
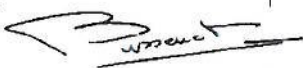

		<b>APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL</b>			Page 1 Appl. No. 190L
Component Title: <b>54HC and 54HCT Series</b>		Executive Member: CNES		Date: 08/01/2016	
Components (including series and families) submitted for Extension of Qualification Approval: <span style="float: right;">1</span>					
ESCC COMPONENT NO.	VARIANTS	RANGE OF COMPONENTS	BASED ON	TEST VEHICLE / S	COMPONENT SIMILAR
As per QPL				54HC32K	As per QPL
				54HC157K	
				54HC244K	
				54HC14D	
Component Manufacturer: STMicroelectronics <span style="float: right;">2</span>		Location of Manufacturing Plant(s): Rennes, FRANCE <span style="float: right;">3</span>		Date of original qualification approval: 01/11/1992 <span style="float: right;">4</span> Certificate Ref No. 190	
ESCC Specifications used for Maintenance of qualification testing: Generic: 9000 Issue: 6 <span style="float: right;">5</span> Detail(s): Issue: ESCC9201/111 issue 4 ESCC9401/048 issue 4		Deviations to LVT testing and Detail Specification used: No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> (supply details in Box 15) <span style="float: right;">6</span> Deviation from current Specifications: No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> (Supply details)		Qualification Extension Report reference and date: <b>M54HC32K - ID33439008ZS DC 1520B</b> <b>M54HC157K - ID33402008ZU DC1432A</b> <b>M54HC244K - ID33126E09ZX DC1519A</b> <b>M54HC14D - ID33137005ZQ DC1405A</b> <span style="float: right;">7</span>	
Summary of procurement or equivalent test results during current validity period in support of this application (those to ESCC listed first) <span style="float: right;">8</span>					
Project Name	Testing Level	LAT	Date code	Quantity Delivered	
Various	ESCC900 Issue 6		Lots delivered from January 2014 to November 2015	38 555	
PID changes since start of qualification <span style="float: right;">9</span> None <input type="checkbox"/> Minor* <input checked="" type="checkbox"/> Major* <input type="checkbox"/> *Provide details in box:		Current PID Verified by: CNES <span style="float: right;">10</span> Name of Executive Representative Ref No: Generic PID Ref. ST.01.2008 revision 15.0, 07/10/2015 PID For High Speed CMOS Ref. ST.01.91 - 8237625 rev.7.0, 11/12/2015 Issue: Date: 13/01/2014 Rev Date:			
Current Manufacturing facilities surveyed by: CNES on 24/06/2015 <span style="float: right;">11</span> (Name of Executive Representative) (Date) Satisfactory: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Explain Report Reference: CR de la réunion d'avancement des contrats, du 24 juin 2015 – e-mail date 30/06/2015					

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Failure Analysis, DPA, NCCS available: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> (Supply data)		12
Ref. No's and purposes:		13
<p>The undersigned hereby certifies on behalf of the ESCC Executive - that the above information is correct; - that the appropriate documentation has been evaluated; - that full compliance to all ESCC requirements is evidence (except as stated in box 15); - that the reports and data are available at the ESCC Executive and therefore applies on behalf of CNES as the responsible Executive Member for ESCC qualification status to be extended to the component(s) listed herein.</p> <p>Date: 19/01/2016</p> <p style="text-align: right;">           JP. BUSSENOT          (Signature of the Executive Coordinator)       </p>		14
Continuation of Boxes above:		14
<p><b>[7] Qualification Extension reports :</b>          The extension is based on collection of 54HCMOS and CMOS 4000B data :          Carrolton :          M54HC32K - ID33439008ZS DC 1520B - ESCC 9000 chart F4          M54HC157K - ID33402008ZU DC1432A - ESCC 9000 chart F4          AMK :          M54HC244K- ID33126E09ZX DC1519A - ESCC 9000 chart F4          M54HC14D - ID33137005ZQ DC1405A - ESCC 9000 chart F4          Dual in Line : HCC4043BD ID33313004ZR DC1517A - ESCC 9000 chart F4 sg1-3          Flat pack : M54HC244K ID33126E09ZX DC1519A - ESCC 9000 chart F4 sg1-3          Cover the validation of packages for both families as agreed by Qualification Board at its march 2001 meeting (minute 11.1 refers).</p> <p><b>[9] Minor PID changes :</b>          - Revision of specification dates due to new ST software for codification (ADCS to DMS)</p>		

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Non compliance to ESCC requirements: 15

No.:	Specification	Paragraph	Non compliance


Additional tasks required to achieve full compliance for ESCC qualification or rationale for acceptability of noncompliance: 16

Executive Manager Disposition 17

Application Approval: Yes ☐ No ☐

Action / Remarks:

Date:

  
 \_\_\_\_\_  
 Signature, ESA Representative



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## ANNEX 1: LIST OF TESTS DONE TO SUPPORT EXTENSION OF QUALIFICATION

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Tests conducted in compliance with:

- ESCC 9000 generic specification; Chart F4 (for ESCC/QPL parts);
- Or PID-TFD (for ESCC/QML parts)

Tests vehicle identification/description:

Carrolton : M54HC32K - ID33439008ZS DC 1520B M54HC157K - ID33402008ZU DC1432A AMK : M54HC244K- ID33126E09ZX DC1519A M54HC14D - ID33137005ZQ DC1405A	
Dual in Line : HCC4043BD ID33313004ZR DC1517A Flat-pack : M54HC244K ID33126E09ZX DC1519A	Cover the validation of packages for both families as agreed by Qualification Board at its march 2001 meeting (minute 11.1 refers).

Detail Specification reference:

Chart F4	Test	Tick when done	Conditions	Date Code Diffusion Lot	Tested Qty	No. of Rejects	Comments if not performed. Comments on Rejection
Environmental/Mechanical Subgroup	Mechanical Shock	<input checked="" type="checkbox"/>	MIL-STD-883, Test Method 2002	Dual in Line : HCC4043BD ID33313004ZR DC1517A  Flat-pack : M54HC244K ID33126E09ZX DC 1519A	15	0	
	Vibration	<input checked="" type="checkbox"/>	MIL-STD-883, Test Method 2007		15	0	
	Constant Acceleration	<input checked="" type="checkbox"/>	MIL-STD-883, Test Method 2001		15	0	
	Seal (Fine and Gross Leak)	<input checked="" type="checkbox"/>	MIL-STD-883, Test Method 1014		15	0	
	Intermediate and End-Point Electrical Measurements	<input checked="" type="checkbox"/>	Intermediate and End-Point Electrical Measurements in the Detail Specification		15	0	
	External Visual Inspection	<input checked="" type="checkbox"/>	ESCC Basic Specification No. 20500		15	0	
	Thermal Shock	<input checked="" type="checkbox"/>	MIL-STD-883, Test Method 1011		15	0	
	Moisture Resistance	<input checked="" type="checkbox"/>	MIL-STD-883, Test Method 1004		15	0	
	Seal (Fine and Gross Leak)	<input checked="" type="checkbox"/>	MIL-STD-883, Test Method 1014		15	0	
	Intermediate and End-Point Electrical Measurements	<input checked="" type="checkbox"/>	Intermediate and End-Point Electrical Measurements in the Detail Specification		15	0	
	External Visual Inspection	<input checked="" type="checkbox"/>	ESCC Basic Specification No. 20500		15	0	





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Chart F4	Test	Tick when done	Conditions	Date Code Diffusion Lot	Tested Qty	No. of Rejects	Comments if not performed. Comments on Rejection
Endurance Subgroup	Operating Life	<input checked="" type="checkbox"/>	MIL-STD-883, Test Method 1005	Carrolton : M54HC08K	15	0	
	Intermediate and End-Point Electrical Measurements	<input checked="" type="checkbox"/>	Intermediate and End-Point Electrical Measurements in the Detail Specification	ID33224007zr DC 1326A M54HC04K ID3313700JZZ DC1212A	15	0	
	Seal (Fine and Gross Leak)	<input checked="" type="checkbox"/>	MIL-STD-883, Test Method 1014	AMK : M54HC132K ID33231002ZN	15	0	
	External Visual Inspection	<input checked="" type="checkbox"/>	ESCC Basic Specification No. 20500	DC 1325A M54HC14K ID3313000AZD DC1212A	15	0	
Assembly Capability Subgroup	Permanence of Marking	<input type="checkbox"/>	ESCC Basic Specification No. 24800				Not applicable
	Terminal Strength	<input checked="" type="checkbox"/>	MIL-STD-883, Test Method 2004	Dual in Line : HCC4043BD	5	0	
	Internal Visual Inspection	<input checked="" type="checkbox"/>	ESCC Basic Specification No. 20400	ID33313004ZR DC1517A	5	0	
	Bond Strength	<input checked="" type="checkbox"/>	MIL-STD-883 Test Method 2011	Flat-pack : M54HC244K	2	0	
	Die Shear or Substrate Attach Strength	<input checked="" type="checkbox"/>	MIL-STD-883 Test Method 2019 or 2027	ID33126E09ZX DC 1519A	2	0	
Additional Tests		<input type="checkbox"/>					
		<input type="checkbox"/>					
		<input type="checkbox"/>					

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**NOTES ON THE COMPLETION OF THE APPLICATION FORM FOR ESCC QUALIFICATION EXTENSION APPROVAL****ENTRIES**

Form heading

shall indicate: - the title of the component as given in its detail specification or the name of the series, family; - the Executive Member; - the entering date; - the certificate number and its sequential suffix.

**Box 1**

shall provide details given in the table; in particular there shall be listed: - the variants or range of variants; - the range of components (the ESCC code is recommended to indicate the values or values range, the tolerance, the voltage, etc); the designation given in the detail specification as 'base on'; - under Test Vehicle enter either an ESCC code or the specific characteristic capable of identifying the component tested (e.g., voltage of coil for a relay); - under component similar enter a cross if relevant.

**Box 2; 3 and 4**

As per QPL entry; otherwise, an explanation of the changes must be supplied.

**Box 5**

Will show the ESCC Generic and Detail specifications, including issue number and revision letter, current at the time the tests reported were performed. If the specifications are different from those current on the date of the application, see Box 6.

**Box 6**

Will show the deviations from the Generic and Detail Specifications listed in Box 5, in particular deviations from testing. In case of deviations this must be listed in Box 15. In case the referenced specification in Box 5 have currently a different issue and/or revision indicate also whether the test data deviates or not from such current documents.

**Box 7**

Must reference the report(s) supplied in support of the application.

**Box 8**

Should provide the details of procurement to the full ESCC System, documentation of all of which should already have been delivered to the ESCC Executive under the terms of the relevant Generic Specification. An appropriate table has been drawn in this box.

**Box 9**

If the PID evolved after the Original Qualification or after the last Extension of Qualification, adequate details of such evolution shall be provided together with the reasons for the changes. Major changes shall be clearly marked.

**Box 10**

Identify the current PID issue status, date and actual date of verification. The date of verification of the current PID should be arranged as close as possible to the required date of extension.

**Box 11**

This box can be completed only after a physical visit to the plant to confirm that no unexplained changes occurred and that the practices, procedures, material, etc. used in manufacturing the components are as described in the PID. This survey shall be carried out in accordance with the requirements of ESCC Basic Specification No. 20200 and its findings shall be recorded.

**Box 12**

Provide details of, or reference to, any Destructive Physical Analysis (DPA) and Failure Analysis reports as well as any Nonconformance(s) (NCCS) occurred during the qualification validity period, stating if established corrective action have produced satisfactory results.

**Box 13**

Enter only the name of the Executive Member (i.e., CNES, DLR, ESTEC, etc.) and the signature of the responsible Executive Coordinator.

**Box 14**

To be used when there is a need to expand any of the boxes from 1 through 12. Identify box affected and reference the Box 14 in the relevant Box. Box 14 can be broken into 14a, 14b, etc. if several boxes have to be expanded.

**Box 15**

Fill in Table as requested.

**Box 16**

Any additional action deemed necessary by the Executive Member to bring the submitted data to a standard likely to be accepted by the ESCC Executive should be listed herein or the reason(s) to accept the noncompliance.

**Box 17**

All Executive Manager recommendations on the application itself, special conditions or restrictions, modifications of the QPL or QML entry, letters to the manufacturer, etc. shall be entered clearly in Box 19, signed by the representative for ESA, and dated.

**Box 18**

Fill in Table as requested.

**Box 19**

Confidential Details of PID changes including those of a confidential nature, shall be provided.

**Box 20**

State noncompliance with reference to specification(s) and paragraph(s). To simplify reference in Box 16 each nonconformance shall be sequentially numbered. If relevant state 'None'.

**Box 21**

Any additional action deemed necessary by the Executive Member to bring the submitted data to a standard likely to be accepted by the ESCC Executive should be listed herein or the reason(s) to accept the noncompliance.

**Box 22**

Additional Comments.