

RMLD-CS App

User Guide

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1. Introduction

The RMLD-CS Mobile application provides an easy way for users to connect Heath RMLD-CS devices via Bluetooth (BLE) and capture survey data. This includes the following:

- Search for nearby RMLD-CS devices.
- Connect to a device.
- Select a GPS Logging rate option.
- Start a new survey.
- View the CH4 and Peak CH4 value on the screen.
- Log details of observed leaks including the location.
- Switch between RMLD-CS devices during a survey.
- Pause or end the survey.
- View the trail on a map.
- Download the CSV and KML file, or a zip file containing the CSV and KML of a survey.
- Audible alarms through the mobile application. (DMD, RT, Fault, Warning)
- Low mobile device battery level sound indication.
- Disconnected device sound indication.

2. Compatibility

RMLD-CS Mobile is compatible with iOS mobile devices with the below specifications:

- IOS – 4.7 Inches and above, OS – 11.0 and above

3. Prerequisites

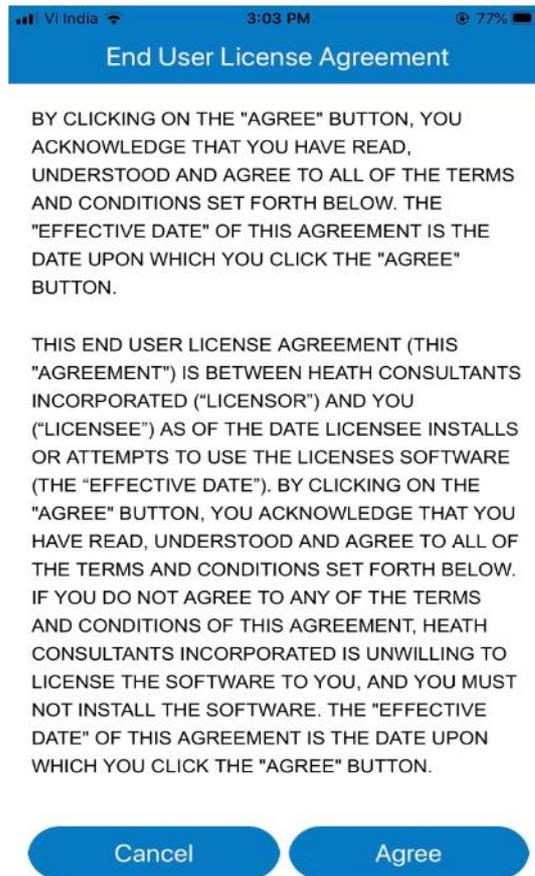
In order to capture location data and connect to the RMLD-CS instrument, the mobile device's GPS location and Bluetooth should be turned on. Location and Bluetooth permissions should also be enabled for the app. On iOS, GPS location permission should be set to "Always".



4. Workflow

4.1. End User License Agreement Screen

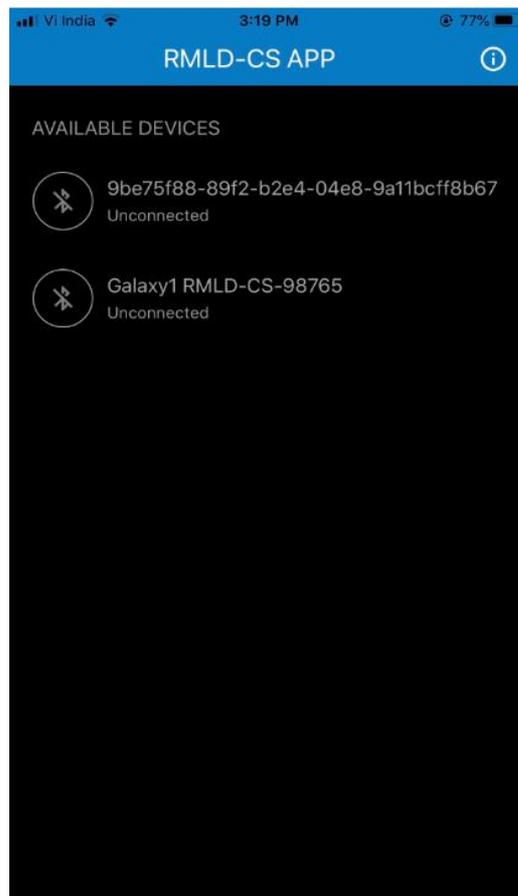
Prior to using the RMLD-CS Application, the user must first agree to the End User License Agreement.



4.2. Connect Device Screen

4.2.1. Display nearby devices list

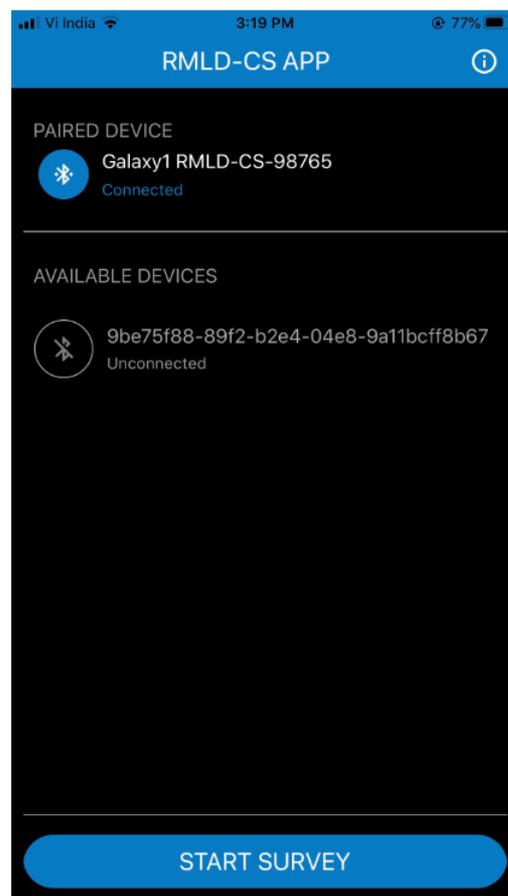
Upon opening the application, a list of all Bluetooth devices available in proximity will be displayed.



4.2.2. Connect to the device

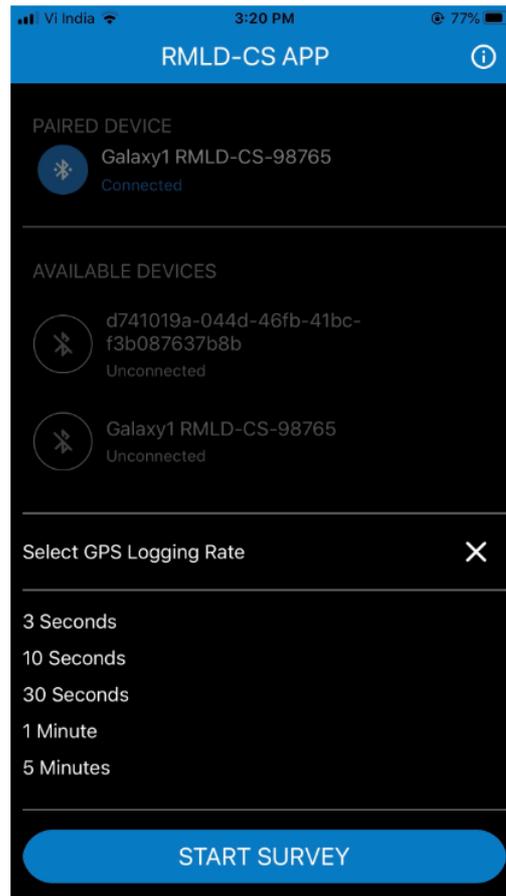
When a device is selected from the list, an attempt to connect will be made. If a connection is not established within one minute, the request will timeout. If the desired instrument is not displayed in the list, please ensure that Bluetooth is turned on in the instrument.

The device list can also be refreshed by tapping in the middle of the page and moving your finger towards the bottom of your screen.



4.2.3. Start the survey

After successfully connecting to a device, the user can select the preferred GPS Logging Rate, which will impact the frequency that location points will be captured in the generated KML file. Upon selecting “Start Survey,” the user will be directed to the “Survey Screen”.



4.3. Survey Screen

This screen displays the survey data. Based on data packet received from RMLD-CS device, this page will display:

- CH4 PPM-M value
- Peak PPM-M CH4 value
- Alarms
- Connected Device Name
- “Switch” button to connect to a different RMLD-CS device during the survey



4.3.1. Header of Survey Screen

- On left hand side the “Back” button will navigate back to Connect Device page.
- At Center, Application name is displayed.
- On Right hand side, the “Info” button will navigate to About Page of application.

4.3.2. CH4 Value

The first value that is displayed on screen is CH4 value. This value gets captured from RMLD-CS device while doing the survey and is measured in PPM-M.

4.3.3. Peak CH4 Value

Peak CH4 value is displayed with text “Peak PPM-M”. At first, Peak CH4 is shown as CH4 Value for 5 seconds, within 5 seconds, if a higher CH4 is received, Peak will show this new higher value for 5 seconds.



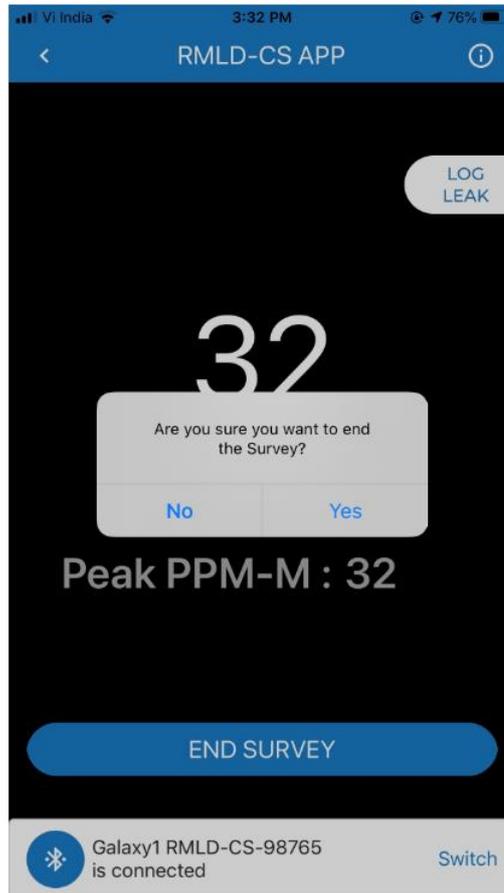
4.3.4. Log Leak Button

While doing survey, whenever any leak is observed, it can be logged using this button. Once leak is logged successfully, “Leak Logged” message is displayed on the screen.



4.3.5. End Survey Button

Once the survey is completed, user can mark end of survey by clicking on End Survey button. On End Survey click: User will get an alert “Are you sure, you want to end the Survey?” On “Yes” click, application navigates to Survey Map Screen. On “No” click, user resumes the current survey.

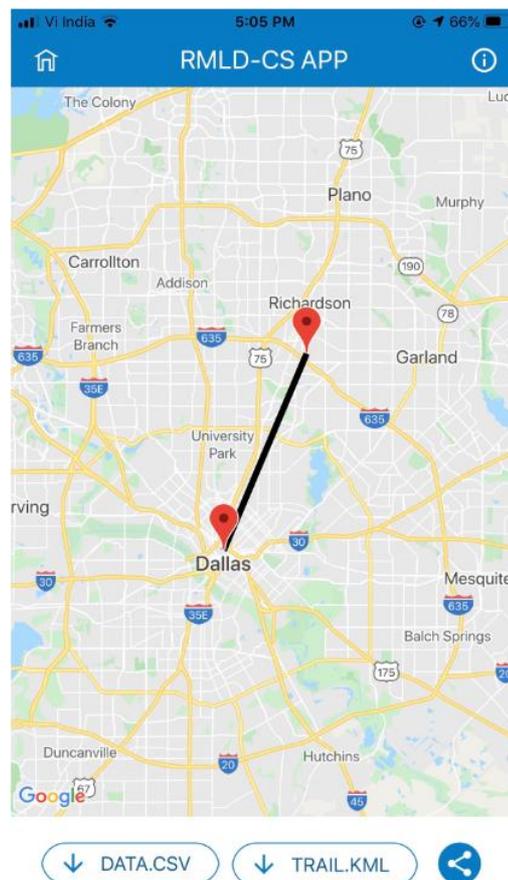


4.3.6. Footer of Survey Page

- Shows the Connected Device name
- Switch button: To connect to a different device. This will navigate back to connect device screen.

4.4. Survey Map Screen

- a. This screen displays the survey trail and location of logged leaks on a map.
- b. The “DATA.CSV” button allows the user to share or save the generated CSV file. This CSV file will contain all the survey data from the RMLD-CS.
- c. The “TRAIL.KML” button allows the user to share or save the generated KML file. This KML file will contain the survey trail and leak log location data based on the selected GPS logging rate.
- d. The Share icon in the lower right corner allows the user to share or save the generated KML and CSV file as a zip.



e. Header of Survey Screen:

- On left hand side the “Home” button will navigate back to Connect Device page.
- At Center, Application name is displayed.
- On right hand side, the “Info” button will navigate to About Page of application.

Note: On using the Home button to redirect to “Connect Device Screen”, all data will be lost.

4.5. About Page

- The About page is accessible via the info icon at the top right corner of each screen.
- The About page contains the following:
 - Application version (Latest build version will be shown)
 - User Manual
 - End User License Agreement (EULA)
 - Privacy Policy
- Upon selecting the User Manual link, EULA or Privacy Policy link, respective pdf document will open in inside the application.

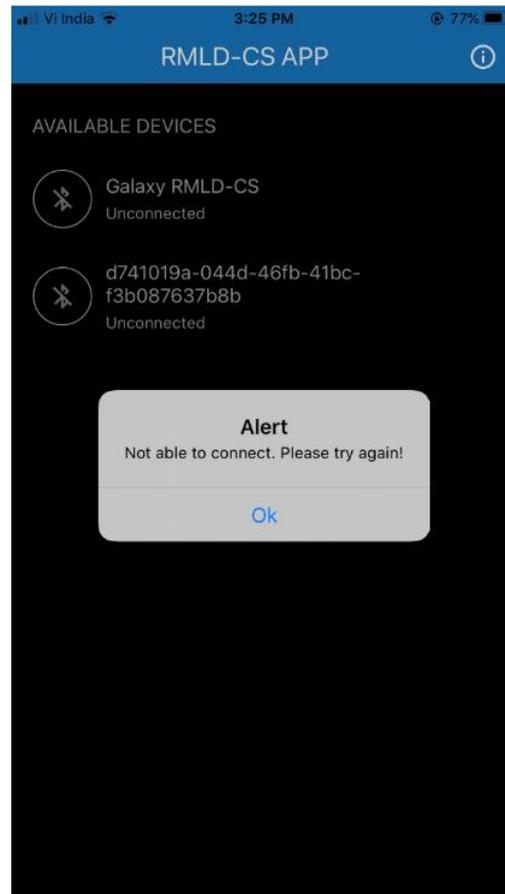


5. Troubleshooting & Information

5.1. Connect Device Screen

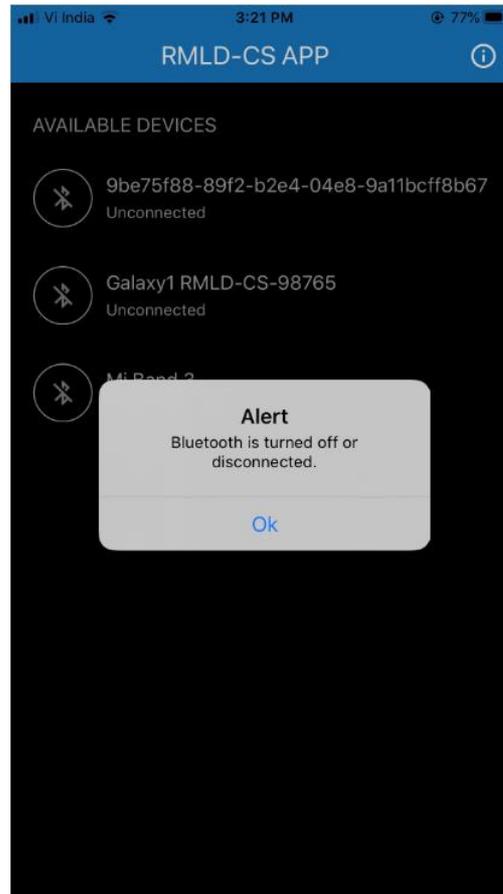
5.1.1. Connection timeout alert

If the application is not able to connect to the selected device, then an alert “Not able to connect. Please try again!” is displayed. The connection timeout period is 1 minute.



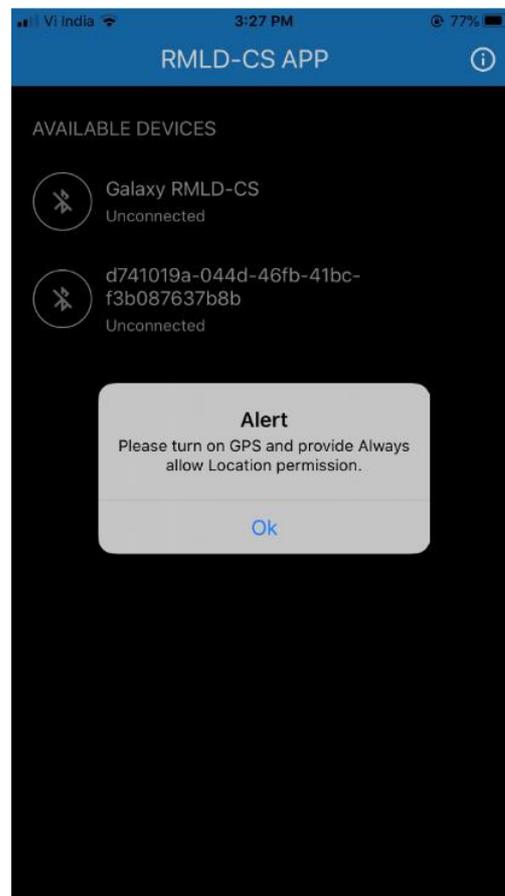
5.1.2. Bluetooth alert on scanning the devices

If the mobile device's Bluetooth is off and user attempts scanning nearby devices, an alert "Cannot start scan, Bluetooth is turned off" is displayed. User will need to turn on the device Bluetooth.



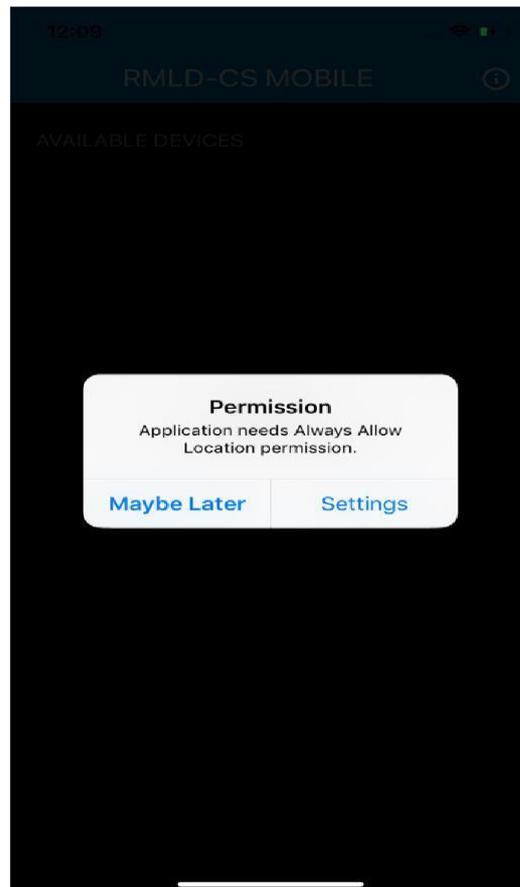
5.1.3. GPS alert on scanning the devices

For iOS: If the mobile device's GPS Location is off and user attempts scanning nearby devices, an alert "Please turn on GPS and provide Always allow Location permission" is displayed. User will need to turn on the device Location and give the "Always Allow" location permission from the settings for the RMLD-CS Mobile app.



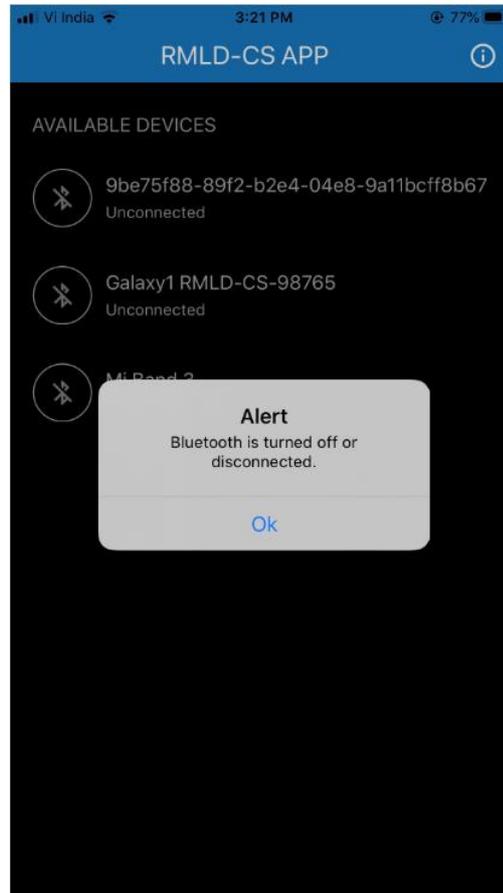
5.1.4. Location permission alert on scanning the devices

For iOS: If the mobile device's GPS Location is on and user have not given the always allow location permission, on scanning for nearby devices an alert "Application needs Always allow Location permission" is displayed. User will need to give the always allow location permission from the settings for the RMLD-CS Mobile app.



5.1.5. Bluetooth and disconnected device alert on scanning the devices

If app is connected to the device and the device gets disconnected or Bluetooth is turned off, an alert “Bluetooth is turned off or disconnected” is displayed. User will need to ensure Bluetooth is turn on and device is connected.



5.2. Survey Screen

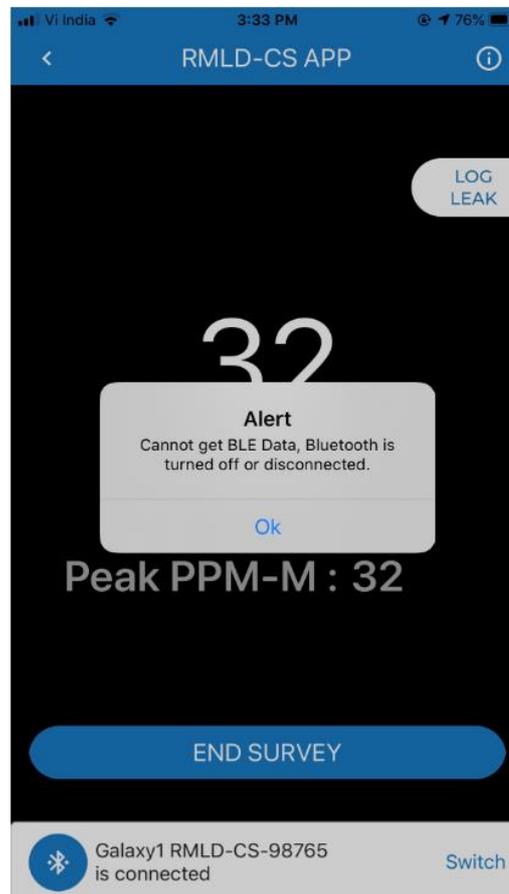
5.2.1. If DMD Alarm packet is received

During a survey, if any packet from RMLD-CS device with DMD alarm data is received, Screen displays CH4 value in Yellow Color with “DMD ALARM” text above END SURVEY button.



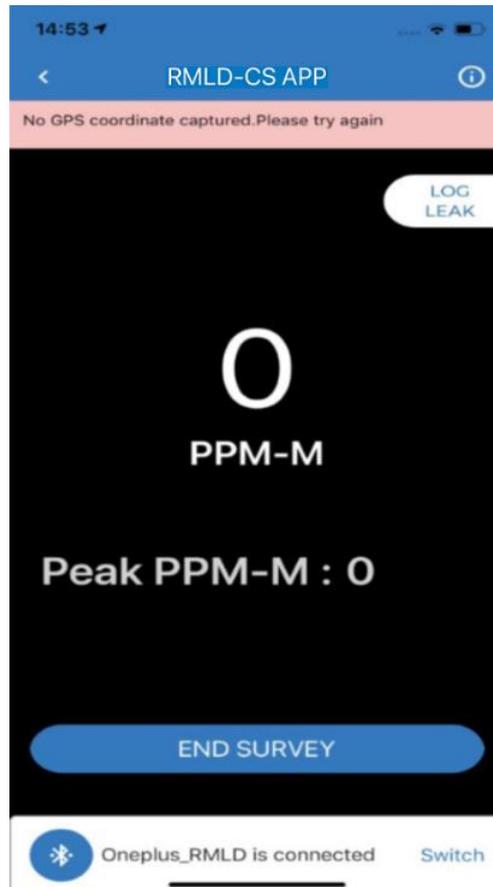
5.2.2. Device Disconnected Message

During a survey, if the RMLD-CS device gets disconnected, application will provide an audible (both in foreground and background mode) “Device Disconnected” alert and will display the following alert: “Cannot get BLE Data, Bluetooth is turned off or disconnected.” On “OK” click application navigates to Connected Device Screen to re-connect to the RMLD-CS device.



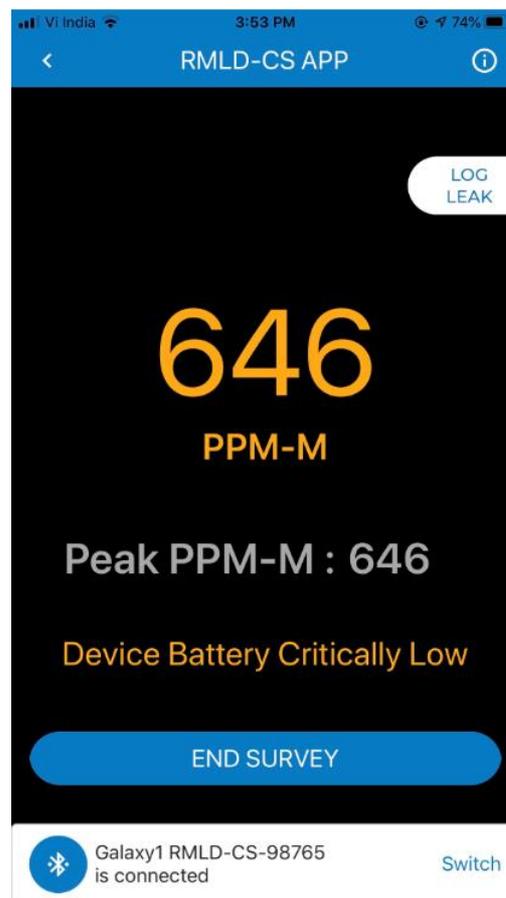
5.2.3. GPS coordinates

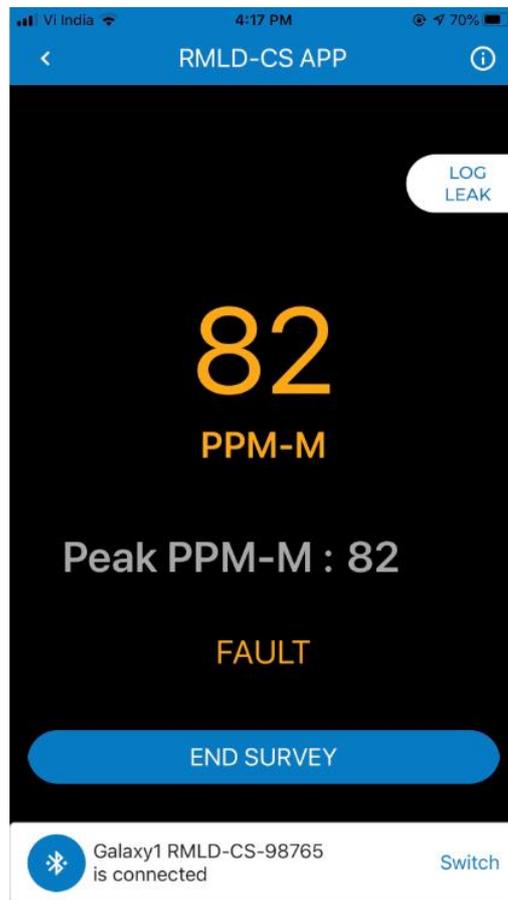
After connecting to the RMLD-CS, if the device hasn't started sending BLE packets and user clicks on LOG LEAK, "No GPS coordinate captured. Please try again" message will appear, as there are no GPS coordinates captured from RMLD-CS device.



5.2.4. Fault

During a Survey, if any packet with fault data is received from the RMLD-CS, the screen displays CH4 value in Yellow Color. If the fault is regarding device battery low, then user can see “Device Battery Critically Low” text above END SURVEY button. For all other faults “FAULT” is displayed.

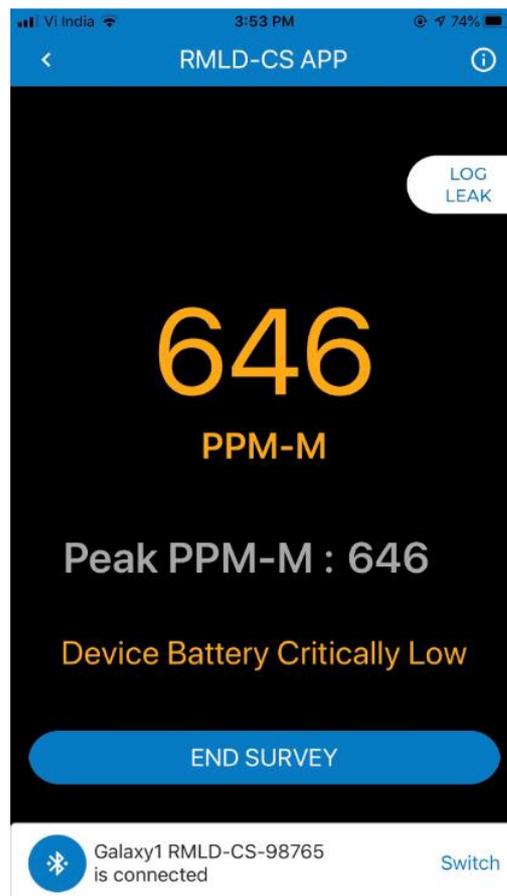


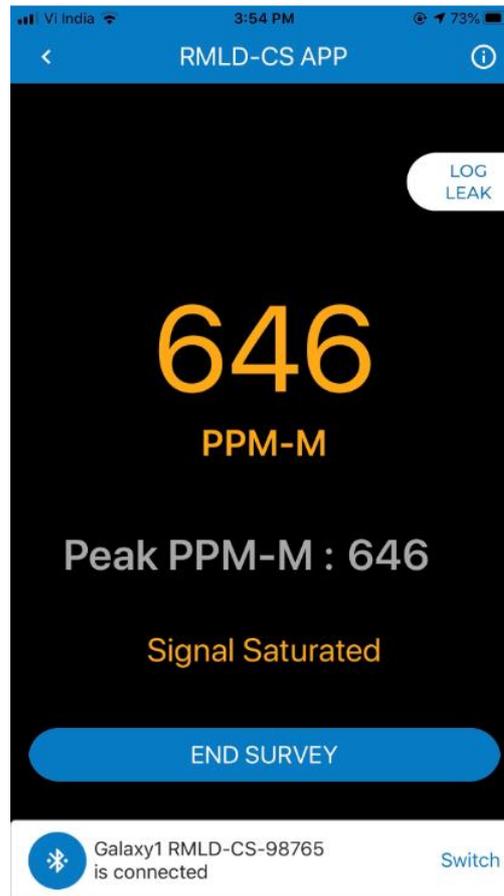


5.2.5. Warning

- During a Survey, if any packet with warning data is received from the RMLD-CS, Screen displays CH4 value in Yellow Color.
- If warning is regarding:
 - Battery low then “Device Battery Low” text is displayed above END SURVEY button
 - Preamp DC Out of Range then “Signal Saturated” text is displayed above END SURVEY button
 - F1 AND F2 below set threshold with non-zero modulation then “Low Signal Return” text is displayed above END SURVEY button

For all other warnings, “WARNING” text is displayed.



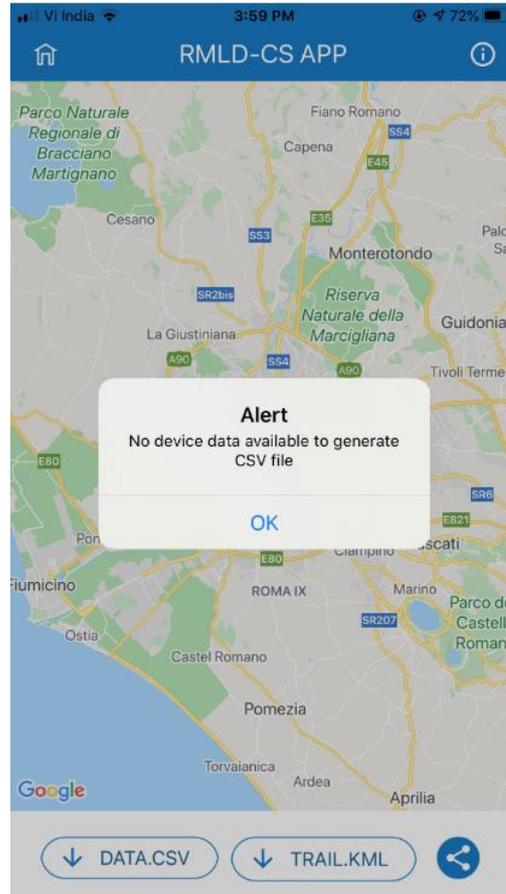




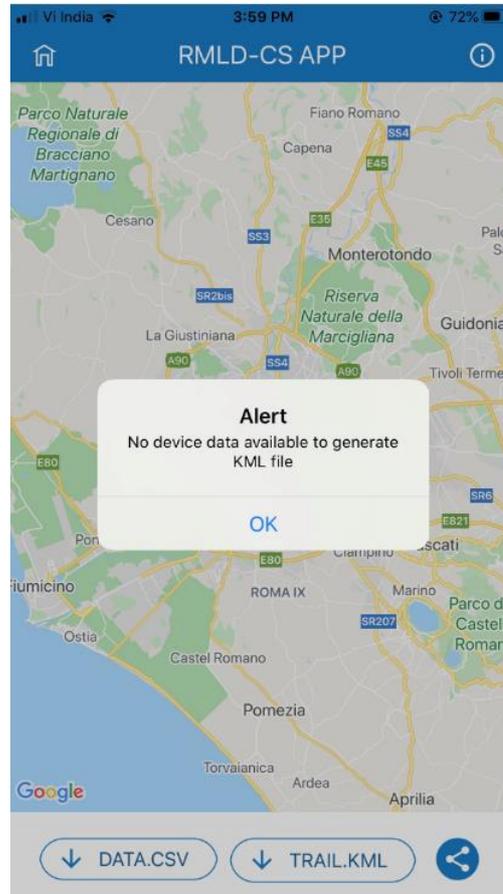


5.3. Survey Map Screen

- 5.3.1. On click of “DATA.CSV” button, if no survey data is available, an alert “No device data available to generate CSV file” is displayed.



- 5.3.2. On click of “TRAIL.KML” button, if no survey data is available, an alert “No device data available to generate KML file” is displayed.



- 5.3.3. On click of Share icon button if no survey data is available, an alert “No device data available to generate zip file” is displayed

