

		<b>APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL</b>				Page 1
		Component Title: DIODES, MICROWAVE, SILICON, MULTIPLIER, PIN AND VARACTOR, BASED ON TYPES DH 2XX, DH 50XXX AND DH76XXX		Executive Member: CNES		Date: 15/01/2021
Components (including series and families) submitted for Extension of Qualification Approval:						1
ESCC COMPONENT NO.	VARIANTS	RANGE OF COMPONENTS	BASED ON	TEST VEHICLE / S	COMPONENT SIMILAR	
5512/016	10 to 57		DH252	5512/016-41	All other variants	
5513/032	1 to 45		DH50035	5513/032-15	All other variants	
5513/034	1 to 47		DH50255	5513/034-30	All other variants	
5512/023	1 to 80		DH76150	5512/023-65	All other variants	
Component Manufacturer COBHAM MICROWAVE		Location of Manufacturing Plant(s) 31, avenue de la Baltique 91978 Villebon Sur Yvette France		Date of original qualification approval: Date: 01/06/1995  Certificate Ref No. 225		4
ESCC Specifications used for Maintenance of qualification testing: Generic: 5010 Issue: 3  Detail(s): 5512/016 Issue: 7 5512/032 Issue: 6 5513/034 Issue: 6		Deviations to LVT testing and Detail Specification used: No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> (supply details in Box 15)  Deviation from current Specifications: No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> (Supply details)		Qualification Extension Report reference and date: 20200514292-223, 19/05/2020 20200113585-223, 17/01/2020 20200313914-223, 12/03/2010 20201015123-223, 13/10/2020		7
Summary of procurement or equivalent test results during current validity period in support of this application (those to ESCC listed first)						8
Project Name	Testing Level	LAT	Date code	Quantity Delivered		
Various		Chart F4	1928, 2010	> 1700		
PID changes since start of qualification None <input checked="" type="checkbox"/> Minor* <input type="checkbox"/> Major* <input type="checkbox"/> *Provide details in box:		Current PID Verified by: J.L. Roux, CNES Name of Executive Representative Ref No: 350 Issue: F Rev Date: 01/05/2019		Date: 05/06/2019		10
Current Manufacturing facilities surveyed by: F.Martinez, ESA and JL Roux, CNES on 24/09/2014 (Name of Executive Representative) (Date)						11
Satisfactory: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Explain						
Report Reference: COBH-CIRC-AUD-2014						



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Failure Analysis, DPA, NCCS available: Yes  No  (Supply data) NC 1CCOB001

Ref. No's and purposes: NCCS 1CCOB001 (Closed): Visual defects on mesa of EH76150 dice. A double golden circle is visible on the mesa. No impact on electrical properties and reliability (report 20201015123-223 dated 13/10/2020 refers)

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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.

Date: 24/02/2021

JP. BUSSENOT  
(Signature of the Executive Coordinator)

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Continuation of Boxes above:

11 : The audit performed on Sept. 2014 focussed on the manufacturer's isolator and circulator products. However some areas (back end, screening) and general topics (quality, organisation, ...) are common with the sicilon components manufacturing and have benefited from it.



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Non compliance to ESCC requirements:

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No.:	Specification	Paragraph	Non compliance
1	5512/023		1CCOB001

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

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None, see 1CCOB001 and report 20201015123-223, dated 13/10/2020

Executive Manager Disposition

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Application Approval: Yes  No

Action / Remarks:

Date:

*SH 01*  
Digitally signed  
by Britta Schade  
Date:  
2021.03.30  
10:47:16 +02'00'

B. Schade: Head of the Product Assurance and Safety Department



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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 5010 generic specification; Chart V (for ESCC/QPL parts);
- Or PID-TFD (for ESCC/QML parts)

Tests vehicle identification/description:

DH252-541 (5512016-41)	DH40144
DH76150 (5512023-65)	

Detail Specification reference: 5512/016

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 Subgroups	Thermal Cycling	<input checked="" type="checkbox"/>	ESCC 5010 Para. 8.8.2	DC1910 18P001A	6	0	Performed on DH40144
	Mechanical Shock Test	<input type="checkbox"/>	MIL-STD-750 Test Method 2016				Not applicable
	Vibration Test	<input type="checkbox"/>	MIL-STD-750 Test Method 2056				Not applicable
	Constant Acceleration	<input type="checkbox"/>	MIL-STD-750 Test Method 2006				Not applicable
	Seal Test	<input type="checkbox"/>	MIL-STD-750 Test Method 1071				Not applicable
	Moisture Resistance	<input checked="" type="checkbox"/>	MIL-STD-750 Test Method 1021	DC1910 18P001A	6	0	Performed on DH40144
	Seal Test	<input checked="" type="checkbox"/>	MIL-STD-750 Test Method 1071	DC1910 18P001A	6	0	Performed on DH40144
	Electrical Measurements at Room Temp.	<input checked="" type="checkbox"/>	Table 2 of the Detail Specification	DC1910 18P001A	6	0	Performed on DH40144
	External Visual Inspection	<input checked="" type="checkbox"/>	ESCC Basic Specification No. 20500	DC1910 18P001A	6	0	Performed on DH40144
Endurance Subgroup	Operating Life	<input checked="" type="checkbox"/>	MIL-STD-750 Test Method 1026	DC2010 10J023A DC1928 03V072A DC1941 09J008 DC2030 20H002A	4 x 8	0	
	Electrical Measurements during Endur. Test	<input checked="" type="checkbox"/>	Table 6 of the Detail Specification	DC2010 10J023A DC1928 03V072A DC1941 09J008 DC2030 20H002A	4 x 8	0	
	Seal test	<input checked="" type="checkbox"/>	MIL-STD-750 Test Method 1071	DC2010 10J023A DC1928 03V072A DC1941 09J008 DC2030 20H002A	4 x 8	0	

	External Visual Inspection	<input checked="" type="checkbox"/>	ESCC Basic Specification No. 20500	DC2010 10J023A DC1928 03V072A DC1941 09J008 DC2030 20H002A	4 x 8	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
Assembly Capability Suggroup Tests	Solderability Test	<input checked="" type="checkbox"/>	MIL-STD-750 Test Method 2026	DC2010 10J023A DC1941 09J008	2 x 2	0	
	Permanence of Marking	<input checked="" type="checkbox"/>	ESCC Basic Specification No. 24800	DC2010 10J023A DC1941 09J008	2 x 2	0	
	Terminal Strength	<input checked="" type="checkbox"/>	MIL-STD-750 Test Method 2036	DC1941 09J008	2	0	
De-encapsulation Subgroup	Thermal Impedance Test	<input checked="" type="checkbox"/>	MIL-STD-750 Test Method 3101	DC2010 10J023A DC1928 03V072A DC2030 20H002A	3 x 4	0	
	Forward Voltage Test	<input checked="" type="checkbox"/>	MIL-STD-750 Test Method 4011	DC2010 10J023A DC1928 03V072A DC2030 20H002A	3 x 4	0	

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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.