




## RantCell Pro App Solution for Mobile Networks

**RANTCELL**  
**PRO ANALYTICS**  
ONLY APP IN THE WORLD TO TRANSFORM YOUR SMART PHONE INTO MOBILE NETWORK DRIVE TEST TOOLS. GET A TRUE BENCHMARK PERFORMANCE OF MOBILE NETWORK ON RANTCELL PRO ANALYTICS. A SMART SOLUTION TO TEST YOUR CELLULAR NETWORK ON LARGE SCALE.

**DOWNLOAD**  
OUR RANTCELL TESTING APP FOR FREE ON PLAY STORE



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[https:// www.rantcell.com](https://www.rantcell.com)  
Email:[support@rantcell.com](mailto:support@rantcell.com)



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## I. Introduction:

### Product Description: Network performance tool for android.

Mobile operators and the services offered over their network goes through a strict scrutiny everyday as mobile phone users' expectations has raised to a new level. Operators need to have a sense or measure of inadequacies of the network beforehand and be prepared to work upon the fixing the problems even before customers experience or complain about it.

In this kind of a scenario it's very important for operators to be ahead of the game and the best way to accomplish it is by having a real time sense of the "Mobile experience" of a user. One stop solution for these challenges is "Mobile Subscriber Experience Software".

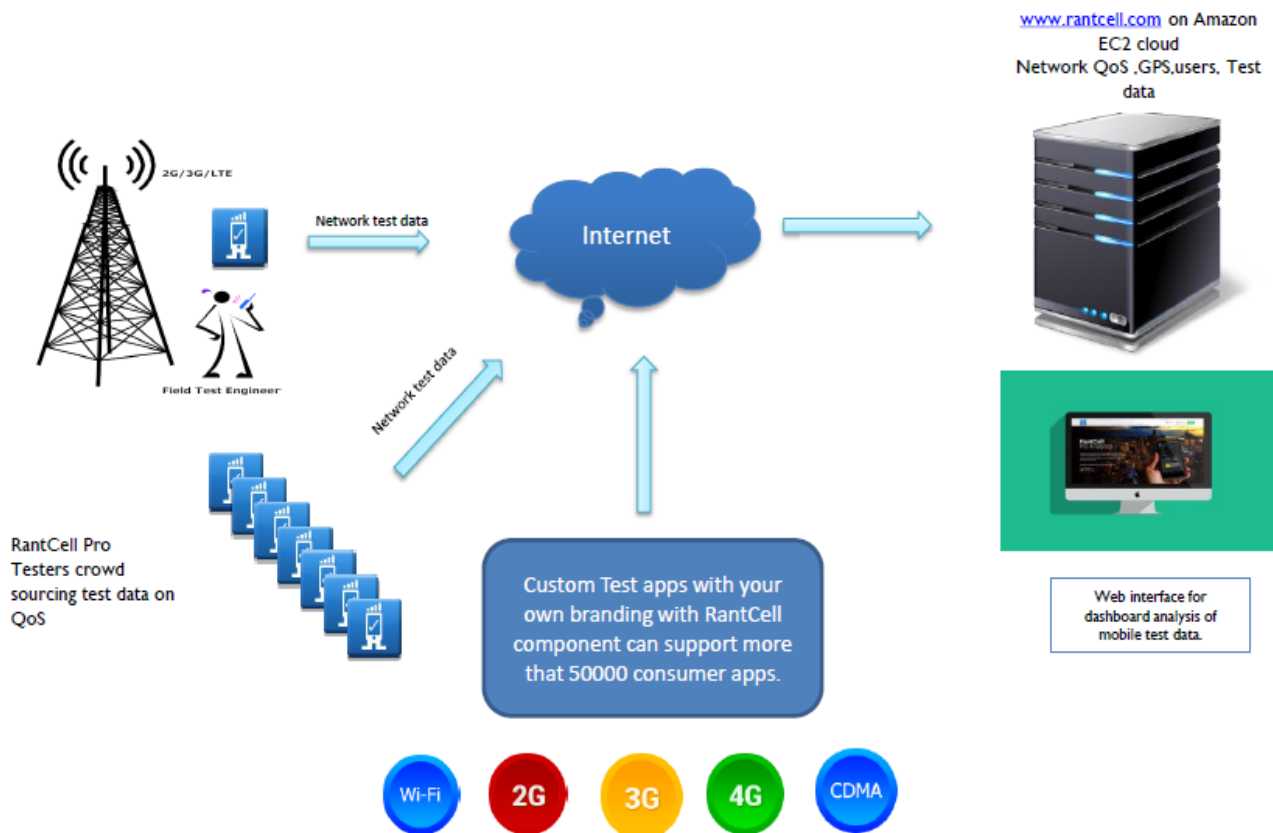
RantCell is a top notch Mobile Subscriber Experience Software which helps Mobile operators to measure the Quality of Service their network is offering to its customers. RantCell is a revolutionary application as it minimizes the operational costs involved to test a network to a great extent.

RantCell is a true network benchmark tool for telecom operators, small cell and field test engineers to check network performance and also to measure the key performance indicators (KPI) such as Ping test, data speed and Voice call test of 2G,3G, 4G (LTE),Wi-Fi and CDMA Networks. RantCell includes everything needed to test network coverage, performance and Signal quality. A smart way to test your cellular network on large scale.

RantCell Cloud Analytics is a service offered for RantCell users who can check the test results performed using RantCell App on Rantcell.com in various graphs views and also provides specific data related to tests performed for analysis.

## What is RantCell?

App can transform your smart phone into mobile network drive test device. It is a true network benchmark tool for telecom operators, small cell and field test engineers to check network performance and also to measure the key performance indicators (KPI) such as Ping test, data speed and Voice call test of **2G,3G, 4G (LTE),Wi-Fi and CDMA** Networks. RantCell includes everything that you need to test network coverage, performance and Signal quality. Get a true benchmark performance of mobile network on RantCell Pro Analytics. A smart way to test your cellular network on large scale





## II.Key Features& Functions:

### Features of RantCell Pro App

- ✓ Can be installed on any Android Smartphones
- ✓ Quick to download, install and simple to use which is available on Google Play Store
- ✓ Perform long repetitive tests of Speed test, Ping test and Voice call test
- ✓ Test your network's call performance, data speeds, Packet drops and latency and Voice call setup time
- ✓ Capture vital information about mobile network operator name and mobile network parameters such as MCC, MNC, Cell ID, LAC, RSSI (signal strength), RSRP, RSRQ, PCI and PSC
- ✓ **Location based analysis included through drive test**
- ✓ Ability to customize time interval between tests, the number of ftp connections and number of iterations
- ✓ Logs map information while running tests
- ✓ Graphical representation of the test results
- ✓ Maintains history of test results data
- ✓ Can Send logs to developer
- ✓ Perform data analysis by exporting the test results to CSV format and share it on e-mail
- ✓ Can compare network performance with other competitor Operators



## Features of RantCell Cloud Analytics:

- ✓ **RantCell Cloud Analytics** provides a great platform to analyse test results performed over various mobile networks
- ✓ RCA helps in graphical representation test result data through Pie chart, Bar graph, Table view and Map view
- ✓ Real time tracking capability of multiple test devices
- ✓ RCA dashboards gives historical views of tests performed and build a mobile network footprint. Variations thus observed between tests results and time conducted mobile operators can foresee their area of opportunities and address them on real time basis.
- ✓ Map View coverage can check performance network coverage, signal strength, download speed and upload speed etc.
- ✓ Users can also perform competitor analysis on network speeds, coverage maps, RAN technology, latency etc.
- ✓ Remote test feature which can enable users to manage tests remotely located devices



## RantCell

### Installation of RantCell Pro App:

#### Installation Requirements

Android based Smartphone  
Android OS Version 2.3 or higher

#### Download and Install from Google play store

- Step 1: Tap on Install on the RantCell app on Google play store
- Step 2: Please read through the "Terms of service" and "Accept".
- Step 3: Register using "Sign up" to reach RantCell.com registration page
- Step 4: Fill all mandatory fields to register

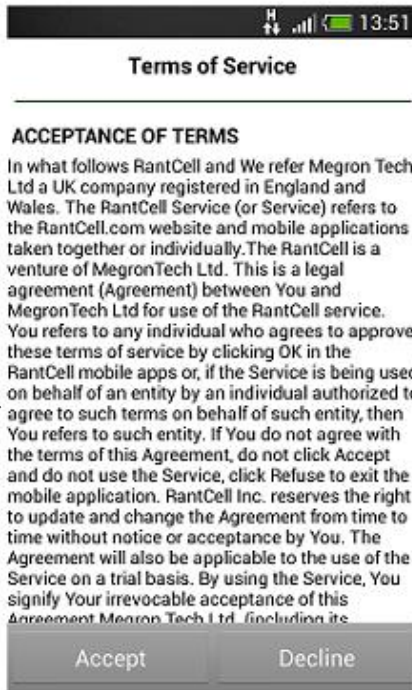
Note: If multiple attempts to register fails please contact us at [support@rantcell.com](mailto:support@rantcell.com)

## Installation Steps

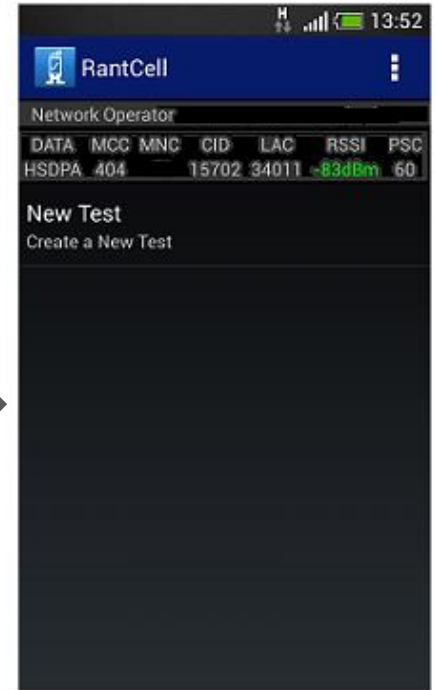
Select Install



Read terms and Select Accept



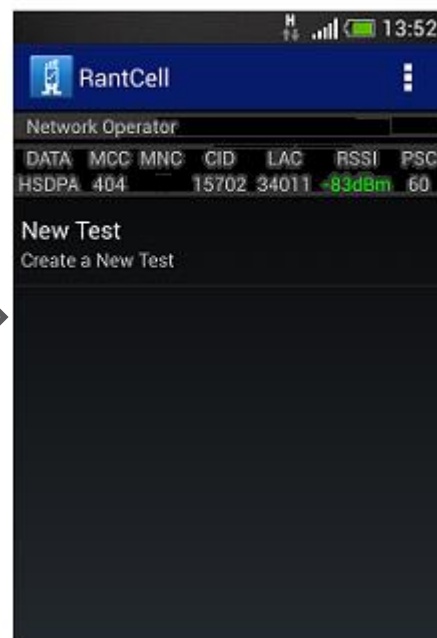
Home Screen of App



After entering details, Tap Signup



Home Screen of App



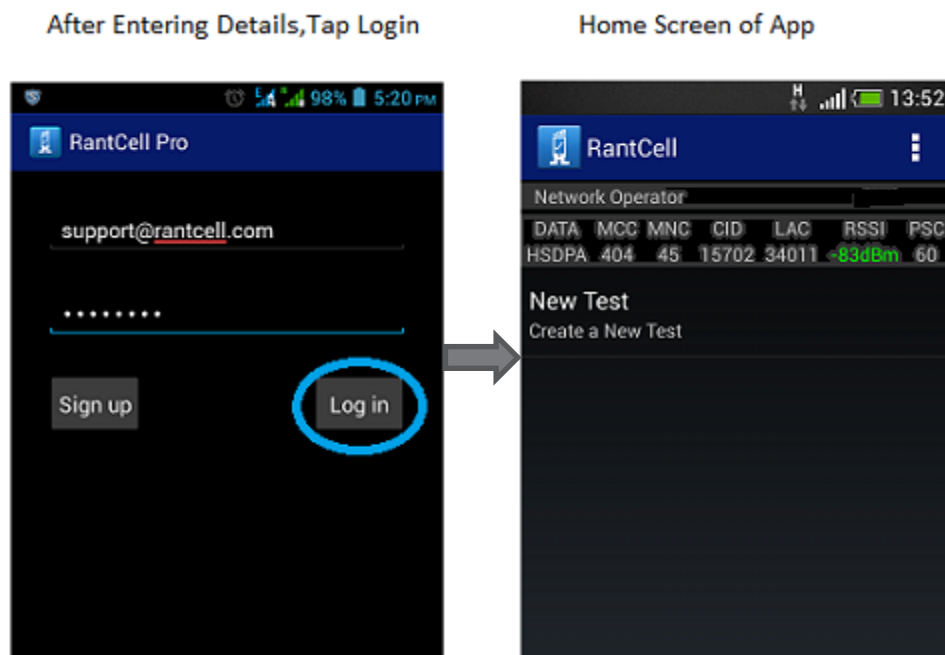


## Login to RantCell Pro App

If you are already an existing user please follow the steps below:

- Launch the RantCell Pro App to see the login screen.
- Please enter the username or mail id and password to login.

### Login Process





### III.App DashBoard:

#### Create a New test on RantCell App:

User needs tap to on “Create a New Test” to run various tests individually or in combination. The tests listed are Ping test, Speed test and Call test. Following part explains how to configure these tests.

#### About Ping Test

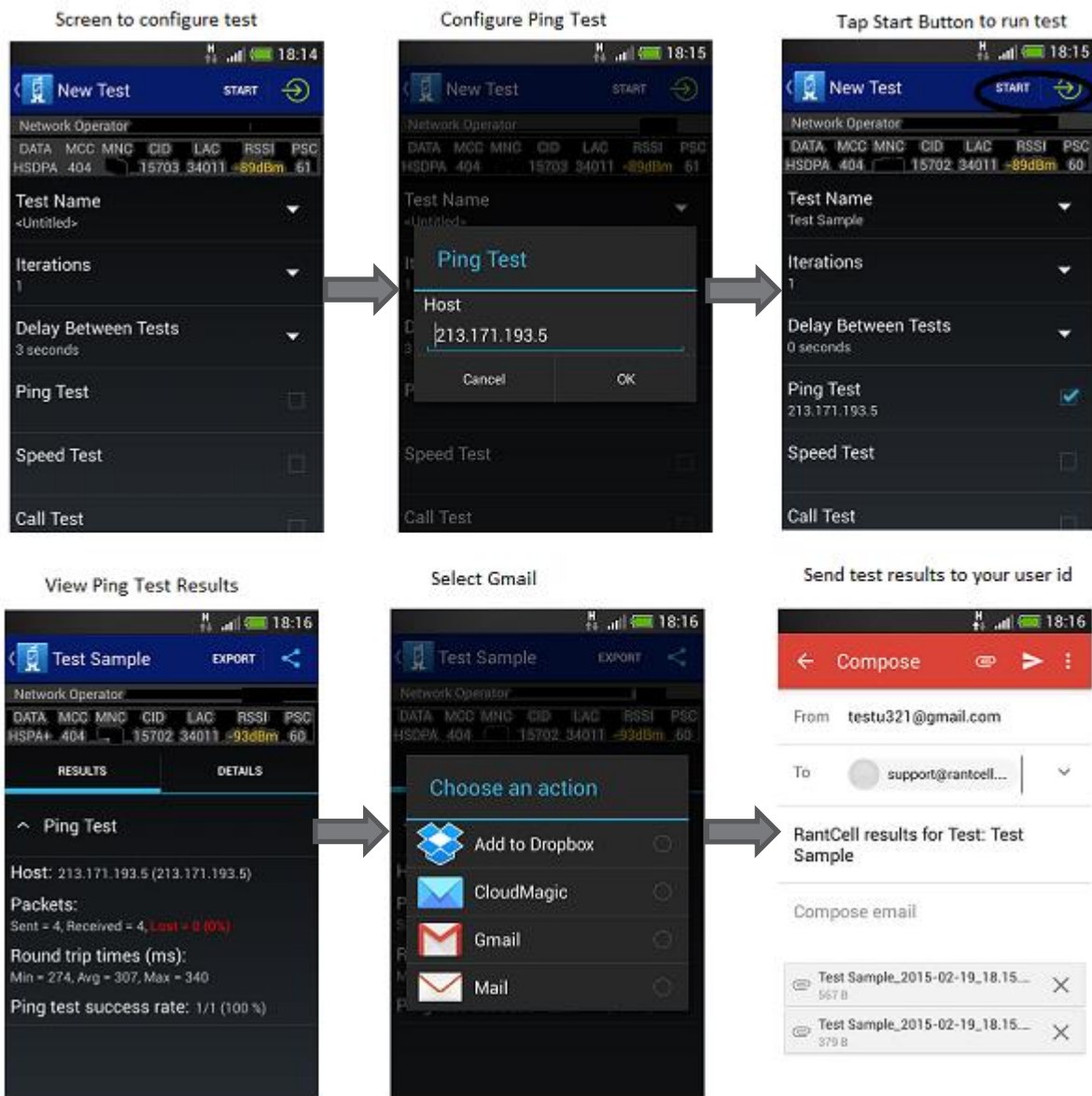
Ping test measurement tells how long it takes for a "packet" of data to travel from your computer to a server on the Internet and back. Whenever you experience delayed responses in Internet applications - it would be due to a higher than desired **ping**. Similar to packet loss, lower is better when it comes to **ping**. Ping test is measured in milliseconds (ms).

#### How to Configure Ping Test and view results

- Step 1: Select new test and enter test name ,iterations(Number of test cycles) and “Delay Between tests”,you can change it according to your requirement.
- Step 2: Configure ping test where you can change host IP Address if needed.
- Step 3: Select the start test and turn on GPS which helps to know location of device.
- Step 4: Check the test results and its details

Then user can login to rantcell website and analyse the test results in many different views. Can also do more tests and analyse with competitor network.

## Configuration of Ping Test





## About Speed Test:

Speed Test measures your connection speed in Mbps, meaning Megabits per Second.

The **Download speed** is how fast you can pull data from the server. Most connections are designed to download much faster than they can upload as the majority of online activity is loading web pages or streaming videos. Download speed is measured in megabits per second (Mbps).

The **Upload speed** is how fast you send data from you to others. Uploading is necessary for sending big files via email, or in using video-chat to talk to someone else online (since you have to send your video feed to them). Upload speed is measured in megabits per second (Mbps).

## How to configure speed test and view results

**Step 1:** Select new test and enter test name ,Iterations(Number of test cycles) and Delay Between tests,you can change it according to your requirement.

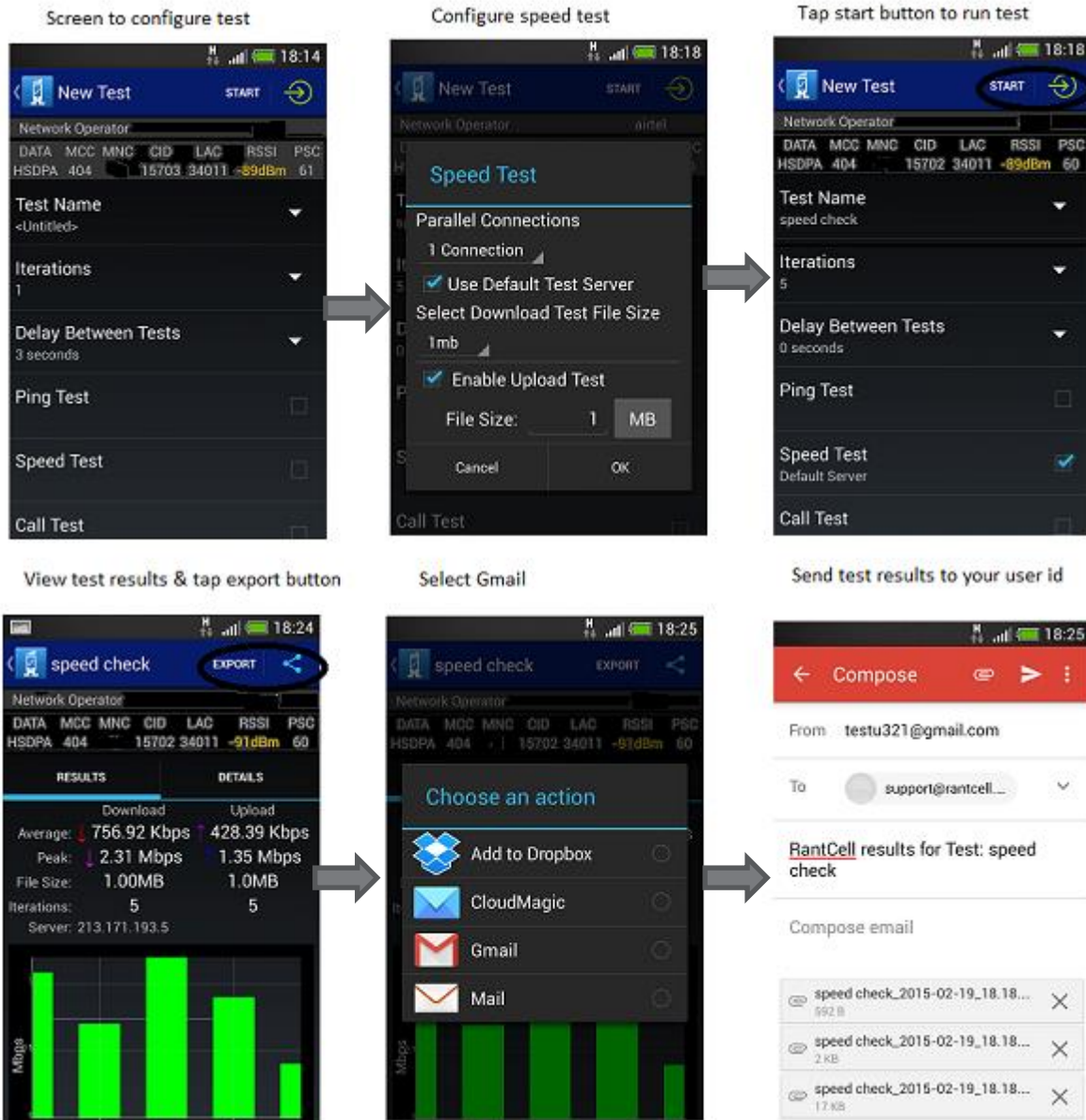
**Step 2:** Configure speed test by changing number of parallel connections, enter your own FTP server if needed, alter download and upload file size as per the requirement which is set to 1mb by default

**Step 3:** Select the start test and turn on GPS which helps to know location of device.

**Step 4:** Check the test results and its details

Then user can login to rantcell website and analyse the test results in many different views. Can also do more tests and analyse with competitor network.

## Configuration of Speed Test





## About Call Test:

Call test measures your call setup time, Dropped calls and call success rate.

### How to configure call test and view results

**Step 1:** Select new test and enter test name ,iterations(Number of test cycles) and Delay Between tests,you can change it according to your requirement.

**Step 2:** Configure call test by entering your B-Party number and Call duration time.

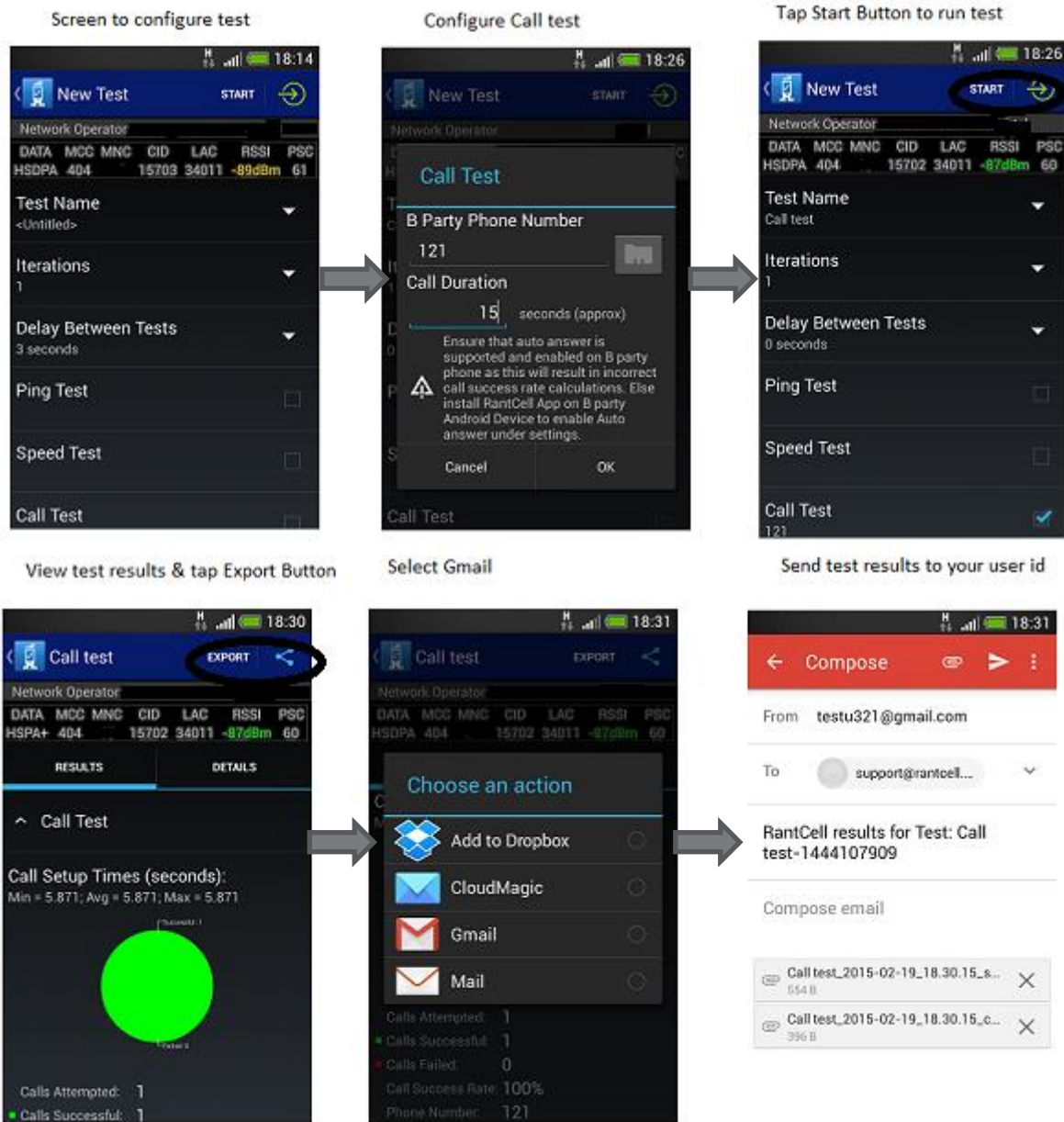
**Step 3:** Select the start test and turn on GPS which helps to know location of device.

**Step 4:** Check the test results and its details

Note: In order to obtain accurate Call test results for calculation the B-party needs to have their auto answer option enabled or have RantCell app installed to enable auto answer under settings.

Then user can login to rantcell website and analyse the test results in many different views. Can also do more tests and analyse with competitor network.

## Configuration of Call Test





## All Test:

Using RantCell pro we can perform Ping test, Speed test and Call test simultaneously.

### How to configure All tests and view results

Step 1: Select new test and enter test name ,Iterations(Number of test cycles),Delay Between tests.

Step 2: Configure ping test where you can change host IP Address if needed.

Step 3: Configure speed test by changing the number of parallel connections and option to enter your own FTP server if needed.

Step 4: Configure Call test and enter your B-Party number and Time limit.

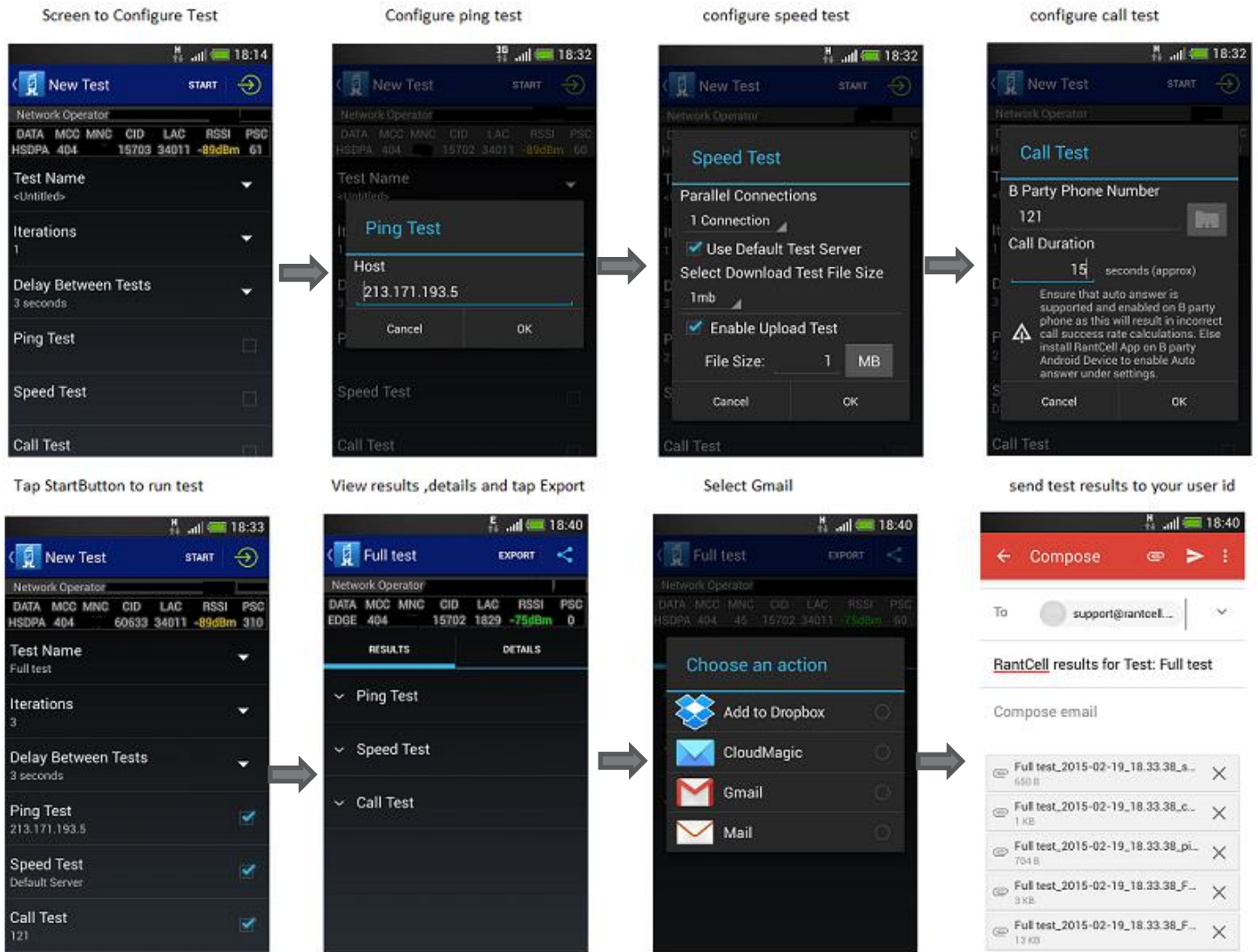
Step 5: Select the start test and turn on GPS which helps to know location of device.

Step 6: Check the test results and its details

Then user can login to rantcell website and analyse the test results in many different views. Can also do more tests and analyse with competitor network.



## Configuration of All Tests



## Repeat Test :

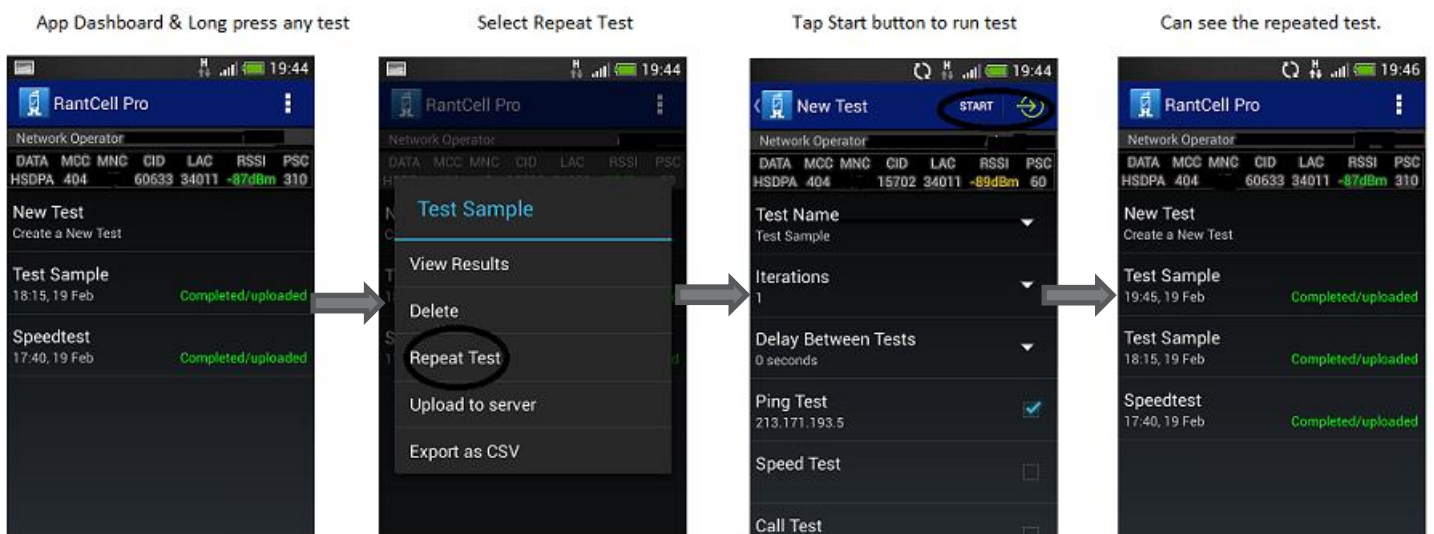
Repeat test will help users in running the same tests again which has already been configured and performed the user already. The test run could be a single test or a combination of multiple tests.

### How to perform Repeat test and view results

Step 1: Press and hold any test that has been performed already until the menu pops-up.

Step 2: In the pop-up menu select Repeat Test to run the same test which can be a single test or combination of more than one test and select Start.

### Steps to Repeat Test



## Delete Test:

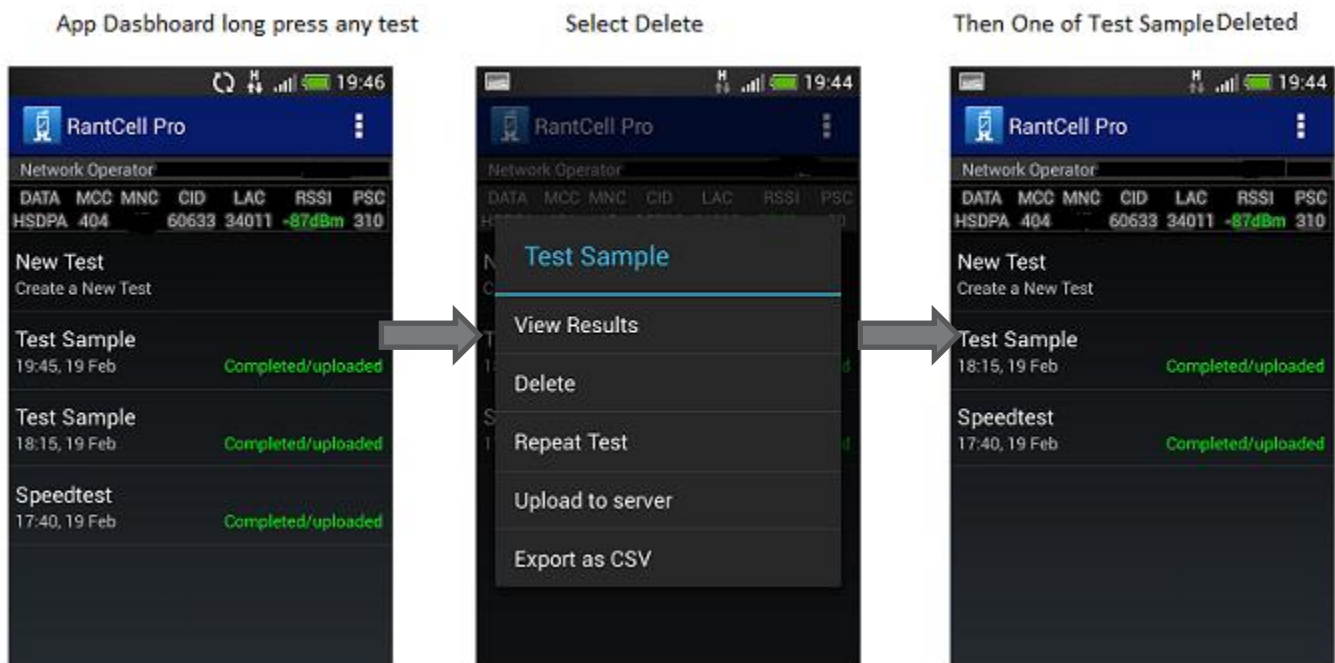
Delete test will help users to delete the test already performed on a given device individually.

### How to Delete test

Step 1: Press and hold any test that has been performed already until the menu pops-up.

Step 2: In the pop-up menu select Delete Test.

### Steps to Delete test



## Export Test Results:

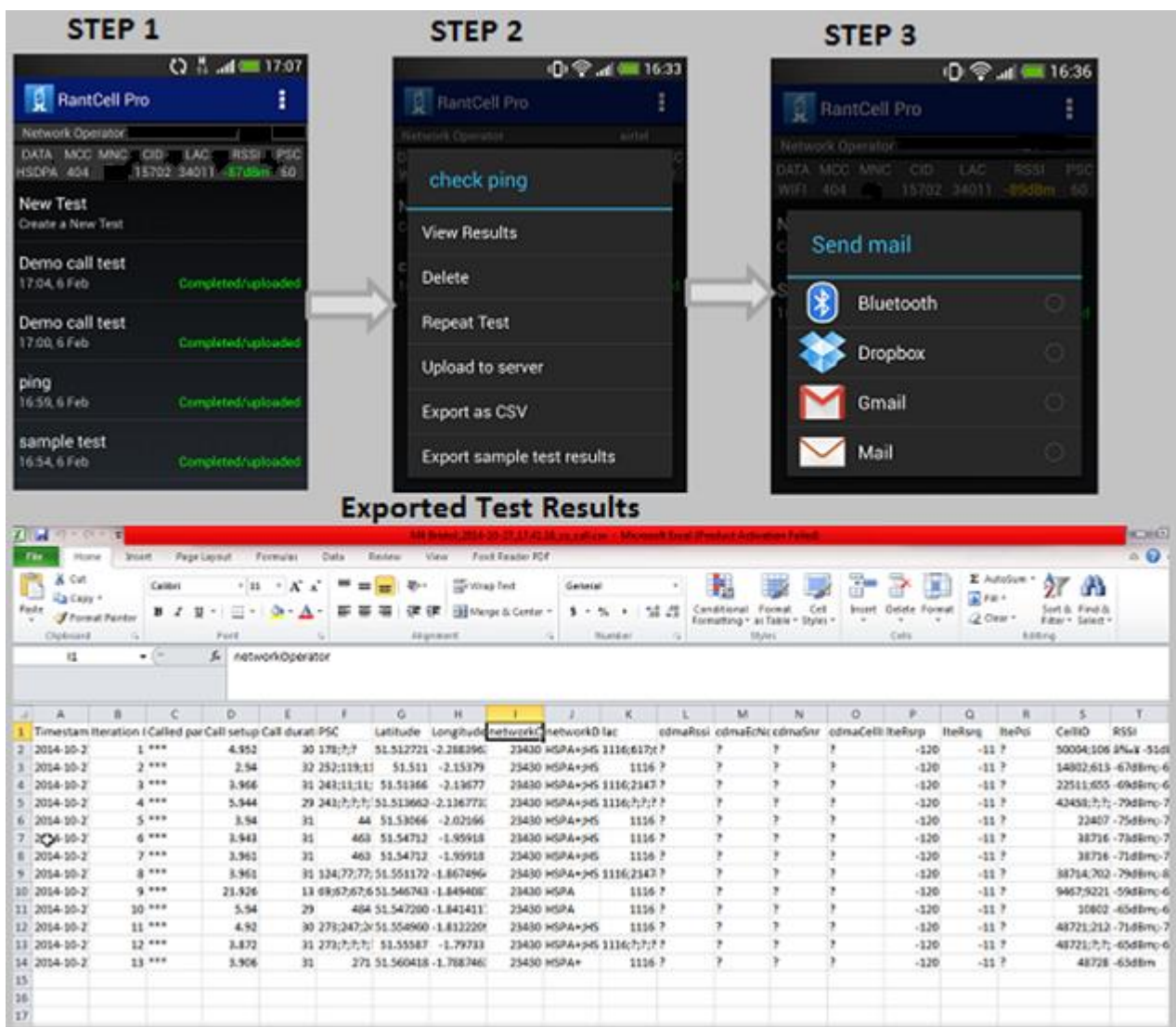
Exports test results helps users in exporting their Test results to CSV format and sent to any desired email id.

### How to Export test results

Step 1: Press and hold any test that has been performed already until the menu pops-up.

Step 2: In the pop-up menu select Export to CSV and then Mail (or Gmail) to receive test results in mail in CSV format for analysis.

### Procedure to Export Test Results to CSV



**STEP 1**

**STEP 2**

**STEP 3**

**Exported Test Results**

Timestamp	Iteration	Called	par	Call setup	Call durat	PSC	Latitude	Longitude	networkID	networkID tac	cdmaRssi	cdmaEcN	cdmaSnr	cdmaCell	lteRup	lteRsq	lteRsr	CellID	RSSI			
2014-00-2	1	***		4.952	30	178;7;7	51.512721	-2.288396	23430	HSPA+	+945	1116	?	?	?	-120	-11	?	50004	106	848	-55db
2014-00-2	2	***		2.54	32	252;119;11	51.5111	-2.15379	23430	HSPA+	+945	1116	?	?	?	-120	-11	?	14802	615	-678	6m
2014-00-2	3	***		3.966	31	243;11;11	51.51386	-2.13677	23430	HSPA+	+945	1116	2143	?	?	-120	-11	?	22511	655	-698	6m
2014-00-2	4	***		5.944	29	243;7;7;7	51.513662	-2.13677	23430	HSPA+	+945	1116	7;7;7	?	?	-120	-11	?	43458	7;7	-798	6m
2014-00-2	5	***		3.54	31		44	51.53066	-2.02166	23430	HSPA+	+945	1116	?	?	-120	-11	?	23407	-758	6m	-7
2014-00-2	6	***		3.943	31		463	51.54732	-1.95918	23430	HSPA+	+945	1116	?	?	-120	-11	?	38716	-738	6m	-7
2014-00-2	7	***		3.961	31		463	51.54732	-1.95918	23430	HSPA+	+945	1116	?	?	-120	-11	?	38716	-718	6m	-7
2014-00-2	8	***		3.961	31	124;77;77	51.551172	-1.867496	23430	HSPA+	+945	1116	2143	?	?	-120	-11	?	38714	702	-798	6m
2014-00-2	9	***		21.926	13	68;52;67;6	51.546743	-1.849408	23430	HSPA		1116	?	?	?	-120	-11	?	9467	9221	-598	6m
2014-00-2	10	***		5.94	29		484	51.547200	-1.841411	23430	HSPA		1116	?	?	-120	-11	?	10802	-658	6m	-6
2014-00-2	11	***		4.92	30	273;247;2	51.554960	-1.812209	23430	HSPA+	+945	1116	?	?	?	-120	-11	?	48721	212	-718	6m
2014-00-2	12	***		3.872	31	273;7;7;7	51.55587	-1.79733	23430	HSPA+	+945	1116	7;7;7	?	?	-120	-11	?	48721	7;7	-658	6m
2014-00-2	13	***		3.906	31		271	51.560418	-1.708746	23430	HSPA+		1116	?	?	-120	-11	?	48728	-658	6m	

The above picture shows the format in which the data would be available when opened with MS Excel.

## IV.App Menu:

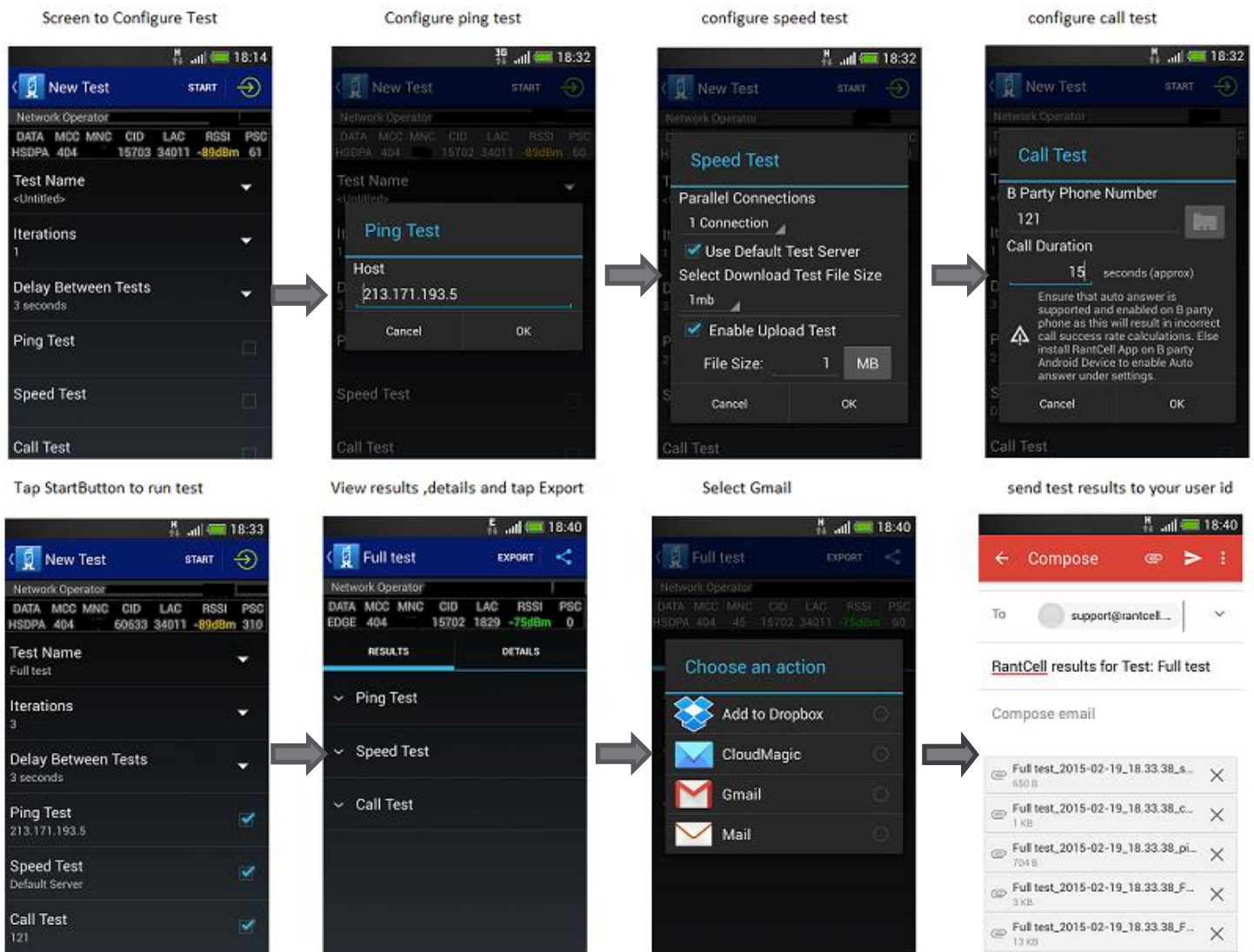
### New Test:

New test available on App menu does the same task as “Create New test” available on App home page.

#### How to use New test

Step 1: Tap on the App menu available and from the list select New test.

Step 2: Select the test or combination of tests that needs to be performed. Refer to the articles about Ping test, Speed test, Call test and All test to find the detailed description to run the tests.



## Settings:

### Auto-Answer calls:

Auto-Answer calls is used to answer the call automatically while doing call test. Please note once enabled this will auto answer all incoming calls.

### Enable/Disable GPS Logging:

Enable GPS is used to capture the current location of device while testing the RantCell pro application. If disabled GPS location of the device would not be captured. Hence, its advisable to enable GPS logging whenever the user runs the tests.

Its recommended to select GPS only for accurate drive test results

### Enable Share Data:

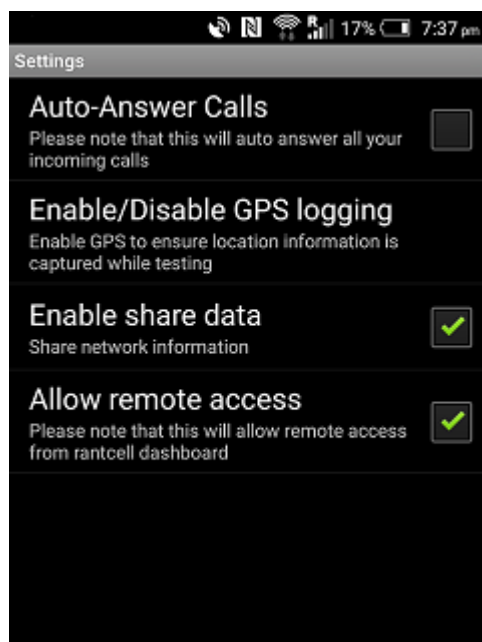
Enable share data helps in capturing the test results and all the related data when tests are run on real time basis. The data thus captured can be accessed by logging into RantCell.com with the registered username and password.

**Note: If Enable share data is disabled no data will get transmitted from the user's device to the RantCell Cloud Analytics and thus no data would be available for dashboard analysis.**

### Allow Remote Access:

Enabling remote access helps user to perform Remote Test from RantCell dashboard.

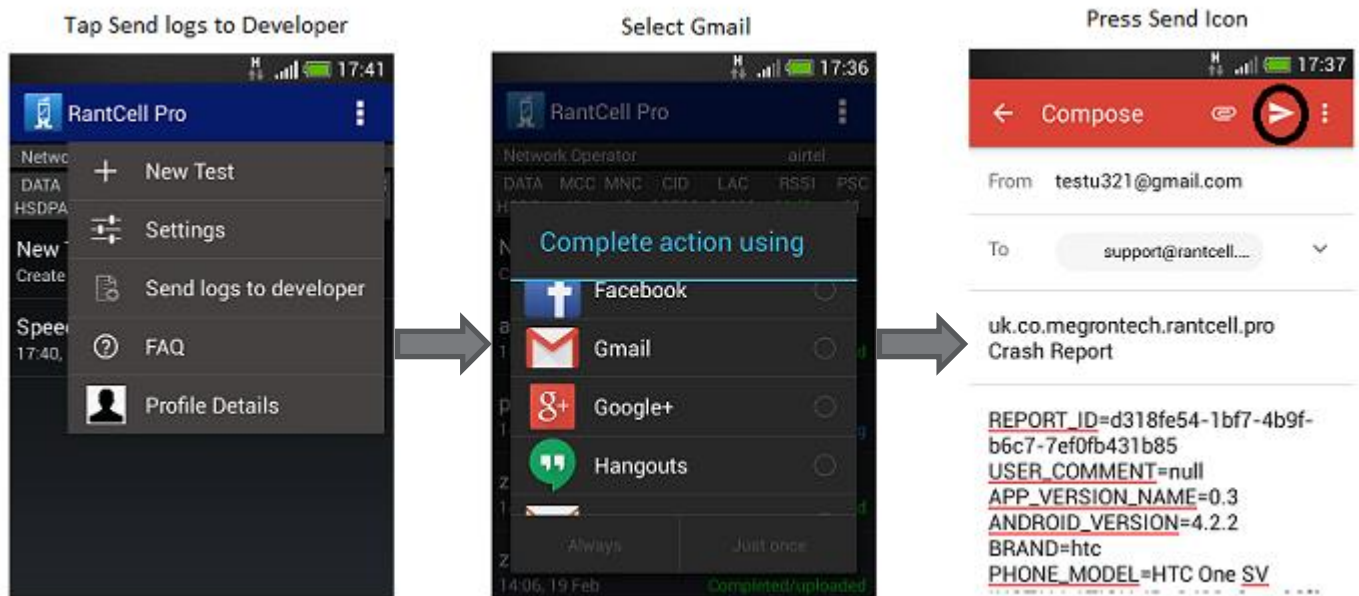
**Note: If Allow remote access is disabled then user will not able to remote test from RantCell dashboard.**



## Send Logs to Developer:

Send Logs to Developer empowers the users to contact our support team in case of any trouble or application crash via email. Select Send logs to developer from the App menu and then e-mail to send the logs. Users can also send their queries and suggestions via mail to [support@rantcell.com](mailto:support@rantcell.com)

### Steps to Send Logs to Developer



## FAQ:

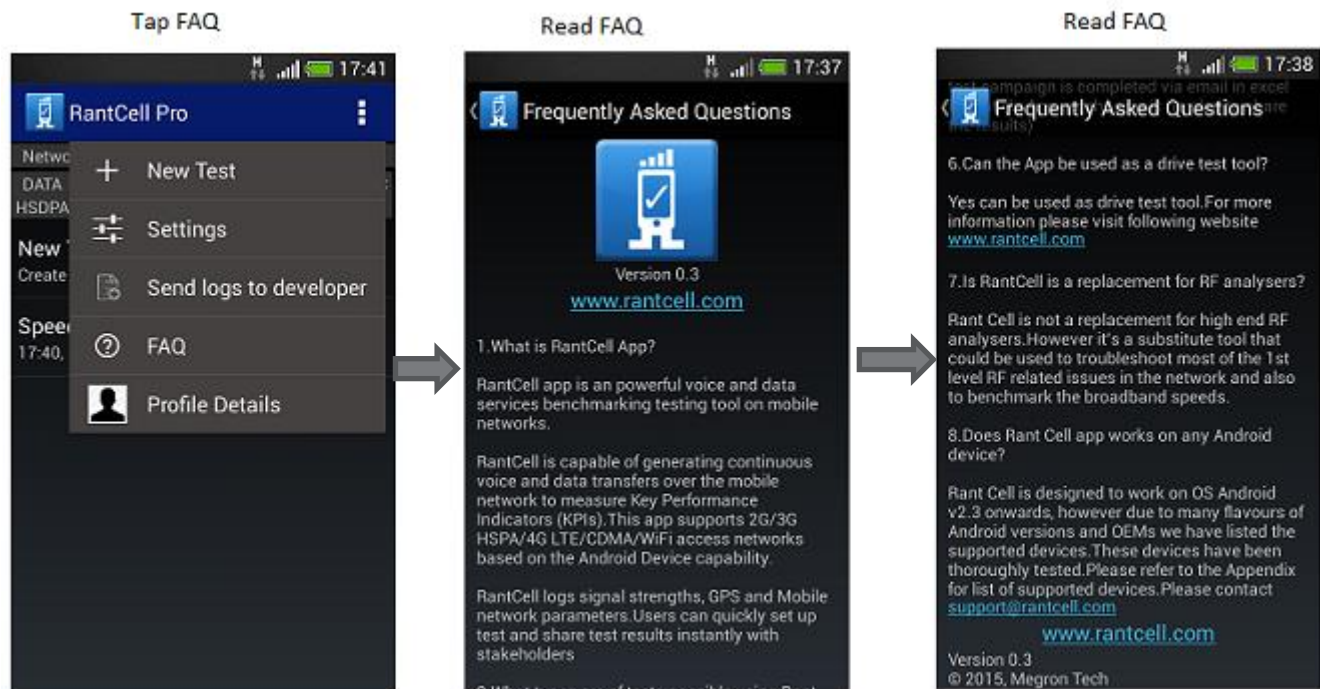
Frequently asked questions is made available on the App menu for users to know basic details about RantCell which includes:

What does the app do?

Why Users or Network operators or Field Engineers should use the App?

Select the App menu and then FAQ to read details about the application. Users can also connect to the dashboards in mobile browser. Check the below figure.

## FAQ







## RantCell Cloud Analytics

RantCell Cloud Analytics provides users to access test results data enriched with various graphs, tables and Map views, which can be used for further analysis. Using RantCell Cloud Analytics users can track the tests being performed on real time basis and features like remote test enables a Field service Engineers to perform test sitting at their desks.

### System requirement and Bandwidth requirement

Must have Android device which has OS version higher than 2.3 to support RantCell devices

### Supporting Browser:

- Google Chrome Browser
- Mozilla Firefox
- Internet Explorer
- Apple Safari
- Opera

### Register into RantCell Account

Step 1: Go to [www.rantcell.com](http://www.rantcell.com) and select login button

Step 2: Enter mandatory fields and will get activation link to email account.

Step 3: To access RantCell Test analytics user need to RantCell payment subscription, please check the procedure below



## Sign Up

**First Name \***

**Last Name \***

**Email \***

**Password \***

**Confirm Password \***

**Country \***

**Company \***


**Address**

**PostCode/Pincode \***

**Mobile**

**\* Required**

I agree to the [Terms of Use](#)

I'm not a robot  [Privacy](#) [Terms](#)



## Payment Process:

PayPal is the web's most secured and most used payment service is integrated with RantCell account. After successful registration, it will redirect to RantCell Payment subscription page and then do subscription of any device plan. After Successful payment, user will get confirmation mail and then can access RantCell dashboard.

**Choose your subscription plan.**

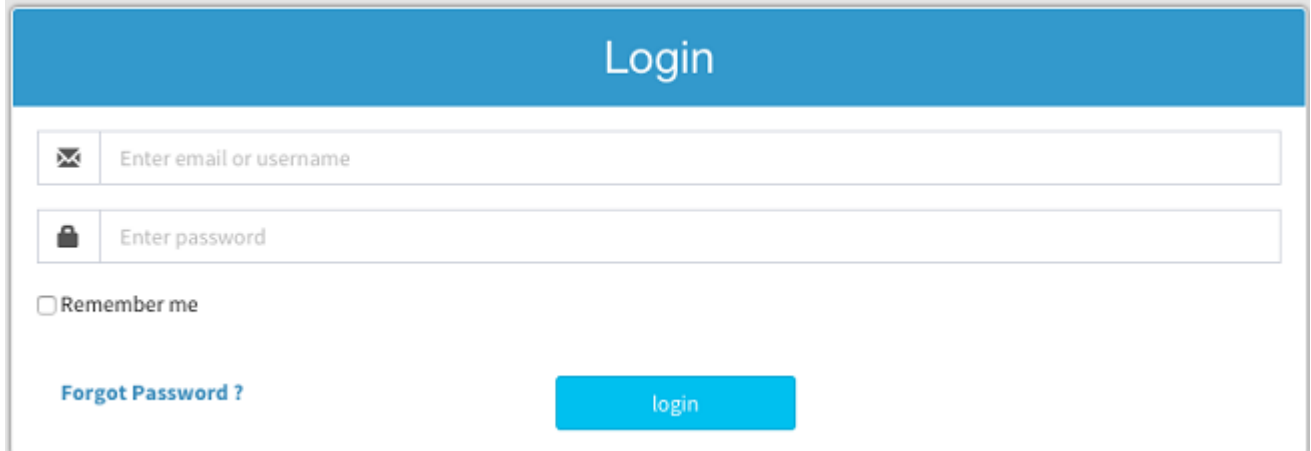
<input type="radio"/> <b>Pro for 1 device</b> £12/month – 25 hrs testing hours per month and Unlimited access to dashboard/reports (Suitable for low testing usage) Access to 1 device From web, desktop or mobile devices	<b>£12 /month</b>
<input type="radio"/> <b>Pro for 2 devices</b> £18/month – 50 hrs testing hours per month and unlimited access to dashboard/reports (Suitable for low testing usage) Access to 2 devices From web, desktop or mobile devices	<b>£18 /month</b>
<input type="radio"/> <b>Pro for 3 devices</b> £24 /month- 75 hrs testing hours per month and unlimited access to dashboard/reports (Suitable for moderate testing requirements) Access to 3 devices From web, desktop or mobile devices	<b>£24 /month</b>
<input checked="" type="radio"/> <b>Pro for 5 devices</b> £30 /month -100 hrs testing hours per month and unlimited access to dashboard/reports (Moderate testing usage) Access to 5 devices From web, desktop or mobile devices	<b>£30 /month</b>
<b>OR</b>	
<input type="radio"/> <b>Pro for 5 devices</b> £42 /month -200 hrs testing hours per month and unlimited access to dashboard/reports (Moderate testing usage) Access to 5 devices From web, desktop or mobile devices	<b>£42 /month</b>

**Subscribe**

## Login to RantCell

Step 1: Go to [www.rantcell.com](http://www.rantcell.com) and select login button

Step 2: Then enter your correct username and password and can able to access to RantCell Test Analytics Dashboard.



The screenshot shows a login form with a blue header containing the word "Login". Below the header are two input fields: the first is labeled "Enter email or username" and the second is labeled "Enter password". Below these fields is a checkbox labeled "Remember me". At the bottom left, there is a link for "Forgot Password?". At the bottom right, there is a blue button labeled "login".

## Test Analytics Dashboard:

Below are the few prominent features of RantCell Cloud Analytics:

1. RantCell Dashboard displays data related to network performance.
2. Date and Time helps users to access test results performed at various intervals.
3. Test Data provides access to all the tests performed using various devices.
4. Remote Test empowers users to trigger tests on devices via RantCell Cloud Analytics.
5. Live Tracking helps to track users live running test data.
6. Settings: User can set parameter threshold settings depend on user's requirement.

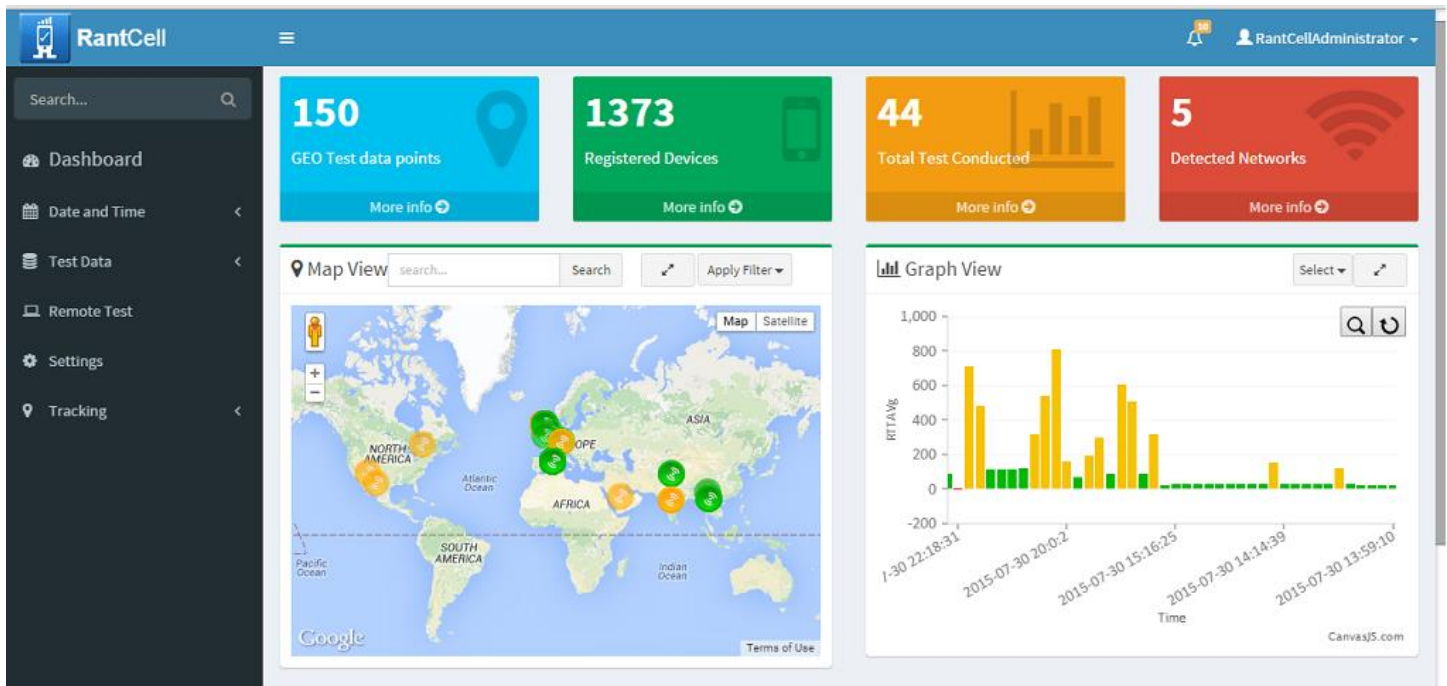
Table View, Graph View and Map View have been implemented for every test result available under all the sections mentioned above.

### I. RantCell Dashboard

RantCell Dashboard displays the devices registered devices, tests conducted and other details on logging into the account. Dashboard also displays the Map view, Bar Graph view and Table view of various campaigns that were performed in last one hour.

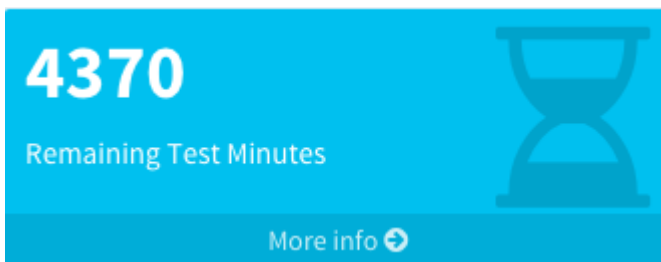
Note: In Table view if it reads Executing against a campaign it means the tests are currently being performed on that device as RantCell Cloud Analytics captures real time data and once completed the status changes accordingly.

## RantCell User Dashboard



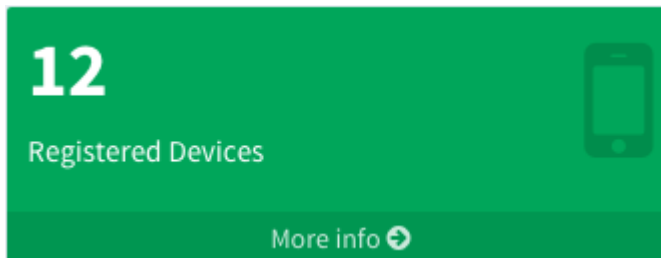
### Remaining Test Minutes

User can check remaining testing minutes



### Registered Devices

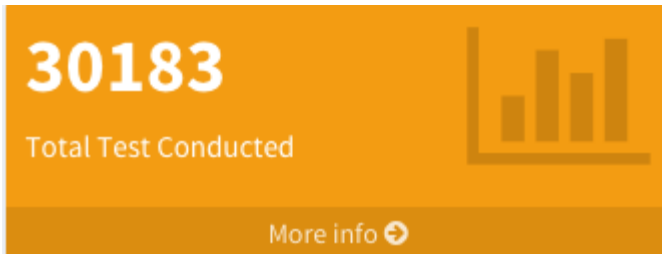
Registered devices refers to number of registered device in user account





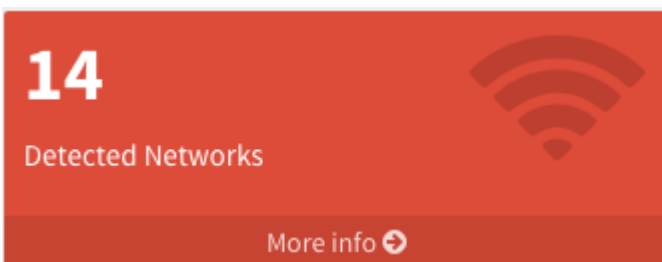
## Total Test Conducted

Total Test Conducted refers to total number of tests conducted in user account



## Detected Network

Detected network refers to total number of detected in user test performed location

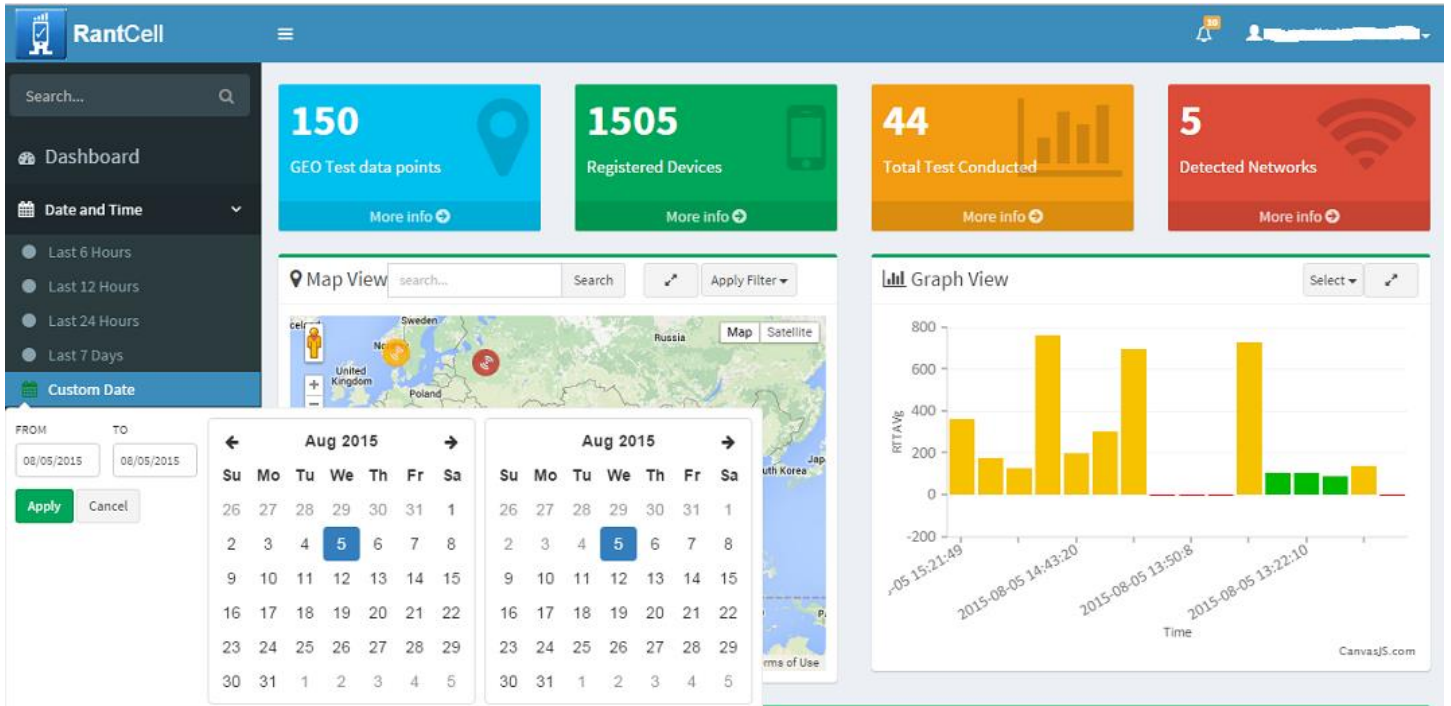


## 2. Date & Time

User can select certain time range like last 6 hours or 12 hours or 24 hours or 7 days and then can select or deselect any test campaign to compare test results in Table View, Graph View and Map View.

Using Custom date option users can access the tests performed in a particular range of dates.

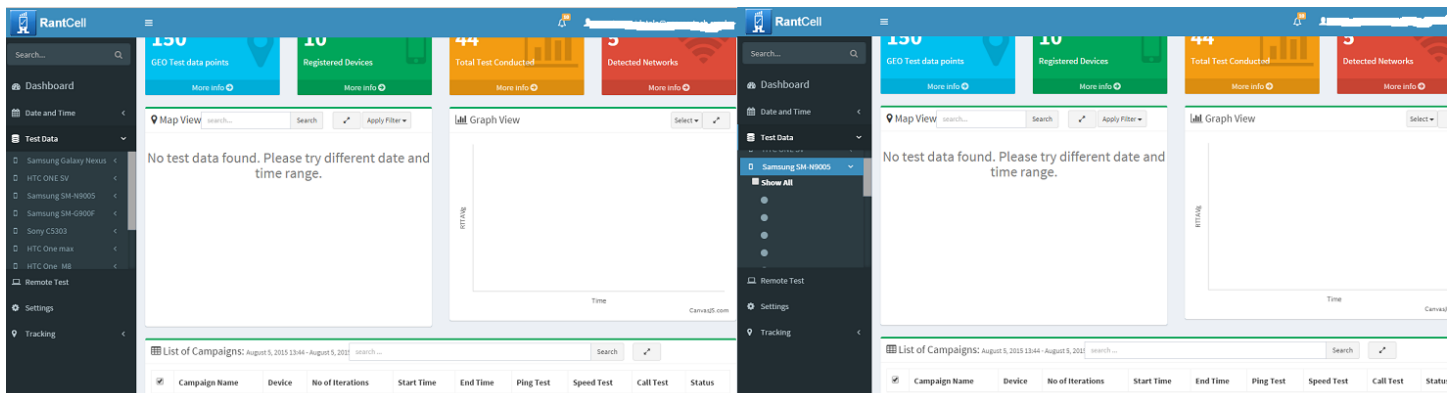
### Date & Time Filter Option



### 3. Test Data

User performed tests will be stored under test data of corresponding device.  
 Under Device, user can select any test campaign and can view test results in different format.  
 Under Selected device there is an option to show all, if enabled user can view all the test campaigns.

#### TEST DATA UNDER DEVICES & CAMPAIGNS



#### Table View:

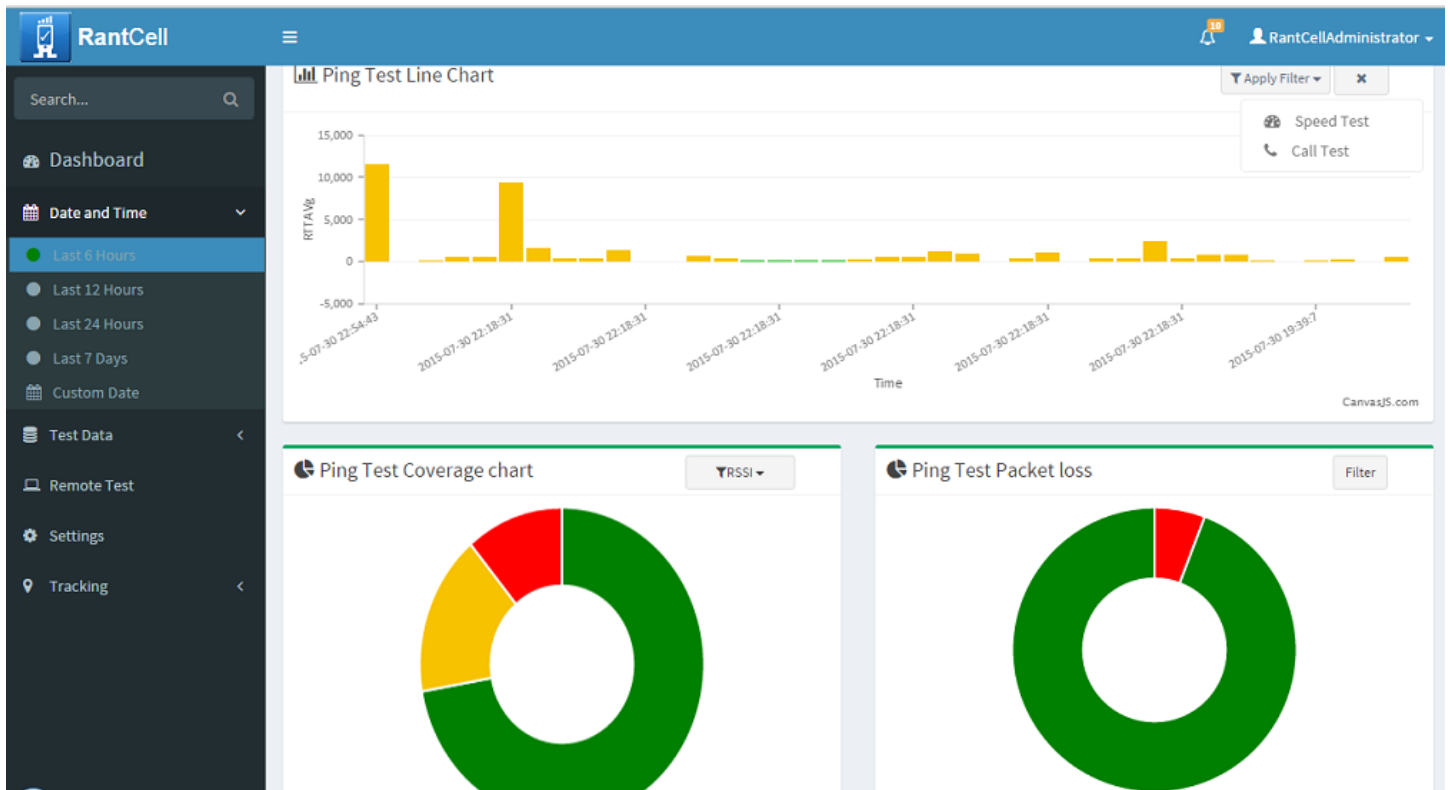
Table view helps users to view individual test results in a detailed table format. Table view contains all significant Network parameter values like RSSI, CELLID, LAC, Data etc.  
 User need to select campaign name under list of campaigns in dashboard and can able to view test results.

List of Campaigns: August 5, 2015 05:20 - August 5, 2015									
<input checked="" type="checkbox"/>	Campaign Name	Device	No of Iterations	Start Time	End Time	Ping Test	Speed Test	Call Test	Status
<input checked="" type="checkbox"/>	40492_Airtel	XOLO Q1010I	1	2015-08-05 15:21:41	2015-08-05 15:24:43	✓	✓	✓	COMPLETED

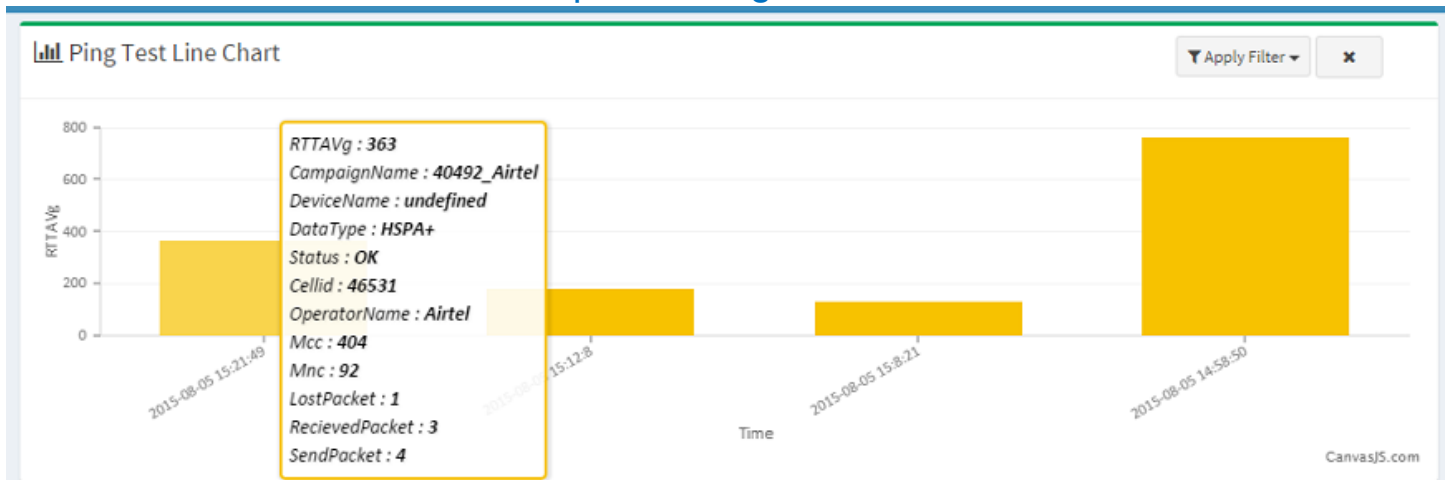
Click on this to view test campaign details







### Graph View Ping Test

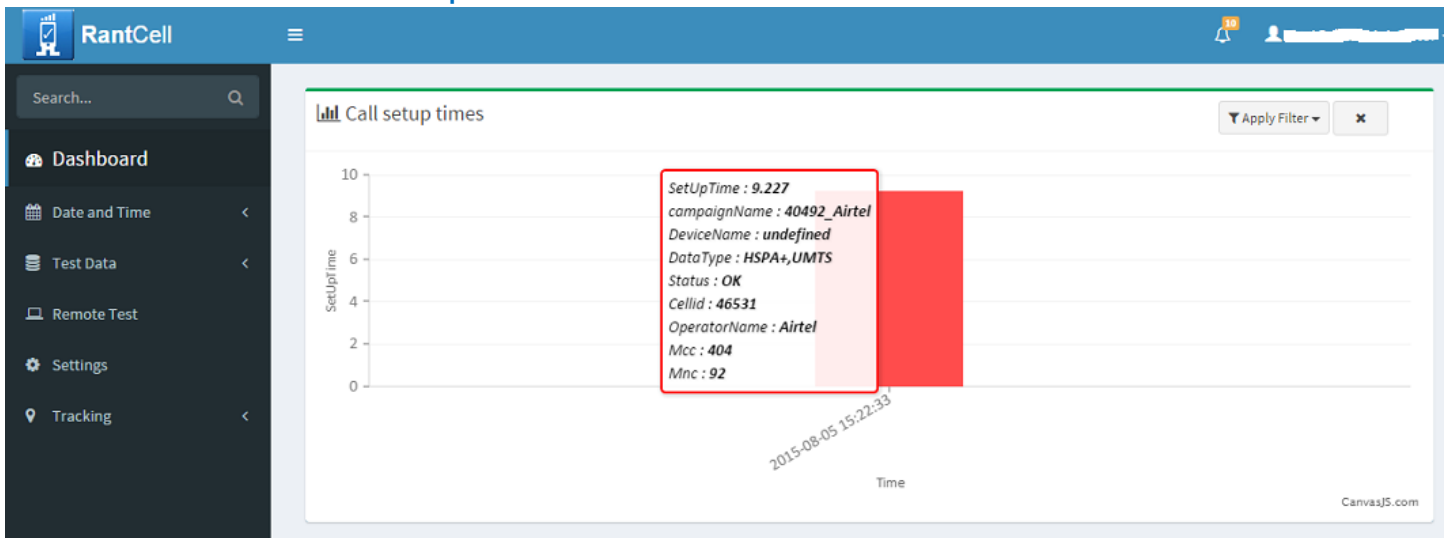




### Graph View Speed Test (DL & UL Test)



### Graph View Call test



## Graph View Coverage Chart

Coverage chart includes many parameters like RSSI, RSSI (CDMA), RSRP, RSRQ, cdmaEcNo, cdmaSNR, Data and Data type for Ping Test, Speed test(Download test & Upload test) and Call test

Latest screen shot need to add, feature is completed fully

## Map View:

Map View is the most important feature in RantCell Cloud Analytics. You can view test results on map which helps to find out RTT average value, Download speed, Upload Speed, Call Dropped and Call Setup time with Data type, Vital Network parameters and **Coverage Map**.

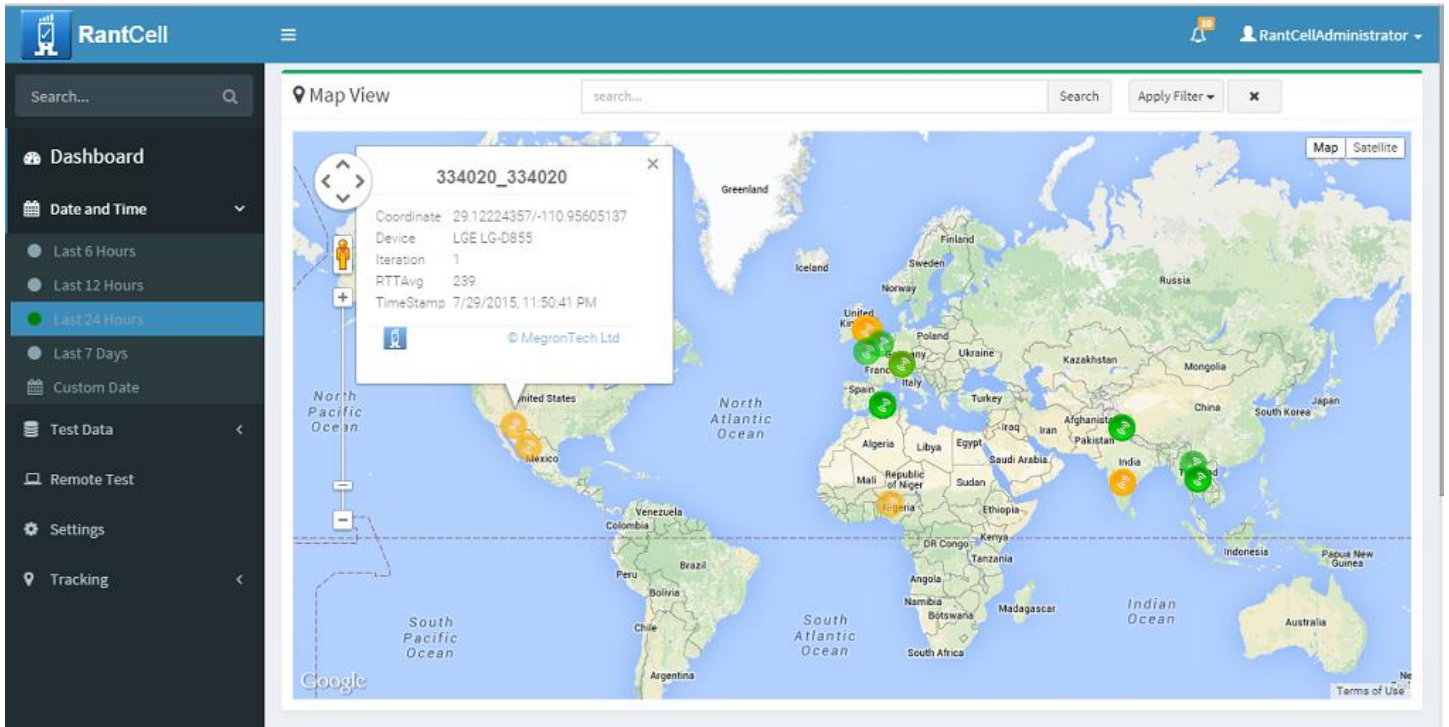
Map View-Ping Test which helps to know location of test results, Operator Name, Cell Identity, LAC, PSC, RSSI and RTT value etc. based on RTT value colour code is notified.

Map View-Speed Test in which helps to know location of test results, Operator Name, Cell Identity, LAC, PSC, RSSI and Download Speed and Upload Speed Bit rate value based on Bit rate value colour code is notified

Map View-Call Test which helps to know location of test results, Operator Name, Cell Identity, LAC, PSC, RSSI and Call setup time, Call In progress and Call Completed status.

Map View-Coverage Map: RSSI, LTE & CDMA Parameters Data Type which helps to know location of test results, Operator Name, Cell Identity, LAC, PSC and Networks like 2G, 3G and 4G etc.

## Map View: Ping Test

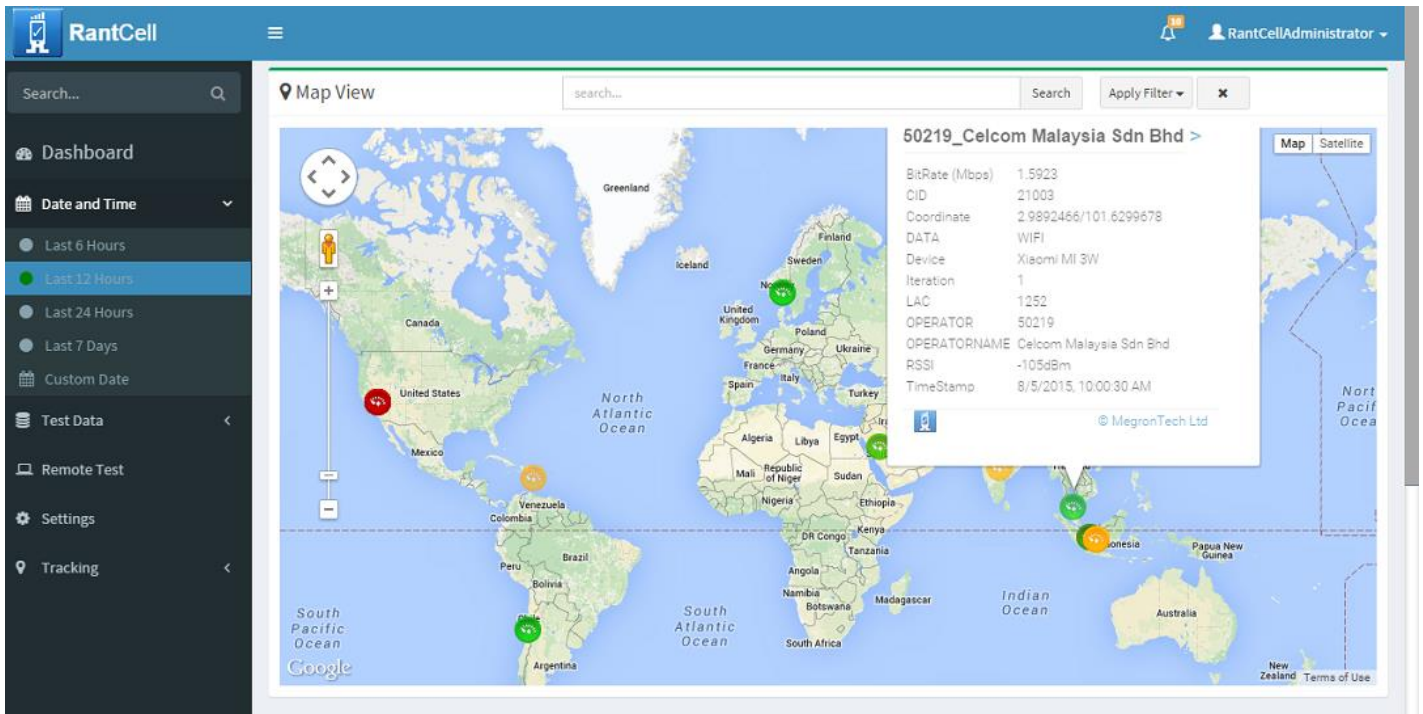


**334020\_334020**

Coordinate	29.12224357/-110.95605137
Device	LGE LG-D855
Iteration	1
RTTAvg	239
TimeStamp	7/29/2015, 11:50:41 PM

© MegronTech Ltd

### Map View: Speed Test

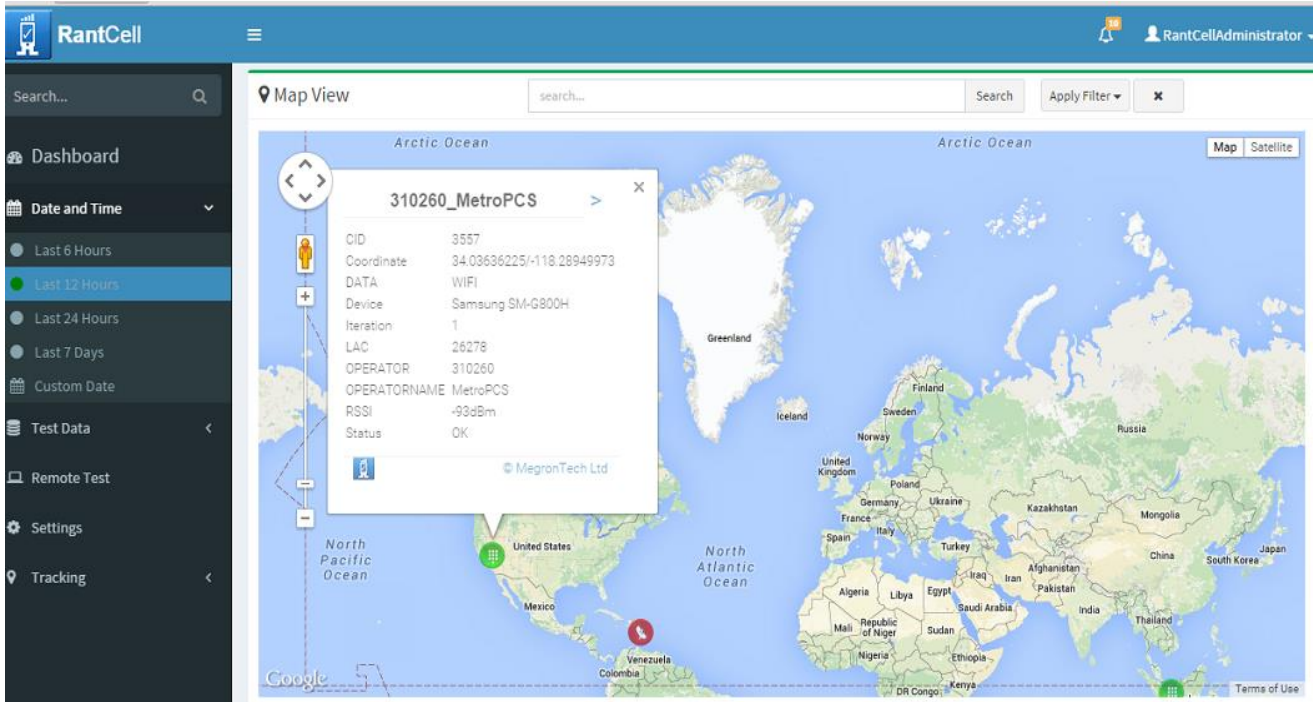


**50219\_Celcom Malaysia Sdn Bhd >**

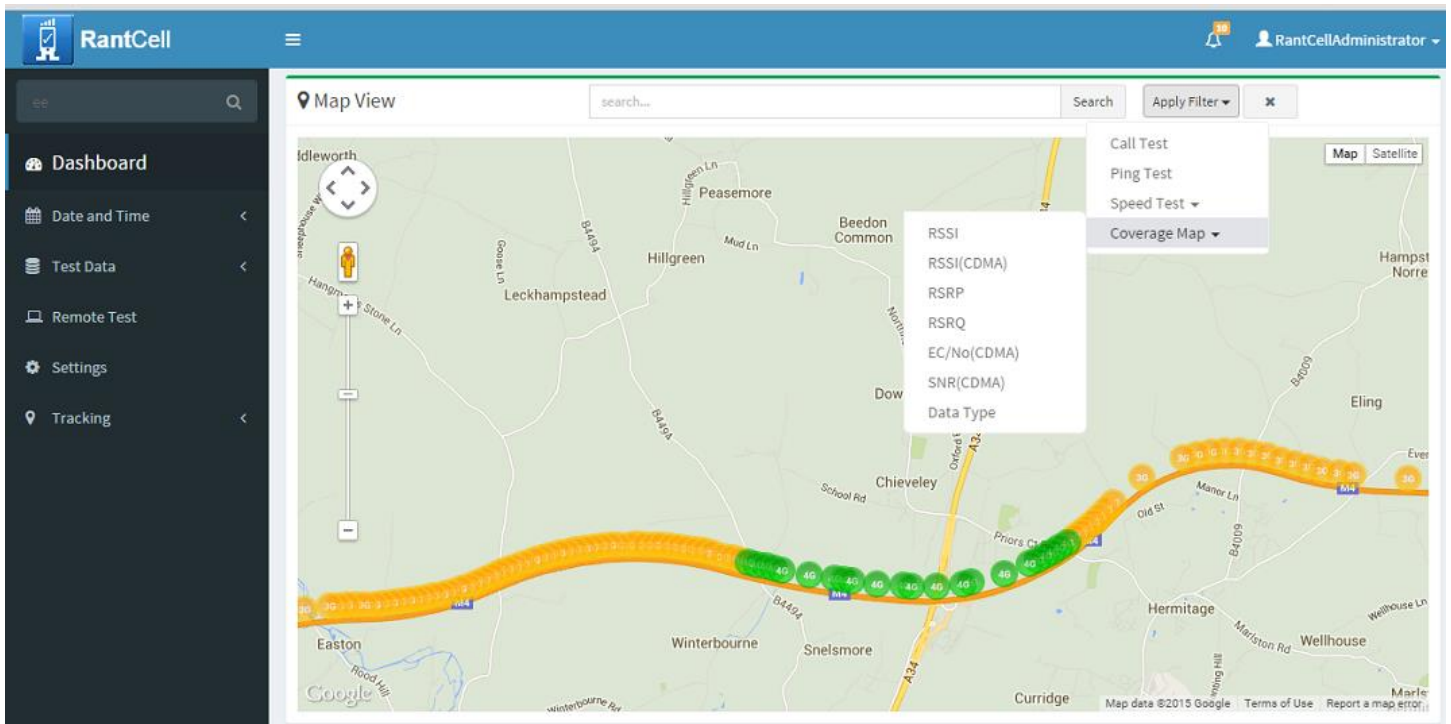
BitRate (Mbps)	1.5923
CID	21003
Coordinate	2.9892466/101.6299678
DATA	WIFI
Device	Xiaomi MI 3W
Iteration	1
LAC	1252
OPERATOR	50219
OPERATORNAME	Celcom Malaysia Sdn Bhd
RSSI	-105dBm
TimeStamp	8/5/2015, 10:00:30 AM

© MegronTech Ltd

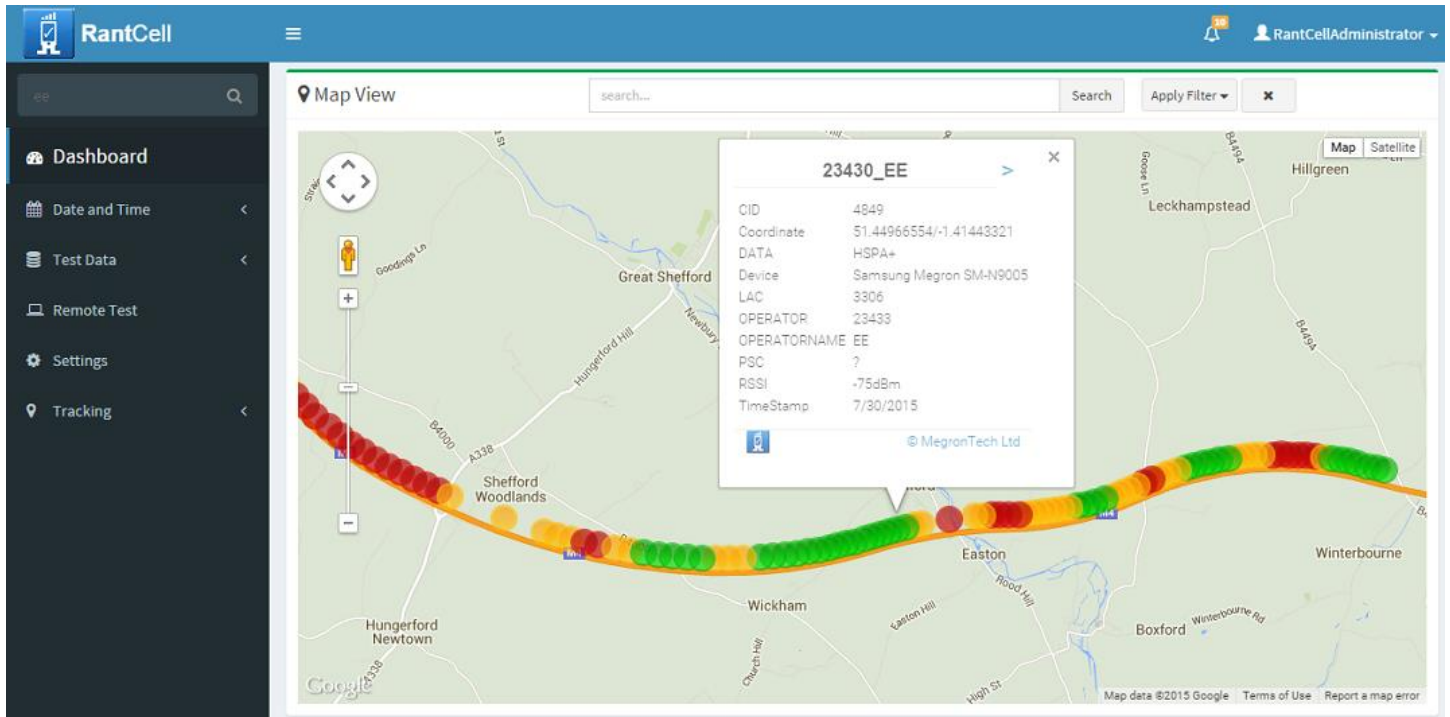
## Map View: Call Test



## Coverage Map: Data Type



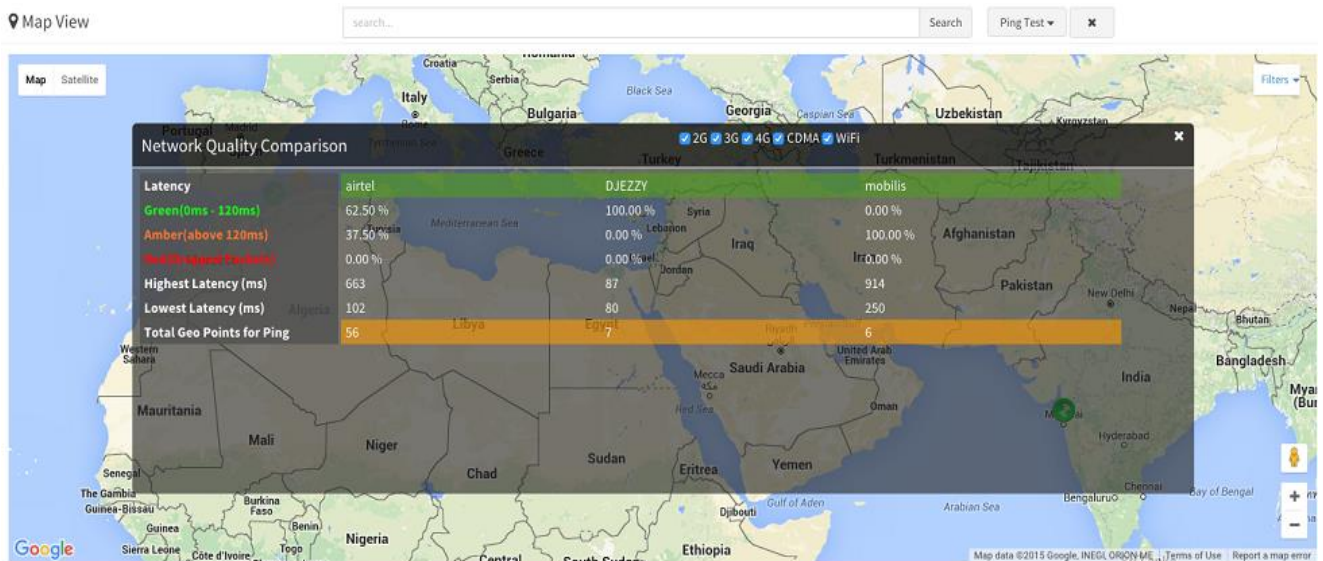
## Coverage Map: RSSI



### How to compare the data between operators:

Network Operator Comparison is used to compare various operators' quality of Network, Signal Strength, Latency, Speed test and call drop.

To check Network details, load test data in expanded map view and click network details, PFA.



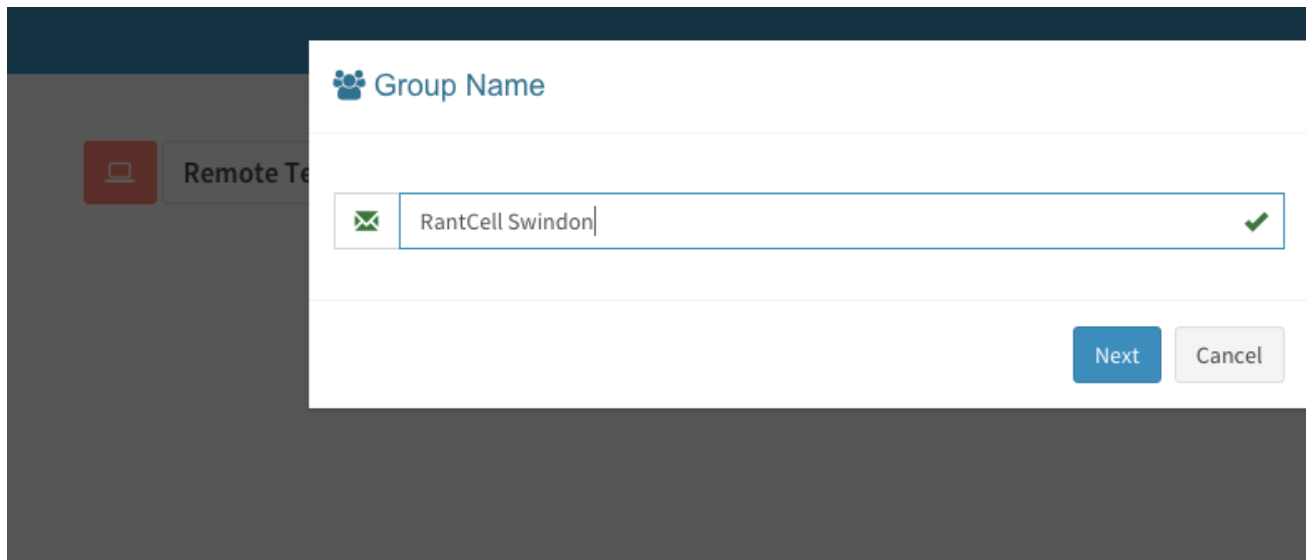


## Remote Test:

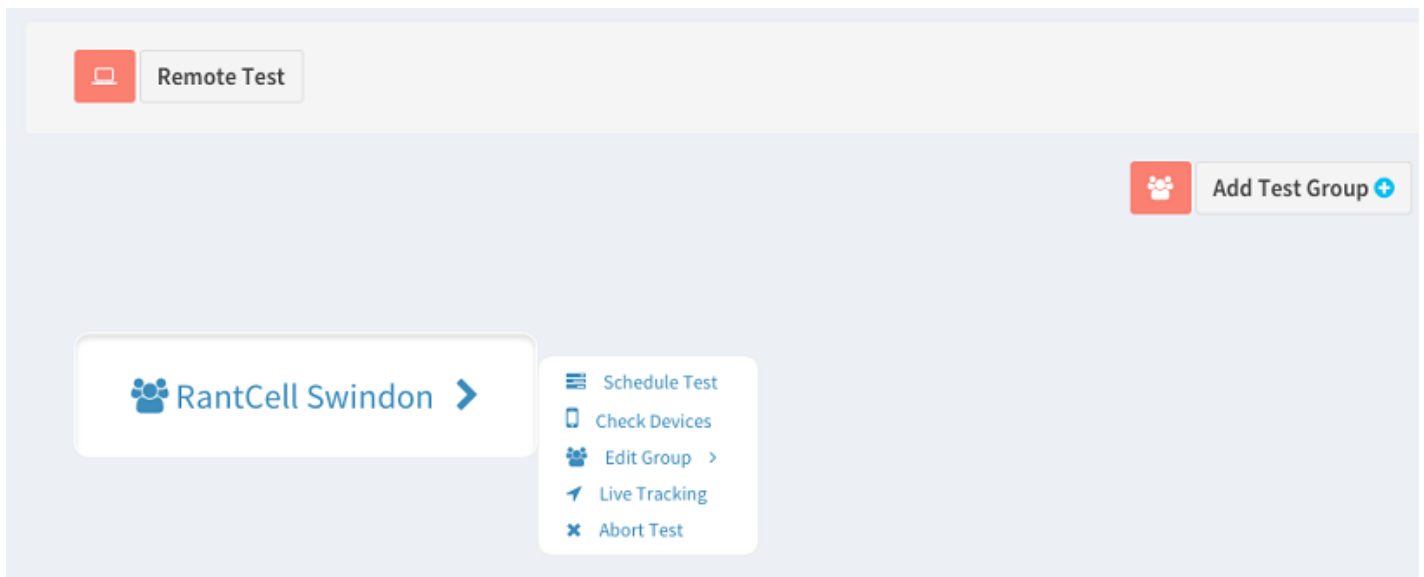
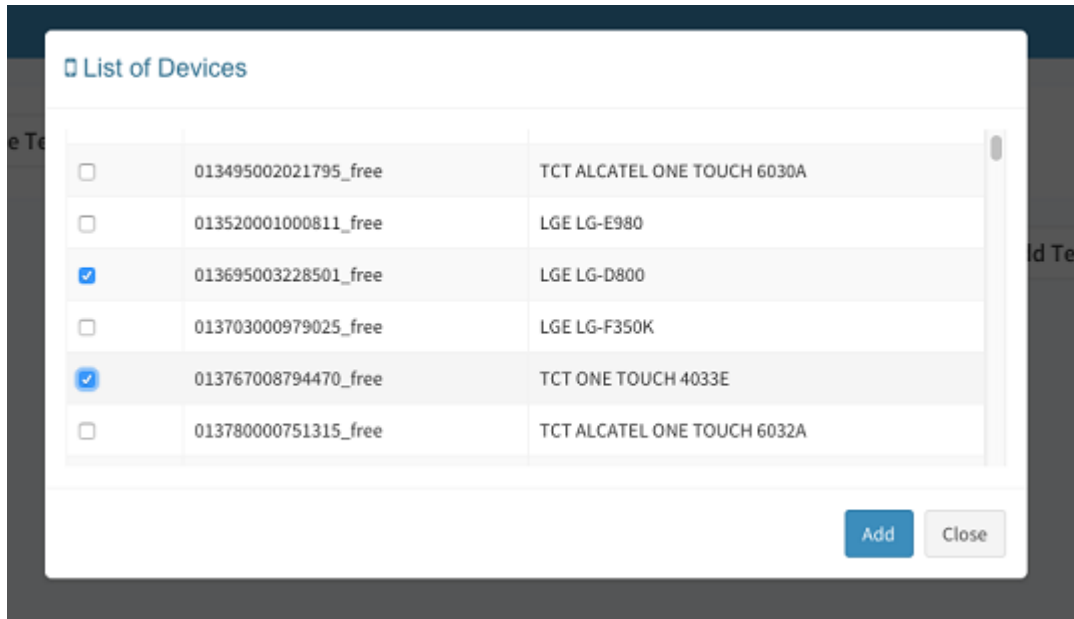
Remote Test is a technology that allows you to sit at a computer and connect to a remotely connect RantCell Pro app in a different location. For example, you can connect your mobile app and perform test (but mobile must be connected with internet).

### How to Create Group?

- Go to remote test page
- Click on Add Test Group
- Enter Group Name
- Select the required device and click on add button
- Group will be created







### How to run test?

- Click on Group name and schedule test
- Like similar to RantCell app enter name and iteration
- Select the required test and then start the test

### Features of Remote Test:

- Schedule Test
- Check the status of device
- Add & Delete Device from Group
- Live tracking

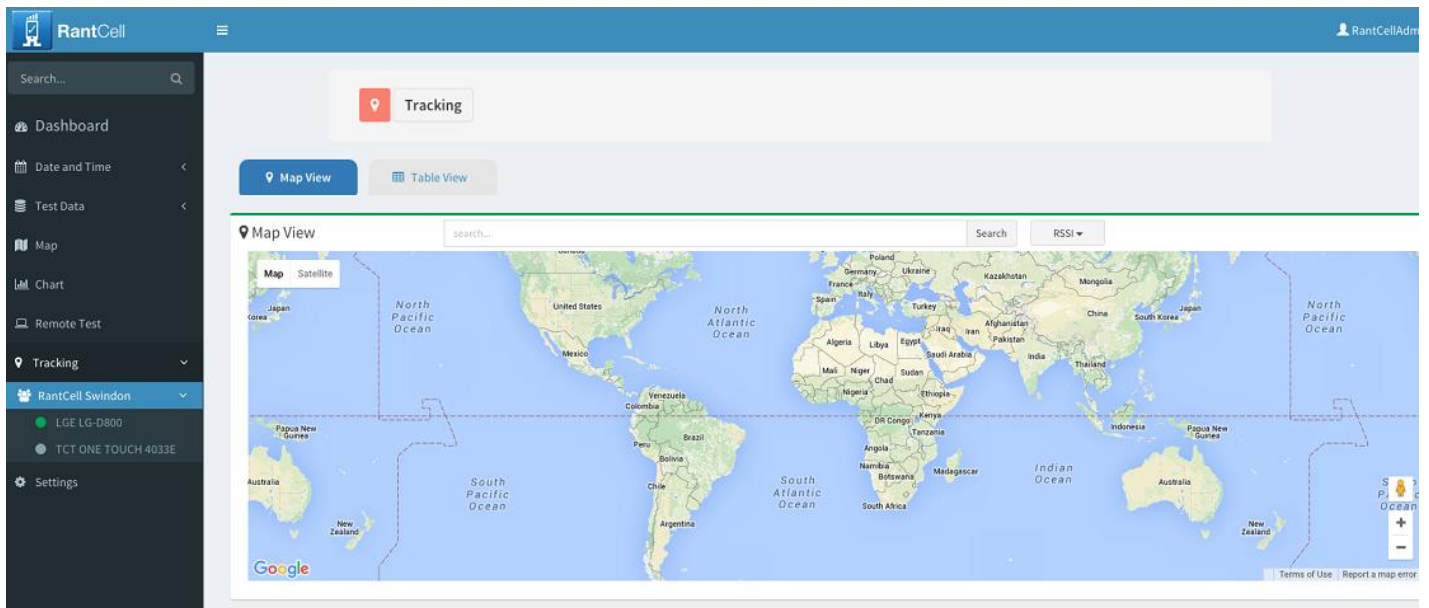
- Abort Test

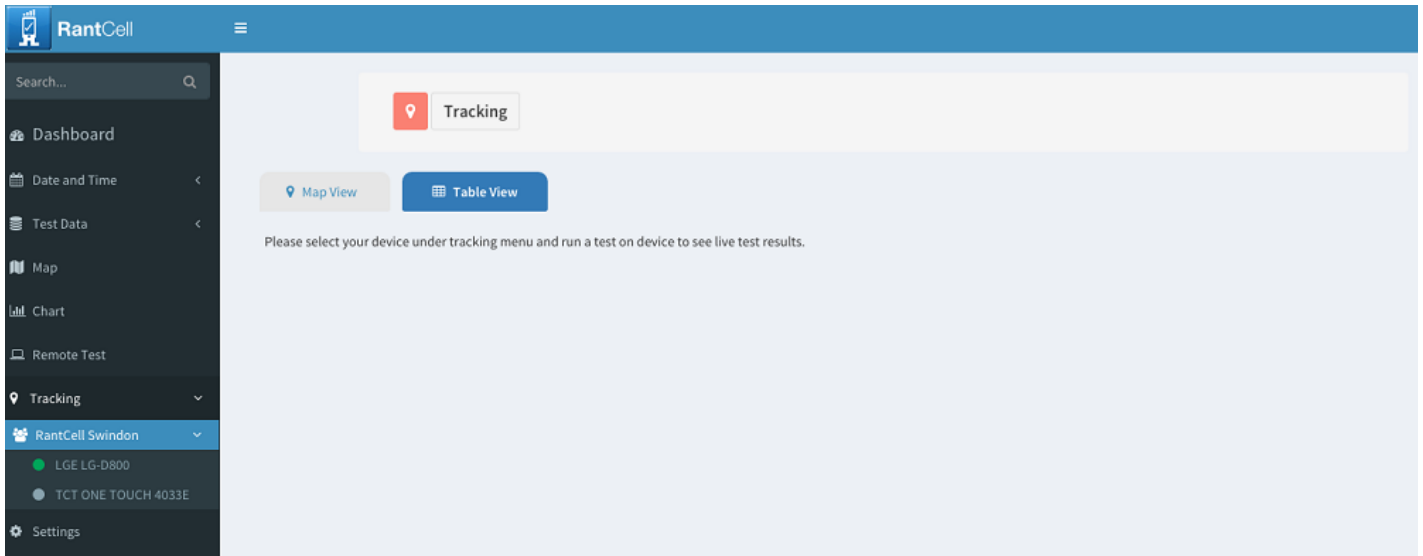
## Tracking:

Live Tracking is used to identify and track location of app and also track app lively executing tests. In Tracking, user can check the table view and map view results of live tests

Pre-Conditions to do Live Tracking

Must Create Remote test Group  
Select device under Group

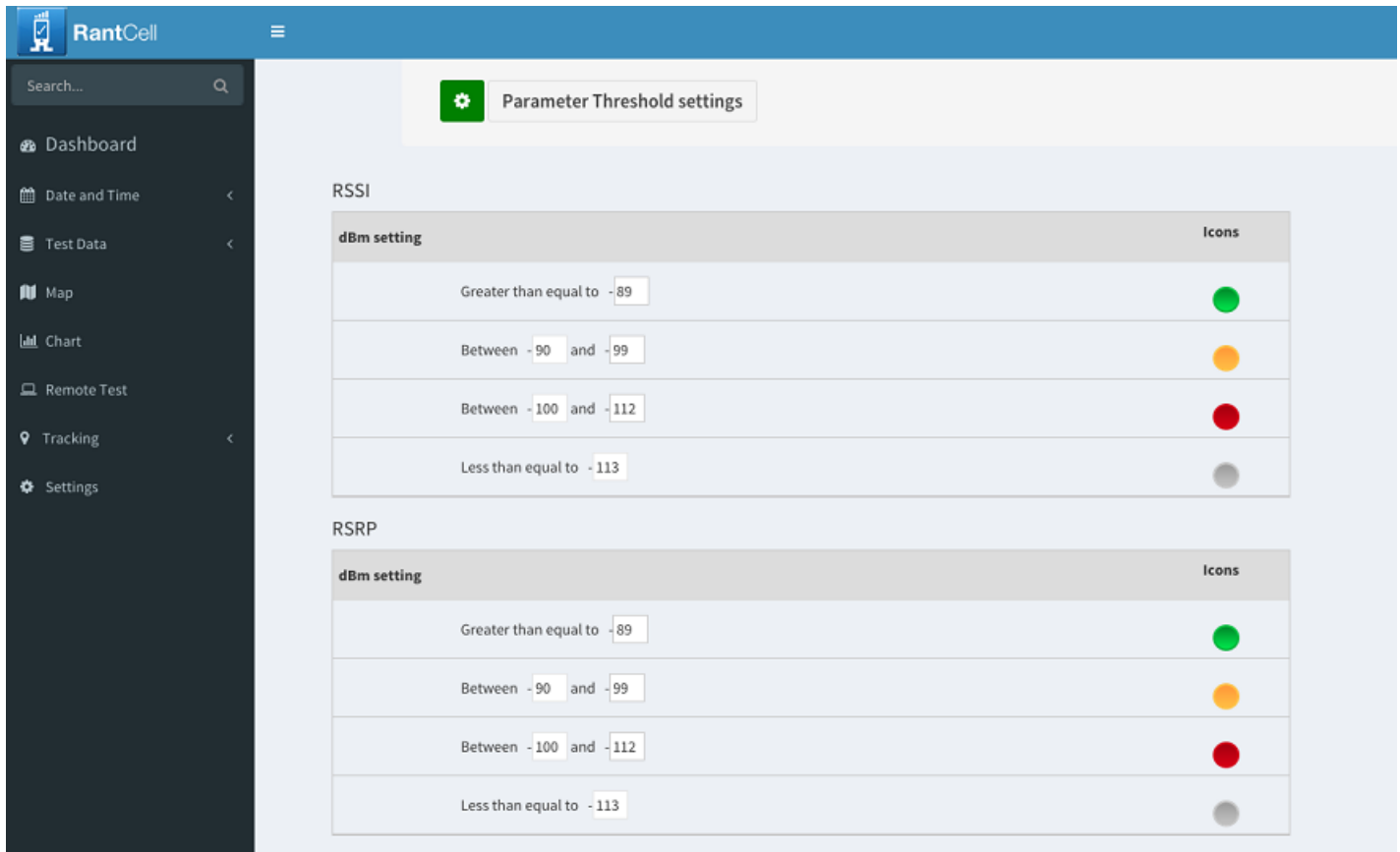




## VI. Settings:

Settings refers to parameter threshold settings, here we automatically assigned values to all RantCell users. According to user requirement, User can change range of parameter like RSSI, RSRP, RSRQ, CDMA parameters, Ping test, Download test and Upload Test.

After Updating parameter range, then user need to do save settings.



The screenshot displays the 'Parameter Threshold settings' interface. It features a sidebar with navigation options like Dashboard, Date and Time, Test Data, Map, Chart, Remote Test, Tracking, and Settings. The main content area is titled 'Parameter Threshold settings' and is split into two sections: RSSI and RSRP. Each section contains a table with two columns: 'dBm setting' and 'Icons'. The RSSI table shows four settings: 'Greater than equal to -89' (green icon), 'Between -90 and -99' (yellow icon), 'Between -100 and -112' (red icon), and 'Less than equal to -113' (grey icon). The RSRP table shows the same four settings and icons.

dBm setting	Icons
Greater than equal to -89	Green
Between -90 and -99	Yellow
Between -100 and -112	Red
Less than equal to -113	Grey


  

dBm setting	Icons
Greater than equal to -89	Green
Between -90 and -99	Yellow
Between -100 and -112	Red
Less than equal to -113	Grey




RantCell
☰

Search... 🔍






- Dashboard
- Date and Time <
- Test Data <
- Map
- Chart
- Remote Test
- Tracking <
- Settings

Less than 0.4 mbps	
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### Speed Test Upload

Upload Test	Icons
Greater than equal to 0.5 mbps	
Between 0.49 mbps and 0.2 mbps	
Less than 0.2 mbps	

### Mobile network coverage type

Data Type	Icons
4G Network	
3G Network	
2G Network	
Wi-Fi	
CDMA Network	

Save Settings
DefaultSettings



## VI. Payment Details:

PayPal is the web's most popular and most used payment service is integrated with RantCell account.

RantCell Payment subscription as follows

- £12 per month for 1 device with 25 testing hours can access RantCell Pro App and Dashboard
- £18 per month for 2 device with 50 testing hours can access RantCell Pro App and Dashboard
- £24 per month for 3 device with 75 testing hours can access RantCell Pro App and Dashboard
- £30 per month for 5 device with 100 testing hours can access RantCell Pro App and Dashboard
- £42 per month for 5 device with 200 testing hours can access RantCell Pro App and Dashboard

Also user can upgrade plan if requires

RantCell User can upgrade Testing hours as follows

- £10 for 25 testing hours can access RantCell Pro App and Dashboard
- £14 for 50 testing hours can access RantCell Pro App and Dashboard
- £22 for 75 testing hours can access RantCell Pro App and Dashboard
- £30 for 200 testing hours can access RantCell Pro App and Dashboard



<p>● <b>Pro for 1 device</b></p> <p>Access to 1 device</p> <p>£12/month – 25 hrs testing hours per month and Unlimited access to dashboard/reports (Suitable for low testing usage)</p> <p>Access to 1 device</p> <p>From web, desktop or mobile devices</p>	<p><b>£12 /month</b></p>
<p>● <b>Pro for 2 devices</b></p> <p>£18/month – 50 hrs testing hours per month and unlimited access to dashboard/reports (Suitable for low testing usage)</p> <p>Access to 2 devices</p> <p>From web, desktop or mobile devices</p>	<p><b>£18 /month</b></p>
<p>● <b>Pro for 3 devices</b></p> <p>£24/month- 75 hrs testing hours per month and unlimited access to dashboard/reports (Suitable for moderate testing requirements)</p> <p>Access to 3 devices</p> <p>From web, desktop or mobile devices</p>	<p><b>£24 /month</b></p>
<p>● <b>Pro for 5 devices</b></p> <p>£30 /month -100 hrs testing hours per month and unlimited access to dashboard/reports (Moderate testing usage)</p> <p>Access to 5 devices</p> <p>From web, desktop or mobile devices</p>	<p><b>£30 /month</b></p>
<p><b>OR</b></p> <p>● <b>Pro for 5 devices</b></p> <p>£42 /month -200 hrs testing hours per month and unlimited access to dashboard/reports (Heavy testing usage)</p>	<p><b>£42 /month</b></p>



## VII. Applications:

RantCell can be used in measuring the most important KPI's in Field testing, few most important uses are mentioned below

### Mobile Operator

- RantCell can be used as a field test tool to test the network performance, such as throughputs, Call setup times, Latency and KPIs such as call setup success rate etc.
- Static tests to benchmark the 24hrs performance of busy sites.
- As a load generator when multiple Call Test apps run concurrently on different devices.
- Verification of services on cells sites and acceptance testing (Macro Cells, Small Cell, LTE cells etc.)
- Measure user experience during mass events.(Such as football match)
- Comparison of performance with other operators.
- Benchmark different UE category performance on the network (Ex: Dual Cell HSPA+ vs. Single Carrier HSPA)

### Equipment Vendors

- As a benchmarking tool in RAN test labs.
- As a load generator against the RAN test beds (LTE, 3G, Small Cells)
- As a field test tool.

### Device Manufacturers

- App can be installed on various Android Devices, for device performance validation tests.
- Benchmarking devices against different technologies (GSM,GPRS,UMTS,HSPA+, LTE, Wi-Fi)
- Benchmarking of device performance against different UE software versions.

### Small Cells

- As a field testing tool to be used by integration engineer's to test the Cells performance.
- Site acceptance testing
- Troubleshooting cells issues.





## Supported Devices:

Check the following link for RantCell supported devices <https://rantcell.com/rantcell-supported-devices.html>

Device	Model	Support 4G	Support 3G
HTC	One_M8	Yes	Yes
HTC	One M8s	Yes	Yes
HTC	One M9	Yes	Yes
HTC	One E9+	Yes	Yes
HTC	Desire 820s dual sim	Yes	Yes
HTC	Desire 826 dual sim	Yes	Yes
HTC	Desire 826 dual sim	Yes	Yes
HTC	Desire 626	Yes	Yes
HTC	One SV	No	Yes
Sony	Xperia Z3 D5803	Yes	Yes
Sony	Xperia Z3 D5833	Yes	Yes
Sony	Xperia SP: C5302	Yes	Yes
Sony	Xperia SP: LTE C5303	Yes	Yes
Sony	Xperia SP: LTE C5306	Yes	Yes
Sony	Xperia T2 Ultra	Yes	Yes
Sony	Xperia M2	Yes	Yes
Sony	Xperia	Yes	Yes
Sony	Xperia	Yes	Yes
LGE	LGSM345	Yes	Yes
LGE	LG-D620	No	Yes
LGE	Nexus 5	Yes	Yes
Motorola	XT 1097	Yes	Yes
Compal	PMT3287_3G	Yes	Yes
Yuphoria	YU5010	Yes	Yes



## VIII. Conclusion:

Mobile networks were first dimensioned primarily to serve voice traffic, but data has decisively overtaken voice call and SMS as the primary driver of network traffic. With this in mind, the concept of app coverage should play a central role for operators, vendors and field test engineers alike, as it offers an integrated view of network coverage, signal quality and quality relative to a specific app. However, to date, there have been adequate KPIs for measuring network performance. At the same time, networks in fast-growing emerging markets are often particularly challenged when it comes to data performance.

**Megron Tech** helped to identify key issues and bottlenecks that affect network performance. These bottlenecks in the RAN, core and CDN were identified by correlating user-centric KPIs with network KPIs. This kind of intelligent correlation and end-to-end understanding of the network then made it possible to understand the user experience in various network conditions.

By addressing these issues, the user experience was improved substantially, with app coverage rising by 40 to 70 percent. Finally, **Megron Tech** has developed an application called “**RantCell**” replicable model for monitoring, analysing, measuring and improving app coverage. This model can now be applied to any mobile network to help operators cost-effectively target network improvements in the areas that will have the most impact on user satisfaction, loyalty and retention. Download the app from play store, together we are making network better and spread the word.

## IX. GLOSSARY:

CID -Cell Identity  
MCC -Mobile Country Code  
MNC -Mobile Network Code  
LAC -Location Area code  
PCI -Primary Cell Identity  
PSC -Primary Scrambling Code  
RTT -Round trip-delay Time.  
UL -Uplink throughput  
DL -Downlink throughput  
RSSI -Received Signal Strength Indication  
RSRP -Reference Signal Received Power  
RSRQ -Reference Signal Received Quality



GSM -Global System for Mobile Communication  
LTE -Long-Term Evolution  
CDMA-Code Division Multiple Access  
HSPA -High Speed Packet Access  
UMTS -Universal Mobile Telecommunications system  
HSDPA-High Speed Downlink Packet Access

## X. Appendix

### Network Parameters in RantCell:

**MCC:**Mobile Country Code which is used in wireless telephone networks (GSM, CDMA, UMTS, etc.) in order to identify the country which a mobile subscriber belongs to Example: MCC value for UK is 234 & 235. It varies depends on country.

**MNC:**Mobile Network Code which is in order to uniquely identify a mobile subscriber's network the MCC is combined with a Mobile Network Code. Example for Operator British Telecom: MCC and MNC value for UK is 234 & 0

**CID:**Cell Identity which shows the identification number returned by the cellular base station to which the device is currently connected. Depending on the network owner the cell ID may refer to the complete base station or a specific sector on a base station. If you are conducting a survey while moving in a vehicle (e.g. car or train) the Cell ID will change as your device disassociates and associates with different base stations during the journey. This information is reported to RantCell.

**LAC :**Location Area Code, Each location area has unique number with network. This code is used to identify location of mobile subscriber.

**PSC:**Primary Scrambling code which is available only on 3G (UMTS) network.

**PCI:**Physical Cell Identity is mainly used by UE to decode physical layer data being transmitted by eNodeB. Cell ID in SIB1 is designed for eNodeB management within the core network, but this one is also used for UE to identify a specific cell in terms of RRC/NAS layer processing.

**RSSI:**Received Signal Strength Indication which is used to measure of the power level that a RF device, such as WiFi or 3G client, is receiving from the radio infrastructure at a given location and time. Usually, the higher the RSSI the better the quality and speed of the communication through the radio segment.



- **RSSI > -89dbm** **Signal quality is excellent**
- **RSSI < -90dbm &> -99dbm** **Signal quality is good**
- **RSSI < -100 dbm &>-112dbm** **Signal quality is average**
- **RSSI <-113 dbm** **Signal quality is bad**

RSRP : Reference Signal Received Power is the linear average of reference signal power (in Watts) across the specified bandwidth (in number of REs). This is the most important to measure for cell selection, reselection and handover.

- **RSRP > -89dbm** **Signal received power is excellent**
- **RSRP < -90dbm &> -99dbm** **Signal received power is good**
- **RSRP < -100 dbm &>-112dbm** **Signal received power is average**
- **RSRP <-113 dbm** **Signal received power is bad**

RSRQ:Reference Signal Received Quality is defined as  $(N \times RSRP)/RSSI$ , where N is the number of RBs over the measurement bandwidth. As you see from the definition of RSSI, RSSI contains all sorts of power including power from co-channel serving & non-serving cells, adjacent channel interference, thermal noise, etc.

- **RSRQ > -7 dbm** **Signal received quality is excellent**
- **RSRQ < -8 dbm &> -9 dbm** **Signal received quality is good**
- **RSRQ <-10 dbm** **Signal received quality is bad**

Network Data :which refers to 2G,3G,4G ,WiFi and CDMA network

Network Operator Name: Example : Vodafone,T-mobile etc.

Packet: A packet is the unit of data that is routed between an origin and a destination on the Internet or any other packet-switched network.

Throughput: Throughput is the amount of data that can be transferred over your Internet connection at one point in time.

Latency: that contributes to network speed.

RTT: round-trip delay time (RTD) or round-trip time (RTT) is the length of time it takes for a signal to be sent plus the length of time it takes for an acknowledgment of that signal to be received. This time delay therefore consists of the propagation times between the two points of a signal.

Downlink (DL) Throughput:

This shows the most recent download speed (in Mbps) obtained during a Throughput test. You must have a test in progress, and have selected to conduct throughput tests for this to display a metric. Downlink speed contributes to the overall performance of the connection. You can manually set the frequency of the Throughput tests when starting a test.

If user internet download speed has

- Greater than 1.2 Mbps** **Speed is good**
- Between 1.2 & 0.4 Mbps** **Speed is average**

**Less than 0.4 Mbps**

**Speed is poor**

**Uplink (UL) Throughput:**

This shows the most recent upload speed (in Mbps) obtained during a Throughput test. You must have a test in progress, and have selected to conduct throughput tests for this to display a metric. Uplink speed contributes to the overall performance of the connection.

If user internet upload speed has

**Greater than 0.5 Mbps**

**Speed is good**

**Between 0.5 and 0.2 Mbps**

**Speed is average**

**Less than 0.2 Mbps**

**Speed is poor**

Setup time: Duration between the time user has pressed call button to time user hears the first ring from called person.

If Setup Time

**Less than 4.5**

**Network Connectivity is good**

**Between 4.5 and 8**

**Network Connectivity is average**

**Greater than 8**

**Network Connectivity is poor**

Following are the network parameters capturing in GSM, LTE and CDMA Network.

2G Network- GPRS, EDGE

3G Network- UMTS, HSDPA, HSUPA, HSPA and HSPAP

4G Network-LTE

CDMA Network

GSM Phone 2G & 3G Network	GSM Phone 4G Network	CDMA Phone CDMA Network
Operator Name	Operator Name	Operator Name
Data	Data	Data
MCC	MCC	MCC
MNC	MNC	MNC
CID	CID	CDMA CID
LAC	LAC	CDMA SNR
RSSI	RSSI	CDMA RSSI
PSC	NS	NS
Latitude	Latitude	Latitude
Longitude	Longitude	Longitude
NS	RSRP	NS
NS	RSRQ	NS
NS	PCI	NS

**Note:**

- PSC value is available in only 3G Network
- PCI Value is available in only 4G Network