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Pages 1 to 12

REQUIREMENTS FOR THE EXTENSION OF QUALIFICATION APPROVAL OF STANDARD ELECTRONIC COMPONENTS FOR SPACE APPLICATION

ESA/SCC Basic Specification No. 23000

space components
coordination group

Issue/Rev.	Date	Approved by	
		SCCG Chairman	ESA Director General or his Deputy
Issue 2	April 1995		

DOCUMENTATION CHANGE NOTICE

Rev. Letter	Rev. Date	Reference	CHANGE Item	Approved DCR No.
		This Issue supersedes Issue 1 and incorporates all modifications defined in the following DCR's:-		
		Cover page		None
		DCN		None
		Para. 4.1	: "Appendix 1" changed to "Chart I"	23729
		Para. 8	: In the first paragraph, "Appendix 2" changed to "Appendix I" and "Appendix 3" changed to "AppendixII"	23729
		Appendix 1	: "Appendix 1" deleted from top of the pages and specification details added at the bottom	23729
		Index to Appendices	: Added	23729
		Appendices 2 & 3	: "Appendix X" deleted from top of the pages and specification details added at the bottom	23729
		Appendix 3	: Box 9(b), "PSS-54(QRC-01)" changed to "ESA PSS-01-60"	23729
			: Box 17, "DFVLR" changed to "DARA"	23729

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1. SCOPE

This specification describes the requirements to be followed in order to maintain the validity of the qualification of electronic components for space application.

2. PURPOSE

The purpose of this specification is to ensure that, notwithstanding the requirements of ESA/SCC Basic Specification No. 20100, timely uniform actions are put in train to ensure continuous supplies of qualified products.

3. REFERENCE DOCUMENTS

ESA/SCC Basic Specification No. 20100, Requirements for the Qualification of Standard Electronic Components for Space Application.

4. GENERAL

4.1 APPLICATIONS

All applications shall be made on the "Application for SCCG Qualification Approval" form, each page of which shall be clearly endorsed "EXTENSION" and follow the flow chart shown in Chart I.

4.2 NUMBERING

The numbering of the applications shall be derived from the serial number of the original certificate of approval, followed by a letter suffix commencing with 'A' for the first extension, 'B' for the next, and so forth with the exception of the letters 'I', 'O' and 'X'.

4.3 RESPONSIBLE AUTHORITIES

The term "ESA" in the document shall be taken to mean the Product Assurance Division of ESTEC. The term "QSA" shall be taken to mean the appropriate national space organisation (or ESTEC) which was responsible for the original qualification exercise and is now coordinating and submitting the application for the extension of the qualification approval.

5. INITIATION OF THE PROCEDURE

5.1 ON REQUEST FROM A MANUFACTURER

On receipt of a request from a component Manufacturer, the ESA and/or the QSA shall proceed in accordance with Para's 6 to 9 of this document.

5.2 WITHIN SIX MONTHS OF THE "LAPSE" DATE

If no request for an extension has been generated 6 months from the predicted "lapse" date, ESA shall advise the appropriate QSA of the approaching terminal date not later than 4 months beforehand together with a summary of all ESA procurement during the current validity period. Each entry in the summary shall state the name of the project concerned, the assessment level requested, the lot acceptance level applied, and the quantities delivered with the dates of manufacture.

6. PREPARATION

6.1 DATA COLLECTION

On notification from either Paras. 5.1 or 5.2 above, the QSA will seek to establish the history of production during the current validity period. The Manufacturer shall be asked to provide a summary as described in Para. 5.2 above for all orders received and satisfactorily completed for components qualified to the SCCG System and such information shall be forwarded to the QSA not later than 2 months before the predicted lapse date.

The Manufacturer should be advised that if there has been little or no production during the period he may submit test data for production to other specification systems for consideration if it is comparable to the SCCG Assessment Level 'B', Lot Acceptance Level 1.

6.2 PROCESS IDENTIFICATION DOCUMENT (P.I.D.) AND MANUFACTURING FACILITIES

Coincident with the request for the history of production, the QSA shall confirm by correspondence or by visit that the P.I.D. and the current manufacturing facilities remain substantially the same as those approved in the previous application and record any changes in the application for renewal.

6.3 "ALERT" INFORMATION

From its own records and from ESA, the QSA shall ascertain the current standing of any issued ALERT during the validity period and take any action necessary to establish that any suspected anomalies are under control.

7. APPLICATION REVIEW

7.1 GENERAL

The QSA shall review all the information arising from Para. 6 and, if it meets all the criteria of the previous successful application, may sign and submit the application form for the extension of the approval. Particular attention should be given to correlation of the SCCG system "summary data" with documentation which should already have been delivered to the QSA under Para. 10 of the Generic Specification. To enable a smooth transition, completed application forms shall be submitted to the ESA Qualification Board not later than 1 month before the predicted lapse date.

7.2 REVIEW CRITERIA

The basis of acceptability shall be that the Manufacturer has satisfactorily met all the requirements of the SCCG System during the current validity period and appears likely to be able to continue to do so in the same manner for the extension period. Evidence that some additional tasks have to be undertaken will give rise to classification and action as follows:-

7.2.1 Identifiable and/or Minor Deficiencies

Where there are deficiencies which can be readily rectified by a concise proposal, the QSA shall complete Part II of the application form with the appropriate detail and await the ESA Qualification Board recommendations. The final item of Part II states that the applicant undertakes to include these tasks in his National Qualification Programme. Should this not be possible for any reason, an alternative proposal shall be entered under "Proposed Actions by SCCG Representative".

7.2.2 Subjective and/or Major Deficiencies

Instances may occur where the review reveals significant obstacles to an application for an extension, examples of which could be:

- No procurement during the period.
- Significant changes to the P.I.D. which have not been assessed.
- No SCCG System test data available, but alternative data has been submitted.

Where such deficiencies can be specifically identified and corrected by the QSA, the action shall be put in hand by the QSA. No application for extension of approval shall be completed at this time, but the QSA shall advise the ESA Qualification Board that the matter is being resolved and an application is being considered.

Where all or any of the corrective actions cannot be undertaken by the QSA for any reason, the QSA shall make a statement of the case by letter to the ESA Qualification Board giving all the circumstances and asking for a ruling.

Meantime, in either case - if the predicted lapse date is reached - the approval will be deemed to have lapsed.

8. PROGRESS OF APPLICATIONS

Application shall be made on the form shown in Appendix I, assisted by the notes in Appendix II, and directed to the Chairman of the ESA Qualification Board with copies to all Members of the Qualification Board. On receipt of an application, the Chairman shall direct the attention of all Qualification Board Members to the application and request a telex approval of the completeness of the detail of the form within 1 working week.

If no objections are raised and there are no Part II proposals, the Chairman may approve the extension and advise the Qualification Board accordingly.

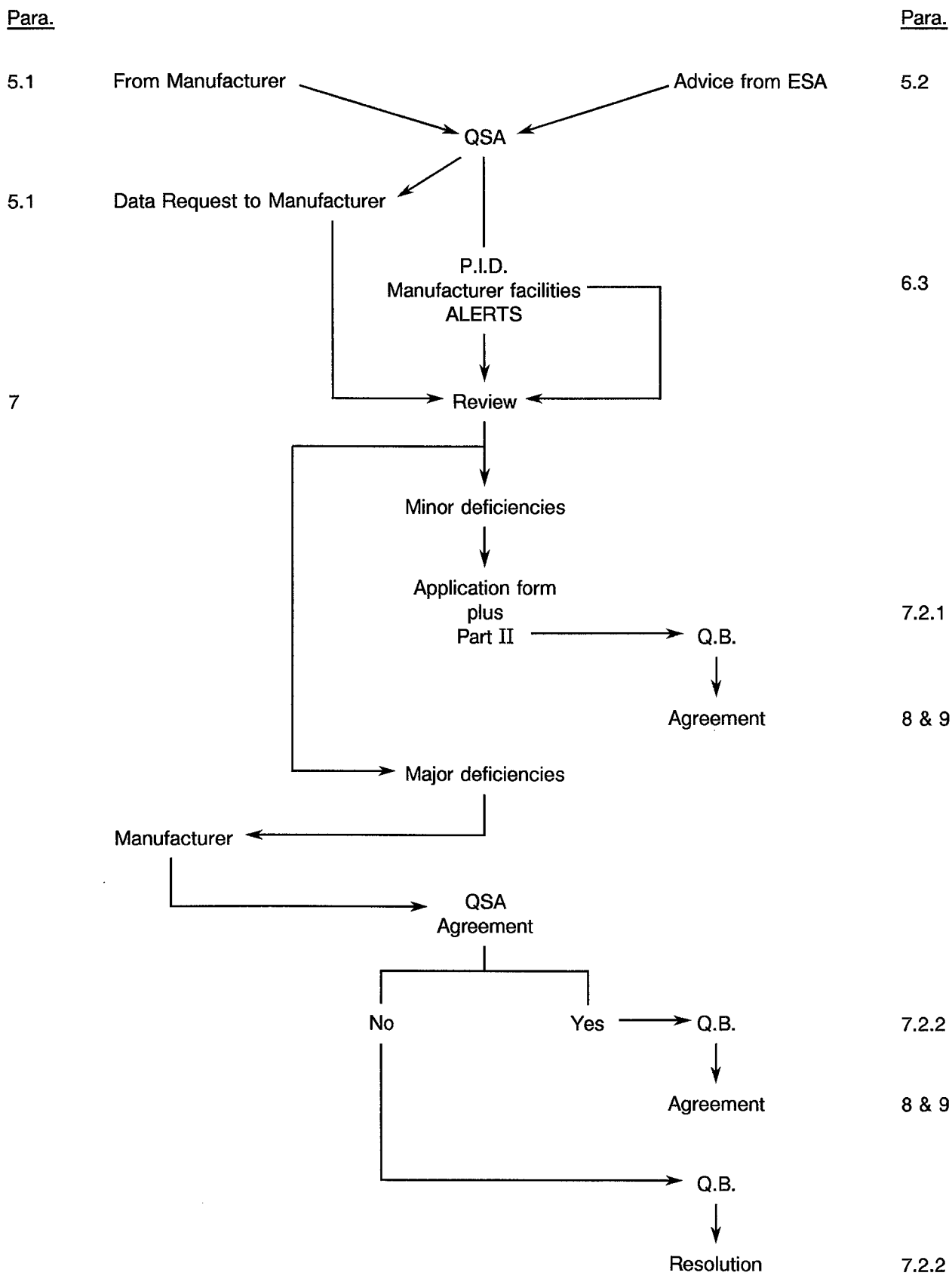
If any Member is unable to signify immediate approval, he shall advise the Chairman of the Qualification Board who, in turn, will recommend alternative action. In the case of clarification of detail, the Member will normally be expected to resolve the matter directly with the applicant and advise the Chairman of the Qualification Board of the result.

9. CERTIFICATE OF EXTENSION OF APPROVAL

In the event of a successful application, a Certificate of Extension of Approval shall be issued to the Manufacturer by ESA in the serial number and suffix letter of the application and a new QPL entry issued.

The period of extension shall commence from the expiry date of the previous certificate and shall be valid for 2 years from that date.

CHART I - REQUEST FOR EXTENSION OF APPROVAL



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	APPLICATION FOR SCCG QUALIFICATION APPROVAL EXTENSION Component Type: Name of Qualifying Space Agency:	Page 1 Appl. No.

PART I

1

Component Type (If a family, give types qualified and range covered by similarity, specify housing, technology, tolerances):

Component Manufacturer 2	Location of manufacturing plant 3	Date of original qualification approval: 4 Certificate and Ref. No.

Qualification Specification Reference 5	Qualification Report Reference and date 6
Specification used for maintenance (if other than SCC) 7	Degree of compliance with SCC spec., if not 'alternative data' acceptable to QSA. 8 (please append details of major deviations)

Summary of procurement or equivalent test results during current validity period in support of this application 9
(those to ESA/SCCG listed first)

Is qualification still valid (Validity as specified in ESA/SCC No. 20100)? 10

Yes ☐ No ☐

Was P.I.D. available at time of original qualification (P.I.D. as defined in ESA/SCC No. 20100)? 11

Yes ☐ No ☐

	APPLICATION FOR SCCG QUALIFICATION APPROVAL EXTENSION Component Type: Name of Qualifying Space Agency:	Page 2 Appl. No.

Current P.I.D. Reference (supply summary) 12

Status of Current P.I.D. 13

No changes since
- Original Qualification ☐
- Maintenance of Qualification ☐

minor changes * ☐
major changes * ☐

Current P.I.D. Verified by 14

.....on .....
(name QSA responsible) (date)

Current Manufacturing facilities approved by: 15

.....on .....
(name QSA responsible) (date)

Part Quality and Reliability History 16

Evaluation testing performed

Yes ☐ No ☐

Failure analysis, DPA, test reports available (supply data)

Yes ☐ No ☐

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–
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The undersigned hereby certifies on behalf of the Qualifying Space Agency - that the above information is correct; - that the appropriate documentation has been evaluated; - that the reports and data are available at the QSA and therefore applies on behalf of ..... as Qualifying Space Agency for ESA/SCCG qualification status to be given to the component(s) listed herein on the basis of FULL QUALIFICATION/APPROVAL EXTENSION 17

** sample of the subject component type(s) will be supplied to ESTEC prior to ..... (date) for quality audit purposes. 18

Date:

.....
(Signature of SCCG Representative of QSA)

* To be listed separately with a statement on their significance.
** Enter quantity.

PART II

The Qualifying Space Agency considers that the following additional tasks are required for ESA/SCC approval extension of the listed qualified component type(s)

- Proposed actions by SCCG representative: 19

- Qualification Board Recommendations: 20

- Applicant hereby undertakes to include these tasks in his National Qualification Programme 21

Date: .....
(Name)

NOTES ON THE COMPLETION OF THE APPLICATION FORM FOR EXTENSION OF SCCG QUALIFICATION APPROVAL

GENERAL

Whenever possible, all entries should be typed and in any case be suitable for legible reproduction by normal means.

The title heading on the first page shall indicate the date of the application and its serial number and suffix. The 'Component Type' in this instance may be a broad term definition to aid the memory rather than the specific detail of Box 1, e.g. '54L Series I.C. family' or 'AEMGP 5 Relay'.

Box No. 1 must align precisely with the title of the detail specification and the types, variants and other peculiarities listed in the existing QPL entry. If there are changes from the original qualification, these must be clearly identified.

Boxes Nos. 2 to 6 inclusive as per QPL existing entry; otherwise, an explanation of the changes must be supplied.

Box. No. 7: If, for any reason, other data has been examined in support of the application, it should be identified in this box in terms such as 'National Standard - Military Procurement - 125 pieces - January 1979' or 'In-house hi-rel specification 220-36 - Avionics Order - 800 pieces'.

Box. No. 8: If the applicant QSA is satisfied that the level achieved during the procurement mentioned in Box 7 is equivalent to SCCG Level 'B', Lot Acceptance Level 1, the entry in this box should be 'Alternative data acceptable to QSA'. When it is not possible to make this statement because of significant deficiencies in the data, a note should be inserted in the box: 'see list of deficiencies attached', or a reference to Box 19 where actions to be taken can be proposed.

Box No. 9: Here should be inserted the summary described in Paras. 5.2 and 6.1 of ESA/SCC Basic Specification No. 23000. This summary will normally consist of:-

(a) Details of procurement against the full SCCG System, all of which should already have been delivered to the QSA under the terms of the relevant Generic Specification (Para. 10).
(b) Details provided by ESA of all procurements made by its Projects whether or not in accordance with the SCCG System and again, details of which should have already been delivered to ESA under the terms of ESA PSS-01-60.
(c) Details of procurement, or equivalent test results, against any other system which the QSA considers to be valuable support evidence to assist the ESA Qualification Board in its decision.

The information should be listed in the order (a), (b) and (c) above and is currently required in the form:

Project Name	Assessment Level	Lot Acceptance	Quantity	Order date	Delivery date

Box 10: Normally, the application presupposes that the qualification is still valid. However, if the review of the data suggests otherwise to the QSA, consideration must be given to entering 'No' in the box leading to 1 of 2 courses of action:-

(a) Continue the application with a strong support proposal in Part II;
(b) Discontinue the application for an extension, and initiate a new qualification if justified.

Box 11: The answer can be found in the original application for approval, and is further qualified by Box 12 (q.v.).

Boxes 12, 13 and 14: Details supplied should be sufficient to identify the 'top' document and its issue status and date with notes of any changes and the actual date of verification of the P.I.D. Details and reasons for changes should be listed separately as required by the asterisk in Box 13. The date of confirming the status of the P.I.D. should be arranged to be as close as possible to the required date for extension.

Box 15: It is not envisaged that this box can be completed without making a physical visit to the plant to confirm that there have been no unexplained changes in plant or personnel. As the subject is largely linked with the ability of the firm to follow the PID and to ensure that machines and operators have valid instructions, it seems that the requirements for Boxes 14 and 15 could be met at the same time.

Box 16: Not applicable unless additional testing, failure analysis, etc. has been carried out during the validity period. For example, if any testing has been done against a National or CECC approval, this and any report or failure analysis arising could be considered as valuable supplementary evidence.

Box 17: Enter only the name of the QSA (CNES, DARA, ESTEC, etc.).

Box 18: The requirement to supply samples for quality audit purposes, usually involving Destructive Physical Analysis (D.P.A.), is intended as a safety check to ensure that compliance with the P.I.D. is being maintained, the construction and materials have not been changed, and good standards of workmanship are being observed. There is no special merit in a D.P.A. by ESTEC as such and alternative evidence may be submitted by the QSA in lieu, either of a recent QSA D.P.A. or well-documented reports from other sources provided the statement in Box 18 is modified accordingly.

If however samples are to be submitted, the quantity option is inserted to allow for varying the sample size for high cost items for example.

Box 19: Any additional actions deemed necessary by the QSA to bring the submitted data to a standard likely to be accepted by the ESA Qualification Board should be listed here. Unless the statement in Box 21 is varied by the applicant, it will be assumed that the necessary actions, if approved by the ESA Qualification Board, will be carried out by the applying QSA from its own resources.

Box 20: All Qualification Board recommendations on the extension itself, special conditions or restrictions, modifications to QPL entry, letters to the Manufacturer, etc. shall be entered clearly in Box 20, signed by the Chairman, and dated with the date of the ratifying meeting of the ESA Qualification Board.

Box 21: Need only be signed when either an acknowledgement of a QSA entry in Box 19 is required, or a subsequent entry from the ESA Qualification Board in Box 20 needs to be recognised. In either case, the 'name' entry should be that of a responsible person signing 'for . . . QSA'.