



Homogeneous Materials and SGS Report- WLCSP Package

Doc no: QI-81 Rev: A01

Revision History

Rev.	Description of Change	Reason for Change
A00	Initial Release	WLCSP Homogeneous Material and SGS Report Document released for customer
A01	Edited sec 3.2 and Table-1.	Edited MCD table by subcon.

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1.0 Purpose and Scope

- 1.1 Purpose: To list homogeneous materials used in SiTime WLCSP package and documentation of SGS report availability
- 1.2 Scope: All products manufactured for SiTime in WLCSP package

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-82 WLCSP Composition Report

3.0 Information

- 3.1 The list of homogeneous materials contained in WLCSP package is given in Table-1 and Table-2.
- 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 SiTime sales support by request. Contact SiTime sales support at 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

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to this document. The updates to this document (and updating the SGS report) will be done only when,

- 3.4.1 There is any change in the material contents of the package or homogeneous material
- 3.4.2 The regulation changes dictate that new analysis be done to the homogeneous material for compliance to the regulation

4.0 Homogeneous Material Content Tables

- 4.1 Homogeneous Material List for WLCSP package- ASE: Table-1 and Table-2

Table-1 Homogeneous Material List Contained in WLCSP Harrison Package-ASE

Homogeneous Material	Material Name/Model	Supplier	SGS Report
CMOS Die	Silicon	TSMC	√
Back-side coating	LC2850	Lintec Corporation	√
Polymer 1/2 (CMOS)	PBO- HD8820	Hitachi Chemicals DuPont Microsystems	√
UBM (CMOS)	Ti/NiV/Cu	Umicore Thin Film Products	√
Solder Balls (CMOS)	SnAgCu405	Senju	√
MEMS Die	Silicon	BOSCH	√
Polymer 1 (MEMS)	Polyimide HD-4000	Hitachi Chemicals Dupont Microsystems	√
Die Attach Underfill	UH-05	Hitachi Chemical Company	√
UBM (MEMS)	Ti/NiV/Cu	Umicore Thin Film Products	√
Solder Bump (MEMS)	SnAgCu405	Mitsubishi Materials Corp	√

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**Table-1 Homogeneous Material List Contained in WLCSP Galileo/Northstar
Package-ASE**

Homogeneous Material	Material Name/Model	Supplier	SGS Report
CMOS Die	Silicon	TSMC	√
Back-side coating	LC2850	Lintec Corporation	√
Polymer 1/2 (CMOS)	PBO- HD8820	Hitachi Chemicals DuPont Microsystems	√
RDL (CMOS)	Ti/Al	Umicore Thin Film Products	√
UBM (CMOS)	Al/NiV/Cu	Umicore Thin Film Products	√
Solder Balls (CMOS)	SnAgCu405	Senju	√
MEMS Die	Silicon	BOSCH	√
Polymer 1 (MEMS)	Polyimide HD-4000	Hitachi Chemicals Dupont Microsystems	√
Die Attach Underfill	UH-05	Hitachi Chemical Company	√
UBM (MEMS)	Ti/NiV/Cu	Umicore Thin Film Products	√
Solder Bump (MEMS)	SnAgCu405	Mitsubishi Materials Corp	√

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