The purpose of this form is to initiate changes to existing documents and/or release new documents.

* Reference QAM 7.5

**Section A- Overview**

**Initiator** – Personnel that initiates the Engineering Change Request

**Initiated Date** – The date the ECR is submitted for review

**Due Date** – The date the ECR is requested to be completed and released by Design Drafting.

**Model (s) / Item (s) affected** – Any models and/or items affected by the Engineering Change Request should be listed here.

**Change Accountable Engineer (CAE)** - The Engineer responsible for the ECR and any questions in regards to the changes being made. The CAE is responsible for the DIN# atop the form (refer to DD1045), creating the PCB ECO review report for all PCB Manufacturing sites (See DD1050) and obtaining all of the necessary signatures.

**Change Type**:

* **1-Design Change Only**: The ECR Package will only impact the design of the product and will NOT cause the processing of the product to change.
* **2-Design and Process Change**: The ECR Package will impact the design and processing of the product.
* **3-Process Change Only**: The ECR Package will only impact the process of the product and will NOT cause the design of the product to change. This includes router changes.
* **4-Clerical**: The ECR Package will correct documentation error only and will not change context of the document. This change type cannot be used for ATEX and/or Program products.
* **5-New Model release**: The ECR Package is to make an initial release of the product design/process documentation of a New Model and/or component.
* **6- Router Change Only**: The ECR Package is to make a change to the router(s) only and the disposition of the router(s) is FEU.
* **7- Specials Shack**: The ECR Package is for the Specials shack (New model release only) and does not need to go through the Engineering Change Coordinator. Cost approvals are not required for Specials Shack as they are approved through the NMI process.

**Reason for Change (Initial Release/Problem)** – Describe the reason for the ECR.

**Section B – Technical Analysis**

**Design Engineer** – The Design Engineer responsible for the design change aspect of the ECR. The Design Engineer must be a member of the product design group for the product in question. The product design groups are defined as those groups that have Lead Design Engineers reporting to the Director of Product Development. A design engineer must be involved when design-related items (BOMs, product drawings, specs, etc.) are included in the ECR .If there are no design changes in the ECR Package, the CAE must instead select the “N/A” checkbox.

**Description of Design Change** - The Design Engineer writes a brief description of the change that addresses the reason why the change needs to be submitted.

**Manufacturing Engineer(s)** - Manufacturing Engineer(s) responsible for the process change aspect of the ECR. Each department affected by the ECR shall have a representative.

* An assembly manufacturing engineer must be involved when assembly process-related items (assembly procedures, routers, fixtures, etc.) are included in the ECR
* A North Carolina Manufacturing Engineer must be involved when the ECR affects North Carolina via the PCB ECO review report
* A C&S manufacturing engineer must be involved when components and services process-related items (HCD, Welding, Micro, etc.) are included in the ECR
* A PMC manufacturing engineer must be involved when component drawings that affect processing are included in the ECR
* If there are no process changes in the ECR, the CAE must instead select the “N/A” checkbox.

**Description of Process Change** – The Manufacturing Engineer writes a brief summary of his/her solution to correct the problem stated in the Request section at the top of the page.

**Section C – Implementation Analysis**

**Date Submitted** - Filled out by CAE prior to delivering to ECC

**Engineering Change Coordinator (ECC)** – The ECC is responsible for but not limited to:

* Reviewing the change impact of the ECR (scrap, rework and tooling costs of incorporating the ECR) and developing lead times. Lead times may influence when an ECR Package can be finalized and the ECC will work with Drafting and the CAE to adjust the due date if necessary.
* Reviewing the PCB ECO Review Report to ensure that all items are dispositioned appropriately and, if required, set ECO flags
* Determine if new fixtures are required to implement the ECR and, if so, what is the anticipated delivery
* Determine if a partial release is required to ensure the availability of the new items being released.
* Update material status and reason codes
* New material on order via ENG shopping cart
* Work with planning to set effectivity dates.
* Devise ECO implementation Plan and Document
* If the ECC approval is not required, the CAE must instead select the “N/A” checkbox.

**ECO WIP Containment**

* Any material dispositioned as Rework (RWK) on the PCB ECO Review Report shall follow the containment workflow per Containment Process TA05.
* Once an ECO is approved, the Engineering Change Coordinator (ECC) will email the Quality Assurance Engineer (QAE) notifying them that a containment is required.
* In accordance to TA05, the QAE creates a Containment Report, reviews the report with the Change Accountable Engineer (CAE) and distributes a Containment Report to the applicable department(s). Items listed on the Containment Report are moved to a Nonconforming Material Hold location. QAE coordinates with the applicable department(s) and develops a sort plan. The QAE properly identifies sorted items as accepted or rejected and returns items to stock if applicable.
* CAE is responsible for generating any required paperwork which authorizes the proceeding rework (TA080, Marked-up job paperwork, etc.). The CAE must approve the containment release formally, and indicate this by signing off the containment paperwork or electronically notifying the QAE
* QAE ensures that the appropriate transactions are made after CAE disposition of the sorted material and maintains the Containment documentation, which must include the CAE approval/release (either by signature or electronic approval)

**Implementation Cost**

The ECC uses this area to identify and record the estimated cost to implement the change(s) that are being requested in the ECR Package.

**Section D – Approvals**

This area is the final approval to proceed with the ECR Package. The CAE is responsible for obtaining these approvals.

**Engineering Manager**- By default, this checkbox is always selected because it is required for an Engineering

Manager to approve every ECR Package. The approving Engineering Manager is the Engineering Manager to

whom the CAE Reports. If ECR Package comes from Halifax, the approving Engineering Manager will be the

Lead Engineer from Halifax and an Engineering Manager from Depew who represents the same family for which

the ECR Package is being submitted.

**Sales**- The CAE selects this checkbox when any of the following document types in the ECR package is changing/new/obsolete:

* Installation Drawings
* Outline Drawings
* Product Specifications
* Product Operation Manual
* Documents with “Customer Approval” stamp.
* Obsolete Model

If there are no sales changes in the ECR package, the CAE must instead select the “N/A” checkbox.

**Customer Approval (ENG-5555-06**) – The CAE selects this checkbox when any document in the ECR

package is controlled by a customer approval stamp (ENG-5555-06). This section shall be signed by the

appropriate sales personnel that is associated with that specific customer contract. The sales personnel must

select the appropriate Class Change based upon the contractual requirements with the customer

See sales for assistance.

**Program Manager (ENG-5555-04)** - The CAE selects this checkbox when any document in the ECR package is

controlled by a Program stamp (ENG-5555-04). See EN048 for list of Approving Program Mangers.

**Class Change** – The Program Manager and/or appropriate sales personnel is required to select the appropriate

Class Change based upon the Program’s contractual agreement with the customer.

* Class 1 – Customer approval is required before change can be released. For the instances where not all of the documentation requires customer approval, the CAE will simply mark customer approval on the red line for that particular document. CAE is responsible for getting the documentation to sales before final release. Sales will then give the CAE the okay to release the ECR after receiving Customer approval.
* Class 2 – Customer approval is not required before change can be released

**ITAR (ENG-5555-05) and/or Export Control Information (ENG-5555-07)** - The CAE selects this checkbox when

any document in the ECR Package is controlled by an “ITAR Controlled” stamp or is marked as “Export

Controlled Information” and should be signed by the Export Manager or Legal Dept. representative.

**Scheduled (ENG-5555-02)** - The CAE selects this checkbox when any document in the ECR Package is

controlled by a “Scheduled” stamp. See EN048 for list of ATEX Authority.

**Related (ENG-5555-03)** - The CAE selects this checkbox when any document in the ECR Package is controlled

by a “Related” stamp. See EN048 for list of ATEX Authority.

**Planning** –The Planning representative is responsible for, but not limited to:

* Update BSD (Planner Code, Family Code, Order Modifiers, etc.)
* Update Alt Item Field (Old/New Part Number cross reference)
* Determine impact on Kan Ban / SyteLean system
* Determine impact on demand (cancel jobs, TO’s. etc.)
* Calculate effectivity dates if required

If there are no planning changes in the ECR Package, the CAE must instead select the “N/A” checkbox.

**Purchasing** – The Purchasing representative (may require the support of the Vendor Approver/Vendor Administrator) is responsible for, but not limited to:

         BSD changes to Item Fields (e.g.-, update lead time or safety stock, adjust min/max)

         BSD changes to Vendor fields (e.g. may require the support of the Vendor Approver/Vendor Administrator, update contract info)

         BSD changes to purchase order (e.g.-change delivery dates, cancel PO, update cost, add/delete PO specific notes, create a change order)

If there are no purchasing changes in the ECR Package, the CAE must instead select the “N/A” checkbox.

**Finance**- The CAE selects this checkbox when the sum of the Annualized Product Cost and the Implementation

cost for the ECR package exceeds $10,000 (positively or negatively). This section is to be signed by the

Controller or the V.P. of Finance.

**VP of Engineering**- If the cost to implement this ECR exceeds $5000, approval by the VP of Engineering is

required

**SECTION E – Release**

This area is to be filled out by a drafting representative except for the submitted date and the Engineer review

**Document Tally section** –Drafting Personnel use only

**Date Submitted** - Filled out by ECC prior to delivering to Design Drafting

**Engineer Review Required** - This box should be checked by the engineer that wishes to review the ECR before

it is released into the system.

**Engineer Review** – Reviewing Engineer is the fill this out after they have reviewed the ECR

**Partial Release** – This is to be filled out by a Drafting Representative if there are documents that need to be

released ahead of other documents in the ECR

**Final Release** – This is to be filled out by a Drafting Representative for the final release of the ECR. The Design

Drafting Representative will send an email to all of the personnel that signed the ECR and notify them of the final

Release.