The Bugs are:

1. If Current user = recipient user= admin and UserHasPermissionToModifyRecipient=false and addRecipientAllowed = true,

In this case, User doesnot have permission to modify messages but still the if condition inside canReceiveMessage method succeeds and canReceiveMessage returns true and the message gets added to successfulMessage list. According to the requirements, in partial success recipients will be added only if the user has permission to modify messages.

The developer needs to use | instead of || so that both conditions in if condition are checked.

1. If currentUser != recipient(Current user is not same as recipient) and UserHasPermissionToModifyRecipient=false and message.getAddRecipientAllowed = false then the if condition inside canReceiveMessage method fails but canReceiveMessage still returns true and the message gets added to successfulMessage arraylist which is wrong.
2. currentUser = recipient and UserHasPermissionToModifyRecipient=true and addRecipientAllowed = false, In this case the message will be added to the failed list even though user is allowed to modify.

The test cases doesn test various other varieties of input. Few of them are

1. Different Users. Current User and Recipient User are different
2. What if good messages doesn’t allow add recipient i.e. goodMessage.setAddRecipientAllowed(user, false).
3. What if bad messages are allowed to add recipient i.e. badMessage.setAddRecipientAllowed(user, true).
4. Takes UserHasPermissionToModifyRecipient=true for all the cases and doesn test UserHasPermissionToModifyRecipient=false case.