

MOTOROLA SOLUTIONS TECHNICAL NOTIFICATION (MTN)

Title

MOTOTRBO radios with M2024.01 firmware showing Service Code Error 0802 or Error 01/42 after the cloning process

This is an informational bulletin related to the new feature that was introduced in the M2024.01 firmware release.

Technology

MOTOTRBO™

Severity Recommendation

Low/Maintenance - Perform if system exhibits below symptoms

Symptoms

MOTOTRBO radios cloned with the M2024.01 firmware release will demonstrate the following behaviors:

1. On Display radio with Service Code supported, the radio displays "Service Code Error 0802" on power up.
2. On Display radio without Service Code supported, the radio displays "Error 01/42" on power up.
3. On the Non-Display radio with Service Code supported, the radio announces "Config Error, Service Code 0802" on power up.
4. On the Non-Display radio without Service Code supported, the radio shows a RED flashing LED and an Invalid Tone on power up.

Models / System Releases / Kits / Datecodes Affected

MOTOTRBO radios with M2024.01 firmware release

When To Apply

As instructed.

Workaround/Recovery

Before performing the cloning process, load the password or authentication information into the configuration file.

All the features listed below require a password or authentication input:

- Over The Air Programming Key (OTAP)
- Password & Lock
- Front Programming Password
- Authentication Passphrase

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ISSUE DATE:	2024-03

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- Restricted Access to System Key (RAS)
 - Privacy Key (Basic)
 - Privacy Key (Enhanced)
 - Symmetric Key (AES)
 - Pre-Shared Key (PSK)
 - Authentication Key (Capacity Max Features)

Resolution And Repair Procedure

Repair Step:

- 1) Open the saved configuration file, archive configuration file, or configuration file from reading the radio via CPS or RM tool
- 2) Edit and insert the password or authentication info in the configuration file
- 3) Save the configuration file
- 4) Perform cloning using the updated configuration file
- 5) Once the cloning process is complete, no error code will be displayed

Refer to the Appendix for more information.

Time To Implement/System Impact

Low - Few minutes per configuration file

For assistance with this bulletin please contact your MSI Technical Support Centre at <https://motorolasolutions.com/support>

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Appendix A – Additional Symptom details

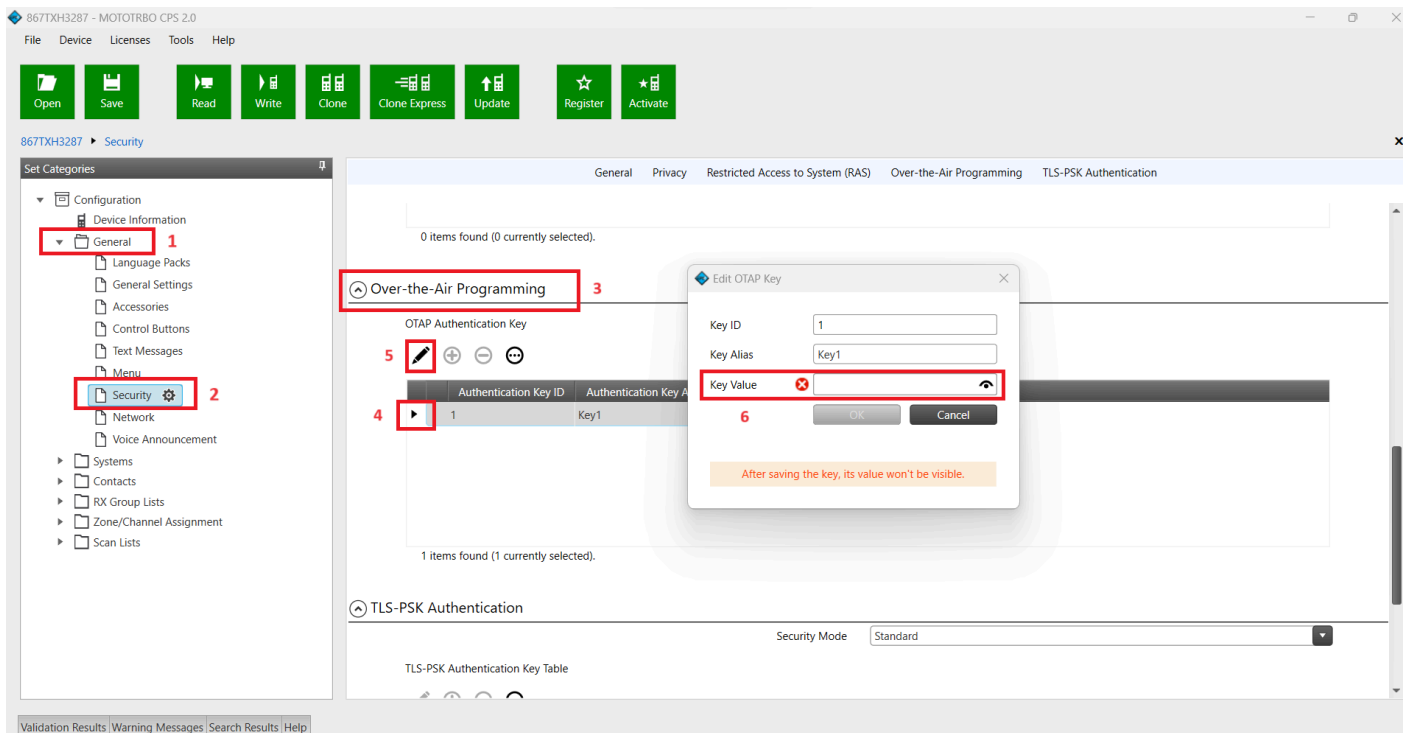
Symptom 1

Abstract: How to locate and check (CPS Method) - Over-The-Air-Programming (OTAP) Entry

User Symptoms: Update OTAP key before cloning to prevent error code

Description: To locate, check, and input the OTAP key or authentication

- 1) Locate and open the desired configuration in the CPS Tool
- 2) In the configuration file, locate and select "General" in the CPS Tool
- 3) Locate "Security" under the "General" Section
- 4) Locate "Over-The-Air-Programming"
- 5) Select the desired authentication key to edit
- 6) Click on the edit (pencil icon)
- 7) "Edit OTAP Key" prompt, insert the original/desired key in the "Key Value" section, and press "OK"



Screenshot 1: CPS - OTAP Key

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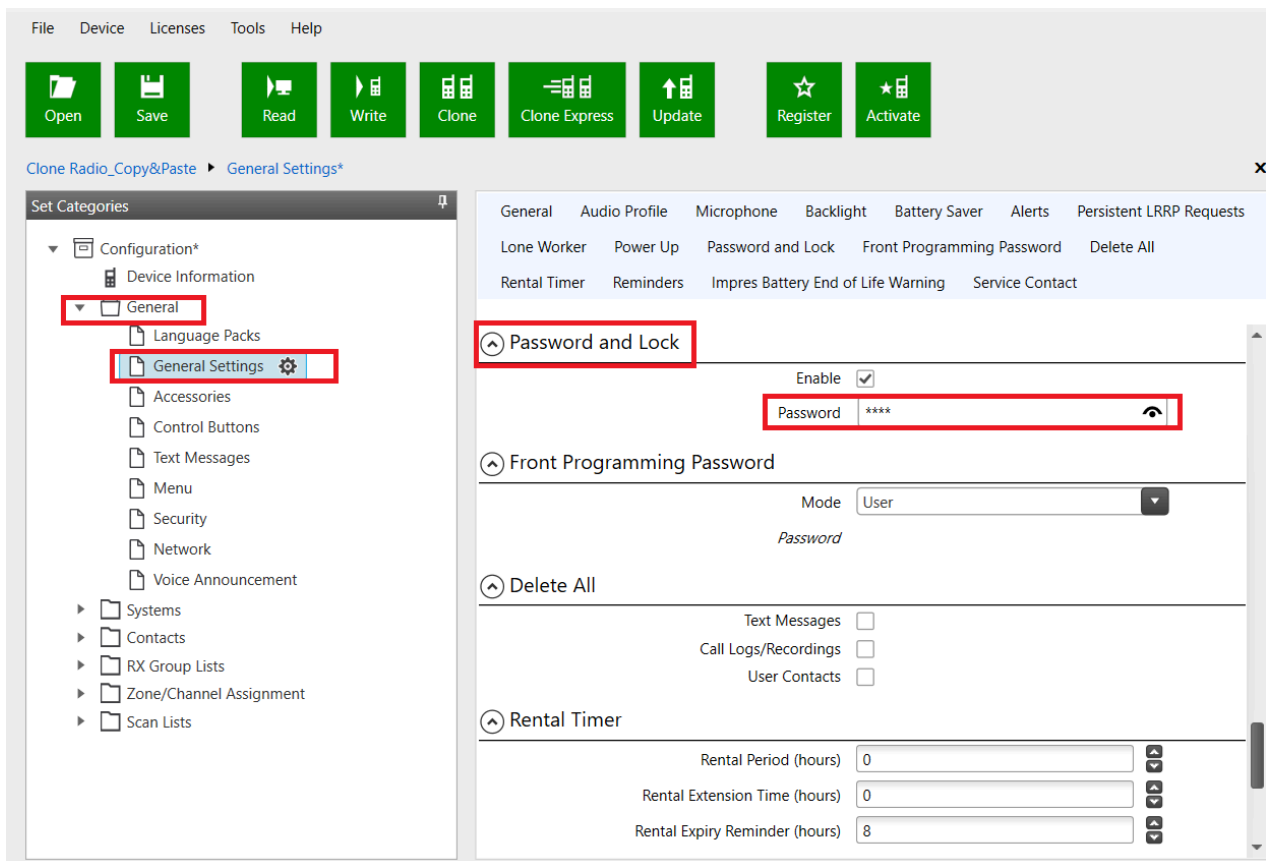
Symptom 2

Abstract: How to locate and check (CPS Method) - Password and Lock Entry

User Symptoms: Update Password and Lock before cloning to prevent error code

Description: To locate, check, and input the Password and Lock key or authentication

- 1) Locate and open the desired configuration in the CPS Tool
- 2) In the configuration file, locate and select "General" in the CPS Tool
- 3) Locate "General Settings" under "General" Section
- 4) Locate "Password and Lock"
- 5) If "Password and Lock → Enable" is **Untick/Disabled**, ignore the remaining steps and proceed to the next symptom
- 6) If "Password and Lock → Enable" is **Tick/Enabled**, insert the original/desired key in the "Password and Lock → Password" section



Screenshot 2: CPS - Password and Lock

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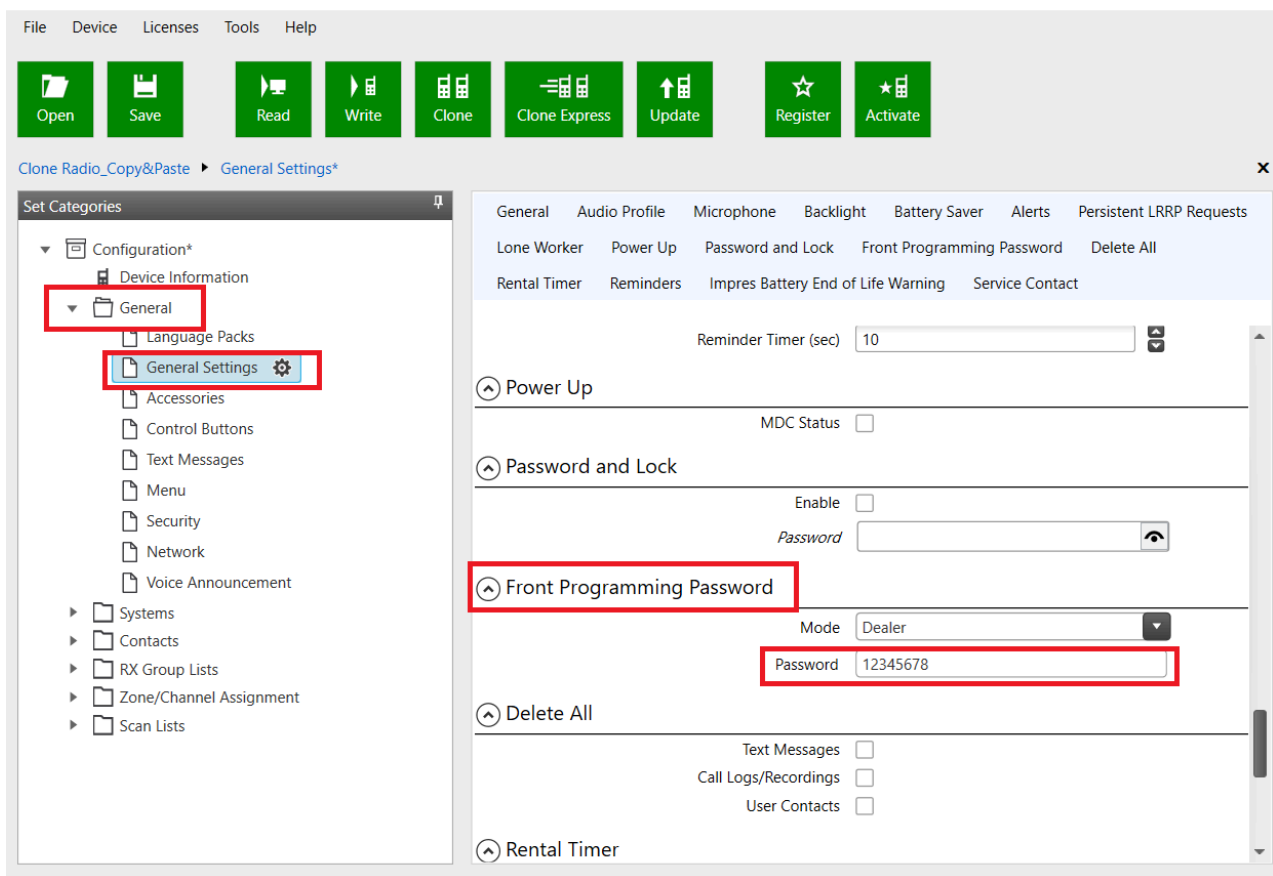
Symptom 3

Abstract: How to locate and check (CPS Method) - Front Programming Password Entry

User Symptoms: Update Front Programming Password before cloning to prevent error code

Description: To locate, check, and input the Front Programming Password key or authentication

- 1) Locate and open the desired configuration in the CPS Tool
- 2) In the configuration file, locate and select "General" in the CPS Tool
- 3) Locate "General Settings" under "General" Section
- 4) Locate "Front Programming Password"
- 5) If "Front Programming Password → Mode" is **Disabled/User**, ignore the remaining steps and proceed to the next symptom
- 6) If "Front Programming Password → Mode" is **Dealer**, insert the original/desired password in the "Front Programming Password → Password" section



Screenshot 3: CPS - Front Programming Password

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Symptom 4

Abstract: How to locate and check (CPS Method) - Authentication Passphrase Entry

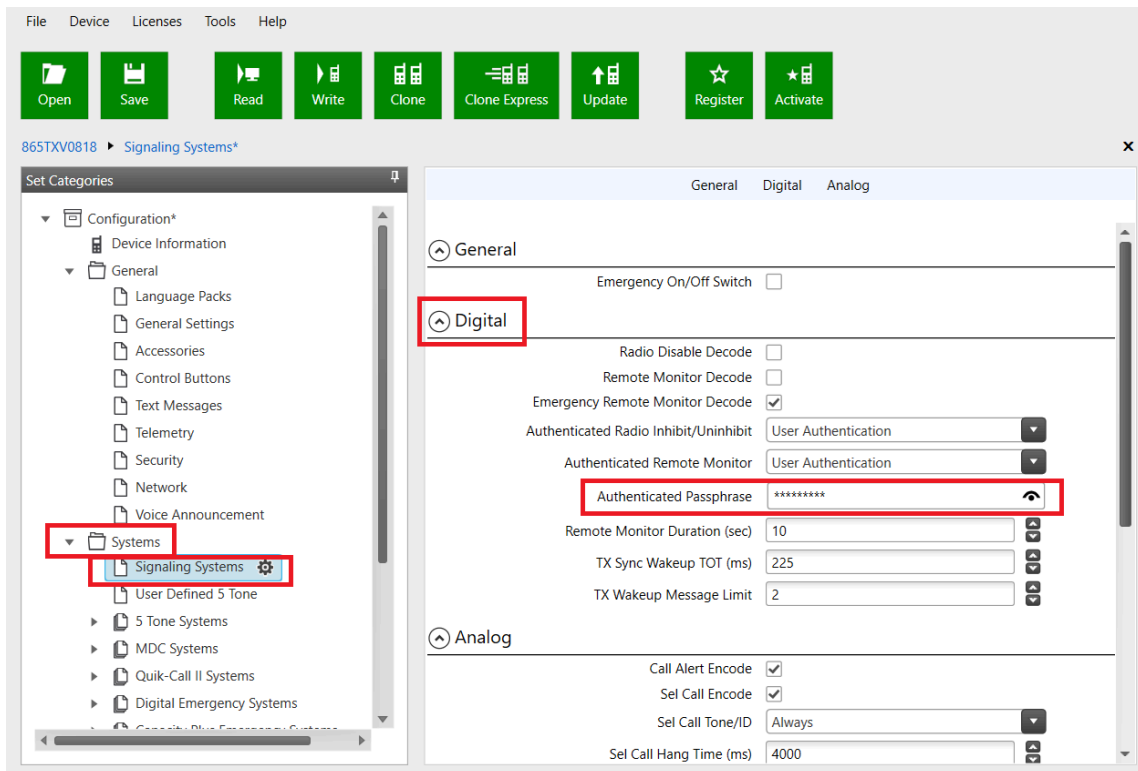
User Symptoms: Update the Authentication Passphrase before cloning to prevent error code

Description: To locate, check, and input the Authentication Passphrase key or authentication

- 1) Locate and open the desired configuration in the CPS Tool
- 2) Locate and select "Systems" in the CPS Tool
- 3) Locate "Signaling Systems" under "Systems" Section
- 4) Locate "Digital → Authentication Passphrase"
- 5) If "Digital → Authentication Radio Inhibit/Uninhibit" **AND** "Digital → Authentication Remote Monitor" are **Greyed out** or **Disabled** or **Device Authentication is selected**, ignore the remaining steps and proceed to the next symptom
- 6) If "Digital → Authentication Radio Inhibit/Uninhibit" **OR** "Digital → Authentication Remote Monitor" dropdowns is **User Authentication**, insert the original/desired authentication password in the "Digital → Authentication Passphrase" section

****NOTES****

Refer to the CPS or RM Help file for more explanation on Authentication Radio Inhibit/Uninhibit & Authentication Remote Monitor.



Screenshot 4: CPS - Authentication Passphrase

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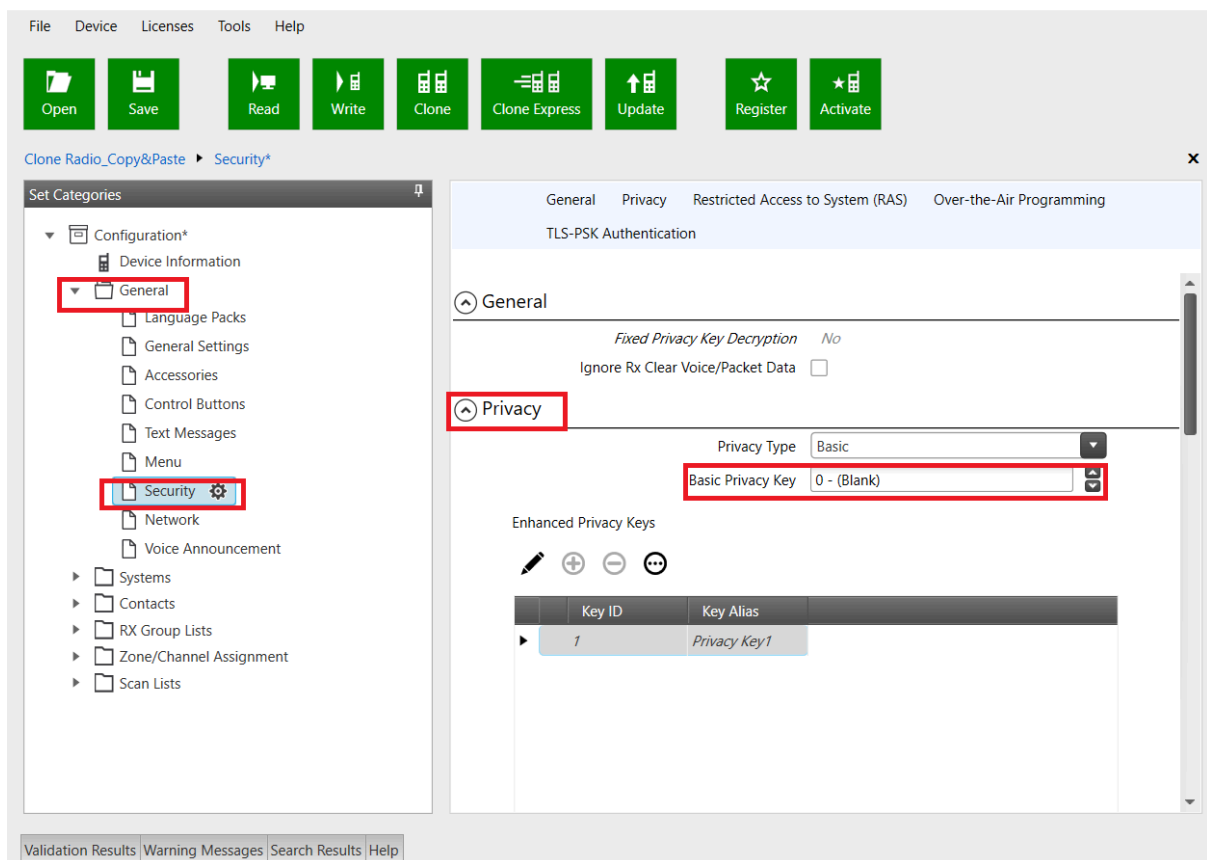
Symptom 6

Abstract: How to locate and check (CPS Method) - Privacy (Basic) Entry

User Symptoms: Update the Privacy (Basic) before cloning to prevent error code

Description: To locate, check, and input the Privacy (Basic) key or authentication

- 1) Locate and open the desired configuration in the CPS Tool
- 2) Locate and select "General" in the CPS Tool
- 3) Locate "Security" under the "General" Section
- 4) Locate "Privacy → Basic Privacy Key"
- 5) If "Privacy → Privacy Type" is **None**, ignore the remaining steps and proceed to the next symptom
- 6) If "Privacy → Privacy Type" is **Basic**, insert the original/desired key in "Privacy → Basic Privacy Key" section



Screenshot 6: CPS - Privacy (Basic) Key

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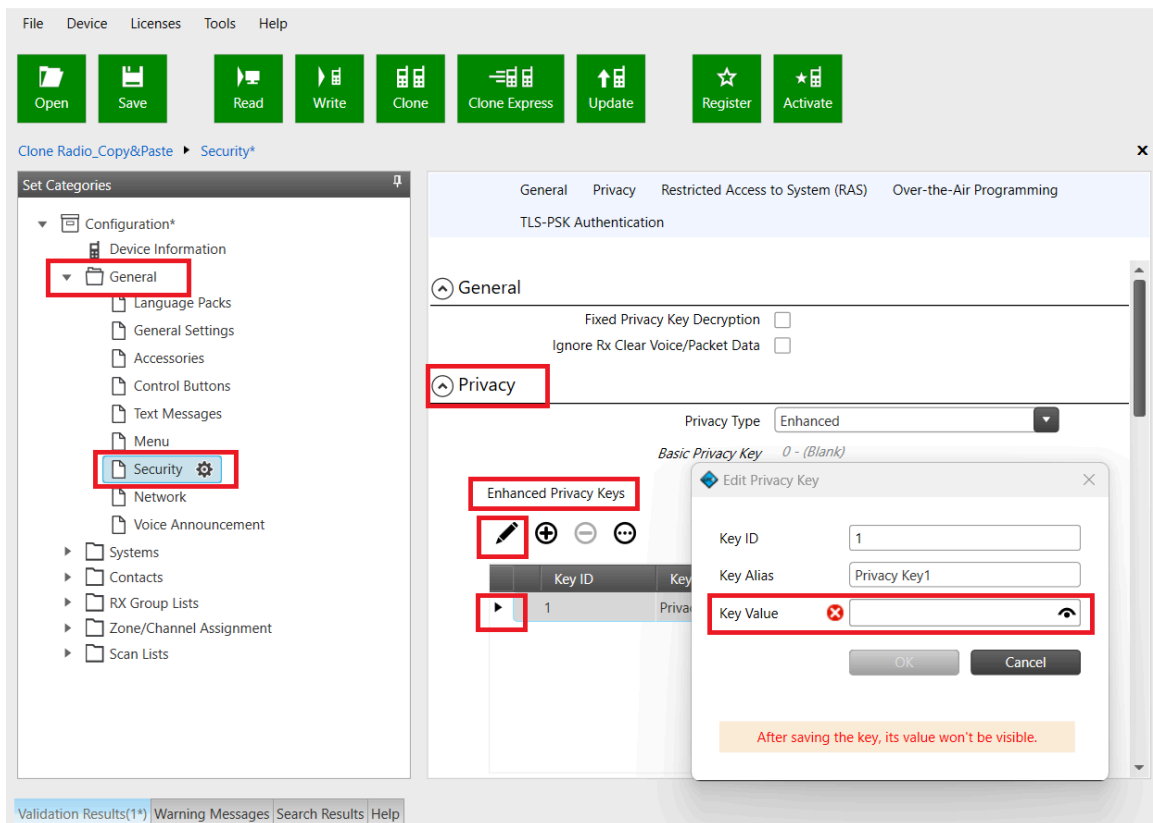
Symptom 7

Abstract: How to locate and check (CPS Method) - Privacy (Enhanced) Entry

User Symptoms: Update the Privacy (Enhanced) before cloning to prevent error code

Description: To locate, check, and input the Privacy (Enhanced) key or authentication

- 1) Locate and open the desired configuration in the CPS Tool
- 2) Locate and select "General" in the CPS Tool
- 3) Locate "Security" under the "General" Section
- 4) Locate "Privacy → Enhanced Privacy Keys"
- 5) If "Privacy → Privacy Type" is **None**, ignore the remaining steps and proceed to the next symptom
- 6) If "Privacy → Privacy Type" is **Enhanced**
- 7) Select the desired Privacy (Enhanced) key to edit on the "Enhanced Privacy Keys" section
- 8) Click on the edit (pencil icon)
- 9) "Edit Privacy Key" prompt, insert the original/desired key in the "Key Value" section, and press "OK"



Screenshot 7: CPS - Privacy (Enhanced) Key

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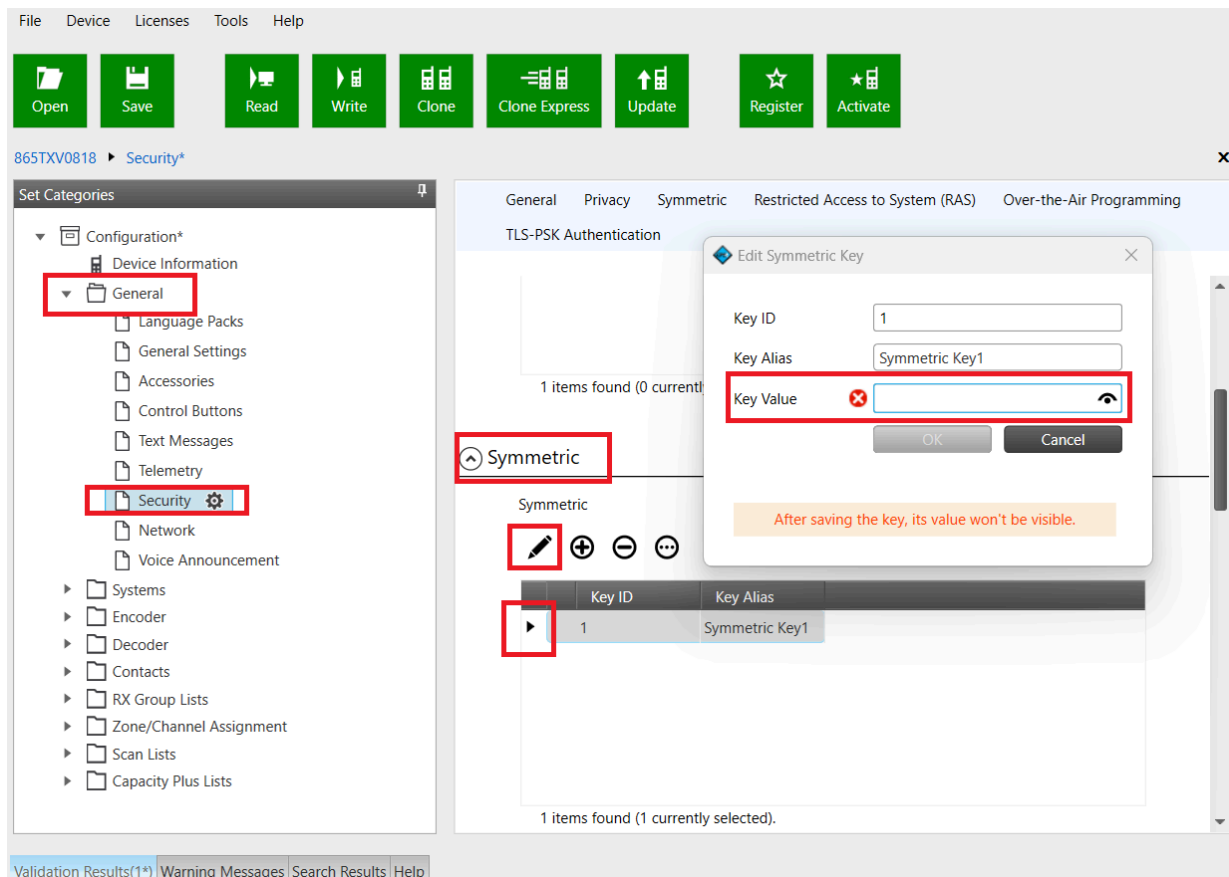
Symptom 8

Abstract: How to locate and check (CPS Method) - Symmetric (AES) Entry

User Symptoms: Update the Symmetric (AES) before cloning to prevent error code

Description: To locate, check, and input the Symmetric (AES) key or authentication

- 1) Locate and open the desired configuration in the CPS Tool
- 2) Locate and select "General" in the CPS Tool
- 3) Locate "Security" under the "General" Section
- 4) If Symmetric (AES) is **disabled**, ignore the remaining steps and proceed to the next symptom
- 5) If Symmetric (AES) is **enabled**, locate "Symmetric" and Select the desired Symmetric key to edit
- 6) Click on the edit (pencil icon)
- 7) "Edit Symmetric Key" prompt, insert the original/desired key in the "Key Value" section, and press "OK"



Screenshot 8: CPS - Symmetric (AES) Key

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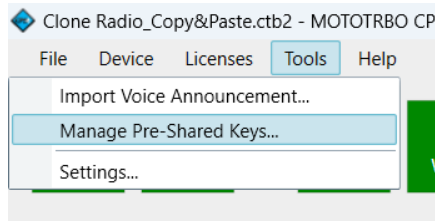
Symptom 9

Abstract: How to locate and check (CPS Method) - Pre-shared key (PSK) Entry

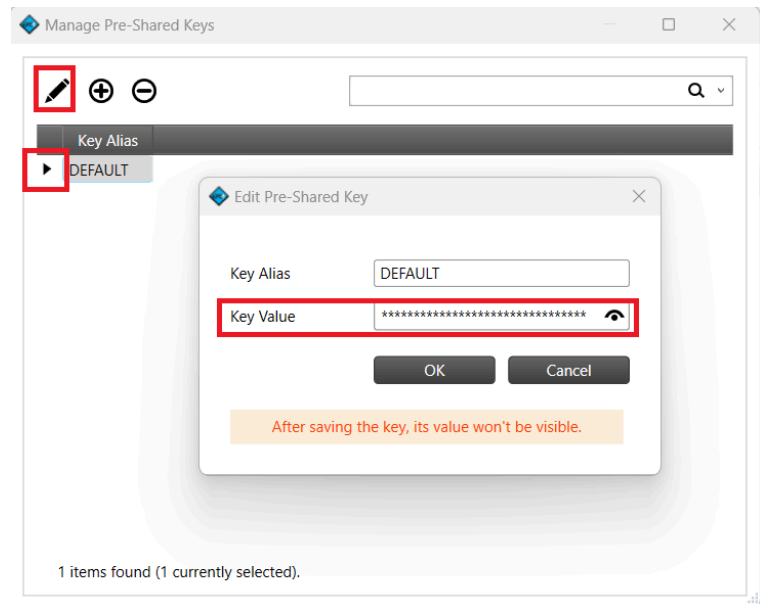
User Symptoms: Update the Pre-shared key (PSK) before cloning to prevent error code

Description: To locate, check, and input the PSK key or authentication

- 1) If Pre-shared key (PSK) Security Mode is **Standard**, ignore the remaining steps and proceed to the next symptom
- 2) If Pre-shared key (PSK) Security Mode is **Enhanced**, Locate and open "Tools" in the CPS Tool
- 3) Locate and click "Manage Pre-Shared Keys" under "Tools" Section
- 4) Locate and select the desired Pre-shared key (PSK) key to edit
- 5) Click on the edit (pencil icon)
- 6) "Edit Pre-Shared Key" prompt, insert the original/desired key in the "Key Value" section, and press "OK"
- 7) Locate and select "General" in the CPS Tool of the desired configuration file
- 8) Locate and click "Security" under "General" Section
- 9) Locate "TLS-PSK Authentication" in the "Security" section
- 10) Select the desired "Pre-shared Key Alias" that was edited in step 4.



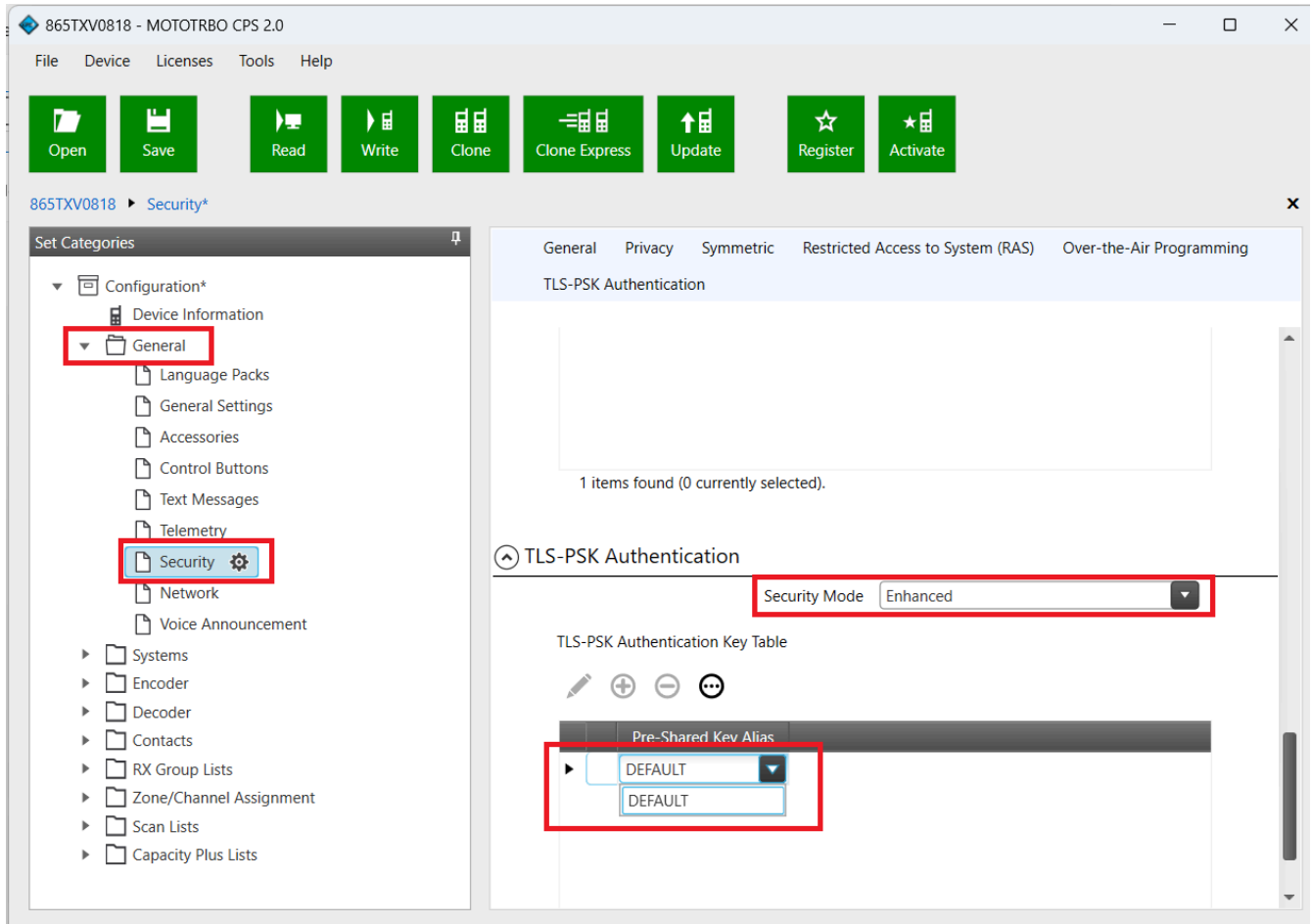
Screenshot 9.1: Pre-shared key (PSK)



Screenshot 9.2: CPS - Pre-shared key (PSK) value

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Screenshot 9.3: CPS - Pre-shared key (PSK) Enable

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Symptom 10

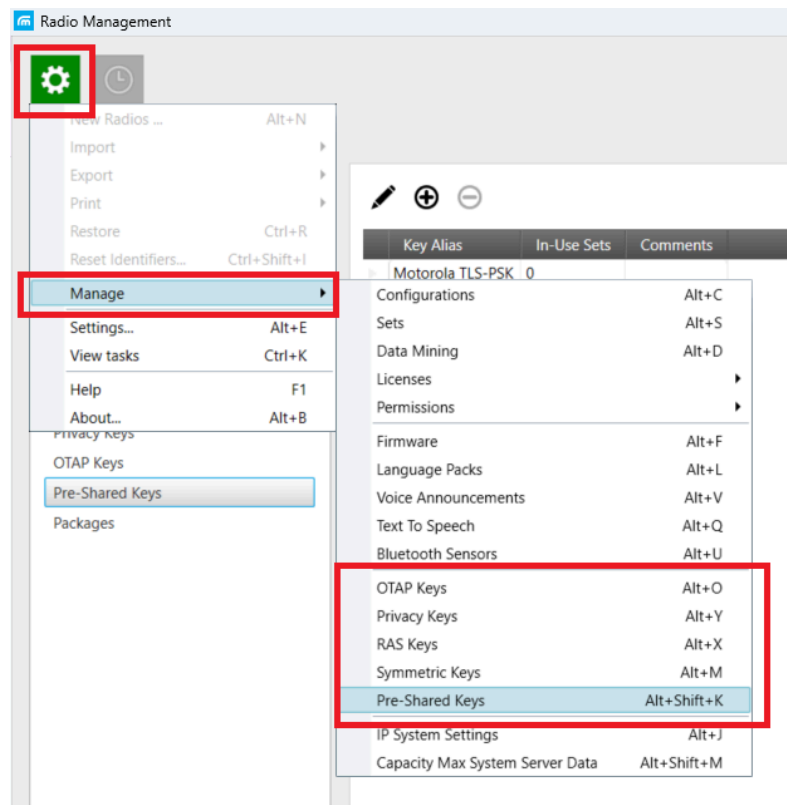
Abstract: How to locate and check (RM Method)

- A. OTAP Keys
- B. Privacy (Enhanced) Keys
- C. Symmetric (AES) Keys
- D. RAS Keys
- E. Pre-Shared Keys

User Symptoms: Update the mentioned key in the list above before cloning to prevent error code

Description: To locate, check, and input all the key or authentication

- 1) Locate and open "Manage" in the RM Tool
- 2) Locate and click on the desired Keys to edit (*Refer the symptoms 10A to 10E for the desired key methods*)



Screenshot 10: RM - Manage Key List

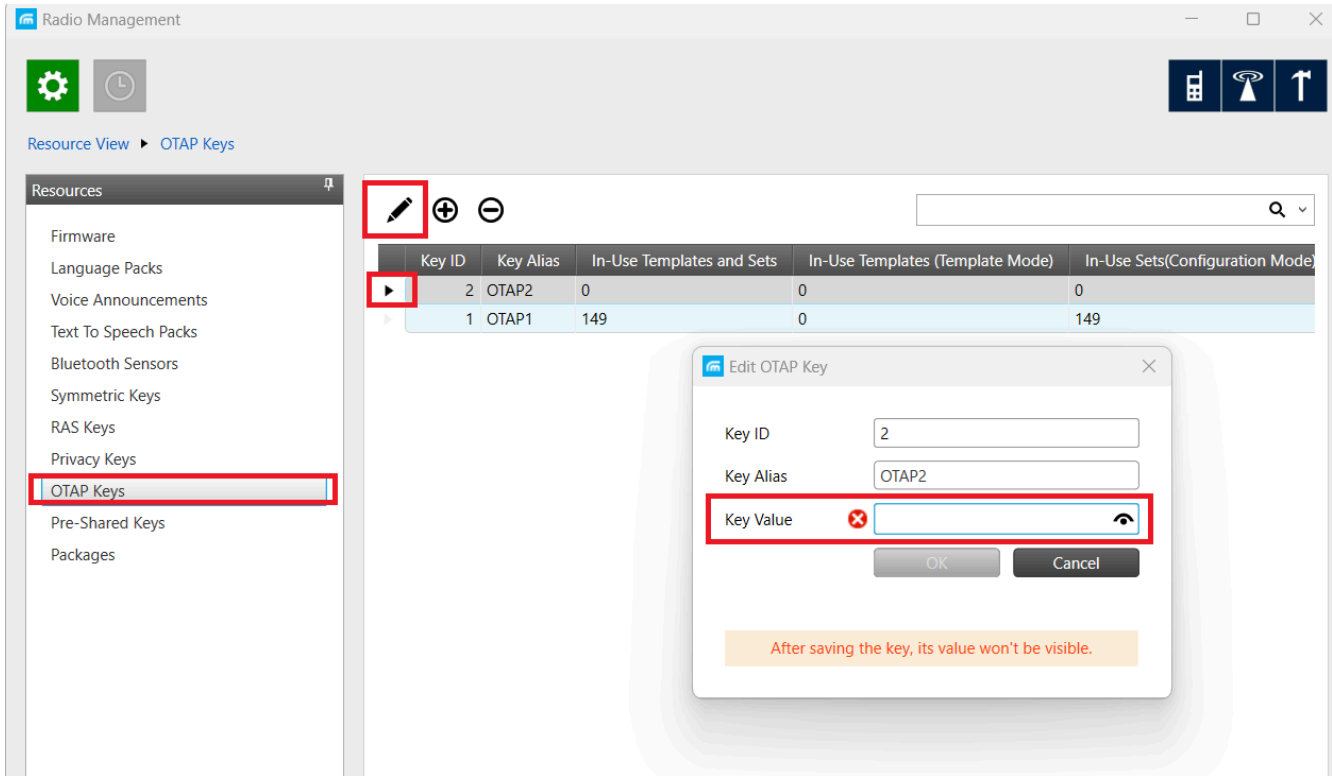
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Symptom 10A - OTAP Keys

Description: To locate, check, and input OTAP key or authentication in RM

- 1) Locate and open "OTAP Keys" in the "Manage" Tool
- 2) Select the desired OTAP authentication key to edit
- 3) Click on the edit (pencil icon)
- 4) "Edit OTAP Key" prompt, insert the original/desired key in the "Key Value" section, and press "OK"



Screenshot 10A: RM - OTAP Keys

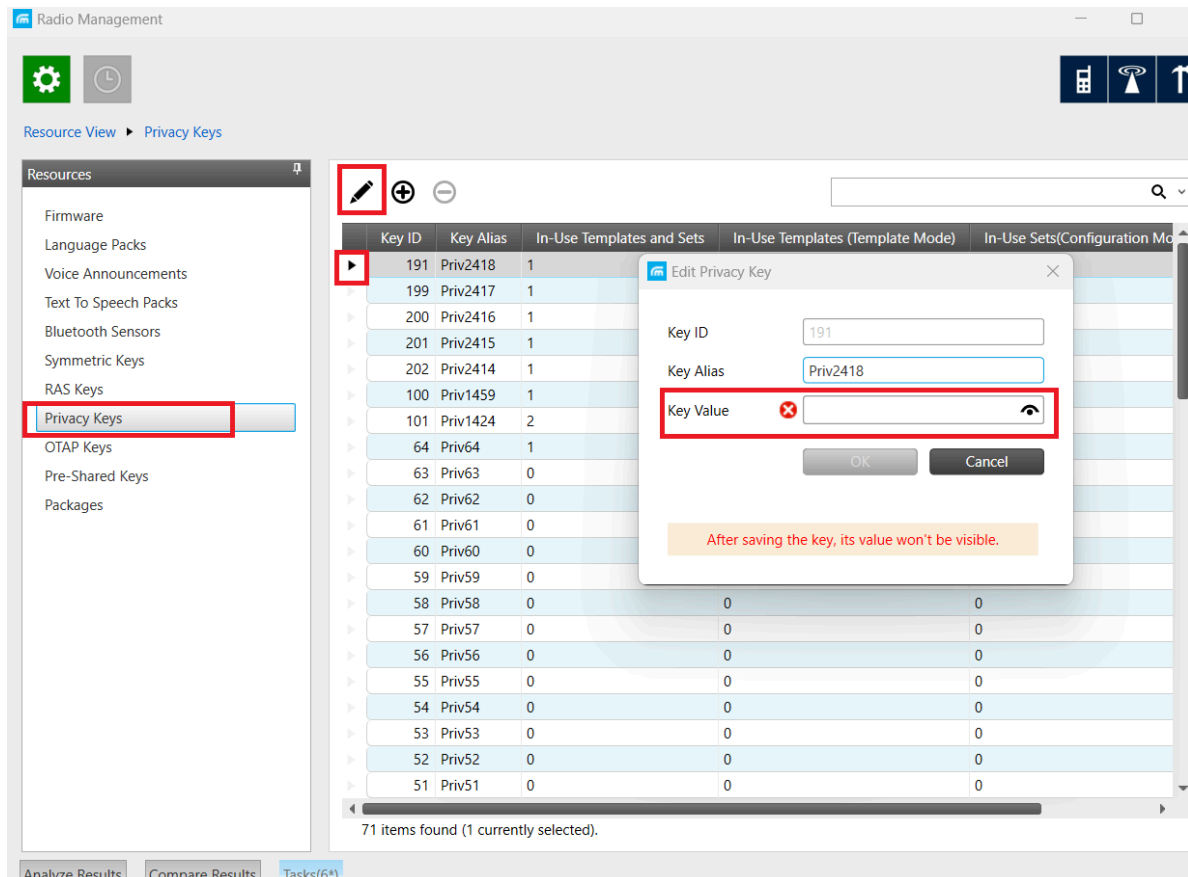
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Symptom 10B - Privacy (Enhanced) Keys

Description: To locate, check, and input Privacy (Enhanced) key or authentication in RM

- 1) Locate and open "Privacy Keys" in the "Manage" Tool
- 2) Select the desired Privacy (Enhanced) authentication key to edit
- 3) Click on the edit (pencil icon)
- 4) "Edit Privacy Key" prompt, insert the original/desired key in the "Key Value" section, and press "OK"



Screenshot 10B: RM - Privacy (Enhanced) Keys

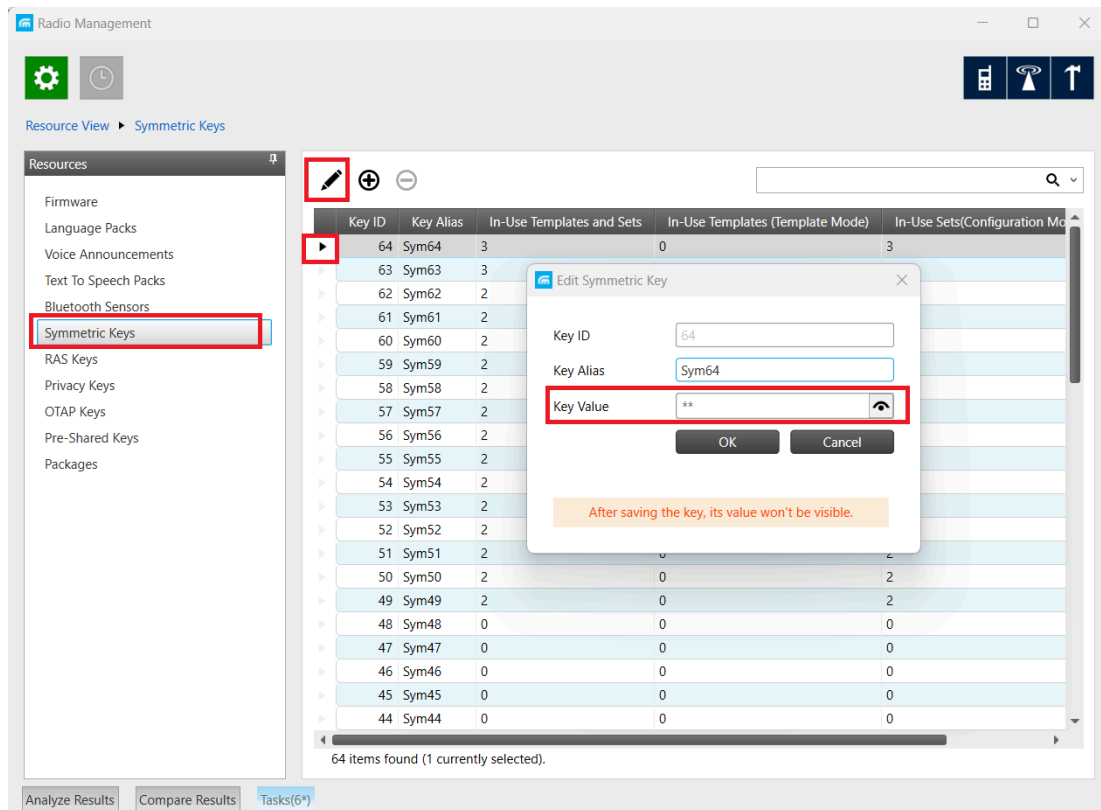
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Symptom 10C - Symmetric (AES) Keys

Description: To locate, check, and input Symmetric (AES) key or authentication in RM

- 1) Locate and open "Symmetric Keys" in the "Manage" Tool
- 2) Select the desired Symmetric authentication key to edit
- 3) Click on the edit (pencil icon)
- 4) "Edit Symmetric Key" prompt, insert the original/desired key in the "Key Value" section, and press "OK"



Screenshot 10C: RM - Symmetric (AES) Keys

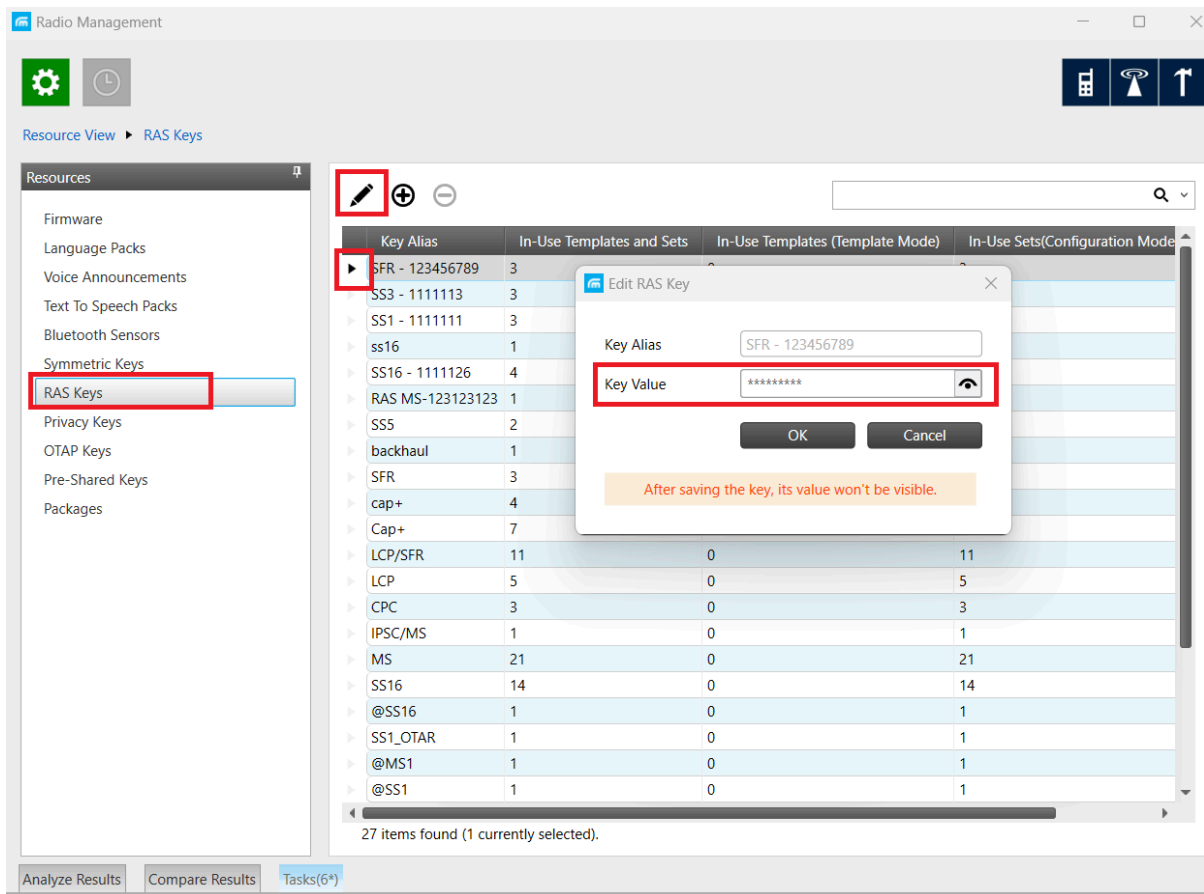
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Symptom 10D - RAS Keys

Description: To locate, check, and input the Restricted Access to System (RAS) key or authentication in RM

- 1) Locate and open "RAS Keys" in the "Manage" Tool
- 2) Check if there is any entry in the "Restricted Access to System (RAS)" section
- 3) If **no entry**, then ignore the remaining steps and proceed to the next symptom
- 4) If **having at least one entry**, Select the desired RAS key to edit
- 5) Click on the edit (pencil icon)
- 6) "Edit RAS Key" prompt, insert the original/desired key in the "Key Value" section, and press "OK"



Screenshot 10D: RM - RAS Keys

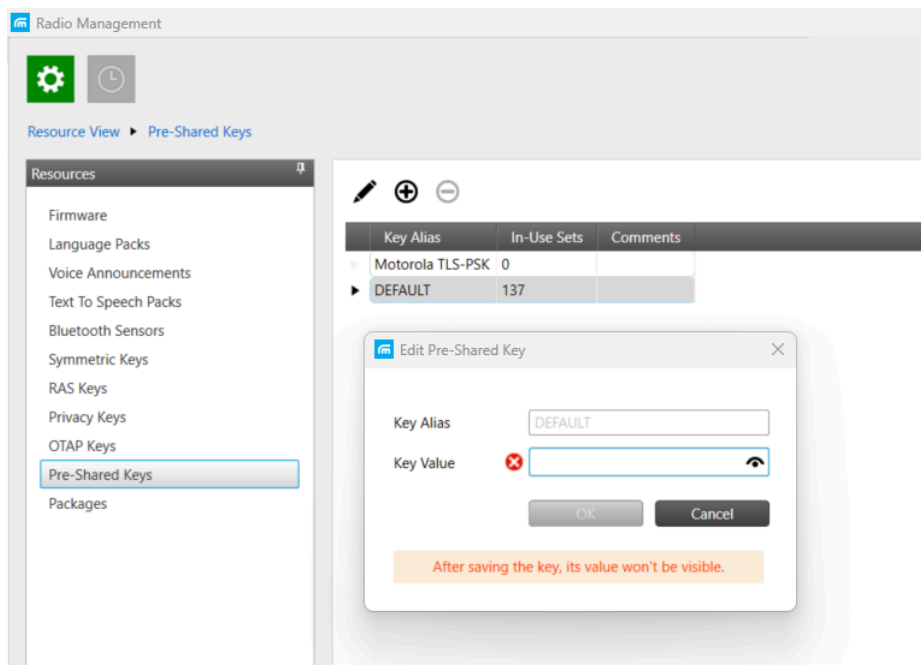
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Symptom 10E - Pre-Shared Keys

Description: To locate, check, and input the Pre-Shared key or authentication in RM

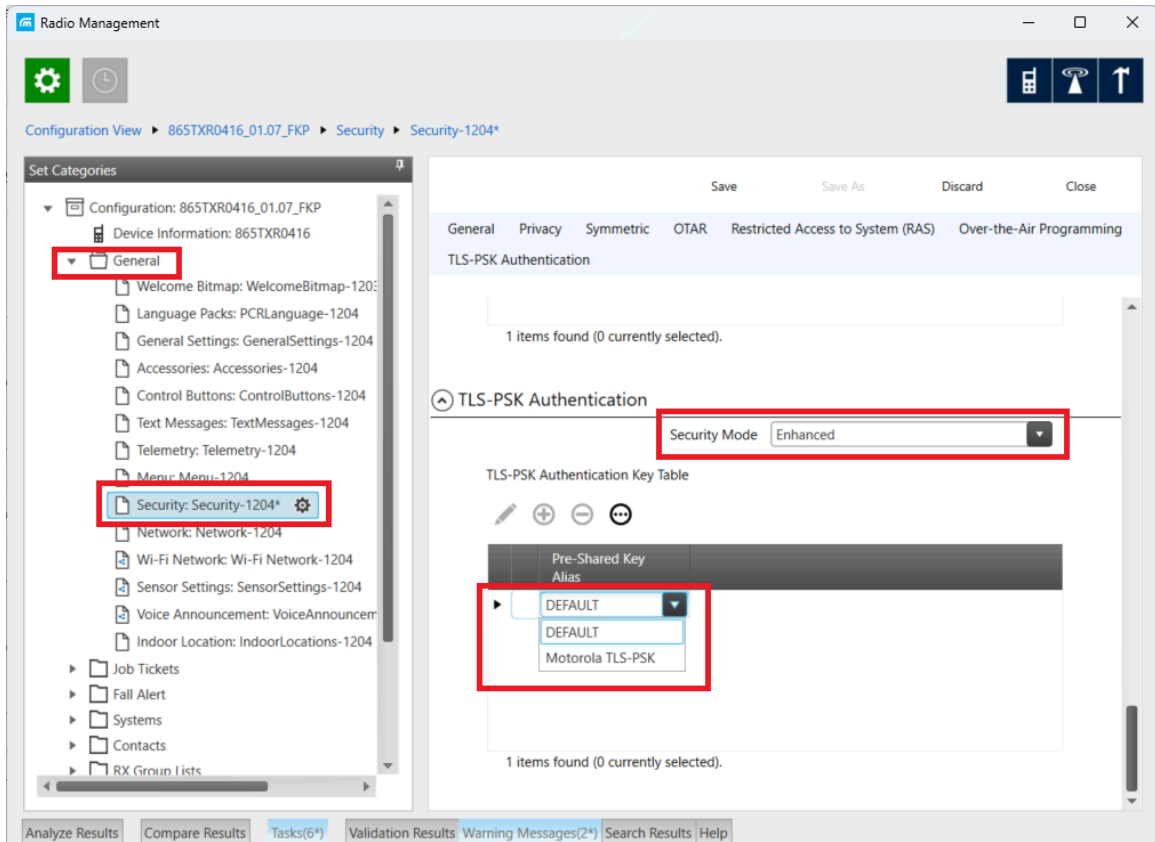
- 1) If Pre-shared key (PSK) Security Mode is **Standard**, ignore the remaining steps and proceed to the next symptom
- 2) If Pre-shared key (PSK) Security Mode is **Enhanced**, Locate and open "Pre-Shared Keys" in the "Manage" Tool
- 3) Select the desired PSK authentication key to edit
- 4) Click on the edit (pencil icon)
- 5) "Edit Pre-Shared Key" prompt, insert the original/desired key in the "Key Value" section, and press "OK"
- 6) Locate and select "General" in the RM Tool of the desired configuration file
- 7) Locate and click "Security" under "General" Section
- 8) Locate "TLS-PSK Authentication" in the "Security" section
- 9) Select the desired "Pre-shared Key Alias" that was edited in step 3.



Screenshot 10E.1: RM - Pre-Shared Key Value

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Screenshot 10E.2: RM - Pre-Shared Key Alias

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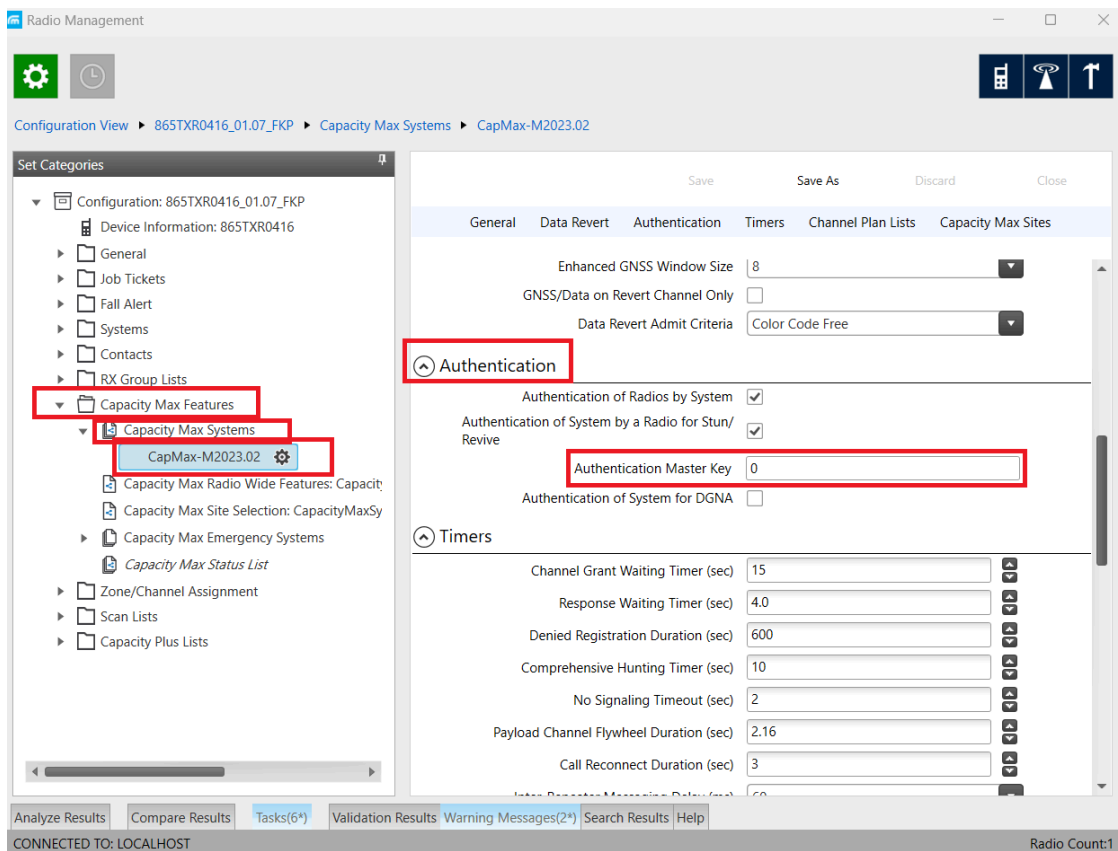
Symptom 11

Abstract: How to locate and Check (RM Method) - Authentication Key Entry

User Symptoms: Update the Authentication Key before cloning to prevent error code

Description: To locate, check, and input the Authentication Key or authentication information

- 1) Locate and open the desired configuration in the RM Tool
- 2) Locate and select "Capacity Max Features" in the configuration file
- 3) Locate and select "Capacity Max Systems" and select the desired Capacity Max Systems configuration
- 4) Locate "Authentication" in the desired Capacity Max System configuration
- 5) Edit and insert the original/desired authentication key in the "Authentication Master Key" section



Screenshot 11: RM - Capacity Max Authentication Key

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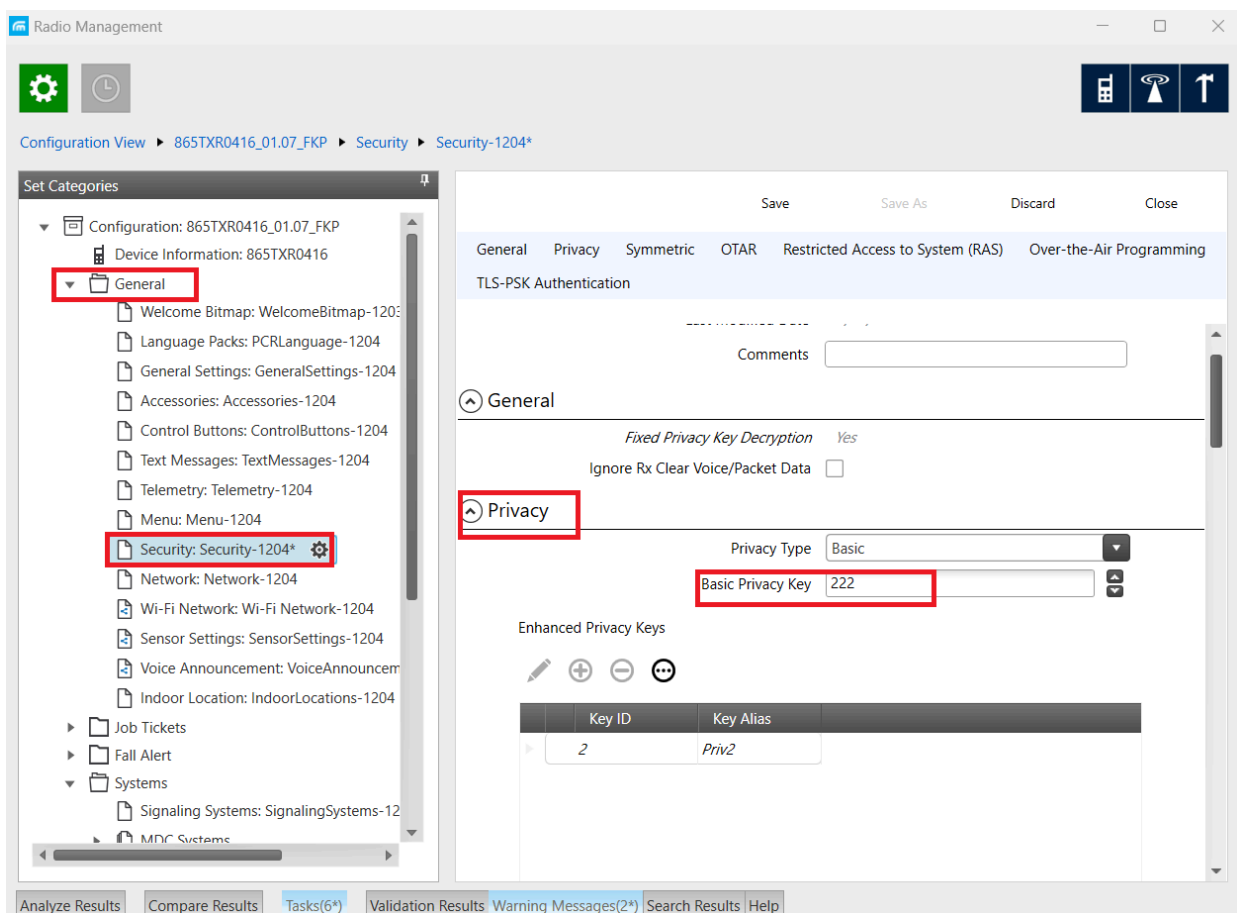
Symptom 12

Abstract: How to locate and check (RM Method) - Privacy (Basic) Entry

User Symptoms: Update the Privacy (Basic) before cloning to prevent error code

Description: To locate, check, and input the Privacy (Basic) key or authentication

- 1) Locate and open the desired configuration in the RM Tool
- 2) Locate and open "General" in the RM Tool
- 3) Locate "Security" under "General" Section
- 4) Locate "Privacy → Basic Privacy Key"
- 5) If "Privacy → Privacy Type" is **None**, ignore the remaining steps and proceed to the next symptom
- 6) If "Privacy → Privacy Type" is **Basic**, insert the original/desired key in the "Privacy → Basic Privacy Key" section



Screenshot 12: RM - Privacy (Basic) Key

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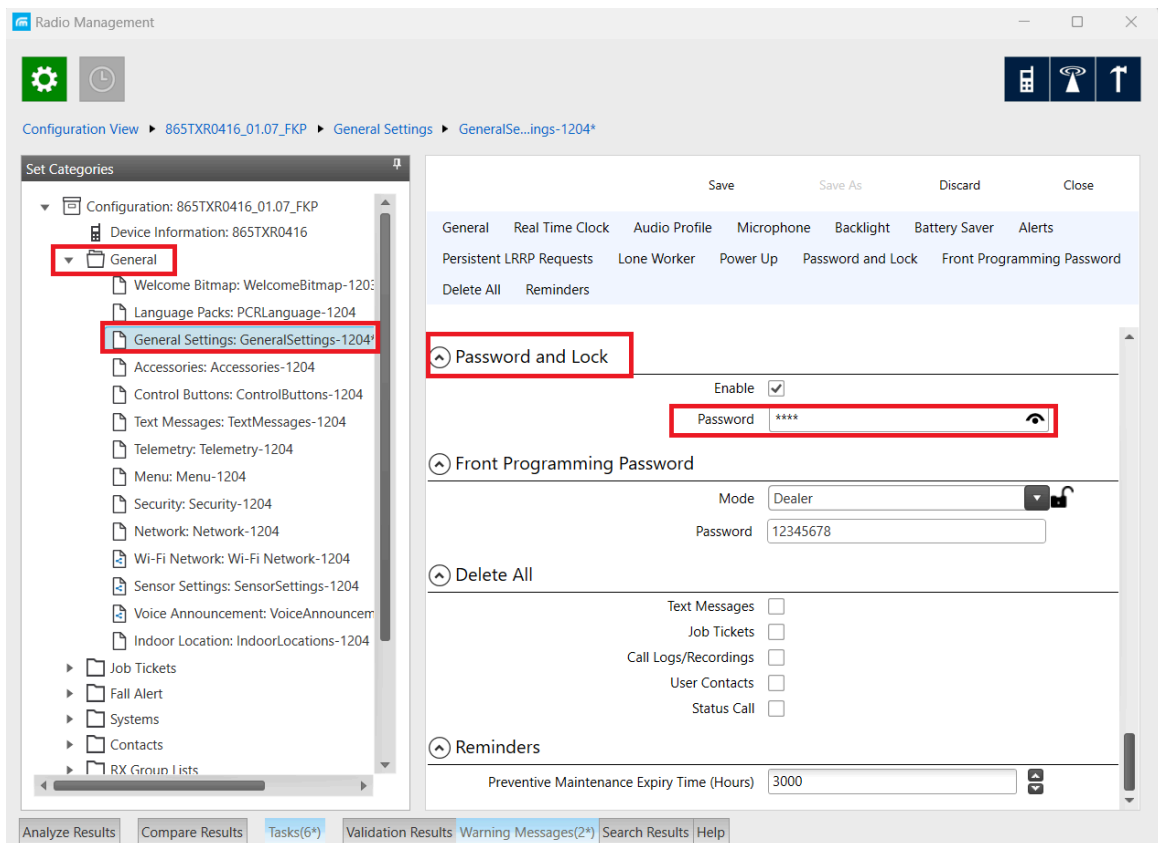
Symptom 13

Abstract: How to locate and check (RM Method) - Password and Lock Entry

User Symptoms: Update Password and Lock before cloning to prevent error code

Description: To locate, check, and input the Password and Lock key or authentication

- 1) Locate and open the desired configuration in the RM Tool
- 2) Locate and open "General" in the RM Tool
- 3) Locate "General Settings" under "General" Section
- 4) Locate "Password and Lock"
- 5) If "Password and Lock → Enable" is **Untick/Disabled**, ignore the remaining steps and proceed to the next symptom
- 6) If "Password and Lock → Enable" is **Tick/Enabled**, insert the original/desired password in the "Password and Lock → Password" section



Screenshot 13: RM - Password and Lock

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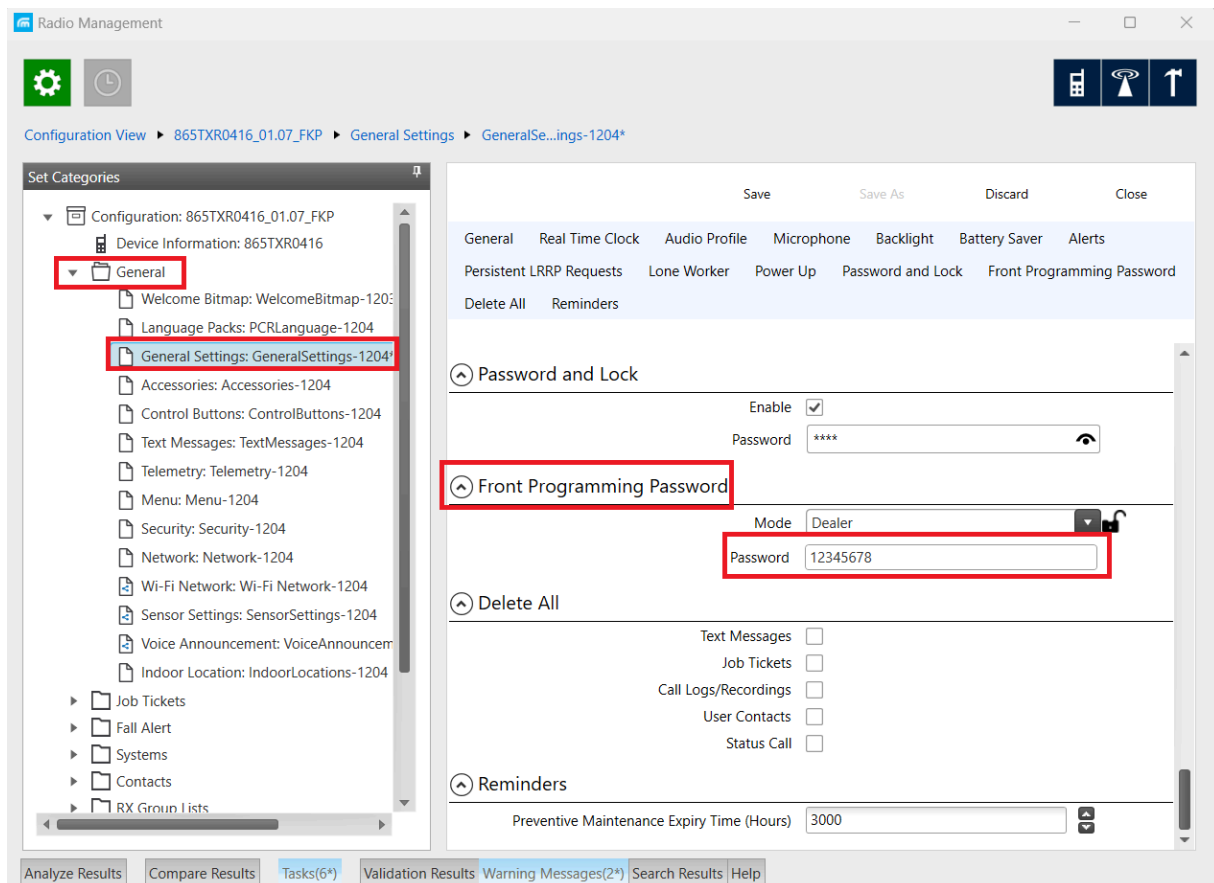
Symptom 14

Abstract: How to locate and check (RM Method) - Front Programming Password Entry

User Symptoms: Update Front Programming Password before cloning to prevent error code

Description: To locate, check, and input the Front Programming Password key or authentication

- 1) Locate and open the desired configuration in the RM Tool
- 2) Locate and open "General" in the RM Tool
- 3) Locate "General Settings" under "General" Section
- 4) Locate "Front Programming Password"
- 5) If "Front Programming Password → Mode" is **Disabled/User**, ignore the remaining steps and proceed to the next symptom
- 6) If "Front Programming Password → Mode" is **Dealer**, insert the original/desired key in the "Front Programming Password → Password" section



Screenshot 14: RM - Front Programming Password

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Symptom 15

Abstract: How to locate and check (RM Method) - Authentication Passphrase Entry

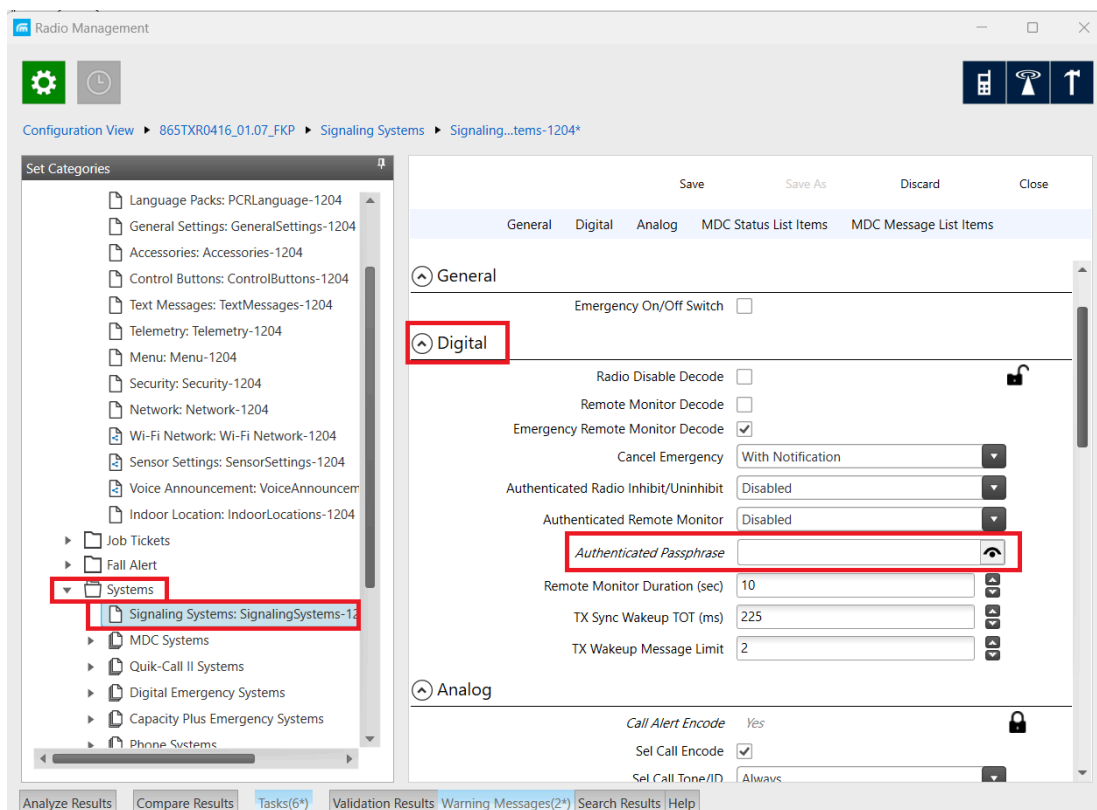
User Symptoms: Update the Authentication Passphrase before cloning to prevent error code

Description: To locate, check, and input the Authentication Passphrase key or authentication

- 1) Locate and open the desired configuration in the RM Tool
- 2) Locate and open "Systems" in the CPS Tool
- 3) Locate "Signaling Systems" under "Systems" Section
- 4) Locate "Digital → Authentication Passphrase"
- 5) If "Digital → Authentication Radio Inhibit/Uninhibit" **AND** "Digital → Authentication Remote Monitor" are **Greyed out** or **Disabled** or **Device Authentication is selected**, ignore the remaining steps and proceed to the next symptom
- 6) If "Digital → Authentication Radio Inhibit/Uninhibit" **OR** "Digital → Authentication Remote Monitor" dropdown is **User Authentication**, insert the original/desired key in the "Digital → Authentication Passphrase" section

****NOTES****

Refer to the CPS or RM Help file for more explanation on Authentication Radio Inhibit/Uninhibit & Authentication Remote Monitor.



Screenshot 15: RM - Authentication Passphrase

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