

**Internal distribution code:**

- (A)  Publication in OJ  
(B)  To Chairmen and Members  
(C)  To Chairmen  
(D)  No distribution

**Datasheet for the decision  
of 27 September 2007**

**Case Number:** T 1232/07 - 3.4.03

**Application Number:** 99904416.7

**Publication Number:** 1062618

**IPC:** H01L 21/00

**Language of the proceedings:** EN

**Title of invention:**

Non-lot based method for assembling integrated circuit devices

**Patentee:**

Micron Technology, Inc.

**Opponent:**

-

**Headword:**

-

**Relevant legal provisions:**

EPC R. 29(2)

**Keyword:**

"Main request: three independent claims in same category not permissible under R 29(2) EPC"

"Auxiliary request: single independent claim"

**Decisions cited:**

T 0671/06

**Catchword:**

-



Case Number: T 1232/07 - 3.4.03

**D E C I S I O N**  
of the Technical Board of Appeal 3.4.03  
of 27 September 2007

**Appellant:** Micron Technology, Inc.  
8000 South Federal Way  
Boise, ID 83706 (US)

**Representative:** Prins, Adrianus Willem  
Vereenigde,  
P.O. Box 87930  
NL-2508 DH Den Haag (NL)

**Decision under appeal:** Decision of the Examining Division of the  
European Patent Office posted 22 March 2007  
refusing European application No. 99904416.7  
pursuant to Article 97(1) EPC.

**Composition of the Board:**

**Chairman:** R. G. O'Connell  
**Members:** V. L. P. Frank  
J. Van Moer

## Summary of Facts and Submissions

- I. This is an appeal from the refusal of European patent application 99 904 416 for non-compliance with Rule 29(2) EPC.

The application contained three independent method claims and the applicant had argued that they related to different uses of the inventive concept of providing an ID code for the IC devices on a device level.

- II. The appellant applicant maintains the refused claims as a main claim request on appeal. The impugned claims are worded:

"1. A method in an integrated circuit (IC) device (42) manufacturing process for tracking multiple lots of IC devices (42) through an assembly step in the process, each of the IC devices (42) including a mounting substrate, the method comprising:  
providing a mounting substrate (66);  
providing an IC device (42);  
placing an ID code on each of the IC devices (42);  
mounting the IC device (42) on the mounting substrate (66);  
placing the ID code of each IC device (42) of the IC devices (42) on the mounting substrate (66) in a readable position thereon;  
reading the mounting substrate ID code of each of the IC devices (42) in each of the multiple lots;  
advancing the IC devices (42) in the multiple lots through a series of assembly steps in the manufacturing process in a substantially continuous manner;

generating data related to the advancement of each of the IC devices (42) through the assembly step; and  
associating the data generated for each of the IC devices (42) with the mounting substrate ID code of its associated IC device (42) so the multiple lots of IC devices (42) may be tracked through the assembly step."

- "12. A method of manufacturing integrated circuit (IC) devices, the method comprising:  
providing a plurality of fabrication substrates in multiple lots;  
fabricating a plurality of IC dice on each of the fabrication substrates;  
separating each IC die of the plurality of IC dice on each of the fabrication substrates from its fabrication substrate to form one IC die of a plurality of IC dice;  
providing a plurality of mounting substrates, each marked with a substantially unique mounting substrate identification (ID) code;  
reading a front-end ID code associated with each IC die of the plurality of IC dice;  
reading the mounting substrate ID code marked on each of the mounting substrates;  
attaching each IC die of the plurality of IC dice to one of the mounting substrates to form one IC device of a plurality of IC devices;  
storing the front-end ID code of each IC die of the plurality of IC dice in each of the IC devices in association with the mounting substrate ID code of the mounting substrate to which each IC die of the plurality of IC dice is attached;

a advancing each IC device of the IC devices through assembly;  
while advancing the IC devices through assembly;  
advancing the IC devices through at least one assembly step in a substantially continuous manner;  
generating data related to the advancement of each of the IC devices through the assembly step; and  
associating the data generated for each of the IC devices with the mounting substrate ID code of the mounting substrate of each IC device of the IC devices so that the IC devices may be tracked through the assembly step;  
and back-end testing each IC device of the IC devices."

- "31. A method of locating an individual integrated circuit (IC) die of an integrated circuit (IC) device having at least one IC die on an IC device manufacturing line on which a multitude of IC devices are being manufactured, the method comprising:  
marking a mounting substrate of the at least one IC die of the IC devices with a substantially unique, optically-readable mounting substrate identification (ID) code;  
when one IC device of the IC devices is being processed by an assembly related machine, reading the mounting substrate ID code of the at least one IC die of the IC device and storing the code in association with a machine ID number of the assembly-related machine;  
when one of the IC devices is stored in an IC device carrier, reading the mounting substrate ID code of the at least one IC die of the IC device

and storing the code in association with a carrier ID number of the IC device carrier;  
reading the carrier ID numbers of IC device carriers in which IC devices are stored and storing the carrier ID numbers in association with a location code identifying the location of the carriers on the manufacturing line; and  
when an individual IC device is stored in an IC device carrier, locating the individual IC device on the manufacturing line by accessing the carrier ID number stored in association with the mounting substrate ID code of the at least one IC die of an individual IC device and by accessing the location code stored in association with the accessed carrier ID number; and  
when an individual IC device is being processed by an assembly-related machine, locating the individual IC device on the manufacturing line by accessing the machine ID number stored in association with the mounting substrate ID code of the at least one IC die of an individual IC device."

The appeal is also based on an auxiliary claim request which comprises a single independent method claim.

III. The appellant argues as follows:

"Independent method claims 1, 12 and 31 are directed to tracking, manufacturing and locating one or more individual IC devices during manufacturing activities. It is respectfully submitted that each of the independent claims is inter-related by pertaining to tracking IC's during processing at the device level.

The partial overlap is in performing an identification on a device level. A single independent claim covering all aspects would be very convoluted and difficult to understand by the person skilled in the art. Therefore, it is believed that independent method claims 1, 12 and 31 do not impose an acceptable burden (sic) on the person skilled in the art in identifying the patent scope. In contrast therewith, the current claim set enables a clear understanding of the requested patent protection. As a result, independent claims 1, 12 and 31 satisfy the meaning of Art 84 EPC and Rule 29 (2)(b) EPC."

IV. The appellant applicant requests grant of a patent on the basis of

a main request

claims 1 to 33 filed November 2006

or an auxiliary request

claims 1 to 33 filed July 2007.

Auxiliarily, oral proceedings are requested.

### **Reasons for the Decision**

1. The appeal is admissible.
2. Given that the auxiliary request contains only one independent claim in the same category and therefore necessarily complies with Rule 29(2) EPC, the sole issue in this appeal is whether the main request also complies with it.

3. The application was refused on the ground that it comprised three independent method claims, viz claims 1, 12 and 31. These claims are independent claims in the sense of Rule 29(4) EPC, since, although their subject-matters overlap, none includes all the features of one of the others.
4. It remains to be decided whether these three independent method claims fall under one of the exhaustive list of exceptions laid down in Rule 29(2) EPC.
5. Rule 29(2) EPC has the following wording:

*"Without prejudice to Article 82, a European patent application may contain more than one independent claim in the same category (product, process, apparatus or use) only if the subject-matter of the application involves one of the following:*

- (a) a plurality of inter-related products;*
- (b) different uses of a product or apparatus;*
- (c) alternative solutions to a particular problem, where it is not appropriate to cover these alternatives by a single claim."*

- 5.1 On appeal the appellant applicant argued that the claims were *inter-related* by pertaining to tracking IC's during processing at the device level. Rule 29(2)(a) EPC however refers to *inter-related products* and not to some kind of interrelationship



between the subject-matters of independent claims. Such products are, on the one hand, objects which although existing independently of each other as stand-alone products only perform the distributed invention when interacting with each other (eg lock and key) and, on the other hand, chemical compounds derived from their precursors; T 671/06, reasons 5.1. Claims 1, 12 and 31 are not directed to any products in this sense and hence do not fall under exception (a) of Rule 29(2) EPC.

5.2 In the first instance procedure the applicant (now appellant) had argued that the claims related to a different use of the inventive concept of providing an identification (ID) code for the IC devices on a device level (letter of 27 November 2006). Although, according to the claims, ID codes are provided on the mounting substrates and on the IC's, these ID codes are not used differently but for the same purpose, namely to track or locate the IC's and do not cover therefore different uses of a product or apparatus. Moreover, point (b) refers to different uses of a product or apparatus and not to different uses of a concept as was argued by the appellant applicant. The contested claims are therefore not permissible under exception (b) of Rule 29(2) EPC.

5.3 Finally, the board does not consider that the claims are permissible under exception (c) of Rule 29(2) EPC, nor has the appellant argued this.

6. As regards the appellant applicant's contention that the present claim set enables a clear understanding of the requested protection, the board refers to its observation at point 5.3 of its decision T 671/06 cited above on the *ratio legis* of Rule 29(2) EPC: "It is also

based on the interpretive principle that Rule 29(2) EPC is a specific provision intended to deal with the particular mischief of an excessive number of independent claims in the same category which, saving confirmation of a conflict in the sense of Article 164(2) EPC, leaves no room for a wider judgement as to what might be considered clear and concise within the meaning of Article 84 EPC - a classic canon of construction traditionally expressed in Latin as *generalia specialibus non derogant*."

7. The board concludes therefore that the main claim request does not comply with Rule 29(2) EPC whereas the auxiliary request does, as it comprises only a single independent claim.

This formal compliance should however not be understood as an automatic fulfilment of the requirements of Article 84 EPC.

8. Since substantive examination for compliance with the remaining requirements of the EPC has not yet been started, remittal is appropriate (Article 111(1) EPC).

**Order**

**For these reasons it is decided that:**

1. The decision under appeal is set aside.
2. The case is remitted to the department of first instance for further prosecution.

Registrar

Chair

S. Sánchez Chiquero

R. G. O'Connell