DOCUMENT CHANGE REQUEST

DCR number 1469	Changes required for: General	Originator: Holly Krijgsman
Date: 2022/03/18	Date sent: 2021/11/05	Organisation: ESA
Status: IMPLEMENTED		

Title:	CRYSTAL OSCILLATORS, CLASS 2, 4MHz TO 100MHz, AHCMOS COMPATIBLE OUTPUT, RAD-		
Number:	3503/001	Issue:	5

Other documents affected:

Page:

16, 22

Paragraph:

2.3.1 & Appendix A

Original wording:

As per 3503/001 issue 4

Proposed wording:

The following change, addition and deviation are proposed:

1) Para. 2.3.1, Room Temperature Electrical Measurements Table:

a) In Frequency-Load Tolerance, amend in Test Conditions the tolerance on test temperature to be:

At Tamb = +25 ±3°C (was ±1°C)

b) In Ageing Analysis: add new ageing period and limit:

In Test conditions: Ageing Period = 30 days

In Limits: Max Limit: ±1.5ppm

2) Appendix A:

Add new deviation as follows:

ITEM AFFECTED:

Para. 2.1.2, Deviations from the Generic Specification: Deviations from Screening Test - Chart F3

DESCRIPTION OF DEVIATIONS:

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Frequency Ageing: Ageing Analysis:

The projected 1 and 18 year total frequency changes shall be determined by means of a logarithmic (rather than linear) extrapolation from the end of theageing measurement period using the A and B constants determined from the least squares fit.

e.g. The frequency change over the period of 1 year (365 days) for a total ageing measurement period of Ta, in days (where Ta is 30 days or longer), isgiven by:

Justification:

DCR is raised by ESCC-TW on behalf of Manufacturer Rakon.

Justifications provided by Rakon:

1a): Frequency-Load Tolerance test cannot be performed in a thermal chamber.

1b): A 30 day ageing test limit isrequired per Para. 8.21: The square root of the least squares fit variance of the measurements from the curve-fit function shall not exceed 5% of the total ageing change allowed during the test period.

ref: NCCS NC1RAKC2103

2) Use of Rakons RK115 (RK135 non qualified product) method to calculate frequency ageing in order to be consistent with the ageing limits applied for years on RK115 product as are specified in Para. 2.3.1 of this detail specification.

ref: NCCS NC1RAKC2103

Attachments:

escc3503001iss_draft_5a_in_review(6).docx

Modifications:

DCR Item 1a) is modified as follows: ‘Tamb = +25 ±1°C’ shall be deleted for Frequency-Load Tolerance (i.e., thereby deferring to the default test temp: Tamb = +25 ±3°C)

DCR item 2) due to software issues not permitting the addition of an equation to the DCR form, the final sub-paragraph of item 2 should be as follows:

e.g. The frequency change over the period of 1 year (365 days) for a total ageing measurement period of Ta, in days (whereTa is 30 days or longer), is given by the equation shown in the attached spec mark-up.

Approval signature:

Date signed:
2022-03-18