

**Internal distribution code:**

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

**Datasheet for the decision  
of 18 March 2025**

**Case Number:** T 1461/22 - 3.5.06

**Application Number:** 15796357.0

**Publication Number:** 3111380

**IPC:** G06N10/00, G06F13/36,  
G06F13/40, G06F15/80

**Language of the proceedings:** EN

**Title of invention:**

PROCESSING SIGNALS IN A QUANTUM COMPUTING SYSTEM

**Patent Proprietor:**

Rigetti & Co, LLC

**Opponent:**

Ueberfluss, Eva U.

**Headword:**

Quantum control/RIGETTI

**Relevant legal provisions:**

EPC Art. 56

EPC R. 111(2)

RPBA 2020 Art. 12(4), 12(6), 13(2)

**Keyword:**

**Decisions cited:**

G 0010/91, G 0007/95

**Catchword:**



**Beschwerdekammern**

**Boards of Appeal**

**Chambres de recours**

Boards of Appeal of the  
European Patent Office  
Richard-Reitzner-Allee 8  
85540 Haar  
GERMANY  
Tel. +49 (0)89 2399-0

**Case Number:** T 1461/22 - 3.5.06

**D E C I S I O N**  
**of Technical Board of Appeal 3.5.06**  
**of 18 March 2025**

**Appellant:** Ueberfluss, Eva U.  
(Opponent) Höhenstraße 17A  
78333 Stockach (DE)

**Representative:** Schorr, Frank Jürgen  
Diehl & Partner  
Patent- und Rechtsanwaltskanzlei mbB  
Erika-Mann-Straße 9  
80636 München (DE)

**Respondent:** Rigetti & Co, LLC  
(Patent Proprietor) 2919 Seventh Street  
Berkeley, CA 94710 (US)

**Representative:** Potter Clarkson  
Chapel Quarter  
Mount Street  
Nottingham NG1 6HQ (GB)

**Decision under appeal:** **Decision of the Opposition Division of the  
European Patent Office posted on 30 March 2022  
rejecting the opposition filed against European  
patent No. 3111380 pursuant to Article 101(2)  
EPC.**

**Composition of the Board:**

**Chairman** M. Müller  
**Members:** T. Alecu  
A. Jimenez

## **Summary of Facts and Submissions**

- I. The appeal lies from the decision of the Opposition Division to reject the opposition.
- II. The Respondent (patent proprietor) requested that the appeal be dismissed and that the patent be maintained as granted, or on the basis of one auxiliary request, first filed during the opposition proceedings and filed again with the reply to the appeal of the opponent.
- III. The Appellant (opponent) requested that the decision under appeal be set aside and that the patent be revoked for lack of novelty or lack of inventive step, with reference, inter alia, to document  
  
D1: EP 2 562 694 A1.
- IV. Claim 1 of the patent as granted defines (numbering as per the decision under appeal):
- F1.1 *A quantum computing method comprising:*  
F1.2 *generating quantum processor control information for a group of devices housed in a quantum processor cell (102A), each device in the group having a distinct operating frequency;*  
F1.3 *generating a multiplexed control signal based on the quantum processor control information;*  
F1.4 *communicating the multiplexed control signal from a first, higher temperature stage (2301) to a second, lower temperatures stage (2331),*  
*wherein the second temperature stage (2331) comprises a low-noise, cryogenic environment;*  
F1.5 *communicating the multiplexed control signal on a physical channel into an input signal processing system*

(128, 2330), the input signal processing system (128, 2330) operating in the low-noise, cryogenic environment;

F1.6 separating device control signals from the multiplexed control signal by demultiplexing the multiplexed control signal in the input signal processing system (128, 2330), wherein the multiplexed control signal is de-multiplexed by a de-multiplexer device (2336, 2340) operating in the low-noise, cryogenic environment, and the de-multiplexer device (2336, 2340) separates the device control signal from an input channel onto multiple output channels, the output channels comprising a distinct physical channel for each device in the group; and

F1.7 communicating the respective device control signals on the output channels into the quantum processor cell for the group of devices, the quantum processor cell operating in the low-noise, cryogenic environment.

- V. Claim 1 of the auxiliary request differs from claim 1 of the main request by the replacement of the term *multiplexed control signal* with frequency-multiplexed composite control signal throughout the claim and by the following insertion into feature F1.7 (marked by underlining):

F1.7 communicating, in parallel, the respective device control signals [...].

## **Reasons for the Decision**

### *The opposed patent*

1. The patent relates to quantum computing, more particularly to the control of devices in a quantum processor cell.
- 1.1 A quantum processor cell as proposed includes inter alia (see e.g. figures 2, 3A, figure 9):
  - qubit devices (144) for storing and processing quantum information, arranged in a grid like structure;
  - coupler devices (142) between qubits to allow pairwise operation and interaction
  - read out devices (146) adjacent to each qubit for reading its state.
- 1.2 Each qubit device operates at a certain frequency, which may be fixed or tunable (see paragraph 46). The coupler devices have a tunable frequency and are driven at different frequencies to couple or uncouple neighbouring qubits (see e.g paragraph 65).
- 1.3 The state of the qubits is reflected in the read-out devices; e.g. their resonant frequencies vary with the qubit state (see paragraph 48).
- 1.4 The quantum device itself operates at very low temperature, in a cryogenic environment (e.g. in a mK temperature range); the control signals may however be generated at higher, e.g. ambient temperature (above 240 K, see paragraph 253).

- 1.5 These signals include microwave pulses at frequencies needed for operating the qubits, the couplers, or the readout devices. The control signals are frequency multiplexed and sent by wires to the cryogenic stage. A demultiplexer routes the signals to the corresponding devices, also by wires (see e.g. paragraphs 176, 178, 195, and 198).

*The prior art: document D1*

2. D1 describes quantum processing devices using IDQDs (isolated double quantum dots) as qubits. An IDQD is coupled to an electrometer, and both the qubit and the electrometer are controlled by gates (paragraph 46 and figures 1 and 4).
- 2.1 D1 proposes to use microwave radiation as leadless - i.e. wireless - control of the qubit states (paragraphs 23, 36, and 44). The microwave radiation, may, according to two different mechanisms, either
- modify the tunneling rate, pumping electrons from one dot to another (paragraphs 50-58), or
  - be rectified by the gates into a DC offset, thereby also changing the IDQD state (the relative gate voltages, see paragraphs 59-67).

The control microwave pulses are produced by a microwave emitter situated in the cryogenic stage (figure 1).

- 2.2 The gates and qubits are tunable, and the qubits may be addressed using different frequencies (paragraphs 69 and 70). D1 also proposes the use of frequency multiplexing (paragraph 71).

- 2.3 The electrometers are connected by wires to a block termed "*low temperature control and measurement module*" ("*low temperature electronics*" in figure 1); some gates (unspecified) may also be connected to the same block (see paragraph 32).
- 2.4 The device of D1 uses three temperature stages (see figure 1). The microwave source, the pulse generator, and "*room temperature electronics*" function at room temperature. The microwave emitter (connected to the pulse generator) and the low temperature electronics (connected to the room temperature electronics) function at a temperature of 4.2 K or lower. The quantum devices (gates, IDQDs, electrometers) are at an even lower temperature, below 1.2 K (paragraph 33).

*Main request*

*Admittance issues: novelty and inventive step based on D1 "alone"*

3. The Appellant indicated in its notice of opposition that the patent was opposed under Article 100(a) in combination with Article 52(1) and Article 56 EPC, for lack of inventive step starting from document D1. The objection of lack of novelty was first raised in a letter filed in preparation for the oral proceedings before the Opposition Division.
- 3.1 The Opposition Division did not admit it (Article 114(2) EPC; see reasons 14 in the decision). The Appellant submitted that the non-admittance of this ground was tainted by a procedural violation and requested that it be admitted (see statement of grounds of appeal, point 3.4).



4. The objection of inventive step raised with the notice of opposition stated that all features of the claim were known from D1, except the feature numbered F1.6 (see feature numbering above).
- 4.1 This feature defines a demultiplexer device working in a low temperature environment, which receives a multiplexed signal from a higher temperature stage, and separates it into multiple physical output channels, one for each device in a quantum cell.
- 4.2 In its novelty objection, the Appellant read the claimed multiplexer device onto a distributed device formed by the set of gates rectifying the microwave pulse into a DC offset controlling the IDQD state (the second control mechanism, see point 2.1 above, but also point 2.2 in the statement of grounds of appeal, in particular the last phrase in 2.2.4).
5. The Opposition Division (see the decision, reasons 14) did not admit this ground because it was late filed (after the opposition period), was not prima facie convincing, and its admittance would run counter to procedural economy.
6. The Appellant requested the Board to admit the novelty objection, arguing (statement of grounds of appeal, point 3.4) that the Opposition Division had not exercised its discretion to admit a new ground correctly and therefore committed a procedural violation. Specifically, the Opposition Division had not, during the oral proceedings or in the decision, carried out any prima facie assessment of the novelty objection, in particular regarding whether feature 1.6 was disclosed in D1.

6.1 During the oral proceedings before the Board, the Appellant further argued that the Opposition Division did not even have any discretion not to discuss novelty. Which features were disclosed by D1 was anyway a necessary discussion under Article 56 EPC. The Appellant made reference to G 7/95, as referred to by the Board in its preliminary opinion.

7. The Respondent argued that the Opposition Division had not committed a procedural violation. It had taken into account the Opponent's written submissions, as was visible from the minutes of the oral proceedings. It had also clearly carried out a prima facie assessment: the Opposition Division saw no demultiplexer device in D1. There was no need to say more. The Board should therefore not admit submissions related to this ground under Article 12(6) RPBA (first sentence).

7.1 Further, such submissions are also not to be admitted under Article 12(4) RPBA in the interest of procedural economy. In inter partes proceedings as the present ones, the Board had only limited discretion to admit new submissions.

*The Board's opinion*

8. Lack of novelty was indeed a "fresh", i.e. late filed ground for opposition, so that the Opposition Division had discretion not to admit it. According to G 10/91 (reasons 16 and headnote 2), the Opposition Division should only consider "fresh grounds" which, prima facie, would seem to prejudice the maintenance of the European patent.

8.1 However, the Opposition Division did not provide reasons as to why the reading of D1 by the Appellant

was prima facie not convincing. Such reasons are required under Rule 111(2) EPC. They may be short but must show that the parties' arguments have been considered. So the Appellant is right that a procedural violation occurred.

8.2 Furthermore, the analysis of novelty is indeed a prerequisite for the analysis of inventive step. Even if novelty as a ground for opposition is not formally admitted, the patent may still be revoked for lack of inventive step if no difference to the prior art can be identified (see G 7/95, reasons 7 and 7.2). In the Board's view, this should have been factored in by the Opposition Division when exercising its discretion.

8.3 Therefore, the Board considers that the Opposition Division erred in its use of discretion. It follows that Article 12(6) RPBA, first sentence, does not preclude admittance of these submissions.

9. The Board exercises its discretion (Article 12(4) RPBA) to admit the Appellant's submissions regarding the question whether feature 1.6 is known from D1 as part of the Appellant's inventive-step objection vis-à-vis D1 (D1 "alone") for two reasons:

- It is a fundamental necessity that, to establish inventive step, one must identify which features are new, and
- prima facie the Appellant's argument has merit: a demultiplexing function appears to be present in D1. The wireless frequency-multiplexed signal controls different qubits operating at respectively different frequencies, so that each qubit uses only one part of the signal. Further, the idea that a set of distributed

devices can be considered as one unique device is not wrong a priori.

*Inventive step*

*D1 "alone"*

10. The Appellant distinguished between a wired and a wireless control arrangement in D1. The wireless arrangement is the one according to which a microwave emitter sends frequency multiplexed microwave pulses to the gates or to the qubits themselves. The Appellant argued that this embodiment disclosed all features of claim 1.
11. There is dispute only as to whether feature F1.6 is disclosed.
12. The Appellant argued that the claim only broadly defined a demultiplexing function and that any device that performed that function anticipated the claim.
  - 12.1 That was the case for the co-operating gates and IDQDs of D1. The gates rectified the AC signal and controlled the qubits, which were addressed using different frequencies. So each gate/qubit pair separated a signal with a certain frequency from the incoming multiplexed signal and used it.
  - 12.2 There was no requirement for the claimed demultiplexer device to be one integrated distinct unit. In the claim itself, the term "de-multiplexer device" is followed by two reference signs (2336 and 2340 as used in figure 23A) and the specification in paragraphs 247 and 249 describes the use of two demultiplexers for two different sets of frequencies. Therefore, a distributed

device, where different components separated different frequencies, was deliberately within the scope of the claim.

- 12.3 The output channels were also to be seen as a functional feature. If a component separated a signal, an output channel was implied. In D1 the gate qubit interaction provided an output channel.
13. The Respondent disagreed. The claim required at least a demultiplexer device with multiple output channels, which communicated the demultiplexed signals to the quantum devices. The reference numerals in the claim referred to different such devices for different types of control signals (for qubit readout and coupler control, respectively; see paragraphs 250 and 251). Each of these devices separately satisfied the claimed requirements of having one input and multiple output channels to the quantum devices.
- 13.1 D1 however did not satisfy these requirements. Although the gates and qubits together might be frequency selective on what can be understood to constitute an input channel, no output channel was disclosed. As far as it could be understood, gates and qubits co-operated "as one unit" to control the qubit state. It was not clearly disclosed how this was done, and thus no output signals were disclosed either. In summary, even if D1 disclosed a demultiplexing *function*, it did not disclose a demultiplexing *device* as claimed.
14. The Board agrees with the Respondent. The claim defines a device which performs a demultiplexing function, but goes beyond that. It specifies output channels, used to communicate control signals to the quantum devices (see feature F1.7). No such communicating channels are

unambiguously identifiable in D1, at least because, as the Respondent argued, in D1 the control mechanism is not clearly described. An output channel or signal as claimed is not implied by the disclosure of D1.

*D1 and common general knowledge*

*Differences*

15. The Appellant further argued lack of inventive step in view of a combination of what was called the "wired arrangement" in D1 with common general knowledge, the wired arrangement being the one based on the wired connection from room temperature electronics to low temperature electronics and to electrometers and gates (depicted on the right hand side of figure 1). The Appellant argued, with reference to paragraph 32, that these connections carried control signals both for electrometers and for some gates (see in particular the statement of grounds of appeal, point 5.2.2).
- 15.1 The Appellant acknowledged that the wired arrangement did not disclose multiplexing/demultiplexing and was of the opinion that this was the only difference vis-à-vis claim 1 of the patent.
- 15.2 The Respondent argued a further difference to be that all controlled devices are claimed to have a distinct operating frequency. In this regard, the Appellant submitted that the gates and the IDQDs in D1 have distinct operating frequencies, because they can be addressed by microwaves of different frequencies. It conceded that the electrometers did not have such characteristics, but noted that claim 1 of the patent neither specified which devices were controlled by the multiplexed signals, nor defined a link between the

distinct operating frequencies of the devices and the multiplexing scheme as claimed.

16. The Respondent submitted with regard to claim construction (reply, page 23) that "*the skilled person making a genuine attempt to make a proper construction of the claim would understand that .. [the] device control signals with different frequencies [correspond] to the distinct operating frequency of the devices*". This interpretation was based on the claim wording alone, but was also supported by the specification (pages 23 to 25).
- 16.1 In a wired arrangement the control of the gates used DC pulses directly, so that the gates were not operated with frequency signals, let alone distinct ones (pages 21-22). The electrometers also had no distinct operating frequencies anyway. So none of the devices in D1 controlled by wires had distinct operating frequencies.
17. The Board notes first that claim 1 of the patent provides no link between the distinct operating frequencies and multiplexing. There is not even a hint in the claim that the control signals themselves are characterised by specific frequencies. The claim language may be read straightforwardly to relate to time-multiplexed signals.
- 17.1 Secondly, the claim does not specify what the controlled devices are. In the Board's view, the group of elements 4 (qubit), 5 (gates) and 6 (electrometer) as depicted in figure 4 of D1 are, in a broad sense, one integrated device (a qubit device with write and read mechanisms) with distinct operating frequencies, namely those of the qubits themselves (see paragraph

70). These devices are controlled by wires by the low temperature electronics block, at least for read-out (measurement) control.

17.2 The description is indeed considerably more specific, in particular about the nature of the control signals, as the Respondent submits. This alone, however, does not justify a narrow reading of the claims as the Respondent proposes, which would go well beyond claim construction. The corresponding features are simply not claimed.

17.3 So the Board agrees with the Appellant that the only claimed feature not disclosed in D1 is feature 1.6.

#### *Obviousness*

18. The Appellant noted that, according to D1 (e.g. paragraph 32), the "low temperature electronics" (13, referred to as "LTE" hereinbelow) was connected to electrometers and (at least some) gates, so that the wired connection between the room temperature electronics (15, referred to as "RTE" hereinbelow) and the LTE had to carry different types of control signals for gates and electrometers, respectively.

18.1 Further, one role of the wired connection between the RTE, the LTE, and the electrometers, was to perform the qubits read-out. At least the timing of the readouts from different qubits had to be controlled. Some form of indexing to indicate which qubit had to be read was at least obvious to the skilled person, to allow for selective reading of qubits.

18.2 So the RTE had to provide different signals to the LTE to trigger the read-out of different qubits. For the



transmission of these signals, there were only two possibilities: either using a separate wire for each qubit or using multiplexing via a shared wire for all qubits. The second option was common practice and would have been chosen by the person skilled in the art in order to reduce wiring (which was particularly important to improve the temperature isolation of the LTE). Further, multiplexing in the wired embodiment of D1 was specifically suggested by D1 itself because it already used multiplexing in the wireless embodiment. The type of multiplexing, time or frequency, was not important in this regard, because the claim did not specify it.

- 18.3 A demultiplexing device as claimed was then necessary in the LTE to separate the signals and send them to the corresponding wires.
- 18.4 The Respondent argued that D1 did not even disclose that control signals be sent over the wires from the RTE to the LTE. Instructions could be sent instead, from which the LTE would generate the corresponding signals. The Appellant considered this to be an unreasonable interpretation of D1. The skilled reader would assume that signals would be transmitted over the wired connection, just as was the case for the signals communicated using the wireless route.
- 18.5 The Respondent argued that D1 disclosed only very little about the wired arrangement and that, hence, the Appellant's assumptions were highly speculative. In fact, D1 did not say anything about the control signals along the wired route, its focus rather being the wireless control.
- 18.6 The disclosure of the wired route, in particular the wired connection to gates, was accidental, one which

the person skilled in the art would not consider for implementation. There was no reason - i.e. technical problem - provided in D1 for the presence of these connections.

- 18.7 Further, D1 disclosed nothing about the separation between RTE and LTE electronics. It was possible that the RTE generated only high level instructions and all necessary signals were generated at the LTE level.
- 18.8 But even if signals were generated in the RTE, it was possible that all electrometers were read out simultaneously, triggered by a single control signal. In this case, only one signal, and hence no multiplexing, was needed.
- 18.9 D1 did not disclose or hint towards selective read-out signals, and no reason was apparent why the person skilled in the art would implement this.
- 18.10 The burden of proof was on the Appellant, who had to show on the balance of probabilities that the claimed invention was obvious in view of D1. The disclosure of D1 was thin and the Appellant had provided no evidence for the allegations made as to what the person skilled in the art would or would not do. The evidence on file was insufficient to conclude that the claimed invention was obvious.
- 19. The Board agrees with the Respondent that D1 does not provide any details of the wired arrangement. However, this does not mean that its disclosure, thin as it may be, is disregarded by the person skilled in the art.
- 19.1 It is clear from D1 that the wireless arrangement can only perform "write" operations, i.e. change the qubit

state. A read operation requires a connection to the electrometers. The person skilled in the art would understand that the wired connection is there for this purpose, as the LTE is described by D1 as a measurement module (paragraph 32, see 2.3 above).

19.2 Objectively, the person skilled in the art is therefore confronted with the problem of implementing the wired arrangement so as to perform read-outs.

20. When doing that, the skilled person would have to choose the type of read-out, global or selective. The Board agrees with the Appellant that the person skilled in the art would have an interest in performing selective read-outs, if only for the reason that he or she may be interested only in the values of the qubits which contain the result of any given computation. This is also consistent with the fact that D1 teaches, in the wireless embodiment, selective writing to the qubits via frequency multiplexing.

20.1 The skilled person would also find obvious to generate the read-out control signals in the RTE, just as was done in the wireless arrangement. It was therefore obvious, as the Appellant argued, that a set of different control signals (for the read-out of different qubits) are sent from the RTE to LTE.

20.2 The Board further agrees with the Appellant that multiplexing in general, and temporal multiplexing in particular (serialisation), is obvious in order to reduce wiring. The Board considers this to be obvious in general from common knowledge alone, but even more so in the considered scenario of selective read-outs, where the control signals for the individual qubits are

anyway generated and sent at different points in time, namely whenever a read-out is needed.

- 20.3 The multiplexed link between RTE and LTE implies a demultiplexer device as claimed in the LTE. Physical output channels are already specified in D1 - the wires connecting the LTE and the electrometers.
- 20.4 The Board is therefore of the opinion that the use of multiplexing and demultiplexing as claimed is obvious in D1 in order to implement the wired connection for read-out of the qubit states.
21. The Board concludes that claim 1 of the patent as granted lacks inventive step in view of D1 and common general knowledge.

*Auxiliary request: admittance issues*

22. The Appellant requested the Board not to admit the auxiliary request, because the Proprietor did not explain why the request overcame the inventive step objections. Also, the request, in the opinion of the Appellant, lacked clarity and was not compliant with Article 123(2) EPC.
23. The Respondent submitted that the auxiliary request was filed during the appeal proceedings with the reply to the statement of grounds of appeal and is identical to the sole auxiliary request filed in reply to the notice of opposition within the period specified under Rule 79(1) EPC). The reason for filing was to overcome the inventive-step objections raised with the notice of opposition. The request was therefore admissibly raised in the sense of Article 12(4) RPBA.

24. The Board agrees with the Respondent. Given its timely filing and its substance, the Board does not see for which reason the Opposition Division could have decided not to admit it. Therefore, the Board considers the auxiliary request as admissibly raised in the sense of Article 12(4) RPBA and the Board has no discretion not to admit it.
25. The Appellant raised various objections to this request. Two of them, under Article 84 and Article 123(2) EPC, were first raised in appeal during the oral proceedings before the Board. The third, an inventive step objection based on D1 and common general knowledge, was raised first with the letter filed in reply to the Board's preliminary opinion. Another inventive step objection based on a combination of documents D1 and D10 was also mentioned by the Appellant for the first time during the oral proceedings.
  - 25.1 The Appellant argued that all these objections should be admitted because one cannot allow an invalid patent to stand. Also, some of them (esp. clarity and inventive step) had been raised during the opposition proceedings.
26. The Respondent submitted that these objections were raised during the appeal procedure only after the communication of the Board, and hence their admittance required exceptional circumstances, which were not present (Article 13(2) RPBA). None of these objections should be admitted by the Board.
27. The Board agrees with the Respondent that the admittance of these objections is regulated by Article 13(2) RPBA. It also agrees that no exceptional

circumstances have been established which would justify the admittance of a new objection at this stage of the appeal procedure. Therefore, the objections under Article 84 and 123(2) EPC are not admitted under Article 13(2) RPBA, nor is the inventive-step objection based on the combination of D1 and D10.

- 27.1 However, the objection based on D1 and common general knowledge is only a straightforward and foreseeable development of the one already discussed, which the Board found to be convincing for the main request. So this objection is not new in substance. The Board considers these circumstances to justify the admittance of this particular objection to the auxiliary request.

*Auxiliary request: inventive step*

28. The Appellant argues that the skilled person has only two realistic options to implement multiplexing on the RTE/LTE connection, namely frequency or time-division multiplexing, so that both are obvious choices. Further, frequency multiplexing is particularly obvious since D1 already uses a frequency multiplexer in the wireless arrangement.
29. This objection fails to convince the Board.
- 29.1 The Board agrees that a priori time-division and frequency-division multiplexing are indeed both obvious alternatives for data communication. However, within the specific context of D1, the Board comes to the conclusion that the skilled person would not have chosen frequency multiplexing without a further specific prompt, which the Board is not aware of.

- 29.2 As concluded above, it would have been obvious to serialise the signals on a single wire and thereby arrive at some basic form of temporal multiplexing. But, there appears to be no reason to invest the effort involved in providing frequency-multiplexed data transmission, because the main advantage of frequency multiplexing, namely the increased throughput due to parallel data transmission, is of little relevance in the context of the wired embodiment of D1. In its view, the person skilled in the art would not see the wired connection between RTE and LTE as a data communication link, but first and foremost as a connection for control signal transmission.
- 29.3 This is actually also the case for the wireless arrangement. The Board notes at this juncture that it is misleading to characterize the wireless connection as using frequency multiplexing. Different frequencies are not used to provide different channels over which to transmit data in parallel. Rather, the frequencies characterise the signals themselves, which need to be provided to the receivers, i.e. the gate IDQD unit, and thus constitute data rather than channels. Hence a frequency multiplexer, in the data communication sense, is not used in the wireless arrangement.
- 29.4 The Board therefore concludes that claim 1 of the auxiliary request shows the required inventive step over D1.

## Order

### For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the opposition division with the order to maintain the patent with claims 1-11 of the auxiliary request filed with the reply to the statement of grounds of appeal and a description to be adapted thereto.

The Registrar:

The Chairman:



L. Stridde

Martin Müller

Decision electronically authenticated