DSS-CV21

Environment Test Report

Report NO: 121P020006

Summary	☐ **Pass** ☐ **Fail** Note : There is/are ___ defect(s) not list in the report, please check it in the DTS Website. ☑ **Pass with Deviation** **Comment: <u>Temperature points are two components were estimated to be in marginal temperature points in comparison with components datasheet.</u>**

Issue date	Approval	Test Engineer
2012-12-13	**Tom Lin**	**Matthew Chi**

Test item list

Testing Result

Num	Test item list	Result	Remark
1	Temperature rise test	Pass	
2	Temperature cycle operation test	Pass	
3	High temperature storage test	Pass	
4	Low temperature storage test	Pass	
5	Humidity test	Pass	
6	Cold start and hot start test	Pass	

Configuration of EUT

Item	Device Information	
SYSTEM PC Model / Ver.	DSS-CV21 A1.0	
CPU Board	ASUS E81030 Rev 1.01	
BIOS / Version	0401	
CPU Type	Intel Atom D2550 1.86GHz	
Memory Type	DSL DDR3 1066 2GB ELPIDA J1108BDSE-DJ-E x2	
HDD	WD WD160BEVT 2.5” 160GB	
Operating System	☒ Windows 7 Professional English 32 Bit	
DC Adapter	ASUS ADP-90CD/ DC 19V/ 4.74A	

System picture:

Temperature rise test

Test Date: 12-13-2012

Test Product: DSS-CV21

Test Site: AAEON QE Dept.

Test Standard: Reference EN 61131-2(94), UL508 (94)

Temperature Measurement:

40 Channel Thermal Recorder:
YOKOGAWA Inc,
Model: DA100-13-1D
Date of Calibration: 10/12/2011
Serial Number: 12A323190

Test Condition:

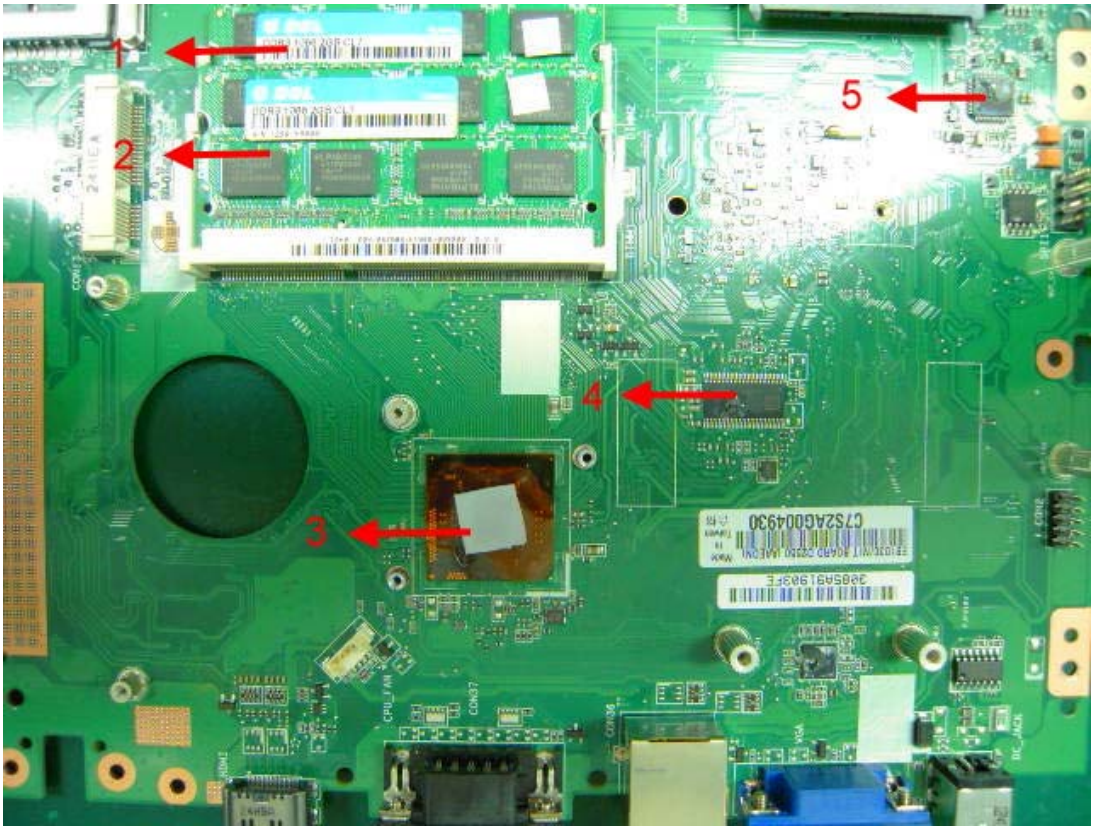
Ambient temperature: 45℃
Continuous running till thermal stable (within less than 1℃)

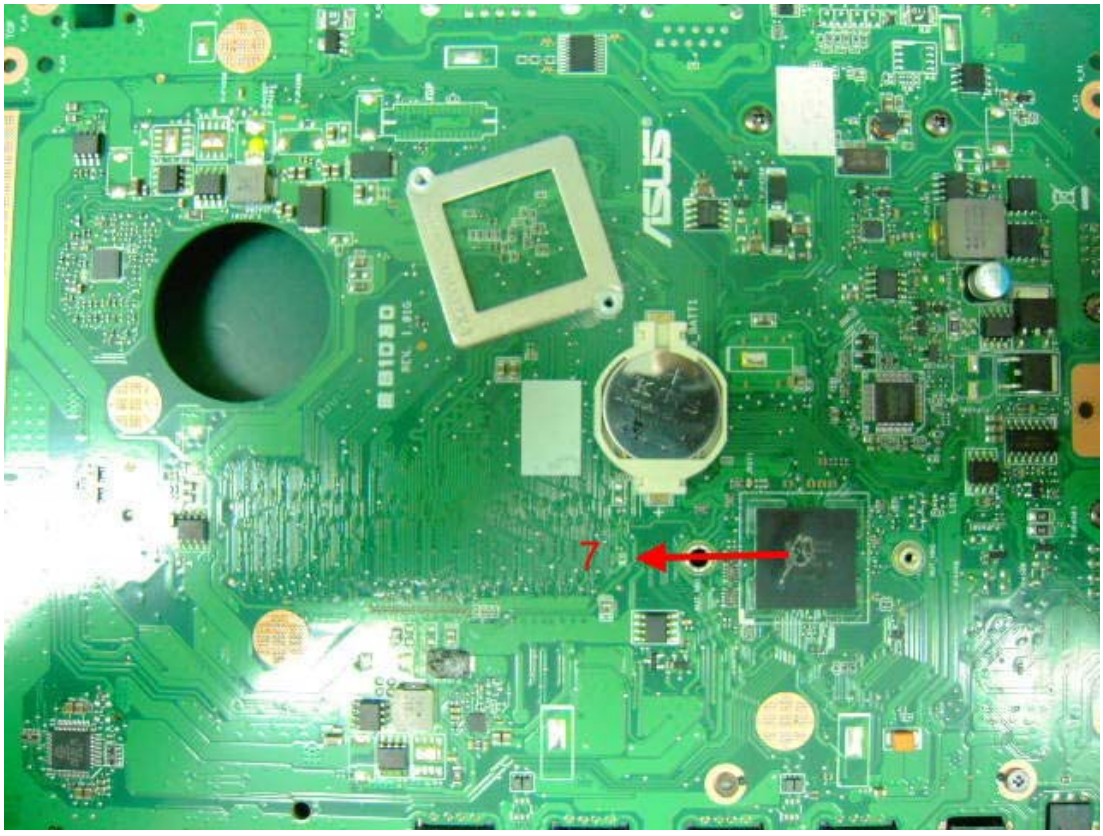
Test Software:

Windows 7 / Run PassMark Burn In Test 7.0 Pro

Terminal Recorder:

Temperature rise test





Temperature rise test

Temperature rise test

Thermal profile data:

Point \ Temp. Stage(℃)	Spec	45	Note
01. Memory 1 - DSL DDR3 1066 2GB ELPIDA J1108BDSE-DJ-E	95	93.7	Note4
02. Memory 2 - DSL DDR3 1066 2GB ELPIDA J1108BDSE-DJ-E	95	92.5	Note4
03. CU1 - Intel Atom D2550 1.86GHz	100	79.1	
04. CGU – Clock Gen. 9LPRS432	115	88.6	
05. AU1 - (TF) Audio Codec. output.SMD.Realtek.ALC887-VD2-CG	100.5	79.8	
06. HDD - WD WD160BEVT 2.5” 160GB	85	71.3	
07. C.S CG82NM10 903500 INT TIGERPOINT NM10 SLGXX [HF].SMD	115	92.5	
08. Control Box Inside Air Temperature	N/A	60.6	
09. Control Box Surface Temperature	N/A	59.7	
10. Chamber Air Temperature	N/A	45.4	

Note(*):
1. "Tc" indicates the component's case maximum temperature value specified in its datasheet.
2. "Tm" indicates the measured Tc value under working environmental temperature within product specification.
3. Judgment Criteria:
- **Fail** : Tm > Tc; The measured value is over specification.
- **Margin Pass** : Tc > Tm > Tc-5℃; The measured value is within specification with margin.
  It is strongly recommended to add thermal dissipation design for better reliability.
- **Pass** : Tm < Tc-5℃; The measured value is with safety margin.

4. Defect NO. I121018LABD02

Sample Configuration & Quantity Under Test:

Quantity: 1 (DSS-CV21)

Test Result:

No issues were found during the temperature rise operation test.

Temperature cycle test

Test Date: 11-09~ 12-2012

Test Product: DSS-CV21

Test Site: AAEON QE Dept.

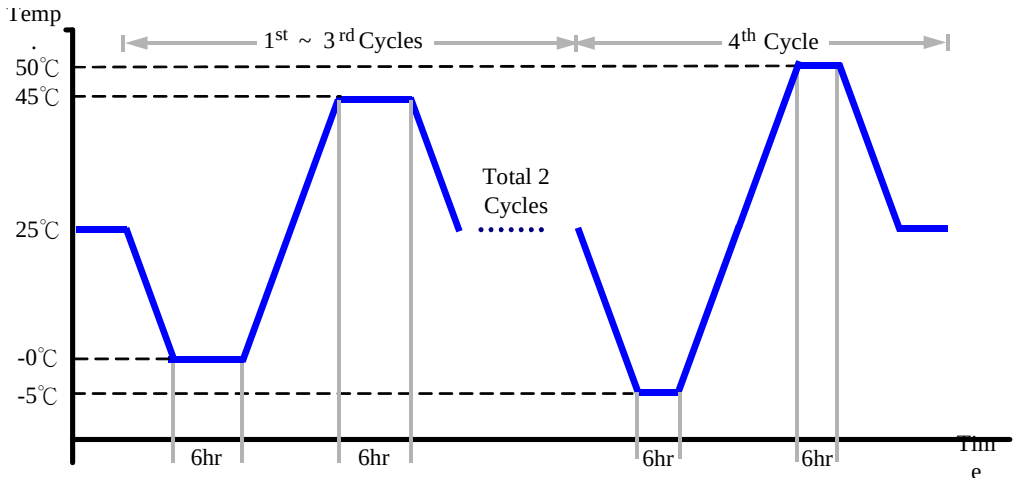
Test Standard: Refer to IEC68-2-14 Testing procedures
Test N: Change of temperature Test

Test Equipment:

Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-D75-100+LN2
Date of Calibration: 10/13/11
Serial Number: 6487KT

Test Condition:

1. Test Low Temperature: -0℃(1~3 cycles)
   -5℃(4th cycle)
2. Test High Temperature: 45℃(1~3 cycles)
   50℃(4th cycle)
3. Test dwell time: 6Hrs
4. Temperature slope: 2℃/min
5. Test cycle: 4 cycles
6. Test Environment Curve:



Sample Configuration & Quantity Under Test:

Quantity: 1 (DSS-CV21)

Test Result:

No issues were found during the temperature operation cycle test.

High temperature storage test

Test Date: 11-08 ~ 09-2012

Test Product: DSS-CV21

Test Site: AAEON QE Dept.

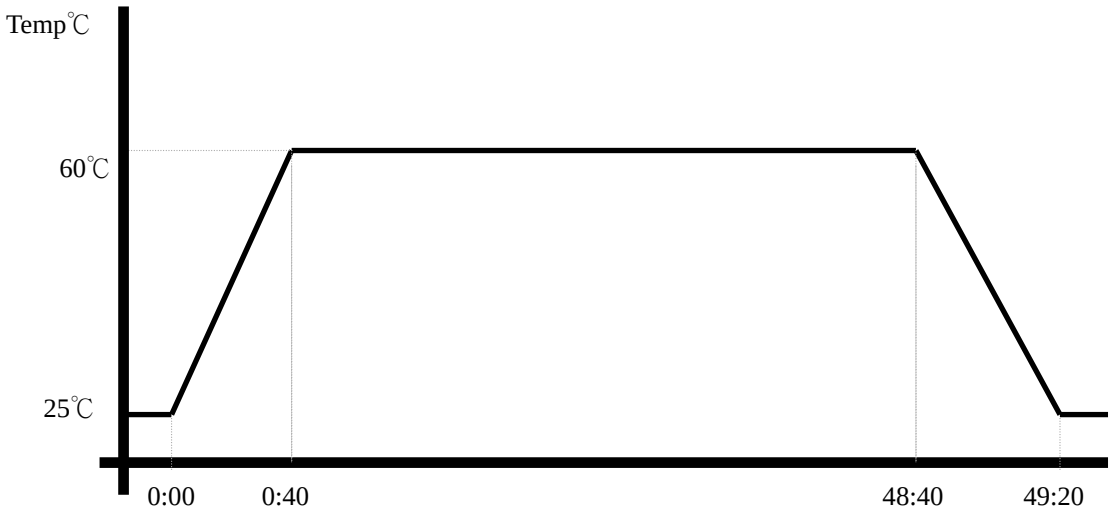
Test Standard: Refer to IEC 68-2-2 Testing procedures
Test Bb: Dry Heat Test (Non-operation)

Test Equipment:

Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-D75-100+LN2
Date of Calibration: 10/13/11
Serial Number: 6487KT

Testing Item:

1. Test Temperature: 60℃
2. Test Times: 48Hrs
3. Test Software: Windows 7 / Run PassMark Burn In Test 7.0 Pro
4. Test Environment Curve:



Sample Configuration & Quantity Under Test:
Quantity: 1 (DSS-CV21)

Test Result:

No issues were found after the high temperature storage test.

Low temperature storage test

Test Date: 11-07 ~ 08-2012

Test Product: DSS-CV21

Test Site: AAEON QE Dept.

Test Standard: Refer to IEC 68-2-1 Testing procedures
Test Ab: Cold Test (Non-operation)

Test Equipment:

Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-D75-100+LN2
Date of Calibration: 10/13/11
Serial Number: 6487KT

Testing Item:

1. Test Temperature: -20℃
2. Test Times: 48Hrs
3. Test Software: Windows 7 / Run PassMark Burn In Test 7.0 Pro
4. Test Environment Curve:

Sample Configuration & Quantity Under Test:
Quantity: 1 (DSS-CV21)

Test Result:
No issues were found after the low temperature storage test.

Humidity test

Test Date: 11-12 ~ 13-2012

Test Product: DSS-CV21

Test Site: AAEON QE Dept.

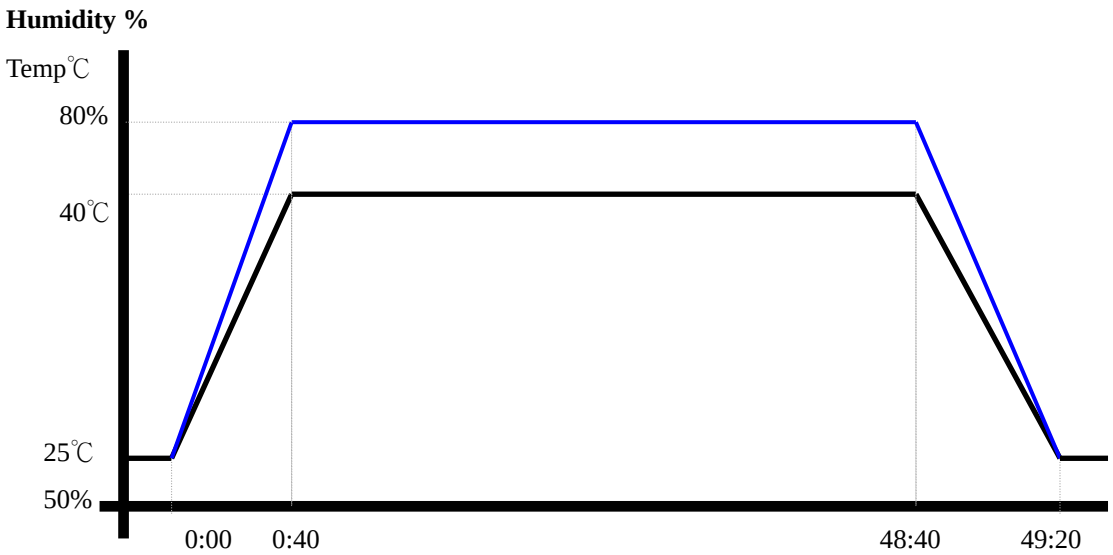
Test Standard: Refer to IEC 68-2-3 Testing procedures
Test Ca: Damp heat, steady state (Non-operation)

Test Equipment:

Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-D75-100+LN2
Date of Calibration: 10/13/11
Serial Number: 6487KT

Testing Item:

1. Test Temperature: 40℃
2. Test Humidity: 80%RH
3. Test Times: 48Hrs
4. Test Software: Windows 7 / Run PassMark Burn In Test 7.0 Pro
5. Test Environment Curve:



Sample Configuration & Quantity Under Test:
Quantity: 1 (DSS-CV21)

Test Result:
No issues were found after the humidity storage test.

Cold start and hot start test

Test Date: 11-12 ~13-2012

Test Product: DSS-CV21

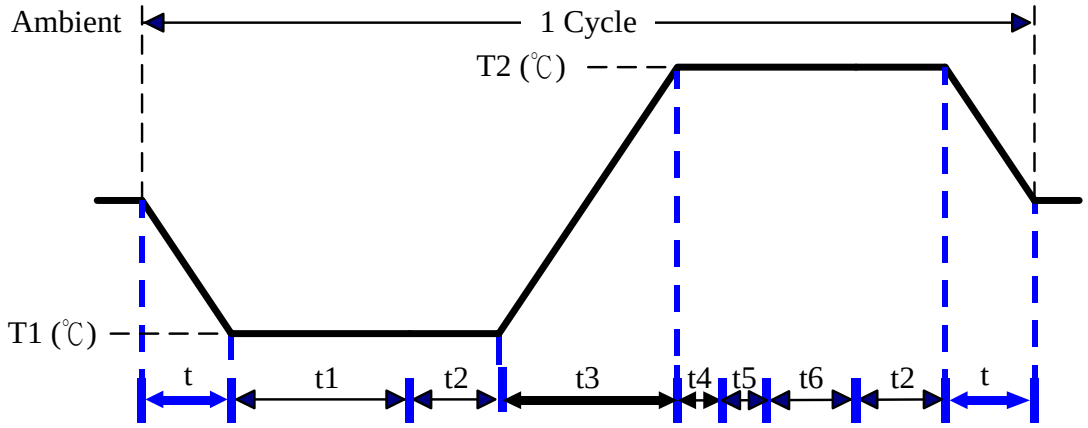
Test Site: AAEON QE Dept.

Test Standard: Refer to IEC 68-2-14 Testing procedures
Test N: Change of temperature Test

Test Equipment:

Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-D75-100+LN2
Date of Calibration: 10/13/11
Serial Number: 6487KT

Test Condition:



Parameters	Description
T1	-5℃
T2	50℃
t1	4 hrs
t2, t6	2 hrs
t4, t5	1hrs
t, t3	2℃/min
n (Cycle)	1

t = temprature slope
t , t1, t6: Power Off
t2: Power on/off test 10 times (on 2 min / off 5min)
t3, t4: Run Burn In Test 7.0 Pro
t5: Win 7 Software restart test 3 times
Test Software: Windows 7

Test Result:

a. No issues were found during the cold start test.

b. No issues were found during the hot start test.