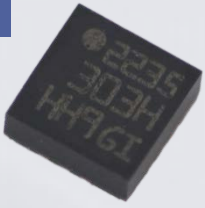


# STMicroelectronics LSM303D: 6-Axis Electronic Compass

Reverse Costing Analysis – November 2012



## *Physical Analysis of the Devices* *Step by Step Reconstruction of the Process Flow* *Cost of Manufacturing and Estimation of Selling Price*

System Plus Consulting is proud to publish the reverse costing report of the new 6-Axis electronic compass supplied by STMicroelectronics.

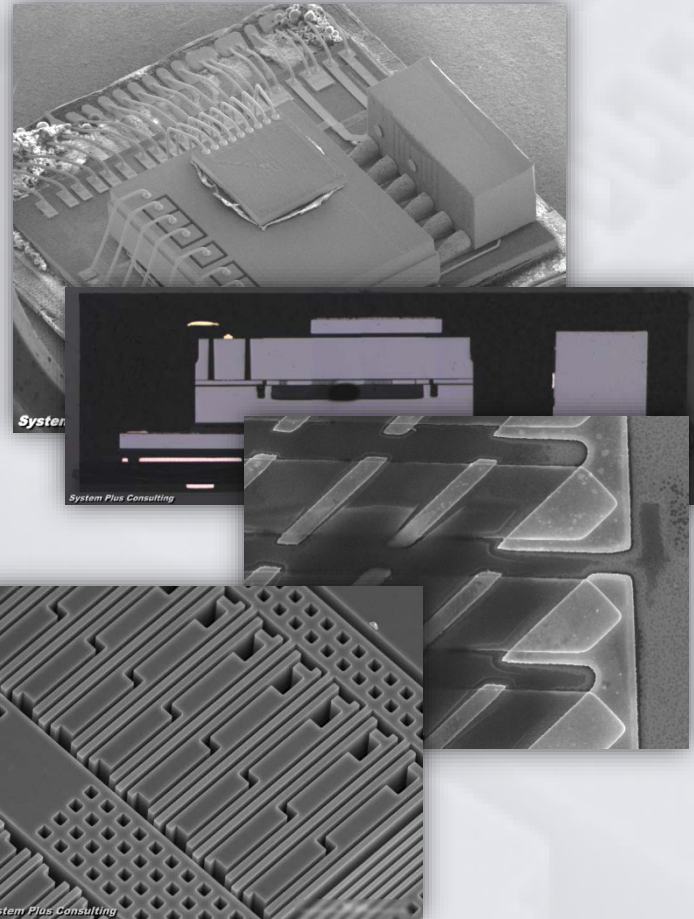
The LSM303D is a system-in-package featuring a 3-axis magnetometer and a 3-axis accelerometer. With a 3x3x1mm package size, it belongs to the smallest e-Compasses for consumer applications.

The 3-Axis accelerometer uses the TSV process of ST in order to remove the area reserved for I/O pads. The magnetometer dies use the latest process of Honeywell.

The LSM330D is targeted for consumer applications: Tilt compensated compass, Map rotation, Position detection... It provides accurate output across full-scale ranges up to  $\pm 16g$  (linear acceleration) and  $\pm 12$  Gauss (magnetic field).

This report provides complete teardown of the 6-Axis electronic compass with:

- Detailed photos
- Material analysis
- Schematic assembly description
- Manufacturing Process Flow
- In-depth economical analysis
- Manufacturing cost breakdown
- Selling price estimation



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- Manufacturer Financial Ratios
- LSM303D Estimated Selling Price

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# ORDER FORM

Please enter my order for "ST LSM303D 6-Axis e-Compass" Reverse Costing Analysis:

Ref.: SP12107

Corporate license price: EURO 1,990\*

\*For price in dollars please use the day's exchange rate

\*All reports are delivered electronically in pdf format

\*For French customer, add 20 % for VAT

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System Plus Consulting is specialized in the **cost analysis** of electronics from **semiconductor devices** to **electronic systems**. Around this main line System Plus Consulting developed a complete range of services and costing tools to provide **in-depth production cost studies** and estimation of the **objective selling price** of the product.

### COSTING SERVICES

- ✓ **On demand Reverse Costing studies** are performed on ICs, ASICs, MEMS, Power Devices, ECUs, electronic boards and full electronic systems
- ✓ **The catalog of available reports** includes cost analyzes on MEMS, Electronic components and Electronic systems

All these studies are performed using in-house developed costing tools and their technological databases.

### COSTING TOOLS

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- ✓ IC Price+ to estimate the cost of any integrated circuit
- ✓ Power Price+ to estimate the cost of any power component or module
- ✓ PCB Price+ for printed circuit boards
- ✓ SYS.Cost a costing tool for electronic boards and systems

#### Cost Simulation Tools, process flow based

- ✓ MEMS CoSim+
  - ✓ LED CoSim+
  - ✓ Power CoSim+
  - ✓ TSV CoSim+ (thru silicon vias)
  - ✓ Sapphire CoSim+
  - ✓ PV CoSim+ (photovoltaic)
- ✓ Other costing models can be developed according to customer specification

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System Plus Consulting responsibility will not be involved in non execution or late delivery of one of its duties described in the current terms and conditions if these are the result of a force majeure case. Therefore, the force majeure includes all external event unpredictable and irresistible as defined by the article 1148 of the French Code Civil?

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