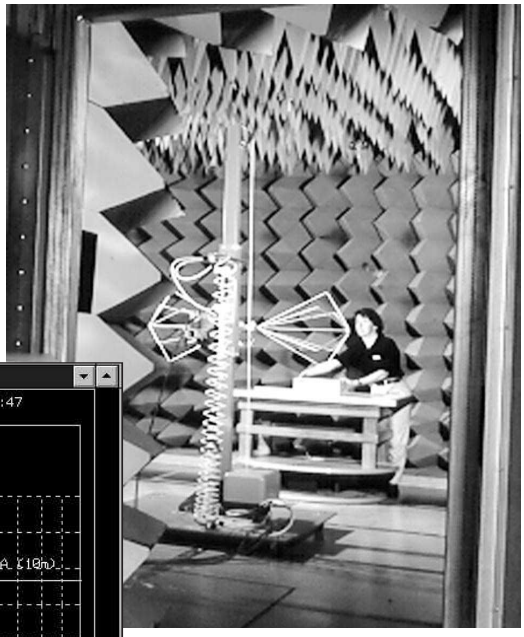
product overview

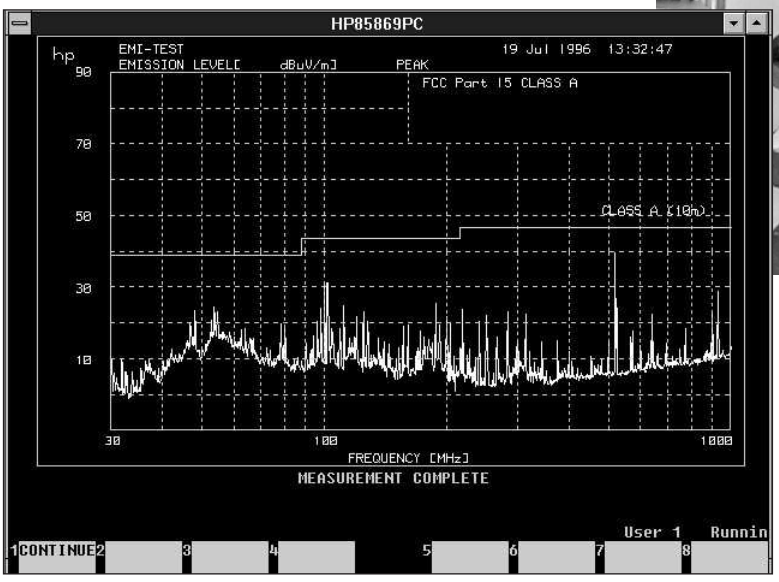
HEWLETT® PACKARD

HP | 85869PC | EMI Measurement Software

HP 85869PC
EMI Measurement Software

- **Radiated and Conducted Emissions Measurements**
- **The Industry-Standard EMI Software for Workstations Now Runs on a PC**
- **Commercial and Military EMI Testing**





The standard in workstation software now runs on a PC

The HP 85869A EMI measurement software now runs on a personal computer with Microsoft® Windows95, Microsoft Windows 98, Microsoft Windows NT 4.0. The new PC-based software, model number HP 85869PC, uses HP E2060B Basic for Windows. This operating environment offers most of the commands and syntax available in the popular Rocky Mountain Basic that runs on workstations.

The user interface and functionality of the HP 85869PC are very similar to the familiar workstation EMI software. If you are now using the HP 85869A you will be up and running with the HP 85869PC very quickly, taking advantage of the benefits of operating in a windows environment. The software uses an IEEE 488 card to communicate with the EMI measurement system, printers, plotter and other peripherals.

Transfer your libraries to the HP 85869PC software

All the libraries and setup tables that you have developed to make measurements with the HP 85869A workstation based EMI software can be easily transferred to the HP 85869PC. You won't lose any time getting your system up and running. Your particular tests are made using your own test setups and libraries that you have developed over the years.

The test data taken with your workstation software will not be lost. You can transfer your data libraries over to the HP 85869PC to continue analysis on previous measurements.

You've invested a lot of time and effort customizing your HP 85869A measurement software with specific subroutines that you have developed. These too, can be transferred to the new HP 85869PC.

Test your products to both commercial and MIL-STD requirements

Sample test setup tables for MIL-STD 461A, B, C, D and E along with FCC and EN requirements are included with the software. The test setups include all the information needed to perform a measurement including equipment setups, limit lines, and correction factors. Test setups can be tailored to include user defined subroutines and up to twenty predefined frequency ranges.

You can develop your own setup tables using the supplied limit line, transducer and gain/loss libraries.

EMI-TEST
TEST SETUP TABLE

Library File : SETUP NOT STORED

Display Title : EN 55011 CLASS A GROUP 1
Units Label : dBuV/m
Disp Ref Lvl (dB): 80
Test Type : PEAK
Freq Uncert. (%): 1
Min Swp Time/Oct : 3

Range 1 of 2
Start Freq(MHz): 30
Stop Freq (MHz): 200
Transducer : EMCO 3104 - BICONICAL (10 m)
Gain/Loss : 26 dB
SA Input : RIGHT
Presel/Input3 : RIGHT
Quasi-Peak Bw : 120 kHz
SA Res Bw (Hz): 1.E+6
Video Bw (Hz): 1.E+6
Ref. Lvl (dBuV): 75
Int Atten (dB): 0
Presel Atten : 0
Ext Atten (dB): 0
Setups : 1
Sweeps/Setup : 1
Msg,Sub,Cont : MESSAGE
Line #1 : CONNECT BICONICAL ANTENNA TO
Line #2 : RIGHT INPUT OF PRESELECTOR

Figure 1. EN55011 Setup table

Perform automated EMI measurements using "test setup" and "measure/analysis" areas

Develop your unique tests using test setups

- Choose the type of tests to be performed, for example, peak, narrowband/broadband, or peak log average.
- Select a frequency uncertainty of between 0.1 and 2 %.
- Call out up to 20 different frequency ranges in you test setup.
- Choose transducers from the transducer libraries supplied or develop your own transducer libraries.
- Compensate your measurements for gains and losses using the gain/loss libraries.
- Compare your measurement results to regulatory limits supplied in the limit line libraries or easily generate your own unique limit lines. Call out up to three limits for each test setup.
- Messages can be displayed to prompt the operator to perform a specific task such as connecting an antenna.
- Your unique sub-programs can be included as part of the test setup. For example, control an antenna tower or rotate a turntable at a specific point in the test. Subroutines are supplied to control the ETS tower and turntable.

The setup table in figure 1 shows an EN55011 measurement with all the parameters specified including messages and limits.

Measure gives you a wide range of measurement capabilities

- Preview the setup table before you start your measurements to ensure that you are using the correct test parameters.
- View the measurement and compare it against the specified limit as the measurement has completed each segment.

Figure 2 is an example of a measurement and the related limit line.

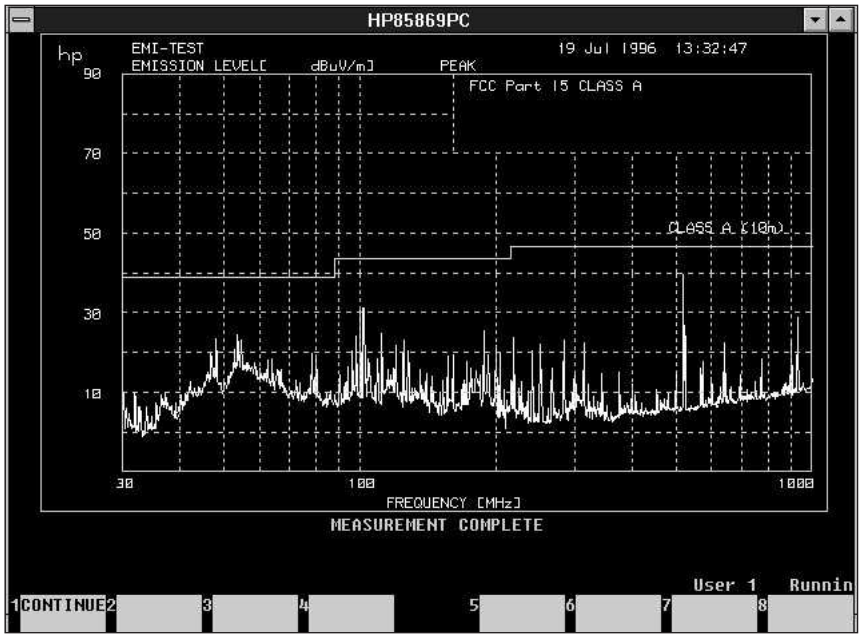


Figure 2. Limit Line and measurement

EMI-TEST 12 Jul 1996 10:43:12

Peaks above 10 dBuV/m
peak criteria = 6 dB

PEAK#	FREQ (MHz)	(dBuV/m)	DELTA
1	100.11	35.2	25.2
2	101.88	28.1	18.1
3	48.14	24.3	14.3
4	903.4	24.1	14.1
5	566.94	22.8	12.8
6	929.08	22.4	12.4
7	519.41	22.3	12.3
8	62.6	21.7	11.7
9	52.73	21.3	11.3
10	125.27	21.3	11.3
11	78.34	20	10.0
12	523.06	19.7	9.7
13	127.93	19.5	9.5
14	80.28	19.4	9.4
15	111.98	18.7	8.7
16	200.31	18.1	8.1
17	96.32	18	8.0
18	90.44	17.2	7.2
19	138.66	16.9	6.9
20	152.95	16	6.0

Figure 3. Printed List of peak signals

At the completion of the data acquisition, the HP 85869PC provides a broad range of analysis tools to help you complete the EMI evaluation of your products.

- Zoom local makes it easy to take a closer look at signals using a manual measurement process.
- Print Peaks automatically prints a list of signals which are related to limit lines or user defined threshold.

Figure 3 shows a printed list which is sorted by amplitude. Lists also can be sorted by delta to limit or frequency.

- Tune and listen feature allows you to quickly zoom in on a signal and listen to help you differentiate between an ambient radio or TV station and an EUT signal.
- *Remeasure at a peak* function performs a measurement of a signal that you choose with the marker. The remeasured data replaces the previously measured signal data.
- *Remeasure over a span* uses two markers placed around the area to be remeasured. The new measured area data replaces the previously measured information.
- *Quasi-peak at a peak or Quasi-peak over a span* is shown in figure 4 overlaying the peak measurements made earlier.
- *Average at a peak or Average over a span* is shown in figure 5 overlaying the peak measurements. (HP-GL)

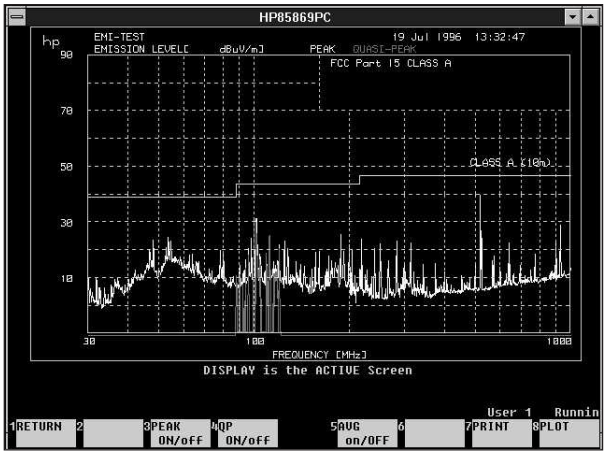


Figure 4. Quasi-peak overlaying peak measurement Limit Line and measure

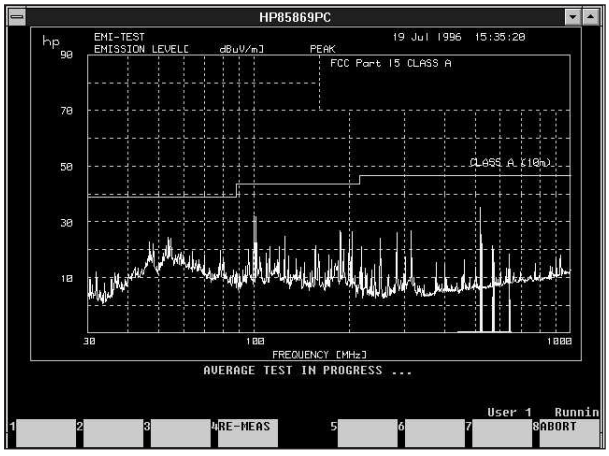


Figure 5. Average measurement overlaying peak measurement Limit Line and measure

Printing and plotting measurement displays and lists

Print your measurement results using the system print manager or connect your plotter directly to the IEEE 488 port for high-resolution reproductions of the measurement display. You can also save the measurement results as an HP-GL. HP-GL files can now be translated to .bmp (bitmap) files for importing into documents such as Microsoft® Word or Microsoft Excel.

Support and Training

Supplied with the HP 85869PC or the upgrade Option 832 is six months of telephone support. After six months the support contract can be renewed.
Training is also available.
We offer one day of installation and training for customers who are upgrading the current workstation software and two days of installation and training for customers who are new to EMI measurements.

EMI measurement software comparison

The HP 85869PC EMI software supports the HP 8566B, 8568B, 8571A, 8572A, 8573B, and 8574B.

Print and Plot Matrix

	Using HP-IB or Centronics to HP-IB converter	Using Microsoft print manager	To a file
Print text	Yes	Yes	Yes
Print graphics	No	Yes	No
Plot graphics	Yes	No	Yes

	HP 85869PC
HP 8546A/8542E support	No
HP 8566B/8568B based EMI measurement systems support	Yes
E7400A series EMC analyzers	No
8590EM series	No
MIL-STD measurements	Yes
Commercial radiated emissions	Yes
Ambient signal discrimination	No
Conducted emissions measurements	Yes

Minimum computer requirements

Display:	VGA (15")
RAM:	32 Mbytes
Hard drive:	5 Mbytes of free space
Floppy rive:	3 1/2 " floppy
Operating System:	Windows 95, 98, NT 4.
Processor:	Intel 486/DX2 (66 MHz)
IEEE 488 interface:	National Instruments AT GPIB/TNT
Printers and plotters:	GPIB printers/plotters; printers/plotters supported by Microsoft Windows
Programming language:	HP E2060B HP BASIC for Windows version 6.33

Ordering Information

HP 85869PC EMI Measurement Software
Includes: Program disks
Operating manual
Hardware key

Option 488
Adds National Instruments AT GPIB card

Option 832
Upgrades the HP 85869A* to the HP 85869PC
Includes: Program disks
Operating manual
Hardware key

Option 860
MIL-STD 461E Libraries and upgrade
(must currently own an HP 85869PC)

*Must currently own the HP 85869A to qualify for the Option 832 upgrade.

Note:
The HP 85869PC supports
HP 8566B with Firmware revision 12.4.91-or later
HP 8568B with Firmware revision 7.4.87-or later
HP 85685A with Firmware revision 27.01.92-or later

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Printed in U.S.A. 10/99
5965-2885E