

Using GMS with the PEM-400



The PEM-400 is compatible with Santec's free GMS software, available for download from our website:

- <https://inst.santec.com/resources/software-downloads>

VISA drivers are required for USB communication such as National Instruments:

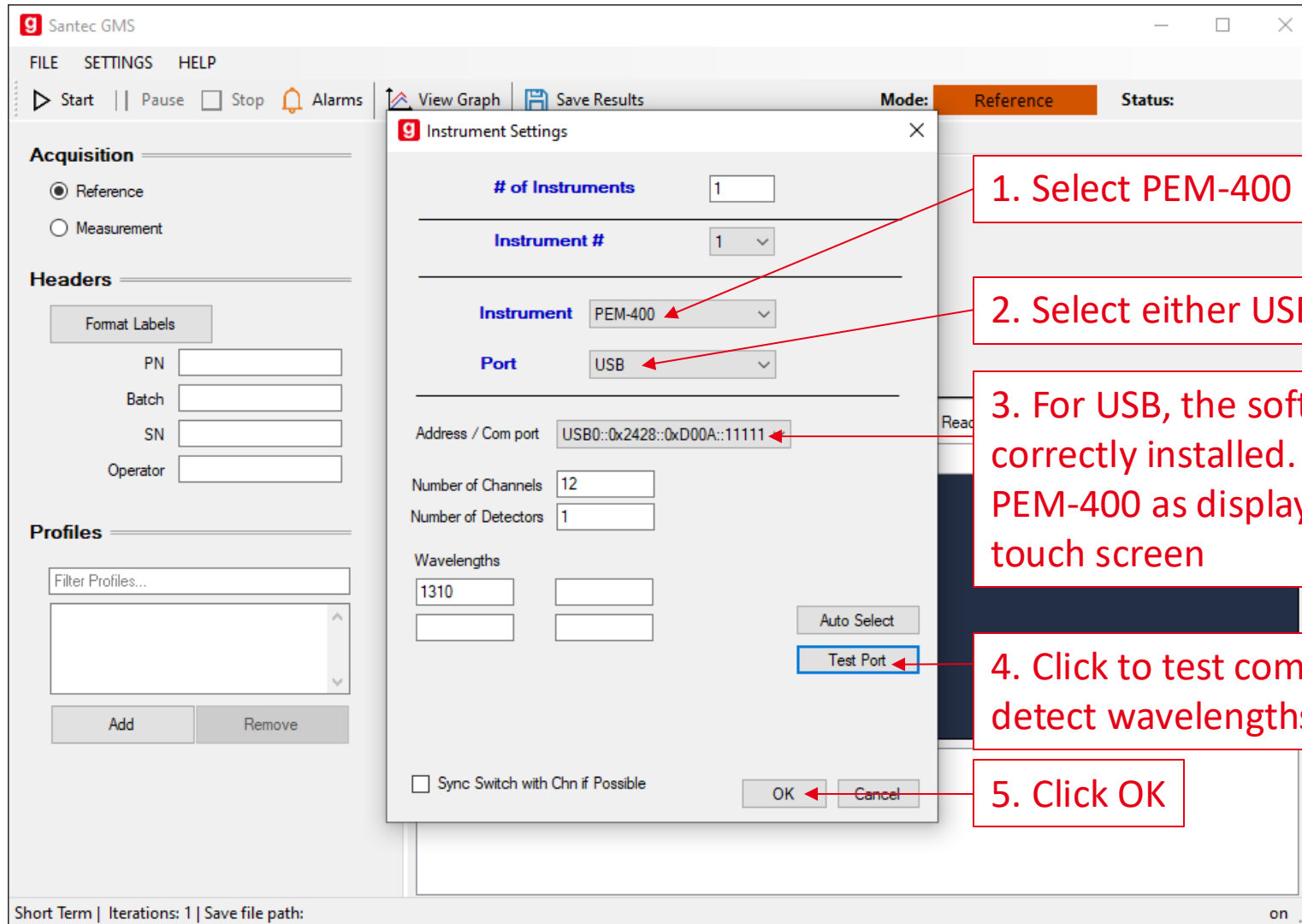
- <https://www.ni.com/en/support/downloads/drivers/download.ni-visa.html?srsId=AfmBOowzhLNq08Z7mVQ521ySwPAccRsNODajmJbzvtjUMpd3JcvbYcK#544206>

GMS has been used by hundreds of customers globally in both production and lab environments for over a decade. Key features include:

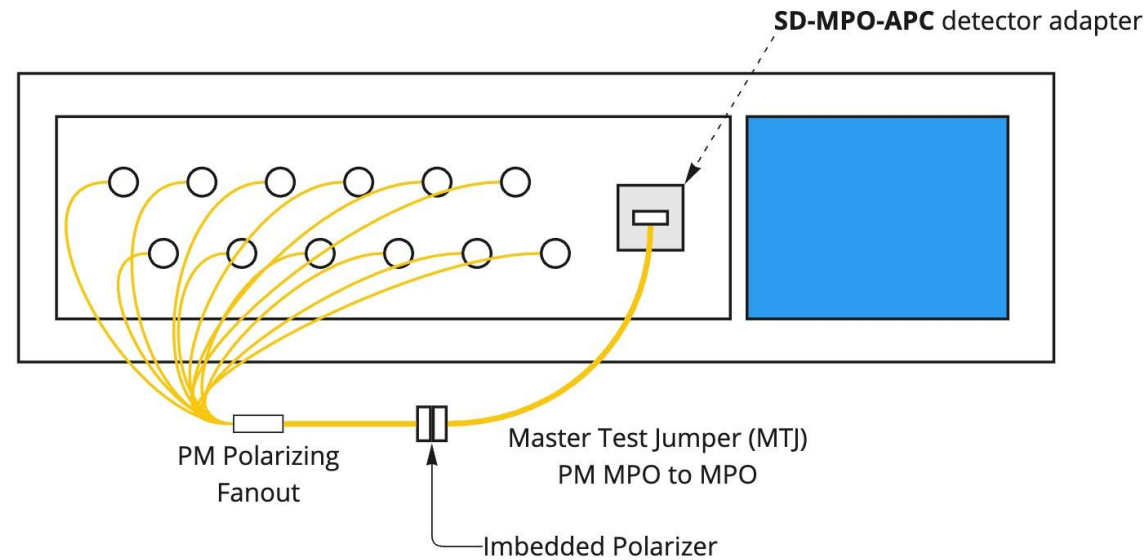
- create test plans
- set pass/fail criteria
- save data to Excel automatically
- automatically generate customizable reports



Open GMS then go to Settings > Instrument Settings

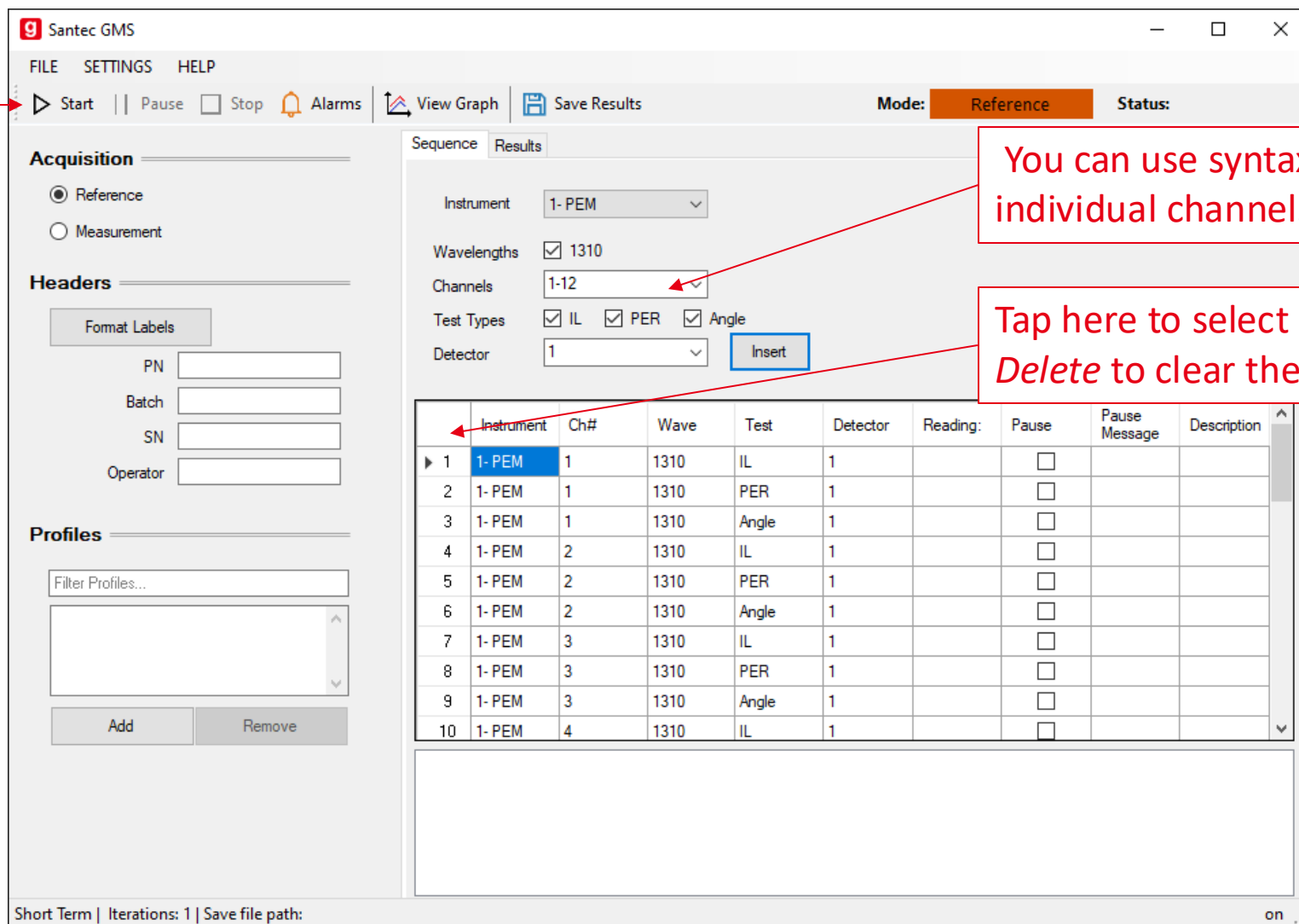


If measuring IL, PER and angle, connect the MTJ as per the diagram below. If measuring only PER and angle, skip the reference step.



Select the desired parameters and click insert to populate the sequence table.

Click Start



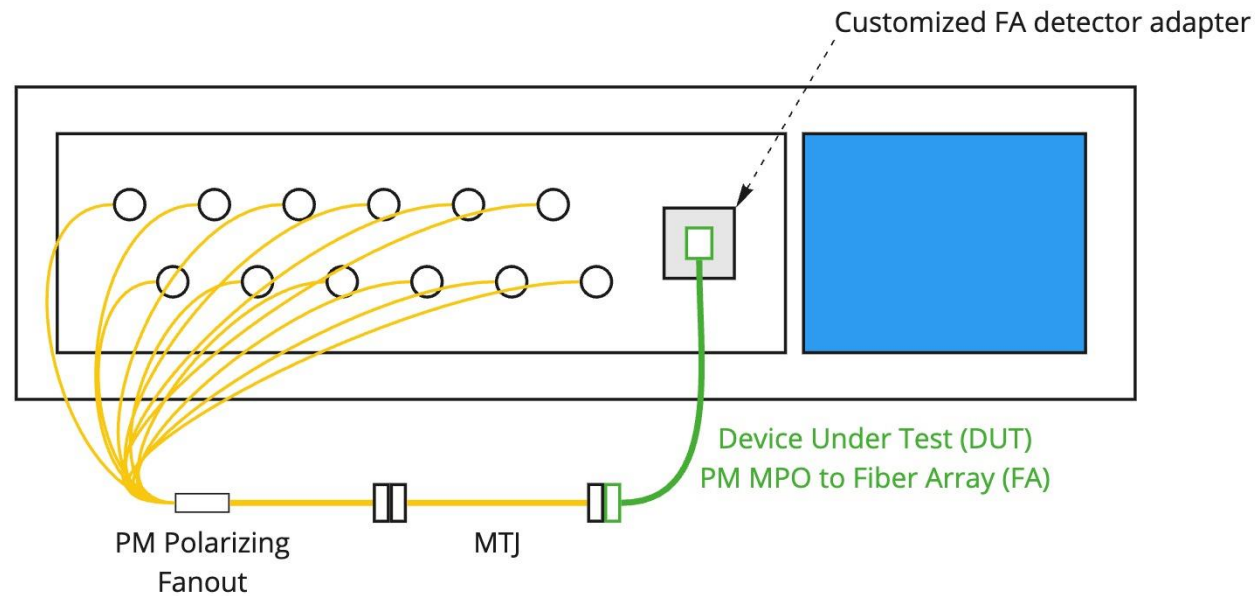
The screenshot shows the Santec GMS software interface. The top menu bar includes FILE, SETTINGS, and HELP. Below the menu bar are buttons for Start, Pause, Stop, Alarms, View Graph, and Save Results. The Mode is set to Reference and Status is displayed. The Acquisition section has Radio buttons for Reference and Measurement. The Headers section includes a Format Labels button and input fields for PN, Batch, SN, and Operator. The Profiles section has a Filter Profiles... field and Add/Remove buttons. The Sequence section shows Instrument (1- PEM), Wavelengths (1310), Channels (1-12), Test Types (IL, PER, Angle), and Detector (1). An Insert button is present. The Sequence table is populated with 10 rows. The first row is selected. The bottom status bar shows Short Term | Iterations: 1 | Save file path: on.

	Instrument	Ch#	Wave	Test	Detector	Reading:	Pause	Pause Message	Description
1	1- PEM	1	1310	IL	1		<input type="checkbox"/>		
2	1- PEM	1	1310	PER	1		<input type="checkbox"/>		
3	1- PEM	1	1310	Angle	1		<input type="checkbox"/>		
4	1- PEM	2	1310	IL	1		<input type="checkbox"/>		
5	1- PEM	2	1310	PER	1		<input type="checkbox"/>		
6	1- PEM	2	1310	Angle	1		<input type="checkbox"/>		
7	1- PEM	3	1310	IL	1		<input type="checkbox"/>		
8	1- PEM	3	1310	PER	1		<input type="checkbox"/>		
9	1- PEM	3	1310	Angle	1		<input type="checkbox"/>		
10	1- PEM	4	1310	IL	1		<input type="checkbox"/>		

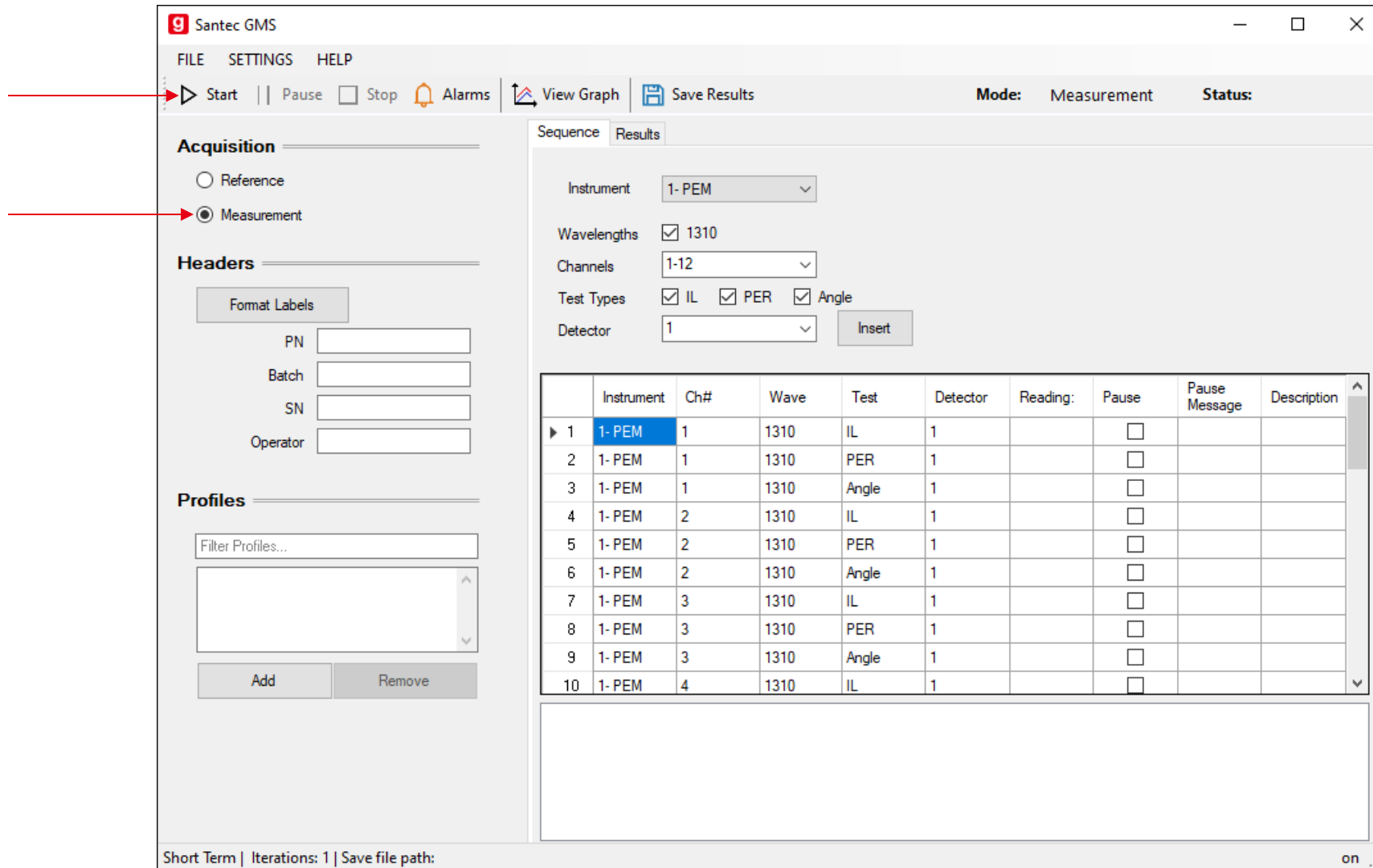
You can use syntax such as 1, 2, 11, 12 to insert individual channels or 1-12 for a channel range

Tap here to select all rows then press *Delete* to clear the test sequence.

Connect the DUT either directly to the polarizing fanout (measuring PER and angle only) or to the MTJ (measuring IL, PER and angle).



Select Measurement Acquisition then click Start.

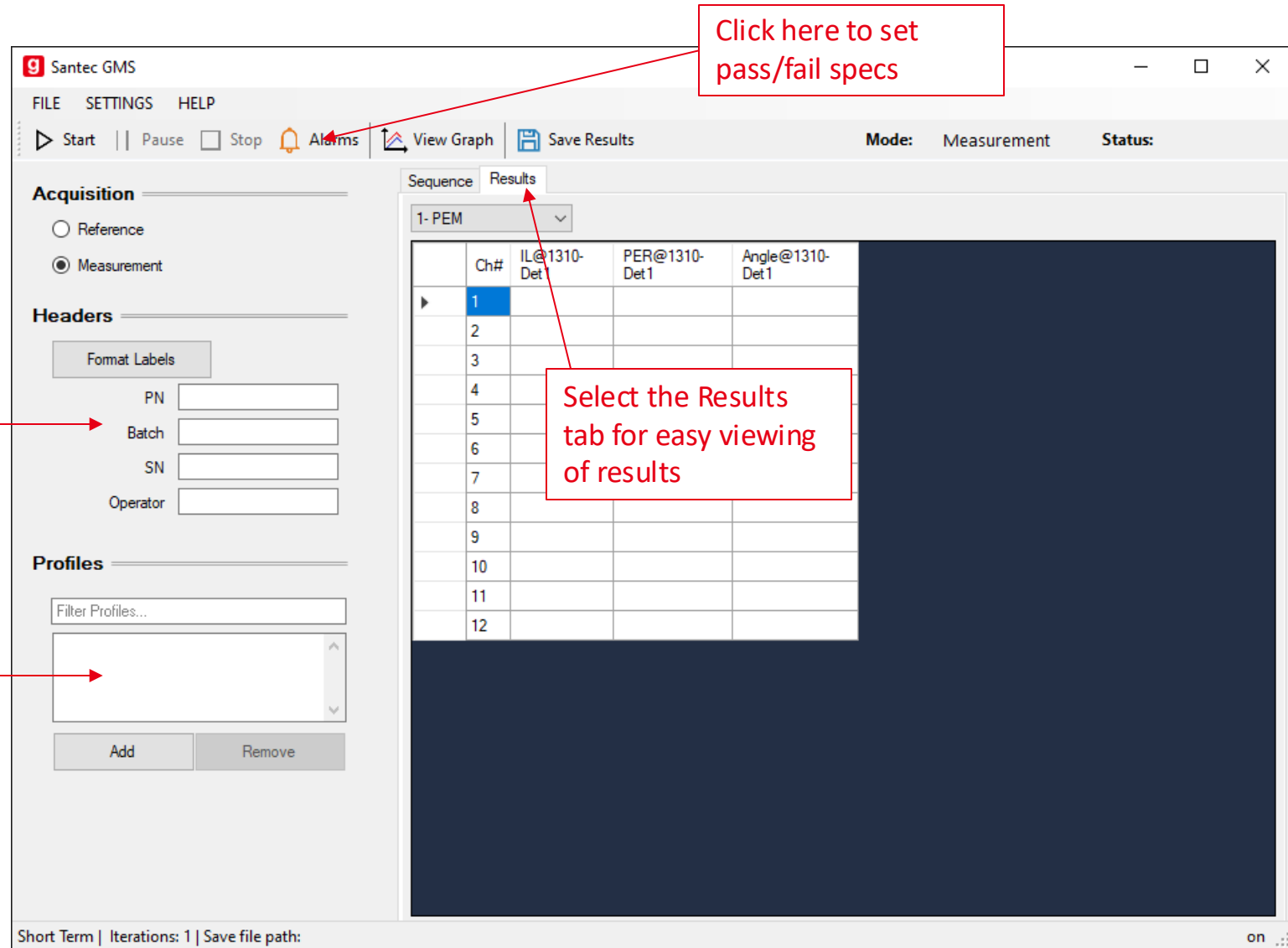


The screenshot displays the Santec GMS software interface. The 'Acquisition' section on the left has the 'Measurement' radio button selected. The 'Headers' section includes input fields for PN, Batch, SN, and Operator. The 'Profiles' section has a 'Filter Profiles...' field and 'Add' and 'Remove' buttons. The 'Sequence' tab is active, showing configuration for Instrument (1- PEM), Wavelengths (1310), Channels (1-12), Test Types (IL, PER, Angle), and Detector (1). The 'Results' tab shows a table of 10 test results.

	Instrument	Ch#	Wave	Test	Detector	Reading:	Pause	Pause Message	Description
▶ 1	1- PEM	1	1310	IL	1		<input type="checkbox"/>		
2	1- PEM	1	1310	PER	1		<input type="checkbox"/>		
3	1- PEM	1	1310	Angle	1		<input type="checkbox"/>		
4	1- PEM	2	1310	IL	1		<input type="checkbox"/>		
5	1- PEM	2	1310	PER	1		<input type="checkbox"/>		
6	1- PEM	2	1310	Angle	1		<input type="checkbox"/>		
7	1- PEM	3	1310	IL	1		<input type="checkbox"/>		
8	1- PEM	3	1310	PER	1		<input type="checkbox"/>		
9	1- PEM	3	1310	Angle	1		<input type="checkbox"/>		
10	1- PEM	4	1310	IL	1		<input type="checkbox"/>		

Short Term | Iterations: 1 | Save file path: on

Go to Settings > Test Settings for many more additional features and options.



The screenshot shows the Santec GMS software interface. The left sidebar contains sections for Acquisition (Reference and Measurement), Headers (with a Format Labels button and input fields for PN, Batch, SN, and Operator), and Profiles (with a Filter Profiles... field and an Add button). The main window has tabs for Sequence and Results. The Results tab is active, showing a table with columns Ch#, IL@1310-Det, PER@1310-Det1, and Angle@1310-Det1. The table has 12 rows, with the first row highlighted. A dropdown menu is open above the table, showing '1- PEM'. The bottom status bar displays 'Short Term | Iterations: 1 | Save file path: on'.

Click here to set pass/fail specs

Select the Results tab for easy viewing of results

Custom headers and fields can be saved with the data

Save a test profile (File > Save Profile as...) then click Add to display here

Ch#	IL@1310-Det	PER@1310-Det1	Angle@1310-Det1
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			