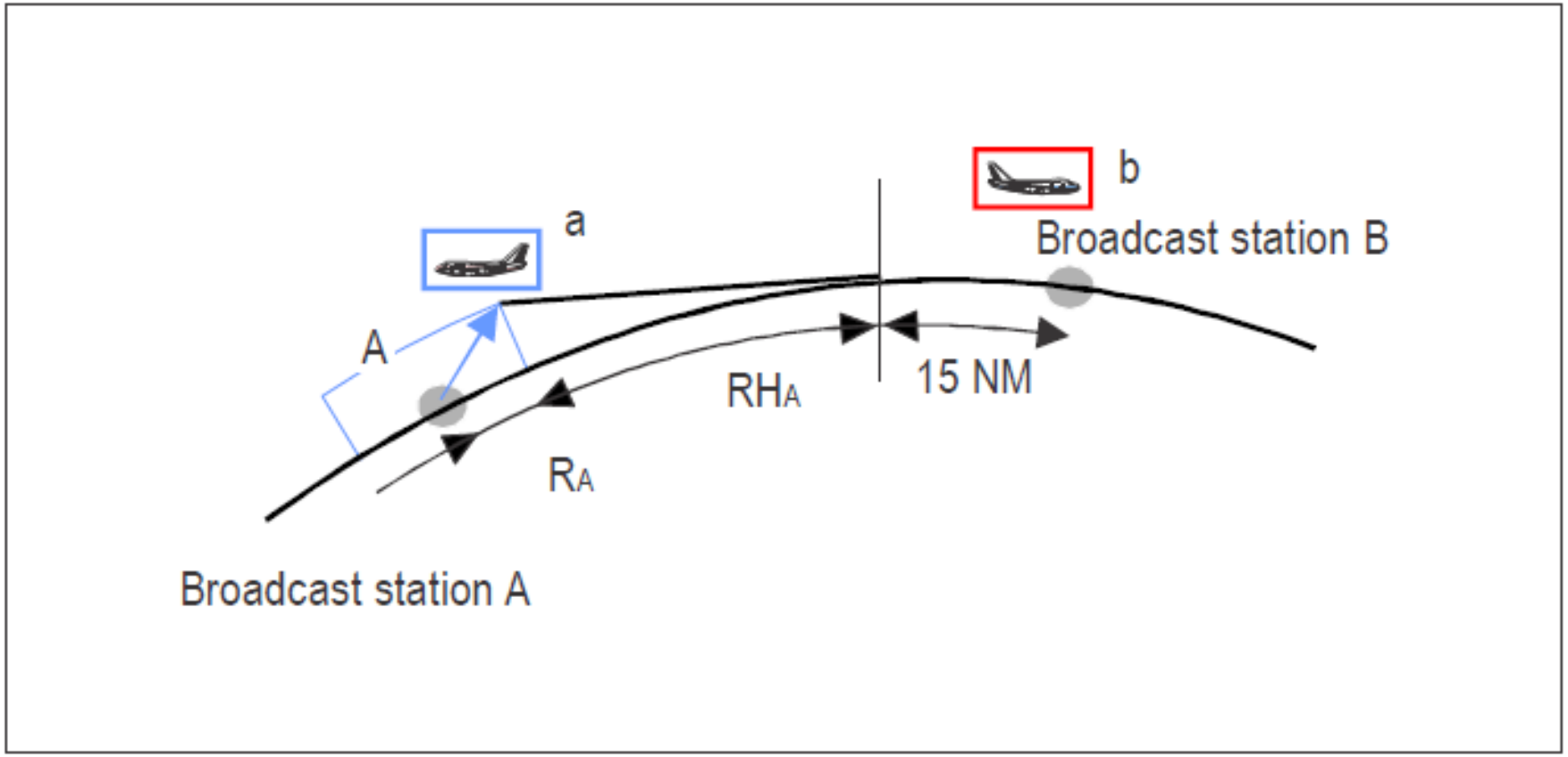
401639 is Not compatible with 405468



Test Frequency – Exercise 4: Philippines, DAVAO, ATIS

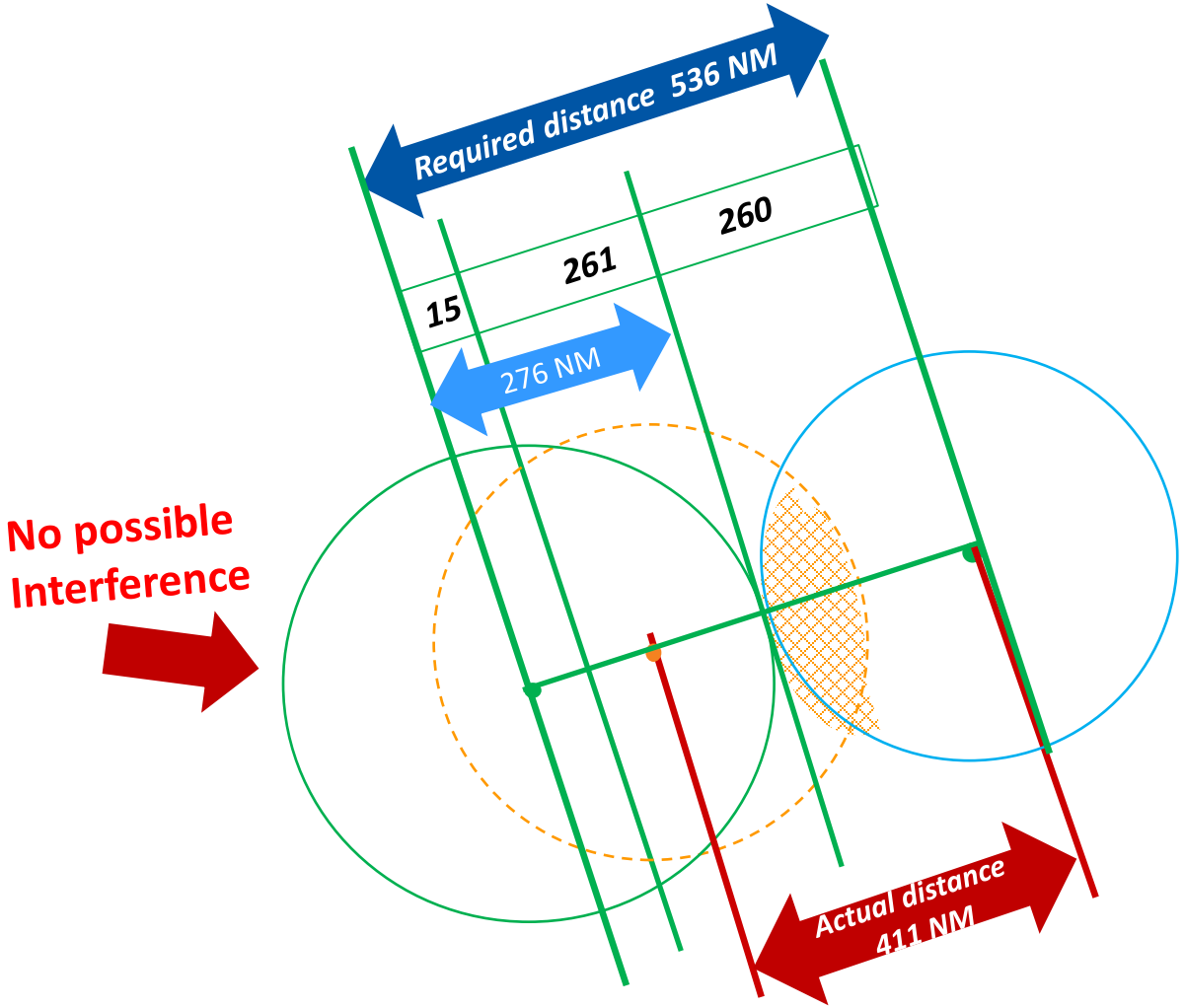
401639 is Not compatible with 405468

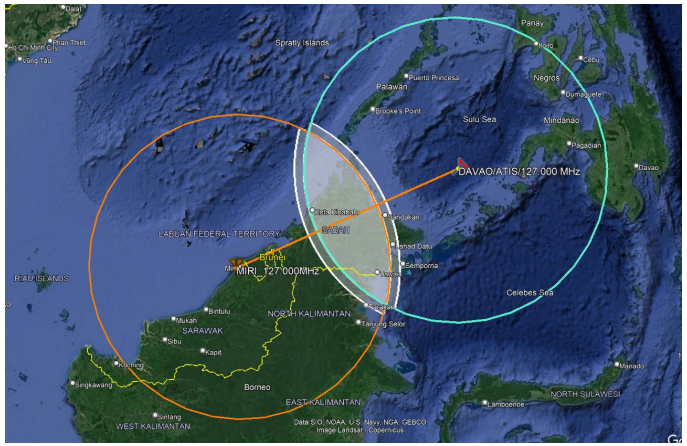
(Broadcast Station A is Not compatible with Broadcast Station B)

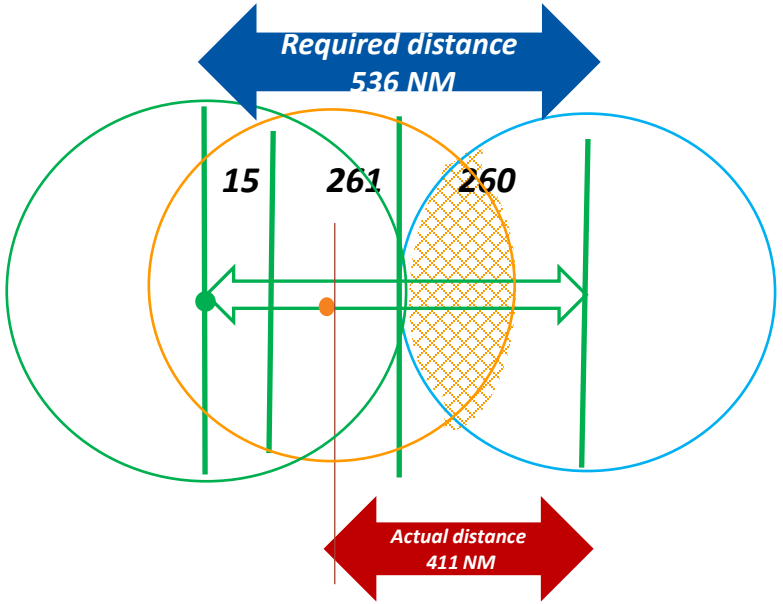


Exercise 4: Philippines, DAVAO, ATIS

401639 is Not compatible with 405468







Location of the original 405468

If ***405468*** *is located here, It should be compatible*

Required distance 536 NM

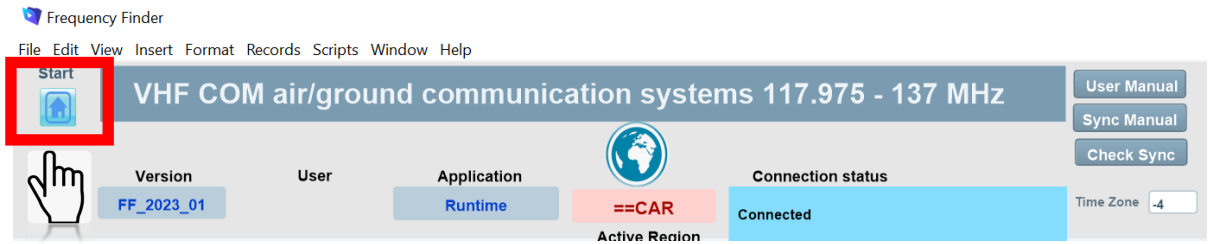
Exercises- Test Frequency & Understand the result

Exercise 5. Perform compatibility tests

- all frequency assignments in your country
- Test all these frequency assignments
- Look at each incompatible frequency assignment to determine if or what action is required.

Demonstrations

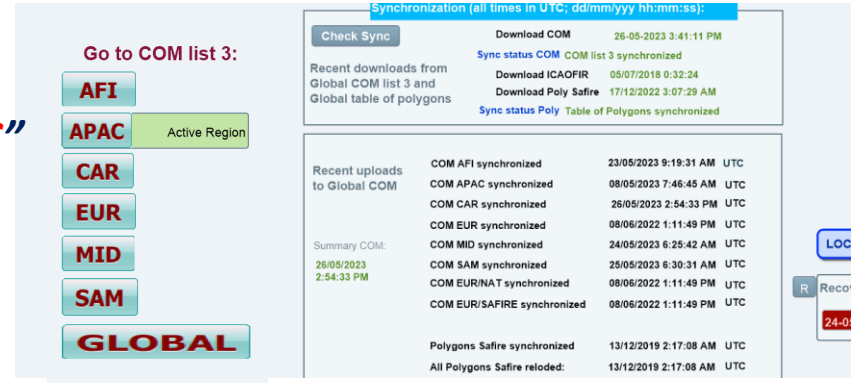
Click "Start"



Select "APAC"

Click "VHF COM"

Click "APAC"



Demonstrations
Add, Modify or Delete Frequency

Demonstration 1- Add:

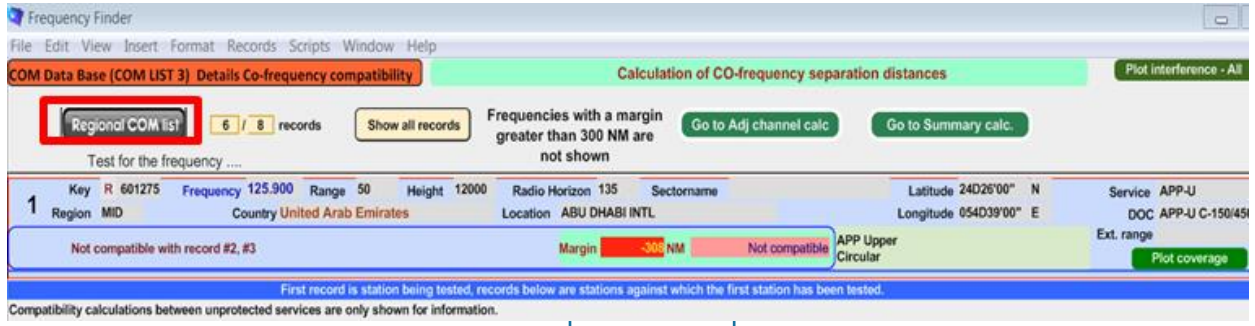
Based on a frequency assignment (for example, select: Viet Nam, HO CHI MINH, 133.050), then add ACC-U frequency to *ICAOTEST APAC*

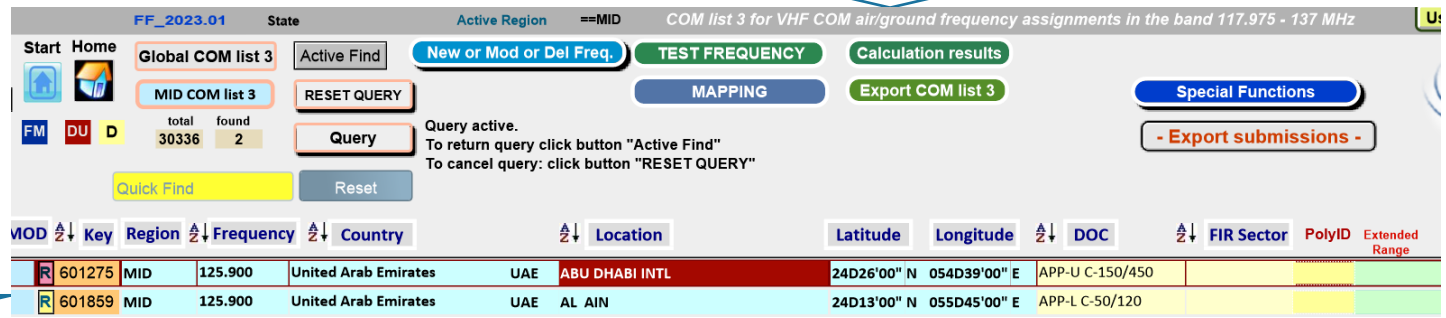
Add, Mod or Delete Frequency

Go back to ***Regional COM List 3***

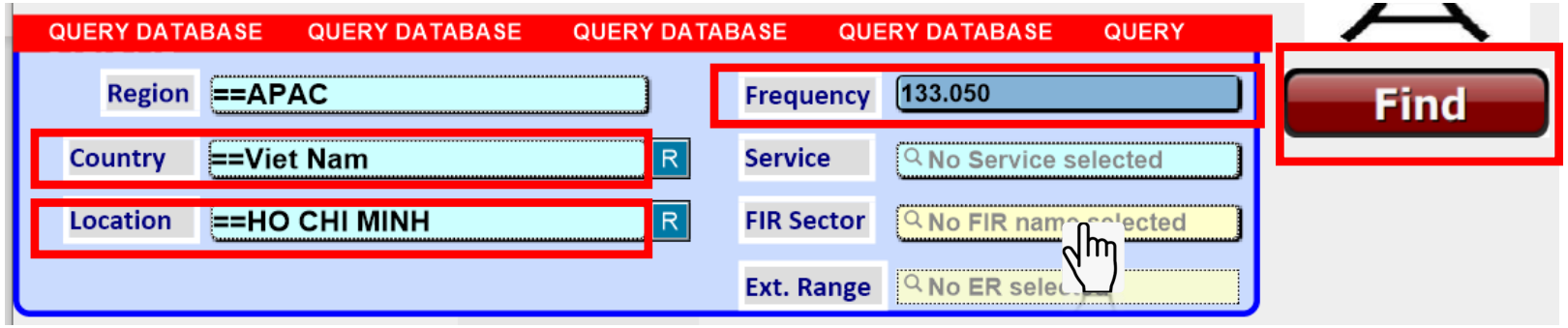
Click "Query"

Select information required for your investigation and Click "Find"





In this demonstration,
Country: Viet Nam
Location: HO CHI MINH
Frequency: 133.050



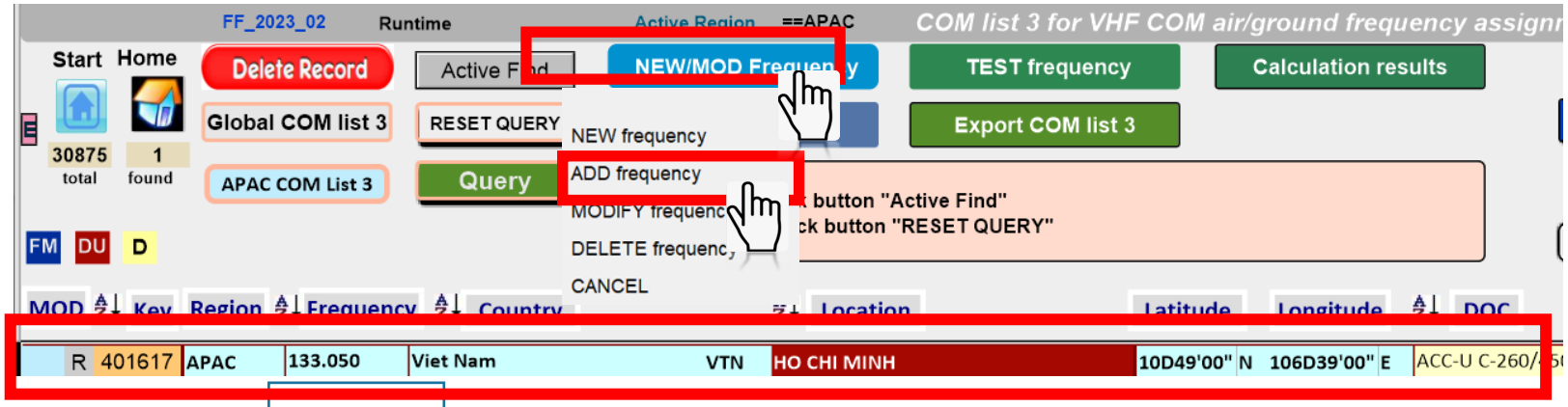
Add Frequency

Your Query outcome is displayed

Selected "401617" in this demonstration

Click "New or Mod,"

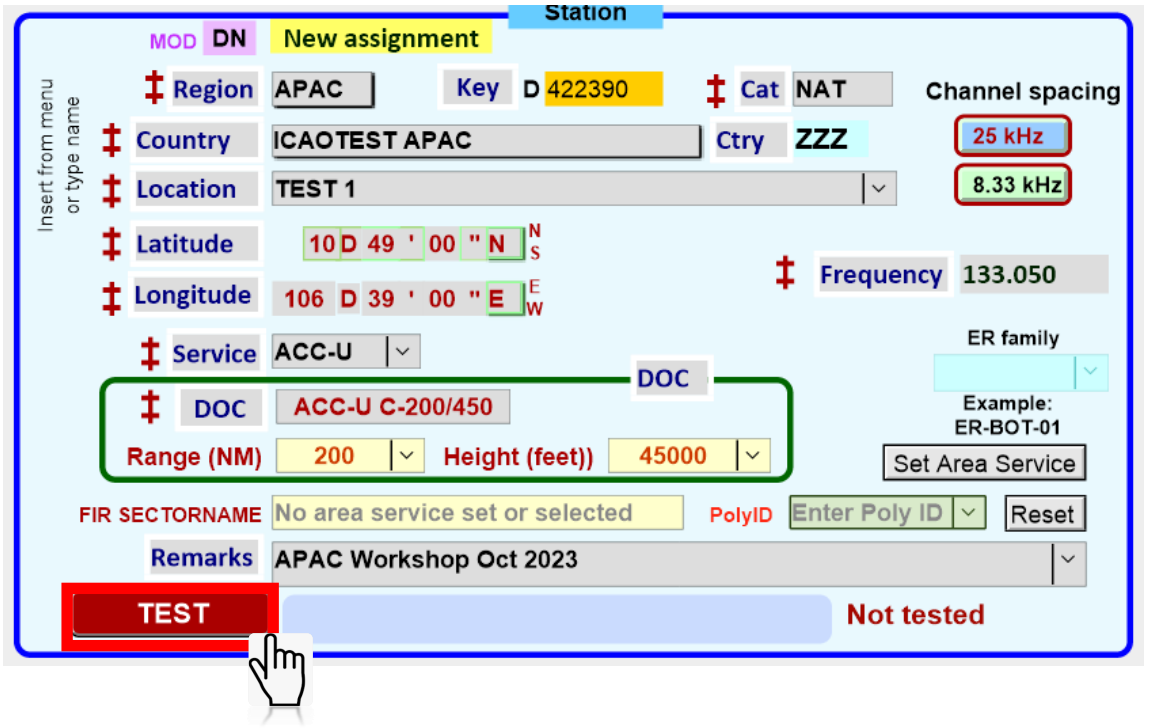
Select "Add Frequency"



Add information required

In this demonstration
Change:
Country: ICAOTEST APAC

Add:
Location: TEST 1
Frequency: 133.050
Service: ACC-U
Remark: TEST APAC Workshop 2023



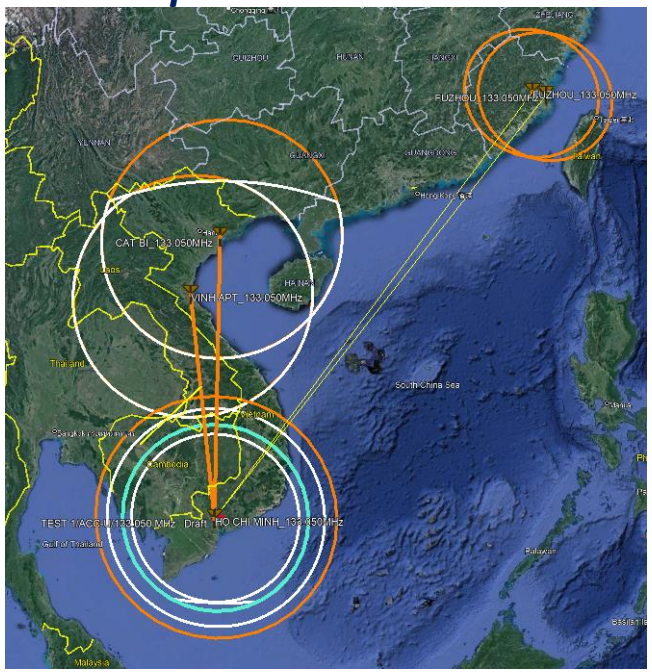
Then Click "TEST

Add Frequency cont.

Test result is displayed.
In this demonstration, it said that :
The selected frequency
is Not compatible

Click "Co-frequency" to see more detail

Also click "Plot-Interference all" to see outcome on Map



Station

MOD DN New assignment

Insert from menu or type name

Region APAC Key D 422390 Cat NAT Channel spacing

Country ICAOTEST APAC Ctry ZZZ 25 kHz

Location TEST 1 8.33 kHz

Latitude 10 D 49 ' 00 " N (N/S)

Longitude 106 D 39 ' 00 " E (E/W) Frequency 133.050

Service ACC-U ER family

DOC

DOC ACC-U C-200/450 Example: ER-BOT-01

Range (NM) 200 Height (feet)) 45000 Set Area Service

FIR SECTORNAME No area service set or selected PolyID Enter Poly ID Reset

Remarks APAC Workshop Oct 2023

TEST The selected frequency is NOT compatible. Test completed

Summary | Co-frequency | Adj. Frequency

Summary Test results of the new or modified frequency assignment

Margin in NM

Date/time	Key	D	Frequency	Region	Country	Location	Service	Margin	Result co-ch	Margin Result ad
09/10/2023 11:03:52	422390	D	133.050	APAC	ICAOTEST APAC	TEST 1	ACC-U	-982	Not compatible ***	Compatible

Click the button TEST in the pane "Station" to view the calculation results if the fields are empty or the Key in the box Summary is different from the Key in the boc Station

Print co-frequency Plot interference - All Print adj-frequency Plot interference - All

Add Frequency cont.

This selected frequency was Not compatible, so now you need to find an appropriate one!

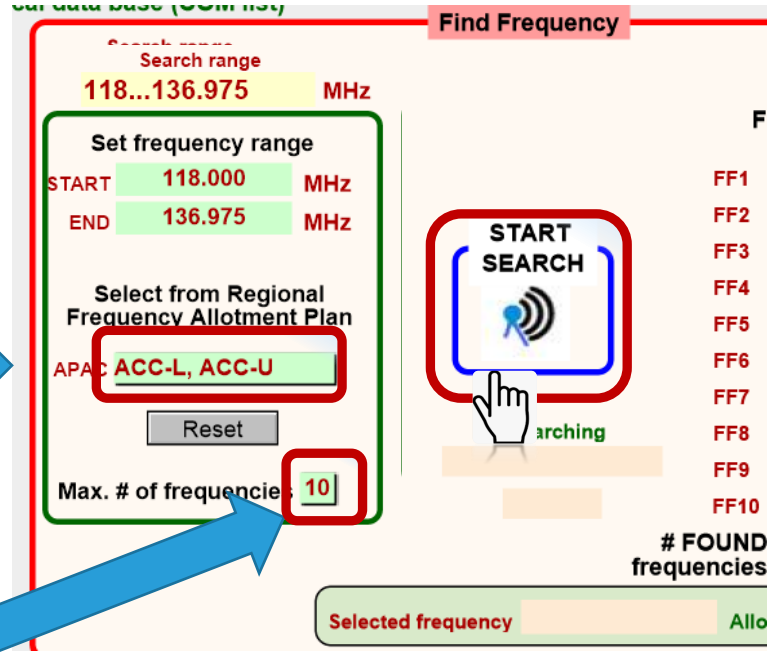
Before "start search", you need to:

- ***Define Search Range***

  (Two options (set frequency range or select from regional frequency allotment plan.
  ***Note.- it is always better to select it from the regional allotment plan!!**).*

- ***Set Maximum # of frequencies***

  (1-10 can be selected)

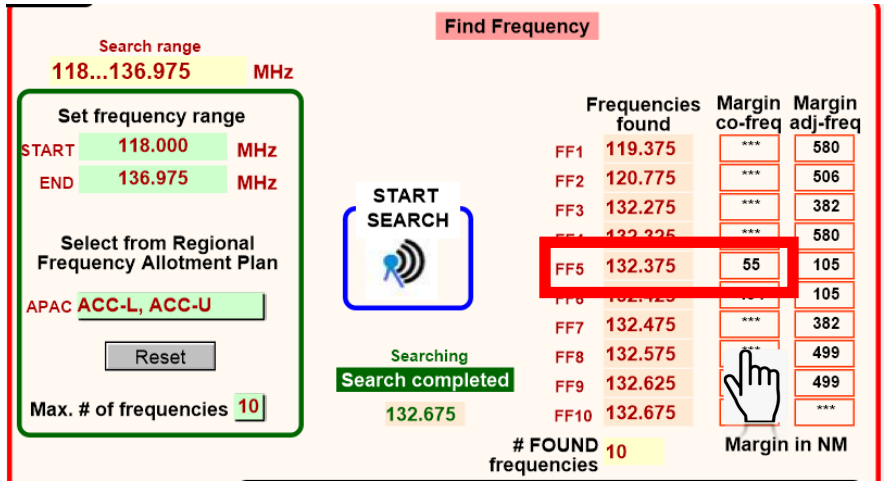


*In this example, select **ACC-L**,**ACC- U** and **10** frequencies*

Then "Start Search"

Add Frequency cont.

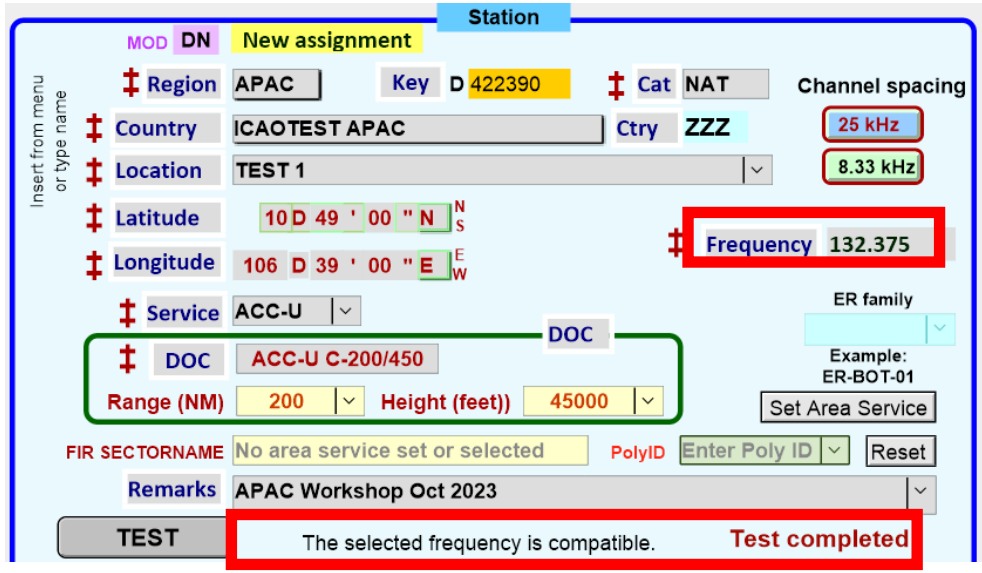
10 Frequency were found and select a frequency.

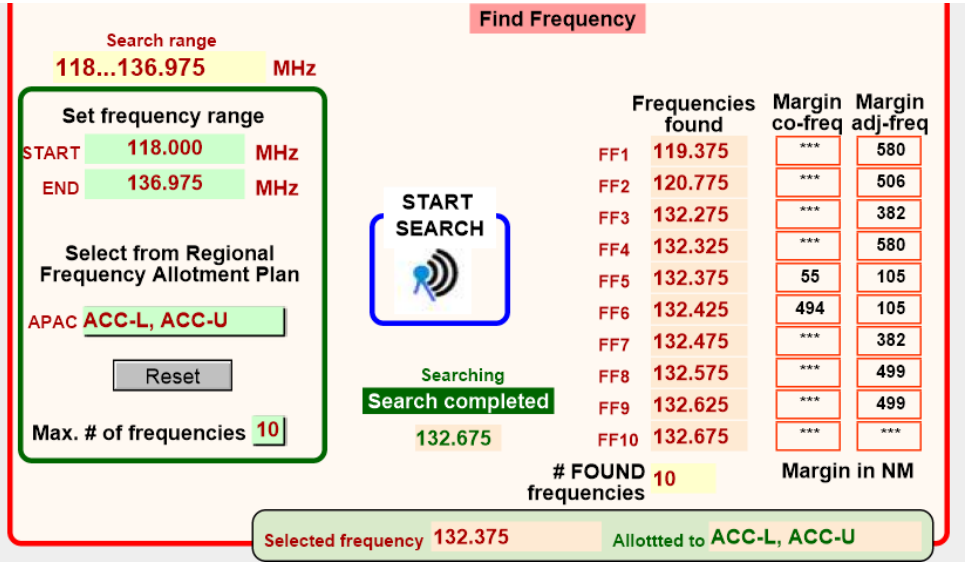


When you select a candidate frequency, please consider how you can use spectrum efficiently!

In this demonstration:
Click "132.375" .

The frequency you selected will be automatically included in the left side.

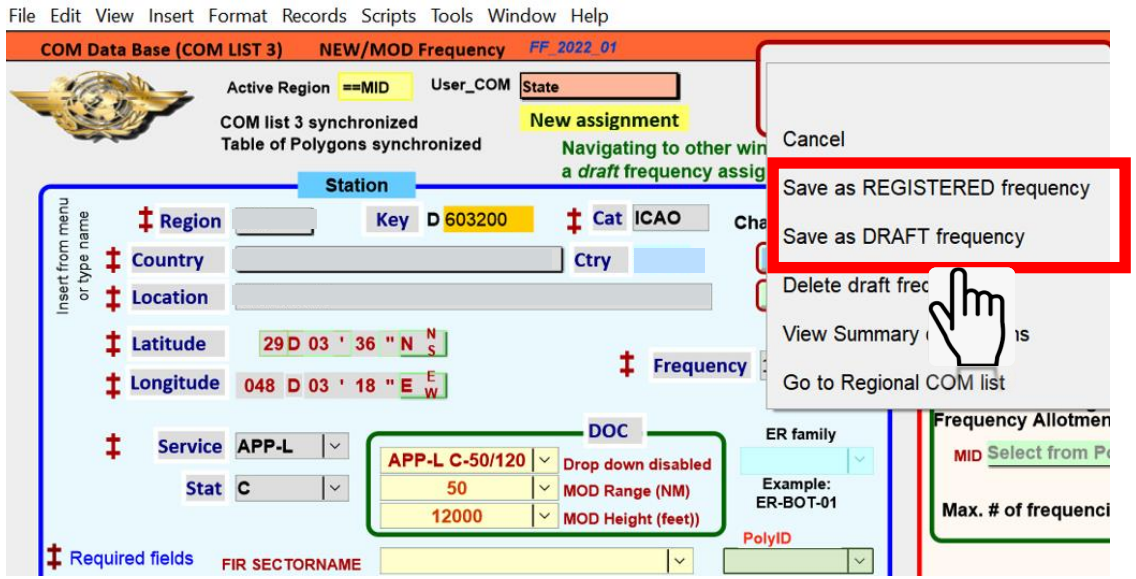




When you selected a frequency, FF also checked the compatibility and indicated the result :
"The selected frequency is compatible. Test completed".

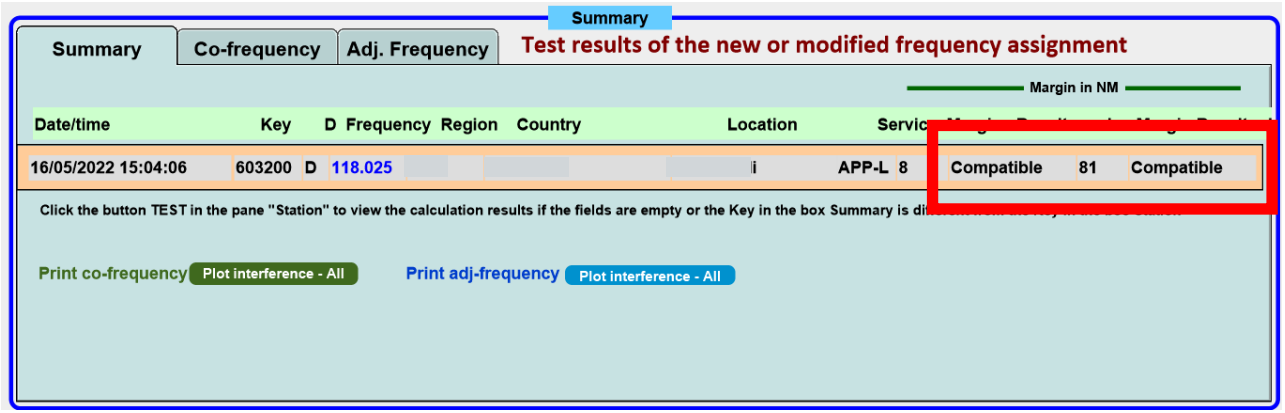
Add Frequency cont.

You selected the frequency, the result indicates "compatible".



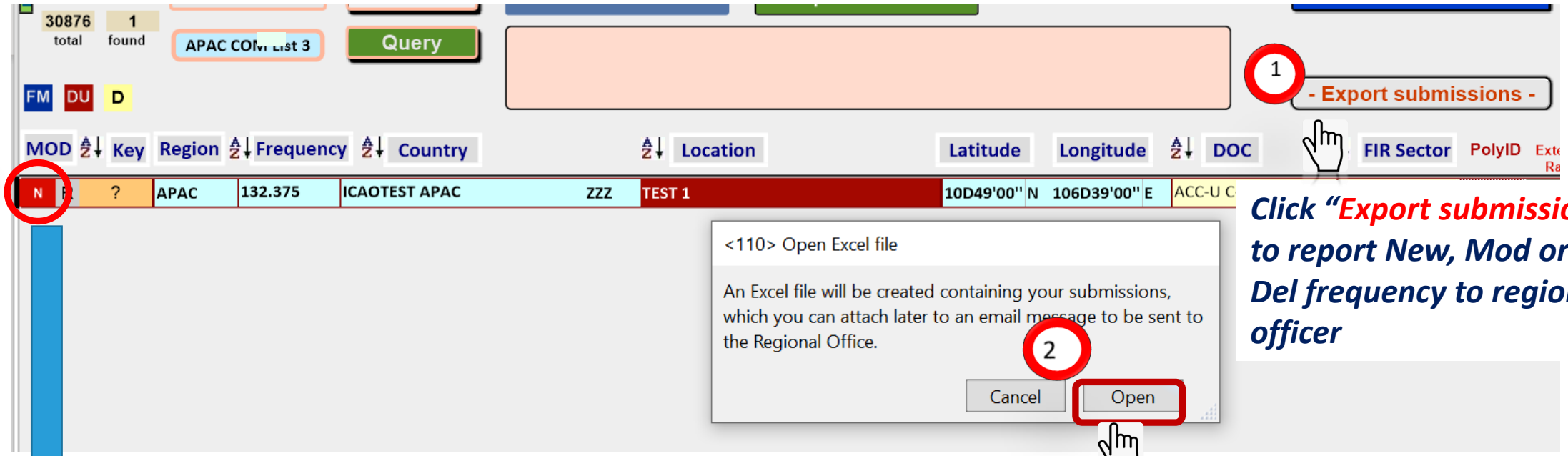
Select :
"Save as DRAFT frequency "
in case you need to work on this assignment more.

"Save as REGISTERED frequency"
in case you completed the assignment and ready for submission

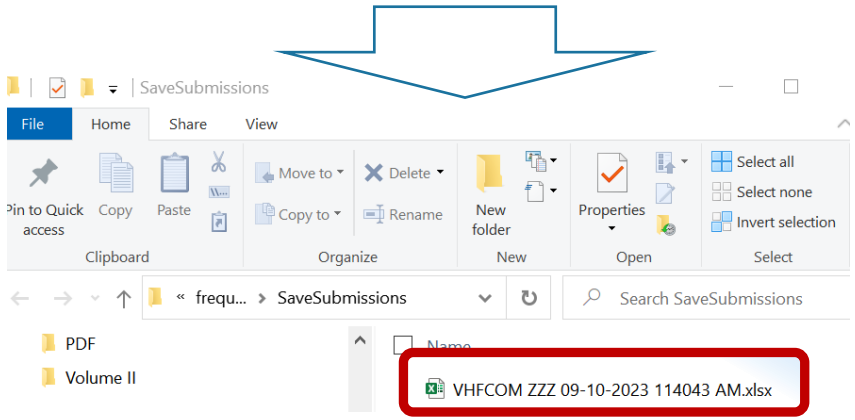


Export Submissions

The registered frequency needs to report to Regional officer



Click "Export submission" to report New, Mod or Del frequency to regional officer



Through a dialogue box, the State (user) can consult the excel file prior submission to the ICAO Regional Office (RO) by email;

Exercises
Add, Modify or Delete Frequency

Exercise 1- ADD: using one station in your country as a template, add a station and find an appropriate frequency for that station. (recommend to add TWR service)

1) Query a frequency (in your country) and select it
2) Add one station and find an appropriate frequency for that station
   (In Remark, **please add *TEST APAC Workshop 2023***)
3) If you found an appropriate one, save it as registered frequency.
4) Send it to the Regional officer.

Demonstrations
Add, Modify or Delete Frequency

Demonstration 2- MOD: using ***Empty Essential Field*** data (key 422389 – integrity check outcome), modify the data and find an appropriate frequency.

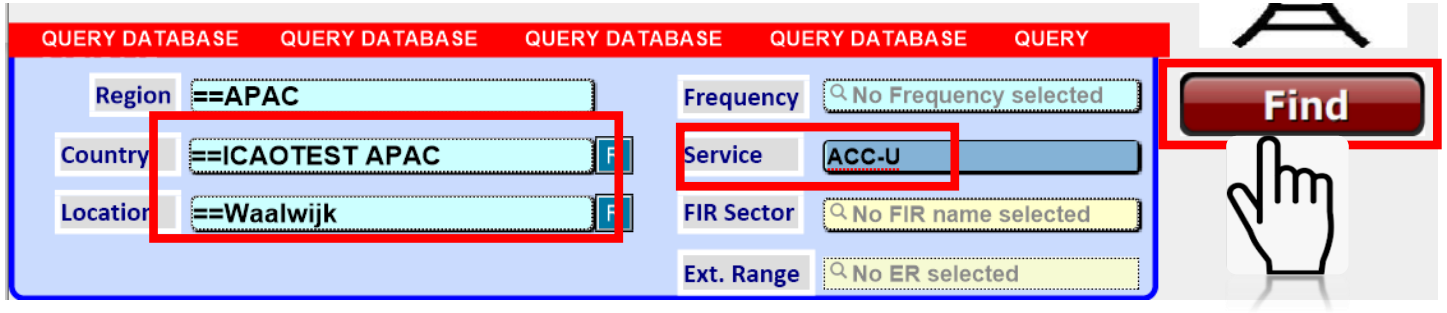
1) Query a frequency (State: ***ICAOTEST APAC***, Frequency 118.925)
2) Modify its data, change
   - Location : change to ICAO TEST 2
   - latitude /longitude: to 21D25’00”S/165D30’00”E),
3) Test the modified data, and
4) If the result indicates not compatible, find an appropriate frequency for this site.

Add, Mod or Delete Frequency (Demonstration 2: Mod)

Go back to ***Regional COM List 3***

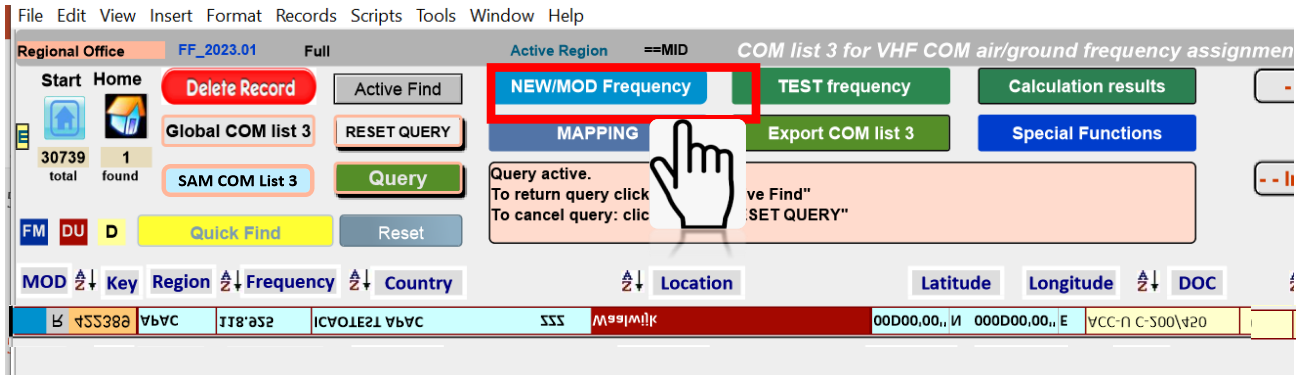
Click "Query"

In this demonstration select,
Country: ICAOTEST APAC
Service: ACC-U



Click "Find"

Your Query outcome
(the data with key 422389)
is displayed in this demonstration.

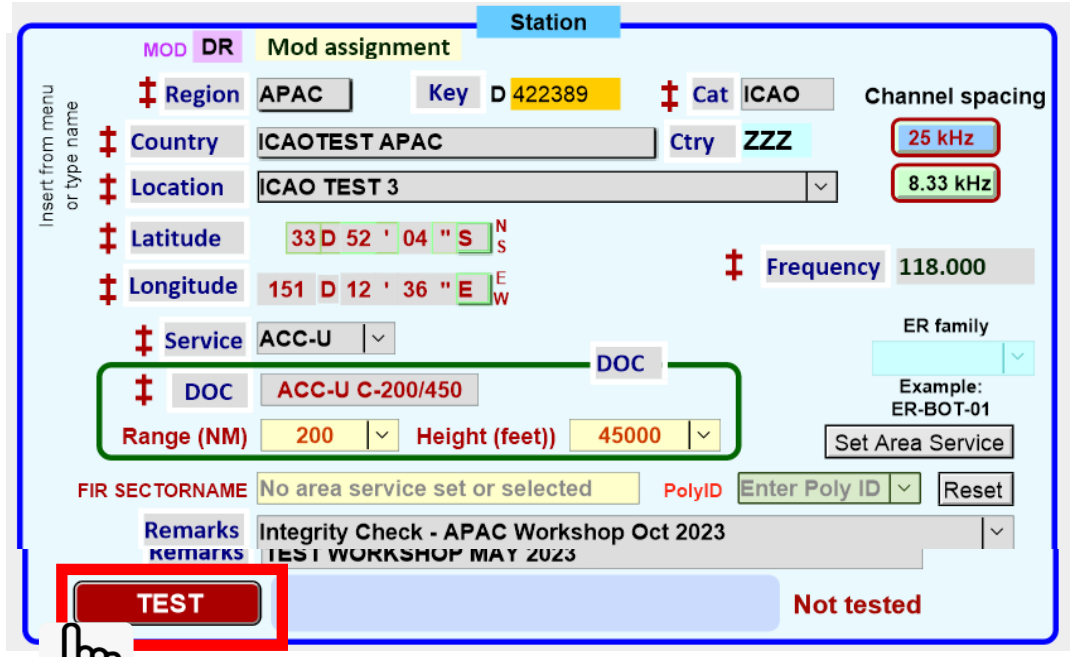


Click "New or Mod"

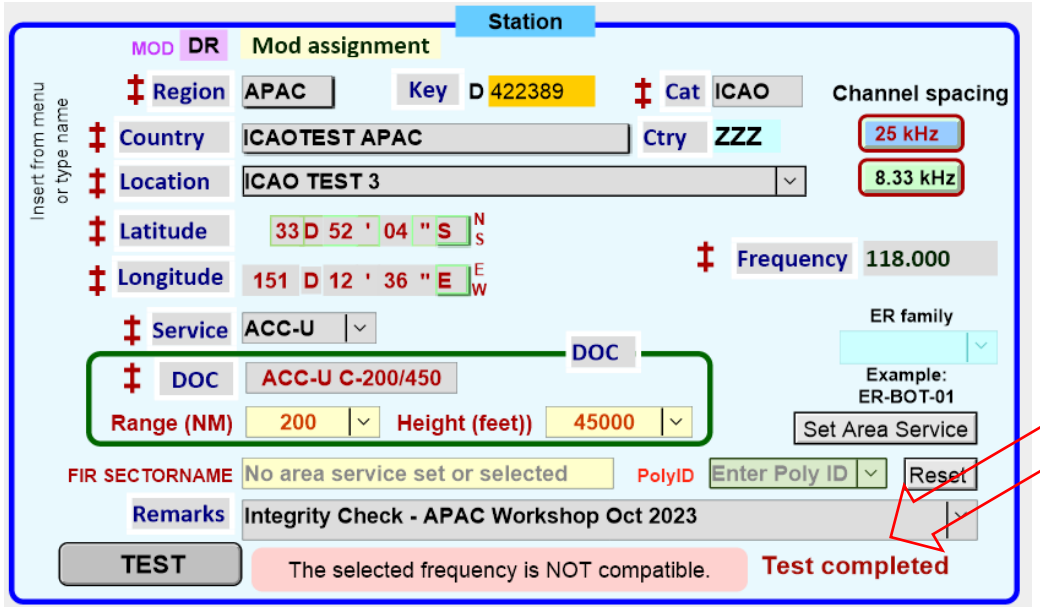
Select "MODIFY Frequency"

Add, Mod or Delete Frequency (Demonstration 2: Mod)

In this demonstration, change
- *Location to ICAO TEST 3*
- *latitude/longitude to 33D52'04"S/151D12'36"E*
- *Frequency to 118.000 MHz*



Then Click "TEST"



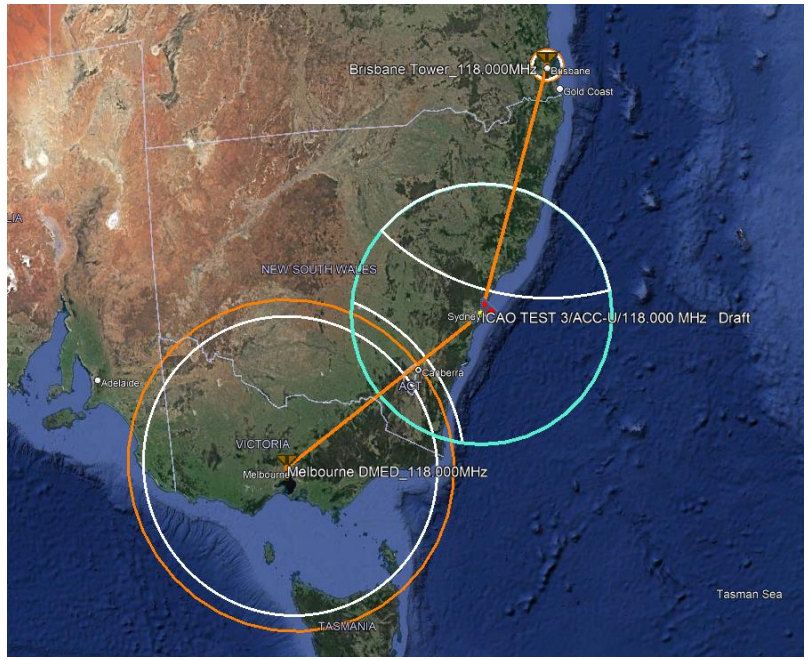
Test result is displayed.
In this demonstration, it said that :
The selected frequency is Not compatible

if you want to see the outcome on the Map, click "Plot interference-All"

Date/time	Key	D	Frequency	Region	Country	Location	Service	Margin	Result co-ch	Margin Result a
09/10/2023 11:58:26	422389	D	118.000	APAC	ICAOTEST APAC	ICAO TEST 3	ACC-U	-598	Not compatible	***	Compatible

Click the button TEST in the pane "Station" to view the calculation results if the fields are empty or the Key in the box Summary is different from the Key in the boc Station

Print co-frequency | Plot interference - All | Print adj-frequency | Plot interference - All



Add, Mod or Delete Frequency (Demonstration 2: Mod)

This selected frequency was Not compatible, so now you need to find an appropriate one!

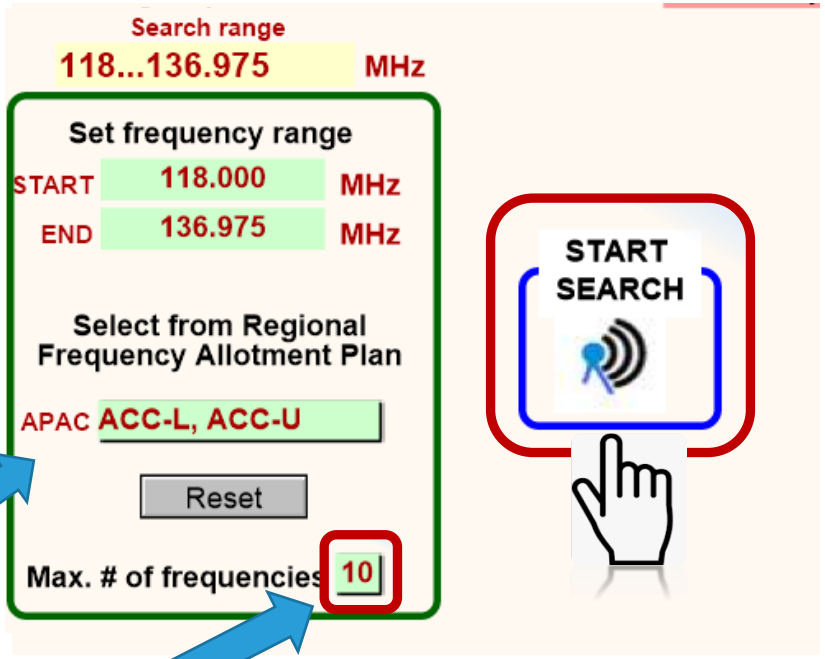
Before "start search", you need to:

- ***Define Search Range***

  (Two options (set frequency range or select from regional frequency allotment plan.
  ***Note.- it is always better to select it from the regional allotment plan!!**).*

- ***Set Maximum # of frequencies***

  (1-10 can be selected)



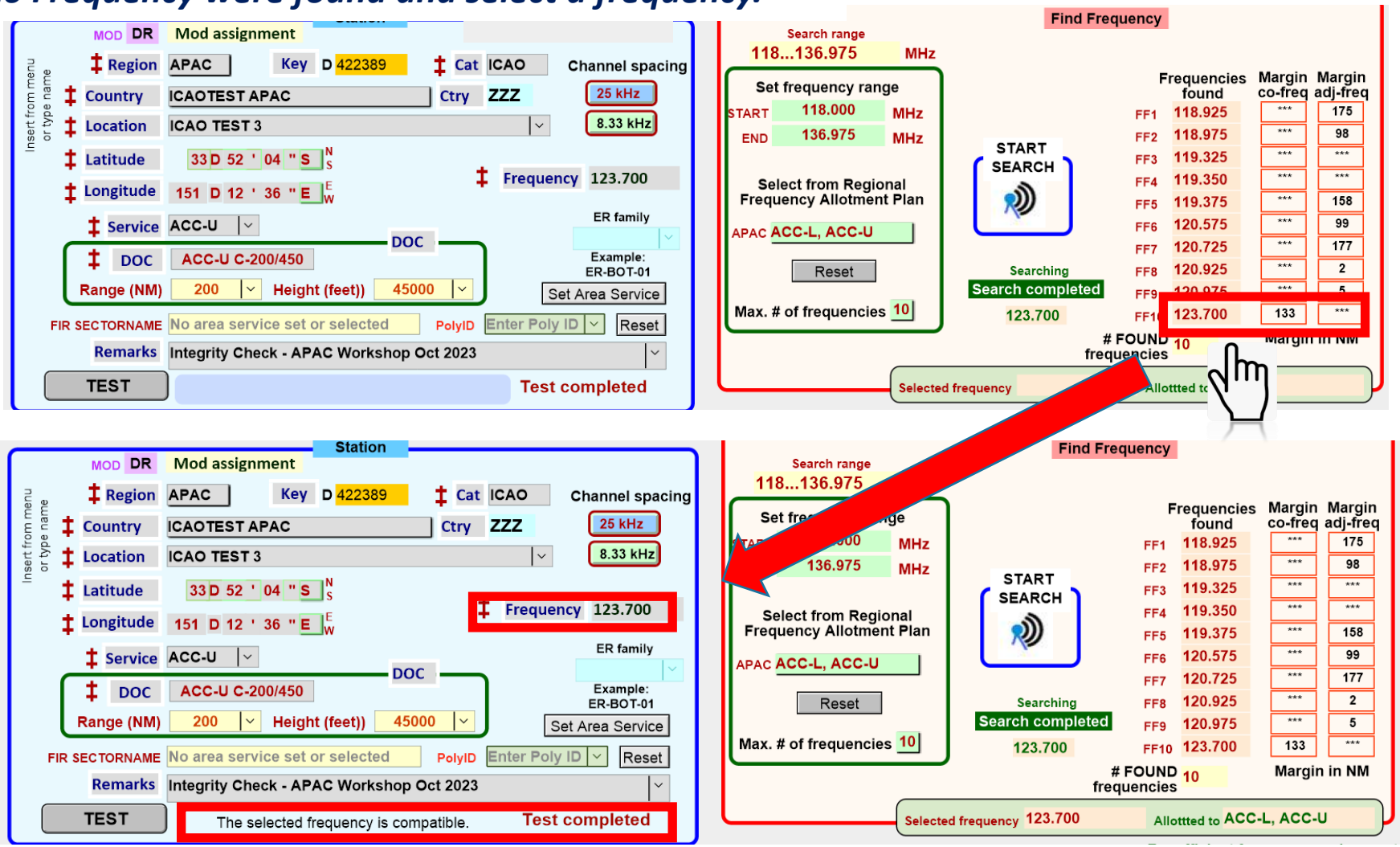
*In this example, select **ACC-L**,**ACC- U** and **10** frequencies*

Then "Start Search"

Add, Mod or Delete Frequency (Demonstration 2: Mod)

When you select a candidate frequency, please consider how you can use the spectrum efficiently!

10 Frequency were found and select a frequency.



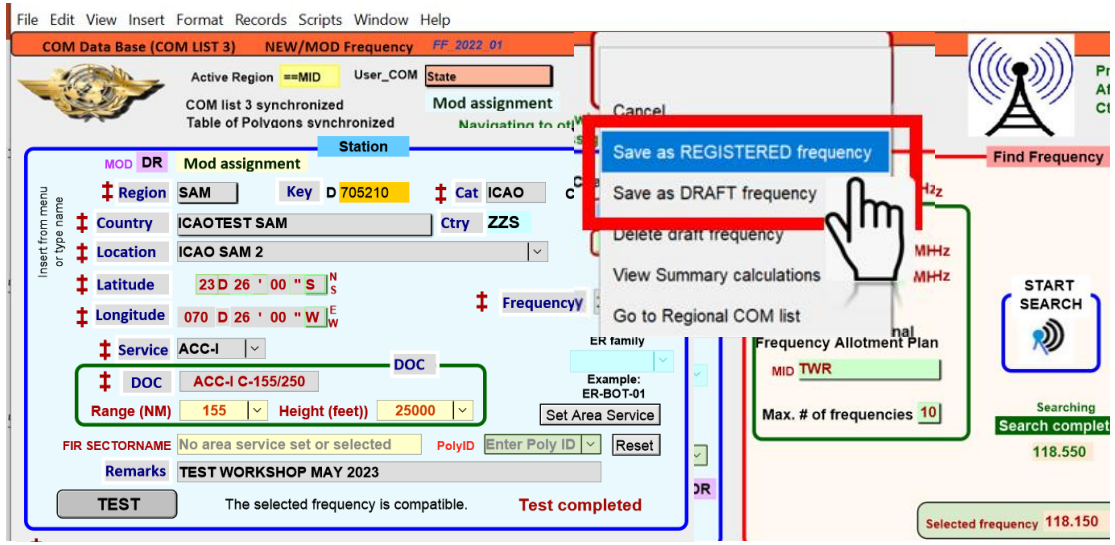
In this demonstration: Click "123.700" .

The frequency you selected will be automatically included in the left side.

When you selected a frequency, FF also checked the compatibility and indicated the result : ***"The selected frequency is compatible. Test completed".***

Add, Mod or Delete Frequency (Demonstration 2: Mod)

You selected the frequency, the result indicates "compatible".



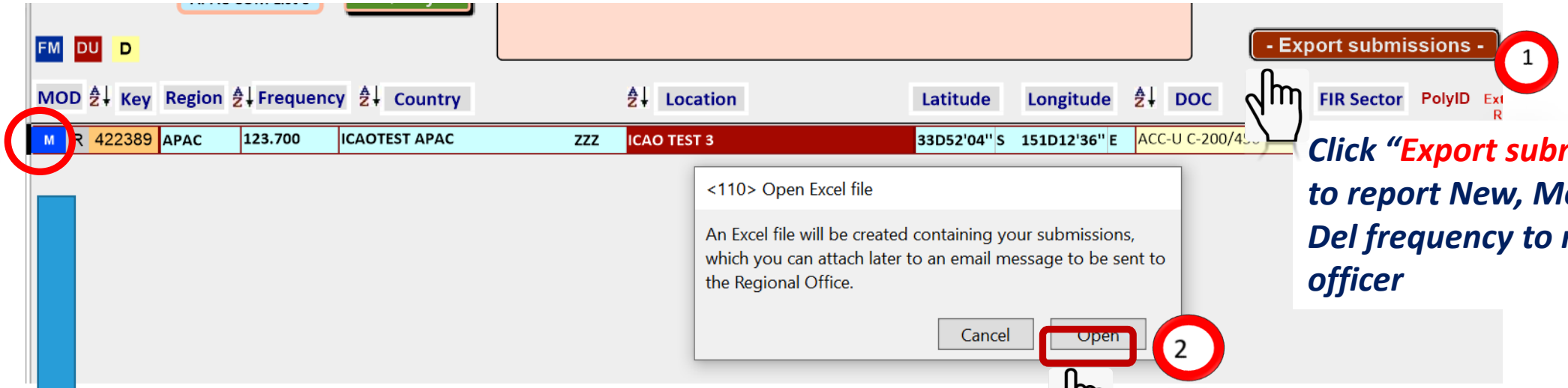
Select :
"Save as DRAFT frequency "
in case you need to work on this assignment more.

"Save as REGISTERED frequency"
in case you completed the assignment and ready for submission

ICAO

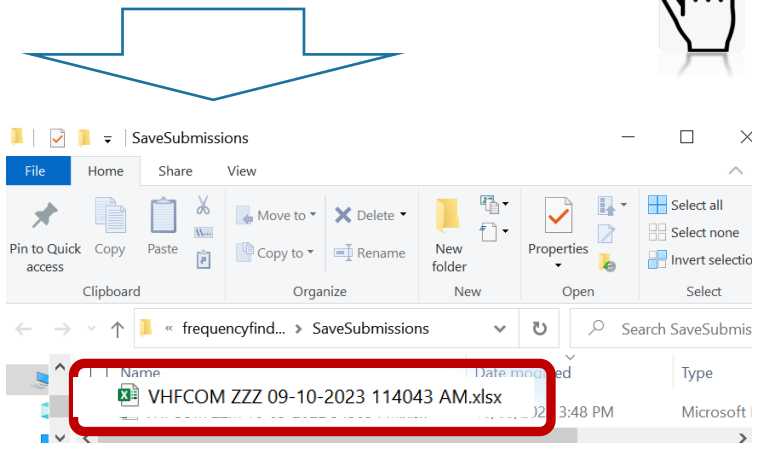
Export Submissions

The registered frequency needs to report to Regional officer



Click "Export submission" to report New, Mod or Del frequency to regional officer

Click "Open"



Through a dialogue box, the State (user) can consult the Excel file prior to submission to the ICAO Regional Office (RO) by email;

Exercises
Add, Modify or Delete Frequency

Prior to start this exercise, please make sure that you have the latest data.

- **Go back to Home page, check sync, and if the message "modification to the global database" appeared, then please select "download".**

Exercise 2- MOD: modify some parameter in the TWR frequency of your country you created in **Exercise 1**- **ADD**, and find an appropriate frequency for that station.

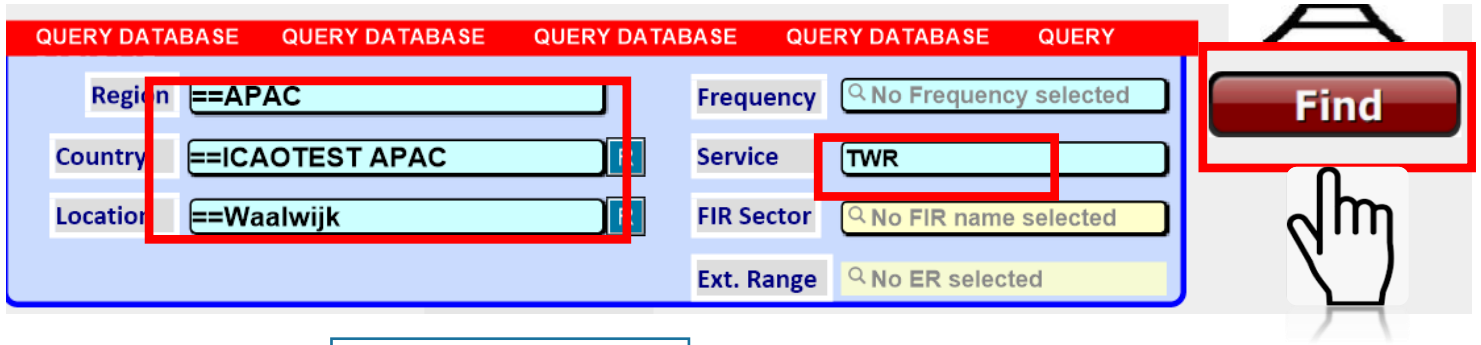
1) Query a frequency (in your country) and select the frequency you created in the **Exercise 1**- **ADD**.
2) Modify the service from **TWR to ATIS**, and find an appropriate frequency for that station (In Remark, please keep the remark "**TEST APAC Workshop 2023**")
3) If you found an appropriate one, save it as registered frequency; and
4) Send it to the Regional officer.

Add, Mod or Delete Frequency (Exercise 2: Mod Example)

Go back to ***Regional COM List 3***

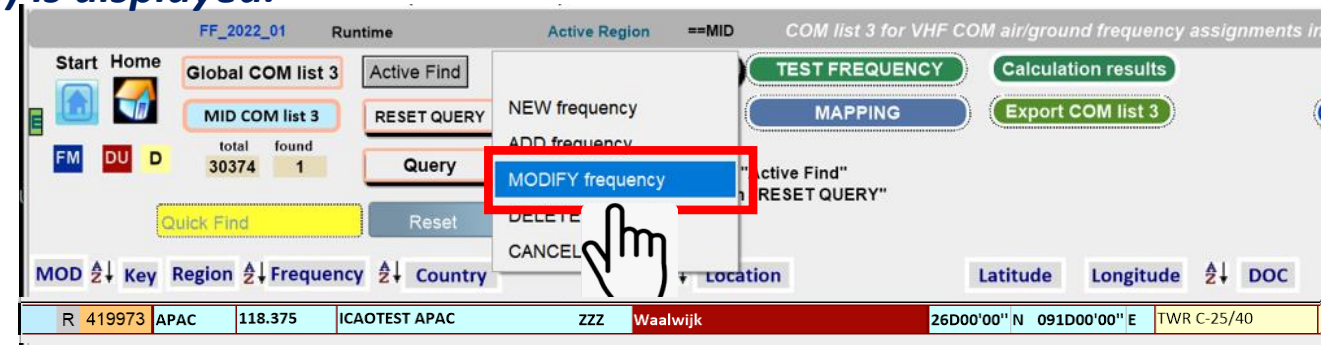
Click "Query"

In this example select,
Country: ICAOTEST APAC
Service: TWR



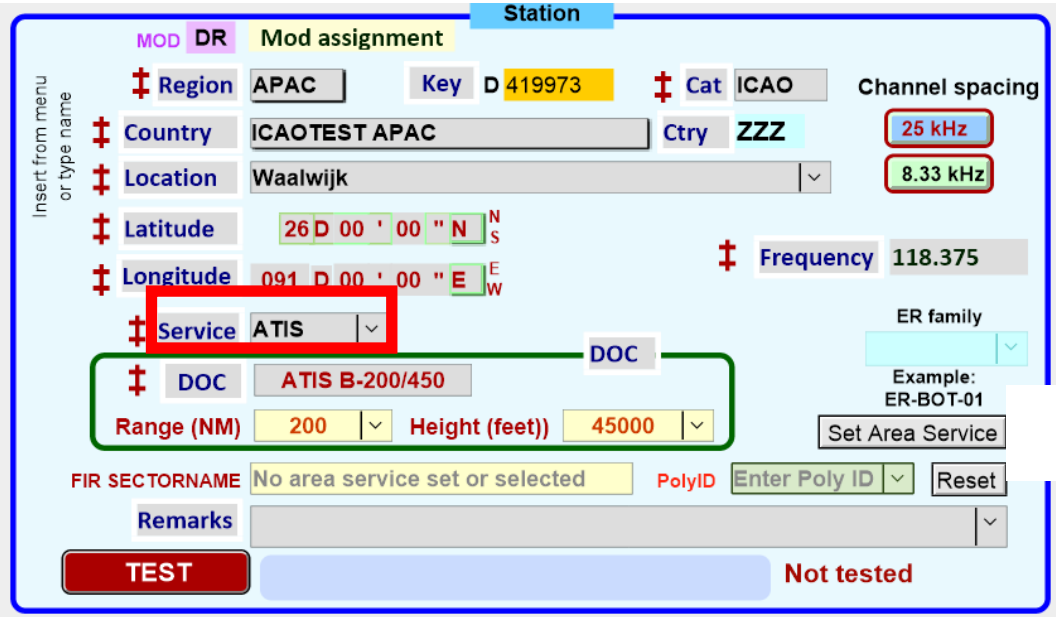
Click "Find"

Query outcome in this example:
(the data with key 419973) is displayed.



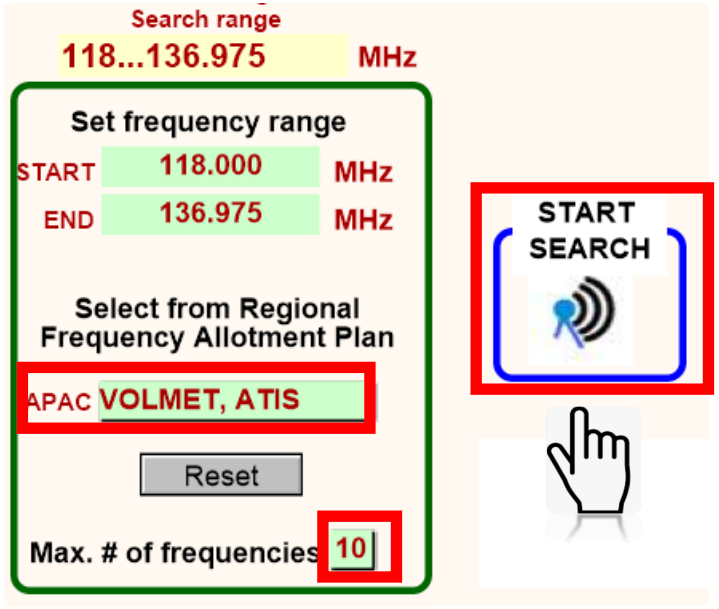
Click "New or Mod or Del Freq,"
Select "MODIFY Frequency"

Add, Mod or Delete Frequency (Exercise 2: Mod Example)



*In this example, I changed the service from "TWR" to "**ATIS**"*

Since I changed the service, I need to find an appropriate frequency for ATIS.



*In this example, I used "regional allotment plan" and select "**VOLMET, ATIS**" and set **maximum # of frequencies 10** for the search.*

Then "Start Search"

ICAO

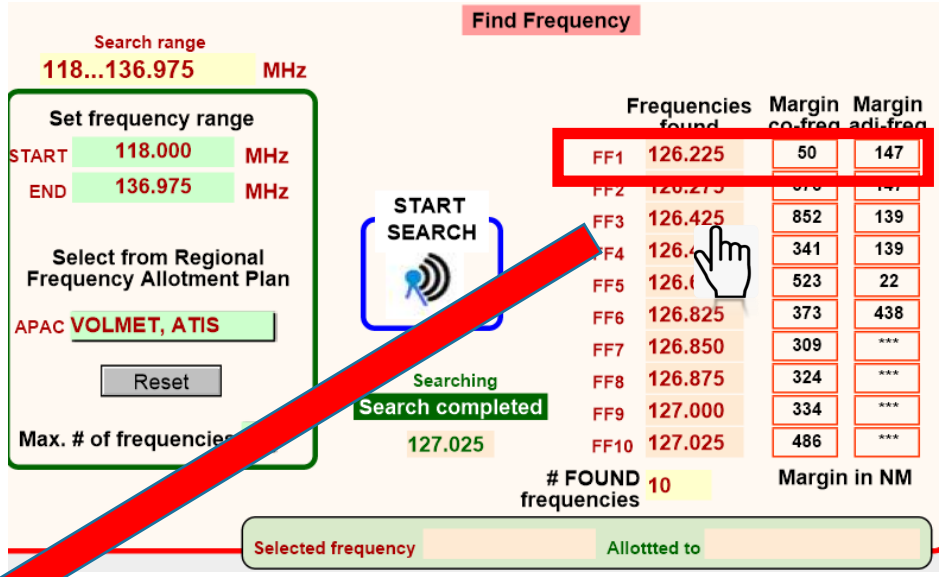
Add, Mod or Delete Frequency (Exercise 2: Mod Example)

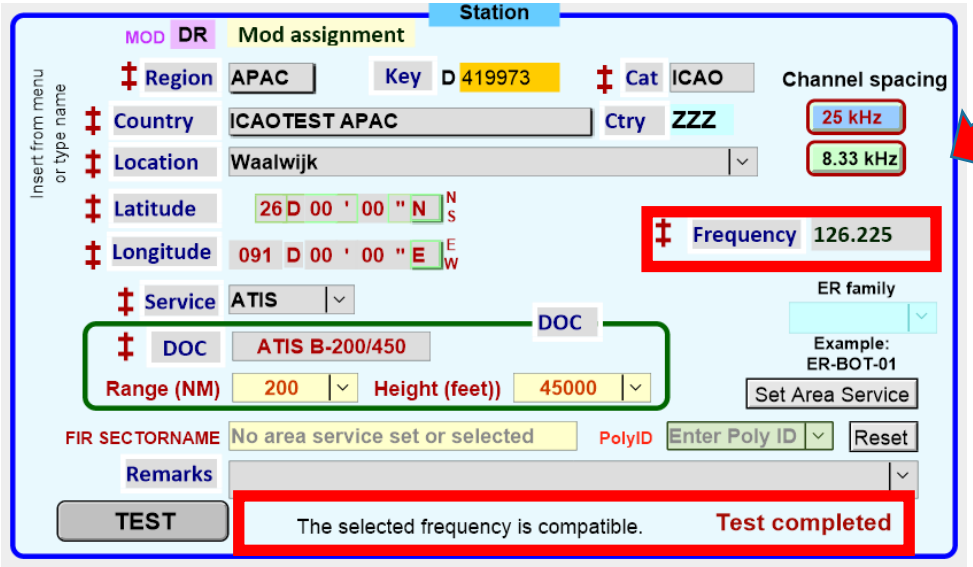
10 Frequency were found and select a frequency.

When you select a candidate frequency, please consider how you can use the spectrum efficiently!

In this demonstration: Click "126.225" .

The frequency you selected will be automatically included in the left side.



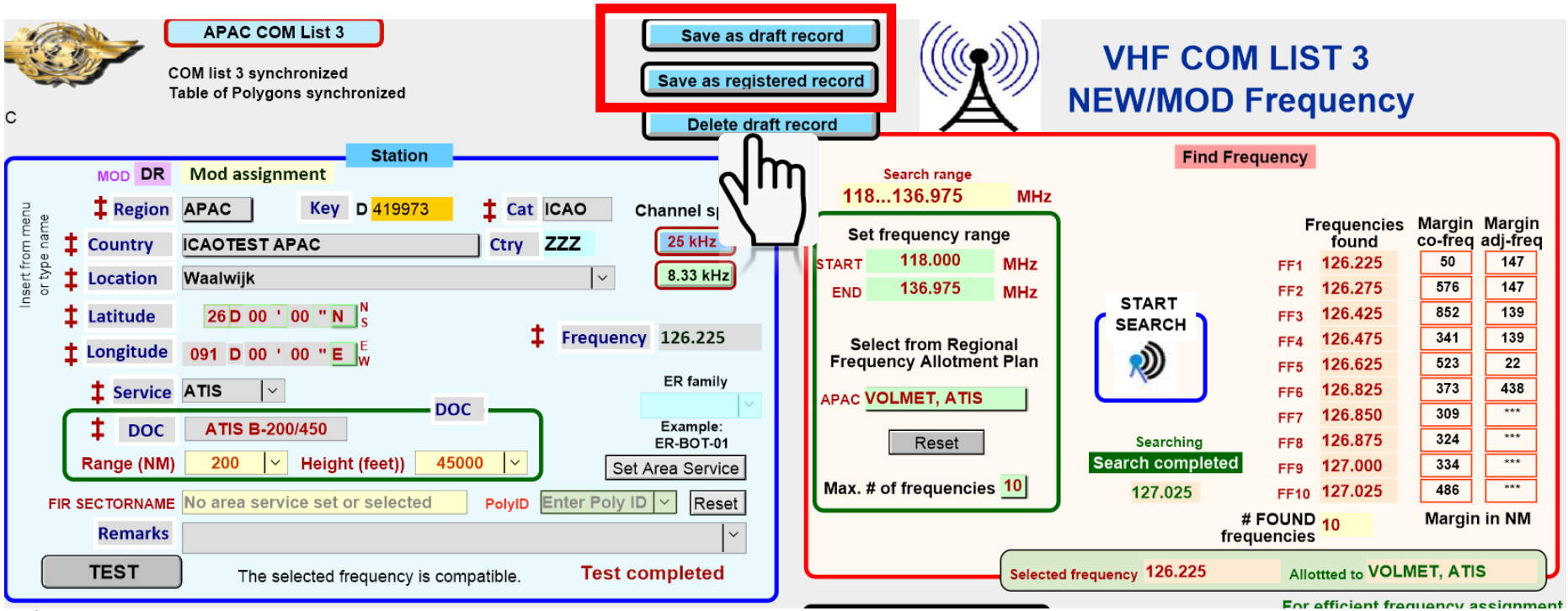


When you selected a frequency, FF also checked the compatibility and indicated the result : ***"The selected frequency is compatible. Test completed".***

ICAO

Add, Mod or Delete Frequency (Exercise 2: Mod example)

You selected the frequency, the result indicates "compatible".



Select :
"Save as DRAFT frequency "
in case you need to work on this assignment more.

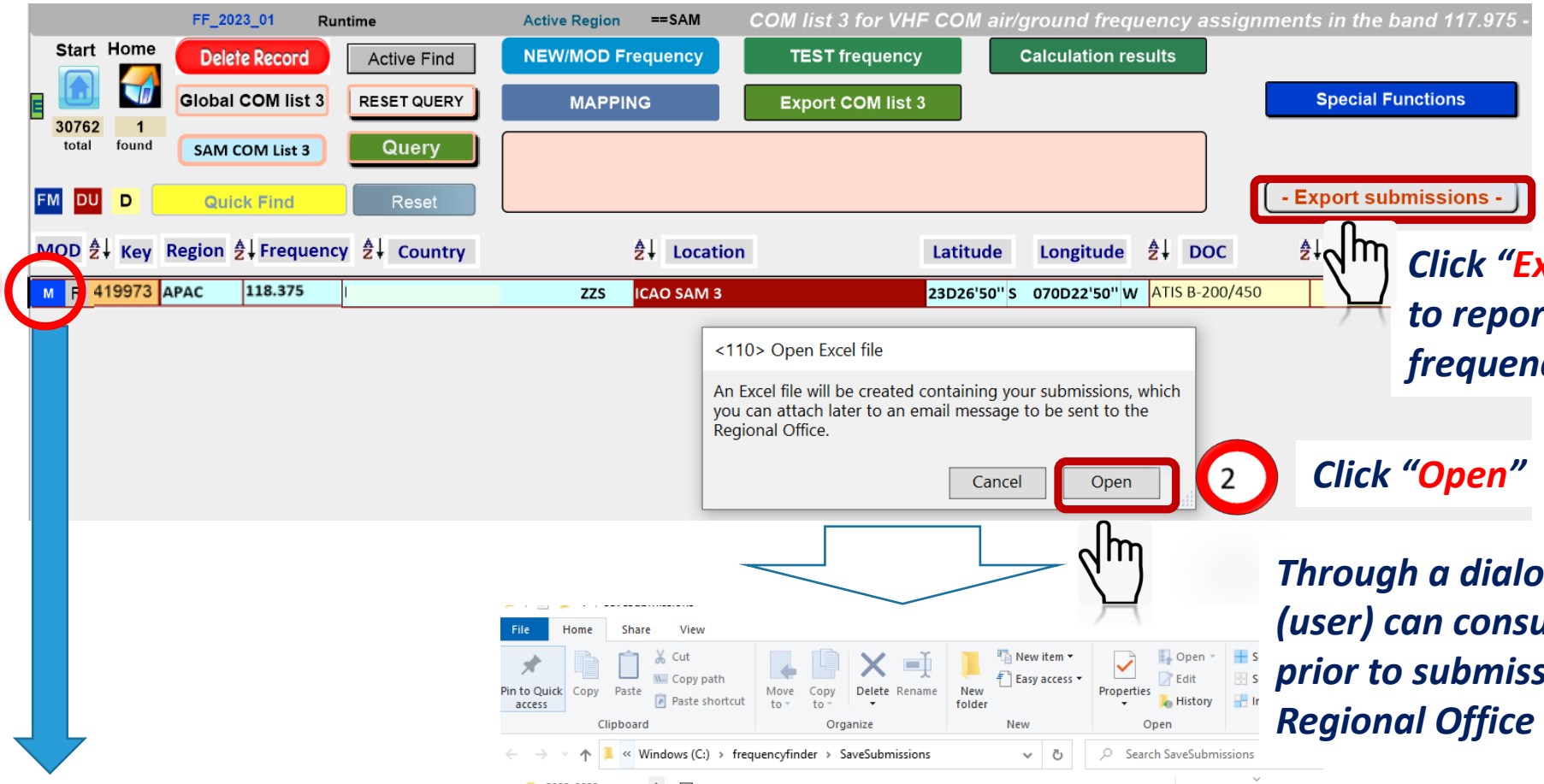
"Save as REGISTERED frequency"
in case you completed the assignment and ready for submission

In this example,
I saved as REGISTERED frequency.

ICAO

Export Submissions

The registered frequency needs to report to Regional officer



Click "Export submission" to report New, Mod or Del frequency to regional officer

Click "Open"

Through a dialogue box, the State (user) can consult the Excel file prior to submission to the ICAO Regional Office (RO) by email;

ICAO

Demonstrations
Add, Modify or Delete Frequency

Demonstration 3- Delete a frequency, using ICAO APAC Key 422390.

1) Query a frequency (State: ***ICAOTEST APAC***, Service **ACC-L**)
2) Delete this frequency, and
3) submit it to the regional officer.

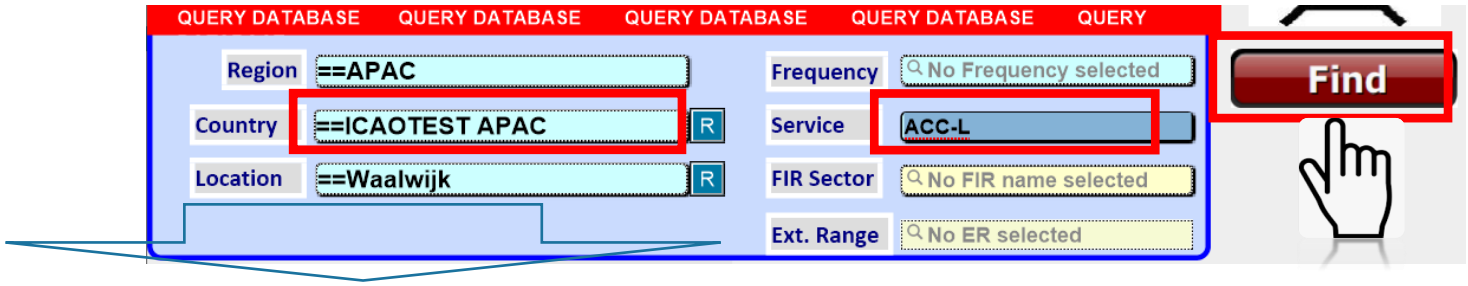
.

Add, Mod or Delete Frequency (Demonstration 3: Del)

Go back to ***Regional COM List 3***

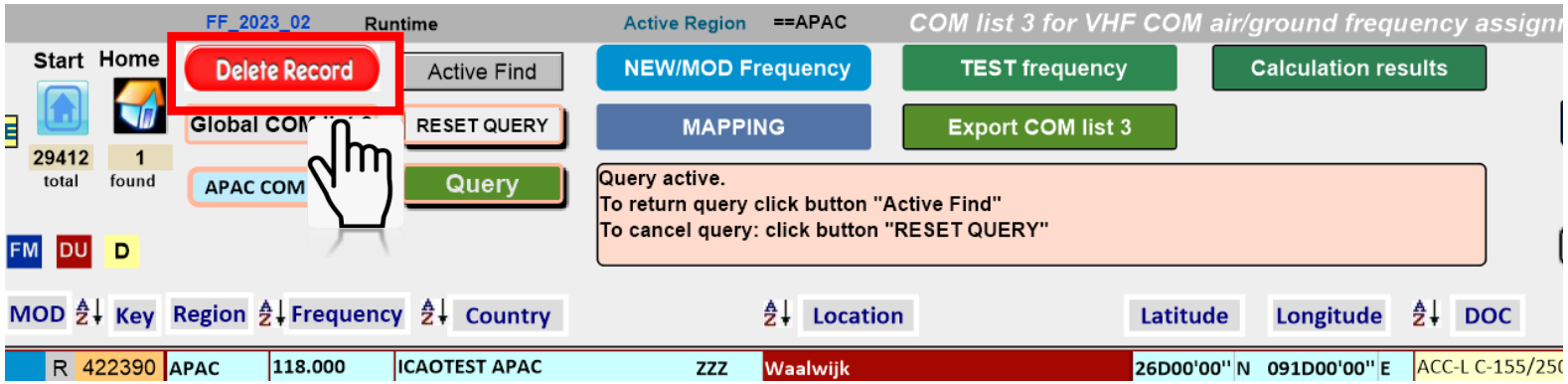
Click "Query"

In this demonstration, select,
Country: ICAO TEST SAM
Service: ACC-L



Click "Find"

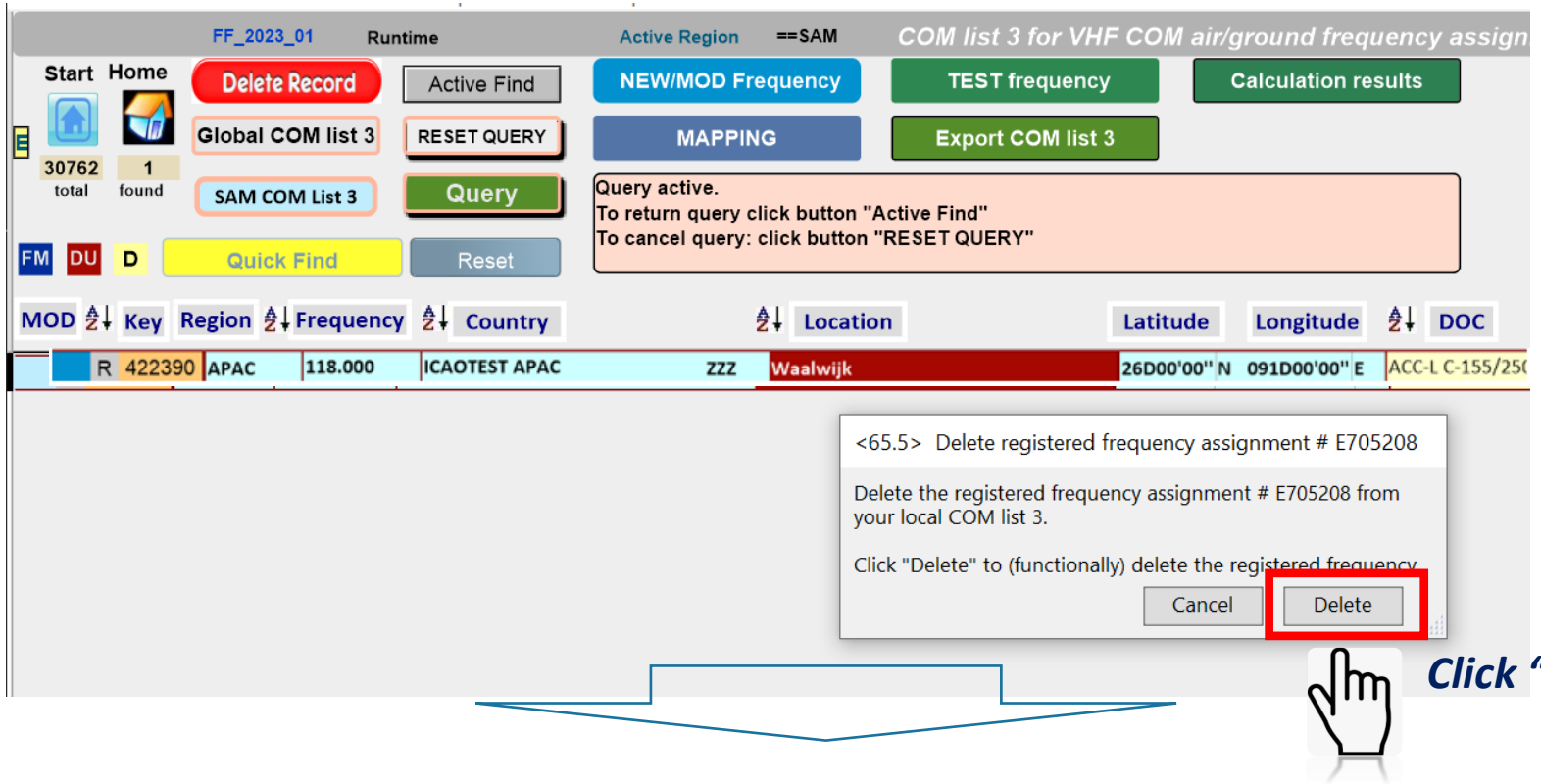
Your Query outcome (the data with key 422390) is displayed in this demonstration.



Click "Delete Record"

Add, Mod or Delete Frequency (Demonstration 3: Del)

Once you selected "DELETE Frequency", the following message appeared.

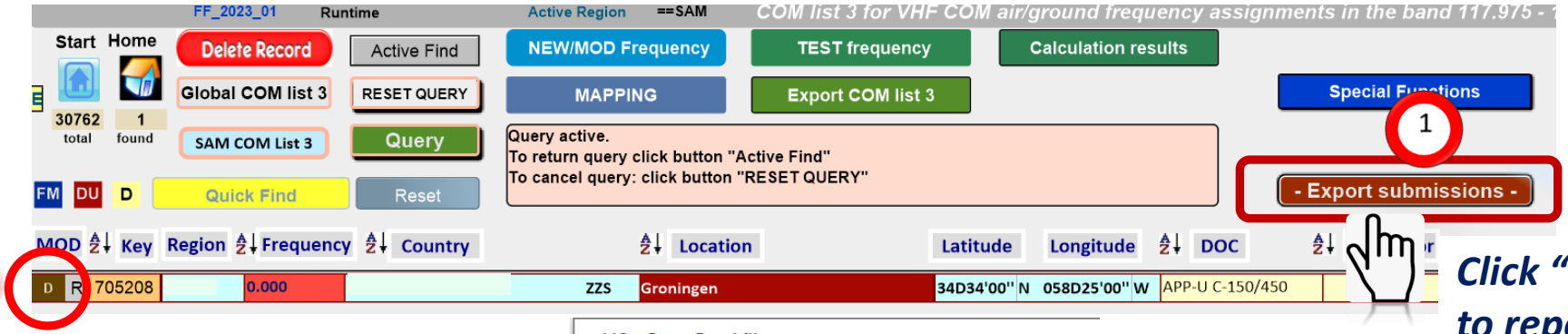


- If you are deleting a "registered frequency ", you need to submit it to the Regional officer using "export submission".
- If you are deleting a "draft frequency", there is no need to send it to Regional office.

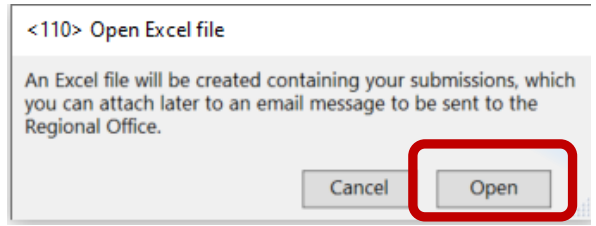
In this demonstration, we are deleting the registered frequency, you need to send it to the Regional officer.

Export Submissions

The registered frequency needs to report to the Regional officer

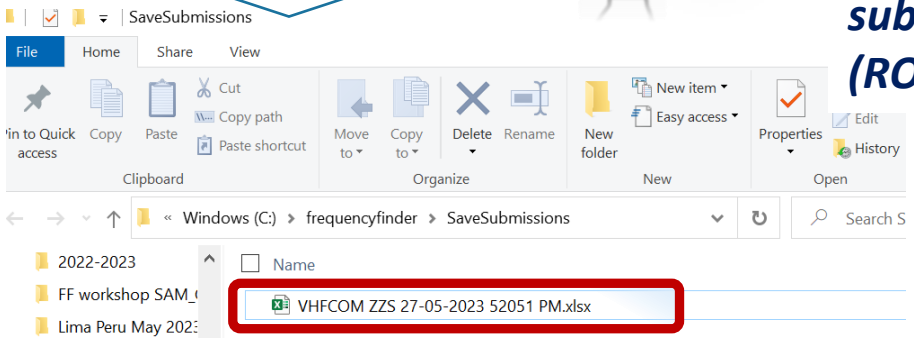


Click "Export submission" to report New, Mod or Del frequency to the regional officer



Click "Open"

Through a dialogue box, the State (user) can consult the Excel file prior to submission to the ICAO Regional Office (RO) by email;



Exercises
Add, Modify or Delete Frequency

Prior to start this exercise, please make sure that you have the latest data.

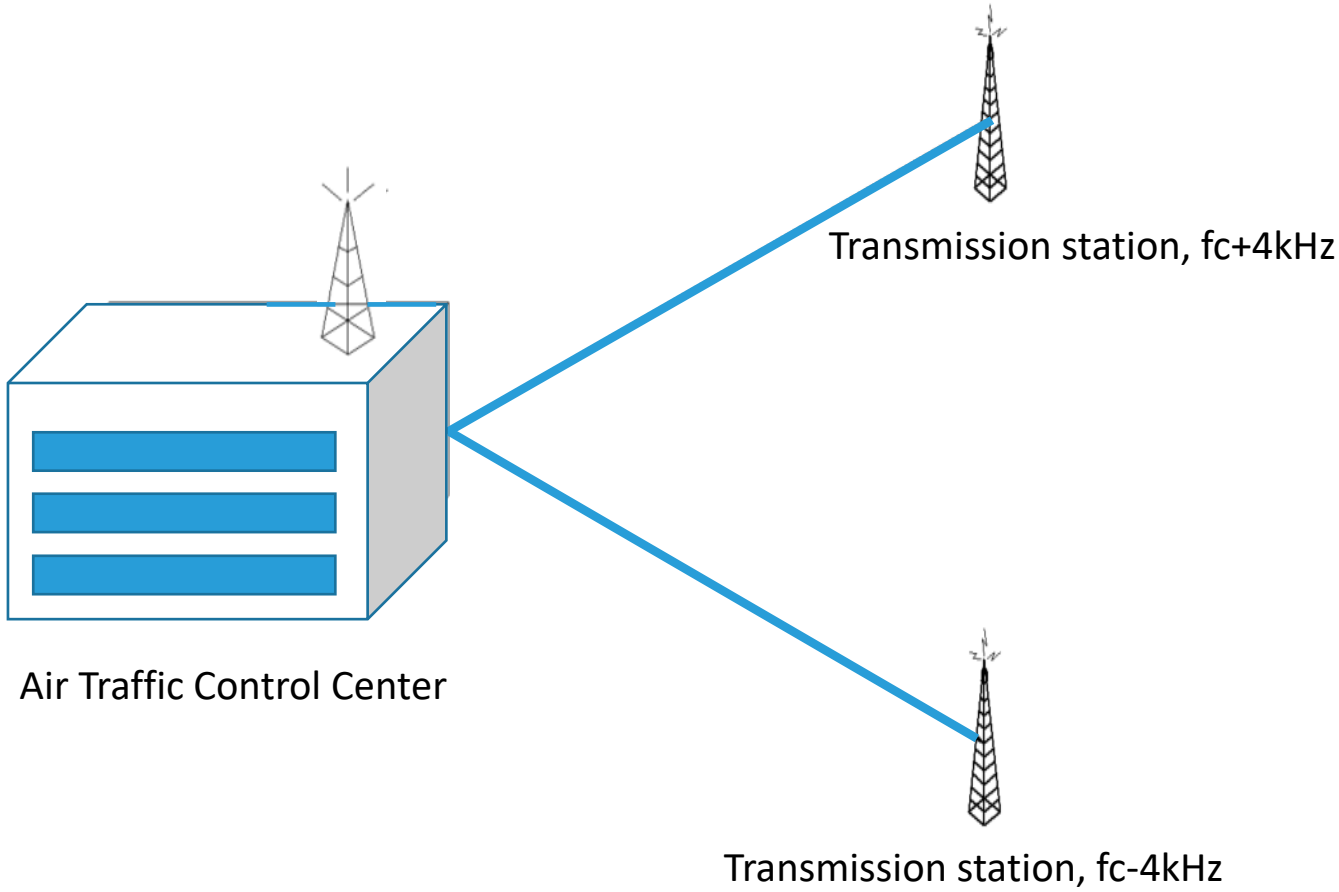
- **Go back to Home page, check sync, and if the message "modification to the global database" appeared, then please select "download".**

Exercise 3- DEL: Delete the ATIS frequency of your country you created in the **Exercise 2- MOD**.

1) Query a frequency (in your country) and select the frequency you created in the Exercise 2 MOD.
2) Click "Delete Record ".
3) Click "Delete"
3) Submit it to the Regional officer.

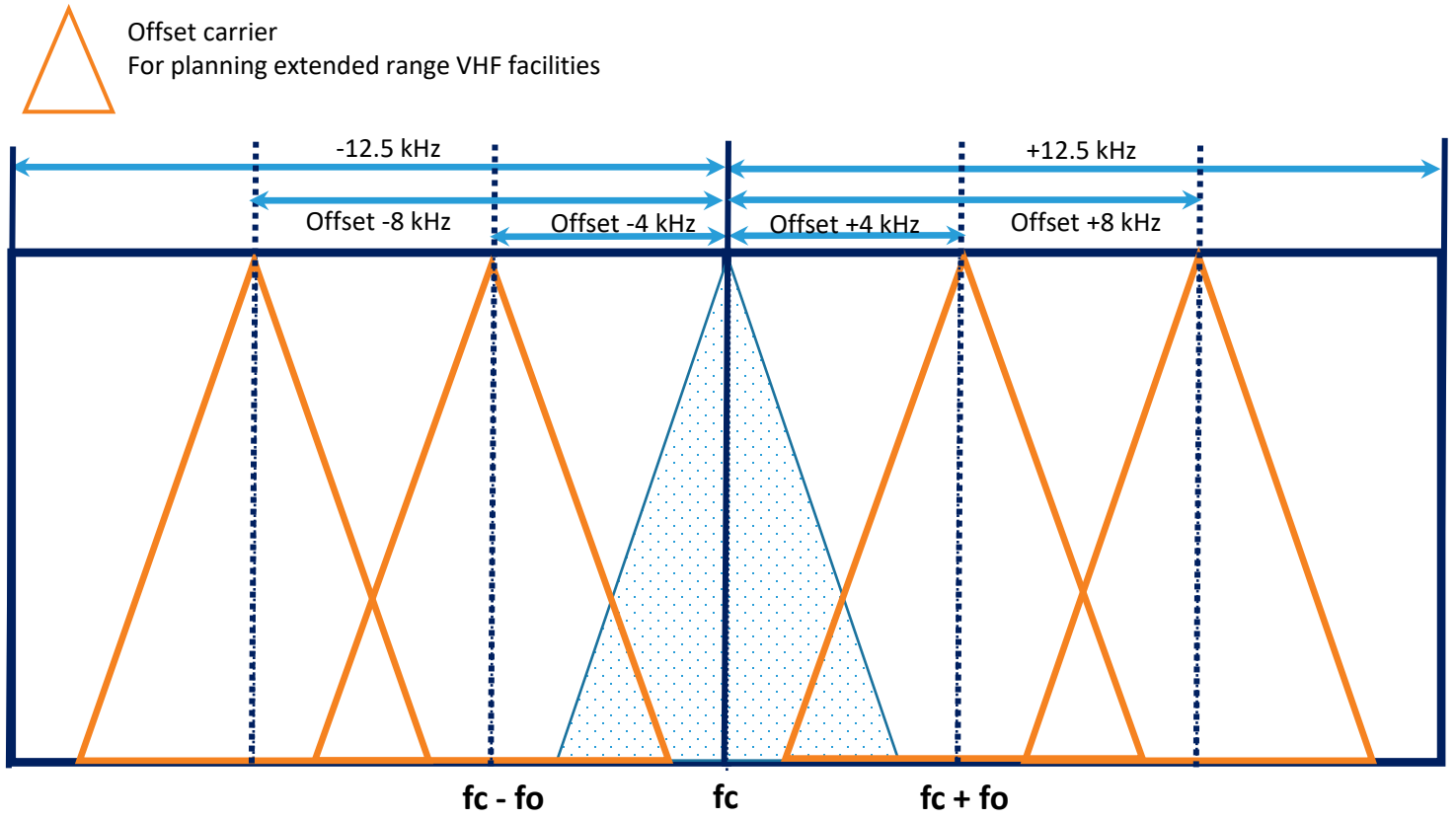
Applying Extended Range (ER) and Area Service

Extended Range (ER) Facilities



- For large geographical ATC sectors or sectors with difficult propagation, the VHF coverage cannot be met with a single ground transmitter.
- In such coverage situations, instead of using several different frequencies, additional coverage is provided through installing extended range stations (forward relay).
- These stations can operate on the same frequency using the offset carrier system or multi-carrier system.

Extended Range (ER) Facilities Cont.



Extended Range (ER) Facilities Cont.

- ER Stations are implemented to provide coverage **over a large geographical area that cannot be covered by a single VHF station**.
- The ER stations operate on the **same frequency in the off-set carrier configuration** (refer to Annex 10).
- All stations within same ER family
  - ***No longer considered as interferer between each other***

(Refer to Frequency Finder Manual)

Extended Range (ER) Facilities Cont.

How to apply Extended range to stations in Frequency Finder

1) For existing ER family,
   - click the drop down menu in the ER family and
   - **select from the available ER families**.
2) For a new ER family,
   - **Type a new ER family name** in the box ER family.

*Note.- This name must be preceded with the characters "**ER-**".*
*E.g. **ER-UAE-01** for a family of frequency assignments in UAE.*

Demonstrations
Extended Range (ER)

Adding Extended Range stations Example 1

1) Add two frequencies based on 401611 (Viet Nam 130.100) and 401612 (Viet Nam 130.100)

R	401611	APAC	130.100	Viet Nam	VTN	CAT BI	20D49'18"	N	106D43'30"	E	ACC-U C-260/450
R	401612	APAC	130.100	Viet Nam	VTN	GIA LAM	20D59'20"	N	105D51'41"	E	ACC-U C-260/450

A frequency based on 401611 (Viet Nam 130.100)

Change information (like below)

- Country : ICAOTEST APAC,
- Location : TEST 4
- Service : ACC-U
- Frequency : **125.925**
- Remark: TEST WORKSHOP 2023

At this moment, No FIR, No extended range

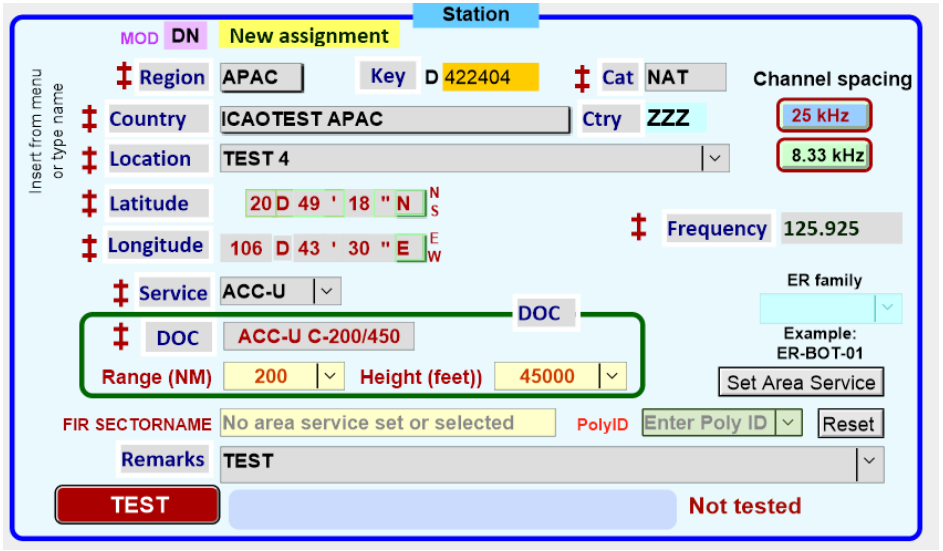
A frequency based on 401612 (Viet Nam 130.100)

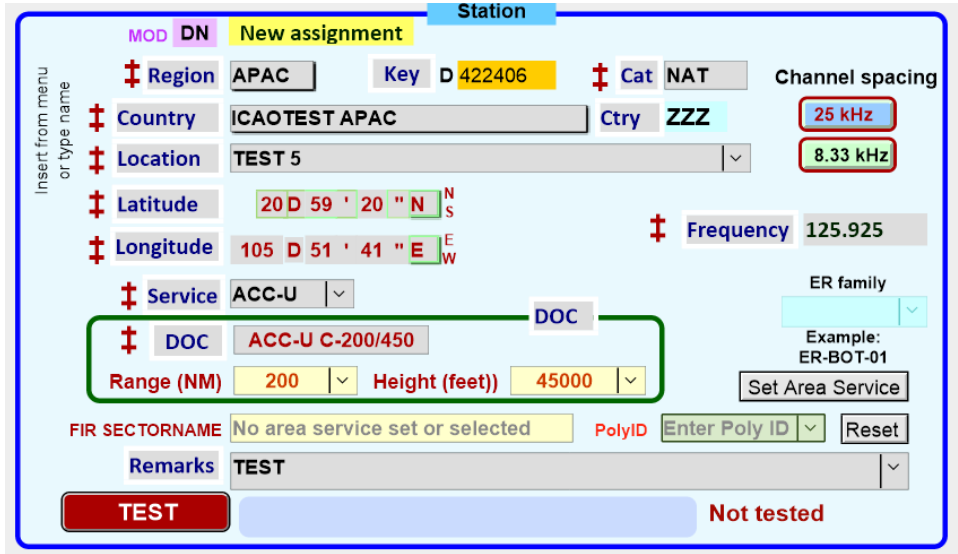
Change information (like below)

- Country : ICAOTEST APAC
- Location : TEST 5
- Service : ACC-U
- Frequency : **125.925**
- Remark : TEST WORKSHOP 2023

At this moment, No FIR, No extended range

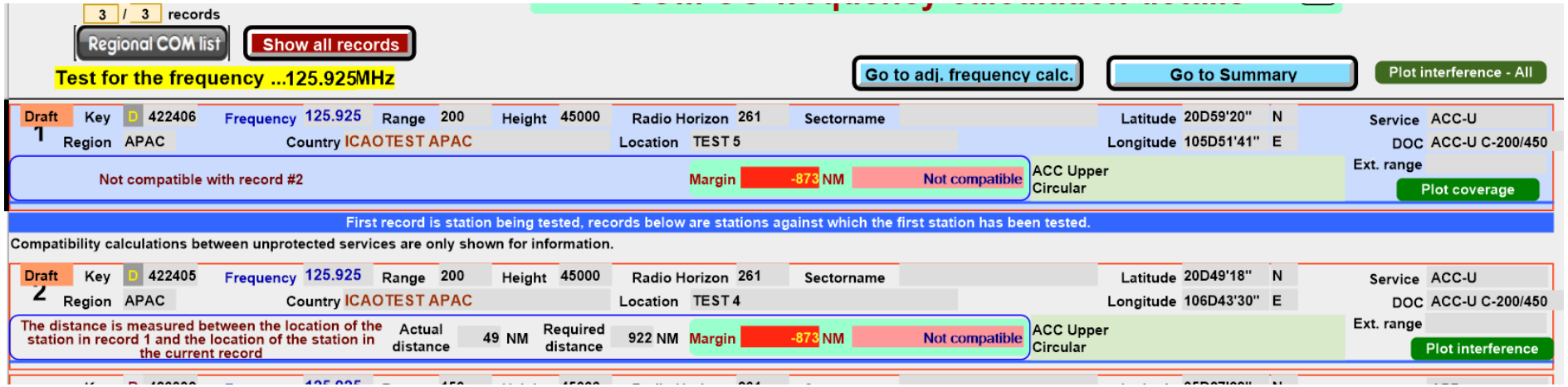
Save as draft frequencies

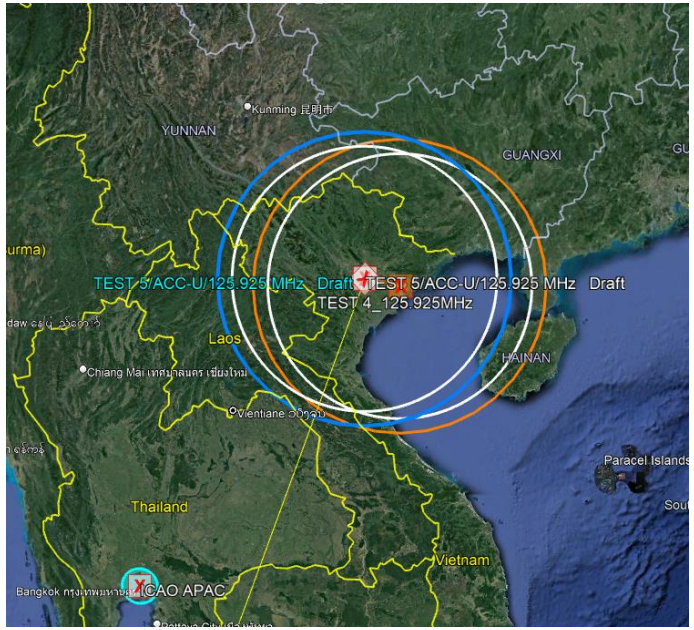




Adding Extended Range stations Example 1 Cont.

2) Then, check compatibility test.
Outcome indicates “not compatible”

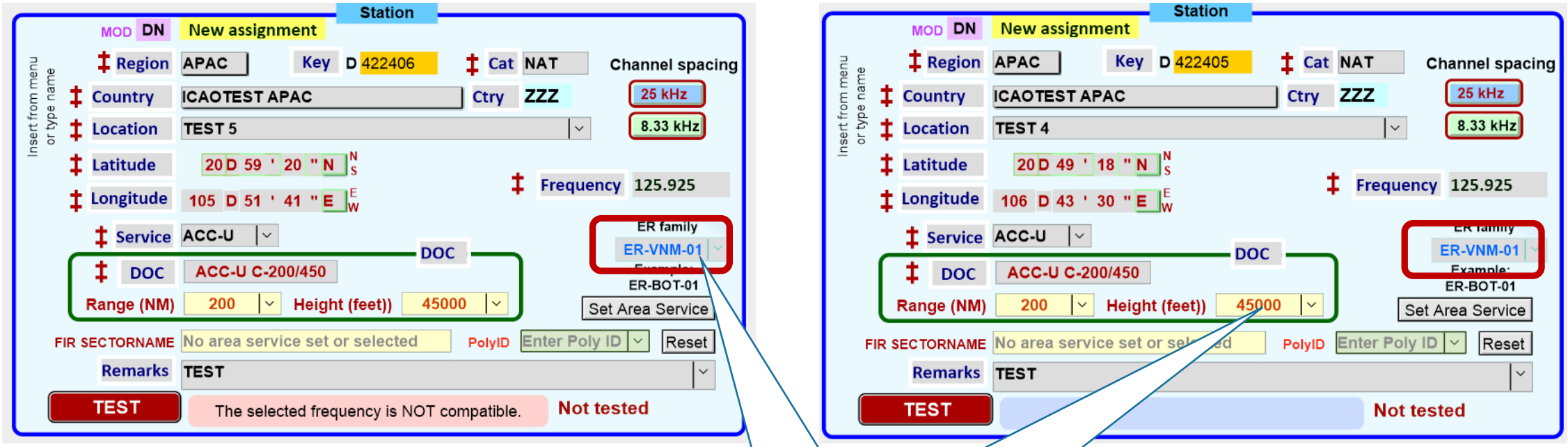




Adding Extended Range stations Example 1 Cont.

3) Add extended range to those two

ER-VNM-01 to both of added draft frequencies



ER-VNM-01

Save as draft frequencies

Adding Extended Range stations Example 1 Cont.

4) Outcome indicates “compatible” thanks to Ext Range

3 / 3 records

Regional COM list | Show all records

Test for the frequency ...125.925MHz

Go to adj. frequency calc. | Go to Summary | Plot interference - All

Draft 1	Key	D	422406	Frequency	125.925	Range	200	Height	45000	Radio Horizon	261	Sectorname		
	Region	APAC		Country	ICAOTEST APAC					Location	TEST 5			

Latitude 20D59'20" N | Longitude 105D51'41" E | Service ACC-U | DOC ACC-U C-200/450 | Ext. range ER-VNM-01 | Plot coverage

Margin 0 NM Compatible | ACC Upper Circular

First record is station being tested, records below are stations against which the first station has been tested.

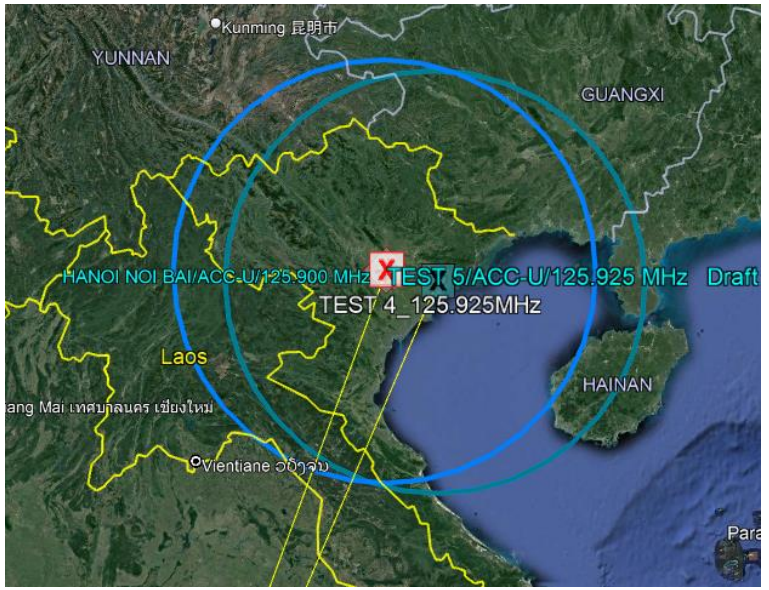
Compatibility calculations between unprotected services are only shown for information.

Draft 2	Key	D	422405	Frequency	125.925	Range	200	Height	45000	Radio Horizon	261	Sectorname		
	Region	APAC		Country	ICAOTEST APAC					Location	TEST 4			

Latitude 20D49'18" N | Longitude 106D43'30" E | Service ACC-U | DOC ACC-U C-200/450 | Ext. range ER-VNM-01 | Plot interference

The distance is measured between the location of the station in record 1 and the location of the station in the current record | Actual distance 49 NM | Required distance 922 NM | Margin 0 NM Extended Range | ACC Upper Circular

Extended Range



Exercise
Add, Modify or Delete Frequency

Exercise 4- ***Update your COM List 3 of the Frequency Finder, using your latest data.***

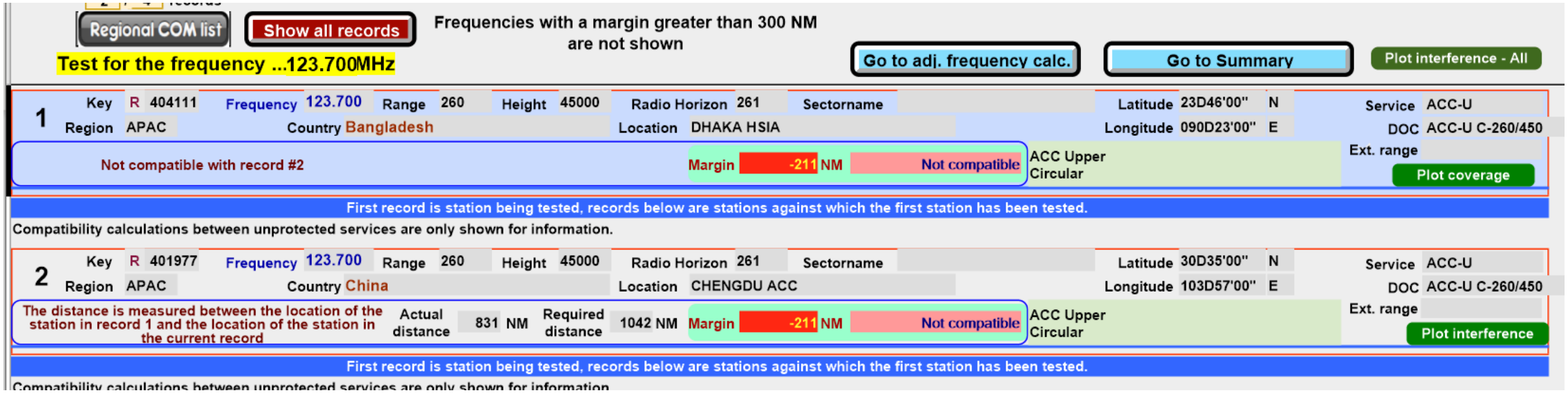
Demonstrations
Area Service

Applying Area Service Example 1

Using an ACC-U frequency in Bangladesh (DHAKA HSIA, 123.700, ACC-U), check the influence when we applied FIR to the frequency.

A frequency with key code 404111 (*DHAKA HSIA, 123.700, ACC-U*) is not compatible with a frequency with key code 401977 (China, 123.700 MHz).

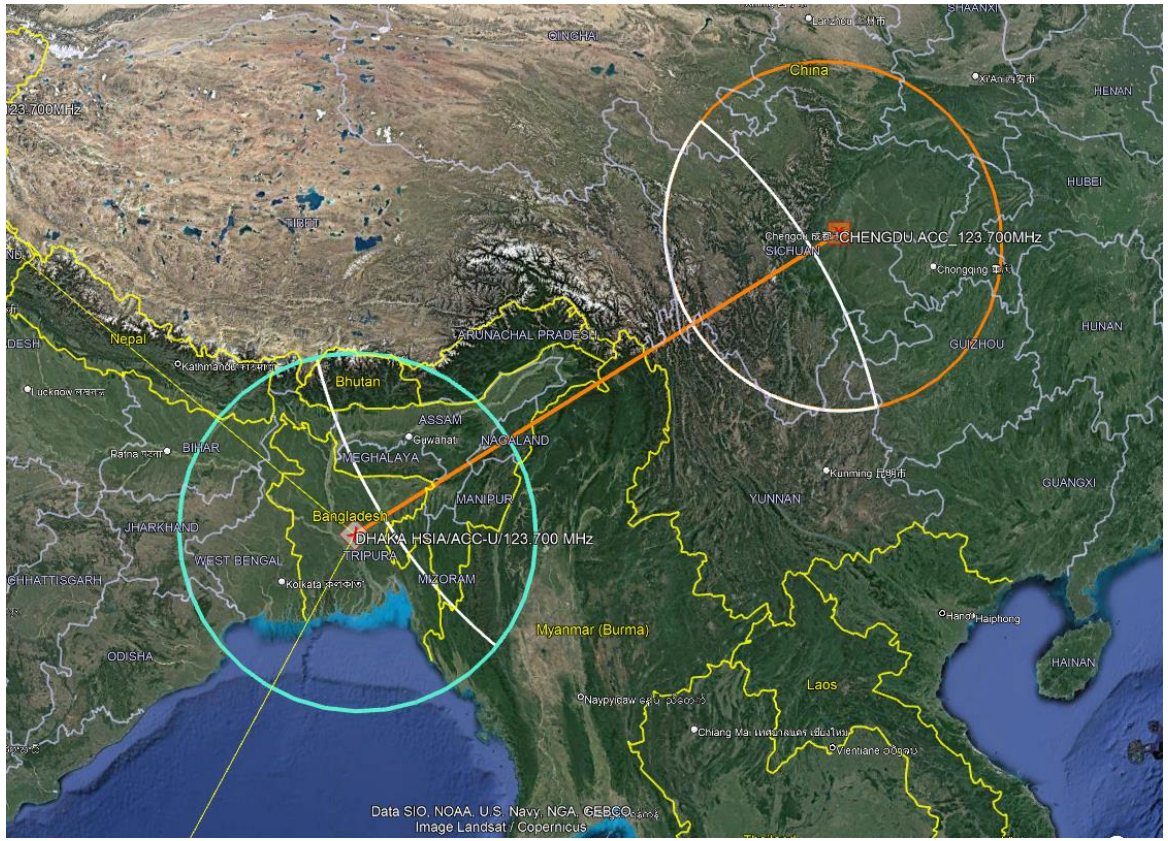
The required distance is 1042 NM, but the actual distance is 831 NM.
Its margin is -211 NM.



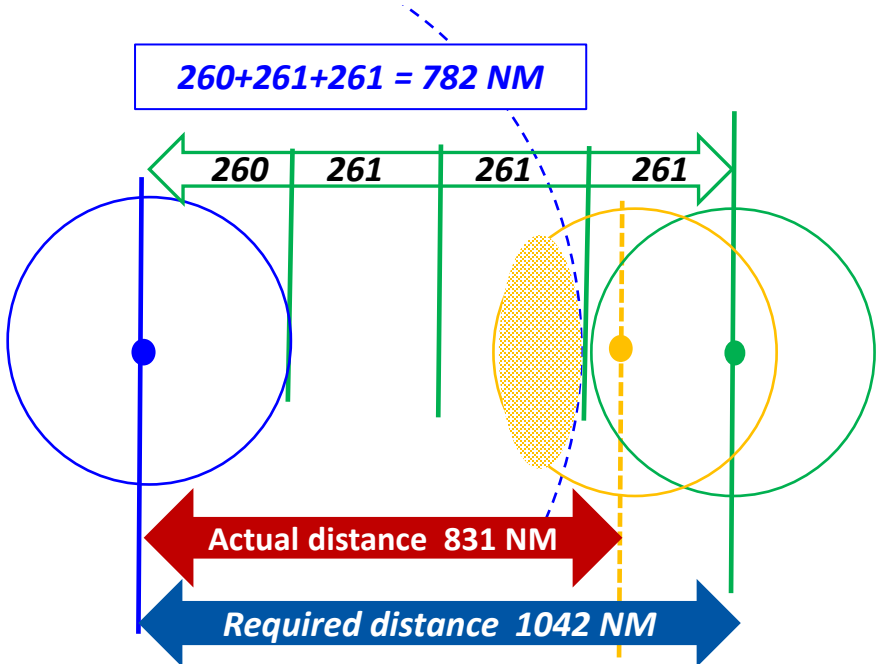
Applying Area Service Example 1 Cont.

A frequency with key code 404111 (*DHAKA HSIA, 123.700, ACC-U*) is not compatible with a frequency with key code 401977 (China, 123.700 MHz).

The required distance is 1042 NM, but the actual distance is 831 NM.
Its margin is -211 NM.



FF calculates the possible interference based on the radius:782 NM



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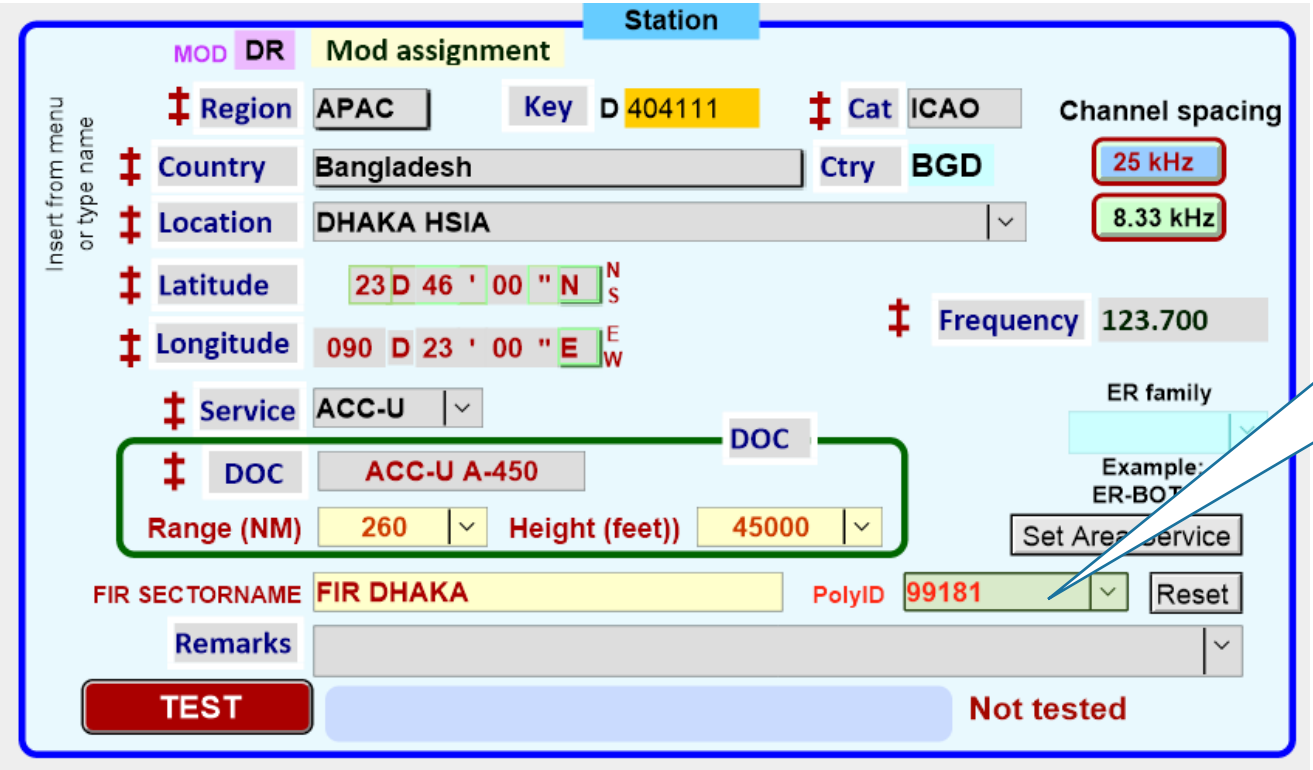
Applying Area Service Example 1 Cont.

A frequency with key code 404111 (*DHAKA HSIA, 123.700, ACC-U*) is not compatible with a frequency with key code 401977 (China, 123.700 MHz).

If added DHAKA FIR (Poly ID: 99181) to the frequency ACC-U frequency in DHAKA HSIA (DHAKA HSIA, 123.700, ACC-U, key code 404111), what will be the outcome of the compatibility test?

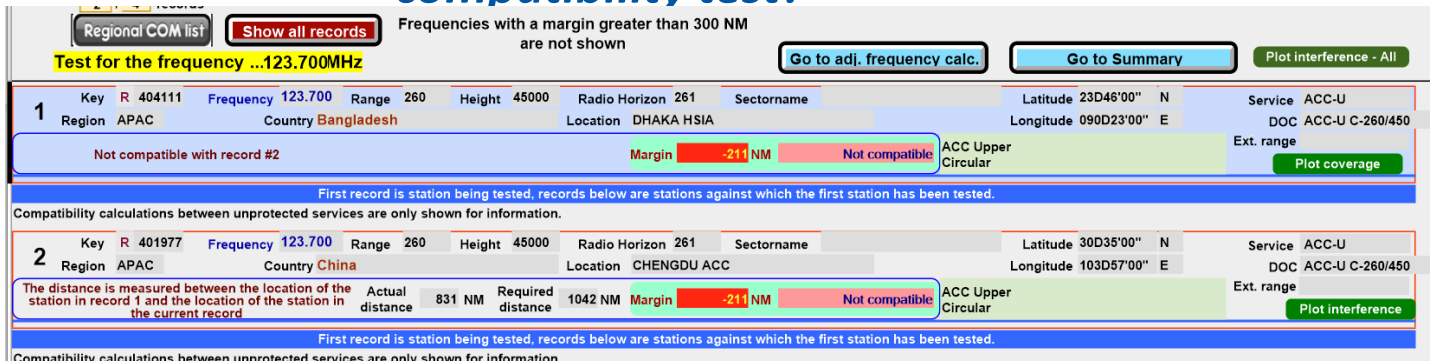


If added Poly ID (**99181**)

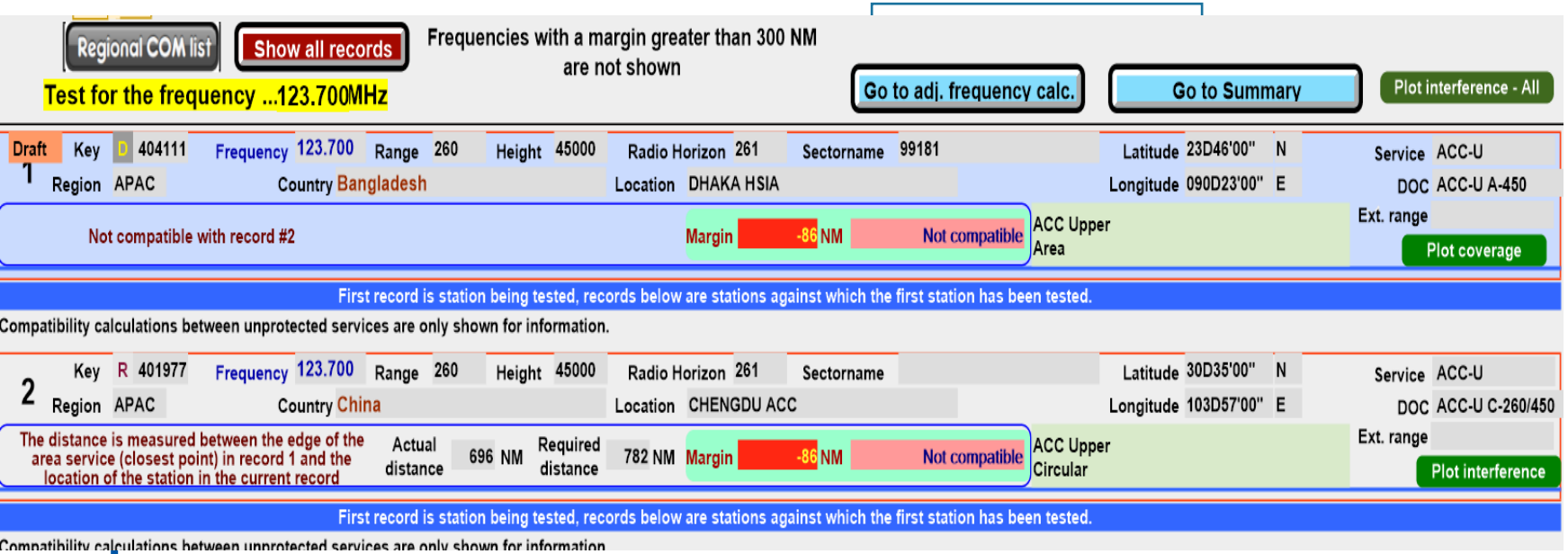
*Refer to **Appendix G of the user manual** for Poly ID*

Applying Area Service Example 1 Cont.

If added DHAKA FIR (Poly ID: 99181) to the frequency ACC-U frequency in DHAKA HSIA (DHAKA HSIA, 123.700, ACC-U, key code 404111), what will be the outcome of the compatibility test?



A frequency with key code 404111 (*DHAKA HSIA, 123.700, ACC-U*) is not compatible with a frequency with key code 401977 (China, 123.700 MHz). The required distance is 1042 NM, but the actual distance is 831 NM. **Its margin is -211 NM**.



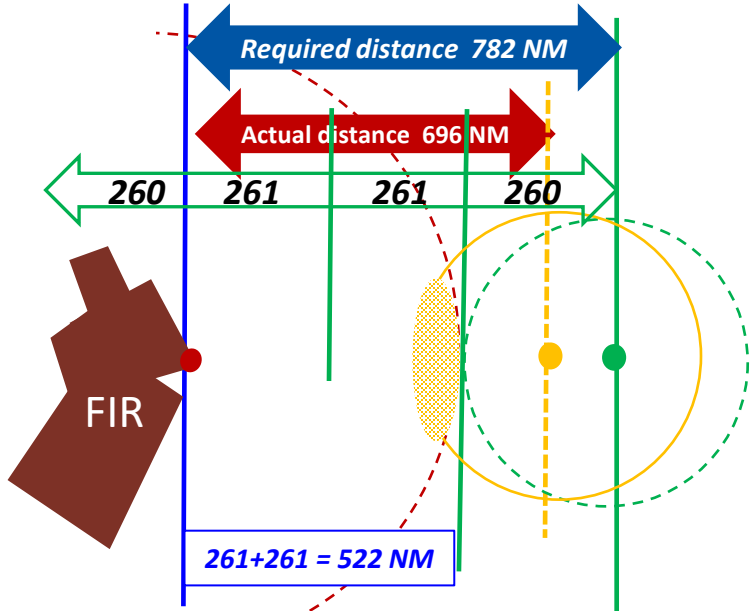
A frequency with key code 404111 (*DHAKA HSIA, 123.700, ACC-U*) is not compatible with a frequency with key code 401977 (China, 123.700 MHz). **But its margin is reduced from -211 NM to -86 NM.**

Applying Area Service Example 1 Cont.

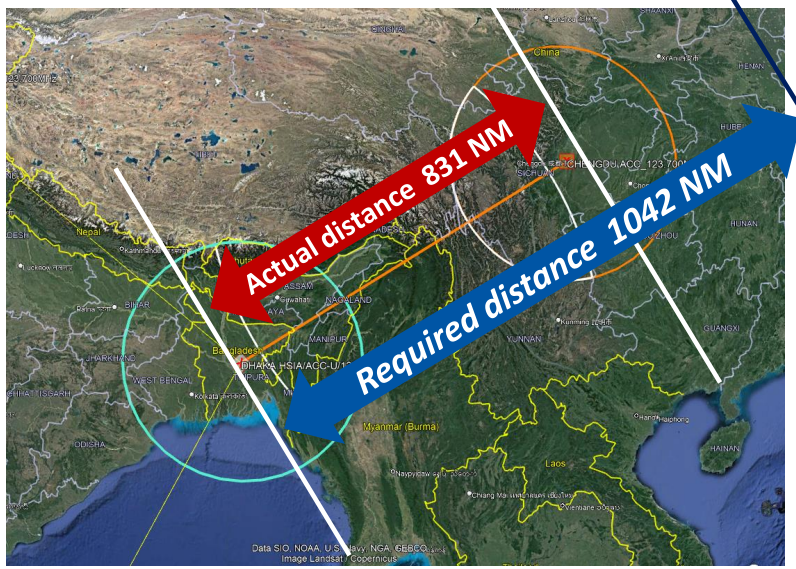
If added DHAKA FIR (Poly ID: 99181) to the frequency ACC-U frequency in DHAKA HSIA (DHAKA HSIA, 123.700, ACC-U, key code 404111), what will be the outcome of the compatibility test?

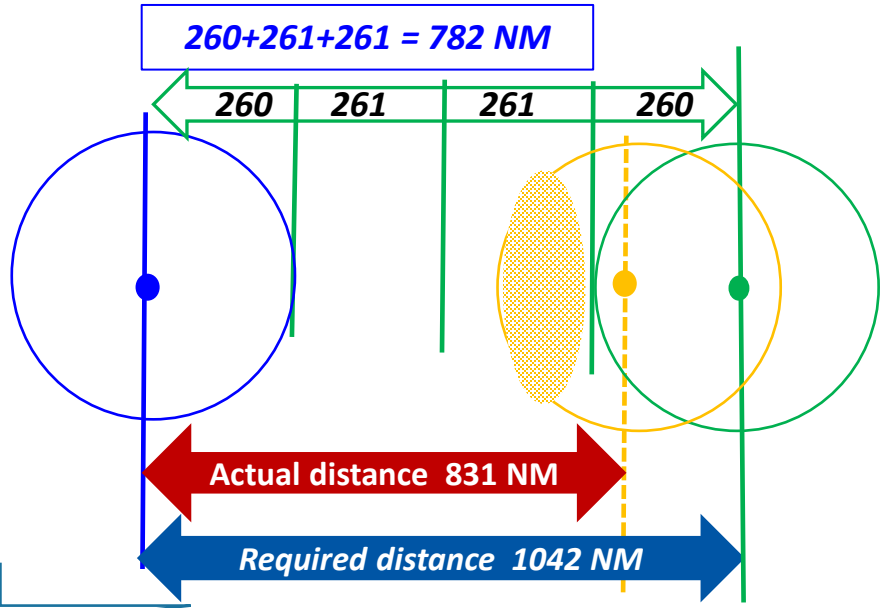
A frequency with key code 404111 (*DHAKA HSIA, 123.700, ACC-U*) is not compatible with a frequency with key code 401977 (China, 123.700 MHz).
But its margin is reduced from -211 NM to -86 NM.

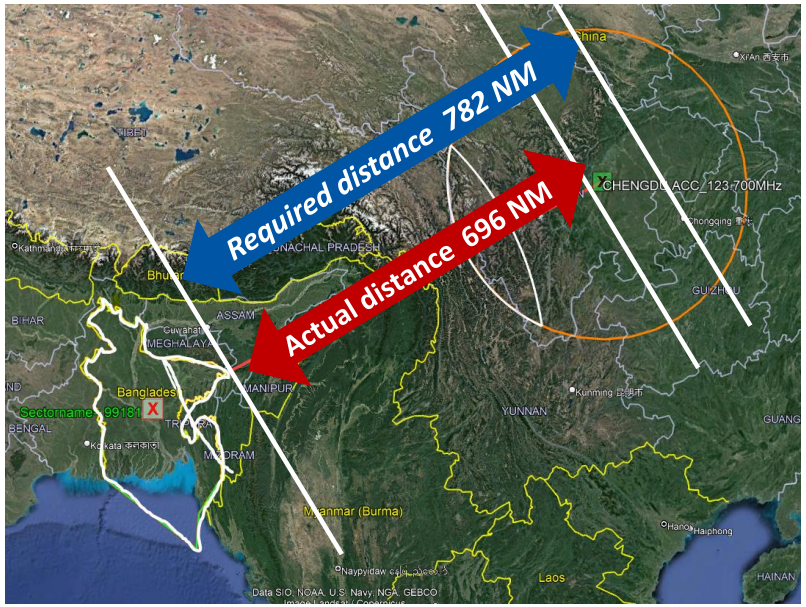
FF calculates the possible interference based on the radius:522 NM

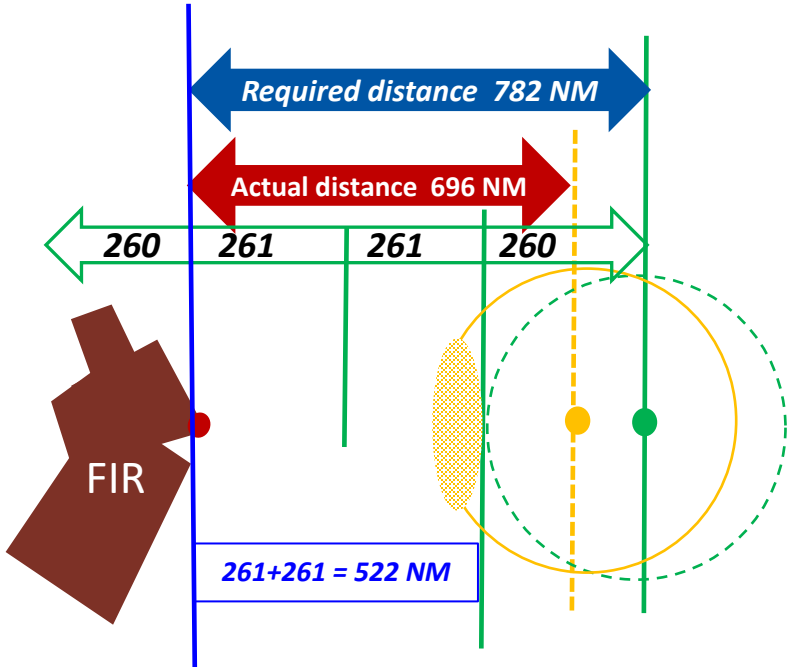


Applying Area Service Example 1 Cont.









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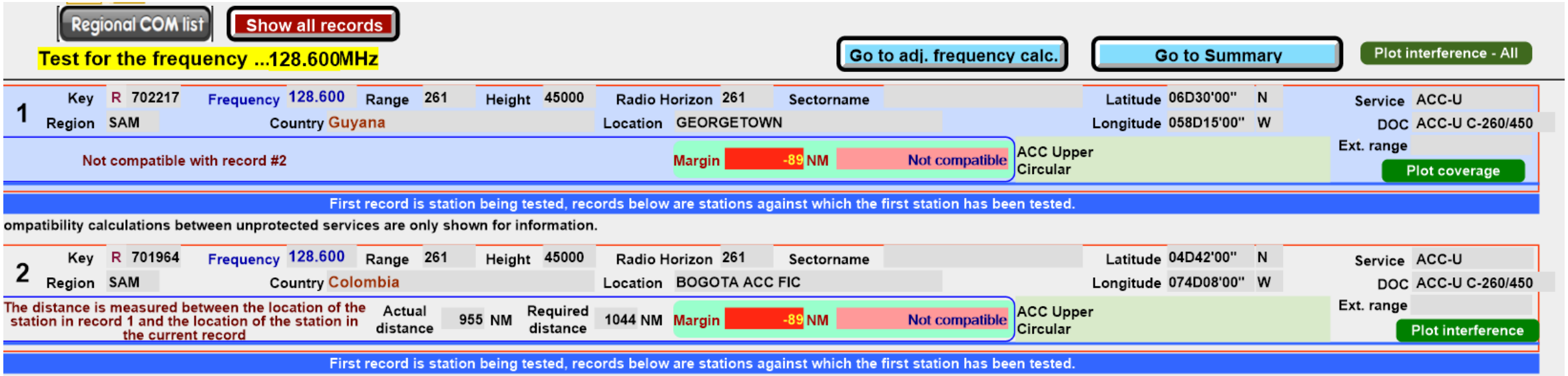
Applying Area Service Example 2

Using an ACC-U frequency in Guyana (GEORGETOWN, 128.600, ACC-U), check the influence when we applied FIR to the frequency.

A frequency with key code 702217 (*Guyana, GEORGETOWN, 128.600*) is not compatible with a frequency with key code 701964 (Colombia, 128.600 MHz).

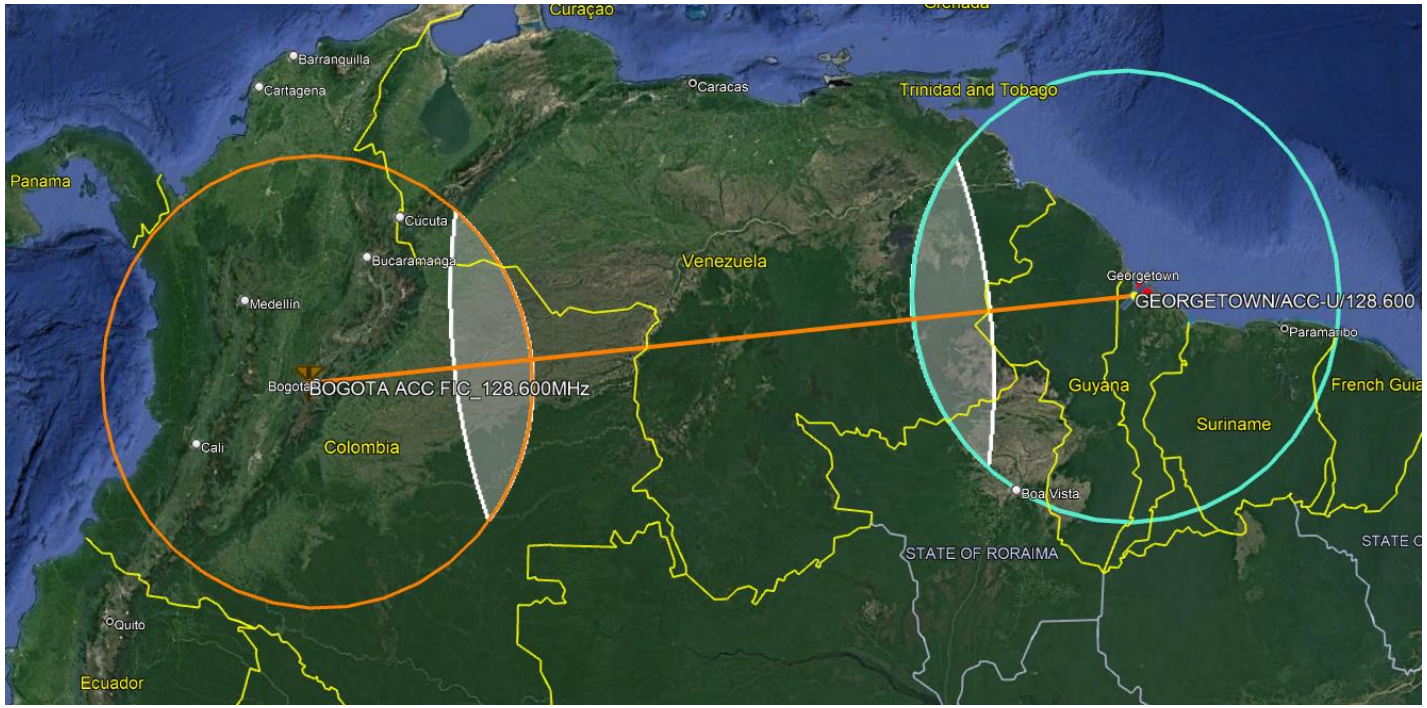
The required distance is 1044 NM, but the actual distance is 955 NM. Its margin is 89 NM.



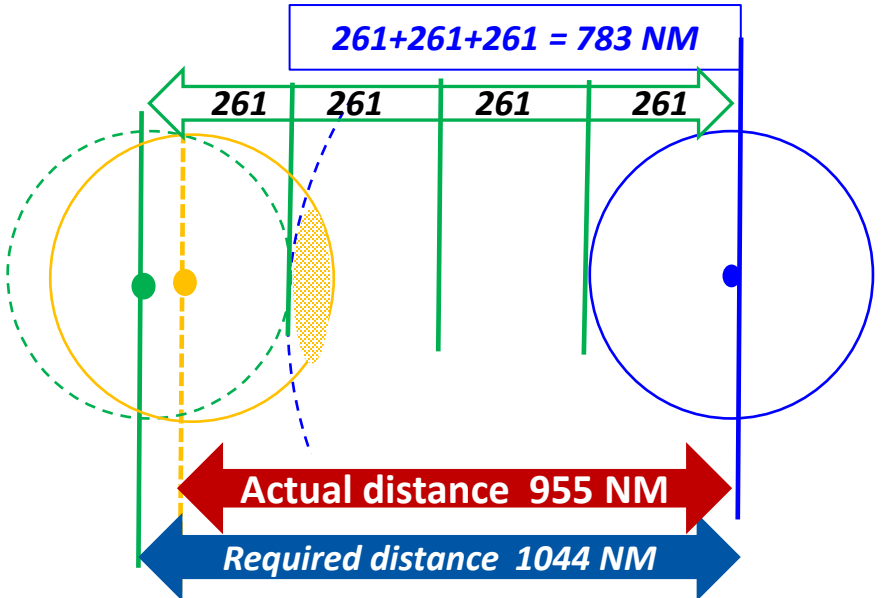
Applying Area Service Example 2 Cont.

A frequency with key code 702217 (*Guyana, GEORGETOWN, 128.600*) is not compatible with a frequency with key code 701964 (Colombia, 128.600 MHz).

The required distance is 1044 NM, but the actual distance is 955 NM. Its margin is 89 NM.



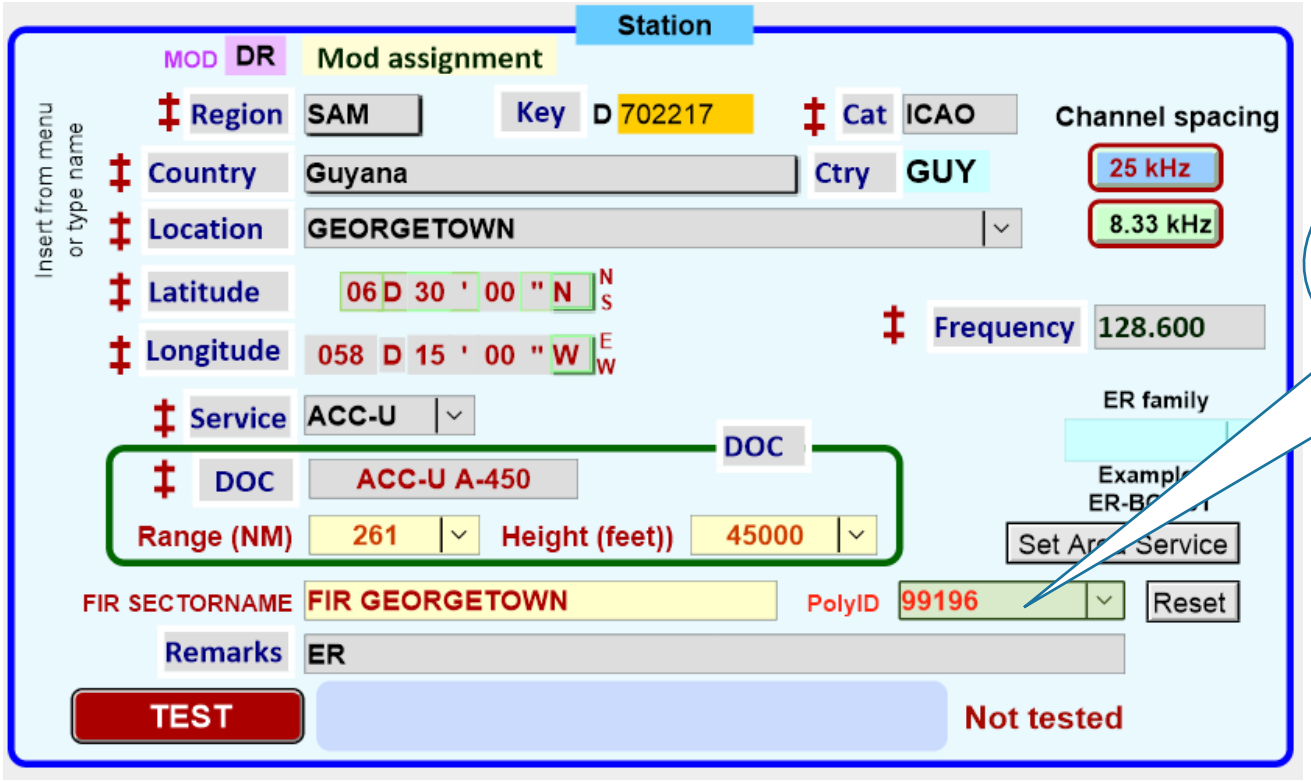
FF calculates the possible interference based on the radius:783 NM



Applying Area Service Example 2 Cont.

A frequency with key code 702217 (*Guyana, GEORGETOWN, 128.600*) is not compatible with a frequency with key code 701964 (Colombia, 128.600 MHz).

If added GEORGETOWN FIR (Poly ID: 99196) to the frequency ACC-U frequency in Guyana (GEORGETOWN, 128.600 MHz, ACC-U, key code 702217), what will be the outcome of the compatibility test?

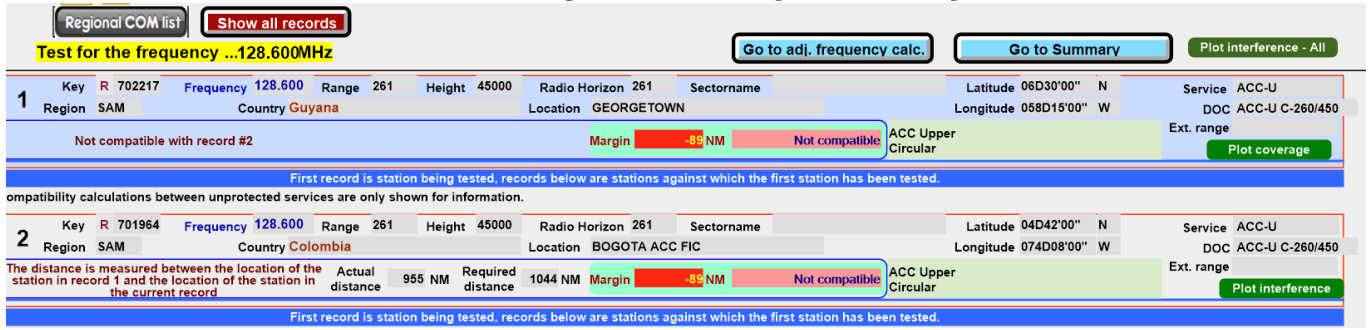


If added Poly ID (**99196**)

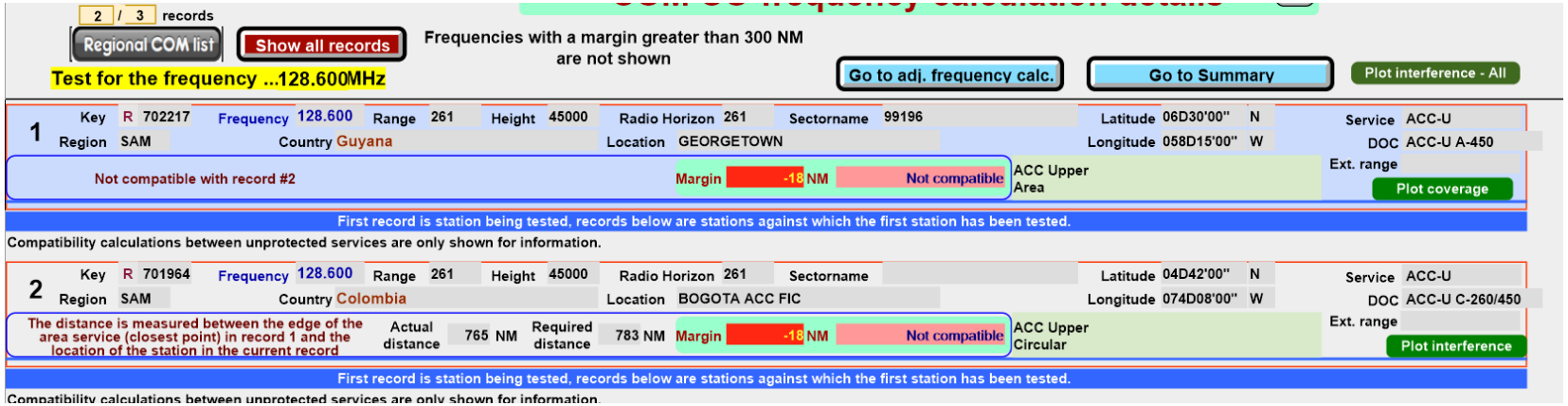
Refer to Appendix G of the user manual for Poly ID

Applying Area Service Example 2 Cont.

If added GEORGETOWN FIR (Poly ID: 99196) to the frequency ACC-U frequency in Guyana (GEORGETOWN, 128.600 MHz, ACC-U, key code 702217), what will be the outcome of the compatibility test?



A frequency with key code 702217 (*Guyana, GEORGETOWN, 128.600*) is not compatible with a frequency with key code 701964 (Colombia, 128.600 MHz).The required distance is 1044 NM, but the actual distance is 955 NM. **Its margin is 89 NM**.



A frequency with key code 702217(Guyana 128.600 MHz) applying Georgetown FIR (Poly ID 99196) is not compatible with a frequency with key code 701964 (Colombia, 128.600 MHz). **But its margin is reduced from 89 NM to 18 NM.**

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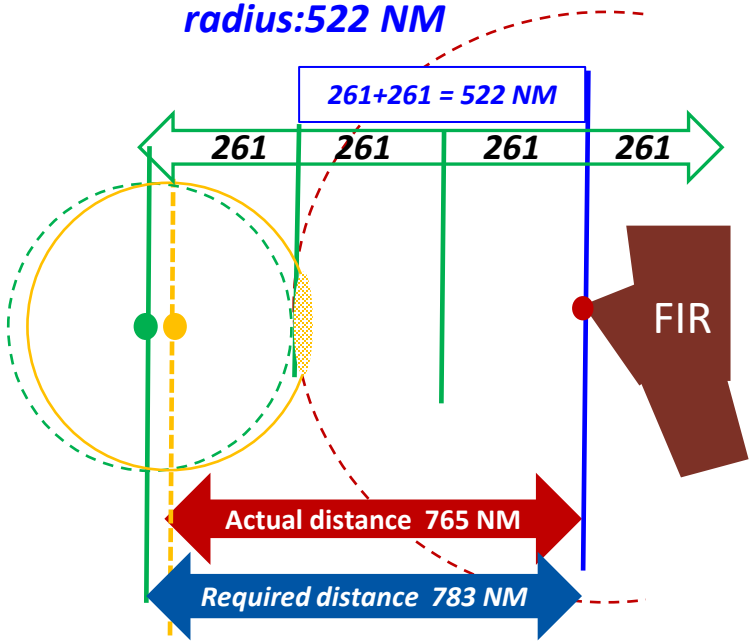
Applying Area Service Example 2 Cont.

If added GEORGETOWN FIR (Poly ID: 99196) to the frequency ACC-U frequency in Guyana (GEORGETOWN, 128.600 MHz, ACC-U, key code 702217), what will be the outcome of the compatibility test?

A frequency with key code 702217(Guyana 128.600 MHz) applying Georgetown FIR (Poly ID 99196) is not compatible with a frequency with key code 701964 (Colombia, 128.600 MHz). **But its margin is reduced from 89 NM to 18 NM.**

FF calculates the possible interference based on the radius:522 NM



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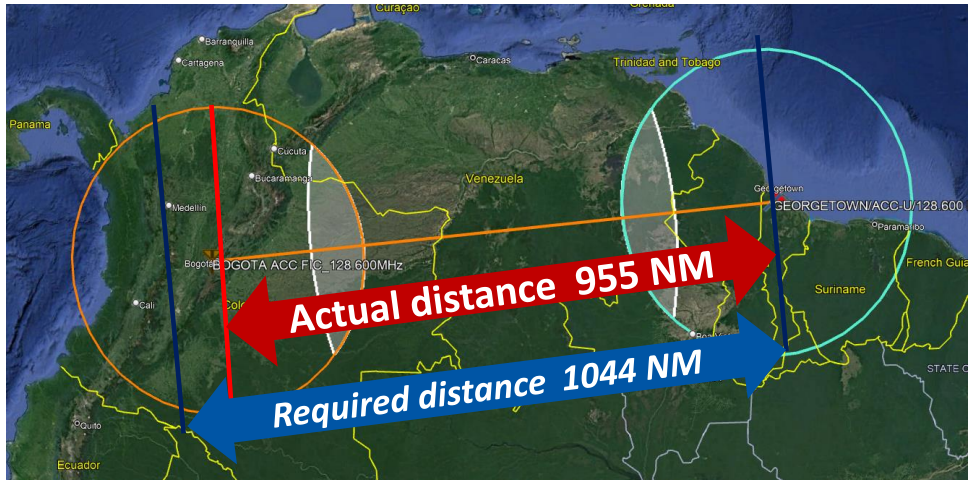
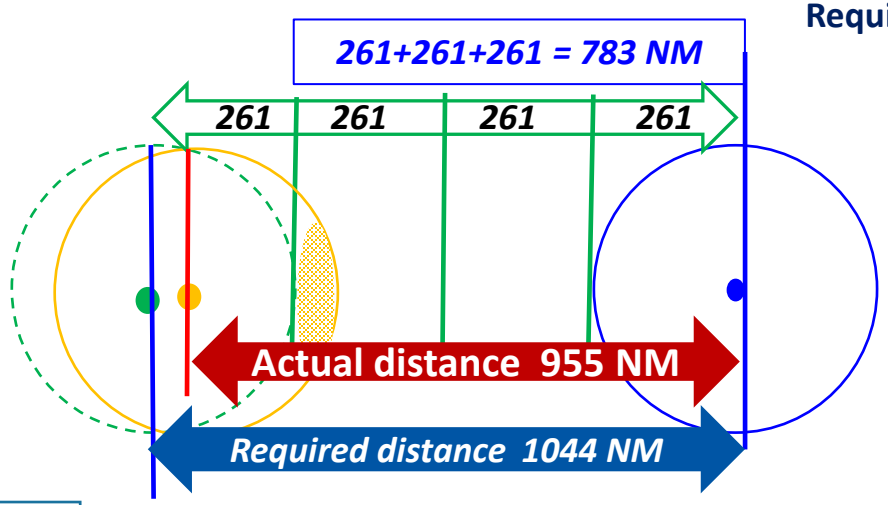
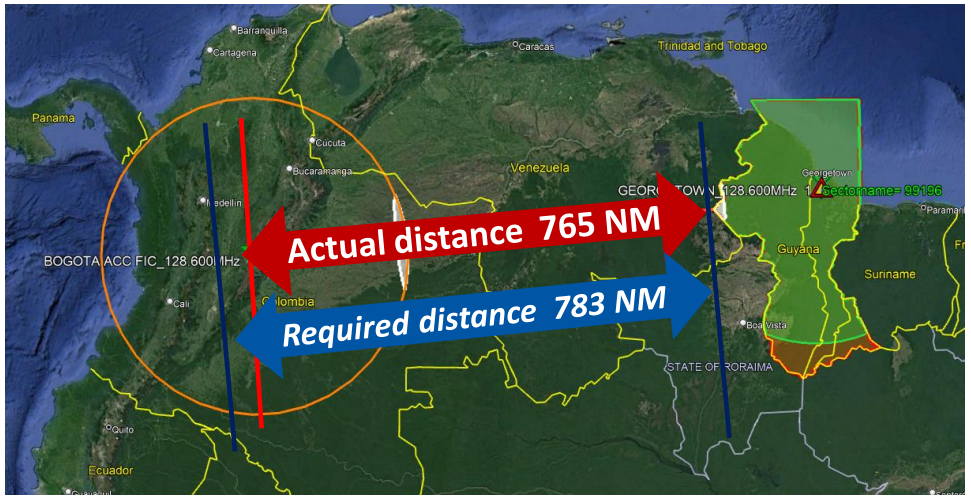
Applying Area Service Example 2 Cont.

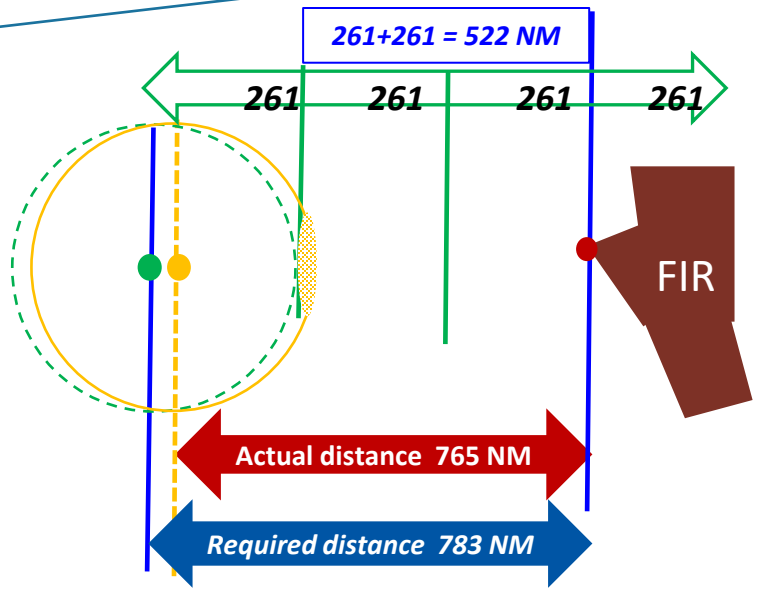
Actual Distance

Required Distance









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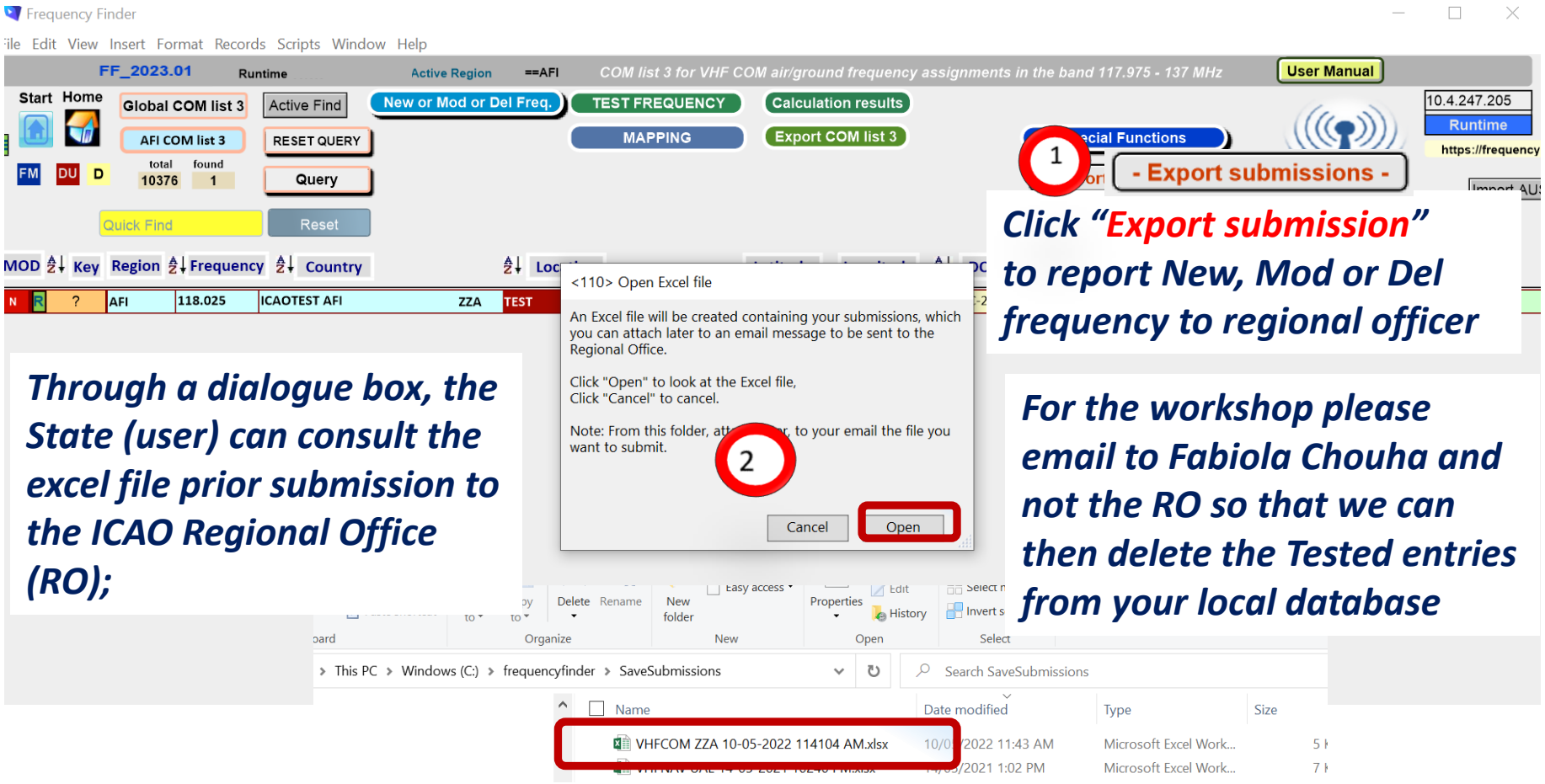
Exercises
Export Submission

Export Submissions

The registered frequency needs to report to Regional officer



Click "Export submission" to report New, Mod or Del frequency to regional officer

Through a dialogue box, the State (user) can consult the excel file prior submission to the ICAO Regional Office (RO);

For the workshop please email to Fabiola Chouha and not the RO so that we can then delete the Tested entries from your local database

3. Attach the excel file to your e-mail and send it to the Regional officer

Exercises
Special functions

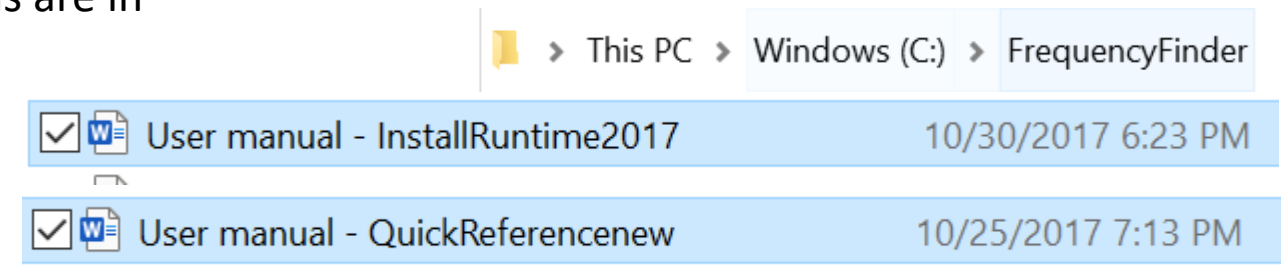
- *Export COM list 3*
- *Undo Submission(s)*

Reference Materials and websites

- Frequency Spectrum Management Panel
  - The latest frequency finder runtime version
  - The latest Doc 9718 Handbook on Radio Frequency Spectrum Requirements for Civil Aviation Volume II
    — Frequency assignment planning criteria for aeronautical radio communication and navigation systems
    (Planning criteria and terminology (2.6), and more)

- User Manual: Click User Manual on the Start page and VHF COM home page
  (This includes Appendix G - Poly ID)

- Other user manuals are in



- Saved submissions are in

Thank You!

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