



# SmartTester

## Product Overview

SmartTester is a unit and component test tool for run-time analysis. It improves productivity and quality in software development and verification processes.

## Test your code, analyze and find resolution to the problems

SmartTester automates the creation of unit and component test harnesses, test stubs and test drivers. In unit testing, SmartTester stubs all the function calls made by the unit under test. In component testing, it links the actual functions to its calls. With minimal clicks, you can analyze code coverage and visualize the behavior of your program. Detailed test and run-time coverage analysis reports are generated.

### DO-178B adherence

- SmartTester allows coverage analysis to be performed for all software levels as defined by DO-178B.
- Tester can configure the coverage requirement according to the level of the software.

### Code graphical coverage view

```
13 //TEMPERATURE
14 TEMPERATURE temperature[10];
15
16 void calc_temp(int par_lower, int par_upper, int par_step)
17 {
18     int loc_index = 0;
19     temperature[loc_index].fahr = par_lower;
20
21     while ((temperature[loc_index].fahr <= par_upper) && (loc_index < 10))
22     {
23         temperature[loc_index].celsius = 5 * (temperature[loc_index].fahr-32) / 9;
24         temperature[loc_index+1].fahr = temperature[loc_index].fahr + par_step;
25         loc_index++;
26     }
27 }
28
29
```

Coverage Results Coverage view

Output

- Project\_37Temp.exe
- Generating report file...
- Report file generated successfully!

### Features

- Enables host-based tests to be easily adapted to different target compilers
- Provides detailed code coverage information required for safety and mission-critical certification
- Operates in GUI/Command/Batch mode
- Easy to use Graphical User Interface
- Coverage requirements are configurable by the user
- Test cases can be executed selectively
- Supports all levels of DO-178B
- Detailed test and coverage reports
- Provision to convert reports to RTF/HTML formats



# SmartTester

## To Run SmartTester, you need :

WINDOWS 98/XP/NT/2000/VISTA

Processor : Pentium 3 and above

Speed : 2 GHz

Memory : 256 MB

Hard Disk : 500 MB Free Space

## Consolidated Report

Variable Name	Initial Value	Expected Value	Obtained Value	Comparison
temperature[0]	{ fahr = 0 , celsius = 0 }	{ fahr = 0 , celsius = -17 }	STRUCTURE_OK	STRUCTURE_OK
temperature[1]	{ fahr = 0 , celsius = 0 }	{ fahr = 32 , celsius = -12 }	STRUCTURE_OK	STRUCTURE_OK
temperature[2]	{ fahr = 0 , celsius = 0 }	{ fahr = 30 , celsius = -6 }	STRUCTURE_OK	STRUCTURE_OK
temperature[3]	{ fahr = 0 , celsius = 0 }	{ fahr = 30 , celsius = -1 }	STRUCTURE_OK	STRUCTURE_OK
temperature[4]	{ fahr = 0 , celsius = 0 }	{ fahr = 40 , celsius = 4 }	STRUCTURE_OK	STRUCTURE_OK
temperature[5]	{ fahr = 0 , celsius = 0 }	{ fahr = 50 , celsius = 10 }	STRUCTURE_OK	STRUCTURE_OK
temperature[6]	{ fahr = 0 , celsius = 0 }	{ fahr = 50 , celsius = 15 }	STRUCTURE_OK	STRUCTURE_OK
temperature[7]	{ fahr = 0 , celsius = 0 }	{ fahr = 70 , celsius = 21 }	STRUCTURE_OK	STRUCTURE_OK
temperature[8]	{ fahr = 0 , celsius = 0 }	{ fahr = 80 , celsius = 26 }	STRUCTURE_OK	STRUCTURE_OK
temperature [9] celsius	0	31	32	32

## Test Case Editor View

```

104 TEST 1
105 TEST_TYPE normal
106
107 -- Tested Variables :
108 VARIABLES
109
110 -- Inputs
111 par_lower : 0 : init
112 par_upper : 100 : init
113 par_step : 10 : init
114
115 -- Output
116 temperature[0] : { fahr = 0 , celsius = 0 } : { fahr = 0 , celsius =
117 { fahr = 0 , celsius = 0 } : { fahr = 10 , celsius =
118 { fahr = 0 , celsius = 0 } : { fahr = 20 , celsius =
119 { fahr = 0 , celsius = 0 } : { fahr = 30 , celsius =
120 { fahr = 0 , celsius = 0 } : { fahr = 40 , celsius =
121 { fahr = 0 , celsius = 0 } : { fahr = 50 , celsius =
122 { fahr = 0 , celsius = 0 } : { fahr = 60 , celsius =
123 { fahr = 0 , celsius = 0 } : { fahr = 70 , celsius =
124 { fahr = 0 , celsius = 0 } : { fahr = 80 , celsius =
125 { fahr = 0 , celsius = 0 } : { fahr = 90 , celsius =
126
127 END_VARIABLES
  
```

## Host Compilers

Windows:  
 Microsoft Visual C++ 6.0,  
 C Borland 5.02,  
 GCC 2.95.x, 3.2.x,  
 3.3.x, 3.4.x;  
 Green Hills MULTI  
 for  
 Windows x86

## Target Compilers

GCC 2.95.x - 4.1.x  
 Green Hills 4.0.x  
 C VDSP 21161



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