A WORLD OF BEST PRACTICES FOR THE ELECTRONIC COMPONENTS INDUSTRY
ECIA Publication

Paperless Manufacturer Certificate of Compliance
(Digital transfer of COC documents between manufacturer and distributor)

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Electronic Components Industry Association

Industry Best Practices, Guidelines, Areas for Consideration

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Digital Transfer of Manufacturer Certificate of Compliance

A Paperless Process
Industry Benefits:
• Create a streamlined process to digitally exchange compliance documentation such as manufacturers certificate of compliance. The industry benefits will be improved efficiency for the exchange of documents, reduction in costs associated with the current manual, paper driven process and improved visibility and availability of information.

Goal:
• Organize a working group comprised of 2 manufacturers, 2 distributors.
• Design architecture to embed compliance documentation into a 2D barcode: process flow to start with manufacture – to – distributor – to – customer.
• Implement pilot with working group participants.
• Create final process documents for industry release.

Key Outputs/Metrics:
• Final process documents for industry publication and use.
• Pilot results for publication when completed.
• ROI examples and/or estimates for industry publication.

Financial Considerations:
• ROI impact for Manufacturer (TBD)
• ROI impact for Distributor (TBD)

Problem Statement:
• There is only a manual, paper driven process today for the transfer and exchange of compliance documentation in the electronic component supply chain. This drives unnecessary administration costs with manufacturers, distributors and customers and service dissatisfaction through-out the supply chain.

Assignment Scope:
• Start with the manufacturers certificate of compliance.
• Consider other compliance documents that would enhance the offering, but would not complicate or slow down the initial target of embedding manufacturers CofC into 2D labeling process flow.
• Phase 1 = 1 Manufacturer Documents to 1 Distributor
• Phase 2 = Multiple Manufacturers and Distributors Implemented
• Phase 3 = Distributors Internalize Documents for Delivery to End Customers

Project Team:
• Sponsors – Phil Fraser, ADI and Pete Shopp, Mouser Electronics
• Leaders – Selinna Chen and Glenda Faelden, Co-Leaders, ADI and Kendra White, Mouser Electronics
• Contributor – Andy Verb, Brien Fennell, Bar Code Graphics, Inc.

Project Timeline:
• 2019 – 2021
Paperless Manufacturer Certificate of Compliance

2019 Q1: Concept Proposed by ECIA’s GIPC

2019 Q2: Embed COC in 2D Bar Code

2019 Q3: Digital Transfer of COC with Linkage to Shipment

2019 Q4: Roadmap

2019-2021 3 Year Plan

2020 Q1: ADI, Littelfuse, Digi-Key, Mouser

2020 Q2: ADI, Mouser

2020 Q3: Process Development

2020 Q4: IT Project Teams Assigned

2021 Q1: Contributed by Bar Code Graphics, Inc.

2021 Q2: Additional Manufacturers, Distributors

2021 Q3: CPI

2021 Q4: Global

2022 Q1: Best Practices

2022 Q2: Benchmark Data

Contributions by Bar Code Graphics, Inc.
Receive files via SFTP/FTP/FTPS

Start

Process files through data integration system

Process files through B2B Integrator

1. Parse CSV index files
2. Error handling (in the event the PDF files that correspond to the index files are not found)

Store PDF files

Provide paperless manufacturer COC to end customer

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Data Elements

Global Industry Practices Committee (GIPC)
Approach

1. Minimize/eliminate human touch points.
2. Provide C of C Document via email at the time of shipment.
3. Provide C of C indexing data in order to retrieve Document easily.
4. Provide scan enabled shipping labels and part labels to link physical shipments to indexing data.

Document Relationships

- Email contains >=1 CoC Pdf file
- Email contains Indexing file = number of CoC Pdf files
- CoC Pfd file contains >=1 part CoC
- Indexing file contains data sets = number of part CoCs

Email -> CoC pdf: 1 to many
CoC pdf -> Indexing file: 1 to 1
CoC pdf -> Part CoC: 1 to many
<table>
<thead>
<tr>
<th>S/N</th>
<th>Scenarios</th>
<th>Shipping Label (Data Matrix)</th>
<th>Index File (.csv) with prefix MSR SFTP</th>
<th>PDF file with prefix MSR SFTP</th>
<th>Receiving by Mouser</th>
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</thead>
<tbody>
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<tr>
<td>3</td>
<td>Delivery Note Single Line – multiple boxes different date code</td>
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## ROI: Manufacturer End State…

<table>
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<tr>
<th>Projects ROI (End State)</th>
<th>S1 Warehouse</th>
<th>S2 Warehouse</th>
<th>M Warehouse</th>
<th>CH Warehouse</th>
<th>All Warehouses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume (Distributors)</td>
<td>45%</td>
<td>25%</td>
<td>2%</td>
<td>1%</td>
<td>72%</td>
</tr>
</tbody>
</table>

- **Standardization (3 categories)**
  - S1 Warehouse: Pdf, File, Label
  - S2 Warehouse: Pdf, File, Label
  - M Warehouse: Pdf, File, Label
  - CH Warehouse: Pdf, File, Label

- **Sustainability (Save Trees)**
  - Save 70 trees (600,000 paper sheets)
  - Save 40 trees (340,000 paper sheets)
  - Save 2 trees (26,000 paper sheets)
  - Save 1 tree (5,000 paper sheets)

- **Operation Efficiency (Distributors)**
  - Dirty: 71% / 45%
  - OEM: 23% / 52%
  - Others: 6% / 3%

- **Cost Reduction (Annual)**
  - Paper: $3,800 / $6,000
  - Cartridge: $10,800 / $6,000
  - Pouch: $61,600 / $35,000

- **Estimated Labor Savings at Distributor:**
  - $2.5K to $5K per Manufacturer
  - Additional ROI to be determined...

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Global Industry Practices Committee (GIPC)

Electronic Components Industry Association
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