

Thermography Test Report

Equipment under Test (EUT): **Systemboard D3446-S10**

Applicant: FUJITSU TECHNOLOGY SOLUTIONS GmbH
FTS PDG WPS R&D OEM
Mr. Mertes, Wilbert
Bürgermeister-Ulrich-Strasse 100
86199 Augsburg

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Prepared by:

Matthias Härle
Technician


Signature

Reviewed by:

Alexander Gerum
Deputy Head of LAB E


Signature

The results in this report apply only to the tested sample(s).
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Fujitsu Technology Solutions GmbH, Product Compliance Center, D-86199 Augsburg,
Bürgermeister - Ulrich - Str. 100, Germany Phone +49 (821) 804-2109, Fax +49 (821) 804-4753.

EUT : Systemboard D3446-S10

2. Table of contents

	Page No.
1. Cover	1
2. Table of contents	2
3. Summary of standards and results	3
3.1. Test specifications:	3
3.2. Summary of results	3
3.3. Table of used instruments	3
4. Equipment under test	4
4.1. System description	4
4.2. EUT photos	5
5. Test results	6
5.1. Detected temperature peaks	6
5.2. IR-Images	7

EUT : Systemboard D3446-S10

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
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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	---	08.15C
Lens	FLIR	Clos-up IR lens 0.5X, f=75mm	---	---	08.15C
Lens	FLIR	IR lens, f=19mm, 45°	---	---	08.15C
Software	FLIR	ThermaCAM Researcher	---	---	---
	FLIR	Reporter pro	---	---	---
Temperature reference	AGEMA	1010	12013	11.14C	11.15C

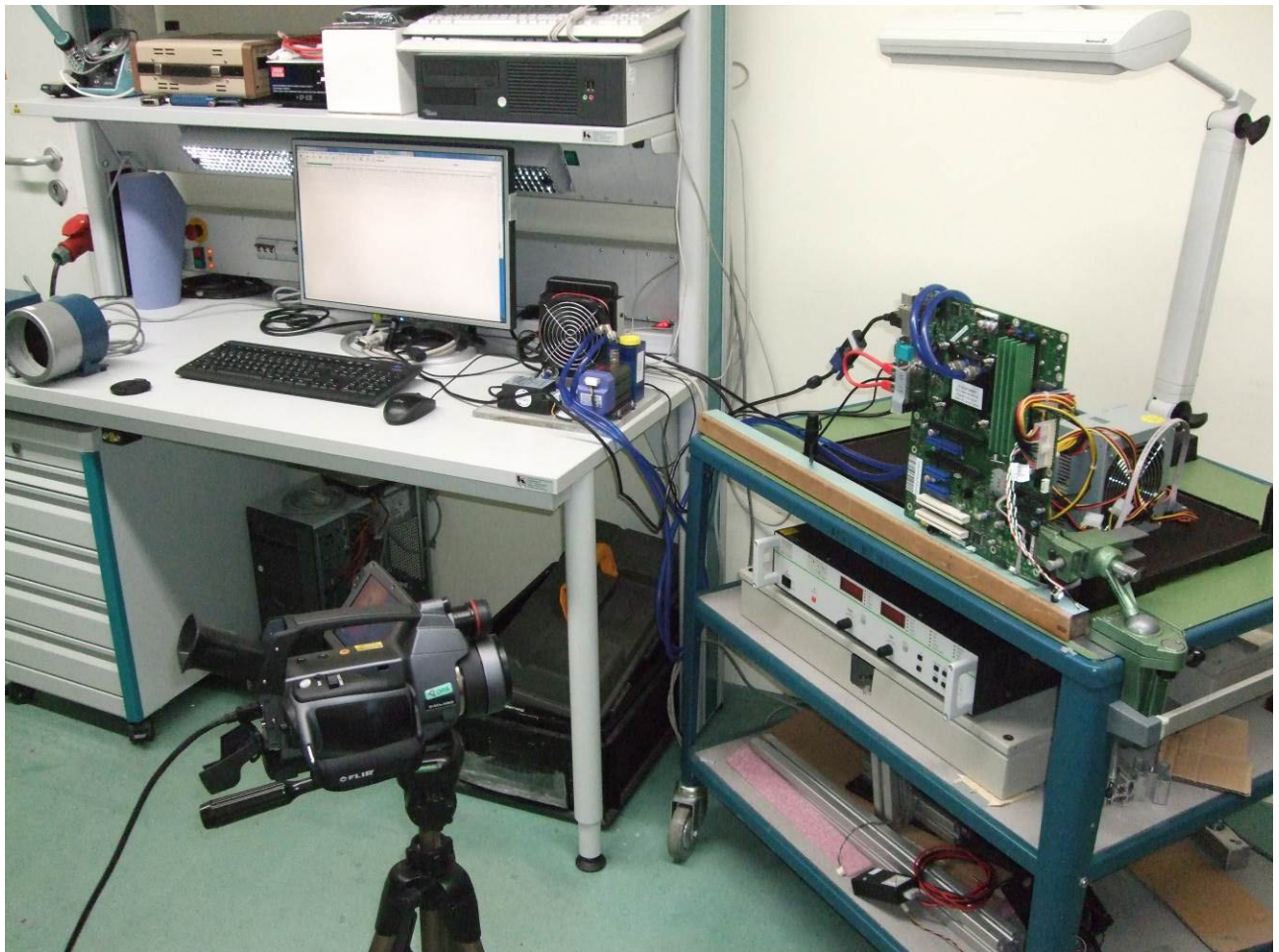
* C = Calibration CH = Check

EUT : Systemboard D3446-S10

4. Equipment under test

4.1. System description

Product type: System board
Manufacturer: Fujitsu Technology Solutions GmbH
Model: D3446-S10 GS51
SN: 47706529



EUT with IR-scanner

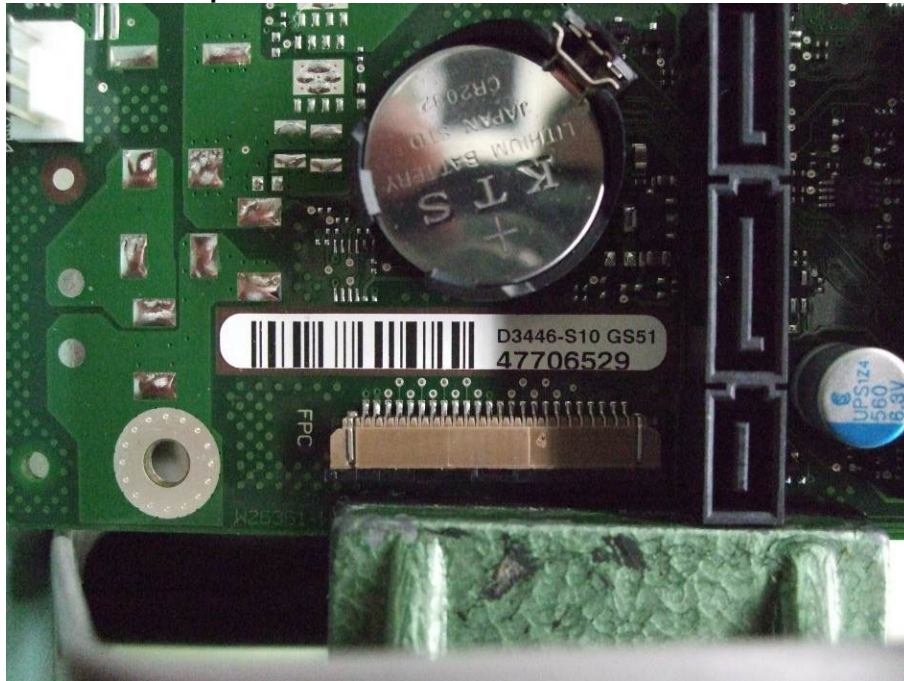
BIOS:V5.0.0.11 R0.93.4 08/07/2015, **CPU:** Intel XEON E3-1275 v5 @3.60GHz with external water cooling, **RAM:**4xM378A5143DB0-CPB 4GB 1Rx8 PC4-2133P-UA0-10 dc:1518, **HDD:** HTS725050A7E630 500GB
VGA: on board D3446-S10, **USB keyboard and mouse**

Heat up time: >2h

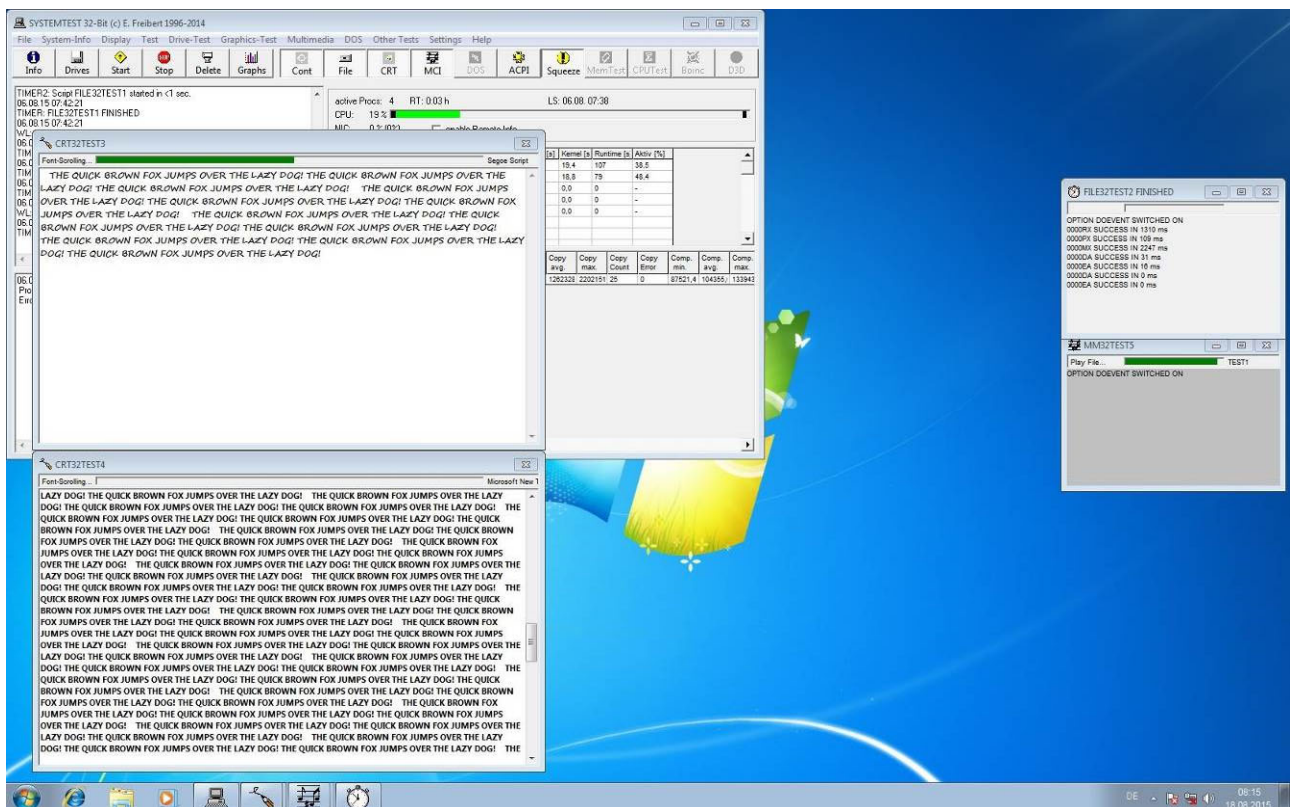
Receipt date: August 05, 2015
Condition when received: Ready for test

EUT : Systemboard D3446-S10

4.2. EUT photos



System board type label



Screenshot of test software

EUT : Systemboard D3446-S10

5. Test results

5.1. Detected temperature peaks

Component topside temperature at an ambient temperature of 23 °C

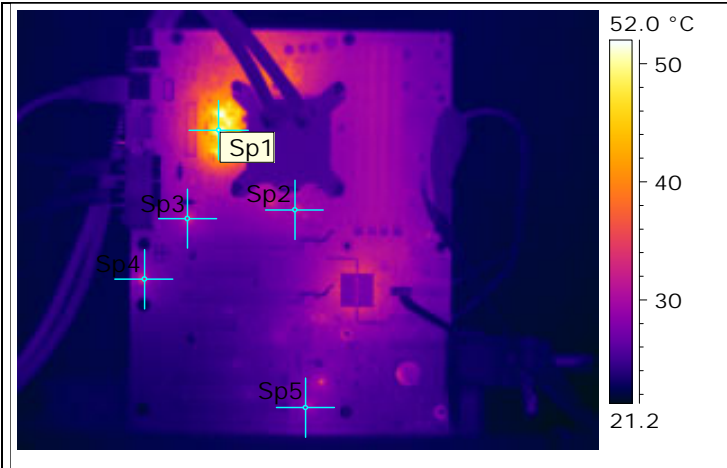
Through film Reference black body: debit 95°C (24° lens) is 94,8 °C

no#	Location	Component	Temperature		IR-images no:		Comment:	Sens point
			with film	without film		Spot		
01	D3446-S10	125V21	---°C	---°C	5.2.1	SP1	Overview to see hot spots	
02	..	341L40	---°C	---°C	..	SP2	..	
03	..	820D00	---°C	---°C	..	SP3	..	
04	..	780D00	---°C	---°C	..	SP4	..	
05	..	660D00	---°C	---°C	..	SP5	..	
06	..	130N10	---°C	---°C	5.2.2	SP1	..	
07	..	130N10	---°C	43°C	5.2.3	SP1		
08	..	130V11	---°C	40°C	..	SP2		
09	..	130L10	---°C	36°C	..	SP3		
10	..	125N20	---°C	54°C	5.2.4	SP1		
11	..	125N30	---°C	52°C	..	SP2		
12	..	125V21	---°C	52°C	..	SP3		
13		340V31	---°C	34°C	5.2.5	SP1		
14		341L40	---°C	32°C	..	SP2		
15		820D00	---°C	34°C	5.2.6	SP1		
16		780D00	---°C	35°C	5.2.7	SP1		
17		660D00	---°C	30°C	5.2.8	SP1		
18		662N50	---°C	42°C	..	SP2		

EUT : Systemboard D3446-S10

5.2. IR-Images

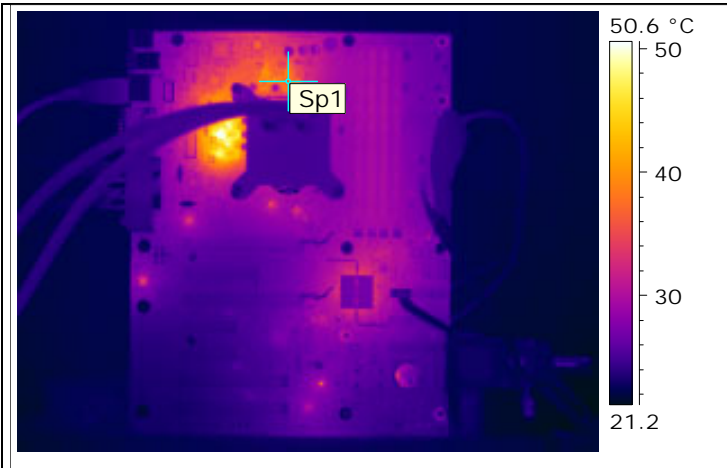
5.2.1 IR-Image



Date	18.08.2015
Filename	1SB-15003-PR01-K01_001.fff
Max Temperature	53.5 °C
Min Temperature	21.1 °C
Emissionsgrad	0.95
Objektabstand	0.5 m
Atmosphärentemperatur	20.0 °C
Relative Luftfeuchtigkeit	35.0 %
Bild Kameratyp	FLIR SC620
Bild Kameraobjektiv	FOL38
Bild Kamerafilter	

Sp1 Temperatur	51.8 °C
Sp2 Temperatur	32.0 °C
Sp3 Temperatur	33.2 °C
Sp4 Temperatur	34.1 °C
Sp5 Temperatur	28.9 °C

5.2.2 IR-Image

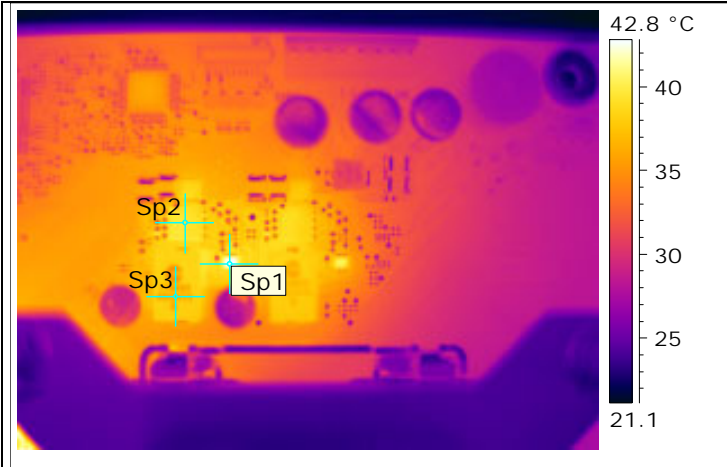


Date	18.08.2015
Filename	1SB-15003-PR01-K01_002.fff
Max Temperature	53.7 °C
Min Temperature	20.9 °C
Emissionsgrad	0.95
Objektabstand	0.5 m
Atmosphärentemperatur	20.0 °C
Relative Luftfeuchtigkeit	35.0 %
Bild Kameratyp	FLIR SC620
Bild Kameraobjektiv	FOL38
Bild Kamerafilter	

Sp1 Temperatur	36.7 °C
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EUT : Systemboard D3446-S10

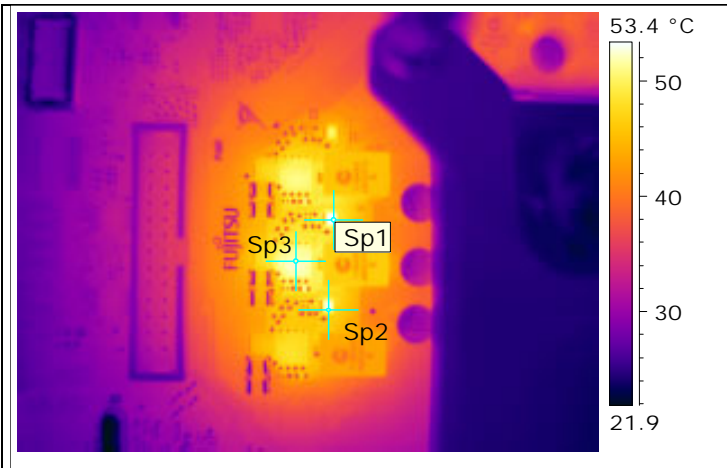
5.2.3 IR-Image



Date	18.08.2015
Filename	1SB-15003-PR01-K01_003.fff
Max Temperature	43.7 °C
Min Temperature	20.9 °C
Emissionsgrad	0.95
Objektabstand	0.1 m
Atmosphärentemperatur	20.0 °C
Relative Luftfeuchtigkeit	35.0 %
Bild Kameratyp	FLIR SC620
Bild Kameraobjektiv	FOL19
Bild Kamerafilter	

Sp1 Temperatur	43.0 °C
Sp2 Temperatur	39.5 °C
Sp3 Temperatur	36.0 °C

5.2.4 IR-Image

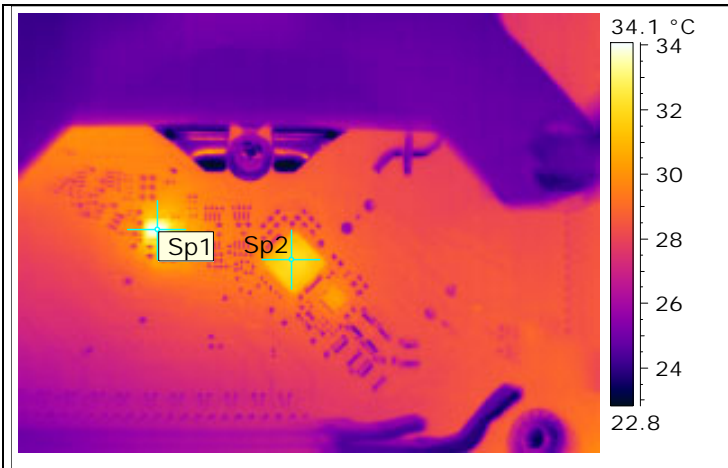


Date	18.08.2015
Filename	1SB-15003-PR01-K01_004.fff
Max Temperature	54.6 °C
Min Temperature	21.6 °C
Emissionsgrad	0.95
Objektabstand	0.1 m
Atmosphärentemperatur	20.0 °C
Relative Luftfeuchtigkeit	35.0 %
Bild Kameratyp	FLIR SC620
Bild Kameraobjektiv	FOL19
Bild Kamerafilter	

Sp1 Temperatur	53.7 °C
Sp2 Temperatur	52.2 °C
Sp3 Temperatur	52.0 °C

EUT : Systemboard D3446-S10

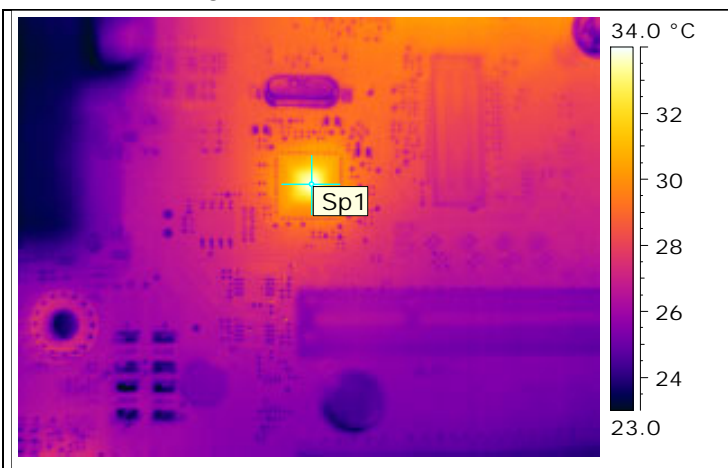
5.2.5 IR-Image



Date	18.08.2015
Filename	1SB-15003-PR01-K01_005.fff
Max Temperature	34.3 °C
Min Temperature	22.7 °C
Emissionsgrad	0.95
Objektstand	0.1 m
Atmosphärentemperatur	20.0 °C
Relative Luftfeuchtigkeit	35.0 %
Bild Kameratyp	FLIR SC620
Bild Kameraobjektiv	FOL19
Bild Kamerafilter	

Sp1 Temperatur	34.2 °C
Sp2 Temperatur	32.0 °C

5.2.6 IR-Image

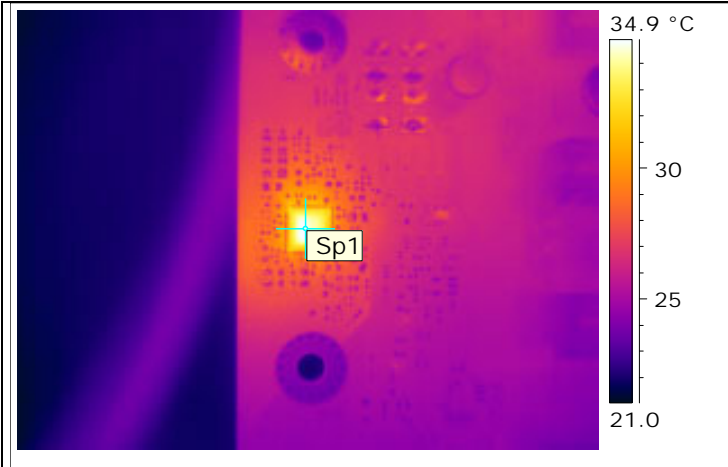


Date	18.08.2015
Filename	1SB-15003-PR01-K01_006.fff
Max Temperature	34.4 °C
Min Temperature	22.7 °C
Emissionsgrad	0.95
Objektstand	0.1 m
Atmosphärentemperatur	20.0 °C
Relative Luftfeuchtigkeit	35.0 %
Bild Kameratyp	FLIR SC620
Bild Kameraobjektiv	FOL19
Bild Kamerafilter	

Sp1 Temperatur	34.1 °C
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EUT : Systemboard D3446-S10

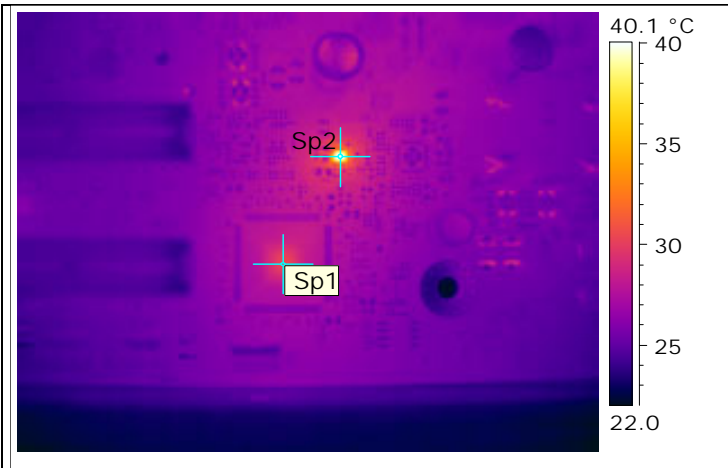
5.2.7 IR-Image



Date	18.08.2015
Filename	1SB-15003-PR01-K01_007.fff
Max Temperature	35.1 °C
Min Temperature	20.9 °C
Emissionsgrad	0.95
Objektabstand	0.1 m
Atmosphärentemperatur	20.0 °C
Relative Luftfeuchtigkeit	35.0 %
Bild Kameratyp	FLIR SC620
Bild Kameraobjektiv	FOL19
Bild Kamerafilter	

Sp1 Temperatur	34.7 °C
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5.2.8 IR-Image



Date	18.08.2015
Filename	1SB-15003-PR01-K01_008.fff
Max Temperature	43.1 °C
Min Temperature	21.9 °C
Emissionsgrad	0.95
Objektabstand	0.1 m
Atmosphärentemperatur	20.0 °C
Relative Luftfeuchtigkeit	35.0 %
Bild Kameratyp	FLIR SC620
Bild Kameraobjektiv	FOL19
Bild Kamerafilter	

Sp1 Temperatur	30.4 °C
Sp2 Temperatur	42.2 °C