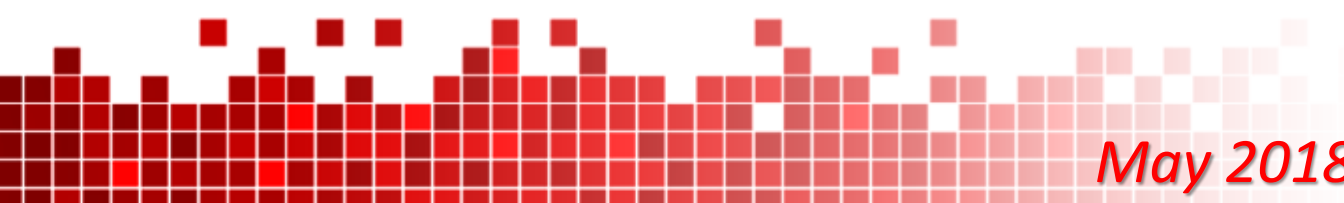




Seminar Series

Bringing Data Support and Training to You

**Race Studio Menu Items
for Automotive Racers & Enthusiasts**



May 2018




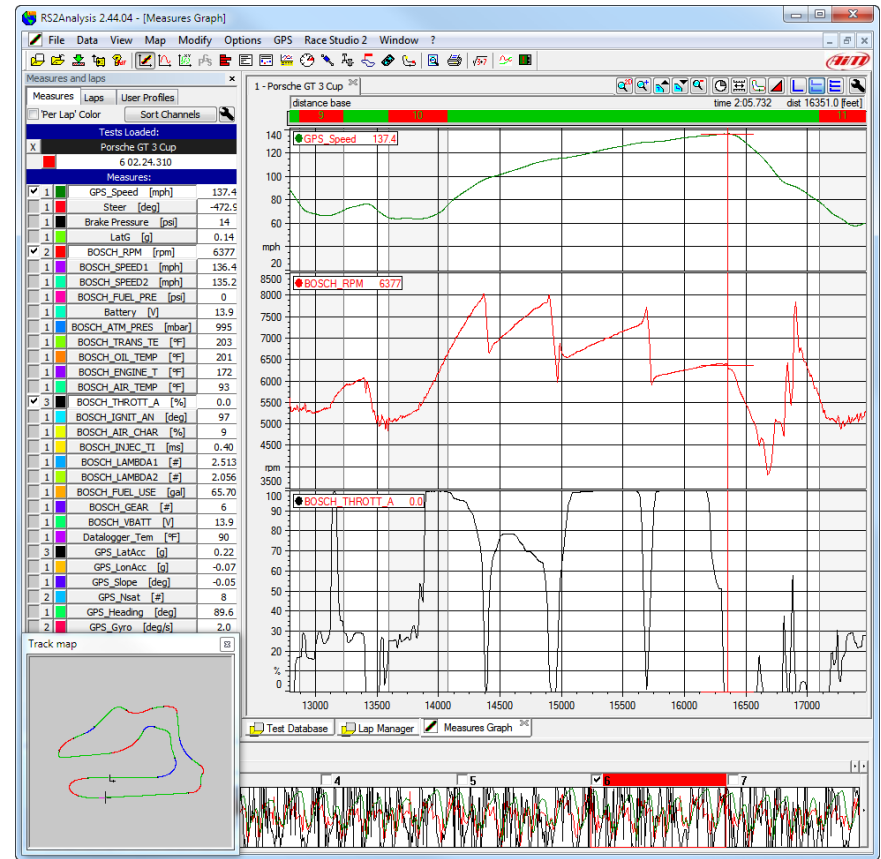
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1.800.718.9090





Race Studio 2



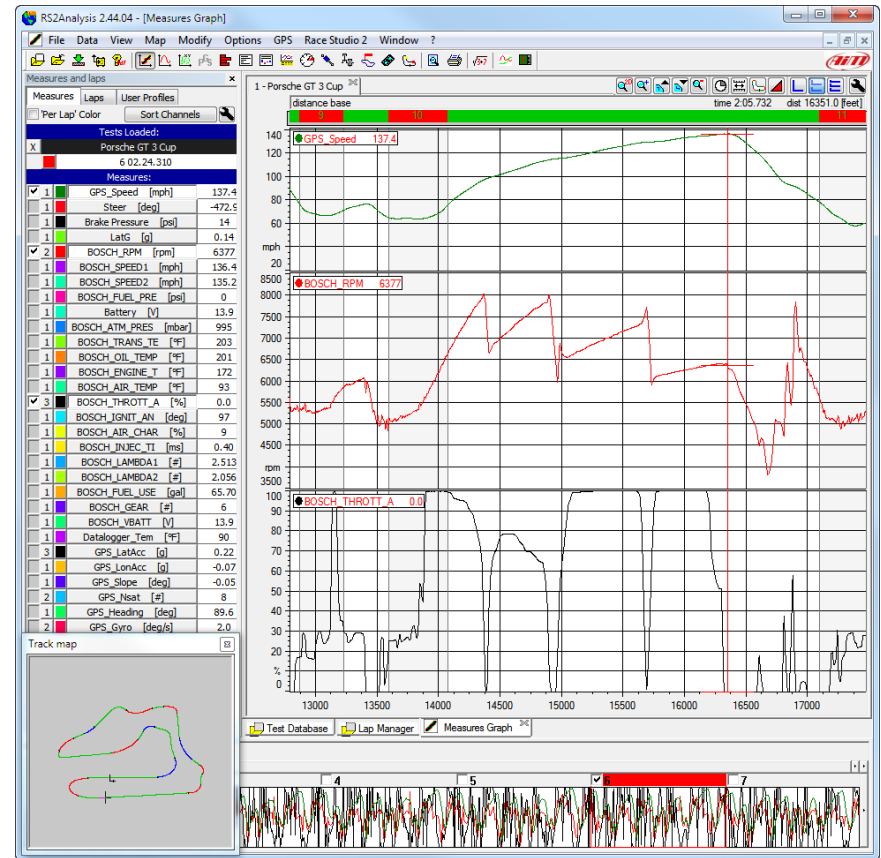

Race Studio
Analysis


The **Race Studio 2** software is designed and developed to configure and analyze your AiM Sports data system hardware and data. When downloaded free from the internet and loaded onto your PC, you will see 2 icons shown above and they open the two different modules of the **Race Studio 2** software. They are “**Race Studio 2**” and “**Race Studio 2 Analysis**”.



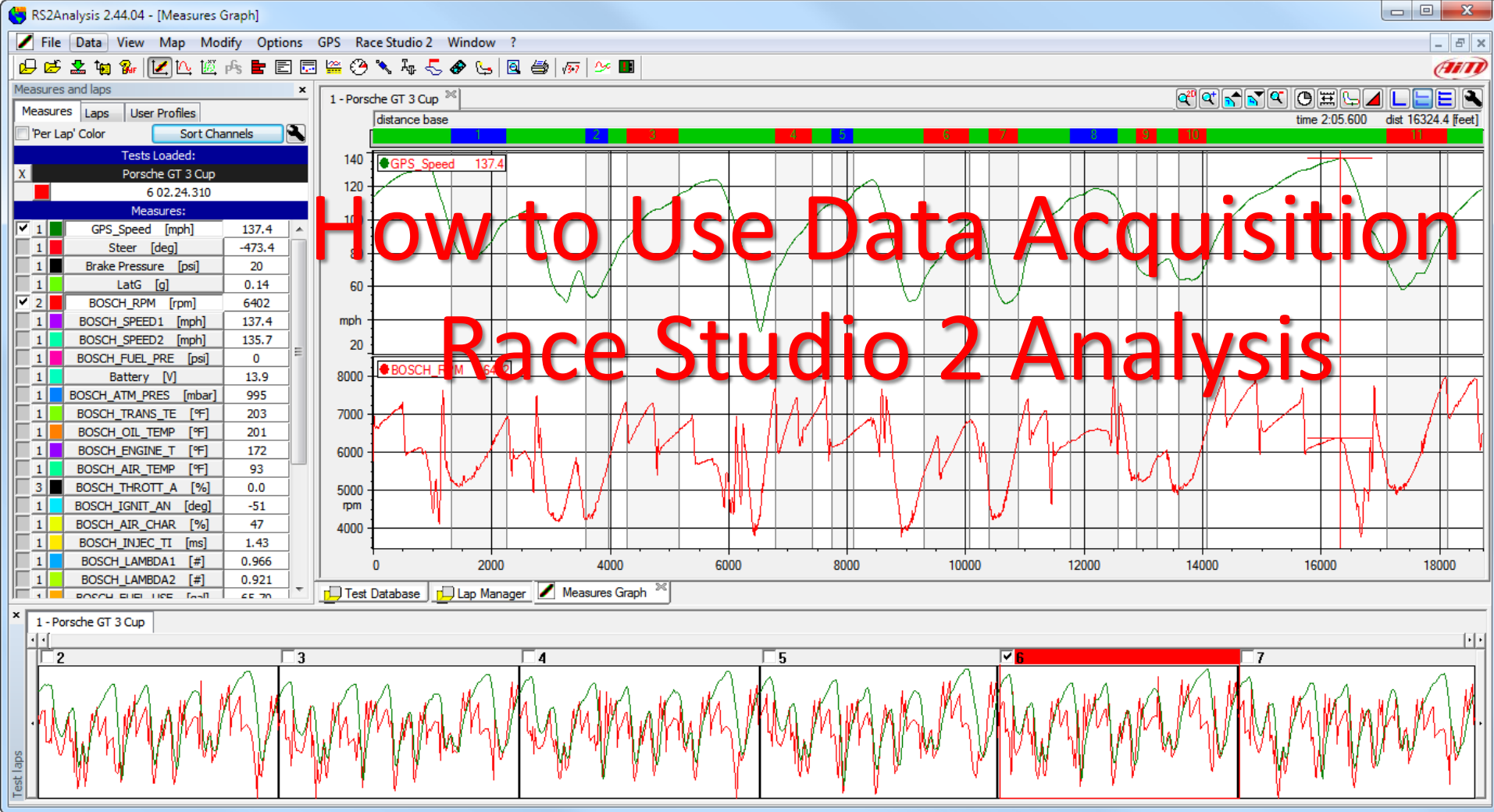

Race Studio 2

Race Studio 2 is where you perform the configuration and preparation steps before using most Aim Sports data systems to gather data. The Mychron4 is configured onboard.



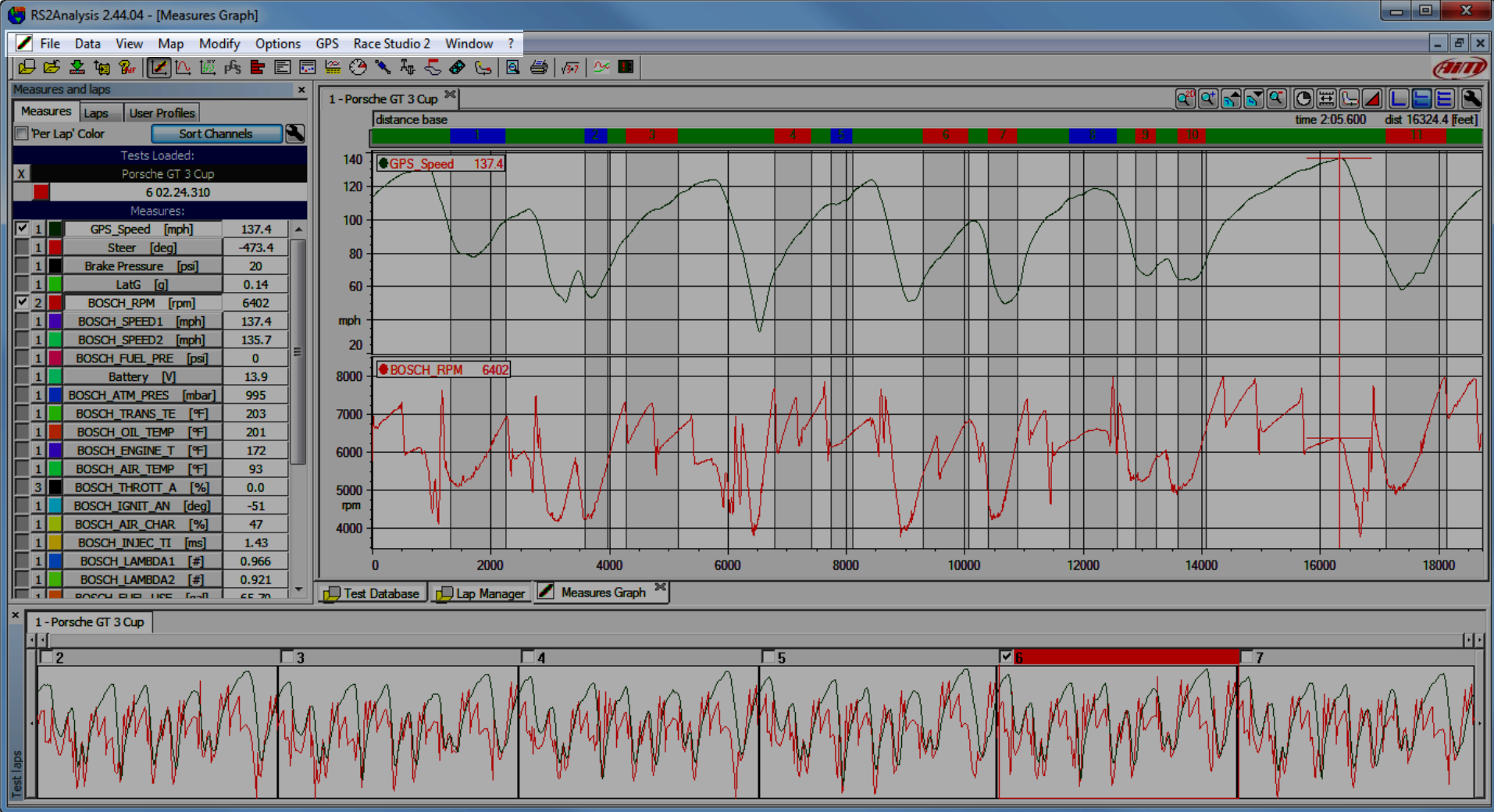

Race Studio
Analysis

Race Studio 2 Analysis manages data from all Aim Sports data systems. Race Studio 2 will help improve the vehicle and driver's performance.

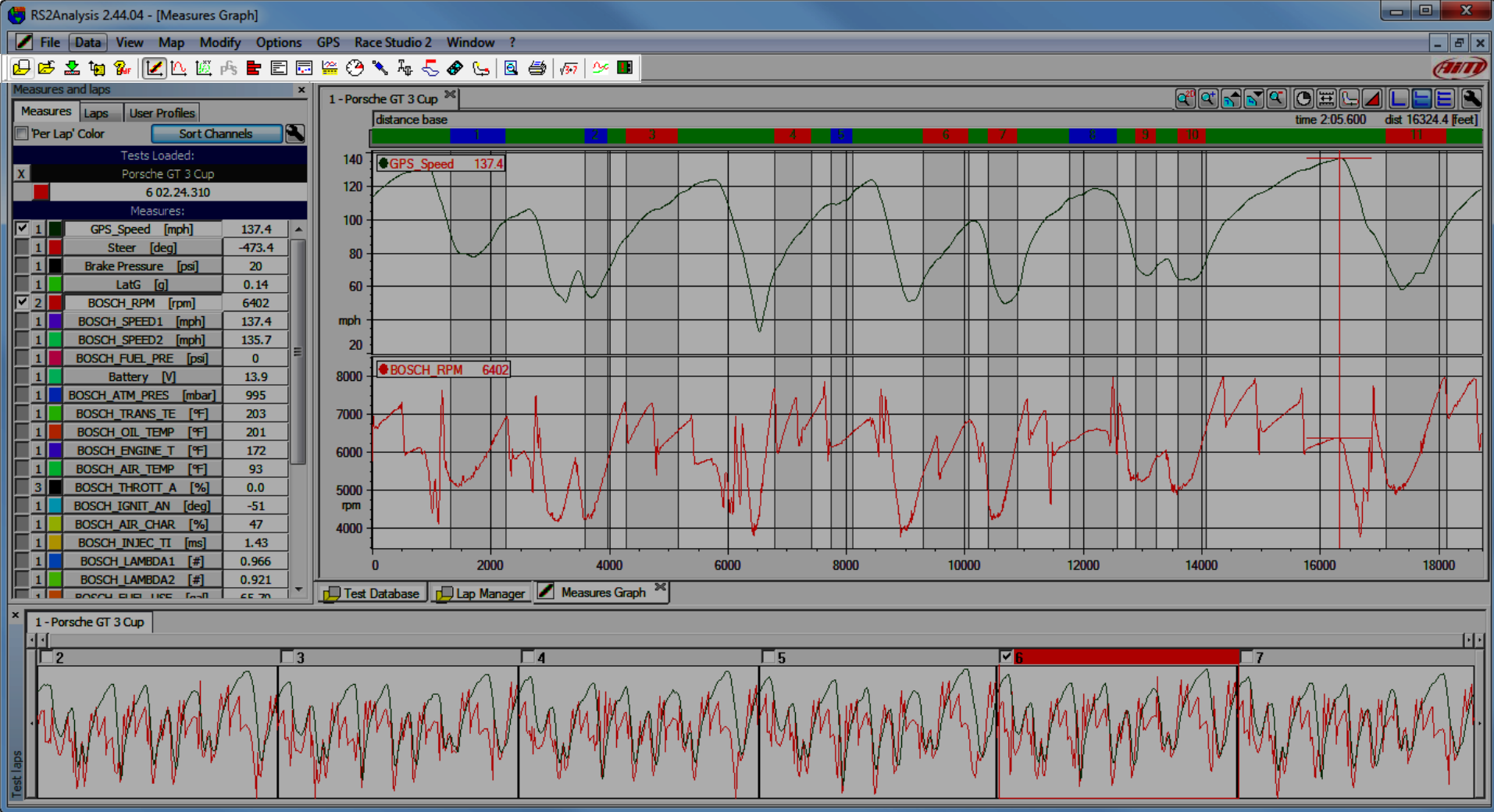


How to Use Data Acquisition Race Studio 2 Analysis

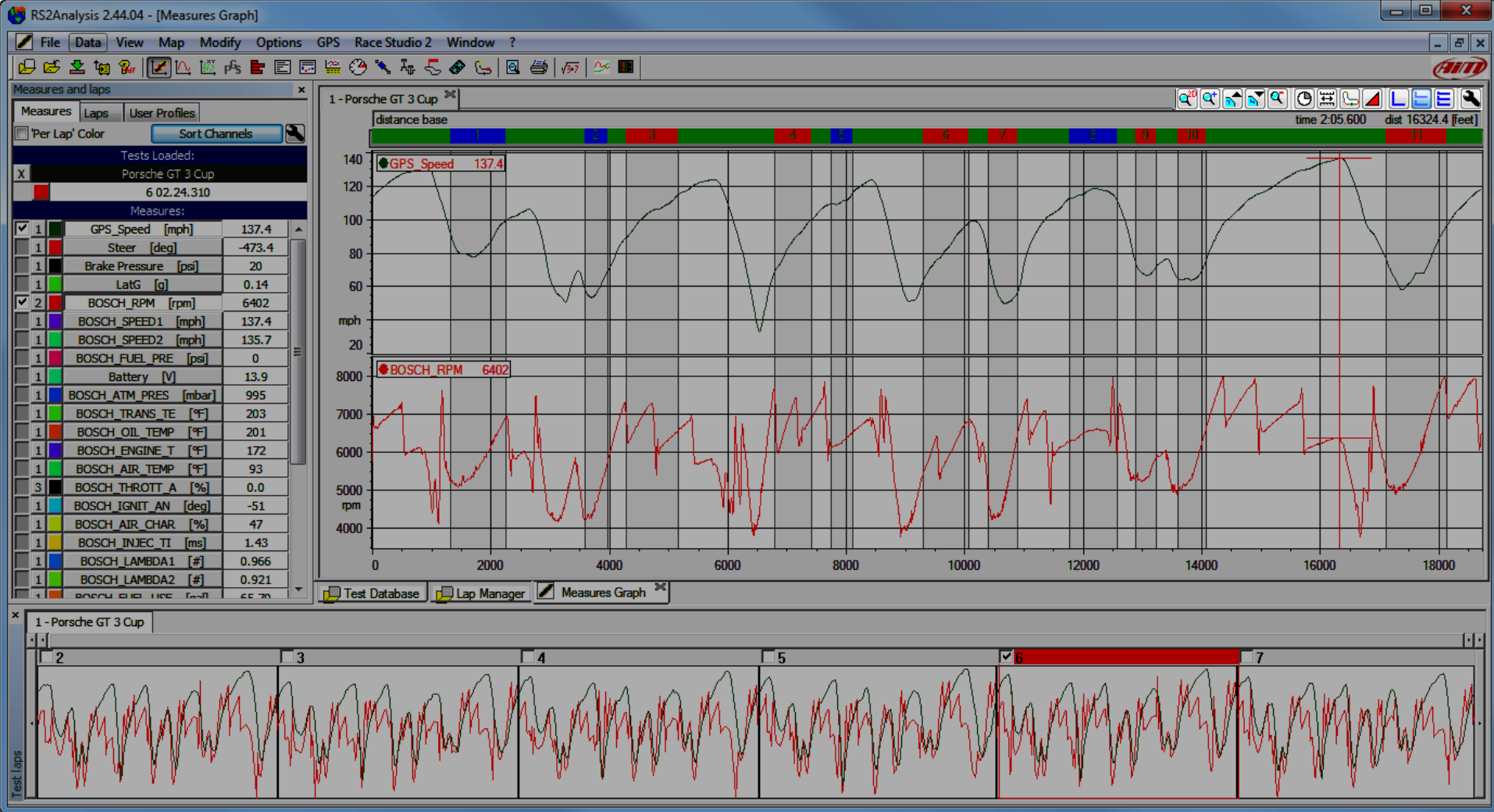
Let's look at the parts of the Race Studio 2 Analysis user interface.



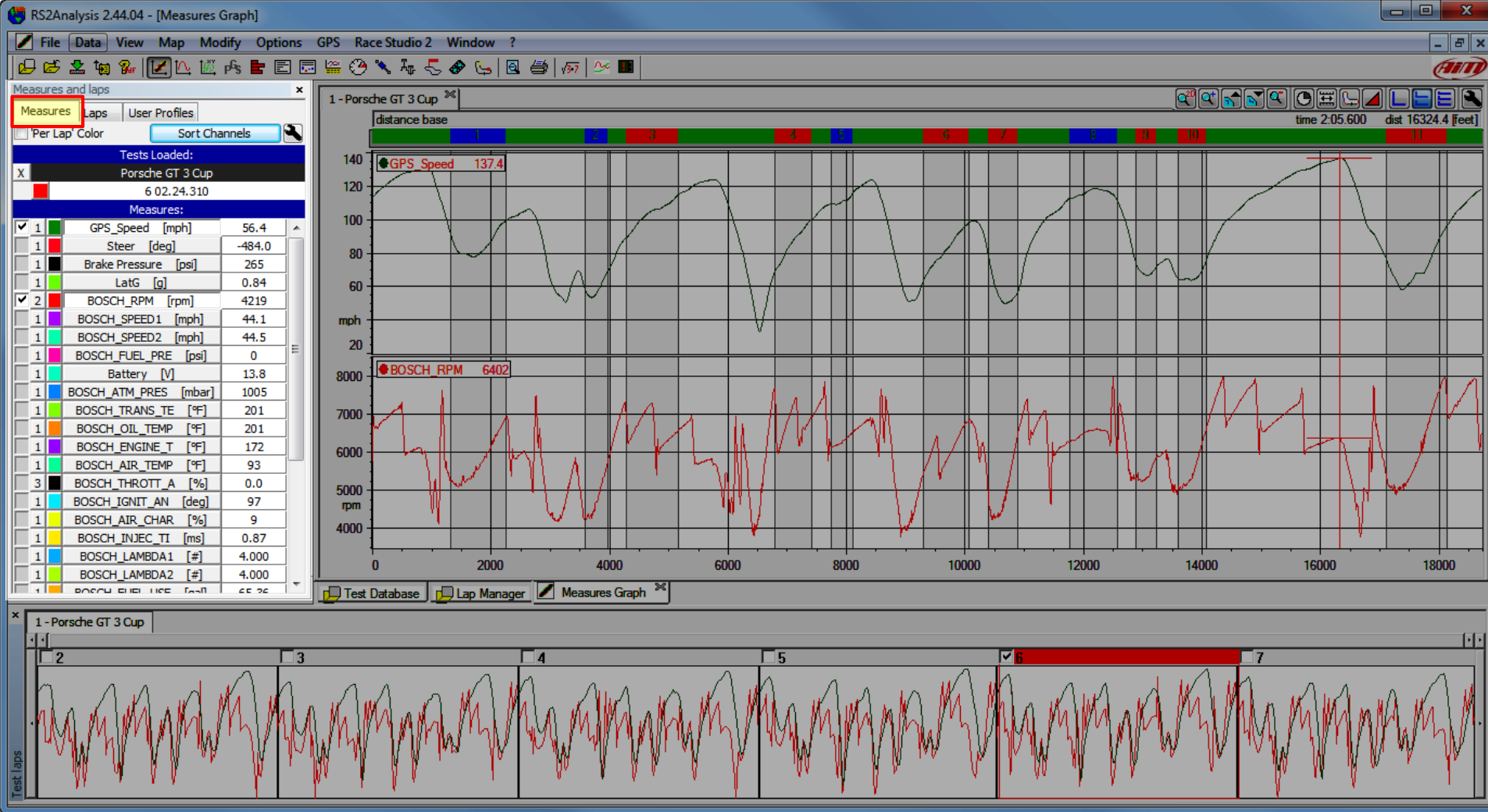
This is the Pull-down menu area of the window, this is similar to all of your windows programs and includes all the commands for the analysis of data although many analysis commands can also be found in the Primary and secondary as icon toolbars.



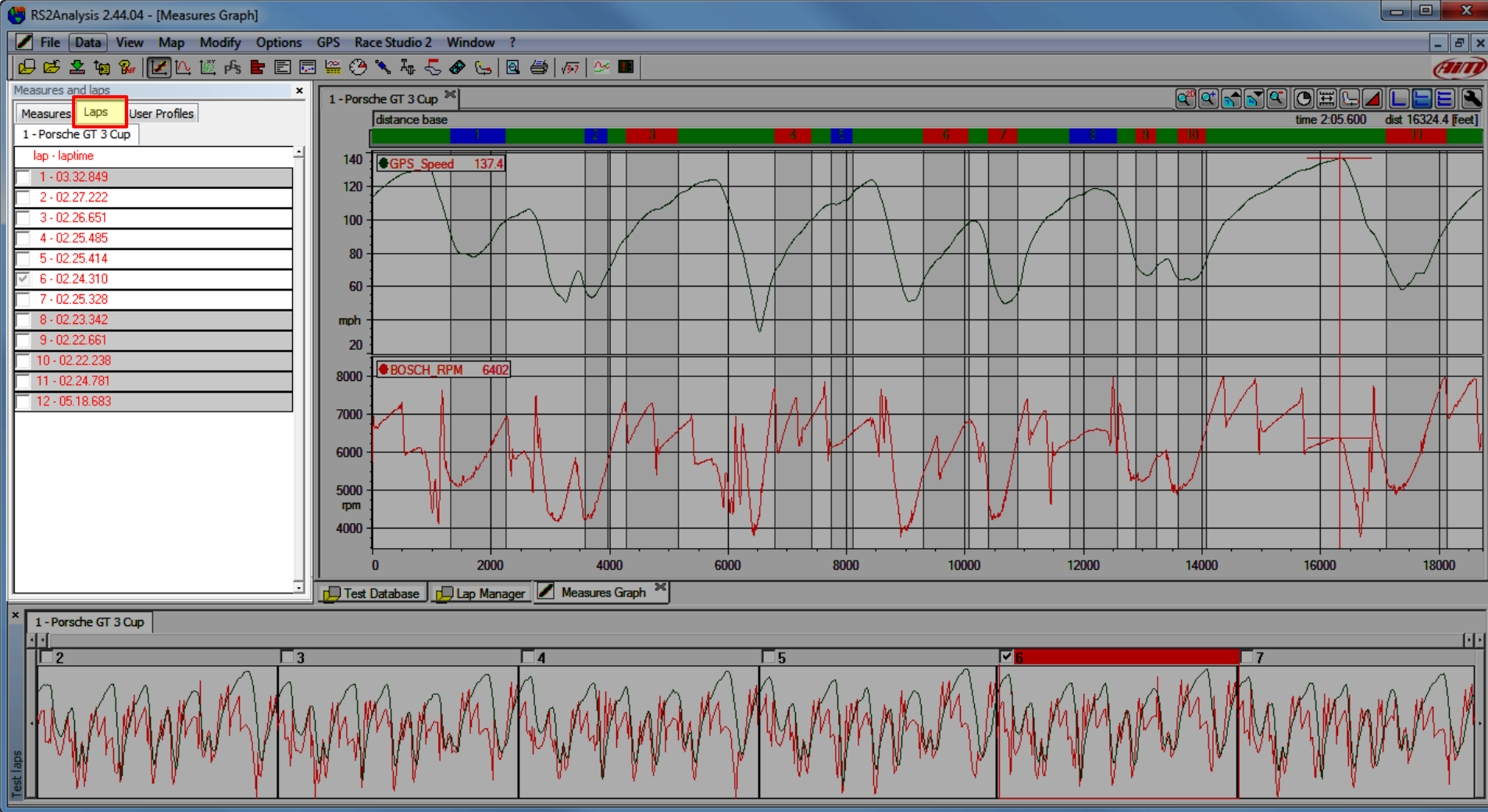
This is the **Primary Icon Toolbar**, these are shortcuts for the most popular tasks in **Race Studio 2**. This **Primary Icon Toolbar** changes to the most useful icons depending on what area of the software you have open and active.



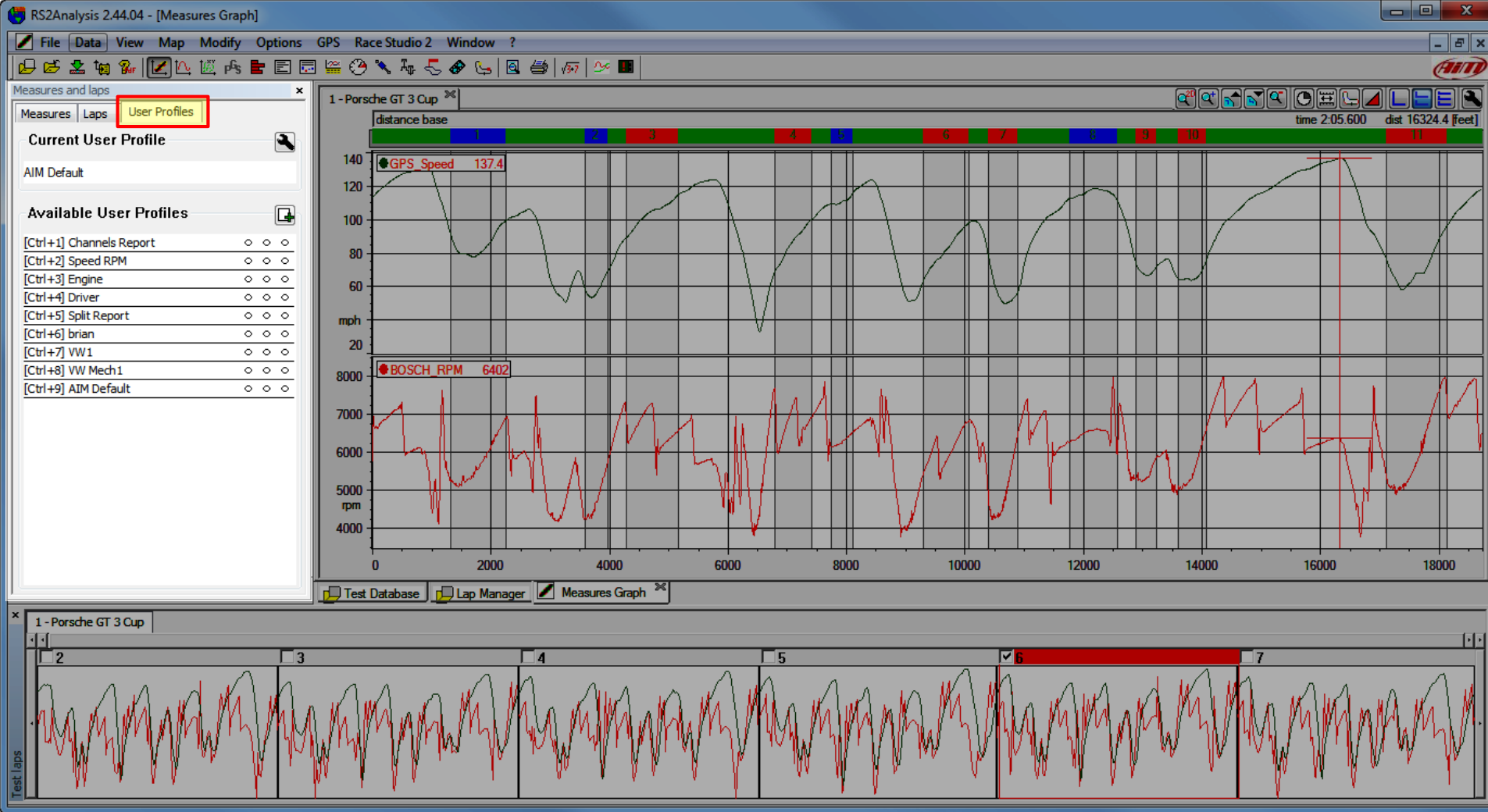
This is the **Secondary Icon Toolbar**, this is only available on functions that use the functions of zooming, moving, etc. of available data.



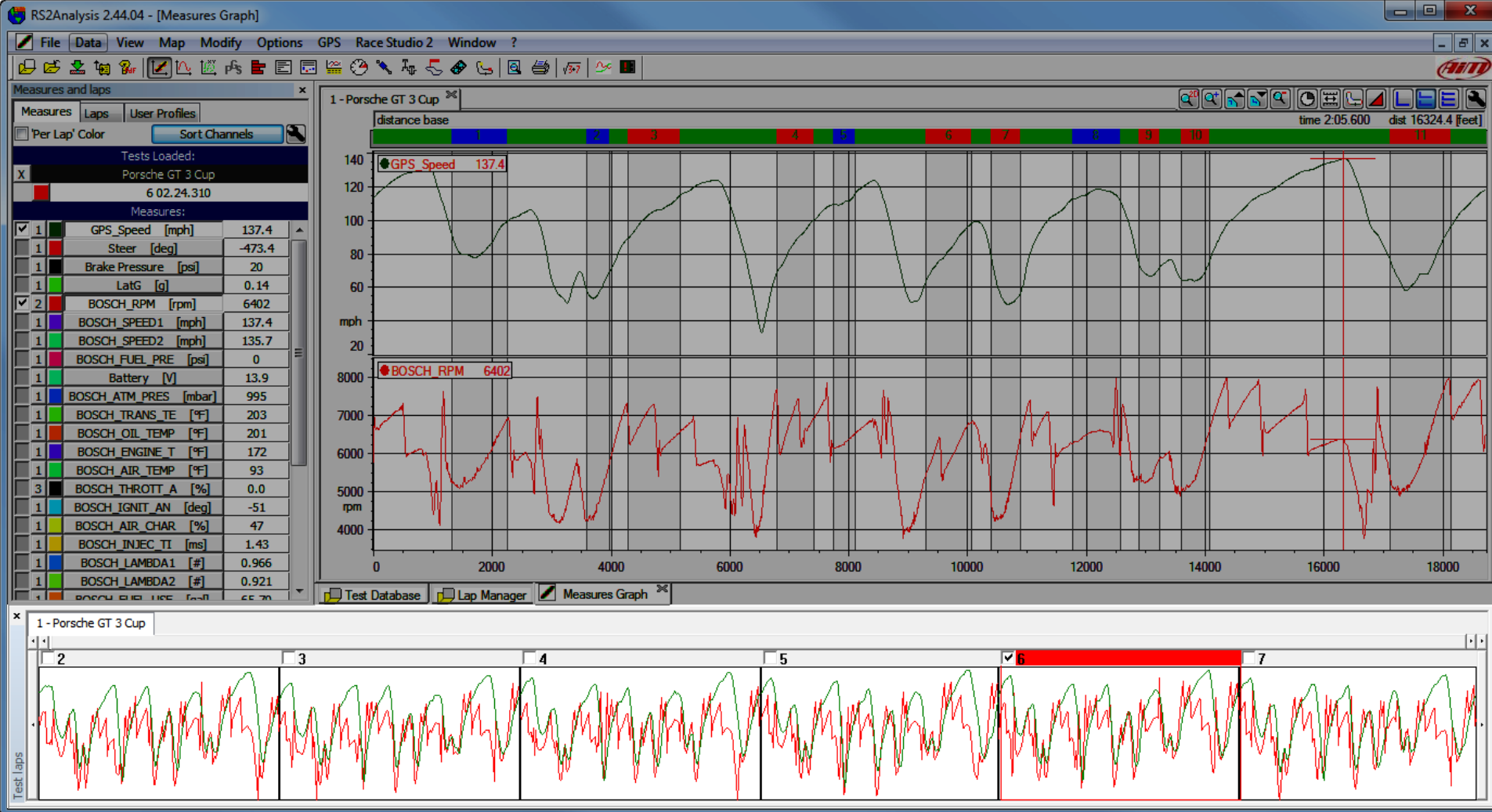
This is the **Measures and Laps Toolbar** and it is very full of information. Notice the 3 tabs, first is the **Measures Tab**. Shown on the **Measures Tab** is all of the values for the active laps where the cursor is positioned, sort channels, change line trace colors, ability to position traces in the main window, see your current test, lap number and lap time, and can turn on/off the graph scaling values.



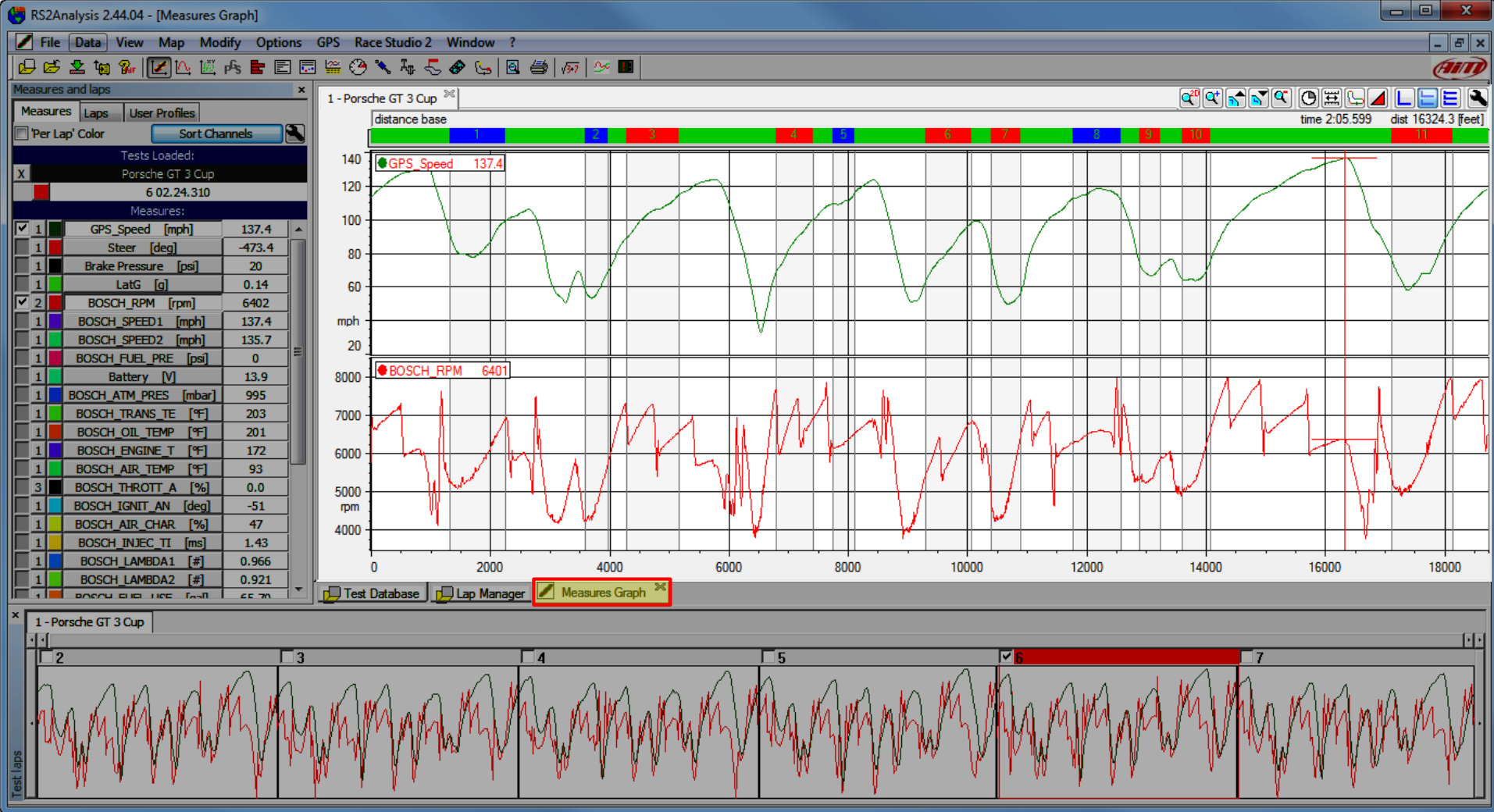
This is the **Measures and Laps Toolbar** and it is very full of information. Notice the 3 tabs, the second is the **Laps Tab**. The **Laps Tab** allows you to select the current tests laps and make them active laps. This is also one of several places you can see the entire sessions lap times.



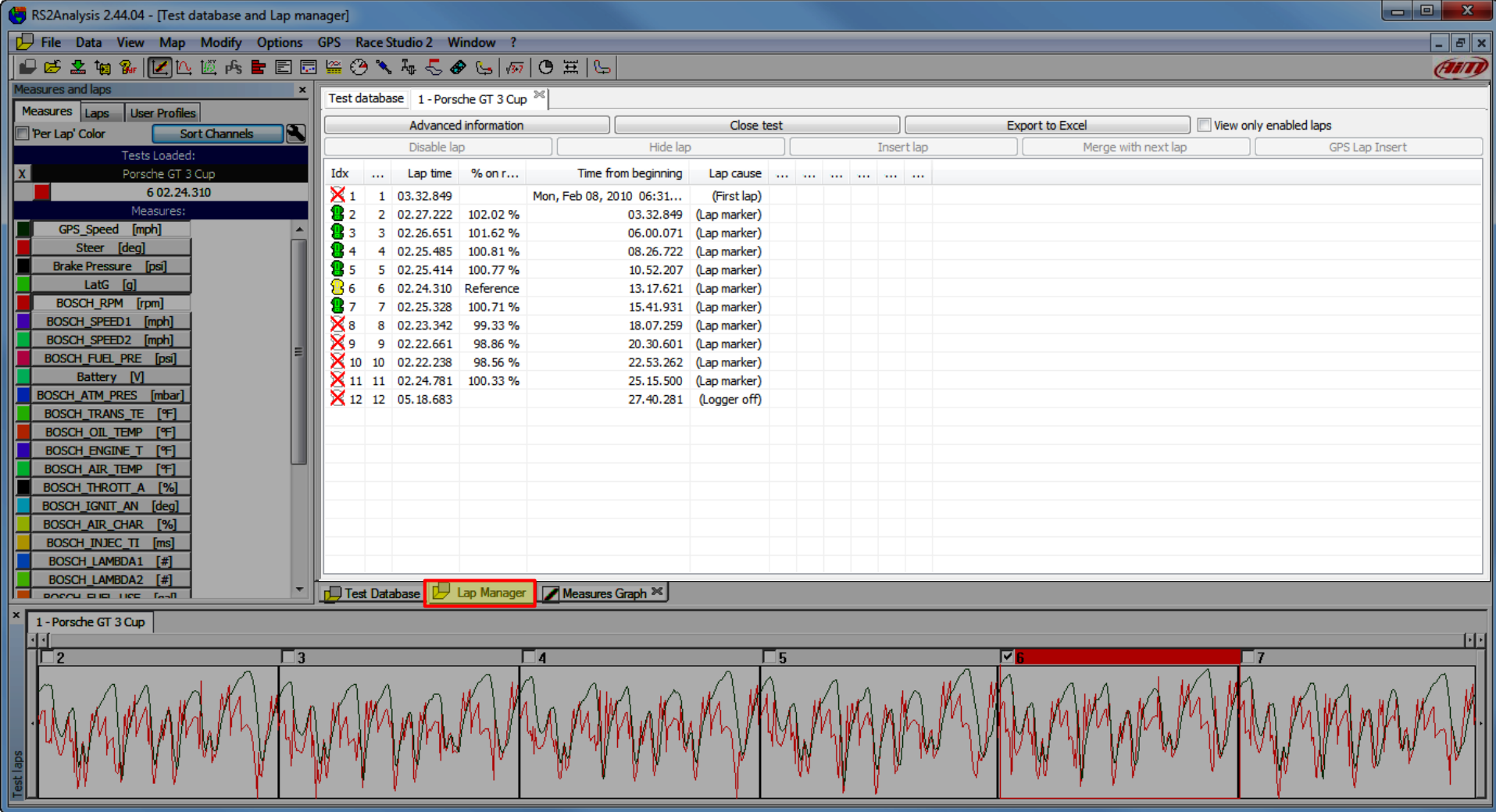
This is the **Measures and Laps Toolbar** and it is very full of information. Notice the 3 tabs, the third is the **User Profiles Tab**. The **User Profiles Tab** allows you to create, load, delete and save your **User Profiles**.



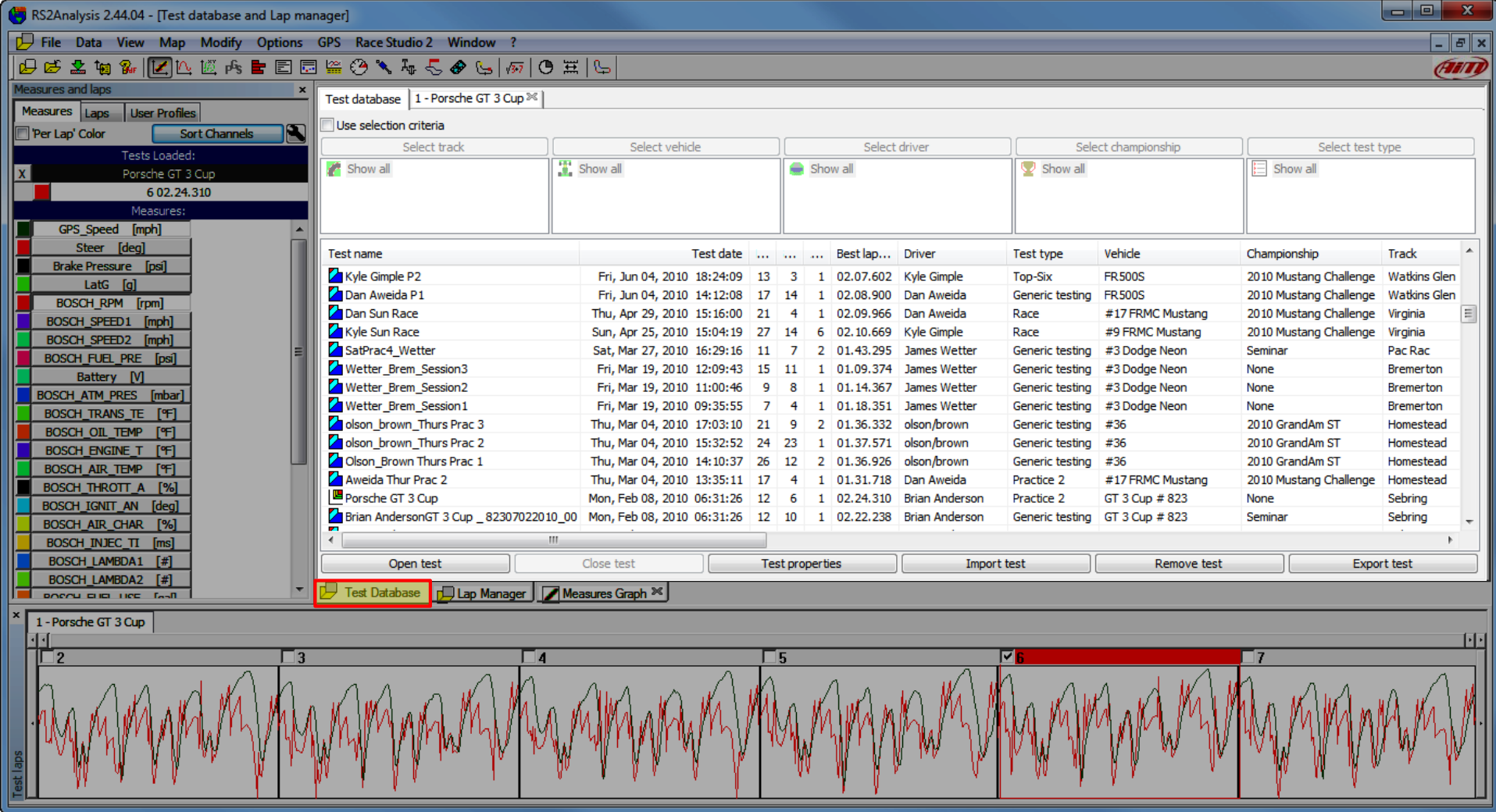
This is the **Test Laps Toolbar**, this is where you can quickly and easily see your active laps and add or remove a lap from the main window. The **Test Laps Toolbar** also shows you the primary color for each lap and that is helpful when using the “Per Lap” color function. You can also easily change the active lap by dragging and dropping the active lap to another lap.



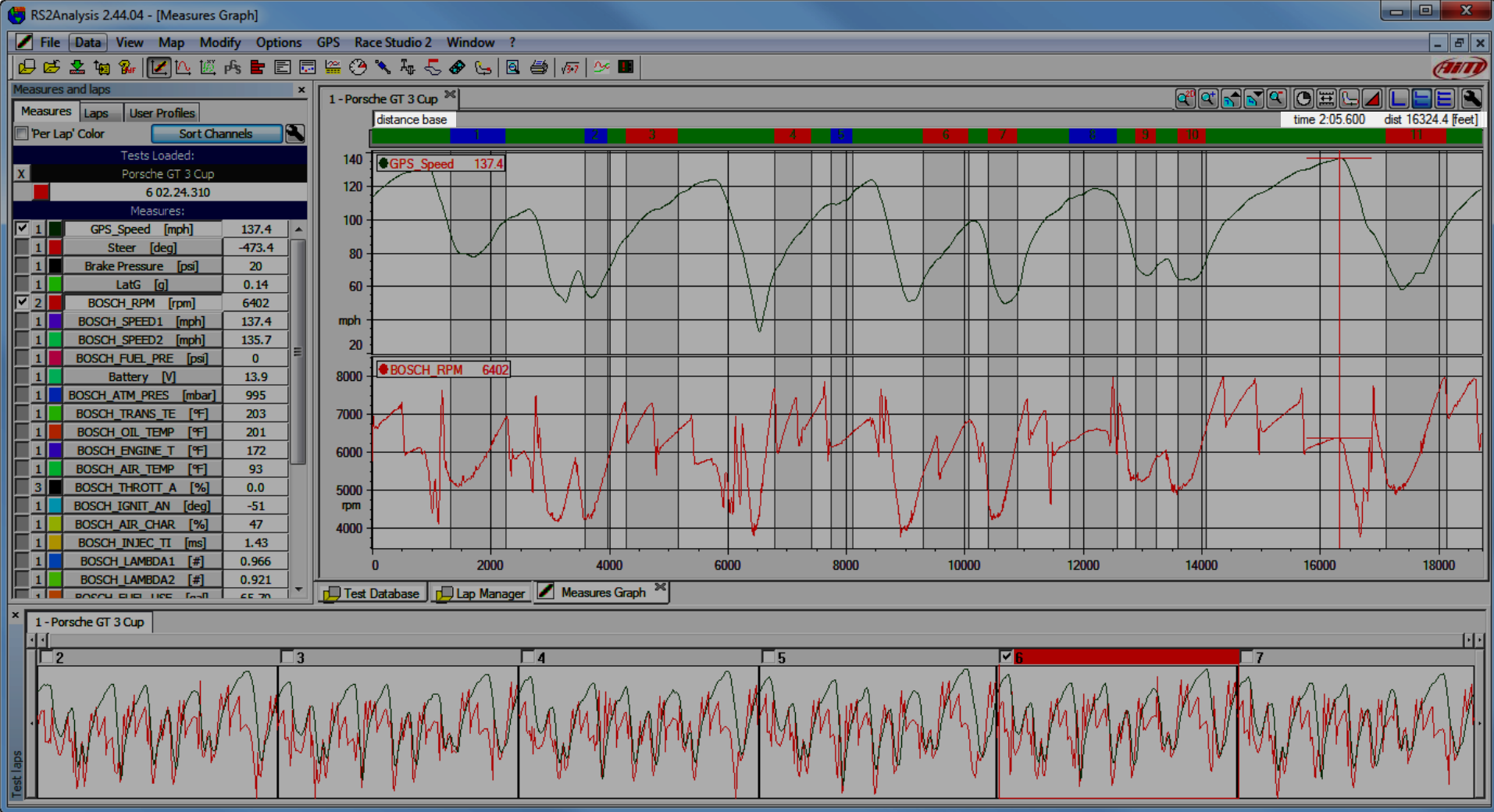
This is the **Main Window** area, this is where detailed information is shown controlled by the active tab you have chosen. Here the “**Measures Graph**” is shown. To add more functions (histograms, suspension analysis, x-y plots, etc,) click on their icon above or choose from the “**View**” pull-down menu.



This is the **Main Window** area, this is where detailed information is shown controlled by the active tab you have chosen. Here the “**Lap Manager**” is shown. To add more functions (histograms, suspension analysis, x-y plots, etc,) click on their icon above or choose from the “**View**” pull-down menu.



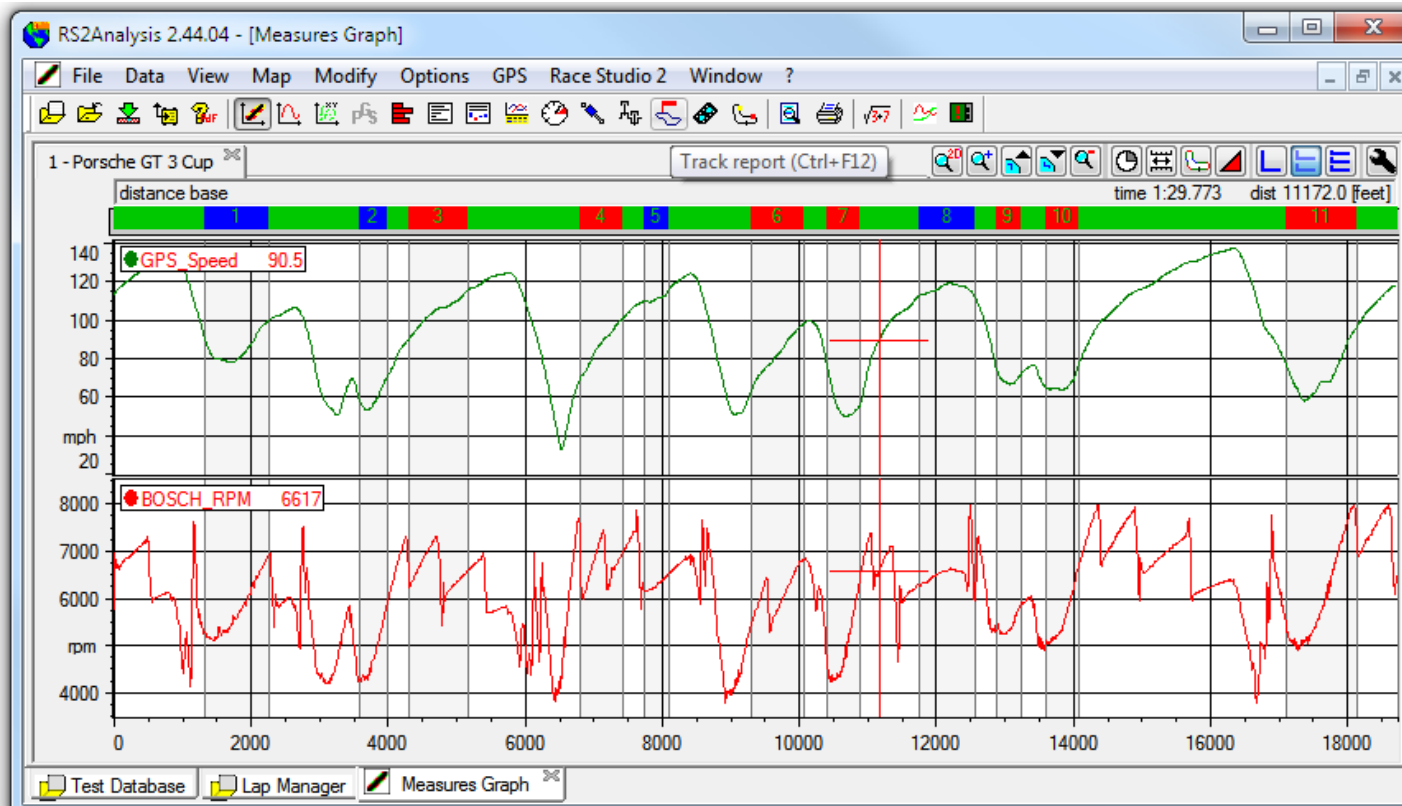
This is the **Main Window** area, this is where detailed information is shown controlled by the active tab you have chosen. Here the “**Test Database**” is shown. To add more functions (histograms, suspension analysis, x-y plots, etc,) click on their icon above or choose from the “**View**” pull-down menu.



This is the **Status Bar** area, this is where detailed information is shown in the "Measures Graph" window. On the left this will be either the shown "Distance Base" or "Time Base" depending on what you have set for the X Axis. On the right is the cursor position shown in time and distance since the start of the active lap.



All of the sections of the Race Studio 2 software we have already discussed are actually “dockable” sections and can be placed where you want them on your screen.



Measures and laps

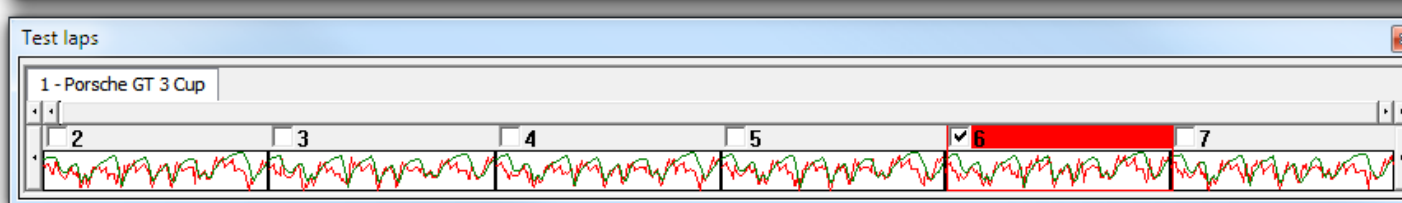
Measures Laps User Profiles

'Per Lap' Color

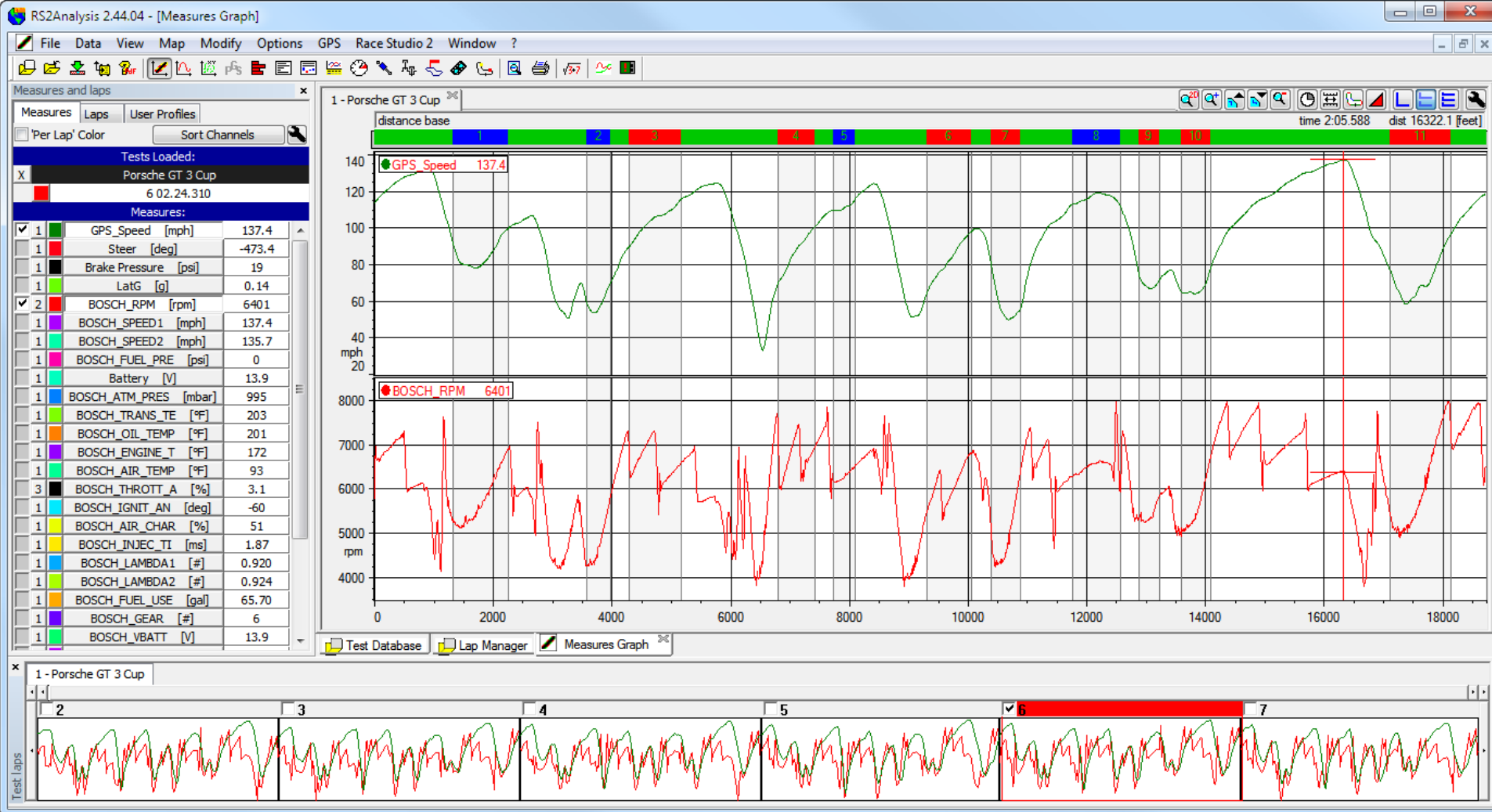
Tests Loaded:
X Porsche GT 3 Cup
6 02.24.310

Measures:

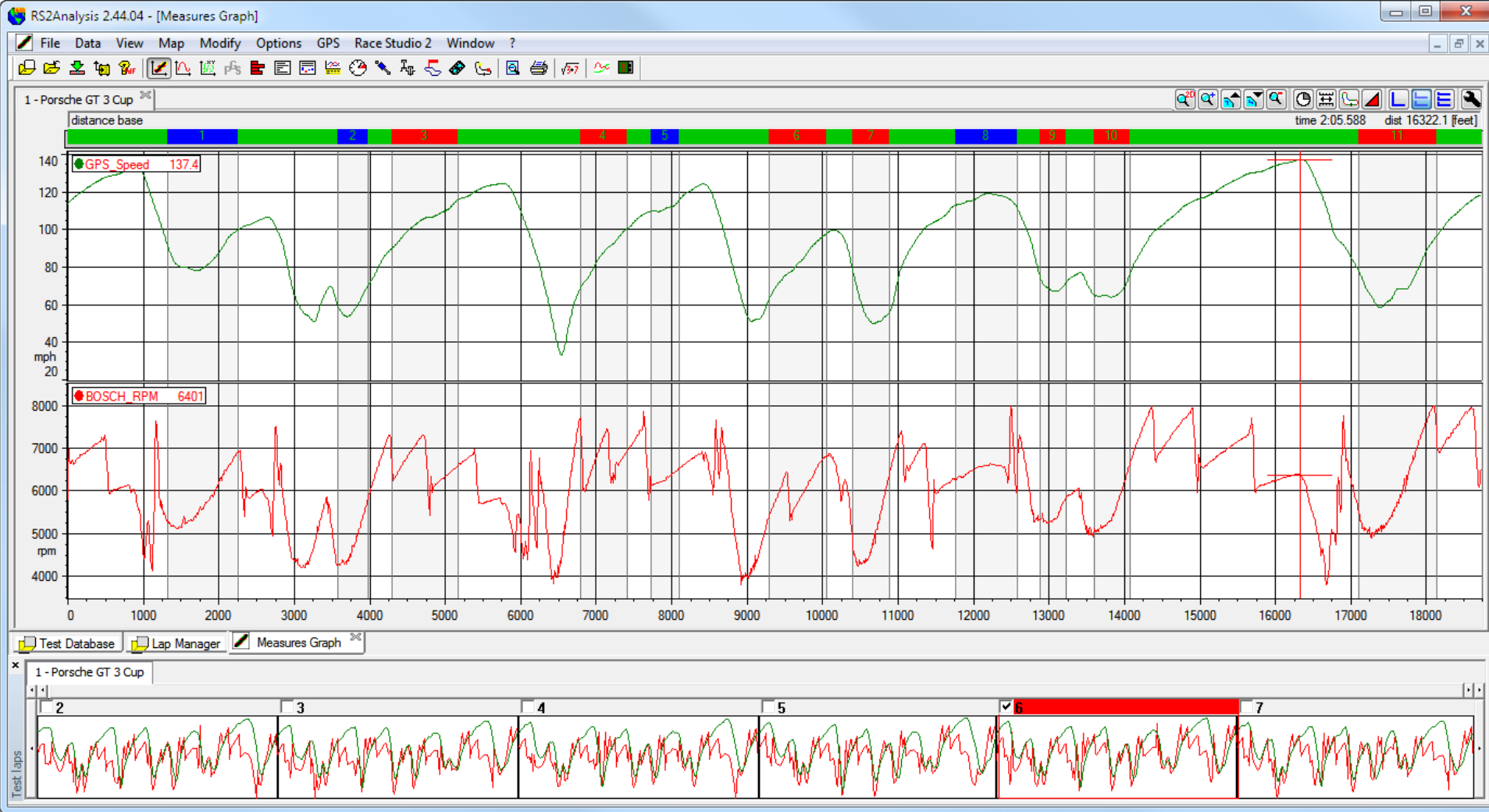
| | | | |
|-------------------------------------|---|-----------------------|--------|
| <input checked="" type="checkbox"/> | 1 | GPS_Speed [mph] | 90.5 |
| <input type="checkbox"/> | 1 | Steer [deg] | -473.1 |
| <input type="checkbox"/> | 1 | Brake Pressure [psi] | 15 |
| <input type="checkbox"/> | 1 | LatG [g] | 0.01 |
| <input checked="" type="checkbox"/> | 2 | BOSCH_RPM [rpm] | 6617 |
| <input type="checkbox"/> | 1 | BOSCH_SPEED1 [mph] | 97.9 |
| <input type="checkbox"/> | 1 | BOSCH_SPEED2 [mph] | 97.4 |
| <input type="checkbox"/> | 1 | BOSCH_FUEL_PRE [psi] | 0 |
| <input type="checkbox"/> | 1 | Battery [V] | 13.9 |
| <input type="checkbox"/> | 1 | BOSCH_ATM_PRES [mbar] | 1001 |
| <input type="checkbox"/> | 1 | BOSCH_TRANS_TE [°F] | 199 |
| <input type="checkbox"/> | 1 | BOSCH_OIL_TEMP [°F] | 201 |
| <input type="checkbox"/> | 1 | BOSCH_ENGINE_T [°F] | 172 |
| <input type="checkbox"/> | 1 | BOSCH_AIR_TEMP [°F] | 93 |
| <input type="checkbox"/> | 3 | BOSCH_THROTT_A [%] | 100.0 |
| <input type="checkbox"/> | 1 | BOSCH_IGNIT_AN [deg] | -62 |
| <input type="checkbox"/> | 1 | BOSCH_AIR_CHAR [%] | 99 |
| <input type="checkbox"/> | 1 | BOSCH_INJEC_TI [ms] | 9.41 |
| <input type="checkbox"/> | 1 | BOSCH_LAMBDA1 [#] | 0.911 |
| <input type="checkbox"/> | 1 | BOSCH_LAMBDA2 [#] | 0.922 |
| <input type="checkbox"/> | 1 | BOSCH_FUEL_USE [gal] | 65.54 |
| <input type="checkbox"/> | 1 | BOSCH_GEAR [#] | 4 |
| <input type="checkbox"/> | 1 | BOSCH_VBATT [V] | 13.6 |
| <input type="checkbox"/> | 1 | Datalogger_Tem [°F] | 90 |
| <input type="checkbox"/> | 3 | GPS_LatAcc [g] | 0.12 |
| <input type="checkbox"/> | 1 | GPS_LonAcc [g] | 0.40 |



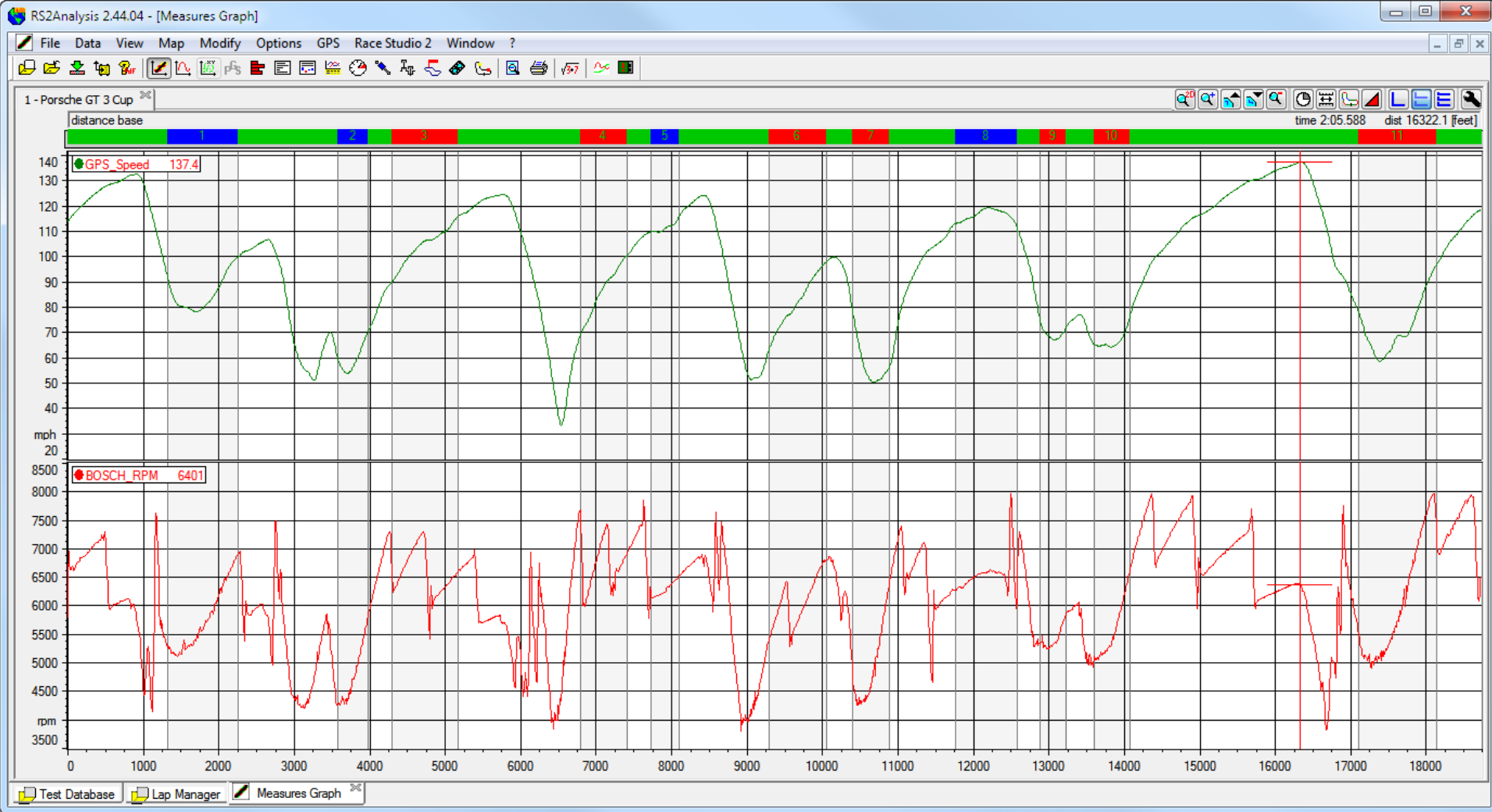
Or can even be “Undocked” completely if you want by just dragging and dropping them where you want on your screen.



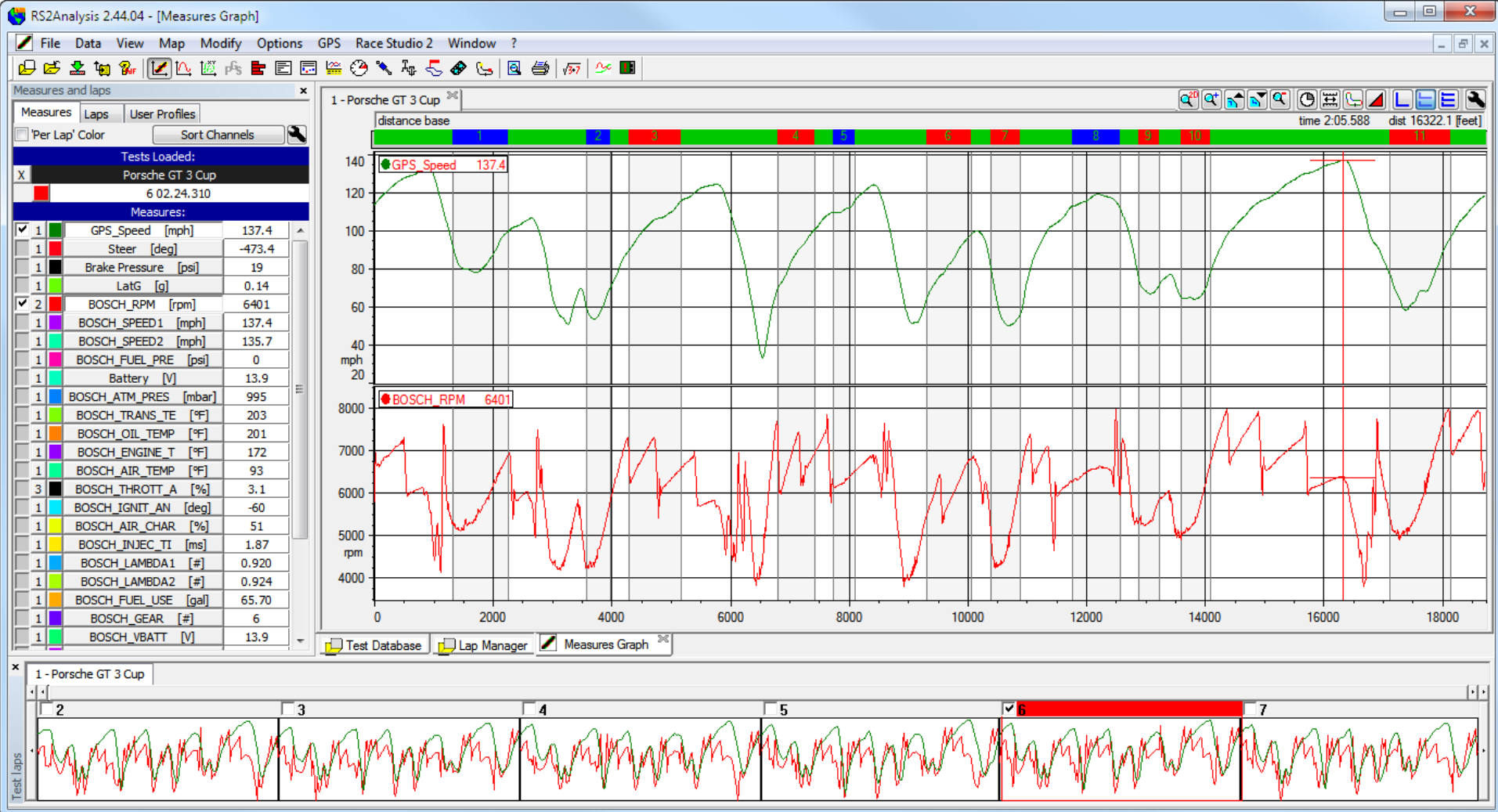
But really the typical view is best as shown here. But another couple of tricks can be used to make this view even better. To maximize screen area quickly especially when analyzing data on smaller screens, we can quickly "Hide" the Measures and Laps Toolbar by just pressing the spacebar on your keyboard once.



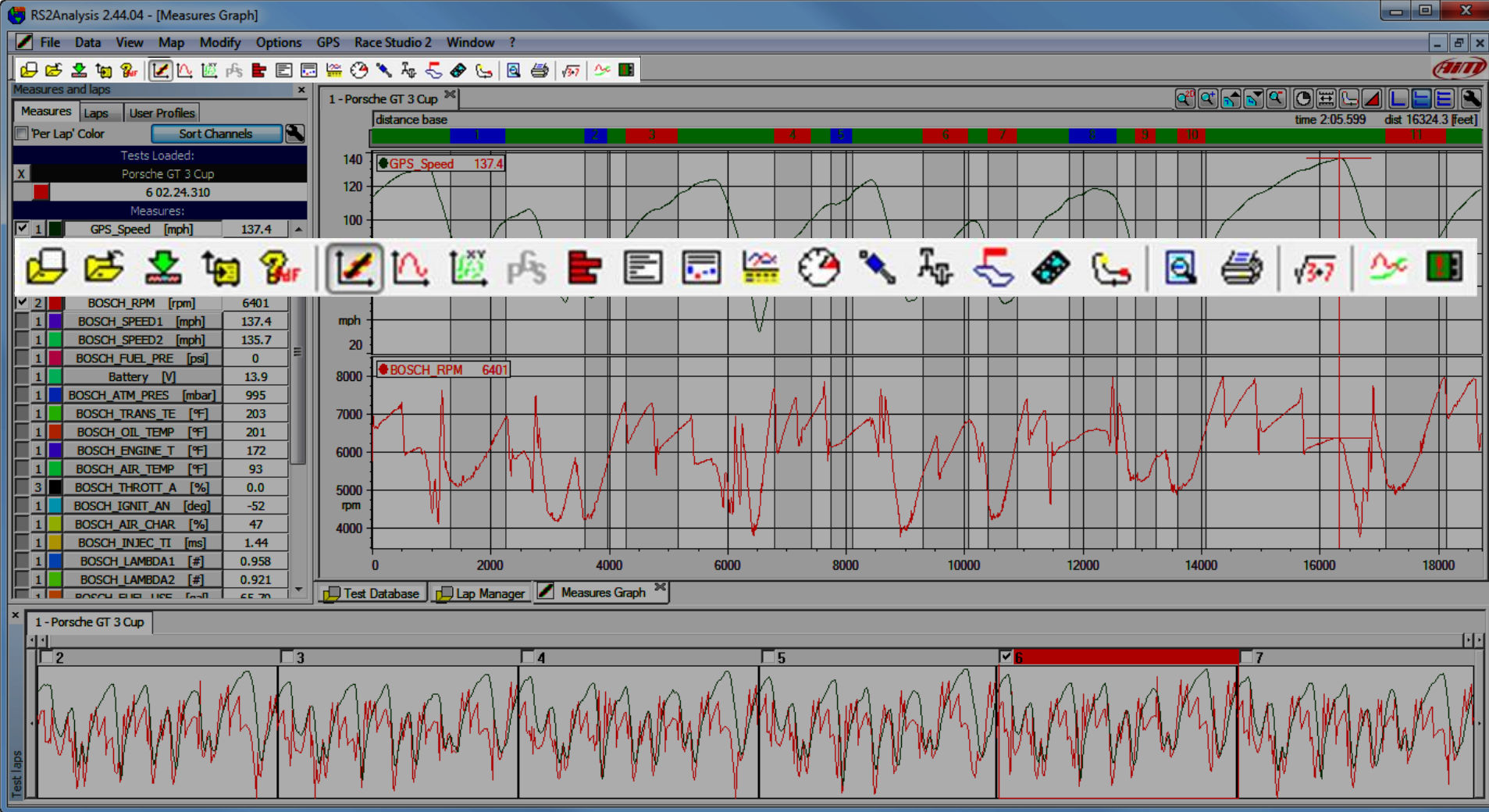
Notice how the **Main Window** is now full width and we have more room to analyze our data. We can also quickly “**Hide**” the **Test Laps Toolbar** by holding the control key and pressing the spacebar on your keyboard once.



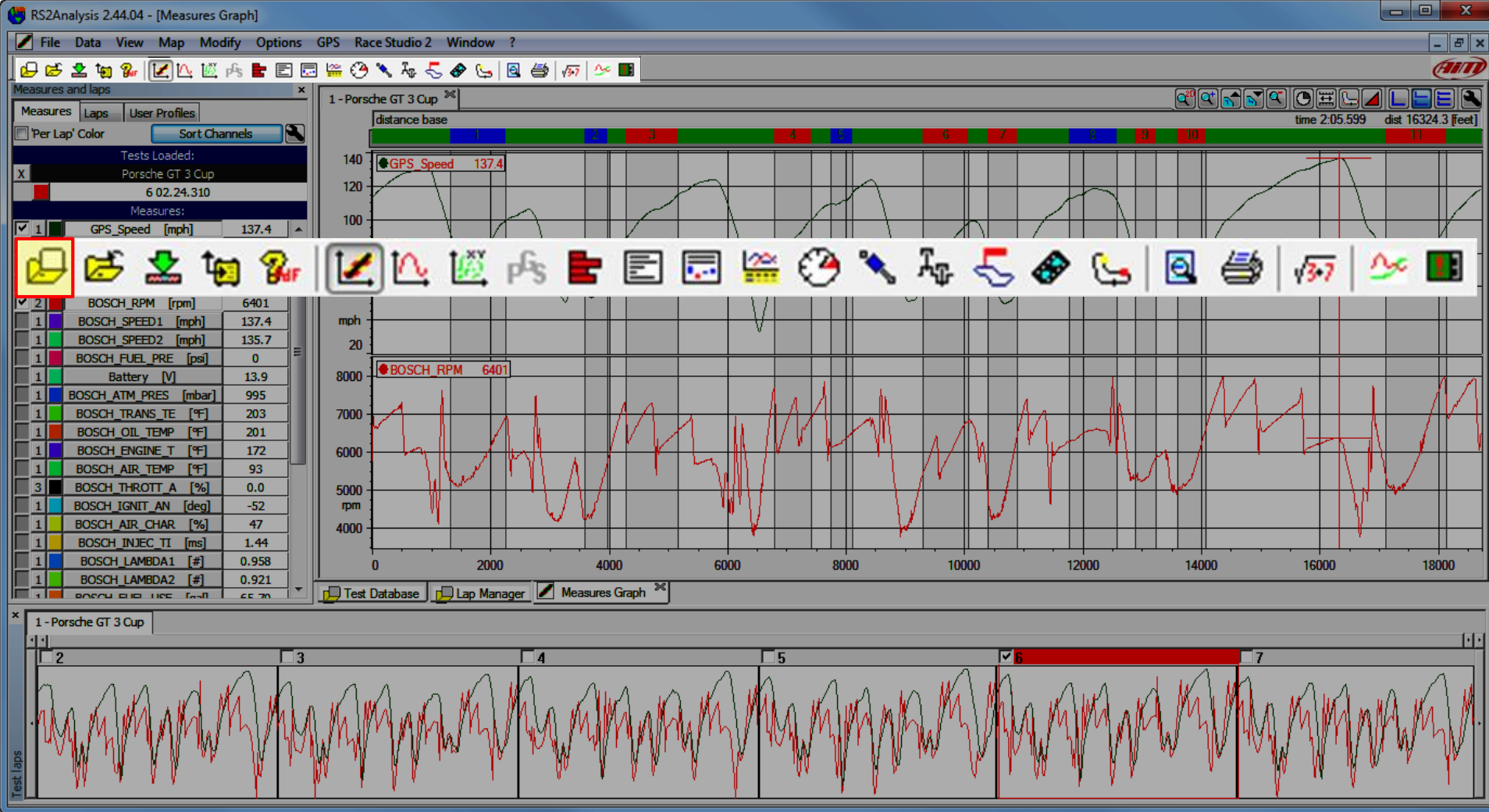
Notice how the **Main Window** is now full width and height and we have maximum room to analyze our data. The **Toolbars** can be toggled back on very quickly by pressing the control and spacebar again for the **Test Laps Toolbar** and the spacebar alone for the **Measures and Laps Toolbar**.



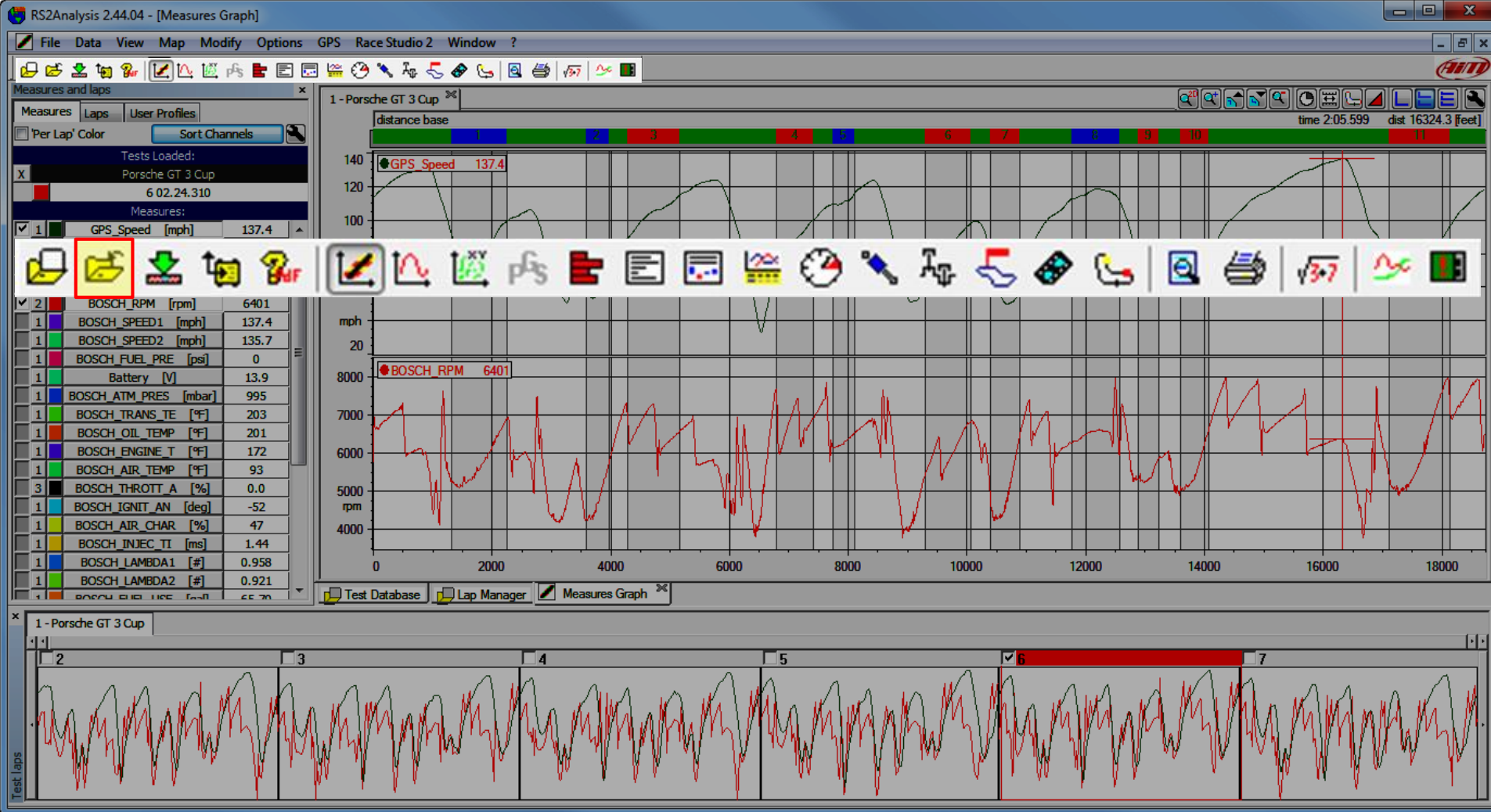
And it is back to our **Default View**.



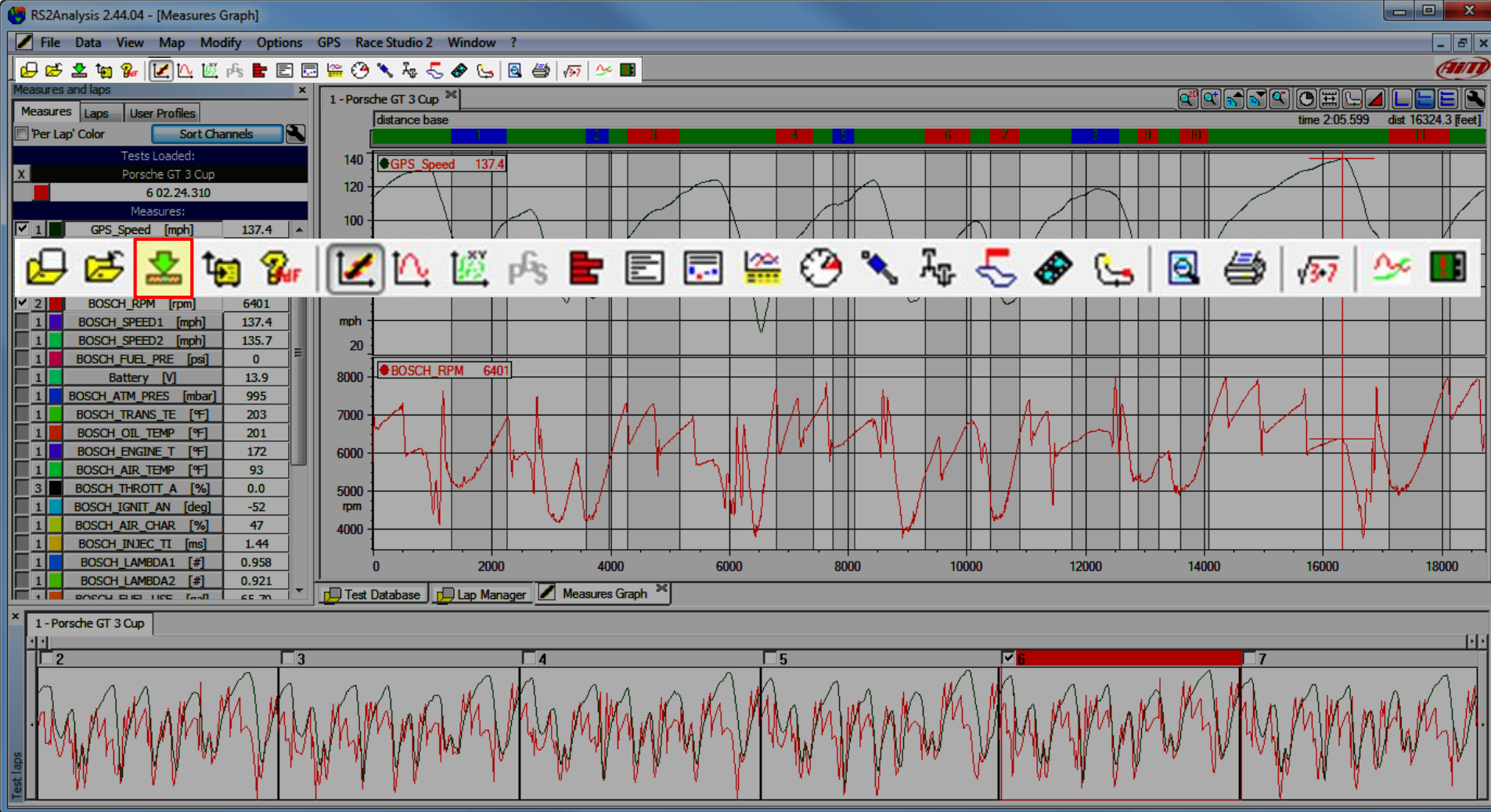
Let's take a tour of the **Primary Icon Toolbar** items.



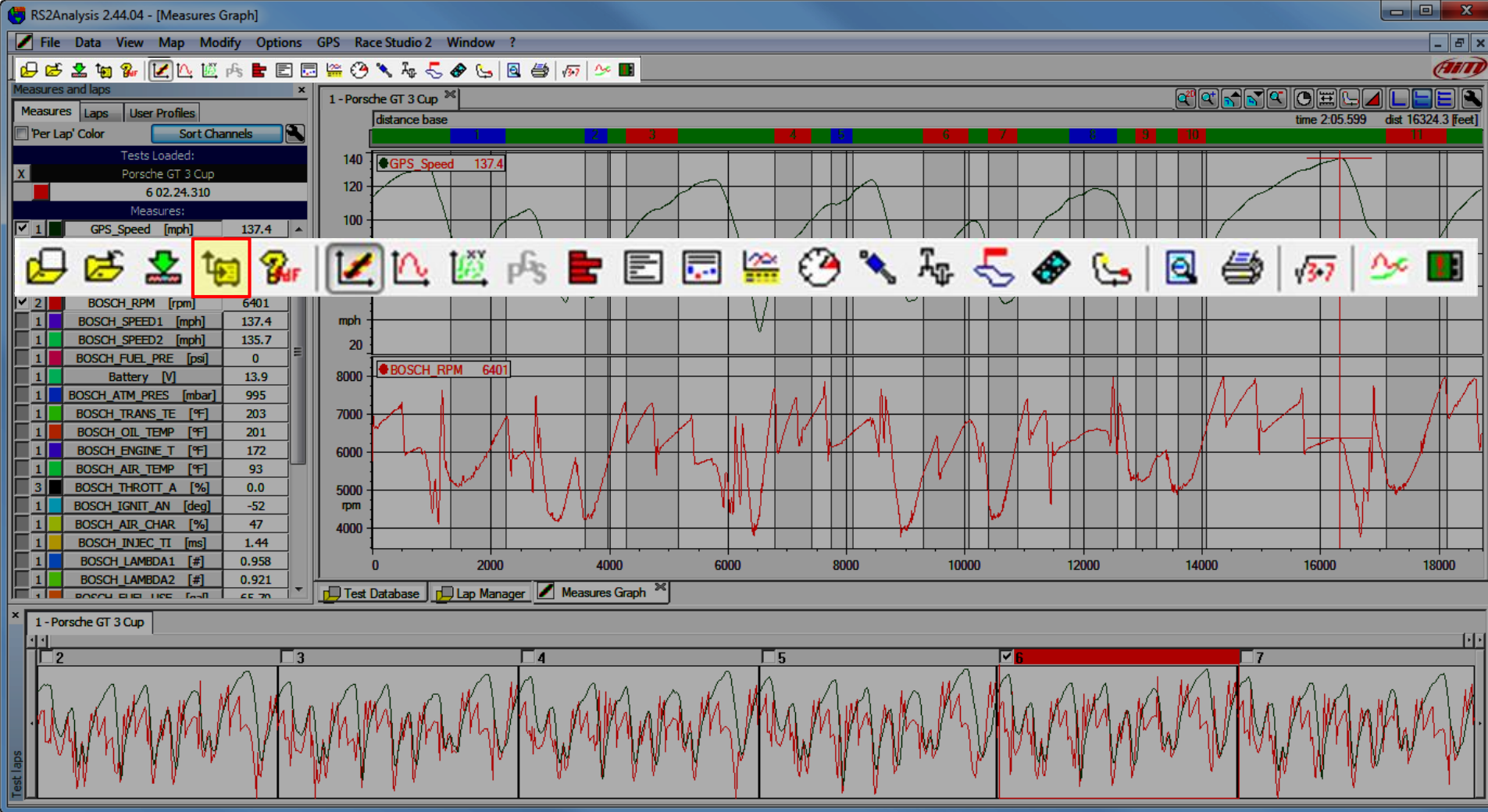
Primary Icon Toolbar item: **Open a Test**. Use this or the test database tab to open a new test.



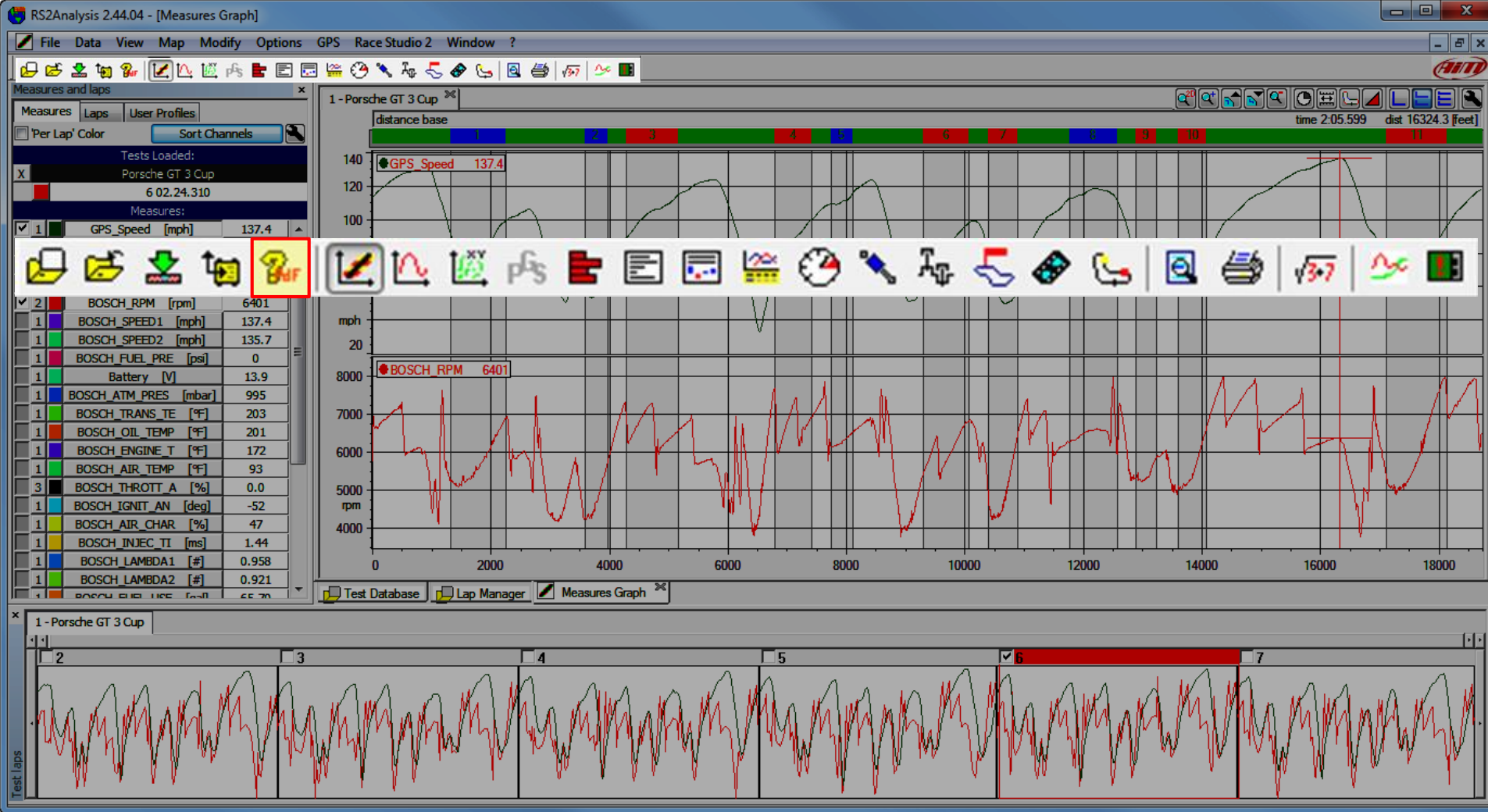
Primary Icon Toolbar item: **Cancel a Test** from the selected set. Use this or the test database tab to close a test.



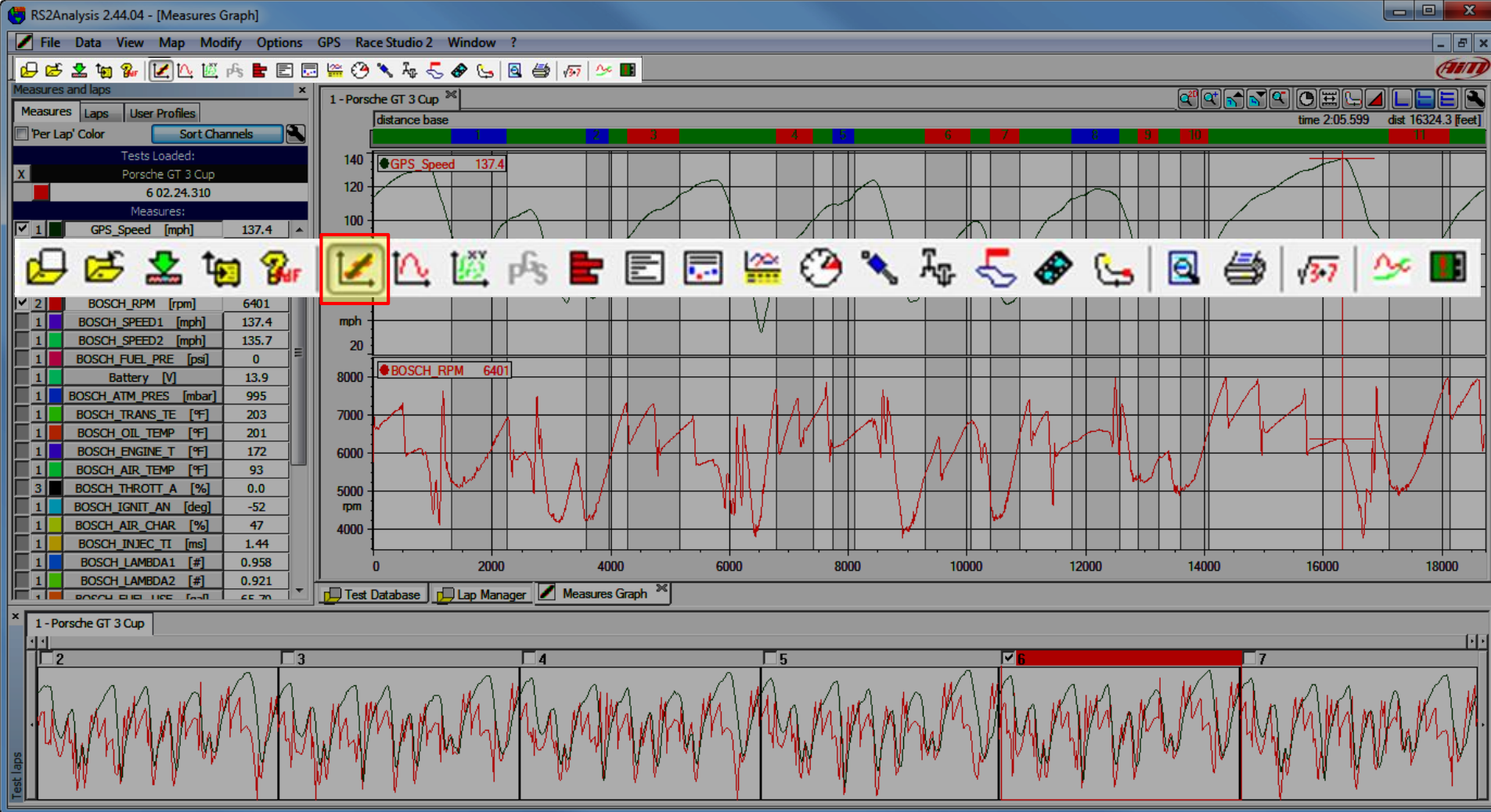
Primary Icon Toolbar item: **Download**. Use this to **Download** a test from your data system.



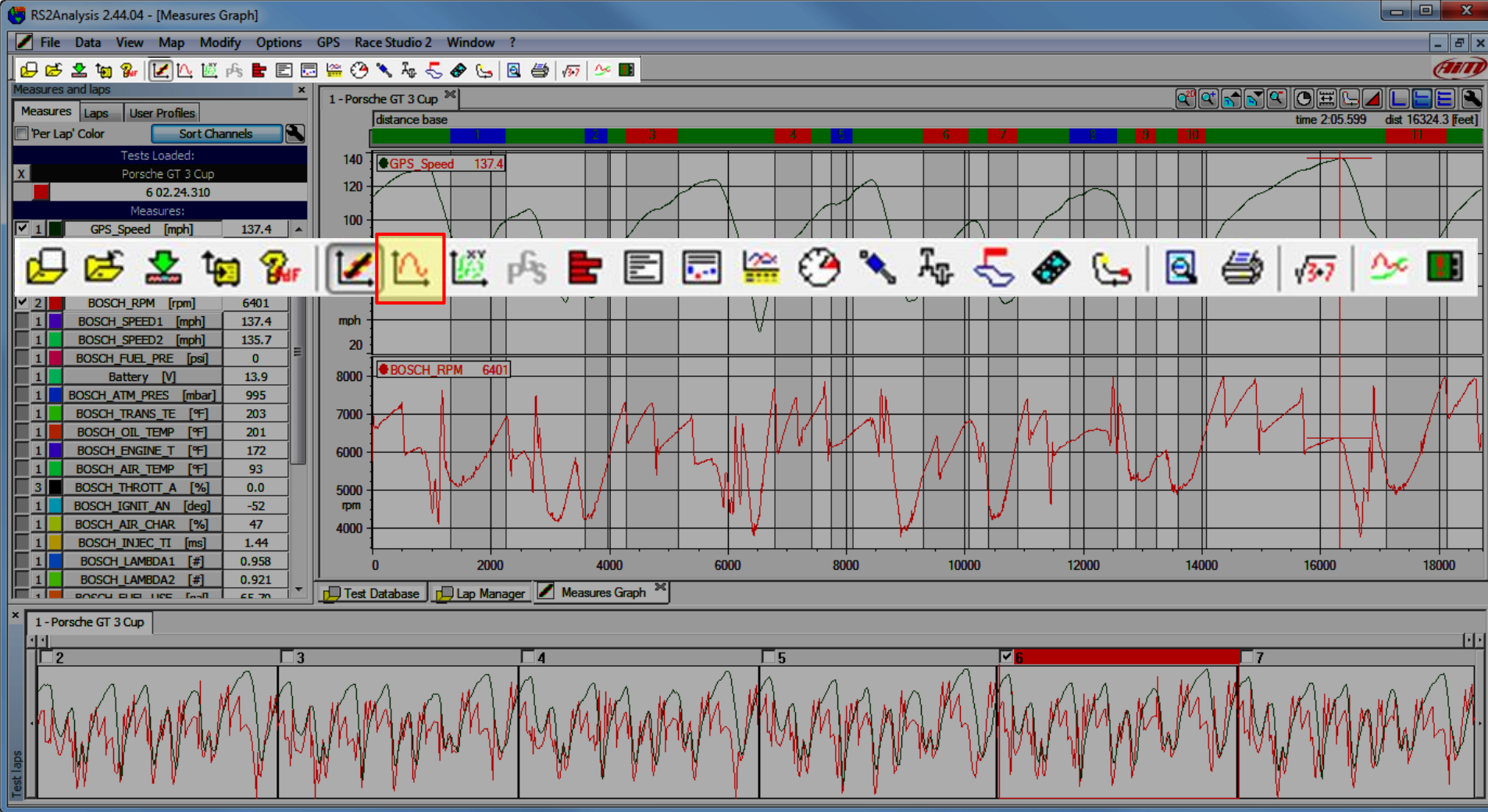
Primary Icon Toolbar item: **Race Studio 2**. Use this to jump directly to the **Race Studio 2** configuration software or use the **Race Studio 2** item in the pull-down menu bar.



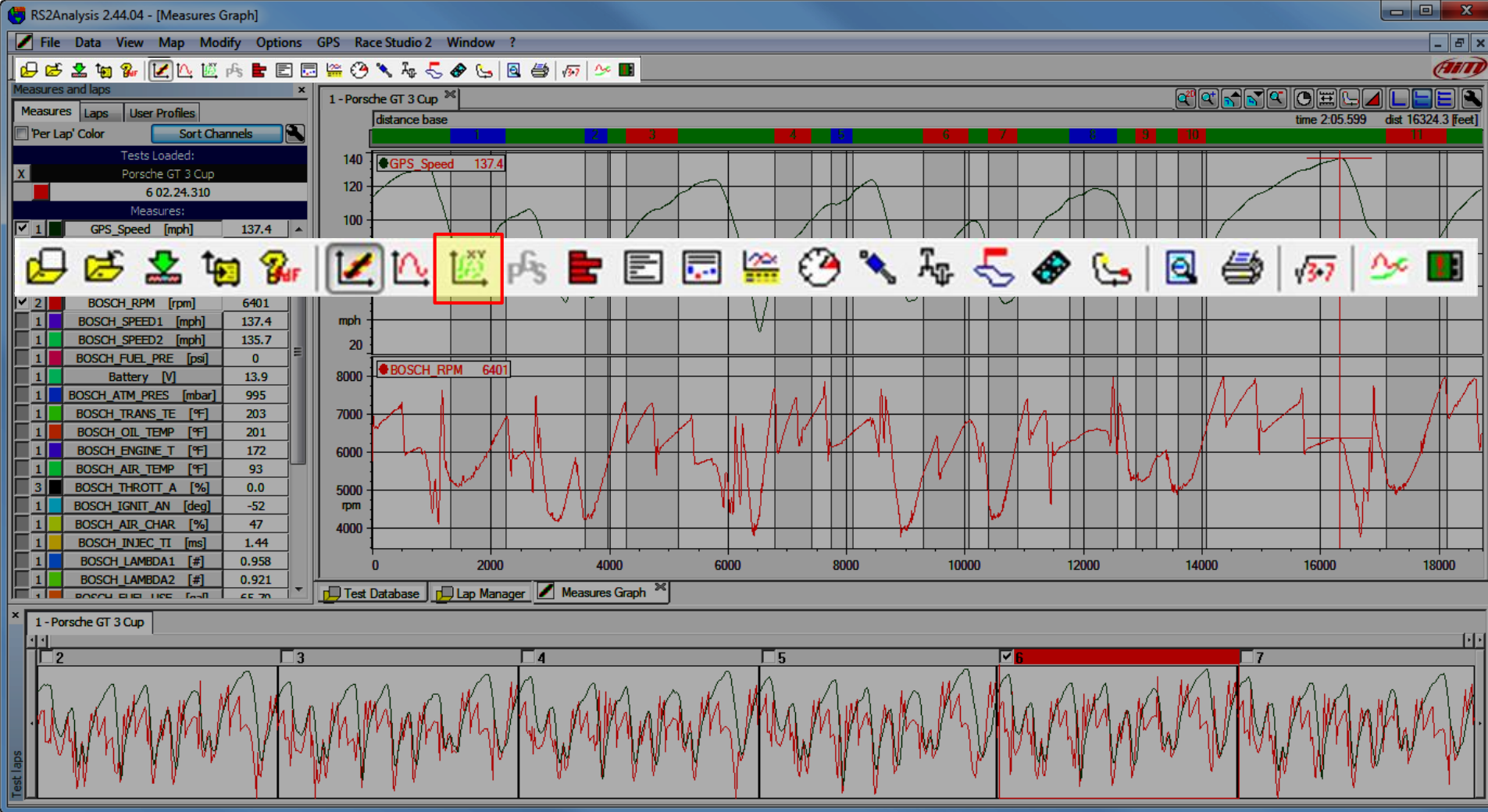
Primary Icon Toolbar item: **Online Manual**. Use this to open the (not updated) **Online Manual**. Also get the **Manual** from the **?** on the pull-down menu.



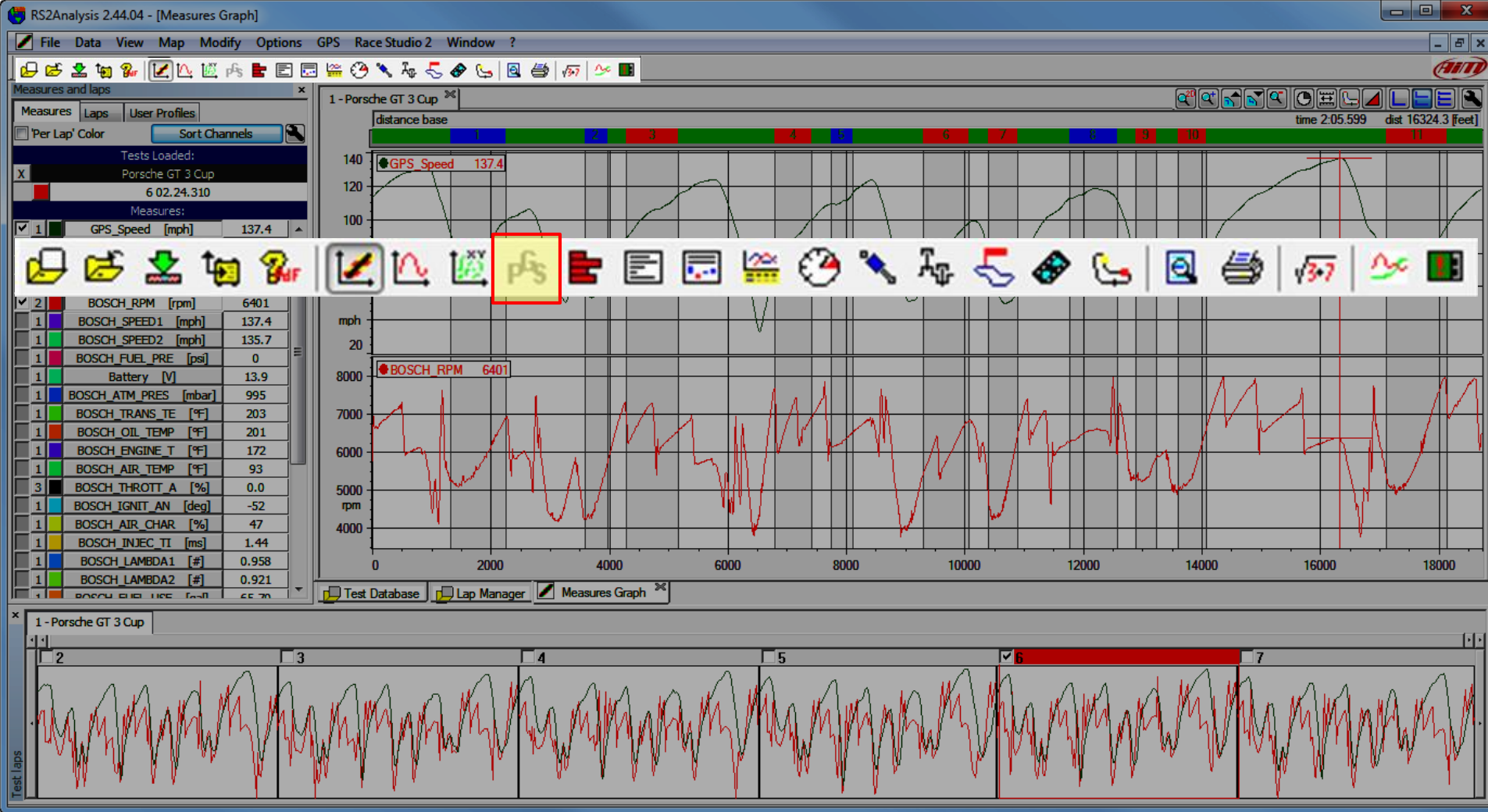
Primary Icon Toolbar item: **Plot Measures in a Graph**. This is the most used icon in the list and is how you View Channels vs. Time or Distance. Also get the **Plot Measures in a Graph** from the view item on the pull-down menu.



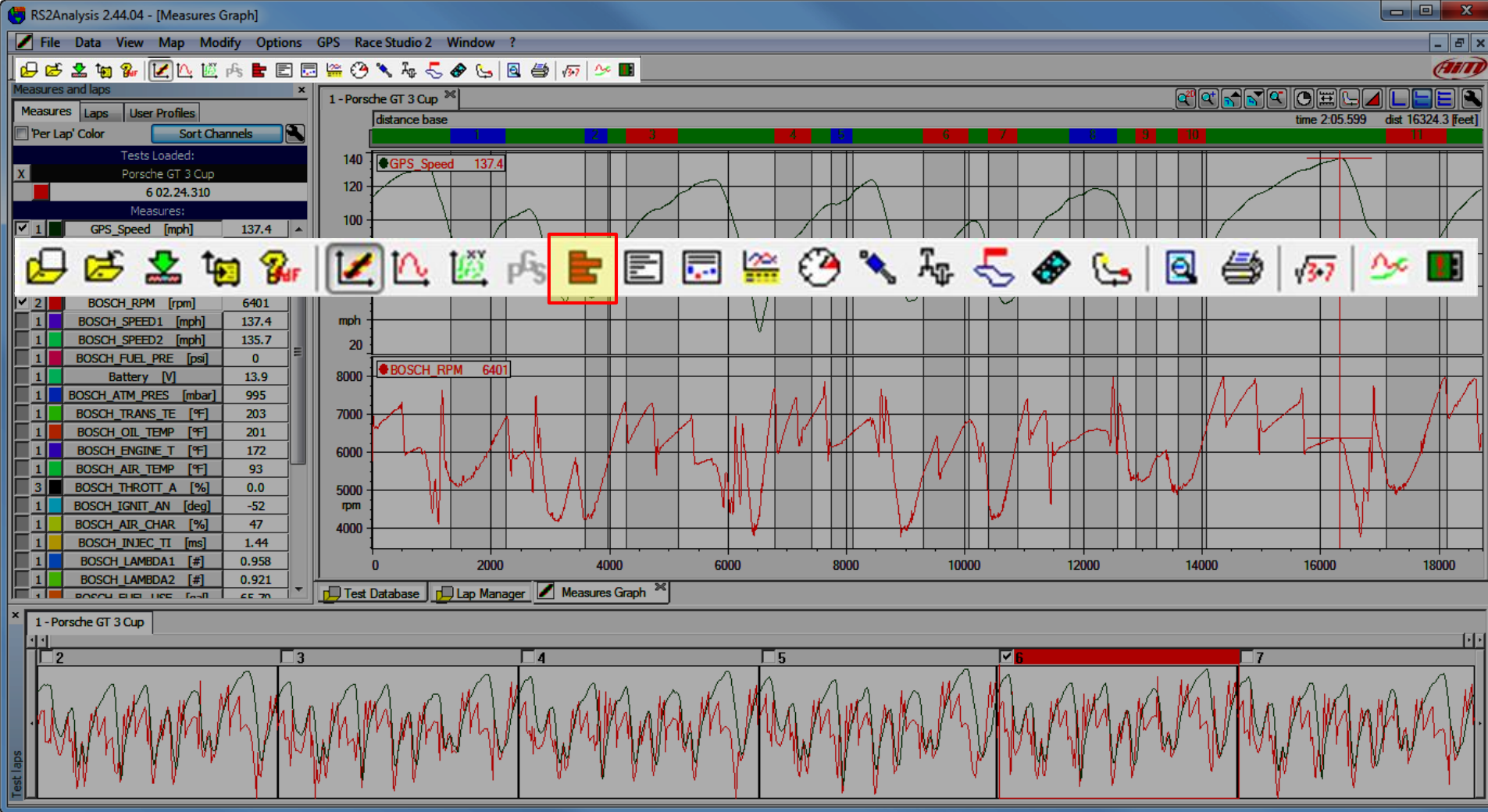
Primary Icon Toolbar item: **Plot Measures vs. Frequency**. This is used frequently for suspension analysis. Also get the **Plot Measures vs. Frequency** from the view item on the pull-down menu.



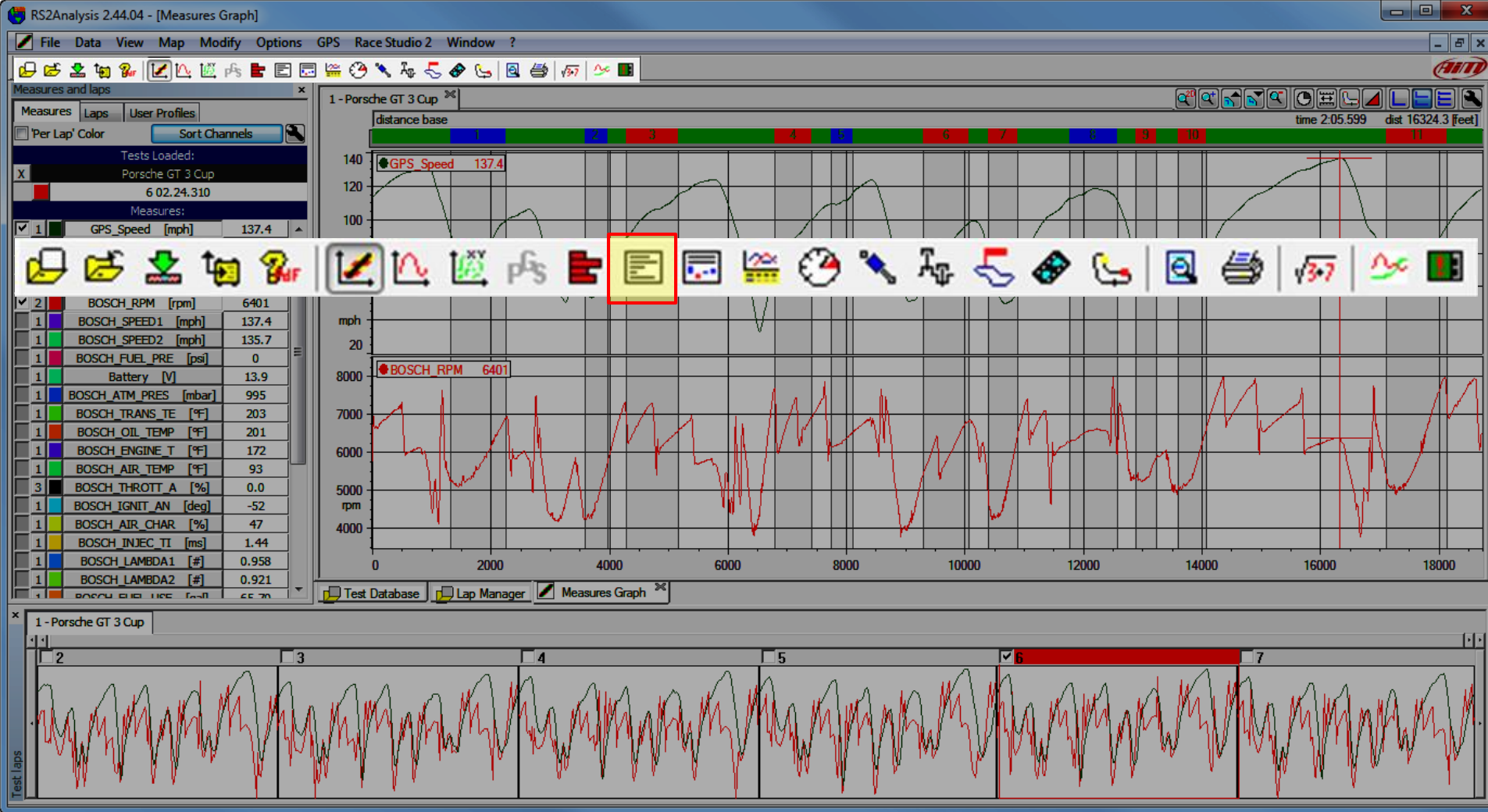
Primary Icon Toolbar item: **Plot Channels vs. Channels** also known as an **X/Y Plot**. This allows plotting two channels against each other. Also get the **Plot Channels vs. Channels** or **X/Y Plot** from the view item on the pull-down menu.



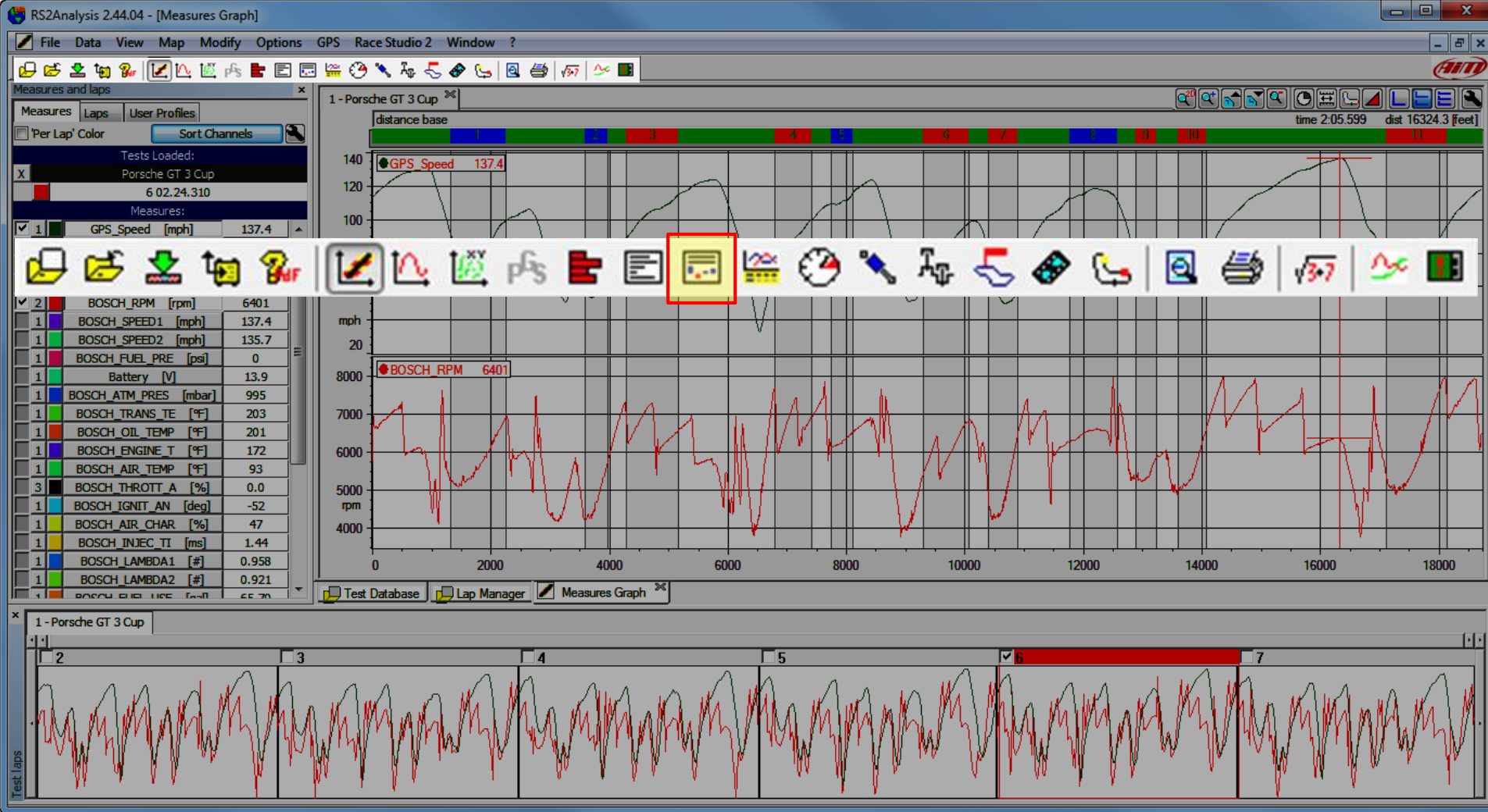
Primary Icon Toolbar item: **GPS Data**. This allows you to view your **GPS Data**. Also get the **GPS Data** from the view item on the pull-down menu.



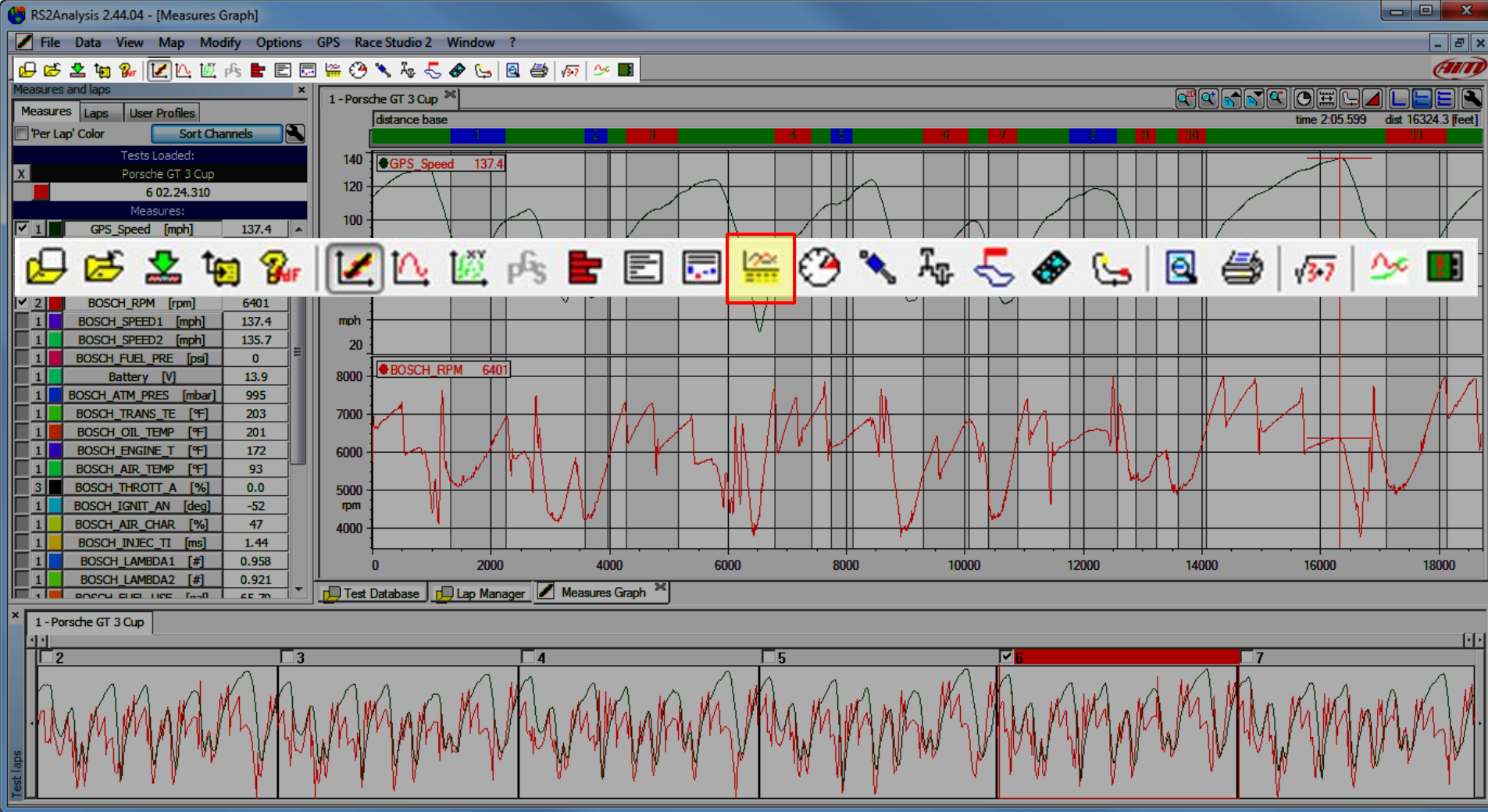
Primary Icon Toolbar item: **Histogram**. This allows you to view your data as a % or time inside a range against time or distance. Also get open the **Histogram** function from the view item on the pull-down menu.



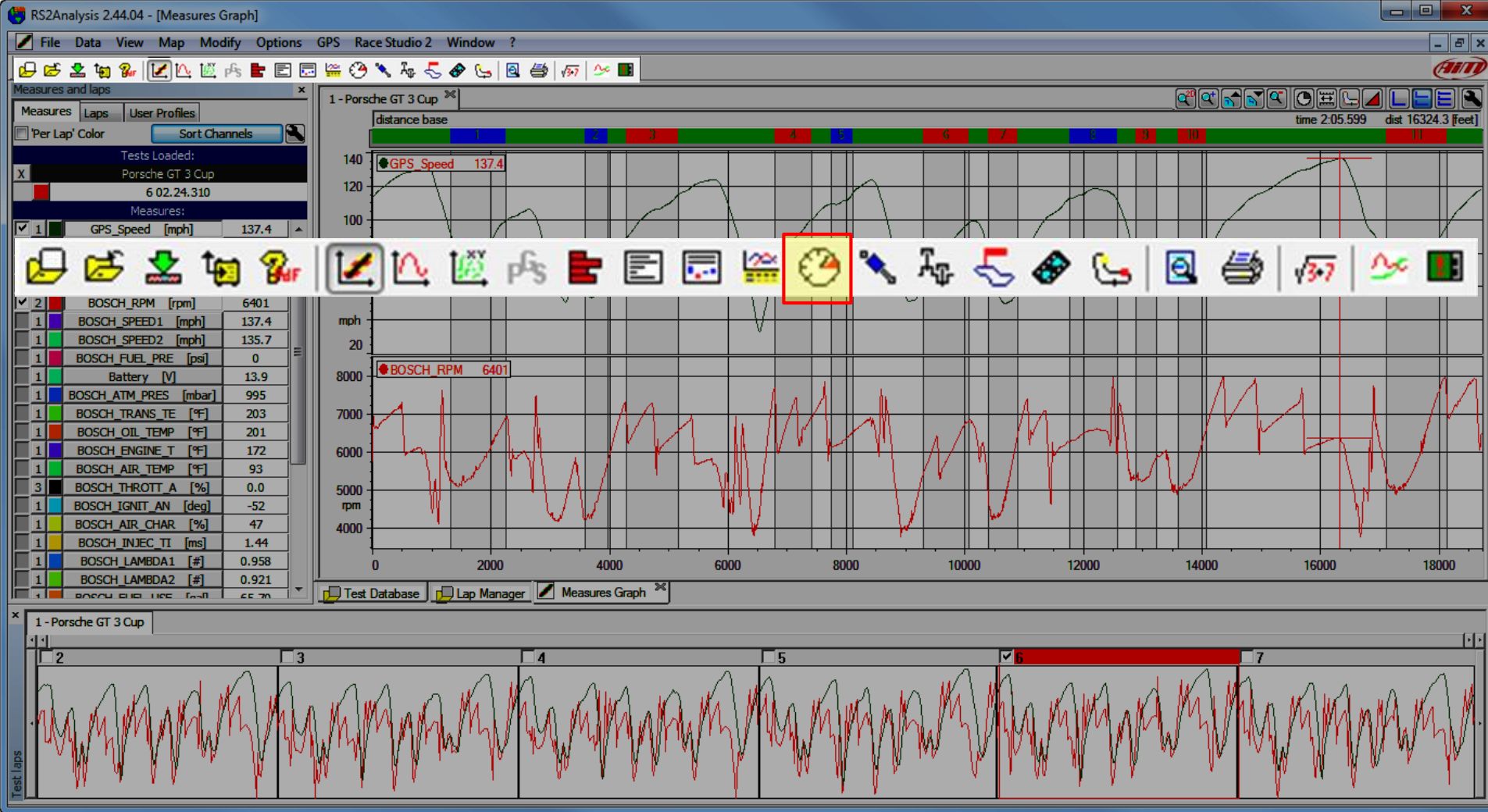
Primary Icon Toolbar item: **Lap times**. This allows you to view your **Lap Times** and a lap time report. Also get the **Lap Times** from the view item on the pull-down menu.



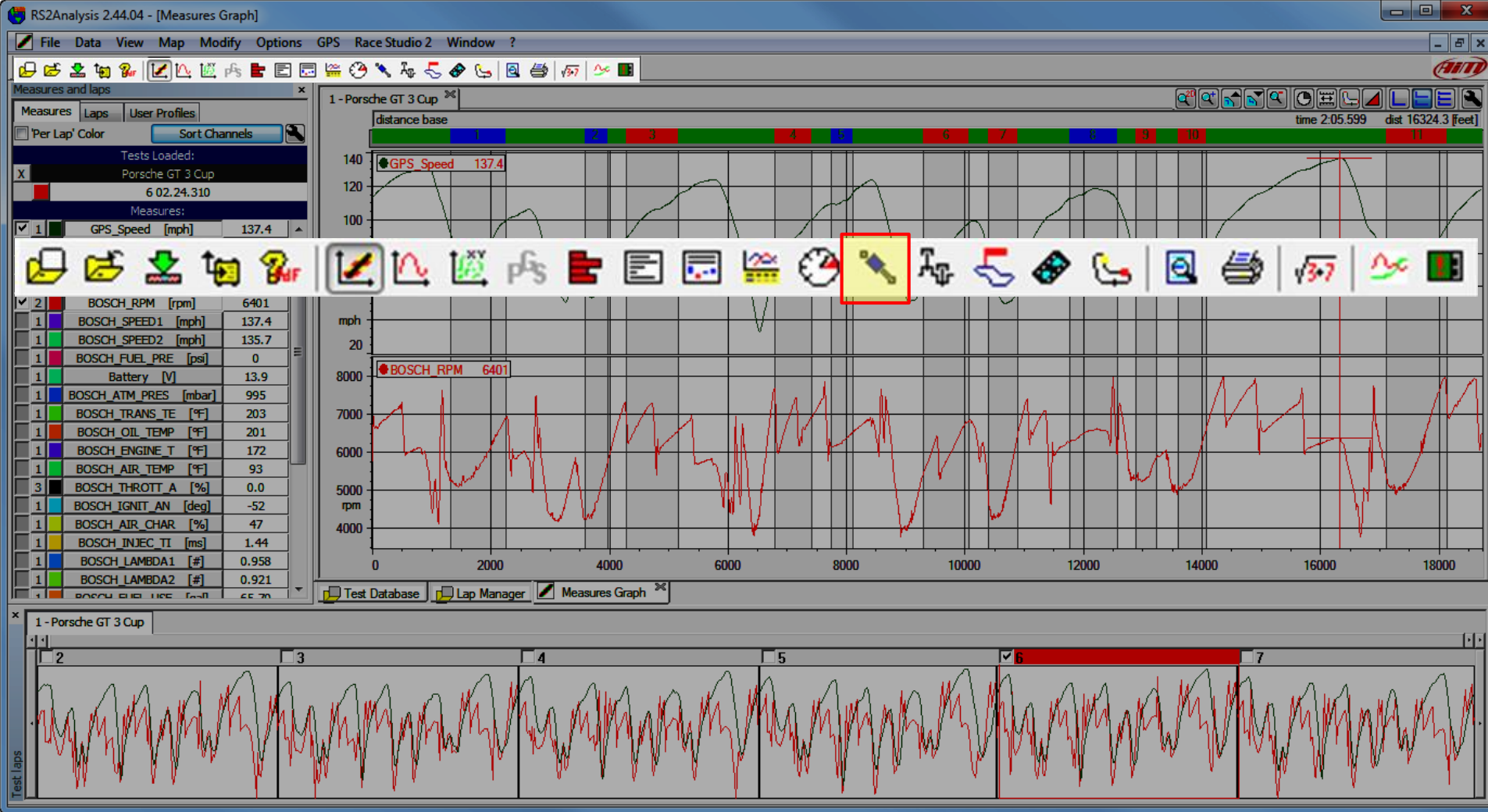
Primary Icon Toolbar item: **Split Times**. This allows you to view your **Split Times** in a report. Also get the **Split Times** from the view item on the pull-down menu.



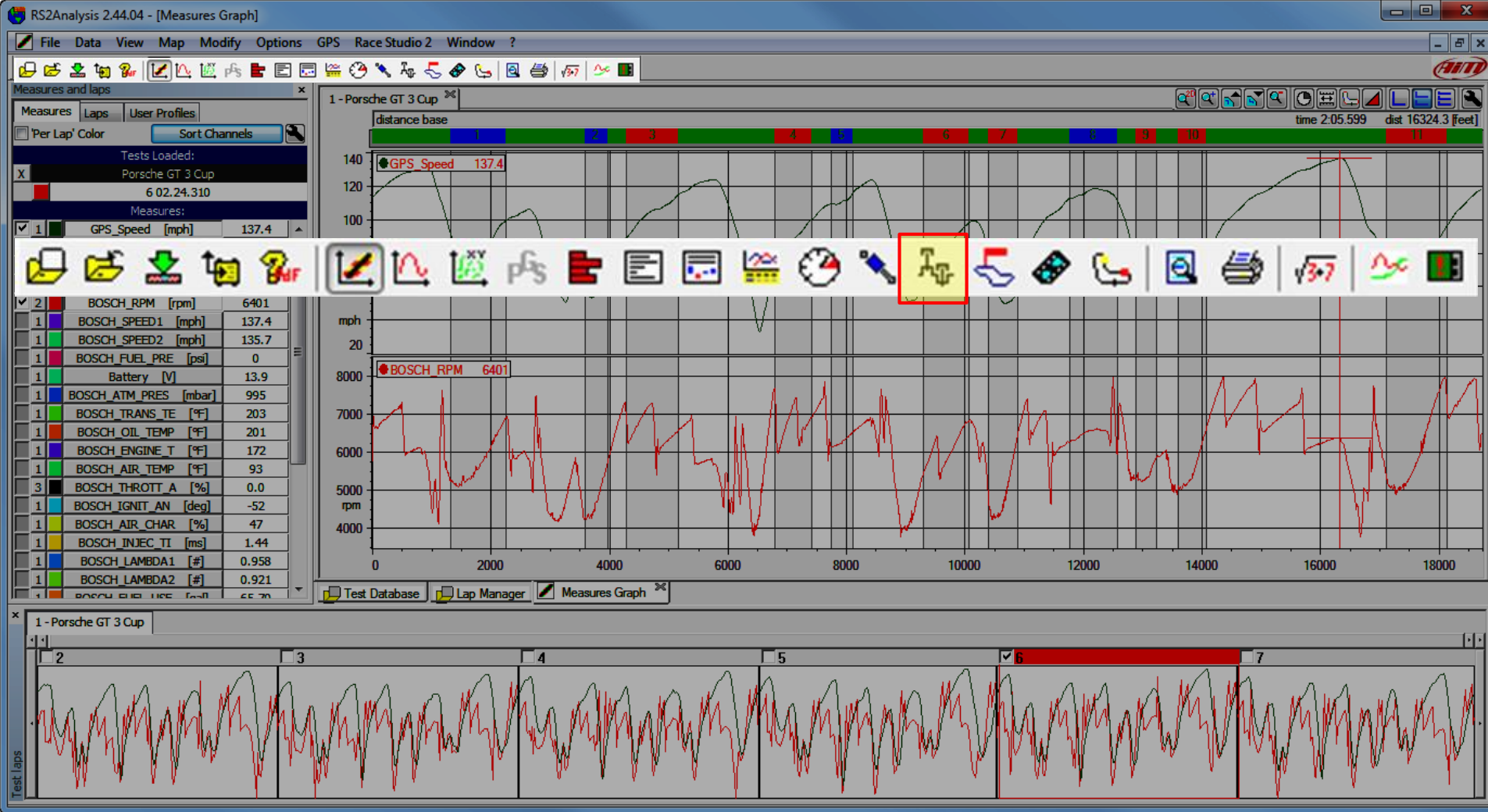
Primary Icon Toolbar item: **Channels Report**. This allows you to view a complete user defined summary of both your sampled data and your lap times. Also get the **Channels Report** from the view item on the pull-down menu.



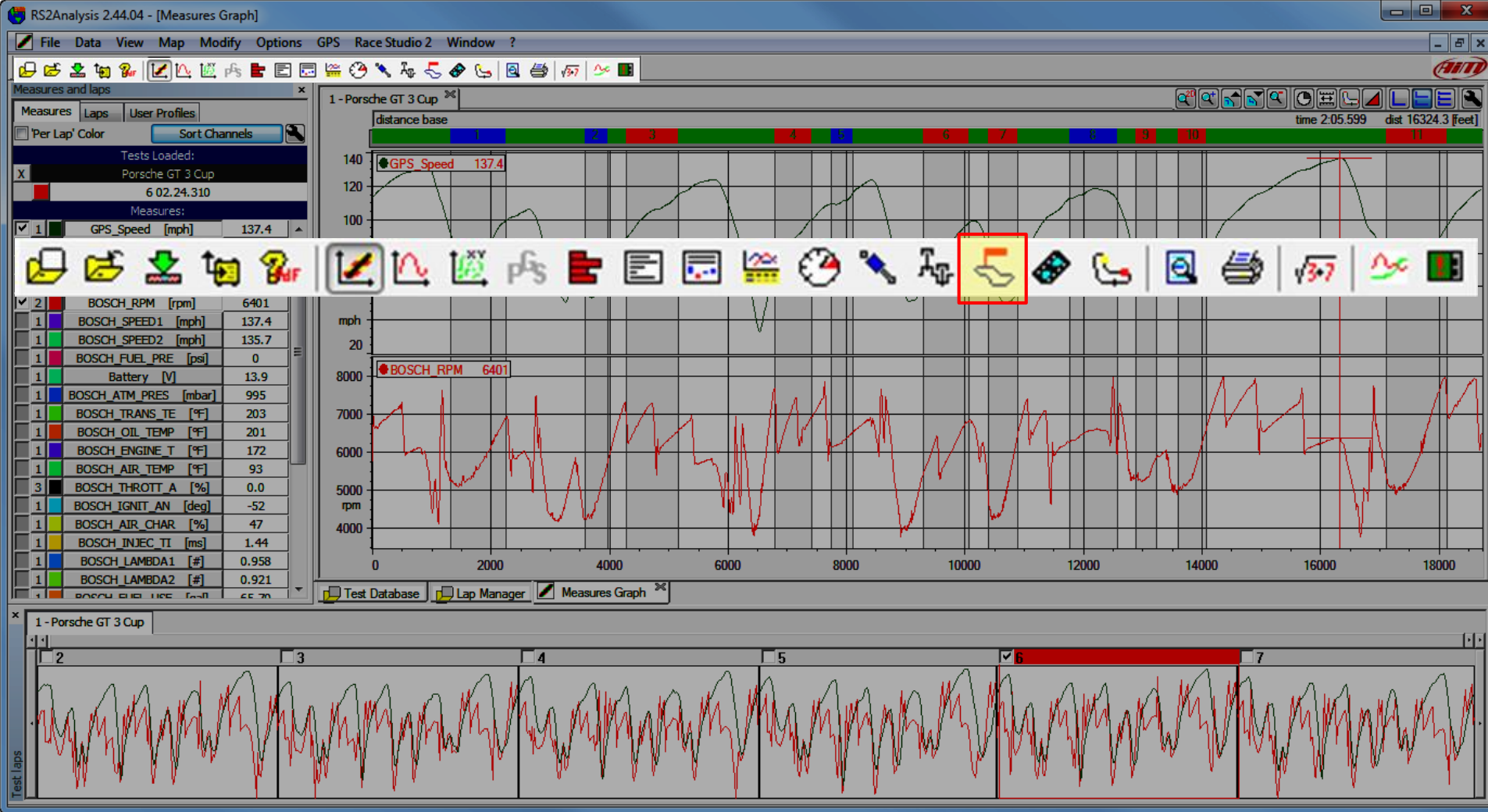
Primary Icon Toolbar item: **Dashboard Simulation**. This allows you to view a user defined animated dashboard of your data. Also get the **Dashboard Simulation** from the view item on the pull-down menu.



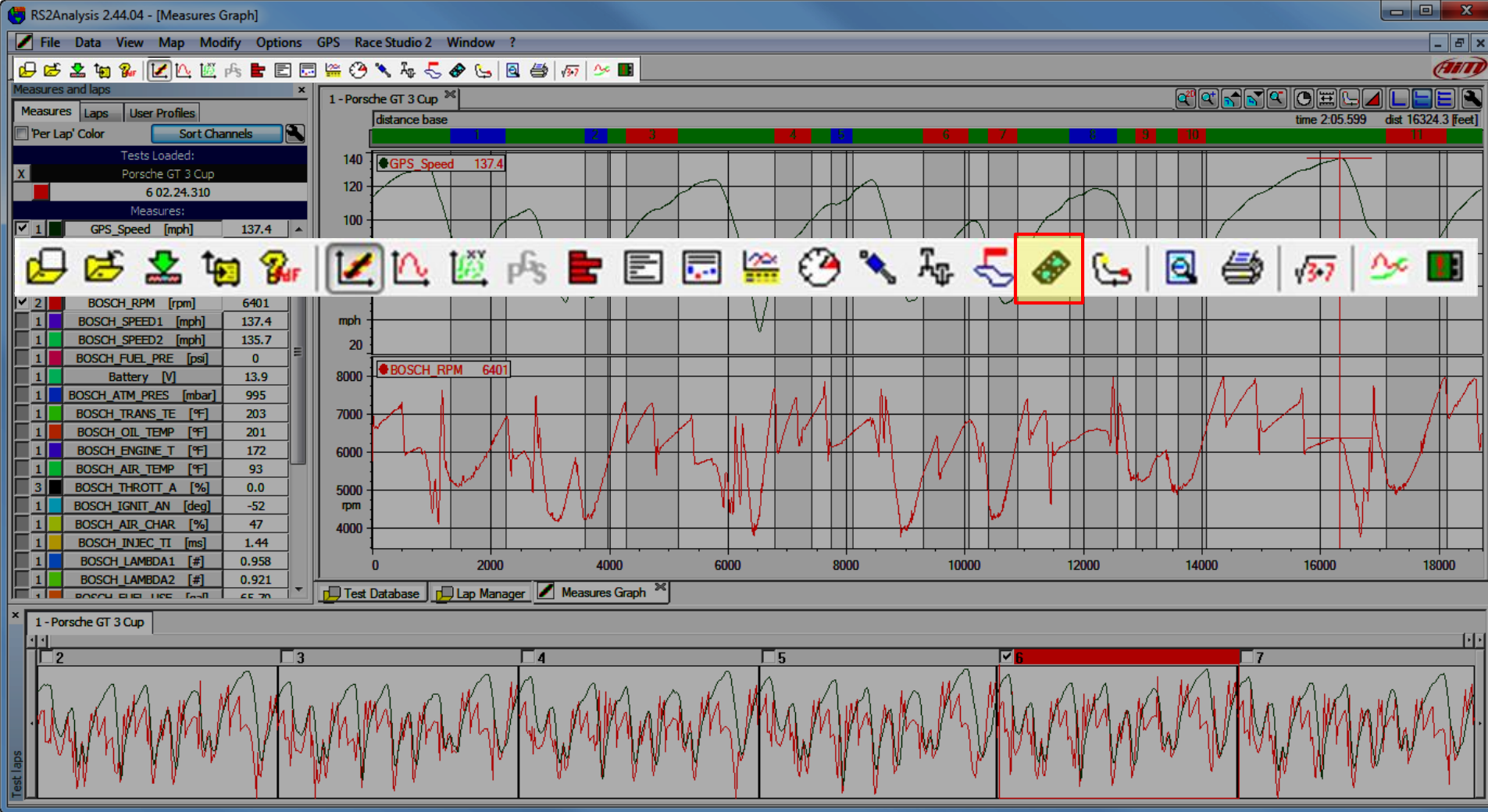
Primary Icon Toolbar item: **Suspension Analysis**. This allows you deeply analyze suspension information from your data. Also get the **Suspension Analysis** from the view item on the pull-down menu.



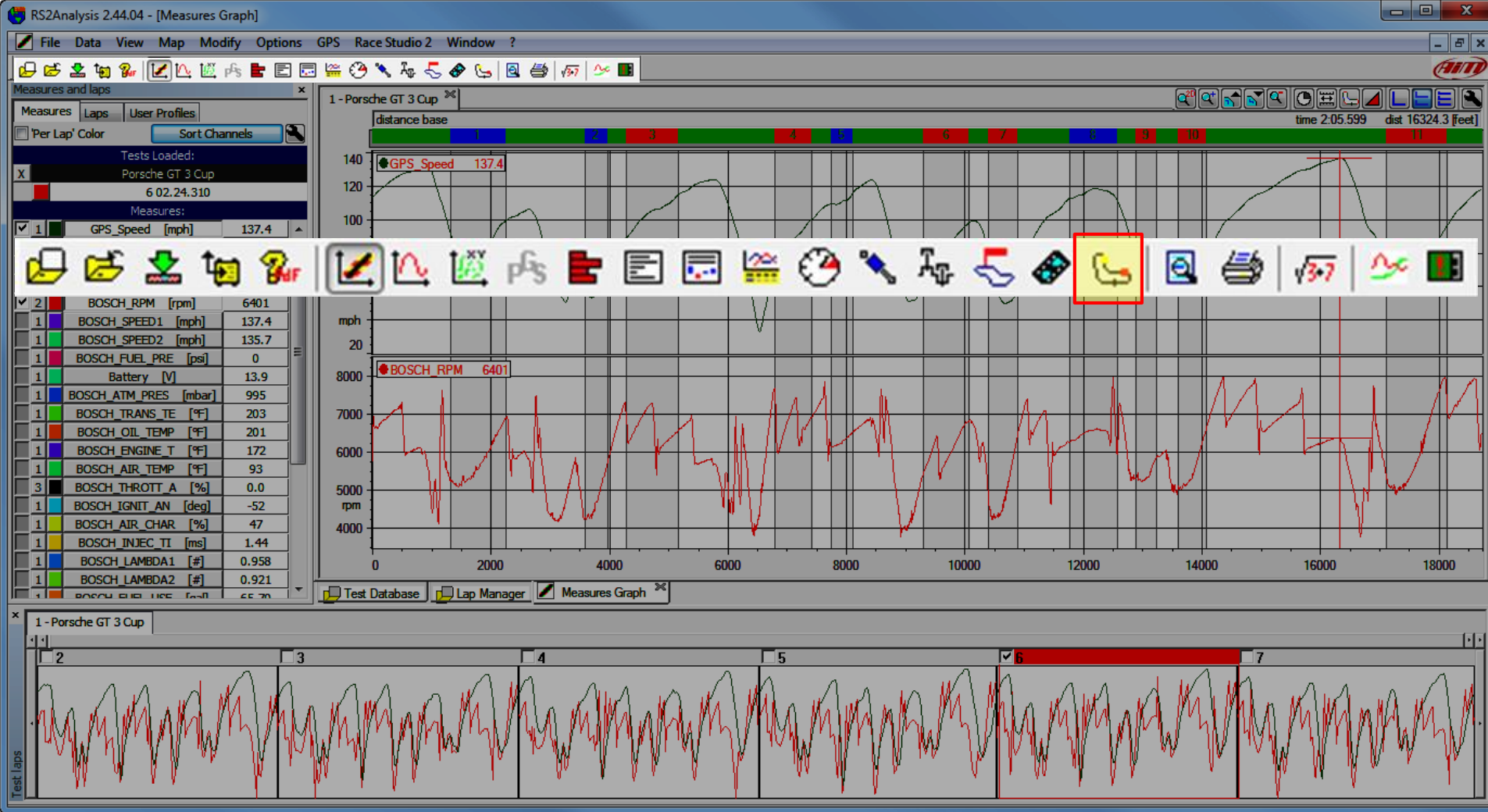
Primary Icon Toolbar item: **Engine RPM Analysis**. This allows you calculate and view calculated horsepower and torque values from your data. Also get the **Engine RPM Analysis** from the view item on the pull-down menu.



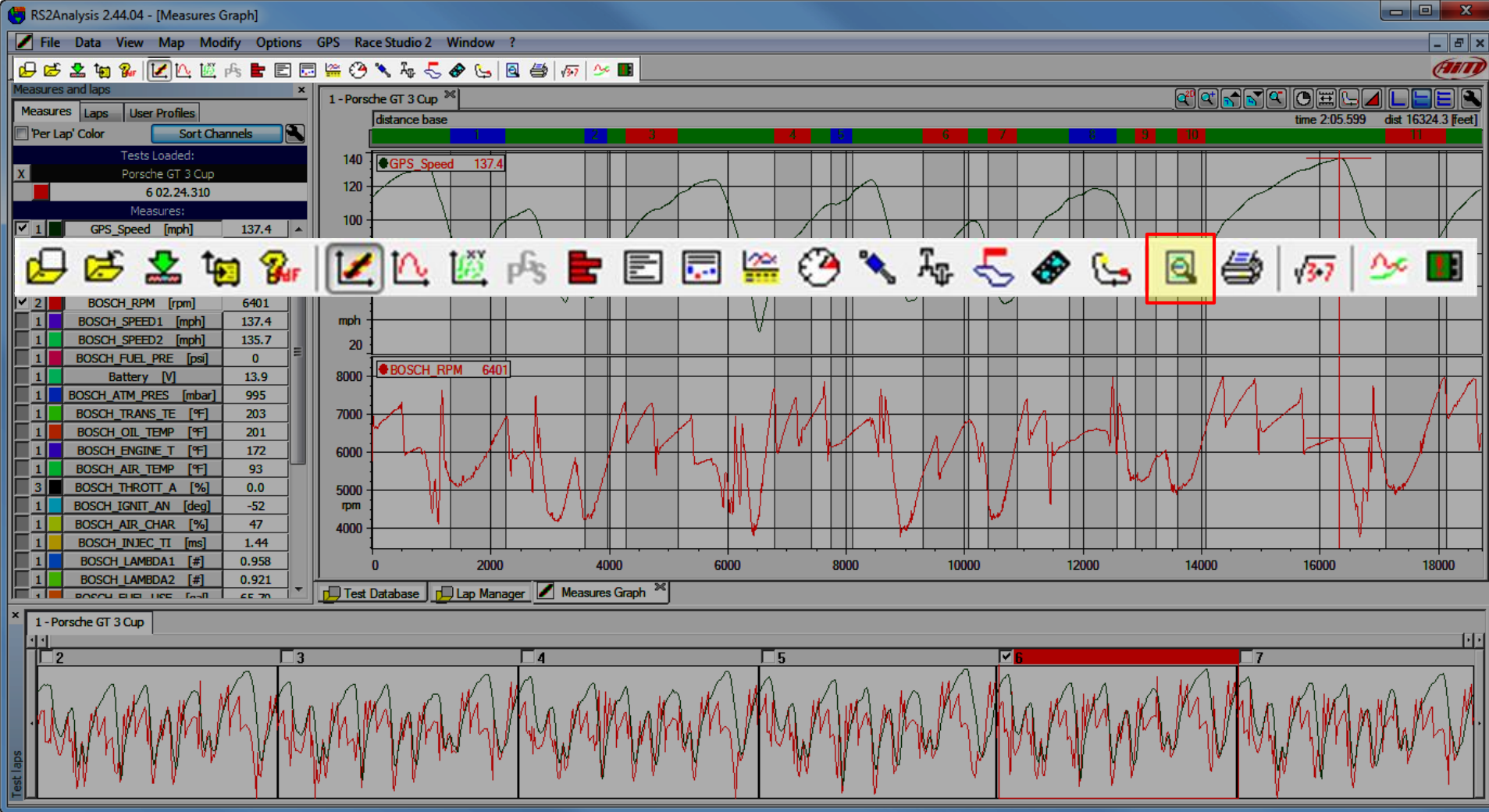
Primary Icon Toolbar item: **Track Report**. This allows you to plot different channels directly onto a track map including high and low values per segment. Also you can compare laps against each other. Also get the **Track Report** from the view item on the pull-down menu.



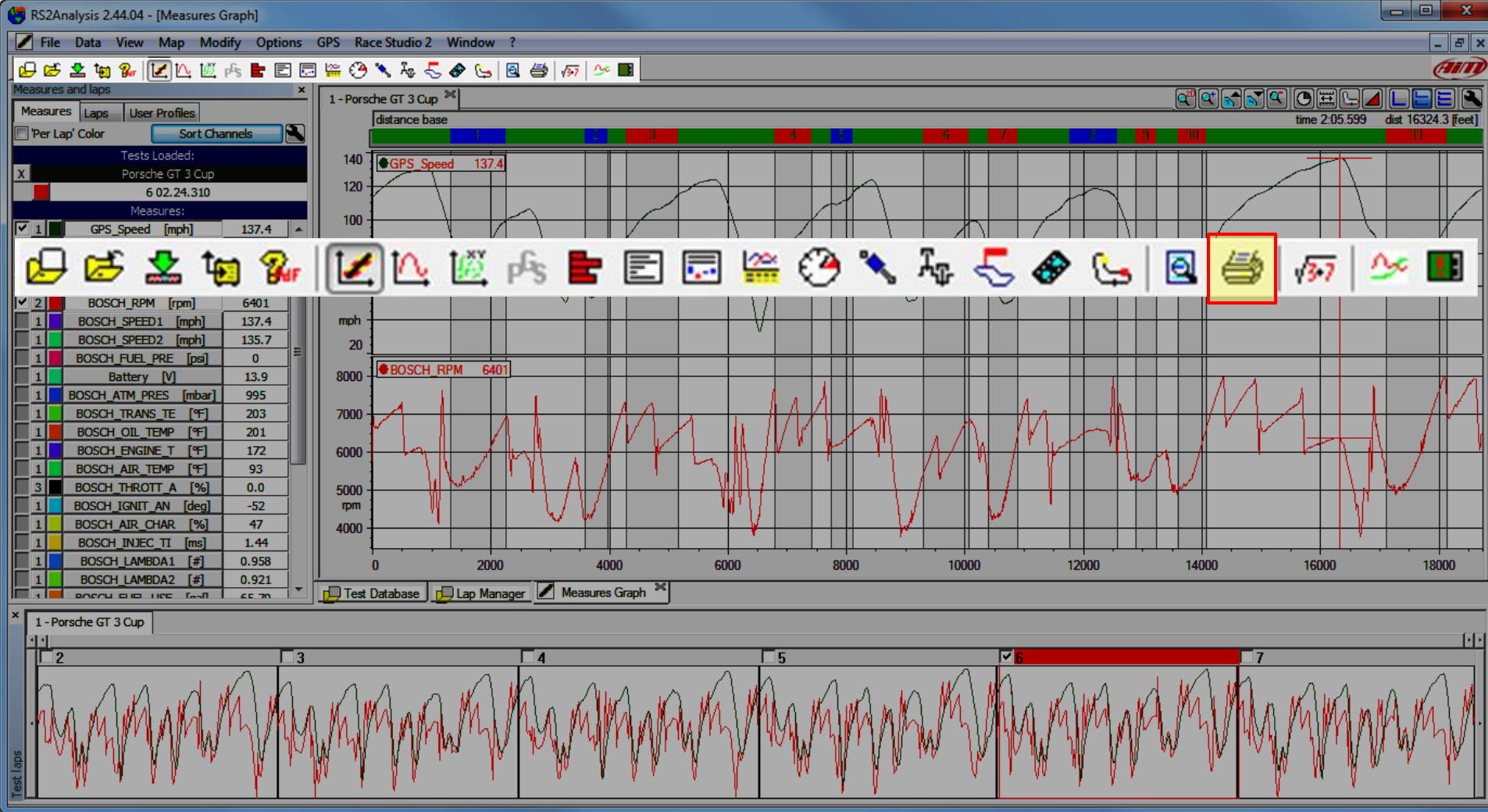
Primary Icon Toolbar item: **Data Animation**. This allows you to animate your data while it is linked to plots, cursors, maps, reports, dashboards, and replays. Also get the **Data Animation** from the view item on the pull-down menu.



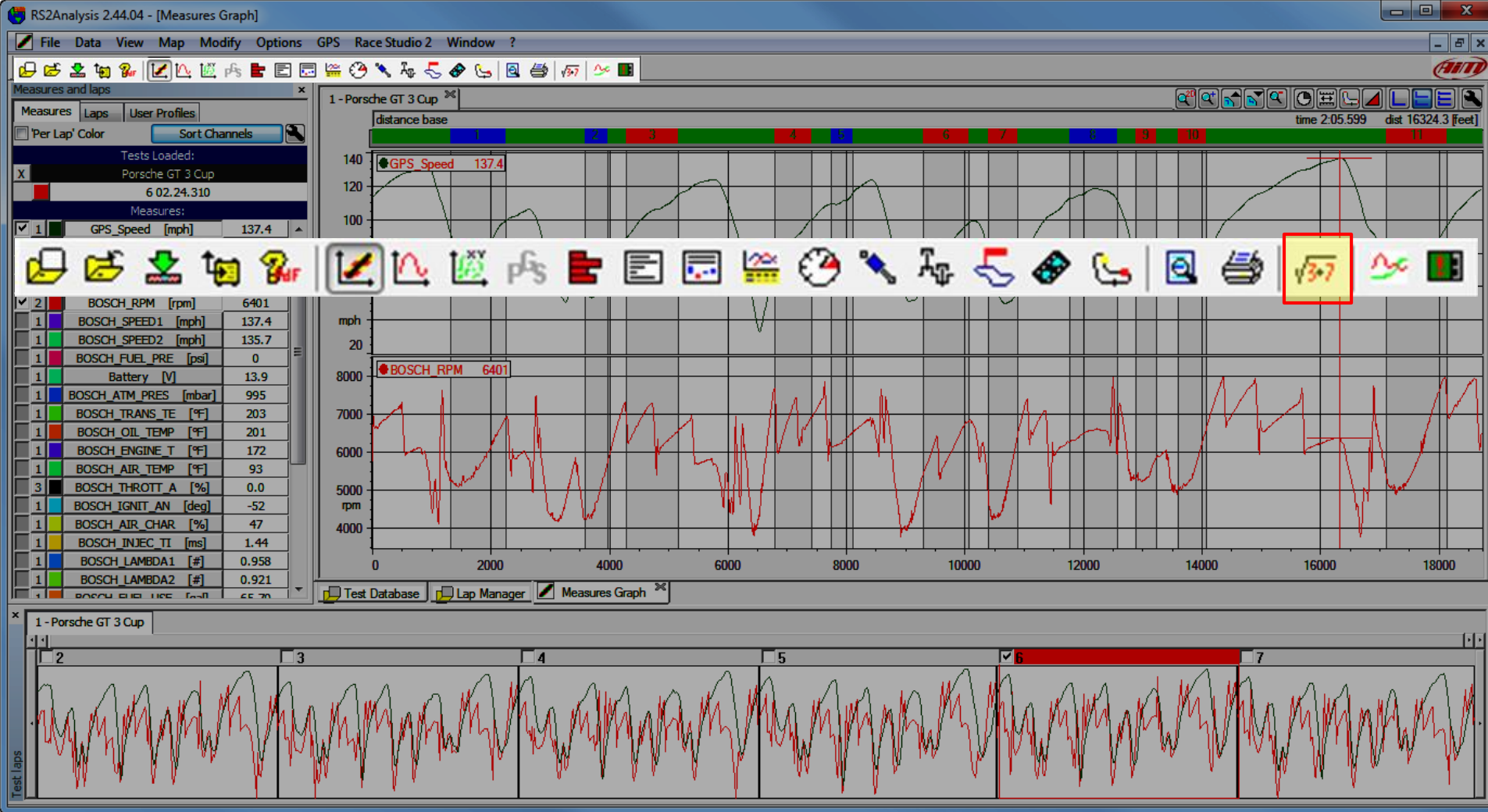
Primary Icon Toolbar item: **Lap Replay**. This allows you to replay 2 laps against each other on a track map with different data channels attached. Also get the **Lap Replay** from the view item on the pull-down menu.



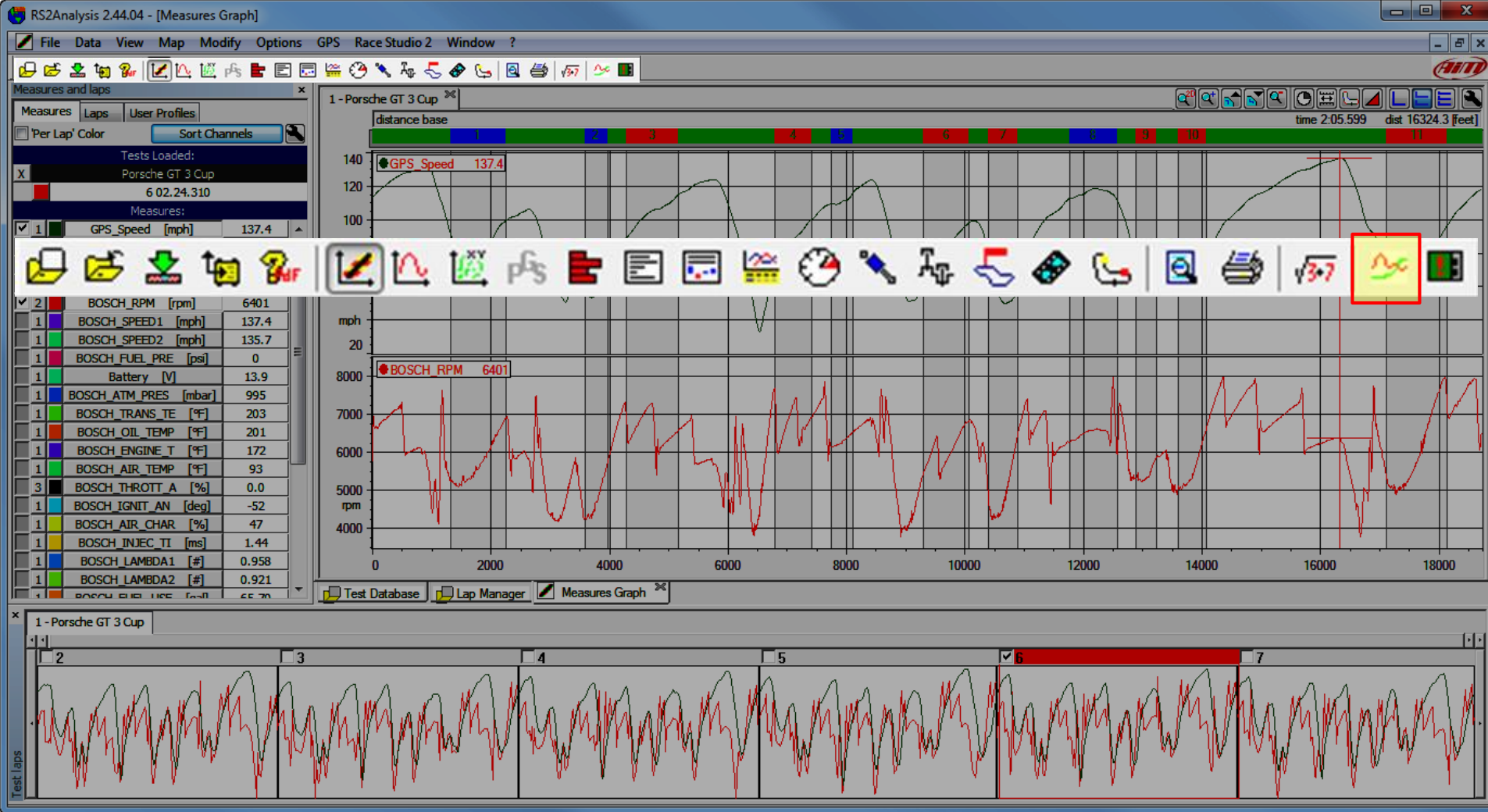
Primary Icon Toolbar item: **Print Preview**. This allows you to preview any items you are going to print. Also get the **Print Preview** from the file item on the pull-down menu.



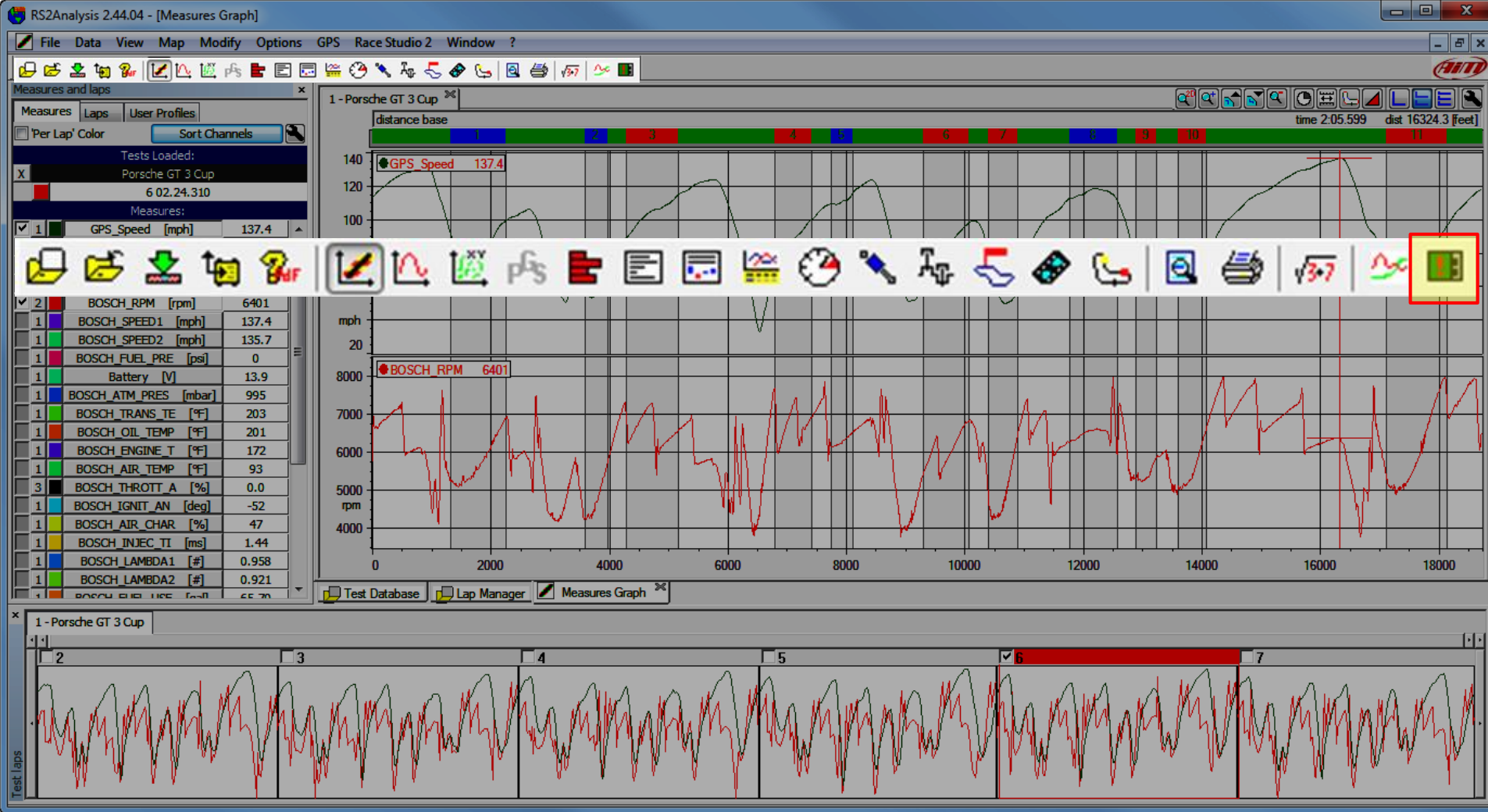
Primary Icon Toolbar item: **Print**. This allows you to print. Also get the **Print** function from the file item on the pull-down menu.



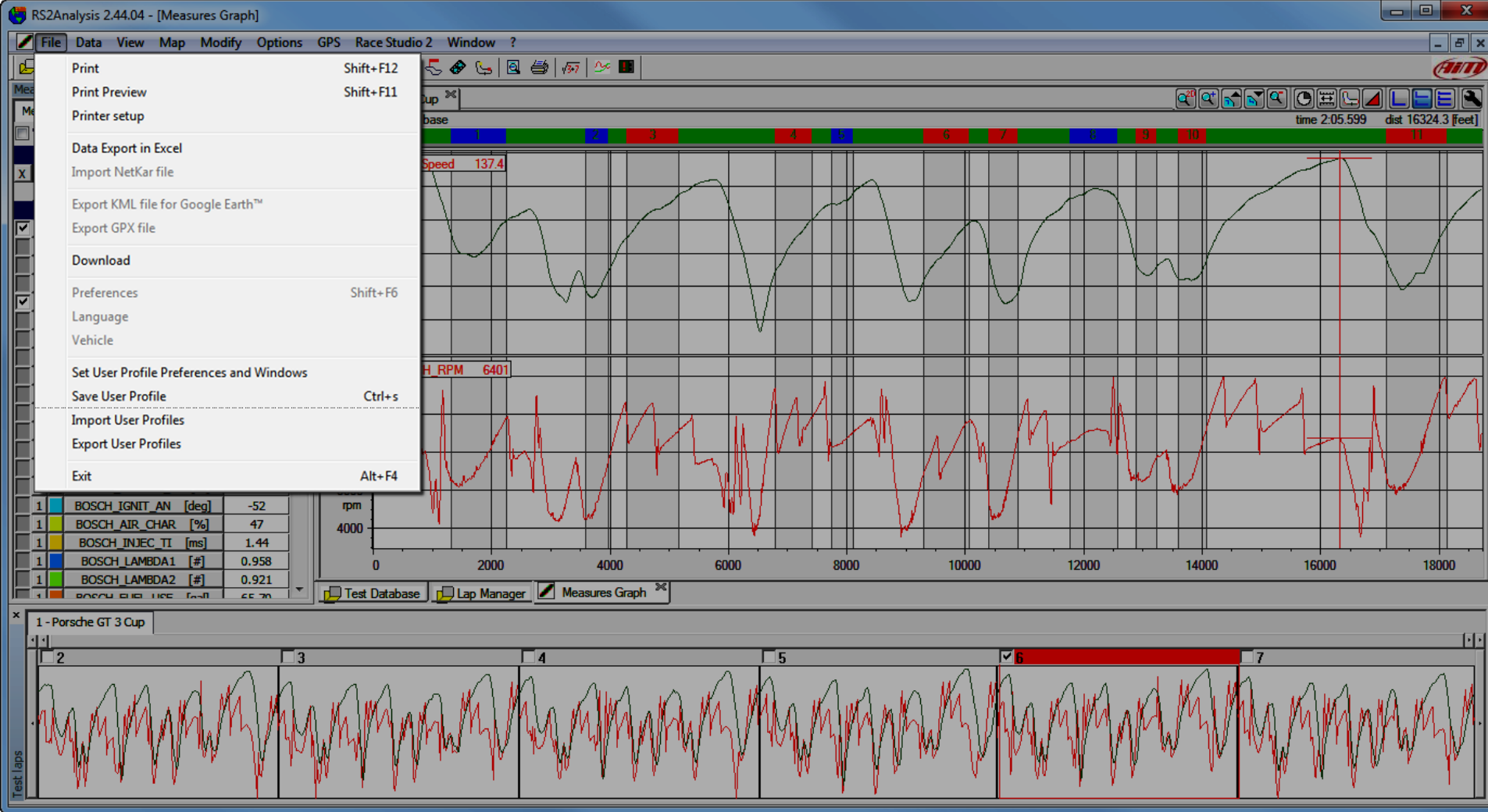
Primary Icon Toolbar item: **Math Channels**. This allows you to create, modify and delete **Math Channels**. Also get the **Math Channels** function from the modify item on the pull-down menu.



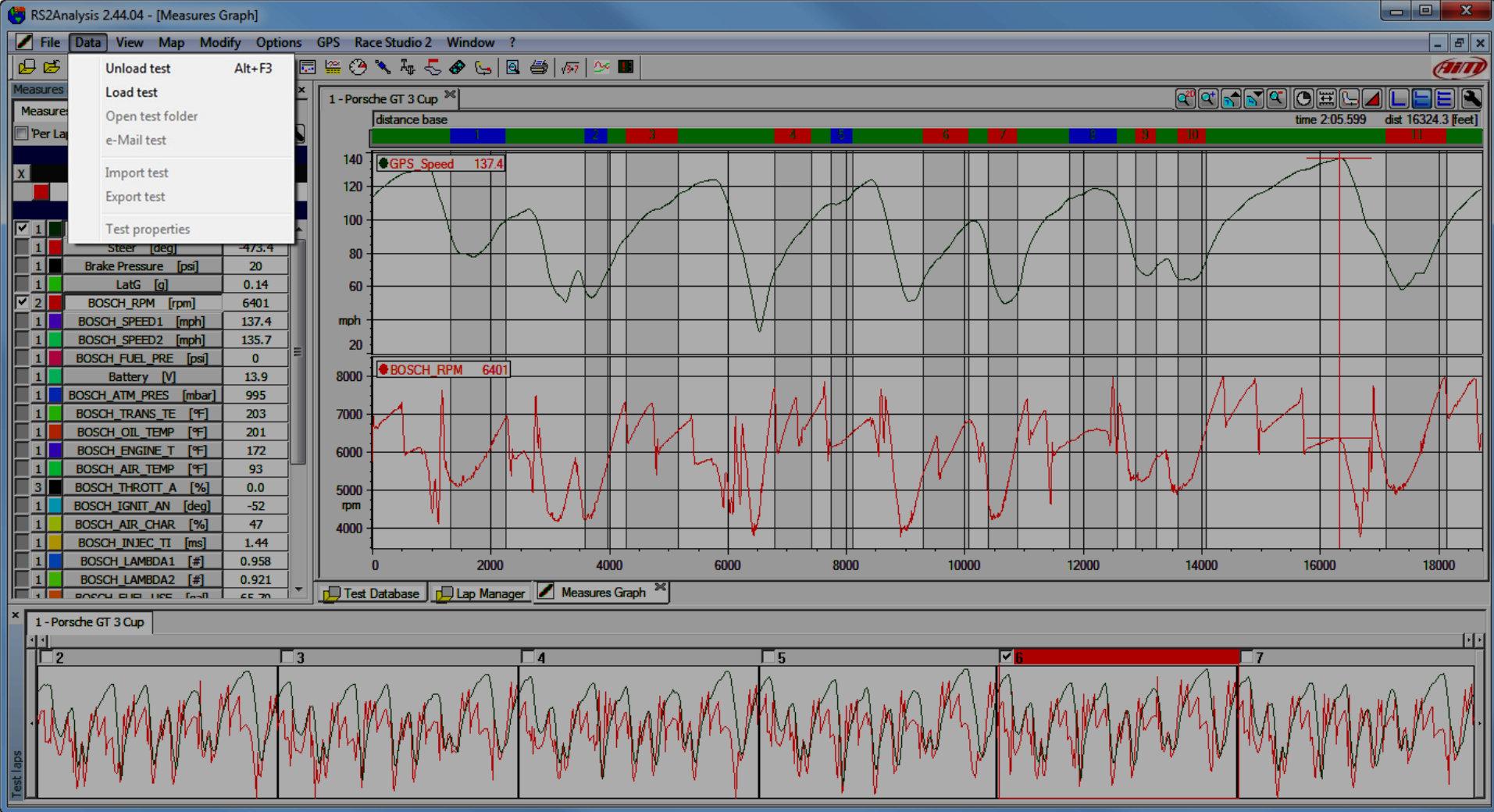
Primary Icon Toolbar item: **Plot Settings**. This allows you to change your **Plot Setting** not only for on the screen but also in printouts. Also get the **Plot Settings** function from the options item on the pull-down menu.



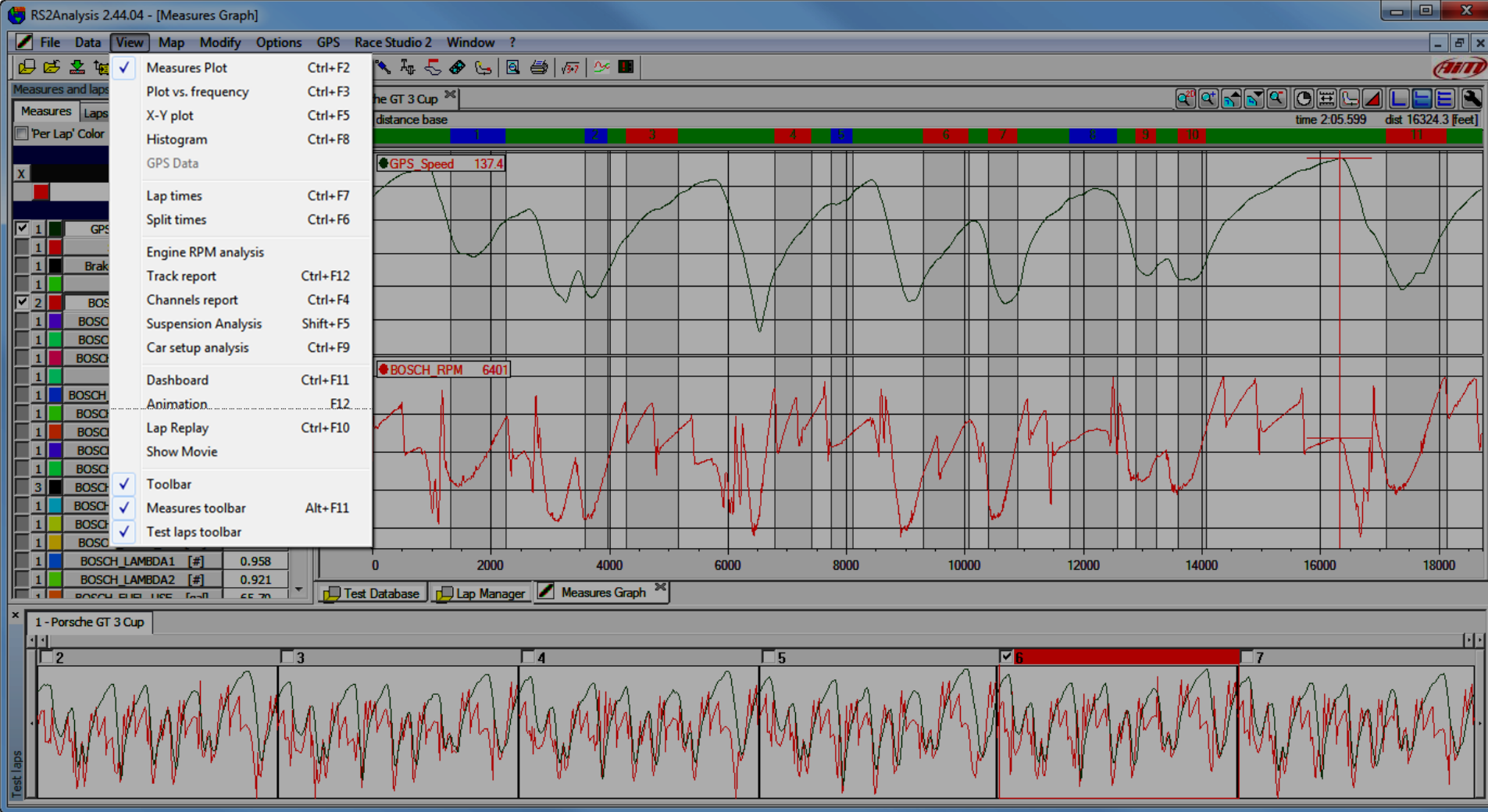
Primary Icon Toolbar item: **Measures Info**. This allows you to modify many variables for every channel of data gathered. Also get the **Measures Info** function from the modify item on the pull-down menu.



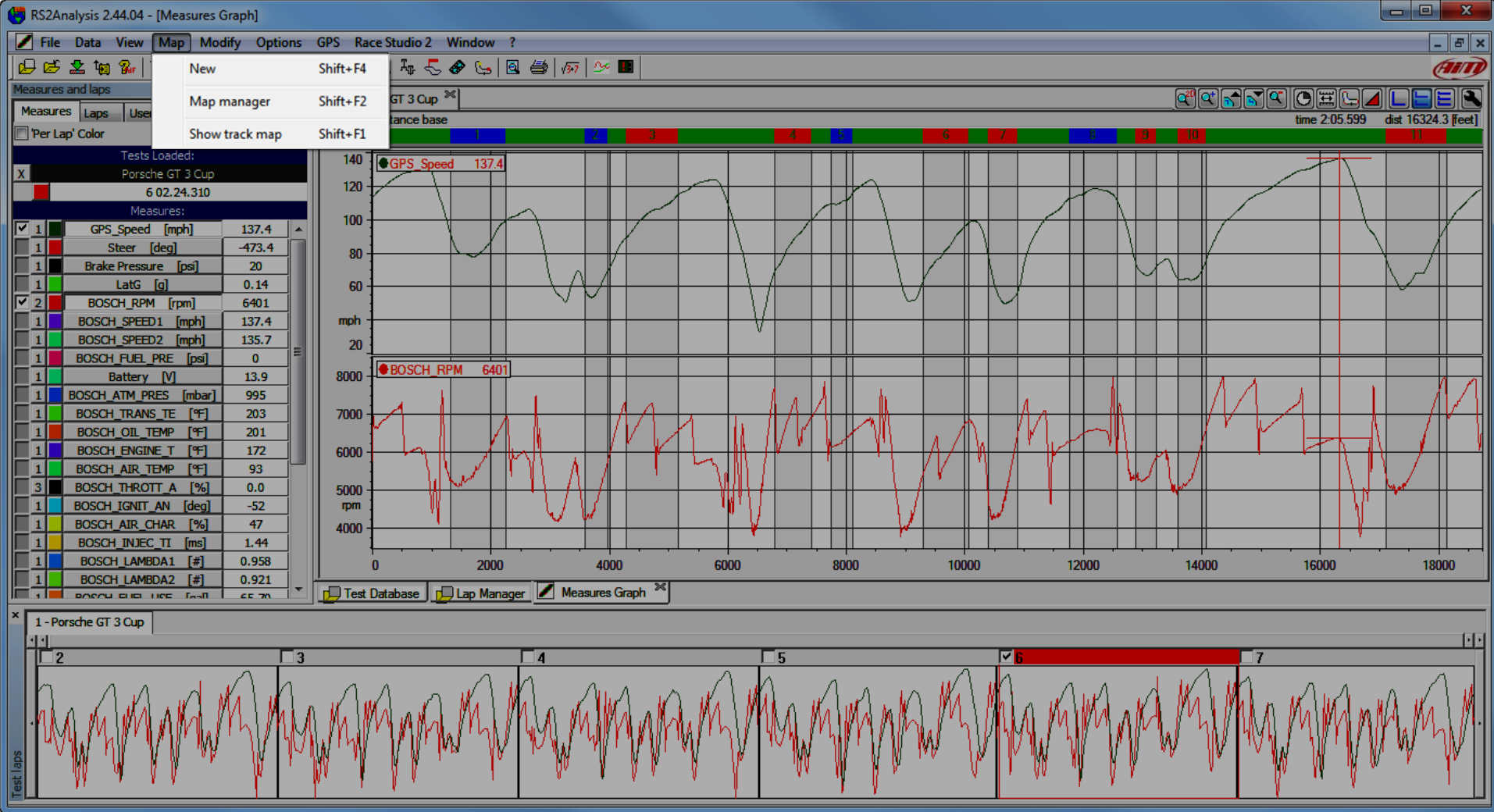
The "File" Pull-down menu allows the printing options, import and export functions, downloading of data, software, language, and vehicle preferences, user profile options, and a exit command. Notice some are "grayed out". These functions are only available when all tests are closed.



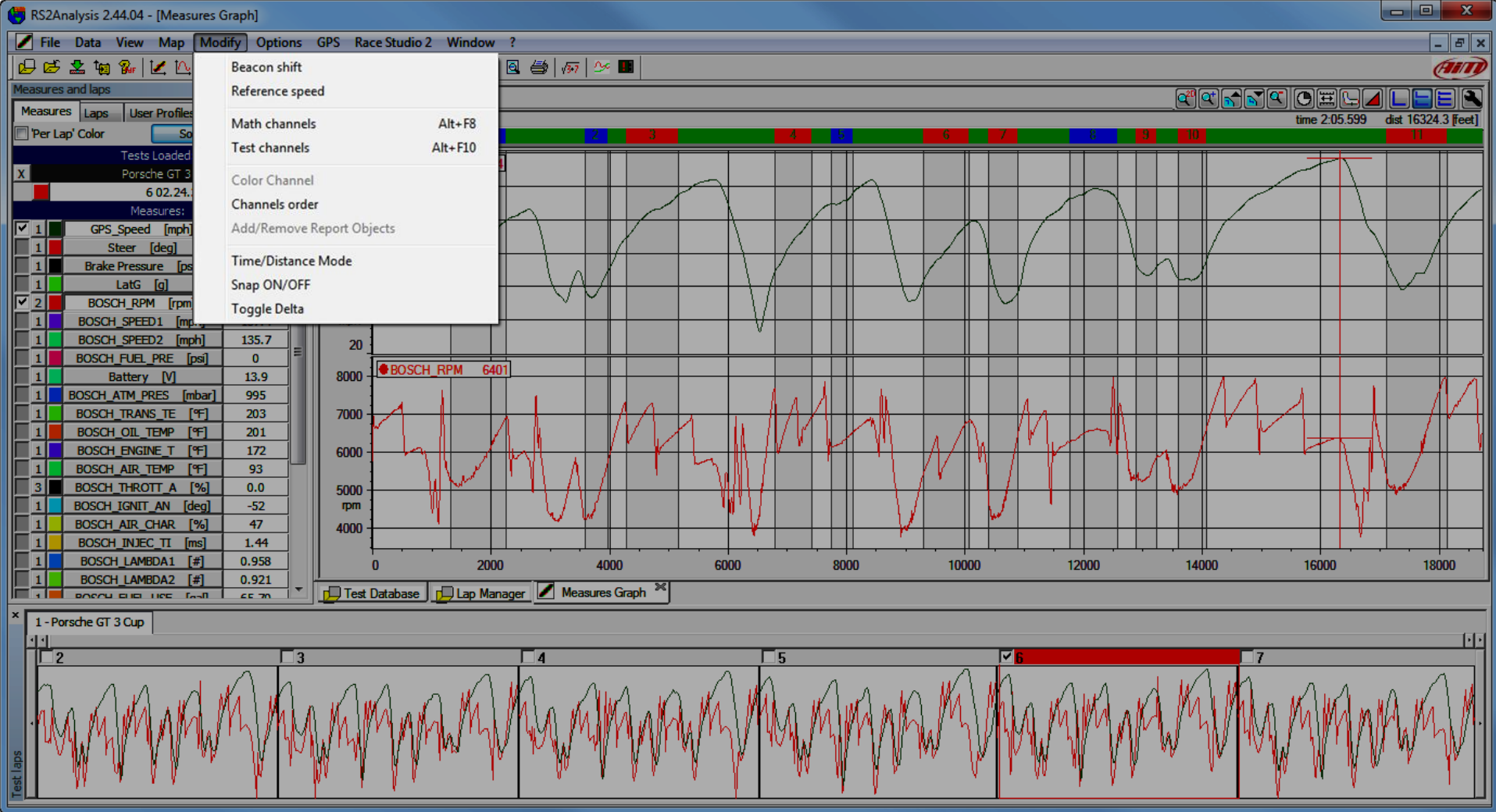
The “Data” Pull-down menu allows the loading and unloading of tests, the opening of a test folder, the ability to email a test directly from the software, import/export functions, and the ability to change the test properties. Notice some are “grayed out”. These functions are only available when all tests are closed.



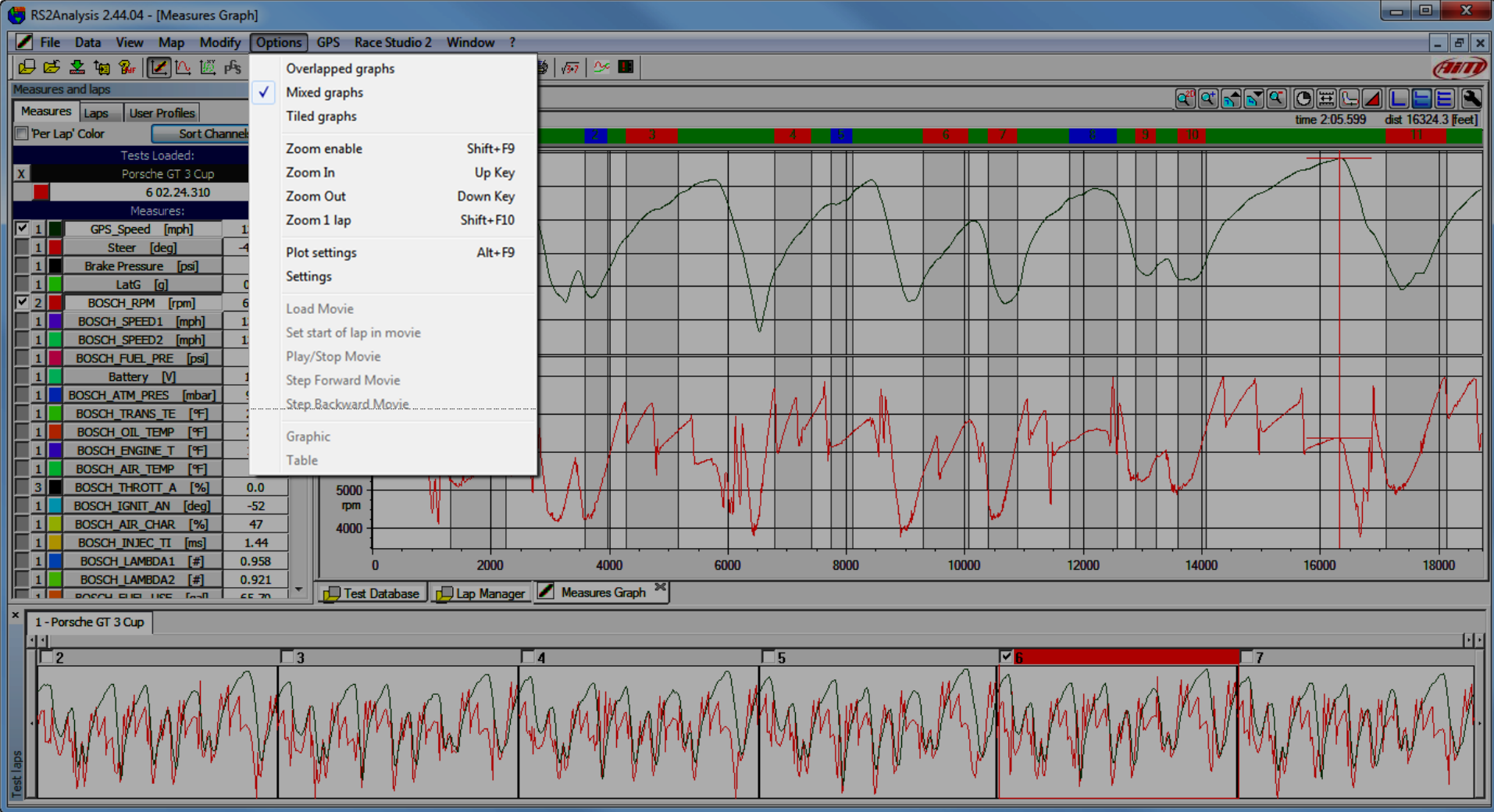
The "View" Pull-down menu allows you to access all of the analysis commands, most are also available on the icon toolbar. The final 3 items are the toggles for turning on and off the Toolbar (Primary Icon Toolbar), Measures Toolbar, and Test Laps Toolbar. Notice the GPS item is "grayed out". This function is only active when GPS data is available and this sample data does not have GPS data.



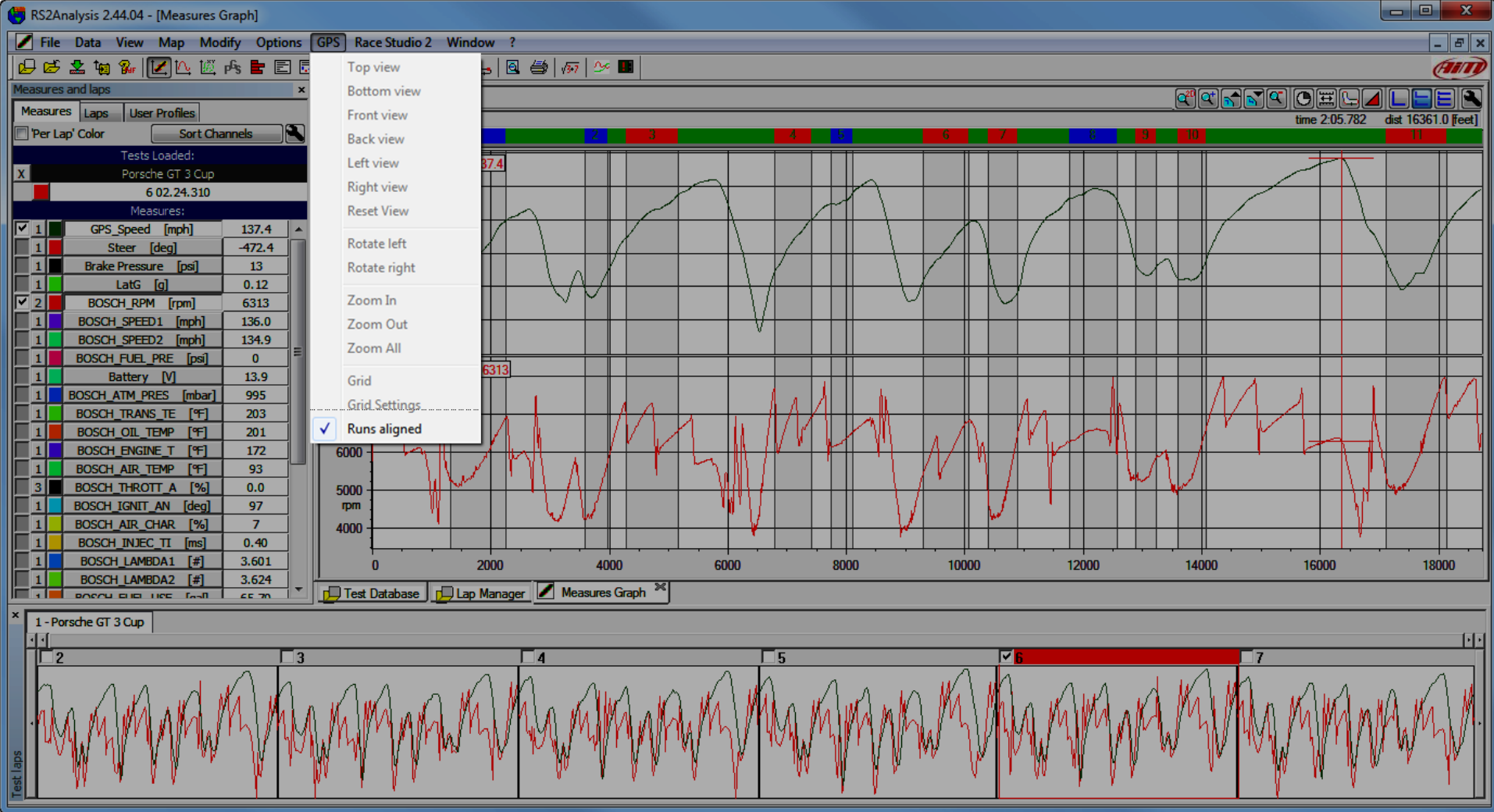
The "Map" Pull-down menu allows you to create new, manage, and show Track Maps.



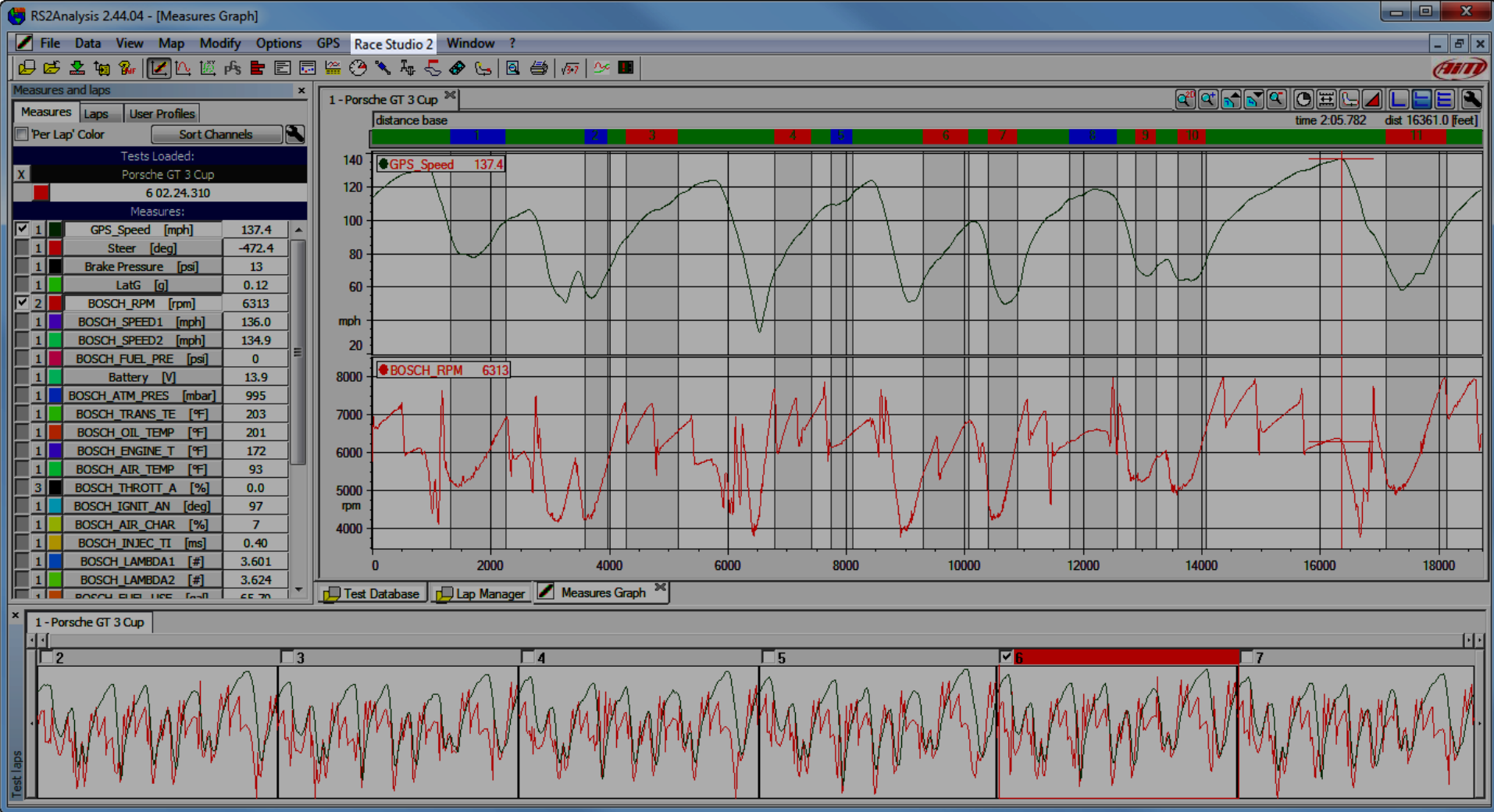
The “Modify” Pull-down menu allows you to modify the beacon position and the reference speed. Math channels are modified, created, and deleted here. All components of your test channels can be modified under the test channels item. Channel order and color along with add/removing report objects commands are available. Changing from time to distance on the x axis, snap functions, and the delta function are also available here.



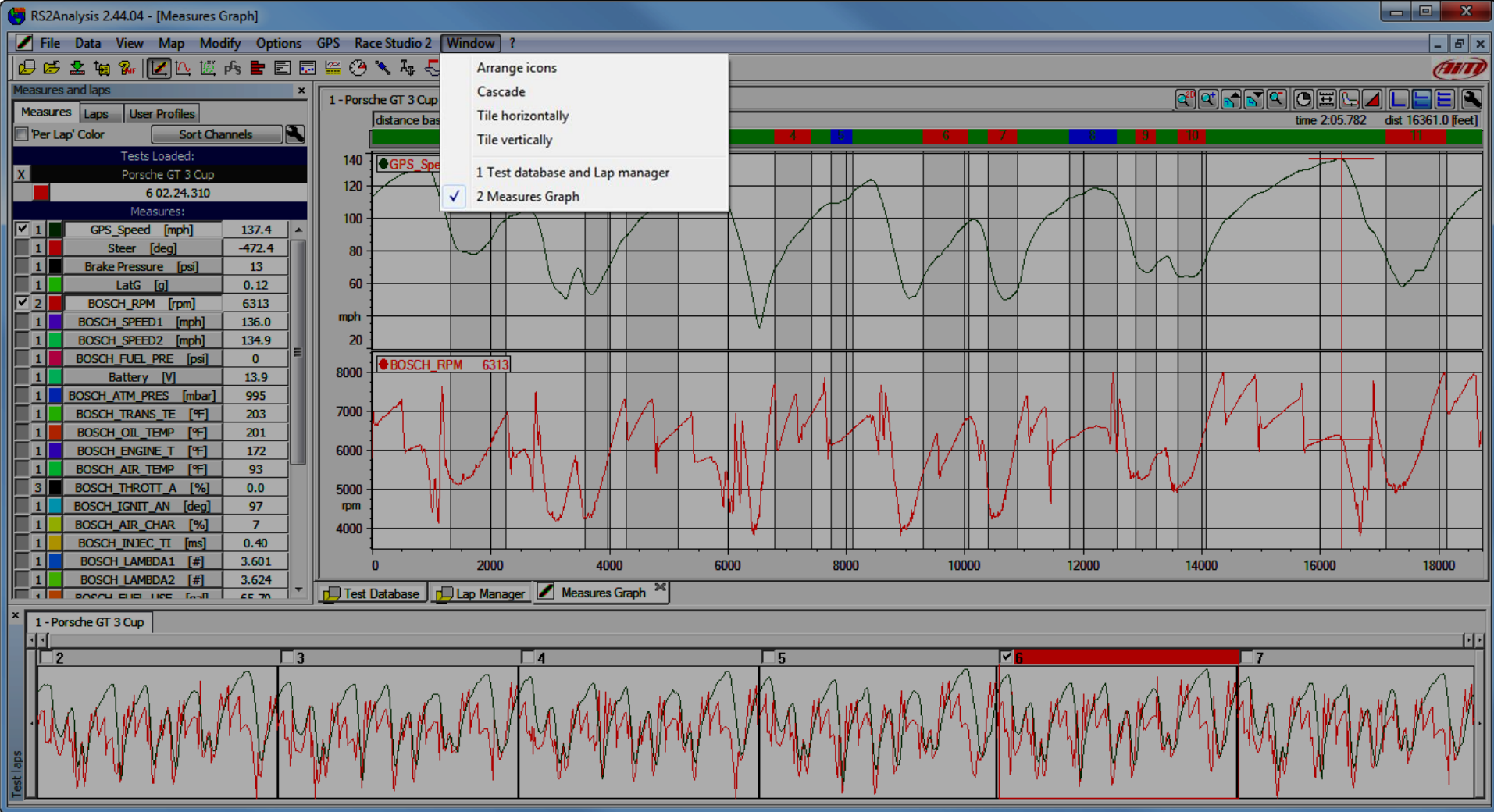
The “Options” Pull-down menu allows you to switch from Overlapped, Mixed, and Tile graph styles. Zoom commands are also here. The settings dialog boxes for plot specific and general settings is here. The movie options are all “grayed out” and are for future use. The graphic and table setting are to toggle reports (such as split reports) between table and graphic views.



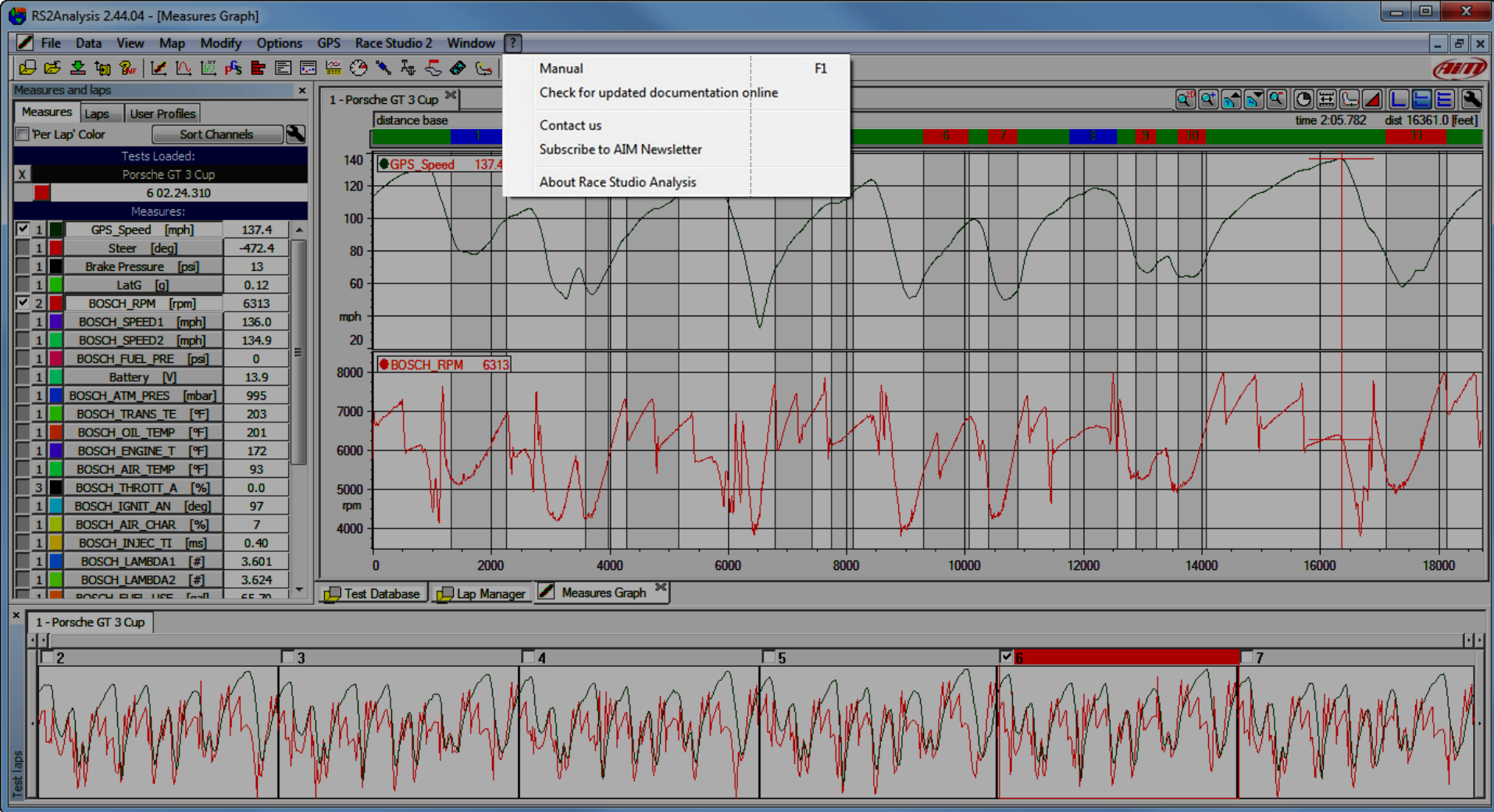
The "GPS" Pull-down menu allows you to manipulate the view of your GPS data. This function is only active when GPS data is available and this sample data does not have GPS data. The runs aligned toggle is also available.



The "Race Studio 2" Pull-down menu item is not really a pull-down item, it is rather a direct menu item to the Race Studio 2 configuration half of the software.



The “Window” Pull-down menu allows you to quickly modify the look and feel of the modules in the main window area by cascading or tiling horizontally or vertically. The lower part of this menu will show you the modules you have open and which one is active.



The “?” Pull-down menu allows you to open a (currently not updated) **Manual** and you can also check for updated documentation. You can also click on the contact or subscribe items and be taken to a website to give further information. The bottom item will give you detailed version information about **Race Studio 2**.



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