Climatic Test Report

Equipment under Test (EUT):	**D3313-S22 in FUTRO-chassis** with CPU AMD GX-217GA SOC 1.7GHz, heat pipe cooled
Applicant:	FUJITSU TECHNOLOGY SOLUTIONS GmbH FTS PDG WPS R&D OEM Mr. Mertes, Wilbert Bürgermeister-Ulrich-Strasse 100 86199 Augsburg
Document No.:	CLI+1SB13-0024+K02
Test date:	February 24, until February 27, 2014
Issue date:	March 03, 2014

Prepared by:	Matthias Härle Technician	Signature
Reviewed by:	Alexander Gerum Deputy Head of LAB E	Signature

EUT: D3313-S22 in FUTRO-chassis

2. Table of contents

3. Summary of standards and results

The system was tested according to the applicable standards as referenced below.

3.1. Classification of climatic conditions

Climatic environmental conditions according to: DIN EN 60721-3-3 (Edition 09/95)

Equipment under test:

Product specification: Operation: Class 3K2 according to DIN EN 60721 Part 3-3

Test specification:

Climatic test	DIN EN 60068-1 (Edition 03/95)	Environmental tests part 1, general and guidance.
Climatic test dry heat operation	DIN EN 60068-2-2 (Edition 05/08)	Environmental tests; part 2: test section B, dry heat

EUT: D3313-S22 in FUTRO-chassis

3.2. Summary of results

3.2.1. Valued tests

	passed	failed
Dry heat operation +35°C	X	

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

Table of used instruments

Climatic test cabinet

Test- / Measure device	Equipment name			Check / Calibration	
	Manu-facturer	Type	Serial-No.	last*	next*
Climatic test cabinet	Vötsch Industrie-technik	VC³ 4150	595661117700 10	11.13CH	11.14CH
31. Data Acquisition Unit 30 ch.	Yokogawa	DA100-13-1F	27CA20068	10.12C	10.14C
44. Data Acquisition Unit 30 ch.	Yokogawa	DA100-13-1F	27E749086	10.12C	10.14C
Thermocouples	Thermocoax	Chrom-Alumel	Type:K	with	Recorder
Multimeter	Fluke	87V TRUE RMS	88630333	11.13C	11.15C

- C = Calibration CH = Check

4. Equipment under test

4.1. System description

Product: S26361-D3313-S22

Manufacturer: FUJITSU TECHNOLOGY SOLUTIONS GmbH

Type: Personal Computer

Approval name: D3313-S

Part no.: S26361-D3313-S22

Serial no.: 43468068

Component	Model	Manufacturer	Part no.	Serial no.	Rev.	Remark
System board	D3313-S22	FTS	S26361-D3313-S22	43468068	GS52	with CPU AMD K16 GX-217GA SOC with Radeon HD Graphic 1.7GHz, BIOS: V4.6.5.4 R1.2.0 for D3313-S1x 01/31/2014
Heat sink	B972-V4	Cooler Master	V26898-B972-V4	CM5100072		CM P/N:HEL-00102-F1-GP2
RAM 2x	HMT325S6CFR8A-PB N0 AA	SK hynix		n.a.		2GB 1Rx8 PC3L-12800S-11-12-B2, dc:1323/1317
WLAN board	GA5G M7930LX3	n.a.		6302AF4C79025927		
HDD	THMSMX032GMCT	Toshiba.		Y33A304WKZTK		Solid State Drive, 32GB
Graphic controller	NVS 300	nVidia.	S26361-D1473-V338	0325110019422	GS1	
other	D3318-A10	FTS	S26361-D3318-A10	42052269	GS50	PCIe riser card
Chassis	FUTRO DS	LiteOn	C26361-K528-A400-*-Z100	G320C00084	03	Module for D3003, LOE P/N:15G320C02A0T-R, D/C:YYWW 1211
AC adapter	FSP100-RAA	FSP Group Inc.		H00001148		DC output:24V=4.17A (100Wmax)

Product specification: operation: Class 3K2 according to EN 60721 part 3-3

Receipt date: February 24, 2014

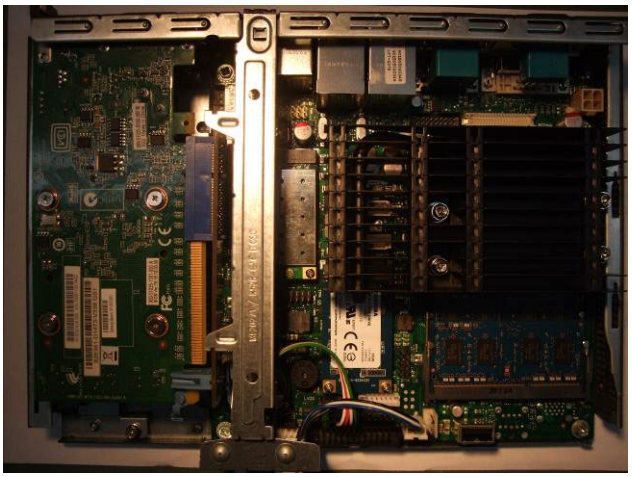
Condition when received: Ready for test

EUT: D3313-S22 in FUTRO-chassis

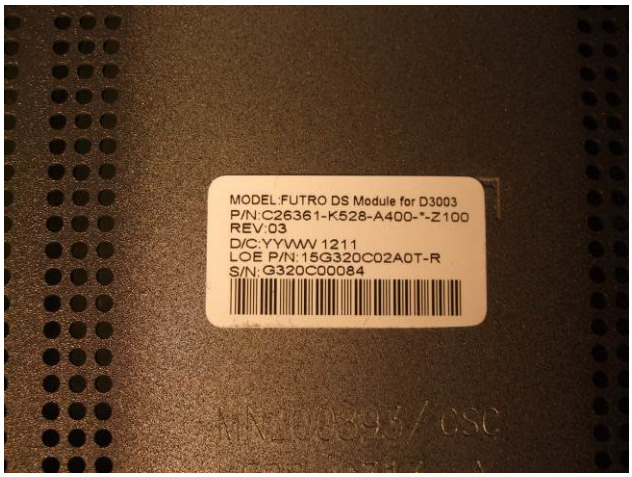
4.2. EUT Photos

Picture no. 1: EUT front

Picture no. 2: EUT back



Picture no. 3: EUT top opened



Picture no. 4: Chassis type label

EUT: D3313-S22 in FUTRO-chassis

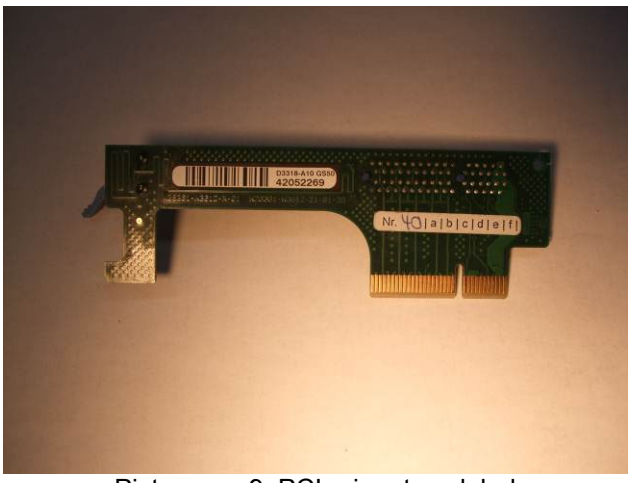
Picture no. 5: System board type label

Picture no. 6: CPU heat sink type label

Picture no. 7: Memory type label

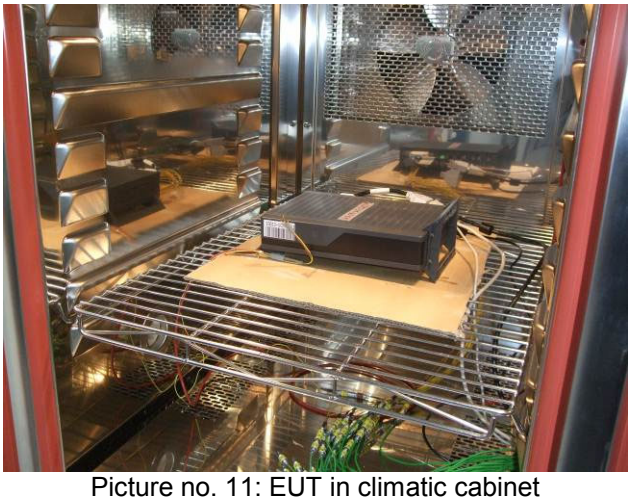
Picture no. 8: mSATA SSD type label

EUT: D3313-S22 in FUTRO-chassis



Picture no. 9: PCIe riser type label

Picture no. 10: VGA type label



Picture no. 11: EUT in climatic cabinet

Picture no. 12: EUT prepared for measurement

5. Test results

5.1. Dry heat operation, +35°C

	passed	failed
Operation at high temperature (+35°C)	X	

Test conditions: SN29067-1 (Edition 11/95)
Class: 3K2

Standards: DIN EN 60068-2-2 (Edition 05/08) Test section B: dry heat

Temperature values: +35°C

Requirements: Specified performance data must be met.
For all components the maximum temperatures allowed must not be exceeded.

Test software: See page 10 + 11

Results: **No objections**

Remarks: **After directional stability of all temperatures the tests were running for at least 30 minutes.**

EUT: D3313-S22 in FUTRO-chassis

Ch. #	ThC. #	Module/PWB	Component:	1 [°C]	Δt [K]	2 [°C]	Δt [K]	3 [°C]	Δt [K]	4 [°C]	Δt [K]	Max [°C]
1	63	Unit	Ambient air	35		35		35		35		---
2	503	CPU	100D00 CPU	62	28	54	36	64	26	60	30	90
3	725	SB	127C22 VCC_CPU_CORE Elko	59	9	53	15	61	7	59	9	68
4	U23	SB	127C04 P19VP Filter Core Elko	51	17	47	21	51	17	50	18	68
5	138	SB	127C82 VCC_CPU_NB Elko	60	8	55	13	62	6	61	7	68
6	81	SB	923L50 P12VP_ STBY Spule	71	29	66	34	74	26	72	28	100
7	G63	SB	923C69 P12VP_STBY Elko	58	10	56	12	60	8	60	8	68
8	E19	SB	430X60 Battery	47	13	47	13	49	11	49	11	60
9	E58	SB	500D00 SIO SMSC	54	16	52	18	57	13	55	15	70
10	U25	SB	505D00 SIO Nuvoton	60	10	59	11	62	8	63	7	70
11	546	SB	920C57 P3V3P_STBY Elko	58	10	56	12	61	7	60	8	68
12	H83	SB	920C77 P5VP_STBY Elko	56	12	54	14	58	10	58	10	68
13	F91	SB	620C10 P12VP Elko	53	15	52	16	56	12	55	13	68
14	2	SB	780D00 Audio Codec	50	20	51	19	59	11	62	8	70
15	G23	SB BS	522D00 COM Driver	56	14	55	15	58	12	59	11	70
16	616	SB BS	800D00 LAN CTRL	54	16	53	17	56	14	56	14	70
17	H30	SB BS	865D00 DP to LVDS Converter	53	27	50	30	54	26	54	26	80
18	718	VGA*	Ambient air under VGA-card	44		54		45		58		---
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												

Description: *Additional Graphics Controller nVidia NVS300

Col. 1 Mains 230V / 50Hz; Horizontal stand;
Test: Idle mode Date: 26.02.2014 09:46:36

Col. 2 Mains 230V / 50Hz; Vertical stand;
Test: Idle mode Date: 26.02.2014 10:46:36

Col. 3 Mains 230V / 50Hz; Horizontal stand;
Test: Systest Date: 26.02.2014 13:02:26

Col. 4 Mains 230V / 50Hz; Vertical stand;
Test: Systest Date: 26.02.2014 11:51:26

EUT: D3313-S22 in FUTRO-chassis

Ch. #	ThC. #	Module/PWB	Component:	5 [°C]	Δt [K]	6 [°C]	Δt [K]	7 [°C]	Δt [K]	8 [°C]	Δt [K]	Max [°C]
1	63	Unit	Ambient air	35		35						---
2	503	CPU	100D00 CPU	79	11	68	22					90
3	725	SB	127C22 VCC_CPU_CORE Elko	67	1	60	8					68
4	U23	SB	127C04 P19VP Filter Core Elko	56	12	52	16					68
5	138	SB	127C82 VCC_CPU_NB Elko	66	2	60	8					68
6	81	SB	923L50 P12VP_ STBY Spule	78	22	73	27					100
7	G63	SB	923C69 P12VP_STBY Elko	65	3	63	5					68
8	E19	SB	430X60 Battery	53	7	52	8					60
9	E58	SB	500D00 SIO SMSC	59	11	57	13					70
10	U25	SB	505D00 SIO Nuvoton	66	4	66	4					70
11	546	SB	920C57 P3V3P_STBY Elko	64	4	62	6					68
12	H83	SB	920C77 P5VP_STBY Elko	62	6	60	8					68
13	F91	SB	620C10 P12VP Elko	58	10	58	10					68
14	2	SB	780D00 Audio Codec	55	15	58	12					70
15	G23	SB BS	522D00 COM Driver	61	9	60	10					70
16	616	SB BS	800D00 LAN CTRL	59	11	58	12					70
17	H30	SB BS	865D00 DP to LVDS Converter	58	22	54	26					80
18	718	VGA*	Ambient air under VGA-card	54		67						---
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												

Description: *Additional Graphics Controller nVidia NVS300

Col. 5 Mains 230V / 50Hz; Horizontal stand;
Test: ThermNow! Date: 26.02.2014 14:48:59

Col. 6 Mains 230V / 50Hz; Vertical stand;
Test: ThermNow! Date: 27.02.2014 07:36:59

Col. 7

Col. 8