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Datasheet for the decision of 23 May 2025

Case Number: T 1078/23 - 3.5.05

Application Number: 20166431.5

Publication Number: 3716698

IPC: H04W52/02

Language of the proceedings: EN

Title of invention:
Cross-carrier scheduling activation for a dormant cell

Applicant:
Beijing Xiaomi Mobile Software Co., Ltd.

Headword:
Non-dormant state in SCell groups/XIAOMI

Relevant legal provisions:
EPC Art. 56

Keyword:
Inventive step - all claim requests (no): selection of a suitable starting point - no justification necessary - T 2057/12, T 2759/17 and UPC_CFI_1/2023 not followed

Decisions cited:
T 0967/97, T 2057/12, T 1450/16, T 0787/17, T 2759/17, T 1112/19, T 0449/23

UPC_CFI_1/2023, Central Division Munich, 16 July 2024

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Case Number: T 1078/23 - 3.5.05

D E C I S I O N
of Technical Board of Appeal 3.5.05
of 23 May 2025

Appellant: (Applicant)	Beijing Xiaomi Mobile Software Co., Ltd. No. 018, Floor 8, Building 6, Yard 33 Middle Xierqi Road Haidian District Beijing 100085 (CN)
Representative:	dompatent von Kreisler Selting Werner - Partnerschaft von Patent- und Rechtsanwälten mbB Deichmannhaus am Dom Bahnhofsvorplatz 1 50667 Köln (DE)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 19 December 2022 refusing European patent application No. 20166431.5 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chair	K. Bengi-Akyürek
Members:	J. Eraso Helguera
	C. Heath

Summary of Facts and Submissions

I. The appellant lodged an appeal against the decision of the examining division to refuse the present European patent application for, at least, lack of inventive step with respect to a main request and three auxiliary requests.

II. The decision under appeal mentioned, *inter alia*, the following prior-art documents:

D1: QUALCOMM INCORPORATED: "Open Issues on CA", R1-1718581, 3GPP TSG RAN WG1 #90bis, Prague (CZ), 9-13 October 2017;

D5: QUALCOMM: "Dormant BWP for fast SCell activation", R2-1803564, 3GPP TSG-RAN WG2 Meeting #101, Athens (GR), 26 February-2 March 2018.

III. Oral proceedings before the board were held on 23 May 2025.

The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the claims of any of four claim requests: **main request** and **auxiliary requests I to III**, all of them underlying the decision under appeal.

At the end of the oral proceedings, the board announced its decision.

IV. Claim 1 of the **main request** reads as follows:

"A method comprising:

receiving, by a wireless device (110), one or more radio resource control, RRC, messages comprising configuration parameters indicating:

a first secondary cell, SCell, group comprising one or more first cells; and

a second SCell group comprising a plurality of second cells;

activating, to a non-dormant state, the one or more first cells and the plurality of second cells; and

in response to receiving a downlink control information indicating transitioning the first SCell group to a dormant state:

transitioning the one or more first cells to the dormant state; and

maintaining the plurality of second cells in the non-dormant state."

Claim 1 of **auxiliary request I** differs from claim 1 of the main request in the insertion of the following phrase:

", wherein transitioning a cell to the dormant state comprises transitioning from a non-dormant bandwidth part, BWP, of the cell to a dormant BWP of the cell as an active BWP;"

right before the expression "and maintaining the plurality of second cells in the non-dormant state".

Claim 1 of **auxiliary request II** differs from claim 1 of auxiliary request I in the insertion of the following clause:

", wherein an active bandwidth part, BWP, of a cell in the non-dormant state is a non-dormant BWP"

right after the phrase "and the plurality of second cells".

Claim 1 of **auxiliary request III** differs from claim 1 of the main request in the insertion of the following phrase:

", wherein each cell of the one or more first cells operates in a first frequency band and/or a first frequency band combination;"

right after the expression "group comprising one or more first cells" and in the insertion of the following clause:

", wherein each cell of the one or more second cells operates in a second frequency band and/or a second frequency band combination;"

right after the phrase "group comprising a plurality of second cells".

Reasons for the Decision

1. MAIN REQUEST

Claim 1 of the **main request** comprises the following limiting features (board's outline):

A method comprising:

(a) receiving, by a wireless device, one or more RRC messages comprising configuration parameters indicating: a first SCell group comprising one or

more first cells; a second SCell group comprising a plurality of second cells;

(b) activating, to a non-dormant state, the one or more first cells and the plurality of second cells;

(c) in response to receiving a DCI indicating transitioning the first SCell group to a dormant state: transitioning the one or more first cells to the dormant state; and maintaining the plurality of second cells in the non-dormant state.

1.1 Claim 1 - inventive step (Article 56 EPC)

Starting point and distinguishing features

1.1.1 In Reasons 2.3.1 of the decision under appeal, the examining division considered prior-art document **D1** "to be the prior art closest to the subject-matter of claim 1". This document disclosed **features (a) and (b)**.

1.1.2 The appellant submitted that document D1 failed to disclose at least **feature (c)** of claim 1, since it did not mention the "dormant state". The application as a whole clearly concerned the management of the *activated* ("non-dormant") and *dormant* state. So, document D1 - in spite of belonging to the same technical field as the present application - was not an appropriate starting point. Instead, "the skilled person would rather choose document D5 as the closest prior art document, since this document deals with the same technical purpose as the present invention". Thus, to avoid hindsight, document **D5** - which explicitly mentioned those states - should be used.

1.1.3 The appellant's argumentation is not convincing, for the reasons set out below.

1.1.4 First, the board considers, in agreement with **T 787/17** (Reasons 5.1, last paragraph), **T 967/97** (Reasons 3.2, last paragraph), **T 1112/19**, Reasons 2.1.3) or **T 449/23**, Reasons 1.1.7, and contrary to e.g. **T 2057/12** (Reasons 3.2.2), **T 2759/17** (Catchword) or the conclusions drawn in the first-instance decision of the Unified Patent Court **UPC_CFI_1/2023 of the Central Division Munich** (point 8.6), that no specific justification for the choice of a starting point for the assessment of inventive step is necessary if inventive step is to be denied, since the claimed subject-matter must be inventive over *any* state of the art according to Article 56 EPC and since it is not the task of the skilled person, who is the person qualified to *solve* the underlying objective technical problem according to the problem-solution approach, to "choose a document as the closest prior art" (see e.g. **T 1450/16**, Reasons 2.1.4). Selection criteria such as the "intended purpose" of the claimed subject-matter thus constitute merely a matter of efficiency for the deciding body.

The board adds that a selected starting point may indeed turn out to not be suitable for denying inventive step if, for example, the resulting objective technical problem formulated on the basis of that starting point is an unrealistic or artificial one. But this does not mean that a starting point is to be disqualified as unsuitable right from the outset. Nor is it relevant in that context whether other pieces of prior art, such as document D5, are "relatively closer" to the claimed subject-matter, as argued by the appellant.

1.1.5 Second, document D1 belongs to the application's technical field and proposes a unified framework for

configuration/activation/deactivation of CCs (Component Carriers) and BWPs (BandWidth Parts) in NR (New Radio) systems. Specifically, this document discloses that "SCell and associated BWP configuration have been done previously via RRC signalling" and that "gNB activates SCells via group BWP DCI for BWP activation" (see page 4/3, antepenultimate paragraph), i.e. **features (a) and (b)**. The fact that D1 does not disclose the "dormant state", i.e. **feature (c)**, does however not preclude it from being an appropriate starting point for the assessment of inventive step. After all, both the present application and the system of D1 relate to CA (Carrier Aggregation) in NR.

Technical effect and objective technical problem

1.1.6 Starting from document D1, the appellant derived the following objective technical problem from **distinguishing feature (c)**: "*how to improve the managing scheme of the states of the SCells [in D1]*".

1.1.7 In the board's view, this formulation is too broad (since a huge number of possible ways of "improving" the respective scheme can be envisaged) and does not reflect the actual technical contribution of feature (c) as disclosed by the present application itself. It would rather seem that the use of the DCI together with "an enhanced monitoring mechanism on a DCI to wake-up a cell from a dormant state" (see paragraph [00287] of the application as filed) - though not described in claim 1 - would bring about a "fast, dynamic and scalable transitioning mechanism" (see paragraph [00286]) yet providing power savings vis-à-vis the "activated state". Thus, the introduction of the DCI mechanism in combination with the "dormant state" should result in a favourable trade-off between

power consumption and state-transitioning delays. In the light of this disclosure, the board substantially agrees with the objective technical problem formulated by the examining division, namely "*how to reduce the activation latency in a scenario with groups as the one disclosed by D1*", even though claim 1 falls short of details in respect of the respective monitoring.

"Could-would" considerations

1.1.8 The appellant submitted that the skilled person would not combine the teachings of **D1** and **D5** because they were remote documents. They in fact dealt with different methods and algorithms, with different purposes and different targets. The concept of "dormant BWP" of document D5 could thus not be directly applied to the "BWP activation" of D1. If the "dormant state" was introduced in D1, it would be impossible to distinguish exactly what SCell "activation state" and SCell "dormant state" were. Thus, the person skilled in the art could not directly derive, on the basis of D1 and without exercising inventive skill, that the "activation" was the transitioning to "non-dormant state". Hence, document D1 in combination with D5 failed to disclose "activating, to a non-dormant state, the one or more first cells and the plurality of second cells" and "transitioning the one or more first cells to the dormant state". Furthermore, the scenario of "groups" of D1 in combination with the "dormant state" of D5 could not yield the "group-based" SCell state transition as well as "maintenance" according to claim 1. Document D5 almost shared the same opinion that the BWP framework should be enhanced to support the operation with "dormant BWP", and signalling details, including the configuration, activation and deactivation of "dormant BWP", *could* be discussed

later, which in turn meant that the mechanism relative to "dormant BWP" would be further considered, rather than re-using the mechanism for a legacy state (i.e. D1). At any rate, the straightforward combination of D1 and D5 would lead to a method different from the claimed one in which the "dormant state" would still be separately managed for each individual SCell rather than on a "SCell group" basis.

1.1.9 The board disagrees. The "dormant state" described in document **D5** in fact addresses the very same problem ("fast transitioning") mentioned in paragraph [00286] of the application (see D5, section 2, Proposal 1: "[...] switching out of dormant-BWP is significantly faster compared to switching out of SCell deactivated state"). The board is also convinced that the skilled person would have indeed combined the teachings of D1 and D5 to solve the aforementioned objective technical problem. The penultimate paragraph of section 2 of D5 in fact teaches that

> "[t]he dormant BWP will likely have to be configured by RRC, and *the DCI based BWP switching mechanism will have to handle switching into and out of the dormant BWP*" (emphasis added)."

The straightforward combination of D1 and D5 would result in the addition of a "dormant-BWP" to the existing "BWP activation states" of D1, namely "activated" and "deactivated". The table of point 2.2.3 of D1 containing "the supported combinations of BWP activation state in association with SCell identification" would thus still be used to carry out "Group Activation of Multiple SCell". To achieve the sought-after technical effect of "fast transitioning", the straightforward combination of D1 and D5 would

therefore necessarily lead to the transitioning to the "dormant state" at the "SCell group" level (e.g. using the "group BWP DCI" known from D1).

1.2 In conclusion, the main request is not allowable under Article 56 EPC.

2. AUXILIARY REQUESTS I to III

Claim 1 of the present **auxiliary requests** differs from claim 1 of the main request in the following added features (board's outline):

(d) transitioning a cell to the dormant state comprises transitioning from a non-dormant BWP of the cell to a dormant BWP of the cell as an active BWP [**auxiliary requests I and II**];
(e) an active BWP of a cell in the non-dormant state is a non-dormant BWP [**auxiliary request II**];
(f) each cell of the one or more first cells operates in a first frequency band and/or a first frequency band combination,
each cell of the one or more second cells operates in a second frequency band and/or a second frequency band combination [**auxiliary request III**].

2.1 Claim 1 - inventive step (Article 56 EPC)

2.1.1 As to **features (d) and (e)**, the appellant submitted that, even if the skilled person did combine the teachings of D1 and D5, the straightforward combination of those documents would at most lead to the maintenance of the scheme of D1 with some additions from D5 for *individual* SCells, i.e. there would still be "group activation and deactivation" but no transitioning to the "dormant state" of SCell *groups*.

2.1.2 Concerning **feature (f)**, the appellant submitted that the idea of "frequency-specific grouping" achieved an optimised resource management, e.g. deactivation of high-frequency cells for power-saving while maintaining the low-frequency cells for coverage. This resulted in a more sophisticated and technically improved scheme.

2.1.3 These arguments fail to convince the board for the reasons set out below.

As to **features (d) and (e)**, document D1 already discloses SCell activation/deactivation via BWP signalling. More specifically, section 2.2.2, Proposal 1 of D1 states that

> "[...] If any BWP is activated in SCell, SCell is considered to be activated. If all the BWPs are deactivated, SCell is considered to be deactivated".

These definitions, however, need not change with the introduction of a "dormant-BWP". On the other hand, document D5 discloses transitioning from an active/non-dormant-BWP to a dormant-BWP. Hence, by straightforward analogy, if no BWP is active and any BWP is dormant in the SCell, the SCell should be considered to be "dormant". Thus, the straightforward combination of D1 and D5 (see point 1.1.9 above) would also directly lead to the application of features (d) and (e) to the system of D1.

Feature (f) cannot render the claimed subject-matter inventive either. In the context of the ongoing 5G NR developments discussed in D1 and D5, different SCells would typically operate different *carriers*, i.e. different frequencies, be it within the *same* band

(intra-band) or in *different* bands (inter-band). The advantages suggested by the appellant cannot be credibly derived from the claimed feature "as is" since: (i) the feature generally refers to "a first/second frequency band and/or a first/second frequency *band combination*" (emphasis added) and (ii) there is no specific guidance as to how the frequency grouping should actually be done.

2.2 It follows that none of the present auxiliary requests is allowable under Article 56 EPC.

3. Since there are no allowable claim requests on file, the appeal must be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chair:

B. Brückner K. Bengi-Akyürek

Decision electronically authenticated