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Case No: HC10 C01233

IN THE HIGH COURT OF JUSTICE
CHANCERY DIVISION
PATENTS COURT

Royal Courts of Justice
Strand, London, WC2A 2LL

Date: 16/06/2011

Before :

THE HON MR JUSTICE FLOYD

- -

Between :

NOKIA OYJ (NOKIA CORPORATION)	**Claimant**
(a company incorporated under the laws of Finland)	
- and -	
IPCOM GMBH & CO KG	
(a company incorporated under the laws of Germany)	**Defendant**

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Richard Meade QC and **James Abrahams** (instructed by **Bird & Bird LLP**) for the **Claimant**
Iain Purvis QC and **Brian Nicholson** (instructed by **Bristows**) for the **Defendant**

Hearing dates: 11th-15th, 18th-20th April 2011

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Approved Judgment

I direct that pursuant to CPR PD 39A para 6.1 no official shorthand note shall be taken of this Judgment and that copies of this version as handed down may be treated as authentic.

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THE HON MR JUSTICE FLOYD

Mr Justice Floyd:

Introduction and background

1. The claimant, Nokia Corporation, seeks revocation of European Patent (UK) No. 1 841 268 ("the patent" or "268") which belongs to the defendant IPCom. This action is yet another stage in the litigation which is pending in a number of jurisdictions in relation to the mobile telephony patent portfolio which IPCom purchased from Robert Bosch GmbH.

2. 268 is a patent which was divided out of European Patent No. 1 186 189 ("the parent patent"). The parent patent was one of the patents in issue in an earlier action between substantially the present parties on which I gave judgment in January 2010: [2009] EWHC 3482 (Pat). I held the parent patent invalid, and refused (on procedural grounds) IPCom's attempts to introduce claim-narrowing amendments, one before and one after judgment. There was no appeal against the finding of invalidity, although there was an appeal against the decisions not to allow amendments. Those appeals were dismissed: [2011] EWCA Civ 6. The claims of 268 resemble those which IPCom were trying to get into the parent action by amendment: but no procedural objection was taken before me on this ground. As counsel submitted to the Court of Appeal in the parent appeal (see judgment at [113]):

> "We agree that we have to lop the tentacles of the Hydra one at a time or sometimes two at a time. That is what happens when you are facing somebody with a large patent portfolio. What we object to is every tentacle re-growing after we lop it off."

3. In response to the action for revocation, IPCom has made a conditional application to amend the 268 patent. In addition, by counterclaim, IPCom alleges infringement of 268 in respect of a number of mobile phones sold by Nokia. Nokia denies infringement.

4. Nokia also seeks declarations of non-infringement in relation to a series of further mobile phones. IPCom advanced no positive case in relation to these phones, but seeks a declaration for itself that the relevant Nokia phones are not "compliant" with the UMTS standard. Nokia applied for summary judgment in its declaratory action. That application was adjourned to the trial and is before me as well. In consequence of all this, IPCom opened the case and called its evidence first.

5. Like the parent patent, 268 is concerned with managing the problem of contention on a random access radio channel uplink between mobile phones and a network base station. Mr Iain Purvis QC and Mr Brian Nicholson argued the case for IPCom. Mr Richard Meade QC and Mr James Abrahams argued the case for Nokia.

The skilled addressee or team

6. The 268 patent is addressed to an engineer or team of engineers concerned with developing mobile phones for use in the UMTS mobile telecommunications standard, and in particular in developing systems for control of access to the random access channel (RACH). In my judgment on the parent patent I explained that those working on the GSM standard project were engineers of the highest calibre: see [37]. The same clearly applies to those involved in the UMTS project.

7. There is no dispute that the skilled addressee would have available the various standards such as GSM, GSM/GPRS and IS-95 and the current state of the UMTS recommendations. These are very extensive documents, and no skilled team could be expected to have or keep even a tiny fraction of their contents in its collective head. But the skilled team would know where in these documents to find information relevant to the task in hand.

The common general knowledge

8. Mobile telecommunications networks are complex structures. The general nature of such networks has been described in a number of judgments, and I do not need to repeat that exercise here. This case is concerned with how one controls access by the mobiles to a random access radio channel or RACH between the mobile and the base station (the "uplink"). In the parent case I said this about the technical background to the 189 patent. It is useful to set it out here as well:

> *Contention on a shared channel*
>
> Where the uplink from a mobile station is a shared random access channel, there is a danger of collision between users' signals, allowing stronger signals through and preventing weaker ones. This competition is called "contention". It can be tackled in numerous ways. One set of ways in which the problem is tackled is by restricting access to the channel.
>
> *The "lottery"*
>
> One well known way of restricting access to the channel involved a form of lottery. "Lottery" is not a term of art, but is a convenient term to provide an analogy for what is done. Each

> mobile station generates for itself a random number and compares it with a value sent by the network. A "win" can be defined as generating a random number greater than or equal to the transmitted value. So, for example, the possible transmitted numbers could be 1 to 10, and the random numbers could be 1 to 9. If the base station transmits a 10, no mobile will get onto the channel, but if it transmits a lower number than 10 an increasing proportion of mobiles can get on. At busy times the access can be throttled back to prevent collision. At very low usage times the transmitted value could be 1, and all mobiles would get access…
>
> *Access classes*
>
> Systems in which certain classes of user (user classes or access classes) could be restricted from access were also well known. For example class barring, under which a mobile of a particular class would be barred from access absolutely, was a feature of the GSM/GPRS system.
>
> *Transmission capacity*
>
> Bandwidth is a scarce resource in any mobile telephone system. Designers of such systems would try to arrange matters so as to minimise the amount of data that had to be sent routinely. One common general knowledge way of limiting the amount of data to be sent is the use of single bit flags, which alert the mobile to the fact that data is coming. This allows the network only to send the data when the flag is set.

9. I should add something about UMTS, as claim 1 is limited to a mobile for use in a UMTS network. UMTS is a third generation mobile telecommunications standard. At the priority date of and at the date of application for the patent, the standard was not complete: there were gaps in the specification of the standard.

10. UMTS is a code division multiple access system (CDMA). The details of CDMA do not matter for present purposes except in very limited respects. One aspect of CDMA is that of frequency sharing between channels. This means that there is at least the potential for channels to interfere with each other. Interference is a function of the load carried by the channel. A second point is that it was envisaged at the priority date that, in UMTS, the use of the RACH would not be restricted to the sending of channel requests. It would also be used to send small data packets. Thirdly, it was clear that UMTS would offer multiple services, including voice and at least one type of data service. These are points which are relied on by Nokia to suggest that a random access scheme for UMTS required more in the way of flexibility than was necessary for earlier schemes.

Expert witnesses

11. The evidence on each side was limited to a single expert witness. IPCom called Peter Gould. He is a telecommunications consultant. He has written books and chapters on

GSM and cdmaOne (which became the IS-95 standard). These are the two prior art mobile phone standards relied on by Nokia to invalidate the 268 patent. Mr Gould has also taught course modules on GSM and cdmaOne. In addition he has been involved in presenting a training course on UMTS, in giving other papers and writing a book chapter on it. Mr Gould gave evidence in the case concerning the parent patent, although not on the parent patent itself.

12. Nokia criticised Mr Gould's expertise. They said he had no practical experience of designing systems. He merely read about them and explained them to others. Nokia also hinted that, as he had given evidence for IPCom before, Mr Gould had become a bit of an IPCom man.

13. I will deal with the second part of that criticism first. In my judgment Mr Gould's evidence was given throughout with the utmost integrity and in a genuine desire to assist the court. I reject the suggestion that he was partisan, or was seeking to advance IPCom's case at the expense of giving helpful evidence. As to the first part, it is correct, as Mr Gould readily acknowledged, that he has little in the way of practical design experience. That is a factor which I should bear in mind to the extent that it is of importance to an assessment of his evidence on any particular point. In the end I did not think it mattered.

14. Mr Meade also relied on a particular answer given by Mr Gould in which he said he did not know why a particular feature was incorporated into GSM. I did not think the answer had the significance which Mr Meade sought to attach to it, namely that he did not know what such a feature normally did. As with the well known question "What is the co-efficient of expansion of brass?" one has to be certain exactly what it is that the witness does not know before condemning him as an ignoramus. Here, Mr Gould was merely saying that he did not know why GSM wanted such a feature, as it was not clear to him that in that situation it necessarily performed its known function of economising on bandwidth.

15. Nokia called Professor Marcus Purat. Since 2003 Professor Purat has been a Professor at Beuth-Hochschule, University of Applied Sciences in Berlin where he lectures on digital signal processing and communications systems. He also works part time for Hillebrand Consulting Engineers GmbH, which is a network of independent consultants. Before becoming a lecturer, he worked in industry as a development and systems engineer at Siemens Mobile Information & Communication in Berlin. He worked on system testing GSM core network equipment, supporting UMTS standardisation activities. He was later responsible for the technical contributions by Siemens to one of the working groups on UMTS. He was involved, between 1999 and 2003, in the drafting of parts of the first three releases of the UMTS standard. Like Mr Gould he has previously given evidence for Nokia in patent litigation in this country.

16. Mr Purvis launched a sustained attack on Professor Purat's evidence on a number of grounds. I take these three first:

    i) He submitted that Professor Purat had given contradictory opinions. In his report on infringement he had exculpated the B1 to G2 Nokia devices, which include class barring, by saying "It is therefore never permitted to access the RACH independent of the received access threshold value bits (N) as required

by feature G." In contrast, when considering the prior art system GSM/GPRS he advanced a case that it fell within feature [G] precisely because it had class barring. In cross-examination he explained that he thought that the issue on infringement focussed on the particular mapping tables, and he was directing his mind to that issue. There was some basis for that belief, as IPCom's statement of case on infringement, albeit by A1 and A2 and not B1 to G2, relied on the table for compliance with feature [G].

ii) Professor Purat's report on infringement in the action differed from his report on a summary judgment application brought by Nokia based on non-infringement. The paragraphs on class barring did not appear in the summary judgment report. The summary judgment application was based on the suggestion that Nokia were bound to win, and it was therefore material that there existed an alternative basis for infringement (on a construction contended for by Nokia but not IPCom).

iii) Professor Purat's evidence had wavered on the topic of whether he had read the minutes of a meeting at which the Bosch proposal relevant to the patent had been put to the Working Group. A related point was made about his failure to disclose that he had very recently seen the Bosch proposal itself, although he had said in cross-examination that he had only seen one proposal (and not that one) in his review of the documents.

17. I do not attach weight to these particular criticisms. Professor Purat was not trying to conceal anything. Given that claim construction is not really for the expert, I did not think in the end there was much in the criticisms about class barring. It no doubt seems suspicious to IPCom that he overlooked the Bosch proposal in his review, but I am sure that is what happened. His answer about having seen the second Bosch proposal was an answer to the question he was asked.

18. Rather more serious was the suggestion that Professor Purat's drawings of the prior art were misleading. I think there is some force in that. He had plainly started with a drawing said to represent the inventive concept of the patent and used that as a template into which he had tried to demonstrate the similarities with the prior art. This approach is bound to cause the reader to view the prior art from the viewpoint of the patent rather than, as it should be, in ignorance of it. An objective representation of the prior art in its own terms would have been more helpful, and more in keeping with the role of an independent expert. I do not suggest this was a deliberate attempt to mislead, or anything akin to that. What it reveals is an approach to the prior art which is inherently suspect. I have accordingly treated those drawings with suspicion.

19. I was also disappointed by the extent to which Professor Purat failed to disclose in his report the details of the consequences of his suggested modifications to the prior art. He explained on occasions that he had thought about these things, because he had not perceived them to be problems. I think it would have demonstrated a fairer approach if he had explained the knock-on effects of the changes he was proposing, so that the court could form a view as to the entirety of the thought process involved and whether what he proposed would have been seen by the skilled person to have repercussions which could not immediately be resolved.

20. Finally I was not convinced that Professor Purat was always approaching matters from the point of view of an unimaginative skilled person. There was some cross-examination on this which was inconclusive, as the Professor did not seem to be distinguishing between imagination and comprehension. He said that the skilled person he was considering was of average cleverness, somewhere between a prize winner and someone who would be refused a job by him. That leaves a wide spectrum. I was left in doubt as to what standard he was in fact applying, particularly as there was no reference to any assumed standard in his first report.

21. On the other hand I have taken account of the fact that Professor Purat is able to demonstrate more practical experience in the relevant field than Mr Gould.

The 268 patent

22. Control of access to a radio channel was a well known problem in mobile telecommunication systems and is recognised in the 268 specification. So, at [0020], the specification points out that where the message from a mobile station collides with another message on the random access channel, the message is not received properly in the base station and the base station is unable to acknowledge its receipt. The mobile station accordingly tries again, leading to a danger that the random access channel will become overloaded.

23. The specification starts, at [0001], by explaining that the invention is based on a mobile station for operation in a UMTS mobile radio network. A number of prior art specifications are then reviewed – more specifications than in the application for the patent. The specification then contains a section entitled "Advantages of the invention". The first of these paragraphs is [0009] which is in the following terms:

> "By contrast, the inventive method and the inventive mobile or subscriber station having the features of the independent claims have the advantage that the access authorisation for this telecommunications channel can be randomly distributed for one or more subscriber stations. This access control uses a minimum of transmission capacity for transmitting the information signals, since it is effected merely by transmitting the access threshold value."

24. The random distribution of access to the channel to which this paragraph refers would be achieved by the lottery-based approach to access which was common general knowledge at the date of the patent. Moreover, "the features of the independent claims" do not include as a requirement any feature which would in fact achieve random distribution. IPCom seek to insert such a feature by means of their conditional application to amend, which would have the effect of making more sense of this paragraph. The skilled person would have to read further to determine what it was that the claimed invention delivers.

25. Paragraph [0010] describes the ability of the subscriber station to check from "access authorisation information with access class information" whether it is in a "prescribed user class" and, if so, for access to the channel to be granted on the basis of the access class information. The paragraph then continues:

> "This permits subscriber stations of a prescribed user class to be authorized to use the telecommunications channel even if the random distribution by means of access threshold value would not authorize them to access this telecommunications channel. Thus, by way of example, subscriber stations for emergency services, such as the police or the fire brigade, can be associated with such a prescribed user class and can then access the telecommunications channel with priority irrespective of the random distribution by corresponding access threshold value information."

26. This ability to allow access irrespective of access threshold value is a theme which appears elsewhere in the specification. At this stage, as I touched on at [205] in my judgment on the parent patent, it would not be entirely clear whether the method of restricting access based on the lottery, on the one hand, and the method of granting access based on prescribed class on the other hand, were to be combined, and if so, how this was to be done.

27. The specification then goes on, in a rather unhelpful passage, to set out as advantages a number of combinations of features. These combinations of features can be correlated to paragraphs in and claims of the application for the parent patent and the parent patent itself. Rather than deleting these paragraphs, the draftsman has indicated in each case that the advantages are "not claimed in the claims".

28. From [0016], the specification describes the exemplary embodiments. Broadly speaking, this section divides up as follows:

    i) a first fairly general section from [0016] to [0024] describing how a network can be set up with classes of mobile stations; it also describes how the network accommodates different services, such as large data packets, small data packets and voice transmissions, which can be granted to the mobiles in any combination;

    ii) secondly, from [0025] to [0033] a description of a first embodiment of the invention utilising 10-bit transmissions;

    iii) thirdly, from [0034] onwards, a description of a second embodiment utilising 13 bit transmissions;

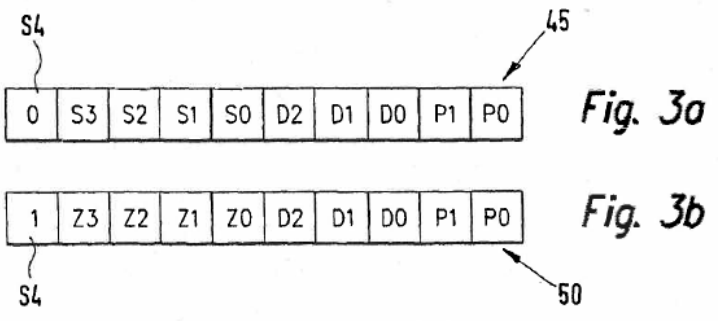
    iv) fourthly, at [0037], a description of a flow diagram showing how the mobile can receive and process the 10 and 13 bit transmissions.

29. In the first section, at [0021], the specification moves on to explain that it is possible to restrict access to the random access channel by the individual mobile stations by, for example, only allowing particular user classes access on a temporary or permanent basis. At [0022] it is explained that the network operator uses information signals transmitted from the base station to inform the mobile stations of which rights have been assigned to them. The information is sent on a broadcast channel so that the same information is sent to all mobile stations at the same time in order to notify the mobile stations of their assigned access rights to the random access channel.

30. The specification also explains at [0024] that a random scatter for the access authorisation to the random access channel can be achieved by sending an access threshold value on the broadcast channel. What follows is a description of the approach to granting access rights to a random access channel which I have referred to as "the lottery".

31. The specification explains that the mobile stations may also be classified into priority classes. As explained at [0026], these priority classes may provide an additional hurdle to access in addition to the lottery.

32. In the second section, the specification then goes on to describe the first embodiment with reference to figures 3a and 3b. This is the embodiment I described as the “10 bit embodiment” in my judgment in the parent action. Those figures look like this:



33. These figures represent alternative bit patterns which are transmitted by the network to the mobile stations on a broadcast channel. The first bit in each pattern is an evaluation bit S4. In figure 3a, S4 is 0 and will be used when the network desires to control access by lottery. In figure 3b, S4 is 1 and will be used when it is desired to control access by a class method. When S4 is 0, the following four bits, S3, S2, S1, and S0, are access threshold values. These four bits can be used to transmit 16 different access threshold values to the mobile stations (16 is the number of options that four binary bits gives you). Of course, the same access threshold value will be sent to all the mobile stations. The access threshold value can be set to a greater or lesser value so as to throttle back access to the network.

34. In figure 3b the evaluation bit S4 is set to 1. In this case the second, third, fourth and fifth bits are not defined as access threshold value bits but rather as access class bits. So this pattern will be used when it is desired to control access by means of access classes. Each of the access class bits Z3, Z2, Z1 and Z0 represents a particular user class. The arrangement is such that if the access class bit has a value zero, then all the mobile stations in the associated user class can access the random access channel. If the access class bit is set to 1, then none of the mobile stations in that user class can access the channel.

35. At the end of paragraph [0033], the specification explains in summary that the S4 bit determines whether the second to fifth bits are interpreted in line with the first bit pattern (figure 3a) or in line with the second bit pattern (figure 3b). It would accordingly be understood that when the specification spoke earlier about granting access irrespective of access threshold value, it could be referring to sending the

figure 3b bit pattern, that is to say simply basing access on access class, when there are no received access threshold value bits.

36. The description of the second embodiment begins at [0034]. I called this "the 13 bit embodiment" in my earlier judgment. The specification says that this embodiment is "based on the invention defined in the claims". It describes this as follows:

> "…in figure 3c, a third bit pattern … having a bit length of 13 bits is transmitted from the base station … to the mobile stations … with the information signals. The third bit pattern … does not have an evaluation bit S4 and therefore comprises both the access threshold value bits S3, S2, S1, S0 and the access class bits Z3, Z2, Z1, Z0. In addition the third bit pattern … like the first bit pattern … and the second bit pattern … comprise the telecommunications service bits D2, D1, D0 and the priority bits P1, P0."

37. Figure 3c looks like this:

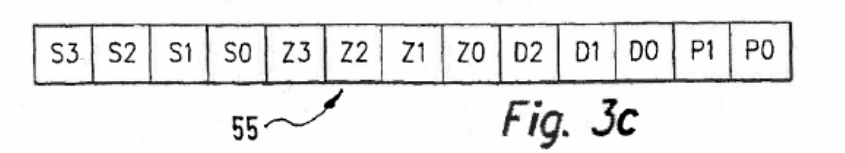


Fig. 3c

38. I have described what the priority bits (P1, P0) do above. The telecommunications service bits (D2, D1, D0) are bits which define whether particular services, such as data or voice can be used. [0034] continues:

> "Mobile stations belonging to a user class for which the associated access class bit = 0 are able to access the RACH … irrespective of the access threshold value S and of the priority threshold value P, and hence possibly without evaluation thereof in the evaluation unit… Mobile stations belonging to a user class whose associated access class bit has been set to 1, and mobile stations which do not belong to a user class, must perform the access threshold value evaluation already described in the first exemplary embodiment, and where applicable, in addition, the priority threshold value evaluation described in the first exemplary embodiment, in order to ascertain their access authorization for the RACH."

39. The skilled person would appreciate that what is envisaged is a system in which both access threshold value and user class information are sent to the mobile stations. The setting of the user class bit for any given class determines whether that class is able to access the RACH without doing the lottery, or whether instead it must be subjected to the lottery. Which it does can be altered by the network by setting the bit. Paragraph [0034] concludes:

> "In contrast to the first exemplary embodiment, it is, in the case of the second exemplary embodiment, possible that, alongside mobile stations permitted to access the RACH … due to their

> association with a user class, access to the RACH … is granted also to those mobile stations which draw a random or pseudo-random number R [of] greater than or equal to the access threshold value S and where applicable have a priority value above the priority threshold value P."

40. This passage is explaining that, in this embodiment, there are mobiles which will be permitted to access the RACH due to their user class, as well as mobiles which will be able to access the RACH only if they "win" the lottery. The skilled person would therefore appreciate by this stage that, in this embodiment of the invention, the network can discriminate between groups of users, for example ensuring that the emergency services are permitted access without having to do the lottery. He (or she) would also appreciate that at the same time the network can control the unfavoured users' access to the RACH by means of the lottery, by appropriate setting of the access threshold value. It would be clear that this functionality is additional to that provided by the first embodiment.

41. The final sentence of paragraph [0036] is of some importance in relation to the objection of added matter. That paragraph reads:

> "The numbers of bits used in the first, second and third bit patterns … for the access threshold value S, the access class information Z0, Z1, Z2, Z3, the priority threshold value P and the subscriber service information D0, D1, D2 are to be understood merely by way of example and can be increased, for example for more extensive signalling (*sic*), and can be reduced for bandwidth reduction. In this case, the total length of the bit patterns 45, 50, 55 also change, where applicable. Where applicable, individual elements of the information components can also be omitted entirely."

42. At paragraph [0037] the description of the flowchart included at Figure 4 commences. This includes a detailed description of the processing, not only for the access threshold value and class tests, but also the priority threshold value, user services and privileged user class tests.

The claim in issue

43. Only claim 1 needs to be considered as the only other claim, claim 2, was not said to be independently valid. Claim 1 is in the following form, omitting the patent's reference numerals, but adding letters to divide it up for convenience of reference, and some italics for ease of reading:

> [A] Mobile station for operation in a UMTS mobile radio network
>
> [B] in which multiple user classes are distinguished
>
> *characterised in that the mobile station is arranged*
>
> [C] to read a user class from a SIM card
>
> [D] to receive access threshold value bits and access class information over a broadcast control channel

[E] to determine an access threshold value from the access threshold value bits

[F] to use the access class information relevant for the user class *to determine whether*

[G] the mobile station is permitted to access a random access channel, for example RACH, independent of the received access threshold value bits

[H] *or whether* the access permission for the random access channel, for example RACH, is determined on the basis of an evaluation of the access threshold value.

Construction

44. The approach to construction is not in dispute. It is as stated by Lord Hoffmann in *Kirin Amgen v TKT* [2005] RPC 9. The task for the court is to determine what a person skilled in the art would have understood the patentee to have used the language of the claim to mean.

45. In *Virgin v Premium Aircraft* [2009] EWCA Civ 1062, [2010] RPC 8 at [5]. Jacob LJ said this, approving a summary by Lewison J of the applicable principles:

> "5. One might have thought there was nothing more to say on this topic after *Kirin-Amgen v Hoechst Marion Roussel* [2005] RPC 9. The judge accurately set out the position, save that he used the old language of Art 69 EPC rather than that of the EPC 2000, a Convention now in force. The new language omits *the terms of* from Art. 69. No one suggested the amendment changes the meaning. We set out what the judge said, but using the language of the EPC 2000:
>
> [182] The task for the court is to determine what the person skilled in the art would have understood the patentee to have been using the language of the claim to mean. The principles were summarised by Jacob LJ in *Mayne Pharma v Pharmacia Italia* [2005] EWCA Civ 137 and refined by Pumfrey J in *Halliburton v Smith International* [2005] EWHC 1623 (Pat) following their general approval by the House of Lords in *Kirin-Amgen v Hoechst Marion Roussel* [2005] RPC 9. An abbreviated version of them is as follows:
>
> (i) The first overarching principle is that contained in Article 69 of the European Patent Convention;
>
> (ii) Article 69 says that the extent of protection is determined by the claims. It goes on to say that the description and drawings shall be used to interpret the claims. In short the claims are to be construed in context.
>
> (iii) It follows that the claims are to be construed purposively—the inventor's purpose being ascertained from the description and drawings.

(iv) It further follows that the claims must not be construed as if they stood alone—the drawings and description only being used to resolve any ambiguity. Purpose is vital to the construction of claims.

(v) When ascertaining the inventor's purpose, it must be remembered that he may have several purposes depending on the level of generality of his invention. Typically, for instance, an inventor may have one, generally more than one, specific embodiment as well as a generalised concept. But there is no presumption that the patentee necessarily intended the widest possible meaning consistent with his purpose be given to the words that he used: purpose and meaning are different.

(vi) Thus purpose is not the be-all and end-all. One is still at the end of the day concerned with the meaning of the language used. Hence the other extreme of the Protocol—a mere guideline—is also ruled out by Article 69 itself. It is the terms of the claims which delineate the patentee's territory.

(vii) It follows that if the patentee has included what is obviously a deliberate limitation in his claims, it must have a meaning. One cannot disregard obviously intentional elements.

(vii) It also follows that where a patentee has used a word or phrase which, acontextually, might have a particular meaning (narrow or wide) it does not necessarily have that meaning in context.

(vii) It further follows that there is no general "doctrine of equivalents."

(viii) On the other hand purposive construction can lead to the conclusion that a technically trivial or minor difference between an element of a claim and the corresponding element of the alleged infringement nonetheless falls within the meaning of the element when read purposively. This is not because there is a doctrine of equivalents: it is because that is the fair way to read the claim in context.

(ix) Finally purposive construction leads one to eschew the kind of meticulous verbal analysis which lawyers are too often tempted by their training to indulge."

Features [F], [G] and [H]

46. The principal dispute between the parties concerns the meaning to be given to these features, and in particular what is meant by the phrase "*to determine whether the mobile station is permitted to access [the RACH] independent of the received access threshold value bits*".

47. I have not found this a particularly difficult question. It seems to me that the mobile is required to be able to tell from the access class information that it may access the RACH without reference to the received access threshold value bits. In practice it is convenient to think of this in terms of being permitted to access the RACH without doing a lottery.

48. Nokia contends that the claim is wide enough to include any case where a decision is taken on whether *or not* the mobile can access the RACH independently of the access threshold information. Suppose, they say, a mobile is refused access by means of a "class-barring" step, whilst other classes are subjected to the lottery. That would comply with the words "use the access class information … to determine whether the mobile station is permitted to access …. independent of the received access threshold value bits". In that case, the determination would be a negative one; but the determination would have been made independently of access threshold value as the claim requires.

49. I reject Nokia's submission. Firstly, it seems to me that Nokia's construction ignores the context of the feature within the claim. The claim is focussed on how the mobile is to be permitted access, rather than how it is to be refused. Thus the contrast between features G and H is between permitting access without having to do (say) the lottery and gaining access permission based on the lottery.

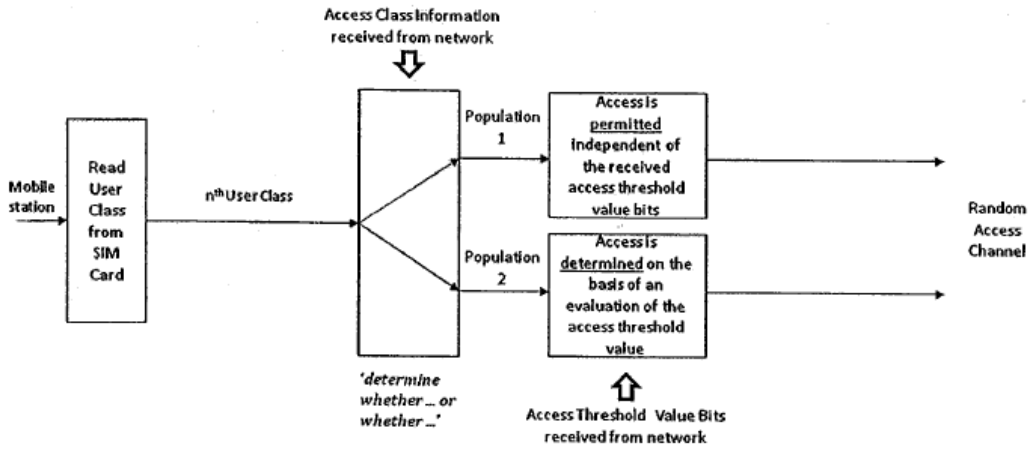
50. Secondly, Nokia's construction depends on reading the claim as requiring a determination (permission or no permission) which is independent of the lottery. But I do not think that is how the skilled person would understand the patentee to be using these words. He would understand that what is required to be independent is not the determination, but the access. That again is the contrast with Feature H. So understood, the skilled person would not regard a system in which the mobile can never be permitted access independently of the lottery as falling within the claim. The information in such a system could not be used for the claimed purpose (permitting access) at all.

51. Thirdly the skilled person would associate feature [G] with the passages in the specification which describe classes of user such as the emergency services as being permitted access without having to do the lottery. The skilled person would be disinclined to believe that the patentee was trying to monopolise systems where there was no alternative to the lottery for gaining access to the RACH.

52. Nokia sought to characterise IPCom's position as requiring access whatever happened, and then pointed to the further tests which the specific embodiments imposed. In my judgment, the phrase "permitted to access … independent of received access threshold value bits" does not mean that the mobile will necessarily be allowed access without further non-lottery checks. It just means a lottery by-pass and no more.

53. I will deal with other issues on construction in the context in which they arise.

54. Mr Gould summarised the invention of the patent, I think fairly, in the figure which I set out below for explanatory purposes, bearing in mind that it is the claims and not any paraphrase of representation by which obviousness needs to be assessed:



55. Mr Gould summarises the invention as providing, in a bandwidth efficient manner, a means for the network dynamically to adjust specific groups of users into a population with a priority access to the network independent of access threshold while at the same time using that access threshold to dynamically control the access of other users. He explains that it is bandwidth efficient by saying that it is possible only to send a single access threshold value, although of course the claim is not so limited. Again, I think this summary is a fair one to have in mind when considering the issues in the case, although it is not, of course, a substitute for the claims.

The prior art and the obviousness attacks

56. It is convenient to address the question of obviousness by using the structured approach explained by the Court of Appeal in *Pozzoli v BDMO* [2007] EWCA Civ 588; [2007] FSR 37. This involves the following steps:

> "(1) (a) Identify the notional 'person skilled in the art'.
>
> (b) Identify the relevant common general knowledge of that person.
>
> (2) Identify the inventive concept of the claim in question or, if that cannot readily be done, construe it.
>
> (3) Identify what, if any, differences exist between the matter cited as forming part of the "state of the art" and the inventive concept of the claim or the claim as construed.
>
> (4) Ask whether, when viewed without any knowledge of the alleged invention as claimed: do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?"

57. In *Conor v Angiotech* [2008] UKHL 49; [2008] RPC 28 at [42] Lord Hoffmann approved the following statement by Kitchin J in *Generics (UK) Ltd v H Lundbeck A/S* [2007] RPC 32 at [72]:

> "The question of obviousness must be considered on the facts of each case. The court must consider the weight to be attached to any particular factor in the light of all the relevant circumstances. These may include such matters as the motive to find a solution to the problem the patent addresses, the number and extent of the possible avenues of research, the effort involved in pursuing them and the expectation of success."

58. The most common form of obviousness attack starts from a particular pleaded document or other disclosure. It is of course also possible for an attack to be founded simply on common general knowledge, without reference to any particular document. There is such an attack in the present case. In such cases, as I said in *ratiopharm v Napp* [2008] EWHC 3070 (Pat); [2009] RPC 11 at [158], care needs to be taken to ensure that the whole picture presented by the common general knowledge is considered, not a partial one.

59. Secondary evidence of obviousness, such as the contemporary factual evidence of those working in the field must, as its name suggests, be kept in its place: see *Molnlycke v Procter & Gamble* [1994] RPC 49. But, as Jacob LJ pointed out in *Schlumberger v Electromagnetic Geoservices* [2010] EWCA Civ 819; [2010] RPC 33 at [85] its importance will vary from case to case. Such evidence can often be discounted because those working in the field were not aware of the pleaded prior art, so one cannot tell what they would have done if they had been. It is otherwise if the allegation is obviousness in the light of common general knowledge alone. In such a case those working in the field are more likely to be in a comparable position to the person skilled in the art, as they will possess the common general knowledge. If they did not propose the invention then one is entitled to ask whether this was because it was not self-evident.

Nokia's first case: GSM/GPRS

60. Nokia alleges lack of inventive step, firstly, over two ETSI technical specifications for GSM (the Global System for Mobile Communications): GSM 04.60, version 6.2.0 and GSM 04.08, version 6.1.1 published in October and August 1998 respectively. These detail the operation of GSM (which was voice only) and GSM/GPRS which was a development to deal with data. There was no dispute as to how the relevant parts of what I shall call ordinary GSM and GSM/GPRS worked.

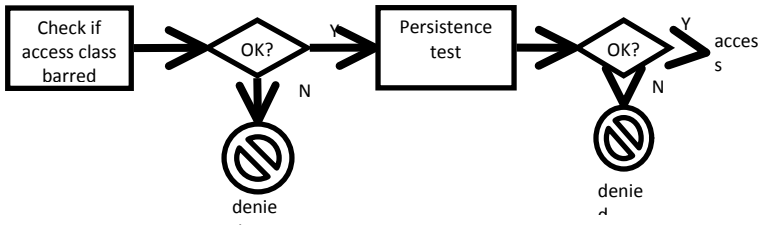
61. GSM 04.08 explains the procedure to be followed by a mobile station to establish a connection with the network for, by way of example, voice calls. Access to the network is only allowed if the mobile is a member of an authorised access class. The mobile is assigned to one of 15 access classes or special access classes. Access classes 0-9 are for normal users, whereas classes 11 to 15 are for special users such as network staff and the emergency services. The access class to which a mobile belongs is stored on the SIM card in the phone. The network broadcasts class-barring information, ACC_CONTR_CLASS. This information tells the mobile whether it belongs to a barred or permitted class. By barring certain classes and not others, the network is able to provide easier access to the unbarred classes. Class barring was common general knowledge.

62. Mobile stations which are not barred will receive further information from the network which defines (a) the window within which the mobile will randomly choose a time slot for attempting access; (b) the number of times the mobile may make further attempts in the event it does not receive an acknowledgment from the network; and (c) information from which the mobile can calculate the time it must wait before attempting access again.

63. GSM 04.60 also provides for the access of data packets on a packet common control channel (PCCCH), part of which is the packet random access channel, PRACH. In broad summary the mobile is allowed to access the network if it satisfies (a) the class barring requirement (as for GSM voice calls discussed above) and (b) a persistence test or lottery.

64. In the persistence test or lottery the network transmits a persistence parameter, PERSISTENCE_LEVEL for each radio priority. The mobile generates a random number, R, which it compares with this persistence level. If P is less than or equal to R for that radio priority, then the mobile station is permitted to attempt access.

65. I illustrated the GSM/GPRS mode of attempting access in my judgment in the parent case at [243] as follows:



66. If the persistence level for a given radio priority is set to zero, access to the PRACH is allowed for this radio priority. That is because zero will always be less than or equal to the random number generated in the mobile. On the other hand if the persistence level is set to its maximum value of 16, it will always be greater than the random number generated, which is within the range 0-15 and the mobile will not be permitted to attempt access to the PRACH.

67. The persistence level is an optional information element. If the persistence level is not sent, then the standard requires the mobile to treat the persistence level to be zero. This has the consequence that access to the RACH is permitted for all radio priorities. It is the technical equivalent of not having a lottery at all.

Obviousness over GSM/GPRS

68. I have dealt with the skilled person and the common general knowledge above. The inventive concept is that contained in the claims as I have construed them above.

69. The issue of construction which I have dealt with above is important in relation to the issue of obviousness. It is common ground that if I had accepted Nokia's construction, then, although the claim would not be anticipated, there would be nothing inventive in any remaining distinction between GSM/GPRS and the inventive concept. On the construction which I have held to be correct, however, there is a clear distinction between GSM/GPRS and the IPCom claims. In GPRS all mobiles

which pass the class barring have to perform the persistence test based on the transmitted persistence level. There is no provision for permitting access independent of the received access threshold value bits.

70. The question is therefore whether it would be obvious to the skilled team, tasked with designing an access control mechanism for UMTS, to adopt a modified form of GSM/GPRS which contained provision for permitting access independent of received access threshold value bits for some mobiles whilst requiring the rest to do a lottery based on such received bits.

71. Nokia's case as to why this modification was obvious focuses on the fact that the persistence value in GPRS is not always sent. A flag (referred to as the L/H bit) is sent to indicate whether the value is being sent or not. As I have said, the mobile interprets the absence of a persistence value as a persistence level of zero, so that all radio priorities have immediate access to the RACH. This is not on its own sufficient to get Nokia home. If the persistence value is not sent, access class information is still not used to determine whether access is to be permitted irrespective of access threshold value or whether access is to be determined on the basis of that value. In GPRS there is no such discrimination between classes which do the lottery and classes which do not. Nokia suggest that the skilled team would consider it obvious to have a separate flag for each access class. This would enable a system in which some classes use the access threshold bits and some did not. It would be seen as increasing flexibility over the "very crude" class barring operation of GSM/GPRS. It would give priority without the drastic step of class barring. Given the requirements of UMTS, Nokia suggests that this would be an obvious step to take.

72. Professor Purat supported this modification in his first report. He said it would "allow – in certain circumstances such as emergency cases – users of special access classes to access the PRACH with higher priority".

73. It is apparent that this proposal involves more signalling on the broadcast channel, as well as more processing. The proposal involves sending 16 absence/presence flags instead of just one. The additional functionality comes, as is commonly the case, at the cost of extra signalling.

74. Both Mr Gould and Professor Purat were cross-examined at length about this proposal. In the end I was not persuaded that it was obvious to change the absence/presence flag for the persistence value into class-specific instructions about whether to use the persistence value to do the lottery. My main reasons are the following:

i) I did not find Professor Purat's first report at all convincing on this point. It seemed to me that he started with the modification, explained that it was simple and then explained its advantages. This is a hindsight approach. His explanatory figures were also an exercise in straining to make the GSM/GPRS scheme look as much like the invention as possible. For example his depiction of the basic GSM/GPRS arrangement shows the absence/presence L/H bit as a Z bit, which is the identifier used in the patent to indicate the access class information. He accepted that the flag in basic GSM/GPRS had nothing to do with class and that he had done this in an attempt to relate it later to the patent. But the potentially misleading effect is manifest.

ii) When the L/H bit in GPRS indicates that the persistence level is not being sent, it means exactly that. In other words, there is no persistence level for the mobiles to use to do the lottery. There is no reason why the skilled person would think of making such a flag class-specific. As Mr Gould explained, it would be like sending out separate fire alarms for men and for women in the same building. I think Mr Gould's reaction to the proposal to make this flag class specific "[T]hat just does not make any sense at all" is an entirely justified one.

iii) It is true that the consequence of not sending the persistence value in unmodified GPRS is that the lottery becomes a foregone conclusion for all mobiles. But it does so in the context of not sending the persistence level at all. I cannot see any reason why the skilled person would focus only on the conclusion for the lottery, and not on the basic function of the bit, which is to indicate whether the value is sent or not. The notion of a class specific absence/presence bit for a common persistence value is an absurd one.

iv) Nokia's proposal is of course not really of a class-specific absence/presence bit at all. In Nokia's proposal the L/H bit no longer signals that the persistence level is not being sent, because, of course, it has to be sent for those mobile classes which will be required to do the lottery in the modified version. Nokia's argument as to why this is obvious focuses only on the *consequence* of the persistence level not being sent in GPRS, namely that the lottery becomes a foregone conclusion, and wholly ignores its original purpose. I do not think that approach is representative of the approach of the skilled person.

v) In short Nokia's proposal is to convert the absence/presence flags into something quite different: a class-specific instruction to use/not to use the persistence value. The individual flag bits would now tell the mobile nothing whatever about whether a persistence value was being sent.

vi) There were a number of matters which would have to be worked out if such a proposal was to be implemented. For example, having converted the absence/presence flag for the transmission of the persistence value into a class specific use/do not use instruction, there would remain the question of how the mobile would now work out if the network was in fact sending a transmission value at all. Professor Purat explained in cross-examination that this could still be done by the mobile checking all 16 flag bits (including those which do not relate to its own class) to see if they were all zero. He had not explained this reasoning in his report. Mr Meade submitted that this was all too trivial to be worth mentioning. I do not accept that submission. It was something the skilled person would have had to realise if he was to go forward with the modified purpose of the L/H bit.

vii) It also needs to be remembered that GSM/GPRS already has a mechanism for giving priority to certain classes of users over other classes, namely the class barring step. To consider improving on this method by making modifications to the persistence test involves a degree of lateral thinking which I do not think would have been obvious.

75. Nokia supported their case with their general submission based on the requirements of UMTS. But none of this pointed specifically at the solution in the patent or would provoke the conceptual change required to make the invention. The change in the use made of the absence/presence flag in GPRS is a conceptual one which would not be obvious to the skilled person. The case of obviousness over GSM/GPRS fails.

Nokia's second case: IS-95 disclosure

76. The second starting point relied on by Nokia is TIS/EIA/IS-95 interim standard entitled "Mobile Station-Base Station Compatibility Standard for Dual-Mode Wideband Spread Spectrum Cellular System" published in July 1993 ("IS-95").

77. IS-95 is based on the CDMA interface developed by Qualcomm. A mobile station in IS-95 transmits messages on a paging channel following a random access procedure until it receives an acknowledgment from the network. Before attempting access to this channel, the mobiles have to carry out a persistence test to determine whether access is possible.

78. Each mobile is a member of an access overload class. These access overload classes correspond to the access classes of the patent. The network broadcasts a persistence value PSIST for each class. The persistence value for class n is called PSIST(n). It is therefore a class specific parameter.

79. The persistence test consists of a comparison between a random number RP with the persistence value P. P depends on the reason for the access attempt, and is calculated from the value PSIST(n) which is transmitted by the network. The standard provides formulae for the calculation of P in three cases: registration of the mobile on the network, message transmission, and all other cases (including voice). The relevant formulae are set out in the standard as follows:

If the Access Channel request is a registration, P shall be computed by

$$P = \begin{cases} 2^{-PSIST(n)/4} \times 2^{-REG\_PSIST} & \text{if } PSIST(n) \neq 63 \\ 0 & \text{otherwise} \end{cases} \qquad n = 0, 1, \ldots, 9$$

$$P = \begin{cases} 2^{-PSIST(n)} \times 2^{-REG\_PSIST} & \text{if } PSIST(n) \neq 7 \\ 0 & \text{otherwise} \end{cases} \qquad n = 10, 11, \ldots, 15$$

where n is the overload class ($ACCOLC_p$) assigned to the mobile station.

If the Access Channel request is a message transmission, P shall be computed by

$$P = \begin{cases} 2^{-PSIST(n)/4} \times 2^{-MSG\_PSIST} & \text{if } PSIST(n) \neq 63 \\ 0 & \text{otherwise} \end{cases} \qquad n = 0, 1, \ldots, 9$$

$$P = \begin{cases} 2^{-PSIST(n)} \times 2^{-MSG\_PSIST} & \text{if } PSIST(n) \neq 7 \\ 0 & \text{otherwise} \end{cases} \qquad n = 10, 11, \ldots, 15$$

where n is the overload class assigned to the mobile station.

If the Access Channel request is other than a registration or a message transmission, P shall be computed by

$$P = \begin{cases} 2^{-PSIST(n)/4} & \text{if } PSIST(n) \neq 63 \\ 0 & \text{otherwise} \end{cases} \qquad n = 0, 1, \ldots, 9$$

$$P = \begin{cases} 2^{-PSIST(n)} & \text{if } PSIST(n) \neq 7 \\ 0 & \text{otherwise} \end{cases} \qquad n = 10, 11, \ldots, 15$$

where n is the overload class assigned to the mobile station.

80. These formulae have the following consequences for the access control protocol. As can be seen, PSIST(n) is a parameter used for calculating the persistence level in all three cases: registration, message, and others. In the cases of registration and message transmission, the parameters REG_PSIST and MSG_PSIST are used in addition to PSIST(n).

81. Taking the third formula (that for things like voice calls), if the value transmitted by the network for PSIST(n) is zero, the value of P will be 1 (2^0=1). This would mean that the access attempt would succeed. In the other cases, P will depend on the sent values of MSG_PSIST or REG_PSIST respectively. Access to the RACH in these cases could also be guaranteed if these parameters were set to zero as well.

82. In the special cases recognised by the standard where PSIST(n) has its maximum value of 7 or 63, P is set to 0. The consequence of the value of P being zero is that the mobile is guaranteed failure in the persistence test.

83. The result of all this is that, in the case of voice calls, the network can use the value of PSIST(n) to control how or whether the mobile class concerned accesses the RACH. Dependent on the value of PSIST(n) for the class in question, the class may obtain

immediate access to the network, be effectively class-barred, or will be throttled to some intermediate extent. The mobile is only required to decode PSIST(n) and perform the persistence test to know what its rights are in every case.

Obviousness over IS-95

84. Nokia's case of obviousness over IS-95 identifies PSIST(n) as access threshold bits. That is correct. They rely on the fact that if PSIST(n) is set to 0 for some access overload classes, one can independently set it to a non-zero value for other access overload classes. There are therefore some classes which are able to access the RACH with guaranteed access to the RACH and other classes which have to win a lottery test.

85. The difference between this functionality of IS-95 and the inventive concept is that the inventive concept has access class information which tells the mobile whether to do the lottery which is distinct from the access threshold value itself. In IS-95 there is always a lottery based on received access threshold value bits, (although the network can rig the lottery in the mobile's favour and guarantee access). To put it another way, in IS-95 there is no route to access which is independent of the received access threshold value bits. Nokia submit that this is simply a trivial difference in the way the information is coded. It does not produce additional functionality.

86. Professor Purat proposes what he describes as an obvious modification of IS-95. He says that the skilled person would recognise that the case where P=1 (i.e. PSIST(n) is all zeros) corresponds to switching off the threshold value for that class. In such a case the mobile is guaranteed to pass the lottery, because the random number will always "win". Accordingly, he says, the skilled person could arrange to send that switching information separately. His written evidence was that this would not have been considered an inventive step, but a simple consequence of the skilled person deciding to separate the two different types of information inherently combined in PSIST(n). He adds that the skilled person would recognise that adopting this method of coding would allow the case where PSIST(n) is all zeros to be used as another persistence value, increasing the number of persistence values from seven to eight, and that it would allow different repetition cycles for the two different types of information on the broadcast channel. Professor Purat says that it would have been known to the skilled engineer that such advantages existed and that he would have considered these alternatives in the design of the protocol.

87. Alternatively or additionally, Professor Purat suggested that the alternative coding scheme would have been "the possible result of the common question to protocol designers, whether the parameter PSIST(n) should have been mandatory or optional for each access class." If the parameter is made optional, the absence or presence of the information would have constituted access class information which indicated that the persistence test was not required and immediate access was possible. What he meant by this was the use of a separate bit to indicate the presence/absence of the information.

88. It transpired that there are in essence two proposals here. The first is to add a separate bit to deal with the special case of P=1, whilst still sending persistence value PSIST(n). This was illustrated in Figure 14 of his report. The second is to use the extra bit to indicate that the persistence value is not being sent.

89. Professor Purat was cross examined on these two approaches. It became plain to me that the advantages of separating out the information in the way he suggested for his first proposal were not things which he could maintain that the skilled person would see from the outset. For example, he said this in the course of his oral evidence:

> "Just looking at IS-95, and thinking about how it works, and then – I think if I give this scheme to that person who has the task to design a new RACH access for UMTS, I think it would be obvious to him that there are two types of access that you can control in IS-95. One is having lottery and one is, well, just go or be barred. These are the two informations. These are the two different types of informations which are coded in that one parameter. I think it would be something which he would think, "Why not separate that information?" Then you come up with a new proposal and go to his boss and say, "Well, look, why do we not separate that?" Then the boss says, "Well, that is nice, we have some advantages, we can separate it, we can transmit that infrequently." That would be – that is one way of looking at it, how you then come to that modification."

90. That passage seems to me to indicate a sequential process of reasoning. First have the idea, for reasons which are not explained, of separating the information, and then separately and subsequently seeing that there might be advantages in doing so. So far as the advantages that could be put forward are concerned, Professor Purat was quite lukewarm in his defence of the extra value of the persistence (8 rather than 7), whilst recognizing that to make use of it all you would have to introduce was different processing in the mobile. If one had used the extra bit to increase the PSIST(n) bits from three to four one would have got 16 persistence levels at the same cost in bits.

91. I was not persuaded by this evidence that the skilled person would ever have considered separating the information as Professor Purat suggests. IS-95 is constructed so as to use the persistence test throughout. I cannot see any reason why the skilled person would wish to depart from that structure so as to treat any individual situation (e.g. P=1) on a different basis. I think this was an instance where Professor Purat was allowing hindsight to colour his evidence, as the separation of the two types of information is the crucial distinction between IS-95 and the inventive concept.

92. Mr Gould considered that Professor Purat's Figure 14 would be regarded as a backward step, as it results in an increase in bandwidth consumption. He also points out that if one were concerned not to do the lottery for the case where P=1 and PSIST(n) was zero, this could be achieved by implementation in the mobile without any extra signalling.

93. Professor Purat was challenged as to why the skilled team would take the step (which he identified in Figure 14 and paragraph 335 of his first report) when this would introduce extra signalling:

> Q. … The network is still sending all the bits even though they are 0s and even though the mobile station is just going to ignore them, which does not sound very efficient.
>
> A. That is right, and that is why I said, in paragraph 336, in addition, I think that would [be] the next step to take. This coding scheme would mean that you would make the parameter optional, so you do not send that any longer.

94. Thus Professor Purat's answer to the suggestion that the new coding scheme was inefficient was to propose the additional step (in addition to the data separation idea and the subsequent perception of questionable advantages) of making the persistence value an optional element. This is a somewhat circuitous path to the inventive concept.

95. Mr Gould did not think that this approach would appeal to the skilled team. He dealt with Professor Purat's suggested advantages of separating out the information in a convincing way in his reply report. He also points out that all of the modifications suggested by the Professor require more signalling data to be sent when traffic levels are high. As to this, Nokia suggested to him in cross-examination that one must distinguish between high traffic on the broadcast channel and high traffic on dedicated channels such as RACH. The skilled person would not be as concerned about increasing traffic on the broadcast channel even during periods of high traffic. Mr Gould's response was that the channels were linked. Increased power on the broadcast channel could lead to interference on the dedicated channels such as the RACH.

96. For his part, Mr Gould did not think he would have perceived that unmodified IS-95 was inefficient in any general sense. For the functionality it delivered – controlling each class with a threshold - it was efficient. He did not accept that a designer setting about applying the IS-95 teaching for use in UMTS would see inefficiency in the fact that six zero bits were being sent to tell the mobile that it could definitely access the RACH. I think Mr Gould's evidence more accurately reflects the way the skilled team would have thought.

97. Nokia submitted that the modification was no more than the familiar use of an optional information element. Such an element had been used in GSM when it was desired not to send the persistence value. It could be used here as well. The known purpose of such elements was to save bandwidth and there was nothing inventive in thinking about using one here. Attractively though this argument was put, I was not in the end persuaded by it. The skilled person does not make modifications unless they appear to him to be worthwhile. The evidence of Professor Purat did not establish that the skilled person would consider the use of an optional information element in these precise circumstances would be likely to save bandwidth overall. In fact Professor Purat never clearly asserted that this would be seen as the result of his modifications. I am sure he would have done so had it been possible to establish it.

98. The discussion thus far has concentrated on the cases where only PSIST(n) needs to be taken into account. There was a debate in the evidence about the extent to which modifications would be seen to be impeded by considerations of the impact on REG_PSIST and MSG_PSIST. Mr Gould thought, understandably given the way it

was expressed in Professor Purat's report, that the premise of Professor Purat's modification was that whenever PSIST(n) would have been zero the mobile should go through without considering PSIST. He thought this would prevent REG_ and MSG_PSIST from working. But as Professor Purat eventually explained in cross-examination, he was only proposing that the mobile be discharged from calculating P in the case of voice calls. In the other cases it would treat P as 1 and the formulae could operate as before.

99. I thought that the cross-examination of both experts on this point revealed how it requires great clarity of thought to be sure that any modification one proposes to a standard such as IS-95 does not impact on other aspects of the system. I think the way in which the evidence developed on REG_ and MSG_ PSIST showed that it was not self evident that one could retain the same functionality that IS-95 provides if one made the modifications proposed by Professor Purat.

100. In the end I do not think that Nokia has established that it was obvious to make the modifications to IS-95 suggested by Professor Purat. The skilled person would not see any clear purpose in doing so and would see clear disadvantages. There was nothing about IS-95 which would have driven the skilled team in the direction of the inventive concept.

101. There is an additional problem with Nokia's case as it was finally developed, namely to the scheme where PSIST(n) is not sent. It raises a rather esoteric point about the correct construction of the claim. Is a single class of mobiles in IS-95 which is told that no persistence value is being sent (and that it should therefore be permitted access) permitted access independent of received access threshold value bits? There are no received access threshold value bits *for that class*. On the other hand there may be other classes which are being sent their access threshold information.

102. IPCom submitted that this arrangement is not within the claims. The structure of features [F], [G] and [H] ("use the access class information to determine whether … or whether….") made it implicit that the access threshold value bits were received and available to be used for that class if that is what the access class information directed. Nokia submitted that one was within the claims if there was access class information sent for other classes.

103. I think that IPCom are trying to read too much into the claim here. The claim requires there to be access threshold bits which are received, but that some classes should be permitted access without any evaluation of such bits. There is no need to read in a requirement that bits should be received which would be appropriate to be evaluated for the class in question. But as I have found the modified arrangement not to be obvious, the point does not matter.

Nokia's third case: Farsta/Thomas

104. Thirdly, Nokia relies on the minutes of a meeting of the L1 Expert Group in Farsta, Sweden on 31st August to 2nd September 1987 to be read together with a document by Thomas ("Farsta/Thomas").

105. The Farsta meeting was of a GSM working group. It was attended by representatives of a number of European telecommunications companies. It is dated many years

before the priority date of the patent. It is common ground that the meaning of the minutes relied on must be ascertained as of the date it was written.

106. According to the minutes, a number of aspects of the development of the GSM standard were discussed. Section 5 of the minutes is entitled "Random Access Protocol on the CCCH". Section 5.2 is headed "Control of overload situations". It records that Mr Thomas presented a paper which describes an algorithm to control the overload. The details of the algorithm do not matter, although it is an algorithm based on what I have called "the lottery" which is implemented after the mobile has had one unsuccessful attempt at access to the channel.

107. The minutes go on to explain that there was discussion on special priority being given for certain user groups or services and that guidance was sought from wp1, another working party. They also explain that no decision could be taken on how to control the load, the choice being limited to controlling the probability of re-transmission and controlling the re-transmission interval. The minutes continue:

> "As an extreme measure group(s) of users could be excluded from system access by order of a special BCCH message. The feasability [sic] of such a measure is embedded in the questions to wp1 (annex 5)."

108. Annex 5 is entitled "Limiting access on a heavily loaded CCCH". The Annex notes that the CCCH is a vulnerable channel. It starts by explaining the limitations of reducing the re-transmission rate, namely that there comes a point when the quality of service is reduced to an unacceptable level. It says:

> "If this rate is reached there is no alternative but to exclude certan [sic] groups of users.
>
> On the other hand it might be necessary to allow 'immediate' access to special groups of users."

109. The Annex explains that the first measure may be taken when one of two network operators in a country suffers a failure, so that all its subscribers want to access the network of the surviving operator. The step that would then be taken would be to block all "roaming" users from the malfunctioning network from accessing the other, functioning network. It continues by saying:

> "The second possibility occurs in emergency cases where 'every' subscriber wants to access the system and the overload prevents emergency services (which may be in a closed user group) to access the system."

110. There then follows this paragraph, the import of which is hotly contested:

> "Wp1 is asked to give guidance to the L1EG on categories that deserve special control mechanisms to access the system, in order to be able to design signalling messages to cope with overload situations by indicating the groups of users or services that may require special priority to access the system.

The L1EG advises though, to limit categories to the vital ones only, in view of the signalling complexity involved."

Obviousness over Farsta/Thomas

111. Nokia contends that, at the priority date, it would be obvious to apply the points made in Farsta to the UMTS system. In so doing one would have a lottery based access system (such as that described by Thomas) to control the re-transmission rate. One would then need to divide users into at least two classes, one of which was the emergency services. When it was necessary to give access to the emergency services, the network would have to send information that certain user classes could access the RACH immediately. The mobile stations would read the information and compare it to their user class stored on their SIM card, to see whether they could access the RACH immediately, or whether they had to do the "lottery".

112. Professor Purat's evidence was that the Thomas document would have led the skilled person to allow immediate access for the special class of users by by-passing the lottery based test.

113. IPCom's answer to this obviousness case is that it is reading far too much into the rather sketchy description in the Farsta minutes. All that the minutes are saying is that, when you have gone as far as you can with controlling the re-transmission rate, you may have no option but to bar classes. Both the examples discussed would therefore involve no more than class barring, which was the solution ultimately adopted in GSM.

114. Having heard and then re-read the evidence on this document I prefer IPCom's submissions. The document is not suggesting any form of lottery by-pass. The situations discussed both involve heavy overload of the RACH. Lowering the re-transmission rate so as to lower the chance of mobiles getting access is having no effect. So you either reduce the load by removing a big class such as roaming subscribers from another network, or you effectively stop all the traffic to let the emergency services through. It would make no sense to create a lottery by-pass for the emergency services onto the *ex hypothesi* overloaded RACH.

Nokia's fourth case: common general knowledge alone

115. Nokia's fourth and final attack on the patent was from common general knowledge alone. In short it runs as follows:

    i) A lottery method for controlling access to the RACH was common general knowledge;

    ii) It was also common general knowledge that the emergency services might require immediate access to the RACH;

    iii) If it was thought to be a problem that the emergency services had to do the lottery, one could devise a system in which the emergency services were told by a signal on the broadcast channel that they did not need to.

116. This is a very simple and attractive argument, untrammelled as it is by any of the details of a practical working system. Mr Gould's fundamental position was that the skilled team would be much more likely to start from one of the known standard proposals, such as GSM/GPRS or IS-95. His cross -examination required him to clear his mental decks of all such proposals and start with a system solely based on the lottery. He plainly thought this whole exercise unrealistic, as I believe it to have been. The skilled person's first port of call would have been to see what methods of control had in fact been used in the past. This is particularly so in a case where such methods have been through standardisation processes. I have already considered whether the methods disclosed in GSM/GPRS or IS-95 would have led to the invention and concluded that they would not. The obviousness argument from common general knowledge requires instead an *a priori* re-assessment of the problem without reference to these methods. I must take this decision into account in assessing whether the approach adopted in the patent is inventive.

117. I do not think that the desire to give the emergency services priority access to the RACH would drive the skilled team to a solution within the patent. One solution would be to give them permanent priority access, in which case there would be no need to provide for the possibility of a lottery for that class. If one wanted to give them priority access some of the time, one could bar other classes when required. If the need to perform the lottery is perceived as a problem in itself it is presumably because a situation is envisaged in which the RACH is very congested. In such a situation it would not be obvious simply to allow one class to by-pass the lottery. One would have to see that it was possible, as Mr Gould puts it, to provide:

> "a means for dynamically allocating specific groups of users to obtain priority access to the network while controlling other users on a threshold value."

118. Some light was thrown on this issue by a survey carried out by Professor Purat of the various proposals which went into the UMTS standard. This represented the contemporaneous thinking of the major telecommunications companies. In his cross-examination, Professor Purat was constrained to accept that there was nothing in any of the documents he had reviewed which indicated that at the priority date anyone other than Bosch had thought of any of the following ideas:

i) using the distinction between users given by access classes for any purpose other than class barring;

ii) providing two routes to access which enable individual groups to access the RACH without doing an evaluation of a persistence level which was required for other groups;

iii) broadcasting information over the BCCH to enable dynamic allocation of individual classes into a population of users which did not need to use the lottery.

119. There was not much to support Nokia's contention that UMTS required a radical re-appraisal of the techniques for controlling access to the RACH. For example an Ericsson proposal (trial bundle 6 tab 7) suggests that a similar approach to GSM/GPRS should be used. A King's College London round table paper by A. Brand

on the topic of random access stabilization and prioritization for UMTS does not clearly suggest that any new mechanism (over that available in GSM/GPRS) would be required, or suggest what that might be.

120. I have borne in mind throughout the points I have made above about the characteristics of UMTS, but I do not think that, of themselves, they push the skilled person in the direction of the solution of the patent.

121. By contrast there was plainly interest at the priority date in the range of services which would be available with UMTS and how selective access for different services could be organized. Proposals by Bosch, Sony and Motorola addressed this. This was something which GSM/GPRS had already addressed through the use of radio priorities.

122. Nokia say that the evidence is helpful to them because it shows that skilled teams were not hide-bound by the prior systems and were proposing changes. I do not think that this is a good point for Nokia. Insofar as changes were being proposed they focused on service discrimination. Nokia also rely on an Ericsson proposal which is subsequent to the priority date, and after the proposal from Bosch which contains the concept of the patent in suit. They say that there is no evidence to suggest that this was influenced by the Bosch proposal, and it shows that the UMTS scheme which is alleged to fall within the claims was arrived at by a process of uninventive development. I am firmly of the view that is only fair to assess obviousness at the priority date. I have no evidence showing what influences came to bear on Ericsson between their first and second proposals.

123. It is of course always necessary, at the end, to take a step back and ask whether the claim embodies an inventive step, both in the case of the attacks based on specific publications and in the case of the common general knowledge. Nokia submitted that the invention achieved nothing in terms of functionality as compared with, say, IS-95. That is correct as far as it goes, but it does not follow that IPCom's approach to achieving that functionality is obvious. It is entirely possible that invention lies in achieving the same functionality in a different way. In the end I was not satisfied that any of Nokia's four starting points rendered IPCom's solution obvious.

124. It follows that I reject all the attacks on the 268 patent based on obviousness.

Added Matter

125. This was a very important part of Nokia's case. Mr Gould was cross-examined for several hours on this topic. It occupies 30 pages of Nokia's closing skeleton.

126. The test for added matter was stated by Aldous J in *Bonzel v Intervention (No 3)* [1991] RPC 553 at 574 as follows:

> "The decision as to whether there was an extension of disclosure must be made on a comparison of the two documents read through the eyes of a skilled addressee. The task of the Court is threefold:

> (1) To ascertain through the eyes of the skilled addressee what is disclosed, both explicitly and implicitly in the application.
>
> (2) To do the same in respect of the patent,
>
> (3) To compare the two disclosures and decide whether any subject matter relevant to the invention has been added whether by deletion or addition. The comparison is strict in the sense that subject matter will be added unless such matter is clearly and unambiguously disclosed in the application either explicitly or implicitly."

127. In *Vector Corp v Glatt Air Techniques Ltd* [2007] EWCA Civ 805, [2008] RPC 10 Jacob LJ put the matter as follows:

> "4. In *Richardson-Vicks' Patent* [1995] RPC 568 at 576 I summarised the rule in a single sentence:
>
> > "I think the test of added matter is whether a skilled man would, upon looking at the amended specification, learn anything about the invention which he could not learn from the unamended specification."
>
> I went on to quote Aldous J in *Bonzel*. His formulation is helpful and has stood the test of time.
>
> 5. The reason for the rule was explained by the Enlarged Board of Appeal of the EPO in G1/93 *ADVANCED SEMICONDUCTOR PRODUCTS/Limiting feature* [1995] EPOR 97 at [Reasons 9]:
>
> > "With regard to Article 123(2) EPC, the underlying idea is clearly that an applicant shall not be allowed to improve his position by adding subject-matter not disclosed in the application as filed, which would give him an unwarranted advantage and could be damaging to the legal security of third parties relying upon the content of the original application."
>
> 6. Mr Richard Arnold Q.C. provided a clear articulation as to how the legal security of third parties would be affected if this were not the rule:
>
> > "The applicant or patentee could gain an unwarranted advantage in two ways if subject-matter could be added: first, he could circumvent the "first-to-file" rule, namely that the first person to apply to patent an invention is entitled to the resulting patent; and secondly, he could gain a different monopoly to that which the originally filed subject-matter justified."

7. Kitchin J has recently helpfully elaborated upon the *Bonzel* formulation in *European Central Bank v Document Security Systems* [2007] EWHC 600 (Pat), 26th March 2007:

> "[97] A number of points emerge from this formulation which have a particular bearing on the present case and merit a little elaboration. First, it requires the court to construe both the original application and specification to determine what they disclose. For this purpose the claims form part of the disclosure (s. 130(3) of the Act), though clearly not everything which falls within the scope of the claims is necessarily disclosed.
>
> [98] Second, it is the court which must carry out the exercise and it must do so through the eyes of the skilled addressee. Such a person will approach the documents with the benefit of the common general knowledge.
>
> [99] Third, the two disclosures must be compared to see whether any subject matter relevant to the invention has been added. This comparison is a strict one. Subject matter will be added unless it is clearly and unambiguously disclosed in the application as filed.
>
> [100] Fourth, it is appropriate to consider what has been disclosed both expressly and implicitly. Thus the addition of a reference to that which the skilled person would take for granted does not matter: *DSM NV's Patent* [2001] RPC 25 at [195]-[202]. On the other hand, it is to be emphasised that this is not an obviousness test. A patentee is not permitted to add matter by amendment which would have been obvious to the skilled person from the application.
>
> [101] Fifth, the issue is whether subject matter relevant to the invention has been added. In case G1/93, *Advanced Semiconductor Products*, the Enlarged Board of Appeal of the EPO stated (at paragraph [9] of its reasons) that the idea underlying Art. 123(2) is that that an applicant should not be allowed to improve his position by adding subject matter not disclosed in the application as filed, which would give him an unwarranted advantage and could be damaging to the legal security of third parties relying on the content of the original application. At paragraph [16] it explained that whether an added feature which limits the scope of protection is contrary to Art. 123(2) must be determined from all the circumstances. If it provides a technical contribution to the subject matter of the claimed invention then it would give an unwarranted advantage to the patentee. If, on the other hand, the feature merely excludes protection for part of the subject matter of the claimed invention as covered by the application as filed, the adding of such a

> feature cannot reasonably be considered to give any unwarranted advantage to the applicant. Nor does it adversely affect the interests of third parties.
>
> [102] Sixth, it is important to avoid hindsight. Care must be taken to consider the disclosure of the application through the eyes of a skilled person who has not seen the amended specification and consequently does not know what he is looking for. This is particularly important where the subject matter is said to be implicitly disclosed in the original specification."

> 8. When amendment of a granted patent is being considered, the comparison to be made is between the *application* for the patent, as opposed to the granted patent, and the proposed amendment (see the definition of 'additional matter' in s.76(l)(b)). It follows that by and large the form of the granted patent itself does not come into the comparison. This case was to some extent overcomplicated by looking at the granted patent, particularly the granted claim 1.
>
> 9. A particular, and sometimes subtle, form of extended subject matter (what our Act calls 'additional matter') is what goes by the jargon term 'intermediate generalisation'. Pumfrey J described this in *Palmaz's European Patents* [1999] RPC 47, 71 as follows:
>
> > "If the specification discloses distinct sub-classes of the overall inventive concept, then it should be possible to amend down to one or other of those sub-classes, whether or not they are presented as inventively distinct in the specification before amendment. The difficulty comes when it is sought to take features which are only disclosed in a particular context and which are not disclosed as having any inventive significance and introduce them into the claim deprived of that context. This is a process sometimes called "intermediate generalisation"."

128. The point made by Kitchin J in *European Central Bank* at [97] - that it is wrong to assume that because a claim covers something it discloses it as well – is very well established, see: *AC Edwards v Acme Signs & Displays* [1992] RPC 131 (see e.g. per Fox LJ at page 143). The fallacy was most recently exposed by Jacob LJ in *Napp Pharmaceutical Holdings Ltd v ratiopharm GmbH* [2009] EWCA Civ 252, [2009] RPC 18 at [98] – [99]. The point most commonly arises where a claim is widened (as it may be) during prosecution by the omission of a feature. The widened claim covers the class of things claimed without the omitted feature: but it does not necessarily follow that it discloses anything new.

129. When considering claim widening by omission of a feature, the European Patent Office applies a three stage test as explained in *Houdaille* T0331/87. In that case the Technical Board of Appeal said this:

"3. For the determination whether an amendment of a claim does or does not extend beyond the subject-matter of the application as filed, it is necessary to examine if the overall change in the content of the application originating from this amendment (whether by way of addition, alteration or excision) results in the skilled person being presented with information which is not directly and unambiguously derivable from that previously presented by the application, even when account is taken of matter which is implicit to a person skilled in the art in what has been expressly mentioned (Guidelines, Part C, Chapter VI, No. 5.4). In other words, it is to examine whether the claim as amended is supported by the description as filed.

4. In the decision T 260/85 ("Coaxial connector/AMP, OJ EPO, 1989, 105) the Board of Appeal 3.5.1 came to the conclusion that "it is not permissible to delete from a claim a feature which the application as originally filed consistently presents as being an essential feature of the invention, since this would constitute a violation of Article 123(2) EPC" (cf. Point 12 and Headnote). In that case the application as originally filed contained no express or implied disclosure that a certain feature ("air space") could be omitted. On the contrary, the reasons for its presence were repeatedly emphasised in the specification. It would not have been possible to recognise the possibility of omitting the feature in question from the application (Point 8). It could be recognised from the facts that the necessity for the feature was associated with a web of statements and explanations in the specification, and that its removal would have required amendments to adjust the disclosure and some of the other features in the case.

5. Nevertheless it is also apparent that in other, perhaps less complicated technical situations, the omission of a feature and thereby the broadening of the scope of the claim may be permissible provided the skilled person could recognise that the problem solving effect could still be obtained without it (e.g. T 151/84 - 3.4.1 of 28 August 1987, unreported). As to the critical question of essentiality in this respect, this is a matter of given feasibility of removal or replacement, as well as the manner of disclosure by the applicant.

6. It is the view of the Board that the replacement or removal of a feature from a claim may not violate Article 123(2) EPC provided the skilled person would directly and unambiguously recognise that (1) the feature was not explained as essential in the disclosure, (2) it is not, as such, indispensable for the function of the invention in the light of the technical problem it serves to solve, and (3) the replacement or removal requires no real modification of other features to compensate for the change (following the decision in Case T 260/85, OJ EPO

> 1989, 105). The feature in question may be inessential even if it was incidentally but consistently presented in combination with other features of the invention. Any replacement by another feature must, of course, be examined for support in the usual manner (cf. Guidelines, Part C, Chapter VI, No. 5.4) with regard to added matter."

130. A dispute arose as to what is meant by "*the skilled person would directly and unambiguously recognise that (1) the feature was not explained as essential in the disclosure.*" The cross-examination of Mr Gould proceeded on the basis that one must look for a clear explanation in the application that the feature is inessential. I think that is putting the matter too high. The skilled person must be able to conclude, directly and unambiguously, that he is not being told that the feature is essential.

131. It is important to recognise that the contrast being drawn in cases such as *Houdaille* is between (a) an application which "contains a [claimed] feature which it consistently presents as being an essential feature of the invention" and which "repeatedly emphasises" the reason for its presence and (b) a granted or amended patent which discloses that it is inessential. The cited passage from *Houdaille* makes it clear, however, that there are other cases where features of a claim are dropped and the claim widened, where there would be no objection of added matter, even where that feature is consistently presented in combination with other features of the invention. That may be because the skilled person would not regard the feature as essential in the application, even though it forms a feature of the claim. Or it may be that the granted patent does not teach that the feature is inessential.

132. Where a claim is being *narrowed* by the addition of features, there should, as Pumfrey J pointed out in *Palmaz,* normally be no difficulty provided that what is being done is to amend down to a distinct sub-class of the inventive subject matter, and provided also that one avoids intermediate generalisation. This problem may arise where, as in this case, it is sought to add to the claim features only to be found in the specification as part of the description of a specific embodiment, and where they are technically or functionally connected to other features which are not sought to be claimed.

133. The EPO also apply a general rule where a claim is restricted to a preferred embodiment. In T0025/03 the Board said:

> "According to the established case law of the boards of appeal, if a claim is restricted to a preferred embodiment, it is normally not admissible under Article 123(2) EPC to extract isolated features from a set of features which have originally been disclosed in combination for that embodiment. Such kind of amendment would only be justified in the absence of any clearly recognisable functional or structural relationship among said features (see e.g. T 1067/97, point 2.1.3)."

134. I think this is what Pumfrey J meant by introducing features into a claim "deprived of their context". I do not think he meant to establish a rigid principle of "all or nothing" in relation to taking features from a specific embodiment. Both *Houdaille* and T0025/03 recognise that presentation of a feature in combination with the claimed

features may nevertheless permit the skilled person to recognise that the feature is not functionally or structurally essential.

135. Both experts opined on the topic of added matter. My task in relation to added matter is first to understand the documents as they would be understood by a person skilled in the art and then to ask whether there is added matter. The views of experts on these questions, whilst they may be helpful, are not determinative: see Laddie J in *Siegfried Demel v C&H Jefferson* [1999] FSR 204 at [22].

136. When asking whether a feature is essential to an invention disclosed in the application, it is necessary to confine one's consideration to the invention disclosed in the application as filed. To do otherwise would involve hindsight. So for example, in the present case, it is not legitimate to take the claims of the granted or proposed amended patent and to ask whether there are additional features which would be regarded as essential/inessential to the invention so claimed. It is clear that Mr Gould had not appreciated the importance of this.

The disclosure of the application

137. The application begins with a reference to a single prior art document, a German patent application in the name of Bosch, which it is common ground does not disclose any lottery-based method for access control. At [0005], it is then explained that, by contrast, "the inventive method and the inventive subscriber station having the features of the independent claims" have certain advantages. The first "advantage" is in substance the set of features of claim 1 of the application, which include lottery-based access control. The specification then explains that:

> "This allows the access authorization for this telecommunications channel to be randomly distributed for one or more subscriber stations. This access control uses a minimum of transmission capacity for transmitting the information signals, since it is effected merely by transmitting the access threshold value".

138. Here, therefore, the inventive concept is centred on lottery-based permission. The application goes on to say that the measures in the sub-claims permit advantageous developments on claim 1. [0007] introduces access classes, the subject of claim 2 in the application, and has been used as the basis for [0010] in the granted patent. Whilst this paragraph undoubtedly introduces the notion of using both lottery and access class, it is certainly no clearer than [0010] of the granted patent in explaining quite how the two methods are to be combined.

139. [0008] deals with priority threshold value (which is later described by reference to P bits in the embodiment), which is the subject matter of claim 3. [0009] deals with subscriber service information, (the D bits) the subject of claim 4 in the application. The use of these D bits is specifically said to save transmission capacity.

140. What then follows is a description of the embodiments. This is in the same terms, broadly speaking, as the disclosure in the granted patent which I have reviewed above. At [0036] it includes the description of the 13 bit embodiment which appears in the granted patent at [0034]. At [0038] one finds the passage which explains that

individual information elements may be omitted entirely. At [0039] there is the full description of the flowchart, which is included in the granted patent at [0037]. Finally the specification says that the method can be implemented in a mobile radio network based on UMTS or GSM or the like.

The added matter attacks

141. Nokia's added matter attack departed from its pleaded case in a number of respects. In the end Mr Purvis was content to deal with all the points made in Nokia's closing written argument under the rubric "Why there is added matter" without any amendment to the pleadings. As a corollary, I do not propose to deal in this judgment with pleaded points which were not dealt with in Nokia's written closing submissions. Although these were not formally abandoned, it is fair to assume that Nokia do not contend that they were better than the points which were taken in their closing submissions. I consider this to be a proportionate approach.

No disclosure of the "second embodiment" alone

142. This argument followed very similar lines to an argument relevant to construction which I considered in my judgment on the parent patent at [209] and following. It is, in essence, that there is no disclosure of the 13 bit embodiment independently of the 10 bit. I concluded at 217:

> "The real purpose of the second exemplary embodiment is to introduce the 13 bit pattern. In my judgement the skilled reader of the specification would appreciate that access to the random access channel could be controlled by the base station by sending the 13 bit pattern alone."

143. Mr Meade did not seek to challenge that finding head-on. Rather he submitted that that finding did not go far enough to decide the added matter point against him. For that purpose it was necessary to find clear and unambiguous disclosure of using the 13 bit pattern alone.

144. I do not think there is anything in this point. To the extent that there is any doubt at all that the skilled person would understand that the 13 bit embodiment could be used alone, that position is unaltered by the disclosure of the granted patent. That document cannot be read as adding to the disclosure of the application about whether the 13 bit embodiment can be used alone.

Intermediate generalisation by discarding selected features of the 13-bit processing

145. This point seeks to put in a general way some related and more specific points made later. In short, Nokia submits that there is added matter because IPCom have taken only the first part of the description of the second embodiment in [0036] of the application, rather than taking [0036] in combination with [0039]. [0039], they submit, is the scheme for processing the bit pattern described in [0036]. By claiming in the granted patent only parts of the description of the second embodiment in [0036] and [0039], which would be seen as an inseparable whole, IPCom are taking these features out of their technical context. As a consequence there is added matter.

146. I think that the skilled person would recognise that [0036] is propounding as inventive, and at a higher level than [0039], some particular features of the second embodiment. Although [0036] mentions the presence of the telecommunications service bits and the priority threshold bits, I think the skilled person would recognise from this paragraph that what is being proposed is a system in which (a) both access threshold value bits and access class bits are sent; (b) depending on the setting of the access class bit, the mobile will determine whether access is to be allowed without consideration of the access threshold value, or whether it has instead to use that value and perform the lottery.

147. Both sides emphasised the need to read the application as a whole, and without hindsight. In broad, perhaps even crude, terms, both the introduction and the claims of the application follow the structure: lottery/class/priority/service. With that in mind, the skilled person would see very clearly in [0036] one way in which the first two – lottery and class – can be combined. The interaction of lottery and class is repeatedly emphasised. He would not, in my judgment think that the fact that this concept was being presented alongside the priority and service information, or prior to a more detailed explanation of the processing which involved that information, meant that the other features were essential to this concept.

148. Given that conclusion in relation to the disclosure of the application, I do not think there is any added disclosure in the patent, in the claims or elsewhere. I therefore reject this ground of added matter.

"independent of the received access threshold value bits"

149. This is part of feature [G] of the granted patent. The phrase used in the application is "independent of the access threshold value". Nokia allege that IPCom's motive in making this change is to improve their position in relation to infringement by UMTS. But IPCom's motives are completely irrelevant. The question is whether the application discloses the mobile station being permitted to access the RACH independent of the received access threshold value bits.

150. The application explains at [0039] that the evaluation unit in the mobile ascertains the access threshold value S from the access threshold value bits S3 etc. These are plainly bits which are received by the mobile station. In [0036] it is explained that where the bits are 1000, the value of the access threshold value is 8. It also explains that mobile stations belonging to a user class for which the associated access class bit = 0 are able to access the RACH irrespective of the access threshold value S. In my judgment the skilled person would clearly understand the access thereby enabled was independent of the received bits from which that value is determined.

151. Nothing more is disclosed by the claims of the granted patent. Thus claim 1 says (a) receive the access threshold value bits (feature [D]); (b) determine the access threshold value from the received access threshold value bits (feature [E]); (c) use the access class information to determine whether the mobile is to access independent of the received bits (features [F] and [G]). There is no added matter here.

Comparison of the access threshold value with a random number

152. The claim of the application is limited specifically to a random number type of lottery, whereas claim 1 of the granted patent requires only an "evaluation of the access threshold value". This is the only added matter point where it can be said that there has been claim broadening from the application.

153. Mr Purvis did not press his clients' position on this alleged added matter very strongly. IPCom are content to meet the point, if it is a good one, by putting the random number back into the claim. The form of the amendment is to add the words "*by comparison of the access threshold value with a random number or pseudo random number"* to the end of each claim.

154. I think the omission of the comparison with a random number and its replacement with the more general term "evaluation" in the granted claim does, on balance, bring to mind systems other than lottery based ones. There is therefore added matter. But I think the amendment removes the added matter. I therefore propose to allow the amendment. I do not think that the amendment is open to any separate added matter objection other than those which I am considering anyway, and Nokia did not contend otherwise.

The use of telecommunications service bits (D bits)

155. This is probably the highpoint of Nokia's added matter attack. It is worth reviewing the references to these bits.

156. In the general part of the specification, there is mention of these bits at [0009] in the passage relating to claim 4. This explains that for each of the user classes authorised for access, an additional stipulation is which telecommunications services can be requested via the telecommunications channel. This is said to save transmission capacity, because these classes are prevented from even requesting those services.

157. At [0014], in the general introduction to the embodiments, it is explained that the network provides a number of services, specifically small data packets, large data packets and voice. This would have been expected of any network in 1999. [0015] explains that the various services "can be made available to the mobile stations either individually or in any combination". In the same section, at [0020], the application explains that, in a first embodiment, information sent on the broadcast channel "*can* contain information regarding for which purpose and for which mobile stations access to the RACH is to be permitted". No distinction is being drawn with information about classes of mobile stations and the purpose of permitted access (i.e. the D bits). The three different types of subscriber services are mentioned again at [0021].

158. In [0025] to [0035], which contain the detailed description of the 10 bit embodiment, the three telecommunications bits are part of the 10 bits described in both Figures 3(a) and (b). In the example in [0035] it is shown how a mobile station can have access authorisation for requesting some services but not for others.

159. In [0036] to [0038], which deal with the 13 bit embodiment, the telecommunications service bits are also included in the bit pattern. [0036] makes it clear, by the repeated use of the word "possibly" that the priority bit evaluation is not regarded as essential for those mobiles which are not given access on the basis of class. There is, however, no corresponding express suggestion that the service bits can be omitted. In the

example the D bits are set as 011, and the specification explains that this means that mobiles cannot send small data packets on the RACH, but they can request authorisation for larger packets and for voice.

160. There then follows [0038] which is in the same terms as [0036] in the granted patent and which I have set out above. These first two sentences clearly apply to all three bit patterns and suggest that it is not essential to have the exact number of bits of each type (e.g. one can have more or less Z bits than the four illustrated). It also explains that individual information components can be omitted entirely. This too applies to both the 10 bit and the 13 bit embodiment. In my judgment the skilled person would understand that, depending on the sophistication of the system, one could do without some of the types of information. Priority information is one example. Read in combination with the general part of the specification and the claims (the lottery/class/priority/service structure) it would be clear that class and service information could be omitted as well.

161. It is true that in [0039], in the description of the flow chart, the evaluation of the service bits takes place before access to the RACH is allowed. But one would expect this description to include the features of the sub-claims. The skilled person would clearly understand that if service information were to be omitted, then it would not have to be processed.

162. Mr Meade elicited from Mr Gould an acceptance that he could not think of any *specific* pointer in the application as a whole that the subscriber service bits can be omitted. But I think it is nevertheless clear that it is so.

Priority threshold bits

163. The case on this feature is, as I think Mr Meade was prepared to recognise, not as good as for service bits. He used this mainly to create a contrast with the service bits: there is no use of the word "possibly" for these. In view of the fact that I have rejected the case on the service bits, this point fails as well.

Privileged user classes – the box 280 processing

164. In the 13 bit embodiment, the access class information is evaluated in boxes 280 and 285 of Figure 4(c). Nokia point out that the processing is more complicated than required by integer [F] of the claim of the granted patent. It also involves the notion of privileged user classes. That is so, and it is also fair to say that there is a lack of clarity as to precisely what it is that is done in these boxes in addition to the test required by integer [F]. But it does not follow that there is no adequate disclosure of the concept embodied by the claim, which would be clear before one comes to the flow chart. It also does not follow that the skilled person would regard the exact processing contained in Figure 4(c) as essential. In my judgment there is no added matter here.

Reading the user class from the SIM

165. This is feature [C] of the claim of the granted patent. Nokia submit that IPCom need to go to the detailed description in [0039] to find this feature. But that is not correct. Paragraph [0024] explains, in the general introduction to the embodiments, that the

mobile has "an access authorization card, for example a SIM card". [0033] explains that the mobile "takes the association with a user class from the access authorization card". The skilled person would understand that description to carry through to the second embodiment: it is a feature of general application whenever user class is to be used. There is no added matter here.

Two independent routes of access

166. This is put forward as an alternative way of looking at added matter. It is said that features [F], [G] and [H] in the granted patent, in combination, cannot be derived clearly and unambiguously from the application. Nokia submit that this is so because:

i) This combination only appears in the 13 bit processing;

ii) No attention is drawn or importance attributed to it.

167. Nokia relies particularly on the following cross-examination of Mr Gould:

> Q. At this stage at least, whilst it contrasts the second embodiment with the first one, it does not attribute any advantage to it.
>
> A. It does not overtly express that this is an advantage. You might see this as advantageous.
>
> Q. You might or you might not.
>
> A. It depends on the application. You might at this stage see that as an advantageous arrangement.
>
> Q. It certainly does not tell you that it is advantageous in terms of efficient utilisation of transmission capacity?
>
> A. It does not use those words there, no.
>
> Q. It does not tell you that at all, does it?
>
> A. No, not at this stage.
>
> Q. You cannot infer that from what is between the lines, as it were. It just does not touch on that at all.
>
> A. No, I do not think that is a point that has been made there.

168. I consider that the concept embodied by these features, however one describes it, is clearly disclosed. I do not think that it is fatal to the patent that the concept is not expressly described as advantageous. Given that access class and lottery based permission are both described as advantageous, it is implicit that a combination of them will be as well. So this way of putting the added matter objection is unpersuasive as well.

169. It follows that the patent as amended is not invalid for added subject matter.

Insufficiency

170. A patent will be invalid for insufficiency (section 72(1)(c) of the Act; Article 123(2) of the EPC) if:

> "the specification of the patent does not disclose the invention clearly enough and completely enough for it to be performed by a person skilled in the art."

171. The date for assessing the sufficiency of the specification for this purpose is the filing date of the application: *Biogen v Medeva* [1997] RPC 1.

172. The pleaded grounds of insufficiency are:

i) The specification does not contain any or sufficient directions as to how to make a UMTS mobile radio network in which multiple user classes are distinguished. Nor does it contain any or sufficient directions as to how to make a UMTS mobile radio network having the characterising features of the claims.

ii) The specification does not contain any or sufficient directions as to the basis on which the network is to determine, for any mobile station or group of mobile stations, whether it/they should be permitted to access a RACH independently of the received access threshold value bits, or whether the access authorization for the RACH should be determined on the basis of an evaluation of the access threshold value.

173. I did not detect any argument in support of the second of these grounds. The first ground is based on the fact that at the application date it would not have been possible to build a mobile for use in UMTS. UMTS was work in progress. It had not progressed to the state where a network could be implemented. For example, access class information was yet to be defined by the network. The coding and semantics of the dynamic persistence level had not been set. The AC to ASC mapping were not defined. So if a skilled person were to try and build a mobile station at the application date, it would only work in actual UMTS if he had correctly predicted the decisions that had been made in implementing it.

174. Nokia submit that these deficiencies are analogous to those of a patent which requires a material for its performance which is not available to the public. It is no answer to say that the material became available later.

175. IPCom submit that the skilled person reading the patent would appreciate that the reference to UMTS predated the finalisation of the standard. They would therefore not be led to believe that by requiring the mobile to be "for operation in a UMTS mobile radio network" the patentee was purporting by his specification to show how to make a mobile which would work without modification in actual UMTS however that came to be specified. Instead he would understand that it was being said that the mobile could be made to work with the basic features of UMTS as they were known at the date of the application. Thus to invalidate the patent on this ground Nokia would have to show that there was some difficulty in adapting the draft standards to operate with the claimed RACH control mechanism. No such case was established.

176. I prefer IPCom's submissions on insufficiency. The patent would not be understood to be pretending that the invention would work without modification in whatever UMTS system was ultimately agreed. This case is nothing like a patent where there is a missing essential ingredient. The cross-examination of Mr Gould did not show that a system could not have been built based on the draft standards: it merely showed that it would not have been possible to guess what choices would be made in the final standards, and that if there was a difference the phone would not work. The insufficiency attack therefore fails.

Infringement

177. There is a Product and Process Description for each of 14 types of Nokia device designated "the A1", "the A2", "the B1", "the B2", "the C1", "the C2", "the D1", "the D2", "the E1", "the E2", "the F1", "the F2" , "the G1"and "the G2". Although I make no criticism of the documents, these descriptions are more complex than is necessary for an understanding of the operation of the devices. As I have held claim 1 valid, and it is not suggested that claim 2 was independently valid, I do not propose to deal with claim 2 in this judgment.

The A1 Product and Process Description (A1 PPD)

178. The Nokia device described as A1 operates as follows. The mobile is designed to receive two parameters of relevance. These are the dynamic persistence level, N, and the AC to ASC mapping information. I explain these in some more detail below.

179. Any device operating in accordance with the A1 method must be a member of at least one Access Class (AC). There are 10 normal ACs, numbered from 0-9. Every device must be a member of one of those normal ACs and the number of the particular AC to which the device belongs is stored on its SIM card. There are another 5 special Access Classes (11-15) designated for use by special groups of users such as emergency services and network staff. All access classes may be barred at any time by the network.

180. The next thing which it is necessary to understand is how the A1 selects an Access *Service* Class ("ASC") which it will use for its access attempt. These ASCs are different from the AC stored on the SIM. As I have said, the transmitted data includes an element entitled "AC-to-ASC mapping". This allocates each AC to an ASC. There are 8 ASCs numbered from 0-7. The mapping is carried out by the device reading the information element (IE) in the System Information Block appropriate to its AC. The way this is done is set out in Table 2 taken from the A1 Product and Process Description. ACs 0-9 look at the first IE in the block, 10 the second, 11 the third and so on.

AC	0 - 9	10	11	12	13	14	15
ASC	1st IE	2nd IE	3rd IE	4th IE	5th IE	6th IE	7th IE

Table 2: mapping of Access Classes to Access Service Classes

181. Depending on which ASC has been allocated by the mapping process, the device works out a "persistence value" known as P(i), (not the same as the dynamic

persistence level, N, sent by the network). The way this is done is set out in Table 1 taken from the A1 Product and Process Description:

ASC # *i*	0	1	2	3	4	5	6	7
P_i	1	P(N)	s_2 P(N)	s_3 P(N)	s_4 P(N)	s_5 P(N)	s_6P(N)	s_7 P(N)

Table 1: derivation of persistence levels P_i

182. It can be seen that there is a difference between ASC 0 and the other ASCs. If a device is in ASC 0 the device automatically sets its persistence value, P(i), to 1. This conclusion is arrived at directly from the AC to ASC mapping and not from the other parameter of importance, the dynamic persistence level, N.

183. On the other hand, if a device is in one of the other ASCs (1-7), it has to carry out a calculation using the dynamic persistence level, N, sent by the network. The formula to derive P(i) in such a case involves P(N) where

$$P(N) = 2^{-(N-1)}.$$

184. So P(N) is a function of (i.e. mathematically dependent on) the transmitted dynamic persistence level.

185. If the network wishes to distinguish between ASCs 1-7 it can optionally broadcast a scaling factor which may be different for each ASC. Each device is programmed to apply the scaling factor appropriate to its ASC when calculating the P(i). That is why the boxes in Table 1 above include the scaling factors s.

186. P(i) is used by the device to determine whether or not it can start transmitting over the RACH. It does so by a persistency test. The persistency test involves the device randomly generating a number R. Armed with R and P(i), the device then compares the two. If R is less than or equal to P(i), the device is permitted to transmit on the RACH. If R is greater than P(i), transmission on the RACH is not permitted in that time interval and the device must wait until the next transmission time interval designated by the network. In other words the device operates a lottery.

187. Devices which are mapped to ASC 0 by the network will automatically pass the persistence test because the random number can never exceed 1. Those devices which are mapped to ASC 1 or higher may or may not pass the persistence test. Whether they pass the persistence test depends on the value N sent by the network.

Infringement by A1

188. It is fair to say that Nokia did not place non-infringement at the forefront of the oral or written argument. Mr Gould's explanation of how the features of the claim were to be found in the A1 was not the subject of challenge. In summary:

i) the bits used to transmit the dynamic persistence level, N, constitute the access threshold value bits;

ii) the AC to ASC mapping information constitute access class information;

iii) P(N) is an access threshold value which is determined from the access threshold value bits;

iv) The AC to ASC mapping information is used to determine whether the device is in:

a) ASC 0, in which case it is permitted to access the RACH independent of the received access threshold value bits because it has a P(i) value of 1 which is not a function of the persistence level N which is being broadcast by the network; or

b) an ASC other than 0 in which case it must determine access permission on the basis of an evaluation of P(N) which comprises a comparison of P(N) with a randomly generated number.

189. In their closing skeleton Nokia cross-refer to a list of points made by Bird & Bird, their solicitors, as to why they do not infringe. Nokia submit that, to a greater or lesser extent, the points are all squeezes on construction or added matter, and it may be that a number of them will fall away. The points were not expressly abandoned, so I must deal with them. There are eight of them in total. I reject them all.

"The A1 is not capable of operating in a UMTS network as described in the UMTS working documents as they existed at the date of the Patent."

190. This point is based on an assumption about the construction of the claim. Are the claims limited to phones which work in accordance with the UMTS working documents as they existed at the date of the patent? I do not think that is a sensible construction. The claim covers phones which work in a UMTS system, which the A1 clearly does.

"The A1 does not receive the access threshold value bits and the access class information together as required by Integer D"

191. Access threshold value bits and access class information are clearly received. This point seems to be based on the word "together", which is not a feature of the claim.

"The AC-to-ASC mapping information is not access class information since it merely tells the mobile station which value of P(i) to use.

192. The mapping information is plainly access class information. What the access class information must be used for is specified in the claim: and the mapping information satisfies those requirements.

"If permitted/permission in Integer G means "allowed"/"whether allowed" as contended for by Mr Gould, then that determination is made on the basis of the Access Class Barring information and therefore is never made on the basis of the evaluation of the access threshold value. Indeed, on that basis none of Integers F, G or H would be present."

193. This point is based on a mis-construction of the claim. The claim does not exclude access class barring in addition to the requirements of the claim.

"The A1 does not have Integer G since it may be prevented from accessing the RACH even if mapped to ASC 0." And

"The A1 does not have Integer H since it may be prevented from accessing the RACH even if the evaluation of the access threshold value indicates that permission may be granted (ie even if $R \leq P$)"

194. Again, these two points are based on a wrong construction. The claim does not exclude the possibility of other hurdles to access.

"The A1 does not have Integer G because it always evaluates the access threshold value P(i), even when mapped to ASC 0"

195. This is correct, but it does not follow that access is always determined on the basis of an evaluation of the claimed access threshold value, which is an access threshold value determined from the access threshold value bits. When mapped to ASC 0, access is permitted independently of any such value or bits.

"The AC-to-ASC mapping information may be considered to be access threshold value bits, which are always used to determine access to the RACH. Therefore Integer G never applies; and therefore the A1 does not have Integer F either."

196. I do not agree that the mapping information is access threshold value information. No witness supported or explained how that might be the case.

Conclusion on A1

197. For the above reasons, the A1 infringes the 268 patent

Infringement by A2

198. The difference between the A1 and the A2 is the same as that which I considered in the parent action. At that time I regarded the variation as properly to be treated as confidential, so the relevant part of the judgment was confidential as well. However Nokia no longer seek protection for this modification. What I said about the difference was:

> In the original N96 the mobile repeatedly undertook the lottery until successful, comparing the persistence value P_i and the random number. In the New Device the mobile calculates once and for all a timing delay, and the mobile waits that long before attempting access. The delay calculation involves calculating a value of "n" using both R and P_i according to the following calculation:-
>
> $$n = \frac{\log\left(1 - R/32769\right)}{\log\left(1 - P_i/32769\right)}$$

> If R is less than P_i the result of the equation is less than 1. The software then truncates that value to zero and gives access. Otherwise it is given access after a delay.
>
> Nokia says that this means that there are two (additional) differences from the claims of 189. Firstly there is no comparison in the sense of claim 1. Secondly access to the random access channel is not "assigned" on the basis of the comparison in the sense that the mobile decides whether it will get access: the mobile knows it will get access and learns when this will occur.
>
> As to the comparison, it is plain that the delay calculation depends critically on a comparison of R and P_i as these are the only variables on the right hand side of the equation. Dr Cooper accepted that the formula provided an indirect comparison of R and P_i. I reject this distinction.
>
> As to the second point, access to the channel is still assigned *based on* a comparison of R and P_i. The fact that a delay is introduced does not alter this.
>
> Accordingly the differences introduced by the New Device would not avoid a finding of infringement if the 189 patent were valid.

199. That reasoning is based on the language of the parent patent. On the language of the 268 patent Nokia put their first point as follows:

> "This means that the A2 never uses integer H. Integer H requires that the access permission for the random access channel, for example RACH, is determined on the basis of an evaluation of the access threshold value. But the A2 always has permission to access the RACH – it merely uses the access threshold value to calculate a delay. It does not use it to determine the access permission. "

200. This point depends on the interpretation of the words "permission" and "determined" in this context. In the A1 the random number comparison gives a win/lose determination on permission, whereas in the A2 it determines the extent to which permission will be delayed. However, in my judgment, in both cases access permission is determined on the basis of an evaluation of the access threshold value.

201. The second point depends on the fact that the requirement for a random number type of evaluation is included in the claims by the amendment which I have said should be made. Although Nokia accept that the random number is an input into the calculation of the delay, they submit that there is no such comparison as is required by the proposed amended claim. There is an *evaluation* as required by the unamended claim: but the amended claim requires a specific type of evaluation which is not done in the x2 devices.

202. I am unable to accept this submission. The required evaluation by comparison with a random number is carried out, albeit within a more complex formula.

203. It follows that the A2 infringes the 268 patent.

Declaration of non-infringement

204. The critical difference for the B, C, D, E, F and G devices whether in version 1 or 2 is in the ASC to persistence level mapping information. So, for example, the table for version B looks like this:

ASC # *i*	0	1	2	3	4	5	6	7
P_i	P(N)	P(N)	s_2 P(N)	s_3 P(N)	s_4 P(N)	s_5 P(N)	s_6 P(N)	s_7 P(N)

Table 5: derivation of persistence levels P_i for B1 and B2

205. The C, E, F and G devices also have tables where all the values of P(i) are dependent on P(N). The D devices use a table in which the persistence value is never used. There is now no dispute that these devices all avoid infringement on the construction of the claim which I have adopted. That conclusion is plainly correct, and I so hold.

206. The only case of infringement which IPCom could have advanced on these devices would have to be based on class barring. But they cannot espouse that construction because they have now accepted that on that construction the patent would be invalid over GPRS.

207. IPCom originally had a point that Nokia were not entitled to rely on the provisions of section 71 of the Act on the ground that they had not been provided with "full particulars in writing". That point was based in part on the fact that the particulars were provided in confidence, and not to anyone at IPCom. In the light of the fact that the confidentiality claim was released by Nokia on the first day of the trial, IPCom dropped the objection. I am therefore prepared to grant a declaration of non-infringement in relation to the B-G devices.

Compliance

208. By their counterclaim IPCom plead as follows:

> In the alternative, to the extent to which the Claimant is entitled to a declaration of non-infringement, the Defendant will say that the declaration must be public and incapable of misrepresentation, must reflect the Claimant's averment that [versions B-G] do not comply with the UMTS standard, made at the hearing before Lewison J on 30 November 2010, and must reflect the Defendant's averment that A2 and B1 to Gl and B2 to G2 … do not comply with the UMTS standard. In the premises, any declaration granted to the Claimant must-
>
> a) be non-confidential;
>
> b) must include a statement to the effect that the products are not compliant with the UMTS standard;…

209. The statement handed to Lewison J said that Nokia accepted that the B-G devices do not fall within the relevant paragraph of the standard. The A1 and A2 devices did use the table contained in that paragraph, but the B-G devices did not. Mr Gould's evidence was that the relevant Table in the UMTS Standard is mandatory.

210. Unlike the section 71 declaration, which gives a statutory right to a declaration if the necessary conditions are fulfilled, the court should not grant a declaration of the kind sought by IPCom unless it is satisfied that it would serve a useful purpose: see *Messier Dowty v Sabena* [2001] All ER 275 (CA); *Nokia v InterDigital* [2006] EWHC 802 (Pat) (Pumfrey J); [2006] EWCA Civ 1618 (CA). The fear expressed by IPCom which makes the declaration useful in the present case is that Nokia might use a declaration on the B-G devices to represent to the German courts that the English court has rendered a decision on infringement contrary to the decision thus far reached in Germany.

211. IPCom did not serve any evidence to support such a proposition. The allegation is quite a serious one: to misrepresent the effect of a judgment is an abuse of the court's process. Whilst one might have needed to be careful about any declaration granted to Nokia summarily, now that I have given judgment on all the issues, the potential for any such misrepresentation seems to me to be slight, if it exists at all. Moreover I did not hear any evidence about what it means for a device to be "compliant" with UMTS. There is a danger that references to "compliance" might mean that a device could not lawfully be sold. Inclusion of wording about "compliance" would mean that IPCom's desire to prevent the order being misrepresented could itself give rise to further misunderstanding.

212. I hope I have made clear in my judgment the reasons why the B to G devices do not infringe, and the respects in which they differ from the devices specified in the UMTS standard. I have also recorded and accepted Mr Gould's evidence that the table in the UMTS standard is one which he would understand to be expressed in mandatory terms. To do more would serve no useful purpose.

Summary Judgment

213. Technically I also have before me the summary judgment application. It makes no sense to grant summary judgment at the same time as judgment. The only point about the summary judgment application is who should bear the costs of the application. That will turn on whether it was ever likely to succeed. In adjourning the application to the trial, Kitchin J said that the trial judge would be in a better position to decide the costs of that application after he has decided the substantive issues. I propose to hear argument on this issue of costs, along, no doubt with other issues, after judgment has been handed down.

Conclusion

214. The 268 patent is valid and infringed by the A1 and A2 devices. I will grant a declaration of non-infringement on the B-G devices, but I refuse IPCom's request for a declaration. I will hear counsel as to the form of order.