

CipherLab

User Guide

CipherLab Agility Intelligence Service

For Android 7.0 or later with GMS Certificated

RS35

RS36

RS51

RK25

RK95

Version 1.5.2



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RELEASE NOTES

Version	Date	Notes
1.5.2	Sep. 12 th , 2023	▪ Initial release

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INTRODUCTION

CipherLab Agility Intelligence Service, the enterprise mobility analytics service provided by CipherLab, works with CipherLab's EMM solution, ReMoCloud™, to generate the chart analysis reports of your ReMoCloud enrolled devices.

- A centralized platform to collect the event data from multiple enrolled devices.
- Data detecting and analyzing across all your mobile devices enrolled onto ReMoCloud.
- Convert the acquired data into easily discerned charts.
- Inspect the required data which presented in visualization on the interactive webpage.
- Elaborate reports for the users to get the device(s) performance information and take the further action to prevent the issues.

FEATURES

- Supports CipherLab mobile computers with GMS certified.
 - **RS35 Mobile Computer** (Android 10 & Android 11)
 - **RS36 Mobile Computer** (Android 12)
 - **RS51 Mobile Computer** (Android 8 & Android 11)
 - **RK25 Mobile Computer** (Android 7, Android 9, & Android 11)
 - **RK95 Mobile Computer** (Android 9 & Android 12)

Note:

RS31, RS50, and HERA51 will not be listed on the data analyzing report(s) even if the aforementioned device models are the enrolled devices on your ReMoCloud.

- Provides analysis report(s) to diagnose the enrolled devices and prevents the possible issues.

Chapter 1

LOGIN

The chapter introduces the necessary settings before starting to use **CipherLab Agility Intelligence Service**. The user interface introduction of **CAI** (CipherLab Agility Intelligence) **Service** is also delineated in this chapter.

1.1 PREREQUISITE

To start using **CipherLab Agility Intelligence Service**, please go through this section to get all the essential things done:

1.1.1 REMOCLOUD ACCOUNT

As the data analysis service tool to **ReMoCloud™**, **CipherLab Agility Intelligence Service** generates the insightful reports based on the enrolled devices data retrieved from ReMoCloud, and thus **CAI (CipherLab Agility Intelligence) Service** adopts ReMoCloud account and password as its sign-in account.

Apply for ReMoCloud account by contacting the local sales representative via ReMoCloud Account Request Form (<https://remocloud.cipherlab.com/AccountRequestForm>) if you do not have an account yet.



The screenshot shows the 'ReMoCloud Account Request Form' interface. At the top left is a '< Back' button. The ReMoCloud logo is centered at the top, with the text 'verified by Google EMM' below it. The title 'ReMoCloud Account Request Form' is centered below the logo. The form contains several input fields: 'E-mail' (with placeholder 'Enter e-mail'), 'Job Title' (with placeholder 'Job Title'), 'Name' (split into 'First Name' and 'Last Name'), 'Phone' (with placeholder 'Enter Phone Number'), 'Company' (with placeholder 'Enter Company'), and 'Country' (a dropdown menu currently showing 'Afghanistan'). A red warning message is displayed at the bottom left: '*Warning: Please do not use a personal email or an email tied to one individual. Once the account has been set up it is locked to the activation email and can not be changed.' A blue 'Submit' button is located at the bottom right.

Fig. 1-1 ReMoCloud Account Request Form

You may also use the sub account created by your ReMoCloud admin account for **CAI Service** login. Please refer to [Section 1.2 "Account for Login"](#).

1.1.2 REMOCLOUD PROFILE SETTINGS

To successfully retrieve the device data to **CAI (CipherLab Agility Intelligence) Service**, the **"Agility Intelligence"** app must be installed on the ReMoCloud enrolled device(s). You may manually install the **"Agility Intelligence"** app onto the enrolled device(s), or get this app automatically installed through ReMoCloud profile settings.

AUTOMATICALLY

For a group of enrolled devices, it is suggested to configure the installation of “**Agility Intelligence**” by the profile settings. Simply log in to your ReMoCloud account and enter “**Profile**” page to find the profile to be edited for “**Agility Intelligence**” installation.

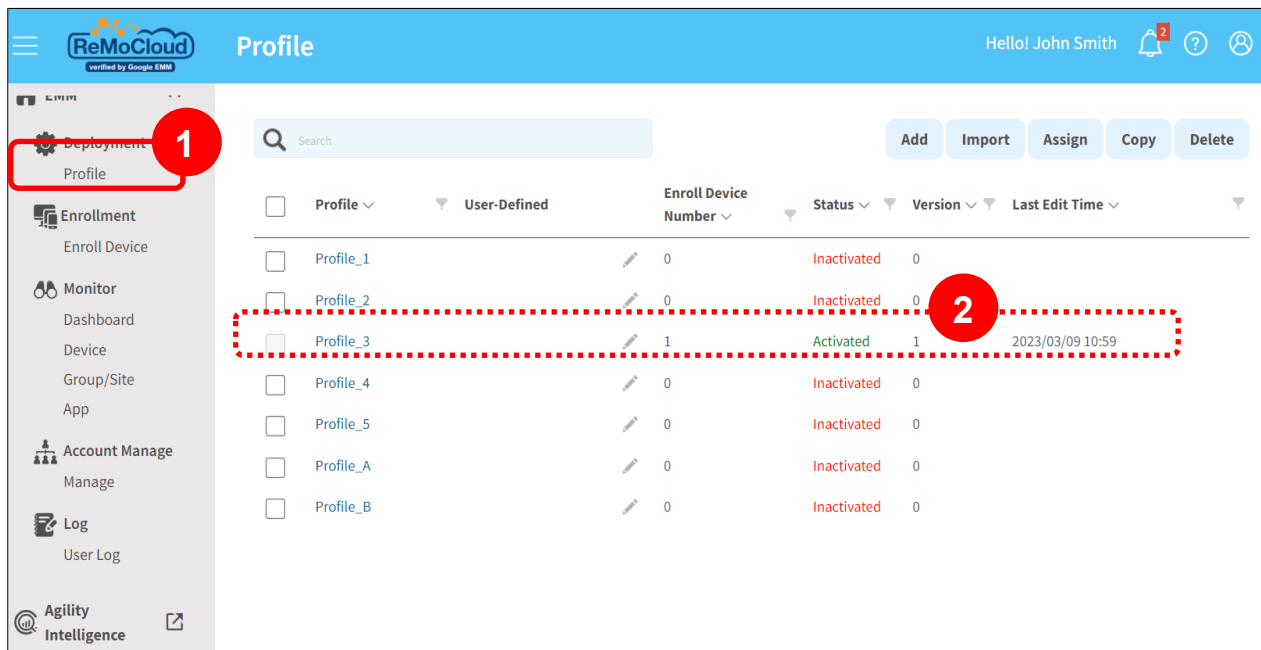


Fig. 1-2 Find the Profile to be Edited on ReMoCloud Profile Page

Note:

The latest version of ReMoCloud User Guide can be checked on:

- (1) <https://www.cipherlab.com/en/download-c2230/ReMoCloud.html>
- (2) <https://remocloud.cipherlab.com/UserGuide>

In the profile to be edited, enter **Device Settings | Functionality**, scroll to find “**Allow Agility Intelligence Service**” and switch it on. Click “**Save**” to make the changed settings effective.

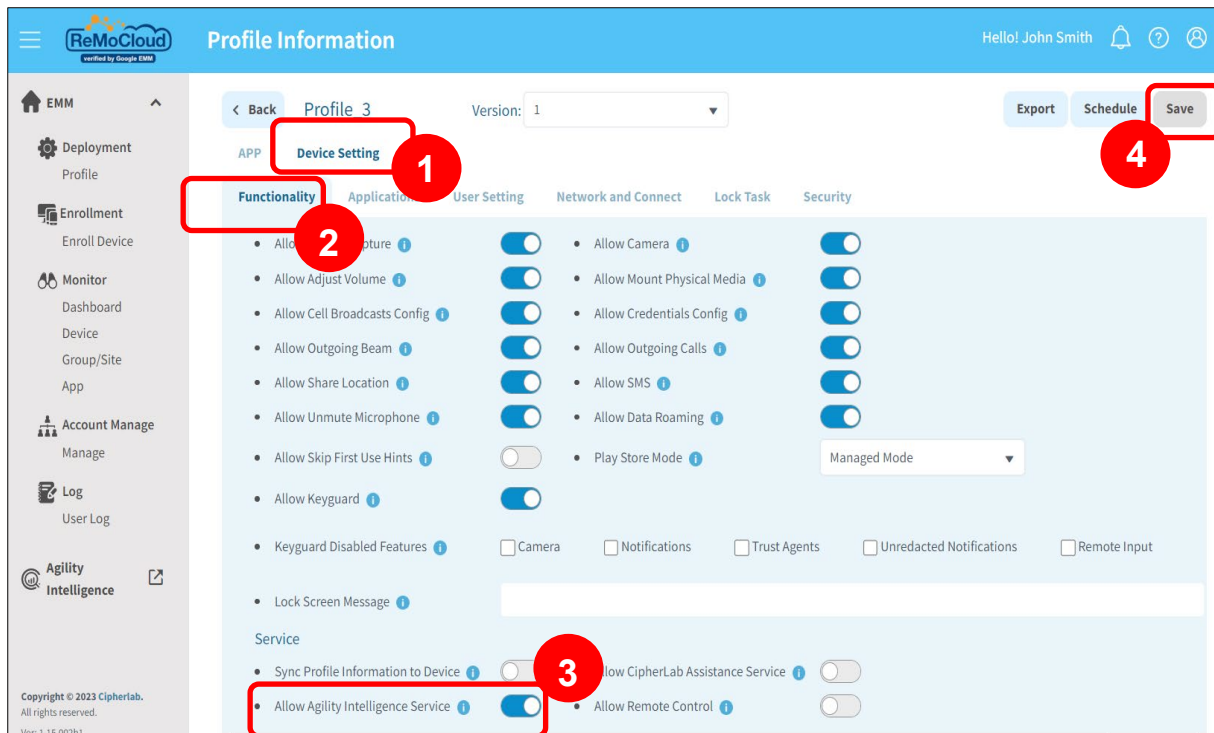


Fig. 1-3 Turn on “Allow Agility Intelligence Service” on ReMoCloud

On the enrolled device(s) which applies this profile, you will find it starts to download the “**Agility Intelligence**” app.

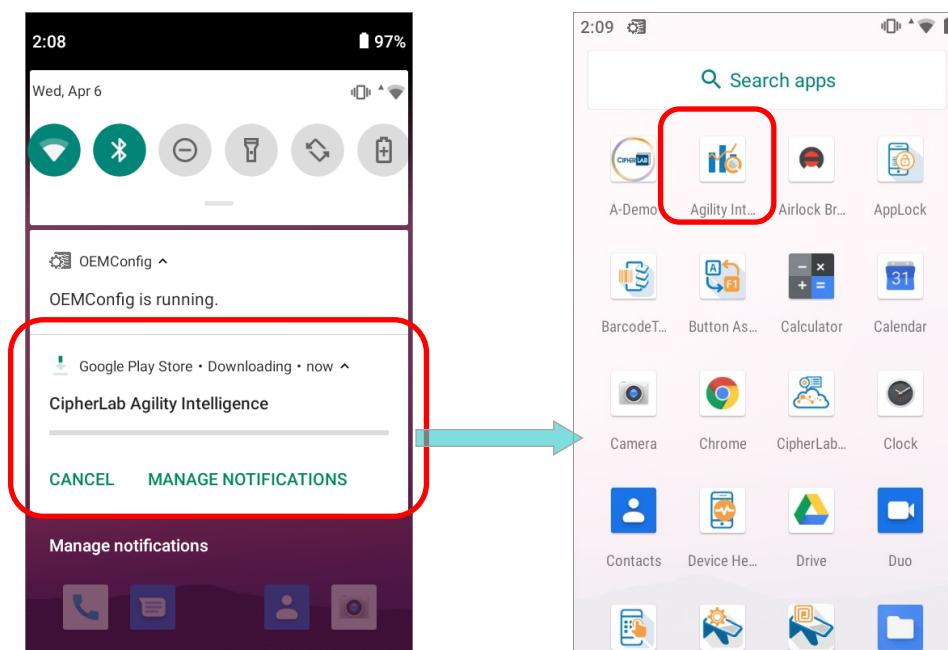


Fig. 1-4 The Device Automatically Downloads “Agility Intelligence”

Once the device is successfully enrolled by ReMoCloud with the “Enabled” **Allow Agility Intelligence Service** option, **Agility Intelligence** will be activated automatically on the device, you will find that it starts to run in the background.

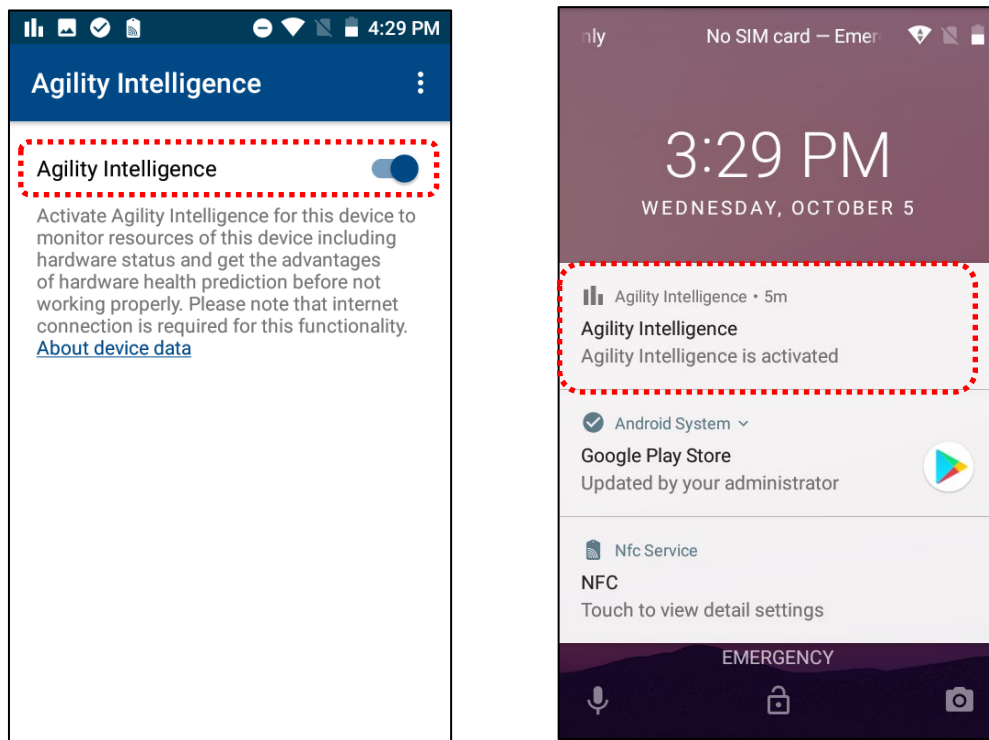



Fig. 1-5 “Agility Intelligence” Is Running in the Background for Data Collecting.

MANUALLY

Assume that you have to get the data from a certain device of a device group, or the profile which this device applies is applied by a number of devices, and you would not like to enable the function “**Allow Agility Intelligence Service**” of this profile. You may manually download the application “**Agility Intelligence**” from Google Play Store onto this enrolled device.

- 1) Log in to your ReMoCloud, and then go to Profile  | the profile which the target device applies | Device Setting | Functionality. And find the function “**Play Store Mode**”, set it as “**Unmanaged Mode**”, and **Save** this profile.

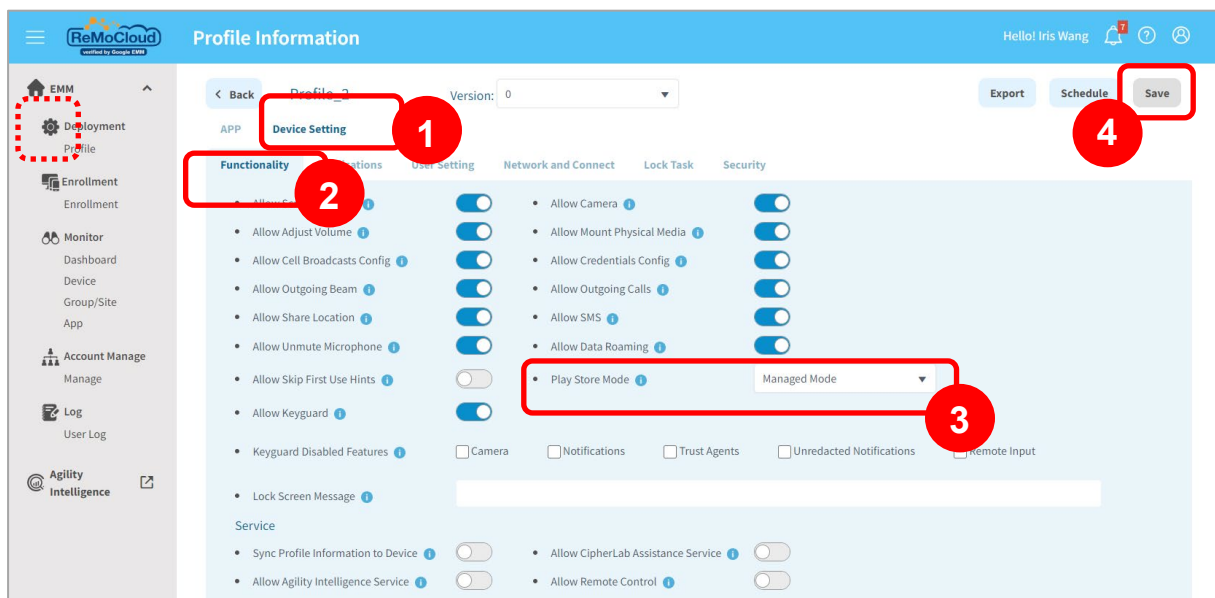


Fig. 1-6 “Functionality” Tab Page of the Profile to Be Edited on ReMoCloud

- 2) On the target device, open the application “**Play Store**”, search the app “**CipherLab Agility Intelligence**”, and install it.

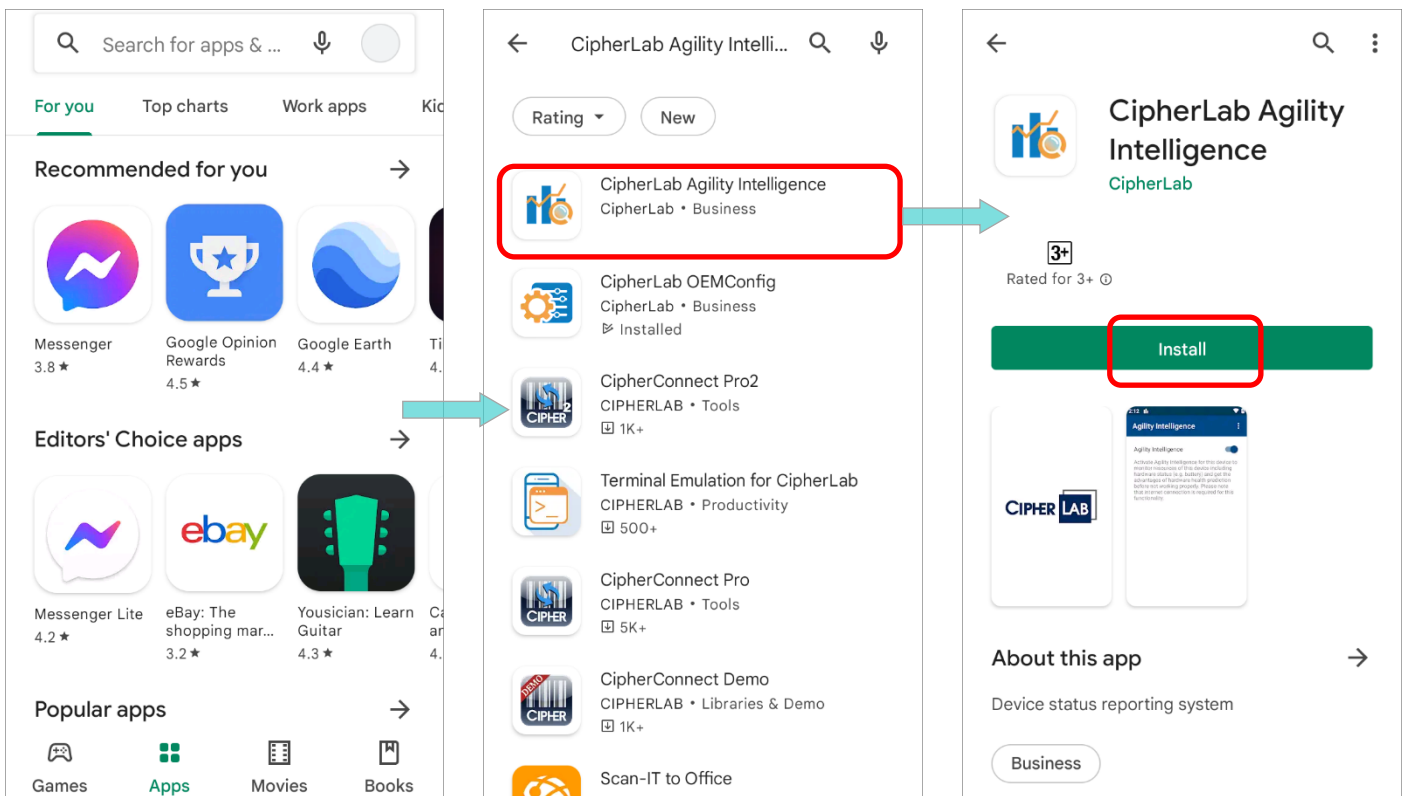


Fig. 1-7 Install the App “CipherLab Agility Intelligence” onto Your Device from Google Play Store

- 3) Launch the app. On “**Agility Intelligence**” main screen, tap on the switch to activate it.

1.1.3 BROWSER

For the best browsing experience on **CipherLab Agility Intelligence Service**, it is suggested to use the latest version of **Edge**, **Chrome**, or **Firefox**.

1.2 ACCOUNT FOR LOGIN

Please log in to **CipherLab Agility Intelligence Service** website <https://cai.cipherlab.com/> with your **ReMoCloud** account & password. The button “**Login**” becomes available after you accept CipherLab’s “**Terms and Conditions**” and “**Privacy Policy**”.

Fig. 1-8 CipherLab Agility Intelligence Service Website Login Page

The **ReMoCloud** sub account can also be used for logging in to **CipherLab Agility Intelligence Service** website. The followings list the **ReMoCloud** account types to explain the correlation between the user role of **ReMoCloud** account and the data access permission on **CAI Service**:

- Admin account

It is **ReMoCloud** main account bound with your managed Google Play account.

ReMoCloud admin account owns the supreme privilege level, and by logging in to CAI Service with ReMoCloud admin account, you are allowed to view the data from all your ReMoCloud enrolled devices belonging to its parent and child account(s) for analysis by CAI Service.

- Parent account

It is **ReMoCloud** sub account created by ReMoCloud admin account.

ReMoCloud parent account is fully delegated to implement all the functions just as the admin account does.

If you log in to CAI Service with ReMoCloud parent account, you are able to view the data from all your ReMoCloud enrolled devices belonging to its child account(s) for analysis by CAI Service.

- Child account

The **ReMoCloud** sub account, created by either ReMoCloud admin account or parent account, merely owns the limited access permission decided by its creator. Please note that logging in CipherLab Agility Intelligence Service with the child account of ReMoCloud, you can only get the data of the device from the granted group(s).

Note: The latest ReMoCloud User Guide for Android is also available on ReMoCloud website: <https://remocloud.cipherlab.com/UserGuide>

Enter your **ReMoCloud** account & password, check to accept “**Terms and Conditions**” and “**Privacy Policy**”, and submit your login credentials by clicking the button “**Login**”.

The diagram illustrates the 'Sign In' process in two stages, connected by a green arrow pointing from left to right.

Left Panel (Initial State):

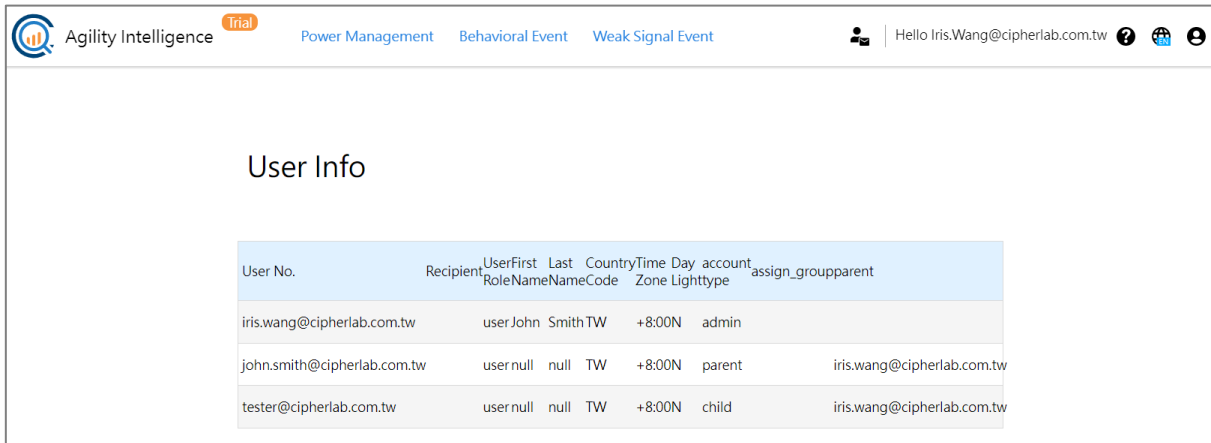
- 1** A red dashed box highlights the **Account*** and **Password*** input fields. The account field contains 'john.smith@cipherlab.com.tw' and the password field contains masked characters '.....'.
- 2** A red solid box highlights the consent checkbox, which is currently unchecked. The text next to it reads: "By clicking Submit button to login Agility Intelligence Service of CipherLab, you acknowledge that you consent to the [Terms and Conditions](#) and CipherLab's [Privacy Policy](#)."
- Below the consent box are two buttons: **Clear** and **Login** (disabled, grey).

Right Panel (After Action):

- The **Account*** and **Password*** fields remain the same.
- The consent checkbox is now checked (☒).
- The **Login** button is now active and highlighted with a blue background and a red solid box, labeled with a red circle **3**.

Fig. 1-9 Check to Accept for Login

Later on you will enter the “User Info” page where all the users are listed.



User No.	Recipient	UserFirst RoleName	Last Name	Country Code	Time Zone	Day Light	account type	assign_group	parent
iris.wang@cipherlab.com.tw		user John	Smith	TW	+8:00N		admin		
john.smith@cipherlab.com.tw		user null	null	TW	+8:00N		parent		iris.wang@cipherlab.com.tw
tester@cipherlab.com.tw		user null	null	TW	+8:00N		child		iris.wang@cipherlab.com.tw

Fig. 1-10 Login CAI Service and Enter “User Info” Page

Please note that for the very first time you log in to CAI (CipherLab Agility Intelligence) Service, you have to accept “CipherLab Agility Intelligence Service Terms and Conditions”.

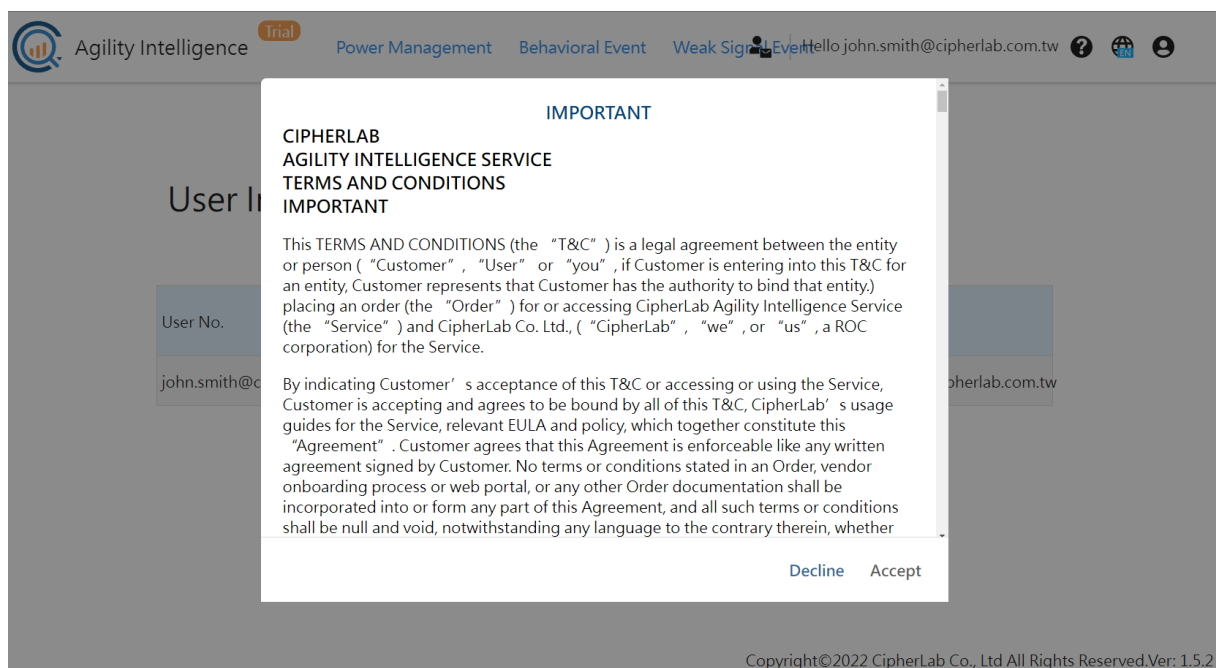


Fig. 1-11 CAI Service Terms and Conditions Appears Right After Your First Login

Carefully read through the terms and conditions, and once you reach the bottom of the Terms and Conditions, “**Accept**” is available for you to click on. By accepting **CAI Service Terms and Conditions**, it means you have read and considered the terms and conditions and you agree to proceed.

prohibited or restricted parties or located in (or a national of) a country that is subject to a U.S. government embargo or that has been designated by the U.S. government as a “terrorist supporting” country, (ii) it will not (and will not permit any third parties to) access or use any Service in violation of any U.S. export embargo, prohibition or restriction, and (iii) it will not submit to any Service any information that is controlled under the U.S. International Traffic in Arms Regulations.

No party shall be liable to any other party for failure or delay in the performance of any of its obligations under this T&C during the Period (except for a failure to pay Fees) and to the extent that such failure or delay is caused by riot, curtailments, civil commotion, war, hostilities between nations, governmental laws, orders or regulations, acts of God, storms, fires, accidents, strikes, explosions or other similar or different contingencies beyond the reasonable control of the respective parties. In the event of any such failure or delay, the time for the performance of their obligations shall be extended for a period no less than that lost by reason of the delay.

This T&C shall be governed by and construed, interpreted, applied and enforced in accordance with the laws of the Republic of China on Taiwan, excluding its laws with respect to choice of law. Any claim or controversy shall be brought exclusively in Taiwan Taipei District Court in accordance with the applicable jurisdictional requirements of the forum. The jurisdiction of the courts shall be binding and conclusive upon the parties, their successors, and assigns and they shall comply with such decision in good faith.

Decline **Accept**

Fig. 1-12 Accept CAI Service Terms and Conditions

1.3 USER INTERFACE INTRODUCTION

1.3.1 OVERVIEW

LOGIN PAGE

On **CAI (CipherLab Agility Intelligence) Service** login page, you are able to perform the following operations through the options on the sticky header:

- Change the display language.
- Check the frequently asked questions.
- Return to the login page.

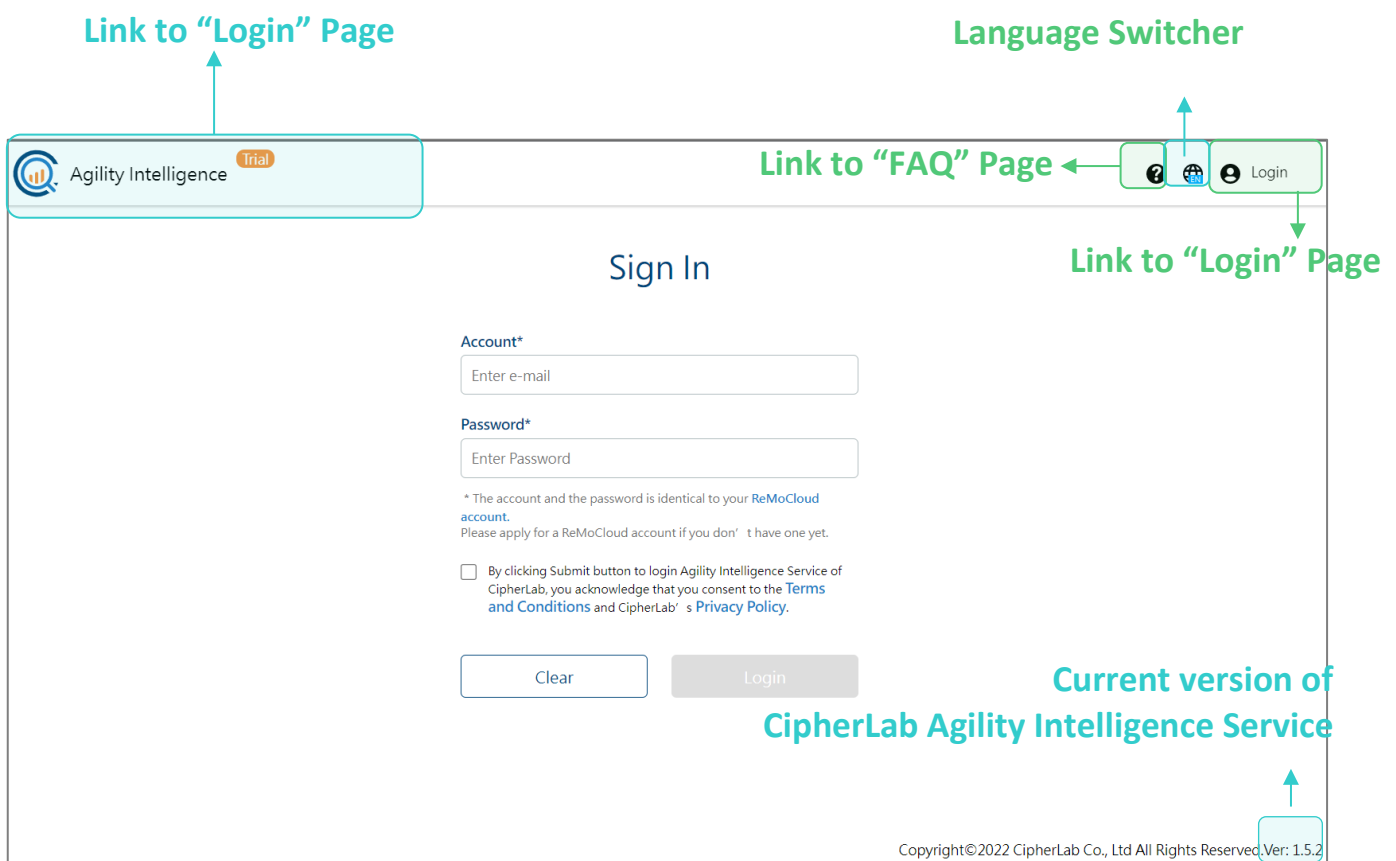


Fig. 1-13 CipherLab Agility Intelligence Login Page

PAGES AFTER LOGIN

Follow the steps as “[Account for Login](#)” describes to log in to **CAI (CipherLab Agility Intelligence) Service** with your **ReMoCloud** account & password, and the initial page you see after logging in is “**User Info**”.

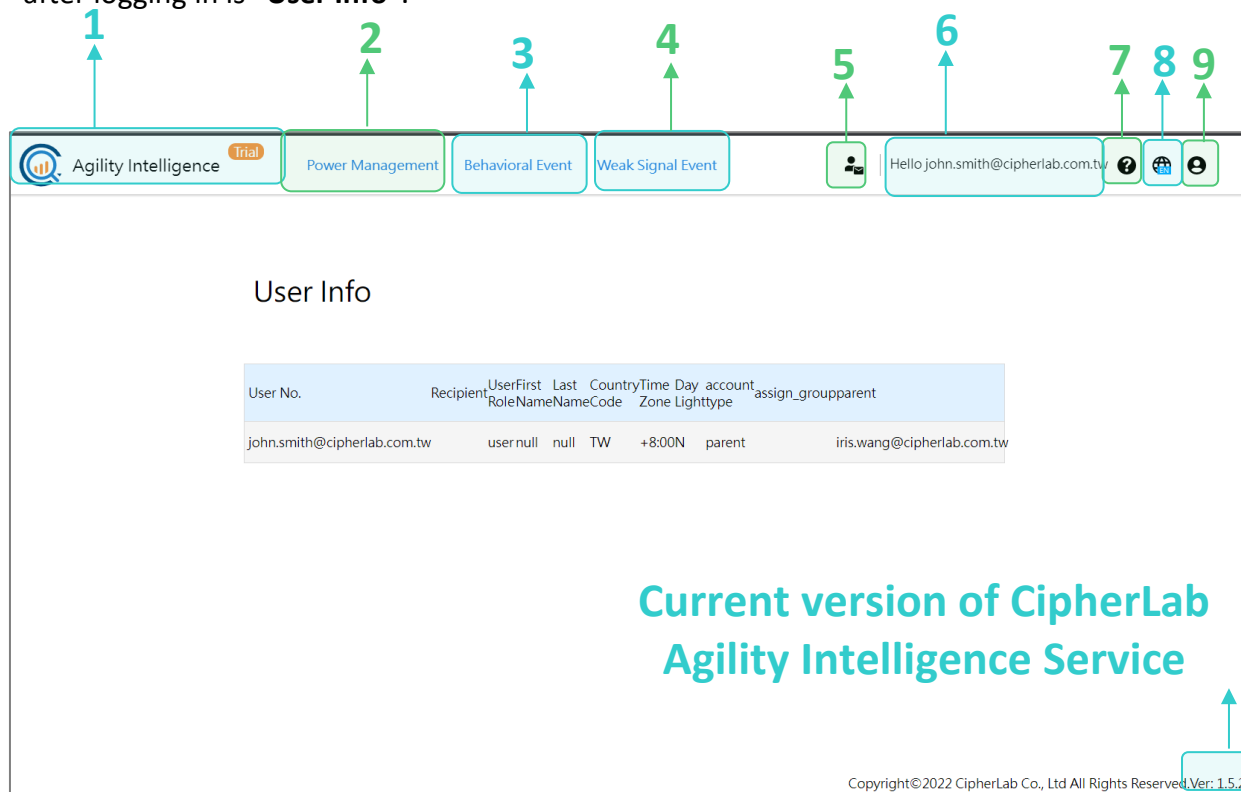


Fig. 1-14 “User Info” Page

The options on the sticky header after you log in are as the description given in the table below:

Table 1-1 Options on the Sticky Header

Item	Description
1	Click to link to “ Release Note ” page.
2	Click to link to “ Power Management ” page.
3	Click to link to “ Behavioral Event ” page.
4	Click to link to “ Weak Signal Event ” page.
5	The button which links to “ User Info ” page.
6	Greeting message which shows the account (email) you log in.

7	The button which links to “ Frequently asked questions ” page.
8	Language switcher. Please refer to “ Language ”.
9	Logout button. Please refer to “ Logout ”.

SLIDING MENU

The web page layout changes in accordance with your browser zoom level or the device you use (PC, mobile, or tablet). You may click on the toggle button to slide in the sliding menu.

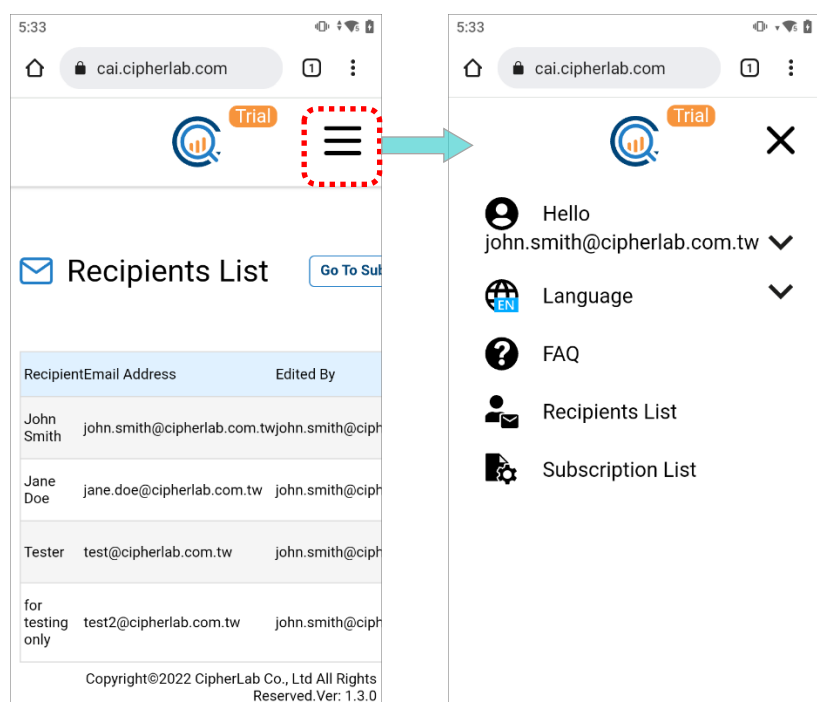


Fig. 1-15 Sliding Menu

Click or tap to expand more functionality.

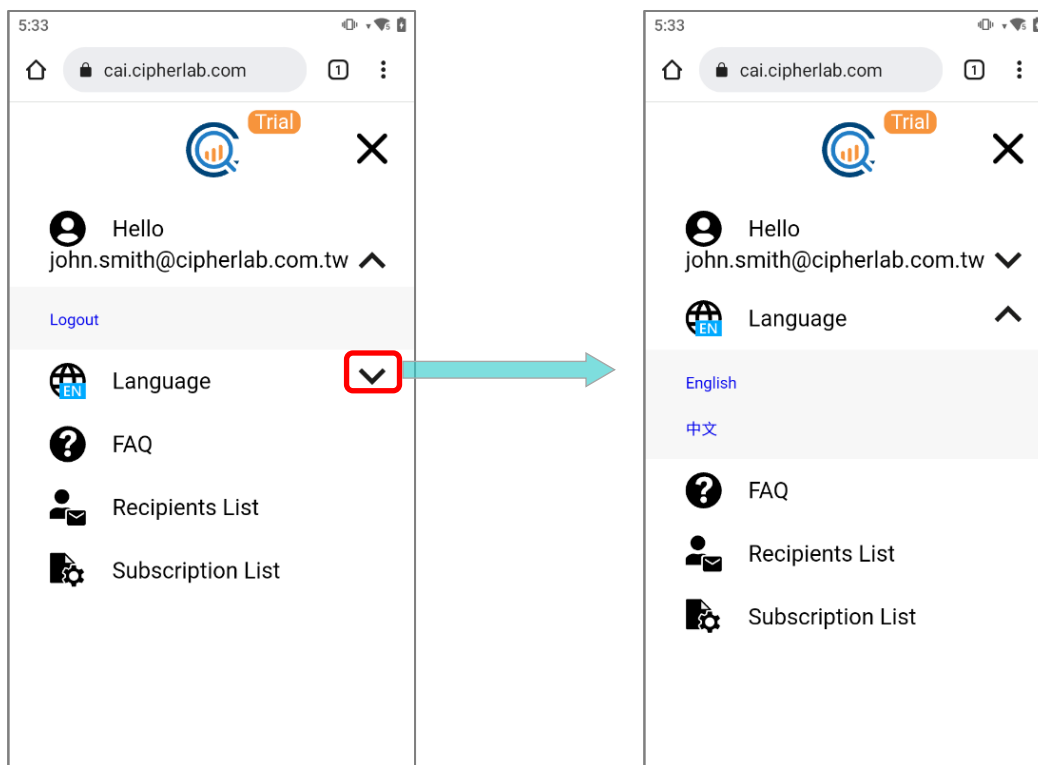


Fig. 1-16 Functionality on Sliding Menu

1.3.2 RELEASE NOTE

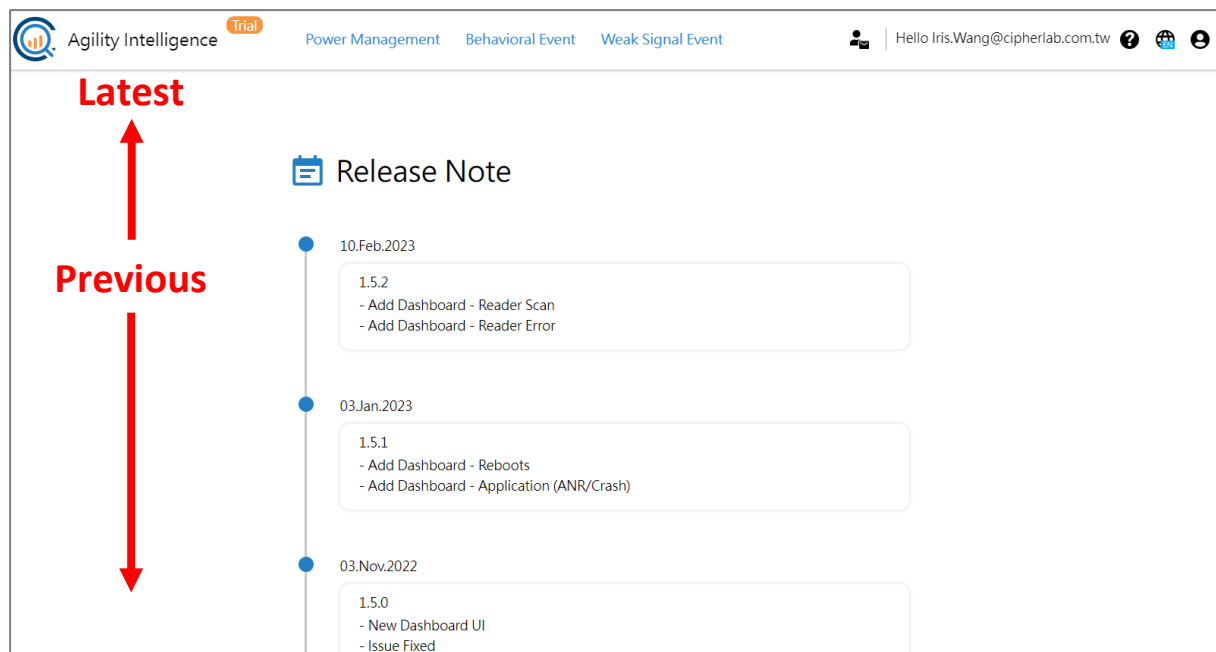


Fig. 1-17 CipherLab Agility Intelligence Service Release Note

The release notes of **CAI ipherLab Agility Intelligence Service** are listed by the order from latest to earliest. Each note conveys the version number of **CAI Service** and the changes have been made, including the new features, the resolved issues, and the improvements.

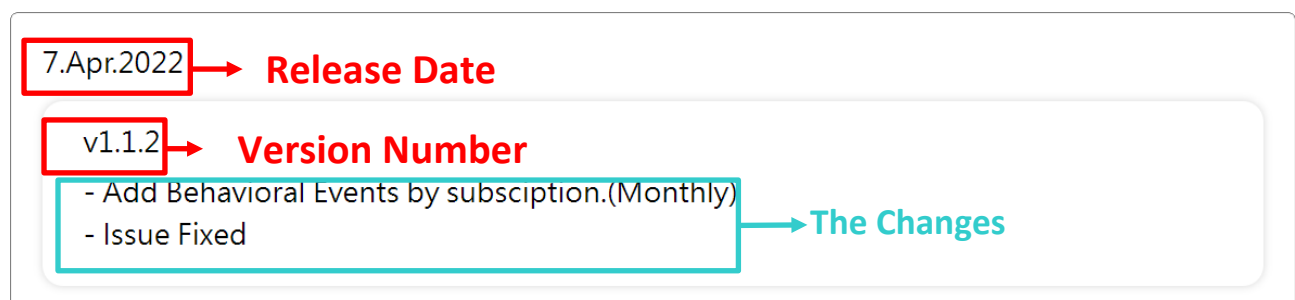


Fig. 1-18 The Information that the Release Note Offers

1.3.3 POWER MANAGEMENT

Power Management is the interactive page where displays the battery-related information of the device(s) enrolled onto ReMoCloud by charts and list in different worksheets. You may narrow down the scope by the provided filter(s) to present the data you need.

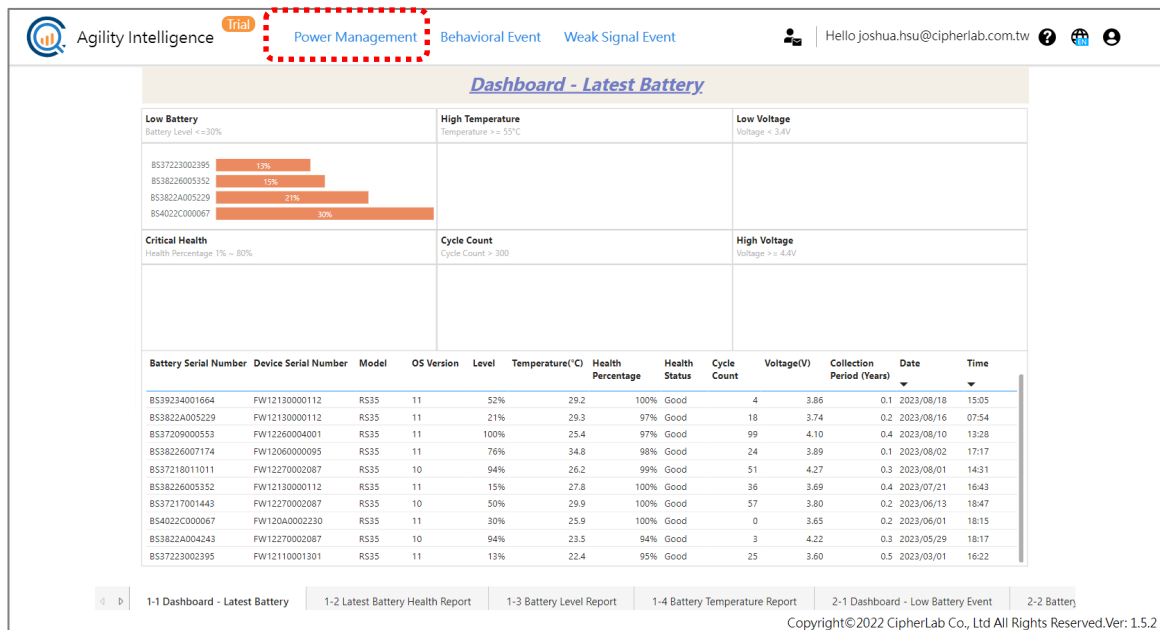


Fig. 1-19 CAI Power Management Page

Please refer to [Chapter 2 Power Management](#) for more details.

Note:

Currently **“Power Management”** does not support RS51 mobile computers.

1.3.4 BEHAVIORAL EVENT

Behavioral Event is the page where displays the events of your device(s) behavior information, such as reboot, reader scan, reader error and application ANR/crash, by charts and list in different worksheets. You may narrow down the scope by the provided filter(s) to present the data you need.

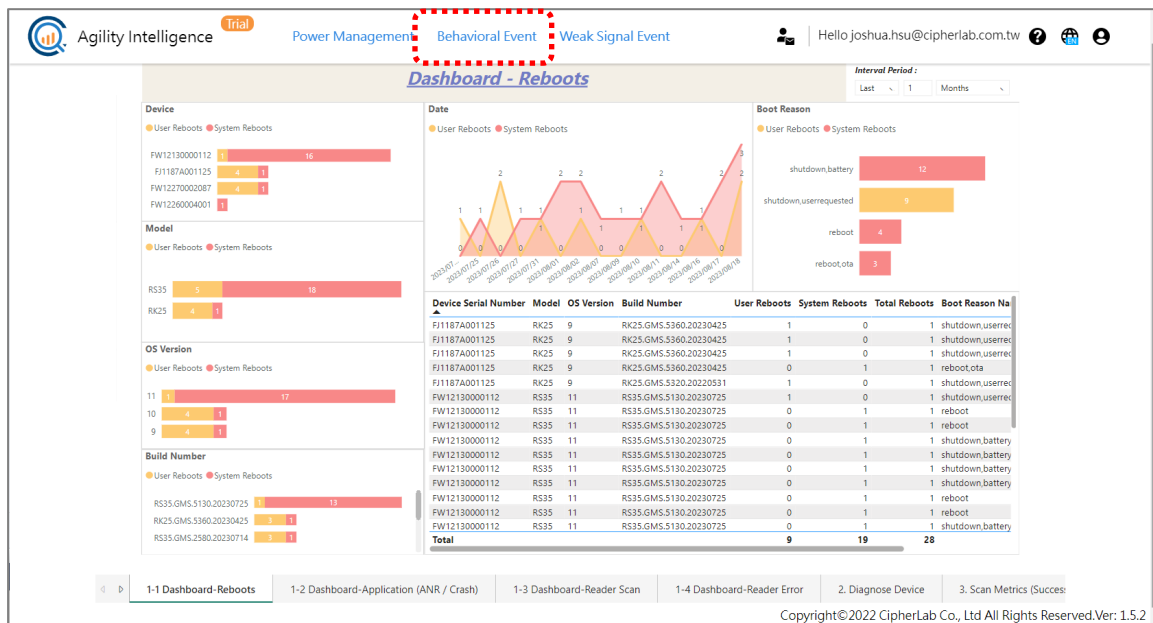


Fig. 1-20 CAI Behavioral Event Page

Please refer to [Chapter 3 Behavioral Event](#) for more details.

1.3.5 WEAK SIGNAL EVENT

Weak Signal Event is the page where displays the weak Wi-Fi signal events of your device(s) by charts and list in different worksheets. You may narrow down the scope by the provided filter(s) to present the data you need.

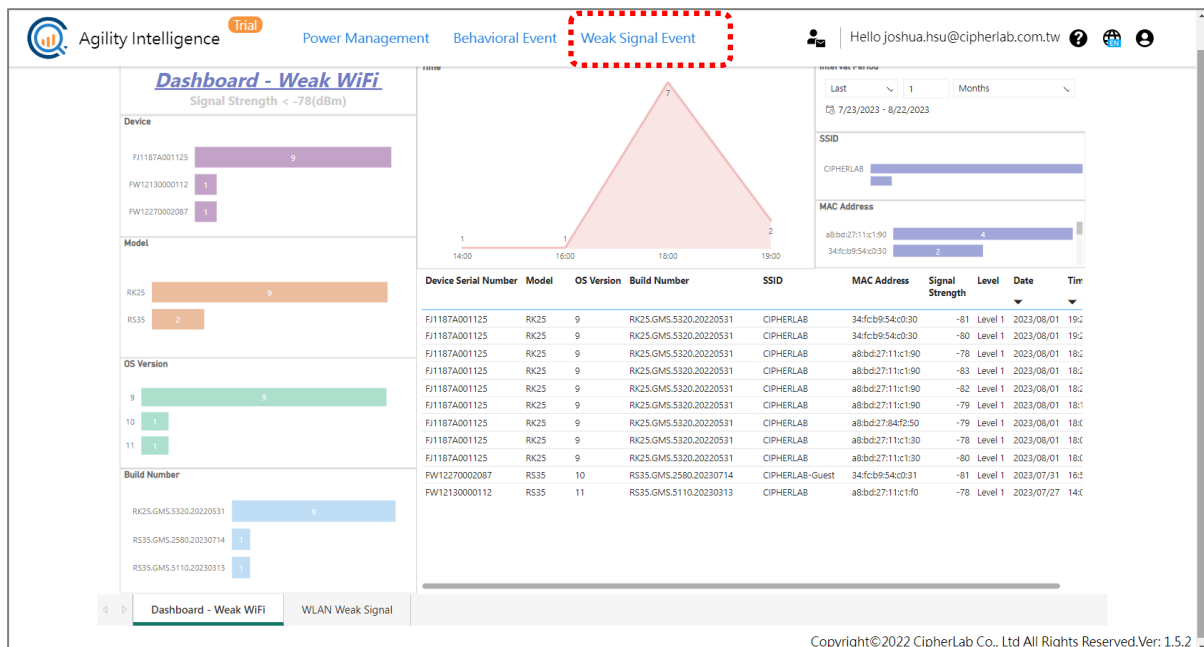


Fig. 1-21 CAI Weak Signal Event Page

Please refer to [Chapter 4 WEAK SIGNAL EVENT](#) for more details.

1.3.6 GREETING MESSAGE

Greeting message shows the account (email) you log in with.

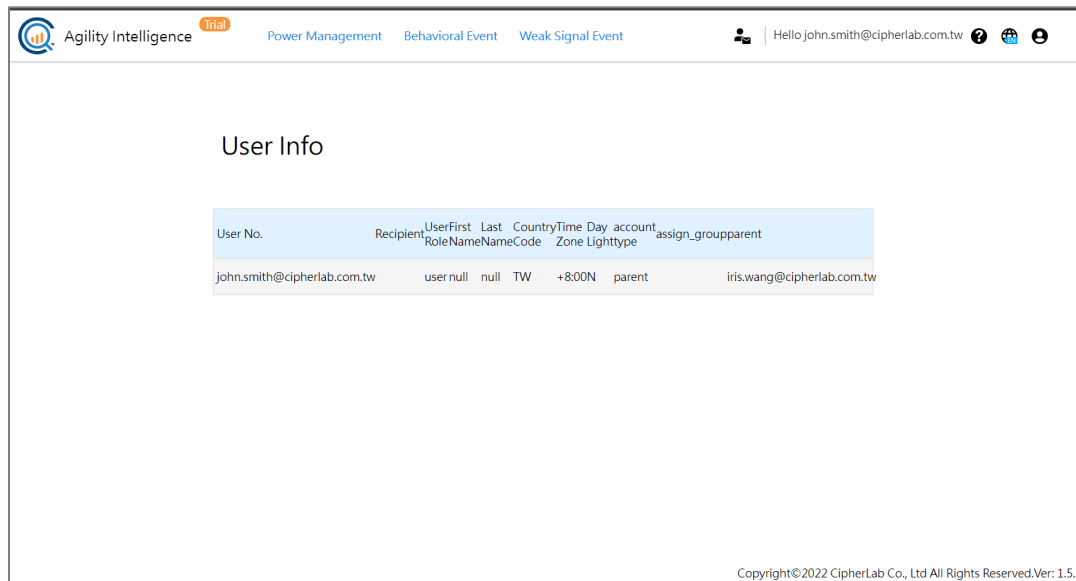


Fig. 1-22 Greeting Message

By using mobile device to access **CAI (CipherLab Agility Intelligence) Service** or zooming in on your browser to change the user interface to be with the sliding menu, the greeting message can be clicked/ tapped to expand the function “**Logout**”. You will redirect to the login page right after logging out.

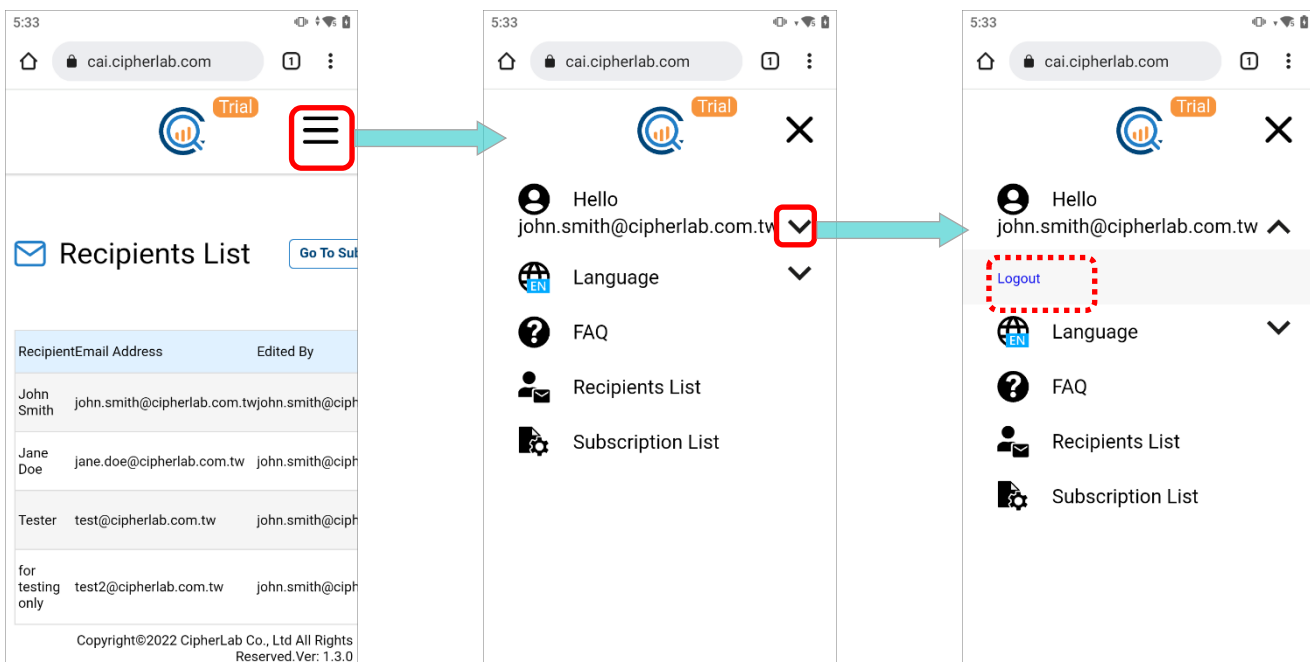


Fig. 1-23 Greeting Message on Sliding Menu

1.3.7 FAQ

? **FAQ** (Frequently Asked Questions) lists the most common questions and concerns that users would like to know about. Please click on the question to expand the answer.

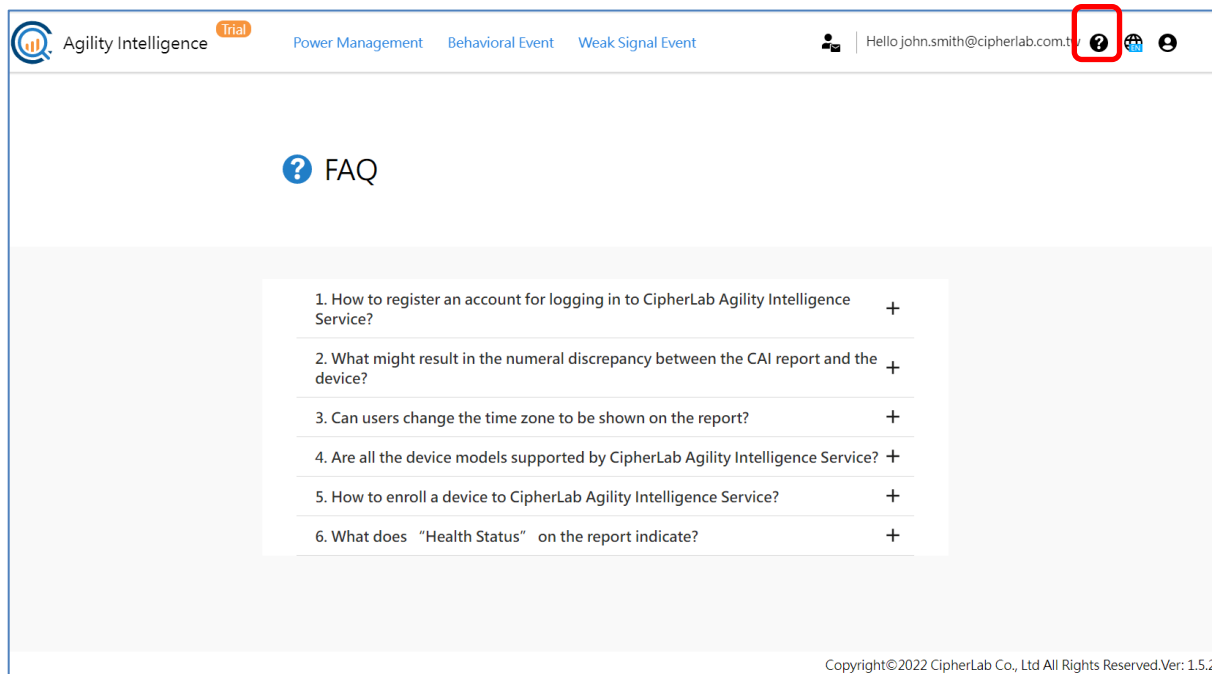


Fig. 1-24 CipherLab Agility Intelligence Service FAQ Page

1.3.8 LANGUAGE

To switch into the language you would like, click on “**Language**” to display the languages to be selected. Currently **CipherLab Agility Intelligence Service** supports both English and traditional Chinese.

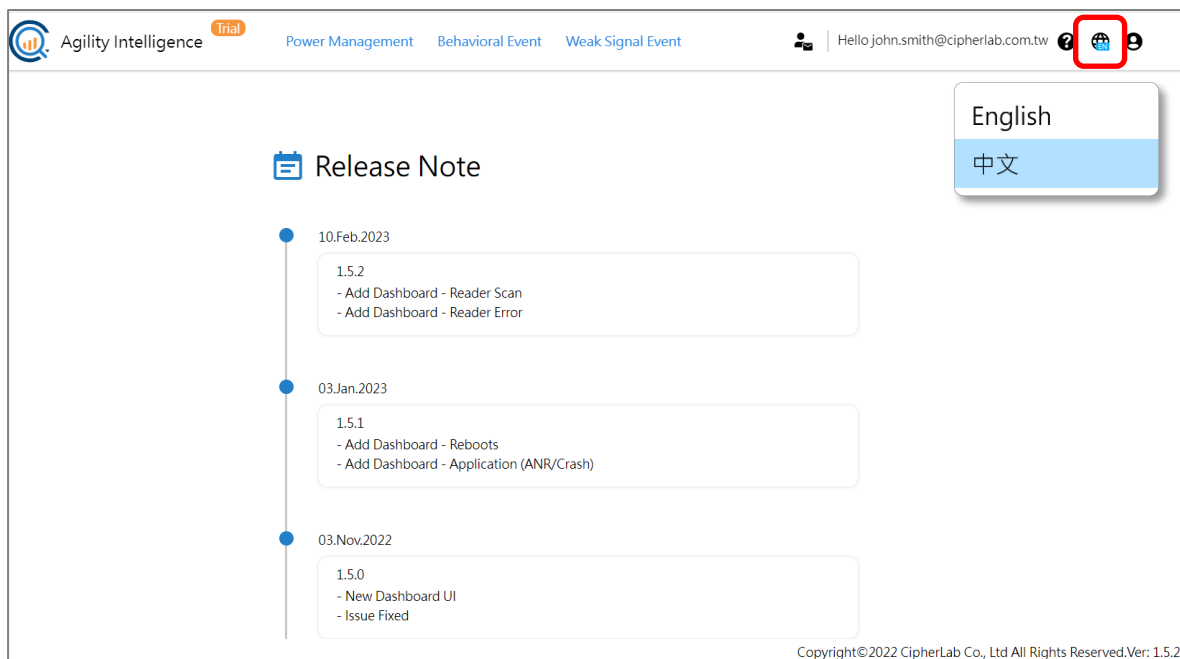



Fig. 1-25 The Languages Supported by CAI

1.3.9 LOGOUT

To log out CipherLab Agility Intelligence Service, click on  and then “Logout”.

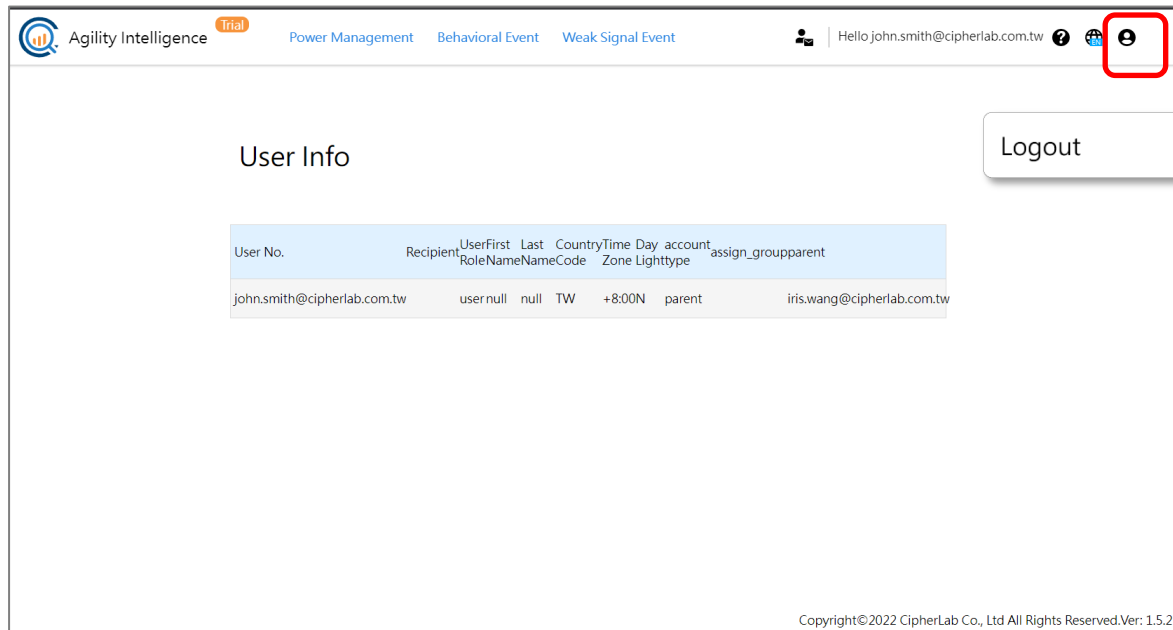


Fig. 1-26 Logout

You may click or tap on the greeting message to expand the function “Logout” on the sliding menu if you magnify the webpage or use the mobile device browser.

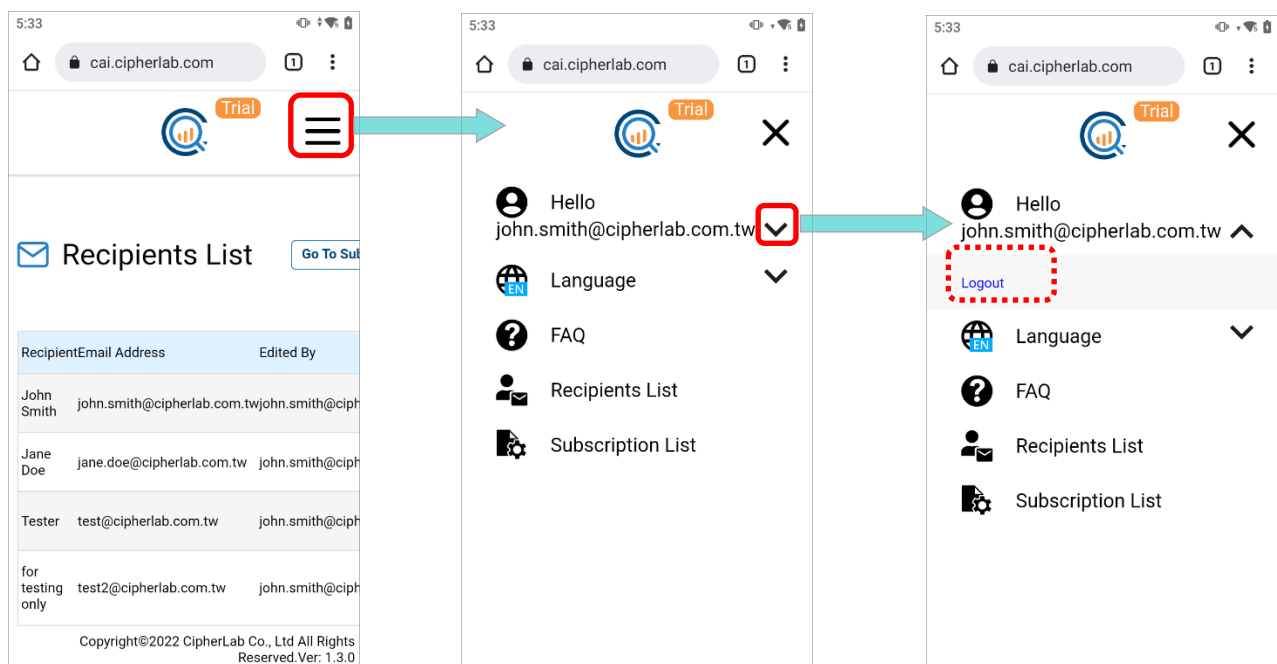


Fig. 1-27 Logging out from Sliding Menu

Chapter 2

POWER MANAGEMENT

Power Management is an interactive webpage that offers the data aggregation of the enrolled devices' batteries.

By choosing the period of time, the device, the device battery or the device model for further inspection, the charts will be changed in accordance with the information you select. With the charts and the list, the data are visualized to be realized easily and clearly at a glance.

2.1 OVERVIEW OF POWER MANAGEMENT

As the table listed below shows, **Power Management** contains six worksheets, including Dashboard-Latest Battery, Latest Battery Health Report, Battery Level Report, Battery Temperature Report, Dashboard-Low Battery Event and Battery Critical Event Report.

On each of the aforementioned worksheets, the chart and the battery info list are interrelated, which means they are closely connected and have an effect on each other. The user can set the filter criteria or directly click on the data of the chart to present the specific data analysis. For more details, refer to the following sections.

Table 2-1 Power Management Spreadsheets

Worksheet	Description
Dashboard-Latest Battery	Show the latest status and the analysis of batteries that meet each criterion in visualization.
Latest Battery Health Report	The analysis and record of the latest device battery health status.
Battery Level Report	The analysis and record of the average battery power level.
Battery Temperature Report	The analysis and record of the average battery temperature changes.
Dashboard-Low Battery Event	Show the latest status and the analysis of the low battery events in visualization.
Battery Critical Event Report	The analysis and record of the low battery events.

2.2 DASHBOARD -LATEST BATTERY

Dashboard-Latest Battery worksheet consists of the dashboard in which presents separately the battery that meets the criteria of Low Battery (Battery Level $\leq 30\%$), High Temperature (Temperature $\geq 55^{\circ}\text{C}$), Low Voltage (Voltage $< 3.4\text{V}$), Critical Health (Health Percentage $1\% \sim 80\%$), Cycle Count (Cycle Count > 300) or High Voltage (Voltage $\geq 4.4\text{V}$) in visualization, and a battery info list that itemizes the detailed information with regard to the battery of the supported devices enrolled onto ReMoCloud.

Once any battery of the enrolled devices exceeds the limit of the criteria above, this dashboard will immediately remind the user of the abnormal status and take actions if necessary to avoid the possible issues occurring.

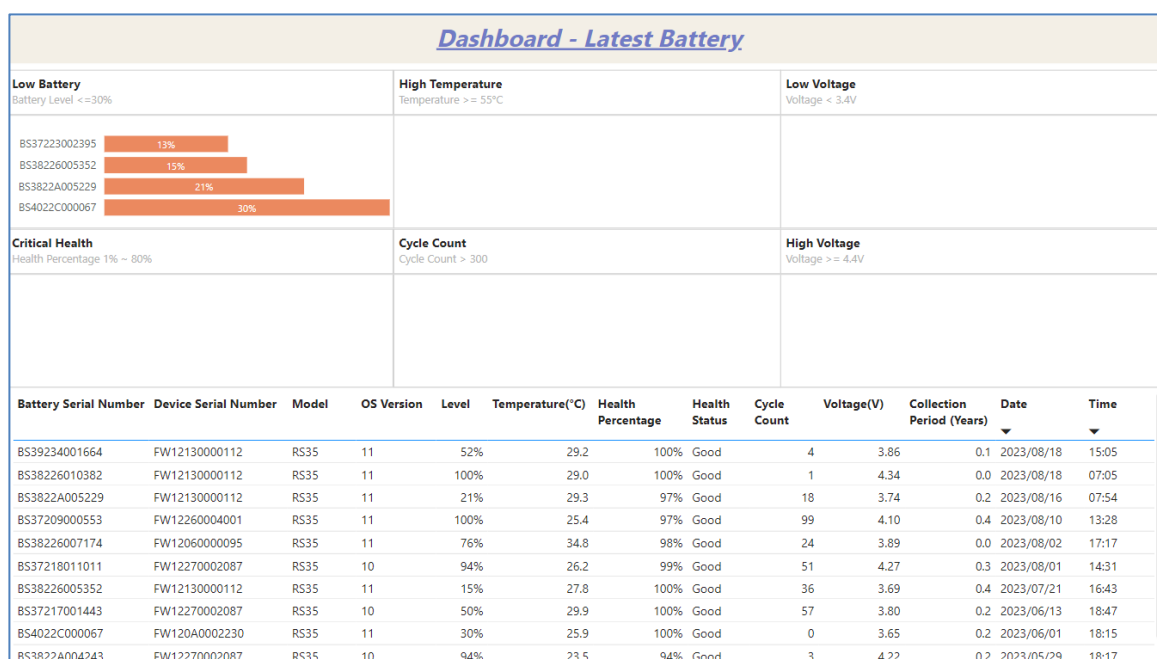


Fig. 2-1 Displays the Latest Status of Batteries that Meet Each Criterion

The Battery Info List gives the itemized battery information as the table listed below describes:

Table 2-2 Items on Battery Info List

Item	Description
Battery Serial Number	The serial number of the specific battery.
Device Serial Number	The serial number of the device on which the specific battery is mounted.
Model	The model name of the device on which the specific battery is mounted.

OS Version	The version of the Android operating system installed on the specific device.
Level	The power level of the specific battery.
Temperature (°C)	The temperature (given in Celsius) of the specific battery.
Health Percentage	Show the health level presented in percentage of the specific battery.
Health Status	Show the health status of the specific battery.
Cycle Count	The number of times that the specific battery has been drained and then fully recharged.
Voltage (V)	The voltage of the specific battery.
Collection Period(Years)	Estimate the used life of the specific battery from its first record collected in units of year.
Date	Display the date when the log of the specific battery is generated.
Time	Display the time when the log of the specific battery is generated.

Move the cursor to the specific bar on the dashboard, and a dialog box shows up to indicate the detailed information about the selected battery. The Battery Info List will show the interconnected information by clicking on this bar.

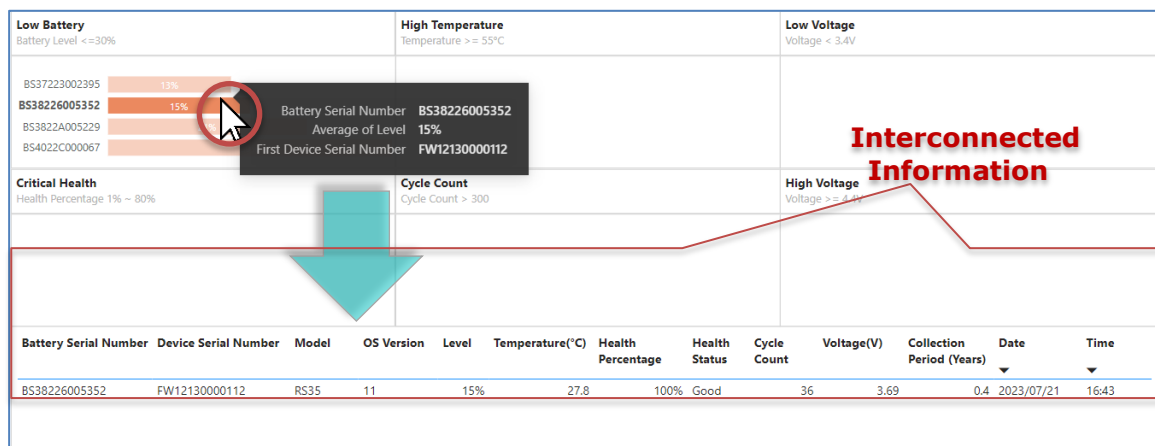


Fig. 2-2 Displays the Details about the Battery that Meets the Specific Criterion

2.2.1 Data Sorting

Click on the **Up** or **Down** arrow icon located in the table header of the preferred column as the figure below shows, the data of Battery Info List will be presented in ascending or descending order.

As to these sorted data, they can further be set up in either the ascending or descending order on Battery Info List by simultaneously pressing the **Shift** key on the keyboard and clicking on the **Up** or **Down** arrow icon in the table header of another column you desire.

Battery Serial Number	Device Serial Number	Model	Version	Level	Temperature(°C)	Health Percentage	Health Status	Cycle Count	Voltage(V)	Collection Period (Years)	Date	Time
BK3020B002031	FJ1191A000908	RK25	9	55%	38.7	99%	Good	29	4.07	0.7	2022/11/01	16:28
BK31213002485	FJ1228A000677	RK25	7.1.2	81%	36.0	98%	Good	4	4.05	0.4	2022/10/11	14:13
BS37209006610	FW12220000003	RS35	10	99%	28.4	99%	Good	82	4.32	0.3	2023/03/16	12:33
BS37218011011	FW12090000449	RS35	10	83%	31.8	100%	Good	32	4.01	0.6	2022/09/28	12:53
BS38226005352	FW120A0002181	RS35	10	52%	29.2	100%	Good	20	3.79	0.2	2023/03/16	12:50

Battery Serial Number	Device Serial Number	Model	Version	Level	Temperature(°C)	Health Percentage	Health Status	Cycle Count	Voltage(V)	Collection Period (Years)	Date	Time
BS38226005352	FW120A0002181	RS35	10	52%	29.2	100%	Good	20	3.79	0.2	2023/03/16	12:50
BS37218011011	FW12090000449	RS35	10	83%	31.8	100%	Good	32	4.01	0.6	2022/09/28	12:53
BS37209006610	FW12220000003	RS35	10	99%	28.4	99%	Good	82	4.32	0.3	2023/03/16	12:33
BK31213002485	FJ1228A000677	RK25	7.1.2	81%	36.0	98%	Good	4	4.05	0.4	2022/10/11	14:13
BK3020B002031	FJ1191A000908	RK25	9	55%	38.7	99%	Good	29	4.07	0.7	2022/11/01	16:28

Fig. 2-3 Click on the Up/Down Arrow Icon in the Table Header to Show the Data in Ascending/Descending Order

2.3 LATEST BATTERY HEALTH REPORT

Latest Battery Health Report consists of a pie chart which shows the battery health status of all the enrolled devices by proportion, a table of “**Explanation**” that briefly describes the battery health status, and a battery info list that itemizes the information related to the battery of all enrolled devices CAI supports.

Click on the slice of this pie chart to display the information about the battery status you choose, and the Battery Info List will show the interconnected information.

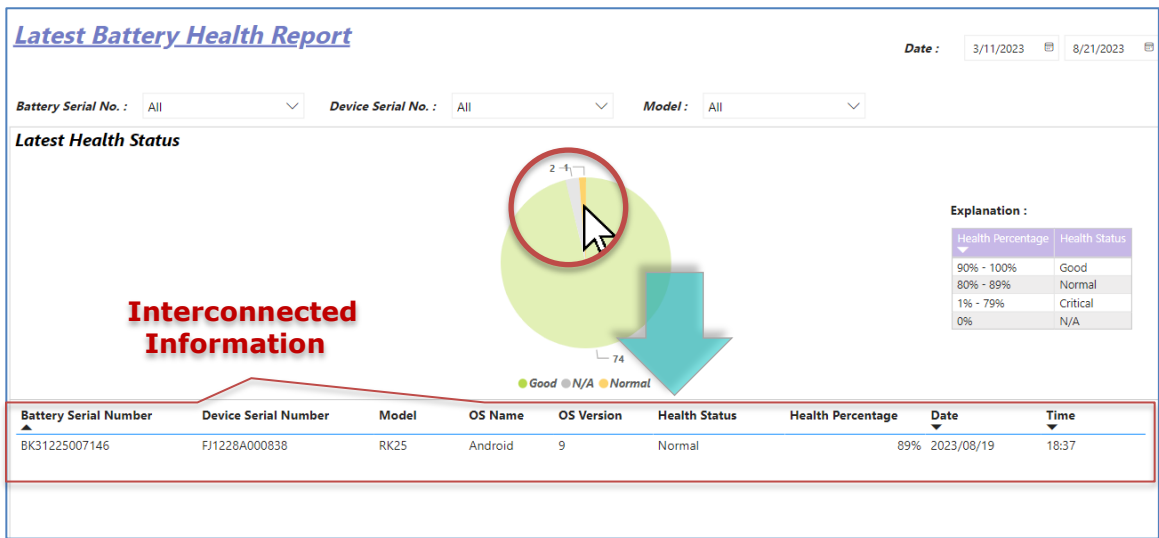


Fig. 2-4 Click on the Slice of “Latest Health Status” to Show the Battery-related Information

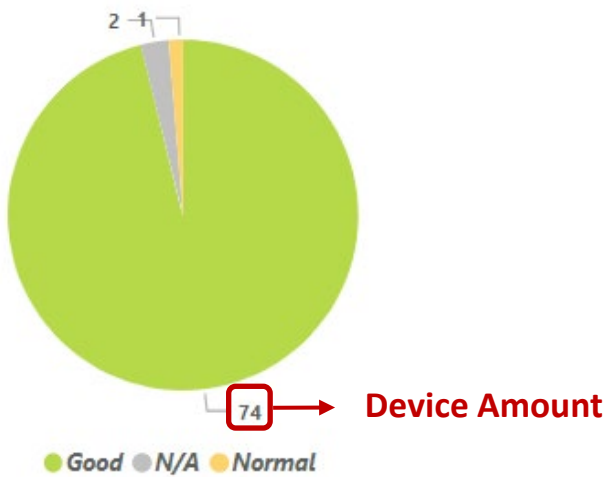


Fig. 2-5 The Pie Chart of “Latest Health Status” Report

PIE CHART

The battery health pie chart conveys the device amount and the device health status in every slice. You may refer to **Explanation** table next to the pie chart for the battery health status description.

Health Percentage	Health Status
90% - 100%	Good
80% - 89%	Normal
1% - 79%	Critical
0%	N/A

Fig. 2-6 Table of the Battery Health Status Explanation

The Battery Info List gives the itemized battery information as the table listed below describes:

Table 2-3 Items on Battery Info List

Item	Description
Battery Serial Number	The serial number of the specific battery.
Device Serial Number	The serial number of the device on which the specific battery is mounted.
Model	The model name of the device on which the specific battery is mounted.
OS Name	The name of the operating system belonging to the device on which the specific battery is mounted.
Version	The version of Android operating system belonging to the device on which the specific battery is mounted.
Health Status	Show the latest health status of the specific battery.
Health Percentage	Show the battery health level presented in percentage.
Date	Display the date when the log of the specific battery is generated.
Time	Display the time when the log of the specific battery is generated.

Move the cursor to the slice, and a dialog box shows up to indicate the detailed information about the selected health status.

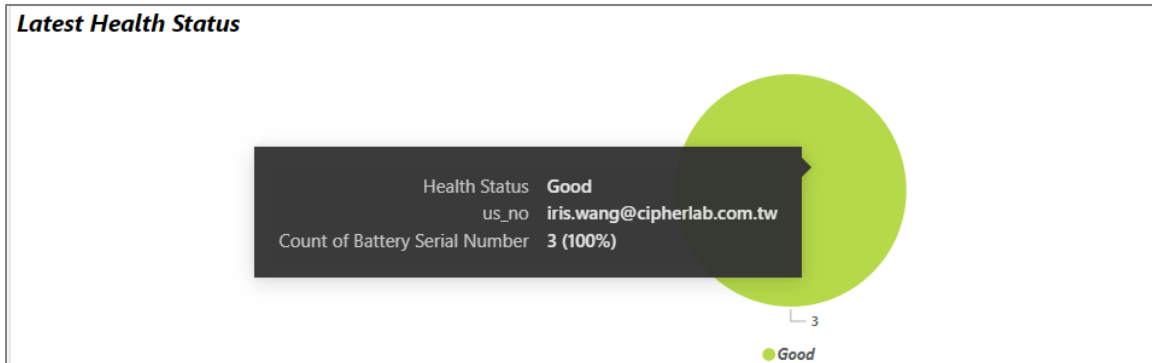


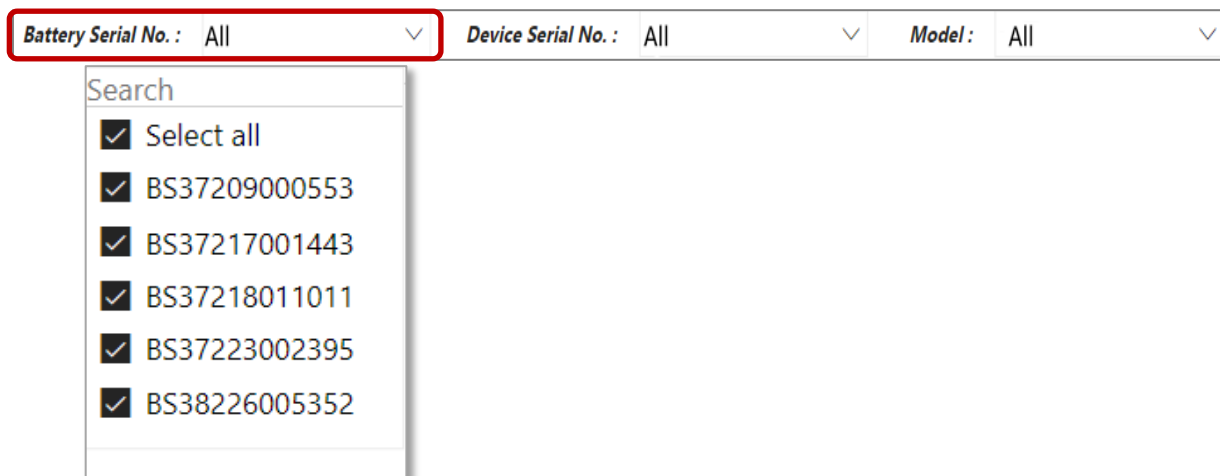
Fig. 2-7 The Detailed Information about the Battery Health Status

2.3.1 FILTERS FOR SELECTING THE DATA SCOPE

Filter tool is used to sift through the data to show the range you would like to know, and you may set your filter(s) to reduce the scope. You can narrow down the range by the followings:

BATTERY SERIAL NO.

The default setting for **Battery Serial No.** is “All”. Unfold the drop-down list to select the battery or batteries you’d like to view by checking the checkbox(es). You can also input the keywords into “Search” field to search or filter the specified battery or batteries, and then select it/them.



Battery Serial No. : All	Device Serial No. : All	Model : All
--------------------------	-------------------------	-------------

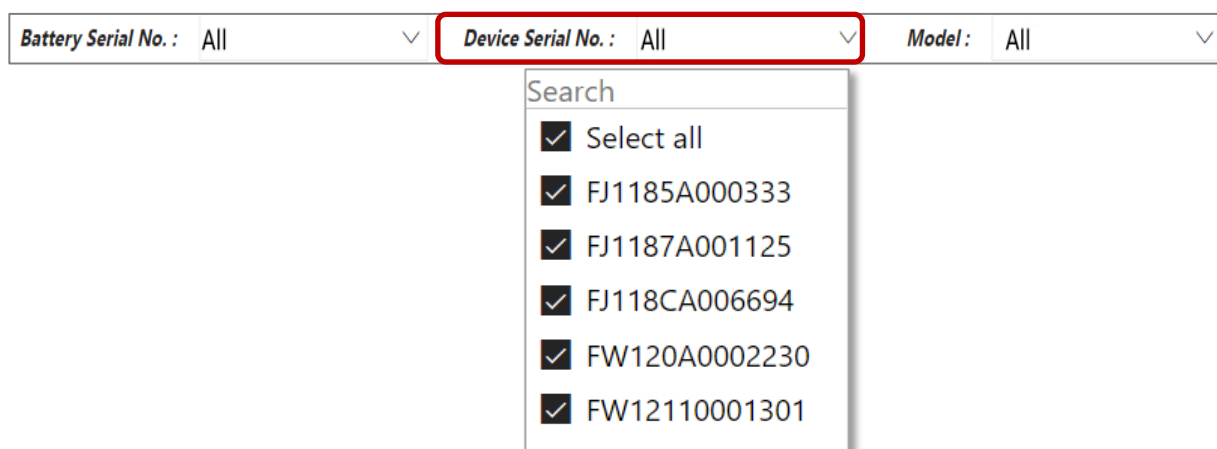
Search

- ☒ Select all
- ☒ BS37209000553
- ☒ BS37217001443
- ☒ BS37218011011
- ☒ BS37223002395
- ☒ BS38226005352

Fig. 2-8 Drop-down List of Battery Serial Number

DEVICE SERIAL NO.

The drop-down list of “**Device Serial No.**” displays all of your available enrolled devices supported by CAI. You may search or filter the device you need through “Search” field, or directly check the device you’d like to view, or remain the default setting “Select all” to check all the devices.



Battery Serial No. : All	Device Serial No. : All	Model : All
--------------------------	-------------------------	-------------

Search

- ☒ Select all
- ☒ FJ1185A000333
- ☒ FJ1187A001125
- ☒ FJ118CA006694
- ☒ FW120A0002230
- ☒ FW12110001301

Fig. 2-9 Drop-down List of Device Serial Number

MODEL

Select your desired model from the drop-down list. The default setting is “Select all”.

Battery Serial No. : All

Device Serial No. : All

Model : All

Search

☒ Select all

☒ RK25

☒ RK25WO

☒ RS35

Fig. 2-10 Drop-down List of Device Model

DATE

You may select the range of time period by respectively pulling down the provided calendars to decide when the date starts and ends in order to display the battery status of the selected batteries/devices/models you would like to inspect. On the list of these calendars, you may click ↑ or ↓ button to move to the previous or next month.

Date : 2022/9/30 2023/3/17

April 2023

↑ ↓

Sun	Mon	Tue	Wed	Thu	Fri	Sat
26	27	28	29	30	31	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	1	2	3	4	5	6

June 2023

↑ ↓

Sun	Mon	Tue	Wed	Thu	Fri	Sat
28	29	30	31	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	1

Fig. 2-11 Setting Your Period of Time.

2.4 BATTERY LEVEL REPORT

With the vertical axis which presents the power level and the horizontal axis which shows the date, the line chart of “**Average Level (%)**” on **Battery Level Report** worksheet plots the average battery power level changes of the available batteries over date. And a battery info list on this report itemizes the detailed battery-related information of all supported devices enrolled onto ReMoCloud.

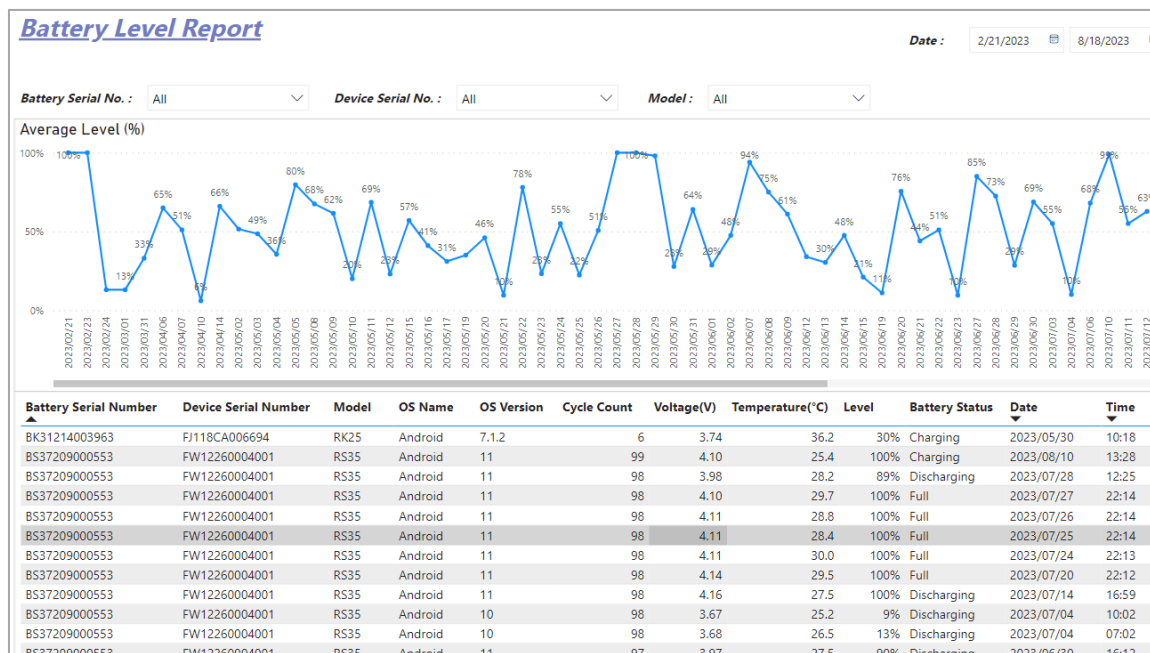


Fig. 2-12 The Line Chart of “Average Level (%)”

The Battery Info List gives the itemized battery information as the table listed below describes:

Table 2-4 Items on Battery Info List

Item	Description
Battery Serial Number	The serial number of the specific battery.
Device Serial Number	The serial number of the device on which the specific battery is mounted.
Model	The model name of the device on which the specific battery is mounted.
OS Name	The name of the operating system belonging to the device on which the specific battery is mounted.
OS Version	The version of Android operating system belonging to the device on which the specific battery is mounted.

Cycle Count	The number of times that the specific battery has been drained and then fully recharged.
Voltage (V)	The voltage of the specific battery.
Temperature (°C)	The temperature (given in Celsius) of the specific battery.
Level	The power level of the specific battery.
Battery Status	Show the current status of the specific battery.
Date	Display the date when the log of the specific battery is generated.
Time	Display the time when the log of the specific battery is generated.

Moving the cursor to the point on the chart will pop up a dialog box to show the average battery power on the selected date while clicking on the point will display the interconnected information of this date on the Battery Info List.

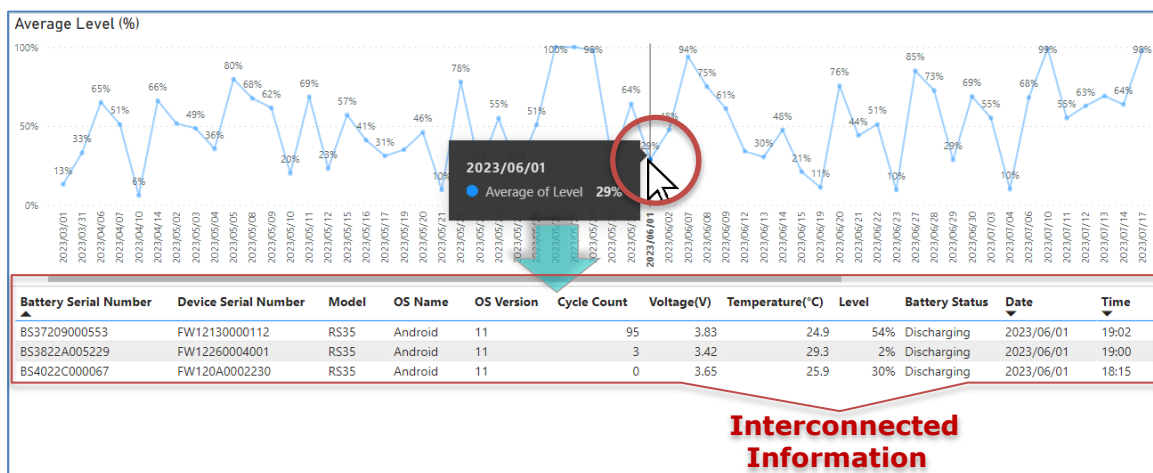


Fig. 2-13 Aim the Cursor at the Point to Show the Information about the Battery Average Power Level

For sorting the data within Battery Info List either in ascending or descending order, please refer to [Section 2.2.1 "Data Sorting"](#).

Also refer to [Section 2.3.1 "Filters for Selecting the Data Scope"](#) for more details on the filter tools provided by CAI.

2.5 BATTERY TEMPERATURE REPORT

“Average Temperature (°C)” on Battery Temperature Report worksheet presents a bar chart which records the device battery temperature changes by date. The vertical axis shows the average temperature, and the horizontal axis presents the date. Each bar on the chart represents the average temperature of a device model on that date, and a battery info list itemizes the battery-related information of all enrolled devices CAI supports.

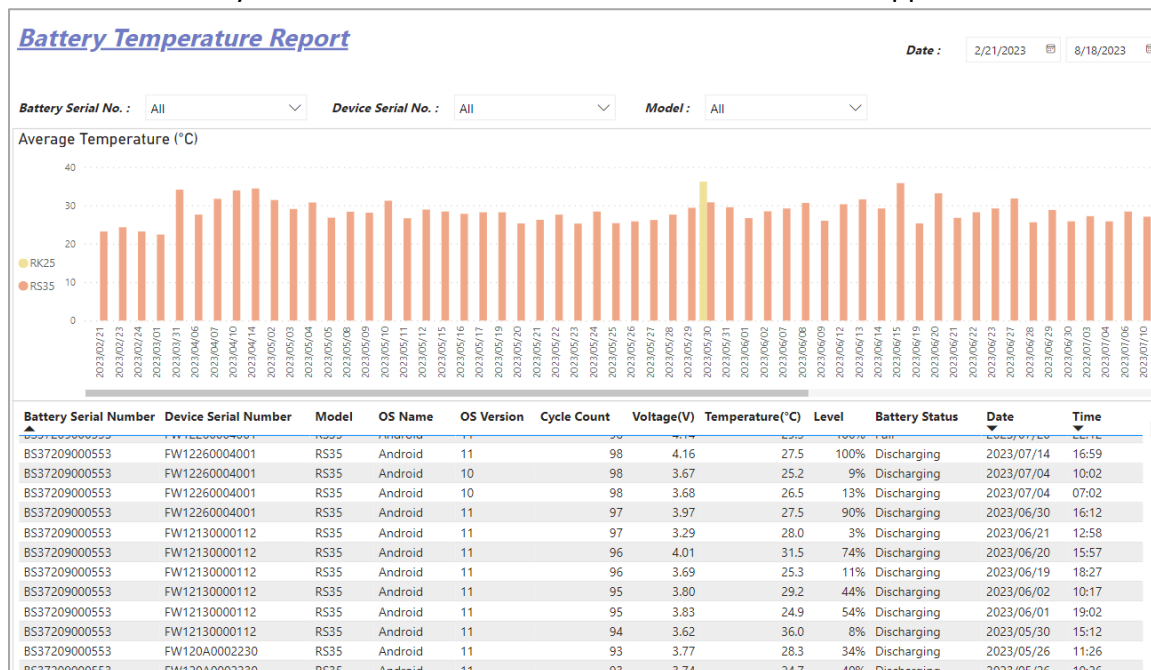


Fig. 2-14 The Bar Chart of “Average Temperature (°C)”

The Battery Info List gives the itemized battery information as the table listed below describes:

Table 2-5 Items on Battery Info List

Item	Description
Battery Serial Number	The serial number of the specific battery.
Device Serial Number	The serial number of the device on which the specific battery is mounted.
Model	The model name of the device on which the specific battery is mounted.
OS Name	The name of the operating system belonging to the device on which the specific battery is mounted.
OS Version	The version of Android operating system belonging to the device on which the specific battery is mounted.
Cycle Count	The number of times that the specific battery has been drained and then fully recharged.

Voltage (V)	The voltage of the specific battery.
Temperature (°C)	The temperature (given in Celsius) of the specific battery.
Level	The power level of the specific battery.
Battery Status	Show the current status of the specific battery.
Date	Display the date when the log of the specific battery is generated.
Time	Display the time when the log of the specific battery is generated.

In addition, you may click on a certain model to highlight it on the chart.

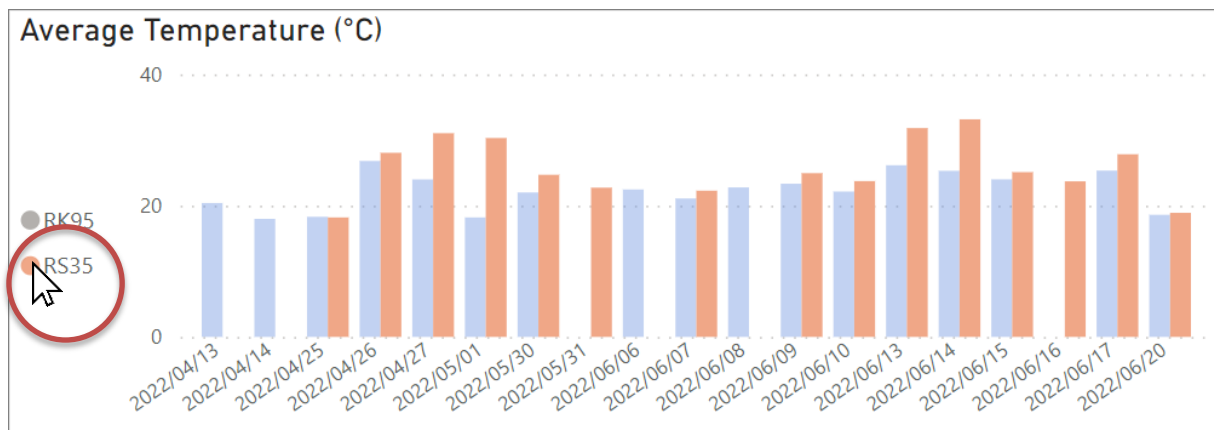


Fig. 2-15 Click to Highlight the Device Model on the Bar Chart.

By clicking on a bar on the chart, only the battery temperature of this device model on the selected date is highlighted, and the Battery Info List changes accordingly.

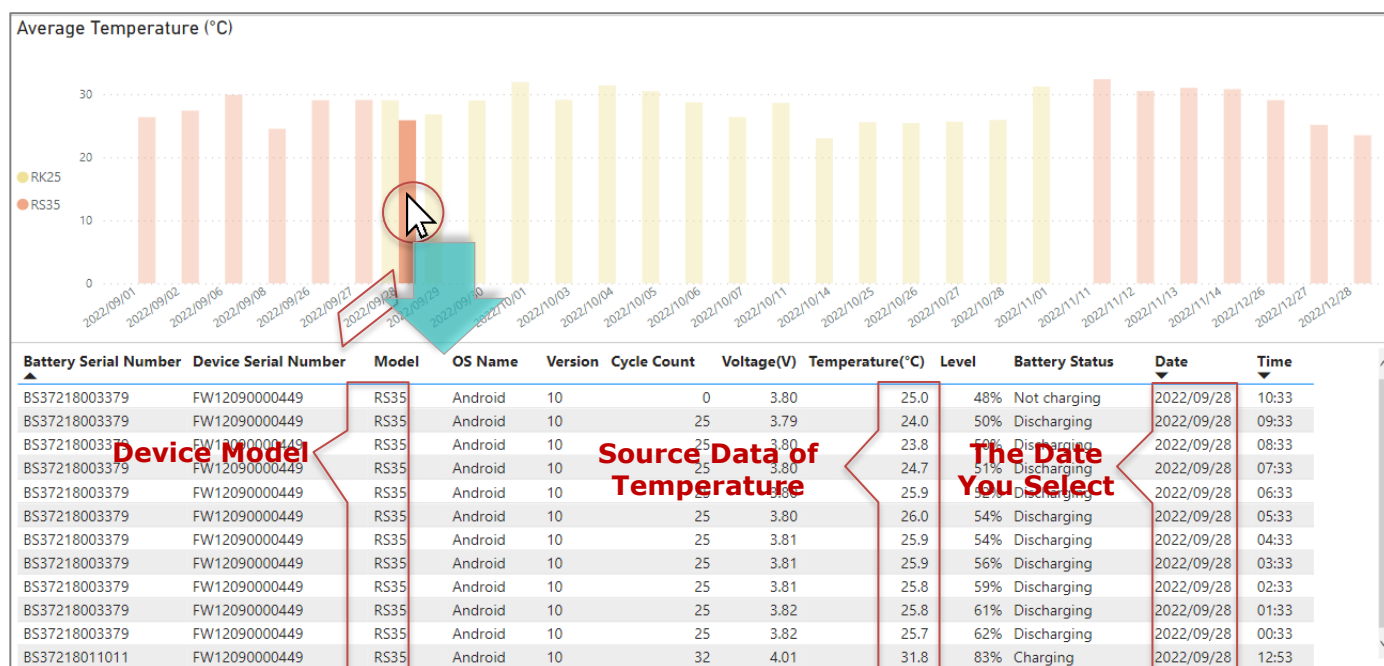


Fig. 2-16 The Presented Data on Battery Info List Change as You Click on a Bar of “Average Temperature (°C)”

By moving your cursor to the bar, a dialog box shows up to give the detailed information about the average temperature of the selected device model on the selected date.

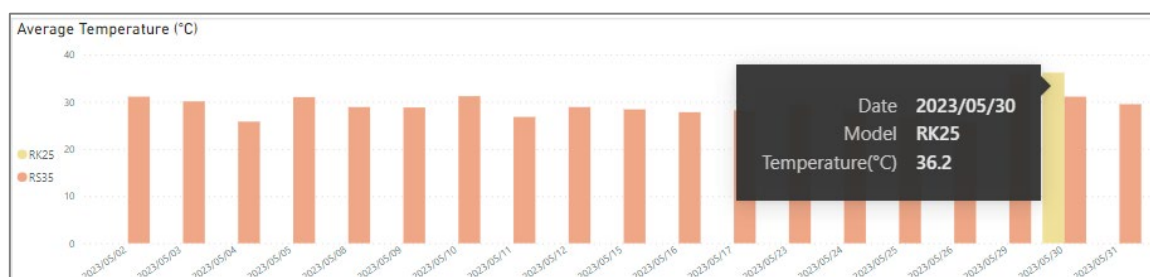


Fig. 2-17 The Detailed Information about the Average Temperature of the Device Model

For sorting the data within Battery Info List either in ascending or descending order, please refer to [Section 2.2.1 “Data Sorting”](#).

Also refer to [Section 2.3.1 “Filters for Selecting the Data Scope”](#) for more details on the filter tools provided by CAI.

2.6 DASHBOARD - LOW BATTERY EVENT

Dashboard-Low Battery Event worksheet contains the dashboard in which presents the data that meet the criterion of Low Battery (Battery Level $\leq 15\%$) in visualization by **battery/device/model/OS version/build number**, and an event logs list that itemizes the detailed information with regard to the battery of the supported devices enrolled onto ReMoCloud.

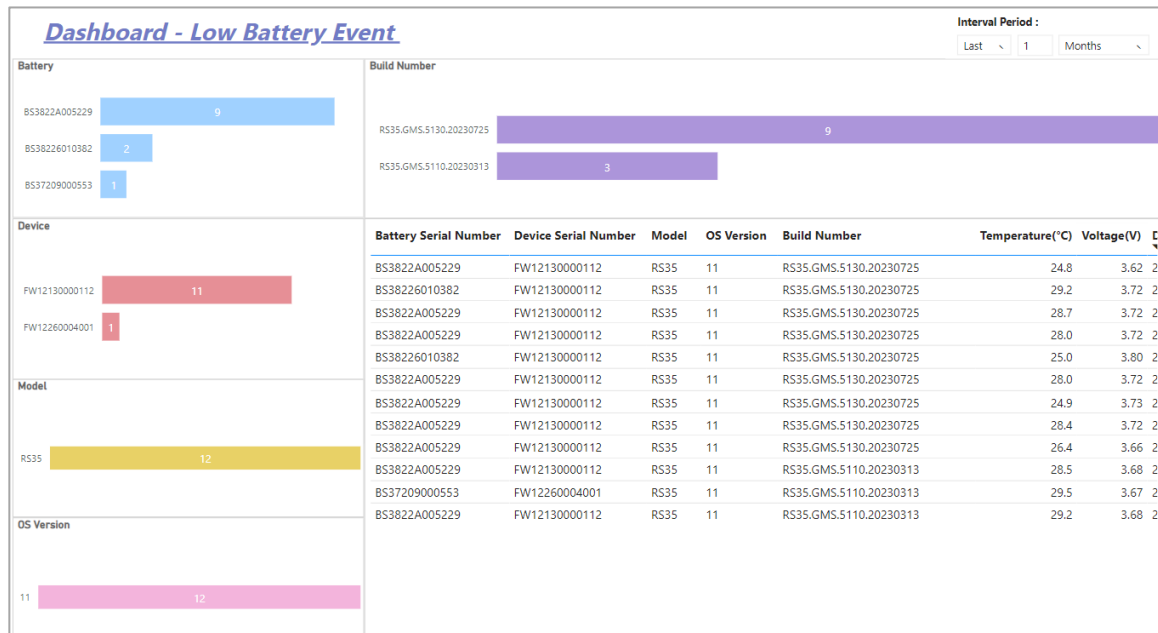


Fig. 2-18 Displays the Latest Batteries that Meet the Low-battery Criterion

The Event Logs List gives the itemized battery information as the table listed below describes:

Table 2-6 Items on Battery Info List

Item	Description
Battery Serial Number	The serial number of the specific battery.
Device Serial Number	The serial number of the device on which the specific battery is mounted.
Model	The model name of the device on which the specific battery is mounted.
OS Version	The version of Android operating system installed on the device where the specific battery is mounted.
Build Number	The version number of CipherLab OS image installed on the device where the specific battery is mounted.
Temperature (°C)	The temperature (given in Celsius) of the specific battery.

Voltage (V)	The voltage of the specific battery.
Date	Display the date when the low battery event log of the specific battery is generated.
Time	Display the time when the low battery event log of the specific battery is generated.

Move the cursor to the specific bar on the dashboard, and a dialog box shows up to indicate the detailed information about the selected battery that meets the criterion. The Event Logs List will show the interconnected information by clicking on this bar.

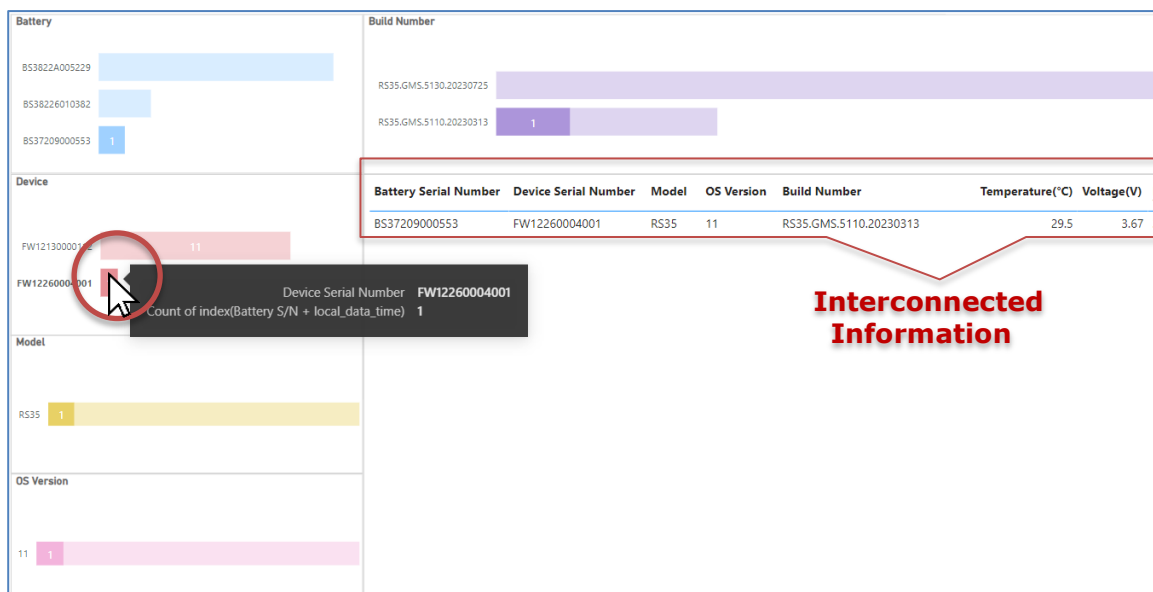


Fig. 2-19 The Detailed Information about the Low Battery Event of the Device

For sorting the data within Event Logs List either in ascending or descending order, please refer to [Section 2.2.1 "Data Sorting"](#).

2.6.1 INTERVAL PERIOD


“**Interval Period**” is for the user to choose the length of time to display the battery status of the selected batteries/devices/models during the period you would like to inspect.

The screenshot displays the 'Interval Period' configuration window. It includes a dropdown menu labeled 'Last' with a downward arrow, a text input field containing the number '1', and another dropdown menu labeled 'Select' with a downward arrow. The 'Last' dropdown is open, showing options: 'Last' (highlighted), 'Next', and 'This'. The 'Select' dropdown is also open, showing options: 'Days' (highlighted), 'Weeks', 'Weeks (Calendar)', 'Months', 'Months (Calendar)', 'Years', and 'Years (Calendar)'. There is also a 'No filter' option with a calendar icon.

Fig. 2-20 Setting Your Interval Period

- **Weeks**
A week is the 7 days that begins from today or the 7 days before today.
- **Weeks (Calendar)**
The week that begins with Sunday and ends with Saturday.
- **Months**
A month is the period of 30 days that begins from today or the 30 days before today.
- **Months (Calendar)**
The month(s) as named in the calendar.
- **Years**
A year is the period of 365 days that begins from today or the 365 days before today.
- **Years (Calendar)**
The year(s) that starts on January 1st and ends on December 31st.

RESET INTERVAL PERIOD

Move your cursor to the upper-right corner of “**Interval Period**” and an “Clear selections” eraser icon  shows up for you to reset the time period.

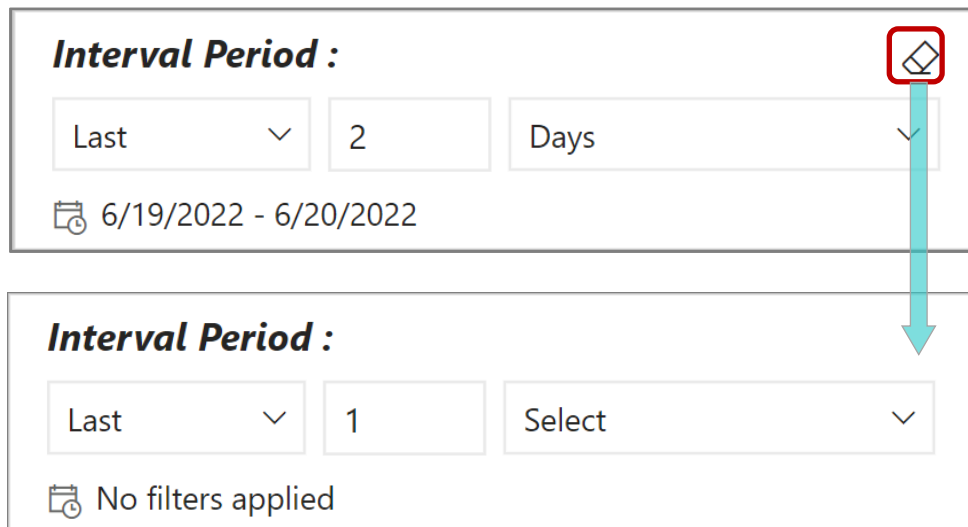


Fig. 2-21 Reset the Interval Period

2.7 BATTERY CRITICAL EVENT REPORT

Battery Critical Event Report records the critical event logs of the battery in the event that its power level is lower than or equal to 15% on the enrolled device(s). It conveys the data in a bar chart by device model to express the times of the low battery event that has been occurred over date, and an event logs list that itemizes the details of each low battery event.

On the chart of this worksheet, each bar stands for an individual device model, the vertical axis shows the number of times that the low battery event occurred, and the horizontal axis shows the date when the low battery event took place.



Fig. 2-22 Bar Chart of “Battery Critical Event Report”

The Event Logs List records every low battery event as well as the device’s battery status when the event happened. The Event Logs List gives the itemized battery information as the table listed below describes:

Table 2-7 Items on Event Logs List

Item	Description
Battery Serial Number	The serial number of the specific battery.
Device Serial Number	The serial number of the device on which the specific battery is mounted.
Model	The model name of the device on which the specific battery is mounted.
OS Name	The name of the operating system belonging to the device on which the specific battery is mounted.

OS Version	The version of Android operating system belonging to the device on which the specific battery is mounted.
Voltage (V)	The voltage of the specific battery.
Temperature (°C)	The temperature (given in Celsius) of the specific battery.
Battery Status	Show the current status of the specific battery.
Date	Display the date when the log of the specific battery is generated.
Time	Display the time when the log of the specific battery is generated.

Like the bar chart of Battery Temperature Report, you may click on a certain device model to highlight it on the chart.

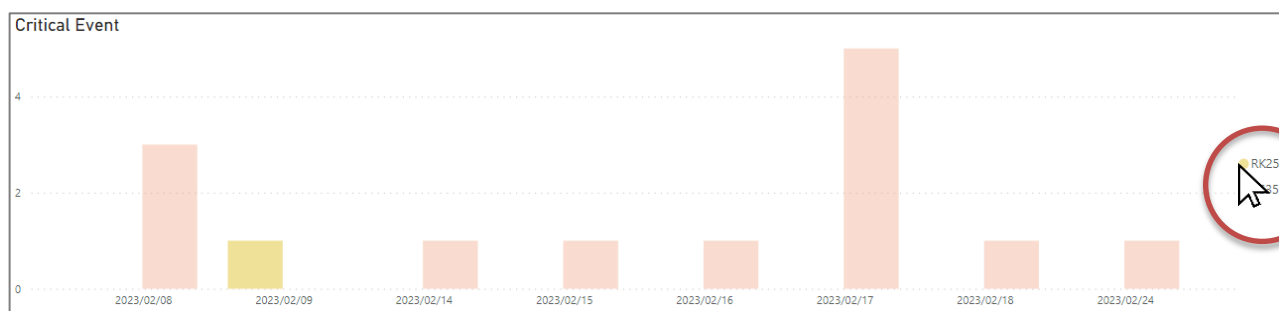


Fig. 2-23 Click to Highlight the Device Model on the Bar Chart

Move the cursor to the specific bar on the bar chart, and a dialog box shows up to indicate the detailed information about the selected device model that meets the criterion (Battery Level $\leq 15\%$). The Event Logs List will show the interconnected information by clicking on this bar.

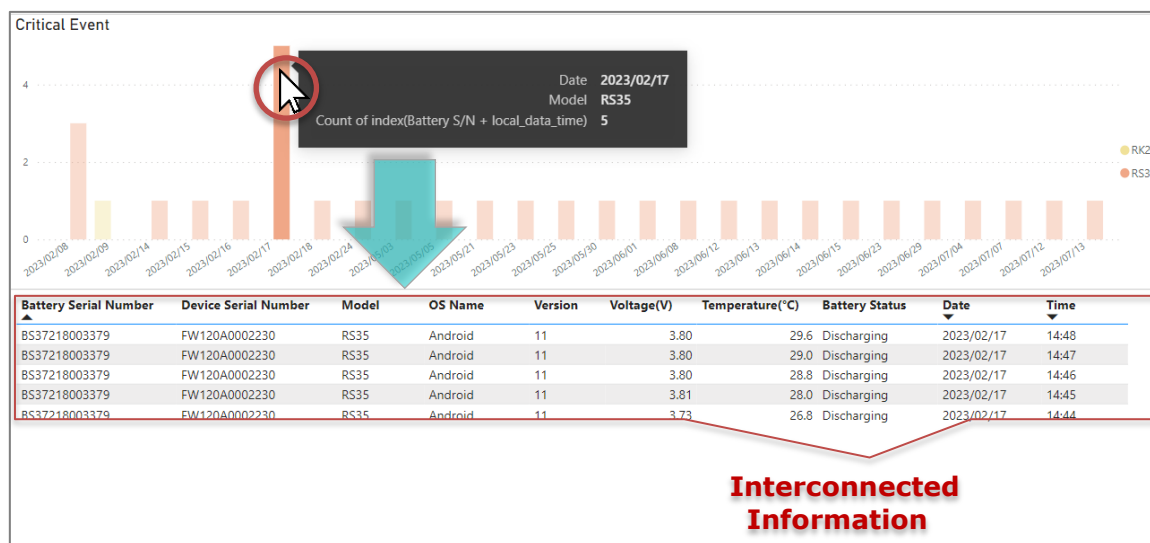


Fig. 2-24 The Detailed Information about the Low Battery Event of the Selected Device Model on the Selected Date

For sorting the data within Event Logs List either in ascending or descending order, please refer to [Section 2.2.1 "Data Sorting"](#).

Also refer to [Section 2.3.1 "Filters for Selecting the Data Scope"](#) for more details on the filter tools provided by CAI.

Chapter 3

BEHAVIORAL EVENT SETTINGS

Through the analysis of the enrolled devices' varieties of behavior collected by CAI, the device diagnosis can be achieved easily to avoid the occurrence of unexpected issues.

3.1 OVERVIEW OF BEHAVIORAL EVENTS

As the table listed below shows, the data gathered from the enrolled devices are collected to generate “Behavioral Event” reports, including Dashboard-Reboots, Dashboard-Application (ANR/Crash), Dashboard-Reader Scan, Dashboard-Reader Error, Diagnose Device Report, Scan Metrics (Successful) Report, Application Analysis Report and Reader Error Report eight worksheets through CAI Service, in order for the delivery of the event log data aggregation and analysis. For more details, refer to the following sections.

Table 3-1 Behavioral Events Spreadsheet

Worksheet	Description
Dashboard-Reboots	Show the latest status and the analysis of the device reboot events in visualization.
Dashboard-Application(ANR/Crash)	Show the latest status and the analysis of ANR (Application Not Responding) and application crash events in visualization.
Dashboard-Reader Scan	Show the latest status and the analysis of the device reader scan and the decode results in visualization.
Dashboard-Reader Error	Show the latest status and the analysis of the device reader error in visualization.
Diagnose Device Report	The analysis and record of ANR (Application Not Responding) and device reboot events.
Scan Metrics (Successful) Report	The statistic-analysis and record of barcode scanning.
Application Analysis Report	The analysis and record of application crash events.
Reader Error Report	The analysis and record of the device reader errors.

3.2 DASHBOARD-REBOOTS

Dashboard-Reboots worksheet contains one dashboard in which presents separately the times of both user and system reboots occurring most often by **Device/Model/OS Version/Build Number/Date/Boot Reason** in visualization, and an event logs list that itemizes the details about these reboots of devices enrolled onto ReMoCloud.

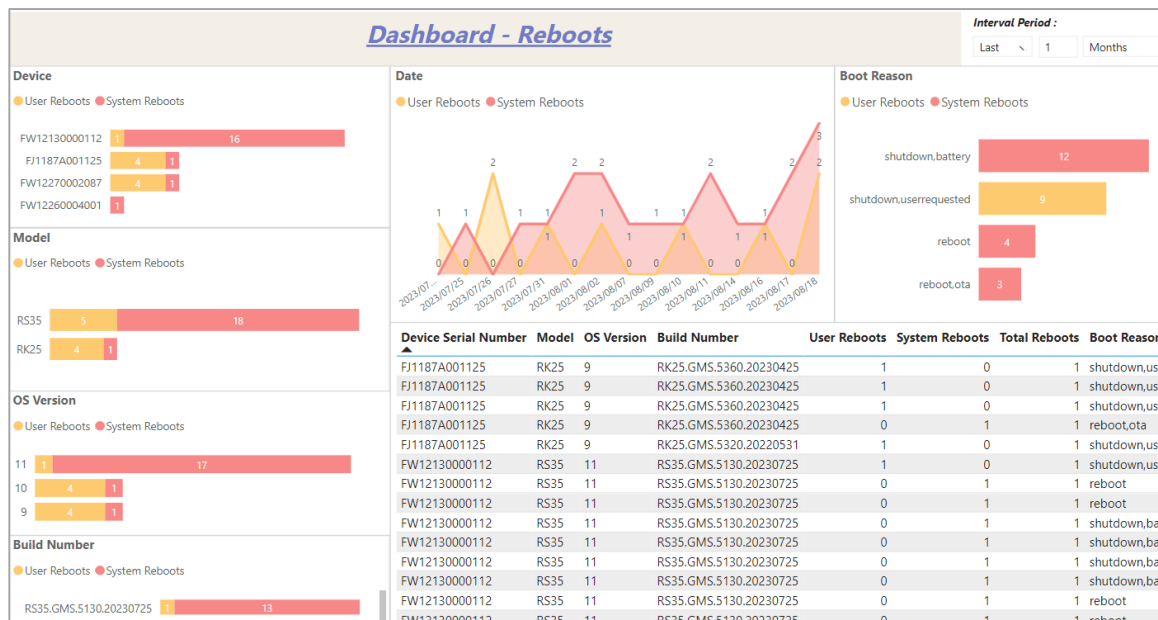


Fig. 3-1 Displays the Latest Status of Device Reboots

The Event Logs List records the events of any device reboots as they took place, and it gives the itemized device reboots information as the table listed below describes:

Table 3-2 Items on Event Logs List

Item	Description
Device Serial Number	The serial number of the device on which the specific reboot occurred.
Model	The model name of the device on which the specific reboot occurred.
OS Version	The version of Android operating system installed on the device where the specific reboot occurred.
Build Number	The version number of CipherLab OS image installed on the device where the specific reboot occurred.
User Reboots	The counts of the device reboots by the user.
System Reboots	The counts of the device reboots by the system.
Total Reboots	The total amount of user reboots and system reboots for the specific device.

Boot Reason Name	<p>The reasons that cause the device reboot are as follows:</p> <ul style="list-style-type: none"> - shutdown,userrequested - shutdown,battery - reboot,userrequested - reboot - reboot,force_reboot - reboot,ota
Date	Display the date when the log of the specific reboot is generated.
Time	Display the time when the log of the specific reboot is generated.

Move the cursor to the specific bar on the dashboard, and a dialog box shows up to indicate the detailed information about the selected reboot. The Event Logs List will show the interconnected information by clicking on this bar.



Fig. 3-2 The Detailed Information about the User Reboots of the Selected Device Model

For sorting the data within Event Logs List either in ascending or descending order, please refer to [Section 2.2.1 "Data Sorting"](#).

For more details on the settings of interval period, also refer to [Section 2.6.1 "Interval Period"](#).

3.3 DASHBOARD-APPLICATION(ANR/CRASH)

Dashboard-Application(ANR/CRASH) worksheet contains one dashboard in which presents separately the total times of application ANR (Application Not Responding) and application crash by **Application(ANR/Crash)/Device/Model/OS Version/Build Number/Date/ Application Name/Application Version** in visualization, and an event logs list that itemizes the detailed information about the enrolled devices' application ANR or crash.

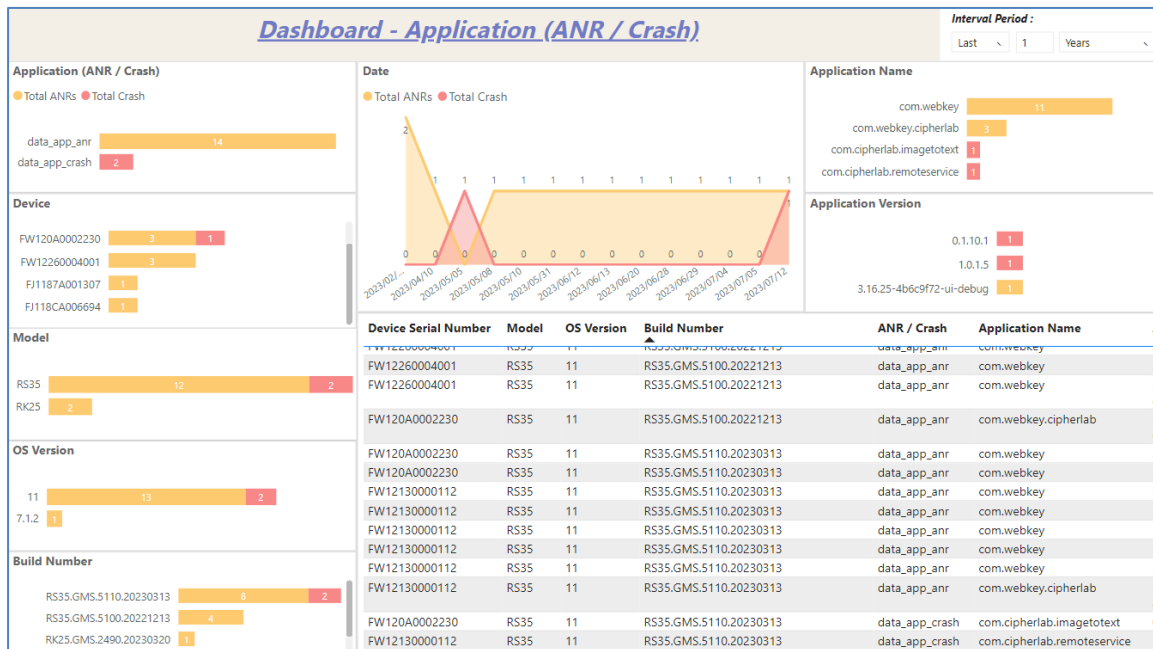


Fig. 3-3 Displays the Latest Status of Device Application ANR or Crash

The Event Logs List records the events of either the application ANR or crash, and it gives the itemized application-related information as the table listed below describes:

Table 3-3 Items on Event Logs List

Item	Description
Device Serial Number	The serial number of the device on which the specific application event occurred.
Model	The model name of the device on which the specific application event occurred.
OS Version	The version of Android operating system installed on the device where the specific application event occurred.
Build Number	The version number of CipherLab OS image installed on the device where the specific application event occurred.
ANR/Crash	Show the type of the application event that has occurred, either data_app_anr or data_app_crash.

Application Name	The name of the application that occurs the ANR (Application Not Responding) or crash event.
Application Version	The version of the application that occurs the ANR (Application Not Responding) or crash event.
Date	Display the date when the log of the specific application event is generated.
Time	Display the time when the log of the specific application event is generated.

Move the cursor to the specific bar on the dashboard, and a dialog box shows up to indicate the detailed information about the selected application event. The Event Logs List will show the interconnected information by clicking on this bar.

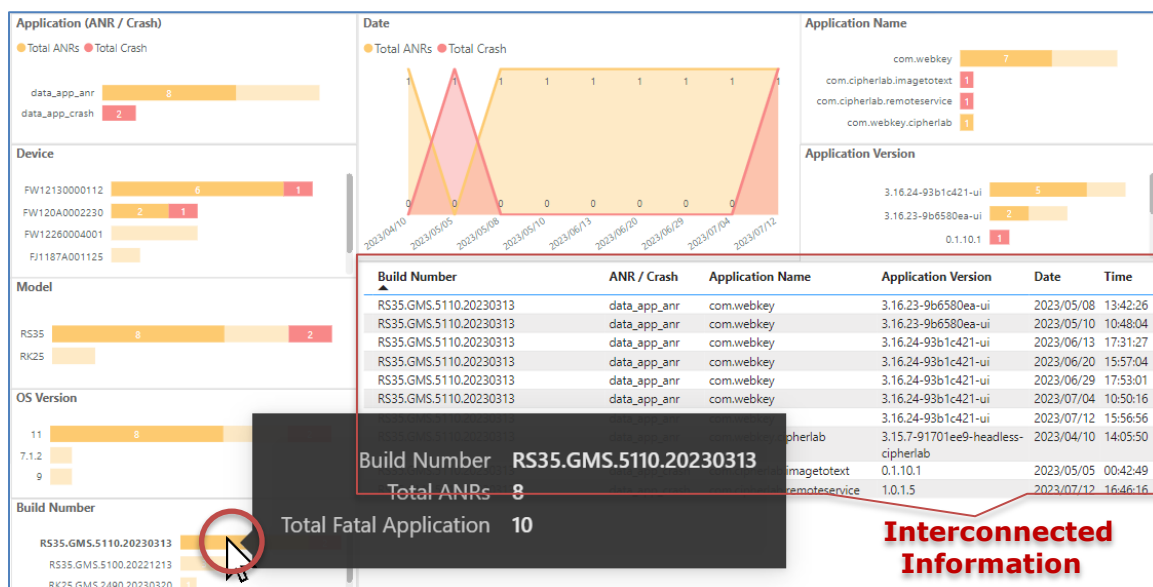


Fig. 3-4 The Detailed Information about the Application ANR of the Selected Build Number

For sorting the data within Event Logs List either in ascending or descending order, please refer to [Section 2.2.1 "Data Sorting"](#).

For more details on the settings of interval period, also refer to [Section 2.6.1 "Interval Period"](#).

3.4 DASHBOARD-READER SCAN

Dashboard-Reader Scan worksheet contains one dashboard in which presents separately the success/stopscan/timeout 3 types of decode result in percentage as well as the average success scan speed by **Model/Device/OS Version/Build Number/Reader Type/Reader/Date** in visualization, and an event logs list that itemizes the detailed information with regard to the scan of the reader belonging to devices enrolled onto ReMoCloud.

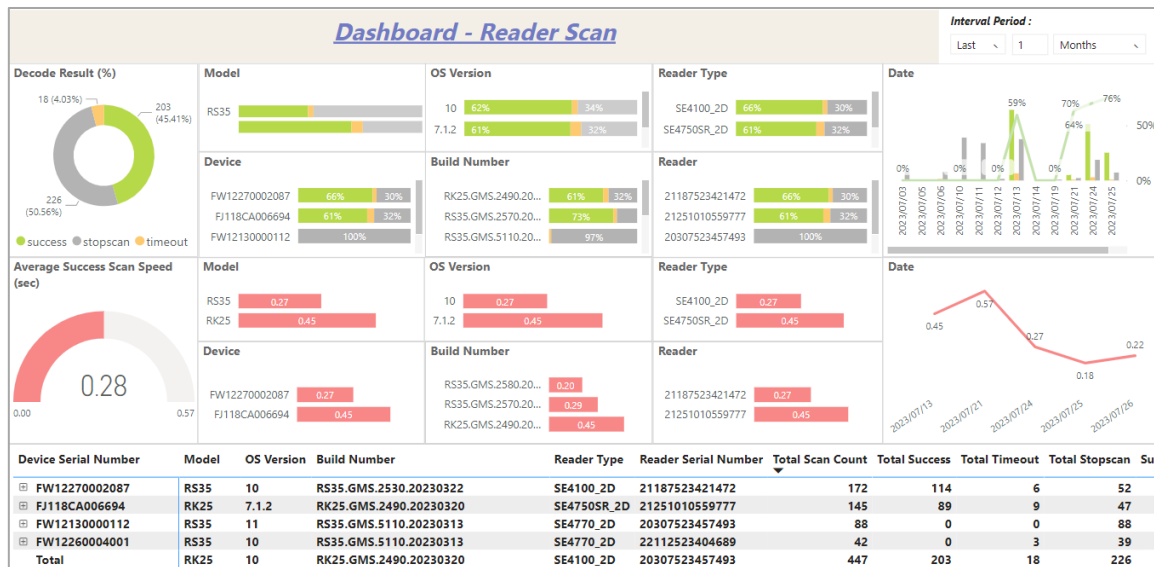


Fig. 3-5 Displays the Latest Decode Result and Average Success Scan Speed of Reader Scan

The Event Logs List records every reader scan trigger events, and it gives the itemized reader scan information as the table listed below describes:

Table 3-4 Items on Event Logs List

Item	Description
Device Serial Number	The serial number of the device on which the reader scan is triggered.
Model	The model name of the device on which the reader scan is triggered.
OS Version	The version of Android operating system installed on the device where the specific reader scan is triggered.
Build Number	The version number of CipherLab OS image installed on the device where the specific reader scan is triggered.
Reader Type	The type of the reader that is equipped with the device where the specific reader scan is triggered.

Reader Serial Number	The serial number of the reader that is equipped with the device where the specific reader scan is triggered.
Total Scan Count	Display the total counts of Total Success, Total Timeout and Total Stopscan of the specific device's reader scan during the specified time duration.
Total Success	Display the counts of the reader scan that succeeds to read the barcode within the specified time (Default: 3 seconds) during the specific time duration. Please note that the user can configure the timeout from CipherLab ReaderConfig App on the mobile computer.
Total Timeout	Display the counts of the reader scan that fails to read the barcode within the specified time (Default: 3 seconds) during the specific time duration. Please note that the user can configure the timeout from CipherLab ReaderConfig App on the mobile computer.
Total Stopscan	Display the counts of the reader scan that is stopped within the specified time (Default: 3 seconds) during the specific time duration. Please note that the user can configure the timeout from CipherLab ReaderConfig App on the mobile computer.
Successful Scan Time	The total time spent in the successful reader scan of the specific device in units of millisecond during the specific time duration.
Avg Success Scan speed(s)	The average speed of successful reader scan in units of second. The lower the value gets, the faster the scan speed will be.

Move the cursor to the specific bar on the dashboard, and a dialog box shows up to indicate the detailed information about the selected reader scan trigger event. The Event Logs List will show the interconnected information by clicking on this bar.

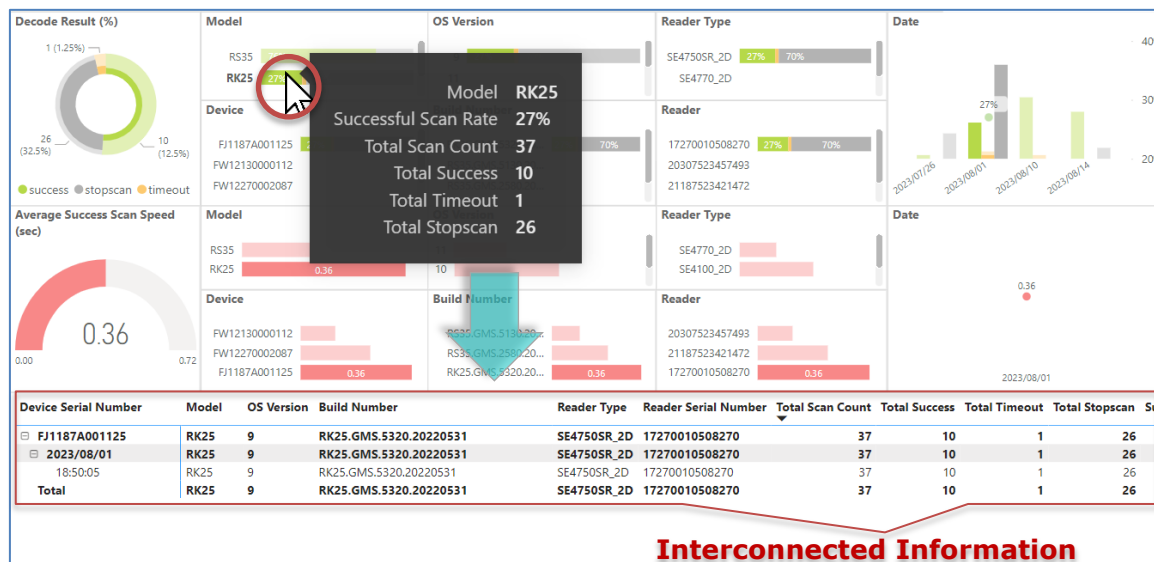


Fig. 3-6 The Detailed Information about the Reader Scan of the Selected Device Model

For sorting the data within Event Logs List either in ascending or descending order, please refer to [Section 2.2.1 "Data Sorting"](#).

For more details on the settings of interval period, also refer to [Section 2.6.1 "Interval Period"](#).

3.5 DASHBOARD-READER ERROR

With the analysis from **Dashboard-Reader Error** worksheet, it will be helpful to solve the technical issues arising from the device reader when troubleshooting. On this worksheet, it contains one dashboard in which presents the reader-related reasons inclusive of reader failure, SDL failure, other factors and the undetectable causes, resulting in the failure of reader scan, by **Device/Model/OS Version/Build Number/Date/Reader/Reader Type** in visualization. An event logs list that itemizes the detailed information with regard to the reader of the devices enrolled onto ReMoCloud is included as well.

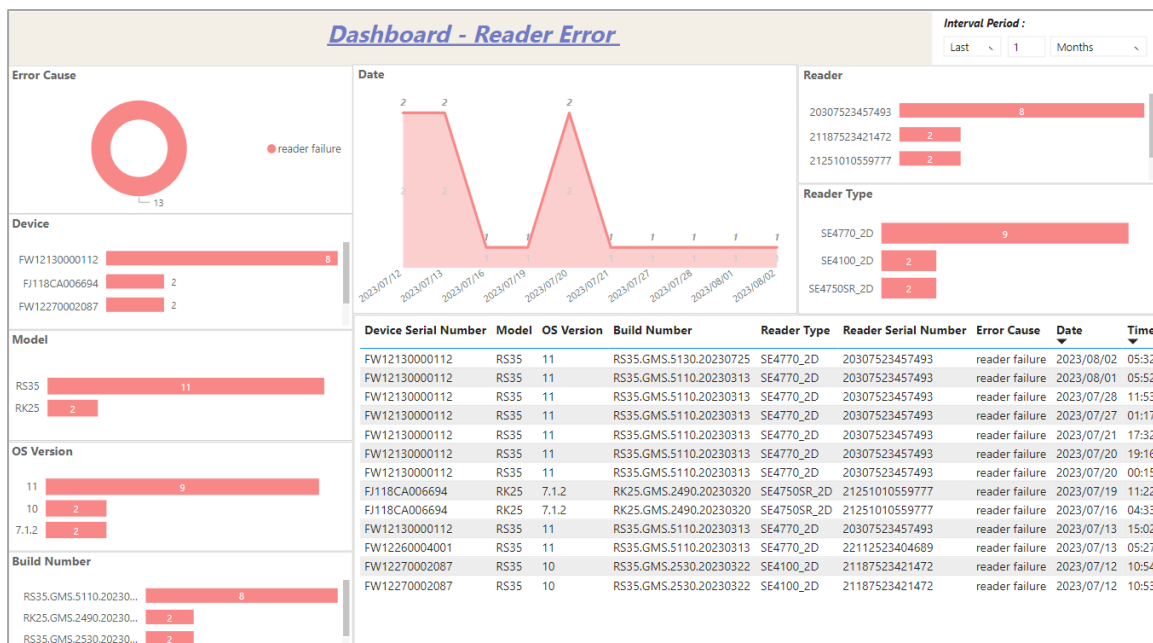


Fig. 3-7 Displays the Latest Causes of Reader Scan Errors

The Event Logs List records every reader scan error events as it took place, and it gives the itemized reader error information as the table listed below describes:

Table 3-5 Items on Event Logs List

Item	Description
Device Serial Number	The serial number of the device on which the specific reader scan error event occurred.
Model	The model name of the device on which the specific reader scan error event occurred.
OS Version	The version of Android operating system installed on the device where the specific reader scan error event occurred.
Build Number	The version number of CipherLab OS image installed on the device where the specific reader scan error event occurred.
Reader Type	The type of the reader that is equipped with the specific device.

Reader Serial Number	The serial number of the reader that is equipped with the specific device.
Error Cause	Display the reason that results in the specific reader scan error event .
Date	Display the date when the specific reader scan error event took place.
Time	Display the time when the specific reader scan error event took place.

Move the cursor to the specific bar or aim the cursor at the specific point on the dashboard, and a dialog box shows up to indicate the detailed information about the selected reader scan failure. The Event Logs List will show the interconnected information by clicking on this bar or point.

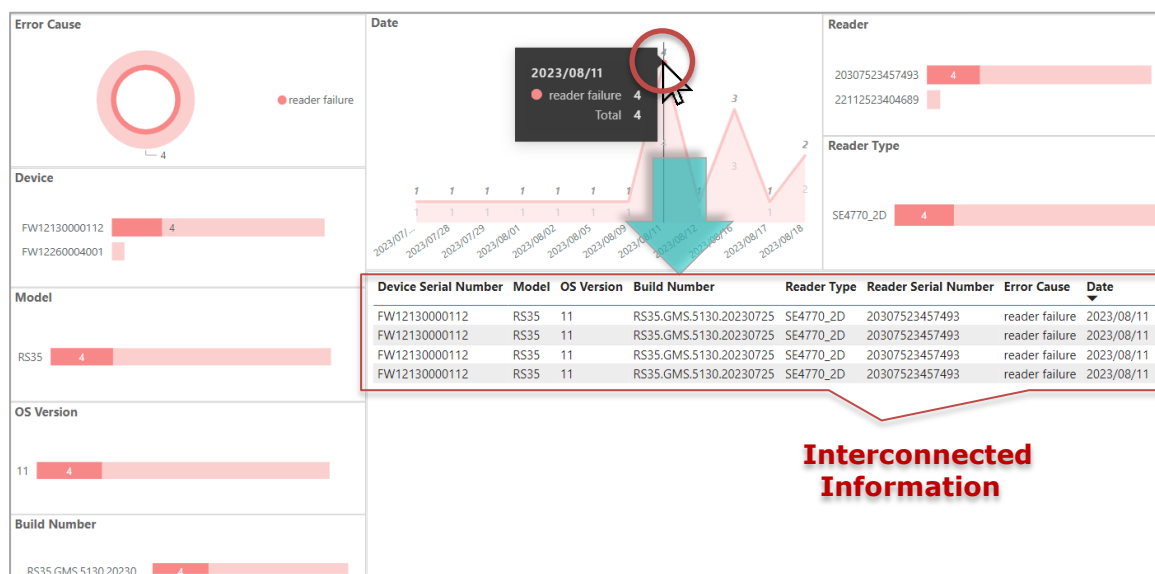


Fig. 3-8 The Detailed Information about the Reader Scan Error on the Selected Date

For sorting the data within Event Logs List either in ascending or descending order, please refer to [Section 2.2.1 "Data Sorting"](#).

For more details on the settings of interval period, also refer to [Section 2.6.1 "Interval Period"](#).

3.6 DIAGNOSE DEVICE

Diagnose Device Report respectively records the counts of ANR (Application Not Responding) as well as the device reboot events that have been occurred, and the total amount of these device behavior. The line chart shows the event counts on the vertical axis while the date of occurrence is on the horizontal axis.

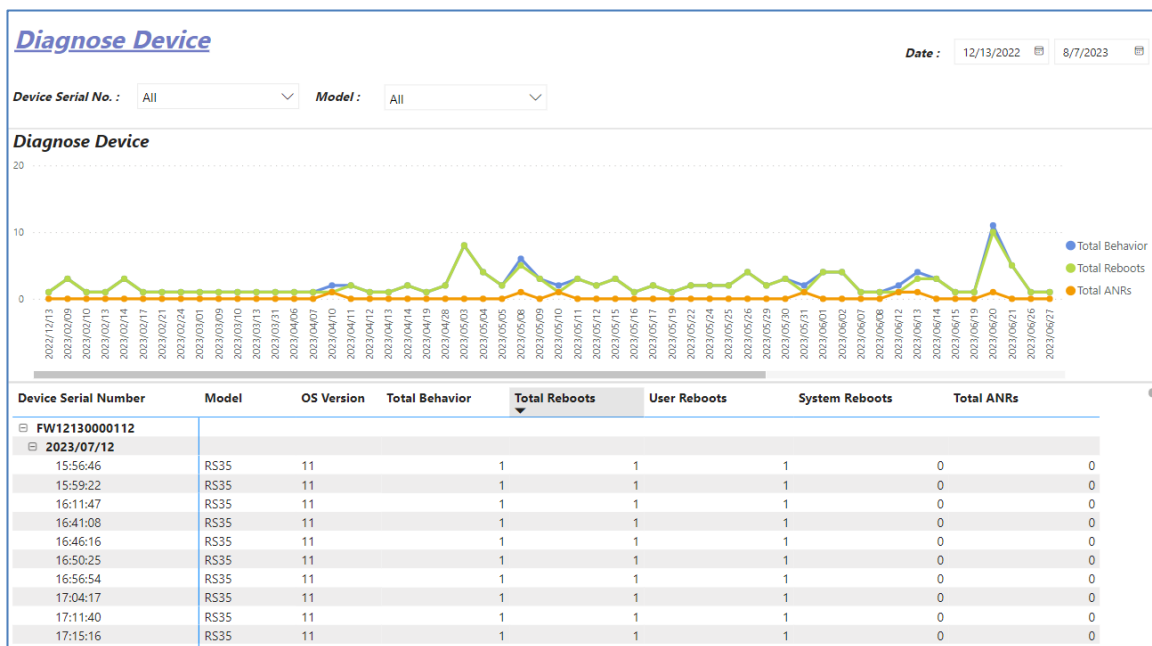


Fig. 3-9 Data Analysis on the “Diagnose Device” Worksheet

The Diagnose Device Info List records every ANR and device reboot events as it took place, and it gives the itemized device diagnosis information as the table listed below describes:

Table 3-6 Items on Event Logs List

Item	Description
Device Serial Number	The serial number of the device on which the specific ANR and/or the device reboot took place.
Model	The model name of the device on which the specific ANR and/or the device reboot took place.
OS Version	The version of Android operating system installed on the device where the specific ANR and/or the device reboot took place.
Total Behavior	Display the total counts of total ANR as well as total device reboot during the specified time duration.
Total Reboots	Display the total counts of the device reboot, including total User Beboots and total System Reboots during the specified time duration.
User Beboots	Display the total counts of User Beboots during the specified time duration.
Systsem Reboots	Display the total counts of System Beboots during the specified time duration.

Total ANRs	Display the total counts of the ANR (Application Not Responding) during the specified time duration.
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Aiming the cursor at the specific point on the chart will pop up a dialog box to respectively show the details about the total counts of aforesaid events on the selected date while clicking on the point will display the interconnected information of this date on Diagnose Device Info List.

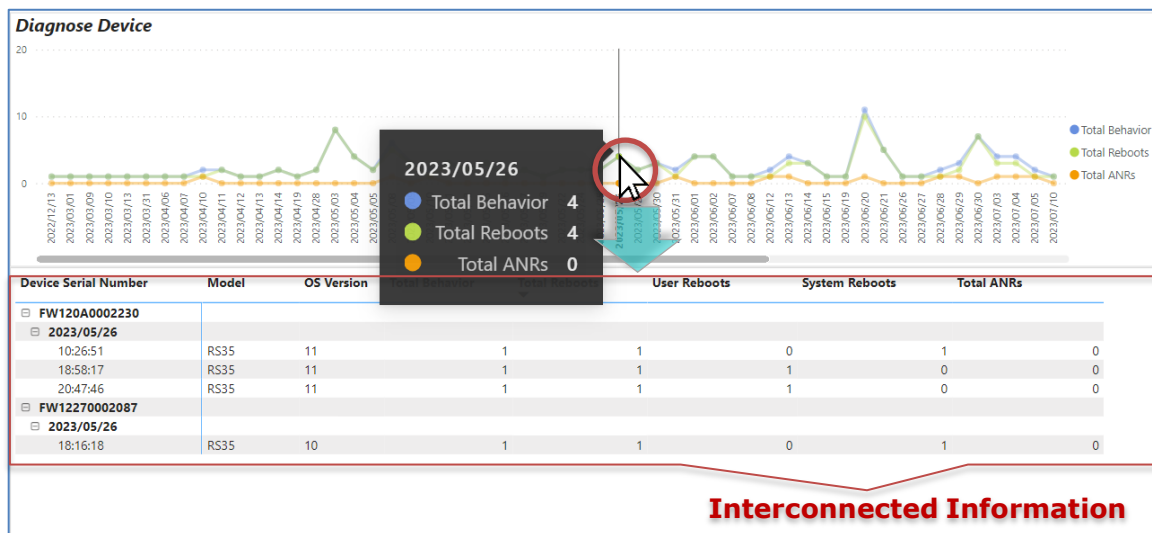


Fig. 3-10 The Detailed Information about Device Diagnosis on the Selected Date

For sorting the data within Diagnose Device Info List either in ascending or descending order, please refer to [Section 2.2.1 "Data Sorting"](#).

3.6.1 FILTERS FOR SELECTING THE DATA SCOPE

Filter tool is used to sift through the data to show the range you would like to know, and you may set your filter(s) to reduce the scope. You can narrow down the range by the followings:

DEVICE SERIAL NO.

The drop-down list of “**Device Serial No.**” displays all of your available enrolled devices supported by CAI. You may search or filter the device you need through “**Search**” field, or directly check the device you’d like to view, or remain the default setting “**Select all**” to check all the devices.

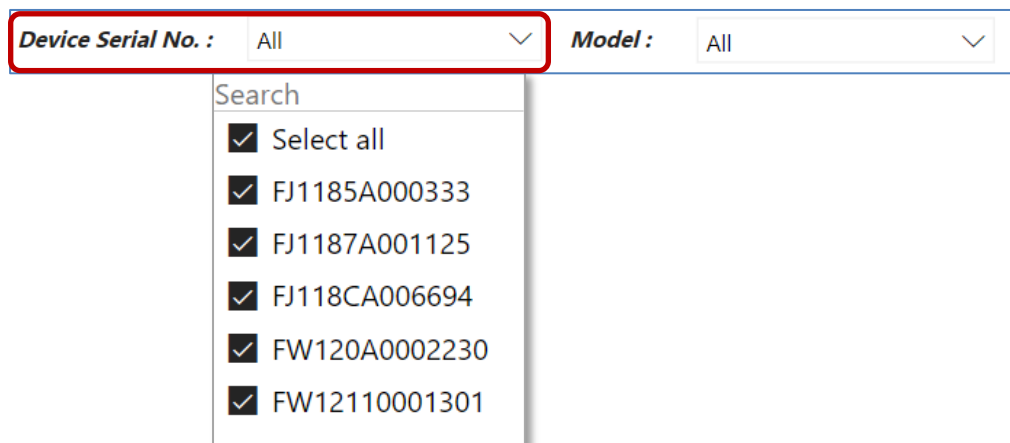


Fig. 3-11 Drop-down List of Device Serial Number

MODEL

Select your desired model from the drop-down list. The default setting is “**Select all**”.

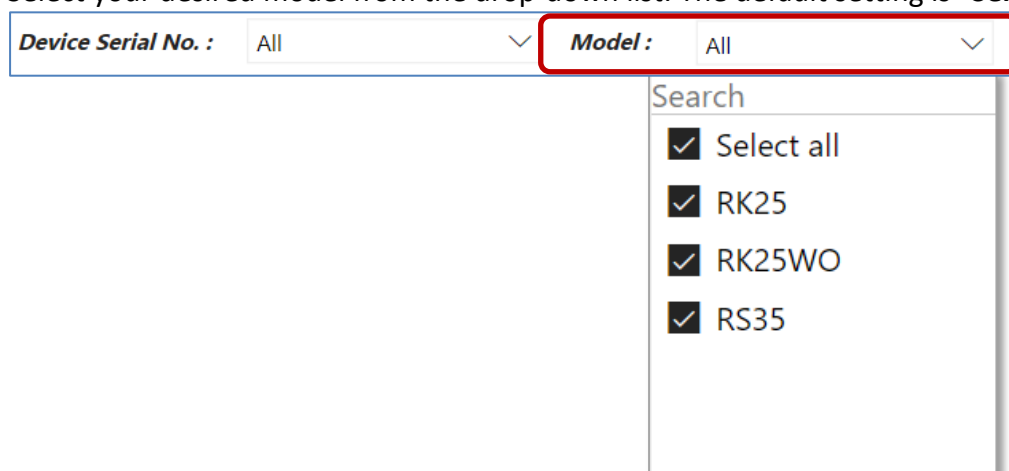


Fig. 3-12 Drop-down List of Device Model

DATE

You may select the range of time period by respectively pulling down the provided calendars to specify the date starts and ends in order to display the battery status of the selected batteries/devices/models you would like to inspect. On the list of these calendars, you may click ↑ or ↓ button to move to the previous or next month.

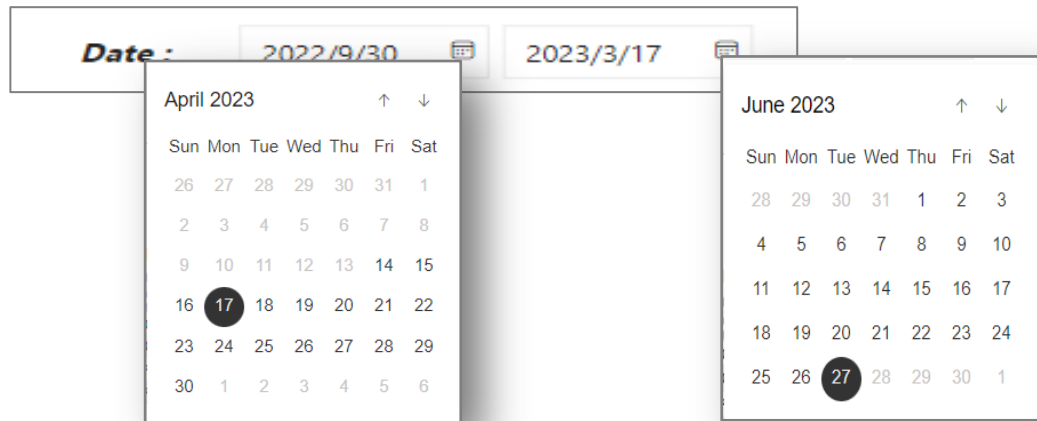


Fig. 3-13 Setting Your Period of Time.

3.7 SCAN METRICS (SUCCESSFUL)

Scan Metrics (Successful) Report notes down the reader scan counts of all the enrolled devices onto ReMoCloud to give the statistic-analysis about the scanning success rate. On the line chart of “**Scan Metrics (Successful) Report**”, the right vertical axis presents the total counts of the reader scan and the successful reader scan. The left vertical axis presents the rate of the successful reader scan in percentage, and the horizontal axis is the date. An info list that itemizes the scan-related information of these devices is also included on this report.

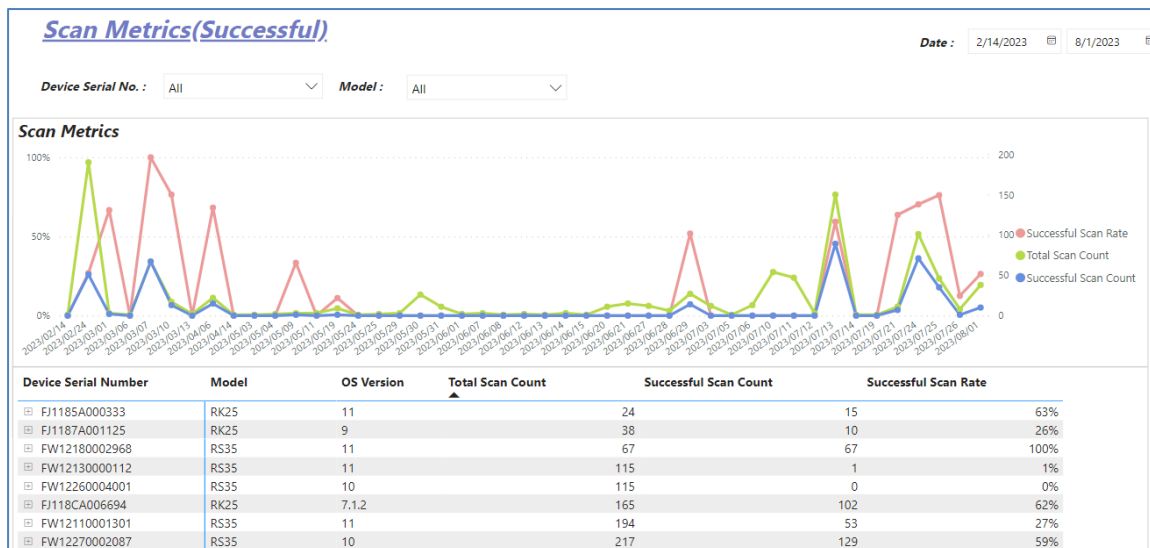


Fig. 3-14 Data Analysis on the “Scan Metrics (Successful)” WorkSheet

The Scan Metrics (Successful) Info List records every reader scan trigger events, and it gives the itemized reader scan information as the table listed below describes:

Table 3-7 Items on Event Logs List

Item	Description
Device Serial Number	The serial number of the device on which the reader scan is triggered.
Model	The model name of the device on which the reader scan is triggered.
OS Version	The version of Android operating system installed on the device where the specific reader scan is triggered.
Total Scan Count	Display the total counts of the specific device’s reader scan during the specified time duration.
Successful Scan Count	Display the total counts of the specific device’s successful reader scan during the specified time duration.
Successful Scan Rate	Display the rate of the specific device’s successful reader scan in percentage during the specified time duration.

Aiming the cursor at the specific point on the chart will pop up a dialog box to respectively show the details about the total counts of the reader scan, the total counts of successful reader scan and the rate of the successful reader scan on the selected date while clicking on the point will display the interconnected information of this date on the Scan Metrics (Successful) Info List.

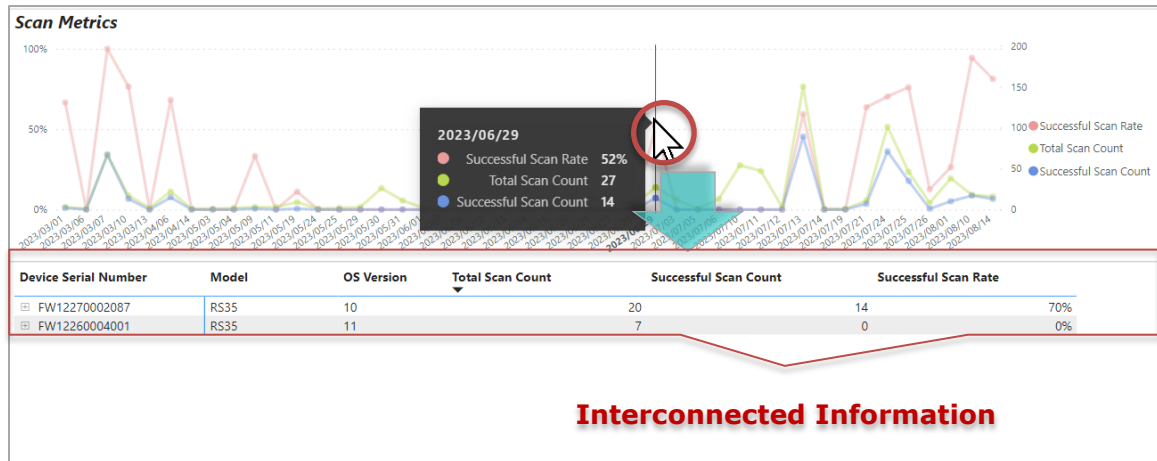


Fig. 3-15 The Detailed Information about Scan Metrics on the Selected Date

For sorting the data within Battery Info List either in ascending or descending order, please refer to [Section 2.2.1 "Data Sorting"](#).

Also refer to [Section 3.6.1 "Filters for Selecting the Data Scope"](#) for more details on the filter tools provided by CAI.

3.8 APPLICATION ANALYSIS

Application Analysis Report records the application crash events to identify what the application crashed and which OS version this crashed application was running on. The line chart consists of a horizontal axis of the date and a vertical axis of the application crash count. The detailed logs are listed below the line chart.

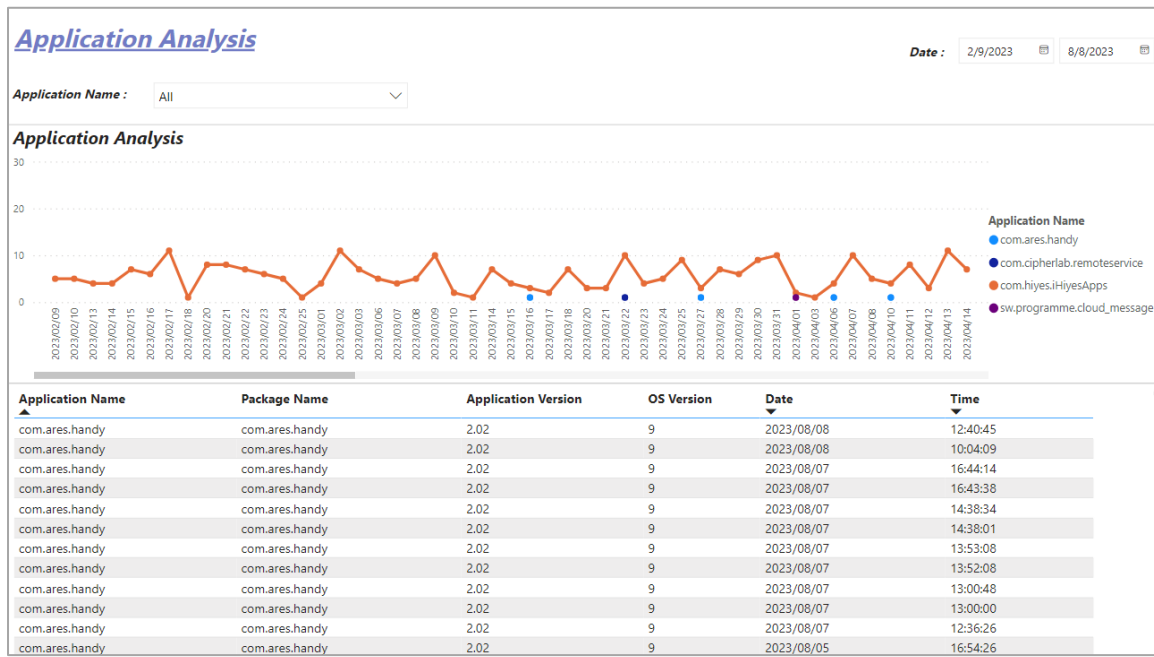


Fig. 3-16 Data Analysis on the “Application Analysis” Worksheet

The Event Logs List records every application crashed events as it took place, and it gives the itemized application information as the table listed below describes:

Table 3-8 Items on Event Logs List

Item	Description
Application Name	The name of the application that the crash event took place.
Package Name	The unique identifier of the Android package associated with the application that the crash event took place.
Application Version	The version of the specific application that the crash event took place.
OS Version	The version of Android operating system installed on the device where the application crashed.
Date	Display the date when the specific application crash event took place.
Time	Display the time when the specific application crash event took place.

Aiming the cursor at the specific point on the chart will pop up a dialog box to show the details about the total counts of the application crash on the selected date while clicking on the point will display the interconnected information of this date on the Application Analysis Event Log List.

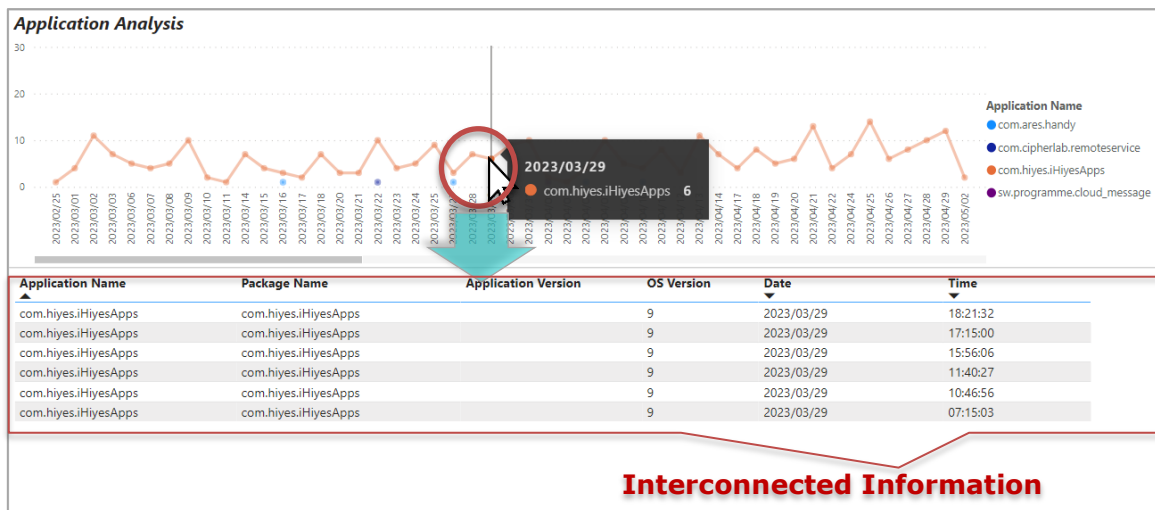


Fig. 3-17 The Detailed Information about Application Crash on the Selected Date

For sorting the data within Battery Info List either in ascending or descending order, please refer to [Section 2.2.1 "Data Sorting"](#).

Also refer to [Section 3.6.1 "Filters for Selecting the Data Scope"](#) for more details on the filter tools provided by CAI.

3.9 READER ERROR

Reader Error Report informs the error causes related to the device reader, including reader failure, SDL failure, other factors and the undetectable causes, which leads to the occurrence of scan failure. The vertical axis of the bar chart is the count that the reader error occurred, and the horizontal axis presents the date. Each bar on the chart represents an error cause, and the event logs are itemized below the bar chart.

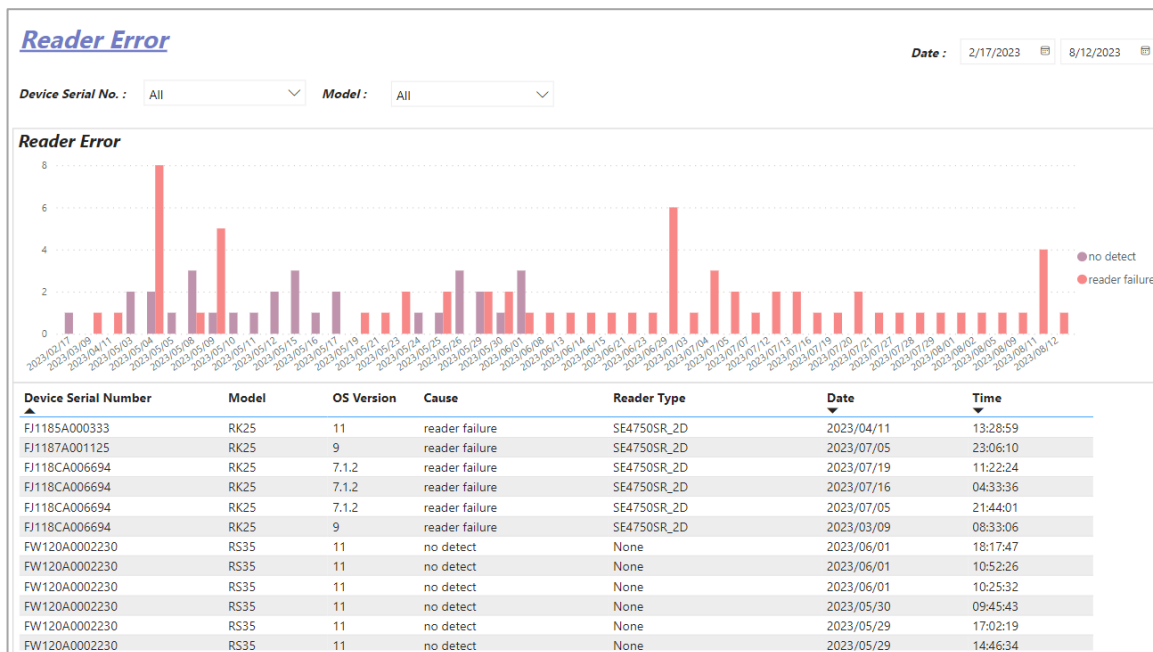


Fig. 3-18 Data Analysis on the “Reader Error” Worksheet

The Event Logs List records every reader error events, and it gives the itemized reader error information as the table listed below describes:

Table 3-9 Items on Event Logs List

Item	Description
Device Serial Number	The serial number of the device on which the specific reader scan failure took place.
Model	The model name of the device on which the specific reader scan failure took place.
OS Version	The version of Android operating system installed on the device where the specific reader scan failure took place.
Cause	Display the reason that the specific reader scan failure is arisen from.
Reader Type	The type of the reader that is equipped with the device where the specific reader scan failure took place.
Date	Display the date when the specific reader scan failure took place.

Time	Display the time when the specific reader scan failure took place.
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Moving the cursor to the specific bar on the chart will pop up a dialog box to respectively show the details about the total counts and the cause of the reader error on the selected date while clicking on the point will display the interconnected information of this date on the Reader Error Event List.

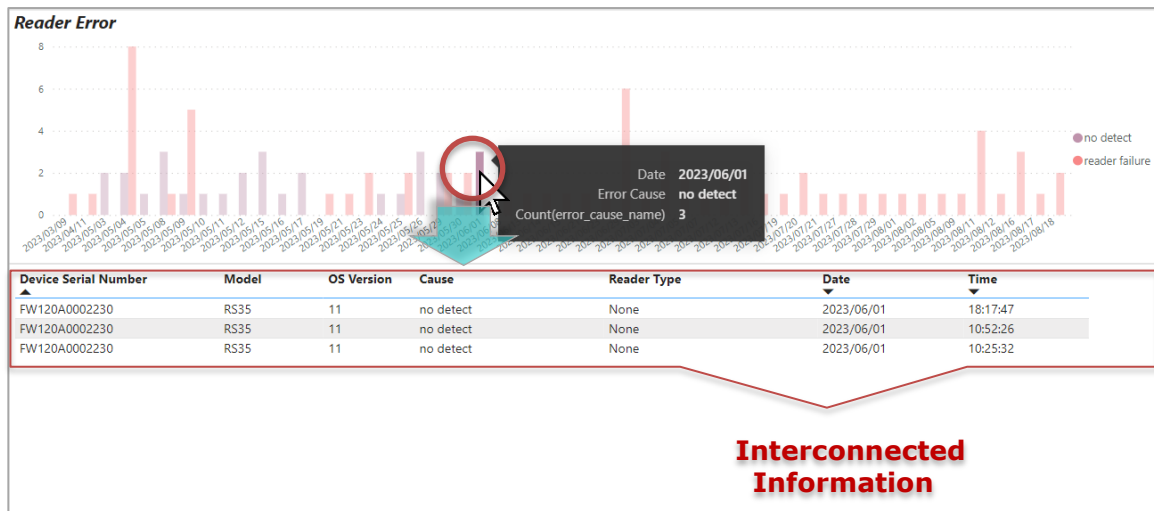


Fig. 3-19 The Detailed Information about Reader Error on the Selected Date

For sorting the data within Battery Info List either in ascending or descending order, please refer to [Section 2.2.1 "Data Sorting"](#).

Also refer to [Section 3.6.1 "Filters for Selecting the Data Scope"](#) for more details on the filter tools provided by CAI.

Chapter 4

WEAK SIGNAL EVENT

With the visualized analysis of WLAN weak signal provided by **Weak Signal Event** functionality, the abnormal status of enrolled devices' network connection can be easily detected by the administrator in order for the prevention of problems arising from the network failure.

4.1 OVERVIEW OF WEAK SIGNAL EVENT

As the table listed below shows, **Weak Signal Event** contains two worksheets, including Dashboard-Weak WiFi and WLAN Weak Signal Report.

Like **Power Management** and **Behavior Event** we previously mentioned, the chart and the list on each worksheet of **Weak Signal Event** are also interrelated. It means they are closely connected and have an effect on the other. The user can set the criteria or directly click on the data of the chart to filter or present the specific data analysis. For more details, refer to the following sections.

Table 4-1 Weak Signal Event Spreadsheets

Worksheet	Description
Dashboard -Weak WiFi	Show the latest status and the analysis of weak WiFi signal events in visualization.
WLAN Weak Signal	The analysis and record of weak WiFi signal events.

4.2 DASHBOARD-WEAK WIFI

Dashboard-Weak WiFi worksheet contains one dashboard in which presents separately the times of event that meets the criterion of WiFi signal strength < -78 (dBm) occurring most often by **Device/Model/OS Version/Build Number/Time/SSID/MAC Address** in visualization, and an event logs list that itemizes the detailed WiFi information with regard to the devices enrolled onto ReMoCloud.

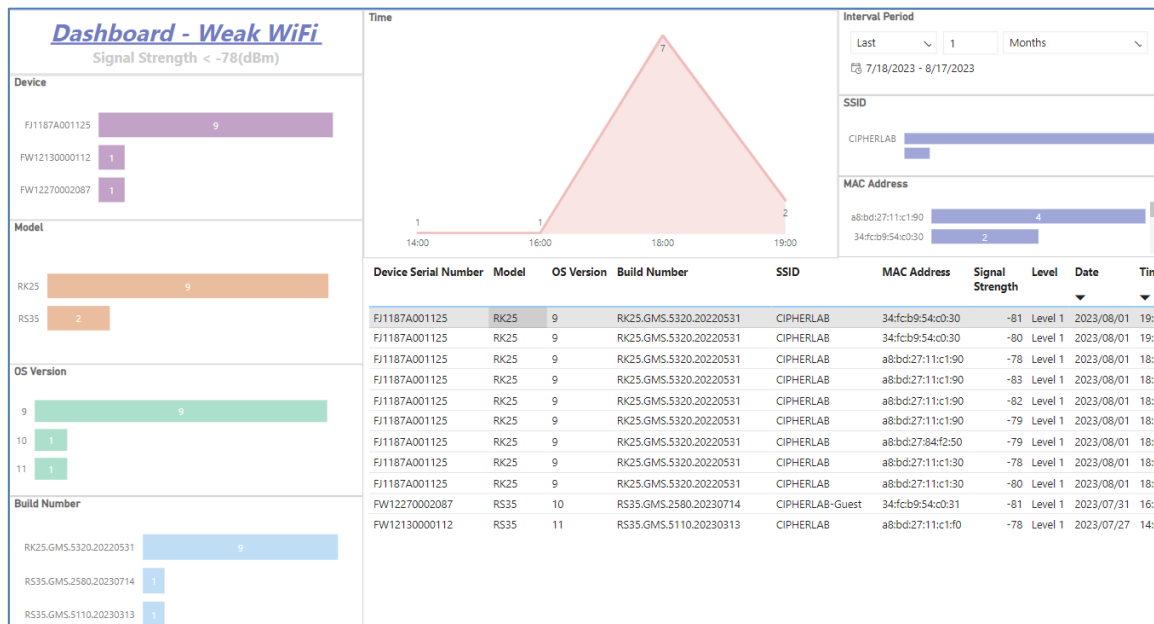


Fig. 4-1 Displays the Latest Weak WiFi Signal Status of the Enrolled Devices

The Event Logs List records every weak WiFi signal event logs as it took place, and it gives the itemized WiFi information as the table listed below describes.

Table 4-2 Items on Event Logs List

Item	Description
Device Serial Number	The serial number of the device on which the specific weak WiFi signal event occurred.
Model	The model name of the device on which the specific weak WiFi signal event occurred.
OS Version	The version of Android operating system installed on the device where the specific weak WiFi signal event occurred .
Build Number	The version number of CipherLab OS image installed on the device where the specific weak WiFi signal event occurred.
SSID	The Service Set Identifier of the Wi-Fi network to which the enrolled devices are connected.

MAC Address	The unique media access control address of the access point that the specific device connects.
Signal Strength	The WiFi signal strength (dBm) of the specific enrolled device.
Level	<p>Display the specific enrolled device's level of WiFi signal strength (dBm). The level ranges from 0~4, and each level of WiFi signal strength stands as follows:</p> <p>Level 0: <-88 dBm Level 1: >=-88 dBm Level 2: >=-77 dBm Level 3: >=-63 dBm Level 4: >=-55 dBm</p>
Date	Display the date when the specific weak WiFi signal event log is generated.
Time	Display the time when the specific weak WiFi signal event log is generated.

Move the cursor to the specific bar or aim the cursor at the specific point on the dashboard, and a dialog box shows up to indicate the detailed information about the selected weak WiFi signal event. The Event Logs List will show the interconnected information by clicking on this bar.

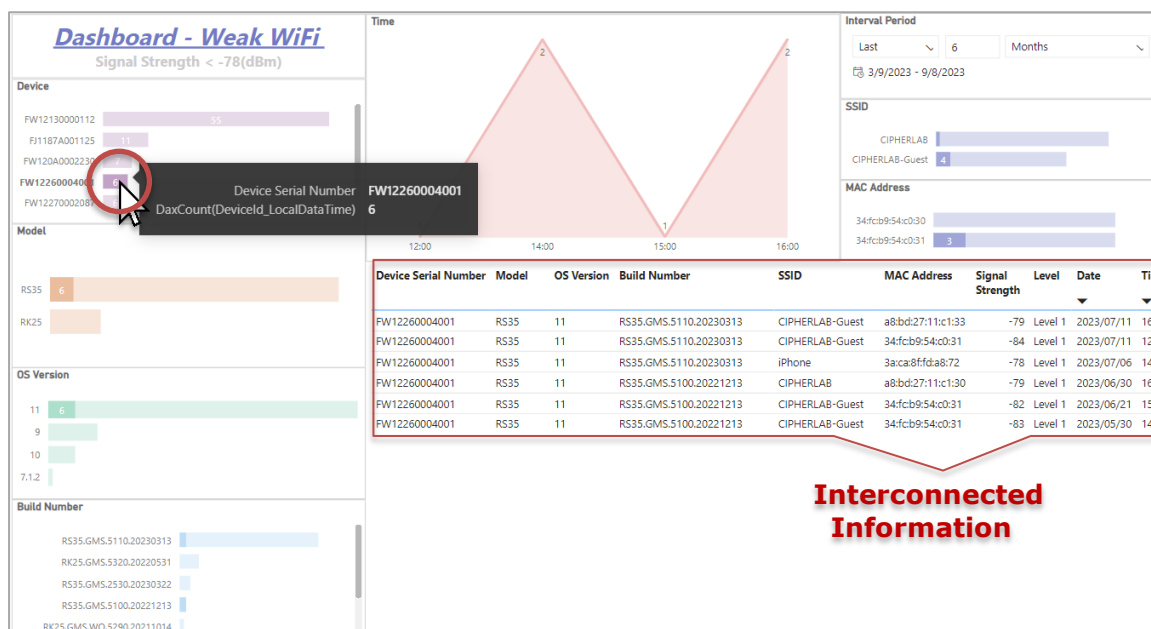


Fig. 4-2 The Detailed Information about the Weak WiFi Signal Event of the Selected Device

For sorting the data within Event Logs List either in ascending or descending order, please refer to [Section 2.2.1 “Data Sorting”](#).

For more details on the settings of interval period, also refer to [Section 2.6.1 “Interval Period”](#).

4.3 WLAN WEAK SIGNAL

WLAN WEAK SIGNAL Report records the weak WiFi signal event when the signal strength of the enrolled device(s) is lower than -78 dBm (or < -78 dBm). It conveys the data in a scatter plot composed of dots in different colors and sizes to express the level of WiFi signal strength and the total counts of the weak WiFi signal events occurred, and a list of event logs to record the details of each weak WiFi signal event.

In the scatter plot, the vertical axis shows the level of WiFi signal strength, and the horizontal axis presents the date as well as the time. The bigger the dot is, the more times of the weak WiFi signal event occurred. For more details on the list of event logs, you may refer to [Section 4.2 "Dashboard-Weak WiFi"](#).

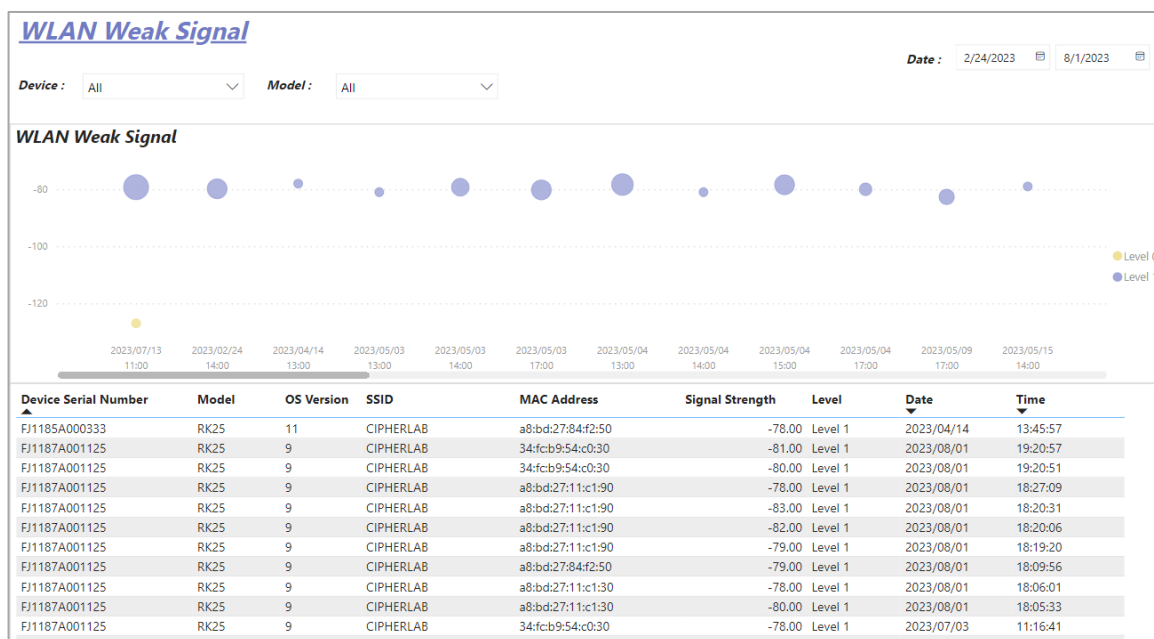


Fig. 4-3 Data Analysis on the "WLAN Weak Signal" Worksheet

Move the cursor to the specific dot on the scatter plot, and a dialog box shows up to indicate the detailed information about the selected weak WiFi signal event. The Event Logs List will show the interconnected information by clicking on this dot.

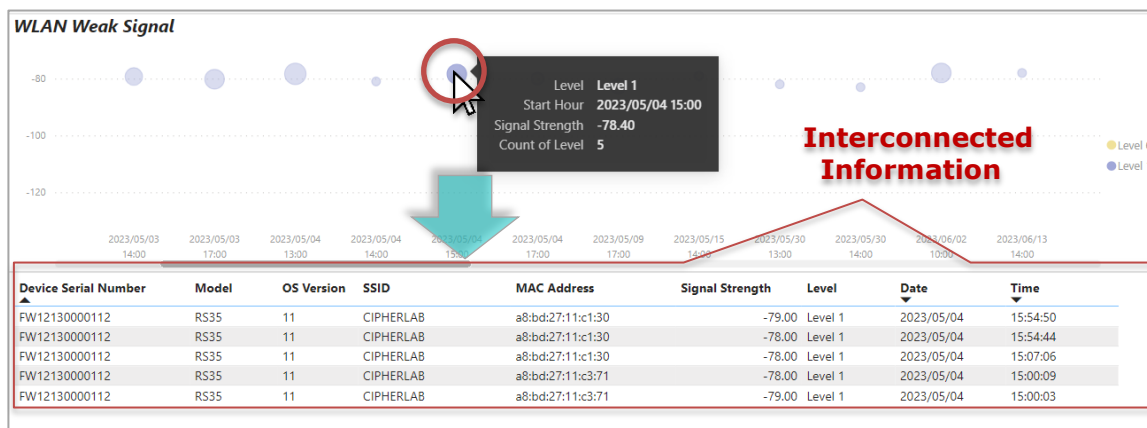


Fig. 4-4 The Detailed Information about the Weak WiFi Signal Event on the Selected Date

For sorting the data within Event Logs List either in ascending or descending order, please refer to [Section 2.2.1 "Data Sorting"](#).

Also refer to [Section 3.6.1 "Filters for Selecting the Data Scope"](#) for more details on the filter tools provided by CAI.