



## DOCUMENT CHANGE REQUEST

DCR number            454            Changes required for: Qualification  
Date: 2009/01/09            Date sent: 2009/01/09  
Status: IMPLEMENTED

Originator: Olivier Masson  
Organisation:

Title: Connectors Electrical Rectangular Non-Removable Solder Bucket PCB and Wire-Wrap Contacts

Number: 3401/001            Issue: 3

Other documents affected:

Page:

Page 43 to be added for Appendix 'A'

Paragraph:

Page 43 to be added for Appendix 'A'

Original wording:

Proposed wording:

See attached proposal for Appendix A

Justification:

Justifications and test reports to justify the change submitted to CNES

Attachments:

DCR452att1.pdf, DCR452att3.pdf, DCR452att2.pdf, null

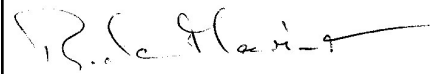
Modifications:

Appendix A  
AGREED DEVIATION FOR C&K COMPONENTS (F)

Items Affected  
Para. 4.2.2, Deviations from Final Production Tests (Chart II)

Description of Deviations  
Para. 9.4, Contact Capability: 100% Contact Capability Test may be omitted for solder bucket, PCB and wire-wrap contacts provided that a 100% visual inspection of the contact and a 10% Contact Capability test are performed in accordance with the C&K PID requirements. The results of the Contact Capability test shall be considered for PDA.

Approval signature:

A handwritten signature in black ink, appearing to read "R. C. Harris" with a long horizontal flourish extending to the right.

Date signed:

2009-01-09

AGREED DEVIATIONS FOR C&K

ITEMS AFFECTED	DESCRIPTION OF DEVIATIONS
Para 4.3.3	Para. 9.4 ESCC 3401 100% Contact CapabilityTest may be omitted provided that a 100% visual inspection of the contact and a 10% Contact Capability test are performed in accordance with the C&K PID requirements

**Rapport de Capabilités**  
Forces de séparation des Contacts Hirel  
20 nov 2008

**Désignation des lots:**

Rapport	Lots	Désignation
269-08C	1	D*BMA Densité standard
	2	D*BMA Haute Densité
	3	Contact D*MA 20-20
	4	Contact D*MA 20-26
344-08C	5	D*M Densité standard
	6	D*M OL3 Haute Densité
1008-08C 1009-08C	7	Contacts pin MDM

**Regroupement des lots:**

Ces lots sont composés de différents designs de contacts, ils peuvent être regroupés par type de « clip » sur lequel la mesure de force de séparation est appliquée.

Ainsi trois groupes sont obtenus, pour chacun des groupes le composant est de même conception, mais il est issu de dates de fabrications différentes.

**Groupe 1**

Les lots 1,3,4 et 5 sont composés de contacts possédant un « clip » pour Densité Standard

**Groupe 2**

Les lots 2 et 6 sont composés de contacts possédant un « clip » pour Haute Densité

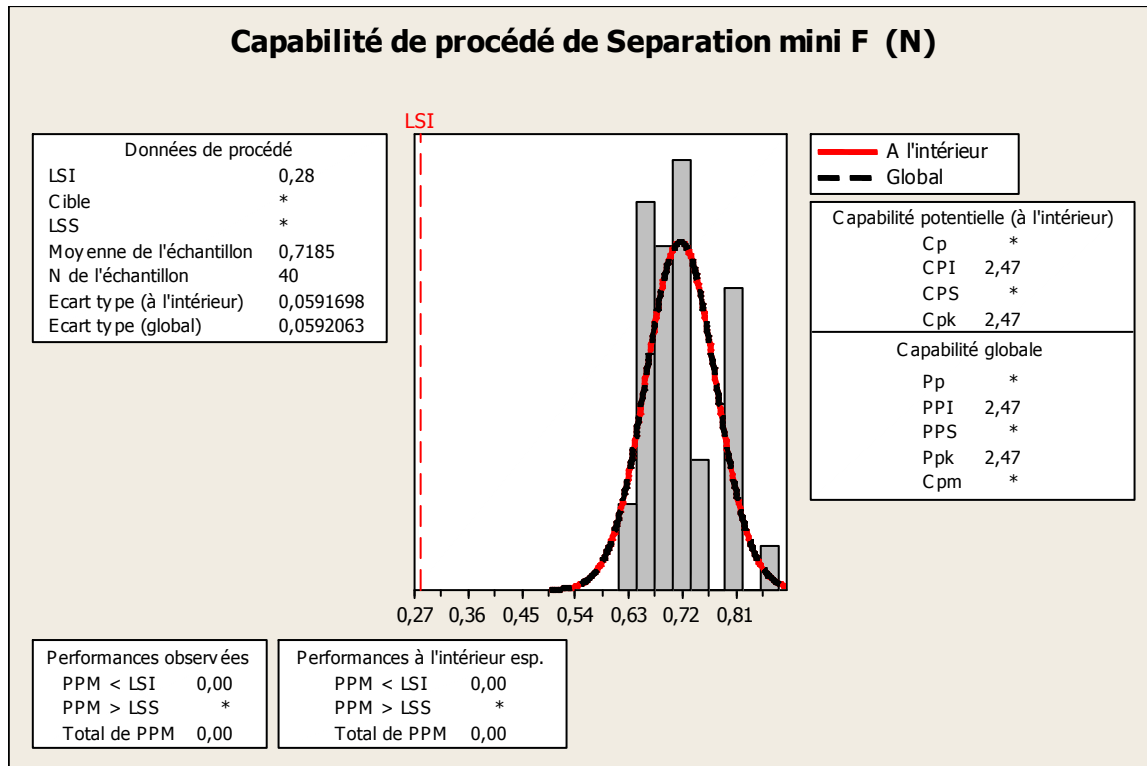
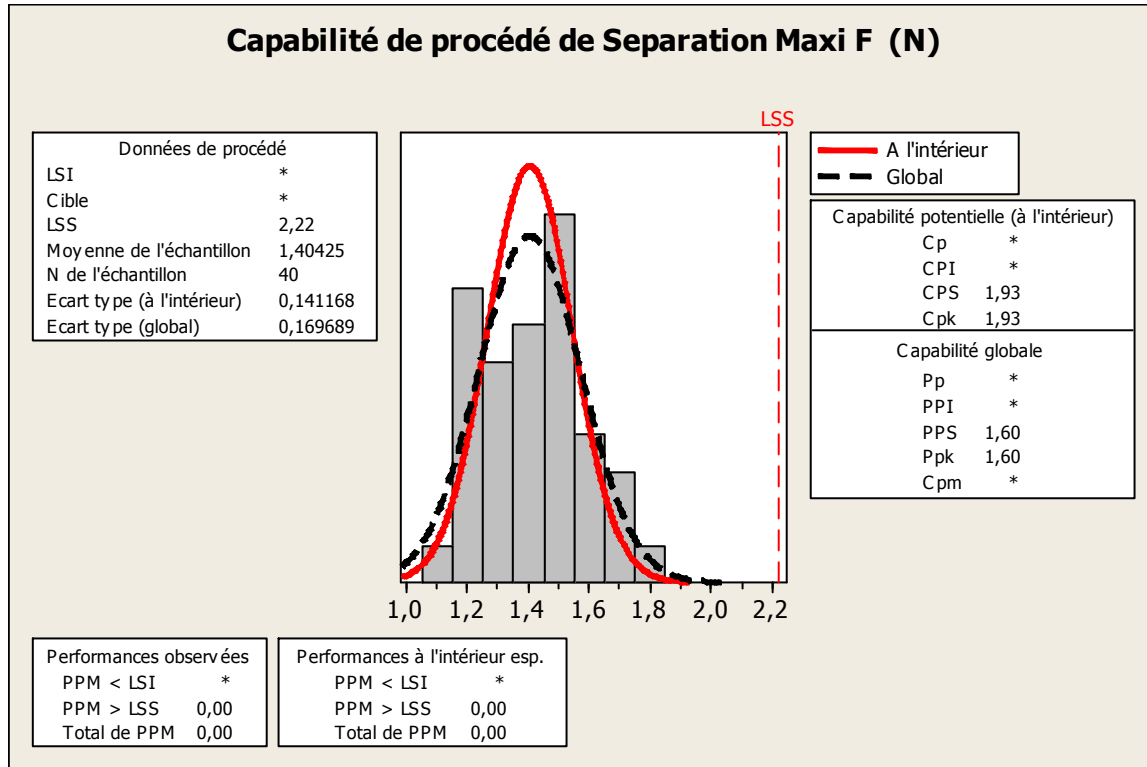
**Groupe 3 :**

Lot 7 uniquement composé de contacts twist pin

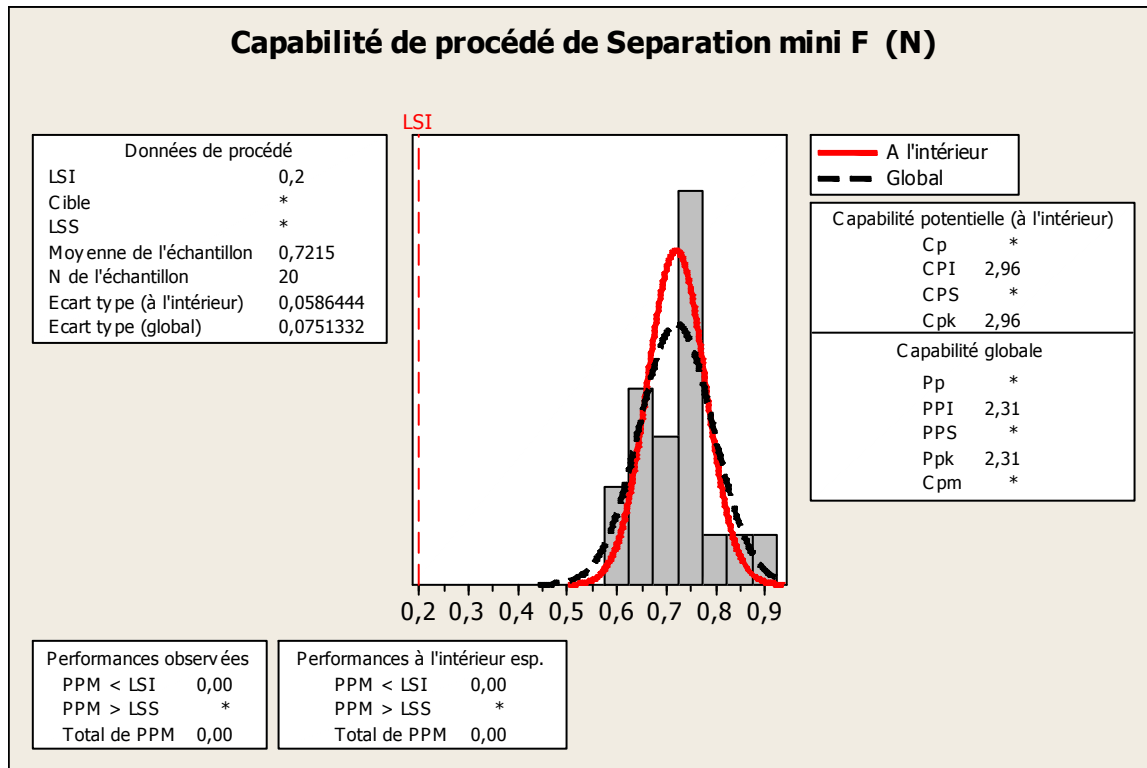
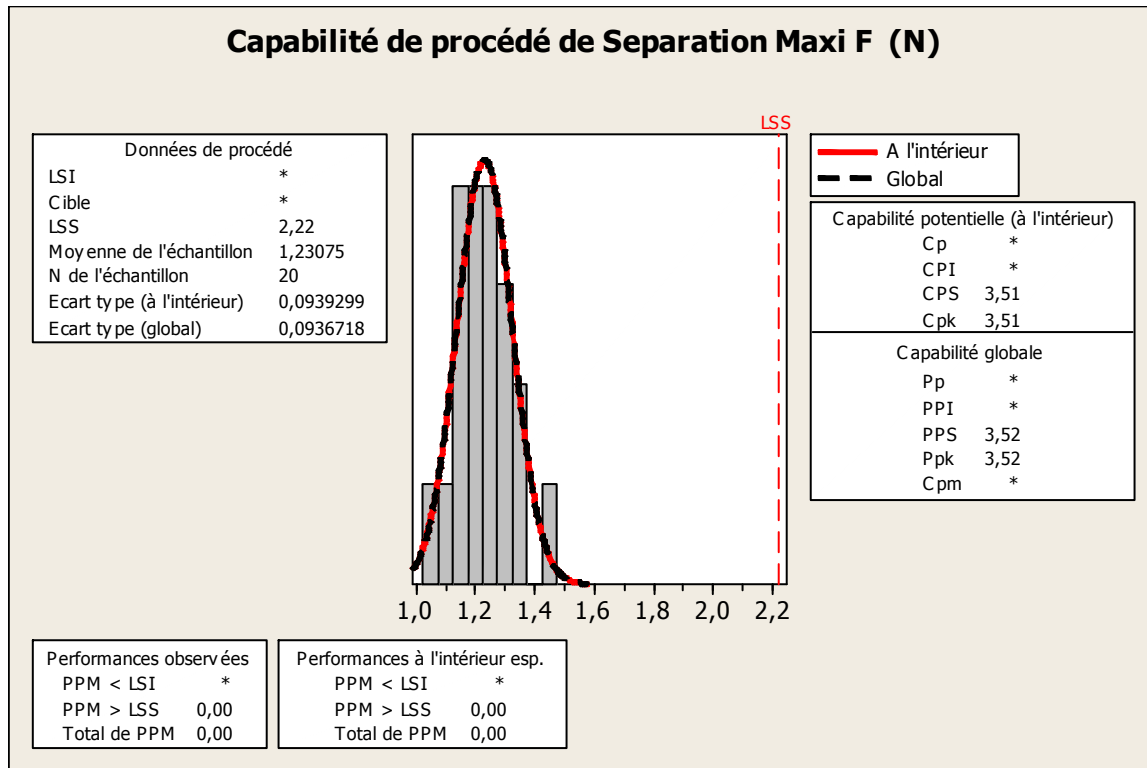
**Capabilités :**

Les capabilités sur les forces de séparation sont réalisées par Groupes afin d'inclure les variations des process de production entre lots.

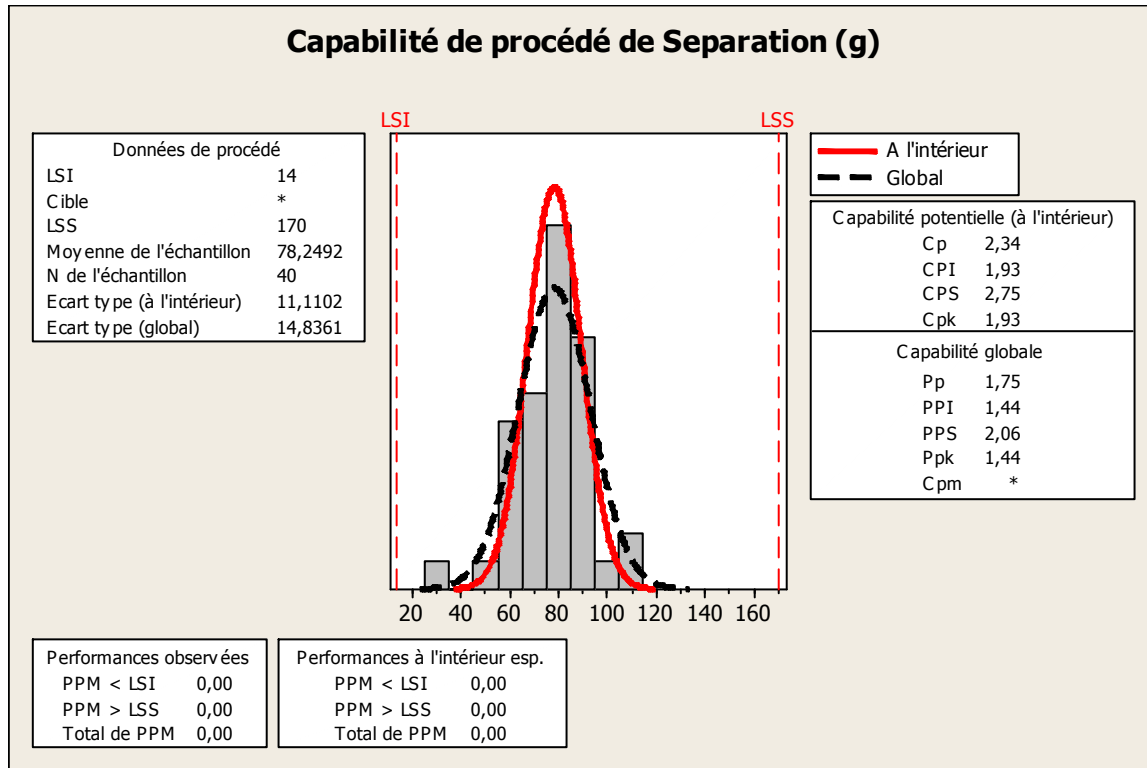
## CAPABILITES GLOBALES GROUPE 1 (Densité Standard)



## CAPABILITES GLOBALES GROUPE 2 (Haute Densité)



## CAPABILITES GLOBALES GROUPE 3 (Twist pin)



### Conclusion :

Le niveau de capabilité est conforme aux exigences :

- Tous les indices de centrage du process sont largement supérieurs au minimum de 1,33.
- Tous les risques PPM potentiels d'avoir une pièce hors tolérance sont nuls.

	Force de séparation Max		Force de séparation Min	
	Cp indice de variabilité	Cpk indice de centrage	Cp indice de variabilité	Cpk indice de centrage
Groupe 1	NA – limite unique	1,93	NA – limite unique	2,47
Groupe 2	NA – limite unique	3,51	NA – limite unique	2,96
Groupe 3	NA	NA	2,34	1,93

**Olivier MASSON**  
Chief Inspector



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N/Ref : OM-08-001

Dole, December 18th 2008

Subject : Technical package for « contact capability » sampling test 10% for connectors ESCC qualified

**CNES**

To the attention of Mr. Olivier PERAT  
DTS/AQ/QCP/TP  
B.P.I. 1412  
18, avenue Edouard Belin  
**31401 TOULOUSE Cedex**

Mr Perat,

The 100% « contact capability » test described in ESCC 3401 specification has never been performed on MDM connectors defined in ESCC 3401/029 specification.  
We never had any complaints or failure on this product during the last 20 years.  
In addition to this, we performed a statistic analysis in order to check the capability with very satisfying results.  
You will find attached the related tests reports.  
We are also performing a 100% visual inspection under binocular on the contacts which guarantee indirectly the conformity.

The same study was performed on Socket starclip contacts for D-Sub connectors 3401/001, 3401/002 and savers 3401/020.  
Results are also satisfying.  
These Socket starclip contacts are delivered since 1998 and we never found any failure even after testing several millions contacts.

As a consequence, we would like to standardize a sampling inspection (10%) for this « contact capability » test for all our contacts qualified according to ESCC 3401 specification.  
DCR to modify the specifications 3401/001, 005, 029, and 078 will be submitted.  
They will be formalized in appendix section for « agreed deviations for C&K » (see example below).



	ESCC Detail Specification No. 3401/002	PAGE 26 ISSUE 4
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APPENDIX 'A'

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AGREED DEVIATIONS FOR ITT CANNON (F)

ITEMS AFFECTED	DESCRIPTION OF DEVIATIONS
Para. 4.2.2	Para. 9.3, Contact Retainer Test may be omitted provided that a 100% external visual inspection of the contact retainer clips positioned within the insert is performed in accordance with the ITT CANNON PID requirements.

The deviation will be mentioned and justified in PID in a specific section called « Ecart par rapport aux exigences des spécifications ESCC ».

Best regards,

Olivier MASSON

Olivier MASSON  
 Chief Inspector  


Copy : Gérard BARITAUX, Jérôme BROCHOT, Sylvain ROCHON, Gilles PARGUEY