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Zebra Technologies

Routing and Shipping Guidelines for Supplier Use V.5.3

Effective Mar 17, 2014

REVISIONS

Revision	Name	Date	Description	Page
3	Jennifer Springer	10/24/11	Added/changed the following address - ZES Vernon Hills	20-21
			- Agoura Hills	
			- Camarillo	
			- Heerenveen	
3	Jennifer Springer	10/24/11	Updated Nominated Parcel Carriers, Service Levels, and Zebra Enterprise Solutions instructions	5
3	Jennifer Springer	10/24/11	Added Third Party Parcel shipment Instructions	5
3	Jennifer Springer	10/24/11	Updated Nominated LTL Carriers, Service Levels, and	9
			Zebra Enterprise Solutions instructions	
3	Jennifer Springer	10/24/11	Updated LTL documentation instructions to include Zebra	10
			Enterprise Solutions	
3	Jennifer Springer	10/24/11	Added Third Party LTL shipment instructions	9
3	Jennifer Springer	10/24/11	Air Freight and Air Freight Booking instructions updated	11
3	Jennifer Springer	10/24/11	Ocean Freight and Ocean Freight Booking instructions updated	14
3	Jennifer Springer	10/24/11	Routing Guide Compliance updated	19
4	Jennifer Springer	2/03/12	Added Zebra Purchase Order review	6
4	Jennifer Springer	2/03/12	Ship Method Instructions including carrier definitions, weight breaks, and modal definitions	7-8
4	Jennifer Springer	2/03/12	Added Third Party Shipment instructions	8
4	Jennifer Springer	2/03/12	Updated Incoterms 2011 table	29
4.1	Kevin Ryan	03/21/12	Corrected Germantown address	25
4.2	Kevin Ryan	08/21/12	Updated Doral Address	25
5	Kevin Ryan	09/25/12	Added requirement for USD and English on invoices for shipments to the US	22
5.1	Kevin Ryan	05/20/13	Updated Michigan Zebra office address	25
5.2	Kevin Ryan	02/03/14	Corrected typo in weight limit for intl air freight parcels	8
5.3	Kevin Ryan	02/03/14	Updated Zebra office addresses and Expeditors contacts,	o 22, 29
J.J	Nevili Ryali	03/14/14	cleaned format	22, 29

<u>Index</u>

PURPOSE	4
SCOPE	4
COMMON DEFINITIONS USE IN THE ROUTING/SHIPPING GUIDELINES	4
SHIPPING INSTRUCTIONS	4
ZEBRA PURCHASE ORDER	5
Ship Method Instructions	6
Documentation, Booking, and Carrier Instructions	8
NOTES	19
PACKAGE REQUIREMENTS	
DOCUMENTATION	19
ROUTING GUIDE COMPLIANCE	21
APPENDICIES	22
Appendix A – Zebra Technologies Office Address List	
Appendix A – Zebra Technologies Office Address List (cont.)	23
Appendix B – Inbound Barcode Specifications	24
Appendix C – Packaging Label Examples	25
Appendix D – Chargeable Weight Calculations	26
Appendix E – Incoterms Definitions and Customs Specifications	27
Appendix F – Carrier Contact Information	28
Appendix G – Packaging Specification Testing	36
ISTA Test Procedure 1A	36

PURPOSE

To clearly define proper instructions for initiating, routing, and properly documenting shipments destined to Zebra or Zebra-nominated facilities.

SCOPE

This Routing/Shipping Guidelines apply to all **North America** inbound and outbound freight for which Zebra Technologies is financially responsible, for either all charges including freight, duties, and customs fees, or solely duties/taxes and other customs related fees. Applicable incoterms include (but are not limited to) ExWorks, FOB, FCA and DAP.

COMMON DEFINITIONS USE IN THE ROUTING/SHIPPING GUIDELINES

Freight: A shipment sent to Zebra Technologies, regardless of dimensions, value or mode used

Inbound: Freight moving into a Zebra Technologies facility

Outbound: Freight moving out of a Zebra Technologies facility

Cost Center Number: The 5-digit identification number assigned by the Zebra Requestor/Buyer

<u>Parcel</u>: Domestic package shipments less than 200 lb/91 kg chargeable weight. International package shipments less than 100 lbs/45 kg chargeable weight

FTL/LTL: Full Truckload/Less than Truckload domestic shipments greater than 200 lb/91 kg chargeable weight

FCL/LCL: Full Container Load/Less than Container Load international shipments greater than 100 lb/45 kg and less than 15 CBM chargeable weight (LCL) and greater than 100 lb/45 kg and greater than 15 CBM chargeable weight (FCL)

Third Party Shipments: Shipments that are routed to both from and to a non-Zebra shipping address

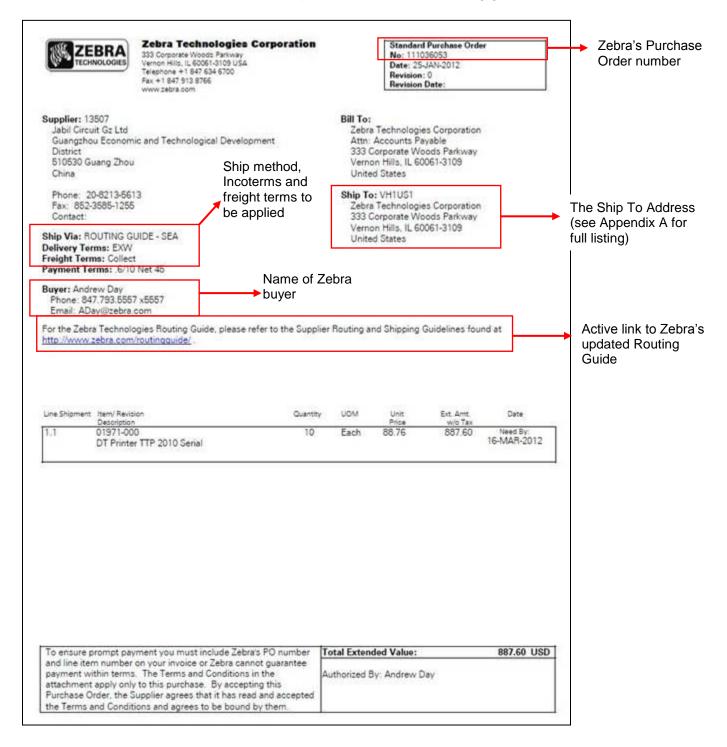
SHIPPING INSTRUCTIONS

The below shipping instructions for mode definitions, approved vendors per mode, and default services levels per mode must be adhered to by all vendors.

Use of modes, services, and approved carriers outside of the terms outlined in the following documents can only used through written authorization from the Zebra Technologies Requestor/Buyer.

ZEBRA PURCHASE ORDER

The format of Zebra's purchase orders has changed. The new streamlined purchase order will now clearly indicate several new fields of information including Incoterms, ship method, freight terms and need by date. It will also include an active link to the most updated version of the routing guide.



Ship Method Instructions

Zebra's new Purchase Orders will include streamlined ship method instructions that have been created to help give our suppliers the flexibility to select the appropriate ship method that is relevant for the shipment's size, weight, destination and transit time requirements. The new Purchase Order may include one of the below more general instructions for ship method:

Routing Guide Air

Routing Guide Air Express

Routing Guide Ground

Routing Guide Sea

Routing Guide Standard

Routing Guide Expedited

All of the above ship methods are designed to be applicable for both parcel and freight shipment sizes. All are designed to be applicable for both domestic and international ship to addresses. The below matrix is designed to help you translate the general instructions that you may receive above, into the carrier and service designation that you will need to ship the product.

	Domestic Ship-To Address		International Shi	p-To Address
	Parcel	Freight	Parcel	Freight
Routing Guide Air	FedEx	FedEx	FedEx International	Expeditors
	Express Saver®	Priority® LTL	Economy®	Consolidated Air Freight
Routing Guide Air	FedEx 2 Day®	FedEx	FedEx International	Expeditors Expedited
Express		Priority® LTL	Priority®	Air Freight
Routing Guide Express	FedEx	FedEx	FedEx International	Expeditors
	Express Saver®	Priority® LTL	Priority®	Consolidated Air Freight
Routing Guide Sea	FedEx	FedEx	FedEx International	Expeditors LCL/FCL
	Ground®	Economy® LTL	Economy®	Freight
Routing Guide Standard	FedEx	FedEx	FedEx International	Expeditors LCL/FCL
	Ground®	Economy® LTL	Economy®	Freight

DOMESTIC

Parcel

Domestic Parcel Shipments are defined as weighing equal to or less than 200 lbs / 91 kgs in chargeable weight (See Appendix D for explanation of Parcel chargeable weight). Zebra's nominated carrier for all parcel shipments is FedEx. To obtain Zebra's FedEx account number, please contact your Zebra buyer.

Freight

LTL Freight

LTL/FTL Freight Shipments are defined as weighing more than 201 lbs / 91 kgs in chargeable weight (See Appendix D for explanation of chargeable weight) and containing no greater than 13 pallets. Zebra's nominated carrier for all LTL freight shipments is FedEx Freight.

FTL Freight

FTL Freight Shipments are defined as container 14 or more pallets. Please contact jspringer@zebra.com for FTL routing instructions.

INTERNATIONAL

Parcel

International Parcel Shipments are defined as weighing equal to or less than 100 lbs / 91 kgs in chargeable weight (See Appendix D for explanation of Parcel chargeable weight). Zebra's nominated carrier for all parcel shipments is FedEx. To obtain Zebra's FedEx account number, please contact your Zebra buyer.

Freight

International Air Freight

International Air Freight Shipments are defined as weighing more than 100 lbs / 45 kgs in chargeable weight (See Appendix D for explanation of chargeable weight). Zebra's nominated carrier for all international Air Freight shipments is Expeditors International.

International Sea Freight

All ocean shipments less than 15 CBM chargeable weight must be routed via LCL freight.

All ocean shipments *greater than* 15 CBM chargeable weight must be routed via FCL freight using the following guidelines:

20' Container: 15-33 CBM40' Container: 34-67 CBM40' HQ Container: 67-76 CBM

Third Party Shipments of All Sizes, Origins and Destinations

If you are shipping to a Non-Zebra location using Zebra's account number or listing Zebra as the bill-to party, you must contact the Zebra Global Logistics Team at lmport-ExportContacts@zebra.com for full routing and documentation instructions prior to shipping.

Documentation, Booking, and Carrier Instructions

Parcel

The following sample documents or web portal screen shots are examples that suppliers may encounter while initiating parcel shipments for Zebra Technologies. Carriers may access these forms via the internet and may complete and submit the forms either electronically or manually. The actual documents or web portals may vary slightly according to the various standards in each respective country.

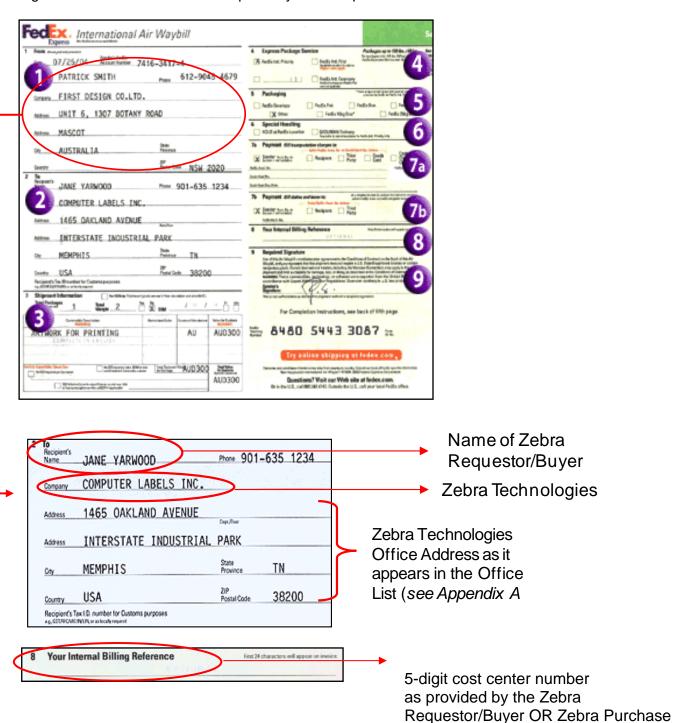
If you would like to work with FedEx to set up access to online shipment creation, please contact jspringer@zebra.com.

^{**}Parcel shipments destined for Vernon Hills Zebra Technologies must be shipped separately from parcel shipments destined for Vernon Hills Zebra Enterprise Solutions

^{****}Third party shipments MUST ALWAYS include a valid Zebra cost-center or Zebra Purchase Order number CLEARLY indicated in the Reference section for all shipments. No other details or information should be provided in this field.

PARCEL DOCUMENTATION: FedEx Forms

Figure 1 – FedEx International Paper Waybill Example



Order Number

Figure 2 – FedEx International Online Package Shipment Example

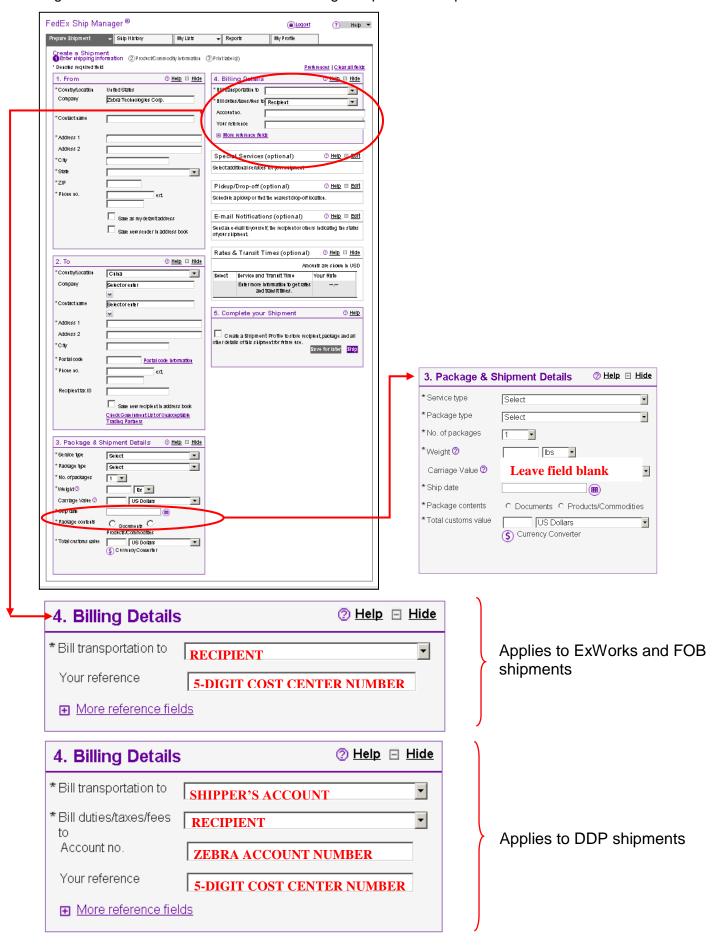
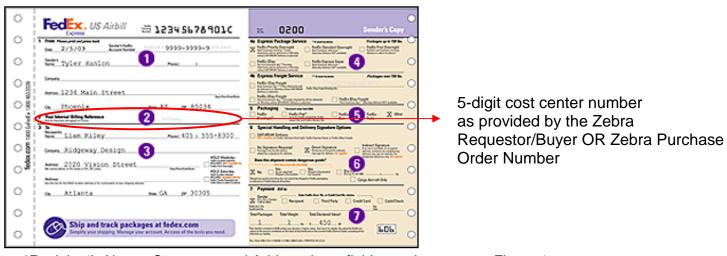
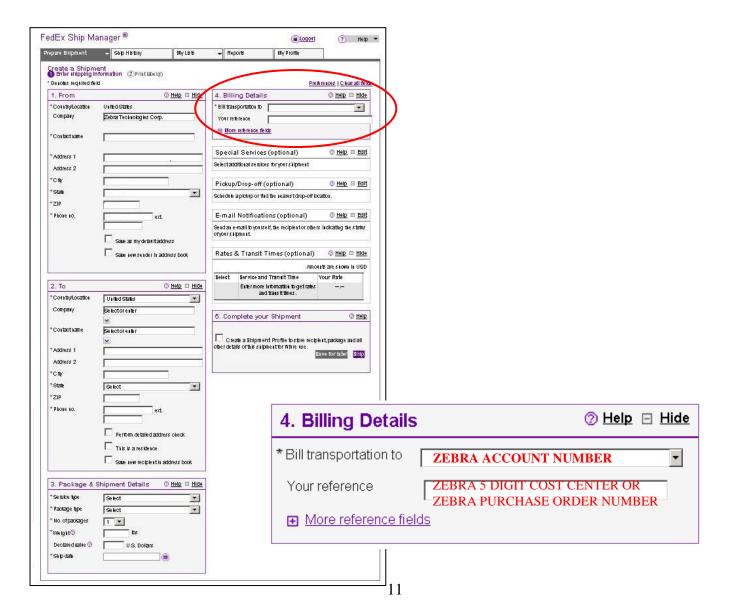


Figure 3 - FedEx Domestic Waybill Example*



^{*}Recipient's Name, Company, and Address input fields are the same as Figure 1

Figure 4 – FedEx Domestic Online Package Shipment Example



FTL/LTL Freight

One shipment/bill of lading per week per mode is allowed.

Multiple shipments should be consolidated prior to turnover to nominated forwarder/carrier.

Any shipments outside of this guideline must be approved, in writing, by the Zebra Technologies buyer/requestor

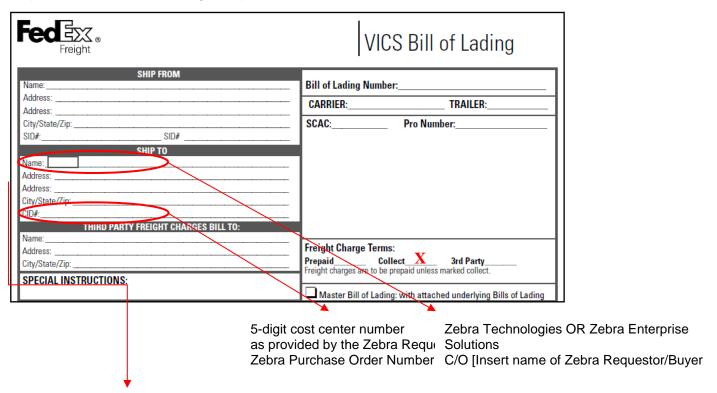
**LTL shipments destined for Vernon Hills Zebra Technologies must be shipped separately from parcel shipments destined for Vernon Hills Zebra Enterprise Solutions

****Third party shipments MUST ALWAYS include a valid Zebra cost-center CLEARLY indicated in the CID/Reference section for all shipments.

LTL DOCUMENTATION: FedEx Forms

The following sample documents or web portal screen shots are examples that suppliers may encounter while initiating parcel shipments for Zebra Technologies. Carriers may access these forms via the internet and may complete and submit the forms either electronically or manually. The actual documents or web portals may vary slightly according to the various standards in each respective country.

<u>Figure 5 – FedEx Freight/National LTL Bill of Lading Example</u> http://www.fedex.com/us/freight/shipdesk/forms.html



Zebra Technologies Address as it appears in the Office List (see Appendix A)

AIR

One shipment/bill of lading per week per mode is allowed.

Multiple shipments should be consolidated prior to turnover to nominated forwarder/carrier.

Any shipments outside of this guideline must be approved, in writing, by the Zebra Technologies buyer/requestor

***Air Freight shipments destined for Vernon Hills Zebra Technologies must be shipped separately from parcel shipments destined for Vernon Hills Zebra Enterprise Solutions

Note: The above specifications for freight transport may also be valid via the mode Sea-Air at the discretion of Zebra Technologies purchasing staff.

Booking Information

At the time of booking, the following information must be provided to the Zebra-nominated forwarder:

- Shipper Name
- Consignee Name (Clearly indicating either Zebra Enterprise Solutions or Zebra Technologies)
- Consignee Location/Address
- Estimated Freight Gross Weight (KGS)
- Estimated Freight Volume Weight (KGS)
- Freight Number of Pieces
- Dimensions and Dimension Units (If Possible)
- Mode: Air or Ocean
- Zebra-issued Purchase Order Number or Other Zebra-issued Reference Number
- Zebra Contact/Buyer
- Incoterm
- Commercial Invoice
- Packing List

AIR DOCUMENTATION: Expeditors Shippers Letter of Instruction

The following sample documents are examples that suppliers may encounter while initiating air shipments for Zebra Technologies. This form will be provided to the shipper by Zebra's nominated international freight forwarder. The actual documents may vary slightly according to the various standards in each respective country.

Name of Forwardes/Carrier 勤強物流有限公司 **Shipper Letter of Instruction** Expeditors EXPEDITORS HONG KONG LIMITED (A SUBSIDIARY OF EXPEDITORS IN TL OF WASH INC.)
Rooms 201-207 & 216-218, Terminal 1, Asia Airfreight Terminal, 10 Chun Fing
Hong Kong International Airport, Chek Lup Kok, Hong Kong. Tel:21905800
Fax: 22491782(USA); 23491800(Europe); 22150597 (NMEIS); 23504135(Asia) Documents to Accompany AWB 脑间空源是家之附件 □ Packing List 禁鎖室 □ Export Licence 出口証 □ Others (please specify)其能(請注) └ Commercial Invoice 登票 └ Cert. of Origin 來源畫 Country of Origin 威趣地 House Airway Bill No. 空運堡軍警備 ZEBRA TECHNOLOGIES ADDRESS s it appears in the Office List (see Appendix A) **BY AIR** -DIGIT COST CENTER NUMBER party billing please specify and endo seed by or chop 海山 医三方负责有關受用。 贫在此列明堂由医三方公司加妥及其查掌 Charge \ Freight CTC: NAME OF ZEBRA REQUESTOR/BUYER Notify Party 並避知 ●用 ヽ 付款人 Hong Kong Local Charges 音悲趣費 Cargo Arrangement 賞儒安排 ☐ Pick up枚賞 Declared Value 型別信仰 Arrival Airport 到海线 Place of Receipt 收貸票 Final Destination 最終目的題 □ Self-delivery 自逊 交会日期: arles & Nos., No. and Kind of r 數量及包裝類別 Weight & Dim RB(Rameterstown) IIII ents Arrangement 文件安排 / Fax 体享 丛 By Emai 電子事件 siver Cargo with Documents 協食入倉 前替及尺碟 └─ By Fax 体真 └─ Deliver Cargo with Do Dute 日 柳 : 空運貨倉: and conditions of the Air Waybill, Ho Signature & Stamp of Shipper 羅人簽名及公司查章 Signatory's Name in Block Letters Date: Consignee 收貨人及地址 ZEBRA TECHNOLOGIES ADDRESS as it appears in the Office List (see Appendix A) 5-DIGIT COST CENTER NUMBER as provided by Zebra Requestor/Buyer Description of Goods should include: CTC: NAME OF ZEBRA REQUESTOR/BUYER Zebra's Part Number SAME AS CONSIGNEE Complete Description of the Goods as provided by Zebra HTS Code

Figure 4 – Expeditors International Air Shipper Letter of Instruction Example

Country of Origin

Agreed upon Incoterms

AIR CONSOLIDATION PROGRAM

All suppliers located in Hong Kong and South China including Shenzhen, Zhuhai, Dongguan, Zhongshan, and Guangzhou, moving air freight shipments to the Zebra Vernon Hills, US location, must ship air freight cargo under the guidelines of the Air Consolidation Program. All cargo, including the full set of export documents, must be turned over to the Expeditors Hong Kong facility or request cargo pickup from Expeditors Hong Kong in accordance with the agreed upon Incoterms between Zebra, following the below operational timeline:

Cargo Depart from HK	Booking & Commercial Documents Cut-off Time	Cargo Cut-off Time
Wednesday	Tuesday at 15:00	Tuesday 22:00
Saturday	Friday at 15:00	Friday 22:00

Note: All shipment information should be stated according to the requirement of above Expeditors Shippers Letter of Instruction.

OCEAN: FCL/LCL

Suppliers must only use those vendors approved by Zebra Technologies for each requested routing mode.

*See Appendix D for explanation of OCEAN FCL/LCL chargeable weight.

**To use service types, modes, or carriers not listed on the Approved Carrier and Services List, written authorization from the Zebra Technologies Requestor/Buyer is required.

One shipment/bill of lading per week per mode (air or ocean) is allowed.

Multiple shipments should be consolidated prior to turnover to nominated forwarder/carrier.

Any shipments outside of this guideline must be approved, in writing, by the Zebra Technologies buyer/requestor

The Bill of Lading must be arranged as Telex Release

***Ocean shipments destined for Vernon Hills Zebra Technologies must be shipped separately from parcel shipments destined for Vernon Hills Zebra Enterprise Solutions

Booking Information

At the time of booking, the following information must be provided to the Zebra-nominated forwarder:

- Shipper Name
- Consignee Name (Clearly indicating either Zebra Enterprise Solutions or Zebra Technologies)
- Consignee Location/Address
- Estimated Freight Gross Weight (KGS)
- Estimated Freight Volume Weight (KGS)
- Freight Number of Pieces
- Dimensions and Dimension Units (If Possible)
- Mode: Air or Ocean
- Zebra-issued Purchase Order Number or Other Zebra-issued Reference Number
- Zebra Contact/Buver
- Incoterm
- Commercial Invoice
- Packing List
- Importer Security Filing Required Info (See below)

Importer Security Filing Information

The following information must be provided to the Zebra-nominated forwarder at the time of booking to satisfy United States Customs and Border Protection Importer Security Filing requirements. Failure to supply correct information will delay booking and shipment. Any delivery delays due to late ISF filing will be reflected against Supplier metrics.

- Seller (Owner) Name and Address
- Buyer Name and Address
- Ship to Party
- Manufacturer Name and Address
- Country of Origin
- Supplier/Manufacturer's Commodity HTS 6 digits

OCEAN DOCUMENTATION: Expeditors Shippers Letter of Instruction

The following sample documents are examples that suppliers may encounter while initiating ocean shipments for Zebra Technologies. This form will be provided to the shipper by Zebra's nominated international freight forwarder. The actual documents may vary slightly according to the various standards in each respective country.

Figure 4 – Expeditors International Air Shipper Letter of Instruction Example



Description of Goods should include:

- Zebra's Part Number
- Complete Description of the goods as provided by Zebra
- HTS Code
- Country of Origin
- Agreed upon Incoterms

Consignee 收貨人及地址
ZEBRA TECHNOLOGIES ADDRESS as it appears in the Office List (see Appendix A)
5-DIGIT COST CENTER NUMBER as provided by Zebra Requestor/Buyer
CTC: NAME OF ZEBRA REQUESTOR/BUYER Notify Party 並通知
SAME AS CONSIGNEE

NOTES

PACKAGE REQUIREMENTS

Packaging

- No packaging material should include solid, untreated wood. All packaging must adhere to ISPM 15 rules
 which require that all international shipments using any species of raw wood packaging must be
 fumigated or heat treated to kill insects or fungus and stamped with the approved stamp, before
 international cargo is allowed entry or crossing through a participating country. Additional details can be
 found at
 - https://www.ippc.int/index.php?id=1110798&tx_publication_pi1[showUid]=133703&frompage=13399&type=publication&subtype=&L=0#item
- Any hazardous material should be packed in industry-mandated packaging to ensure adequate protection during transport.
- Second-use cartons are not acceptable for transportation of product belonging to Zebra Technologies. Damage resulting from non-compliance will be collected from the originating supplier.
- Any cartons under 3 kg or 0.008 CBM, shipped in quantities of 4 units or more, should be packed in a master carton to prevent loss or damage.

Packaging Specification Testing

Packaging Specification—cartons, stuffing, packing layout, etc — must be in compliance with standards set by the International Safe Transit Association (ISTA). Packaging for all products supplied to Zebra must be tested through the ISTA Test Procedure 1A (Appendix G).

Pallets

- Loose cartons destined for air/ocean/LTL/FTL transport must be palletized.
- All pallets must be shrink-wrapped.
- Pallet shipping documentation must be affixed so that it is visible through the shrink-wrap.
- Loads should not exceed 1.5 m in height or 400 kg in mass.

DOCUMENTATION

The following documentation must be included with all shipments for all modes of transportation. In the event of air/ocean modes, copies must be turned over to Zebra's nominated freight forwarder (either in paper or electronic form), at time of cargo turnover. Cost for delays created due to late document turnover will be assessed to the shipper.

Documents must be in English for shipments destined for the US.

<u>Information that must be included in the Commercial Invoice:</u>

- Supplier Name and Address
- Country of Origin
- Harmonized Tariff Number (HTS)

- Zebra Part Number
- Zebra Part Description
- Zebra Part Cost
- Zebra Purchase Order Number (if applicable)
- Shipping terms/Incoterms as outlined in contract
- Cost, in USD if shipping to the US

Information that must be included in the Packing List:

- Supplier Name and Address
- Zebra Part Number
- Zebra Requestor/Buyer Name
- Part Quantity
- Part Purchase Order Number
- Net and Gross Part Weight (kg)
- Total Weight and Quantity
- Pallet Count
- Cost Center Number of the Zebra Technologies Requestor/Buyer (as provided)
- Wood pallet fumigation statement (if applicable)
- Shipping terms/Incoterms as outlined in contract

Information that must be included in the Shipper's Letter of Instruction:

- Ultimate Consignee Name and Address
- Intermediate Consignee Name and Address
- Cost Center Number of the Zebra Technologies Requestor/Buyer (as provided)
- Name of Zebra Technologies Requestor/Buyer (as provided)
- Method of Transportation
- Hazardous Materials, yes or no
- Carton Count
- Weight in KGS
- Zebra's Part Number
- Complete Description of the Goods as provided by Zebra
- HTS Code as provided by Zebra
- Country of Origin
- Agreed upon Incoterms

Additional Documents (as per request):

- Material Safety Data Sheet (MSDS)
- Country of Origin
- Fumigation Certification

ROUTING GUIDE COMPLIANCE

- The correct Zebra company name Zebra Enterprise Solutions or Zebra Technologies must be correctly worded, correctly spelled, and clearly indicated on all shipping documents. Shipments destined for a Zebra Enterprise Solutions & Zebra Technologies shared site (Vernon Hills) cannot be combined.
- Any parcel shipments mailed to an incorrect address result in a correction fee assessed by the carrier. Resulting charges will be collected from the originating supplier
- Freight charges for shipments for which suppliers did not adhere to the routing instructions may be charged back to the supplier
- Additional freight costs incurred to Zebra Technologies due to non-compliance (loss of container utilization, loss of revenue due to delayed transit, product damage, etc) may be charged back to the supplier
- Any shipments missing required information (account number, name or cost center) may be held until complete information is provided
- Any charges resulting from shipments routed via Incoterms outside of those agreed upon between Zebra and Supplier will be charged back to the originating supplier.
- At any time, Zebra Technologies may appoint another carrier outside of those listed in this routing guide.
 In such case, Zebra Technologies will issue a letter of instruction, indicating the forwarder/carrier name, contact details, and routing instructions. A copy of this letter of instruction must be provided to the nominated carrier to accompany the shipping documents
- Do not insure cargo with carrier/forwarder unless instructed by Zebra Technologies or in adherence to agreed-up Incoterms. Any resulting fees from non-compliance will be charged back to the supplier.
- The supplier must notify the nominated carrier/forwarder a minimum of 3 days prior to cargo turnover if any cargo is considered "Hazardous."
- One shipment/bill of lading per week per mode (air or ocean) is allowed. Multiple shipments should be consolidated prior to turnover to nominated forwarder/carrier. Any shipments outside of this guideline must be approved, in writing, by the Zebra Technologies buyer/requestor
- The exact Zebra Technologies address (as shown below in Reference 3) must be used on all shipping
 instructions and documents including on: bills of lading, commercial invoices, packing lists, and shipping
 forms provided by carriers. For any delivery locations outside of the list provided below, please receive
 writing instructions from your Zebra Technologies contact.

APPENDICIES

Appendix A – Zebra Technologies Office Address List

Country	Type of Location	Address	Phone/Fax
Argentina	Sales Office	Av. Alicia M. de Justo 1148. Office 406C Buenos Aires, Argentina, C1107AAX	T: +54 11 43414556
Australia	Sales Office	Suite 116, 4 Columbia Court Baulkham Hills, NSW, Australia, 2153	T: + 61 2 8860 9194 F: +61 2 8860 9186
Belgium	Sales Office	Luchthavenlei 7E 2100 Deurne, Belgium	T: 32 3 2868450
Brasil	Sales Office	Rua Bela Cintra 904 – 7o andar Sao Paulo, Brasil, SP01415-000	T: + 55 11 31 38 14 66 F: +55 11 32 31 58 59
France	France Sales Office	1 Place des Marseillais Charenton le Pont, France, 94220	T: +33 (0)1 53 48 12 60 F: +33 (0)1 53 48 12 70
Germany	Germany/Austria & Switzerland Sales Office	Mollsfeld 1 Meerbusch, Germany, 40670	T: +49 (0)2159 6768 0 F: +49 (0)2159 6768 22
Hong Kong	Sales Office	Jumpstart Business Centre, at Suites 911-12, Silvercord Tower 2, 30 Canton Rd, Tsim Sha Tsui Kowloon, Hong Kong	T: +852 3753 7560 F: +852.2439.5967
India	Sales Office	Office No. 201 Level 2, Raheja Centre Point 294 CST Road Off. Bandra-Kurla Complex Near Mumbai University Santacruz (E) Mumbai, India, 400098	T: + 91 22 67078696 F: + 91 22 67078711
Italy	Italy Sales Office	presso Ma.Bu.C., Via Pavese 1/3 Rozzano, Italy, 20089	T: +39 (0)2 575 543 71 F: +39 (0)2 575 543 10
Japan	Sales Office	7F Hanzomon Duplex B's 2-2-22 Kojimachi, Chiyoda-ku Tokyo, Japan, 102-0083	T: + 81 3.3511.8541 F: +81 3.3511.8543
Korea	Sales Office	E&C Venture Dream Tower 5, Unit 603 Guro-dong 197-13 Guro-gu Seoul, Korea, 152-050	T: + 82 2 6336 3456 F: + 82 2 6336 3457
México	Sales Office	José Guadalupe Zuno No. 2302 Piso 1 Col. Americana Guadalajara Jalisco, México, 44150	T: + 52 33 3615-4587 F: +52 33 3616-2238
México	Sales Office	Insurgentes Sur 1196 Piso 14 Col. Tlacoquemécati Del Valle Mexico City, México DF, México, CP 03200	T: + 52 55 9000 3169
México	Sales Office	Montes Rocallosas 505 Sur Piso 8, Oficina 802 Residencial San Agustín San Pedro Garza García, NL, México, CP 66260	T: + 52 81 8363 5626 F: +52 81 8636 8087
Pakistan	Pakistan Sales Office	61-B, 3rd Sunset Street Karachi, Pakistan	
Peoples Republic of China	Sales Office	Unite 3, Level 21, Global Trade Center, Tower A,36 North Third Ring Road East Beijing, Dongcheng District, Peoples Republic of China 100013	T: + 86 10 5825 7428 F: + 86 10 5825 7429
Peoples Republic of China	Sales office	15/F South Lippo Tower, NO.62 Kehua Bei Road Chengdu, Peoples Republic of China, 610041	F: + 86 28-8528-3111
Peoples Republic of China	Sales Office	Room 3318, 33/F Office Tower China Shine Plaza, 9 Linhexi Road Guangzhou, Tianhe District, Peoples Republic of China 510610	T: +86.20.3810.7798 F: +86.20.3810.7783
Peoples Republic of China	Quality Center	4th Floor, Building A4, No.181 Kexue Avenue, Science City Guangzhou, Peoples Republic of China, 510663	T: +86 20 2232 3300 F: +86 20 2806 3301
Peoples Republic of China	Sales Office	Genuine Zebra Technologies Trading (Shanghai) Co., LTd. Unit 2105,21 Floor, Tower 3, Jin An Kerry Center, 1228 Yan An Zhong Road Shanghai, Peoples Republic of China, 200040	T: +86 21 6010 2223 F: +86 21 628 88393
People's Republic of China	Repair Center	Room 806, Shanghai Aviation center, 1600 Nanjing Road (W) Shanghai, People's Republic of China, 200040	T: +86 21 6248 3377 x 5711 F: +86 21 5239 9383
Philippines	Sales Office	Office Suite 4026, Level 40 PBCom Tower, 6795 Ayala Avenue corner V.A. Rufino Street Makati City, Philippines, 1226	T: +63 2 789 9060 F: +63 2 789 9001

Appendix A – Zebra Technologies Office Address List (cont.)

Country	Type of Location	Address	Phone/Fax
Poland	Central & Eastern European Sales Office	Ul. Annopol 4a Warsaw, Poland, 03-236	T: +48 (0)22 38 01 900 F: +48 (0)22 38 01 901
Russian Federation	Russia & CIS Sales Office	5th Floor, Japan House, Savvinskaya Embankment, 15 Moscow, Russian Federation, 119435	T: +7 495 739 59 93
Singapore	Asia Pacific Headquarters	71 Robinson Road #05-02/03 Singapore, Singapore, 68895	T: + 65 6858 0722 F: + 65 6885 0838
Singapore	Distribution Center	5 Changi North Way, Level 3 Singapore, Singapore, 498771	T: + 65 6546 2670 F: + 65 6546 5328
South Africa	South African Sales Office	Ground Floor Twickenham Building The Campus Corner Main & Sloane Street BryanstonJohannesburg, South Africa, 2021	T: +27 (0)11 201 7712F: +27 (0)11 201 7734
Spain	Iberia Sales Office	Vía de las Dos Castillas nº 33, Complejo Ática, Edificio 7, Planta Baja Pozuelo de Alarcón Madrid, Spain, 28224	T: +34 (0)91 799 2881 F: +34 (0)91 799 2882
Sweden	Nordic & Baltic Sales Office	Svärdvägen 7 Danderyd, Sweden, SE-182 33	T: +46 (0)8 623 45 60 F: +46 (0)8 594 709 89
The Netherlands	Benelux Sales Office	Printerweg 36a Amersfoort, AD, The Netherlands, 3821	T: +31 (0)33 450 50 40 F: +31 (0)33 450 50 49
The Netherlands	The Netherlands Sales Office	Herengracht 174 Amsterdam, BR, The Netherlands, 1016	T: +44 (0)1628 556000
The Netherlands	EMEA Distribution Centre	Mercurius 12 Heerenveen, GX, The Netherlands, 8448	T: +31 (0)513 612200 F: +31 (0)513 612299
Turkey	İstanbul Sales Office	Ağaoğlu My Prestige Barbaros Mah. Ihlamur Sok. No: 1 / 135-136, No:6 K:2 İstanbul, Ataşehir, Turkey, 34746	T: +90 (0)216 688 85 15 F: +90 (0)216 688 85 26
UK	EMEA Headquarters	Dukes Meadow, Millboard Road Bourne End, Buckinghamshire, UK, SL8 5XF	T: +44 (0)1628 556000 F: +44 (0)1628 556001
UK	EMEA Supplies & Label Manufacturing	Pittman Way, Fulwood Preston, Lancashire, UK, PR2 9ZD	T: +44 (0)1772 797555 F: +44 (0)1772 693000
United Arab Emirates	Middle East Sales Office	LOB 17, Office 111 (PO Box 18054), Jebel Ali Free Zone Dubai, United Arab Emirates	T: +971 (0)4 8818187 F: +971 (0)4 8817119
USA	R&D Center	30601 Agoura Road Agoura Hills, CA, USA, 91301-2013	T: + 1 805 579 1800 F: +1 805 579 1808
USA	Wal*Mart Support Station	303 SW 18th, Suite 13 Bentonville, AR, USA, 72712	T: + 1 479 271 8291 F: +1 479 273 0749
USA	Software development	820 W Jackson Blvd Suite 700 Chicago, IL, USA, 60607	
USA	Latin America Region Headquarters	9850 NW 41st St., Suite 110 Doral, FL, USA, 33178	T: + 1 305 558 8470 F: +1 305 558 8485
USA	Label Manufacturing	5322 Rafe Banks Drive, Suite E Flowery Branch, GA, USA, 30542	T: + 1 770 967 7156 F: +1 770 967 7146
USA	Hardware Engineering	20314 Seneca Meadows Parkway Germantown, MD, USA, 20876	T: + 1 301 528 1745 F: +1 301 549 1749
USA	Label Manufacturing	W6369 Levi Drive Greenville, WI, USA, 54942	T: + 1 920 757 0936 Nightline: + 1 920 757 0940 F: +1 920 757 0942
USA	R&D Center	1 Albion Rd., Suite 100 Lincoln, Rl, USA, 02865-3703	T: + 1 401 276 5800
USA	Corporate Headquarters	475 Half Day Road, Suite 500 Lincolnshire, IL, USA, 60069	T: + 1 847 634 6700 or +1 800 423 0442 F: F: +1 847 913 8766
USA	Label Manufacturing	2705 Ebony Ave, Suite A McAllen, TX, USA, 78501	T: + 1 956 630 0315 F: +1 956 994 8568
USA	Label Manufacturing	1440 Innovative Drive, Suite 100 Otay Mesa, CA, USA, 92154	T: + 1 619 661 5465 F: +1 619 661 5486
USA	Engineering and Operations	2940 N. 1st Street San Jose, CA, USA, 95134-2021	T: + 1 408 473 8500 F: +1.408.473.8501
USA	Healthcare team (LaserBand)	120 S. Central Ave., Suite 450 St. Louis, MO, USA, 63105	T: +1.314 726 1060 F: +1.314 726 1028
USA	Industrial Manufacturing Sales, Services and Support	2800 Livernois Rd, Building E, Suite 570 Troy, MI, USA, 48083	T: + 1 248 224 4388
USA	NA Region Headquarters, NALA Distribution Center, R&D Center	333 Corporate Woods Parkway Vernon Hills, IL, USA, 60061-3109	T: + 1 847 634 6700 or + 1 800 423 0442 F: +1 847 913 8766

Appendix B – Inbound Barcode Specifications

Each shipment requires two types of bar code labels - one packing label and one box label/box. This element of service is critical to Zebra's operations and therefore any failure to meet this specification will adversely affect your supplier rating. The attached labels (Appendix C) show the preferred format. However, any labels containing the required content are acceptable.

Zebra Purchase Order Number (PO)

• Use PO provided by Zebra for the Part Number being shipped.

Unique Packing Slip Number

- Use your packing slip number. This may be alphanumeric but <u>must be unique</u> to the delivery. No more than 10 digits.
- This unique packing slip number must also be referenced on the invoice.

Total Box Count

The total number of boxes shipped for this PO and Part Number.

Zebra Part Number

• Zebra's part number that is ordered on the PO.

MCC (Material Content Code)

- The revision level of Zebra's Corporate Product Material Content Policy (CPZ-CE-003). This indicates that the parts meet the requirements defined in the corresponding revision of the policy.
- Should reflect the MCC on the Zebra PO. If the field is blank on the PO, the label field should be blank.

Quantity

• This is the quantity shipped in the unit specified on the purchase order. (Box label will be qty/box and packing label will be the entire quantity of the shipment).

Revision Level

The revision level of the parts being shipped.

Ship Date

The date of shipment.

Country of Origin

- The country where the item was manufactured, produced, or assembled.
- The country name should be spelled out.

Country Code

The 2-letter international code for the Country of Origin.

All bar codes should be Code 128 format with no data identifiers (e.g. 'p' for part number).

Box labels should be affixed in the upper left corner of each box. Two labels per box are preferred, but not required. Packing labels should be affixed to packing slips.

Appendix C – Packaging Label Examples

ZEBRA PO#: 123456	FROM:			
UNIQUE PACKING SLIP# H:	פערוכים		CUID TO:	
UNIQUE PACNING SUP #. II.	Z3P4Z		SHIP TO:	
			Zebra Technologies Corp. 333 Comorate Woods Pkwy	
			333 Corporate Woods Pkwy. Vernon Hills, IL USA 60061	
BOX 1 OF 1			SHIP DATE: 04/12/10	
ZEBRA PART#: 44646		M.C.C.	Country of Origin:	
			China	
		Α	Country Code: CN	
QUANTITY/BOX: 125	REM S	ON LEVEL		
		1	BOX LABEL	
7EDDA DO # 122456			ED CH.	
ZEBRA PO#. 123456			FROM:	
ZEBRA PO#. 123456			FROM:	
	23P42		SHIP TO:	
	23P42		SHIP TO:	
	23P42		SHIP TO:	
UNIQUE PACHING SLIP#. H.			SHIP TO: Zebra Technologies Corp. 333 Corporate Woods Pkwy. Vernon Hills, IL USA 60061	
		0	SHIP TO:	
UNIQUE PACHING SLIP#. H.		0	SHIP TO: Zebra Technologies Corp. 333 Corporate Woods Pkwy. Vernon Hills, IL USA 60061	
UNIQUE PACTING SUP#: H: TOTAL BOX COUN			SHIP TO: Zebra Technologies Corp. 333 Corporate Woods Pkwy. Vernon Hills, IL USA 60061 SHIP DATE: 04/12/10	
UNIQUE PACTING SUP#: H: TOTAL BOX COUN			SHIP TO: Zebra Technologies Corp. 333 Corporate Woods Pkwy. Vernon Hills, IL USA 60061 SHIP DATE: 04/12/10 Country of Origin China	
UNIQUE PACKING SLIP#: H: TOTAL BOX COUN ZEBRA PART #: 44646	NT: 1	м.с.с. А	SHIP TO: Zebra Technologies Corp. 333 Corporate Woods Pkwy. Vemon Hills, IL USA 60061 SHIP DATE: 04/12/10 Country of Origin	
UNIQUE PACTING SUP#: H: TOTAL BOX COUN	NT: 1		SHIP TO: Zebra Technologies Corp. 333 Corporate Woods Pkwy. Vemon Hills, IL USA 60061 SHIP DATE: 04/12/10 Country of Origin China	

Appendix D - Chargeable Weight Calculations

The chargeable weight of a shipment can be measured in two ways – by how large it is (dimensional weight) or how heavy it is (actual weight). Dimensional weight is calculated based on the volume of the shipment whereas actual weight *is* the gross weight of the shipment.

Chargeable weight is always the greater between Actual Weight and Dimensional Weight.

If Actual Weight > Dimensional Weight, then Chargeable Weight = Actual Weight
If Dimensional Weight > Actual Weight, then Chargeable Weight = Dimensional Weight

Note: Round any fraction of a measurement to the next whole number measurement

Weight Conversions, 1 kg = 2.2046 lb

Convert from	Conversion factor
lb to kg	lb / 2.2046
kg to lb	kg * 2.2046

ex. 2500 lb \rightarrow 2500 / 2.2046 = 1133.99 kg ex. 2500 kg \rightarrow 2500 * 2.2046 = 5511.56 lb

Unit Dimensional Weight

(kg)

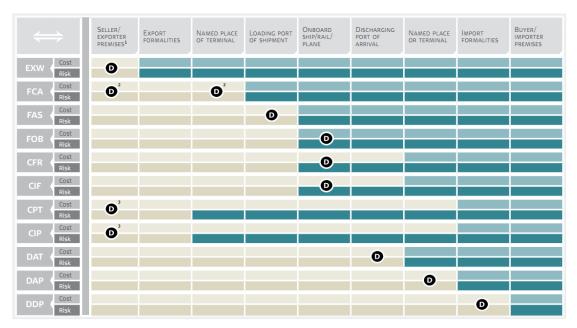
Inch L" x W" x H" / 366

Meter L cm x W cm x H cm

/ 6000

Cubic meter CBM * 1000 / 6

Appendix E – Incoterms Definitions and Customs Specifications



KEY: Seller Buyer Cost: the cost of transportation
Risk: the risk of loss of or damage to the goods
Delivery ①: where risk passes from seller to buyer This chart is a general outline of costs and risks. For specific guidance, consult *Incoterms 2010*, published by the International Chamber of Commerce.

Only CIF and CIP place an obligation on anyone to purchase cargo insurance. However, it is usually a good idea for the seller or buyer to purchase insurance to protect against risk.

- The seller is obligated to assist the buyer with obtaining security related information.
 For FCA, delivery occurs at Seller Premises or Terminal.
 Risk passes from seller to buyer when the goods are delivered to the first carrier.

FedEx Package, Envelope, Express Freight		
U.S. Customer Service	1.800.Go.FedEx	FedEx Customer Relations
		3875 Airways, Module H3 Department 4634
	,	Memphis, TN 38116
U.S. International Customer Service	1.800.247.4747	FedEx Customer Relations
		3875 Airways, Module H3 Department 4634
		Memphis, TN 38116
U.S. TDD (Telephone Device for the Deaf) Services	1.800.238.4461	FedEx TDD/Hearing Impaired Customer Service Operations
(7 a.m 8 p.m. CST)		3885 Airways Blvd. Module J, 2nd floor
		Memphis, TN 38116
Hearing Impaired Relay Desk	1.800.464.0709	FedEx TDD/Hearing Impaired Customer Service Operations
, , , , , , , , , , , , , , , , , , ,		3885 Airways Blvd. Module J, 2nd floor
		Memphis, TN 38116
U.S. Billing Inquiries	1.800.622.1147	FedEx Corp. Revenue Services
		3965 Airways, Module G
		Memphis, TN 38116
FedEx Freight Shipments		
Customer Support		
US	1.866.393.4585	
Canada	1.800.4685	
Mexico	1.866.232.2942	
Technical Support	1.800.435.7949	
FedEx Freight Headquarters		Renaissance Center
		1715 Aaron Brenner Drive Suite 600
		Memphis, TN 38120
FedEx National LTL Headquarters		1144 West Griffin Road
		Lakeland, FL 33805
FedEx National LTL Administrative Center		333 E. Lemon St.
		Lakeland, FL 33801
FedEx Freight	1.870.741.9000	2200 Forward Drive
Harrison, AR office	1.800.874.4723	Harrison, AR 72601
Expedited Freight Services	1.877.202.2554	
International	1.866.393.4685	
Truckload	1.888.465.5646	



Location	nologies Contacts Product	Position	Employee Name	Telephone#	E-mail
Amsterdam	Air Export	Director	Walter de Kwant	31 20 655 6100	Walter.de.Kwant@expeditors.com
Amsterdam	Air Export	Supervisor	Martin Grootes		martin.grootes@expeditors.com
Amsterdam	Air Export	Primary Contact	Danielle Kost	31 20 655 6100	danielle.kost@expeditors.com
Amsterdam	Account Management	Local Acct Mgr	Hans Foks	31 (0) 20 6556241	hans.foks@expeditors.com
Amsterdam	Air Import	Agent (Primary Contact)	Huib Krab	31-20-6556179	huib.krab@expeditors.com
Amsterdam	Air Import	Agent (Backup)	John de Jonge	31-20-6556142	john.dejonge@expeditors.com
Amsterdam	Air Export	Backup Contact	Dana Hogenboom	31 20 655 6100	dana.hogenboom@expeditors.com
Amsterdam	District Sales	Mgr	Richard Hoogervorst	31 (0) 20 65561316	richard.hoogervorst@expeditors.com
Amsterdam	Air Import	Supervisor	Vitesh Bhaboeti	31-20-6556163	vitesh.bhaboeti@expeditors.com
Amsterdam	Air Import	Mgr	Wissam Madi	31 20 655 6100	wissam.madi@expeditors.com
Atlanta	Air Import	Supervisor	Amanda Fletcher	770-991-9333	amanda.fletcher@expeditors.com
Atlanta	Air Export	Air Export Mgr	Burak Ozgunay		Burak.Ozgunay@expeditors.com
Atlanta	Ocean Export	Back up Contact - Supervisor	Ferit Vokopola	770-991-9333	ferit.vokopola@expeditors.com
Atlanta	Ocean Export	Primary Contact	Howard Force	770-991-9333	atloe@expeditors.com
Atlanta	Air Export	Primary Contact	Melanie Hambrick	770-991-9333	melanie.hambrick@expeditors.com
Atlanta	Air Export	Mgr	Burak Ozgunay	770-991-9333	burak.ozgunay@expeditors.com
Atlanta	Ocean Export	Mgr	Jaclyn Spangler	770-991-9333	jaclyn.spangler@expeditors.com
Atlanta	Air Import	Air Import Agent	Kelly Moore	770-991-9333	kelly.moore@expeditors.com
Atlanta	Air Import	Mgr	Tom Noma	770-991-9333	tom.noma@expeditors.com
Bangkok	Air Import	Operation	Nipon K.		Nipon.K@expeditors.com
Bangkok	Air Import	Air Mgr	Vimonrath Termpongnurak		vimonrath.t@expeditors.com
Bogota	Air Import	Operations Mgr	Javier Mantilla		javier.mantilla@expeditors.com
Bogota	Ocean Import	Operations Mgr	Javier Mantilla		javier.mantilla@expeditors.com
Bombai	Air Import	Air Mgr	Chetan Mahashabde		Chetan.Mahashabde@expeditors.com
Boston	Accounting	Primary Contact	Lisa Jones	978-531-0001	lisa.jones@expeditors.com
Boston	Air Export	Primary Contact	Katie Hosman	978-531-0001	katie.hosman@expeditors.com
Boston	Air Export	Back up Contact	Elizabeth Lane	978-531-0001	elizabeth.lane@expeditors.com
Boston	Air Export	Supervisor	Samir Zeineddine	978-531-0001	samir.zeineddine@expeditors.com
Boston	Air Import	Primary Contact	Cynthia Sok	978-531-0001	cynthia.sok@expeditors.com
Boston	Air Import	Mgr	Jamie Knapp	978-531-0001	jamie.knapp@expeditors.com
Boston	Air Import	Back up Contact	Michael Edmunds	978-531-0001	michael.edmunds@expeditors.com
Boston	Import Brokerage	Customs Operations Mgr	Gina lannelli	978-531-0001	gina.iannelli@expeditors.com
Boston	Import Brokerage	Cust Brokerage Mgr	Mike Mazzarella	978-531-0001 x 111	mike.mazzarella@expeditors.com
Bucharest	All Branch	District Mgr - Back up	Agnes Phieler	212062681	agnes.phieler@expeditors.com
Bucharest	Air Import	Primary Contact - Supervisor	Gabriela Mihai	212062681	Gabriela.mihai@expeditors.com
Buenos Aires	Air Import/Ocean Import	Import and Export Mgr	Nicolas Poggi		nicolas.poggi@expeditors.com
Charlotte	Ocean Import	Primary Contact	Gray Trotter	704-329-0303	gray.trotter@expeditors.com
Charlotte	Ocean Import	Supervisor - Escalation	JR Priestman	704-329-0303	jr.priestman@expeditors.com
Chennai	Air Export	Primary Contact	Veera Ragavan		Veera.ragavan@expeditors.com



	inologies Contacts		_		Saravanan.t@expeditors.com
Chennai	Air Export	Backup Contact	Saravanan T		
Chennai	Air Export	Air Mgr	Arunachalam Arumugam		Arunachalam.arumugam@expeditors.com
Chicago	Account Management	Retention Mgr	Amanda Rostan	630-616-2328	amanda.rostan@expeditors.com
Chicago	Account Management	Account Mgr	Kristin Wenzler	630-787-5680	kristin.wenzler@expeditors.com
Chicago	Accounting	Accounts Receivable-Primary	Cyndy Mora	630-616-2589	Cyndy.Mora@expeditors.com
Chicago	Accounting	Mgr	Patrice Miller	630-616-2311	patrice.miller@expeditors.com
Chicago	Air Export	Cust Svc	Barb Mahoney	630-616-2393	barb.mahoney@expeditors.com
Chicago	Air Export	Cust Svc	Chris Lukasik	630-616-2367	chris.lukasik@expeditors.com
Chicago	Air Export	Mgr	George Kulovic	630-616-2349	george.kulovic@expeditors.com
Chicago	Air Export	Operations Mgr	Jeff Lutz	630-787-5617	jeff.lutz@expeditors.com
Chicago	Air Export	Supervisor	Jim Forsythe	630-787-5657	jim.forsythe@expeditors.com
Chicago	Air Export	Pricing Analyst	Stan Kokoszka	630-595-3770	stan.kokoszka@expeditors.com
Chicago	Air Import	Direct Contact	Ben Stewart	630-616-2583	ben.stewart@expeditors.com
Chicago	Air Import	Mgr	Tim Monti	630-616-5613	tim.monti@expeditors.com
Chicago	All-Branch	Branch Mgr	Jim Hornacek	630-616-2368	Jim.Hornacek@expeditors.com
Chicago	Complaince	Import Customs Compliance Mgr	Garnet Fee	630-616-2573	garnet.fee@expeditors.com
Chicago	Complaince	Export Compliance Mgr	Karin Naumann	630-616-2345	karin.naumann@expeditors.com
Chicago	Ocean Export	Ocean Export Lead Agent	Erigelda Flores	630-787-5654	Erigelda.Flores@expeditors.com
Chicago	Ocean Export	Mgr	Jason Hayes	630-787-5603	jason.hayes@expeditors.com
Chicago	Ocean Export	Pricing Analyst	Mark Ergun	630-787-5667	mark.ergun@expeditors.com
Chicago	Ocean Export	Ocean Export (Primary Contact)	Tom Klein	630-595-3770 ext.2416	tom.klein@expeditors.com
Chicago	Ocean Import	Mgr	Adam Kord	630-616-2330	adam.kord@expeditors.com
Chicago	Ocean Import	Supervisor	Jon Cornelius	630-616-2378	jon.cornelius@expeditors.com
Chicago	Ocean Import	Lead Agent	Sean Coughlin	630-787-5633	sean.coughlin@expeditors.com
Chicago	Sales	District Sales Executive	Daniel Mahal	630-616-2306	daniel.mahal@expeditors.com
Chicago	Transcon	Mgr	Darrin Miller	630-616-2383	darrin.miller@expeditors.com
Chicago	Transcon	Direct Contact	Lance Thompson	630-787-5682	lance.thompson@expeditors.com
Chicago	Transcon	Back up Contact	Tina Cappuzzello	630-616-2579	tina.cappuzzello@expeditors.com
Dallas	Air Import	Back up Contact	Jason Holte	817-305-4000	jason.holte@expeditors.com
Dallas	Air Import	Mgr	Stephanie Fung	817-305-4000	stephanie.fung@expeditors.com
Dallas	Air Import	Primary Contact	Yukiko Iwata	817-305-4000	yukiko.iwata@expeditors.com
Dusseldorf	Ocean Export	Back up Contact - Agent	Andre Evers	49 2102 7708137	andre.evers@expeditors.com
Dusseldorf	Ocean Export	Pricing Analyst	Janine von Nordheim	49 2102 7708137	janine.vonnordheim@expeditors.com
Dusseldorf	Ocean Export	Mgr	Jorg Schrors	49 2102 7708137	joerg.schroers@expeditors.com
Dusseldorf	Ocean Export	Primary Contact - Agent	Michael Zumpro	49 2102 7708137	michael.zumpro@expeditors.com
Dusseldorf	Air Import	Air Product Mgr	Ralf Ohlberg		Ralf.Ohlberg@Expeditors.com
Dusseldorf	Air Export	Air Product Mgr	Ralf Ohlberg		Ralf.Ohlberg@Expeditors.com
Frankfurt	Air Import	Mgr	Thomas Witzgall	490 6142 8351 152	thomas.witzgall@expeditors.com
Gothenburg	Import Transportation	Import Agent	Amanda Johansson	031-733 33 10	amanda.johansson@expeditors.com
Gothenburg	Air Export	Backup Contact	Andreas Persson	031-733 33 05	andreas.persson@expeditors.com
Gottletiburg	All Export	Backup Contact	Alluleas reissull		



Zebra Technologies Contacts by City							
Gothenburg	Ocean Export	Primary Contact	Anna Baveras	031-733 33 08	anna.baveras@expeditors.com		
Gothenburg	Import Transportation	Import Agent	Carolina Gabrielsson	031-733 33 16	carolina.gabrielsson@expeditors.com		
Gothenburg	Ocean Export	Backup Contact	Cecilia Samuelsson	031-733 33 04	cecilia.samuelsson@experditors.com		
Gothenburg	Exports	Export Supervisor	Elisabeth Bengston	031-733 33 06	elisabeth.bengtsson@expeditors.com		
Gothenburg	Import Transportation	Import Agent	Jennie Ullerfeldt	031-733 33 12	jennie.ullerfeldt@expeditors.com		
Gothenburg	Air Export	Primary Contact	Nina Svensson	031-733 33 14	nina.svensson@expeditors.com		
Gothenburg	All Branch	Operations Mgr	Ola Enelund	031-733 33 07	ola.enelund@expeditors.com		
Guangzhou	Account Management	Account Mgr	Grace Zheng	86-20-87325101	grace.zheng@expeditors.com		
Guangzhou	Air Export	Supervisor	Connie Fang	86-20-87325358	connie.fang@expeditors.com		
Guangzhou	Air Export	Operation	Leo Wu	86-20-38928177	leo.wu@expeditors.com		
Guangzhou	Air Import	Operation-to CAN(for Zebra)	Heidi Liang	86-20-8732 5360	Heidi.Liang@expeditors.com		
Guangzhou	Air Import	Operation-to HKG(for Jabil)	Viggy Chen	(86) 20 8732 4730	viggy.chen@expeditors.com		
Guangzhou	Air Import & Export	Asst Air Mgr	Peter Chuk	86-20-87325362	peter.chuk@expeditors.com		
Guangzhou	Ocean Export	FCL Supervisor-TP lane	Wendy Chen	86 20 8732 5135	Wendy.chen@expeditors.com		
Guangzhou	Ocean Export	FCL Supervisor-non TP lane	Kelvin Zhang	86-20-8732 5351	kelvin.zhang@expeditors.com		
Guangzhou	Ocean Export	FCL Ops (fm Jabil FCL shipment)	Samantha Li	86-20-8732 5107	samantha.li@expeditors.com		
Guangzhou	Ocean Import	Operation	Juliet Zhu	86-20-8732 5356	juliet.z@expeditors.com		
Guangzhou	Ocean Import	Supervisor	Echo Deng	86-20-8732 5109	echo.deng@expeditors.com		
Guangzhou	Ocean Import & Export	Asst Ocean Mgr	Harry Liu	86-20-8732 5108	harry.liu@expeditors.com		
Guangzhou	Ocean Export	LCL Operation	Zoe Yi	86-20-87325357	zoe.yi@expeditors.com		
Guangzhou	Ocean Export	FCL operation for IP	Karen Lau	86-20-8732 5361	karen.lau@expeditors.com		
Hong Kong	Account Management	Account Mgr	Dottie Kwong	(852) 2190 3547	dottie.kwong@expeditors.com		
Hong Kong	Air Export	Operations	Winey Lui	(852) 2190 5668	winey.lui@expeditors.com		
Hong Kong	Air Export	Supervisor	Kazim Poon	(852) 2190 5614	kazim.poon@expeditors.com		
Hong Kong	Air Export	Asst.Cust Svc Mgr	Cody Lau	(852) 2190 5618	cody.lau@expeditors.com		
Hong Kong	Air Export	Operations	Felix Lee	(852) 2190 5651	felix.lee@expeditors.com		
Hong Kong	Air Import	Operation	Natalie Leung	(852) 2753 1947	natalie.leung@expeditors.com		
Hong Kong	Air Import	Operation	Man Kwan	(852) 2753 1587	man.kwan@expeditors.com		
Hong Kong	Ocean Export	Supervisor (LCL US)	Alvin Wong	(852) 2190 5150	alvin.wong@expeditors.com		
Hong Kong	Ocean Export	Operations (LCL US)	Man Lo	(852) 2190 5146	man.lo@expeditors.com		
Hong Kong	Ocean Export	Supervisor (FCL US)	Raymond Tse	(852) 2190 5135	raymond1.tse@expeditors.com		
Hong Kong	Ocean Export	Operations (FCL US)	Jessica Lam	(852) 2190 5136	jessica.lam@expeditors.com		
Indianapolis	Ocean Export	Mgr	Jacquie Thornburg	317-248-2580	jacquie.thornburg@expeditors.com		
Johor Bahru	Air Export	Cust Svc Assistant	Stella Chong	607-3334155	Stella.chong@expeditors.com		
Johor Bahru	Ocean Export	OM & Ocean Operations Mgr	Lim Gir Cheng	607-3334155	gircheng.lim@expeditors.com		
Lima	Ocean Import	Ocean Import Supervisor	Johnny Mallqui		Johnny.Mallqui@expeditors.com		
London	Air Import	Primary Contact - Supervisor	Solomon Belay	44 0 1784 264 483	solomon.belay@expeditors.com		
Los Angeles	Accounting	Primary Contact	Aswin Dharman	323-781-1664	aswin.dharman@expeditors.com		
Los Angeles	Air Export	Back up Contact	Breezy Pizza	323-781-1619	breezy.pizza@expeditors.com		
Los Angeles	Air Export	Supervisor	Carolyn Park	323-781-1619	carolyn.park@expeditors.com		



Zebra Technologies Contacts by City

	1		1	T	1
Los Angeles	Air Export	Primary Contact	Dina Rodriguez	323-781-1619	dina.rodriguez@expeditors.com
Los Angeles	Air Export	Mgr	Lisle Working	323-781-1686	lisle.working@expeditors.com
Los Angeles	Import Transportation	Supervisor - Operations	Carlos De La Torre	630-343-6248	carlos.delatorre@expeditors.com
Los Angeles	Import Transportation	Team Lead - Operations/Pricing	Josh Brandes	310-343-6271	josh.brandes@expeditors.com
Los Angeles	Import Transportation	Assistant Mgr	Michael Carson	310-343-6274	michael.carson@expeditors.com
Los Angeles	Import Transportation	Mgr	Ryan Majerus	310-343-6238	ryan.majerus@expeditors.com
Los Angeles	Import Transportation	Supervisor - Pricing	Shun Nakamura	310-343-6239	shun.nakamura@expeditors.com
Los Angeles	Import Transportation	Supervisor - Cust Svc/Billing	Won Mok	310-343-6807	won.mok@expeditors.com
Los Angeles	Ocean Export	Supervisor (Backup)	Alberto Saenz	323-781-1600	alberto.saenz@expeditors.com
Los Angeles	Ocean Export	Mgr	Sam Long	323-781-1604	Sam.Long@expeditors.com
Los Angeles	Ocean Export	Ocean Exp Rep (Primary Cont)	Sandra Trevino	323-781-1600	sandra.trevino@expeditors.com
Manchester	Air Import	Pricing Analyst	Anthony Wickenden	44 (0) 161-493-1508	anthony.wickenden@expeditors.com
Manchester	Ocean import	Mgr	Gavin Torpey	44 (0) 161-493-1508	gavin.torpey@expeditors.com
Manchester	Ocean import	Primary Contact	Miss Fofana	44 (0) 161-493-1508	miss.fofana@expeditors.com
Manchester	Air Import	Operations Mgr	Paul Phillips	44 (0) 161-493-1508	paul.phillips@expeditors.com
Manchester	Air Import	Primary Contact	Vikki Keelan	44 (0) 161-493-1508	vikki.keelan@expeditors.com
Manchester	Account Management		Emma Kelsall		emma.kelsall@expeditors.com
Manchester	Account Management		Chris Bailey		chris.bailey@expeditors.com
McAllen	Air Export	Import / Export Transp. Mgr	Tony Gurrola		Tony.gurrola@expeditors.com
McAllen	Air Export	Primary Contact	Jim Puente	956-630-4636	im.puente@expeditors.com
McAllen	Air Import	Back up Contact	Jessica Gonzalez	956-630-4636	jessica.gonzalez@expeditos.com
McAllen	Air Import	Mgr	Tony Gurrola	956-661-6826	tony.gurrola@expeditors.com
McAllen	Ocean Import	Back up Contact	Guliana Garcia	956-630-4636	Guliana.garcia@expeditors.com
McAllen	Ocean Import	Primary Contact	Willie Lopez	956-630-4636	willie.lopez@expeditors.com
Memphis	Ocean Import	Primary Contact	LeeAnn Perry	901-362-9771	leeann.perry@expeditors.com
Memphis	Ocean Import	Back up Contact- Lead Agent	Megan Griffin	901-362-9771	megan.griffin@expeditors.com
Memphis	Ocean Import	Mgr	Shannon Hicks	901-362-9771	shannon.hicks@expeditors.com
Mexico City	Air Import	Air Import Mgr	Imelda Rasgado		Imelda.Rasgado@expeditors.com
Milwaukee	Ocean Export	Ocean Back up Conact	Adam Noack	414-423-0280	adam.noack@expeditors.com
Milwaukee	All-Branch	Branch Mgr	Chris LaBonte	414-423-0280	chris.labonte@expeditors.com
Milwaukee	Air Export	Air Supervisor	Denise Hince	414-423-0280	denise.hince@expeditors.com
Milwaukee	Air Export	Air Back up Contact	Eva Lopez	414-423-0280	eva.lopez@expeditors.com
Milwaukee	Account Management	Account Mgr	Eric Salter	414-423-0280	eric.salter@expeditors.com
Milwaukee	Air Export	Air Primary Contact	Tracy O'Connell	414-423-0280	<u>Tracy.OConnell@expeditors.com</u>
Milwaukee	Ocean Export	Ocean Supervisor	Neda Salinas	414-423-0280	neda.salinas@expeditors.com
Muenchen	Air Import		Marina Novoselac		marina.novoselac@expeditors.com
Nashville	Air Import	Primary Contact	Brent Fisher	615-232-0662	brent.fisher@expeditors.com
Nashville	Air Import	Back up Contact	Jennifer Walls	615-232-0662	jennifer.walls@expeditors.com
Nashville	Ocean Import	Primary Contact	Chad Bush	615-232-0662	chad.bush@expeditors.com

Appendix F – Carrier Contact Information (cont.)



Nashville	Ocean Import	Back up Contact - Mgr	Grace Kopf	615-232-0662	grace.kopf@expeditors.com
New York City	Air Export	Supervisor	Anthony Fasano	516-371-3330	anthony.fasano@expeditors.com
New York City	Air Export	Back up Contact	Joseph Fischetti	516-371-3330	joseph.fischetti@expeditors.com
New York City	Air Export	Mgr	Michael Gange	516-371-3330	michael.gange@expeditors.com
New York City	Air Export	Primary Contact	Rosa Marafioti	516-371-3330	rosa.marafioti@expeditors.com
Osaka	Air Export	Air Export Mgr	Yasuharu Yamauchi		Yasuharu.Yamauchi@expeditors.com
Osaka	Ocean Export	Ocean Mgr	Masakazu Miyakoshi		Masakazu.Miyakoshi@expeditors.com
Pittsburgh	Ocean Export	Primary Contact	Charles Turner	412-262-2800	charles.turner@expeditors.com
Pittsburgh	Air Export	Back up Contact	Luke Schleicher	412-262-2800	luke.schleicher@expeditors.com
Pittsburgh	Air Export	Primary Contact	Scott Morris	412-262-2800	scott.morris@expeditors.com
Pusan	Ocean Export LCL	Operation	Alley Na	+82-2-34755818	Alley.Na@expeditors.com
Rotterdam	Ocean Import	Supervisor/Billing	Carlo Muilenburg	31 180 555 014	carlo.muilenburg@expeditors.com
Rotterdam	Ocean Import	Billing	Jacqueline Dolk	31 180 555 050	jacqueline.dolk@expeditors.com
Rotterdam	Ocean Import	Primary Contact	Lars Kievit	31 180 555 024	lars.kievit@expeditors.com
Rotterdam	Air Import	Billing	Jolanda Duiveman	31 180 555 000	jolanda.duiveman@expeditors.com
Rotterdam	Ocean Export	Mgr	Joseph Attieh	31 180 555 008	joseph.attieh@expeditors.com
Rotterdam	Ocean Export	Primary Contact	Mantas Malukas	31 180 555 043	mantas.malukas@expeditors.com
Rotterdam	Ocean Export	Supervisor	Marcel van den Eijnden	31 180 555 009	marcel.vandeneijnden@expeditors.com
Rotterdam	Ocean Import	Supervisor/escalation	Ramon Pavlinovic	31 180 555 016	ramon.pavlinovic@expeditrors.com
Rotterdam	Ocean Import/Brokerage	Mgr	Rishie Angnoe	31 180 555 051	rishie.angnoe@expeditors.com
Rotterdam	Ocean Import	Backup Contact	Sander den Arend	31 180 555 020	sander.denarend@expeditors.com
Rotterdam	Ocean Export	Booking Inbox			export-rtm@expeditors.com
Rotterdam	Customs Brokerage	Primary Contact	Anand Baktawar	31 180 555 072	anand.baktawar@expeditors.com
San Diego	Air Export	Pick up Inbox	Air Export Team	619-710-1900	san-air-pickups@expeditors.com
San Diego	Air Export	Air Primary Contact	Alex Carlson	619-210-0780	alex.carlson@expeditors.com
San Diego	Air Export	Air Back up Contact	Ivan Plazola	619-210-0775	ivan.plazola@expeditors.com
San Diego	Air Export	Air Back up Contact	Javier Solis	619-210-0751	javier.sollis@expeditors.com
San Diego	Air Export	Mgr	Jeff Gibson	619-210-0756	jeff.gibson@expeditors.com
San Diego	Air Import	Primary Contact	Karina Saucedo	619-210-0740	karina@expeditors.com
San Diego	Ocean Export	Mgr	Jassal Rojero	619-210-0744	jassal.rojero@expeditors.com
San Diego	Ocean Export	Pricing Analyst	Lara Diaz	619-710-1900	lara.diaz@expeditors.com
San Diego	Ocean Export	Ocean Export Agent	Linda Gerardo	619-710-1900	linda.gerdo@expeditors.com
San Diego	Ocean Export	Ocean Export Agent Ocean Export Agent	Mitzie Antunez	619-710-1900	mitzie.antunez@expeditors.com
San Diego	Ocean Import	Primary Contact	Julio Sartie	619-210-0740	julio.sartie@expeditors.com
San Francisco	Ocean Import	Pricing Analyst	Joaquin Leveriza	415 657 3600	joaquin.leveriza@expeditors.com
San Francisco	Air Import	Supervisor	Kenneth Fong	415 657 3600	kenneth.fong@expeditors.com
	·	Primary - Lead Agent	Martin Perez	415 657 3600	martin.perez@expeditors.com
San Francisco San Francisco	Ocean Import			415 657 3600	monica.lara@expeditors.com
	Ocean Import	Mgr Primary Contact	Monica Lara	415-657-3995	joaquin.leveriza@expeditors.com
San Francisco	Air Export	Primary Contact	Sara Walsh		Lucia.Celi@expeditors.com
Santiago	Air Import/Ocean Import	Import & Export Mgr	Lucia Celi	1	



Sao Paulo	Air Import/Ocean Import	Air & Ocean Import Mgr	Daniel Salgado		Daniel.Salgado@expeditors.com
Sao Paulo	Air Import/Ocean Import	Air & Ocean Import Supervisor	André Laporta		Andre.Laporta@expeditors.com
Sao Paulo	Account Management	Account Mgr	Felipe Nagasawa	55 11 5054 4591	felipe.nagasawa@expeditors.com
Sao Paulo	Air Import	Air Import Mgr	Ricardo Rohwedder		ricardo.rohwedder@expeditors.com
Sao Paulo	Ocean Import	Ocean Import Coordinator	Virgilio Santiago		Virgilio.Santiago@expeditors.com
Seoul	Air Export	Air Export Supervisor	April Paek	+82-234755722	april.paek@expeditors.com
Seoul	Air Export	Mgr-Air Export,Seoul	Tommy Kim	+82-2-3475-5887	tommy.kim@expeditors.com
Seoul	Air Import	Air Import Mgr	Jeff Rhee		Jeff.Rhee@expeditors.com
Seoul	Air Import	Mgr	Akifumi Sakata		Akifumi.Sakata@expeditors.com
Shanghai	Account Management	Global Sales Executive	Selina Jiang	86-21-5257 4698*6601	selina.jiang@expeditors.com
Shanghai	Air Export	Air Export - North America	Crete Zhu	86-21-38484698-2243	<u>crete.zhu@expeditors.com</u>
Shanghai	Air Export	Air Export -Euro Lane	Charlene Wang	86-21-38484698-2252	Charlene.Wang@expeditors.com
Shanghai	Air Export	Air Export -Intra Asia Lane	Charlene Wang	86-21-38484698-2254	Charlene.wang@expeditors.com
Shanghai	Air Export	Cust Svc-Europe gateway	Vince Liu	86-21-51531688	vince.liu@expeditors.com
Shanghai	Air Export	Cust Svc-Europe gateway	Amanda Xiang	86-21-51531688	amanda.xiang@expeditors.com
Shanghai	Air Export	Cust Svc-USA gateway	Train Qiu	86-21-51531688	train.qiu@expeditors.com
Shanghai	Air Export	Cust Svc-USA lane	Chuck Wang	021-51531688*2211	Chuck.Wang@expeditors.com
Shanghai	Air Export	Cust Svc-USA lane	Starry Meng	021-5153 1688*2268	starry.meng@expeditors.com
Shanghai	Ocean Export	Asst Ops Mgr	Grace Wu	86-21)52574698	grace.wu@expeditors.com
Shanghai	Ocean Export	FCL - Primary Contact	Sky Jin	86 21 5257 4698-1157	Sky.jin@expeditors.com
Shanghai	Ocean Export	FCL - Backup Contact	Yanny Zheng	86 21 5257 4698 -1108	Yanny.zheng@expeditors.cm
Shanghai	Ocean Export	LCL - Primary Contact	Kiko Zhang	86 21 5257 4698-1152	kiko.zhang@expeditors.com
Shanghai	Ocean Export	LCL - Backup Contact	Belinda Huang	86 21 5257 4698 -1172	belinda.huang@expeditors.com
Shanghai	Air Import	Air Import - Key Contact	Theresa Jin		theresa.jin@expeditors.com
Shanghai	Air Import	Air Import - Backup	Butter Zhou		butter.zhou@expeditors.com
Shanghai	Air Import	Air Mgr	Carol Wang	86-21-38484698-2254	carol.wang@expeditors.com
Shanghai	Ocean Import	Ocean Mgr-Import	Steven Xu		Steven.Xu@expeditors.com
Shenzhen	Air Export	Agent-Air Export Cust Svc	Laura Xie	(86755) 2583 8910	laura.xie@expeditors.com
Shenzhen	Air Export	Supervisor-Air Export Cust Svc	Jennifer Lan	86-755-25838196	Jennifer.lan@expeditors.com
Shenzhen	Ocean Export	Lead Agent - Ocean Export Operation	Iris Yang	(86) 755 2583 8000 ex 8084	Iris.Yang@expeditors.com
Shenzhen	Ocean Export	Ocean Assistant Mgr	Mil Chen	(86) 755 25838089	mil.chen@expeditors.com
Singapore	Air Export	Agent (main)	HweeChin Chia	65-64196714	hweechin.chia@expeditors.com
	7.11 Export	Assistant Mgr - Air Export Cust Svc	HWCCCIIII CIIIa	65-64196717	soraya.ningsih@expeditors.com
Singapore	Air Export	(escalation)	Soraya Ningsih		errol.cheong@expeditors.com
Singapore	Air Export	Mgr (escalation)	Errol Cheong	65-64196719	
Singapore	Air Import	Agent (main)	Catherine Tay	65-65178093	catherine.tay@expeditors.com
Singapore	Air Import	Agent (back up)	Felicia Saw	65-64166498	felicia.saw@expeditors.com
Singapore	Air Import	Agent (back up)	Donna Delima		donna.delima@expeditors.com
Singapore	Air Import	Asst Mgr - Air Import Cust Svc (escalation)	Lee Ting Ong	65-65107908	leeting.ong@expeditors.com



	mologies contact				
Singapore	Air Import	Mgr (escalation)	Hui Chin Koh	65-65107900	huichin.koh@expeditors.com
Singapore	Account Management	Coordinator, Account Management	Dexter Chau	65-64196710	dexter.chua@expeditors.com
Singapore	Ocean Export	Lead Agent - Ocean Export Cust Svc (main)	SooChing Chin	65-65178095	sooching.chin@expeditors.com
Singapore	Ocean Export	Agent - Ocean Export Cust Svc (backup)	Roseliana Hussein	65-64168504	roseliana.hussein@expeditors.com
Singapore	Ocean Export	Lead Agent - Ocean Export Cust Svc (escalation)	Jacqueline Yeong	65-65178090	jacqueline.yeong@expeditors.com
Singapore	Ocean Import	Lead Agent (main)	Liz Jani	65-65107943	liz.jani@expeditors.com
Singapore	Ocean Import	Supervisor	David Ng	65-65107441	david.ng@expeditors.com
Singapore	Ocean Import	Mgr(escalation)	Shawn Sim	65-65178091	shawn.sim@expeditors.com
Sydney	Air Import	Air Import Mgr	Leigh Webster		leigh.webster@expeditors.com
Taipei	Account Management	Account Mgr	Rita Jeng	886-72261310 ext:101	rita.jeng@expeditors.com
Taipei	Air Export	Primary Contact	Joan Mao	886-2-2514-2352	joan.mao@expeditors.com
Taipei	Air Export	Backup Contact	Evonne Chen	886-2-2514-2352	evonne.chen@expeditors.com
Taipei	Ocean Export	Primary Contact	Joan Lin	886 (2) 2713-2145 ext# 55908	joan.lin@expeditors.com
Taipei	Ocean Export	Backup Contact	Jeffrey Tseng		Jeffrey.Tseng@expeditors.com
Taipei	Ocean Export	Ocean Mgr	Tommy Hsu	886 (2) 2713-2145 ext# 55901	tommy.hsu@expeditors.com
Taipei	Ocean Operations	Mgr	Bob Huang	(886-2) 2514-2368 Direct	bob.huang@expeditors.com
Tokyo	Air Export	Operations	Shiho Arima	81-476-32-0072	shiho.arima@expeditors.com
Tokyo	Air Export	Operations	Tomonori Akiyama	81-476-32-0072	tomonori.akiyama@expeditors.com
Tokyo	Ocean Export	Supervisor	keiko Maeda	81-3-6699-1134	keiko.maeda@expeditors.com
Vienna	Air Import	Mgr	Udo Karenits	43 1 70189 203	udo.karenits@expeditors.com
Warsaw	Air Export	Back up Contact - Agent	Ewa Skorek	48 22 33 20 707	ewa.skorek@expeditors.com
Warsaw	Ocean Export	Supervisor - Primary Contact	Hubert Lysak	48 22 33 20 708	Hubert.Lysak@expeditors.com
Warsaw	Air Import	Supervisor - Primary Contact	Joanna Roznowska	48 22 33 20 708	Joanna.Roznowska@expeditors.com
Warsaw	Air Export	Primary Contact - Agent	Monika Walak	48 22 33 20 708	monika.walak@expeditors.com
Zhongshan	Air Export	Executive	Carrie Wen	86-760-88886672	Carrie.Wen@expeditors.com
Zhongshan	Ocean Export	Supervisor	Owen Zhou		owen.zhou@expeditors.com
Zhongshan	Ocean Export	Agent-Ocean Svcs	Steven Li	86-760-8888 6651	steven.li2@expeditors.com

ISTA Test Procedure 1A

International Safe Transit Association (ISTA)

ISTA, the association for transport packaging, is an international leader in advancing the science of packaging and the use of performance testing techinques. Its member companies are supported in the development of effective packaging, methods, and logistic systems that prevent or reduce transportation and handling damage during product distribution. ISTA test procedures are continuously under review and updated periodically. To ensure that you are utilizing the most recent publication of the test procedure, contact ISTA at:

INTERNATIONAL SAFE TRANSIT ASSOCIATION 1400 ABBOTT RD STE 160 EAST LANSING MI 48823-1900 Telephone: 517-333-3437

Fax: 517-333-3813 Internet: www.ista.org

Test Procedure 1A, Performance Test for Individual Packaged-Products

(150 lb (68.2 kg) or Less), is copyrighted by ISTA

Preshipment Testing

The ISTA Preshipment Test Procedures provide a means for a manufacturer to predetermine the probability of the safe arrival of their packaged products at their destination through the utilization of tests developed to simulate the shocks and stresses normally encountered during handling and transportation. ISTA has confined its technical activities to the packaged product only. Neither the product nor the container is considered separately. The tests, it is stressed, are basic tests. Test level and sequence should be changed to adapt to known distribution situations and these changes are documented in the report.

These test procedures are performance tests and, when properly applied, will provide tangible benefits of reduced damage, economically balanced costs, and improved customer satisfaction. It is also emphasized that these procedures are not intended to evaluate the protection afforded packaged products from other conditions such as moisture, corrosion, contaminating odors, etc. They may or may not comply with carrier requirements for packaging.

To maintain certified status and eligibility for identification with the TRANSIT TESTED seal, each packaged product must be retested whenever a change is made in either the product, the process, or the package. Changes in the packaged product include changes in design, size, and/or material. As a quality control procedure, packaged products should be retested as frequently as feasible. Very Important

ISTA 1 Series Integrity Test Procedure

The entire document shall be read and understood before proceeding with a test.

There are three sections: Overview, Testing and Report

- Overview provides the general knowledge required before going into the testing laboratory and
- Testing presents the specific instructions to do the testing in the laboratory and
- Report indicates what data shall be recorded to submit a test report to ISTA.

ISTA Test Procedures and Test Projects are the worldwide leaders in Performance Tests for Packaged-Products.

Two systems of weights and measures are presented in ISTA test procedures. They are the English system (Inch-Pound) and the international system SI (Metric). Inch-Pound units are shown first with Metric units in brackets, except in some tables where they are shown separately.

- Either system may be used as the unit of measure (standard units), but
- The standard units chosen shall be used consistently throughout the procedure.
- · Units are converted to two significant figures and
- · Not exact equivalents.

ISTA Test Procedure 1A Overview

Preface

Test Procedure 1A is an integrity test for individual packaged-products.

- It can be used to evaluate the performance of a packaged-product.
- It can be used to compare relative performance of package and product design alternatives.
- The package and product are considered together and not separately.
- Some conditions of transit, such as moisture, pressure or unusual handling, may not be covered.

Other ISTA Procedures may be appropriate for different conditions or to meet different objectives.

- Specific suggestions:
- To use random vibration instead of fixed displacement vibration, use ISTA Integrity Test Procedure 1G and not 1A.
- For packaged-products where a minimum compression value should be tested, use ISTA Integrity Test Procedure 1C.
- For packaged-products intended for international distribution consider ISTA Integrity-Plus Test Procedure 2A.

- For packaged-products that may be transported in a small parcel delivery system consider ISTA General Simulation Test Procedure 3C
- Refer to Guidelines for Selecting and Using ISTA Projects and Procedures for additional information.

ISTA 1 Series tests are basic tests that consist of integrity test procedures.

- They are not simulations of actual transport hazards, and
- do not necessarily comply with carrier packaging regulations.

When properly applied, ISTA procedures will provide tangible benefits of:

- · reduced damage.
- · economically balanced costs and
- improved customer satisfaction.

Scope

Test Procedure 1A covers testing of individual packaged-products weighing 150 pounds (68.2 kg) or less when prepared for shipment.

Note: To be eligible for mailing, a single parcel cannot exceed 70 pounds.

Product Damage Tolerance and Degradation Allowance

The shipper shall determine the following prior to testing:

- · What constitutes damage to the product and
- · what damage tolerance level is allowable, if any, and
- the correct methodology to determine product condition at the conclusion of the test and
- the acceptable package condition at the conclusion of the test.

For additional information on this determination process refer to *Guidelines for Selecting and Using ISTA Projects and Procedures*. Samples

Samples should be the untested actual package and product, but if one or both are not available, the substitutes shall be as identical as possible to actual items.

- Number of samples required: One sample is required for the tests in this procedure.
- Replicate Testing Recommended: To permit an adequate determination of representative performance of the packaged-product, ISTA:
- Requires the procedure to be performed a minimum of one time, but
- Recommends performing the procedure five or more times, using new samples with each test.

Note: Packages that have already been subjected to the rigors of transportation cannot be assumed to represent standard conditions. In order to insure testing in perfect condition, products and packages shipped to certified laboratories for testing must be:

- over-packaged for shipment to the laboratory or
- · repackaged in new packaging at the laboratory.

Test Sequence

The tests shall be performed on each test sample in the sequence indicated in the following table:

Sequence #	Test Category	Test Type	Test Level	For ISTA Certification
1	Vibration	Fixed Displacement	1 in. (25 mm) peak to peak at a frequency to be determined	Required
2	Shock	Drop	Height varies with packaged-product weight	Required
2	Shock	Alternative Incline (Conbur)	Impact Velocity varies with packaged-product weight	Required
2	Shock	Alternative Horizontial Impact)	Impact Velocity varies with packaged-product weight	Required

Equipment Required Vibration

Equipment required for the Fixed Displacement Vibration Test:

- Vibration Test System with a 1 inch (25 mm) fixed or controlled displacement complying with Method A1 or A2 of the apparatus section of ASTM D 999-96. Rotary or vertical linear motion of the platform is acceptable.
- Metal shim 0.06 inch (1.5 mm), thick approximately 2.0 inches

(50 mm) wide and at a convenient length.

- Tachometer or suitable indicator for determining vibration frequency in cycles per second (Hz) or cycles per minute (CPM).
- · Automatic timer or stopwatch.

Equipment Required for Shock Test

The following alternatives are acceptable for the equipment required for the Shock Test:

*In compliance with the apparatus section of ASTM.

Procedure

Identification of Faces, Edges and Corners

Prior to beginning the tests identify the faces, edges and corners according to the procedure below

Step	Action
	Place the packaged-product in its intended shipping position as determined by shipper. If the shipping position can be variable, place the packaged-product so that the primary shipping label location is on the top face.
2	Does the packaged-product have only six faces (2 sides, 2 ends, top and bottom)? • If Yes, then go to Step 5. • If No, continue to next Step.

3	Develop a method to identify each face, edge and corner and document with a diagram.
4	Go to the next Block.
5	Is the package a corrugated container? • If Yes, continue to next Step. • If No, then go to Step 8.
6	Does the package have a manufacurer's joint connecting a side and an end face? • If Yes, continue to next Step. • If No, then go to Step 8.
7	Turn the packaged-product so that you are looking directly at a face with the manufacturer's joint on the observer's right and go to Step 9.
8	Position one of the smallest width faces of the packaged-product directly in front of you.
9	
10	Identify edges using the numbers of the two faces forming that edge. Example: Edge 1-2 is the edge formed by face 1 and face 2 of the packaged-product.
11	Identify corners using the numbers of the three faces that meet to form that corner. Example: Corner 2-3-5 is the corner formed by face 2, face 3, and face 5 of the packaged-product.
12	Go to next Block.

Packaged-Product Weight and Size Measurement

You shall know the packaged-products:

- gross weight in pounds (kg) rounded up to a whole number, and
- outside dimensions of Length, Width, and Height (L x W x H) in inches (mm or m).

Before You Begin Vibration Testing

Caution: A restraining device or devices shall be used with the vibration test system to:

- Prevent the test specimen from moving off the platform and
- · Maintain test orientation of the packaged-product, but
- The device or devices shall not restrict the vertical motion of the test specimen during the test.

For Fixed Displacement Vibration:

Step	Action	Action						
1	the test durati Block: Test Duration Cycles Per Mi	Familiarity with the following formula is required to calculate the test duration after the frequency required to bounce the packaged-product is determined in the Vibration Test Block: Fest Duration in Minutes = 14, 200 Vibratory Impacts Cycles Per Minute (CPM) or Cycles Per Second (Hz) x 60]						
2	The chart belo	ow shows exar	nple Test Durations calculated for several frequencies:					
blank	СРМ	Hz	Test Duration in Minutes					
blank	150	2.5	95					
blank	180	3.0	79					
blank	210	3.5	68					
blank	240	240 4.0 60						
blank	270	4.5	53					
blank	300	5.0	48					

Vibration Test

The table below indicates the steps to perform a Fixed Displacement Vibration Test.

Step	Action
1	Put the packaged-product on the vibration table so that face 3 rests on the platform.
2	Start the vibration system to vibrate at 1.0 inches (25 mm) total displacement at the machine's lowest frequency.
3	Maintain a fixed displacement at 1 inch (25 mm) and slowly increase the frequency (speed) of the vibration table until the packaged-product begins to momentarily leave the surface of the platform.
4	Hold the vibration frequency to that determined in Step 3.
5	Can a metal shim be intermittently moved between the bottom of the longest dimension of the packaged-product and the surface of the platform? • If Yes, hold that frequency and then continue to next Step. • If No, then increase the frequency until the requirement of Step 5 is met and hold that vibration frequency.

6	Determine the test duration in minutes using the formula indicated in the Before You Begin Block and the CPM or Hz frequency identified in Step 5.
7	Begin the vibration duration.
8	Are you using a vertical linear motion on the vibration system? • If Yes, then go to Step 12. • If No, then continue with the next Step.
9	Stop the vibration test halfway throught the vibration duration and perform the appropriate action as indicated below: • IF a single 90° horizontal rotation is <i>possible</i> , THEN perform a horizontal rotation of 90° as the specimen rests on the platform. • IF a single 90° horizontal rotation is <i>not practical</i> because of the size of the packaged-product or the stability of the packaged-product, THEN perform a horizontal rotation of 180° as the specimen tests on the platform.
10	Start the vibration system and continue the vibration test at the frequency used in Step 7.
11	Can a metal shim be intermittently moved between the bottom of the longest dimension of the packaged-product and the surface of the platform? • If Yes, then continue to next Step. • If No, then slowly increase the frequency until the requirement of Step 11 is met.
12	Complete vibration duration.
13	Inspection of the packaged-product for visible damage is allowed, provided inspection does not alter, in any way, the current condition of the package or the condition or position of the product(s).
14	Vibration testing is now complete. Go to the Shock Test Block.

Before You Begin Shock Testing

The test drop height varies with the weight of the packaged-product. Find the weight of the packaged-product in the following chart to determine a drop height or an equivalent impact velocity to be used for a substituted drop:

Packaged-Product Weight				Dro	Drop Height Impact Velocity		
Equal to	or greater than	But L	But Less than Free Fall		Fall	Incline or Horizonta	
lb	kg	lb	kg	ln.	mm	ft/s	m/s
0	0	21	10	30	760	13	3.9
21	10	41	19	24	610	11	3.4
41	19	61	28	18	460	10	3.0
61	28	100	45	12	310	8.0	2.5
100	45	150	68	8	200	6.6	2.0

The test method requires the packaged-product to be dropped in several different package orientations.

A drop test must be performed in all required orientations where dropping the packaged-product is practical.

If dropping in a required orientation is not practical an equivalent incline or horizontal test can be substituted for that orientation.

When using impact velocity, if any test in a Test Sequence is below the required minimum level, that sequence event must be repeated until the test impact velocity meets the minimum.

Shock Test

The table below indicates the steps to perform the Drop Shock Test.

Step	Action				
1	Determine the method(s) of test and the required drop height or impact velocity in the Before You Begin Block.				
2	Do you have a packaged-product with only 6 faces as identified in the Face, Edge and Corner Identification Block? • If Yes, continue with the next Step. • If No, then go to Step 6.				
3	Test the packaged-product according to the method(s) and level(s) determined in Step 1. Follow the sequence in the table below.				
4	Sequence #	Orientation	Specific face, edge or corner		
blank	1	Corner	most fragile face-3 corner, if not known, test 2-3-5		
blank	2	Edge	shortest edge radiating from the corner tested		
blank	3	Edge	next longest edge radiating from the corner tested		
blank	4	Edge	longest edge radiating from the corner tested		
blank	5	Face	one of the smallest faces		
blank	6	Face	opposite small face		
blank	7	Face	one of the medium faces		

blank	8	Face	opposite medium face			
blank	9	Face	one of the largest faces			
blank	10	Face	opposite large face			
5	All testing is now complete. Go to the Test Report Block.					
6	Select a bottom face corner to replace the corner required in Step 4 Sequence 1 to begin the test.					
7	Identify the edges of the packaged-product that meet the Step 4 Sequence 2 through 4 requirements.					
8	Select any 6 faces to replace the faces required in Step 4 Sequence 5 through 10.					
9	Using the corner, edges and faces from Steps 6 through 8 go to Step 3 and proceed.					
10	All testing is now complete. Go to the Test Report Block.					

Report

Before You Begin Report

The packaged-product has satisfactorily passed the test if, upon examination, it meets the Product Damage Tolerance and Package Degradation Allowance.

ISTA Certified Testing Laboratories:

- Should file a test report on all ISTA Test Procedures or Projects conducted.
- Shall file a test report on all ISTA Test Procedures or Projects conducted to obtain Transit Tested Package Certification or Acknowledgement.

For additional information, refer to Guidelines for Selecting and Using ISTA Test Projects and Procedures.

ISTA Transit Tested Program

The ISTA Transit Tested Certification Mark as shown is a:

- · registered certification mark and
- · can only be used by license agreement and
- by a member of the International Safe Transit Association.



When a member prints this certification mark on a packaged-product with their license number they are showing their customer and the carrier that it has passed the requirements of ISTA preshipment testing.

In order to maintain its certified status and eligibility for identification with the TRANSIT TESTED Certification Mark, each packaged-product must be re-tested whenever a change is made in the:

- Product or
- · Process or
- Package.

Changes in the product include changes in:

- Design or
- Size or
- · Materials.

Changes in the process include changes in:

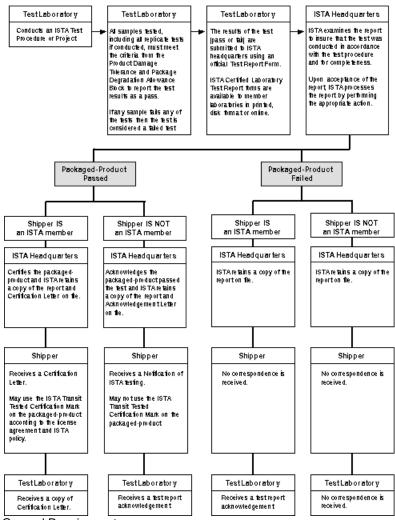
- Manufacturing or
- · Assembly or
- Filling.

Changes in the package include changes in:

- Configuration or
- $\bullet \ \mathsf{Dimensions} \ \pmb{\mathsf{or}}$
- Weight or
- · Materials or
- Components.

As a quality control procedure, packaged-products should be re-tested frequently, for example, yearly.

The following diagram indicates the steps in ISTA Test Report Processing



General Requirements

The following information is required when completing the Certified Laboratory Test Report:

ISTA Certified Testing Laboratory Information

- · Complete laboratory name and address
- Test Laboratory ID number
- Test Technician who performed the test
- · Test Report submitted by: name and signature

Product Manufacturer/Shipper Information

- · Manufacturer/Shipper company name and address
- Test requested by (individuals name)
- · Manufacturer/Shipper ISTA License Number, if applicable and known

Third-party Test Request Information

- Test conducted for company name and address
- Test requested by (individuals name)
- Relationship to the product manufacturer/shipper

Test Information

- · Test Procedure or Project performed
- · Date tested
- Number of samples tested
- · Number of replicate tests performed
- Test Number(s) assigned by test laboratory, if applicable

Product Description

• Detailed description of the product under test, including model designation or other specific means of product identification that distinguishes it from any other product.

Package Description

- · Describe entire shipping unit
- · Type or style of package

- · List materials used inside the package, if applicable
- Pallet or skid, if applicable
- · Picture or drawing of any interior cushioning, if applicable
- Method of closure, if applicable

Packaged-Product Tested

- Gross weight of packaged-product
- External container size in inches (mm or m): Length x Width x Depth

 $(L \times W \times D)$

· A picture should be included

Product Damage Tolerance Criteria

- Definition of product damage tolerance
- Name of who determined definition of product damage tolerance
- Description of the method of determining product damage

Package Degradation Allowance Criteria

- · Definition of package degradation allowance
- · Name of whom determined definition of package degradation allowance
- Description of the method of determining package degradation

Specific Requirements

The following information is specific to this test procedure and shall be reported with the required general information when completing the Certified Laboratory Test Report:

Test Results

Report if the packaged-product(s):

- Passed or
- Failed

Test Plan

- Report which unit of measure was used, English or Metric.
- Report any deviations from the required test plan.
- Include an explanation as to why the test was conducted differently.

Test Laboratory Comments

- · As a result of the testing, report any recommendations for packaged-product improvement.
- Any general comments.

Vibration Test

- · Describe restraining device or devices used
- First test orientation
- Orientation of specimen tested
- Test frequency in Hz or CPM
- Second test orientation
- Report the degrees of rotation, if applicable:
- 90° or
- 180°
- Test frequency in Hz or CPM
- Test duration in minutes
- · Number of vibratory impacts, and
- Results of visual inspection for damage, if applicable

Shock Test

Report the following:

- Orientation of each shock
- · Severity of each shock recorded:
- For Drop Test as drop height in inches (mm)
- For free fall equivalent as velocity change in inches per second (m/s)
- For incline as impact velocity in inches per second (m/s)
- Horizontal equivalent as velocity change in inches per second (m/s)

Report if an incline or horizontal shock was substituted for any test orientation.

- Which orientation
- · Which test method was used
- Free fall equivalent shock, incline or horizontal
- Explain the reason for the substitution for each orientation