



# RoHS Certificate for Homogeneous Assembly Materials Contained in QFN Package

Doc no: QI-73 Rev: B01

## Revision History

Rev.	Description of Change	Reason for Change
A00	Initial Release	Combined all RoHS Cert documents into one document applicable to all QFN packages. This document supersedes: QI-2, QI-5, QI-8, QI-10, QI-59, QI-63
A01	Added page for lead-frame SGS report	Missing one page of SGS report for lead-frame
A02	Added SGS Reports for EM-550G and updated the SGS reports	ASE specific SGS reports needed to be added
B00	Removed SGS reports, added tables with materials lists content	SGS reports are provided on request.
B01	Edited material lists	Typo in material names

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## 1.0 Purpose and Scope

- 1.1 Purpose: To demonstrate RoHS/Green compliance per QI-1 as applicable to homogeneous materials used in SiTime QFN packages and to declare no substances of very high concern (SVHC) per REACH requirements.
- 1.2 Scope: All products manufactured by and for SiTime in QFN packages

## 2.0 Reference Documents

- 2.1 SGS/ICP analysis reports provided by the homogeneous material suppliers/ assembly subcon
- 2.2 Internal References
  - 2.2.1 QI-1 SiTime green partner and RoHS/Green Compliance
  - 2.2.2 QI-76 Encore Products\_QFN\_Packages Composition Report
  - 2.2.3 QI-78 Penny Products\_QFN\_Packages Composition Report
  - 2.2.4 QI-79 20x12\_QFN Composition Report

## 3.0 Information

- 3.1 The list of SGS reports of analysis demonstrating RoHS and Green compliance of the homogeneous materials used for QFN packages are attached (Table-1 to Table-3)
- 3.2 The SGS/ICP analysis reports for the homogeneous materials are received from the supplier (updated every year) and reviewed and maintained at SiTime.
- 3.3 Actual SGS reports can be obtained from sales support by request. Contact SiTime sales support at [salesupport@sitime.com](mailto:salesupport@sitime.com)
- 3.4 As per industry standard practice (JEDEC Standard JESD46), the customer notification will be done when any major change in the material composition is implemented which affects form, fit and function. No annual updating will be done to this document. The updates to this document will be done only when,
  - 3.4.1 There is any change in the material contents of the package
  - 3.4.2 The regulation changes dictate that new analysis be done for compliance

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## 4.0 Homogeneous Material Content Tables

**Table-1 Homogeneous Material List Contained in QFN Package-ASE**

Homogeneous Material	Material Name/Model	Supplier	SGS Report
Leadframe C194 Alloy	Copper/Iron/Zink	HDS	√
Plating	NiPdAu	HDS	√
CMOS Die	Silicon	TSMC	√
MEMS Die	Silicon	BOSCH	√
D/A material 1	Non-conductive epoxy	NITTO	√
D/A material 2	Conductive epoxy	HENKEL	√
Wire	Gold	TANAKA	√
Encapsulation	Epoxy resin	SUMITOMO	√

**Table-2 Homogeneous Material List Contained in QFN Package-CARSEM**

Homogeneous Material	Material Name/Model	Supplier	SGS Report
Leadframe C194 Alloy	Copper/Iron/Zink	HDS	√
Plating	NiPdAu	HDS	√
CMOS Die	Silicon	TSMC	√
MEMS Die	Silicon	BOSCH	√
D/A material 1	Non-conductive epoxy	HENKEL	√
D/A material 2	Conductive epoxy	HENKEL	√
Wire	Gold	TANAKA	√
Encapsulation	Epoxy resin	SUMITOMO	√

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**Table-3 Homogeneous Material List Contained in QFN Package-UTAC**

<b>Homogeneous Material</b>	<b>Material Name/Model</b>	<b>Supplier</b>	<b>SGS Report</b>
Leadframe C194 Alloy	Copper/Iron/Zink	HDS	√
Plating	NiPdAu	HDS	√
CMOS Die	Silicon	TSMC	√
MEMS Die	Silicon	BOSCH	√
D/A material 1	Non-conductive epoxy	FURUKAWA	√
D/A material 2	Conductive epoxy	HENKEL	√
Wire	Gold	TANAKA	√
Encapsulation	Epoxy resin	SUMITOMO	√

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