	FaultModel	DataItem	Span	Type	FaultClass	Min	Max	Threshold	Delta	State	Value
	TempMessage	1	1	INT	VAT	NA	NA	100	10	NA	NA
	TempMessage	1	1	INT	FVAT	NA	NA	100	10	NA	NA
	BoardStatus	1	1	DOUBLE	VOR	10	14	NA	1	NA	NA
	BoardStatus	1	1	DOUBLE	FVOR	10	14	NA	1	NA	NA

		TestSuite1															
	Decription	Complete suite															
		Requirements coverage															
		Test 1	Test2	Test3	Test4	Test5	Test6	Test7	Test8	Test9	Test10	Test11	Test12	Test13	Test14	Test15	Test16
Message1 (BoardStatus)	Voltage_Error_Absent	T	T	T	T	T	F	F	T	F	T	F	F	T	F	F	F
Message2 (TempMessage)	Temperature_Alarm_Absent	T	T	F	F	T	T	T	F	F	F	F	F	T	T	F	T
Message3 (BoardStatus)	Voltage_Error_Absent	T	T	T	T	F	T	F	F	T	F	T	F	F	T	F	F
Message4 (TempMessage)	Temperature_Alarm_Absent	T	F	T	F	T	T	T	T	T	F	F	F	F	F	T	F
		Test 1	Test2	Test3	Test4	Test5	Test6	Test7	Test8	Test9	Test10	Test11	Test12	Test13	Test14	Test15	Test16
	Exchanged data																
Message1 (BoardStatus)	voltage	12	12	12	12	12	20	20	12	20	12	20	20	12	20	20	20
Message2 (TempMessage)	temp_1	50	50	120	120	50	50	50	120	120	120	120	120	50	50	120	50
Message3 (BoardStatus)	voltage	12	12	12	12	20	12	20	20	12	20	12	20	20	12	20	20
Message4 (TempMessage)	temp_1	50	120	50	120	50	50	50	50	50	120	120	120	120	120	50	120
	Oracles																
	temperature	"==50"	"==120"	"==50"	"==120"	"==50"	"==50"	"==0"	"==120"	"==50"	"==120"	"==120"	"==0"	"==50"	"==120"	"==0"	"==0"
	temperature_alarm	"==0"	"==1"	"==0"	"==1"	"==0"	"==0"	"==0"	"==1"	"==0"	"==1"	"==1"	"==0"	"==0"	"==1"	"==0"	"==0"
	voltage_Error	"==0"	"==0"	"==0"	"==0"	"==1"	"==0"	"==1"	"==1"	"==0"	"==1"	"==0"	"==1"	"==1"	"==0"	"==1"	"==1"
		Outputs original software (for reference)															
	temperature	50	120	50	120	50	50	0	120	50	120	120	0	50	120	0	0
	temperature_alarm	0	1	0	1	0	0	0	1	0	1	1	1	0	1	0	0
	voltage_Error	0	0	0	0	1	0	1	1	0	1	0	1	1	0	1	1
		Mutants															
	MUTANT 1																
	voltage	12	12	12	12	12	20	20	12	20	12	20	20	12	20	20	20
	temp_1	110	120	120	120	110	110	110	120	120	120	120	120	110	110	120	110
	voltage	12	12	12	12	20	12	20	20	12	20	12	20	20	12	20	20
	temp_1	110	120	110	120	110	110	110	110	110	120	120	120	120	120	110	120
	temperature	110	120	110	120	110	110	0	120	110	120	120	0	110	120	110	0
	temperature_alarm	1	1	1	1	1	1	0	1	1	1	1	0	1	1	1	0
	voltage_error	0	0	0	0	0	0	1	1	0	1	0	1	1	0	1	1
	PASS	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	TRUE	TRUE	FALSE	TRUE	TRUE	TRUE	FALSE	TRUE	FALSE	TRUE
	KILLED	TRUE															
	MUTANT 2																
	voltage	12	12	12	12	12	20	20	12	20	12	20	20	12	20	20	20
	temp_1	50	50	90	90	50	50	50	90	90	90	90	90	50	50	90	50
	voltage	12	12	12	12	20	12	20	20	12	20	12	20	20	12	20	20
	temp_1	50	90	50	90	50	50	50	50	50	90	90	90	90	90	50	90
	temperature	50	90	50	90	50	50	0	120	50	90	90	0	50	90	0	0
	temperature_alarm	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	voltage_error	0	0	0	0	1	0	1	1	0	1	0	1	1	0	1	1
	PASS	TRUE	FALSE	TRUE	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	FALSE	FALSE	TRUE	TRUE	FALSE	TRUE	TRUE
	KILLED	TRUE															
	MUTANT 3																
	voltage	15	15	15	15	15	20	20	15	20	15	20	20	15	20	20	20
	temp_1	50	50	120	120	50	50	50	120	120	120	120	120	50	50	120	50
	voltage	15	15	15	15	20	15	20	20	15	20	15	20	20	15	20	20
	temp_1	50	120	50	120	50	50	50	50	50	120	120	120	120	120	50	120
	temperature	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	temperature_alarm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	voltage_error	1	1	1	1	1	1	1	1	0	1	0	1	1	0	1	1
	PASS	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	TRUE
	KILLED	TRUE															
	MUTANT 4																
	voltage	9	9	9	9	9	20	20	9	20	9	20	20	9	20	20	20
	temp_1	50	50	120	120	50	50	50	120	120	120	120	120	50	50	120	50
	voltage	9	9	9	9	20	9	20	20	9	20	9	20	20	9	20	20
	temp_1	50	120	50	120	50	50	50	50	50	120	120	120	120	120	50	120
	temperature	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	temperature_alarm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	voltage_error	1	1	1	1	1	1	1	1	0	1	0	1	1	0	1	1
	PASS	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	TRUE
	KILLED	TRUE															
	MUTANT 5																
	voltage	12	12	12	12	12	14	14	12	14	12	14	14	12	14	14	14
	temp_1	50	50	120	120	50	50	50	120	120	120	120	120	50	50	120	50
	voltage	12	12	12	12	20	12	14	14	12	14	12	14	14	12	14	14
	temp_1	50	120	50	120	50	50	50	50	50	120	120	120	120	120	50	120
	temperature	50	120	50	120	50	50	50	50	50	120	120	120	120	120	0	0
	temperature_alarm	0	1	0	1	0	0	0	1	0	1	1	1	1	1	0	0
	voltage_error	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	PASS	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE
	KILLED	TRUE															
	MUTANT 6																
	voltage	12	12	12	12	12	20	20	12	20	12	20	20	12	20	20	20
	temp_1	50	50	120	120	50	50	50	120	120	120	120	120	50	50	120	50
	voltage	12	12	12	12	20	12	20	20	12	20	12	20	20	12	20	20
	temp_1	50	120	50	120	50	50	50	50	50	120	120	120	120	120	50	120
	temperature	50	120	50	120	50	50	0	120	50	120	120	0	50	120	0	0
	temperature_alarm	0	1	0	1	0	0	0	1	0	1	1	1	0	1	0	0
	voltage_error	0	0	0	0	1	0	1	1	0	1	0	1	1	0	1	1
	PASS	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE
	KILLED	N/A: mutation opration not covered															
	Mutation analysis Results	FMC	100,00%														
		MOC	83,33%														
		MS	100,00%														

		TestSuite2			
	Decription	Lack of message			
		Requirements coverage			
		Test 1	Test2	Test3	Test4
Message1 (TempMessage)	Temperature_Alarm_Absent	T	T	F	F
Message2 (TempMessage)	Temperature_Alarm_Absent	T	F	T	F
		Test 1	Test2	Test3	Test4
	Exchanged data				
Message1 (TempMessage)	temp_1	50	50	120	120
Message2 (TempMessage)	temp_1	50	120	50	120
	Oracles				
	temperature	"==50"	"==120"	"==50"	"==120"
	temperature_alarm	"==0"	"==1"	"==0"	"==1"
	voltage_Error	"==0"	"==0"	"==0"	"==0"
	Outputs original software (for reference)				
	temperature	50	120	50	120
	temperature_alarm	0	1	0	1
	voltage_Error	0	0	0	0
	Mutants				
	MUTANT 1				
	temp_1	110	120	120	120
	temp_1	110	120	110	120
	temperature	110	120	110	120
	temperature_alarm	1	1	1	1
	voltage_error	0	0	0	0
	PASS	FALSE	TRUE	FALSE	TRUE
	KILLED	TRUE			
	MUTANT 2				
	temp_1	50	50	90	90
	temp_1	50	90	50	90
	temperature	50	90	50	90
	temperature_alarm	0	0	0	0