## Training Module Four: Completing the TAC Band Profile Requirements

September 2023 v2.1

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# An introduction to the new TAC Band Profile requirement



MNOs now require highly detailed band performance data



- Multiple-Input and Multiple—Output (MIMO) for both up and down links
- Combinations Modulation (CM)
- Maximum contiguous bandwidth
- Maximum power class
- Optional modulation order.



Online input from Data Collection Sheet provided to ease data curation

A Data Collection Sheet has been created to allow OEMs to gather and prepare information offline BEFORE inputting the Band Profiles online prior to commencing TAC applications.



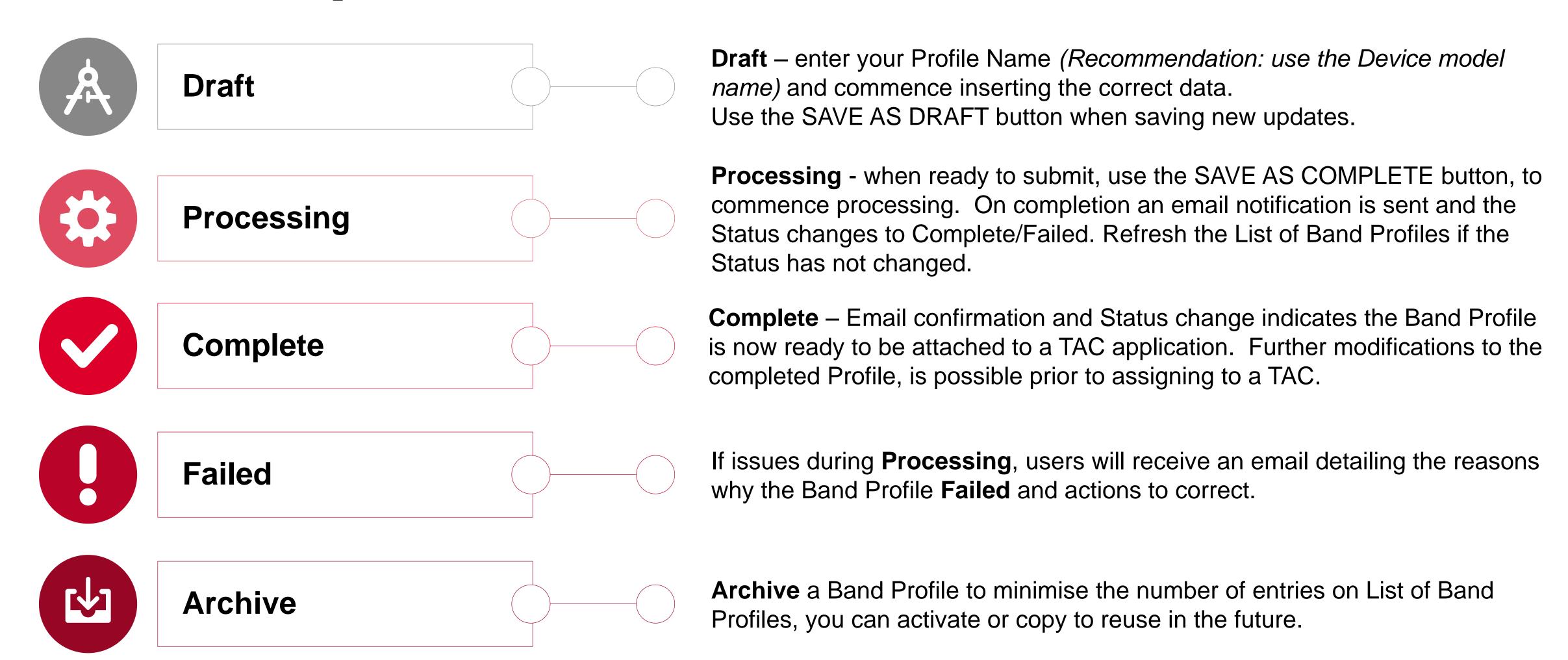
**Key rules** 

All TAC applications must be accompanied by a completed Band Profile Brand Owners can easily modify or copy a Band Profile to create different versions for existing or future devices

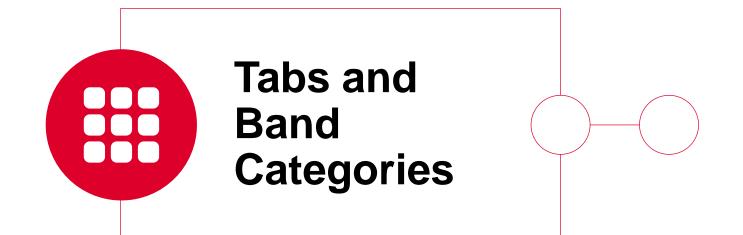
One Band Profile can be applied to multiple TAC.



# Band Profile 5 status options



#### Band Profile Abbreviations



Tab Name	Description (Reference 3GPP TS 38.101)
5G NR	5G New Radio (NR) Standalone
5G NR <b>2B CA FR1</b>	5G NR Standalone 2 Band (2B), Carrier Aggregation (CA), Frequency Range 1 (FR1)
5G NR CA <b>SUL</b>	5G NR Standalone CA, Supplementary DownLink (SUL)
5G NR CA FR1-2	5G NR Standalone Intra-band CA, between FR1 and Frequency Range 2 (FR2)
5G NR 2B CA FR2	5G NR Standalone Intra-band 2B CA FR2
	5G Dual Connectivity (DC) Standalone Intra-band CA contiguous E-UTRA/NR Dual Connectivity (EN-
5G <b>DC</b> CA <b>EN-DC</b> 2B	<b>DC</b> ) 2B
5G DC CA <b>NC</b> EN-DC 2B	5G DC Intra-band CA Non-Contiguous (NC) EN-DC 2B
5G DC CA NC EN-DC 3B	5G DC Intra-band CA NC EN-DC 3 Band (3B)
5G DC BC EN-DC FR1 2B	5G DC Inter Band Combinations (BC) for EN-DC within FR1 2B
5G DC BC EN-DC FR1 3B	5G DC Inter BC for EN-DC within FR1 3B
5G DC BC EN-DC FR1 4B	5G DC Inter BC for EN-DC within FR1 4 Band (4B)
5G DC BC EN-DC FR1 5B	5G DC Inter BC for EN-DC within FR1 5 Band (5B)
5G DC BC EN-DC FR1 6B	5G DC Inter BC for EN-DC within FR1 6 Band (6B)
5G DC BC EN-DC FR2 2B	5G DC Inter BC for EN-DC within FR2 2B
5G DC BC EN-DC FR2 3B	5G DC Inter BC for EN-DC within FR2 3B
5G DC BC EN-DC FR2 4B	5G DC Inter BC for EN-DC within FR2 4B
5G DC BC EN-DC FR2 5B	5G DC Inter BC for EN-DC within FR2 5B
5G DC <b>IB</b> EN-DC FR1-2 3B	5G DC Inter Band (IB) EN-DC including both FR1 and FR2 3B
5G DC IB EN-DC FR1-2 4B	5G DC IB EN-DC including both FR1 and FR2 4B
5G DC IB EN-DC FR1-2 5B	5G DC IB EN-DC including both FR1 and FR2 5B
5G DC IB EN-DC FR1-2 6B	5G DC IB EN-DC including both FR1 and FR2 6B
5G NA Options	5G Network Architecture Option
4G IB CA 2B	4G IB CA 2B
4G NC CA 2B	4G NC CA 2B
4G IB CA 3B	4G IB CA 3B
4G IB CA 4B	4G IB CA 4B
4G <b>DC</b> 2B	4G Inter-band Dual Connectivity (DC) 2B
4G	EUTRA / LTE / 4G
4G Cat	EUTRA / LTE / 4G Category Support (Cat)
LPWAN	Low Power Wide Area Network (LPWAN)
2G/3G	2G and 3G
Radio Interface	Other 3GPP or 3GPP2 Networks supported by the device

Source: GSMA

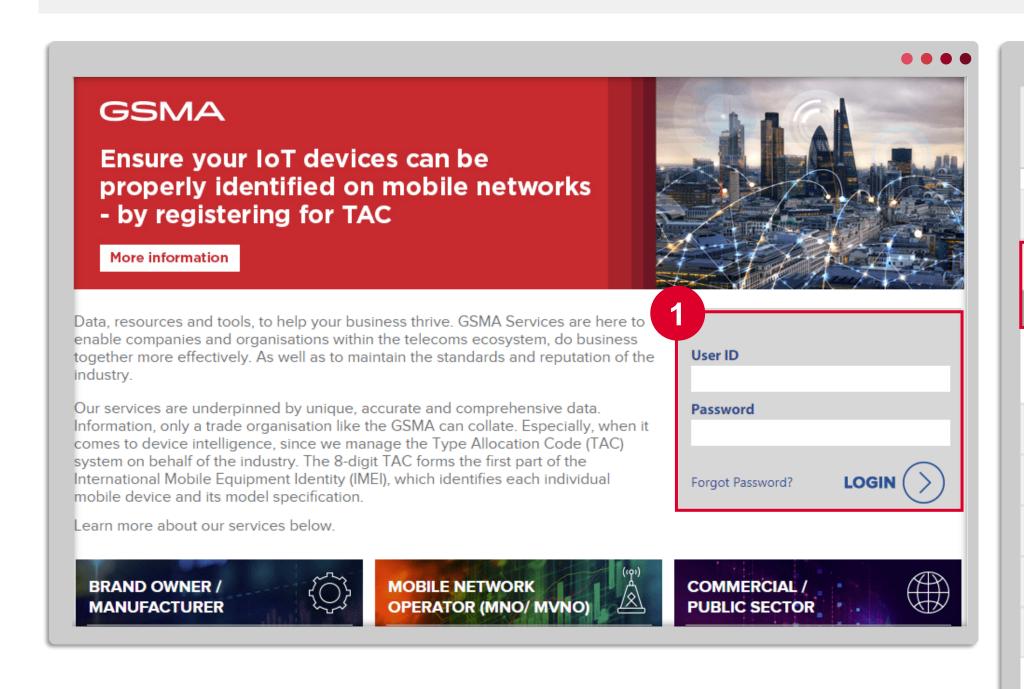


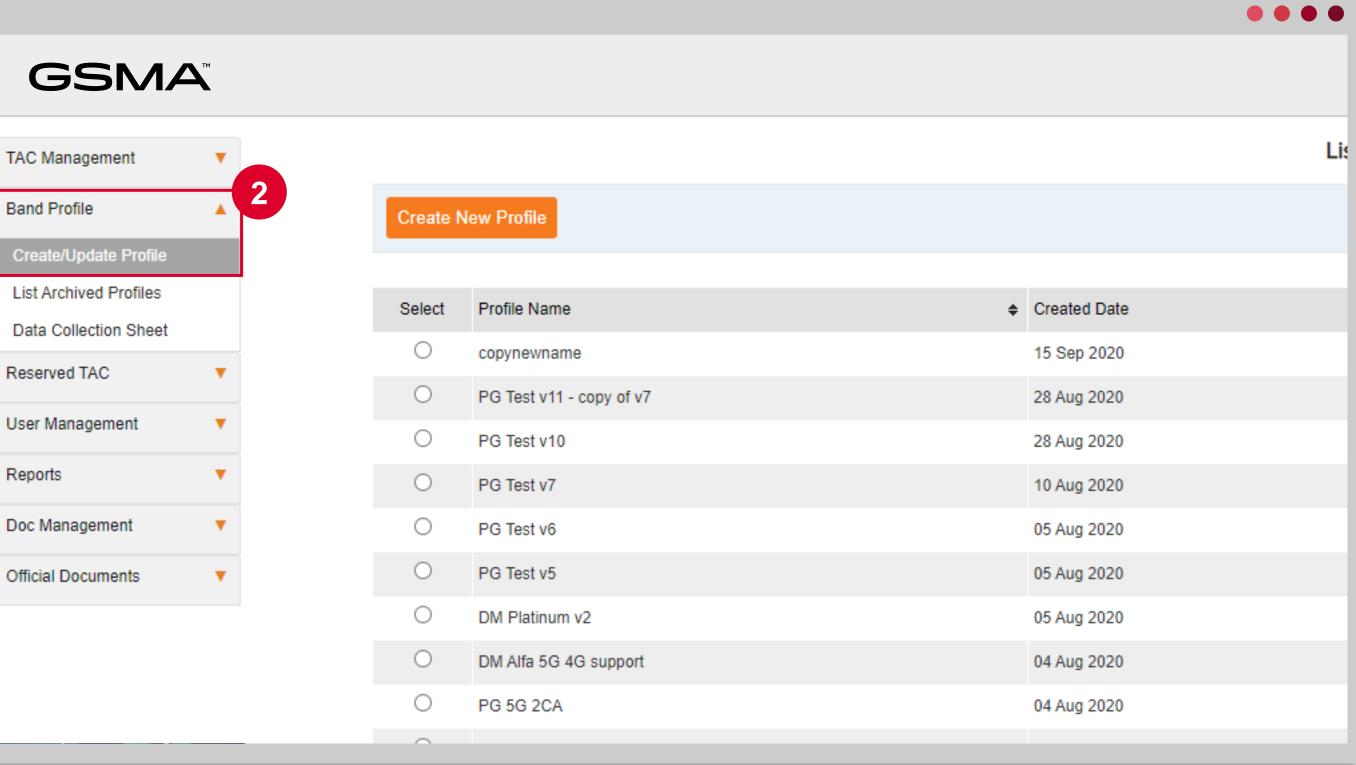
## Login to your account and locate Band Profile from the Dashboard

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- Login using your manufacturer credentials and 2 factor security answer
- Click on "Band Profile" found on the navigation menu on the left.

  This will present you with another option in the menu to open

  "Create/Update Profile"

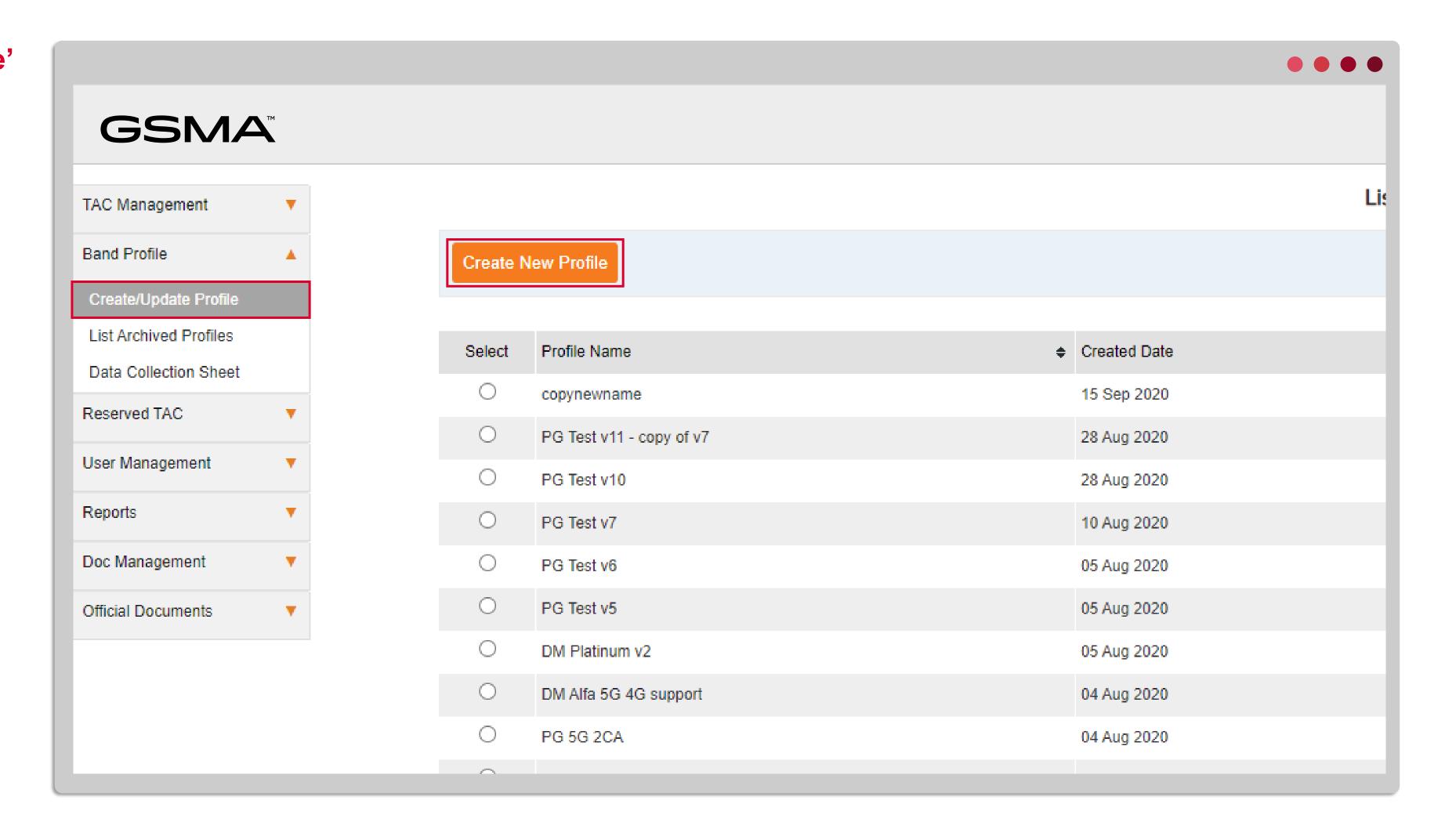






## Select Create/Update Profile

Click on the 'Create/Update Profile' menu, on the first visit you will see this page, as you have no profiles created yet. To create a new profile click 'Create a New Profile'.





## The Band Profile in 5 steps

Please be careful to include ALL the Bands/Networks a device can support in your Band Profile

Step 1

Select all **Bands supported**Then select **all Network Performance** values to go with each band

Step 2

The 5G and 4G CA bands are further categorized into the number of bands within the bands they support. For example 5G 2 bands, 5G 3 bands, 4G CA 2 bands

Step 3

Select the network performance values from the dropdown list.

The 5G Network Architecture (5G NA Options), 4G Cat and Radio
Interface are mandatory to be filled before saving the profile as complete

Step 4

Use **SAVE AS DRAFT** including giving your Band Profile a recognizable profile name, i.e. the model name plus date/version control number

Step 5

Use **SAVE AS COMPLETE** when you are ready, once your Band Profile has been successfully processed the status will move to **Complete** 



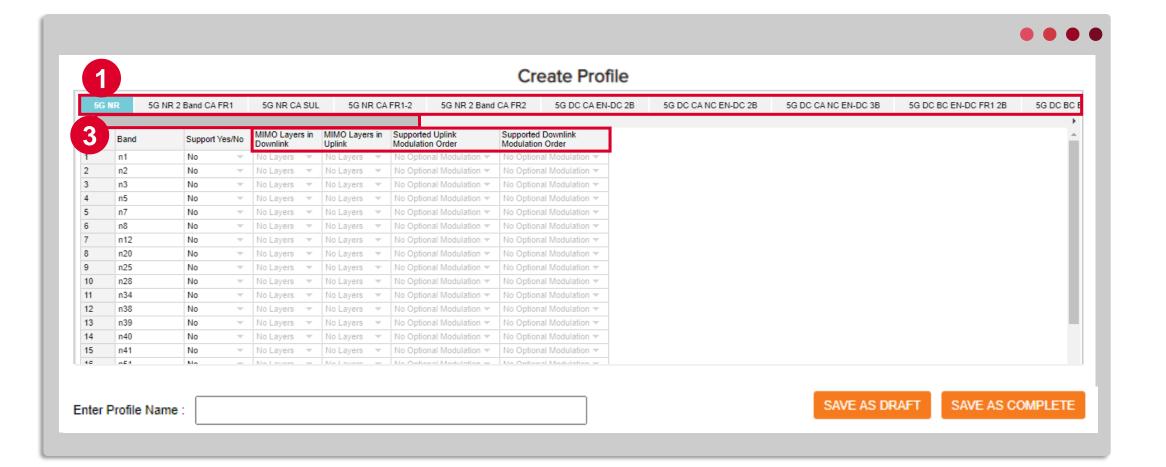
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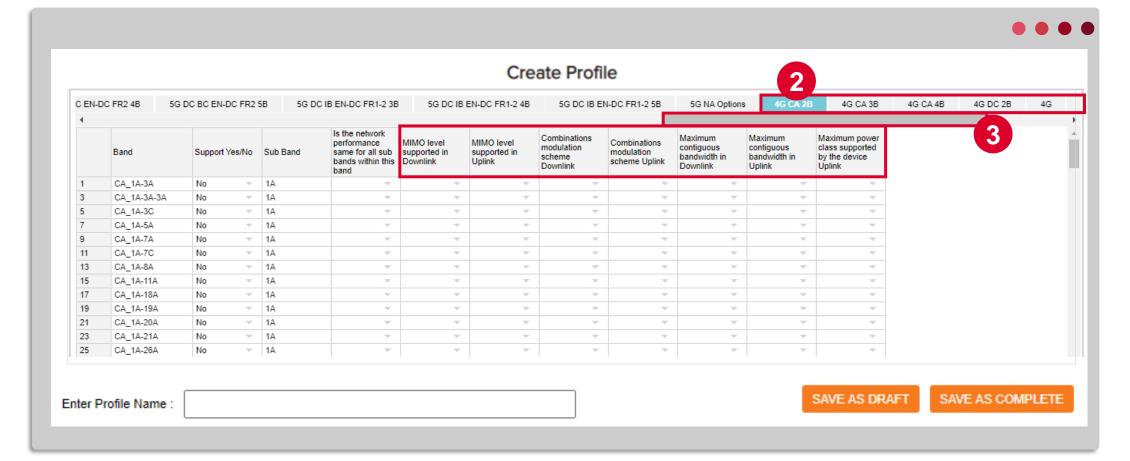
You will now move to see all the possible bands supported across the **horizontal tabs**, commencing with 5G NR and moving down to 2G/3G.

The 5G, 4G and CA bands are further categorized into the number of the band within the bands they support.

For example 5G 2 bands, 5G 3 bands, 4G CA 2 bands, and so on. Click on the tab to see the band frequencies supported under the category.

- - The network performance options
  - for 5G, 4G CA and 4G are different
  - Use the scroll bar to see all the tabs







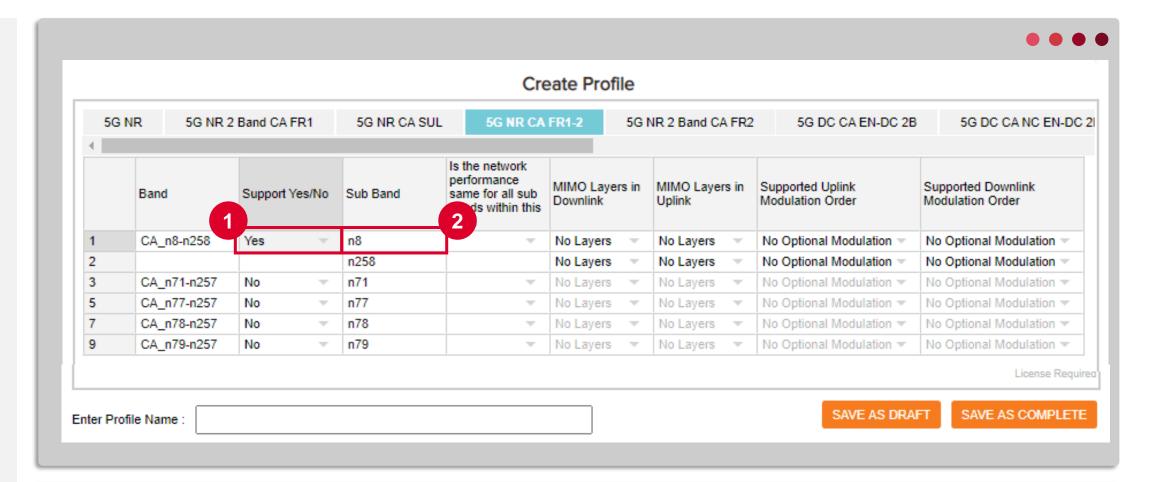
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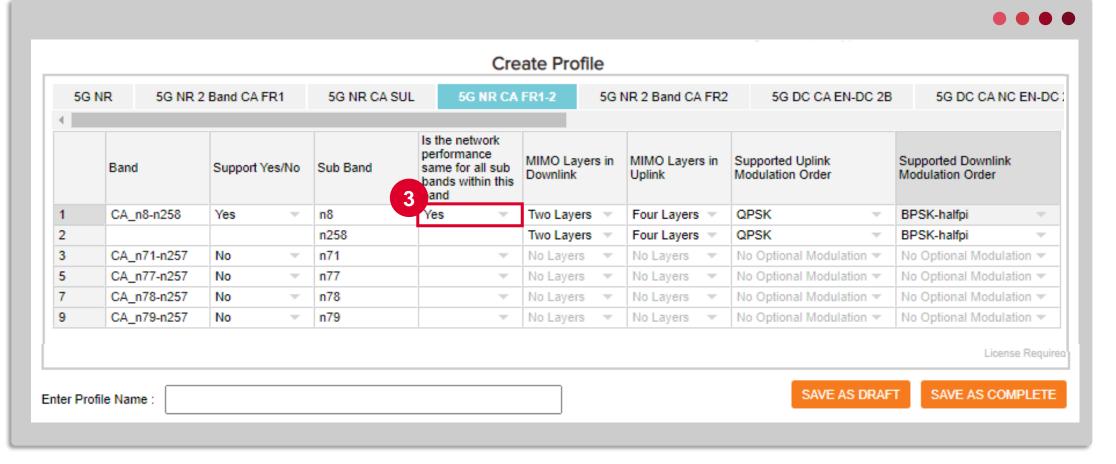
Select "Support" "Yes" or "No" for **each** band supported by a device. Once "Yes" is chosen the system will list all the sub band options within the band. example the sub bands for CA\_1A\_3A are "1A" and "3A".

For 5G and 4G bands, please also select the respective network performance values.

- Click on the support Yes or No, select Yes
- When selecting Yes, the system opens the information for all Sub Bands of the band selected
- Use the next column to clarify whether the network performance bands within the band have the same value or not.

  Click Yes or No
- If No, then complete the performance values for each Band within a Sub Band. If Yes, you only need to complete the first row, as the other sub bands values are automatically filled







Remember MNOs will use this data to ensure users of your devices have the best quality network experience

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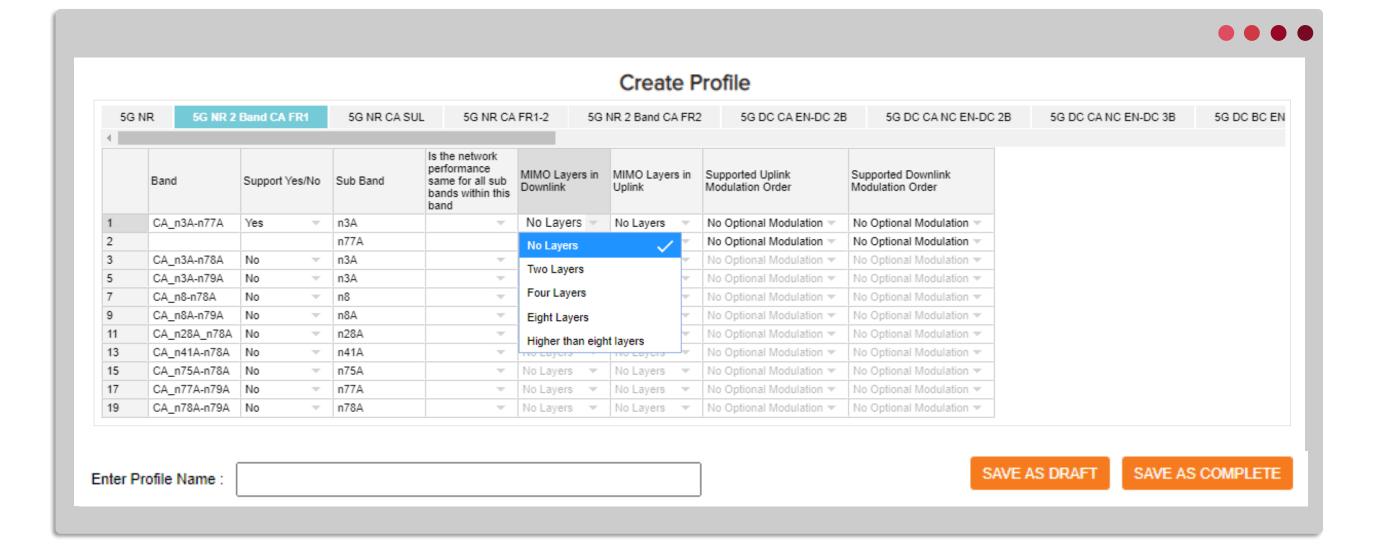
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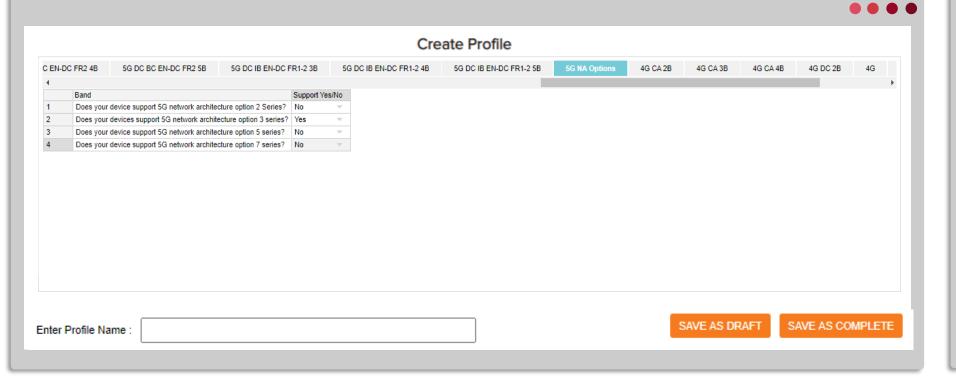
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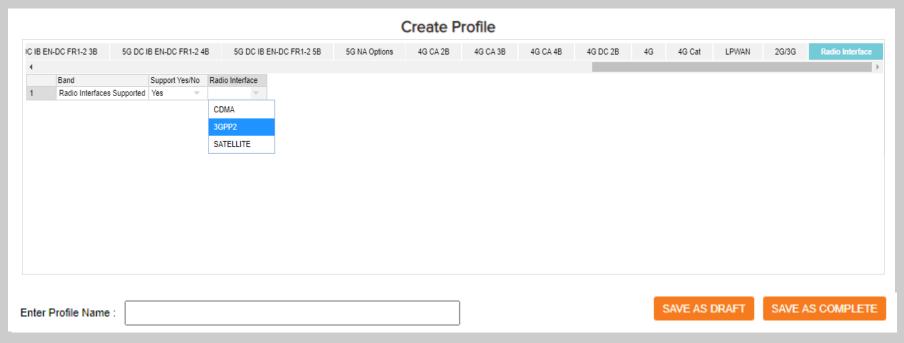
Select relevant supported bands and the related supporting network performance values.

Select the network performance values from the dropdown list. Some network performance columns display the default value when the Create Profile loads.

Note: The 5G Network Architecture (5G NA Options), 4G Cat and Radio Interface are mandatory to be filled before saving the profile as complete.







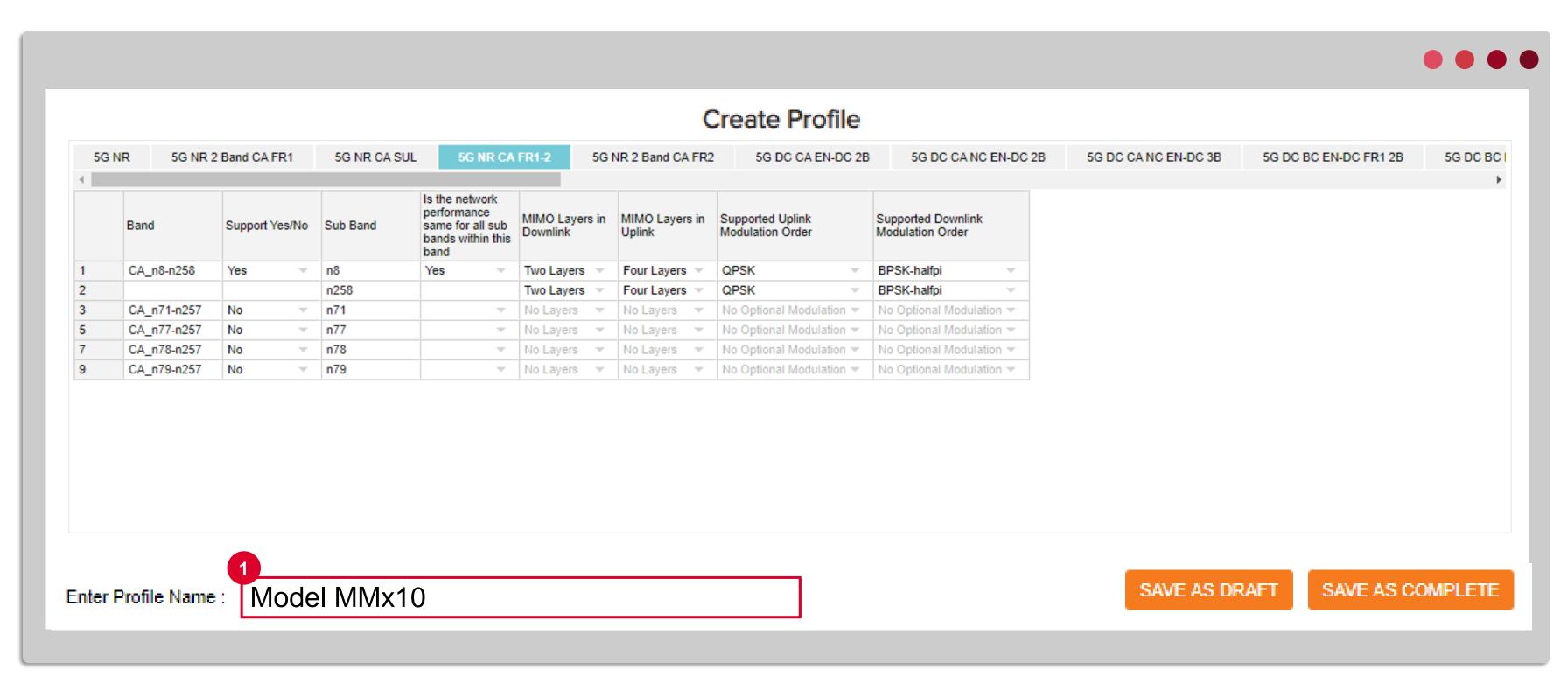


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The system allows you to save the profile as draft if required, to allow the form to be completed or updated at a later time.

Enter a meaningful Profile name and click the SAVE AS DRAFT button.

The profile name can be changed later DRAFT is updated and/or save as complete.



1 Enter your Band Profile name

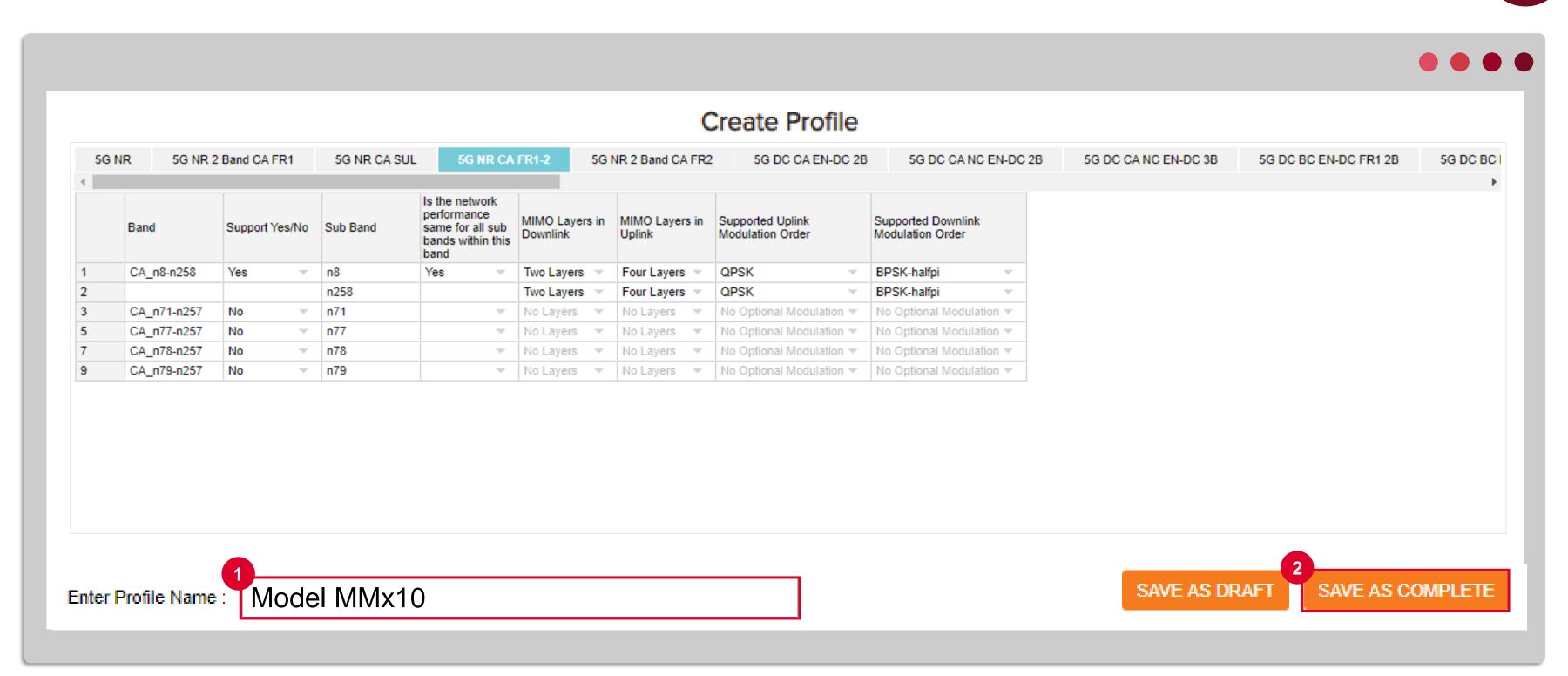


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Once you have entered all the supporting information, make sure you name the Band Profile before selecting 'Save as Complete'.

The system will validate the values and display a message in case there are errors which need correction.

Once you clear the errors, click on Save as Complete again. You will see the message "Band Profile Saved Successfully".



1 Enter your Band Profile name

2 Save as either DRAFT or COMPLETE

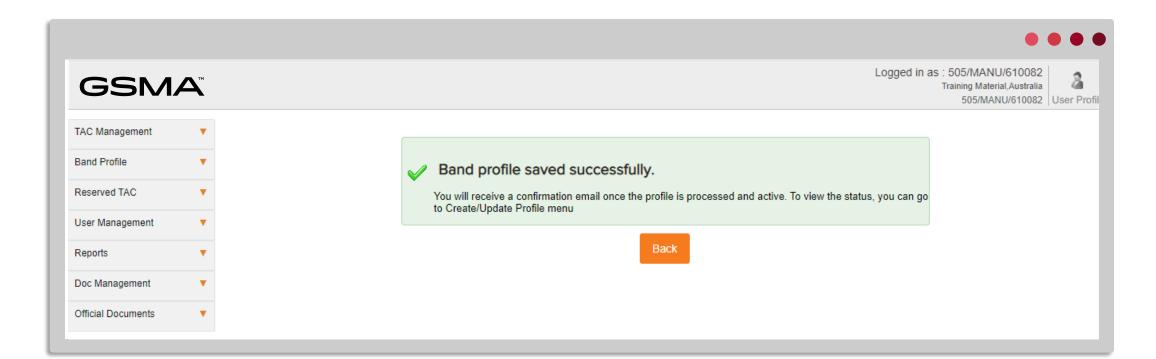


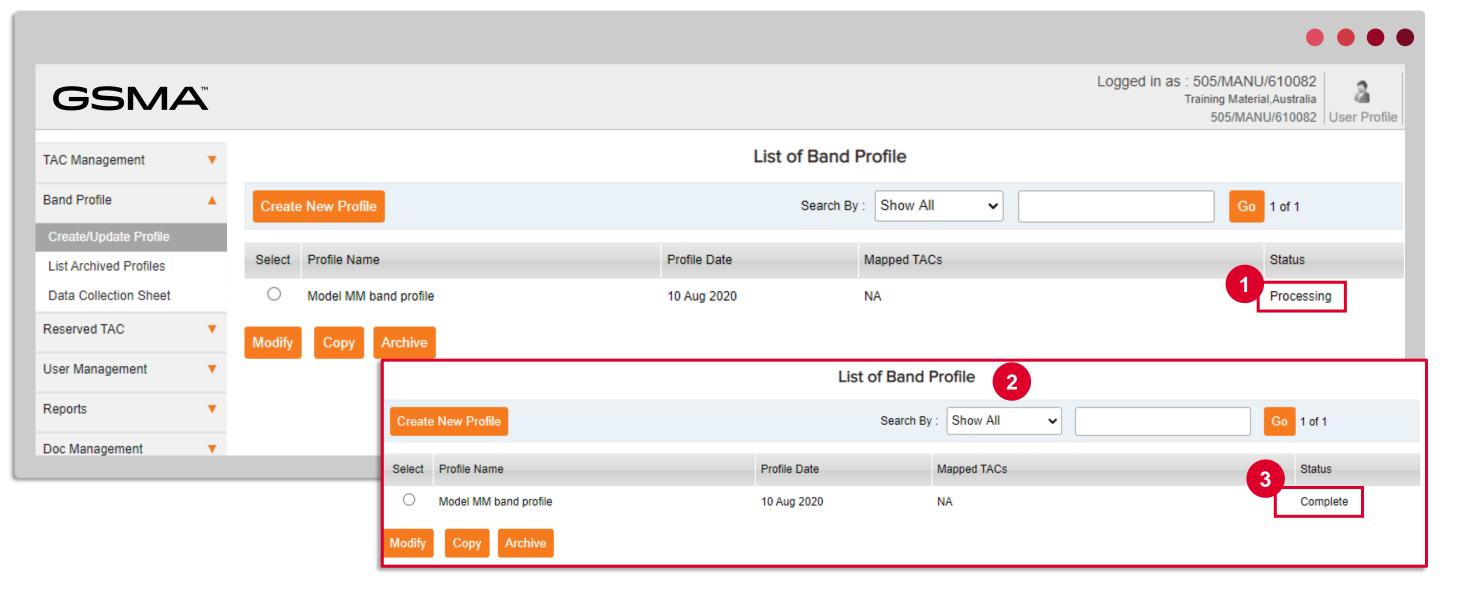
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Once the profile is saved as complete, the system will process the profile data to store them in an organised data format. This will take a couple of minutes. Until such time, the status of the profile will display 'Processing'.

Once the processing is complete, the status of the profile will change to 'Complete'. The profile is now ready to be attached to a TAC application.

- Profile under "Draft" or "Processing" status cannot be attached to a TAC application
- The List of Band Profile after successful processing of the profile
- The Status of a successfully processed profile changes to Complete







#### Attaching a Band Profile to a TAC Application



**Band Profile created is** for a new TAC

Create and complete a Band Profile **BEFORE** you start the TAC Application process as you cannot save a draft TAC Application Form once you have started. To avoid any duplication of effort, the Band Profile should be prepared FIRST and then you can link **Band Profile to the TAC Application** in the correct manner. (Recommendation: Review TAC Training Module 5: Completing the TAC Allocation Request Form).



Band Profile for existing TAC needs to be updated

A Band Profile already assigned to a TAC is required to be updated. Select the Band Profile from the List of Band Profiles and then select the MODIFY button to make your changes. Then select SAVE AS COMPLETE, once processing is Completed, you will then need to **Edit TAC** and map the updated profile so the new changes are applied to the TAC.



#### How to Copy a Profile

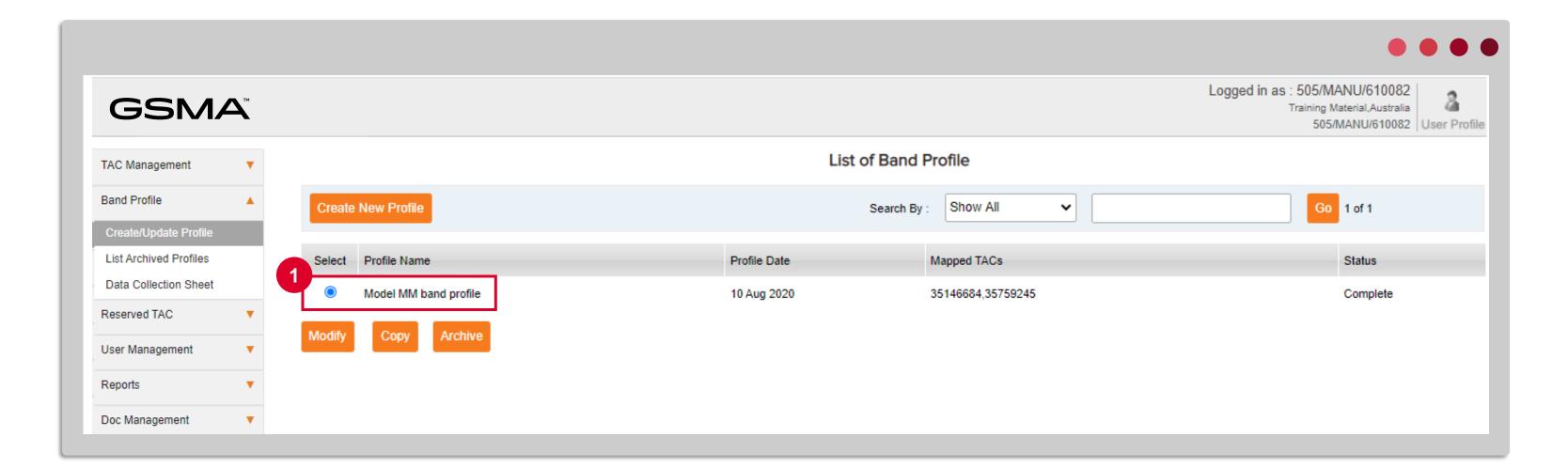
Remember to name the Band Profile consistently, we suggest using the Model Name & ISO date format, YYYYMMDD

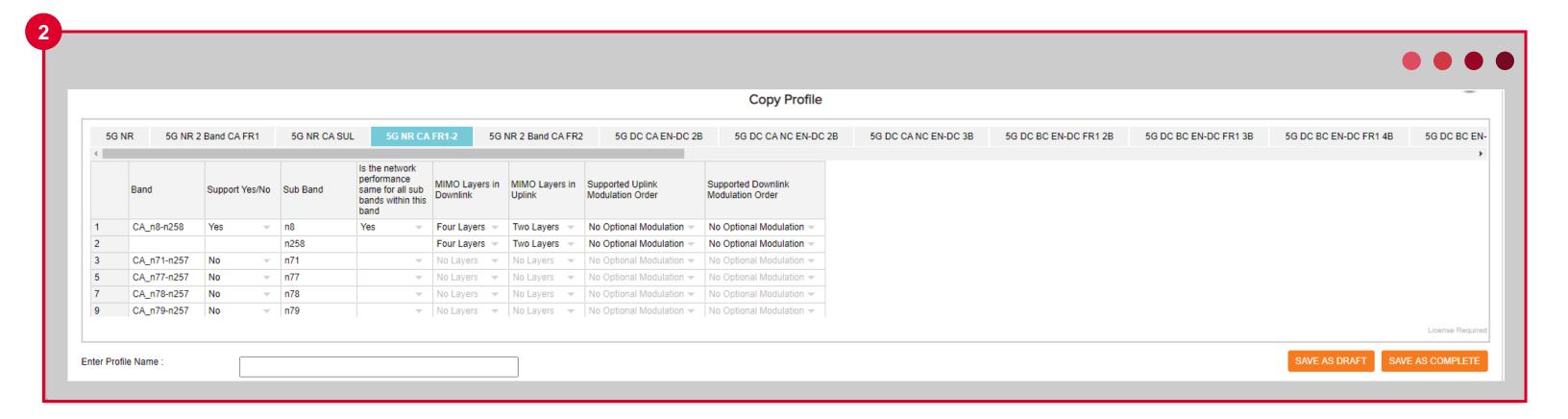
Create a copy/duplicate Band Profile by copying the details from an existing Profile; then make any required changes, i.e. add new bands, adjust band support, network performance changes, etc. Save with new Band Profile name.

Copy profile will be useful where you are applying for models that closely match with each other but with few differences.

The original profile will remain as is.

- To copy a profile, select an existing profile and click copy
- The system will open the profile window with all the band information of the selected profile displayed. Make the changes, provide a new profile name and Save as complete.







#### How to Modify a Complete Band Profile

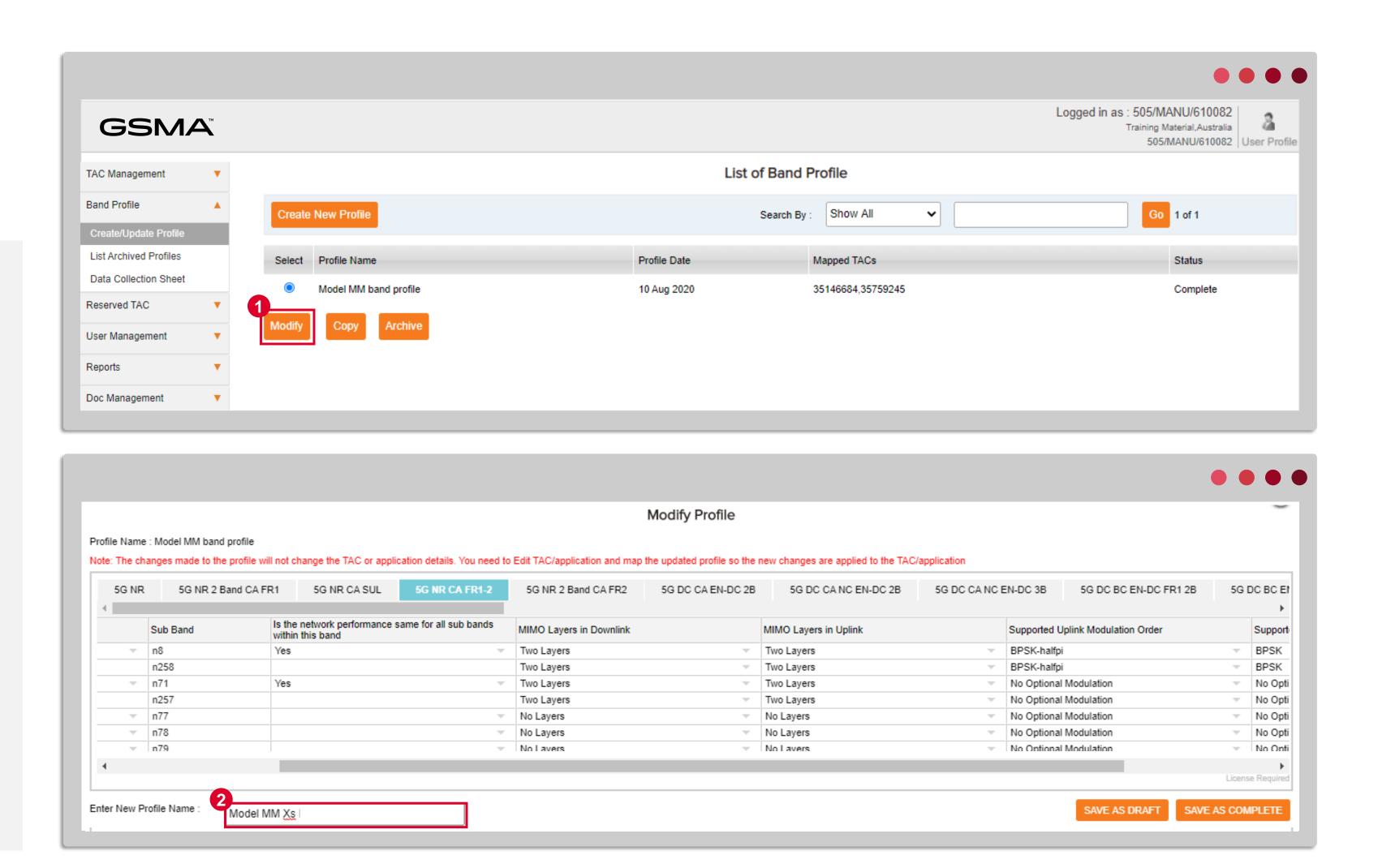
The Modify profile screen is similar to the Create profile but with the supported values already selected

Select the relevant Band Profile and click Modify.

**Note:** Where the Band Profile is not mapped to a TAC application, you can modify the profile and save in the same name.

Where the Band Profile is mapped to a TAC, as per this example, you must provide an updated or new Profile name.

After successfully modifying the profile, you need to complete the Edit TAC process and attach the new profile to the existing TAC or new TAC as required.

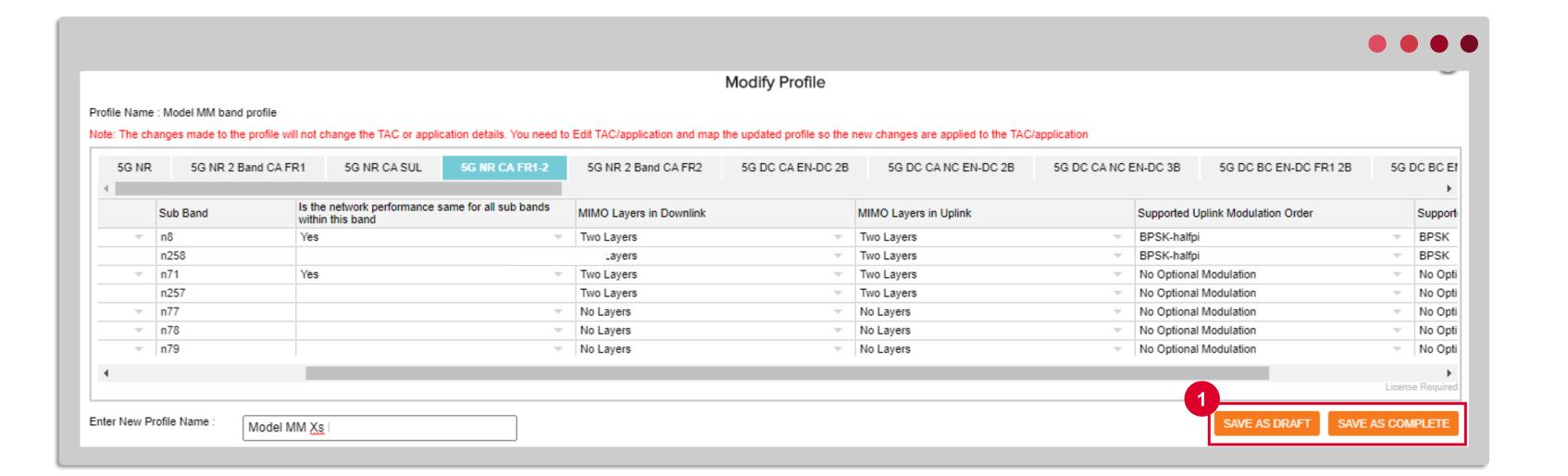




## Modify Band Profile options

Once the modified profile is saved with the new name, the system creates a new profile. The previous and new profile will be active both.

Use the SAVE AS DRAFT and SAVE AS COMPLETE functions in the same way described for "Create Profile".





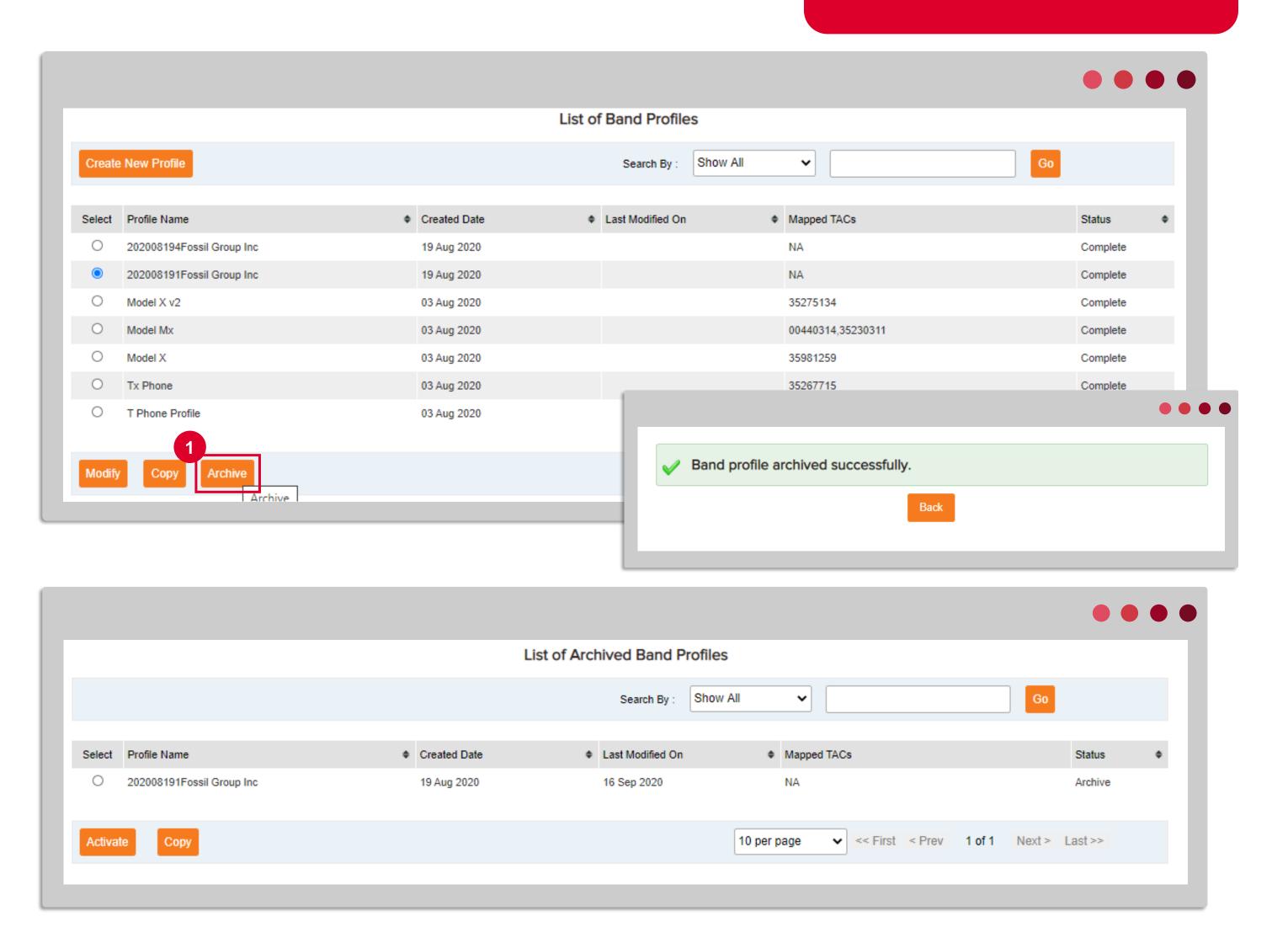
#### How to Archive a Band Profile

Archiving a Band Profile will not impact the TAC which it has already been successfully mapped to

Band Profiles no longer needed for new devices (TAC applications) can be **archived**. Archiving a Profile will remove it from the List of Band Profiles so it will not be listed as available under Band Profiles in the TAC application.

To view the archived profile, return to the left navigation and select List Archived Profiles.

Select the Band Profile from the List and click 'Archive' button, you will receive a successfully archived message.

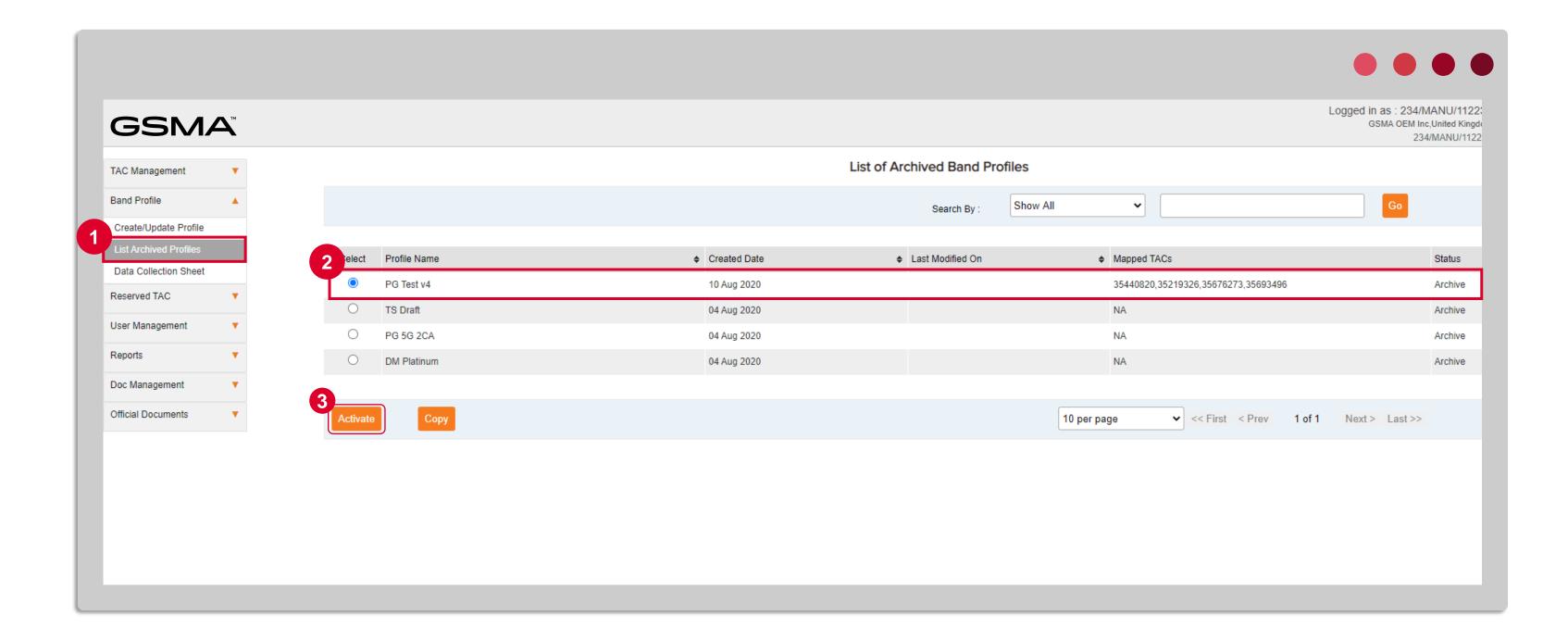




#### Activating an Archived Profile

Archiving a Band Profile will not remove or impact any of the TACs mapped to the Profile, but it will mean the Profile is not available for attaching to new or edited TAC applications and it will be removed from the main dashboard, to reduce clutter.

To change the Archive status, select the ACTIVATE button. The profile will now be active and re-appear on the main dashboard and be available for attaching to TAC applications.



- To activate a profile that has been archived, navigate to the List of Archived Profiles
- 2 Select the profile you wish to activate
- 3 Click activate

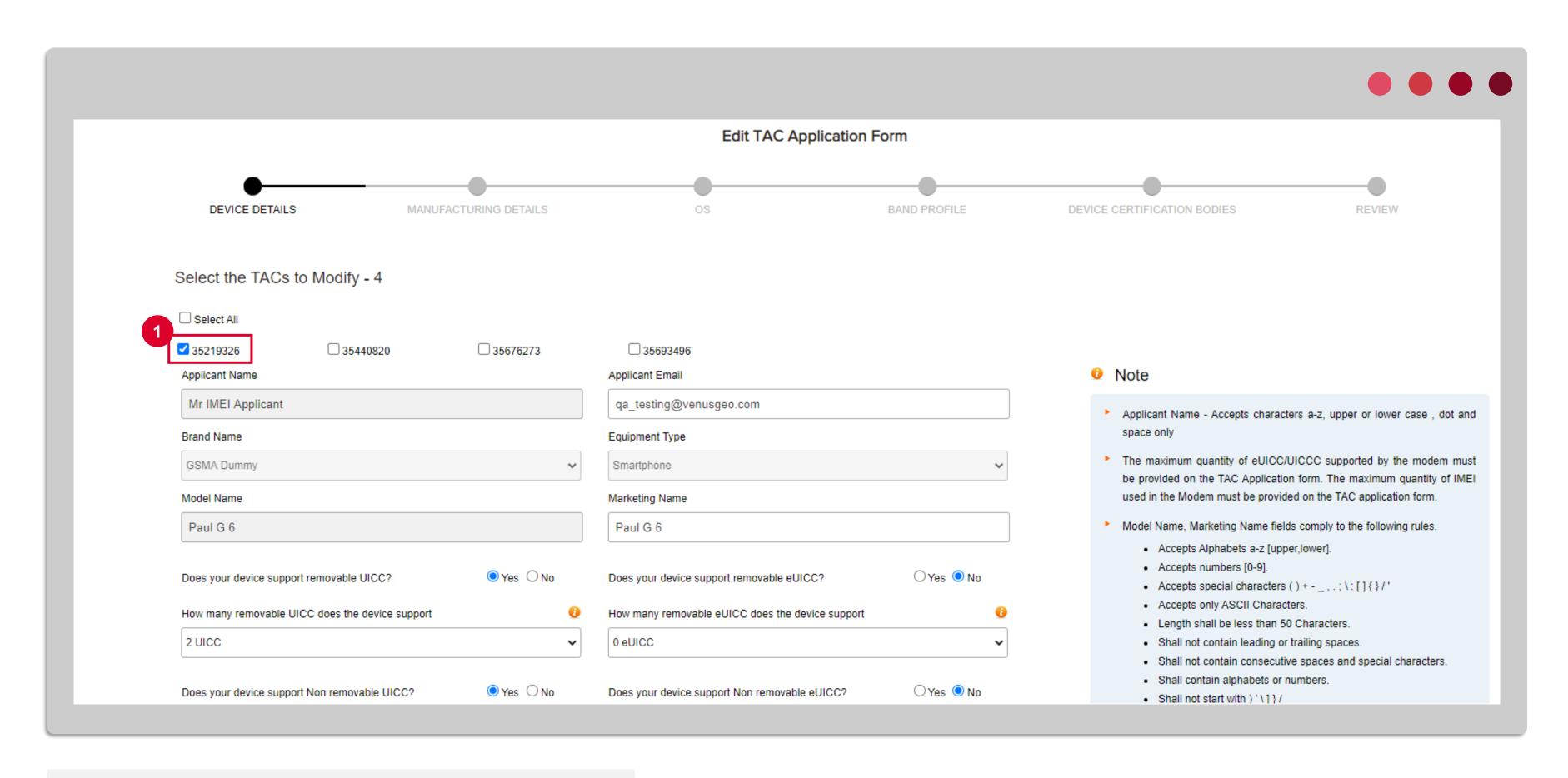


## Edit allocated TAC after you have completed a Band Profile modification

You must complete a edit TAC application and attach the modified or new Band Profile in the application process.

Select affected TACs within the application or select the specific TAC that should be updated to reflect the new Band Profile information.

You can also update other details of the TAC in addition to attaching a new band profile.



Select only the TACs whose information need to change

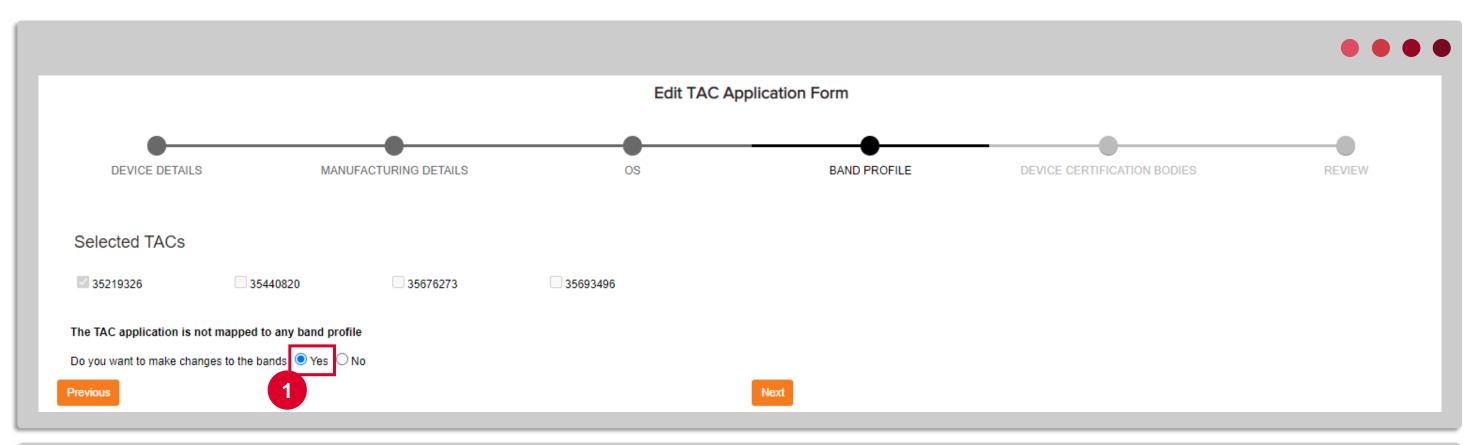


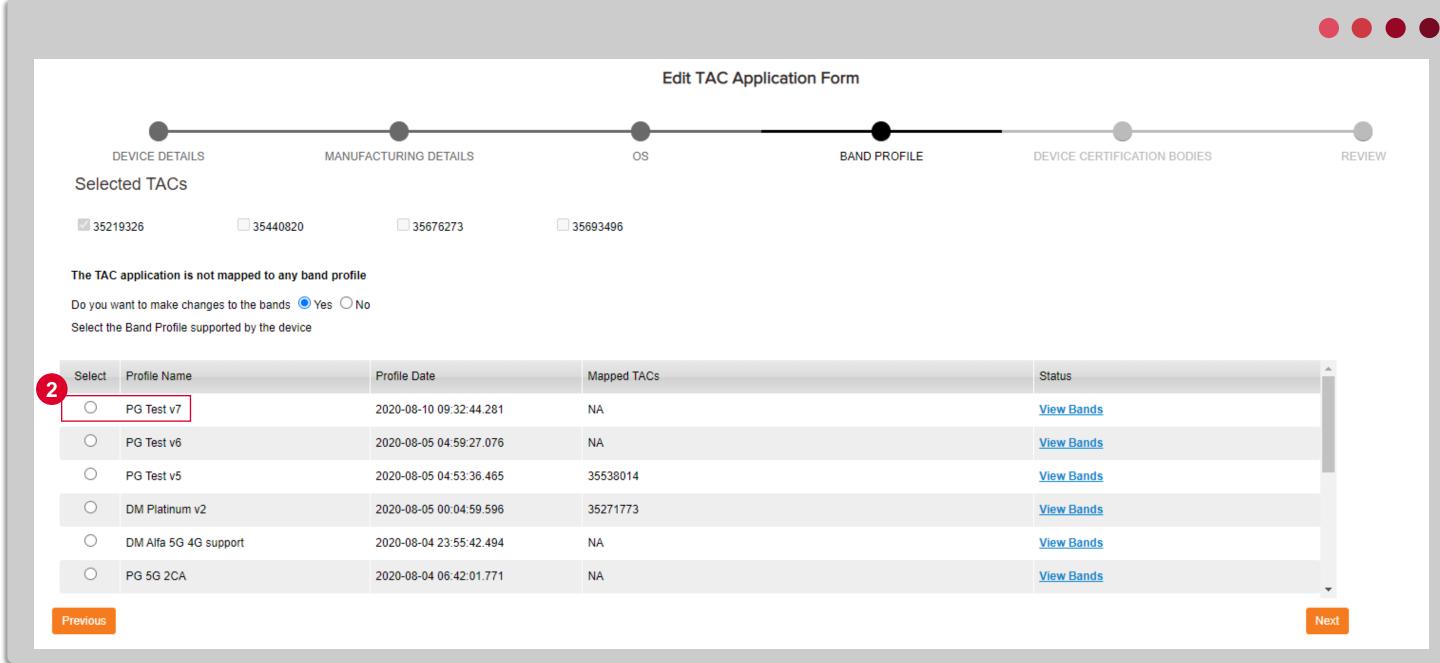
#### **Edit TAC**

Go to the Band Profile section, indicate 'Yes' to change the Band Profile for the relevant TAC(s)

The list of available Band Profiles will be listed. Indicate the band profile that needs to be attached/adjusted to the relevant TAC(s)

- Indicate Yes to attach a new Band Profile
- Profile from the list of available profiles





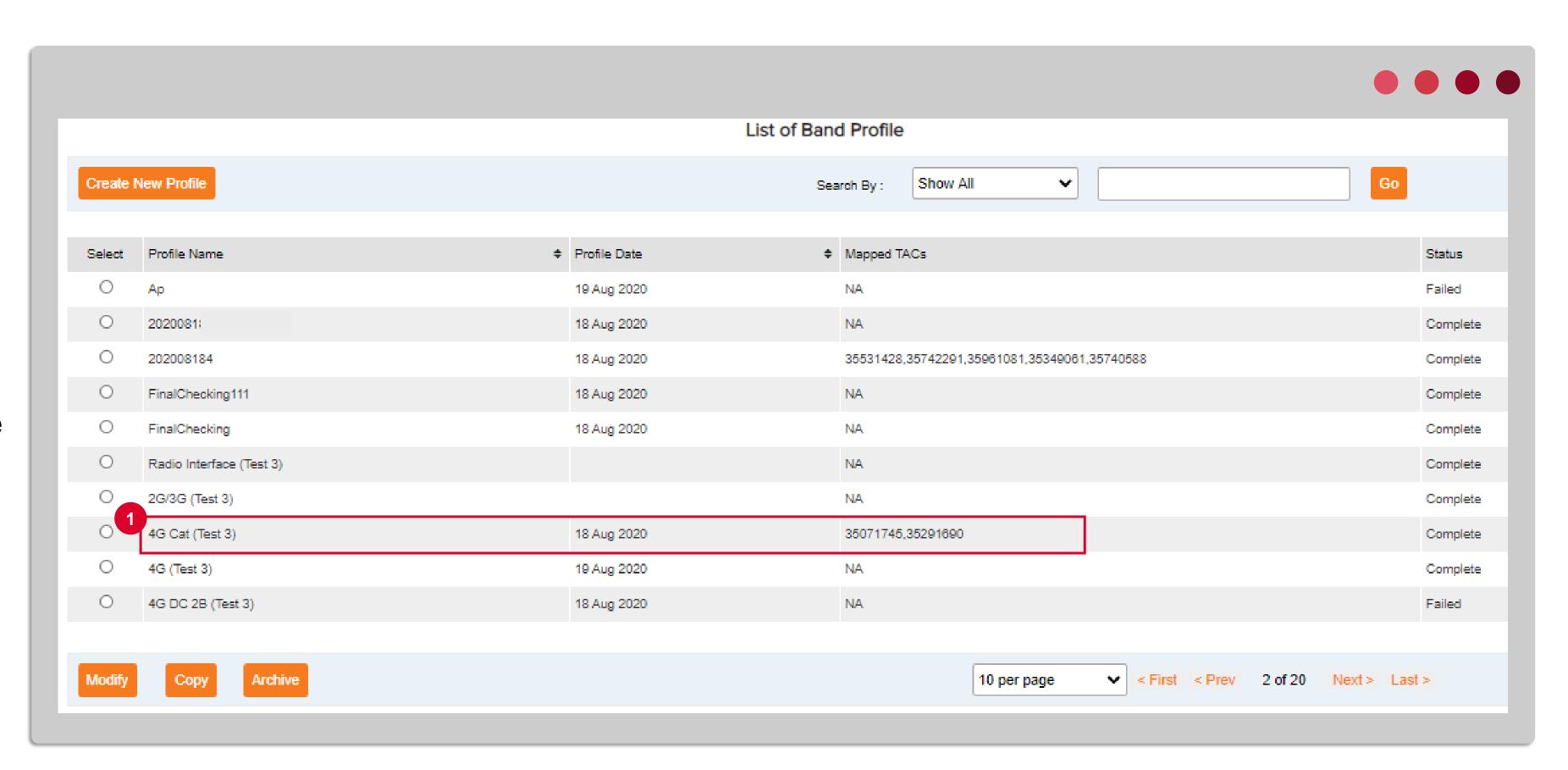


#### **Edit TAC**

Complete the other details of the Edit TAC application and submit.

The Edit application will then be processed. Once approved, the new TAC certificate will be sent to the email of the registered main contact.

In the List of Band Profile you will then see the new band profile mapped to the selected TACs in the Edit application.



The two TACs selected in Edit TAC are now mapped to a different band profile



#### This document is part six of six TAC training modules

