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A nighttime photograph of a dense urban skyline. The most prominent feature is a tall, slender skyscraper on the right side, which is illuminated with a vibrant blue light. The building's facade is composed of many vertical lines, and its top section is lit with a bright blue glow. To its left, another tall building is lit with a warm yellow light. The rest of the city is filled with various other buildings, some of which are lit with red, purple, and white lights. The sky is a deep blue, and the overall atmosphere is one of a bustling, modern city at night.

©ignify

Supplier Quality

Manual

Foreword

Signify is the world leader in lighting. We produce high-quality energy efficient lighting products, systems and services. We are the global leader in conventional, LED and connected lighting systems and services and serve both professional and consumer markets.

Our offers comprise:

- Professional lighting products, such as lamps and luminaires.
- Professional systems such as our Interact software suite.
- Professional services including design, consultancy and maintenance, management, lifecycle services, etc.
- Consumer products comprising lamps and luminaires.
- Consumer smart home lighting systems through our Philips Hue portfolio.

Our 2 main brands are:

- Philips – our global brand in professional and consumer lighting products.
- Interact – our Internet of Things platform and connected lighting systems.

Signify supply base is a key enabler to help secure the brand promise to our customers and as such we expect our supply base to be fully compliant with all Signify policies and requirements. Only if our suppliers deliver outstanding quality of components, products and services and support Signify in the continuous drive for innovations and excellence, we are able to deliver.

The Lighting world is changing rapidly as a result of the growing importance of LED Lighting and Lighting systems and services. The change towards LED and Lighting systems and services requires a different approach and mindset regarding quality where you as our suppliers are key players in realization thereof. To optimally work together, our processes in product development, lifecycle management and quality cooperation need to be aligned with our suppliers.

This Supplier Quality Manual describes our standard ways of working. Next to the General Purchase Agreement as the official document, we request you as a supplier to acknowledge this manual and adhere to the mentioned statements and descriptions. Moreover, we expect you to proactively work together with us to ensure a competitive advantage, which will sustain and strengthen our market leadership and ensure a profitable future. Great quality performance shows us in a tangible way the supplier willingness to “Team-up with Signify” and is certainly one of the key factors in building stronger sustainable

partnerships.

Thomas Lazer
Head of Quality & Business Transformation

Luc Broussaud
Head of Procurement

Hans Bellemans
Head of Supplier Quality

Contents

Foreword	3
1. Introduction	8
1.1. Signify Supplier Quality Principles	8
1.2. Supplier Quality Management Processes	9
1.3. Supplier Quality Organization	9
1.3.1. Roles and Responsibilities	11
1.4. General Requirements to suppliers	12
1.5. Change Control Requirements to suppliers	12
1.6. Reliability Requirements to suppliers	13
1.7. Sustainability Requirements to suppliers	14
1.7.1. Supplier Sustainability Declaration, Sustainability audits	14
1.7.2. Regulated Substance Management	16
1.7.3. Conflict Minerals and responsible sourcing	17
1.7.4. Carbon disclosure	18
1.7.5. Wood & Packaging Requirements	18
1.7.6. Supply Chain Security audits (SCS)	18
2. Supplier Selection and Qualification	19
2.1. Supplier Selection and Qualification Process	19
2.2. Mandatory Pre-check & Pre-qualification requirements	20
2.3. Supplier Audits (SAT)	21
2.3.1. Types of audit	21
2.3.2. ODM audit	22
2.3.3. Requirements of audit	23
2.3.4. Audit Follow ups	24

2.3.5. Failed audit (waiver process)	24
3. Supplier Quality Contracting	25
3.2. General Purchase Agreement	25
3.3. QUALITY AGREEMENT	26
3.3.1. Specification Agreement	26
3.3.2. Product warranty	26
3.4. 2 nd Tier Supplier Quality Management	26
4. Production Part Approval Process	27
4.1 Technical Documentation	28
4.2 Prototype Requirements	29
4.3 Part testing	29
4.4 Manufacturing Release	30
4.5 Process Release	30
4.5.1. Supplier Process Capability Requirements	30
4.5.2. Measurement System Analysis (MSA)	31
4.5.3. Calibration	31
4.5.4. Process Special Requirements	31
4.5.5. Maintenance	32
4.6 Supplier Application Signoff	32
5. Quality Performance Management	32
5.1 Cost of Non-Quality Reduction	32
5.2 Receiving Inspection	32

5.3 Traceability	33
5.4 Part Quality	33
5.5 Supplier Rating	34
6. Incident Management	36
6.1 Analysis of Customer Returns	36
6.2 Non-Compliance Report (NCR)	36
6.3 Supplier Corrective Action Request	37
6.4 Cost Recovery	37
6.5 Cost Prevention	38
7. Supplier Development	38
7.1 General Business Reviews	38
7.2 Continual Improvement	39
7.3 Supplier (Quality) Workshop	39
7.4 Warning letters	39
7.5 Exit Procedure	40
Glossary	41

1. Introduction

1.1. Signify Supplier Quality Principles

Signify is committed to provide the highest possible level of customer satisfaction by delivering high quality, sustainable lighting products, solutions, and services. Together with our suppliers we ensure that our lighting products, solutions, and services fulfil our brand promise, are fit for use and comply with local regulatory and environmental requirements.

Our way of working is based on the following principles:

Suppliers are qualified based on their competences via assessments using SAT. (Based on VDA 6.3)

Supplier are involved early in product development using competences and innovation of Signify and the supplier to assure Six Sigma quality.

Parts are released and changes are controlled using Production Part Approval Process or PPAP resulting in signed performance agreement per product/component.

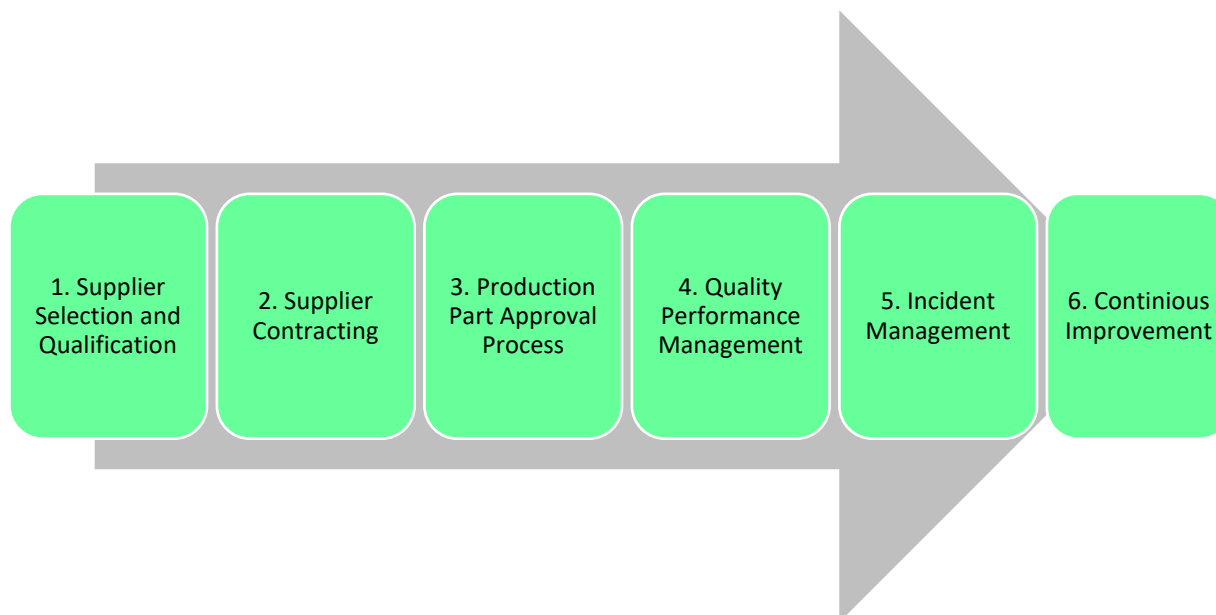
Supplier accountable & responsible for production performance of released parts, including tier two supplier management.

Supplier monitors and manages quality performance continuously and assures no deviating products leave the company.

Suppliers are integral part of the Signify Sustainability Programs and comply to Signify policies.

1.2. Supplier Quality Management Processes

As a supplier of Signify, you will be confronted with 6 main supplier quality processes. These 6 processes are further defined in their respective chapters.



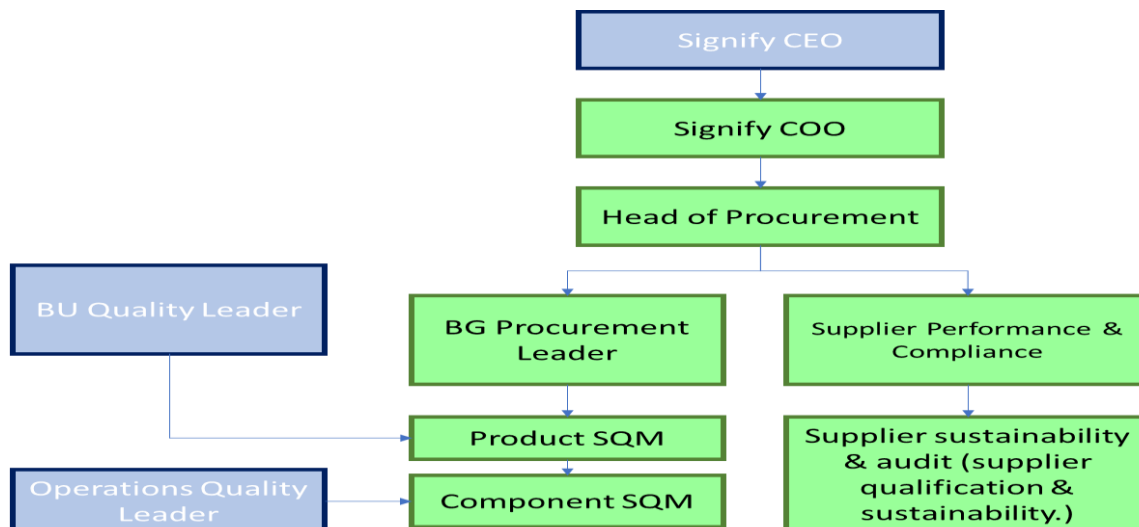
We expect that the way of working, as described in this manual, will be followed for all parts* used in Signify products, including the ones defined by Signify, but sold and shipped to our outsourcing partners.

* Throughout this document the terms 'part' is used for all materials, components, products, and services supplied to Signify.

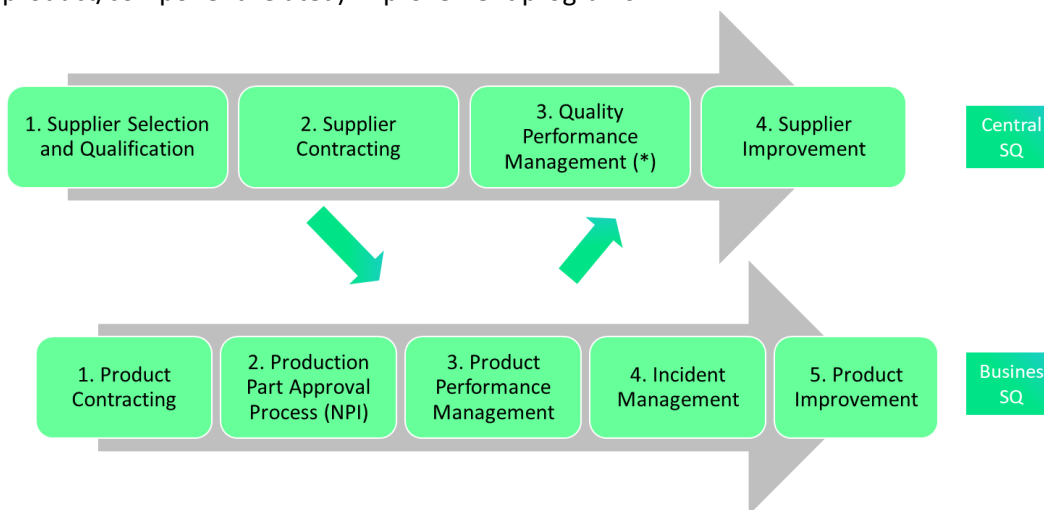
1.3. Supplier Quality Organization

Within SIGNIFY the Supplier Quality organization is responsible to assure the supply base delivers components, products, systems, services that meet consistently the quality requirements and customer expectations and that are produced according Signify policies.

As such they are the main contact towards the supply base regarding quality related aspects. The Supplier Quality Management organization is part of the Procurement organization of Signify. A schematic representation of the different SQ functions and responsibilities is shown below:



- a. Product SQM: Responsible to assure new products meet requirements and to handle life cycle management & compliancy of the products & systems. Specification signoff in contracting system.
- b. Component SQM: Responsible to assure new components meet requirements and to handle life cycle management & compliancy of the products & systems. Specification signoff in contracting system.
- c. SQ Central Team: Supplier qualification, shuttle4vendor supplier creation 1st level approval & GPA quality content review plus signoff. Initiate and follow up structural (non-product/component related) improvement programs.



- Each supplier in the supply base will have a QAM (Quality Account Manager), who is responsible to:
- a. Manage the quality relationship with the supplier,
 - b. Ensure all quality requirements fulfilled by/for the supplier for a smooth-running business,
 - c. Involve especially activities such as supplier improvement program, Master Quality Agreement life cycle change, negotiation of Annual Quality Target, supplier quality performance monitoring and follow up.

1.3.1. Roles and Responsibilities

RACI definition. The following activities are classified per the RACI Matrix with following definitions:

(R) Responsible	Party who is assigned to do the work.
(A) Accountable	Party who approves (makes the final decision).
(C) Consulted	Party who must be consulted before decision is taken.
(I) Informed	Party who must be informed after decision is taken.

Quality Processes	Supplier quality activities	QAM	Business SQM	Central SQ	Supplier
Supplier selection & qualification	Supplier audit (SAT)	C	I	RA	I
	Initiate, approve, and follow up improvement programs of the supplier	A	I	R	R
	Supplier creation 1 st level approval in Shuttle for vendor			RA	C
Supplier contracting	Compile & ensure signoff Product Quality Agreement (PSW including requirements)	I	A		C
	Signoff GPA with focus on quality content.	A	I	R	C
	Annual Quality Targets (within specification)	A	R	I	C
New product introduction	PPAP or other qualification methods	I	A		R
Quality control	Incident management (8D)	I	A		R
	Country & end Customer audit	I	C	A	R
	* Change management - PSW revalidation	I	A		R
	Ongoing reliability test	I	A		R
	** Product driven waiver by supplier - approval	I	A		R
	Supplier internal Q incident (non-delivery)		A		R
	Supplier monthly performance report	A	I	I	R
	Supplier rating (GSRs)	A	R		I
	Sub supplier's quality management	A	C		R
	Supplier Quality reviews	A	CI		R
	Warning letters or requests for improvement	A	R	I	I
Supplier Improvement	Continuous improvement (product level)	C	A	I	R
	***Continual improvement & repeat audit (supplier level)	A	I	R	C

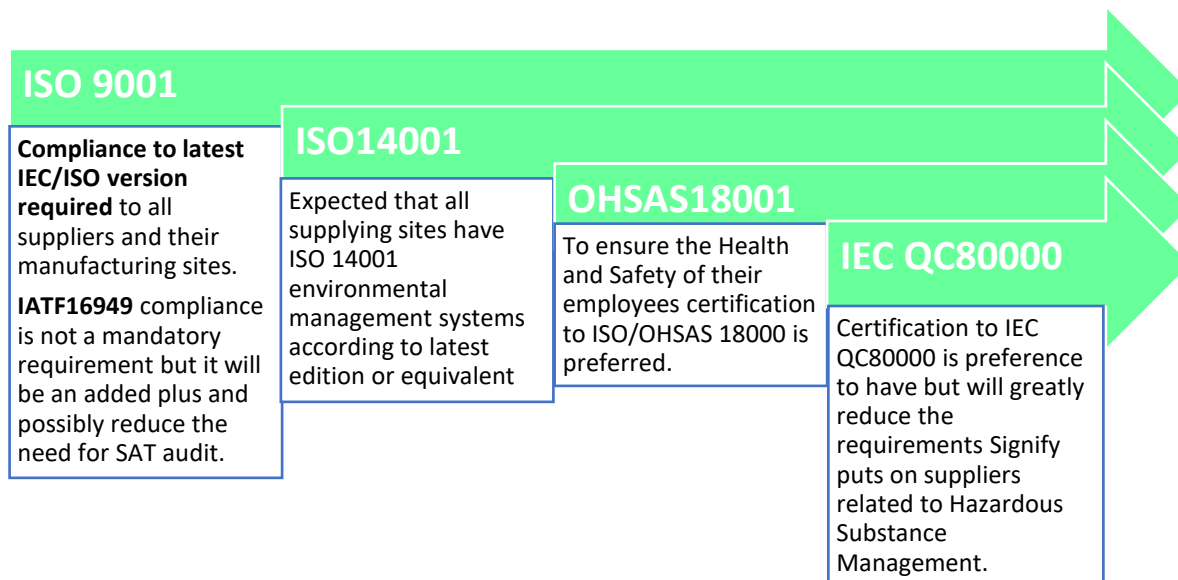
Denotes:

* C will be with development or R&D.

** Suppliers prepare the waiver, business SQ (including factory SQ) liaise with internal stake holders. To cross check with internal procedures too.

*** Structural processes issue falls at supplier level.

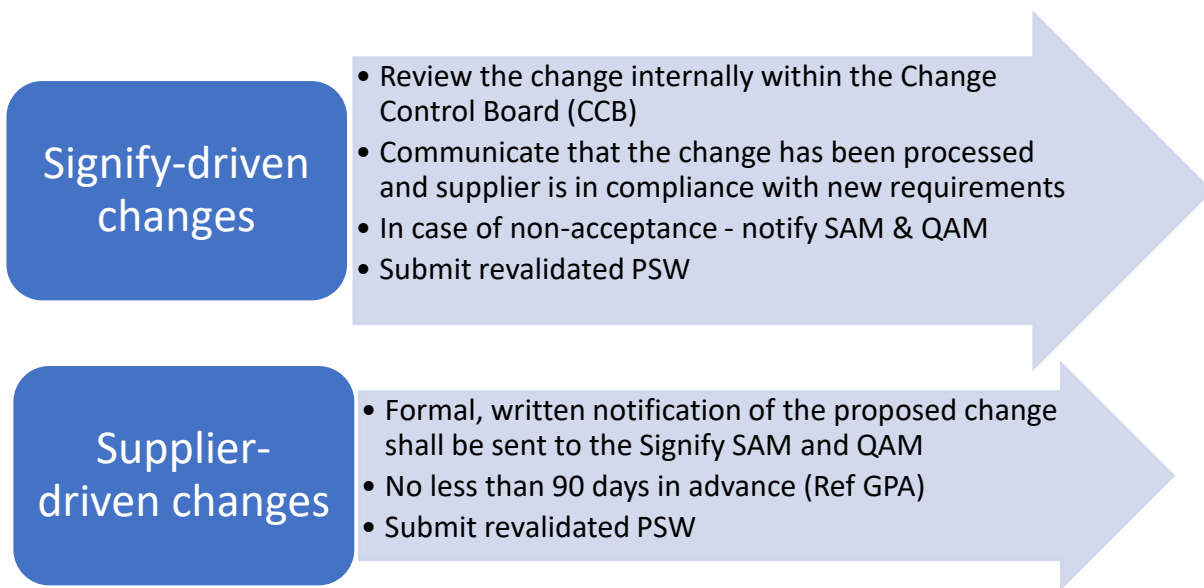
1.4. General Requirements to suppliers



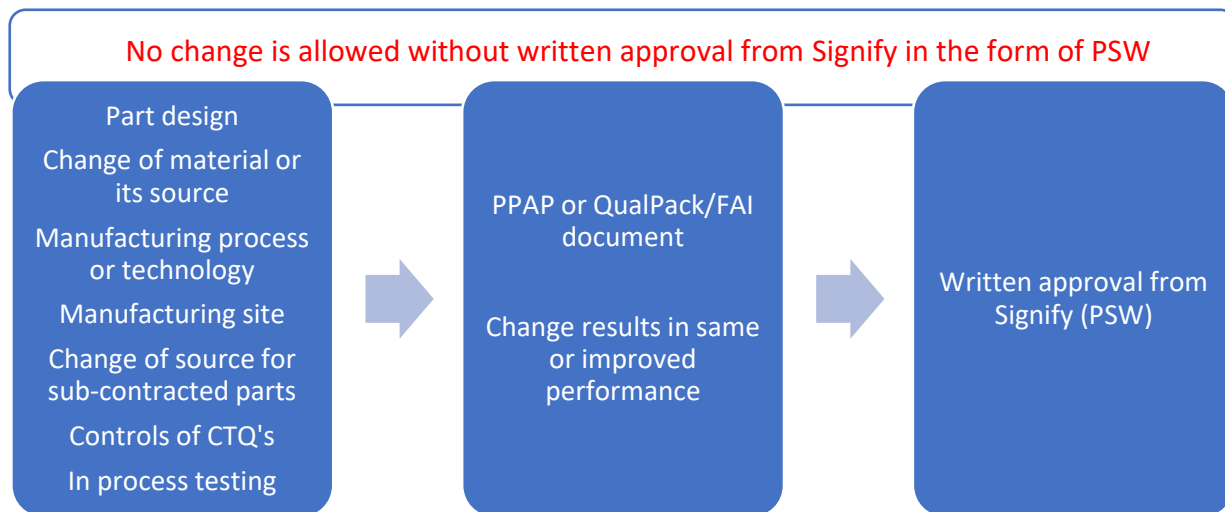
It is expected that suppliers to Signify will have a well-developed mature quality management system in place and functioning effectively. As a minimum all suppliers are required to have quality system that has been registered to ISO-9001:2015. We encourage suppliers to have or be working towards implementing a quality system compliant to IATF-16949. A copy of the 3rd party certificate must be submitted to Signify when first certified and after each recertification audit. IATF-16949, ISO14001, ISO18001 & IEC QC80000 remain a preferred certification for time being, but will greatly reduce additional audit, governance or certification that Signify will put on supplier.

1.5. Change Control Requirements to suppliers

There are two sources of change, Signify driven and supplier driven.



Suppliers shall demonstrate via PPAP or QualPack/FAI documents that the change will result in the same or improved performance. Signify may ask for additional time and samples for testing and may schedule an on-site assessment or may request additional quality documents, e.g., risk-assessment, updated Control Plan, transfer FMEA or a Delta analyses. Suppliers shall make sure that the change is traceable, without changing or adding any visible marking on the outside of the parts.



For Part Termination Notifications, the Supplier shall inform Signify twelve (12) months in advance of last planned production date and eighteen (18) month before last shipment date unless otherwise agreed in the GPA. Supplier is expected to secure quality at all time even though of this last buy or transition to new or alternate parts.

1.6. Reliability Requirements to suppliers

Suppliers shall test the reliability of the parts as agreed in signed PSW (specification/drawing) in accordance with international industry standards. In case of doubt supplier shall contact the Signify QAM.

Supplier shall monitor and analyze reliability testing results and inform Signify immediately in case of abnormalities or deviations.

1.7. Sustainability Requirements to suppliers

Signify has integrated sustainability throughout the company: in the strategy, organization, and culture, in manufacturing and products, and with the suppliers.

Signify's policies and practices can be found at:

<https://www.signify.com/global/contact/suppliers/sustainability/our-programs>

Main elements related to suppliers are shown in the graphics.

Detailed requirements for all suppliers to Signify as well as templates and further information can be found at above mentioned web pages.

As Signify often works in an outsourced manufacturing environment, the outsourcing party is expected to act on Signify behalf towards 2nd tier suppliers when it comes to Compliance, Performance Monitoring and Improvement related to sustainability.



1.7.1. Supplier Sustainability Declaration, Sustainability audits

All suppliers are required to comply to the Signify Supplier Sustainability Declaration (SSD). By signing the GPA, supplier commits to be compliant. The latest version of SSD can be found at http://images.philips.com/is/content/PhilipsConsumer/PDFDownloads/Global/sustainability-downloads/ODLI20181207_001-UPD-en_AA-Signify-Supplier-Sustainability-Declaration.pdf

The Signify Supplier Sustainability Declaration (SSD) covers labor and human rights, worker health and safety, environmental impact, ethics, and management systems. The Declaration also requires suppliers to cascade the RBA Code – as a total supply chain initiative – down to their next-tier suppliers.

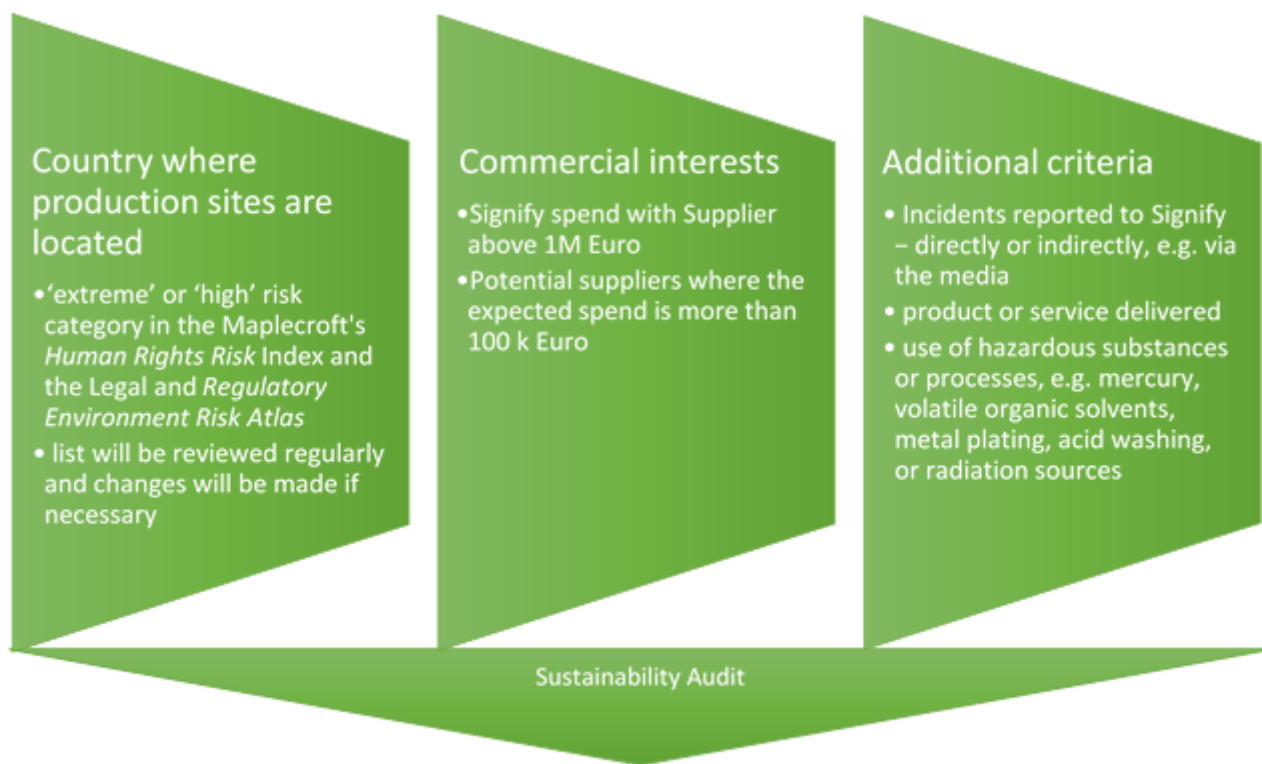
We monitor supplier compliance with the Declaration through a system of regular audits, which are mostly performed by an independent audit firm.

We require all our suppliers to comply with the Supplier Sustainability Declaration and evaluate their compliance through a sustainability audit based on the RBA (Responsible Business Alliance) requirements. This requirement forms an integral part of any commercial agreement between Signify and the supplier.

A sustainability audit may be executed depending on the risk profile of a supplier. The detailed program can, and requirement be found at:

<https://www.signify.com/global/contact/suppliers/sustainability/our-programs/supplier-sustainability-management>

List will be reviewed regularly, and changes will be made based on the Supplier's risk profile is determined by criteria relating to:

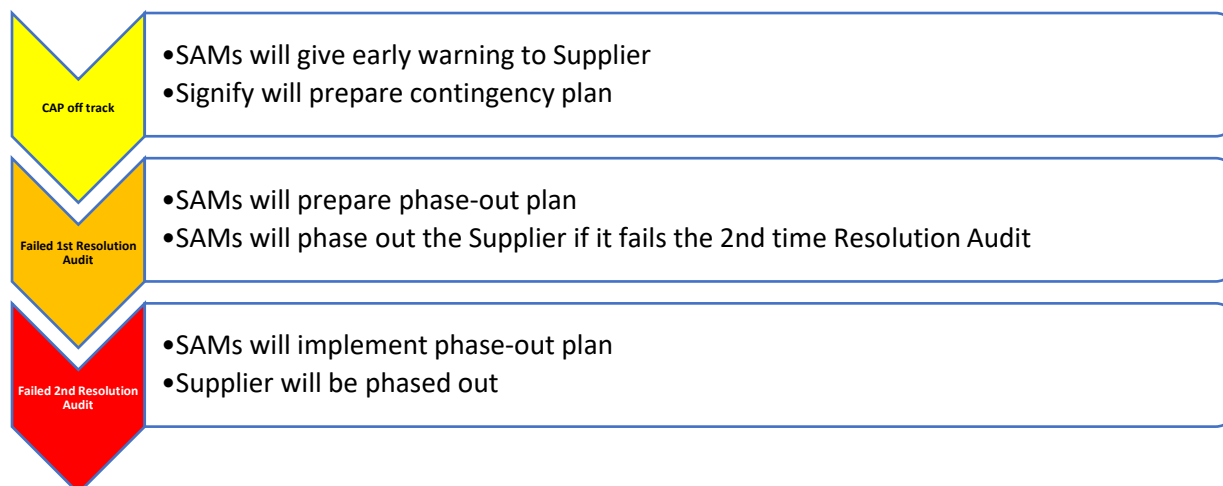


***Audits will be executed by an external agency
Reference are the RBA requirements.
The costs need to be paid by the supplier***

The Sustainability audit may result in non-compliances. These non-compliances need to be closed as soon as possible but at least as per schedule below:

	Progress check against milestones	Resolution Audit 1	Resolution Audit 2	New Audit Cycle
Zero tolerance (ZT)/ Critical/ Major Non-Conformances	According to milestones determined in CAP (1-month max. for ZT, 3 months max to critical and major NCs)	Before end of the longest timeline agreed in the CAP	3 months after the 1 st Resolution Audit if necessary	3 years after the Full-Scope Audit date
Minor Non-conformances	Monitoring takes place in supplier development program if applicable. No official follows up by Signify.	N/A	N/A	3 years after the Full-Scope Audit date

If Signify notices that there is a delay in the realization of the CAP, the following situations may arise:



Potential suppliers may only start shipments after all non-compliances have been corrected

1.7.2. Regulated Substance Management

The supplier shall comply with the Regulated Substances List (RSL). This listing of chemical substances brings together all legal, industry and voluntary requirements to which Signify is committed regarding the chemical substances contained in our products. By signing the GPA, supplier commits to be compliant. The latest version of RSL can be found at:

http://images.philips.com/is/content/PhilipsConsumer/PDFDownloads/Global/PDFs/ODLI20190125_001-UPD-en_AA-Lighting_Regulated-Substances_List_RSL_Policy_Requirement-2019-1.pdf

Suppliers must demonstrate their compliance with the Restricted Substance List by uploading their compliance declarations into BOMCheck, an online cross-industry platform. Supplier shall provide evidence of compliance for products, raw materials, and process materials according to the latest requirements. For RoHS compliance evidence we require test report not older than one year measured by a third-party accredited laboratory.

Data will be regularly validated by Signify and request evidence to suppliers. If suppliers are IECQ HS **QC080000** certified or HSPM Signify assessment will be passed with A or B score, evidence will not be required.

Hazardous Substances Process Management assessment is mandatory for all suppliers and can be done in form of self-assessment or as part of onsite audit. As a results supplier will get one of the below categories:

**Hazardous Substances
Process Management Requirements
(HSPM results)**

Category A:	<ul style="list-style-type: none"> IECQ HSPM 080000 certified <u>OR</u> ISO 9001 (or equivalent) certified AND HSPM assessment passed 80% (and all mandatory questions) <u>AND</u> Signed Regulated Substance List for all parts/materials (e.g., part of GPA) No HS non-compliances in previous 2 years (
Category B:	<ul style="list-style-type: none"> ISO 9001 (or equiv.) certified AND HSPM assessment passed 60% (and all mandatory questions) Signed Regulated Substance List for all parts/materials (e.g., part of GPA) No HS non-compliance in previous year years
Category C:	<ul style="list-style-type: none"> Supplier does not fulfill requirements under A or B categories Supplier put wrong information in declaration without proper check and/or to stay on safe side

Supplier Trustworthiness	Components / Parts Risk	
	Low, Med.	High
A, B	1	1
C	1	1 2 S

Level of evidence	Description
Level 1	BOMcheck Declaration or equivalent (e.g. MCDS, paper confirmation vs RSL)
Level 2	Recent* Analytical test reports at component release and updates upon change
Screening (S)	All 12NCs (or representative per product family) screening by supplier or Philips (e.g. XRF*) within 1 year . Screening should be organized by supplier, otherwise alignment with business compliance officers is needed

* Inconclusive XRF results for Br and Cr must be supported by non-ambiguous evidence that those are not RoHS substances

1.7.3. Conflict Minerals and responsible sourcing

Conflict minerals are minerals mined in conditions where armed conflict and human rights abuses occur. The term is often used to refer to four minerals – tungsten, tantalum, tin, and gold (also known as 3TG) – that are mined in the eastern region of the Democratic Republic of the Congo (DRC).

Responsible sourcing of minerals is an important part of our supplier sustainability commitment. We implement measures in our chain to ensure that our products are not directly or indirectly funding atrocities in the DRC. In addition to these conflict minerals, Signify also aims to ensure we do not source Mica, Lithium, Graphite and Cobalt from sources where human rights may be abused.

Suppliers are required to provide information on their sourcing of raw materials that may contain conflict minerals, mica, lithium, graphite, or cobalt. On a yearly basis, a CRMT template needs to be submitted for conflict minerals, where this information is provided. The latest template can be found at:

<https://www.signify.com/global/contact/suppliers/sustainability/our-programs/conflict-minerals>

1.7.4. Carbon disclosure

Signify believes that climate change and the growing need for energy consumption require innovative solutions and transformation in the behavior of companies and people. We contribute with energy-efficient products and our carbon neutral commitment for our own operations. In addition, we motivate our supply chain to reduce its carbon footprint.

We are a member of the CDP Supply Chain program and Suppliers are yearly required to provide information on their carbon footprint in the CDP Questionnaire with focus on emission reduction activities and commitment on Renewable Electricity (RE100) or Scientific Based Targets (SBTs). We support our suppliers with training and tools to facilitate transparency and emission reduction activities.

<https://www.signify.com/global/contact/suppliers/sustainability/our-programs/carbon-disclosure>

1.7.5. Wood & Packaging Requirements

As part of our environmental approach towards wood and packaging, Signify requires packaging suppliers to use the recycled materials and/or other certified renewable resources or bio-based materials with final targets according to the document "Signify Sustainable Packaging Policy Requirement" and report it to Signify in "Supplier Packaging Reporting Template".

The basic targets are paper-pulp, corrugated cardboards >80%; PET plastic > 25% (Europe, America), PET plastic >10% (rest of the world). Sustainable wood products shall be used from responsible sourcing.

Signify Sustainable Packaging Policy Requirement can be found at:

<https://www.signify.com/global/sustainability/downloads>

1.7.6. Supply Chain Security audits (SCS)

The purpose of the Supply Chain Security (SCS) Program is to enable Signify to secure the goods flow in such a way that tampering, theft, unobserved goods replacement, addition of unfamiliar goods or other unauthorized access to the goods flow will be prevented as much as reasonably possible. This includes internal and intercompany transport.

Signify's Supply Chain Security is in line with programs set up by governments, such as: Customs-Trade Partnership Against Terrorism (C-TPAT) from the US Department of Homeland Security, Authorized Economic Operator (AEO) in the European Union, India, and Japan. In line with the SAFE framework of the World Customs Organization more countries are developing programs. Not following these programs will lead to more complex customs procedures and serious delays at international borders resulting in higher pipeline inventories and cash flow impact for Signify.

The SCS Policy is mandatory for all Logistics Service Providers and Finished Goods Suppliers that are involved with managing cross border shipment of Signify products. To verify compliance, the SCS (Supply Chain Security) self-assessment/audit is used.

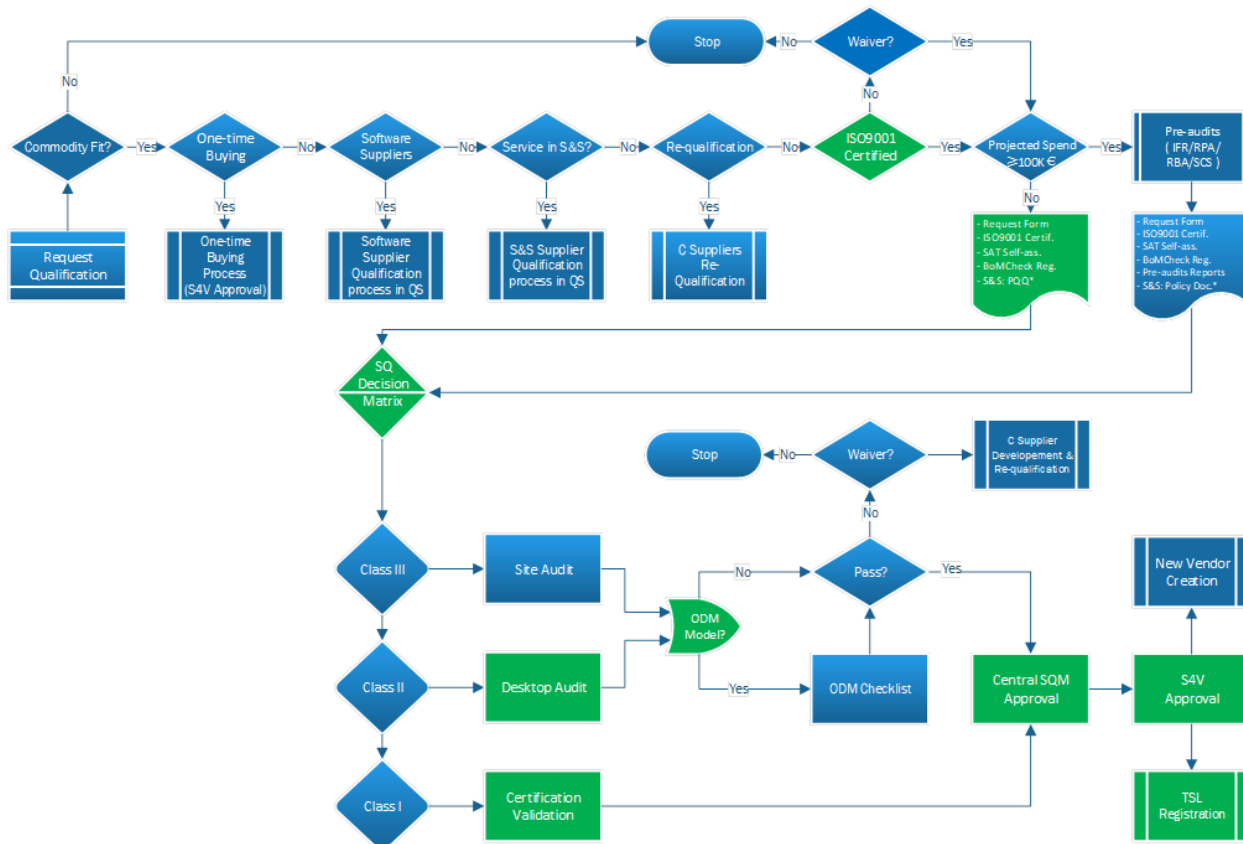
The SCS self-assessment/audit checklist requires evidence of implementation of security measures as well as evidence of specific documentation related to supply chain security. Sample procedures are available at Signify to support the supplier with establishing documentation. The requirement is that suppliers are reaching over 90% compliance rate after audit/ self-assessment and CAP follow up. Supply chain sustainability audits/ self-assessments follow up are performed by 3rd party/Signify team and costs are covered by Suppliers.

It is Signify policy that suppliers must be compliant to all SCS requirements during qualification process and prior to the part or product release.

2. Supplier Selection and Qualification

2.1. Supplier Selection and Qualification Process

Signify maintains a supplier selection process that evaluates and identifies potential sourcing partners. Commodity Management is responsible for identifying potential supplier, supplier quality is responsible for qualifying it via supplier assessment tool (SAT). This is done in cooperation with Procurement Engineering too. The supplier selection and qualification are based on a formal evaluation process as outlined below:



For sustainability audit, please follow instruction as outlined in paragraph 1.7.1.

For Signify supply chain security audit, please follow instruction as outlined in paragraph 1.7.6

2.2. Mandatory Pre-check & Pre-qualification requirements

To ensure that our audit effort will be fruitful, it is key to gain some basic information about the supplier to learn whether they will be a good match to support our business. Thus a few “pre-checks mandatory requirements” & “two bucket of pre-qualification requirements” are established to ensure positive outcome.

“Two bucket of pre-qualification requirements” do not applicable for supplier with estimated spend less than 100k euros per annum.

Existing supplier who requires re-audit is exempted from both “pre-checks mandatory requirements” & “two bucket of pre-qualification requirements”.

Pre-check mandatory requirements are:

- i. Possess an ISO9001 certification
- ii. SAT self-assessment is expected to be completed during AA milestone of the NPDL process but no later than AA with result no less than B
- iii. BOMCheck registration done
- iv. PQQ & Policy Doc (for Systems & Services)

The “two buckets of pre-qualification requirements” are to be fulfilled by the requestor of the audit/supplier.

Pre-audit bucket one: (with potential supplier)

- i. Initial risk assessment should be preliminary pass or above.
- ii. On-site quick scan using Rapid plant assessment (RPA), result should be 30% or above.

Pre-audit bucket two: (with potential supplier & 3rd party)

- i. 70% RBA audit score at the beginning with no critical/ Zero Tolerance NCs is acceptable but it needs to be 90% towards signing GPA. (RBA audit is only applicable for supplier in risk country)
- ii. SCS (supply chain security) audit result needs to be more than 70% (only applicable for supplier who ship products internationally or are involved with managing international shipment of products) but it needs to be 90% towards signing GPA.

With the fulfillment of these two buckets, supplier is assumed to be ready for an on-site audit. Requestor needs to submit a request forms with all pre-qualification evidence attached to the central audit team. Depending on Categories / BoM supplier locations, different central auditor will be assigned to review the request form along with those evidence. Full detail is described in Quality System Portal under the supplier qualification process with id#21.3.1.

2.3. Supplier Audits (SAT)

The primary goal of executing a Supplier Audit is to collect objective evidence identifying potential risks for Signify in doing business with the supplier under investigation. Audits verify the desired state of suppliers against requirements predefined by Signify Quality Standard and internal stakeholders.

Audits are done “for new”, entry supplier into Signify supplier base and “for cause”, when there are clear indications of deviations or other risks at suppliers. The Supplier Audits will be done by means of a Signify Supplier Audit Tool (SAT), covering several Business processes. The SAT contains all elements of the internationally recognized VDA 6.3 standard, but it is extended with Hazardous Substance Program Management (HSPM) supplier trustworthiness evaluation.

2.3.1. Types of audit

There are several types of audit available depending on the audit decision matrix as shown below:

SQ Decision Matrix		Supplier Quality Risk		
		Low	Medium	High
Product Criticality	A	II	III	III
	B	I	II	III
	C	I	I	II

Class I audit is only to validate the ISO9000 certificates of the supplier. This can be easily achieved through reviewing the validity of the certificate via an electronic copy from e-mail or FTP website. Class II audit is a desktop audit, where audit can be achieved remotely with evidence shared and shown online via the internet during a schedule session between a member from the audit central team and supplier. Class III audit is an on-site audit at the supplier, organized fully by the central audit team with help & cooperation from procurement & supplier.

Supplier Quality Risk and its levels descriptions are as shown in table below:

Supplier Quality Risk	Criteria's
-----------------------	------------

Low	<ul style="list-style-type: none"> - IATF certified, with no Major issue from surveillance audit; and - Supply to Automotive customers - Distributors that supply standard/low risk components - S&S: mainly for L0 and L1 architectures*
Medium	<ul style="list-style-type: none"> - IATF certified, with Major issue from surveillance audit; and - SAT self-assessment score "A." - S&S: Mainly for L2 and L3 architectures*
High	<ul style="list-style-type: none"> - No IATF; or - SAT self-assessment score "B" ; SAT self-assessment score "A" without proper evidence. - S&S: 3rd party Products

Products & Services criticality and its levels descriptions are as shown in table below:

Product & Services Criticality	High Level Criteria
A	<ul style="list-style-type: none"> - Entirely new product family (based on a new platform or new technology) with high technical complexity (PPAP); or - Finished Goods; or - ODM Module/Packaging; or - Components with Severity from DFMEA "8/S"; or - Single sourced component supplier - S&S: Project Category 1 suppliers or used in PUBLIC - ARENA's Segment
B	<ul style="list-style-type: none"> - New product, derived from an existing platform or proven technology (PPAP); or - OEM Module/Packaging, or standard component; or - Components with Severity from DFMEA "3/5" - S&S: Project Category 2 suppliers or used in Industrial, Road & Street or Public (rest) Segments
C	<ul style="list-style-type: none"> - Improved (new) product, based on an existing product, with low technical complexity (PPAP); or - Components with Severity from DFMEA "1" - S&S: Project Category 3 suppliers used in Office, Warehouse or Retail & Hospitality Segments

Information regarding "Supplier Quality Risk" & "Products & Services Criticality" shall be provided by the audit requestor audit in the "Supplier Qualification Request" form.

2.3.2. ODM audit

If potential supplier is to be qualified as ODM, then they must undergo the ODM checklist on top of the usual SAT audit. This step is extremely crucial in identifying whether supplier is the right fit to be our ODM partner, instead of just a regular EMS/CMS/JDM supplier.

For ODM/JDM suppliers, the overall qualification result will continue to maintain SAT rating when below scores of ODM Checklist audit are met.

In the event when ODM Checklist audit score is not met, the overall qualification result will be downgraded to C.

- ODM Checklist audit score \geq 60% for JDM suppliers
- ODM Checklist audit score \geq 80% for ODM suppliers

2.3.3. Requirements of audit

All supplier requires qualification prior phase into Signify supplier base. This is applicable for all case except for supplier that fulfilled the L032-2018 OTV directives.

In case the One-time vendor or OTV spend is \geq 100K Euros, outgoing inspections are required. OQC arrangement through relevant business QAM. Responsible SAM is responsible to monitor the said supplier and request for an audit in case “one time” supplier turns out to be more than just “one time”.

Tritium list will also help to reflect suppliers who was allowed into our supplier base without initial audit. Prescribed suppliers due to ETO businesses, government tender projects, distributors, 2nd tier by/from 1st tier, B brand or private label also do not need to be audited as that decision was made by customer. In these cases, the accountability of quality (no warranty) is not with us but with the customer. Relevant PE of the project must ensure this liability clause be included as part of the sales agreement by our salesperson.

For this, we shall follow warranty policy in QS-011881 – Standard Warranty Template Signify that specified in clause 7 - The Warranty Period for customized or non-standard Products is one (1) year. Signify does not provide any warranty related to any Defect arising from designs, instructions or specifications supplied by Customer to Signify.

Re-assessments are based on risk. Only those suppliers with significant risks for Signify or where we have recently experienced issue are identified will be re-assessed. “For cause” audits may be triggered by events such as

- Change of Location.
- Performance issues such as Warning letters or 3 times red in supplier quality scores.
- Change of Technology.

During the audit observations of the following types may be made:

- **To start** (10): Full compliance with requirements
- **On track** (8): Requirements mainly* satisfied; minor deviations
- **Warning** (6): Requirements partially satisfied; significant deviations
- **Off track** (4): Requirements inadequately satisfied; major deviations
- **Realized** (0): Requirements not satisfied
- Stopped (NR): Not in scope of audit, not addressed

At the end of the assessment, the Signify team will provide the results and areas for improvement. SAT Audits can result in a GREEN, YELLOW, RED or BLACK score. Depending on the outcome different follow up is required as shown in the table below.

Audit classification	
Class	Details
A	Pass. Supplier meets requirements. No or limited improvements needed.
B	Conditionally pass. Corrective action and containment are required. Limited risk.
C	Fail. Supplier's process is incapable to meet requirements. Corrective action and containment are required. Major risk.
D	Fail. Blocking issues found. Project or regular production on hold until corrective actions have been implemented.
NR	Not Rated

2.3.4. Audit Follow ups

Only applicable for A, B & C with waiver's supplier - Findings from the Signify on-site audit shall be followed up and closed with corrective actions. Proof needs to be handed over to Signify. Depending in evidence provided Signify could decide to do initiate follow up audit in case there is doubt on effectiveness of implemented measures.

Re-audit report shall be submitted back to Signify SQ for validation. Once verified and if supplier is deemed improved then the previous audit result shall be corrected in 'Tritium program' per the latest report or evidence.

2.3.5. Failed audit (waiver process)

The only way to continue business with a C supplier is through the waiver process, as described in procedures "QS-000204 Procedure for Quality Waiver" with "QS-013284 Waiver Template". Waiver needs to be approved by Business Owner, Head of Procurement and Head of Supplier Quality.

Such waivers should be issued only in exceptional cases and needs to have a clear reason why the supplier is needed, and which resources/timing are needed to bring them to the required A and B level.

Until then, no project allocation shall be done with a non-released supplier.

Full RACI table concerning the entire supplier qualification process as describe below: (RACI definition follow 1.2.1.)

No	Steps	CPO / Business Owner / Q SVAL / Operation's Lead*	CCL's (BP)	CT/PE (SAM / Requestor in S4V)	Commodity Manager **	Central SQ	Business SQ	Product / Industrial Quality	Business R&D	Supplier
1	Check & confirm One-time buying suppliers			RA		C	I			
2	Check involvement of the commodity manager			RA	C	I				
3	Manage on-site OQC for one-time buying suppliers			C		I	A			R
4	Do we have existing suppliers which can deliver the products/services for the region. If yes reject and advise the alternative supplier			C	AR	I			I	
5	Does the supplier fit in the CSD. If not reject and advise alternative supplier			C	AR	I			I	
6	If expected yearly Turn Over >250kEuro is there a supplier contract (or in progress). If not initiate contracting process			R	A	C			I	
7	Check if ISO9001 Certified			R		A	I			C
8	Check supplier spend			RA		I	I			C
9	Input for Product Criticality			CI		I	R	C	RA	
10	Review Input & decision for Product Criticality			I		RA			C	
11	Input Supplier Quality Risk			RA		I	CI			C
12	Review Input & decision for Supplier Quality Risk			I		RA	C			
13	Request audit (submit forms along with all pre-audit requirement's results.)			RA		C	I			
14	Review request & decision		I	C		RA	I			
15	Organize audit (interface with supplier org.), execute audit & report (issue CAR)			C		RA	I			C
16	Review audit result & decision	I	I	I		RA	I			I
17	Waiver (only if applicable)	A	R	R		C	C	C		
18	CAP, follow up and close (For waiver approved suppliers (C) re-audit is mandatory to close CAP, by SQ Central team)		I	I		A	I			R
19	Follow up (validate & upload audit report into TSL)			I		RA	I			
20	Quality Contracting (Master Quality Agreement - MQA)		I	R		A	I			C
21	Register new supplier into TSL			RA		I	I			
22	Update the Supplier Qualification process	I	I	C		RA	C			

Site manager's approval required for suppliers delivering to this site

* Operation's Lead only involve when Signify factory will be impacted

** [CT managers see approval flow SFV](#)

3. Supplier Quality Contracting

3.2. General Purchase Agreement

Depending on the expected size of the business and the nature of the business relationship, Signify and the new supplier may sign a General Purchase Agreement (GPA) prior to release into the Signify supply base. This agreement governs all commercial aspects of the relationship with Signify. The GPA includes aspects such as change control, product release, regulated substances, quality targets, product

verification, process control and warranty. Although Signify Procurement is responsible for this agreement, Supplier Quality will be consulted on the content of the contract. The Supplier Account Manager is responsible to agree with suppliers on the GPA content. GPA needs to be reviewed by Legal and SQM prior to final signing.

3.3. QUALITY AGREEMENT

As mentioned, Signify is placing more emphasis on identifying potential problems and acting to prevent occurrence, therefore our quality contract will not only emphasis on consequence or claim management but also preventative measures that supplier should take to their best effort to avoid any potential quality issue.

3.3.1. Specification Agreement

Signify recognized that certain quality targets are bound to be upgraded or change, in view of on-going activities from continuous improvement, new product launch, new technology & etc. Some improvement or changes could also be due to a direct result from a customer complaint & field return too. For quality targets that are expected to change, Signify has made specification document available. Elements that are usually included in a specification are annual quality target, OQC PPM target, supplier reporting timeline, sampling plan of reliability tests, continuous improvement projects, GSRS & other concerned items defined from the BG's.

Normally all quality targets within the specification will be reviewed and revised again during the annual negotiation but in some special or urgent cases, Signify SQ will still reserve the rights to review and revise specification even outside of the negotiation period.

3.3.2. Product warranty

It is our expectation that suppliers develop and deliver part that is not only fully conforming at time of delivery, but also provides faultless performance during the useful life of the finished goods part. However, it is recognized that some percentage of part may experience early failures. It is our expectation that suppliers will stand by their parts and provide warranty coverage for the parts that do not reach the expected life.

For all warrantable parts, Signify requires suppliers to sign PSW (from the PPAP) on top of GPA. With combination of these contracts that expressly details the recovery guidelines for expenses related to field failures caused by the supplier's part.

The GPA sets the framework for managing the allocation of Cost of Non-Quality (CoNQ) related to supplier caused warranty issues. If no GPA and PSW in place, Signify will still hold the supplier responsible for field failures related to the design or manufacture of their supplied parts and costs and liabilities will be managed on a 'case by case' basis.

3.4. 2nd Tier Supplier Quality Management

Depending on business engagement model and whether 2nd tier supplier prescribed by Signify of not, there ownership could be different as shown in table below:

* Tier 1: Supplier directly engage with Signify.

* Tier 2: Supplier that does not engage directly with Signify but part of the supply chain who supply to tier 1 for Semi or Finish Good assembly.

Activities	Ownership by business model		
	EMS/CMS/JDM	ODM	BfR
T2 Supplier Selection & Contracting & Qualification & Release (only for Signify imposed suppliers)	SIGNIFY	SUPPLIER	SUPPLIER
T2 Supplier Selection & Contracting & Qualification & Release (only for T1 sourced suppliers)	SUPPLIER	SUPPLIER	SUPPLIER
Component specification definition (only for product Design)	SIGNIFY	SUPPLIER	SUPPLIER
Component specification definition (only for T1 supplier's manufacturing process)	SUPPLIER	SUPPLIER	SUPPLIER
Component release & process release	SUPPLIER	SUPPLIER	SUPPLIER
Quality control of T2 suppliers	SUPPLIER	SUPPLIER	SUPPLIER
Incident management (for Field incident)	SIGNIFY	SIGNIFY	SIGNIFY
Incident management (for T1 or T2 supplier internal incident)	SUPPLIER	SUPPLIER	SUPPLIER
Supplier performance monitoring (for T1 supplier)	SIGNIFY	SIGNIFY	SIGNIFY
Supplier performance monitoring (for T2 supplier)	SUPPLIER	SUPPLIER	SUPPLIER
Engineering change approval	SIGNIFY	SIGNIFY	SIGNIFY
Warranty management	SIGNIFY	SIGNIFY	SIGNIFY
Claim handling	SUPPLIER	SUPPLIER	SUPPLIER

1st Tier supplier must guarantee the quality of the components supplied by 2nd Tier suppliers. 1st Tier suppliers must select and qualify their suppliers and agree with them through a quality contract on specifications and other requirements. Quality assurance in line can be done through outgoing inspection at the 2nd tier supplier, Incoming Quality Control at 1st tier supplier or both. Especially the key and critical components must be considered. Non-conformities must be followed up via 8D reporting and problem solving (see also chapter 6.8).

Even if 2nd tier suppliers are selected by Signify or if Signify has approved those suppliers, the 1st tier supplier remains solely responsible to ensure the 2nd tier supplier parts conform to all quality requirements. Exemption to this rule is only possible in case of explicit agreement in writing between Signify and the 1st tier supplier.

4. Production Part Approval Process

Signify PPAP main objective is to support supplier defining a plan ensuring that a product, component, or subassembly satisfies Signify requirements and to facilitate easy communication with the Supplier. It has

a strong focus on manufacturing and industrialization and is complementary to Design for Six Sigma methodology used across Signify development organizations.

PPAP allows us to match the voice of customer with the voice of the suppliers (VOC = VOS) and is the hard proof the supplier understood our requirements. Signify PPAP is based on the standard of the automotive industry (AIAG) but is customized to consider the diversity of the product portfolio, size and volumes across different business and sectors within Signify.

One of its main objectives is to identify, track and control the CTQs throughout the development and manufacturing process to meet the requirements. Each CTQ agreed is to be controlled by supplier and shall be part of the supplier quality systems and as such part of the PPAP package presented by supplier as evidence of compliance to requirements. Other PPAP objectives also include:

- Ensure part meets specifications.
- Ensure supplier has robust process controls.
- Ensure supplier has capable processes on CTQ parameters.
- Ensure supplier has the proper measurement equipment on CTQ parameters.
- Ensure that supplier understands that changes require notification

In case of key or customized components, Qualpacks or FAI report may also be accepted instead of PPAP. Decision of which method is to be used for part release is at the discretion of component group SQM. The supplier is responsible to conduct the proper quality planning prior to PPAP or QualPack submission.

Signify has defined three PPAP levels to release components and the following details are required per each level from supplier:

PPAP element		Level 4.1	Level 4.2	Level 4.3
1	Design records. (drawing)	X	X	X
2	Engineering Change Documents			X
3	Customer engineering approval			X
4	Design FMEA			X
5	Process flow diagram		X	X
6	Process FMEA		X	X
7	Control plan		X	X
8	Measurement system analyses		X	X
9	Dimensional results (Fit)	X	X	X
10	Material & Performance test results (Function)	X	X	X
11	Initial process study (Statistic)	X	X	X
12	Quality Laboratory Documentation	X	X	X
13	Appearance approval record (Form)	X	X	X
14	Sample of the product submitted (Run@Rate, Pilot Run)	X	X	X
15	Master sample product submitted			X
16	Checking aids			X
17	Customer specific requirements	X	X	X
18	Part submission warrant	X	X	X

4.1 Technical Documentation

Depending on business model, different technical document will be supplemented from signify:

Business model	Input from Signify	Output from Supplier
EMS/CMS/JDM	Technical drawings,	PPAP 4.3 (max if DFMEA shared by Signify)

	TPD's, DFMEA & etc.	PPAP 4.2 (max if no DFMEA shared) PPAP 4.1 (min)
ODM	FRS or MRS	PPAP 4.3 (max) – PPAP 4.1 (min)
OEM (BfR)	Label specification	PPAP not application or PPAP 4.1 (max)

In the Signify system the top-level controlling document may be a drawing or a specification, which all called Technical Product Datasheet (TPD). A detailed description of the documents that support Signify product development is available upon request. This is applicable for EMS/CMS/JDM business model. In ODM, Signify simply provide FRS (Functional Requirement Specification) or MRS (Modules Requirement Specification). These high-level commercial requirements should be sufficient for an ODM supplier to develop the product into a full or completed system. Please note that if there is any question about these controlling documents, suppliers should contact the buyer or SQA for the Signify business unit placing the purchase order.

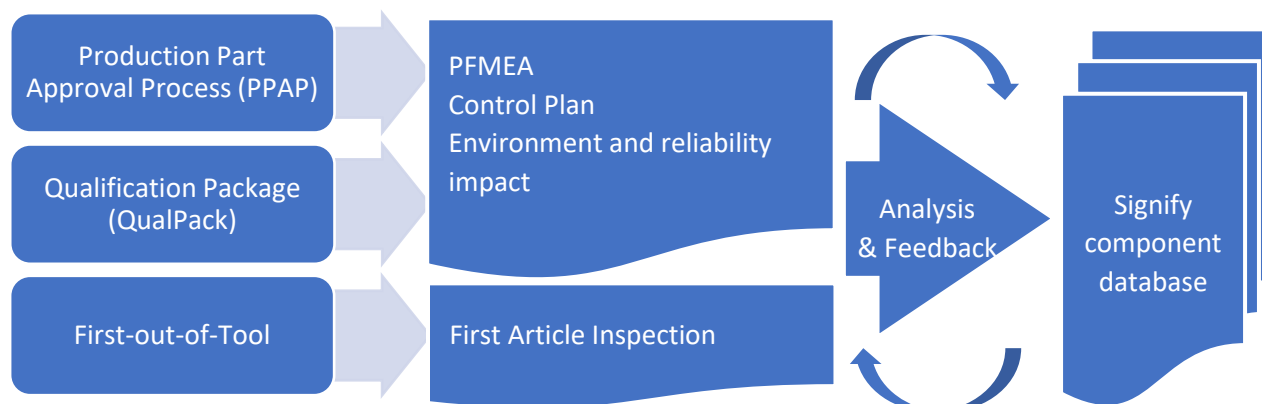
It is important to understand that top level documents often contain references to sub-level documents which in turn may reference other standards or specifications. To ensure that all part requirements are identified, all documents and standards referenced at each level must be reviewed for references to lower-level documents. This must be completed at each level and each succeeding level until all documents have been identified and reviewed.

All these are part of design records of PPAP.

4.2 Prototype Requirements

Throughout the product development stages, Engineering will request prototype samples for testing and evaluation. The supplier shall have a PFMEA & control plan when producing the prototype samples. The samples shall also be fully traceable for future analysis purposes and supplier shall have test data (part and process) available upon request. Non-approved suppliers may submit prototype samples for testing and evaluation but must not ship production level parts until the supplier is approved through the Supplier Selection and Qualification Process.

4.3 Part testing



Supplier	Signify
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Signify will request relevant data from the supplier, e.g., PFMEA, control plan and evidence of compliance to the specification, the environment and reliability impact. Upon receipt, Signify will make a judgment on compliance to the PPAP/Qualpacks requirements. If gaps are identified, Signify will request additional data or arrange for additional testing. Any failures found will be shared with the supplier. The supplier shall take actions to bring the part to the desired specifications. The part will have to be re-qualified before it is added into the Signify or BG specific Component Database.

For tool related parts, First-out-of-Tool parts will be released based by means of the 'First Article Dimension Inspection' report. Process for this is:

- The supplier shall measure, at minimum 5 parts, all dimensions on the drawings.
- For multi-cavity production tools, the supplier shall measure all cavities in the tool.
- The supplier shall perform process capability studies on CTQs. The C_{pk} indices must be calculated on a minimum of 30 parts and must meet the required C_{pk} level as described in chapter 5.1.1 Supplier Process Capability Requirements

4.4 Manufacturing Release

Manufacturing release is part of the PPAP process. In case PPAP is not followed, manufacturing release through a trial run remains a requirement so that Signify can provide feedback prior to the release of the new part for manufacturing. Process Engineering will conduct the trial run and provide a Manufacturing Release Report prior based on Run@Rate to full production with the new part. Outsourced manufacturing sites will perform such a release according to their own internal procedure. The report is one of the deliverables according to PPAP (see above, element 14).

4.5 Process Release

4.5.1. Supplier Process Capability Requirements

Signify requires all suppliers to have good knowledge of Statistical Process Control. The process capability requirements for all parts Critical to Quality (CTQ) are defined below:

Capability Index	$C_{pk} < 1.33$	$1.33 \leq C_{pk} < 1.67$	$C_{pk} \geq 1.67$
Comments	Corrective action plan required. Production and delivery can start only after approval. In case cannot meet, 100% inspection is required to enable shipment.	No action required for existing/legacy products	Mandatory for all new designs

Process stability (must be proven with control chart) is a pre-requisite to C_{pk} calculation.

Suppliers shall demonstrate that they meet the process capability requirements in the PPAP or QualPack submission. C_{pk} requirements are subject to change depending on the project.

4.5.2. Measurement System Analysis (MSA)

The quality of measurement data produced by test equipment and gages is important to determine process and part conformance. The supplier shall establish a program for all gages to identify measurement error and how it relates to process or part conformance. Gauge repeatability and reproducibility (GR&R) can be best determined by using the average and range method for a variable gage study.

Gauge R&R (% Tolerance based on ANOVA method)	0 - 10% error	10% - 30% error	>30% error
	Acceptable measurement system	Conditional, depending upon importance of CTQ, process capability study	The gage needs improvement and shall not be used to measure control plan CTQ's

GR&R studies are required for PPAP approval for all CTQ's identified in the PQA/Project Book.

4.5.3. Calibration

The supplier shall establish a calibration system that will track and account for each gauge and measuring instrument individually. Established calibration intervals shall be documented, and each instrument shall be traceable to its last calibration date. Documentation shall include the actual quantitative measurements taken during the calibration, to monitor long-term performance.

Employees involved in using calibration equipment shall have documented training on the instruments they use. Documentation of training records shall be retained for verification purposes.

Reference for Calibration shall be according ISO17025, latest edition.

4.5.4. Process Special Requirements

For different types of manufacturing processes special requirements may be applicable. Examples of these special requirements are:

- Temperature and humidity control
- Electrostatic Discharge (ESD) protection
- Clean room conditions
- Safety products/parts
- Etc.

In general, Signify will follow industry standards, but may deviate from this when this is deemed necessary. In these cases, the supplier will be clearly notified or vice versa.

4.5.5. Maintenance

All manufacturing processes require maintenance in some form or another. Signify requires suppliers to have a preventive maintenance plan in place. Corrective or breakdown maintenance is expected to be monitored, analyzed, and reduced. Preventive and corrective maintenance records need to be kept for verification.

On top of all these, it is also fundamental that supplier utilize and maintain the trinity of process control documents such as process flow diagram, FMEA & control plan. All manufacturing processes should be verified and validated with a Run@Rate of continuous min 4 hrs.

4.6 Supplier Application Signoff

Signify holds suppliers in high regard and recognizes them as the expert of their parts and processes. Signify depends on the suppliers to infuse this expertise into those parts and processes. Signify expect the supplier to clearly indicate if requirements cannot be met so that in mutual corporation design & process changes can be agreed to assure full quality compliancy over life or critical parts, Signify may seek the help of the supplier to review the design to verify that the right part has been selected for the application and that there are no adverse conditions in the manufacturing processes that can negatively impact the reliability of the part. Signify will initiate this activity with the suppliers. Once the proper reviews have been conducted with no concerns identified, the supplier shall sign off on the application.

More details available in QS-ExC1-300_Procedure for Production Part Approval Process.

5. Quality Performance Management

5.1 Cost of Non-Quality Reduction

Signify is committed to the principle of Continuous Improvement and use Cost of Non-Quality as a measure of our performance. Non-conforming parts are to be reduced. Suppliers will investigate the cause of failure of non-conforming parts and the implementation of corrective and preventive actions.

Although a quality issue caused by supplier shall still be recovered as much as reasonably possible. The value we claim is not only the value of the defective parts, but also direct & indirect cost as prescribed in GPA clause 13.2 Remedy cost. These claims will help us to recover our costs and will motivate supplier for structural improvement.

5.2 Receiving Inspection

Suppliers must focus on prevention, not detection, and strive to improve their processes and the quality of the parts. Depending on the proven performance of the supplier a decision will be made by Signify w.r.t. inspection schedules to be applied to secure the quality of the parts towards our customers. All quality records need to be maintained by supplier. (information such as date of inspection, supplier,

inspector, 12NC's or part number, production line and shift.) Doing this will prevent fraudulent of the data and such records need to be signed off on regular basis by Signify.

Signify or its outsourcing party may perform receiving inspection in accordance with internal procedures having an acceptance level that striving towards zero defects. Signify or its outsourcing party may reject any nonconforming parts. Final goal is to have a Direct-Ship-To-Stock way of working, but this will be only implemented for parts or suppliers with a proven track record for good quality.

All preventive outgoing inspection cost are to be assumed responsible by the relevant supplier, where the inspection plan remains dynamic and could be reduced according to their outgoing inspection PPM performance. This will enable supplier to improve and achieve reward relevant to their outgoing inspection performance, which is a lower inspection level or Direct-Ship-To-Stock. Signify outsource outgoing inspection work to a 3rd party contractor and all relevant cost will be charge back accordingly to suppliers.

For details, please refer to the signed Supplier Inspection Agreement.

5.3 Traceability

It is expected that all suppliers have an established system for an appropriate level of part traceability in terms of batch or lot production and material control. Certain parts may be subjected to specific, defined traceability requirements. Typically, this requirement is applied to parts related to safety or legal regulations. Suppliers of parts in this category are required to maintain systems that allow traceability from a part serial number or date code to specific manufacturing, inspection and material records associated with a part and the regulated feature(s). This information must be retained and stored to be readily accessible to Signify when required.

The Supplier Quality Engineer assigned to a part may define specific traceability or document requirements. If there are any questions concerning the type of traceability required or level of supporting documents, suppliers are obligated to contact the Supplier Quality Engineer immediately.

Generally, parts where traceability is needed will be identified CTQ or CTS within drawings or specifications. As a rule, the criticality designation [CTQ] or [CTS] will be applied to safety critical parts. Additional information is available in the drawings or TPD.

In addition to features identified as critical in Signify specifications, suppliers are responsible to identify all additional safety or regulatory requirements that are specific to their parts or commodity.

5.4 Part Quality

Part quality is defined as the ratio between the number of parts rejected at delivery or during the warranty period agreed between the supplier and Signify and the number of Parts supplied in each time period. Part quality levels can be given on PPM level or percentage.

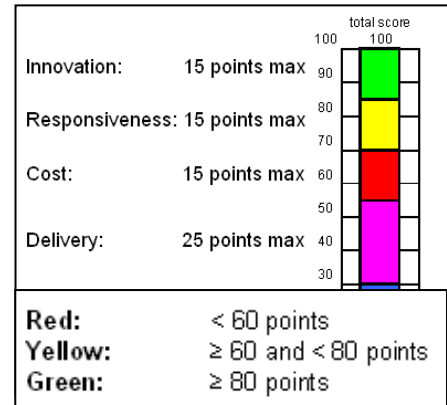
A reject is defined as a part not meeting the Part Specifications. If a part is rejected, Signify is entitled to claim damages from the Supplier in accordance with the relevant terms and conditions of the GPA and/or any applicable auxiliary agreements. Suppliers may be required to provide PPM data for both their incoming materials as well as their finished goods supplied to Signify.

5.5 Supplier Rating

The performance of our most important Suppliers is evaluated in a consistent and standardized way using the Supplier Quality Scores in TEAMS. The results are reported back to the suppliers as a basis for further improvement programs.

Supplier is expected to review their own performance monthly and to send a corrective action plan in case of RED scores.

The performance is measured against mutually agreed expectations, as well as against other suppliers within the commodity. The sum of the score of 5 elements will be between 0 and 100 points.



Supplier Quality is max 30 points and its constructs were made up by 3 portions: 1. Outgoing inspection PPM performance, 2. Number of incidents (A, B or NCR) & 3. Other complaints related to the effectiveness of PPAP, responsiveness & recurrence incident.

Signify	DPPM Score: Min -12, Max +10					Additional Subtracting points						Max 30
	GSR Score		Data Entry		DPPM Score	-30 / case	-15 / case	-5 / case	-4 if any	-5 if any	-5 if any	
Supplier names	PPM Target	Reference CT Target	# pcs inspected	DPPM	DPPM Score	Nbr of Class A	Nbr of Class B	Nbr of Class NCR	Complaints related to PPAP (Yes: -4 pts, No = 0)	Late reply (Yes = -5, No = 0)	Recurrence (Yes = -5, No = 0)	
					-12							-1.00
Portion 1					Portion 2			Portion 3				

Portion 1:

DPPM Definition: defect part per million

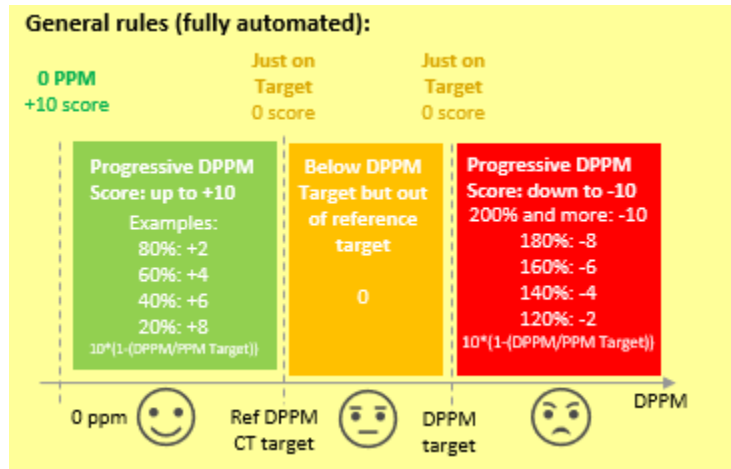
$$PPM = \left(\frac{\text{total number of defective units found in a sample}}{\text{sample size}} \right) \times 1,000,000$$

A PPM target is the target agreed with the supplier.

A PPM reference target is the target set for a group of suppliers within the same group of commodity and technology.

The DPPM is measured ideally at Supplier OQC or under exception in the receiving factory (IQC / FOR). At Signify, we strive to achieve zero defects. Thus, supplier who can perform at zero PPM level shall be rewarded with full score of 10 points. However, if supplier is only able to perform within or on target of their PPM, then they will receive progressive DPPM score between 0 to 10.

A supplier on target but still out of reference target will receive 0 score. The following graph summarize the DPPM score Vs DPPM achievement:



- Special Cases (fully automated):**
- PPM Target = 0 and DPPM = 0: +10 score
 - PPM Target = 0 and DPPM > 0: -10 score
 - "No PPM Target" OR "No DPPM" OR "No pcs inspected": -12 score
 - Pcs inspected = 0, use the old first valid DPPM monthly score.
 - If no PPM Ref Target, PPM target always leading

Portion 2:

Is also known as the subtracting portion, where if an A-incident were caused by supplier then a full 30 points will be minus out, following by -15 points if supplier caused a B-incident or -5 points is supplier caused NCR.

Portion 3:

Signify would also like to take this opportunity to measure the effectiveness of PPAP, responsiveness of 8D, PPAP & etc. and to penalize recurrence issue on top of not to have incident or NCR. For complaint that are related to PPAP is punishable by max -4 points, complaint related to late respond PPAP, 8D or etc. and recurrence issue is punishable by max -5 points.

In general (Exception for DPPM score = -12) The final GSRS score is calculated as the following: 20+ Portion 1 + Portion 2 + portion 3. The following table explains the supplier GSRS status vs quality GSRS score.

Total Points	Quality	Supplier Status
≥ 80	≥ 24	GREEN
≥ 60 < 80	≥ 18 < 24	YELLOW
< 60	< 18	RED

6. Incident Management

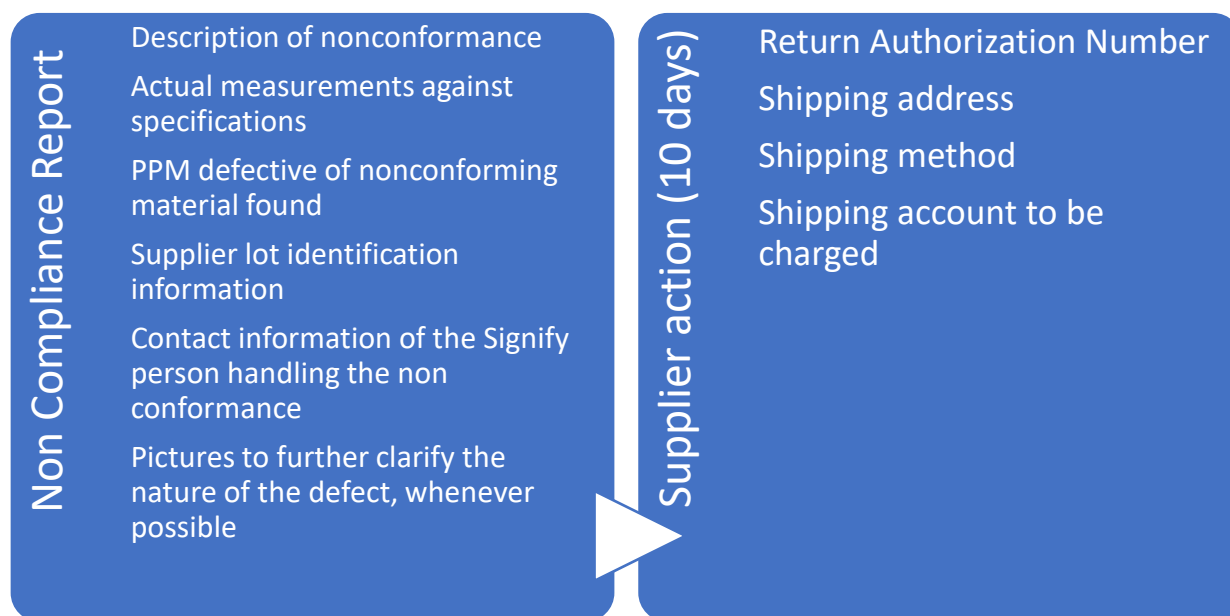
6.1 Analysis of Customer Returns

Signify has Customer Care as top priority and will act as quickly as possible to minimize the impact to them, whenever issues are reported. Suppliers are considered valuable members of Signify’s problem-solving team. Suppliers shall have capable resources and a documented process to support a fast turnaround of customer returns. The turnaround time for the total problem resolution shall be commensurate with the urgency of the problem. The resources and the contact information, i.e., names, shipping address, shipping, and handling instructions, shall be identified in advance. The supplier shall provide a complete analysis report using the 8D format. Depending on the nature of the problem, more frequent, interim reports will be needed to keep all parties informed.

Supplier’s assistance may be needed in helping to resolve the problem at Signify’s Customer or Manufacturing sites. In such cases, supplier shall send the technical experts to accompany the problem investigation at these sites.

6.2 Non-Compliance Report (NCR)

In case parts are rejected a Non-Compliance, Report may be issued. NCR is used to recover costs from parts that do not meet Signify specifications.



Shall the suppliers desire defect samples for analysis, it is the supplier’s responsibility to make such arrangement. Not having defect samples is not a valid excuse for missing the 10-day requirement.

Signify or its outsourcing party will provide this information to Logistics for the proper return of the material. After the return, Logistics will provide Negative Receipt Number to Accounts Payable as proof of shipment. After the proper accounts have been credited, Accounts Payable will close the NCR.

6.3 Supplier Corrective Action Request

In addition to the Non-Conformance Report, Signify or its outsourcing partner may request corrective actions from supplier. This is done via a Supplier Corrective Action Request (SCAR). The SCAR shall reference the NCR for complete non-conformance description where applicable. The SCAR can be communicated by e-mail or via a dedicated website. Instructions on how to complete the SCAR are included on the 8D Corrective Action Report. The mandatory 8D format can be found at: http://www.lighting.philips.com/b-dam/b2b-li/en_AA/company/supplier/problem-solving-report.docx

Supplier shall comply with the following requirements, unless specified otherwise in the GPA:

Non-conformance category	Confirmation and containment action	Root cause analysis and corrective action plan (tier 1)	Complaint solving/root cause analysis (tier 2)
Critical or safety issue*	24 hrs	5 calendar days**	According to agreed action plan
Other	2 days	10 calendar days**	According to agreed action plan

* "Critical or safety issue" is a non-conformance, which is assessed as likely to result in injury to person, material damage, environmental hazard, (potential) Signify customer complaint or other unacceptable consequences.

** or otherwise, in case specified in the Signify complaint report.

Containment actions shall first and foremost address how to protect Signify's customers from injury or damage and to keep the production line from shutting down. Secondly, the supplier shall address what is to be done with suspect stocks, i.e., at the supplier's warehouses, at Signify warehouses, and in transit between the supplier and Signify. Thirdly, the supplier shall detail the method of screening the suspected stocks, date of first delivery of safe part and how they will be distinguished from normal stock.

The Corrective Action Plan shall include the responsible person for each action and reasonable timing for completion. The supplier shall provide updates to the corrective action plan at the appropriate time. The SCAR will be closed after written approval by Signify Supplier Quality representative in charge of the complaint.

If the problem recurs within a 6-month period, Signify has the right to disqualify the part. Once a part is disqualified, Signify will explore alternatives from other qualified suppliers.

6.4 Cost Recovery

Signify is focused on prevention but will initiate cost recovery caused by a supplier problem as a necessary part of business. Cost recovery is part of the NCR and SCAR process. All Costs of Non-Quality related to a

supplier complaint shall be agreed between Signify and the supplier and credited before the complaint can be considered closed.

Cost of Non-Quality charges may include (list is not meant to be exhaustive):

- Final product replacement (including replacement in the field and related costs)
- Costs of excess work (control, rework, sorting, retest, etc.)
- Costs for shipment
- Engineering costs
- Consequential damage
- OQC inspection cost
- Penalty(ies)
- Any other related costs, e.g., administration, freight, replacement costs etc.

Supplier will be informed by the SAM or SQM in case a cost recovery process is started. A written summary of all costs incurred will be provided to supplier. Subject to the agreed warranty terms in the GPA, reimbursement details will be agreed with the SAM.

6.5 Cost Prevention

To emphasize Signify is focused on prevention two main activities are defined to help our suppliers avoiding Cost of Non-Quality in the stages of full mass production.

Monthly Quality Reporting can be requested from the supplier. Although this might seem additional work at first it is an effective way to join forces in avoiding CoNQ. By effectively discussing CTQs, the way to monitor them and by jointly analyzing the results (potential) problems can be identified early with a minimum of related cost.

Next to Supplier Assessments during the stages of Supplier Selection, Certification and Process Release Signify believes it can help suppliers by conducting Supplier Assessments also during the stage of full mass production. These assessments are performed in a similar way but will mostly be focused on Quality and Manufacturing aspects of a specific site, line, process or group of parts.

7. Supplier Development

7.1 General Business Reviews

Signify recognizes communication is the key to success and welcomes the suppliers to visit Signify in the headquarters and in their plants. Please schedule these informal meetings in advance.

For specific suppliers Signify will conduct general business reviews periodically. These reviews will be scheduled in advance by Procurement/Supplier Account Manager. They can take place at headquarters, at the plant or at supplier's location. Typical topics for discussion include:

- Review of (quality and delivery) performance (GSRS)
- Technology updates

- Sharing of business climate
- New opportunities e.g. Early Supplier Involvement (ESI)
- Upcoming changes to the business, if applicable
- Supplier site assessments

For suppliers having chronic quality, delivery, or communications issues, Signify will conduct performance reviews. Depending on the nature of the issues, suppliers may be asked to come to company headquarters or at the plant on short notice. Suppliers shall be fully prepared to discuss their corrective action plan on how to rectify the situation expeditiously. Follow up meetings may be required and will be defined in the meeting. If the problem is not corrected, more serious actions will be taken.

7.2 Continual Improvement

Signify is committed to continually improve its performance and that of its supply base. To support these activities, Signify may run supplier (quality) development programs. Participation in these development programs is generally on a voluntary basis. However, in case of structural underperformance of a supplier, participation in the program may be required to remain qualified as a supplier.

Supplier Quality Development programs typically consist of the following steps:

- Announcement of the development program and approach to suppliers to investigate their willingness to participate
- Self-assessment by the supplier, using a standard tool
- Quick scan by Signify representatives to verify the self-assessment or identify first quick wins
- Formulation of an improvement plan by the supplier
- Implementation of the improvement plan with regular follow up and review by Signify.

In addition to the above, Suppliers may also be invited to participate in the internal Signify Business Improvement Competition.

7.3 Supplier (Quality) Workshop

Signify conducts Supplier (Quality) Workshops to communicate to a large audience any important changes to (quality) requirements or any new (quality) concepts. These are not regularly scheduled events. The suppliers shall keep the company contacts updated so invitations can be sent to the proper person when these events are held.

7.4 Warning letters

In case of serious underperformance Signify may issue a warning letter. Warning letters are typically issued in following situations:

Category	Deviation
General Business Principles	Any violation to the Philips' General Business Principles.
Contracts	Breach of GPA, GTC, IP Agreements or Non-Disclosure Agreements

	Refusal to sign/comply with SSD, RSL and/or PSCS (for exporters to USA/Europe) as part of the GPA or separately
Compliance to specification	Market recall or serious incident (>100KEuro), (at least partially) caused by supplier
Supplier Audits (SAT, sustainability & SCS)	Failure to submit an improvement plan after an audit or to close non-compliances from audits within agreed time or refusal to have audit performed
Early Supplier Engagement	Unwillingness to support PPAP where requested
Product release and change control	Unapproved changes or unapproved outsourcing by supplier
Supplier performance	2 times red score on Quality in supplier rating GSRS in 12 months at total supplier level, or 4 times red on Quality at supplier-site level
Other	Any other issue caused by unprofessional behavior of supplier, seriously impacting Signify or its customers

In all cases a clear corrective action to improve performance needs to be submitted by the supplier. Depending on the issue, a “for cause” audit may be executed by Signify at the supplier’s site. Quality of the corrective action plan and closure of the actions will be closely monitored. Once Signify is satisfied with the corrective action implementation, the warning letter will be closed.

In case supplier is not willing or able to correct the deviation that was addressed in the Warning Letter, or another serious deviation has occurred within 12 months after issuing the first warning letter, a second warning letter will be issued.

This will impact the business relation with Signify. Typical actions that will be taken by Signify may include a temporary new business hold or supplier phase out. In case of very serious deviations, Signify may decide to blacklist suppliers, leading to a long-term ban to deliver.

7.5 Exit Procedure

Changes in business environment will sometimes lead to changes in business objectives and strategies. There may be a time when the business relationship with a supplier will end.

In cases where a supplier is no longer able to serve the needs, Signify will work to protect the customers against any production interruption. Signify asks the suppliers to provide as much advance notice as possible. The supplier shall maintain the current supply until a viable alternate source can be found.

In case of major quality or delivery deficiencies, Signify will notify the suppliers of their situation through a warning letter. In case of a second warning letter, Signify will act swiftly to protect its customers.

After the business relationship has ended, an ex-supplier shall go through the same Supplier Selection process as a new supplier before they can be considered for re-entry into the supply base. The ex-supplier cannot be considered as a new supplier on the Approved Vendor List (AVL) within 18 months after the previous business relationship has ended, unless Signify decides differently in exceptional cases.

Glossary

8D	Eight Disciplines Problem Solving - method to approach and to resolve problems. It establishes a permanent corrective action based on statistical analysis and focuses on the origin of the problem by determining its root causes
APQP	Advanced product quality planning - a framework of procedures and techniques used to develop products in industry
APQP tracker	The APQP tracker is used to facilitate communication with the supplier and between all functions involved in the project. It ensures that all required steps are completed on time, with a high quality of content during product development process. The tracker has a detailed supplier timing chart synchronized with Philips milestones
BOMCheck	The BOMCheck initiative is led by the European trade association COCIR and delivered by international environmental consultancy ENVIRON. Philips uses BOMCheck portal to list restricted and declare substances for regulatory compliance (REACH, RoHS, Batteries, Packaging etc.) in our products
CAP	Corrective Action Plan
Carbon Disclosure Supply Chain information request	CDP's supply chain program is an annual process that results in consistent information from suppliers on climate -related strategy and action
Conflict Minerals	Conflict minerals are minerals mined in conditions of armed conflict and human rights abuses, mostly in the eastern provinces of the Democratic Republic of the Congo. Companies subject to the conflict minerals requirements must disclose conflict minerals information on a calendar year basis
CoNQ	Cost of Non-Quality
Cpk	The process capability index or process capability ratio is a statistical measure of process capability: the ability of a process to produce output within specification limits
Critical or safety issue	A non-conformance, which is assessed as likely to result in injury to person, material damage, environmental hazard, (potential) Philips customer complaint or other unacceptable consequences
CTQ	Critical to quality
DfSS	Design for Six Sigma - development methodology
DfX	Design For X - X = manufacturability, test, service, procurement, assembly, flexibility, environment, recycling, etc.
ESI	Early Supplier Involvement
FOR	Fall Off Rate, defined as the ratio between the number of produced bad parts/number of produced parts expressed in parts per million
FCR	Field call rate, defined as the moving annual total number of products returned from the field/moving annual total number of delivered products to the field, expressed as a percentage
FMEA	Failure Mode and Effects Analysis
GPA	General Purchasing Agreement
JQE/JQM	Joint Quality Engineer/Joint Quality Manager (see chapter 7.5)

MSA	Measurement System Analysis: A specially designed experiment that seeks to identify the components of variation in a measurement. A measurement systems analysis evaluates the test method, measuring instruments, and the entire process of obtaining measurements to ensure the integrity of data used for analysis (usually quality analysis) and to understand the implications of measurement error for decisions made about a product or process. MSA analyzes the collection of equipment, operations, procedures, software, and personnel that affects the assignment of a number to a measurement characteristic.
MQA	Master Quality Agreement
NCR	Non-Conformance Report
PPAP	Production part approval process (PPAP) is used to demonstrate that all customer engineering design records and specification requirements are properly understood by the supplier and that the process has the potential to produce product consistently meeting these requirements during an actual production run at the quoted production rate. The PPAP process is described in paragraph 5.3 in more details.
PQA Kick off meeting	Under the lead of the assigned project SQE, a kickoff meeting is organized with the supplier's team to discuss relevant project information which is documented in the PQA and first page of APQP tracker. Following to this meeting, follow up sessions are organized to review the technical product documentation and the list of CTQs. The purposes of these meetings are that the Supplier understands early enough all the specifications of the part to be supplied to Philips and that the Supplier agrees on the feasibility of the technical requirements before any investment is done.
QualPack	Qualification package - set of data and documents (procedures, process maps, forms, etc.) required for production release
RBA	Responsible Business Alliance
REACH	Registration, Evaluation, Authorization and Restriction of Chemicals. REACH addresses the production and use of chemical substances (i.e., everything made of atoms), and their potential impacts on both human health and the environment.
RSL	Regulated Substances List
RFA	Request of Analysis
Risk countries	As described and assessed by Maplecroft and updated based on other publicly available risk indexes. The latest list of risk countries can be found on the following Philips website: https://www.signify.com/global/contact/suppliers/sustainability/our-programs/supplier-sustainability-management
RoHS	Restriction of Hazardous Substances Directive 2002/95/EC, short for Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment
SAM	Supplier Account Manager - Signify focal point of contact for designated supplier(s)
SAT	Supplier Assessment Tool
SCAR	Supplier Corrective Action Request
SSD	Supplier Sustainability Declaration. More details can be found in https://www.signify.com/global/contact/suppliers/sustainability/our-programs/supplier-sustainability-management The Supplier Sustainability Declaration is based on the RBA code of conduct, supplemented with stricter requirements on collective bargaining and freedom of association, in line with the integrity code.

QAM

Quality Account Manager