

# Samsung Signage Display

## Product Environmental Information



Date introduced  
July, 2018



At Samsung, green management forms a vital part of our management principles, and we strive to contribute to the betterment of humanity and preservation of the environment by conducting business in a way that respects both people and nature. It is under the Green Management vision of ‘Providing a Green Experience, Creating a Sustainable Future,’ and the ‘PlanetFirst’ slogans that we advance green management to minimize our environmental footprint across all our production sites throughout the entire product life cycle, from the procurement of raw materials, development, and production to distribution, use, and disposal.

Model Name: QM##N, QB##N (##: 43/49/55/65/75)  
 Model Code: LH##QMN\*\*\*\*/\*\* (\*: A to Z)  
 LH##QBN\*\*\*\*/\*\* (\*: A to Z)

### Global Regulatory information

Compliance documentation, such as certification or Declaration of Compliance for the product is available from: <https://displaysolutions.samsung.com/>

Regulation or Certification	Compliance	Note
ENERGY STAR	YES	Display v7.0 (ANNEX 4: Certification)
*EPEAT	YES	Silver rating ; Varies by countries Refer to <a href="http://www.epeat.net">www.epeat.net</a> for details
TCO	N/A	-
*FSC	YES	Paper from responsible sources
*LCA	YES	Refer to page 2-3 for details
ISO 13406	N/A	-
RoHS	YES	ANNEX 1 : Declaration
REACH	YES	ANNEX 2 : Declaration
WEEE	YES	ANNEX 3 : Declaration

- ※ EPEAT: Electronic Product Environmental Assessment Tool
- ※ FSC: Forest Stewardship Council
- ※ LCA: Life Cycle Assessment

### Housing Plastic and Packaging Information

Packaging Material	Postconsumer recycled contents	Bio-based plastic contents
Housing Plastic	0%	0%
Outer Box	70% ↑	0%
Accessory Bag	0%	20% (Sugar cane)

This product’s housing plastic and packaging materials do not contain the following substances;

- Brominated flame retardants (BFR), Chlorinated Flame Retardants (CFR)
- RoHS toxic substance: Cadmium, Lead, Mercury and Hexavalent chromium
- Ozone depleting substance: CFCs, HCFCs, Halons
- Polyvinyl chloride (PVC)



**ENERGY EFFICIENCY INNOVATIONS FOR PRODUCTS**

At Samsung, one of the ways in which we are addressing climate change is through the innovative design of energy efficient products. We strongly believe that consumers should be able to purchase energy efficient products that offer savings on energy bills without sacrificing performance, features, and comfort.

**Energy Consumption**

This product uses power-efficient components and software that intelligently manages power consumption. The following table details the energy efficiency of the product.

Model	QM43N QB43N	QM49N QB49N	QM55N QB55N	QM65N QB65N	QM75N QB75N
Rating power	110W	120W	130W	160W	200W
*Typical power	76W	91W	86W	125W	159W
Sleep mode power	0.50W	0.50W	0.50W	0.50W	0.50W
Off mode power	N/A	N/A	N/A	N/A	N/A
EU Energy rating	B	B	A	A	A
*Annual Energy Consumption	111kWh	133kWh	140kWh	183kWh	232kWh

- ※ Typical power consumption varies depending on the setting of the displays.  
- Test method : IEC62087 ed2
- ※ Annual energy consumption: Operating 4 hours a day and 365 days a year

**UL EPD certification for QM55N**



An Environmental Product Declaration (EPD) is a comprehensive, internationally-harmonized report that documents the ways in which a product, throughout its lifecycle, affects the environment.

[Visit here for details.](#)

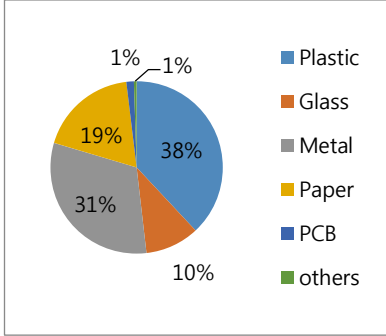
**Life Cycle Assessment**

We perform Life Cycle Assessments (LCA) to identify the potential environmental impact of our products throughout their entire life cycle. The following is the LCA results of the QM55N in the materials production, product assembly, use and disposal phases, and we are determined to use these data to consistently reduce the environmental footprint of our products. To ensure technical quality; the analysis methodology has been completed according to international standard ISO 14040 series. Samsung has used Simapro7 software and a dedicated LCA S/W database to measure environmental impacts using a wide range of data categories including; product bill of material (BOM), parts and components logistics, energy consumption in product use and end-of-life scenario data in order to attain the highest level of accuracy. The outcome of the LCA confirmed and quantified 10 potential environment impact categories including; global warming; abiotic depletion; eutrophication; and ozone layer depletion; where each impact category has been assessed for each life cycle stage. These LCA results will continue to be considered during product development phase as we aspire to improve the environmental specifications of our products.

- **Functional Unit** : QM55N (One unit of SAMSUNG Smart Signage 55")

**Material Use**

Calculate the environmental impacts of all materials that contribute more than 95% of the cumulative mass of the materials into the product manufacturing stage. However, even if the material is excluded from the cumulative mass criterion, it was additionally included in the environmental assessment for substances with a significant impact on the environment.



**Life Cycle Assessment Results**

In order for LCA on the study target product, 55-inch large display, the life cycle was divided into five stages including Pre-manufacturing stage, Manufacturing stage, Distribution stage, Use stage, Disposal . According to the results of LCA on target product, both Pre-manufacturing and Use stages in common had significant impacts on all environmental-impact categories. Global warming, abiotic depletion, acidification, photochemical oxidation, ozone layer depletion, and fresh water aquatic ecotoxicity impact categories were the most affected by the use phase, which is due to the power consumed by the product. The production stage also had a major impact on the impact category, among which the high contribution to eutrophication, aquatic ecotoxicity, terrestrial ecotoxicity, and human toxicity impact categories. These impacts were due to the large amount of electricity use and emissions generated by combustion of fossil fuels when manufacturing parts and component of 55-inch Display.

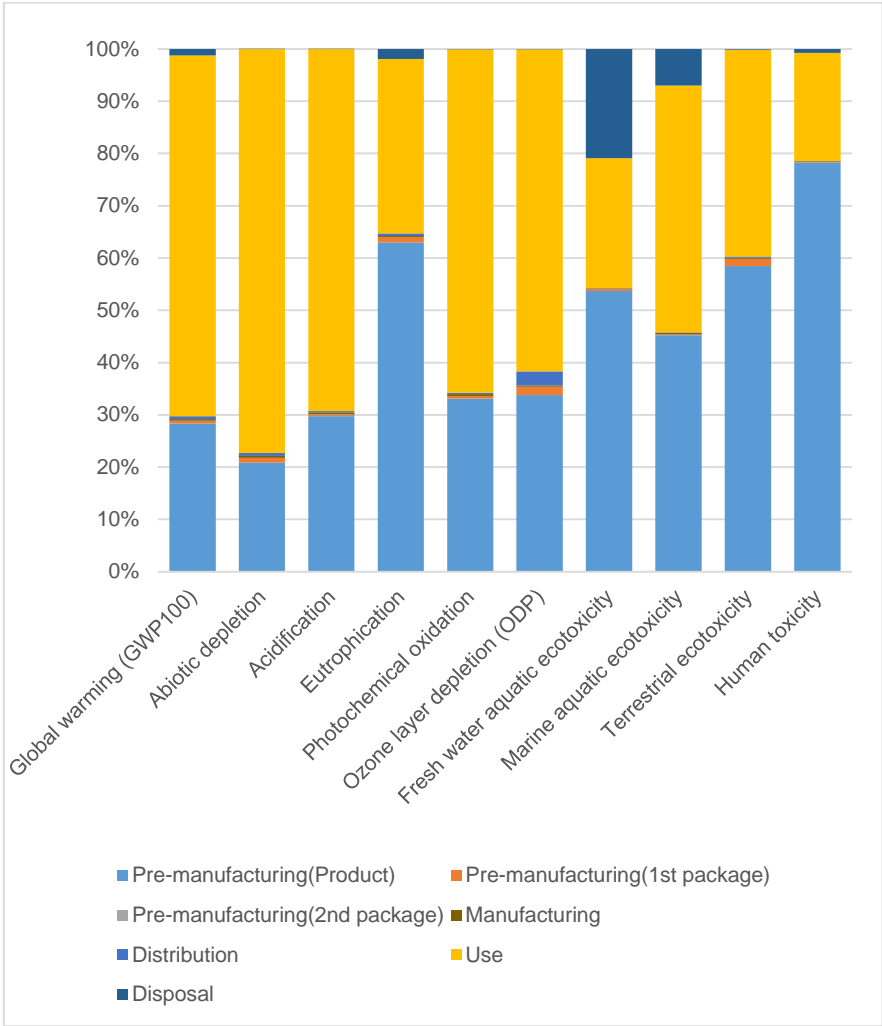
**Calculation basis**

<b>Standard</b>	ISO 14040:2006 and 14044:2006 ↑
<b>Database</b>	Ecoinvent 2.2
<b>Method for impact assessment</b>	Life cycle impact assessment classification and characterization factors according to CML 2001 as provided in the SimaPro 7.1.5 LCA tool
<b>LCA software</b>	SimaPro 7.1.5

**System boundary of LCA**

<b>Pre-manufacturing</b>	Parts and materials constituting the products
<b>Manufacturing</b>	Product assembly from Samsung Electronics (data collection from 3 factories)
<b>Distribution</b>	From Mexico/Vietnam/Slovakia to America, Europe and Asia countries
<b>Usage</b>	7 years use
<b>Disposal</b>	Waste treatment of parts and material

**Characterized Environment Impact**



SAMSUNG



Recycling Program

'This represents our leading resource efficiency initiative undertaken under the slogan 'Samsung recycling program, Re+ makes 'PLUS' to the environment'.

**Circular Economy**

Global e-waste Take-back and Recycling Program (Samsung Re+) : Samsung manages e-waste take-back and recycling systems by country in order to make recycling easier all the way from the product development stage. We have also defined and adopted the 'Samsung Requirements for WEEE (Waste Electrical and Electronics Equipment) Management' to promote recycling in the e-waste collection process and to minimize our environmental footprint as well as the safety & health issues that could affect our employees.

**Eco-Design Process**

We design our products through a process called 'eco-designing' which measures the eco-friendliness of our products right from the development phase. This comprehensive designing process aligns not only with our quality certification programs, but also with our hazardous substance management system. We are applying an internal eco-product assessment program that applies the same level of scrutiny and criteria as global eco-labeling standards.



**Declaration of RoHS Compliance for QM##N, OB##N (##: 43, 49, 55, 65, 75)**

Samsung Electronics Co. Ltd (the "Company") hereby declares that all Samsung Electronics' products placed on the European Community market by the Company and its subsidiaries are compliant with Directive 2011/65/EU on the Restriction of Certain Hazardous Substances in Electrical and Electronic Equipment.

RoHS compliant means that where the product falls under the scope of the EU RoHS Directive, this product does not contain the following substances:

- Mercury ( Hg ) 0.1%
- Lead ( Pb ) 0.1%
- Cadmium ( Cd ) 0.01%
- Hexavalent Chromium ( Cr+6) 0.1%
- Polybrominated Biphenyls ( PBB ) 0.1%
- Polybrominated Diphenyl Ethers ( PBDE ) 0.1%

in excess of the indicated maximum concentration values by weight in homogenous materials, unless the substance is subject to an exemption specified in the Directive<sup>1</sup>. All products are compliant with the CE marking and further information requirements as foreseen by Directive 2011/65/EU.

This declaration represents the Company's knowledge and belief which is partially based on information provided by third party suppliers.

Further details about Samsung Electronics' RoHS compliance programme can be found in the accompanying FAQ document or at:

<http://www.samsung.com/us/aboutsamsung/sustainability/environment/chemicalmanagement/policyontargetsubstances.html>

**Signature :**



KIKEON KIM  
Vice President  
Global Customer Satisfaction Team

**Date : 7<sup>th</sup> July 2018**

<sup>1</sup> [http://ec.europa.eu/environment/waste/rohs\\_eee/index\\_en.htm](http://ec.europa.eu/environment/waste/rohs_eee/index_en.htm)

**Declaration of REACH Substances of Very High Concern (SVHCs) Disclosure****Model: QM##N, QB##N (##: 43, 49, 55, 65, 75)**

Dear Customer:

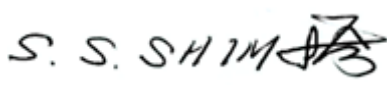
The European Regulation 1907/2006 on the *Registration, Evaluation, Authorization, and Restriction of Chemicals* (REACH) entered into force on 1<sup>st</sup> June, 2007.<sup>2</sup>

Article 33 of REACH requires suppliers to inform recipients and respond to consumer enquiries if an article contains more than 0.1% (by weight per article) of any substance on the candidate list of Substances of Very High Concern (SVHC).<sup>3</sup>

Samsung Electronics Co. Ltd (the "SEC") hereby declares the presence of substances on the SVHC candidate list which are contained in a quantity of more than 0.1% (w/w) in the above product and / or its packaging<sup>4</sup> placed on the European Community market by the SEC and its subsidiaries.

The substances on the REACH SVHC candidate list in concentrations greater than 0.1% by weight per article are listed below.

SVHC candidate list	CAS Number	Article classification
Products	No SVHC	Not applicable
All packaging	No SVHC	Not applicable

**Signature:**

**Date: 7<sup>th</sup> July 2018**

SOONSUN SHIM  
Senior Vice President,  
Customer Satisfaction & Environment Center  
SAMSUNG Electronics Co., Ltd.

<sup>2</sup> <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:396:0001:0849:EN:PDF>

<sup>3</sup> SVHC = Substances of Very High Concern. Considered as candidates for inclusion in Annex XIV of REACH.

The latest revision to the candidate list was published by the European Chemicals Agency on 27<sup>th</sup> June 2018

at: <https://echa.europa.eu/candidate-list-table>

<sup>4</sup> Reference: ECHA Guidance on requirements for substances in Articles.

### **Declaration of compliance with Directive 2012/19/EC (WEEE)**

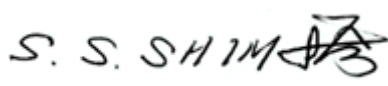
Samsung Electronics hereby declares that all products placed on the European Union internal market from 13<sup>th</sup> August 2005 are compliant with Directive 2012/19/EU (formerly 2002/96/EC) of the European Parliament and of the Council on waste electrical and electronic equipment (WEEE).

Electrical and Electronic Equipment supplied by Samsung Electronics complies with the following requirements:

1. Marking requirement - all Samsung products that are subject to the WEEE Directive shipped to the European Union from August 13<sup>th</sup> 2005 are compliant with the WEEE marking requirements. Such products are marked with the "crossed out wheelee bin" WEEE symbol in accordance with European Standard EN 50419.
2. Information for end users - according to the requirements of European Union member state WEEE legislation, information is provided to customers in several languages for all Samsung branded products subject to the WEEE directive.
3. Information to recyclers - as required by the WEEE Directive, on demand Samsung provides reuse and treatment information for each type of new EEE within one year after the equipment is put on the market.

Samsung Electronics is member of an approved WEEE producer compliance scheme in all EU countries where it has a legal presence in accordance with national law.

**Signature:**



**Date: 7<sup>th</sup> July 2018**

SOONSUN SHIM  
Senior Vice President/Center Leader  
Global CS Center  
SAMSUNG Electronics Co., Ltd



# Certificate of Conformance

## Energy Efficiency Certification

UL conducted an independent evaluation on behalf of:

**SAMSUNG ELECTRONICS CO LTD**

129 SAMSUNG-RO, YEONGTONG-GU, SUWON-SI, GYEONGGI-DO, 16677, KOREA

for the following products:

Signage Display

Brand: SAMSUNG

Model: QM43N, LH43QMNE#####,  
QB43N, LH43QBNE#####,

(# can be any alphanumeric character)

This product meets all of the necessary  
qualifications pursuant to:

ENERGY STAR® : ENERGY STAR Program  
Requirements Product Specification for  
Displays, Version 7.1



2018-04-24

Certification Date

NA

Certification Revision Date

A handwritten signature in black ink, appearing to read 'David P. ...'.

Issued by

4788434424/EEC-20782

UL Product Number



# Certificate of Conformance

## Energy Efficiency Certification

UL conducted an independent evaluation on behalf of:

**SAMSUNG ELECTRONICS CO LTD**

129 SAMSUNG-RO, YEONGTONG-GU, SUWON-SI, GYEONGGI-DO, 16677, KOREA

for the following products:

Signage Display

Brand: SAMSUNG

Model: QM49N, LH49QMNE#####,  
QB49N, LH49QBNE#####,

(# can be any alphanumeric character)

This product meets all of the necessary  
qualifications pursuant to:

ENERGY STAR® : ENERGY STAR Program  
Requirements Product Specification for  
Displays, Version 7.1



2018-04-24

Certification Date

NA

Certification Revision Date

A handwritten signature in black ink, appearing to read 'David P. ...'.

Issued by

4788434427/EEC-20783

UL Product Number

# Certificate of Conformance

## Energy Efficiency Certification

UL conducted an independent evaluation on behalf of:

**SAMSUNG ELECTRONICS CO LTD**

129 SAMSUNG-RO, YEONGTONG-GU, SUWON-SI, GYEONGGI-DO, 16677, KOREA

for the following products:

Signage Display

Brand: SAMSUNG

Model: QM55N, LH55QMNE#####,  
QB55N, LH55QBNE#####!

(# can be any alphanumeric character)

This product meets all of the necessary qualifications pursuant to:

ENERGY STAR® : ENERGY STAR Program  
Requirements Product Specification for  
Displays, Version 7.1



2018-04-24

Certification Date

NA

Certification Revision Date

A handwritten signature in black ink, appearing to read "David P. ...".

Issued by

4788434429/EEC-20784

UL Product Number



# Certificate of Conformance

## Energy Efficiency Certification

UL conducted an independent evaluation on behalf of:

**SAMSUNG ELECTRONICS CO LTD**

129 SAMSUNG-RO, YEONGTONG-GU, SUWON-SI, GYEONGGI-DO, 16677, KOREA

for the following products:

Signage Display

Brand: SAMSUNG

Model: QM65N, LH65QMNE#####,  
QB65N, LH65QBNE#####,

(# can be any alphanumeric character)

This product meets all of the necessary  
qualifications pursuant to:

ENERGY STAR® : ENERGY STAR Program  
Requirements Product Specification for  
Displays, Version 7.1



2018-04-27

Certification Date

NA

Certification Revision Date

A handwritten signature in black ink, appearing to read 'David P. ...'.

Issued by

4788460512/EEC-20808

UL Product Number

# Certificate of Conformance

## Energy Efficiency Certification

UL conducted an independent evaluation on behalf of:

**SAMSUNG ELECTRONICS CO LTD**

129 SAMSUNG-RO, YEONGTONG-GU, SUWON-SI, GYEONGGI-DO, 16677, KOREA

for the following products:

Signage Display

Brand: SAMSUNG

Model: QM75N, LH75QMNE#####,  
QB75N, LH75QBNE#####!

(# can be any alphanumeric character)

This product meets all of the necessary qualifications pursuant to:

ENERGY STAR® : ENERGY STAR Program  
Requirements Product Specification for  
Displays, Version 7.1



2018-05-04

Certification Date

NA

Certification Revision Date

A handwritten signature in black ink, appearing to read 'David P. ...'.

Issued by

4788460513/EEC-20848

UL Product Number