



文件名稱/Title	工程變更管制程序 Engineering Change Control Procedure		密等/Security	Security C
文件編號/No.	10-09-06-000		頁數/Contents	5
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1	2007/08/16	林志杰	Original	
2	2008/07/07	池竹芳	Add "environment quality requirement" into scope	
3	2011/06/07	簡維志	Add " Product change notification specification for Huawei's product " into Form / Table	
4	2011/08/19	王瓊琳	Responsibly, Modify flow & content	
5	2012/12/13	鄭明翰	Update ECN responsibility and ECN handling rule 6.3/6.5/6.8	
6	2014/11/12	池竹芳	update Organization name	
7	2016/08/25	池竹芳	Typo correct on reference document	

◆Please return old version spec and confirm the latest version with KMC.◆

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(10-05-01-013B)



工程變更管理程序

Engineering Change Control Procedure

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1. PURPOSE:

To control all changes to follow defined verification, review, approval, effectiveness, implementation and performance monitoring to reduce the risk and achieve the expectation.

2. SCOPE:

2.1 What

All products/parts/material change which relate to process, product specification, subcontractors, environment quality requirement and customer requirements.

2.2 When:

The products, which pass the qualification and move to mass production, shall apply this procedure.

3. TERM DEFINITION:

3.1 ESN: an abbreviation for “Engineering Specification Notice”(10-09-06-003)

Before major change implementation, ESN shall be sent to customer review and get customer's approval.

3.2 ECN: an abbreviation for “Engineering Change Notice”.

It is applied to the permanent change from GUC to subcontractors on product design, process, specification, and customer's requirements. Old version spec/document shall be obsolete.

3.3 TECN: an abbreviation for “Temporary Engineering Change Notice”.

It will be temporarily applied the change to specific products, lots, process, or period. The period cannot be longer than one months if apply to specific period.

3.4 ECR: an abbreviation for “Engineering Change Request” from supplier/subcontractor.

3.5 Major Change: Any changes with impact to form, fit, function, quality and reliability of a product, or mutual agreement between GUC and customer. Please refer to “Category and verification of engineering change SOP” for detail items and requirement of verification.

3.6 Minor Change: Any changes without impact to form, fit, function, quality and reliability of a product.

4. RESPONSIBILITY:

4.1 Account Manager / Sales:

- One of the contact windows for customer change request

4.2 Q&R (Quality & Reliability Engineering):

- Contact window to communicate engineering change (ESN) with customer and get formal reply from customer
- Cosign the change to verify if the change passed necessary validation/ qualification

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- Validate the impact to customers' requirement or agreement -
- Verify the implementation of ECN, and audit subcontractor's ECN flow
- Contact window for subcontractors' ECR

4.3 PE (Product Engineering):

- Owner of review product spec, production release to testing subcontractor, .
- Owner of review change of product spec, production release, foundry process and initial ECN/ESN for the change if need.
- Cosign and verify the change related to wafer foundry FAB and product yield
- Check the verification result (ex. Correlation data) of testing program revision
- Review WIP/inventory to decide whether re-test or re-work or not when testing program revision or product spec change

4.4 PT (Product Testing):

- Perform correlation of revised test program to verify the quality
- Owner of testing spec
- Owner of packing spec
- Contact window of ECN/TECN to subcontractor
- Cosign and verify the change related to testing/packing spec

4.5 PAD (Packaging Design):

- Owner of packaging, and bumping process change, verify the change and sign back for packaging subcontractors ECR
- Owner of review packaging, and bumping process change, verify the baseline impact of ECN, and initial PSOF/ESN for the change if need

4.6 PC (Production Control):

- Cosign the changes related to production of subcontractors
- Revise Work_Order or Purchase_Order to subcontractor based on effective ECN/TECN

4.7 KMC (Knowledge Management Center, DDC):

- Inform suppliers after the GUC internal cosigning finished.

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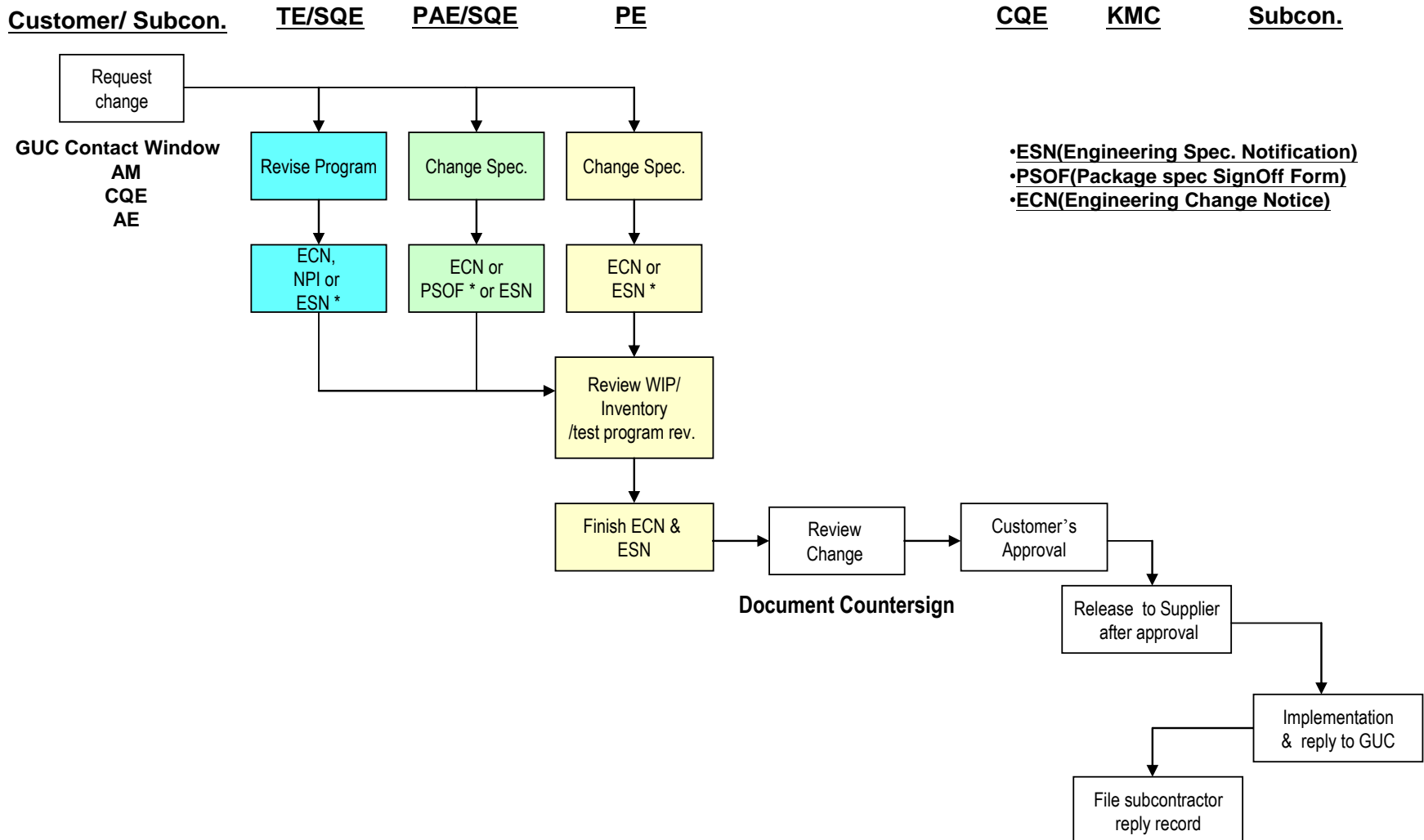


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5. Flow Chart:



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6. Content

6.1 The change management methodology is compliant with JESD46.

6.2 When to apply ECN/TECN

ECN: to long-term implement this CHANGE, not for specific lot or period

TECN: to short-term implement this CHANGE for specific lot, period and step

- Experiment
- Collect engineering data
- Re-test/rework

6.3 The major / minor change criteria refer to “Major Change Category”(10-09-07-000). For customer’s special request will be reviewed and listed on “Product change notification specification for specific product” (No:10-09-06-004)

6.4 For major change, customer will be notified the ESN a minimum of 90 days or mutual agreement before the proposed implementation date of the product identified in the ESN. The customer shall acknowledge receipt of the ESN within 30 days of delivery of the ESN. The change will be constituted acceptance when:

- Customer replied the approval,
- Lack of acknowledgement of the ESN within 30 days,
- After acknowledgement, lack of additional response within 90 days period,

If customer requires additional time to perform sample testing/verification, beyond the 90 day review period, an extension is allowed based on mutual agreement.

6.5 Change Review

Any change from customers or subcontractors need to be proposed in proper format (as ESN, PSOF, ECN etc.) and reviewed/approved. For customer’s special request format is listed on “Product Change Specification for Specific Product” (No:10-09-06-004)

6.6 Any change impact on environment quality (Ex. Change of materials) shall request/review relative data (ex. ICP analysis report, MSDS) to ensure the conformation of product environment requirement.

6.7 CHANGE record

All CHANGE-related records shall be kept, and stored. The retention period for all records refers to “File and Record Management Procedure.”(10-16-01-000)

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6.8 Small volume introduction for CHANGE implementation

All CHANGE release shall have small volume production data to validate the process stability and compliance with product performance. The small volume production plan of change shall be initiated.

7. Reference document

- | | |
|---|-------------------------|
| 7.1 File and Record Management Procedure | (Doc. No: 10-16-01-000) |
| 7.2 Document and data control procedure | (Doc. No.:10-05-01-000) |
| 7.3 Major Change Category | (Doc. No.:10-09-07-000) |
| 7.3 Product Change Specification for Specific Product | (Doc. No: 10-09-06-004) |
| 7.4 JESD46, Customer Notification of Product/Process Changes by Semiconductor Suppliers | |

8. Form / Table

- | | |
|---------------------------------------|--------------------------|
| 8.1. GUC ECN | (Form. No: 10-09-06-001) |
| 8.2. GUC TECN | (Form. No: 10-09-06-002) |
| 8.3. Engineering Specification Notice | (Form. No: 10-09-06-003) |

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