

A WORLD OF BEST PRACTICES

FOR THE ELECTRONIC
COMPONENTS INDUSTRY



Electronic Components Industry Association

A large graphic on the right side of the slide depicting a globe. The globe is composed of a network of blue dots connected by thin blue lines, creating a mesh-like structure. The dots vary in size and are distributed across the surface of the globe. The text "GIPC" is overlaid on this graphic in a large, light blue, sans-serif font.

GIPC

ECIA Publication

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

EIGP 116.2020

May 2020

Electronic Components Industry
Association

Industry Best Practices, Guidelines, Areas
for Consideration

Global Industry Practices Committee (GIPC)

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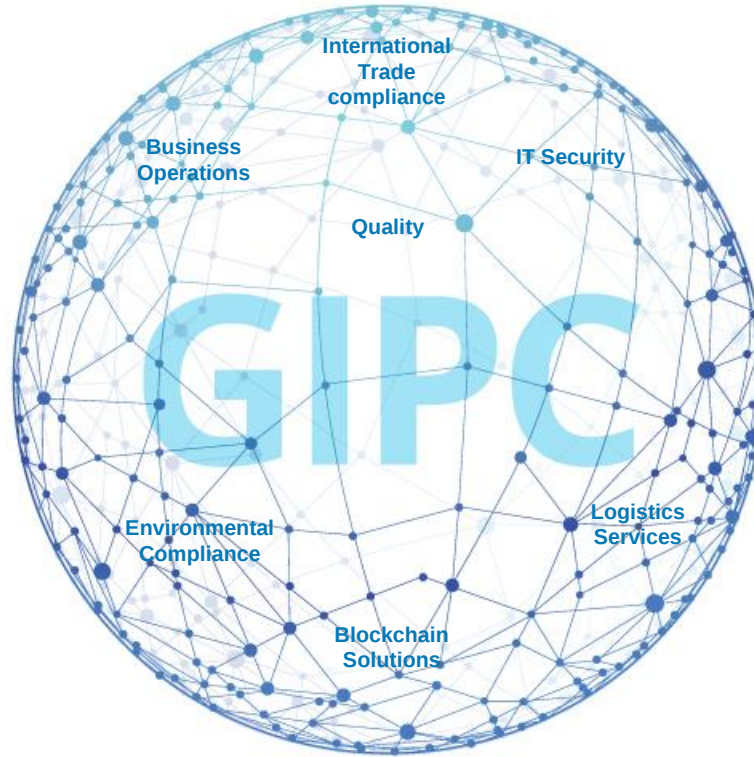
ELECTRONIC COMPONENTS INDUSTRY ASSOCIATION

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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 CoC 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

Contributions by Bar Code Graphics, Inc.

Concept Proposed
by ECIA's GIPC

ADI, Littelfuse, Digi-Key, Mouser
Solution Development IT Project Teams Assigned

2019

Q1

Q2

Q3

Q4

2020

Embed COC in 2D Bar Code

Digital Transfer of COC with Linkage to Shipment

Roadmap

Distributors-to-Customers

ADI

ADI, Mouser

Process Development

Adds Distributors

Testing, Implementation

Process Development

Q4

Q3

Q2

Q1

2019-2021
3 Year Plan

2021

Additional Manufacturers, Distributors

Continued Industry Implementation

CPI

Continuous Process Improvement – Next Generation

Q1

Q2

Q3

Q4

2022

Global

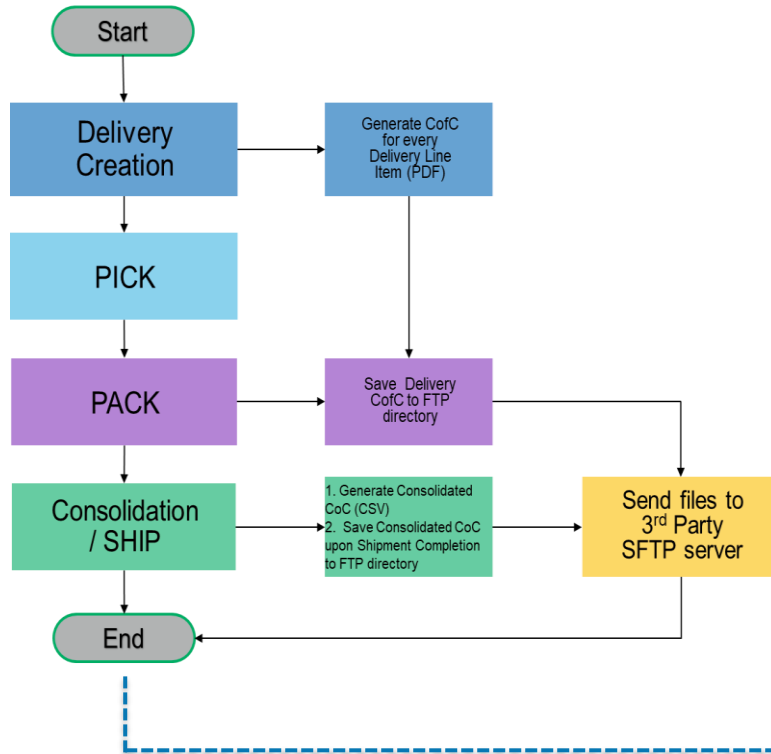
Global Industry Implementation

Best Practices

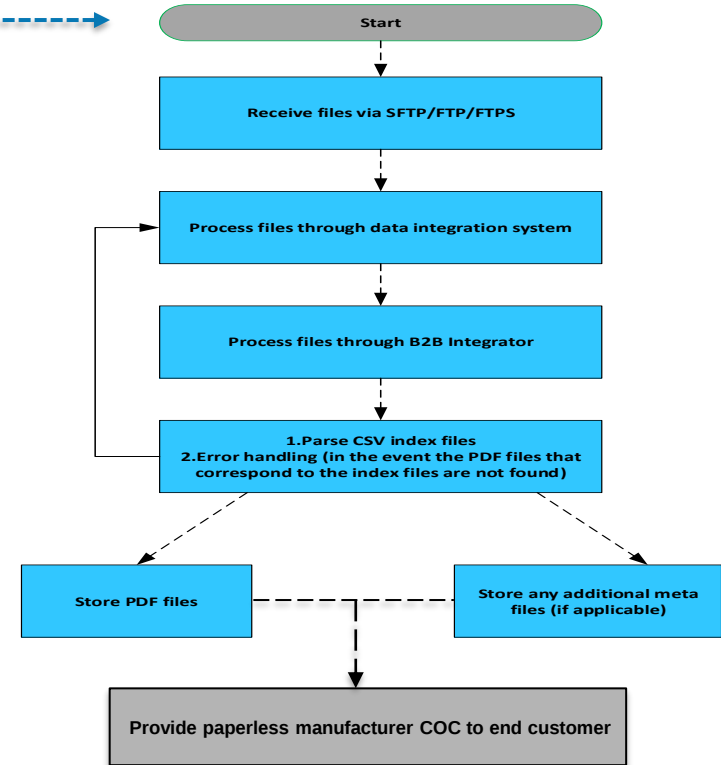
Benchmark Data

Process Flow

ADI

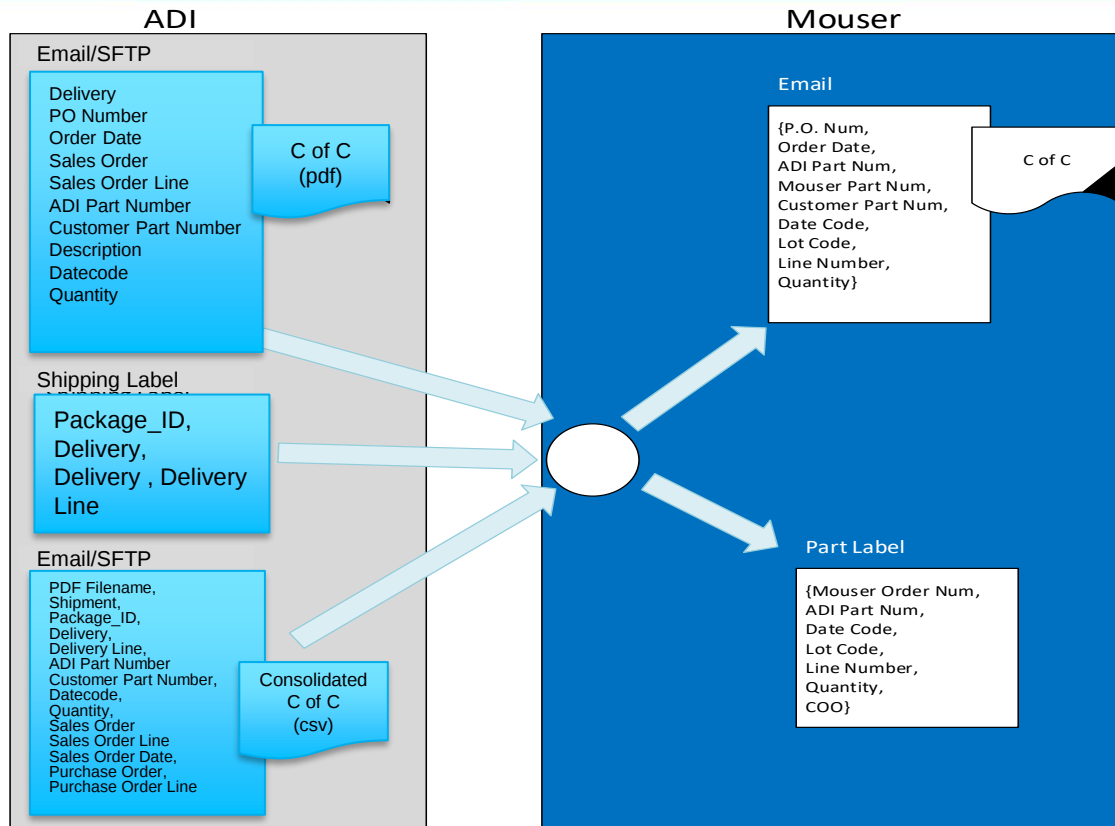


Mouser



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Data Elements



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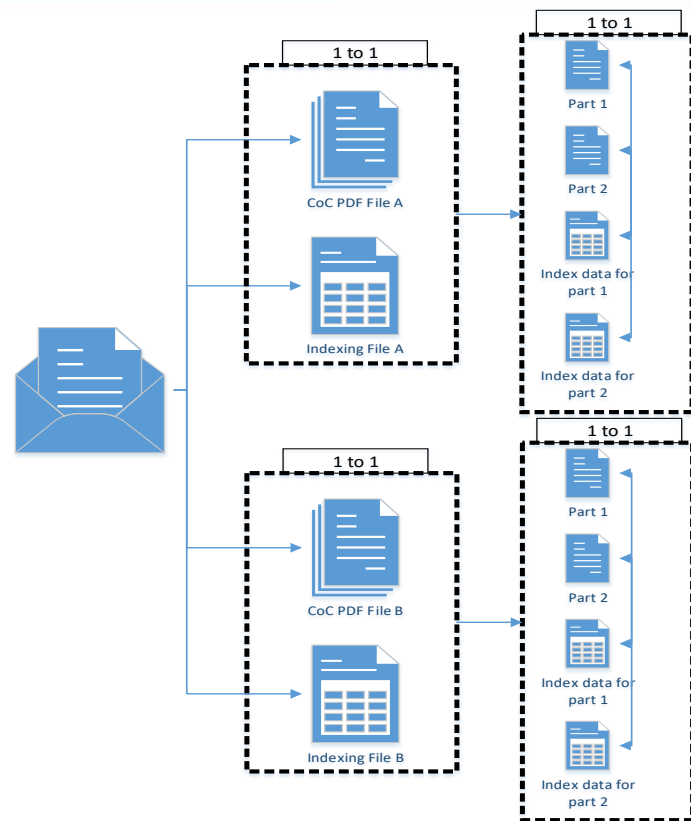
Approach

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 Pdf 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



What if scenarios... (Same Part Number)

S/N	Scenarios	Shipping Label (Data Matrix)	Index File (.csv) with prefix MSR SFTP	PDF file with prefix MSR SFTP	Receiving by Mouser
1	Delivery Note Single Line – 1 box	[]> <RS> 06 <GS> 4J8956617 <GS> 16K8000602054+0001 <RS> <EOT> HU Delivery + DNLine	MSR_8000602054+0001 1959217 8956617 8000602054 1 LTC2804CGN-1#PBF 584-LTC2804CGN-1#P 1850 200 Delivery + DNLine HU	MSR_8000602054+0001.pdf	
2	Delivery Note Single Line – multiple boxes same date code	[]> <RS> 06 <GS> 4J8956617 <GS> 16K8000602054+0001 <RS> <EOT> []> <RS> 06 <GS> 4J8956618 <GS> 16K8000602054+0001 <RS> <EOT>	MSR_8000602054+0001 1959217 8956617 8000602054 1 LTC2804CGN-1#PBF 584-LTC2804CGN-1#P 1850 100 MSR_8000602054+0001 1959217 8956618 8000602054 1 LTC2804CGN-1#PBF 584-LTC2804CGN-1#P 1850 100	MSR_8000602054+0001.pdf	
3	Delivery Note Single Line – multiple boxes different date code	[]> <RS> 06 <GS> 4J8956617 <GS> 16K8000602054+0001 <RS> <EOT> []> <RS> 06 <GS> 4J8956618 <GS> 16K8000602054+0001 <RS> <EOT> []> <RS> 06 <GS> 4J8956619 <GS> 16K8000602054+0001 <RS> <EOT>	MSR_8000602054+0001 1959217 8956617 8000602054 1 LTC2804CGN-1#PBF 584-LTC2804CGN-1#P 1850 100 MSR_8000602054+0001 1959217 8956618 8000602054 1 LTC2804CGN-1#PBF 584-LTC2804CGN-1#P 1851 50 MSR_8000602054+0001 1959217 8956619 8000602054 1 LTC2804CGN-1#PBF 584-LTC2804CGN-1#P 1852 50	MSR_8000602054+0001.pdf	

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Specimen of Labels, COC and CSV

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MSR_1959217_20191118020258.csv

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MSR_8000601992+0001	1959217	8956057	8000601992	1 LTC4357IDCBTRMPBF	584-C4357IDCBTRMPB	1849	500 EA	1000482783	2	20181120 029-NU736	2

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(K) CUST PO: 029-NU736 		Package Count 1 of 1	
(P) CUST PROD ID: 584-C4357IDCBTRMPBF 		IF UNDELIVERED RETURN TO: LINEAR TECHNOLOGY PTE LTD O/B ANALOG DEVICES INTERNATIONAL U.C. 507/509 YISHUN INDUSTRIAL PARK A 766734 SINGAPORE	
Ship Via: SF / Spec Instr: Truck Package Weight LBS: 1.125 Package Weight KGS: 0.510 Order Type: TA Payment terms: N30N Incoterms: FCA ADI SOURCE WAREHOUSE			
Enclosed products may have been assembled in one of the following: Philippines, Hong Kong, South Korea, Singapore, Indonesia, Malaysia, Taiwan, Ireland, Thailand.			

[>] <RS> 06 <GS> 4J8956057 <GS> 16K8000601992+0001 <RS> <EOT>

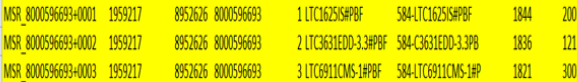
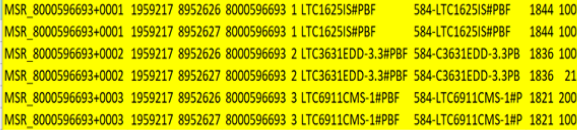
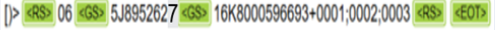
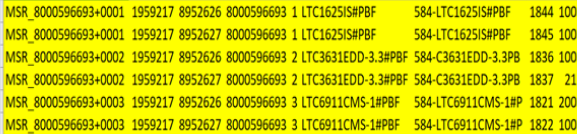
		Certificate of Conformance																					
Three Technology Way P.O. Box 9106 Norwood, Massachusetts 02062-9106 USA Tel: 781/329-4700 www.analog.com Fax: 781/461-4482																							
Shipping Warehouse: LINEAR TECHNOLOGY PTE LTD O/B Analog Devices International U.C. 507/509 Yishun Industrial Park A 766734		220088 SAP TEST : MOUSER ELECTRONICS SAP TEST : ATTN: INVOICE DATA ENTRY DEPARTMENT SAP TEST : 1000 N MAIN ST MANSFIELD TX 76063 UNITED STATES																					
SOLD TO 029-NU736 SAP TEST : MOUSER ELECTRONICS SAP TEST : ATTN: INVOICE DATA ENTRY DEPARTMENT SAP TEST : 1000 N MAIN ST MANSFIELD TX 76063 UNITED STATES		SHIPPED TO 220088 SAP TEST : MOUSER ELECTRONICS SAP TEST : ATTN: RECEIVING DEPARTMENT SAP TEST : 1000 N MAIN ST MANSFIELD TX 76063 UNITED STATES																					
Special Notes :																							
Customer Purchase Order 029-NU736		Date of Order 11/20/2018		Print Date 11/18/2019																			
Sales Order Number 1000482783		Delivery Note Number 8000601992		Transfer Order Number 4006855707																			
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What if scenarios... (Different Part Number)

S/N	Scenarios	Shipping Label (Data Matrix)	Index File (.csv) with prefix MSR SFTP	PDF file with prefix MSR SFTP	Receiving by Mouser
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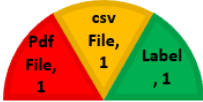
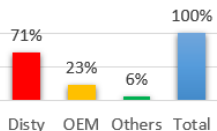
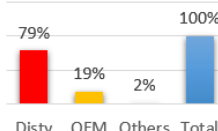
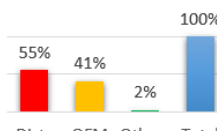
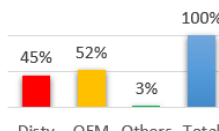
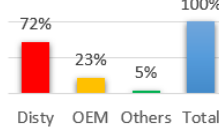
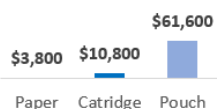
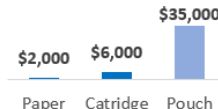
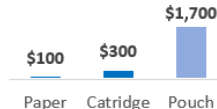
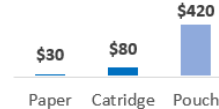
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ROI: Manufacturer End State...

Manufacturer-to-Distributor

Projects ROI (End State)	S1 Warehouse	S2 Warehouse	M Warehouse	CH Warehouse	All Warehouses
Volume (<i>Distributors</i>)	45% ↓	25% ↓	2% ↓	1% ↓	72% ↓
Standardization (3 categories)					
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)	 Save Tree 113
Operation Efficiency (<i>Distributors</i>)					
Cost Reduction (Annual)					

Distributor

Estimated Labor Savings at Distributor:

\$2.5K to \$5K per Manufacturer

* Additional ROI to be determined...

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