

# Thermography Test Report

Equipment under Test (EUT): **System board D3222-B12 GS51**

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The results in this report apply only to the tested sample(s).  
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## EUT : System board D3222-B12 GS51

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### 3. Summary of standards and results

The system was tested according to the test specification listed below.

#### 3.1. Test specifications:

Thermography      A26099-Y0023-V261      FTS work specification

#### 3.2. Summary of results

##### 3.2.1. Evaluation of test results

see detected temperature peaks on page 6

Note:              The results are only applicable for the tested configuration.

#### 3.3. Table of used instruments

##### Thermography

Test- / Measure device	Equipment name			Check / Calibration	
	Manufacturer	Type	Serial-No.	last*	next*
Thermography system	FLIR	SC620	404003720	---	08.13C
Lens	FLIR	Clos-up IR lens 0.5X, f=75mm	---	---	08.13C
Lens	FLIR	IR lens, f=19mm, 45°	---	---	08.13C
Software	FLIR	ThermaCAM Researcher	---	---	---
	FLIR	Reporter pro	---	---	---
Temperature reference	AGEMA	1010	12013	11.12C	11.13C

\* C = Calibration    CH = Check

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### 4. Equipment under test

#### 4.1. System description

Product type: System board  
 Manufacturer: Fujitsu Technology Solutions GmbH  
 Model: D3222-B12 GS51  
 SN: 41338569



**EUT with IR-scanner**

**BIOS:**V4.6.5.4 R0.86.0 for D3222-B1x 03/11/2013, **CPU:**Intel i5-4570 3.20GHz, **RAM:**2xM378B5773CH0-CK0 2GB 1Rx8 PC3-12800U-11-10-A0 dc:1250, **Water cooling used instead of original heat sink** for CPU, **1xUSB 2.0load, 1xUSB3.0-load, USB keyboard and mouse, LAN connected to switch**

**Heat up time: >2h**

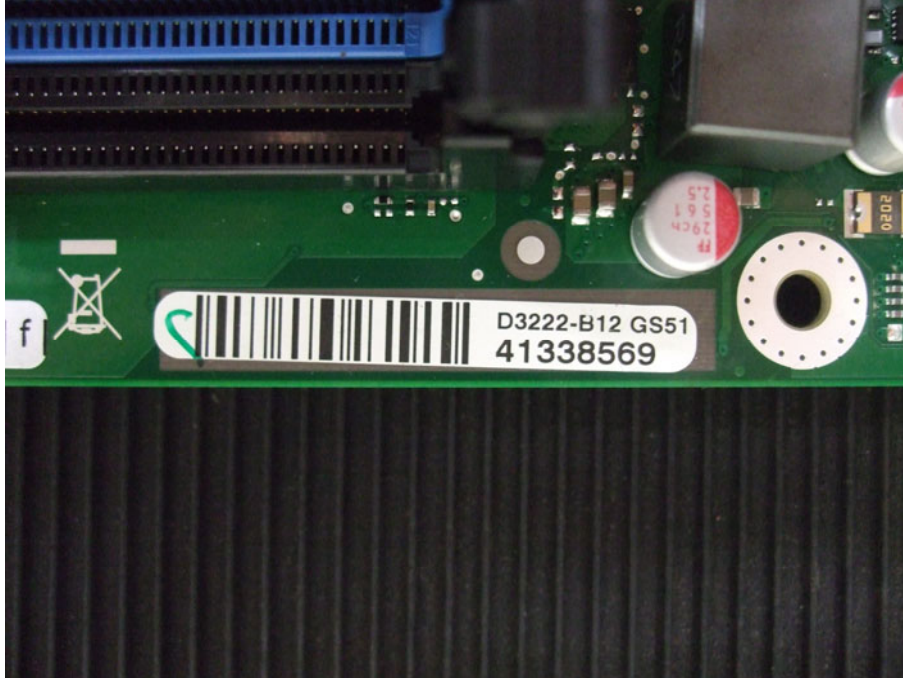
Receipt date:  
Condition when received:

March 25, 2013  
Ready for test

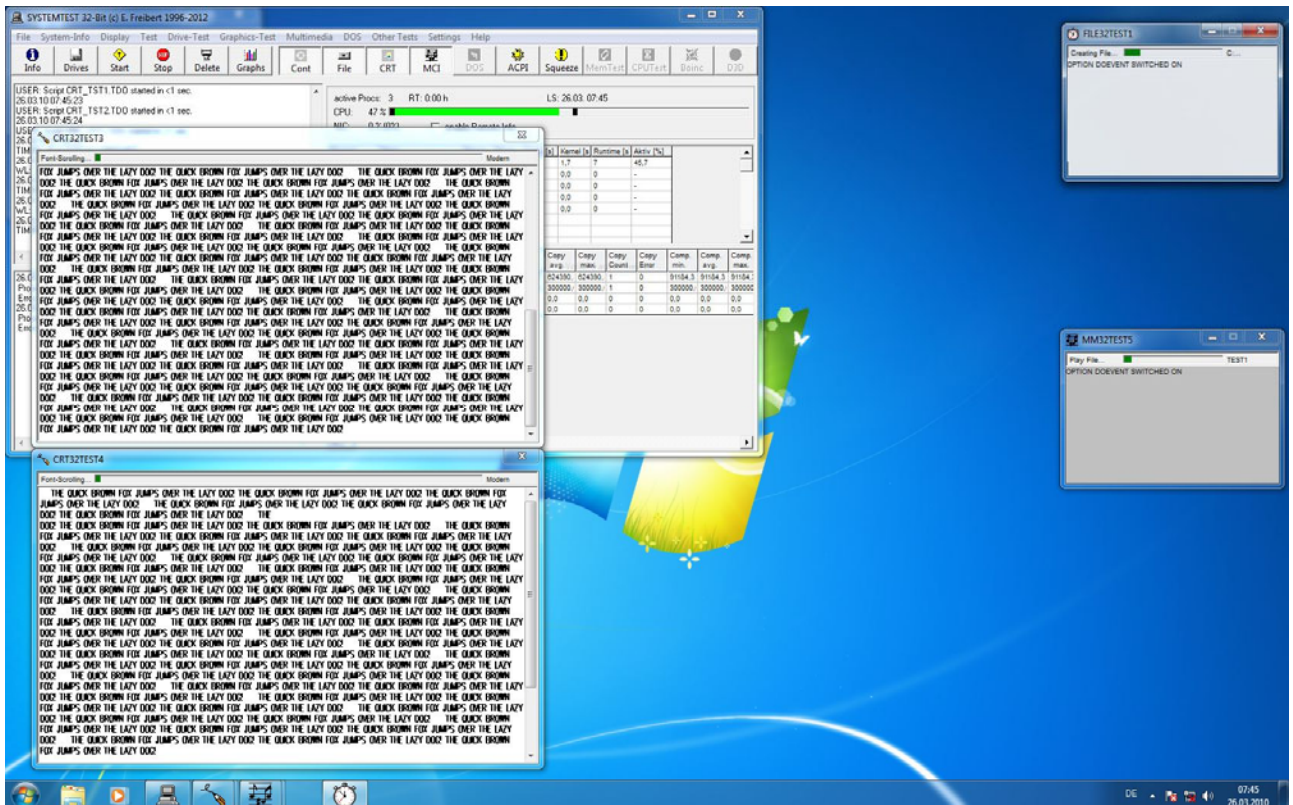


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## 4.2. EUT photos



System board type label



Screenshot of testing software

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### 5. Test results

#### 5.1. Detected temperature peaks

Component topside temperature at an ambient temperature of 23 °C

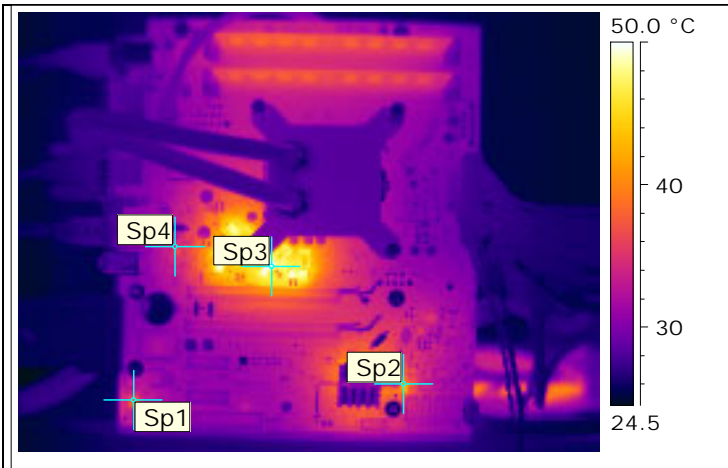
Through film  Reference black body: debit 95°C (24° lens) is  °C

no#	Location	Component	Temperature		IR-images no:		Comment:	Sens point
			with film	without film		Spot		
01	D3222-B12	780D00	---°C	---°C	5.2.1.	SP1	Overview to see hot spots	
02	-"-	340N00	---°C	---°C	-"-	SP2	-"-	
03	-"-	120V13	---°C	---°C	-"-	SP3	-"-	
04	-"-	800D00	---°C	---°C	-"-	SP4	-"-	
05	-"-	780D00	---°C	41°C	5.2.2.	SP1		
06	-"-	340N00	---°C	45°C	5.2.3.	SP1		
07	-"-	120V10	---°C	51°C	5.2.4.	SP1		
08	-"-	120V13	---°C	51°C	-"-	SP2		
09	-"-	120V33	---°C	51°C	-"-	SP3		
10	-"-	120L30	---°C	43°C	-"-	SP4		
11	-"-	120V20	---°C	51°C	-"-	SP5		
12	-"-	120N50	---°C	51°C	-"-	SP6		
13	-"-	800D00	---°C	38°C	5.2.5.	SP1		

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### 5.2. IR-Images

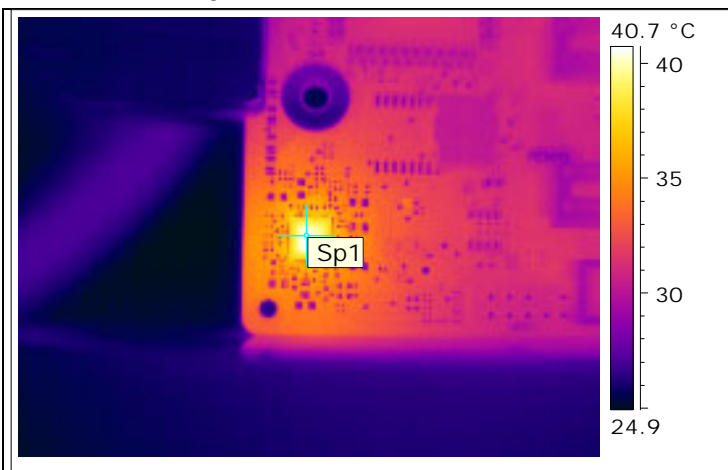
#### 5.2.1. IR-Image



Date	27.03.2013
Filename	1SB12-0012_001.fff
Max Temperature	50.9 °C
Min Temperature	24.4 °C
Emissionsgrad	0.95
Objektstand	0.5 m
Atmosphärentemperatur	23.0 °C
Relative Luftfeuchtigkeit	35.0 %
Bild Kameratyp	FLIR SC620
Bild Kameraobjektiv	FOL19
Bild Kamerafilter	

Sp1 Temperatur	39.9 °C
Sp2 Temperatur	44.3 °C
Sp3 Temperatur	48.4 °C
Sp4 Temperatur	36.0 °C

#### 5.2.2. IR-Image

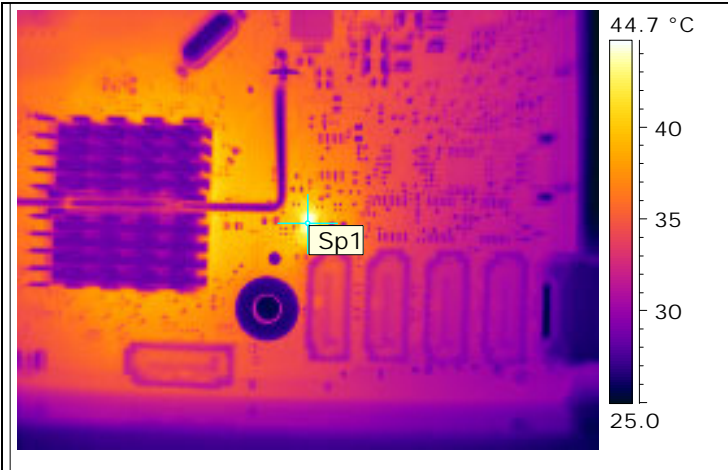


Date	27.03.2013
Filename	1SB12-0012_002.fff
Max Temperature	41.1 °C
Min Temperature	24.8 °C
Emissionsgrad	0.95
Objektstand	0.1 m
Atmosphärentemperatur	23.0 °C
Relative Luftfeuchtigkeit	35.0 %
Bild Kameratyp	FLIR SC620
Bild Kameraobjektiv	FOL19
Bild Kamerafilter	

Sp1 Temperatur	40.6 °C
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**EUT : System board D3222-B12 GS51**

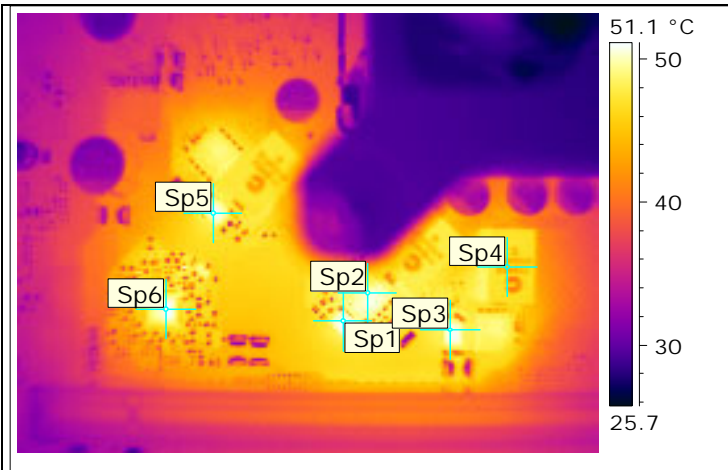
5.2.3. IR-Image



Date	27.03.2013
Filename	1SB12-0012_003.fff
Max Temperature	45.5 °C
Min Temperature	24.7 °C
Emissionsgrad	0.95
Objektstand	0.1 m
Atmosphärentemperatur	23.0 °C
Relative Luftfeuchtigkeit	35.0 %
Bild Kameratyp	FLIR SC620
Bild Kameraobjektiv	FOL19
Bild Kamerafilter	

Sp1 Temperatur	45.1 °C
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5.2.4. IR-Image



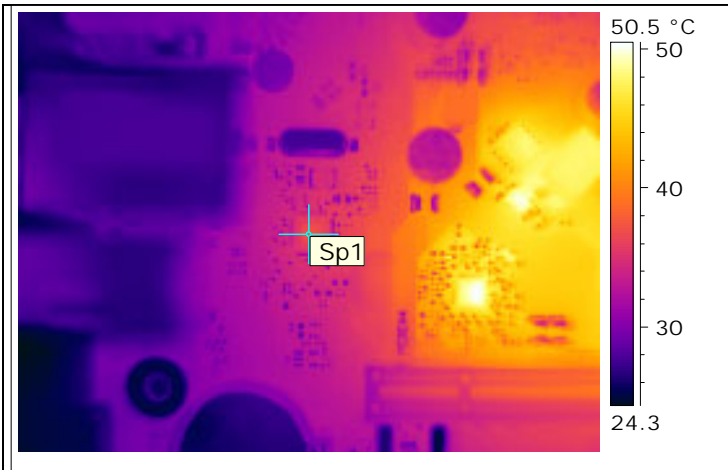
Date	27.03.2013
Filename	1SB12-0012_004a.fff
Max Temperature	52.1 °C
Min Temperature	25.5 °C
Emissionsgrad	0.95
Objektstand	0.1 m
Atmosphärentemperatur	23.0 °C
Relative Luftfeuchtigkeit	35.0 %
Bild Kameratyp	FLIR SC620
Bild Kameraobjektiv	FOL19
Bild Kamerafilter	

Sp1 Temperatur	51.2 °C
Sp2 Temperatur	50.5 °C
Sp3 Temperatur	50.8 °C
Sp4 Temperatur	43.3 °C
Sp5 Temperatur	50.6 °C
Sp6 Temperatur	51.1 °C



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### 5.2.5. IR-Image



Date	27.03.2013
Filename	1SB12-0012_005.fff
Max Temperature	51.0 °C
Min Temperature	24.0 °C
Emissionsgrad	0.95
Objektstand	0.1 m
Atmosphärentemperatur	23.0 °C
Relative Luftfeuchtigkeit	35.0 %
Bild Kameratyp	FLIR SC620
Bild Kameraobjektiv	FOL19
Bild Kamerafilter	

Sp1 Temperatur	37.5 °C
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