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D E C I S I O N
of 21 October 1999

Case Number: T 0705/96 - 3.5.1

Application Number: 89301557.8

Publication Number: 0331316

IPC: G06K 19/06

Language of the proceedings: EN

Title of invention:

Personal data card and method of constructing the same

Patentee:

AT&T Corp.

Opponent:

Giesecke & Devrient GmbH

Headword:

-

Relevant legal provisions:

EPC Art. 56, 102(3)

Keyword:

"Inventive step - no"

Decisions cited:

-

Catchword:

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Boards of Appeal

Chambres de recours

Case Number: T 0705/96 - 3.5.1

D E C I S I O N
of the Technical Board of Appeal 3.5.1
of 21 October 1999

Appellant: AT&T Corp.
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 4 June 1996
revoking European patent No. 0 331 316 pursuant
to Article 102(1) EPC.

Composition of the Board:

Chairman: P. K. J. van den Berg
Members: R. R. K. Zimmermann

Summary of Facts and Submissions

- I. The appeal concerns European patent No. 0 331 316 granted with 29 February 1988 as date of priority in the name of the appellant on the basis of European patent application No. 89 301 557.8; the mention of the grant was published on 16 February 1994.
- II. The respondent filed an opposition against the patent on 15 November 1994 on the grounds of lack of novelty and inventive step (Article 100(a) EPC), requesting revocation of the patent in its entirety. In support of the opposition, the appellant cited the following documents:
- FR-A-2595848 (document E2; published 18 September 1987)
EP-B-0094716 (document E7; published 14 January 1987)
- III. In a decision posted on 4 June 1996, the opposition division revoked the patent *inter alia* for lack of inventive step in view of prior art documents E2 and E7.
- IV. Against this decision the appellant filed a notice of appeal on 29 July 1996, requesting reversal of the decision in its entirety; the appeal fee had been paid some days in advance. The grounds of appeal were subsequently filed on 26 September 1996.

In a communication the Board of appeal indicated its preliminary view that the patent did not comply with the requirements of the European Patent Convention and that on the basis of the requests on file the Board might consider it appropriate to issue a decision in

writing without further hearing the case in oral proceedings.

V. The appellant requested the entire reversal of the appealed decision on the basis of an amended set of claims, independent claim 1 of which reads as follows:

"1. A personal data card, comprising:
a body (12) including a structural member (20) and having an opening (26);
at least one semiconductor chip (28) received within said opening (26);
a mass (36) of encapsulant admitted into the opening in said body to seal the chip therein; and
a cover overlying the substrate to seal the opening therein,
CHARACTERIZED IN THAT:
the body opening has a bottom wall (16) to which the chip is bonded;
a portion of the mass of encapsulant contacts the structural member; and
shock absorbing means (38) are provided to substantially circumscribe both the encapsulant and the semiconductor chip sealed therein and thereby substantially isolate the encapsulant and the chip from the body to reduce the stresses transmitted from the body into the encapsulant upon flexing of the substrate."

The respondent requested that the appeal be dismissed and, as a subsidiary measure, the case be heard in oral proceedings.

VI. Regarding the interpretation of claim 1, the appellant

argued that Figures 1 and 2 of the patent under dispute clearly showed that the term "substrate" used in claim 1 had to be interpreted as meaning a part of body 12; circuit board 14 and structural member 20 were each substrates.

Regarding the cited prior art, document E7 in particular did not disclose shock absorbing means which substantially circumscribe both the encapsulant and the semiconductor chip. Document E2 disclosed an arrangement according to which the shock absorbing material either completely surrounded the chip or protected the chip only along two of four sides. In contrast, the claimed invention comprised shock absorbing means that "substantially" circumscribed the encapsulant, a definition which meant that the circumscription was not complete.

Finally, the appellant argued that the cited prior art did not disclose any incentive which might direct the skilled person to combine documents E2 and E7 and, therefore, to conceive the concept of the invention in an obvious manner.

- VII. The respondent acknowledged the presence of novelty in the invention as claimed. The invention, however, lacked an inventive step. The feature that a portion of the mass of encapsulant contacted the structural member did not make any significant technical difference to the prior art.

Reasons for the Decision

1. The appeal complies with the requirements of Articles 106 to 108 and Rules 1(1) and 64 EPC and is thus admissible.

2. As to the merits of the case, the main issue to be decided is whether the claimed invention involves an inventive step or, in terms of Article 56 EPC, whether the invention is obvious to the skilled person, having regard to the state of the art.
 - 2.1 Figure 5 of prior art document E7 shows a sectional view of a personal data card revealing a structure similar to the card structure defined in present claim 1. This document is thus a suitable starting point for assessing inventive step.

The card body described in document E7 includes a structural member (*feuilles centrales 22, 23*) and has an opening for receiving the semiconductor chip (*pastille de circuit à semiconducteur 5*); furthermore, it includes a mass of encapsulant optionally admitted into the opening in said body to seal the chip therein (*cordon de matière, see column 5, line 62 to column 6, line 4*) and a cover (*feuille 24*) overlying the substrate, i.e. the *feuille 23*, to seal the opening therein, whereby the body opening has a bottom wall (*paroi mince 20*) to which the chip is bonded (column 7, lines 41 to 56). In the option of using a mass of encapsulant for sealing the chip in the opening of the body, the mass of encapsulant has to be understood to contact the structural member formed by *feuilles 22 and 23*.

Consequently, the subject-matter of claim 1 is distinguished from the personal data card of document E7 by the feature that "shock absorbing means are provided to substantially circumscribe both the encapsulant and the semiconductor chip sealed therein and thereby substantially isolate the encapsulant and the chip from the body".

At this point, the definition of present claim 1 is not fully consistent: since the encapsulant contacts the structural member which is per definition part of the body, the encapsulant is not, and thus also not substantially, isolated from the body. According to the embodiment described with regard to Figure 4, ring segments of shock absorbing material separate an inner from an outer region of the card body so that the isolation is to be understood as to be effected with regard to such an outer region of the body.

Regarding the feature "substantially circumscribed" in claim 1, the appellant argued that the meaning of this feature did not include the possibility that the shock absorbing material completely circumscribed the encapsulant and the chip. In the opinion of the Board, however, the terms "substantial" and "complete", at least in the context of present claim 1, bear the relation of the general to the particular. Therefore, the wording of the claim includes, for example, embodiments having shock absorbing means in the form of a closed ring of elastomeric material. Any sufficiently small opening in this ring, although rendering the ring incomplete, would be technically irrelevant.

Reducing stresses transmitted into the encapsulant upon

flexing of the substrate, as indicated in the last lines of claim 1, is not a structural feature of the card itself but the effect to be achieved by the claimed invention (see also the patent specification, column 2, lines 8 ff. and lines 30 ff.). On the basis of this effect, the technical problem objectively solved by the subject-matter of claim 1 with regard to the prior art card of document E7 can be seen in the protection of the semiconductor chip against mechanical stresses which are produced by flexing the card body.

Substantially the same problem is one of the objects of document E2 (see page 1, line 24 to page 2, line 10, page 4, lines 12 to 23, and page 5, lines 6 to 15). Finding a technical problem worth to be solved but already known in the prior art does not *per se* imply an inventive step.

In addition, document E2 proposes the solution; an embodiment of the solution is described with regard to Figure 2. This figure shows shock absorbing means (*partie déformable* 3) provided to completely circumscribe, and thus to circumscribe substantially, both the encapsulant and the semiconductor chip with the effect to protect the encapsulant and the chip from forces and stresses transmitted through the card body.

Therefore, document E2 leads the skilled person in an obvious manner to a solution as defined in present claim 1; the subject-matter of claim 1 does thus not meet the requirement of inventive step (Articles 52(1) and 56 EPC).

3. Since the invention to which the patent relates does,

for these reasons, not meet the requirements of the Convention the provisions of Article 102(3) for maintaining an amended patent are not fulfilled. Therefore, the appeal is not allowable.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

M. Kiehl

P. K. J. van den Berg