

# Supplier Quality Management

Q0000017





## Revision History

The following table shows all revisions for this document. Please always go to Agile “iDirect TL9000 Quality System” to receive and download the latest version of this document. Contact [quality@idirect.net](mailto:quality@idirect.net) with any questions.

Revision	Date Changes Submitted	Reason for Change(s)	Approvals
A	5/7/2007	Initial release	Michael Boyd
C	10/30/2010	Restructured supplier qualification process; Add “New Product Introduction process”; Add “Packaging and Labeling requirements”; Add “Performance Scorecard.	Ann Kong
D	08/01/2011	Add ASN; change OTD to be implemented by the end of 3Q, 2011; replaced customer Sat with # of SCAR in section 9	Ann Kong
E	3/5/2012	Modified section 4, Removed “4.1.1-5”, modified section 5.0, 6.0, 8.0, add “7.0 ASN, 9.0 RMA return”; modified supplier scorecard metrics to include CMs, and section number changes	Ann Kong
F	9/30/2012	Add a note under section 5.0: “rework, repair or prototype products shall be packed in the original packaging or agreed upon by iDirect, add Q14, remove “SCAR-over required time” from scorecard and change rating accordantly.	Ann Kong
G	4/30/2014	Adding the detail definition to 3 <sup>rd</sup> party suppliers changed “temporarily activated” to “set as probationary” in section 5. Change On-time delivery to +/- 7 days, re-arrange sections, introduced	Ann Kong

		process flow and removed related process	
H	12/17/2015	Removed section 6 and 7; Separated Supplier Monitor in section 5.2 to section 6; Moved 5.1.2. to 5.2; Added section 5.3; Clarified 12 month return rate to exclude NPF and Design issues on CM manufactured products: Updated RMA repair with guideline	Ann Kong
J	4/14/2017	Added D0000449 under section 2.1; removed 5.1.2.c; added note in section 7.2	Ann Kong
K	3/30/2018	Modified Supplier definition in section 3.0. Modified 5.4 and 7.2. Added Supplier performance monitoring 7.3 Changed original 7.3 to 7.4	Ann Kong

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## 1.0 INTRODUCTION

This Supplier Quality Management Document is intended to assist current suppliers and potential new suppliers with the basis for understanding the quality management process of VT iDirect.

### 1.1 PURPOSE/OBJECTIVES

This Document establishes the quality requirements for qualifying and managing all suppliers of direct spend production materials, which are purchased from Contract Manufacturers (CMs) and 3<sup>rd</sup> party suppliers or manufacturers for the use in or in conjunction with VT iDirect Products. These suppliers can either manufacture to VT iDirect specification but own the proprietary rights, compared to “off the shelf” who just manufacture to their own specifications. The suppliers of indirect spend items, such as services, expensed items used for prototypes, or any VT iDirect product part number that starts with “TPE” are not required to comply with requirements per this procedure.

### 1.2 RESPONSIBILITIES

Purchasing

Logistics

Quality Engineering

Manufacturing

Engineering

## 2.0 RELATED DOCUMENTS

### 2.1 RELATED DOCUMENTS

Q0000260 iSQR VT iDirect Supplier Quality Requirements

Q0000036 Purchasing Process and Procedure

Q0000016 Corrective and Preventive Action Process

Q0000223 Configuration Management Process

Q0000115 Return Material Authorization Process

D0000441 Supplier Status Change Form

D0000449 Supplier Profile

Q0000200 Global Supply chain New Production Introduction Process

Q0000288 Supplier Management Process

D0000515 Advanced Ship Notice, IDIRECT

8300-0031 Product Packaging Labeling Requirements on VT iDirect built to print products

### 2.2 RELATED RECORDS

Supplier Profile (Agile when required)

Supplier Corrective Action Request - QCR (Agile)

Supplier Assessment report (Agile when required)

Supplier Status Change form (records are in Supplier folder)

Advanced Shipment Notice (records are in email format)

### 3.0 DEFINITION OF TERMS

ASN - Advanced Shipment Notice

AOI - Automated Optical Inspection

BOM - Bill of Material

CE - European Conformity

CM - Contract Manufacturer

CTQ - Critical to Quality (factors)

ICT - In Circuit Test

OOBA - Out of Box Audit

OTD - On-Time Delivery

PCBA - Printed Circuit Board Assemblies

RMA - Return Material Authorization

RTV - Return to Vendor

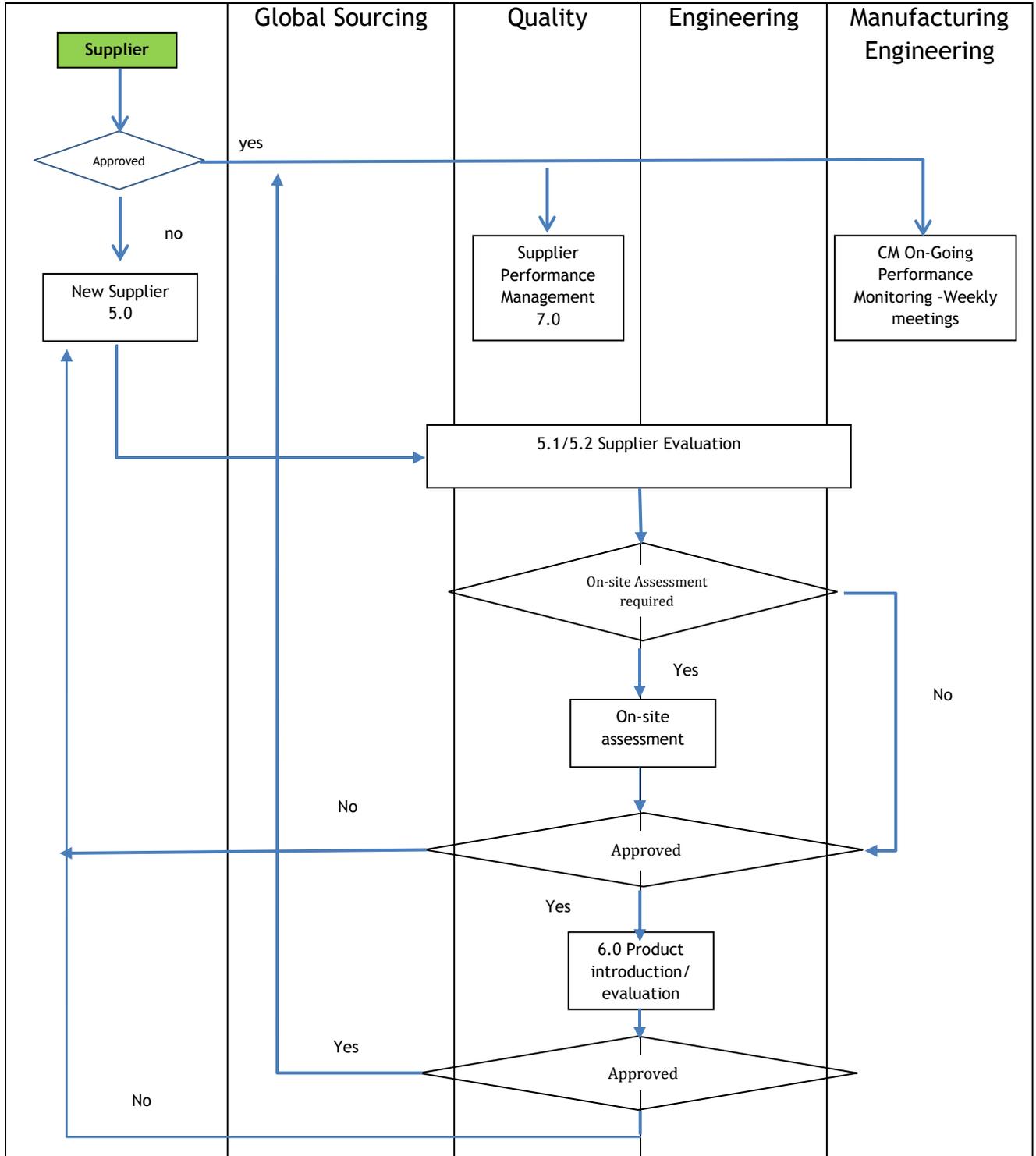
SCAR - Supplier Corrective Action Request

SLA - Service Level Agreement

SPC - Statistical Process Control

Supplier - Within the context of this document, a blanket description of all external providers of products, services and processes. Types of Suppliers include Original Component Manufacturer, Original Equipment Manufacturer, Authorized (Franchised) Distributor, Independent Distributor, Broker Distributor, Stocking Distributor, Aftermarket Manufacturer, Government Supply Depot, and 3PL (third party logistics) Provider.

## 4.0 PROCESS FLOW DIAGRAM - Supplier qualification and Performance monitoring



## 5.0 SUPPLIER QUALIFICATION PROCESS

All suppliers who are in Oracle/Agile prior to 2011 are waived from below qualification process as they are grandfathered in.

### 5.1. GENERAL SUPPLIER QUALIFICATION

5.1.1. New Supplier required - by engineering or global sourcing

5.1.2. Supplier shall be reviewed - by Engineering, Global Sourcing, Quality and Manufacturer Engineering

a. Supplier Profile (D0000449)

(required on Tier I supplier, optional on Tier II supplier)

b. Financial analysis (denied party screening/business information)

c. On-site supplier audit at iDirect management discretion

5.2 CONTRACT MANUFACTURER (CM) QUALIFICATION (additional to New Supplier Qualification requirement described in 5.1.1)

5.2.1 iDirect shall perform an on-site audit of the Contract Manufacturer and submit an audit report to both iDirect and the contract manufacturer for review and actions.

5.2.2 Quality Representative shall review the technical capabilities, including:

a. Surface Mount Technology

b. PCBA Inspection (X-Ray, AOI, and ICT)

c. SPC of CTQ variables (for example: paste height)

d. Environmental Test Capability

e. Employee Test & Technical experience

f. Change Control methods

g. Electronic Assembly, minimum IPC-A-610 class 2 Acceptability of Printed Board Assemblies; IPC-7711/7721 Rework, Modifications and Repair of Electronic Assembling.

Technical capabilities can also be reviewed or determined as part of the onsite visit.

5.2.3 Director of Quality and the Director of Global Sourcing shall review:

- a. Quality System Overview
- b. Technical capabilities

#### 5.3 SUPPLIER CAN BE APPROVED IF MEETS ABOVE PROCESS

5.3.1 A MCR CR shall be created and completed in order to add a supplier to Agile. Minimum sign offs shall include Global Sourcing, Quality, Manufacturing Engineering and Engineering. At minimum, a supplier shall maintain a certified quality management system to ISO9001 or equivalent industry standard.

5.3.2 “Supplier Status Change” form (D0000441) shall be completed in order to add a supplier to Oracle.

*Note: it is the supplier’s responsibility to ensure that their own suppliers and subcontractors are qualified to provide quality products on a repeatable basis. iDirect reserves the right to visit and inspect the facilities and operations of these suppliers and subcontractors, as needed, and at its own discretion.*

#### 5.4 ISQR (IDIRECT SUPPLIER QUALITY REQUIREMENTS)

All Tier I product suppliers are required to read and comply with iSQR.

All service or processes suppliers are required to follow terms and condition on the purchase order, or contracts or statement of work.

## 6.0 NEW PRODUCT INTRODUCTION TO IDIRECT

6.1 All build to iDirect's print products shall be introduced to iDirect following "New Product Introduction" process and Configuration Management Process (Q0000223)

6.2 All 3<sup>rd</sup> shelf item products can be qualified following Configuration Management Process (Q0000223)

## 7.0 SUPPLIER QUALITY PERFORMANCE MANAGEMENT

### 7.1 CORRECTIVE AND PREVENTATIVE ACTIONS

A Supplier Corrective Action Request may be issued if situation warrants. SCAR will be generated in Agile to document CAPA process.

### 7.2 SUPPLIER QUALITY PERFORMANCE MONITORING ON PRODUCT PROVIDERS

Contract Manufacturer Performance is managed through Manufacturer Service Agreement, quarterly scorecard as well as Business Review if needed.

VT iDirect is tracking the performance of selected 3<sup>rd</sup> party suppliers who provide products (over \$1M or agreed upon between global sourcing and quality) or historically have quality issues, example of suppliers are;;

Sojitz/BUCs/LNBs Dell/Servers Raven/Antennas

To effectively rate supplier performance, VT iDirect relies on, including but not limited to Supplier Scorecard Process. The Scorecard is used to support commodity management and strategic sourcing objectives.

*Note: it is the supplier's responsibility to ensure that their own suppliers and subcontractors are monitored to provide quality products on a repeatable basis. VT iDirect reserves the right to request quality performance data and action plan for improvements, as needed, and at its own discretion.*

Quarterly Scorecard contains Quality Metrics and On-Time Delivery

#### 7.2.1 Quality Metrics (QM) (80% wt.)

For 3<sup>rd</sup> party product suppliers: Quality Metrics is the combination of Return Rate (50% weighted), number of Supplier Corrective Action Request (SCAR) (30%)

For CMs: Quality Metrics is the combination of Return Rate (40% weighted), number of Supplier Corrective Action Request (SCAR) (20%), and RMA repair Time (20%).

- a. Return Rate (50% weighted on 3<sup>rd</sup> party suppliers and 40% on CMs)

12 month rolling Return Rate*	Quality Metrics Score
<0.50%	100
1%>RR>/=0.50%	90
2%>RR>/=1%	80
3>RR>/=2%	60
>3%	0

Return Rate is based on 12 month rolling Field Return Rate @ the end of each quarter vs. 12 month rolling sold quantities at the end of each quarter.

Return Rate for CM shall exclude NPF and Design issues.

b. Supplier Corrective Action Request (SCAR)

SCAR might be issued if one of the following scenarios occurs:

- Repeated Customer Complaints related to 3<sup>rd</sup> party suppliers/CMs;
- Repeated Field Failures related to 3<sup>rd</sup> party suppliers/CMs;
- Incoming Quality Issues;
- Low scorecard ratings.

Number of SCAR (30% weighted on 3<sup>rd</sup> party products, 20% on CM products)

# of SCAR	Quality Metrics Score
0 (within one quarter)	100
1 (within one quarter)	90
2 (within one quarter)	70
3 (within one quarter)	50
4 (within one quarter)	30
5 (within one quarter)	10
over 5 (within one quarter)	0

c. RMA Repair Time (only apply to CM products, 20% weighted)

RMA Repair Time is measured based on Service Level Agreement (SLA).

Guidelines:

RMA Complete Date - CM Receive Date, SLA as 45 days

Assign the score based on number of days per scorecard for each RMA

Average the score

*Note:* RMAs do not include all NPFs, 3<sup>rd</sup> strike units or other reasons that are not included for RMAs in the metric.

*Example (with random data):*

<i>RMA</i>	<i>Priority</i>	<i>RMA complete date</i>	<i>CM Receive Date</i>	<i>Days – over Priority</i>	<i>Score</i>
1	45 days	5-Sep	2-Jul	55	70
2	45 days	2-Sep	30-Aug	-7	100
3	45 days	2-Jul	25-May	8	100
4	45 days	5-Aug	1-Aug	-26	100
5	45 days	24-Sep	5-Aug	20	100
				<i>Average</i>	<i>94</i>

<b>RMA repair days (CM only, exclude NPF)</b>	<b>Quality Metrics Score</b>
Meet SLA agreement	100
<2 days over SLA	90
2-5 days over SLA	80
6-10 days over SLA	70
11-15 days over SLA	50
> 15 days over SLA	0

7.2.2 On-Time Delivery (OTD) (20% wt.) - will be implemented by the end of 2Q2014.

On-Time Delivery is measured as: -7 shipped day vs. promised day.

On-time delivery	
Goal	Point
98	100
95	90
90	80
85	70
80	60
75	50
70	40
65	30
60	20

### 7.3. SUPPLIER PERFORMANCE MONITORING ON SERVICES OR PROCESS PROVIDERS

Service and process suppliers are monitored following the contract or statement of work or agreed upon procedures. Owners of these services or processes are responsible to track the performance of the suppliers.

### 7.4. SUPPLIER ASSESSMENT

7.4.1 To evaluate Suppliers on any ongoing basis to ensure that they meet or exceed standards of manufacturing quality as defined by the current version of ISO/TL9000 quality management requirements or the Supplier's specific quality policy and processes.

Suppliers might be audited based on but not limited to:

- a. Supplier performance measures - scorecard rating metrics

Supplier Scorecard/Rating	Action	Supplier Status
Green/81-100	Preferred	Active
Yellow/61-80	Action might be required including on-site audit. If no improvement in a consecutive 4 quarters, supplier will be removed from the Approved Supplier list. Sourcing shall be informed if a supplier has below 80 rating after the 2nd quarter.	Active
Red/0-60	Change supplier status to inactive unless approved by Quality	inactive

b. Suppliers with whom iDirect does > \$1,000,000 of business per annual.

c. Suppliers with whom iDirect is single-sourced.

7.4.2 Supplier audit includes:

- a. Supplier Quality System
- b. Verification of corrective action as part of SCAR

Supplier Audit records are located in Agile

7.4.3 Suppliers Status can be changed based on:

- a. Quality issues
- b. Result of Quality Performance (Scorecard < 60)
- c. Result of Assessment

“Supplier Status Change” form needs to be completed in order to change supplier’s status (active or inactive) in Oracle.

Quality shall create a request to change the supplier status if a supplier shall be “disqualified”.

## 8.0 ADVANCED SHIPMENT NOTIFICATION (ASN)

Suppliers might be required to complete the iDirect Advanced Shipment Notice form and forward this to iDirect upon shipment of the order, using the Notification Instructions detailed on the form. All information requested on the form shall be provided.

## 9.0 INSPECTION OF GOODS AND RMA RETURNS

### 9.1 INSPECTION OF GOODS

iDirect may require any combination of the following as our mean of goods inspection:

9.1.1 Source inspection results from suppliers

9.1.2 Certification of Conformity and test report

9.1.3 Inspection of Goods at sourced site as determined by iDirect's Quality Assurance Department.

9.1.4 Inspection of Goods at iDirect receiving dock (or Ship To location) as determined by iDirect's Quality Assurance Department.

### 9.2 RMA RETURNS

9.2.1 All iDirect CMs shall follow RMA process (Q0000014).

9.2.2 All 3<sup>rd</sup> party suppliers' requirements:

9.2.2.1 Suppliers shall provide RMA # on all returns

9.2.2.2 Suppliers shall fill out "Failure Analysis and Corrective Action Report (FORM0003) if required.

9.2.2.3 Suppliers are required to issue iDirect a Credit Memo on all RMA returns.