

EXHIBIT G-8

Summary of Invalidity Analysis of U.S. Patent No. 11,219,000 (“’000 Patent”) in view of U.S. Patent Publication No. 2020/0252180 to Takeda et al. (“Takeda III”)

U.S. Patent Publication No. 2020/0252180 to Takeda et al. (“Takeda III”), published on August 6, 2020, and was filed on February 6, 2020. Takeda III claims priority to PCT/JP2017/029223, which was filed on August 10, 2017, and published as WO 2019/030929 (“WO2019030929A1”) on February 14, 2019. WO2019030929A1 supports at least Claim 1 of Takeda III. By way of example only, at least the following disclosures of WO2019030929A1 are sufficient to support Claim 1 of Takeda III. *See, e.g.*, WO2019030929A1 at Abstract, pp. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16, 19, Figs. 1A, 1B, 2, 3, 8, 9, 10, 15, 16. Defendants reserve the right to identify additional support. Therefore, Takeda III qualifies as prior art to the ’000 Patent under at least 35 U.S.C. § 102(a). As described in the following claim chart, at least under Pegasus’s apparent infringement theory, the asserted claims of the ’000 Patent are invalid as expressly and/or inherently anticipated by Takeda III.

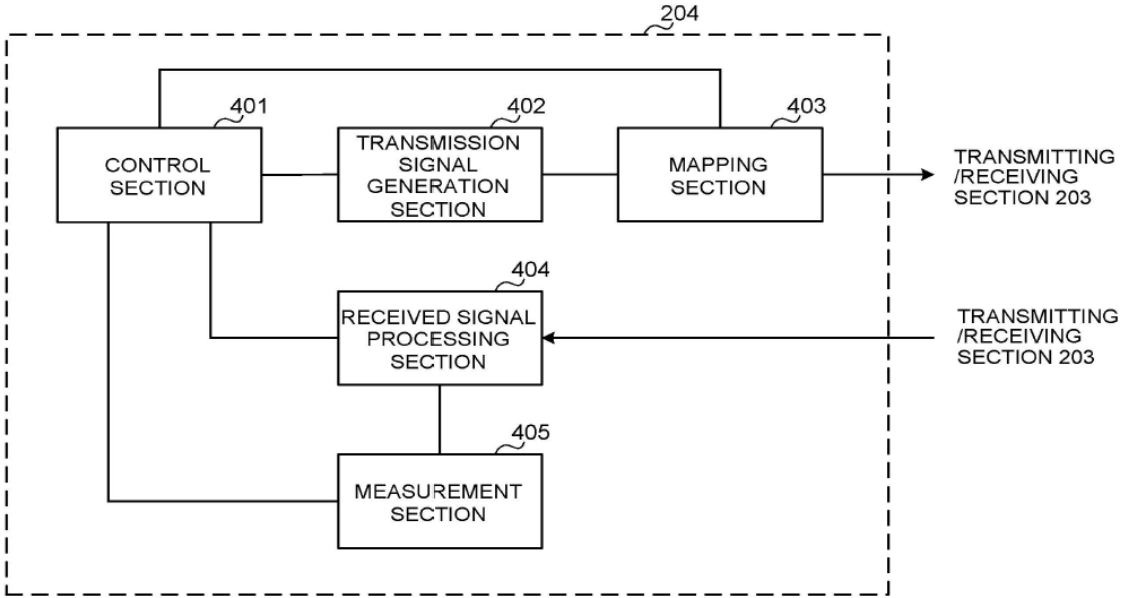
To the extent that Takeda III is found not to anticipate, expressly or inherently, one or more of the asserted claims of the ’000 Patent, at least under Pegasus’s apparent infringement theory, these claims are invalid as obvious in view of Takeda III in view of the background knowledge and ordinary creativity of a person having ordinary skill in the art at the time of the alleged invention, or in combination with other prior art identified in the cover pleading, herein, or as disclosed in Defendants’ Invalidity Contentions and accompanying charts and appendices. A person of ordinary skill would have been motivated to combine Takeda III and any other prior art references, including but not limited to the other prior art identified in the cover pleading or herein, with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.

Defendants reserve the right to amend or supplement this invalidity chart at a later date.

1. Claim 1

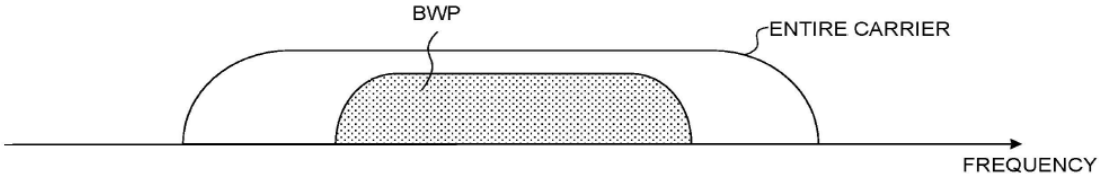
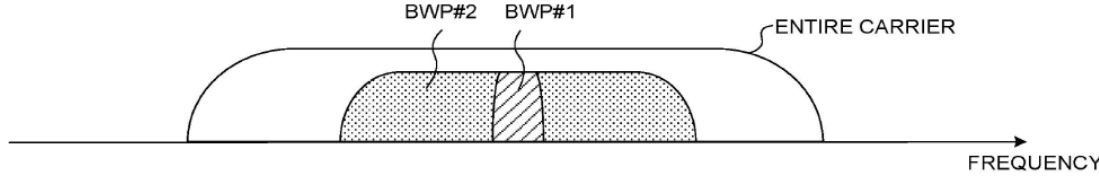
Invalidity of U.S. Patent 11,219,000 in view of Takeda III		
Claim Language		Exemplary Citations to Takeda III
1[pre]	A method of transmitting uplink (UL) control information by a user equipment (UE), the method comprising:	To the extent the preamble is limiting, at least under Pegasus’s apparent infringement theory, Takeda III discloses “A method of transmitting uplink (UL) control information by a user equipment (UE), the method comprising.” For example, Takeda III discloses this limitation based on the following exemplary citations: “To enable activation/deactivation of one or more frequency bands (for example, BWPs) configured in a carrier to be appropriately controlled. A user terminal of the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band.” Takeda III at Abstract; WO2019030929A1 at Abstract. “A user terminal (User Equipment (UE)) controls reception of a DL data channel (also referred to as, for example, a “Physical Downlink Shared Channel (PDSCH),” a “DL shared channel,” and the like), based on downlink control information (DCI) (also referred to as “DL assignment” and the like) from a radio base station (for example, eNodeB (eNB)). Moreover, the user terminal controls transmission of a UL data channel (for example, a PUSCH (also referred to as Physical Uplink Shared Channel), a “UL shared channel” and the like), based on DCI (also referred to as “UL grant” and the like) from the radio base station.” Takeda III at [0004]; WO2019030929A1 at 1. “An aspect of a user terminal according to the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band.” Takeda III at [0010]; WO2019030929A1 at 1.

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Claim Language		Exemplary Citations to Takeda III
		FIG. 15 Takeda III at Fig. 15; WO2019030929A1 at Fig. 15.

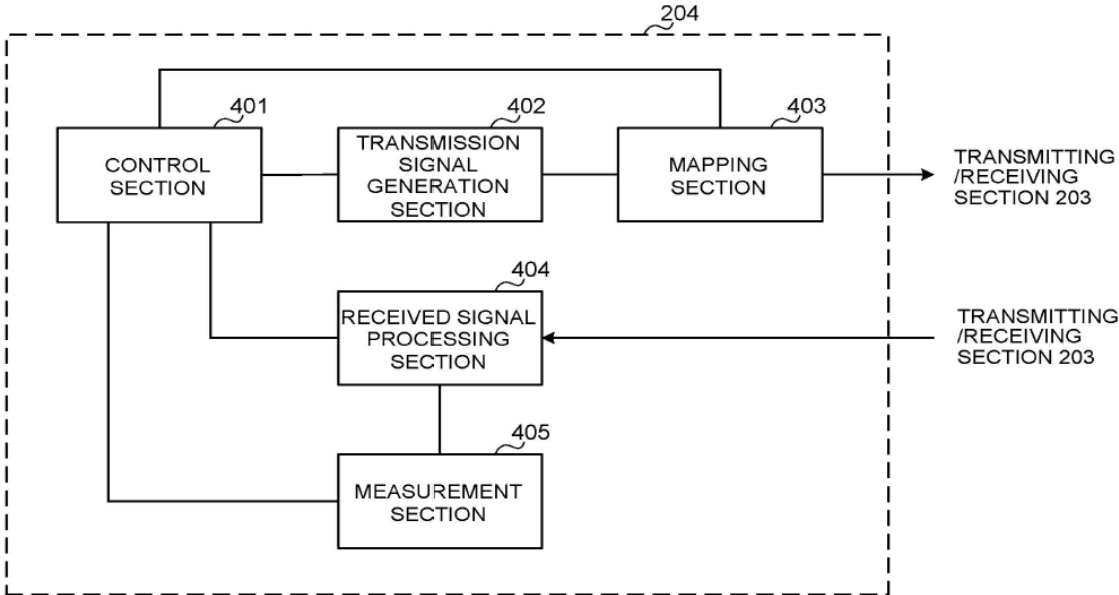
Invalidity of U.S. Patent 11,219,000 in view of Takeda III		
Claim Language		Exemplary Citations to Takeda III
		 FIG. 16 Takeda III at Fig. 16; WO2019030929A1 at Fig. 16. To the extent it is found that Takeda III does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that Takeda III does not anticipate this claim, Takeda III renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine Takeda III with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.

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Claim Language		Exemplary Citations to Takeda III
1[a]	receiving, from a base station, UL control channel resource set configuration information for UL control information transmission;	At least under Pegasus’s apparent infringement theory, Takeda III discloses “receiving, from a base station, UL control channel resource set configuration information for UL control information transmission.” For example, Takeda III discloses this limitation based on the following exemplary citations: “To enable activation/deactivation of one or more frequency bands (for example, BWPs) configured in a carrier to be appropriately controlled. A user terminal of the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band.” Takeda III at Abstract; WO2019030929A1 at Abstract. “A user terminal (User Equipment (UE)) controls reception of a DL data channel (also referred to as, for example, a “Physical Downlink Shared Channel (PDSCH),” a “DL shared channel,” and the like), based on downlink control information (DCI) (also referred to as “DL assignment” and the like) from a radio base station (for example, eNodeB (eNB)). Moreover, the user terminal controls transmission of a UL data channel (for example, a PUSCH (also referred to as Physical Uplink Shared Channel), a “UL shared channel” and the like), based on DCI (also referred to as “UL grant” and the like) from the radio base station.” Takeda III at [0004]; WO2019030929A1 at 1. “An aspect of a user terminal according to the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band.” Takeda III at [0010]; WO2019030929A1 at 1. “FIGS. 1A and 1B are diagrams to show configuration examples of a BWP(s). As shown in FIG. 1A, one BWP may be configured per carrier for a user terminal.”

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Claim Language		Exemplary Citations to Takeda III
		Takeda III at [0030]; WO2019030929A1 at 2. “The user terminal may control activation/deactivation of at least one BWP. Activation of a BWP is to be in a state where the BWP is available (or changes to the state where the BWP is available) and is also referred to as “activation,” “enabling,” and the like of a configuration information (configuration) of the BWP (BWP configuration information). Deactivation of a BWP is to be in a state where the BWP is unusable (or changes to the state where the BWP is unusable) and is also referred to as “deactivation,” “disabling,” and the like of a BWP configuration information.” Takeda III at [0032]; WO2019030929A1 at 2. “The user terminal may receive configuration information of the CORESET (CORESET configuration information) through higher layer signaling (for example, RRC signaling or SIB). The CORESET configuration information may indicate at least one of frequency resources (for example, the number of RBs), time resources (for example, a starting OFDM symbol number), a time length (duration), an Resource Element Group (REG) bundle size (REG size), a transmission type (for example, interleave, non-interleave), a cycle (for example, a monitor cycle per CORESET), and the like of each CORESET.” Takeda III at [0040]; WO2019030929A1 at 3. “In view of this, the inventors of the present invention studied a method for controlling activation/deactivation of at least one BWP configured for a user terminal, more simply and/or at higher processing efficiency, and reached the present invention. In a first aspect below, a description will be mainly given of control of activation/deactivation of at least one DL BWP configured for a user terminal. In a second aspect, a description will be mainly given of a configuration of a BWP(s) (DL BWP and/or UL BWP). In a third aspect, a description will be mainly given of control of activation/deactivation of at least one UL BWP configured for a user terminal.” Takeda III at [0042]; WO2019030929A1 at 3.

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Claim Language		Exemplary Citations to Takeda III
		FIG. 1A  FIG. 1B  Takeda III at Figs. 1A-1B.; WO2019030929A1 at Figs. 1A - 1B.

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Claim Language		Exemplary Citations to Takeda III
		FIG. 15 Takeda III at Fig. 15; WO2019030929A1 at Fig. 15.

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Claim Language		Exemplary Citations to Takeda III
		 FIG. 16 Takeda III at Fig. 16; WO2019030929A1 at Fig. 16. To the extent it is found that Takeda III does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that Takeda III does not anticipate this claim, Takeda III renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine Takeda III with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.

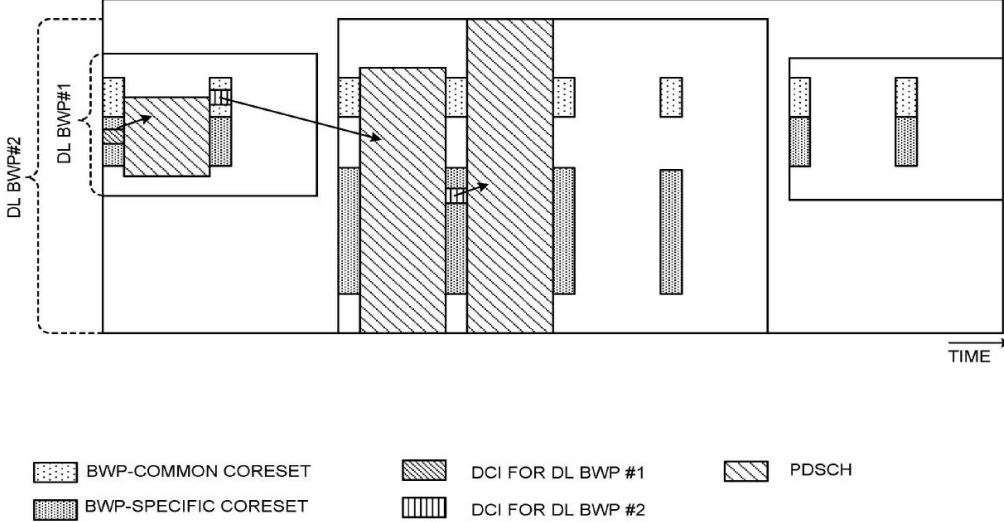
Invalidity of U.S. Patent 11,219,000 in view of Takeda III		
Claim Language		Exemplary Citations to Takeda III
1[b]	determining one of UL control channel resource sets contained in the received UL control channel resource set configuration information;	At least under Pegasus’s apparent infringement theory, Takeda III discloses “determining one of UL control channel resource sets contained in the received UL control channel resource set configuration information.” For example, Takeda III discloses this limitation based on the following exemplary citations: “To enable activation/deactivation of one or more frequency bands (for example, BWPs) configured in a carrier to be appropriately controlled. A user terminal of the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band.” Takeda III at Abstract; WO2019030929A1 at Abstract. “For future radio communication systems (for example, NR), it is studied that a user terminal monitors (performs blind decoding for) control resource regions (for example, control resource sets (CORESETs)), each of which is a candidate region to which a DL control channel (for example, a Physical Downlink Control Channel (PDCCH)) is allocated, to receive (detect) DCI.” Takeda III at [0006]; WO2019030929A1 at 1. “At least one DL BWP (for example, a DL BWP included in a primary CC) configured for the user terminal includes a control resource region to be a candidate to which a DL control channel (DCI) is to be allocated. The control resource region may be referred to as a “control resource set (CORESET),” a “control subband,” a “search space set,” a “search space resource set,” a “control region,” a “control subband,” an “NR-PDCCH region,” and the like. The user terminal monitors one or more search spaces in the CORESET to detect DCI for the user terminal. The search space may include a common search space (CSS), to which common DCI (for example, group DCI or common DCI) common to one or more user terminals is allocated, and/or a user-terminal (UE) specific search space (USS (UE-specific Search space)) to which user-terminal-specific DCI (for example, DL assignment and/or UL grant) is allocated. The user terminal may receive configuration information of the CORESET (CORESET configuration information) through higher layer signaling (for example, RRC signaling or SIB).

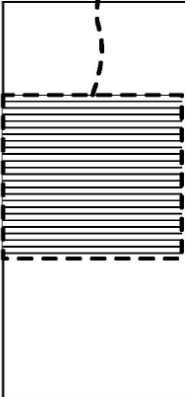
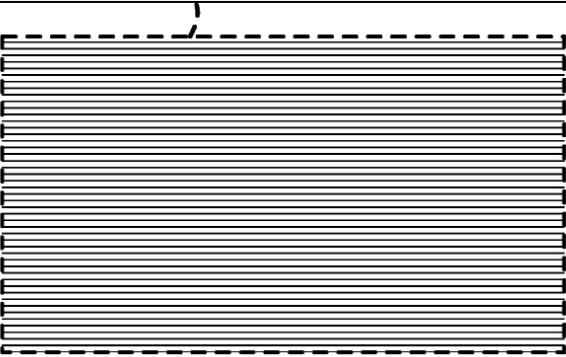
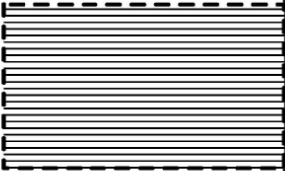
Invalidity of U.S. Patent 11,219,000 in view of Takeda III		
Claim Language		Exemplary Citations to Takeda III
		The CORESET configuration information may indicate at least one of frequency resources (for example, the number of RBs), time resources (for example, a starting OFDM symbol number), a time length (duration), an Resource Element Group (REG) bundle size (REG size), a transmission type (for example, interleave, non-interleave), a cycle (for example, a monitor cycle per CORESET), and the like of each CORESET.” Takeda III at [0038]-[0040]; WO2019030929A1 at 3. “In FIG. 2, it is also assumed that CORESET # 1 is configured in DL BWP # 1 and CORESET # 2 is configured in DL BWP # 2. One or more search spaces are provided in each of CORESET # 1 and CORESET # 2. For example, in CORESET # 1, DCI for DL BWP # 1 and DCI for DL BWP # 2 may be mapped to different search spaces. In FIG. 2, when DL BWP # 1 is in an active state, the user terminal monitors (performs blind decoding on) the DCI for DL BWP # 1 and the DCI for DL BWP # 2 in CORESET # 1 in a certain cycle (for example, every one or more slots, every one or more mini-slots, or every certain number of symbols). When detecting the DCI for DL BWP # 1 in CORESET # 1, the user terminal receives a PDSCH scheduled in (mapped to) a certain time and/or frequency resource (time/frequency resource) of DL BWP # 1, based on the DCI for DL BWP # 1. In contrast, when detecting the DCI for DL BWP # 2 in CORESET # 1, the user terminal activates DL BWP # 2. The user terminal receives a PDSCH scheduled in a certain time/frequency resource of DL BWP # 2, based on the DCI for DL BWP # 2 detected in CORESET # 1. Note that, although the DCI for DL BWP # 1 and the DCI for DL BWP # 2 are detected at different timings in CORESET # 1 in FIG. 2, a plurality of pieces of DCI for the different BWPs may be detectable at the same timing. For example, a plurality of search spaces may be provided corresponding to a plurality of respective BWPs in CORESET # 1, to transmit a plurality of pieces of DCI for the different BWPs in the plurality of respective search spaces. The user terminal may monitor the plurality of search spaces in CORESET # 1 and detect the plurality of pieces of DCI for the different BWPs at the same timing. When DL BWP # 2 is activated, the user terminal monitors (performs blind decoding on) the DCI for DL BWP # 2 in CORESET # 2 in a certain cycle (for example, every one or more slots, every one or more mini-slots, or every certain number of symbols). The user terminal may receive a

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		PDSCH scheduled in a certain time/frequency resource of DL BWP # 2, based on the DCI for DL BWP # 2 detected in CORESET # 2.” Takeda III at [0048]-[0053]; WO2019030929A1 at 3-4. “FIG. 3 is a diagram to show an example of the first fallback mechanism according to the first aspect. Note that, for FIG. 3, differences from FIG. 2 will be mainly described. FIG. 3 is different from FIG. 2 in that a CORESET (also referred to as a “BWP-common CORESET,” a “common CORESET,” or the like) common to one or more BWPs (here, DL BWPs # 1 and #2), and a CORESET (also referred to as a “BWP-specific CORESET,” a “specific CORESET,” or the like) specific to each BWP are provided. As shown in FIG. 3, the BWP-common CORESET is configured in the same frequency band (same one or more PRBs) in DL BWPs # 1 and #2. In contrast, a BWP-specific CORESET may be configured in a different bandwidth (different number of PRBs) and/or a different frequency band (one or more different PRBs) for each BWP.” Takeda III at [0060]-[0061]; WO2019030929A1 at 4. “When the BWP-common CORESET is used as a common search space, control information for transmitting system information (SI, also referred to as a “System Information Block (SIB)” or the like) and/or a random access response (RAR), and the like may be transmitted in the BWP-common CORESET. In contrast, in each BWP-specific CORESET, DCI for each BWP may be transmitted. For example, in the CORESET specific to DL BWP # 1, DL assignment for scheduling a PDSCH in DL BWP # 1 may be transmitted. Moreover, in the CORESET specific to DL BWP # 2, DL assignment for scheduling a PDSCH in DL BWP # 2 may be transmitted.” Takeda III at [0064]-[0065]; WO2019030929A1 at 5. “In second activation control, the user terminal monitors a CORESET for each BWP configured in a DL BWP (for example, DL DL BWP #1) in a carrier, in a certain cycle. The user terminal may receive (detect) DCI for the corresponding BWP in each CORESET. The second activation control is different from the first activation control in that a plurality of CORESETs corresponding to a

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		plurality of respective BWPs are configured in a particular DL BWP. In the following, differences from the first activation control will be mainly described. In the second activation control, in a case that one or more BWPs (one or more DL BWPs and/or one or more UL BWPs) are configured for the user terminal, one or more CORESETs corresponding to the one or more respective DL BWPs may be configured in at least one DL BWP.” Takeda III at [0082]-[0083]; WO2019030929A1 at 6. “In the above second activation control, a plurality of CORESETs corresponding to a plurality of respective BWPs configured for the user terminal are configured in a certain DL BWP, and hence CORESET (corresponding to CORESET # 2 in FIG. 5) resources can be used for PDSCH resources in a period where activation control is not performed.” Takeda III at [0090]; WO2019030929A1 at 7. “In a case that a plurality of UL BWPs are configured for the user terminal, transmission of the same UL signal may be possible or transmission of different UL signals may be possible among the plurality of UL BWPs. The UL signal(s) is, for example, at least one of a UL data channel (for example, a PUSCH), a UL control channel (for example, a PUCCH), a reference signal (for example, an Sounding Reference Signal (SRS) and/or a DMRS), and a random access channel (for example, a Physical Random Access Channel (PRACH)). FIG. 10 is a diagram to show an example of transmission of a UL signal in each UL BWP according to the third aspect. In FIG. 10, it is assumed that UL BWP # 1 and UL BWP # 2 having a greater bandwidth than that of UL BWP # 1 are configured for the user terminal. As illustrated in FIG. 10, configuration information of a PRACH and/or a PUCCH is included in UL BWP # 1. At the same time, configuration information of at least one of a PUSCH, an SRS, and a DMRS need not necessarily be included or may be included in UL BWP # 1. Configuration information of at least one of a PUSCH, an SRS, and a DRMS is included in UL BWP # 2. At the same time, configuration information of a PRACH and/or a PUCCH need not necessarily be included or may be included in UL BWP # 2. As described above, UL signals necessarily configured in UL BWPs may be different from each other, and UL signals which the user terminal can transmit in respective UL BWPs may be different from each other. For example, in FIG. 10, the user terminal may control transmission of a PRACH

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	and/or a PUCCH in UL BWP # 1 while controlling transmission of at least one of a PUSCH, an SRS, and a DMRS in UL BWP # 2. In FIG. 10, it is possible that UL signals necessarily configured in UL BWPs are different from each other, and hence when a plurality of UL BWPs are configured for the user terminal, transmission of a UL signal in each UL BWP can be performed efficiently.” Takeda III at [0131]-[0135]; WO2019030929A1 at 10.	
	FIG. 2 Takeda III at Fig. 2; WO2019030929A1 at Fig. 2.	

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		 FIG. 3 Takeda III at Fig. 3; WO2019030929A1 at Fig. 3.

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		UL BWP#1 (PRACH,PUCCH)  UL BWP#2 (PUSCH,SRS,DMRS)   TIME → FIG. 10 Takeda III at Fig. 10; WO2019030929A1 at Fig. 10. To the extent it is found that Takeda III does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that Takeda III does not anticipate this claim, Takeda III renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine Takeda III with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.

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Claim Language		Exemplary Citations to Takeda III
1[c]	determining one of UL control channel resources contained in the determined UL control channel resource set; and	At least under Pegasus’s apparent infringement theory, Takeda III discloses “determining one of UL control channel resources contained in the determined UL control channel resource set.” For example, Takeda III discloses this limitation based on the following exemplary citations: “For future radio communication systems (for example, NR), it is studied that a user terminal monitors (performs blind decoding for) control resource regions (for example, control resource sets (CORESETs)), each of which is a candidate region to which a DL control channel (for example, a Physical Downlink Control Channel (PDCCH)) is allocated, to receive (detect) DCI.” Takeda III at [0006]; WO2019030929A1 at 1. “An aspect of a user terminal according to the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band.” Takeda III at [0010]; WO2019030929A1 at 1. “At least one DL BWP (for example, a DL BWP included in a primary CC) configured for the user terminal includes a control resource region to be a candidate to which a DL control channel (DCI) is to be allocated. The control resource region may be referred to as a “control resource set (CORESET),” a “control subband,” a “search space set,” a “search space resource set,” a “control region,” a “control subband,” an “NR-PDCCH region,” and the like. The user terminal monitors one or more search spaces in the CORESET to detect DCI for the user terminal. The search space may include a common search space (CSS), to which common DCI (for example, group DCI or common DCI) common to one or more user terminals is allocated, and/or a user-terminal (UE) specific search space (USS (UE-specific Search space)) to which user-terminal-specific DCI (for example, DL assignment and/or UL grant) is allocated. The user terminal may receive configuration information of the CORESET (CORESET configuration information) through higher layer signaling (for example, RRC signaling or SIB). The CORESET configuration information may indicate at least one of frequency resources (for example, the number of RBs), time resources (for example, a starting OFDM symbol number), a

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		time length (duration), an Resource Element Group (REG) bundle size (REG size), a transmission type (for example, interleave, non-interleave), a cycle (for example, a monitor cycle per CORESET), and the like of each CORESET.” Takeda III at [0038]-[0040]; WO2019030929A1 at 3. “In a first aspect, a user terminal monitors (performs blind decoding on) a CORESET (first control resource region) configured in DL BWP #1 (first frequency band) in a carrier, in a certain cycle, to receive DCI. The user terminal controls activation or deactivation of DL BWP #2 (second frequency band) in the carrier, based on the DCI.” Takeda III at [0044]; WO2019030929A1 at 3. “In first activation control, the user terminal may monitor a single CORESET configured in a DL BWP (for example, DL BWP #1) in the carrier, in a certain cycle, to receive (detect) DCI for the DL BWP and/or DCI for a different DL BWP(s) (for example, DL BWP #2) in the carrier. The DCI for DL BWP # 2 is used for scheduling of a PDSCH (DL data channel) in a frequency resource in DL BWP # 2. The user terminal activates DL BWP # 2, based on the DCI for DL BWP # 2. Moreover, the user terminal controls reception of the PDSCH, based on the DCI, in activated DL BWP # 2. FIG. 2 is a diagram to show an example of first activation control according to the first aspect. For example, in FIG. 2, it is assumed that two DL BWPs # 1 and #2 are configured in a carrier configured for the user terminal as shown in FIG. 1B. It is also assumed that DL BWP # 1 is a part of the frequency band of DL BWP # 2. In FIG. 2, it is also assumed that CORESET # 1 is configured in DL BWP # 1 and CORESET # 2 is configured in DL BWP # 2. One or more search spaces are provided in each of CORESET # 1 and CORESET # 2. For example, in CORESET # 1, DCI for DL BWP # 1 and DCI for DL BWP # 2 may be mapped to different search spaces. In FIG. 2, when DL BWP # 1 is in an active state, the user terminal monitors (performs blind decoding on) the DCI for DL BWP # 1 and the DCI for DL BWP # 2 in CORESET # 1 in a certain cycle (for example, every one or more slots, every one or more mini-slots, or every certain number of symbols).

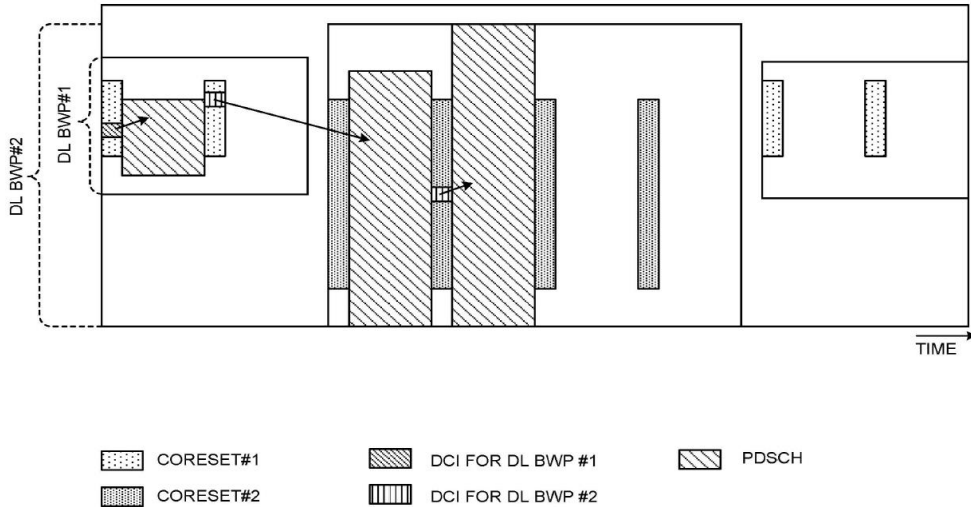
Invalidity of U.S. Patent 11,219,000 in view of Takeda III		
Claim Language		Exemplary Citations to Takeda III
		When detecting the DCI for DL BWP # 1 in CORESET # 1, the user terminal receives a PDSCH scheduled in (mapped to) a certain time and/or frequency resource (time/frequency resource) of DL BWP # 1, based on the DCI for DL BWP # 1. In contrast, when detecting the DCI for DL BWP # 2 in CORESET # 1, the user terminal activates DL BWP # 2. The user terminal receives a PDSCH scheduled in a certain time/frequency resource of DL BWP # 2, based on the DCI for DL BWP # 2 detected in CORESET # 1.” Takeda III at [0045]-[0051]; WO2019030929A1 at 3-4. “FIG. 3 is a diagram to show an example of the first fallback mechanism according to the first aspect. Note that, for FIG. 3, differences from FIG. 2 will be mainly described. FIG. 3 is different from FIG. 2 in that a CORESET (also referred to as a “BWP-common CORESET,” a “common CORESET,” or the like) common to one or more BWPs (here, DL BWPs # 1 and #2), and a CORESET (also referred to as a “BWP-specific CORESET,” a “specific CORESET,” or the like) specific to each BWP are provided. As shown in FIG. 3, the BWP-common CORESET is configured in the same frequency band (same one or more PRBs) in DL BWPs # 1 and #2. In contrast, a BWP-specific CORESET may be configured in a different bandwidth (different number of PRBs) and/or a different frequency band (one or more different PRBs) for each BWP.” Takeda III at [0060]-[0061]; WO2019030929A1 at 4. “In the BWP-common CORESET, explicit or implicit indication information for activation of a different BWP (here, DL BWP #2) may be transmitted. For example, in the BWP-common CORESET in FIG. 3, the DCI (DL assignment) for DL BWP # 2 for scheduling a PDSCH in DL BWP # 2 is transmitted as implicit indication information.” Takeda III at [0063]; WO2019030929A1 at 5. “In contrast, in each BWP-specific CORESET, DCI for each BWP may be transmitted. For example, in the CORESET specific to DL BWP # 1, DL assignment for scheduling a PDSCH in DL BWP # 1 may be transmitted. Moreover, in the CORESET specific to DL BWP # 2, DL assignment for scheduling a PDSCH in DL BWP # 2 may be transmitted.

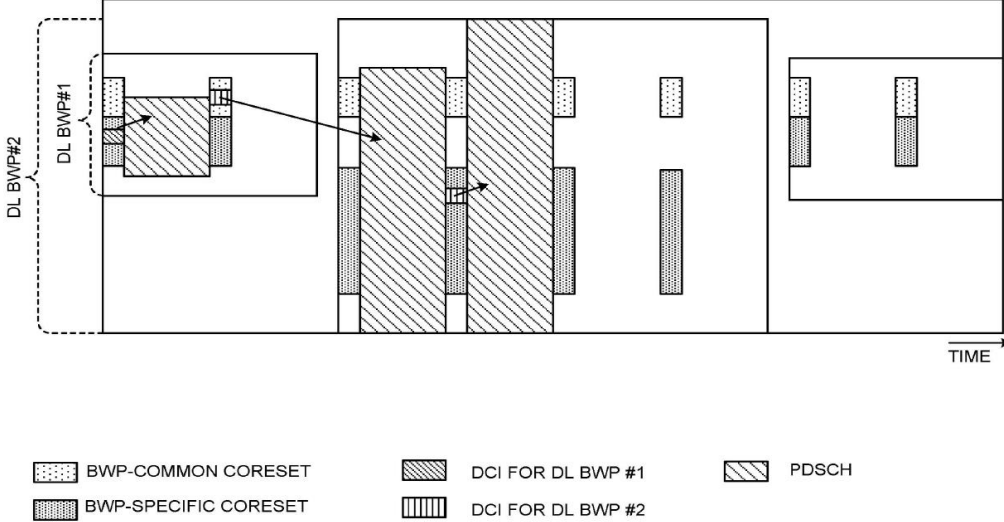
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Claim Language		Exemplary Citations to Takeda III
		In FIG. 3, irrespective of which BWP is activated, the user terminal monitors the BWP-common CORESET in a certain cycle (for example, every one or more slots, every one or more mini-slots, or every certain number of symbols). For example, in FIG. 3, the user terminal activates DL BWP # 2 and deactivates DL BWP # 1, based on the DCI for DL BWP # 2 detected in the BWP-common CORESET. The user terminal receives the PDSCH scheduled in DL BWP # 2, based on the DCI for DL BWP # 2.” Takeda III at [0065]-[0066]; WO2019030929A1 at 5. “In FIG. 4, CORESET # 1 may be configured in DL BWP # 1, while CORESET # 2 is configured in DL BWP # 2. A common search space and a UE-specific search space may be included in CORESET # 1. In contrast, a UE-specific search space may be included in CORESET # 2 with no common search space being included in CORESET # 2. In FIG. 4, the user terminal activates DL BWP # 2, based on DCI (DL assignment) for DL BWP # 2 detected in the common search space in CORESET # 1. The user terminal receives the PDSCH scheduled in DL BWP # 2, based on the DCI for DL BWP # 2. The user terminal receives a PDSCH scheduled in DL BWP # 1, based on the DCI (DL assignment) for DL BWP # 1 detected in the UE-specific search space in CORESET # 1. When DL BWP # 2 is activated, the user terminal monitors the UE-specific search space in CORESET # 2 in a certain cycle. The user terminal receives a PDSCH scheduled in DL BWP # 2, based on DCI (DL assignment) for DL BWP # 2 detected in the UE-specific search space.” Takeda III at [0076]-[0079]; WO2019030929A1 at 6. “In second activation control, the user terminal monitors a CORESET for each BWP configured in a DL BWP (for example, DL BWP #1) in a carrier, in a certain cycle. The user terminal may receive (detect) DCI for the corresponding BWP in each CORESET. The second activation control is different from the first activation control in that a plurality of CORESETs corresponding to a plurality of respective BWPs are configured in a particular DL BWP. In the following, differences from the first activation control will be mainly described. In the second activation control, in a case that one or more BWPs (one or more DL BWPs and/or one or more UL BWPs) are configured for the user terminal, one or more CORESETs corresponding to the one or more respective DL BWPs may be configured in at least one DL BWP.”

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Claim Language		Exemplary Citations to Takeda III
		Takeda III at [0082]-[0083]; WO2019030929A1 at 6. “The user terminal receives a PDSCH scheduled in DL BWP # 1, based on the DCI for DL BWP # 1 detected in CORESET # 1 in DL BWP # 1. When detecting the DCI for DL BWP # 2 in CORESET # 2 in DL BWP # 1, the user terminal activates DL BWP # 2 and deactivates DL BWP # 1. The user terminal receives a PDSCH scheduled in DL BWP # 2, based on the DCI for DL BWP # 2 detected in CORESET # 2 in DL BWP # 1.” Takeda III at [0086]-[0087]; WO2019030929A1 at 6. “In the above second activation control, a plurality of CORESETs corresponding to a plurality of respective BWPs configured for the user terminal are configured in a certain DL BWP, and hence CORESET (corresponding to CORESET # 2 in FIG. 5) resources can be used for PDSCH resources in a period where activation control is not performed.” Takeda III at [0090]; WO2019030929A1 at 7. “The DCI for activation indicates activation of the different DL BWP. For example, the DCI may be DCI for scheduling (DL assignment or UL grant) or may be DCI of a dedicated format. In a case that the DCI is DCI for scheduling, a particular value (for example, 0) may be configured in the resource allocation field in the DCI. An index (BWP index) of a BWP to be activated may be included in the DCI for activation.” Takeda III at [0092]; WO2019030929A1 at 7. “When the DCI for activation is successfully detected, the user terminal may transmit Acknowledge (ACK) to the radio base station. For example, the user terminal may transmit the ACK by using a UL control channel (for example, a PUCCH) or a UL data channel (for example, PUSCH) of a UL BWP. After receipt of the ACK from the user terminal, the radio base station may start scheduling of a PDSCH in DL BWP # 2.” Takeda III at [0096]; WO2019030929A1 at 7.

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		“Each BWP may be associated with a particular numerology (for example, at least one of subcarrier spacing, symbol length, cyclic prefix (CP) length, the number of symbols in a slot (or mini-slot), and the like). For example, as illustrated in FIG. 1B, in a case that a plurality of BWPs are configured for the user terminal, the same and/or different numerologies may be used for the plurality of BWPs. The BWP configuration information may include at least one of information indicating a numerology (for example, subcarrier spacing), information indicating a frequency position (for example, center frequency), information indicating a bandwidth (for example, the number of resource blocks (RB) (also referred to as “Physical RBs (PRBs)” and the like), information indicating time resources (for example, the number of symbols per slot (mini-slot), information indicating the number of MIMO layers, information related to Quasi-Co-Location, and the like. The user terminal may receive BWP configuration information through higher layer signaling (for example, RRC signaling, broadcast information (master information block (MIB)), system information block (SIB), or the like and/or MAC signaling). In a case that a plurality of BWPs are configured for the user terminal and a different slot type (for example, a different number of symbols and/or a different numerology, or the like) is used for each of the plurality of BWPs, cross-BWP scheduling, in which a particular BWP is used for scheduling of another BWP, need not necessarily be supported. In a case that the same slot type is used for the plurality of BWPs, the cross-BWP scheduling may be employed.” Takeda III at [0114]-[0117]; WO2019030929A1 at 8-9. “Only a single UL BWP may be configured or a plurality of UL BWPs may be configured for the user terminal. Activation or deactivation of each UL BWP may be controlled based on explicit or implicit indication information irrespective of activation or deactivation of one or more DL BWPs. For example, when detecting UL grant through monitoring of the CORESET of a DL BWP, the user terminal may activate a UL BWP. Activation or deactivation of a DL BWP may be controlled irrespective of whether UL grant is present or absent.” Takeda III at [0119]-[0120]; WO2019030929A1 at 9.

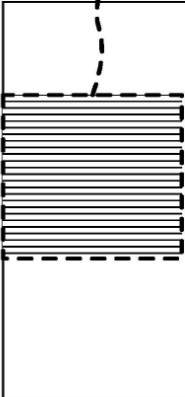
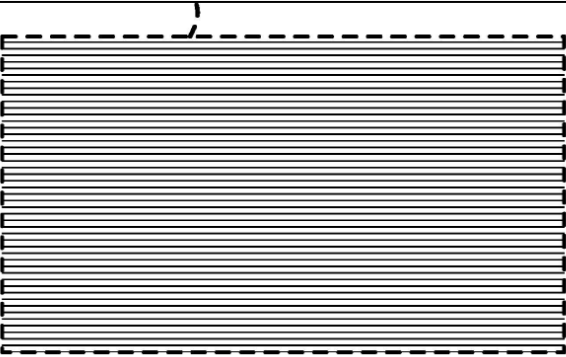
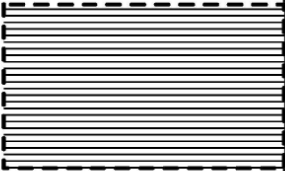
Invalidity of U.S. Patent 11,219,000 in view of Takeda III		
Claim Language		Exemplary Citations to Takeda III
		“For example, in FIG. 8, the user terminal monitors a CORESET configured in an activated DL BWP, in a certain cycle. The user terminal activates a UL BWP, based on UL grant detected in the CORESET. The user terminal transmits a PUSCH scheduled in a UL BWP, based on the UL grant.” Takeda III at [0123]-[0124]; WO2019030929A1 at 9. “As illustrated in FIG. 9, in a case that the plurality of UL BWPs are configured for the user terminal, an index (BWP index) of the UL BWP in which a PUSCH is scheduled may be included in UL grant. The user terminal may control activation of the UL BWPs, based on the BWP index included in the UL grant.” Takeda III at [0128]; WO2019030929A1 at 9. “In a case that a plurality of UL BWPs are configured for the user terminal, transmission of the same UL signal may be possible or transmission of different UL signals may be possible among the plurality of UL BWPs. The UL signal(s) is, for example, at least one of a UL data channel (for example, a PUSCH), a UL control channel (for example, a PUCCH), a reference signal (for example, an Sounding Reference Signal (SRS) and/or a DMRS), and a random access channel (for example, a Physical Random Access Channel (PRACH)). FIG. 10 is a diagram to show an example of transmission of a UL signal in each UL BWP according to the third aspect. In FIG. 10, it is assumed that UL BWP # 1 and UL BWP # 2 having a greater bandwidth than that of UL BWP # 1 are configured for the user terminal. As illustrated in FIG. 10, configuration information of a PRACH and/or a PUCCH is included in UL BWP # 1. At the same time, configuration information of at least one of a PUSCH, an SRS, and a DMRS need not necessarily be included or may be included in UL BWP # 1. Configuration information of at least one of a PUSCH, an SRS, and a DMRS is included in UL BWP # 2. At the same time, configuration information of a PRACH and/or a PUCCH need not necessarily be included or may be included in UL BWP # 2. As described above, UL signals necessarily configured in UL BWPs may be different from each other, and UL signals which the user terminal can transmit in respective UL BWPs may be different from each other. For example, in FIG. 10, the user terminal may control transmission of a PRACH and/or a PUCCH in UL BWP # 1 while controlling transmission of at least one of a PUSCH, an SRS, and a DMRS in UL BWP # 2.

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Claim Language	Exemplary Citations to Takeda III	
	In FIG. 10, it is possible that UL signals necessarily configured in UL BWPs are different from each other, and hence when a plurality of UL BWPs are configured for the user terminal, transmission of a UL signal in each UL BWP can be performed efficiently.” Takeda III at [0131]-[0135]; WO2019030929A1 at 10. “FIG. 11 is a diagram to show an example of activation/deactivation control for a UL BWP according to the third aspect. In FIG. 11, the user terminal may activate UL BWP # 2, based on DCI (for example, UL grant allocating a PUSCH in UL BWP # 2 or DCI for activation (for example, UL grant with a resource allocation field being configured at a particular value)), a MAC CE, a RAR, or message 4. In this case, the user terminal may deactivate UL BWP # 1.” Takeda III at [0139]; WO2019030929A1 at 10.  FIG. 2 Takeda III at Fig. 2; WO2019030929A1 at Fig. 2.	

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Claim Language		Exemplary Citations to Takeda III
		 FIG. 3 Takeda III at Fig. 3; WO2019030929A1 at Fig. 3.

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Claim Language		Exemplary Citations to Takeda III
		The diagram illustrates a timing sequence for a wireless communication system. It shows two Downlink Bandwidth Parts (DL BWP#1 and DL BWP#2) and one Uplink Bandwidth Part (UL BWP). DL BWP#1 is active during the first two time slots, while DL BWP#2 is active during the third and fourth time slots. The UL BWP is active during the third and fourth time slots. The diagram also shows the timing of CORESET (Control Resource Set), DL ASSIGNMENT (Downlink Assignment), UL GRANT (Uplink Grant), PDSCH (Physical Downlink Shared Channel), and PUSCH (Physical Uplink Shared Channel). The legend indicates that CORESET is represented by a dotted pattern, DL ASSIGNMENT by a diagonal line pattern, UL GRANT by a vertical line pattern, PDSCH by a horizontal line pattern, and PUSCH by a diagonal line pattern. The x-axis is labeled TIME. FIG. 8 Takeda III at Fig. 8; WO2019030929A1 at Fig. 8.

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		The diagram illustrates a timeline of radio resource allocation. It shows two Downlink Bandwidth Parts (DL BWP#1 and DL BWP#2) and two Uplink Bandwidth Parts (UL BWP#1 and UL BWP#2). DL BWP#1 is active during the first two time slots, while DL BWP#2 is active during the third and fourth. UL BWP#1 is active during the first and second time slots, and UL BWP#2 is active during the third and fourth. The diagram also shows the timing of CORESET (Control Resource Set), DL ASSIGNMENT (Downlink Assignment), PDSCH (Physical Downlink Shared Channel), UL GRANT (Uplink Grant), and PUSCH (Physical Uplink Shared Channel). The legend indicates that CORESET is represented by a dotted pattern, DL ASSIGNMENT by a diagonal line pattern, PDSCH by a horizontal line pattern, UL GRANT by a vertical line pattern, and PUSCH by a diagonal line pattern. The x-axis is labeled 'TIME'. FIG. 9 Takeda III at Fig. 9; WO2019030929A1 at Fig. 9.

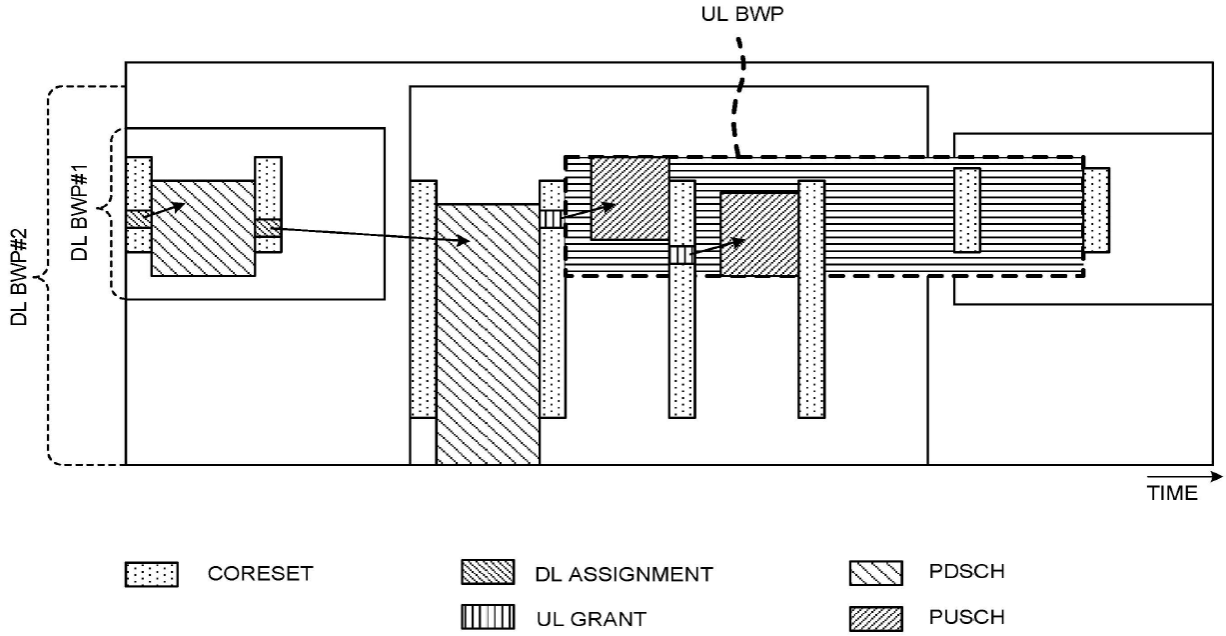
Invalidity of U.S. Patent 11,219,000 in view of Takeda III		
Claim Language		Exemplary Citations to Takeda III
		UL BWP#1 (PRACH,PUCCH)  UL BWP#2 (PUSCH,SRS,DMRS)   TIME → FIG. 10 Takeda III at Fig. 10; WO2019030929A1 at Fig. 10. To the extent it is found that Takeda III does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that Takeda III does not anticipate this claim, Takeda III renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine Takeda III with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.

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1[d]	transmitting UL control information through the determined UL control channel resource,	At least under Pegasus’s apparent infringement theory, Takeda III discloses “transmitting UL control information through the determined UL control channel resource.” For example, Takeda III discloses this limitation based on the following exemplary citations: “A user terminal (User Equipment (UE)) controls reception of a DL data channel (also referred to as, for example, a “Physical Downlink Shared Channel (PDSCH),” a “DL shared channel,” and the like), based on downlink control information (DCI) (also referred to as “DL assignment” and the like) from a radio base station (for example, eNodeB (eNB)). Moreover, the user terminal controls transmission of a UL data channel (for example, a PUSCH (also referred to as Physical Uplink Shared Channel), a “UL shared channel” and the like), based on DCI (also referred to as “UL grant” and the like) from the radio base station.” Takeda III at [0004]; WO2019030929A1 at 1. “An aspect of a user terminal according to the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band.” Takeda III at [0010]; WO2019030929A1 at 1. “In the BWP-common CORESET, explicit or implicit indication information for activation of a different BWP (here, DL BWP #2) may be transmitted. For example, in the BWP-common CORESET in FIG. 3, the DCI (DL assignment) for DL BWP # 2 for scheduling a PDSCH in DL BWP # 2 is transmitted as implicit indication information. When the BWP-common CORESET is used as a common search space, control information for transmitting system information (SI, also referred to as a “System Information Block (SIB)” or the like) and/or a random access response (RAR), and the like may be transmitted in the BWP-common CORESET. In contrast, in each BWP-specific CORESET, DCI for each BWP may be transmitted. For example, in the CORESET specific to DL BWP # 1, DL assignment for scheduling a PDSCH in DL BWP #

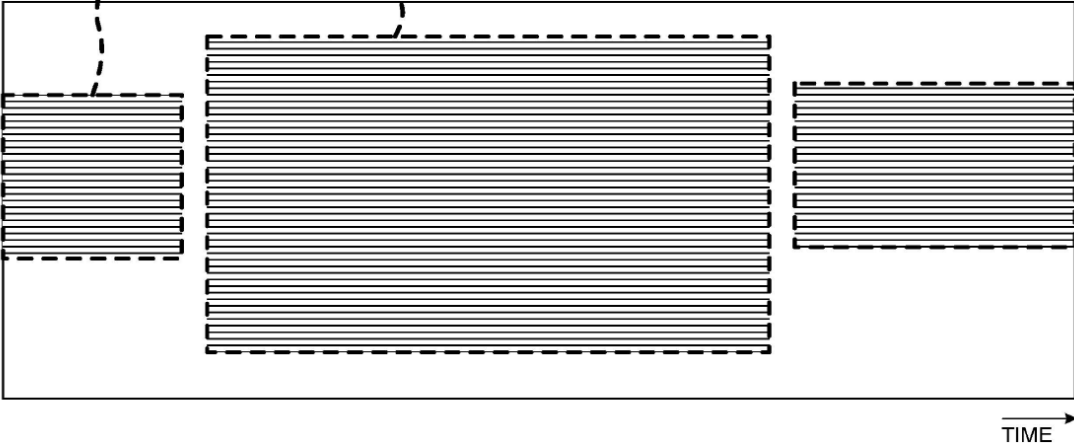
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Claim Language		Exemplary Citations to Takeda III
		1 may be transmitted. Moreover, in the CORESET specific to DL BWP # 2, DL assignment for scheduling a PDSCH in DL BWP # 2 may be transmitted.” Takeda III at [0063]-[0065]; WO2019030929A1 at 5. “When the DCI for activation is successfully detected, the user terminal may transmit Acknowledge (ACK) to the radio base station. For example, the user terminal may transmit the ACK by using a UL control channel (for example, a PUCCH) or a UL data channel (for example, PUSCH) of a UL BWP. After receipt of the ACK from the user terminal, the radio base station may start scheduling of a PDSCH in DL BWP # 2.” Takeda III at [0096]; WO2019030929A1 at 7. “For example, in FIG. 8, the user terminal monitors a CORESET configured in an activated DL BWP, in a certain cycle. The user terminal activates a UL BWP, based on UL grant detected in the CORESET. The user terminal transmits a PUSCH scheduled in a UL BWP, based on the UL grant.” Takeda III at [0123]; WO2019030929A1 at 9. “For example, in FIG. 9, the user terminal monitors a CORESET configured in an activated DL BWP, in a certain cycle. In FIG. 9, since BWP index # 2 is included in the UL grant detected in the CORESET, the user terminal may deactivate UL BWP # 1 and activate UL BWP # 2. The user terminal may transmit a PUSCH scheduled in UL BWP # 2, based on the UL grant.” Takeda III at [0129]; WO2019030929A1 at 9. “In a case that a plurality of UL BWPs are configured for the user terminal, transmission of the same UL signal may be possible or transmission of different UL signals may be possible among the plurality of UL BWPs. The UL signal(s) is, for example, at least one of a UL data channel (for example, a PUSCH), a UL control channel (for example, a PUCCH), a reference signal (for example, an Sounding Reference Signal (SRS) and/or a DMRS), and a random access channel (for example, a Physical Random Access Channel (PRACH)). FIG. 10 is a diagram to show an example of transmission of a UL signal in each UL BWP according to the third aspect. In FIG. 10, it is assumed that UL BWP # 1 and UL BWP # 2 having a greater bandwidth than that of UL BWP # 1 are configured for the user terminal.

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		As illustrated in FIG. 10, configuration information of a PRACH and/or a PUCCH is included in UL BWP # 1. At the same time, configuration information of at least one of a PUSCH, an SRS, and a DMRS need not necessarily be included or may be included in UL BWP # 1. Configuration information of at least one of a PUSCH, an SRS, and a DRMS is included in UL BWP # 2. At the same time, configuration information of a PRACH and/or a PUCCH need not necessarily be included or may be included in UL BWP # 2. As described above, UL signals necessarily configured in UL BWPs may be different from each other, and UL signals which the user terminal can transmit in respective UL BWPs may be different from each other. For example, in FIG. 10, the user terminal may control transmission of a PRACH and/or a PUCCH in UL BWP # 1 while controlling transmission of at least one of a PUSCH, an SRS, and a DMRS in UL BWP # 2. In FIG. 10, it is possible that UL signals necessarily configured in UL BWPs are different from each other, and hence when a plurality of UL BWPs are configured for the user terminal, transmission of a UL signal in each UL BWP can be performed efficiently.” Takeda III at [0131]-[0135]; WO2019030929A1 at 10. “FIG. 15 is a diagram to show an example of an overall structure of a user terminal according to the present embodiment. Each user terminal 20 includes a plurality of transmitting/receiving antennas 201 for MIMO transmission, amplifying sections 202, transmitting/receiving sections 203, a baseband signal processing section 204, and an application section 205. The user terminal 20 may configure “transmitting apparatus” in UL and configure “receiving apparatus” in DL. Radio frequency signals that are received in the plurality of respective transmitting/receiving antennas 201 are amplified in the respective amplifying sections 202. The transmitting/receiving sections 203 receive the DL signals amplified in the amplifying sections 202. The transmitting/receiving sections 203 convert the received signals into baseband signals through frequency conversion, and output the baseband signals to the baseband signal processing section 204.” Takeda III at [0181]-[0182]; WO2019030929A1 at 14. “The transmitting/receiving sections 203 receive DL signals (for example, at least one of a DL control signal (also referred to as a “DL control channel,” “DCI,” and the like)), DL data signals

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		(also referred to as a “DL data channel,” “DL data,” and the like), and a reference signal). The transmitting/receiving sections 203 also transmit UL signals (for example, at least one of a UL control signal (also referred to as a “UL control channel,” “UCI,” or the like)), UL data signals (also referred to as a “UL data channel,” “UL data,” or the like), and a reference signal).” Takeda III at [0186]; WO2019030929A1 at 15. “The control section 401 may control transmission of a UL signal in a UL BWP (UL frequency band), based on the DCI detected in the CORESET (control resource region) in a DL BWP (DL frequency band) (third aspect).” Takeda III at [0199]; WO2019030929A1 at 16.

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		 The diagram illustrates a timing sequence over time. It shows two Downlink Bandwidth Parts (DL BWP#1 and DL BWP#2) and one Uplink Bandwidth Part (UL BWP). DL BWP#1 contains a CORESET (dotted pattern) and a DL ASSIGNMENT (diagonal lines). DL BWP#2 contains a CORESET (dotted pattern) and a DL ASSIGNMENT (diagonal lines). The UL BWP contains a UL GRANT (vertical lines) and a PUSCH (diagonal lines). The diagram also shows PDSCH (diagonal lines) and PUSCH (diagonal lines) transmissions. A legend below the diagram defines the patterns: CORESET (dotted), DL ASSIGNMENT (diagonal lines), UL GRANT (vertical lines), PDSCH (diagonal lines), and PUSCH (diagonal lines). The x-axis is labeled TIME. FIG. 8 Takeda III at Fig. 8; WO2019030929A1 at Fig. 8.

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		The diagram illustrates a timeline of radio resource allocation. It shows two Downlink Bandwidth Parts (DL BWP#1 and DL BWP#2) and two Uplink Bandwidth Parts (UL BWP#1 and UL BWP#2). DL BWP#1 is active during the first two time slots, while DL BWP#2 is active during the third and fourth. UL BWP#1 is active during the first and second time slots, and UL BWP#2 is active during the third and fourth. The diagram also shows the timing of CORESET (Control Resource Set), DL ASSIGNMENT (Downlink Assignment), PDSCH (Physical Downlink Shared Channel), UL GRANT (Uplink Grant), and PUSCH (Physical Uplink Shared Channel). The legend indicates that CORESET is represented by a dotted pattern, DL ASSIGNMENT by a diagonal line pattern, PDSCH by a horizontal line pattern, UL GRANT by a vertical line pattern, and PUSCH by a diagonal line pattern. The x-axis is labeled 'TIME'. FIG. 9 Takeda III at Fig. 9; WO2019030929A1 at Fig. 9.

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Claim Language		Exemplary Citations to Takeda III
		UL BWP#1 (PRACH,PUCCH) UL BWP#2 (PUSCH,SRS,DMRS)  FIG. 10 Takeda III at Fig. 10; WO2019030929A1 at Fig. 10.

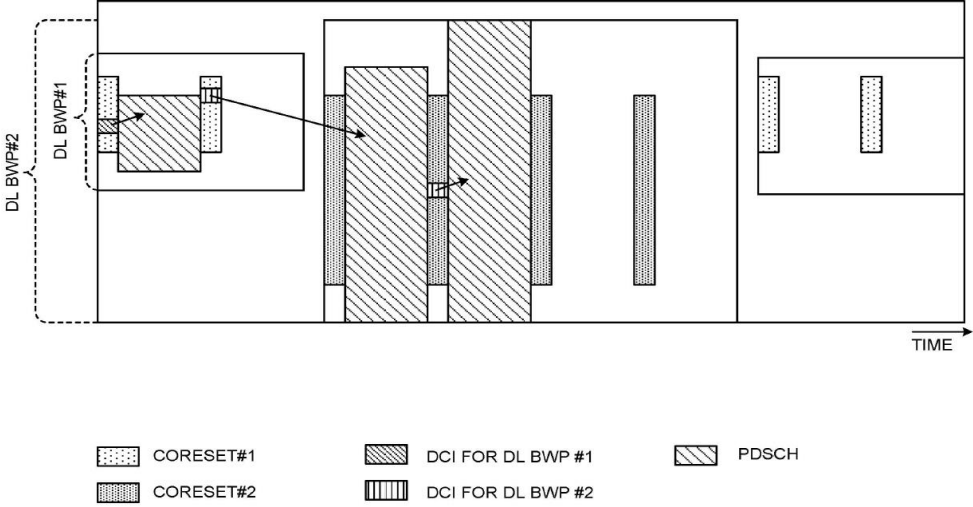
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	FIG. 15 Takeda III at Fig. 15; WO2019030929A1 at Fig. 15. To the extent it is found that Takeda III does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that Takeda III does not anticipate this claim, Takeda III renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine Takeda III with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.	

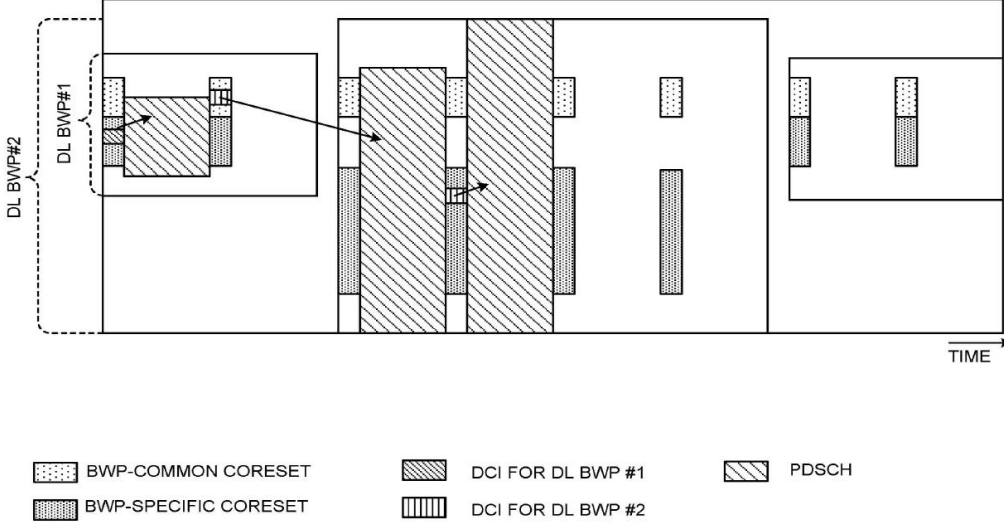
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1[e]	wherein the determining of the one of the UL control channel resource sets is performed based on a size of the UL control information, and	At least under Pegasus's apparent infringement theory, Takeda III discloses "wherein the determining of the one of the UL control channel resource sets is performed based on a size of the UL control information." For example, Takeda III discloses this limitation based on the following exemplary citations: "To enable activation/deactivation of one or more frequency bands (for example, BWPs) configured in a carrier to be appropriately controlled. A user terminal of the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band." Takeda III at Abstract; WO2019030929A1 at Abstract. "For future radio communication systems (for example, NR), it is studied that a user terminal monitors (performs blind decoding for) control resource regions (for example, control resource sets (CORESETs)), each of which is a candidate region to which a DL control channel (for example, a Physical Downlink Control Channel (PDCCH)) is allocated, to receive (detect) DCI." Takeda III at [0006]; WO2019030929A1 at 1. "At least one DL BWP (for example, a DL BWP included in a primary CC) configured for the user terminal includes a control resource region to be a candidate to which a DL control channel (DCI) is to be allocated. The control resource region may be referred to as a "control resource set (CORESET)," a "control subband," a "search space set," a "search space resource set," a "control region," a "control subband," an "NR-PDCCH region," and the like. The user terminal monitors one or more search spaces in the CORESET to detect DCI for the user terminal. The search space may include a common search space (CSS), to which common DCI (for example, group DCI or common DCI) common to one or more user terminals is allocated, and/or a user-terminal (UE) specific search space (USS (UE-specific Search space)) to which user-terminal-specific DCI (for example, DL assignment and/or UL grant) is allocated. The user terminal may receive configuration information of the CORESET (CORESET configuration information) through higher layer signaling (for example, RRC signaling or SIB).

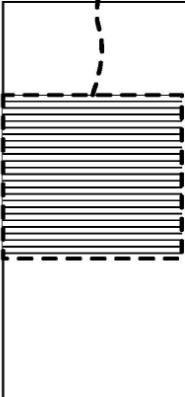
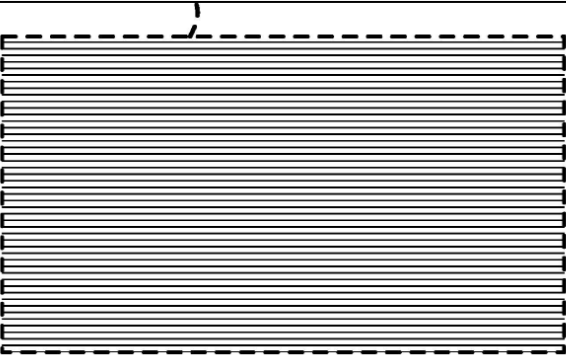
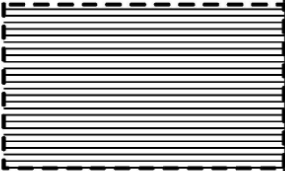
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		The CORESET configuration information may indicate at least one of frequency resources (for example, the number of RBs), time resources (for example, a starting OFDM symbol number), a time length (duration), an Resource Element Group (REG) bundle size (REG size), a transmission type (for example, interleave, non-interleave), a cycle (for example, a monitor cycle per CORESET), and the like of each CORESET.” Takeda III at [0038]-[0040]; WO2019030929A1 at 3. “In FIG. 2, it is also assumed that CORESET # 1 is configured in DL BWP # 1 and CORESET # 2 is configured in DL BWP # 2. One or more search spaces are provided in each of CORESET # 1 and CORESET # 2. For example, in CORESET # 1, DCI for DL BWP # 1 and DCI for DL BWP # 2 may be mapped to different search spaces. In FIG. 2, when DL BWP # 1 is in an active state, the user terminal monitors (performs blind decoding on) the DCI for DL BWP # 1 and the DCI for DL BWP # 2 in CORESET # 1 in a certain cycle (for example, every one or more slots, every one or more mini-slots, or every certain number of symbols). When detecting the DCI for DL BWP # 1 in CORESET # 1, the user terminal receives a PDSCH scheduled in (mapped to) a certain time and/or frequency resource (time/frequency resource) of DL BWP # 1, based on the DCI for DL BWP # 1. In contrast, when detecting the DCI for DL BWP # 2 in CORESET # 1, the user terminal activates DL BWP # 2. The user terminal receives a PDSCH scheduled in a certain time/frequency resource of DL BWP # 2, based on the DCI for DL BWP # 2 detected in CORESET # 1. Note that, although the DCI for DL BWP # 1 and the DCI for DL BWP # 2 are detected at different timings in CORESET # 1 in FIG. 2, a plurality of pieces of DCI for the different BWPs may be detectable at the same timing. For example, a plurality of search spaces may be provided corresponding to a plurality of respective BWPs in CORESET # 1, to transmit a plurality of pieces of DCI for the different BWPs in the plurality of respective search spaces. The user terminal may monitor the plurality of search spaces in CORESET # 1 and detect the plurality of pieces of DCI for the different BWPs at the same timing. When DL BWP # 2 is activated, the user terminal monitors (performs blind decoding on) the DCI for DL BWP # 2 in CORESET # 2 in a certain cycle (for example, every one or more slots, every one or more mini-slots, or every certain number of symbols). The user terminal may receive a

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		PDSCH scheduled in a certain time/frequency resource of DL BWP # 2, based on the DCI for DL BWP # 2 detected in CORESET # 2.” Takeda III at [0048]-[0053]; WO2019030929A1 at 3-4. “FIG. 3 is a diagram to show an example of the first fallback mechanism according to the first aspect. Note that, for FIG. 3, differences from FIG. 2 will be mainly described. FIG. 3 is different from FIG. 2 in that a CORESET (also referred to as a “BWP-common CORESET,” a “common CORESET,” or the like) common to one or more BWPs (here, DL BWPs # 1 and #2), and a CORESET (also referred to as a “BWP-specific CORESET,” a “specific CORESET,” or the like) specific to each BWP are provided. As shown in FIG. 3, the BWP-common CORESET is configured in the same frequency band (same one or more PRBs) in DL BWPs # 1 and #2. In contrast, a BWP-specific CORESET may be configured in a different bandwidth (different number of PRBs) and/or a different frequency band (one or more different PRBs) for each BWP.” Takeda III at [0060]-[0061]; WO2019030929A1 at 4. “When the BWP-common CORESET is used as a common search space, control information for transmitting system information (SI, also referred to as a “System Information Block (SIB)” or the like) and/or a random access response (RAR), and the like may be transmitted in the BWP-common CORESET. In contrast, in each BWP-specific CORESET, DCI for each BWP may be transmitted. For example, in the CORESET specific to DL BWP # 1, DL assignment for scheduling a PDSCH in DL BWP # 1 may be transmitted. Moreover, in the CORESET specific to DL BWP # 2, DL assignment for scheduling a PDSCH in DL BWP # 2 may be transmitted.” Takeda III at [0064]-[0065]; WO2019030929A1 at 5. “In second activation control, the user terminal monitors a CORESET for each BWP configured in a DL BWP (for example, DL DL BWP #1) in a carrier, in a certain cycle. The user terminal may receive (detect) DCI for the corresponding BWP in each CORESET. The second activation control is different from the first activation control in that a plurality of CORESETs corresponding to a

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		plurality of respective BWPs are configured in a particular DL BWP. In the following, differences from the first activation control will be mainly described. In the second activation control, in a case that one or more BWPs (one or more DL BWPs and/or one or more UL BWPs) are configured for the user terminal, one or more CORESETs corresponding to the one or more respective DL BWPs may be configured in at least one DL BWP.” Takeda III at [0082]-[0083]; WO2019030929A1 at 6. “In the above second activation control, a plurality of CORESETs corresponding to a plurality of respective BWPs configured for the user terminal are configured in a certain DL BWP, and hence CORESET (corresponding to CORESET # 2 in FIG. 5) resources can be used for PDSCH resources in a period where activation control is not performed.” Takeda III at [0090]; WO2019030929A1 at 7. “In a case that a plurality of UL BWPs are configured for the user terminal, transmission of the same UL signal may be possible or transmission of different UL signals may be possible among the plurality of UL BWPs. The UL signal(s) is, for example, at least one of a UL data channel (for example, a PUSCH), a UL control channel (for example, a PUCCH), a reference signal (for example, an Sounding Reference Signal (SRS) and/or a DMRS), and a random access channel (for example, a Physical Random Access Channel (PRACH)). FIG. 10 is a diagram to show an example of transmission of a UL signal in each UL BWP according to the third aspect. In FIG. 10, it is assumed that UL BWP # 1 and UL BWP # 2 having a greater bandwidth than that of UL BWP # 1 are configured for the user terminal. As illustrated in FIG. 10, configuration information of a PRACH and/or a PUCCH is included in UL BWP # 1. At the same time, configuration information of at least one of a PUSCH, an SRS, and a DMRS need not necessarily be included or may be included in UL BWP # 1. Configuration information of at least one of a PUSCH, an SRS, and a DRMS is included in UL BWP # 2. At the same time, configuration information of a PRACH and/or a PUCCH need not necessarily be included or may be included in UL BWP # 2. As described above, UL signals necessarily configured in UL BWPs may be different from each other, and UL signals which the user terminal can transmit in respective UL BWPs may be different from each other. For example, in FIG. 10, the user terminal may control transmission of a PRACH

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		and/or a PUCCH in UL BWP # 1 while controlling transmission of at least one of a PUSCH, an SRS, and a DMRS in UL BWP # 2. In FIG. 10, it is possible that UL signals necessarily configured in UL BWPs are different from each other, and hence when a plurality of UL BWPs are configured for the user terminal, transmission of a UL signal in each UL BWP can be performed efficiently.” Takeda III at [0131]-[0135]; WO2019030929A1 at 10.  FIG. 2 Takeda III at Fig. 2; WO2019030929A1 at Fig. 2.

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		 FIG. 3 Takeda III at Fig. 3; WO2019030929A1 at Fig. 3.

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		UL BWP#1 (PRACH,PUCCH)  UL BWP#2 (PUSCH,SRS,DMRS)   TIME → FIG. 10 Takeda III at Fig. 10; WO2019030929A1 at Fig. 10. To the extent it is found that Takeda III does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that Takeda III does not anticipate this claim, Takeda III renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine Takeda III with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.

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1[f]	wherein the UL control channel resource set configuration information is received through UE specific radio resource control (RRC) signaling.	At least under Pegasus's apparent infringement theory, Takeda III discloses "wherein the UL control channel resource set configuration information is received through UE specific radio resource control (RRC) signaling." For example, Takeda III discloses this limitation based on the following exemplary citations: "Activation/deactivation of a BWP may be explicitly or implicitly performed through at least one of physical layer signaling (for example, DCI), Medium Access Control (MAC) signaling (for example, a MAC control element (MAC CE)), and RRC signaling. For example, it is studied to perform activation of a BWP through user-terminal-dedicated RRC signaling." Takeda III at [0034]; WO2019030929A1 at 2. "The user terminal may receive configuration information of the CORESET (CORESET configuration information) through higher layer signaling (for example, RRC signaling or SIB). The CORESET configuration information may indicate at least one of frequency resources (for example, the number of RBs), time resources (for example, a starting OFDM symbol number), a time length (duration), an Resource Element Group (REG) bundle size (REG size), a transmission type (for example, interleave, non-interleave), a cycle (for example, a monitor cycle per CORESET), and the like of each CORESET." Takeda III at [0040]; WO2019030929A1 at 3. "The user terminal may receive BWP configuration information through higher layer signaling (for example, RRC signaling, broadcast information (master information block (MIB)), system information block (SIB), or the like and/or MAC signaling)." Takeda III at [0116]; WO2019030929A1 at 9. "The implicit indication information may be, for example, a RAR, message 4, or UL grant illustrated in FIGS. 8 and 9. The RAR is transmitted from the radio base station in response to a PRACH from the user terminal. Message 4 is a contention resolution message transmitted, when the user terminal transmits a higher layer control message by using a resource indicated by UL grant included in a RAR, in response to the control message from the radio base station. The user terminal that has received message 4 changes from an idle state to an RRC connected state."

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		Takeda III at [0137]; WO2019030929A1 at 10. “The transmitting/receiving section 103 may transmit higher layer control information (for example, control information through a MAC CE and/or RRC signaling).” Takeda III at [0166]; WO2019030929A1 at 13. “The transmitting/receiving sections 203 may receive higher layer control information (for example, control information through a MAC CE and/or RRC signaling).” Takeda III at [0187]; WO2019030929A1 at 15. “Reporting of information is by no means limited to the aspects/embodiments described in this specification, and may be performed in other methods. For example, reporting of information may be implemented by using physical layer signaling (for example, downlink control information (DCI), uplink control information (UCI), higher layer signaling (for example, Radio Resource Control (RRC) signaling, broadcast information (master information block (MIB), system information blocks (SIBs), and so on), Medium Access Control (MAC) signaling and so on), and other signals or combinations of these. Note that physical layer signaling may be referred to as “L1/L2 (Layer 1/Layer 2) control information (L1/L2 control signals),” “L1 control information (L1 control signal),” and so on. Also, RRC signaling may be referred to as an “RRC message,” and may be, for example, an RRC connection setup (RRCConnectionSetup) message, an RRC connection reconfiguration (RRCConnectionReconfiguration) message, and so on. Also, MAC signaling may be reported in, for example, MAC control elements (MAC CEs).” Takeda III at [0240]-[0241]; WO2019030929A1 at 19. To the extent it is found that Takeda III does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that Takeda III does not anticipate this claim, Takeda III renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine Takeda III with any of the other prior art references identified in the cover pleading or herein with a reasonable

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		expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.
2	The method according to claim 1, wherein the UL control channel resource sets are configured for each UL bandwidth part (BWP) configured for the UE.	At least under Pegasus's apparent infringement theory, Takeda III discloses "wherein the UL control channel resource sets are configured for each UL bandwidth part (BWP) configured for the UE." For example, Takeda III discloses this limitation based on the following exemplary citations: "Moreover, it is studied, for the future radio communication systems, to use one or a plurality of frequency bands (for example, bandwidth parts (BWPs)) in a carrier (also referred to as a "component carrier (CC)" or a "system band," and the like) for DL and/or UL communications (DL/UL communications). In a case that one or more frequency bands (for example, BWPs) to be used for DL/UL communications are configurable in a carrier as described above, it is desired to appropriately control activation and/or deactivation (activation/deactivation) of the frequency band in order to reduce processing load in the user terminal (for example, processing load due to blind decoding for each of the frequency bands)." Takeda III at [0007]-[0008]; WO2019030929A1 at 1. "FIGS. 1A and 1B are diagrams to show configuration examples of a BWP(s). As shown in FIG. 1A, one BWP may be configured per carrier for a user terminal. As shown in FIG. 1B, a plurality of BWPs (here, two BWPs # 1 and #2) may be configured per carrier for a user terminal. As shown in FIG. 1B, the plurality of BWPs configured for the user terminal may have different bandwidths. Moreover, the plurality of BWPs may at least partially overlap each other in frequency band. For example, in FIG. 1B, BWP #1 is a part of the frequency band of BWP # 2. The user terminal may control activation/deactivation of at least one BWP. Activation of a BWP is to be in a state where the BWP is available (or changes to the state where the BWP is available) and is also referred to as "activation," "enabling," and the like of a configuration information (configuration) of the BWP (BWP configuration information). Deactivation of a BWP is to be in a state where the BWP is unusable (or changes to the state where the BWP is unusable) and is also referred to as "deactivation," "disabling," and the like of a BWP configuration information."

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		Takeda III at [0030]-[0032]; WO2019030929A1 at 2. “Note that the BWP used in DL communication may be referred to as a “DL BWP (DL frequency band),” and the BWP used in UL communication may be referred to as a “UL BWP (UL frequency band).” The DL BWP and UL BWP may at least partially overlap each other in frequency band. Hereinafter, a DL BWP and a UL BWP are collectively referred to as a “BWP,” unless specified otherwise. At least one DL BWP (for example, a DL BWP included in a primary CC) configured for the user terminal includes a control resource region to be a candidate to which a DL control channel (DCI) is to be allocated. The control resource region may be referred to as a “control resource set (CORESET),” a “control subband,” a “search space set,” a “search space resource set,” a “control region,” a “control subband,” an “NR-PDCCH region,” and the like.” Takeda III at [0037]-[0038]; WO2019030929A1 at 2-3. “As described above, various methods for controlling activation/deactivation of at least one BWP when one or more BWPs to be used for DL/UL communications are configurable in a carrier are under study. However, it is desired to control activation/deactivation of the at least one BWP more simply and/or at higher processing efficiency.” Takeda III at [0042]; WO2019030929A1 at 3. “In a first aspect, a user terminal monitors (performs blind decoding on) a CORESET (first control resource region) configured in DL BWP #1 (first frequency band) in a carrier, in a certain cycle, to receive DCI. The user terminal controls activation or deactivation of DL BWP #2 (second frequency band) in the carrier, based on the DCI.” Takeda III at [0044]; WO2019030929A1 at 3. “FIG. 2 is a diagram to show an example of first activation control according to the first aspect. For example, in FIG. 2, it is assumed that two DL BWPs # 1 and #2 are configured in a carrier configured for the user terminal as shown in FIG. 1B. It is also assumed that DL BWP # 1 is a part of the frequency band of DL BWP # 2.

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		In FIG. 2, it is also assumed that CORESET # 1 is configured in DL BWP # 1 and CORESET # 2 is configured in DL BWP # 2. One or more search spaces are provided in each of CORESET # 1 and CORESET # 2. For example, in CORESET # 1, DCI for DL BWP # 1 and DCI for DL BWP # 2 may be mapped to different search spaces.” Takeda III at [0047]-[0048]; WO2019030929A1 at 3. “FIG. 3 is a diagram to show an example of the first fallback mechanism according to the first aspect. Note that, for FIG. 3, differences from FIG. 2 will be mainly described. FIG. 3 is different from FIG. 2 in that a CORESET (also referred to as a “BWP-common CORESET,” a “common CORESET,” or the like) common to one or more BWPs (here, DL BWPs # 1 and #2), and a CORESET (also referred to as a “BWP-specific CORESET,” a “specific CORESET,” or the like) specific to each BWP are provided. As shown in FIG. 3, the BWP-common CORESET is configured in the same frequency band (same one or more PRBs) in DL BWPs # 1 and #2. In contrast, a BWP-specific CORESET may be configured in a different bandwidth (different number of PRBs) and/or a different frequency band (one or more different PRBs) for each BWP.” Takeda III at [0060]-[0061]; WO2019030929A1 at 4. “In contrast, in each BWP-specific CORESET, DCI for each BWP may be transmitted. For example, in the CORESET specific to DL BWP # 1, DL assignment for scheduling a PDSCH in DL BWP # 1 may be transmitted. Moreover, in the CORESET specific to DL BWP # 2, DL assignment for scheduling a PDSCH in DL BWP # 2 may be transmitted.” Takeda III at [0065]; WO2019030929A1 at 5. “A BWP kept active is also referred to as an “active BWP,” a “primary BWP,” and the like. One or more BWPs for which activation or deactivation is controlled are also referred to as a “secondary BWP(s)” and the like. Note that, when a single BWP is configured in a carrier (for example, FIG. 1A), a primary BWP is configured, and no secondary BWP is configured.” Takeda III at [0071]; WO2019030929A1 at 5.

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		“In FIG. 4, CORESET # 1 may be configured in DL BWP # 1, while CORESET # 2 is configured in DL BWP # 2. A common search space and a UE-specific search space may be included in CORESET # 1. In contrast, a UE-specific search space may be included in CORESET # 2 with no common search space being included in CORESET # 2.” Takeda III at [0076]; WO2019030929A1 at 6. “In second activation control, the user terminal monitors a CORESET for each BWP configured in a DL BWP (for example, DL BWP #1) in a carrier, in a certain cycle. The user terminal may receive (detect) DCI for the corresponding BWP in each CORESET. The second activation control is different from the first activation control in that a plurality of CORESETs corresponding to a plurality of respective BWPs are configured in a particular DL BWP. In the following, differences from the first activation control will be mainly described. In the second activation control, in a case that one or more BWPs (one or more DL BWPs and/or one or more UL BWPs) are configured for the user terminal, one or more CORESETs corresponding to the one or more respective DL BWPs may be configured in at least one DL BWP.” Takeda III at [0082]-[0083]; WO2019030929A1 at 6. “In the above second activation control, a plurality of CORESETs corresponding to a plurality of respective BWPs configured for the user terminal are configured in a certain DL BWP, and hence CORESET (corresponding to CORESET # 2 in FIG. 5) resources can be used for PDSCH resources in a period where activation control is not performed.” Takeda III at [0090]; WO2019030929A1 at 7. “In a second aspect, a configuration and configuration information (BWP configuration information) of a BWP will be described. A maximum bandwidth of one or more BWPs (DL BWP(s) and/or a UL BWP(s)) configured for the user terminal may be determined based on a category of the user terminal reported from the user terminal. For example, in a case that the category reported from the user terminal indicates supporting of 100 MHz, the maximum bandwidth of at least one BWP configured for the user terminal may be 100 MHz.” Takeda III at [0110]-[0111]; WO2019030929A1 at 8.

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		“The BWP configuration information may include at least one of information indicating a numerology (for example, subcarrier spacing), information indicating a frequency position (for example, center frequency), information indicating a bandwidth (for example, the number of resource blocks (RB) (also referred to as “Physical RBs (PRBs)” and the like), information indicating time resources (for example, the number of symbols per slot (mini-slot), information indicating the number of MIMO layers, information related to Quasi-Co-Location, and the like. The user terminal may receive BWP configuration information through higher layer signaling (for example, RRC signaling, broadcast information (master information block (MIB)), system information block (SIB), or the like and/or MAC signaling). In a case that a plurality of BWPs are configured for the user terminal and a different slot type (for example, a different number of symbols and/or a different numerology, or the like) is used for each of the plurality of BWPs, cross-BWP scheduling, in which a particular BWP is used for scheduling of another BWP, need not necessarily be supported. In a case that the same slot type is used for the plurality of BWPs, the cross-BWP scheduling may be employed.” Takeda III at [0115]-[0117]; WO2019030929A1 at 8-9. “Only a single UL BWP may be configured or a plurality of UL BWPs may be configured for the user terminal. Activation or deactivation of each UL BWP may be controlled based on explicit or implicit indication information irrespective of activation or deactivation of one or more DL BWPs. For example, when detecting UL grant through monitoring of the CORESET of a DL BWP, the user terminal may activate a UL BWP. Activation or deactivation of a DL BWP may be controlled irrespective of whether UL grant is present or absent.” Takeda III at [0119]-[0120]; WO2019030929A1 at 9. “As illustrated in FIG. 8, the UL BWP may have a bandwidth (the number of PRBs) different from those of DL BWPs # 1 and #2. The UL BWP may be configured for at least part of DL BWPs # 1 and #2.” Takeda III at [0124]; WO2019030929A1 at 9.

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		“In a case that a plurality of UL BWPs are configured for the user terminal, transmission of the same UL signal may be possible or transmission of different UL signals may be possible among the plurality of UL BWPs. The UL signal(s) is, for example, at least one of a UL data channel (for example, a PUSCH), a UL control channel (for example, a PUCCH), a reference signal (for example, an Sounding Reference Signal (SRS) and/or a DMRS), and a random access channel (for example, a Physical Random Access Channel (PRACH)).” Takeda III at [0131]; WO2019030929A1 at 10. “In FIG. 10, it is possible that UL signals necessarily configured in UL BWPs are different from each other, and hence when a plurality of UL BWPs are configured for the user terminal, transmission of a UL signal in each UL BWP can be performed efficiently.” Takeda III at [0135]; WO2019030929A1 at 10. “The user terminal may control activation and/or deactivation of one or more UL BWPs configured for the user terminal, based on explicit or implicit indication information. The explicit indication information may be, for example, DCI (UL grant) or a MAC CE including a resource allocation field configured at a particular value (for example, 0).” Takeda III at [0136]; WO2019030929A1 at 10. To the extent it is found that Takeda III does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that Takeda III does not anticipate this claim, Takeda III renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine Takeda III with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.
3	The method according to claim 2, wherein the each UL BWP is	At least under Pegasus’s apparent infringement theory, Takeda III discloses “wherein the each UL BWP is activated through downlink (DL) control information.” For example, Takeda III discloses this limitation based on the following exemplary citations:

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	activated through downlink (DL) control information.	“To enable activation/deactivation of one or more frequency bands (for example, BWPs) configured in a carrier to be appropriately controlled. A user terminal of the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band.” Takeda III at Abstract; WO2019030929A1 at Abstract. “Moreover, it is studied, for the future radio communication systems, to use one or a plurality of frequency bands (for example, bandwidth parts (BWPs)) in a carrier (also referred to as a “component carrier (CC)” or a “system band,” and the like) for DL and/or UL communications (DL/UL communications). In a case that one or more frequency bands (for example, BWPs) to be used for DL/UL communications are configurable in a carrier as described above, it is desired to appropriately control activation and/or deactivation (activation/deactivation) of the frequency band in order to reduce processing load in the user terminal (for example, processing load due to blind decoding for each of the frequency bands).” Takeda III at [0007]-[0008]; WO2019030929A1 at 1. “An aspect of a user terminal according to the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band.” Takeda III at [0010]; WO2019030929A1 at 1. “According to the present invention, it is possible to appropriately control activation/deactivation of one or more frequency bands (for example, BWP(s)) configured in a carrier.” Takeda III at [0011]; WO2019030929A1 at 1.

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		“The user terminal may control activation/deactivation of at least one BWP. Activation of a BWP is to be in a state where the BWP is available (or changes to the state where the BWP is available) and is also referred to as “activation,” “enabling,” and the like of a configuration information (configuration) of the BWP (BWP configuration information). Deactivation of a BWP is to be in a state where the BWP is unusable (or changes to the state where the BWP is unusable) and is also referred to as “deactivation,” “disabling,” and the like of a BWP configuration information.” Takeda III at [0032]; WO2019030929A1 at 2. “Activation/deactivation of a BWP may be explicitly or implicitly performed through at least one of physical layer signaling (for example, DCI), Medium Access Control (MAC) signaling (for example, a MAC control element (MAC CE)), and RRC signaling. For example, it is studied to perform activation of a BWP through user-terminal-dedicated RRC signaling. Alternatively, it is studied that DCI explicitly or implicitly indicates activation or deactivation of the BWP. The DCI may be DCI (DL assignment and/or UL grant) to be used for scheduling of a data channel for the user terminal or may be a different kind of DCI (for example, DCI common to one or more user terminals (group DCI or common DCI)). In explicit indication, the DCI may include therein indication information indicating activation or deactivation. In implicit indication, the existence of DCI (for example, DL assignment and/or UL grant) itself may indicate activation or deactivation of the BWP.” Takeda III at [0034]-[0036]; WO2019030929A1 at 2. “In a first aspect, a user terminal monitors (performs blind decoding on) a CORESET (first control resource region) configured in DL BWP #1 (first frequency band) in a carrier, in a certain cycle, to receive DCI. The user terminal controls activation or deactivation of DL BWP #2 (second frequency band) in the carrier, based on the DCI.” Takeda III at [0044]; WO2019030929A1 at 3. “In first activation control, the user terminal may monitor a single CORESET configured in a DL BWP (for example, DL BWP #1) in the carrier, in a certain cycle, to receive (detect) DCI for the DL BWP and/or DCI for a different DL BWP(s) (for example, DL BWP #2) in the carrier.

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		The DCI for DL BWP # 2 is used for scheduling of a PDSCH (DL data channel) in a frequency resource in DL BWP # 2. The user terminal activates DL BWP # 2, based on the DCI for DL BWP # 2. Moreover, the user terminal controls reception of the PDSCH, based on the DCI, in activated DL BWP # 2. FIG. 2 is a diagram to show an example of first activation control according to the first aspect. For example, in FIG. 2, it is assumed that two DL BWPs # 1 and #2 are configured in a carrier configured for the user terminal as shown in FIG. 1B. It is also assumed that DL BWP # 1 is a part of the frequency band of DL BWP # 2. In FIG. 2, it is also assumed that CORESET # 1 is configured in DL BWP # 1 and CORESET # 2 is configured in DL BWP # 2. One or more search spaces are provided in each of CORESET # 1 and CORESET # 2. For example, in CORESET # 1, DCI for DL BWP # 1 and DCI for DL BWP # 2 may be mapped to different search spaces. In FIG. 2, when DL BWP # 1 is in an active state, the user terminal monitors (performs blind decoding on) the DCI for DL BWP # 1 and the DCI for DL BWP # 2 in CORESET # 1 in a certain cycle (for example, every one or more slots, every one or more mini-slots, or every certain number of symbols). When detecting the DCI for DL BWP # 1 in CORESET # 1, the user terminal receives a PDSCH scheduled in (mapped to) a certain time and/or frequency resource (time/frequency resource) of DL BWP # 1, based on the DCI for DL BWP # 1. In contrast, when detecting the DCI for DL BWP # 2 in CORESET # 1, the user terminal activates DL BWP # 2. The user terminal receives a PDSCH scheduled in a certain time/frequency resource of DL BWP # 2, based on the DCI for DL BWP # 2 detected in CORESET # 1. Note that, although the DCI for DL BWP # 1 and the DCI for DL BWP # 2 are detected at different timings in CORESET # 1 in FIG. 2, a plurality of pieces of DCI for the different BWPs may be detectable at the same timing. For example, a plurality of search spaces may be provided corresponding to a plurality of respective BWPs in CORESET # 1, to transmit a plurality of pieces of DCI for the different BWPs in the plurality of respective search spaces. The user terminal may monitor the plurality of search spaces in CORESET # 1 and detect the plurality of pieces of DCI for the different BWPs at the same timing.” Takeda III at [0045]-[0052]; WO2019030929A1 at 3-4.

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		“In contrast, in each BWP-specific CORESET, DCI for each BWP may be transmitted. For example, in the CORESET specific to DL BWP # 1, DL assignment for scheduling a PDSCH in DL BWP # 1 may be transmitted. Moreover, in the CORESET specific to DL BWP # 2, DL assignment for scheduling a PDSCH in DL BWP # 2 may be transmitted.” Takeda III at [0065]; WO2019030929A1 at 5. “The user terminal monitors the CORESET specific to the activated BWP in a certain cycle. For example, in FIG. 3, when DL BWP # 1 is activated, the user terminal monitors the CORESET specific to DL BWP # 1 in a certain cycle. The user terminal receives the PDSCH scheduled in DL BWP # 1, based on the DCI for DL BWP # 1 detected in the CORESET specific to DL BWP # 1.” Takeda III at [0067]; WO2019030929A1 at 5. “In the second fallback mechanism, a single BWP is kept active, while activation or deactivation of a different BWP(s) is controlled. A BWP kept active is also referred to as an “active BWP,” a “primary BWP,” and the like. One or more BWPs for which activation or deactivation is controlled are also referred to as a “secondary BWP(s)” and the like. Note that, when a single BWP is configured in a carrier (for example, FIG. 1A), a primary BWP is configured, and no secondary BWP is configured.” Takeda III at [0070]-[0071]; WO2019030929A1 at 5. “In second activation control, the user terminal monitors a CORESET for each BWP configured in a DL BWP (for example, DL BWP #1) in a carrier, in a certain cycle. The user terminal may receive (detect) DCI for the corresponding BWP in each CORESET. The second activation control is different from the first activation control in that a plurality of CORESETs corresponding to a plurality of respective BWPs are configured in a particular DL BWP. In the following, differences from the first activation control will be mainly described. In the second activation control, in a case that one or more BWPs (one or more DL BWPs and/or one or more UL BWPs) are configured for the user terminal, one or more CORESETs corresponding to the one or more respective DL BWPs may be configured in at least one DL BWP.” Takeda III at [0082]-[0083]; WO2019030929A1 at 6.

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		“In a third aspect, a description will be given of one or more UL BWPs for the user terminal and control of activation or deactivation of the one or more UL BWPs. Only a single UL BWP may be configured or a plurality of UL BWPs may be configured for the user terminal. Activation or deactivation of each UL BWP may be controlled based on explicit or implicit indication information irrespective of activation or deactivation of one or more DL BWPs. For example, when detecting UL grant through monitoring of the CORESET of a DL BWP, the user terminal may activate a UL BWP. Activation or deactivation of a DL BWP may be controlled irrespective of whether UL grant is present or absent.” Takeda III at [0118]-[0120]; WO2019030929A1 at 9. To the extent it is found that Takeda III does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that Takeda III does not anticipate this claim, Takeda III renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine Takeda III with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.
4[a]	The method according to claim 1, further comprising: receiving, from the base station, downlink (DL) control information containing information indicating the one of the UL control channel resources for the UL	At least under Pegasus’s apparent infringement theory, Takeda III discloses “receiving, from the base station, downlink (DL) control information containing information indicating the one of the UL control channel resources for the UL control information transmission.” For example, Takeda III discloses this limitation based on the following exemplary citations: “To enable activation/deactivation of one or more frequency bands (for example, BWPs) configured in a carrier to be appropriately controlled. A user terminal of the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band.”

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	control information transmission,	Takeda III at Abstract; WO2019030929A1 at Abstract. “For future radio communication systems (for example, NR), it is studied that a user terminal monitors (performs blind decoding for) control resource regions (for example, control resource sets (CORESETs)), each of which is a candidate region to which a DL control channel (for example, a Physical Downlink Control Channel (PDCCH)) is allocated, to receive (detect) DCI.” Takeda III at [0006]; WO2019030929A1 at 1. “An aspect of a user terminal according to the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band.” Takeda III at [0010]; WO2019030929A1 at 1. “At least one DL BWP (for example, a DL BWP included in a primary CC) configured for the user terminal includes a control resource region to be a candidate to which a DL control channel (DCI) is to be allocated. The control resource region may be referred to as a “control resource set (CORESET),” a “control subband,” a “search space set,” a “search space resource set,” a “control region,” a “control subband,” an “NR-PDCCH region,” and the like. The user terminal monitors one or more search spaces in the CORESET to detect DCI for the user terminal. The search space may include a common search space (CSS), to which common DCI (for example, group DCI or common DCI) common to one or more user terminals is allocated, and/or a user-terminal (UE) specific search space (USS (UE-specific Search space)) to which user-terminal-specific DCI (for example, DL assignment and/or UL grant) is allocated. The user terminal may receive configuration information of the CORESET (CORESET configuration information) through higher layer signaling (for example, RRC signaling or SIB). The CORESET configuration information may indicate at least one of frequency resources (for example, the number of RBs), time resources (for example, a starting OFDM symbol number), a time length (duration), an Resource Element Group (REG) bundle size (REG size), a transmission

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		type (for example, interleave, non-interleave), a cycle (for example, a monitor cycle per CORESET), and the like of each CORESET.” Takeda III at [0038]-[0040]; WO2019030929A1 at 3. “In a first aspect, a user terminal monitors (performs blind decoding on) a CORESET (first control resource region) configured in DL BWP #1 (first frequency band) in a carrier, in a certain cycle, to receive DCI. The user terminal controls activation or deactivation of DL BWP #2 (second frequency band) in the carrier, based on the DCI.” Takeda III at [0044]; WO2019030929A1 at 3. “In first activation control, the user terminal may monitor a single CORESET configured in a DL BWP (for example, DL BWP #1) in the carrier, in a certain cycle, to receive (detect) DCI for the DL BWP and/or DCI for a different DL BWP(s) (for example, DL BWP #2) in the carrier. The DCI for DL BWP # 2 is used for scheduling of a PDSCH (DL data channel) in a frequency resource in DL BWP # 2. The user terminal activates DL BWP # 2, based on the DCI for DL BWP # 2. Moreover, the user terminal controls reception of the PDSCH, based on the DCI, in activated DL BWP # 2. FIG. 2 is a diagram to show an example of first activation control according to the first aspect. For example, in FIG. 2, it is assumed that two DL BWPs # 1 and #2 are configured in a carrier configured for the user terminal as shown in FIG. 1B. It is also assumed that DL BWP # 1 is a part of the frequency band of DL BWP # 2. In FIG. 2, it is also assumed that CORESET # 1 is configured in DL BWP # 1 and CORESET # 2 is configured in DL BWP # 2. One or more search spaces are provided in each of CORESET # 1 and CORESET # 2. For example, in CORESET # 1, DCI for DL BWP # 1 and DCI for DL BWP # 2 may be mapped to different search spaces. In FIG. 2, when DL BWP # 1 is in an active state, the user terminal monitors (performs blind decoding on) the DCI for DL BWP # 1 and the DCI for DL BWP # 2 in CORESET # 1 in a certain cycle (for example, every one or more slots, every one or more mini-slots, or every certain number of symbols).

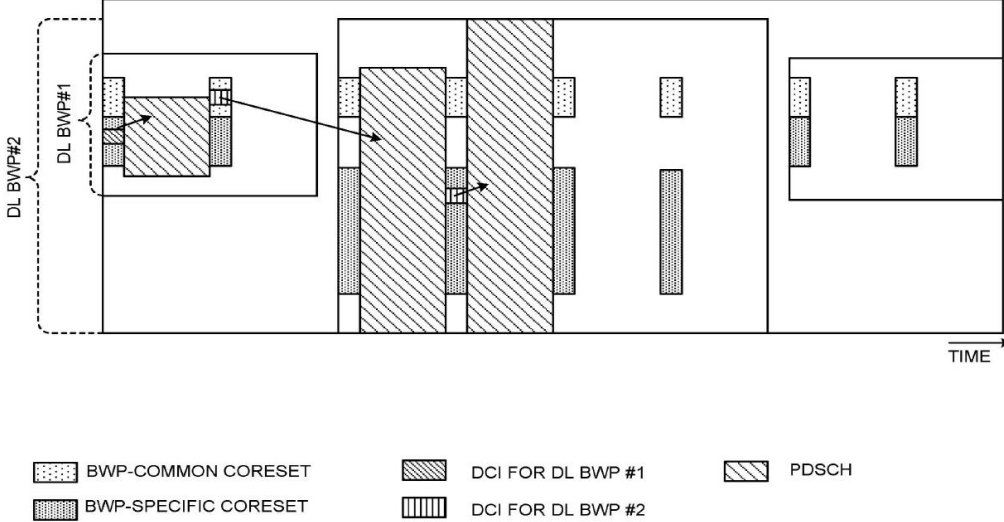
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		When detecting the DCI for DL BWP # 1 in CORESET # 1, the user terminal receives a PDSCH scheduled in (mapped to) a certain time and/or frequency resource (time/frequency resource) of DL BWP # 1, based on the DCI for DL BWP # 1. In contrast, when detecting the DCI for DL BWP # 2 in CORESET # 1, the user terminal activates DL BWP # 2. The user terminal receives a PDSCH scheduled in a certain time/frequency resource of DL BWP # 2, based on the DCI for DL BWP # 2 detected in CORESET # 1.” Takeda III at [0045]-[0051]; WO2019030929A1 at 3-4. “In the BWP-common CORESET, explicit or implicit indication information for activation of a different BWP (here, DL BWP #2) may be transmitted. For example, in the BWP-common CORESET in FIG. 3, the DCI (DL assignment) for DL BWP # 2 for scheduling a PDSCH in DL BWP # 2 is transmitted as implicit indication information.” Takeda III at [0063]; WO2019030929A1 at 5. “In contrast, in each BWP-specific CORESET, DCI for each BWP may be transmitted. For example, in the CORESET specific to DL BWP # 1, DL assignment for scheduling a PDSCH in DL BWP # 1 may be transmitted. Moreover, in the CORESET specific to DL BWP # 2, DL assignment for scheduling a PDSCH in DL BWP # 2 may be transmitted. In FIG. 3, irrespective of which BWP is activated, the user terminal monitors the BWP-common CORESET in a certain cycle (for example, every one or more slots, every one or more mini-slots, or every certain number of symbols). For example, in FIG. 3, the user terminal activates DL BWP # 2 and deactivates DL BWP # 1, based on the DCI for DL BWP # 2 detected in the BWP-common CORESET. The user terminal receives the PDSCH scheduled in DL BWP # 2, based on the DCI for DL BWP # 2.” Takeda III at [0065]-[0066]; WO2019030929A1 at 5. “In FIG. 4, CORESET # 1 may be configured in DL BWP # 1, while CORESET # 2 is configured in DL BWP # 2. A common search space and a UE-specific search space may be included in CORESET # 1. In contrast, a UE-specific search space may be included in CORESET # 2 with no common search space being included in CORESET # 2.

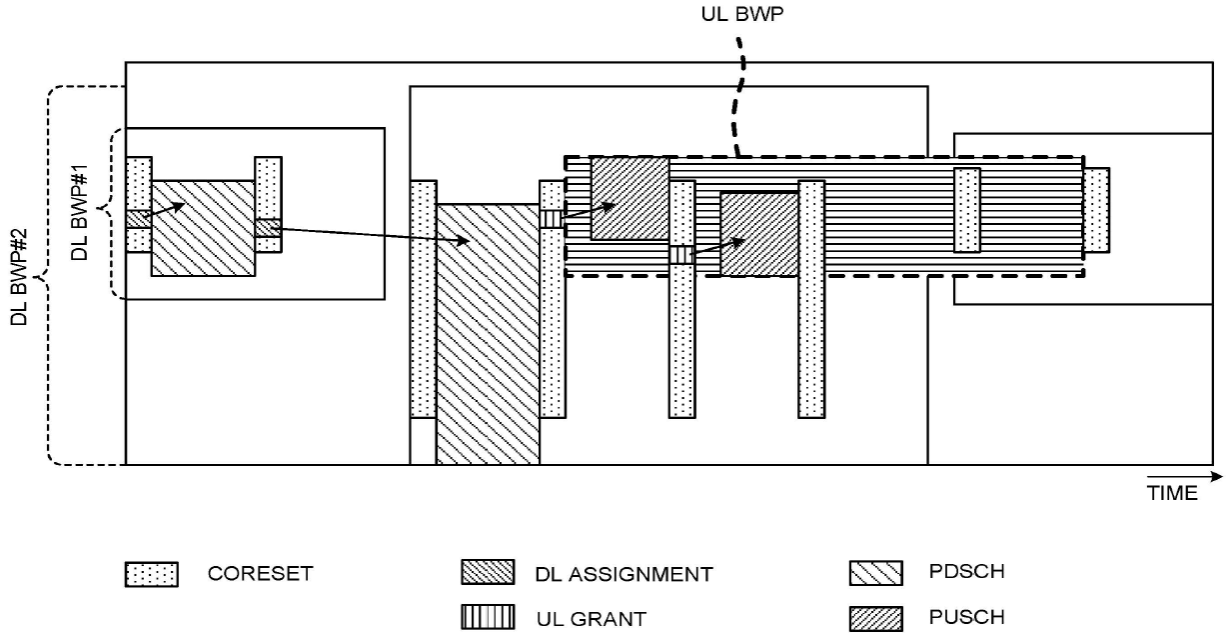
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		In FIG. 4, the user terminal activates DL BWP # 2, based on DCI (DL assignment) for DL BWP # 2 detected in the common search space in CORESET # 1. The user terminal receives the PDSCH scheduled in DL BWP # 2, based on the DCI for DL BWP # 2. The user terminal receives a PDSCH scheduled in DL BWP # 1, based on the DCI (DL assignment) for DL BWP # 1 detected in the UE-specific search space in CORESET # 1. When DL BWP # 2 is activated, the user terminal monitors the UE-specific search space in CORESET # 2 in a certain cycle. The user terminal receives a PDSCH scheduled in DL BWP # 2, based on DCI (DL assignment) for DL BWP # 2 detected in the UE-specific search space.” Takeda III at [0076]-[0079]; WO2019030929A1 at 6. “In second activation control, the user terminal monitors a CORESET for each BWP configured in a DL BWP (for example, DL BWP #1) in a carrier, in a certain cycle. The user terminal may receive (detect) DCI for the corresponding BWP in each CORESET. The second activation control is different from the first activation control in that a plurality of CORESETs corresponding to a plurality of respective BWPs are configured in a particular DL BWP. In the following, differences from the first activation control will be mainly described. In the second activation control, in a case that one or more BWPs (one or more DL BWPs and/or one or more UL BWPs) are configured for the user terminal, one or more CORESETs corresponding to the one or more respective DL BWPs may be configured in at least one DL BWP.” Takeda III at [0082]-[0083]; WO2019030929A1 at 6. “The user terminal receives a PDSCH scheduled in DL BWP # 1, based on the DCI for DL BWP # 1 detected in CORESET # 1 in DL BWP # 1. When detecting the DCI for DL BWP # 2 in CORESET # 2 in DL BWP # 1, the user terminal activates DL BWP # 2 and deactivates DL BWP # 1. The user terminal receives a PDSCH scheduled in DL BWP # 2, based on the DCI for DL BWP # 2 detected in CORESET # 2 in DL BWP # 1.” Takeda III at [0086]-[0087]; WO2019030929A1 at 6. “The DCI for activation indicates activation of the different DL BWP. For example, the DCI may be DCI for scheduling (DL assignment or UL grant) or may be DCI of a dedicated format. In a case

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		that the DCI is DCI for scheduling, a particular value (for example, 0) may be configured in the resource allocation field in the DCI. An index (BWP index) of a BWP to be activated may be included in the DCI for activation.” Takeda III at [0092]; WO2019030929A1 at 7. “When the DCI for activation is successfully detected, the user terminal may transmit Acknowledge (ACK) to the radio base station. For example, the user terminal may transmit the ACK by using a UL control channel (for example, a PUCCH) or a UL data channel (for example, PUSCH) of a UL BWP. After receipt of the ACK from the user terminal, the radio base station may start scheduling of a PDSCH in DL BWP # 2.” Takeda III at [0096]; WO2019030929A1 at 7. “For example, in FIG. 8, the user terminal monitors a CORESET configured in an activated DL BWP, in a certain cycle. The user terminal activates a UL BWP, based on UL grant detected in the CORESET. The user terminal transmits a PUSCH scheduled in a UL BWP, based on the UL grant.” Takeda III at [0123]-[0124]; WO2019030929A1 at 9. “As illustrated in FIG. 9, in a case that the plurality of UL BWPs are configured for the user terminal, an index (BWP index) of the UL BWP in which a PUSCH is scheduled may be included in UL grant. The user terminal may control activation of the UL BWPs, based on the BWP index included in the UL grant.” Takeda III at [0128]; WO2019030929A1 at 9. “In a case that a plurality of UL BWPs are configured for the user terminal, transmission of the same UL signal may be possible or transmission of different UL signals may be possible among the plurality of UL BWPs. The UL signal(s) is, for example, at least one of a UL data channel (for example, a PUSCH), a UL control channel (for example, a PUCCH), a reference signal (for example, an Sounding Reference Signal (SRS) and/or a DMRS), and a random access channel (for example, a Physical Random Access Channel (PRACH)).

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		FIG. 10 is a diagram to show an example of transmission of a UL signal in each UL BWP according to the third aspect. In FIG. 10, it is assumed that UL BWP # 1 and UL BWP # 2 having a greater bandwidth than that of UL BWP # 1 are configured for the user terminal. As illustrated in FIG. 10, configuration information of a PRACH and/or a PUCCH is included in UL BWP # 1. At the same time, configuration information of at least one of a PUSCH, an SRS, and a DMRS need not necessarily be included or may be included in UL BWP # 1. Configuration information of at least one of a PUSCH, an SRS, and a DRMS is included in UL BWP # 2. At the same time, configuration information of a PRACH and/or a PUCCH need not necessarily be included or may be included in UL BWP # 2. As described above, UL signals necessarily configured in UL BWPs may be different from each other, and UL signals which the user terminal can transmit in respective UL BWPs may be different from each other. For example, in FIG. 10, the user terminal may control transmission of a PRACH and/or a PUCCH in UL BWP # 1 while controlling transmission of at least one of a PUSCH, an SRS, and a DMRS in UL BWP # 2. In FIG. 10, it is possible that UL signals necessarily configured in UL BWPs are different from each other, and hence when a plurality of UL BWPs are configured for the user terminal, transmission of a UL signal in each UL BWP can be performed efficiently.” Takeda III at [0131]-[0135]; WO2019030929A1 at 10. “FIG. 11 is a diagram to show an example of activation/deactivation control for a UL BWP according to the third aspect. In FIG. 11, the user terminal may activate UL BWP # 2, based on DCI (for example, UL grant allocating a PUSCH in UL BWP # 2 or DCI for activation (for example, UL grant with a resource allocation field being configured at a particular value)), a MAC CE, a RAR, or message 4. In this case, the user terminal may deactivate UL BWP # 1.” Takeda III at [0139]; WO2019030929A1 at 10.

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		FIG. 2 Takeda III at Fig. 2; WO2019030929A1 at Fig. 2.

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		 FIG. 3 Takeda III at Fig. 3; WO2019030929A1 at Fig. 3.

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		 The diagram illustrates a timing diagram for a wireless communication system. It shows two Downlink Bandwidth Parts (DL BWP#1 and DL BWP#2) and one Uplink Bandwidth Part (UL BWP). DL BWP#1 is shown as a dashed box containing a CORESET (dotted pattern) and a DL ASSIGNMENT (diagonal lines). DL BWP#2 is shown as a dashed box containing a CORESET (dotted pattern) and a DL ASSIGNMENT (diagonal lines). The UL BWP is shown as a dashed box containing a UL GRANT (vertical lines) and a PUSCH (diagonal lines). The diagram also shows PDSCH (diagonal lines) and PUSCH (diagonal lines) transmissions. A legend at the bottom identifies the patterns: CORESET (dotted), DL ASSIGNMENT (diagonal), UL GRANT (vertical), PDSCH (diagonal), and PUSCH (diagonal). The x-axis is labeled TIME. FIG. 8 Takeda III at Fig. 8; WO2019030929A1 at Fig. 8.

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		The diagram illustrates a timing diagram for a wireless communication system. It shows two Downlink Bandwidth Parts (DL BWP#1 and DL BWP#2) and two Uplink Bandwidth Parts (UL BWP#1 and UL BWP#2) over time. DL BWP#1 is active during the first two time slots, while DL BWP#2 is active during the last two. UL BWP#1 is active during the first two time slots, and UL BWP#2 is active during the last two. The diagram also shows the timing of CORESET (Control Region Set), DL ASSIGNMENT (Downlink Assignment), PDSCH (Physical Downlink Shared Channel), UL GRANT (Uplink Grant), and PUSCH (Physical Uplink Shared Channel). The legend indicates that CORESET is represented by a dotted pattern, DL ASSIGNMENT by a diagonal line pattern, PDSCH by a horizontal line pattern, UL GRANT by a vertical line pattern, and PUSCH by a diagonal line pattern. The x-axis is labeled 'TIME'. FIG. 9 Takeda III at Fig. 9; WO2019030929A1 at Fig. 9.

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4[b]	wherein the one of the UL control channel resources is indicated from the base station through the DL control information.	At least under Pegasus’s apparent infringement theory, Takeda III discloses “wherein the one of the UL control channel resources is indicated from the base station through the DL control information.” For example, Takeda III discloses this limitation based on the following exemplary citations: “To enable activation/deactivation of one or more frequency bands (for example, BWPs) configured in a carrier to be appropriately controlled. A user terminal of the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band.” Takeda III at Abstract; WO2019030929A1 at Abstract. “For future radio communication systems (for example, NR), it is studied that a user terminal monitors (performs blind decoding for) control resource regions (for example, control resource sets (CORESETs)), each of which is a candidate region to which a DL control channel (for example, a Physical Downlink Control Channel (PDCCH)) is allocated, to receive (detect) DCI.” Takeda III at [0006]; WO2019030929A1 at 1. “An aspect of a user terminal according to the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band.” Takeda III at [0010]; WO2019030929A1 at 1. “At least one DL BWP (for example, a DL BWP included in a primary CC) configured for the user terminal includes a control resource region to be a candidate to which a DL control channel (DCI) is to be allocated. The control resource region may be referred to as a “control resource set (CORESET),” a “control subband,” a “search space set,” a “search space resource set,” a “control region,” a “control subband,” an “NR-PDCCH region,” and the like.

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Claim Language		Exemplary Citations to Takeda III
		The user terminal monitors one or more search spaces in the CORESET to detect DCI for the user terminal. The search space may include a common search space (CSS), to which common DCI (for example, group DCI or common DCI) common to one or more user terminals is allocated, and/or a user-terminal (UE) specific search space (USS (UE-specific Search space)) to which user-terminal-specific DCI (for example, DL assignment and/or UL grant) is allocated. The user terminal may receive configuration information of the CORESET (CORESET configuration information) through higher layer signaling (for example, RRC signaling or SIB). The CORESET configuration information may indicate at least one of frequency resources (for example, the number of RBs), time resources (for example, a starting OFDM symbol number), a time length (duration), an Resource Element Group (REG) bundle size (REG size), a transmission type (for example, interleave, non-interleave), a cycle (for example, a monitor cycle per CORESET), and the like of each CORESET.” Takeda III at [0038]-[0040]; WO2019030929A1 at 3. “In a first aspect, a user terminal monitors (performs blind decoding on) a CORESET (first control resource region) configured in DL BWP #1 (first frequency band) in a carrier, in a certain cycle, to receive DCI. The user terminal controls activation or deactivation of DL BWP #2 (second frequency band) in the carrier, based on the DCI.” Takeda III at [0044]; WO2019030929A1 at 3. “In first activation control, the user terminal may monitor a single CORESET configured in a DL BWP (for example, DL BWP #1) in the carrier, in a certain cycle, to receive (detect) DCI for the DL BWP and/or DCI for a different DL BWP(s) (for example, DL BWP #2) in the carrier. The DCI for DL BWP # 2 is used for scheduling of a PDSCH (DL data channel) in a frequency resource in DL BWP # 2. The user terminal activates DL BWP # 2, based on the DCI for DL BWP # 2. Moreover, the user terminal controls reception of the PDSCH, based on the DCI, in activated DL BWP # 2. FIG. 2 is a diagram to show an example of first activation control according to the first aspect. For example, in FIG. 2, it is assumed that two DL BWPs # 1 and #2 are configured in a carrier configured for the user terminal as shown in FIG. 1B. It is also assumed that DL BWP # 1 is a part of the frequency band of DL BWP # 2.

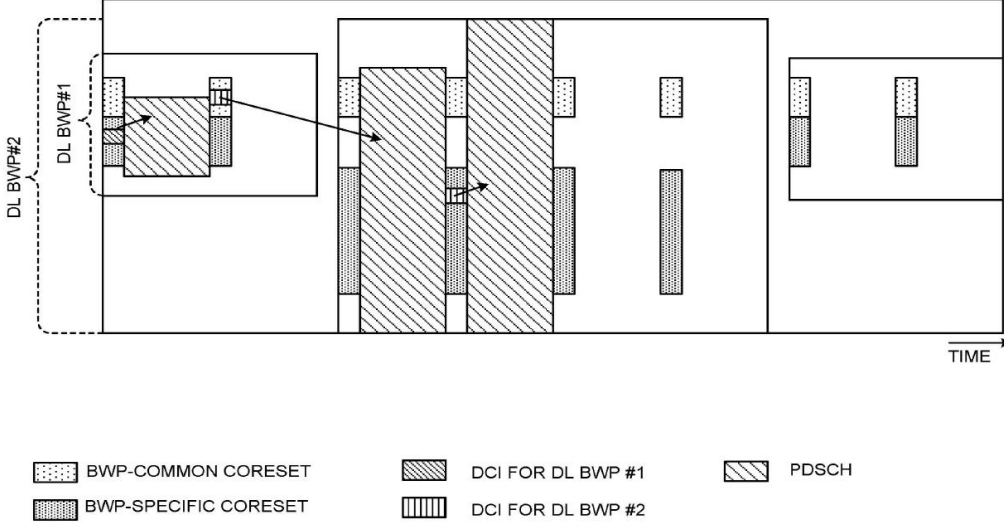
Invalidity of U.S. Patent 11,219,000 in view of Takeda III		
Claim Language		Exemplary Citations to Takeda III
		In FIG. 2, it is also assumed that CORESET # 1 is configured in DL BWP # 1 and CORESET # 2 is configured in DL BWP # 2. One or more search spaces are provided in each of CORESET # 1 and CORESET # 2. For example, in CORESET # 1, DCI for DL BWP # 1 and DCI for DL BWP # 2 may be mapped to different search spaces. In FIG. 2, when DL BWP # 1 is in an active state, the user terminal monitors (performs blind decoding on) the DCI for DL BWP # 1 and the DCI for DL BWP # 2 in CORESET # 1 in a certain cycle (for example, every one or more slots, every one or more mini-slots, or every certain number of symbols). When detecting the DCI for DL BWP # 1 in CORESET # 1, the user terminal receives a PDSCH scheduled in (mapped to) a certain time and/or frequency resource (time/frequency resource) of DL BWP # 1, based on the DCI for DL BWP # 1. In contrast, when detecting the DCI for DL BWP # 2 in CORESET # 1, the user terminal activates DL BWP # 2. The user terminal receives a PDSCH scheduled in a certain time/frequency resource of DL BWP # 2, based on the DCI for DL BWP # 2 detected in CORESET # 1.” Takeda III at [0045]-[0051]; WO2019030929A1 at 3-4. “In the BWP-common CORESET, explicit or implicit indication information for activation of a different BWP (here, DL BWP #2) may be transmitted. For example, in the BWP-common CORESET in FIG. 3, the DCI (DL assignment) for DL BWP # 2 for scheduling a PDSCH in DL BWP # 2 is transmitted as implicit indication information.” Takeda III at [0063]; WO2019030929A1 at 5. “In contrast, in each BWP-specific CORESET, DCI for each BWP may be transmitted. For example, in the CORESET specific to DL BWP # 1, DL assignment for scheduling a PDSCH in DL BWP # 1 may be transmitted. Moreover, in the CORESET specific to DL BWP # 2, DL assignment for scheduling a PDSCH in DL BWP # 2 may be transmitted. In FIG. 3, irrespective of which BWP is activated, the user terminal monitors the BWP-common CORESET in a certain cycle (for example, every one or more slots, every one or more mini-slots, or every certain number of symbols). For example, in FIG. 3, the user terminal activates DL BWP # 2 and deactivates DL BWP # 1, based on the DCI for DL BWP # 2 detected in the BWP-common

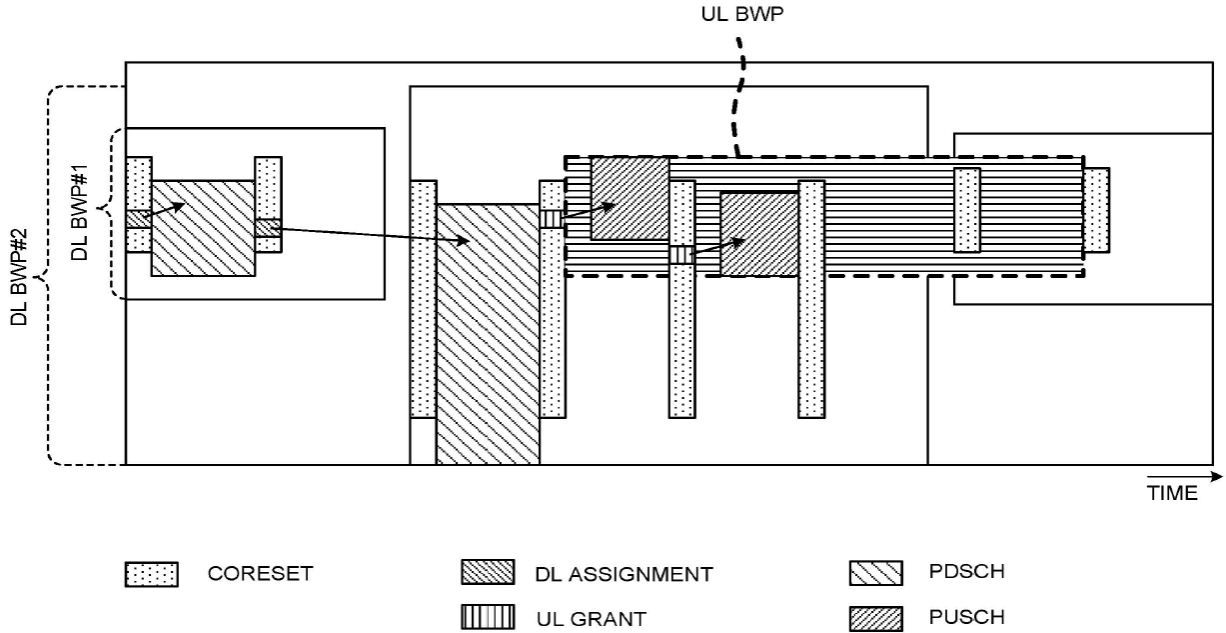
Invalidity of U.S. Patent 11,219,000 in view of Takeda III		
Claim Language		Exemplary Citations to Takeda III
		CORESET. The user terminal receives the PDSCH scheduled in DL BWP # 2, based on the DCI for DL BWP # 2.” Takeda III at [0065]-[0066]; WO2019030929A1 at 5. “In FIG. 4, CORESET # 1 may be configured in DL BWP # 1, while CORESET # 2 is configured in DL BWP # 2. A common search space and a UE-specific search space may be included in CORESET # 1. In contrast, a UE-specific search space may be included in CORESET # 2 with no common search space being included in CORESET # 2. In FIG. 4, the user terminal activates DL BWP # 2, based on DCI (DL assignment) for DL BWP # 2 detected in the common search space in CORESET # 1. The user terminal receives the PDSCH scheduled in DL BWP # 2, based on the DCI for DL BWP # 2. The user terminal receives a PDSCH scheduled in DL BWP # 1, based on the DCI (DL assignment) for DL BWP # 1 detected in the UE-specific search space in CORESET # 1. When DL BWP # 2 is activated, the user terminal monitors the UE-specific search space in CORESET # 2 in a certain cycle. The user terminal receives a PDSCH scheduled in DL BWP # 2, based on DCI (DL assignment) for DL BWP # 2 detected in the UE-specific search space.” Takeda III at [0076]-[0079]; WO2019030929A1 at 6. “In second activation control, the user terminal monitors a CORESET for each BWP configured in a DL BWP (for example, DL DL BWP #1) in a carrier, in a certain cycle. The user terminal may receive (detect) DCI for the corresponding BWP in each CORESET. The second activation control is different from the first activation control in that a plurality of CORESETs corresponding to a plurality of respective BWPs are configured in a particular DL BWP. In the following, differences from the first activation control will be mainly described. In the second activation control, in a case that one or more BWPs (one or more DL BWPs and/or one or more UL BWPs) are configured for the user terminal, one or more CORESETs corresponding to the one or more respective DL BWPs may be configured in at least one DL BWP.” Takeda III at [0082]-[0083]; WO2019030929A1 at 6. “The user terminal receives a PDSCH scheduled in DL BWP # 1, based on the DCI for DL BWP # 1 detected in CORESET # 1 in DL BWP # 1.

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Claim Language		Exemplary Citations to Takeda III
		When detecting the DCI for DL BWP # 2 in CORESET # 2 in DL BWP # 1, the user terminal activates DL BWP # 2 and deactivates DL BWP # 1. The user terminal receives a PDSCH scheduled in DL BWP # 2, based on the DCI for DL BWP # 2 detected in CORESET # 2 in DL BWP # 1.” Takeda III at [0086]-[0087]; WO2019030929A1 at 6. “The DCI for activation indicates activation of the different DL BWP. For example, the DCI may be DCI for scheduling (DL assignment or UL grant) or may be DCI of a dedicated format. In a case that the DCI is DCI for scheduling, a particular value (for example, 0) may be configured in the resource allocation field in the DCI. An index (BWP index) of a BWP to be activated may be included in the DCI for activation.” Takeda III at [0092]; WO2019030929A1 at 7. “When the DCI for activation is successfully detected, the user terminal may transmit Acknowledge (ACK) to the radio base station. For example, the user terminal may transmit the ACK by using a UL control channel (for example, a PUCCH) or a UL data channel (for example, PUSCH) of a UL BWP. After receipt of the ACK from the user terminal, the radio base station may start scheduling of a PDSCH in DL BWP # 2.” Takeda III at [0096]; WO2019030929A1 at 7. “For example, in FIG. 8, the user terminal monitors a CORESET configured in an activated DL BWP, in a certain cycle. The user terminal activates a UL BWP, based on UL grant detected in the CORESET. The user terminal transmits a PUSCH scheduled in a UL BWP, based on the UL grant.” Takeda III at [0123]-[0124]; WO2019030929A1 at 9. “As illustrated in FIG. 9, in a case that the plurality of UL BWPs are configured for the user terminal, an index (BWP index) of the UL BWP in which a PUSCH is scheduled may be included in UL grant. The user terminal may control activation of the UL BWPs, based on the BWP index included in the UL grant.” Takeda III at [0128]; WO2019030929A1 at 9.

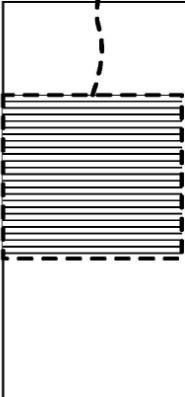
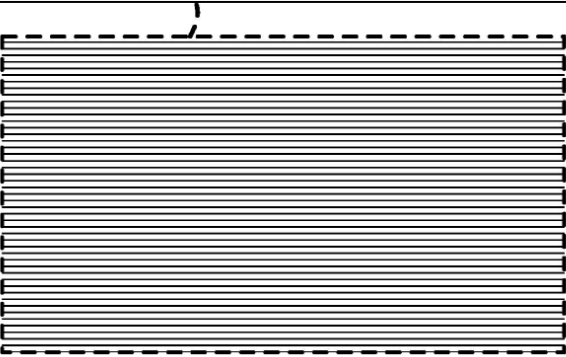
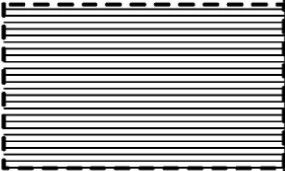
Invalidity of U.S. Patent 11,219,000 in view of Takeda III		
Claim Language		Exemplary Citations to Takeda III
		“In a case that a plurality of UL BWPs are configured for the user terminal, transmission of the same UL signal may be possible or transmission of different UL signals may be possible among the plurality of UL BWPs. The UL signal(s) is, for example, at least one of a UL data channel (for example, a PUSCH), a UL control channel (for example, a PUCCH), a reference signal (for example, an Sounding Reference Signal (SRS) and/or a DMRS), and a random access channel (for example, a Physical Random Access Channel (PRACH)). FIG. 10 is a diagram to show an example of transmission of a UL signal in each UL BWP according to the third aspect. In FIG. 10, it is assumed that UL BWP # 1 and UL BWP # 2 having a greater bandwidth than that of UL BWP # 1 are configured for the user terminal. As illustrated in FIG. 10, configuration information of a PRACH and/or a PUCCH is included in UL BWP # 1. At the same time, configuration information of at least one of a PUSCH, an SRS, and a DMRS need not necessarily be included or may be included in UL BWP # 1. Configuration information of at least one of a PUSCH, an SRS, and a DRMS is included in UL BWP # 2. At the same time, configuration information of a PRACH and/or a PUCCH need not necessarily be included or may be included in UL BWP # 2. As described above, UL signals necessarily configured in UL BWPs may be different from each other, and UL signals which the user terminal can transmit in respective UL BWPs may be different from each other. For example, in FIG. 10, the user terminal may control transmission of a PRACH and/or a PUCCH in UL BWP # 1 while controlling transmission of at least one of a PUSCH, an SRS, and a DMRS in UL BWP # 2. In FIG. 10, it is possible that UL signals necessarily configured in UL BWPs are different from each other, and hence when a plurality of UL BWPs are configured for the user terminal, transmission of a UL signal in each UL BWP can be performed efficiently.” Takeda III at [0131]-[0135]; WO2019030929A1 at 10. “FIG. 11 is a diagram to show an example of activation/deactivation control for a UL BWP according to the third aspect. In FIG. 11, the user terminal may activate UL BWP # 2, based on DCI (for example, UL grant allocating a PUSCH in UL BWP # 2 or DCI for activation (for example, UL grant with a resource allocation field being configured at a particular value)), a MAC CE, a RAR, or message 4. In this case, the user terminal may deactivate UL BWP # 1.” Takeda III at [0139]; WO2019030929A1 at 10.

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Claim Language		Exemplary Citations to Takeda III
		FIG. 2 Takeda III at Fig. 2; WO2019030929A1 at Fig. 2.

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Claim Language		Exemplary Citations to Takeda III
		 FIG. 3 Takeda III at Fig. 3; WO2019030929A1 at Fig. 3.

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Claim Language		Exemplary Citations to Takeda III
		 The diagram illustrates a timing diagram for a wireless communication system. It shows two Downlink Bandwidth Parts (DL BWP#1 and DL BWP#2) and one Uplink Bandwidth Part (UL BWP). DL BWP#1 is shown as a dashed box containing a CORESET (dotted pattern) and a DL ASSIGNMENT (diagonal lines). DL BWP#2 is shown as a dashed box containing a CORESET (dotted pattern) and a DL ASSIGNMENT (diagonal lines). The UL BWP is shown as a dashed box containing a UL GRANT (vertical lines) and a PUSCH (diagonal lines). The diagram also shows PDSCH (diagonal lines) and PUSCH (diagonal lines) transmissions. A legend at the bottom identifies the patterns: CORESET (dotted), DL ASSIGNMENT (diagonal lines), UL GRANT (vertical lines), PDSCH (diagonal lines), and PUSCH (diagonal lines). The x-axis is labeled TIME. FIG. 8 Takeda III at Fig. 8; WO2019030929A1 at Fig. 8.

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Claim Language		Exemplary Citations to Takeda III
		The diagram illustrates a timing structure for a wireless communication system. It shows a sequence of events over time, with a horizontal axis labeled 'TIME'. The events are represented by colored blocks: CORESET (yellow), DL ASSIGNMENT (blue), PDSCH (green), UL GRANT (red), and PUSCH (purple). The diagram is divided into two main sections: DL BWP#1 and UL BWP#2. DL BWP#1 contains a CORESET, a DL ASSIGNMENT, and a PDSCH. UL BWP#2 contains a UL GRANT and a PUSCH. The diagram also shows a transition from DL BWP#1 to UL BWP#2 and back to DL BWP#1. The legend below the diagram identifies the colors: CORESET (yellow), DL ASSIGNMENT (blue), PDSCH (green), UL GRANT (red), and PUSCH (purple). FIG. 9 Takeda III at Fig. 9; WO2019030929A1 at Fig. 9.

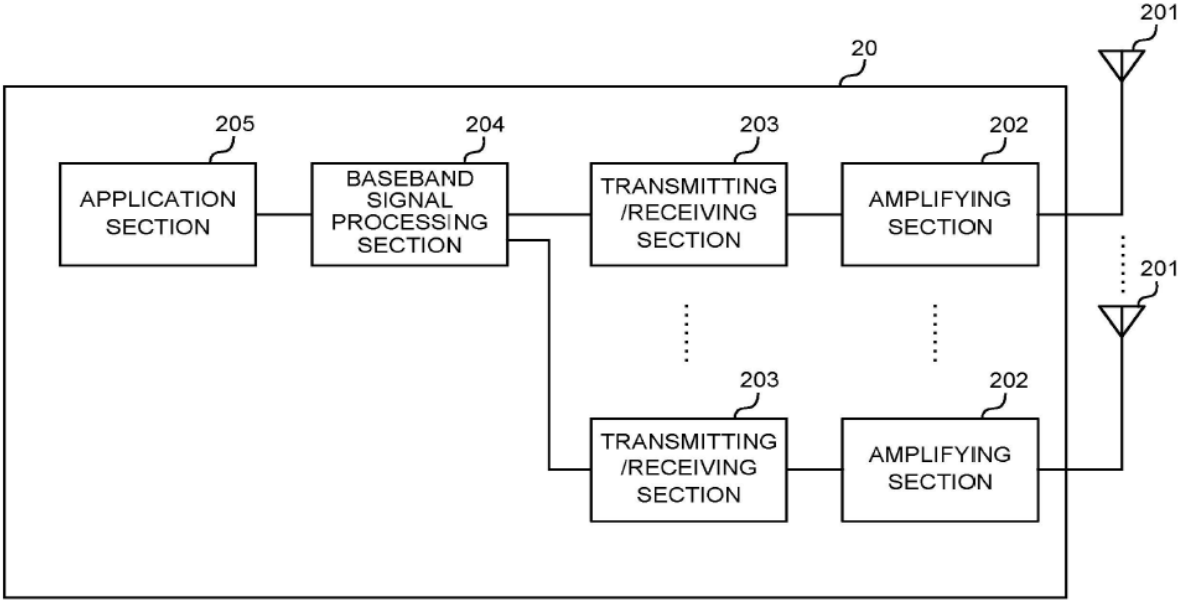
Invalidity of U.S. Patent 11,219,000 in view of Takeda III		
Claim Language		Exemplary Citations to Takeda III
		UL BWP#1 (PRACH,PUCCH)  UL BWP#2 (PUSCH,SRS,DMRS)   TIME → FIG. 10 Takeda III at Fig. 10; WO2019030929A1 at Fig. 10. To the extent it is found that Takeda III does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that Takeda III does not anticipate this claim, Takeda III renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine Takeda III with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.

2. Claim 5

Invalidity of U.S. Patent 11,219,000 in view of Takeda III		
Claim Language		Exemplary Citations to Takeda III
5[pre]	A method of receiving uplink (UL) control information by a base station, the method comprising:	To the extent the preamble is limiting, at least under Pegasus’s apparent infringement theory, Takeda III discloses “A method of receiving uplink (UL) control information by a base station, the method comprising.” For example, Takeda III discloses this limitation based on the following exemplary citations: “To enable activation/deactivation of one or more frequency bands (for example, BWPs) configured in a carrier to be appropriately controlled. A user terminal of the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band.” Takeda III at Abstract; WO2019030929A1 at Abstract. “A user terminal (User Equipment (UE)) controls reception of a DL data channel (also referred to as, for example, a “Physical Downlink Shared Channel (PDSCH),” a “DL shared channel,” and the like), based on downlink control information (DCI) (also referred to as “DL assignment” and the like) from a radio base station (for example, eNodeB (eNB)). Moreover, the user terminal controls transmission of a UL data channel (for example, a PUSCH (also referred to as Physical Uplink Shared Channel), a “UL shared channel” and the like), based on DCI (also referred to as “UL grant” and the like) from the radio base station.” Takeda III at [0004]; WO2019030929A1 at 1. “An aspect of a user terminal according to the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band.” Takeda III at [0010]; WO2019030929A1 at 1.

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Claim Language		Exemplary Citations to Takeda III
		TO HIGHER STATION APPARATUS 30 OR TO OTHER RADIO BASE STATIONS 10 FIG. 13 Takeda III at Fig. 13; WO2019030929A1 at Fig. 13.

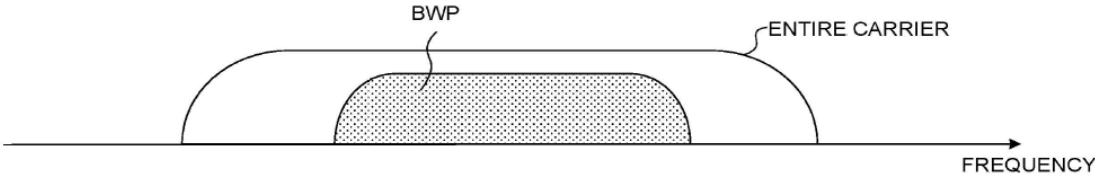
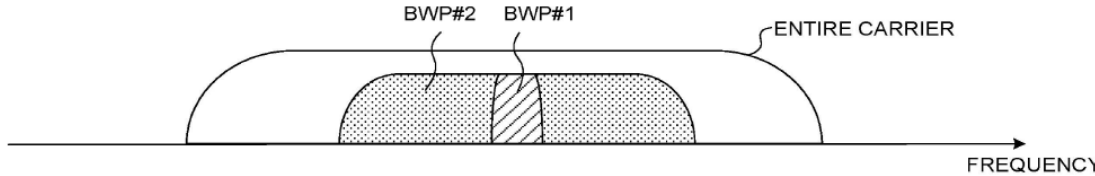
Invalidity of U.S. Patent 11,219,000 in view of Takeda III		
Claim Language		Exemplary Citations to Takeda III
		FIG. 14 Takeda III at Fig. 14; WO2019030929A1 at Fig. 14.

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Claim Language		Exemplary Citations to Takeda III
		 FIG. 15 Takeda III at Fig. 15; WO2019030929A1 at Fig. 15.

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Claim Language	Exemplary Citations to Takeda III	
	FIG. 16 Takeda III at Fig. 16; WO2019030929A1 at Fig. 16. To the extent it is found that Takeda III does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that Takeda III does not anticipate this claim, Takeda III renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine Takeda III with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.	

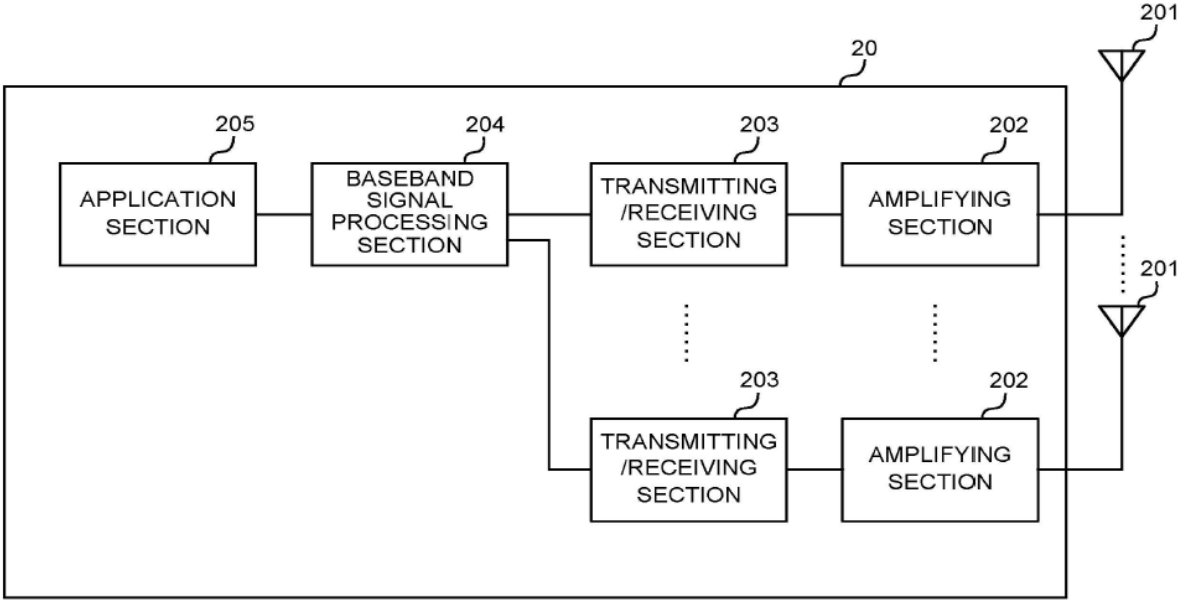
Invalidity of U.S. Patent 11,219,000 in view of Takeda III		
Claim Language		Exemplary Citations to Takeda III
5[a]	transmitting, to a user equipment (UE), UL control channel resource set configuration information for UL control information; and	At least under Pegasus’s apparent infringement theory, Takeda III discloses “transmitting, to a user equipment (UE), UL control channel resource set configuration information for UL control information.” For example, Takeda III discloses this limitation based on the following exemplary citations: “To enable activation/deactivation of one or more frequency bands (for example, BWPs) configured in a carrier to be appropriately controlled. A user terminal of the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band.” Takeda III at Abstract; WO2019030929A1 at Abstract. “A user terminal (User Equipment (UE)) controls reception of a DL data channel (also referred to as, for example, a “Physical Downlink Shared Channel (PDSCH),” a “DL shared channel,” and the like), based on downlink control information (DCI) (also referred to as “DL assignment” and the like) from a radio base station (for example, eNodeB (eNB)). Moreover, the user terminal controls transmission of a UL data channel (for example, a PUSCH (also referred to as Physical Uplink Shared Channel), a “UL shared channel” and the like), based on DCI (also referred to as “UL grant” and the like) from the radio base station.” Takeda III at [0004]; WO2019030929A1 at 1. “An aspect of a user terminal according to the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band.” Takeda III at [0010]; WO2019030929A1 at 1. “FIGS. 1A and 1B are diagrams to show configuration examples of a BWP(s). As shown in FIG. 1A, one BWP may be configured per carrier for a user terminal.” Takeda III at [0030]; WO2019030929A1 at 2.

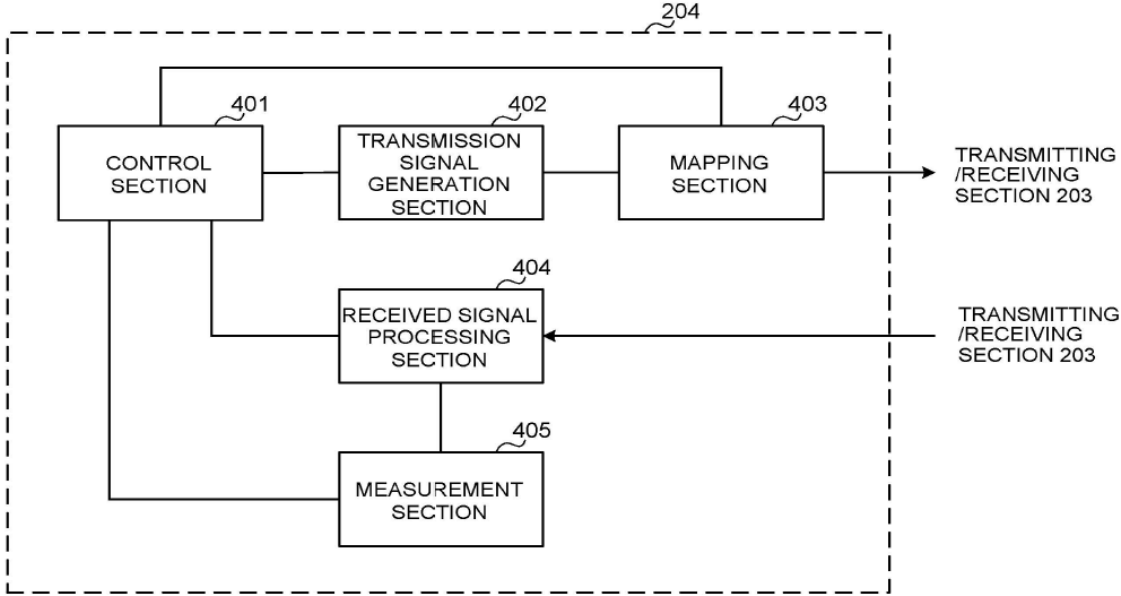
Invalidity of U.S. Patent 11,219,000 in view of Takeda III		
Claim Language		Exemplary Citations to Takeda III
		“The user terminal may control activation/deactivation of at least one BWP. Activation of a BWP is to be in a state where the BWP is available (or changes to the state where the BWP is available) and is also referred to as “activation,” “enabling,” and the like of a configuration information (configuration) of the BWP (BWP configuration information). Deactivation of a BWP is to be in a state where the BWP is unusable (or changes to the state where the BWP is unusable) and is also referred to as “deactivation,” “disabling,” and the like of a BWP configuration information.” Takeda III at [0032]; WO2019030929A1 at 2. “The user terminal may receive configuration information of the CORESET (CORESET configuration information) through higher layer signaling (for example, RRC signaling or SIB). The CORESET configuration information may indicate at least one of frequency resources (for example, the number of RBs), time resources (for example, a starting OFDM symbol number), a time length (duration), an Resource Element Group (REG) bundle size (REG size), a transmission type (for example, interleave, non-interleave), a cycle (for example, a monitor cycle per CORESET), and the like of each CORESET.” Takeda III at [0040]; WO2019030929A1 at 3. “In view of this, the inventors of the present invention studied a method for controlling activation/deactivation of at least one BWP configured for a user terminal, more simply and/or at higher processing efficiency, and reached the present invention. In a first aspect below, a description will be mainly given of control of activation/deactivation of at least one DL BWP configured for a user terminal. In a second aspect, a description will be mainly given of a configuration of a BWP(s) (DL BWP and/or UL BWP). In a third aspect, a description will be mainly given of control of activation/deactivation of at least one UL BWP configured for a user terminal.” Takeda III at [0042]; WO2019030929A1 at 3.

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Claim Language		Exemplary Citations to Takeda III
		FIG. 1A  FIG. 1B  Takeda III at Figs. 1A-1B.; WO2019030929A1 at Figs. 1A - 1B.

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Claim Language		Exemplary Citations to Takeda III
		TO HIGHER STATION APPARATUS 30 OR TO OTHER RADIO BASE STATIONS 10 FIG. 13 Takeda III at Fig. 13; WO2019030929A1 at Fig. 13.

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Claim Language	Exemplary Citations to Takeda III	
	FIG. 14 Takeda III at Fig. 14; WO2019030929A1 at Fig. 14.	

Invalidity of U.S. Patent 11,219,000 in view of Takeda III		
Claim Language		Exemplary Citations to Takeda III
		 FIG. 15 Takeda III at Fig. 15; WO2019030929A1 at Fig. 15.

Invalidity of U.S. Patent 11,219,000 in view of Takeda III		
Claim Language		Exemplary Citations to Takeda III
		 FIG. 16 Takeda III at Fig. 16; WO2019030929A1 at Fig. 16. To the extent it is found that Takeda III does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that Takeda III does not anticipate this claim, Takeda III renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine Takeda III with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.
5[b]	receiving the UL control	At least under Pegasus’s apparent infringement theory, Takeda III discloses “receiving the UL control information through one of UL control channel resources in one of UL control channel resource sets contained

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	information through one of UL control channel resources in one of UL control channel resource sets contained in the transmitted UL control channel resource set configuration information,	in the transmitted UL control channel resource set configuration information.” For example, Takeda III discloses this limitation based on the following exemplary citations: “A user terminal (User Equipment (UE)) controls reception of a DL data channel (also referred to as, for example, a “Physical Downlink Shared Channel (PDSCH),” a “DL shared channel,” and the like), based on downlink control information (DCI) (also referred to as “DL assignment” and the like) from a radio base station (for example, eNodeB (eNB)). Moreover, the user terminal controls transmission of a UL data channel (for example, a PUSCH (also referred to as Physical Uplink Shared Channel), a “UL shared channel” and the like), based on DCI (also referred to as “UL grant” and the like) from the radio base station.” Takeda III at [0004]; WO2019030929A1 at 1. “For future radio communication systems (for example, NR), it is studied that a user terminal monitors (performs blind decoding for) control resource regions (for example, control resource sets (CORESETs)), each of which is a candidate region to which a DL control channel (for example, a Physical Downlink Control Channel (PDCCH)) is allocated, to receive (detect) DCI.” Takeda III at [0006]; WO2019030929A1 at 1. “An aspect of a user terminal according to the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band.” Takeda III at [0010]; WO2019030929A1 at 1. “At least one DL BWP (for example, a DL BWP included in a primary CC) configured for the user terminal includes a control resource region to be a candidate to which a DL control channel (DCI) is to be allocated. The control resource region may be referred to as a “control resource set (CORESET),” a “control subband,” a “search space set,” a “search space resource set,” a “control region,” a “control subband,” an “NR-PDCCH region,” and the like. The user terminal monitors one or more search spaces in the CORESET to detect DCI for the user terminal. The search space may include a common search space (CSS), to which common DCI (for example, group DCI or common DCI) common to one or more user terminals is allocated, and/or a user-terminal (UE) specific search

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		space (USS (UE-specific Search space)) to which user-terminal-specific DCI (for example, DL assignment and/or UL grant) is allocated. The user terminal may receive configuration information of the CORESET (CORESET configuration information) through higher layer signaling (for example, RRC signaling or SIB). The CORESET configuration information may indicate at least one of frequency resources (for example, the number of RBs), time resources (for example, a starting OFDM symbol number), a time length (duration), an Resource Element Group (REG) bundle size (REG size), a transmission type (for example, interleave, non-interleave), a cycle (for example, a monitor cycle per CORESET), and the like of each CORESET.” Takeda III at [0038]-[0040]; WO2019030929A1 at 3. “In a first aspect, a user terminal monitors (performs blind decoding on) a CORESET (first control resource region) configured in DL BWP #1 (first frequency band) in a carrier, in a certain cycle, to receive DCI. The user terminal controls activation or deactivation of DL BWP #2 (second frequency band) in the carrier, based on the DCI.” Takeda III at [0044]; WO2019030929A1 at 3. “In first activation control, the user terminal may monitor a single CORESET configured in a DL BWP (for example, DL BWP #1) in the carrier, in a certain cycle, to receive (detect) DCI for the DL BWP and/or DCI for a different DL BWP(s) (for example, DL BWP #2) in the carrier. The DCI for DL BWP # 2 is used for scheduling of a PDSCH (DL data channel) in a frequency resource in DL BWP # 2. The user terminal activates DL BWP # 2, based on the DCI for DL BWP # 2. Moreover, the user terminal controls reception of the PDSCH, based on the DCI, in activated DL BWP # 2. FIG. 2 is a diagram to show an example of first activation control according to the first aspect. For example, in FIG. 2, it is assumed that two DL BWPs # 1 and #2 are configured in a carrier configured for the user terminal as shown in FIG. 1B. It is also assumed that DL BWP # 1 is a part of the frequency band of DL BWP # 2. In FIG. 2, it is also assumed that CORESET # 1 is configured in DL BWP # 1 and CORESET # 2 is configured in DL BWP # 2. One or more search spaces are provided in each of CORESET # 1 and CORESET # 2. For example, in CORESET # 1, DCI for DL BWP # 1 and DCI for DL BWP # 2 may be mapped to different search spaces.

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		In FIG. 2, when DL BWP # 1 is in an active state, the user terminal monitors (performs blind decoding on) the DCI for DL BWP # 1 and the DCI for DL BWP # 2 in CORESET # 1 in a certain cycle (for example, every one or more slots, every one or more mini-slots, or every certain number of symbols). When detecting the DCI for DL BWP # 1 in CORESET # 1, the user terminal receives a PDSCH scheduled in (mapped to) a certain time and/or frequency resource (time/frequency resource) of DL BWP # 1, based on the DCI for DL BWP # 1. In contrast, when detecting the DCI for DL BWP # 2 in CORESET # 1, the user terminal activates DL BWP # 2. The user terminal receives a PDSCH scheduled in a certain time/frequency resource of DL BWP # 2, based on the DCI for DL BWP # 2 detected in CORESET # 1.” Takeda III at [0045]-[0051]; WO2019030929A1 at 3-4. “FIG. 3 is a diagram to show an example of the first fallback mechanism according to the first aspect. Note that, for FIG. 3, differences from FIG. 2 will be mainly described. FIG. 3 is different from FIG. 2 in that a CORESET (also referred to as a “BWP-common CORESET,” a “common CORESET,” or the like) common to one or more BWPs (here, DL BWPs # 1 and #2), and a CORESET (also referred to as a “BWP-specific CORESET,” a “specific CORESET,” or the like) specific to each BWP are provided. As shown in FIG. 3, the BWP-common CORESET is configured in the same frequency band (same one or more PRBs) in DL BWPs # 1 and #2. In contrast, a BWP-specific CORESET may be configured in a different bandwidth (different number of PRBs) and/or a different frequency band (one or more different PRBs) for each BWP.” Takeda III at [0060]-[0061]; WO2019030929A1 at 4. “In the BWP-common CORESET, explicit or implicit indication information for activation of a different BWP (here, DL BWP #2) may be transmitted. For example, in the BWP-common CORESET in FIG. 3, the DCI (DL assignment) for DL BWP # 2 for scheduling a PDSCH in DL BWP # 2 is transmitted as implicit indication information.” Takeda III at [0063]; WO2019030929A1 at 5. “In contrast, in each BWP-specific CORESET, DCI for each BWP may be transmitted. For example, in the CORESET specific to DL BWP # 1, DL assignment for scheduling a PDSCH in DL BWP # 1 may be

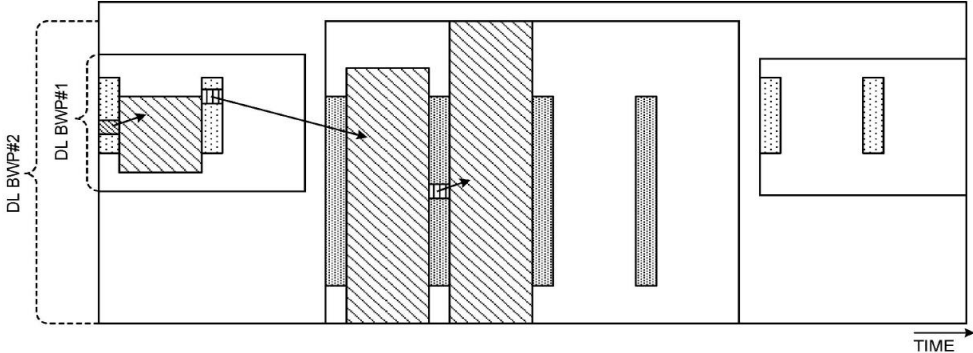
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		transmitted. Moreover, in the CORESET specific to DL BWP # 2, DL assignment for scheduling a PDSCH in DL BWP # 2 may be transmitted. In FIG. 3, irrespective of which BWP is activated, the user terminal monitors the BWP-common CORESET in a certain cycle (for example, every one or more slots, every one or more mini-slots, or every certain number of symbols). For example, in FIG. 3, the user terminal activates DL BWP # 2 and deactivates DL BWP # 1, based on the DCI for DL BWP # 2 detected in the BWP-common CORESET. The user terminal receives the PDSCH scheduled in DL BWP # 2, based on the DCI for DL BWP # 2.” Takeda III at [0065]-[0066]; WO2019030929A1 at 5. “In FIG. 4, CORESET # 1 may be configured in DL BWP # 1, while CORESET # 2 is configured in DL BWP # 2. A common search space and a UE-specific search space may be included in CORESET # 1. In contrast, a UE-specific search space may be included in CORESET # 2 with no common search space being included in CORESET # 2. In FIG. 4, the user terminal activates DL BWP # 2, based on DCI (DL assignment) for DL BWP # 2 detected in the common search space in CORESET # 1. The user terminal receives the PDSCH scheduled in DL BWP # 2, based on the DCI for DL BWP # 2. The user terminal receives a PDSCH scheduled in DL BWP # 1, based on the DCI (DL assignment) for DL BWP # 1 detected in the UE-specific search space in CORESET # 1. When DL BWP # 2 is activated, the user terminal monitors the UE-specific search space in CORESET # 2 in a certain cycle. The user terminal receives a PDSCH scheduled in DL BWP # 2, based on DCI (DL assignment) for DL BWP # 2 detected in the UE-specific search space.” Takeda III at [0076]-[0079]; WO2019030929A1 at 6. “In second activation control, the user terminal monitors a CORESET for each BWP configured in a DL BWP (for example, DL DL BWP #1) in a carrier, in a certain cycle. The user terminal may receive (detect) DCI for the corresponding BWP in each CORESET. The second activation control is different from the first activation control in that a plurality of CORESETs corresponding to a plurality of respective BWPs are configured in a particular DL BWP. In the following, differences from the first activation control will be mainly described. In the second activation control, in a case that one or more BWPs (one or more DL BWPs and/or one or more UL BWPs) are configured for the user terminal, one or more CORESETs corresponding to the one or more respective DL BWPs may be configured in at least one DL BWP.”

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		Takeda III at [0082]-[0083]; WO2019030929A1 at 6. “The user terminal receives a PDSCH scheduled in DL BWP # 1, based on the DCI for DL BWP # 1 detected in CORESET # 1 in DL BWP # 1. When detecting the DCI for DL BWP # 2 in CORESET # 2 in DL BWP # 1, the user terminal activates DL BWP # 2 and deactivates DL BWP # 1. The user terminal receives a PDSCH scheduled in DL BWP # 2, based on the DCI for DL BWP # 2 detected in CORESET # 2 in DL BWP # 1.” Takeda III at [0086]-[0087]; WO2019030929A1 at 6. “In the above second activation control, a plurality of CORESETs corresponding to a plurality of respective BWPs configured for the user terminal are configured in a certain DL BWP, and hence CORESET (corresponding to CORESET # 2 in FIG. 5) resources can be used for PDSCH resources in a period where activation control is not performed.” Takeda III at [0090]; WO2019030929A1 at 7. “The DCI for activation indicates activation of the different DL BWP. For example, the DCI may be DCI for scheduling (DL assignment or UL grant) or may be DCI of a dedicated format. In a case that the DCI is DCI for scheduling, a particular value (for example, 0) may be configured in the resource allocation field in the DCI. An index (BWP index) of a BWP to be activated may be included in the DCI for activation.” Takeda III at [0092]; WO2019030929A1 at 7. “When the DCI for activation is successfully detected, the user terminal may transmit Acknowledge (ACK) to the radio base station. For example, the user terminal may transmit the ACK by using a UL control channel (for example, a PUCCH) or a UL data channel (for example, PUSCH) of a UL BWP. After receipt of the ACK from the user terminal, the radio base station may start scheduling of a PDSCH in DL BWP # 2.” Takeda III at [0096]; WO2019030929A1 at 7. “Each BWP may be associated with a particular numerology (for example, at least one of subcarrier spacing, symbol length, cyclic prefix (CP) length, the number of symbols in a slot (or mini-slot), and the like). For example, as illustrated in FIG. 1B, in a case that a plurality of BWPs are configured for the user terminal, the same and/or different numerologies may be used for the plurality of BWPs.

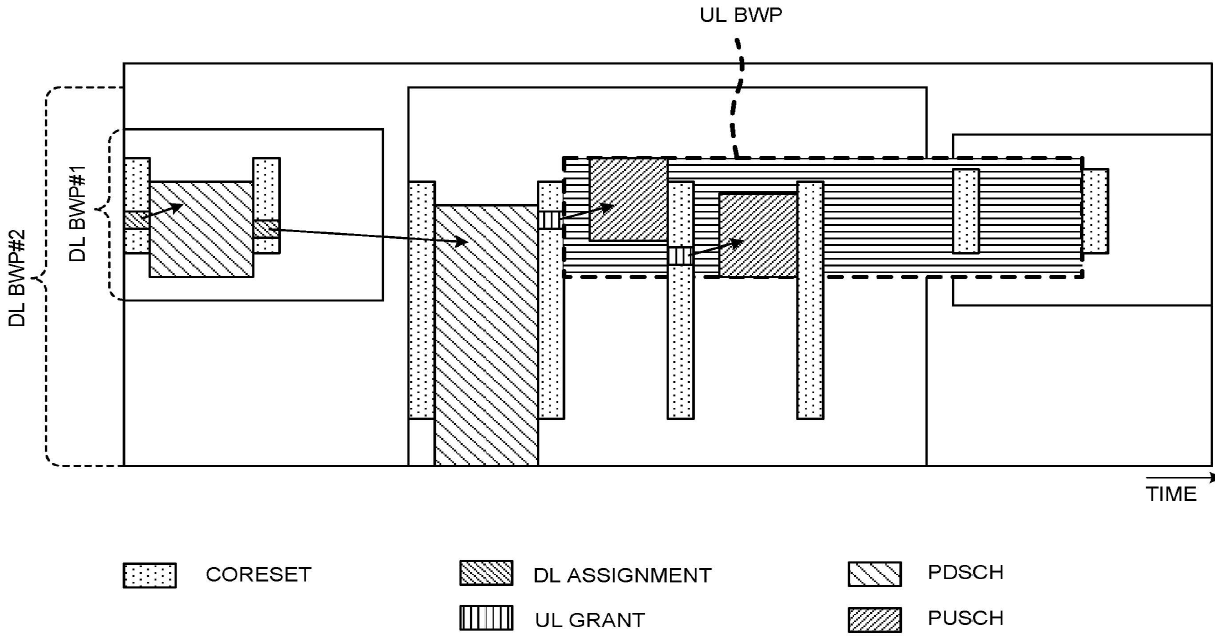
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		The BWP configuration information may include at least one of information indicating a numerology (for example, subcarrier spacing), information indicating a frequency position (for example, center frequency), information indicating a bandwidth (for example, the number of resource blocks (RB) (also referred to as “Physical RBs (PRBs)” and the like), information indicating time resources (for example, the number of symbols per slot (mini-slot), information indicating the number of MIMO layers, information related to Quasi-Co-Location, and the like. The user terminal may receive BWP configuration information through higher layer signaling (for example, RRC signaling, broadcast information (master information block (MIB)), system information block (SIB), or the like and/or MAC signaling). In a case that a plurality of BWPs are configured for the user terminal and a different slot type (for example, a different number of symbols and/or a different numerology, or the like) is used for each of the plurality of BWPs, cross-BWP scheduling, in which a particular BWP is used for scheduling of another BWP, need not necessarily be supported. In a case that the same slot type is used for the plurality of BWPs, the cross-BWP scheduling may be employed.” Takeda III at [0114]-[0117]; WO2019030929A1 at 8-9. “Only a single UL BWP may be configured or a plurality of UL BWPs may be configured for the user terminal. Activation or deactivation of each UL BWP may be controlled based on explicit or implicit indication information irrespective of activation or deactivation of one or more DL BWPs. For example, when detecting UL grant through monitoring of the CORESET of a DL BWP, the user terminal may activate a UL BWP. Activation or deactivation of a DL BWP may be controlled irrespective of whether UL grant is present or absent.” Takeda III at [0119]-[0120]; WO2019030929A1 at 9. “For example, in FIG. 8, the user terminal monitors a CORESET configured in an activated DL BWP, in a certain cycle. The user terminal activates a UL BWP, based on UL grant detected in the CORESET. The user terminal transmits a PUSCH scheduled in a UL BWP, based on the UL grant.” Takeda III at [0123]-[0124]; WO2019030929A1 at 9.

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		“As illustrated in FIG. 9, in a case that the plurality of UL BWPs are configured for the user terminal, an index (BWP index) of the UL BWP in which a PUSCH is scheduled may be included in UL grant. The user terminal may control activation of the UL BWPs, based on the BWP index included in the UL grant.” Takeda III at [0128]; WO2019030929A1 at 9. “For example, in FIG. 9, the user terminal monitors a CORESET configured in an activated DL BWP, in a certain cycle. In FIG. 9, since BWP index # 2 is included in the UL grant detected in the CORESET, the user terminal may deactivate UL BWP # 1 and activate UL BWP # 2. The user terminal may transmit a PUSCH scheduled in UL BWP # 2, based on the UL grant.” Takeda III at [0129]; WO2019030929A1 at 9. “In a case that a plurality of UL BWPs are configured for the user terminal, transmission of the same UL signal may be possible or transmission of different UL signals may be possible among the plurality of UL BWPs. The UL signal(s) is, for example, at least one of a UL data channel (for example, a PUSCH), a UL control channel (for example, a PUCCH), a reference signal (for example, an Sounding Reference Signal (SRS) and/or a DMRS), and a random access channel (for example, a Physical Random Access Channel (PRACH)). FIG. 10 is a diagram to show an example of transmission of a UL signal in each UL BWP according to the third aspect. In FIG. 10, it is assumed that UL BWP # 1 and UL BWP # 2 having a greater bandwidth than that of UL BWP # 1 are configured for the user terminal. As illustrated in FIG. 10, configuration information of a PRACH and/or a PUCCH is included in UL BWP # 1. At the same time, configuration information of at least one of a PUSCH, an SRS, and a DMRS need not necessarily be included or may be included in UL BWP # 1. Configuration information of at least one of a PUSCH, an SRS, and a DRMS is included in UL BWP # 2. At the same time, configuration information of a PRACH and/or a PUCCH need not necessarily be included or may be included in UL BWP # 2. As described above, UL signals necessarily configured in UL BWPs may be different from each other, and UL signals which the user terminal can transmit in respective UL BWPs may be different from each other. For example, in FIG. 10, the user terminal may control transmission of a PRACH and/or a PUCCH in UL BWP # 1 while controlling transmission of at least one of a PUSCH, an SRS, and a DMRS in UL BWP # 2. In FIG. 10, it is possible that UL signals necessarily configured in UL BWPs are different from each other, and hence when a plurality of UL BWPs are configured for the user terminal, transmission of a UL signal in each UL BWP can be performed efficiently.”

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		Takeda III at [0131]-[0135]; WO2019030929A1 at 10. “FIG. 11 is a diagram to show an example of activation/deactivation control for a UL BWP according to the third aspect. In FIG. 11, the user terminal may activate UL BWP # 2, based on DCI (for example, UL grant allocating a PUSCH in UL BWP # 2 or DCI for activation (for example, UL grant with a resource allocation field being configured at a particular value)), a MAC CE, a RAR, or message 4. In this case, the user terminal may deactivate UL BWP # 1.” Takeda III at [0139]; WO2019030929A1 at 10. “FIG. 15 is a diagram to show an example of an overall structure of a user terminal according to the present embodiment. Each user terminal 20 includes a plurality of transmitting/receiving antennas 201 for MIMO transmission, amplifying sections 202, transmitting/receiving sections 203, a baseband signal processing section 204, and an application section 205. The user terminal 20 may configure “transmitting apparatus” in UL and configure “receiving apparatus” in DL. Radio frequency signals that are received in the plurality of respective transmitting/receiving antennas 201 are amplified in the respective amplifying sections 202. The transmitting/receiving sections 203 receive the DL signals amplified in the amplifying sections 202. The transmitting/receiving sections 203 convert the received signals into baseband signals through frequency conversion, and output the baseband signals to the baseband signal processing section 204.” Takeda III at [0181]-[0182]; WO2019030929A1 at 14. “The transmitting/receiving sections 203 receive DL signals (for example, at least one of a DL control signal (also referred to as a “DL control channel,” “DCI,” and the like)), DL data signals (also referred to as a “DL data channel,” “DL data,” and the like), and a reference signal). The transmitting/receiving sections 203 also transmit UL signals (for example, at least one of a UL control signal (also referred to as a “UL control channel,” “UCI,” or the like)), UL data signals (also referred to as a “UL data channel,” “UL data,” or the like), and a reference signal).” Takeda III at [0186]; WO2019030929A1 at 15.

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	“The control section 401 may control transmission of a UL signal in a UL BWP (UL frequency band), based on the DCI detected in the CORESET (control resource region) in a DL BWP (DL frequency band) (third aspect).” Takeda III at [0199]; WO2019030929A1 at 16.  The diagram illustrates a timeline of Downlink (DL) Bandwidth Parts (BWPs). A dashed box labeled 'DL BWP#2' encompasses a solid box labeled 'DL BWP#1'. Within DL BWP#1, there are two CORESETs: CORESET#1 (dotted pattern) and CORESET#2 (cross-hatched pattern). CORESET#1 contains a DCI for DL BWP #1 (diagonal lines). CORESET#2 contains a DCI for DL BWP #2 (vertical lines). A PDSCH (diagonal lines) is shown following the DCI for DL BWP #1. The timeline is labeled 'TIME' at the bottom right. FIG. 2 Takeda III at Fig. 2; WO2019030929A1 at Fig. 2.	

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	FIG. 3 Takeda III at Fig. 3; WO2019030929A1 at Fig. 3.	

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	 The diagram illustrates a timing diagram for a wireless communication system. It shows two Downlink Bandwidth Parts (DL BWP#1 and DL BWP#2) and one Uplink Bandwidth Part (UL BWP) over time. DL BWP#1 is active during the first two time slots, while DL BWP#2 is active during the third and fourth time slots. The UL BWP is active during the third and fourth time slots. The diagram also shows the timing of CORESET (Control Resource Set), DL ASSIGNMENT, UL GRANT, PDSCH (Physical Downlink Shared Channel), and PUSCH (Physical Uplink Shared Channel). The legend indicates that CORESET is represented by a dotted pattern, DL ASSIGNMENT by a diagonal line pattern, UL GRANT by a vertical line pattern, PDSCH by a horizontal line pattern, and PUSCH by a diagonal line pattern. The x-axis is labeled TIME. FIG. 8 Takeda III at Fig. 8; WO2019030929A1 at Fig. 8.	

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		The diagram illustrates a timeline of radio resource allocation. A horizontal axis at the bottom is labeled 'TIME' with an arrow pointing right. Two dashed boxes represent active bandwidth parts: 'DL BWP#1' on the left and 'UL BWP#2' on the right. Within DL BWP#1, there is a 'CORESET' (dotted pattern) and a 'DL ASSIGNMENT' (diagonal lines). Within UL BWP#2, there is a 'UL GRANT' (vertical lines) and a 'PUSCH' (diagonal lines). A 'PDSCH' (diagonal lines) is also shown between the two BWPs. The legend below the diagram defines the patterns: CORESET (dotted), DL ASSIGNMENT (diagonal lines), UL GRANT (vertical lines), PDSCH (diagonal lines), and PUSCH (diagonal lines). FIG. 9 Takeda III at Fig. 9; WO2019030929A1 at Fig. 9.

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		TO HIGHER STATION APPARATUS 30 OR TO OTHER RADIO BASE STATIONS 10 FIG. 13 Takeda III at Fig. 13; WO2019030929A1 at Fig. 13.

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	FIG. 14 Takeda III at Fig. 14; WO2019030929A1 at Fig. 14.	

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	FIG. 15 Takeda III at Fig. 15; WO2019030929A1 at Fig. 15. To the extent it is found that Takeda III does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that Takeda III does not anticipate this claim, Takeda III renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine Takeda III with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.	

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5[c]	wherein the one of the UL control channel resource sets for the UL control information transmission is determined based on a size of the UL control information, and	At least under Pegasus’s apparent infringement theory, Takeda III discloses “wherein the one of the UL control channel resource sets for the UL control information transmission is determined based on a size of the UL control information.” For example, Takeda III discloses this limitation based on the following exemplary citations: “To enable activation/deactivation of one or more frequency bands (for example, BWPs) configured in a carrier to be appropriately controlled. A user terminal of the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band.” Takeda III at Abstract; WO2019030929A1 at Abstract. “For future radio communication systems (for example, NR), it is studied that a user terminal monitors (performs blind decoding for) control resource regions (for example, control resource sets (CORESETs)), each of which is a candidate region to which a DL control channel (for example, a Physical Downlink Control Channel (PDCCH)) is allocated, to receive (detect) DCI.” Takeda III at [0006]; WO2019030929A1 at 1. “At least one DL BWP (for example, a DL BWP included in a primary CC) configured for the user terminal includes a control resource region to be a candidate to which a DL control channel (DCI) is to be allocated. The control resource region may be referred to as a “control resource set (CORESET),” a “control subband,” a “search space set,” a “search space resource set,” a “control region,” a “control subband,” an “NR-PDCCH region,” and the like. The user terminal monitors one or more search spaces in the CORESET to detect DCI for the user terminal. The search space may include a common search space (CSS), to which common DCI (for example, group DCI or common DCI) common to one or more user terminals is allocated, and/or a user-terminal (UE) specific search space (USS (UE-specific Search space)) to which user-terminal-specific DCI (for example, DL assignment and/or UL grant) is allocated. The user terminal may receive configuration information of the CORESET (CORESET configuration information) through higher layer signaling (for example, RRC signaling or SIB). The CORESET configuration

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		information may indicate at least one of frequency resources (for example, the number of RBs), time resources (for example, a starting OFDM symbol number), a time length (duration), an Resource Element Group (REG) bundle size (REG size), a transmission type (for example, interleave, non-interleave), a cycle (for example, a monitor cycle per CORESET), and the like of each CORESET.” Takeda III at [0038]-[0040]; WO2019030929A1 at 3. “In FIG. 2, it is also assumed that CORESET # 1 is configured in DL BWP # 1 and CORESET # 2 is configured in DL BWP # 2. One or more search spaces are provided in each of CORESET # 1 and CORESET # 2. For example, in CORESET # 1, DCI for DL BWP # 1 and DCI for DL BWP # 2 may be mapped to different search spaces. In FIG. 2, when DL BWP # 1 is in an active state, the user terminal monitors (performs blind decoding on) the DCI for DL BWP # 1 and the DCI for DL BWP # 2 in CORESET # 1 in a certain cycle (for example, every one or more slots, every one or more mini-slots, or every certain number of symbols). When detecting the DCI for DL BWP # 1 in CORESET # 1, the user terminal receives a PDSCH scheduled in (mapped to) a certain time and/or frequency resource (time/frequency resource) of DL BWP # 1, based on the DCI for DL BWP # 1. In contrast, when detecting the DCI for DL BWP # 2 in CORESET # 1, the user terminal activates DL BWP # 2. The user terminal receives a PDSCH scheduled in a certain time/frequency resource of DL BWP # 2, based on the DCI for DL BWP # 2 detected in CORESET # 1. Note that, although the DCI for DL BWP # 1 and the DCI for DL BWP # 2 are detected at different timings in CORESET # 1 in FIG. 2, a plurality of pieces of DCI for the different BWPs may be detectable at the same timing. For example, a plurality of search spaces may be provided corresponding to a plurality of respective BWPs in CORESET # 1, to transmit a plurality of pieces of DCI for the different BWPs in the plurality of respective search spaces. The user terminal may monitor the plurality of search spaces in CORESET # 1 and detect the plurality of pieces of DCI for the different BWPs at the same timing. When DL BWP # 2 is activated, the user terminal monitors (performs blind decoding on) the DCI for DL BWP # 2 in CORESET # 2 in a certain cycle (for example, every one or more slots, every one or more mini-slots, or every certain number of symbols). The user terminal may receive a PDSCH scheduled in a certain time/frequency resource of DL BWP # 2, based on the DCI for DL BWP # 2 detected in CORESET # 2.” Takeda III at [0048]-[0053]; WO2019030929A1 at 3-4.

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		“FIG. 3 is a diagram to show an example of the first fallback mechanism according to the first aspect. Note that, for FIG. 3, differences from FIG. 2 will be mainly described. FIG. 3 is different from FIG. 2 in that a CORESET (also referred to as a “BWP-common CORESET,” a “common CORESET,” or the like) common to one or more BWPs (here, DL BWPs # 1 and #2), and a CORESET (also referred to as a “BWP-specific CORESET,” a “specific CORESET,” or the like) specific to each BWP are provided. As shown in FIG. 3, the BWP-common CORESET is configured in the same frequency band (same one or more PRBs) in DL BWPs # 1 and #2. In contrast, a BWP-specific CORESET may be configured in a different bandwidth (different number of PRBs) and/or a different frequency band (one or more different PRBs) for each BWP.” Takeda III at [0060]-[0061]; WO2019030929A1 at 4. “When the BWP-common CORESET is used as a common search space, control information for transmitting system information (SI, also referred to as a “System Information Block (SIB)” or the like) and/or a random access response (RAR), and the like may be transmitted in the BWP-common CORESET. In contrast, in each BWP-specific CORESET, DCI for each BWP may be transmitted. For example, in the CORESET specific to DL BWP # 1, DL assignment for scheduling a PDSCH in DL BWP # 1 may be transmitted. Moreover, in the CORESET specific to DL BWP # 2, DL assignment for scheduling a PDSCH in DL BWP # 2 may be transmitted.” Takeda III at [0064]-[0065]; WO2019030929A1 at 5. “In second activation control, the user terminal monitors a CORESET for each BWP configured in a DL BWP (for example, DL DL BWP #1) in a carrier, in a certain cycle. The user terminal may receive (detect) DCI for the corresponding BWP in each CORESET. The second activation control is different from the first activation control in that a plurality of CORESETs corresponding to a plurality of respective BWPs are configured in a particular DL BWP. In the following, differences from the first activation control will be mainly described. In the second activation control, in a case that one or more BWPs (one or more DL BWPs and/or one or more UL BWPs) are configured for the user terminal, one or more CORESETs corresponding to the one or more respective DL BWPs may be configured in at least one DL BWP.” Takeda III at [0082]-[0083]; WO2019030929A1 at 6.

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		“In the above second activation control, a plurality of CORESETs corresponding to a plurality of respective BWPs configured for the user terminal are configured in a certain DL BWP, and hence CORESET (corresponding to CORESET # 2 in FIG. 5) resources can be used for PDSCH resources in a period where activation control is not performed.” Takeda III at [0090]; WO2019030929A1 at 7. “In a case that a plurality of UL BWPs are configured for the user terminal, transmission of the same UL signal may be possible or transmission of different UL signals may be possible among the plurality of UL BWPs. The UL signal(s) is, for example, at least one of a UL data channel (for example, a PUSCH), a UL control channel (for example, a PUCCH), a reference signal (for example, an Sounding Reference Signal (SRS) and/or a DMRS), and a random access channel (for example, a Physical Random Access Channel (PRACH)). FIG. 10 is a diagram to show an example of transmission of a UL signal in each UL BWP according to the third aspect. In FIG. 10, it is assumed that UL BWP # 1 and UL BWP # 2 having a greater bandwidth than that of UL BWP # 1 are configured for the user terminal. As illustrated in FIG. 10, configuration information of a PRACH and/or a PUCCH is included in UL BWP # 1. At the same time, configuration information of at least one of a PUSCH, an SRS, and a DMRS need not necessarily be included or may be included in UL BWP # 1. Configuration information of at least one of a PUSCH, an SRS, and a DRMS is included in UL BWP # 2. At the same time, configuration information of a PRACH and/or a PUCCH need not necessarily be included or may be included in UL BWP # 2. As described above, UL signals necessarily configured in UL BWPs may be different from each other, and UL signals which the user terminal can transmit in respective UL BWPs may be different from each other. For example, in FIG. 10, the user terminal may control transmission of a PRACH and/or a PUCCH in UL BWP # 1 while controlling transmission of at least one of a PUSCH, an SRS, and a DMRS in UL BWP # 2. In FIG. 10, it is possible that UL signals necessarily configured in UL BWPs are different from each other, and hence when a plurality of UL BWPs are configured for the user terminal, transmission of a UL signal in each UL BWP can be performed efficiently.” Takeda III at [0131]-[0135]; WO2019030929A1 at 10.

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		FIG. 2 Takeda III at Fig. 2; WO2019030929A1 at Fig. 2.

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	FIG. 3 Takeda III at Fig. 3; WO2019030929A1 at Fig. 3.	

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		TO HIGHER STATION APPARATUS 30 OR TO OTHER RADIO BASE STATIONS 10 FIG. 13 Takeda III at Fig. 13; WO2019030929A1 at Fig. 13.

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	FIG. 14 Takeda III at Fig. 14; WO2019030929A1 at Fig. 14. To the extent it is found that Takeda III does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that Takeda III does not anticipate this claim, Takeda III renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine Takeda III with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.	

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5[d]	wherein the UL control channel resource set configuration information is transmitted through UE specific radio resource control (RRC) signaling.	At least under Pegasus's apparent infringement theory, Takeda III discloses "wherein the UL control channel resource set configuration information is transmitted through UE specific radio resource control (RRC) signaling." For example, Takeda III discloses this limitation based on the following exemplary citations: "Activation/deactivation of a BWP may be explicitly or implicitly performed through at least one of physical layer signaling (for example, DCI), Medium Access Control (MAC) signaling (for example, a MAC control element (MAC CE)), and RRC signaling. For example, it is studied to perform activation of a BWP through user-terminal-dedicated RRC signaling." Takeda III at [0034]; WO2019030929A1 at 2. "The user terminal may receive configuration information of the CORESET (CORESET configuration information) through higher layer signaling (for example, RRC signaling or SIB). The CORESET configuration information may indicate at least one of frequency resources (for example, the number of RBs), time resources (for example, a starting OFDM symbol number), a time length (duration), an Resource Element Group (REG) bundle size (REG size), a transmission type (for example, interleave, non-interleave), a cycle (for example, a monitor cycle per CORESET), and the like of each CORESET." Takeda III at [0040]; WO2019030929A1 at 3. "The user terminal may receive BWP configuration information through higher layer signaling (for example, RRC signaling, broadcast information (master information block (MIB)), system information block (SIB), or the like and/or MAC signaling)." Takeda III at [0116]; WO2019030929A1 at 9. "The implicit indication information may be, for example, a RAR, message 4, or UL grant illustrated in FIGS. 8 and 9. The RAR is transmitted from the radio base station in response to a PRACH from the user terminal. Message 4 is a contention resolution message transmitted, when the user terminal transmits a higher layer control message by using a resource indicated by UL grant included in a RAR, in response to the control message from the radio base station. The user terminal that has received message 4 changes from an idle state to an RRC connected state." Takeda III at [0137]; WO2019030929A1 at 10.

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		“The transmitting/receiving section 103 may transmit higher layer control information (for example, control information through a MAC CE and/or RRC signaling).” Takeda III at [0166]; WO2019030929A1 at 13. “The transmitting/receiving sections 203 may receive higher layer control information (for example, control information through a MAC CE and/or RRC signaling).” Takeda III at [0187]; WO2019030929A1 at 15. “Reporting of information is by no means limited to the aspects/embodiments described in this specification, and may be performed in other methods. For example, reporting of information may be implemented by using physical layer signaling (for example, downlink control information (DCI), uplink control information (UCI), higher layer signaling (for example, Radio Resource Control (RRC) signaling, broadcast information (master information block (MIB), system information blocks (SIBs), and so on), Medium Access Control (MAC) signaling and so on), and other signals or combinations of these. Note that physical layer signaling may be referred to as “L1/L2 (Layer 1/Layer 2) control information (L1/L2 control signals),” “L1 control information (L1 control signal),” and so on. Also, RRC signaling may be referred to as an “RRC message,” and may be, for example, an RRC connection setup (RRCConnectionSetup) message, an RRC connection reconfiguration (RRCConnectionReconfiguration) message, and so on. Also, MAC signaling may be reported in, for example, MAC control elements (MAC CEs).” Takeda III at [0240]-[0241]; WO2019030929A1 at 19. To the extent it is found that Takeda III does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that Takeda III does not anticipate this claim, Takeda III renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine Takeda III with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.

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6	The method according to claim 5, wherein the UL control channel resource sets are configured for each UL bandwidth part (BWP) configured for the UE.	At least under Pegasus’s apparent infringement theory, Takeda III discloses “wherein the UL control channel resource sets are configured for each UL bandwidth part (BWP) configured for the UE.” For example, Takeda III discloses this limitation based on the following exemplary citations: “Moreover, it is studied, for the future radio communication systems, to use one or a plurality of frequency bands (for example, bandwidth parts (BWPs)) in a carrier (also referred to as a “component carrier (CC)” or a “system band,” and the like) for DL and/or UL communications (DL/UL communications). In a case that one or more frequency bands (for example, BWPs) to be used for DL/UL communications are configurable in a carrier as described above, it is desired to appropriately control activation and/or deactivation (activation/deactivation) of the frequency band in order to reduce processing load in the user terminal (for example, processing load due to blind decoding for each of the frequency bands).” Takeda III at [0007]-[0008]; WO2019030929A1 at 1. “FIGS. 1A and 1B are diagrams to show configuration examples of a BWP(s). As shown in FIG. 1A, one BWP may be configured per carrier for a user terminal. As shown in FIG. 1B, a plurality of BWPs (here, two BWPs # 1 and #2) may be configured per carrier for a user terminal. As shown in FIG. 1B, the plurality of BWPs configured for the user terminal may have different bandwidths. Moreover, the plurality of BWPs may at least partially overlap each other in frequency band. For example, in FIG. 1B, BWP #1 is a part of the frequency band of BWP # 2. The user terminal may control activation/deactivation of at least one BWP. Activation of a BWP is to be in a state where the BWP is available (or changes to the state where the BWP is available) and is also referred to as “activation,” “enabling,” and the like of a configuration information (configuration) of the BWP (BWP configuration information). Deactivation of a BWP is to be in a state where the BWP is unusable (or changes to the state where the BWP is unusable) and is also referred to as “deactivation,” “disabling,” and the like of a BWP configuration information.” Takeda III at [0030]-[0032]; WO2019030929A1 at 2. “Note that the BWP used in DL communication may be referred to as a “DL BWP (DL frequency band),” and the BWP used in UL communication may be referred to as a “UL BWP (UL frequency band).” The DL BWP and UL BWP may at least partially overlap each other in frequency band. Hereinafter, a DL BWP and a UL BWP are collectively referred to as a “BWP,” unless specified otherwise.

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		At least one DL BWP (for example, a DL BWP included in a primary CC) configured for the user terminal includes a control resource region to be a candidate to which a DL control channel (DCI) is to be allocated. The control resource region may be referred to as a “control resource set (CORESET),” a “control subband,” a “search space set,” a “search space resource set,” a “control region,” a “control subband,” an “NR-PDCCH region,” and the like.” Takeda III at [0037]-[0038]; WO2019030929A1 at 2-3. “As described above, various methods for controlling activation/deactivation of at least one BWP when one or more BWPs to be used for DL/UL communications are configurable in a carrier are under study. However, it is desired to control activation/deactivation of the at least one BWP more simply and/or at higher processing efficiency.” Takeda III at [0042]; WO2019030929A1 at 3. “In a first aspect, a user terminal monitors (performs blind decoding on) a CORESET (first control resource region) configured in DL BWP #1 (first frequency band) in a carrier, in a certain cycle, to receive DCI. The user terminal controls activation or deactivation of DL BWP #2 (second frequency band) in the carrier, based on the DCI.” Takeda III at [0044]; WO2019030929A1 at 3. “FIG. 2 is a diagram to show an example of first activation control according to the first aspect. For example, in FIG. 2, it is assumed that two DL BWPs # 1 and #2 are configured in a carrier configured for the user terminal as shown in FIG. 1B. It is also assumed that DL BWP # 1 is a part of the frequency band of DL BWP # 2. In FIG. 2, it is also assumed that CORESET # 1 is configured in DL BWP # 1 and CORESET # 2 is configured in DL BWP # 2. One or more search spaces are provided in each of CORESET # 1 and CORESET # 2. For example, in CORESET # 1, DCI for DL BWP # 1 and DCI for DL BWP # 2 may be mapped to different search spaces.” Takeda III at [0047]-[0048]; WO2019030929A1 at 3. “FIG. 3 is a diagram to show an example of the first fallback mechanism according to the first aspect. Note that, for FIG. 3, differences from FIG. 2 will be mainly described. FIG. 3 is different from FIG. 2 in that a CORESET (also referred to as a “BWP-common CORESET,” a “common CORESET,” or the like) common to one or more

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		BWPs (here, DL BWPs # 1 and #2), and a CORESET (also referred to as a “BWP-specific CORESET,” a “specific CORESET,” or the like) specific to each BWP are provided. As shown in FIG. 3, the BWP-common CORESET is configured in the same frequency band (same one or more PRBs) in DL BWPs # 1 and #2. In contrast, a BWP-specific CORESET may be configured in a different bandwidth (different number of PRBs) and/or a different frequency band (one or more different PRBs) for each BWP.” Takeda III at [0060]-[0061]; WO2019030929A1 at 4. “In contrast, in each BWP-specific CORESET, DCI for each BWP may be transmitted. For example, in the CORESET specific to DL BWP # 1, DL assignment for scheduling a PDSCH in DL BWP # 1 may be transmitted. Moreover, in the CORESET specific to DL BWP # 2, DL assignment for scheduling a PDSCH in DL BWP # 2 may be transmitted.” Takeda III at [0065]; WO2019030929A1 at 5. “A BWP kept active is also referred to as an “active BWP,” a “primary BWP,” and the like. One or more BWPs for which activation or deactivation is controlled are also referred to as a “secondary BWP(s)” and the like. Note that, when a single BWP is configured in a carrier (for example, FIG. 1A), a primary BWP is configured, and no secondary BWP is configured.” Takeda III at [0071]; WO2019030929A1 at 5. “In FIG. 4, CORESET # 1 may be configured in DL BWP # 1, while CORESET # 2 is configured in DL BWP # 2. A common search space and a UE-specific search space may be included in CORESET # 1. In contrast, a UE-specific search space may be included in CORESET # 2 with no common search space being included in CORESET # 2.” Takeda III at [0076]; WO2019030929A1 at 6. “In second activation control, the user terminal monitors a CORESET for each BWP configured in a DL BWP (for example, DL DL BWP #1) in a carrier, in a certain cycle. The user terminal may receive (detect) DCI for the corresponding BWP in each CORESET. The second activation control is different from the first activation control in that a plurality of CORESETs corresponding to a plurality of respective BWPs are configured in a particular DL BWP. In the following, differences from the first activation control will be mainly described.

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		In the second activation control, in a case that one or more BWPs (one or more DL BWPs and/or one or more UL BWPs) are configured for the user terminal, one or more CORESETs corresponding to the one or more respective DL BWPs may be configured in at least one DL BWP.” Takeda III at [0082]-[0083]; WO2019030929A1 at 6. “In the above second activation control, a plurality of CORESETs corresponding to a plurality of respective BWPs configured for the user terminal are configured in a certain DL BWP, and hence CORESET (corresponding to CORESET # 2 in FIG. 5) resources can be used for PDSCH resources in a period where activation control is not performed.” Takeda III at [0090]; WO2019030929A1 at 7. “In a second aspect, a configuration and configuration information (BWP configuration information) of a BWP will be described. A maximum bandwidth of one or more BWPs (DL BWP(s) and/or a UL BWP(s)) configured for the user terminal may be determined based on a category of the user terminal reported from the user terminal. For example, in a case that the category reported from the user terminal indicates supporting of 100 MHz, the maximum bandwidth of at least one BWP configured for the user terminal may be 100 MHz.” Takeda III at [0110]-[0111]; WO2019030929A1 at 8. “The BWP configuration information may include at least one of information indicating a numerology (for example, subcarrier spacing), information indicating a frequency position (for example, center frequency), information indicating a bandwidth (for example, the number of resource blocks (RB) (also referred to as “Physical RBs (PRBs)” and the like), information indicating time resources (for example, the number of symbols per slot (mini-slot), information indicating the number of MIMO layers, information related to Quasi-Co-Location, and the like. The user terminal may receive BWP configuration information through higher layer signaling (for example, RRC signaling, broadcast information (master information block (MIB)), system information block (SIB), or the like and/or MAC signaling). In a case that a plurality of BWPs are configured for the user terminal and a different slot type (for example, a different number of symbols and/or a different numerology, or the like) is used for each of the plurality of BWPs, cross-BWP scheduling, in which a particular BWP is used for scheduling of another BWP, need not

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		necessarily be supported. In a case that the same slot type is used for the plurality of BWPs, the cross-BWP scheduling may be employed.” Takeda III at [0115]-[0117]; WO2019030929A1 at 8-9. “Only a single UL BWP may be configured or a plurality of UL BWPs may be configured for the user terminal. Activation or deactivation of each UL BWP may be controlled based on explicit or implicit indication information irrespective of activation or deactivation of one or more DL BWPs. For example, when detecting UL grant through monitoring of the CORESET of a DL BWP, the user terminal may activate a UL BWP. Activation or deactivation of a DL BWP may be controlled irrespective of whether UL grant is present or absent.” Takeda III at [0119]-[0120]; WO2019030929A1 at 9. “As illustrated in FIG. 8, the UL BWP may have a bandwidth (the number of PRBs) different from those of DL BWPs # 1 and #2. The UL BWP may be configured for at least part of DL BWPs # 1 and #2.” Takeda III at [0124]; WO2019030929A1 at 9. “In a case that a plurality of UL BWPs are configured for the user terminal, transmission of the same UL signal may be possible or transmission of different UL signals may be possible among the plurality of UL BWPs. The UL signal(s) is, for example, at least one of a UL data channel (for example, a PUSCH), a UL control channel (for example, a PUCCH), a reference signal (for example, an Sounding Reference Signal (SRS) and/or a DMRS), and a random access channel (for example, a Physical Random Access Channel (PRACH)).” Takeda III at [0131]; WO2019030929A1 at 10. “In FIG. 10, it is possible that UL signals necessarily configured in UL BWPs are different from each other, and hence when a plurality of UL BWPs are configured for the user terminal, transmission of a UL signal in each UL BWP can be performed efficiently.” Takeda III at [0135]; WO2019030929A1 at 10. “The user terminal may control activation and/or deactivation of one or more UL BWPs configured for the user terminal, based on explicit or implicit indication information. The explicit indication information may be, for

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		example, DCI (UL grant) or a MAC CE including a resource allocation field configured at a particular value (for example, 0).” Takeda III at [0136]; WO2019030929A1 at 10. To the extent it is found that Takeda III does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that Takeda III does not anticipate this claim, Takeda III renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine Takeda III with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.
7	The method according to claim 6, wherein the each UL BWP is activated through downlink (DL) control information.	At least under Pegasus’s apparent infringement theory, Takeda III discloses “wherein the each UL BWP is activated through downlink (DL) control information.” For example, Takeda III discloses this limitation based on the following exemplary citations: “To enable activation/deactivation of one or more frequency bands (for example, BWPs) configured in a carrier to be appropriately controlled. A user terminal of the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band.” Takeda III at Abstract; WO2019030929A1 at Abstract. “Moreover, it is studied, for the future radio communication systems, to use one or a plurality of frequency bands (for example, bandwidth parts (BWPs)) in a carrier (also referred to as a “component carrier (CC)” or a “system band,” and the like) for DL and/or UL communications (DL/UL communications). In a case that one or more frequency bands (for example, BWPs) to be used for DL/UL communications are configurable in a carrier as described above, it is desired to appropriately control activation and/or deactivation (activation/deactivation) of the frequency band in order to reduce processing load in the user terminal (for example, processing load due to blind decoding for each of the frequency bands).”

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		Takeda III at [0007]-[0008]; WO2019030929A1 at 1. “An aspect of a user terminal according to the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band.” Takeda III at [0010]; WO2019030929A1 at 1. “According to the present invention, it is possible to appropriately control activation/deactivation of one or more frequency bands (for example, BWP(s)) configured in a carrier.” Takeda III at [0011]; WO2019030929A1 at 1. “The user terminal may control activation/deactivation of at least one BWP. Activation of a BWP is to be in a state where the BWP is available (or changes to the state where the BWP is available) and is also referred to as “activation,” “enabling,” and the like of a configuration information (configuration) of the BWP (BWP configuration information). Deactivation of a BWP is to be in a state where the BWP is unusable (or changes to the state where the BWP is unusable) and is also referred to as “deactivation,” “disabling,” and the like of a BWP configuration information.” Takeda III at [0032]; WO2019030929A1 at 2. “Activation/deactivation of a BWP may be explicitly or implicitly performed through at least one of physical layer signaling (for example, DCI), Medium Access Control (MAC) signaling (for example, a MAC control element (MAC CE)), and RRC signaling. For example, it is studied to perform activation of a BWP through user-terminal-dedicated RRC signaling. Alternatively, it is studied that DCI explicitly or implicitly indicates activation or deactivation of the BWP. The DCI may be DCI (DL assignment and/or UL grant) to be used for scheduling of a data channel for the user terminal or may be a different kind of DCI (for example, DCI common to one or more user terminals (group DCI or common DCI)). In explicit indication, the DCI may include therein indication information indicating activation or deactivation. In implicit indication, the existence of DCI (for example, DL assignment and/or UL grant) itself may indicate activation or deactivation of the BWP.”

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		Takeda III at [0034]-[0036]; WO2019030929A1 at 2. “In a first aspect, a user terminal monitors (performs blind decoding on) a CORESET (first control resource region) configured in DL BWP #1 (first frequency band) in a carrier, in a certain cycle, to receive DCI. The user terminal controls activation or deactivation of DL BWP #2 (second frequency band) in the carrier, based on the DCI.” Takeda III at [0044]; WO2019030929A1 at 3. “In first activation control, the user terminal may monitor a single CORESET configured in a DL BWP (for example, DL BWP #1) in the carrier, in a certain cycle, to receive (detect) DCI for the DL BWP and/or DCI for a different DL BWP(s) (for example, DL BWP #2) in the carrier. The DCI for DL BWP # 2 is used for scheduling of a PDSCH (DL data channel) in a frequency resource in DL BWP # 2. The user terminal activates DL BWP # 2, based on the DCI for DL BWP # 2. Moreover, the user terminal controls reception of the PDSCH, based on the DCI, in activated DL BWP # 2. FIG. 2 is a diagram to show an example of first activation control according to the first aspect. For example, in FIG. 2, it is assumed that two DL BWPs # 1 and #2 are configured in a carrier configured for the user terminal as shown in FIG. 1B. It is also assumed that DL BWP # 1 is a part of the frequency band of DL BWP # 2. In FIG. 2, it is also assumed that CORESET # 1 is configured in DL BWP # 1 and CORESET # 2 is configured in DL BWP # 2. One or more search spaces are provided in each of CORESET # 1 and CORESET # 2. For example, in CORESET # 1, DCI for DL BWP # 1 and DCI for DL BWP # 2 may be mapped to different search spaces. In FIG. 2, when DL BWP # 1 is in an active state, the user terminal monitors (performs blind decoding on) the DCI for DL BWP # 1 and the DCI for DL BWP # 2 in CORESET # 1 in a certain cycle (for example, every one or more slots, every one or more mini-slots, or every certain number of symbols). When detecting the DCI for DL BWP # 1 in CORESET # 1, the user terminal receives a PDSCH scheduled in (mapped to) a certain time and/or frequency resource (time/frequency resource) of DL BWP # 1, based on the DCI for DL BWP # 1. In contrast, when detecting the DCI for DL BWP # 2 in CORESET # 1, the user terminal activates DL BWP # 2. The user terminal receives a PDSCH scheduled in a certain time/frequency resource of DL BWP # 2, based on the DCI for DL BWP # 2 detected in CORESET # 1.

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		Note that, although the DCI for DL BWP # 1 and the DCI for DL BWP # 2 are detected at different timings in CORESET # 1 in FIG. 2, a plurality of pieces of DCI for the different BWPs may be detectable at the same timing. For example, a plurality of search spaces may be provided corresponding to a plurality of respective BWPs in CORESET # 1, to transmit a plurality of pieces of DCI for the different BWPs in the plurality of respective search spaces. The user terminal may monitor the plurality of search spaces in CORESET # 1 and detect the plurality of pieces of DCI for the different BWPs at the same timing.” Takeda III at [0045]-[0052]; WO2019030929A1 at 3-4. “In contrast, in each BWP-specific CORESET, DCI for each BWP may be transmitted. For example, in the CORESET specific to DL BWP # 1, DL assignment for scheduling a PDSCH in DL BWP # 1 may be transmitted. Moreover, in the CORESET specific to DL BWP # 2, DL assignment for scheduling a PDSCH in DL BWP # 2 may be transmitted.” Takeda III at [0065]; WO2019030929A1 at 5. “The user terminal monitors the CORESET specific to the activated BWP in a certain cycle. For example, in FIG. 3, when DL BWP # 1 is activated, the user terminal monitors the CORESET specific to DL BWP # 1 in a certain cycle. The user terminal receives the PDSCH scheduled in DL BWP # 1, based on the DCI for DL BWP # 1 detected in the CORESET specific to DL BWP # 1.” Takeda III at [0067]; WO2019030929A1 at 5. “In the second fallback mechanism, a single BWP is kept active, while activation or deactivation of a different BWP(s) is controlled. A BWP kept active is also referred to as an “active BWP,” a “primary BWP,” and the like. One or more BWPs for which activation or deactivation is controlled are also referred to as a “secondary BWP(s)” and the like. Note that, when a single BWP is configured in a carrier (for example, FIG. 1A), a primary BWP is configured, and no secondary BWP is configured.” Takeda III at [0070]-[0071]; WO2019030929A1 at 5. “In second activation control, the user terminal monitors a CORESET for each BWP configured in a DL BWP (for example, DL BWP #1) in a carrier, in a certain cycle. The user terminal may receive (detect) DCI for the corresponding BWP in each CORESET. The second activation control is different from the first activation

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		control in that a plurality of CORESETs corresponding to a plurality of respective BWPs are configured in a particular DL BWP. In the following, differences from the first activation control will be mainly described. In the second activation control, in a case that one or more BWPs (one or more DL BWPs and/or one or more UL BWPs) are configured for the user terminal, one or more CORESETs corresponding to the one or more respective DL BWPs may be configured in at least one DL BWP.” Takeda III at [0082]-[0083]; WO2019030929A1 at 6. “In a third aspect, a description will be given of one or more UL BWPs for the user terminal and control of activation or deactivation of the one or more UL BWPs. Only a single UL BWP may be configured or a plurality of UL BWPs may be configured for the user terminal. Activation or deactivation of each UL BWP may be controlled based on explicit or implicit indication information irrespective of activation or deactivation of one or more DL BWPs. For example, when detecting UL grant through monitoring of the CORESET of a DL BWP, the user terminal may activate a UL BWP. Activation or deactivation of a DL BWP may be controlled irrespective of whether UL grant is present or absent.” Takeda III at [0118]-[0120]; WO2019030929A1 at 9. To the extent it is found that Takeda III does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that Takeda III does not anticipate this claim, Takeda III renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine Takeda III with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.
8[a]	The method according to claim 5, further comprising: transmitting, to the user	At least under Pegasus’s apparent infringement theory, Takeda III discloses “transmitting, to the user equipment, downlink (DL) control information containing information that indicates the one of the UL control channel resources for the UL control information transmission.” For example, Takeda III discloses this limitation based on the following exemplary citations:

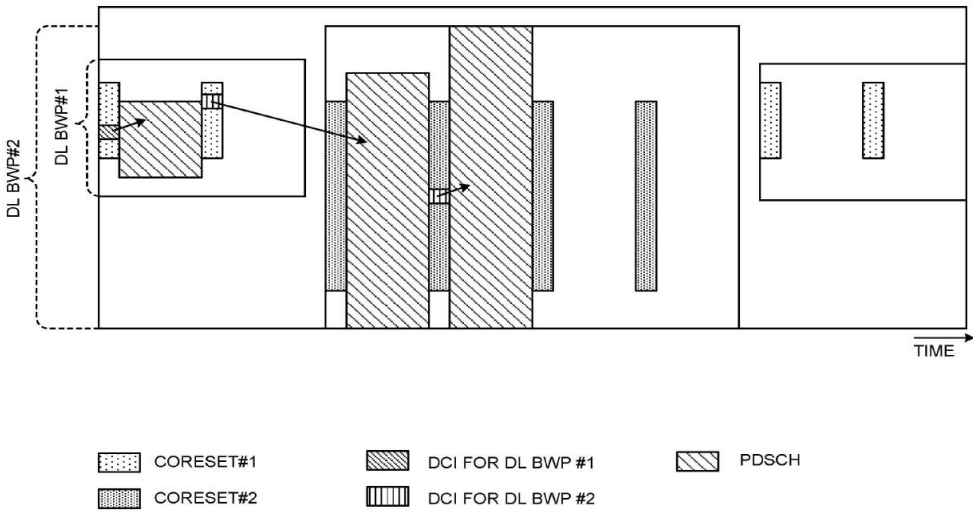
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	equipment, downlink (DL) control information containing information that indicates the one of the UL control channel resources for the UL control information transmission,	“To enable activation/deactivation of one or more frequency bands (for example, BWPs) configured in a carrier to be appropriately controlled. A user terminal of the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band.” Takeda III at Abstract; WO2019030929A1 at Abstract. “For future radio communication systems (for example, NR), it is studied that a user terminal monitors (performs blind decoding for) control resource regions (for example, control resource sets (CORESETs)), each of which is a candidate region to which a DL control channel (for example, a Physical Downlink Control Channel (PDCCH)) is allocated, to receive (detect) DCI.” Takeda III at [0006]; WO2019030929A1 at 1. “An aspect of a user terminal according to the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band.” Takeda III at [0010]; WO2019030929A1 at 1. “At least one DL BWP (for example, a DL BWP included in a primary CC) configured for the user terminal includes a control resource region to be a candidate to which a DL control channel (DCI) is to be allocated. The control resource region may be referred to as a “control resource set (CORESET),” a “control subband,” a “search space set,” a “search space resource set,” a “control region,” a “control subband,” an “NR-PDCCH region,” and the like. The user terminal monitors one or more search spaces in the CORESET to detect DCI for the user terminal. The search space may include a common search space (CSS), to which common DCI (for example, group DCI or common DCI) common to one or more user terminals is allocated, and/or a user-terminal (UE) specific search space (USS (UE-specific Search space)) to which user-terminal-specific DCI (for example, DL assignment and/or UL grant) is allocated.

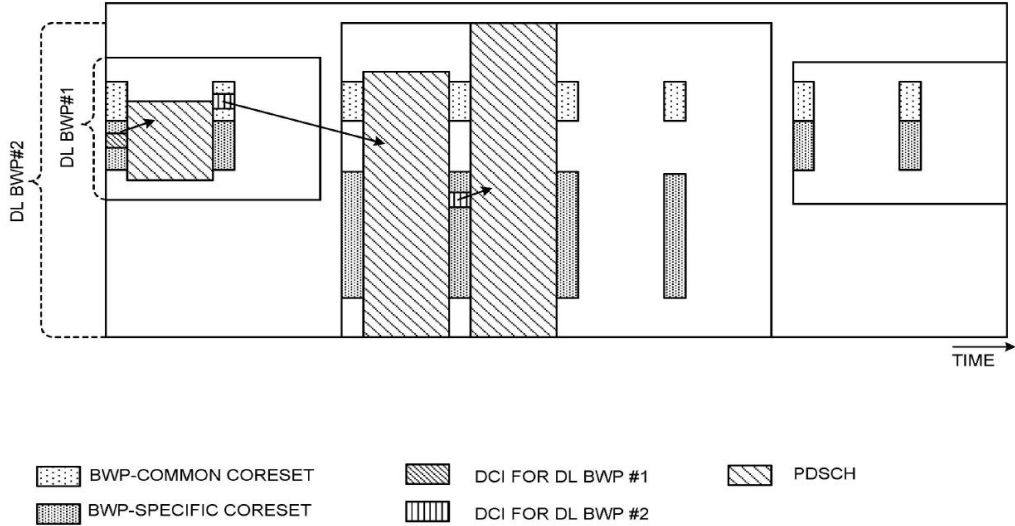
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		The user terminal may receive configuration information of the CORESET (CORESET configuration information) through higher layer signaling (for example, RRC signaling or SIB). The CORESET configuration information may indicate at least one of frequency resources (for example, the number of RBs), time resources (for example, a starting OFDM symbol number), a time length (duration), an Resource Element Group (REG) bundle size (REG size), a transmission type (for example, interleave, non-interleave), a cycle (for example, a monitor cycle per CORESET), and the like of each CORESET.” Takeda III at [0038]-[0040]; WO2019030929A1 at 3. “In a first aspect, a user terminal monitors (performs blind decoding on) a CORESET (first control resource region) configured in DL BWP #1 (first frequency band) in a carrier, in a certain cycle, to receive DCI. The user terminal controls activation or deactivation of DL BWP #2 (second frequency band) in the carrier, based on the DCI.” Takeda III at [0044]; WO2019030929A1 at 3. “In first activation control, the user terminal may monitor a single CORESET configured in a DL BWP (for example, DL BWP #1) in the carrier, in a certain cycle, to receive (detect) DCI for the DL BWP and/or DCI for a different DL BWP(s) (for example, DL BWP #2) in the carrier. The DCI for DL BWP # 2 is used for scheduling of a PDSCH (DL data channel) in a frequency resource in DL BWP # 2. The user terminal activates DL BWP # 2, based on the DCI for DL BWP # 2. Moreover, the user terminal controls reception of the PDSCH, based on the DCI, in activated DL BWP # 2. FIG. 2 is a diagram to show an example of first activation control according to the first aspect. For example, in FIG. 2, it is assumed that two DL BWPs # 1 and #2 are configured in a carrier configured for the user terminal as shown in FIG. 1B. It is also assumed that DL BWP # 1 is a part of the frequency band of DL BWP # 2. In FIG. 2, it is also assumed that CORESET # 1 is configured in DL BWP # 1 and CORESET # 2 is configured in DL BWP # 2. One or more search spaces are provided in each of CORESET # 1 and CORESET # 2. For example, in CORESET # 1, DCI for DL BWP # 1 and DCI for DL BWP # 2 may be mapped to different search spaces. In FIG. 2, when DL BWP # 1 is in an active state, the user terminal monitors (performs blind decoding on) the DCI for DL BWP # 1 and the DCI for DL BWP # 2 in CORESET # 1 in a certain cycle (for example, every one or more slots, every one or more mini-slots, or every certain number of symbols).

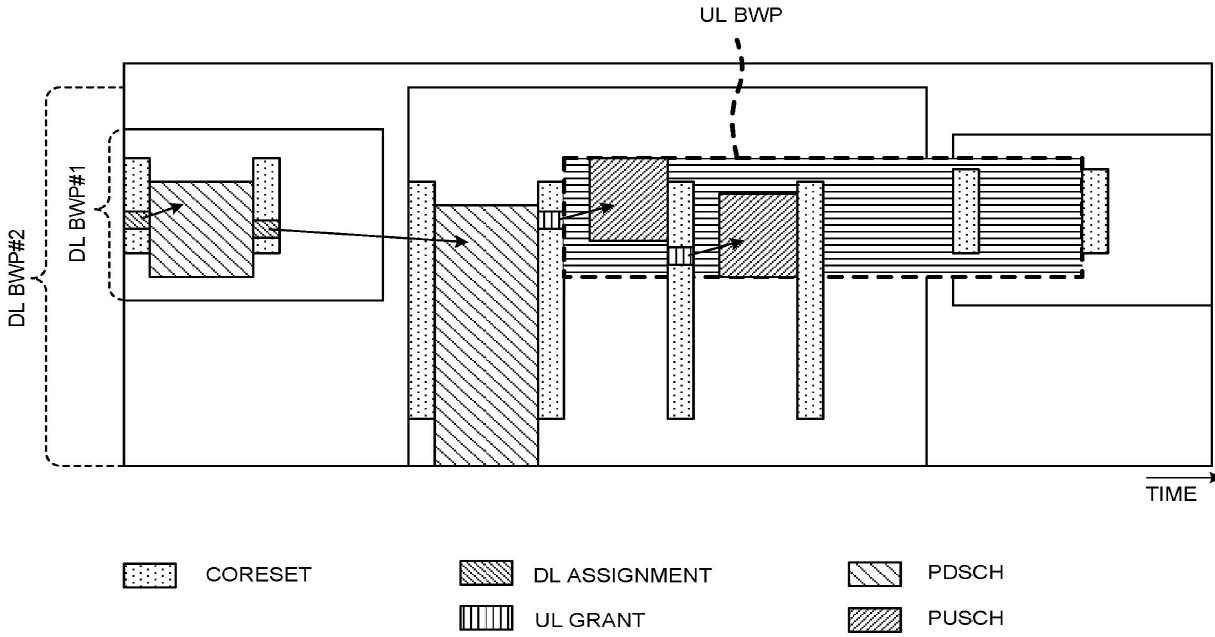
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		When detecting the DCI for DL BWP # 1 in CORESET # 1, the user terminal receives a PDSCH scheduled in (mapped to) a certain time and/or frequency resource (time/frequency resource) of DL BWP # 1, based on the DCI for DL BWP # 1. In contrast, when detecting the DCI for DL BWP # 2 in CORESET # 1, the user terminal activates DL BWP # 2. The user terminal receives a PDSCH scheduled in a certain time/frequency resource of DL BWP # 2, based on the DCI for DL BWP # 2 detected in CORESET # 1.” Takeda III at [0045]-[0051]; WO2019030929A1 at 3-4. “In the BWP-common CORESET, explicit or implicit indication information for activation of a different BWP (here, DL BWP #2) may be transmitted. For example, in the BWP-common CORESET in FIG. 3, the DCI (DL assignment) for DL BWP # 2 for scheduling a PDSCH in DL BWP # 2 is transmitted as implicit indication information.” Takeda III at [0063]; WO2019030929A1 at 5. “In contrast, in each BWP-specific CORESET, DCI for each BWP may be transmitted. For example, in the CORESET specific to DL BWP # 1, DL assignment for scheduling a PDSCH in DL BWP # 1 may be transmitted. Moreover, in the CORESET specific to DL BWP # 2, DL assignment for scheduling a PDSCH in DL BWP # 2 may be transmitted. In FIG. 3, irrespective of which BWP is activated, the user terminal monitors the BWP-common CORESET in a certain cycle (for example, every one or more slots, every one or more mini-slots, or every certain number of symbols). For example, in FIG. 3, the user terminal activates DL BWP # 2 and deactivates DL BWP # 1, based on the DCI for DL BWP # 2 detected in the BWP-common CORESET. The user terminal receives the PDSCH scheduled in DL BWP # 2, based on the DCI for DL BWP # 2.” Takeda III at [0065]-[0066]; WO2019030929A1 at 5. “In FIG. 4, CORESET # 1 may be configured in DL BWP # 1, while CORESET # 2 is configured in DL BWP # 2. A common search space and a UE-specific search space may be included in CORESET # 1. In contrast, a UE-specific search space may be included in CORESET # 2 with no common search space being included in CORESET # 2.

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		In FIG. 4, the user terminal activates DL BWP # 2, based on DCI (DL assignment) for DL BWP # 2 detected in the common search space in CORESET # 1. The user terminal receives the PDSCH scheduled in DL BWP # 2, based on the DCI for DL BWP # 2. The user terminal receives a PDSCH scheduled in DL BWP # 1, based on the DCI (DL assignment) for DL BWP # 1 detected in the UE-specific search space in CORESET # 1. When DL BWP # 2 is activated, the user terminal monitors the UE-specific search space in CORESET # 2 in a certain cycle. The user terminal receives a PDSCH scheduled in DL BWP # 2, based on DCI (DL assignment) for DL BWP # 2 detected in the UE-specific search space.” Takeda III at [0076]-[0079]; WO2019030929A1 at 6. “In second activation control, the user terminal monitors a CORESET for each BWP configured in a DL BWP (for example, DL DL BWP #1) in a carrier, in a certain cycle. The user terminal may receive (detect) DCI for the corresponding BWP in each CORESET. The second activation control is different from the first activation control in that a plurality of CORESETs corresponding to a plurality of respective BWPs are configured in a particular DL BWP. In the following, differences from the first activation control will be mainly described. In the second activation control, in a case that one or more BWPs (one or more DL BWPs and/or one or more UL BWPs) are configured for the user terminal, one or more CORESETs corresponding to the one or more respective DL BWPs may be configured in at least one DL BWP.” Takeda III at [0082]-[0083]; WO2019030929A1 at 6. “The user terminal receives a PDSCH scheduled in DL BWP # 1, based on the DCI for DL BWP # 1 detected in CORESET # 1 in DL BWP # 1. When detecting the DCI for DL BWP # 2 in CORESET # 2 in DL BWP # 1, the user terminal activates DL BWP # 2 and deactivates DL BWP # 1. The user terminal receives a PDSCH scheduled in DL BWP # 2, based on the DCI for DL BWP # 2 detected in CORESET # 2 in DL BWP # 1.” Takeda III at [0086]-[0087]; WO2019030929A1 at 6. “The DCI for activation indicates activation of the different DL BWP. For example, the DCI may be DCI for scheduling (DL assignment or UL grant) or may be DCI of a dedicated format. In a case that the DCI is DCI for scheduling, a particular value (for example, 0) may be configured in the resource allocation field in the DCI. An index (BWP index) of a BWP to be activated may be included in the DCI for activation.”

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		Takeda III at [0092]; WO2019030929A1 at 7. “When the DCI for activation is successfully detected, the user terminal may transmit Acknowledge (ACK) to the radio base station. For example, the user terminal may transmit the ACK by using a UL control channel (for example, a PUCCH) or a UL data channel (for example, PUSCH) of a UL BWP. After receipt of the ACK from the user terminal, the radio base station may start scheduling of a PDSCH in DL BWP # 2.” Takeda III at [0096]; WO2019030929A1 at 7. “For example, in FIG. 8, the user terminal monitors a CORESET configured in an activated DL BWP, in a certain cycle. The user terminal activates a UL BWP, based on UL grant detected in the CORESET. The user terminal transmits a PUSCH scheduled in a UL BWP, based on the UL grant.” Takeda III at [0123]-[0124]; WO2019030929A1 at 9. “As illustrated in FIG. 9, in a case that the plurality of UL BWPs are configured for the user terminal, an index (BWP index) of the UL BWP in which a PUSCH is scheduled may be included in UL grant. The user terminal may control activation of the UL BWPs, based on the BWP index included in the UL grant.” Takeda III at [0128]; WO2019030929A1 at 9. “In a case that a plurality of UL BWPs are configured for the user terminal, transmission of the same UL signal may be possible or transmission of different UL signals may be possible among the plurality of UL BWPs. The UL signal(s) is, for example, at least one of a UL data channel (for example, a PUSCH), a UL control channel (for example, a PUCCH), a reference signal (for example, an Sounding Reference Signal (SRS) and/or a DMRS), and a random access channel (for example, a Physical Random Access Channel (PRACH)). FIG. 10 is a diagram to show an example of transmission of a UL signal in each UL BWP according to the third aspect. In FIG. 10, it is assumed that UL BWP # 1 and UL BWP # 2 having a greater bandwidth than that of UL BWP # 1 are configured for the user terminal. As illustrated in FIG. 10, configuration information of a PRACH and/or a PUCCH is included in UL BWP # 1. At the same time, configuration information of at least one of a PUSCH, an SRS, and a DMRS need not necessarily be included or may be included in UL BWP # 1. Configuration information of at least one of a PUSCH, an SRS, and a DRMS is included in UL BWP # 2. At the same time, configuration information of a PRACH and/or a PUCCH need not necessarily be included or may be included in UL BWP # 2.

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	As described above, UL signals necessarily configured in UL BWPs may be different from each other, and UL signals which the user terminal can transmit in respective UL BWPs may be different from each other. For example, in FIG. 10, the user terminal may control transmission of a PRACH and/or a PUCCH in UL BWP # 1 while controlling transmission of at least one of a PUSCH, an SRS, and a DMRS in UL BWP # 2. In FIG. 10, it is possible that UL signals necessarily configured in UL BWPs are different from each other, and hence when a plurality of UL BWPs are configured for the user terminal, transmission of a UL signal in each UL BWP can be performed efficiently.” Takeda III at [0131]-[0135]; WO2019030929A1 at 10. “FIG. 11 is a diagram to show an example of activation/deactivation control for a UL BWP according to the third aspect. In FIG. 11, the user terminal may activate UL BWP # 2, based on DCI (for example, UL grant allocating a PUSCH in UL BWP # 2 or DCI for activation (for example, UL grant with a resource allocation field being configured at a particular value)), a MAC CE, a RAR, or message 4. In this case, the user terminal may deactivate UL BWP # 1.” Takeda III at [0139]; WO2019030929A1 at 10.  FIG. 2	

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	Takeda III at Fig. 2; WO2019030929A1 at Fig. 2.  The diagram illustrates a timeline for two Downlink Bandwidth Parts (DL BWP#1 and DL BWP#2). DL BWP#1 is shown with a dashed box and contains a CORESET (BWP-COMMON CORESET) and a DCI (DCI FOR DL BWP #1). DL BWP#2 is shown with a dashed box and contains a CORESET (BWP-SPECIFIC CORESET) and a DCI (DCI FOR DL BWP #2). The timeline also shows PDSCH (Physical Downlink Shared Channel) transmissions. The legend identifies the symbols: BWP-COMMON CORESET (dotted pattern), BWP-SPECIFIC CORESET (horizontal lines), DCI FOR DL BWP #1 (diagonal lines), DCI FOR DL BWP #2 (vertical lines), and PDSCH (diagonal lines). The x-axis is labeled TIME. FIG. 3 Takeda III at Fig. 3; WO2019030929A1 at Fig. 3.	

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	 The diagram illustrates a timing diagram for a wireless communication system. It shows two Downlink Bandwidth Parts (DL BWP#1 and DL BWP#2) and one Uplink Bandwidth Part (UL BWP) over time. DL BWP#1 is active during the first two time slots, while DL BWP#2 is active during the third and fourth time slots. The UL BWP is active during the third and fourth time slots. The diagram also shows the timing of CORESET (Control Resource Set), DL ASSIGNMENT, UL GRANT, PDSCH (Physical Downlink Shared Channel), and PUSCH (Physical Uplink Shared Channel). The legend indicates that CORESET is represented by a dotted pattern, DL ASSIGNMENT by a diagonal line pattern, UL GRANT by a vertical line pattern, PDSCH by a horizontal line pattern, and PUSCH by a diagonal line pattern. The x-axis is labeled 'TIME' with an arrow pointing to the right. FIG. 8 Takeda III at Fig. 8; WO2019030929A1 at Fig. 8.	

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		The diagram illustrates a sequence of events over time. It shows two Downlink Bandwidth Parts (DL BWP#1 and DL BWP#2) and two Uplink Bandwidth Parts (UL BWP#1 and UL BWP#2). DL BWP#1 is active during the first two time slots, while DL BWP#2 is active during the last two. UL BWP#1 is active during the first two time slots, and UL BWP#2 is active during the last two. The diagram also shows the timing of CORESET (Control Resource Set), DL ASSIGNMENT (Downlink Assignment), UL GRANT (Uplink Grant), PDSCH (Physical Downlink Shared Channel), and PUSCH (Physical Uplink Shared Channel). The legend indicates that CORESET is represented by a dotted pattern, DL ASSIGNMENT by a diagonal line pattern, UL GRANT by a vertical line pattern, PDSCH by a horizontal line pattern, and PUSCH by a diagonal line pattern. The x-axis is labeled 'TIME'. FIG. 9 Takeda III at Fig. 9; WO2019030929A1 at Fig. 9.

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		TO HIGHER STATION APPARATUS 30 OR TO OTHER RADIO BASE STATIONS 10 FIG. 13 Takeda III at Fig. 13; WO2019030929A1 at Fig. 13.

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		FIG. 14 Takeda III at Fig. 14; WO2019030929A1 at Fig. 14. To the extent it is found that Takeda III does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that Takeda III does not anticipate this claim, Takeda III renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine Takeda III with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.

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8[b]	wherein the one of the UL control channel resources is indicated to the UE through the DL control information.	At least under Pegasus’s apparent infringement theory, Takeda III discloses “wherein the one of the UL control channel resources is indicated to the UE through the DL control information.” For example, Takeda III discloses this limitation based on the following exemplary citations: “To enable activation/deactivation of one or more frequency bands (for example, BWPs) configured in a carrier to be appropriately controlled. A user terminal of the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band.” Takeda III at Abstract; WO2019030929A1 at Abstract. “For future radio communication systems (for example, NR), it is studied that a user terminal monitors (performs blind decoding for) control resource regions (for example, control resource sets (CORESETs)), each of which is a candidate region to which a DL control channel (for example, a Physical Downlink Control Channel (PDCCH)) is allocated, to receive (detect) DCI.” Takeda III at [0006]; WO2019030929A1 at 1. “An aspect of a user terminal according to the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band.” Takeda III at [0010]; WO2019030929A1 at 1. “At least one DL BWP (for example, a DL BWP included in a primary CC) configured for the user terminal includes a control resource region to be a candidate to which a DL control channel (DCI) is to be allocated. The control resource region may be referred to as a “control resource set (CORESET),” a “control subband,” a “search space set,” a “search space resource set,” a “control region,” a “control subband,” an “NR-PDCCH region,” and the like. The user terminal monitors one or more search spaces in the CORESET to detect DCI for the user terminal. The search space may include a common search space (CSS), to which common DCI (for example, group DCI

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		or common DCI) common to one or more user terminals is allocated, and/or a user-terminal (UE) specific search space (USS (UE-specific Search space)) to which user-terminal-specific DCI (for example, DL assignment and/or UL grant) is allocated. The user terminal may receive configuration information of the CORESET (CORESET configuration information) through higher layer signaling (for example, RRC signaling or SIB). The CORESET configuration information may indicate at least one of frequency resources (for example, the number of RBs), time resources (for example, a starting OFDM symbol number), a time length (duration), an Resource Element Group (REG) bundle size (REG size), a transmission type (for example, interleave, non-interleave), a cycle (for example, a monitor cycle per CORESET), and the like of each CORESET.” Takeda III at [0038]-[0040]; WO2019030929A1 at 3. “In a first aspect, a user terminal monitors (performs blind decoding on) a CORESET (first control resource region) configured in DL BWP #1 (first frequency band) in a carrier, in a certain cycle, to receive DCI. The user terminal controls activation or deactivation of DL BWP #2 (second frequency band) in the carrier, based on the DCI.” Takeda III at [0044]; WO2019030929A1 at 3. “In first activation control, the user terminal may monitor a single CORESET configured in a DL BWP (for example, DL BWP #1) in the carrier, in a certain cycle, to receive (detect) DCI for the DL BWP and/or DCI for a different DL BWP(s) (for example, DL BWP #2) in the carrier. The DCI for DL BWP # 2 is used for scheduling of a PDSCH (DL data channel) in a frequency resource in DL BWP # 2. The user terminal activates DL BWP # 2, based on the DCI for DL BWP # 2. Moreover, the user terminal controls reception of the PDSCH, based on the DCI, in activated DL BWP # 2. FIG. 2 is a diagram to show an example of first activation control according to the first aspect. For example, in FIG. 2, it is assumed that two DL BWPs # 1 and #2 are configured in a carrier configured for the user terminal as shown in FIG. 1B. It is also assumed that DL BWP # 1 is a part of the frequency band of DL BWP # 2. In FIG. 2, it is also assumed that CORESET # 1 is configured in DL BWP # 1 and CORESET # 2 is configured in DL BWP # 2. One or more search spaces are provided in each of CORESET # 1 and CORESET # 2. For example, in CORESET # 1, DCI for DL BWP # 1 and DCI for DL BWP # 2 may be mapped to different search spaces.

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Claim Language		Exemplary Citations to Takeda III
		In FIG. 2, when DL BWP # 1 is in an active state, the user terminal monitors (performs blind decoding on) the DCI for DL BWP # 1 and the DCI for DL BWP # 2 in CORESET # 1 in a certain cycle (for example, every one or more slots, every one or more mini-slots, or every certain number of symbols). When detecting the DCI for DL BWP # 1 in CORESET # 1, the user terminal receives a PDSCH scheduled in (mapped to) a certain time and/or frequency resource (time/frequency resource) of DL BWP # 1, based on the DCI for DL BWP # 1. In contrast, when detecting the DCI for DL BWP # 2 in CORESET # 1, the user terminal activates DL BWP # 2. The user terminal receives a PDSCH scheduled in a certain time/frequency resource of DL BWP # 2, based on the DCI for DL BWP # 2 detected in CORESET # 1.” Takeda III at [0045]-[0051]; WO2019030929A1 at 3-4. “In the BWP-common CORESET, explicit or implicit indication information for activation of a different BWP (here, DL BWP #2) may be transmitted. For example, in the BWP-common CORESET in FIG. 3, the DCI (DL assignment) for DL BWP # 2 for scheduling a PDSCH in DL BWP # 2 is transmitted as implicit indication information.” Takeda III at [0063]; WO2019030929A1 at 5. “In contrast, in each BWP-specific CORESET, DCI for each BWP may be transmitted. For example, in the CORESET specific to DL BWP # 1, DL assignment for scheduling a PDSCH in DL BWP # 1 may be transmitted. Moreover, in the CORESET specific to DL BWP # 2, DL assignment for scheduling a PDSCH in DL BWP # 2 may be transmitted. In FIG. 3, irrespective of which BWP is activated, the user terminal monitors the BWP-common CORESET in a certain cycle (for example, every one or more slots, every one or more mini-slots, or every certain number of symbols). For example, in FIG. 3, the user terminal activates DL BWP # 2 and deactivates DL BWP # 1, based on the DCI for DL BWP # 2 detected in the BWP-common CORESET. The user terminal receives the PDSCH scheduled in DL BWP # 2, based on the DCI for DL BWP # 2.” Takeda III at [0065]-[0066]; WO2019030929A1 at 5. “In FIG. 4, CORESET # 1 may be configured in DL BWP # 1, while CORESET # 2 is configured in DL BWP # 2. A common search space and a UE-specific search space may be included in CORESET # 1. In contrast, a

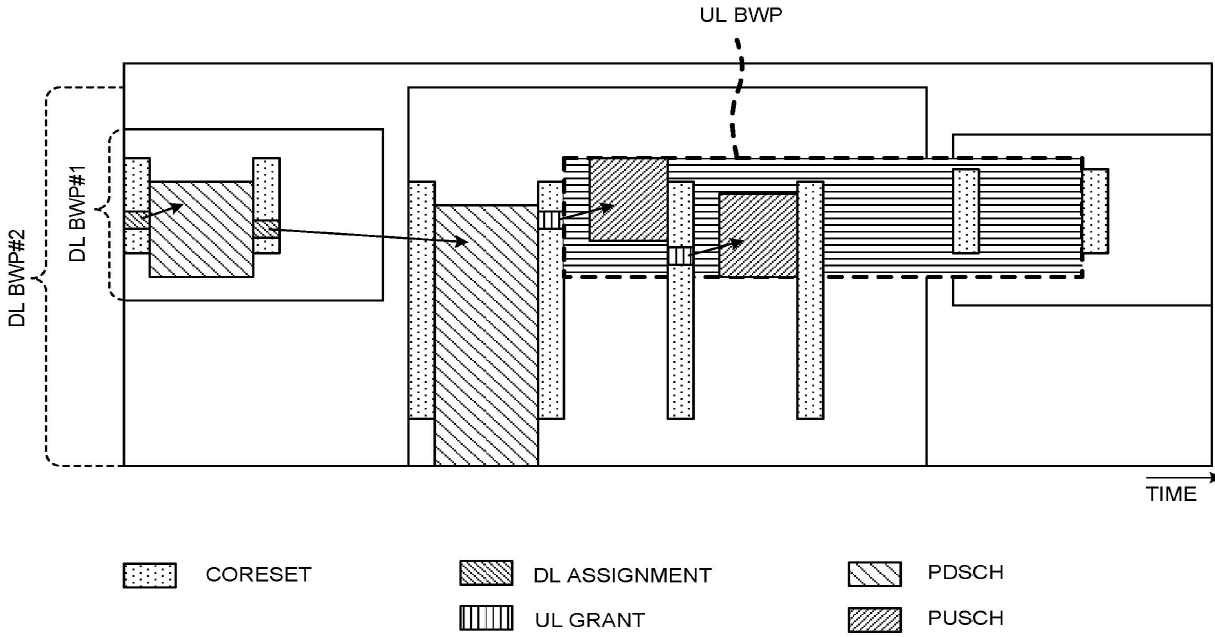
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Claim Language		Exemplary Citations to Takeda III
		UE-specific search space may be included in CORESET # 2 with no common search space being included in CORESET # 2. In FIG. 4, the user terminal activates DL BWP # 2, based on DCI (DL assignment) for DL BWP # 2 detected in the common search space in CORESET # 1. The user terminal receives the PDSCH scheduled in DL BWP # 2, based on the DCI for DL BWP # 2. The user terminal receives a PDSCH scheduled in DL BWP # 1, based on the DCI (DL assignment) for DL BWP # 1 detected in the UE-specific search space in CORESET # 1. When DL BWP # 2 is activated, the user terminal monitors the UE-specific search space in CORESET # 2 in a certain cycle. The user terminal receives a PDSCH scheduled in DL BWP # 2, based on DCI (DL assignment) for DL BWP # 2 detected in the UE-specific search space.” Takeda III at [0076]-[0079]; WO2019030929A1 at 6. “In second activation control, the user terminal monitors a CORESET for each BWP configured in a DL BWP (for example, DL DL BWP #1) in a carrier, in a certain cycle. The user terminal may receive (detect) DCI for the corresponding BWP in each CORESET. The second activation control is different from the first activation control in that a plurality of CORESETs corresponding to a plurality of respective BWPs are configured in a particular DL BWP. In the following, differences from the first activation control will be mainly described. In the second activation control, in a case that one or more BWPs (one or more DL BWPs and/or one or more UL BWPs) are configured for the user terminal, one or more CORESETs corresponding to the one or more respective DL BWPs may be configured in at least one DL BWP.” Takeda III at [0082]-[0083]; WO2019030929A1 at 6. “The user terminal receives a PDSCH scheduled in DL BWP # 1, based on the DCI for DL BWP # 1 detected in CORESET # 1 in DL BWP # 1. When detecting the DCI for DL BWP # 2 in CORESET # 2 in DL BWP # 1, the user terminal activates DL BWP # 2 and deactivates DL BWP # 1. The user terminal receives a PDSCH scheduled in DL BWP # 2, based on the DCI for DL BWP # 2 detected in CORESET # 2 in DL BWP # 1.” Takeda III at [0086]-[0087]; WO2019030929A1 at 6. “The DCI for activation indicates activation of the different DL BWP. For example, the DCI may be DCI for scheduling (DL assignment or UL grant) or may be DCI of a dedicated format. In a case that the DCI is DCI

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Claim Language		Exemplary Citations to Takeda III
		for scheduling, a particular value (for example, 0) may be configured in the resource allocation field in the DCI. An index (BWP index) of a BWP to be activated may be included in the DCI for activation.” Takeda III at [0092]; WO2019030929A1 at 7. “When the DCI for activation is successfully detected, the user terminal may transmit Acknowledge (ACK) to the radio base station. For example, the user terminal may transmit the ACK by using a UL control channel (for example, a PUCCH) or a UL data channel (for example, PUSCH) of a UL BWP. After receipt of the ACK from the user terminal, the radio base station may start scheduling of a PDSCH in DL BWP # 2.” Takeda III at [0096]; WO2019030929A1 at 7. “For example, in FIG. 8, the user terminal monitors a CORESET configured in an activated DL BWP, in a certain cycle. The user terminal activates a UL BWP, based on UL grant detected in the CORESET. The user terminal transmits a PUSCH scheduled in a UL BWP, based on the UL grant.” Takeda III at [0123]-[0124]; WO2019030929A1 at 9. “As illustrated in FIG. 9, in a case that the plurality of UL BWPs are configured for the user terminal, an index (BWP index) of the UL BWP in which a PUSCH is scheduled may be included in UL grant. The user terminal may control activation of the UL BWPs, based on the BWP index included in the UL grant.” Takeda III at [0128]; WO2019030929A1 at 9. “In a case that a plurality of UL BWPs are configured for the user terminal, transmission of the same UL signal may be possible or transmission of different UL signals may be possible among the plurality of UL BWPs. The UL signal(s) is, for example, at least one of a UL data channel (for example, a PUSCH), a UL control channel (for example, a PUCCH), a reference signal (for example, an Sounding Reference Signal (SRS) and/or a DMRS), and a random access channel (for example, a Physical Random Access Channel (PRACH)). FIG. 10 is a diagram to show an example of transmission of a UL signal in each UL BWP according to the third aspect. In FIG. 10, it is assumed that UL BWP # 1 and UL BWP # 2 having a greater bandwidth than that of UL BWP # 1 are configured for the user terminal. As illustrated in FIG. 10, configuration information of a PRACH and/or a PUCCH is included in UL BWP # 1. At the same time, configuration information of at least one of a PUSCH, an SRS, and a DMRS need not necessarily be included or may be included in UL BWP # 1. Configuration information of at least one of a

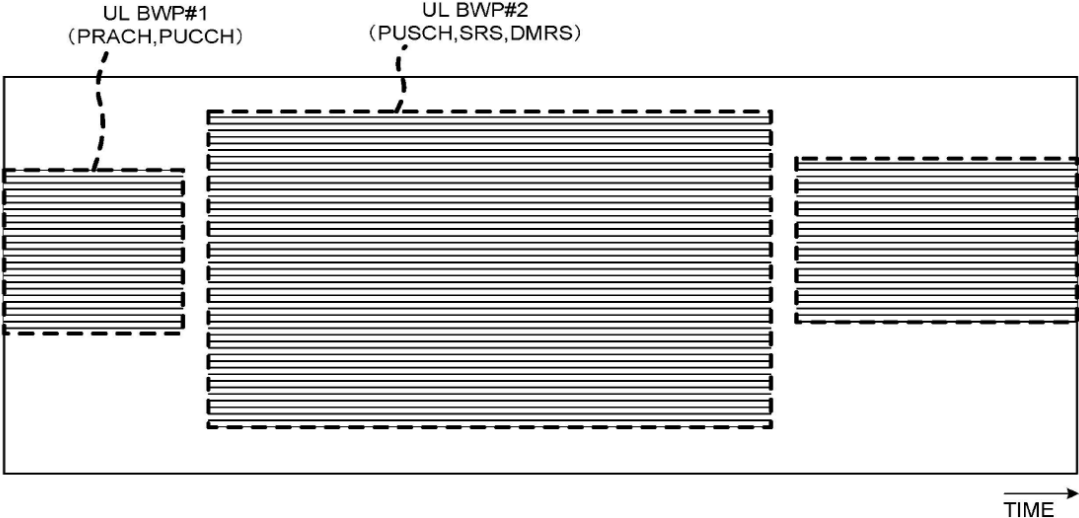
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Claim Language		Exemplary Citations to Takeda III
		PUSCH, an SRS, and a DRMS is included in UL BWP # 2. At the same time, configuration information of a PRACH and/or a PUCCH need not necessarily be included or may be included in UL BWP # 2. As described above, UL signals necessarily configured in UL BWPs may be different from each other, and UL signals which the user terminal can transmit in respective UL BWPs may be different from each other. For example, in FIG. 10, the user terminal may control transmission of a PRACH and/or a PUCCH in UL BWP # 1 while controlling transmission of at least one of a PUSCH, an SRS, and a DMRS in UL BWP # 2. In FIG. 10, it is possible that UL signals necessarily configured in UL BWPs are different from each other, and hence when a plurality of UL BWPs are configured for the user terminal, transmission of a UL signal in each UL BWP can be performed efficiently.” Takeda III at [0131]-[0135]; WO2019030929A1 at 10. “FIG. 11 is a diagram to show an example of activation/deactivation control for a UL BWP according to the third aspect. In FIG. 11, the user terminal may activate UL BWP # 2, based on DCI (for example, UL grant allocating a PUSCH in UL BWP # 2 or DCI for activation (for example, UL grant with a resource allocation field being configured at a particular value)), a MAC CE, a RAR, or message 4. In this case, the user terminal may deactivate UL BWP # 1.” Takeda III at [0139]; WO2019030929A1 at 10.

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Claim Language		Exemplary Citations to Takeda III
		FIG. 2 Takeda III at Fig. 2; WO2019030929A1 at Fig. 2.

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Claim Language		Exemplary Citations to Takeda III
		FIG. 3 Takeda III at Fig. 3; WO2019030929A1 at Fig. 3.

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Claim Language	Exemplary Citations to Takeda III	
	 The diagram illustrates a timing diagram for a wireless communication system. It shows two Downlink Bandwidth Parts (DL BWP#1 and DL BWP#2) and one Uplink Bandwidth Part (UL BWP) over time. DL BWP#1 is active during the first two time slots, while DL BWP#2 is active during the third and fourth time slots. The UL BWP is active during the third and fourth time slots. The diagram also shows the timing of CORESET (Control Resource Set), DL ASSIGNMENT, UL GRANT, PDSCH (Physical Downlink Shared Channel), and PUSCH (Physical Uplink Shared Channel). The legend indicates that CORESET is represented by a dotted pattern, DL ASSIGNMENT by a diagonal line pattern, UL GRANT by a vertical line pattern, PDSCH by a horizontal line pattern, and PUSCH by a diagonal line pattern. The x-axis is labeled TIME. FIG. 8 Takeda III at Fig. 8; WO2019030929A1 at Fig. 8.	

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Claim Language		Exemplary Citations to Takeda III
		The diagram illustrates a sequence of events over time. It shows two Downlink Bandwidth Parts (DL BWP#1 and DL BWP#2) and two Uplink Bandwidth Parts (UL BWP#1 and UL BWP#2). DL BWP#1 is active during the first two time slots, while DL BWP#2 is active during the third and fourth. UL BWP#1 is active during the first and third time slots, and UL BWP#2 is active during the second and fourth. The diagram also shows the timing of CORESET (Control Resource Set), DL ASSIGNMENT (Downlink Assignment), UL GRANT (Uplink Grant), PDSCH (Physical Downlink Shared Channel), and PUSCH (Physical Uplink Shared Channel). The legend indicates that CORESET is represented by a dotted pattern, DL ASSIGNMENT by a diagonal line pattern, UL GRANT by a vertical line pattern, PDSCH by a horizontal line pattern, and PUSCH by a diagonal line pattern. The x-axis is labeled 'TIME'. FIG. 9 Takeda III at Fig. 9; WO2019030929A1 at Fig. 9.

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Claim Language	Exemplary Citations to Takeda III	
	 The diagram illustrates two overlapping bandwidth parts (BWPs) over time. A horizontal axis at the bottom is labeled 'TIME' with an arrow pointing right. Two sets of horizontal bars represent the active bandwidth of two different BWPs. The first set, on the left, is labeled 'UL BWP#1 (PRACH, PUCCH)' with a dashed line. The second set, in the middle, is labeled 'UL BWP#2 (PUSCH, SRS, DMRS)' with a dashed line. The two BWPs overlap in time, with BWP#2 starting before BWP#1 ends and ending after BWP#1 ends.	
	FIG. 10 Takeda III at Fig. 10; WO2019030929A1 at Fig. 10.	

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		TO HIGHER STATION APPARATUS 30 OR TO OTHER RADIO BASE STATIONS 10 FIG. 13 Takeda III at Fig. 13; WO2019030929A1 at Fig. 13.

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Claim Language	Exemplary Citations to Takeda III	
	FIG. 14 Takeda III at Fig. 14; WO2019030929A1 at Fig. 14. To the extent it is found that Takeda III does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that Takeda III does not anticipate this claim, Takeda III renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine Takeda III with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.	

3. Claim 9

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Claim Language		Exemplary Citations to Takeda III
9[pre]	A user equipment (UE) for transmitting uplink (UL) control information, comprising:	To the extent the preamble is limiting, at least under Pegasus’s apparent infringement theory, Takeda III discloses “A user equipment (UE) for transmitting uplink (UL) control information, comprising.” For example, Takeda III discloses this limitation based on the following exemplary citations: “To enable activation/deactivation of one or more frequency bands (for example, BWPs) configured in a carrier to be appropriately controlled. A user terminal of the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band.” Takeda III at Abstract; WO2019030929A1 at Abstract. “A user terminal (User Equipment (UE)) controls reception of a DL data channel (also referred to as, for example, a “Physical Downlink Shared Channel (PDSCH),” a “DL shared channel,” and the like), based on downlink control information (DCI) (also referred to as “DL assignment” and the like) from a radio base station (for example, eNodeB (eNB)). Moreover, the user terminal controls transmission of a UL data channel (for example, a PUSCH (also referred to as Physical Uplink Shared Channel), a “UL shared channel” and the like), based on DCI (also referred to as “UL grant” and the like) from the radio base station.” Takeda III at [0004]; WO2019030929A1 at 1. “An aspect of a user terminal according to the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band.” Takeda III at [0010]; WO2019030929A1 at 1.

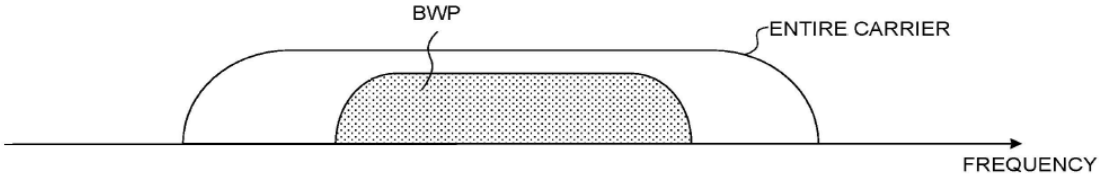
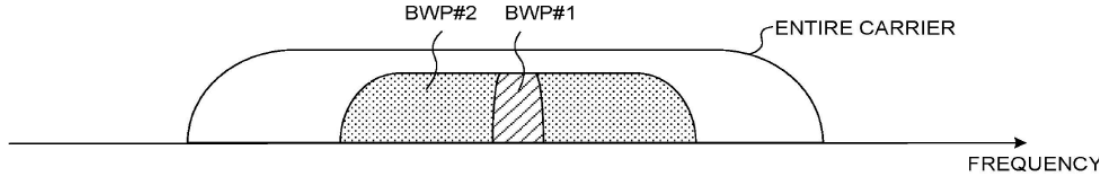
Invalidity of U.S. Patent 11,219,000 in view of Takeda III		
Claim Language		Exemplary Citations to Takeda III
		FIG. 15 Takeda III at Fig. 15; WO2019030929A1 at Fig. 15.

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Claim Language		Exemplary Citations to Takeda III
		<pre>graph LR; 401[CONTROL SECTION] --> 402[TRANSMISSION SIGNAL GENERATION SECTION]; 402 --> 403[MAPPING SECTION]; 403 --> TR203[TRANSMITTING/RECEIVING SECTION 203]; TR203 --> 404[RECEIVED SIGNAL PROCESSING SECTION]; 404 --> 405[MEASUREMENT SECTION]; 405 --> 401;</pre> FIG. 16 Takeda III at Fig. 16; WO2019030929A1 at Fig. 16. To the extent it is found that Takeda III does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that Takeda III does not anticipate this claim, Takeda III renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine Takeda III with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.

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Claim Language		Exemplary Citations to Takeda III
9[a]	a receiver configured to receive, from a base station, UL control channel resource set configuration information for UL control information transmission;	At least under Pegasus’s apparent infringement theory, Takeda III discloses “a receiver configured to receive, from a base station, UL control channel resource set configuration information for UL control information transmission.” For example, Takeda III discloses this limitation based on the following exemplary citations: “To enable activation/deactivation of one or more frequency bands (for example, BWPs) configured in a carrier to be appropriately controlled. A user terminal of the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band.” Takeda III at Abstract; WO2019030929A1 at Abstract. “A user terminal (User Equipment (UE)) controls reception of a DL data channel (also referred to as, for example, a “Physical Downlink Shared Channel (PDSCH),” a “DL shared channel,” and the like), based on downlink control information (DCI) (also referred to as “DL assignment” and the like) from a radio base station (for example, eNodeB (eNB)). Moreover, the user terminal controls transmission of a UL data channel (for example, a PUSCH (also referred to as Physical Uplink Shared Channel), a “UL shared channel” and the like), based on DCI (also referred to as “UL grant” and the like) from the radio base station.” Takeda III at [0004]; WO2019030929A1 at 1. “An aspect of a user terminal according to the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band.” Takeda III at [0010]; WO2019030929A1 at 1. “FIGS. 1A and 1B are diagrams to show configuration examples of a BWP(s). As shown in FIG. 1A, one BWP may be configured per carrier for a user terminal.”

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Claim Language		Exemplary Citations to Takeda III
		Takeda III at [0030]; WO2019030929A1 at 2. “The user terminal may control activation/deactivation of at least one BWP. Activation of a BWP is to be in a state where the BWP is available (or changes to the state where the BWP is available) and is also referred to as “activation,” “enabling,” and the like of a configuration information (configuration) of the BWP (BWP configuration information). Deactivation of a BWP is to be in a state where the BWP is unusable (or changes to the state where the BWP is unusable) and is also referred to as “deactivation,” “disabling,” and the like of a BWP configuration information.” Takeda III at [0032]; WO2019030929A1 at 2. “The user terminal may receive configuration information of the CORESET (CORESET configuration information) through higher layer signaling (for example, RRC signaling or SIB). The CORESET configuration information may indicate at least one of frequency resources (for example, the number of RBs), time resources (for example, a starting OFDM symbol number), a time length (duration), an Resource Element Group (REG) bundle size (REG size), a transmission type (for example, interleave, non-interleave), a cycle (for example, a monitor cycle per CORESET), and the like of each CORESET.” Takeda III at [0040]; WO2019030929A1 at 3. “In view of this, the inventors of the present invention studied a method for controlling activation/deactivation of at least one BWP configured for a user terminal, more simply and/or at higher processing efficiency, and reached the present invention. In a first aspect below, a description will be mainly given of control of activation/deactivation of at least one DL BWP configured for a user terminal. In a second aspect, a description will be mainly given of a configuration of a BWP(s) (DL BWP and/or UL BWP). In a third aspect, a description will be mainly given of control of activation/deactivation of at least one UL BWP configured for a user terminal.” Takeda III at [0042]; WO2019030929A1 at 3. “The transmitting/receiving section 103 can be constituted with transmitters/receivers, transmitting/receiving circuits, or transmitting/receiving apparatus that can be described based on

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Claim Language		Exemplary Citations to Takeda III
		general understanding of the technical field to which the present invention pertains. Note that each transmitting/receiving section 103 may be structured as a transmitting/receiving section in one entity, or may be constituted with a transmitting section and a receiving section.” Takeda III at [0161]; WO2019030929A1 at 12-13. “FIG. 15 is a diagram to show an example of an overall structure of a user terminal according to the present embodiment. Each user terminal 20 includes a plurality of transmitting/receiving antennas 201 for MIMO transmission, amplifying sections 202, transmitting/receiving sections 203, a baseband signal processing section 204, and an application section 205. The user terminal 20 may configure “transmitting apparatus” in UL and configure “receiving apparatus” in DL. Radio frequency signals that are received in the plurality of respective transmitting/receiving antennas 201 are amplified in the respective amplifying sections 202. The transmitting/receiving sections 203 receive the DL signals amplified in the amplifying sections 202. The transmitting/receiving sections 203 convert the received signals into baseband signals through frequency conversion, and output the baseband signals to the baseband signal processing section 204.” Takeda III at [0181]-[0182]; WO2019030929A1 at 14. “The transmitting/receiving sections 203 receive DL signals (for example, at least one of a DL control signal (also referred to as a “DL control channel,” “DCI,” and the like)), DL data signals (also referred to as a “DL data channel,” “DL data,” and the like), and a reference signal). The transmitting/receiving sections 203 also transmit UL signals (for example, at least one of a UL control signal (also referred to as a “UL control channel,” “UCI,” or the like)), UL data signals (also referred to as a “UL data channel,” “UL data,” or the like), and a reference signal). The transmitting/receiving sections 203 may receive higher layer control information (for example, control information through a MAC CE and/or RRC signaling). The transmitting/receiving sections 203 can be transmitters/receivers, transmitting/receiving circuits, or transmitting/receiving apparatus that can be described based on general understanding of the technical field to which the present invention pertains. The transmitting/receiving sections 203 may be structured as transmitting/receiving sections in one entity, or may be constituted with transmitting sections and receiving sections.”

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Claim Language	Exemplary Citations to Takeda III	
	Takeda III at [0186]-[0188]; WO2019030929A1 at 15. FIG. 1A  FIG. 1B  Takeda III at Figs. 1A-1B.; WO2019030929A1 at Figs. 1A - 1B.	

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Claim Language		Exemplary Citations to Takeda III
		FIG. 15 Takeda III at Fig. 15; WO2019030929A1 at Fig. 15.

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Claim Language		Exemplary Citations to Takeda III
		<pre>graph LR; 401[CONTROL SECTION] --> 402[TRANSMISSION SIGNAL GENERATION SECTION]; 402 --> 403[MAPPING SECTION]; 403 --> TR203[TRANSMITTING/RECEIVING SECTION 203]; TR203 --> 404[RECEIVED SIGNAL PROCESSING SECTION]; 404 --> 405[MEASUREMENT SECTION]; 405 --> 401;</pre>
		FIG. 16 Takeda III at Fig. 16; WO2019030929A1 at Fig. 16. To the extent it is found that Takeda III does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that Takeda III does not anticipate this claim, Takeda III renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine Takeda III with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.

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Claim Language		Exemplary Citations to Takeda III
9[b]	a controller configured to determine one of UL control channel resource sets contained in the received UL control channel resource set configuration information, and determine one of UL control channel resources configuring the determined one UL control channel resource set; and	At least under Pegasus's apparent infringement theory, Takeda III discloses "a controller configured to determine one of UL control channel resource sets contained in the received UL control channel resource set configuration information, and determine one of UL control channel resources configuring the determined one UL control channel resource set." For example, Takeda III discloses this limitation based on the following exemplary citations: "To enable activation/deactivation of one or more frequency bands (for example, BWPs) configured in a carrier to be appropriately controlled. A user terminal of the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band." Takeda III at Abstract; WO2019030929A1 at Abstract. "For future radio communication systems (for example, NR), it is studied that a user terminal monitors (performs blind decoding for) control resource regions (for example, control resource sets (CORESETs)), each of which is a candidate region to which a DL control channel (for example, a Physical Downlink Control Channel (PDCCH)) is allocated, to receive (detect) DCI." Takeda III at [0006]; WO2019030929A1 at 1. "At least one DL BWP (for example, a DL BWP included in a primary CC) configured for the user terminal includes a control resource region to be a candidate to which a DL control channel (DCI) is to be allocated. The control resource region may be referred to as a "control resource set (CORESET)," a "control subband," a "search space set," a "search space resource set," a "control region," a "control subband," an "NR-PDCCH region," and the like. The user terminal monitors one or more search spaces in the CORESET to detect DCI for the user terminal. The search space may include a common search space (CSS), to which common DCI (for example, group DCI or common DCI) common to one or more user terminals is allocated, and/or a user-terminal (UE) specific search space (USS (UE-specific Search space)) to which user-terminal-specific DCI (for example, DL assignment and/or UL grant) is allocated.

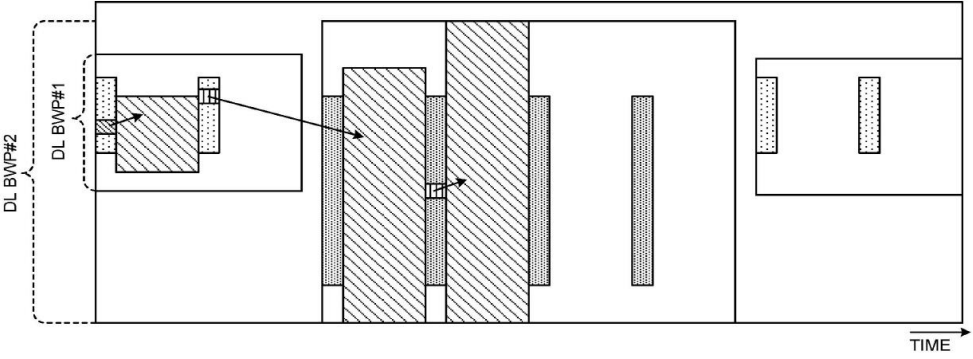
Invalidity of U.S. Patent 11,219,000 in view of Takeda III		
Claim Language		Exemplary Citations to Takeda III
		The user terminal may receive configuration information of the CORESET (CORESET configuration information) through higher layer signaling (for example, RRC signaling or SIB). The CORESET configuration information may indicate at least one of frequency resources (for example, the number of RBs), time resources (for example, a starting OFDM symbol number), a time length (duration), an Resource Element Group (REG) bundle size (REG size), a transmission type (for example, interleave, non-interleave), a cycle (for example, a monitor cycle per CORESET), and the like of each CORESET.” Takeda III at [0038]-[0040]; WO2019030929A1 at 3. “In FIG. 2, it is also assumed that CORESET # 1 is configured in DL BWP # 1 and CORESET # 2 is configured in DL BWP # 2. One or more search spaces are provided in each of CORESET # 1 and CORESET # 2. For example, in CORESET # 1, DCI for DL BWP # 1 and DCI for DL BWP # 2 may be mapped to different search spaces. In FIG. 2, when DL BWP # 1 is in an active state, the user terminal monitors (performs blind decoding on) the DCI for DL BWP # 1 and the DCI for DL BWP # 2 in CORESET # 1 in a certain cycle (for example, every one or more slots, every one or more mini-slots, or every certain number of symbols). When detecting the DCI for DL BWP # 1 in CORESET # 1, the user terminal receives a PDSCH scheduled in (mapped to) a certain time and/or frequency resource (time/frequency resource) of DL BWP # 1, based on the DCI for DL BWP # 1. In contrast, when detecting the DCI for DL BWP # 2 in CORESET # 1, the user terminal activates DL BWP # 2. The user terminal receives a PDSCH scheduled in a certain time/frequency resource of DL BWP # 2, based on the DCI for DL BWP # 2 detected in CORESET # 1. Note that, although the DCI for DL BWP # 1 and the DCI for DL BWP # 2 are detected at different timings in CORESET # 1 in FIG. 2, a plurality of pieces of DCI for the different BWPs may be detectable at the same timing. For example, a plurality of search spaces may be provided corresponding to a plurality of respective BWPs in CORESET # 1, to transmit a plurality of pieces of DCI for the different BWPs in the plurality of respective search spaces. The user terminal may monitor the plurality of search spaces in CORESET # 1 and detect the plurality of pieces of DCI for the different BWPs at the same timing.

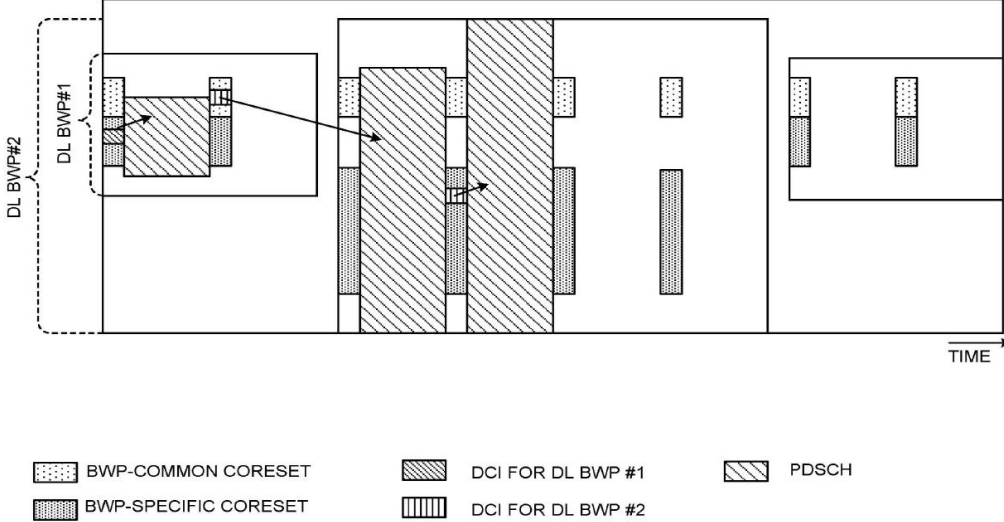
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Claim Language		Exemplary Citations to Takeda III
		When DL BWP # 2 is activated, the user terminal monitors (performs blind decoding on) the DCI for DL BWP # 2 in CORESET # 2 in a certain cycle (for example, every one or more slots, every one or more mini-slots, or every certain number of symbols). The user terminal may receive a PDSCH scheduled in a certain time/frequency resource of DL BWP # 2, based on the DCI for DL BWP # 2 detected in CORESET # 2.” Takeda III at [0048]-[0053]; WO2019030929A1 at 3-4. “FIG. 3 is a diagram to show an example of the first fallback mechanism according to the first aspect. Note that, for FIG. 3, differences from FIG. 2 will be mainly described. FIG. 3 is different from FIG. 2 in that a CORESET (also referred to as a “BWP-common CORESET,” a “common CORESET,” or the like) common to one or more BWPs (here, DL BWPs # 1 and #2), and a CORESET (also referred to as a “BWP-specific CORESET,” a “specific CORESET,” or the like) specific to each BWP are provided. As shown in FIG. 3, the BWP-common CORESET is configured in the same frequency band (same one or more PRBs) in DL BWPs # 1 and #2. In contrast, a BWP-specific CORESET may be configured in a different bandwidth (different number of PRBs) and/or a different frequency band (one or more different PRBs) for each BWP.” Takeda III at [0060]-[0061]; WO2019030929A1 at 4. “When the BWP-common CORESET is used as a common search space, control information for transmitting system information (SI, also referred to as a “System Information Block (SIB)” or the like) and/or a random access response (RAR), and the like may be transmitted in the BWP-common CORESET. In contrast, in each BWP-specific CORESET, DCI for each BWP may be transmitted. For example, in the CORESET specific to DL BWP # 1, DL assignment for scheduling a PDSCH in DL BWP # 1 may be transmitted. Moreover, in the CORESET specific to DL BWP # 2, DL assignment for scheduling a PDSCH in DL BWP # 2 may be transmitted.” Takeda III at [0064]-[0065]; WO2019030929A1 at 5. “In second activation control, the user terminal monitors a CORESET for each BWP configured in a DL BWP (for example, DL DL BWP #1) in a carrier, in a certain cycle. The user terminal may

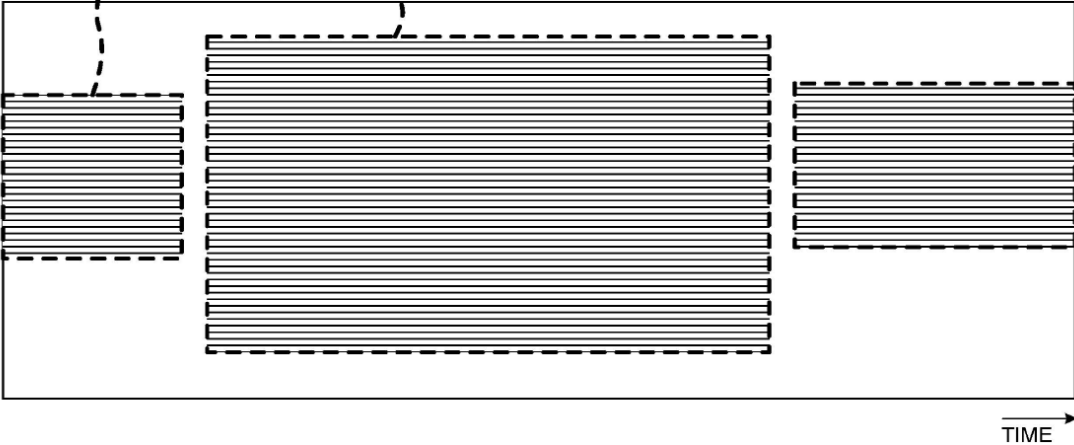
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Claim Language		Exemplary Citations to Takeda III
		receive (detect) DCI for the corresponding BWP in each CORESET. The second activation control is different from the first activation control in that a plurality of CORESETs corresponding to a plurality of respective BWPs are configured in a particular DL BWP. In the following, differences from the first activation control will be mainly described. In the second activation control, in a case that one or more BWPs (one or more DL BWPs and/or one or more UL BWPs) are configured for the user terminal, one or more CORESETs corresponding to the one or more respective DL BWPs may be configured in at least one DL BWP.” Takeda III at [0082]-[0083]; WO2019030929A1 at 6. “In the above second activation control, a plurality of CORESETs corresponding to a plurality of respective BWPs configured for the user terminal are configured in a certain DL BWP, and hence CORESET (corresponding to CORESET # 2 in FIG. 5) resources can be used for PDSCH resources in a period where activation control is not performed.” Takeda III at [0090]; WO2019030929A1 at 7. “In a case that a plurality of UL BWPs are configured for the user terminal, transmission of the same UL signal may be possible or transmission of different UL signals may be possible among the plurality of UL BWPs. The UL signal(s) is, for example, at least one of a UL data channel (for example, a PUSCH), a UL control channel (for example, a PUCCH), a reference signal (for example, an Sounding Reference Signal (SRS) and/or a DMRS), and a random access channel (for example, a Physical Random Access Channel (PRACH)). FIG. 10 is a diagram to show an example of transmission of a UL signal in each UL BWP according to the third aspect. In FIG. 10, it is assumed that UL BWP # 1 and UL BWP # 2 having a greater bandwidth than that of UL BWP # 1 are configured for the user terminal. As illustrated in FIG. 10, configuration information of a PRACH and/or a PUCCH is included in UL BWP # 1. At the same time, configuration information of at least one of a PUSCH, an SRS, and a DMRS need not necessarily be included or may be included in UL BWP # 1. Configuration information of at least one of a PUSCH, an SRS, and a DRMS is included in UL BWP # 2. At the same time, configuration information of a PRACH and/or a PUCCH need not necessarily be included or may be included in UL BWP # 2.

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		As described above, UL signals necessarily configured in UL BWPs may be different from each other, and UL signals which the user terminal can transmit in respective UL BWPs may be different from each other. For example, in FIG. 10, the user terminal may control transmission of a PRACH and/or a PUCCH in UL BWP # 1 while controlling transmission of at least one of a PUSCH, an SRS, and a DMRS in UL BWP # 2. In FIG. 10, it is possible that UL signals necessarily configured in UL BWPs are different from each other, and hence when a plurality of UL BWPs are configured for the user terminal, transmission of a UL signal in each UL BWP can be performed efficiently.” Takeda III at [0131]-[0135]; WO2019030929A1 at 10. “FIG. 16 is a diagram to show an example of a functional structure of a user terminal according to the present embodiment. Note that FIG. 16 primarily shows functional blocks that pertain to characteristic parts of the present embodiment, and it is assumed that each user terminal 20 may include other functional blocks that are necessary for radio communication as well. As shown in FIG. 16, the baseband signal processing section 204 included in the user terminal 20 includes a control section 401, a transmission signal generation section 402, a mapping section 403, a received signal processing section 404, and a measurement section 405. The control section 401 controls the whole of the user terminal 20. The control section 401 controls, for example, at least one of generation of a UL signal by the transmission signal generation section 402, mapping of a UL signal by the mapping section 403, a reception process of a DL signal by the received signal processing section 404, and measurement by the measurement section 405. The control section 401 may control configuration of one or more BWPs (one or more DL BWPs and/or one or more UL BWPs) in the carrier. Specifically, the control section 401 may configure the one or more BWPs, based on BWP configuration information from the radio base station 20 (second aspect). The control section 401 may control configuration of one or more CORESETs (control resource region(s)) in one or more DL BWPs. The control section 401 may control configuration of a search space in one or more CORESETs. The control section 401 may control monitoring (blind decoding) of the CORESET(s) (or a search space(s) in the CORESET(s)) (control resource region(s)) and detection of DCI (at least one of DL

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		assignment, UL grant, group DCI, shared DCI, activation DCI, and deactivation DCI) for the user terminal 20. The control section 401 may control a transmission direction for each symbol in a time unit (for example, a slot) serving as a scheduling unit for a DL data channel. Specifically, the control section 401 may determine a DL symbol and/or a UL symbol in each slot, based on SFI. The control section 401 may control activation or deactivation of one or more BWPs (one or more DL BWPs and/or one or more UL BWPs) (DL frequency band and/or UL frequency band in a carrier) configured for the user terminal 20 (first and third aspects). Specifically, the control section 401 may control activation of DL BWP #2 (second DL frequency band), based on DCI (DL assignment for scheduling a PDSCH in DL BWP #2) detected in the CORESET in DL BWP #1 (first DL frequency band) (first aspect). The control section 401 may control reception of the PDSCH (DL data channel), based on the DCI, in DL BWP # 2 to be activated based on the DCI (first and second activation control). The control section 401 may monitor a control resource region configured in DL BWP # 2 to be activated based on the DCI (DCI indicating activation of DL BWP #2) detected in a MAC CE or the CORESET in DL BWP # 1, to control reception of different DCI to be used for scheduling of the DL data channel in DL BWP #2 (third activation control). The control section 401 may control deactivation of DL BWP #2 (second DL frequency band), based on DCI, a MAC control element, or a certain timer (first aspect). The control section 401 may control transmission of a UL signal in a UL BWP (UL frequency band), based on the DCI detected in the CORESET (control resource region) in a DL BWP (DL frequency band) (third aspect). The control section 401 may control activation or deactivation of one or more UL BWPs (UL frequency band(s)). Note that at least one UL BWP may be configured in the same frequency band as that of at least one DL BWP (DL frequency band) (third aspect). The control section 401 may control transmission of a random access channel and/or a UL control channel in UL BWP #1 (first UL frequency band) and control transmission of at least one of a UL data channel, a sounding reference signal, and a demodulation reference signal in UL BWP #2 (second UL frequency band) (third aspect). The control section 401 may control activation of the UL BWP, based on any of DCI, a Medium Access Control (MAC) control element, a random access response or contention resolution

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	message, or a DL BWP (DL frequency band) associated with a UL BWP (UL frequency band) (third aspect). The control section 401 may control deactivation of a UL BWP (UL frequency band), based on DCI, a MAC control element, or a certain timer. The control section 401 can be constituted with a controller, a control circuit, or control apparatus that can be described based on general understanding of the technical field to which the present invention pertains.” Takeda III at [0189]-[0204]; WO2019030929A1 at 15-16.  FIG. 2 Takeda III at Fig. 2; WO2019030929A1 at Fig. 2.	

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		 FIG. 3 Takeda III at Fig. 3; WO2019030929A1 at Fig. 3.

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		UL BWP#1 (PRACH,PUCCH) UL BWP#2 (PUSCH,SRS,DMRS)  FIG. 10 Takeda III at Fig. 10; WO2019030929A1 at Fig. 10.

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Claim Language		Exemplary Citations to Takeda III
		FIG. 15 Takeda III at Fig. 15; WO2019030929A1 at Fig. 15.

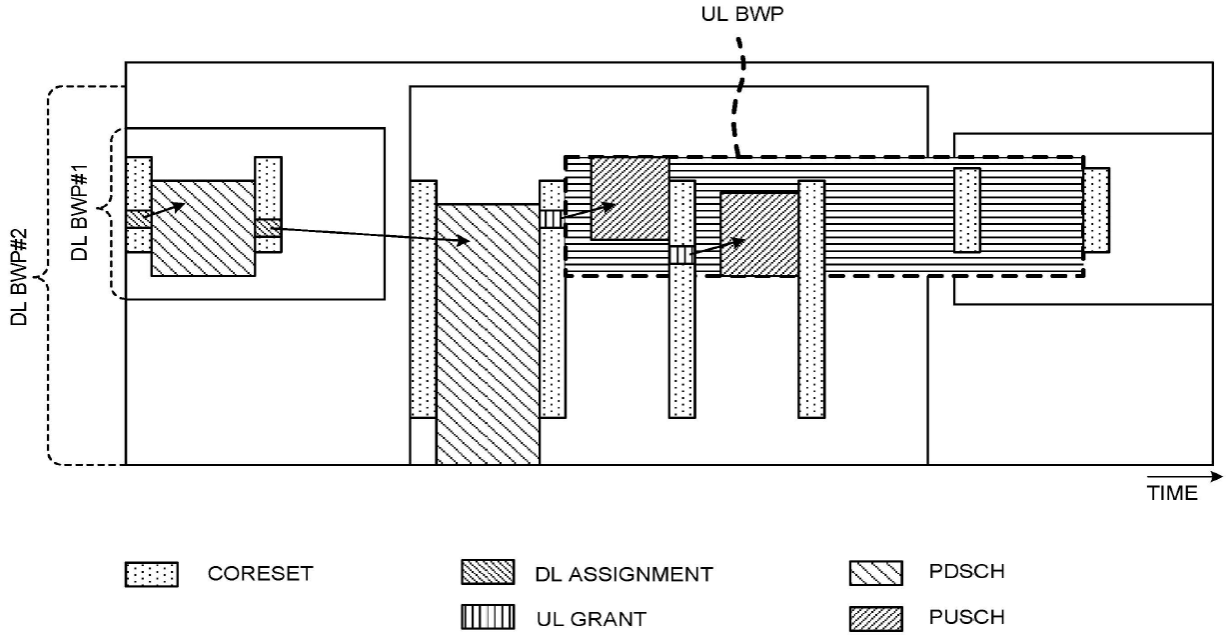
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Claim Language		Exemplary Citations to Takeda III
		FIG. 16 Takeda III at Fig. 16; WO2019030929A1 at Fig. 16. To the extent it is found that Takeda III does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that Takeda III does not anticipate this claim, Takeda III renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine Takeda III with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.

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9[c]	a transmitter configured to transmit the UL control information through the determined UL control channel resource,	At least under Pegasus’s apparent infringement theory, Takeda III discloses “a transmitter configured to transmit the UL control information through the determined UL control channel resource.” For example, Takeda III discloses this limitation based on the following exemplary citations: “A user terminal (User Equipment (UE)) controls reception of a DL data channel (also referred to as, for example, a “Physical Downlink Shared Channel (PDSCH),” a “DL shared channel,” and the like), based on downlink control information (DCI) (also referred to as “DL assignment” and the like) from a radio base station (for example, eNodeB (eNB)). Moreover, the user terminal controls transmission of a UL data channel (for example, a PUSCH (also referred to as Physical Uplink Shared Channel), a “UL shared channel” and the like), based on DCI (also referred to as “UL grant” and the like) from the radio base station.” Takeda III at [0004]; WO2019030929A1 at 1. “An aspect of a user terminal according to the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band.” Takeda III at [0010]; WO2019030929A1 at 1. “In the BWP-common CORESET, explicit or implicit indication information for activation of a different BWP (here, DL BWP #2) may be transmitted. For example, in the BWP-common CORESET in FIG. 3, the DCI (DL assignment) for DL BWP # 2 for scheduling a PDSCH in DL BWP # 2 is transmitted as implicit indication information. When the BWP-common CORESET is used as a common search space, control information for transmitting system information (SI, also referred to as a “System Information Block (SIB)” or the like) and/or a random access response (RAR), and the like may be transmitted in the BWP-common CORESET. In contrast, in each BWP-specific CORESET, DCI for each BWP may be transmitted. For example, in the CORESET specific to DL BWP # 1, DL assignment for scheduling a PDSCH in DL BWP #

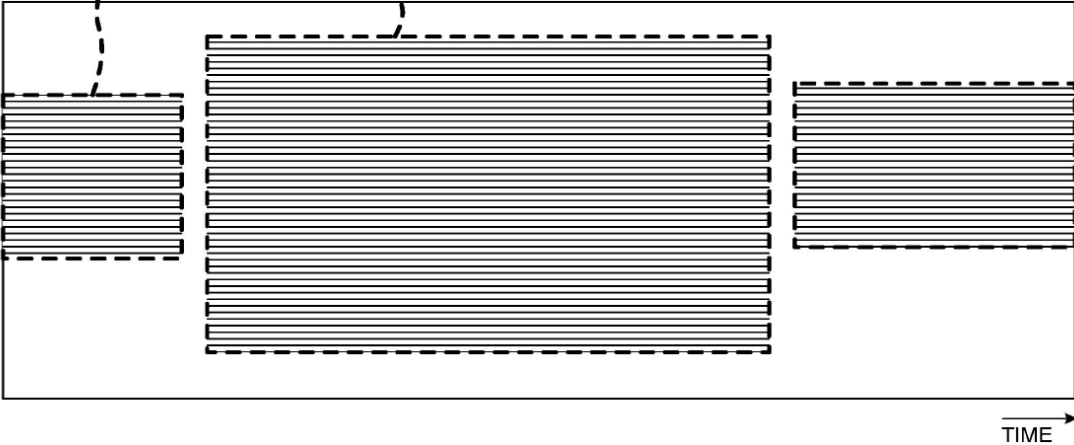
Invalidity of U.S. Patent 11,219,000 in view of Takeda III		
Claim Language		Exemplary Citations to Takeda III
		1 may be transmitted. Moreover, in the CORESET specific to DL BWP # 2, DL assignment for scheduling a PDSCH in DL BWP # 2 may be transmitted.” Takeda III at [0063]-[0065]; WO2019030929A1 at 5. “When the DCI for activation is successfully detected, the user terminal may transmit Acknowledge (ACK) to the radio base station. For example, the user terminal may transmit the ACK by using a UL control channel (for example, a PUCCH) or a UL data channel (for example, PUSCH) of a UL BWP. After receipt of the ACK from the user terminal, the radio base station may start scheduling of a PDSCH in DL BWP # 2.” Takeda III at [0096]; WO2019030929A1 at 7. “For example, in FIG. 8, the user terminal monitors a CORESET configured in an activated DL BWP, in a certain cycle. The user terminal activates a UL BWP, based on UL grant detected in the CORESET. The user terminal transmits a PUSCH scheduled in a UL BWP, based on the UL grant.” Takeda III at [0123]; WO2019030929A1 at 9. “For example, in FIG. 9, the user terminal monitors a CORESET configured in an activated DL BWP, in a certain cycle. In FIG. 9, since BWP index # 2 is included in the UL grant detected in the CORESET, the user terminal may deactivate UL BWP # 1 and activate UL BWP # 2. The user terminal may transmit a PUSCH scheduled in UL BWP # 2, based on the UL grant.” Takeda III at [0129]; WO2019030929A1 at 9. “In a case that a plurality of UL BWPs are configured for the user terminal, transmission of the same UL signal may be possible or transmission of different UL signals may be possible among the plurality of UL BWPs. The UL signal(s) is, for example, at least one of a UL data channel (for example, a PUSCH), a UL control channel (for example, a PUCCH), a reference signal (for example, an Sounding Reference Signal (SRS) and/or a DMRS), and a random access channel (for example, a Physical Random Access Channel (PRACH)). FIG. 10 is a diagram to show an example of transmission of a UL signal in each UL BWP according to the third aspect. In FIG. 10, it is assumed that UL BWP # 1 and UL BWP # 2 having a greater bandwidth than that of UL BWP # 1 are configured for the user terminal.

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		As illustrated in FIG. 10, configuration information of a PRACH and/or a PUCCH is included in UL BWP # 1. At the same time, configuration information of at least one of a PUSCH, an SRS, and a DMRS need not necessarily be included or may be included in UL BWP # 1. Configuration information of at least one of a PUSCH, an SRS, and a DRMS is included in UL BWP # 2. At the same time, configuration information of a PRACH and/or a PUCCH need not necessarily be included or may be included in UL BWP # 2. As described above, UL signals necessarily configured in UL BWPs may be different from each other, and UL signals which the user terminal can transmit in respective UL BWPs may be different from each other. For example, in FIG. 10, the user terminal may control transmission of a PRACH and/or a PUCCH in UL BWP # 1 while controlling transmission of at least one of a PUSCH, an SRS, and a DMRS in UL BWP # 2. In FIG. 10, it is possible that UL signals necessarily configured in UL BWPs are different from each other, and hence when a plurality of UL BWPs are configured for the user terminal, transmission of a UL signal in each UL BWP can be performed efficiently.” Takeda III at [0131]-[0135]; WO2019030929A1 at 10. “The transmitting/receiving section 103 can be constituted with transmitters/receivers, transmitting/receiving circuits, or transmitting/receiving apparatus that can be described based on general understanding of the technical field to which the present invention pertains. Note that each transmitting/receiving section 103 may be structured as a transmitting/receiving section in one entity, or may be constituted with a transmitting section and a receiving section.” Takeda III at [0161]; WO2019030929A1 at 12-13. “FIG. 15 is a diagram to show an example of an overall structure of a user terminal according to the present embodiment. Each user terminal 20 includes a plurality of transmitting/receiving antennas 201 for MIMO transmission, amplifying sections 202, transmitting/receiving sections 203, a baseband signal processing section 204, and an application section 205. The user terminal 20 may configure “transmitting apparatus” in UL and configure “receiving apparatus” in DL. Radio frequency signals that are received in the plurality of respective transmitting/receiving antennas 201 are amplified in the respective amplifying sections 202. The transmitting/receiving sections 203 receive the DL signals amplified in the amplifying sections 202. The

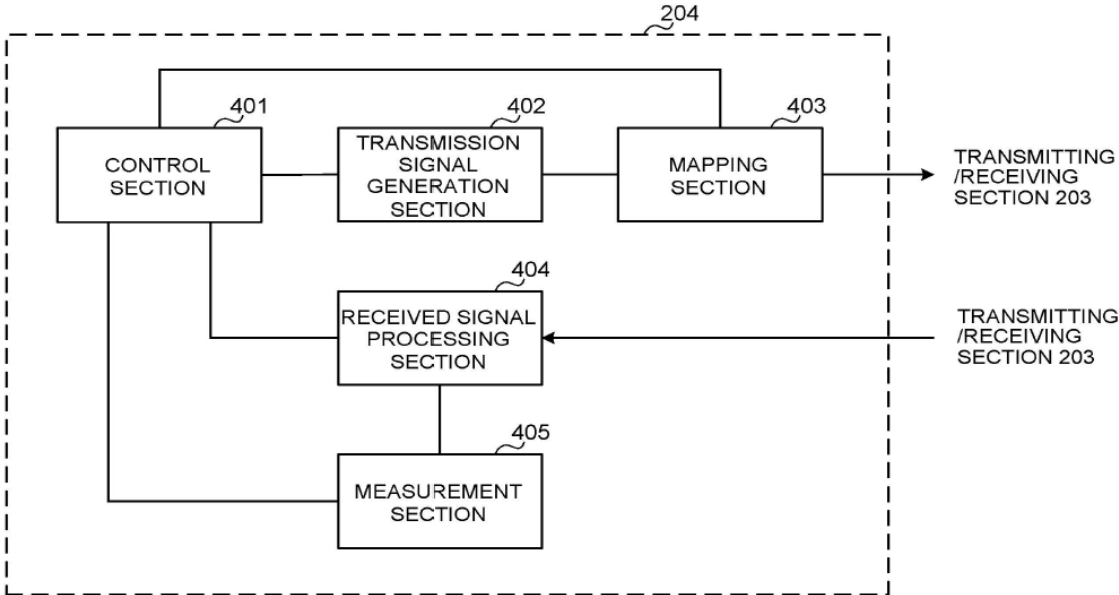
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		transmitting/receiving sections 203 convert the received signals into baseband signals through frequency conversion, and output the baseband signals to the baseband signal processing section 204.” Takeda III at [0181]-[0182]; WO2019030929A1 at 14. “The transmitting/receiving sections 203 receive DL signals (for example, at least one of a DL control signal (also referred to as a “DL control channel,” “DCI,” and the like)), DL data signals (also referred to as a “DL data channel,” “DL data,” and the like), and a reference signal). The transmitting/receiving sections 203 also transmit UL signals (for example, at least one of a UL control signal (also referred to as a “UL control channel,” “UCI,” or the like)), UL data signals (also referred to as a “UL data channel,” “UL data,” or the like), and a reference signal). The transmitting/receiving sections 203 may receive higher layer control information (for example, control information through a MAC CE and/or RRC signaling). The transmitting/receiving sections 203 can be transmitters/receivers, transmitting/receiving circuits, or transmitting/receiving apparatus that can be described based on general understanding of the technical field to which the present invention pertains. The transmitting/receiving sections 203 may be structured as transmitting/receiving sections in one entity, or may be constituted with transmitting sections and receiving sections.” Takeda III at [0186]-[0188]; WO2019030929A1 at 15. “The control section 401 may control transmission of a UL signal in a UL BWP (UL frequency band), based on the DCI detected in the CORESET (control resource region) in a DL BWP (DL frequency band) (third aspect).” Takeda III at [0199]; WO2019030929A1 at 16.

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		 The diagram illustrates a timing sequence for a wireless communication system. It shows two Downlink Bandwidth Parts (DL BWP#1 and DL BWP#2) and one Uplink Bandwidth Part (UL BWP). DL BWP#1 is active during the first two time slots, while DL BWP#2 is active during the third and fourth time slots. The UL BWP is active during the third and fourth time slots. The diagram also shows the timing of CORESET (Control Resource Set), DL ASSIGNMENT (Downlink Assignment), UL GRANT (Uplink Grant), PDSCH (Physical Downlink Shared Channel), and PUSCH (Physical Uplink Shared Channel). The legend indicates that CORESET is represented by a dotted pattern, DL ASSIGNMENT by a diagonal line pattern, UL GRANT by a vertical line pattern, PDSCH by a horizontal line pattern, and PUSCH by a diagonal line pattern. The x-axis is labeled TIME. FIG. 8 Takeda III at Fig. 8; WO2019030929A1 at Fig. 8.

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		The diagram illustrates a timeline of radio resource allocation. It shows two Downlink Bandwidth Parts (DL BWP#1 and DL BWP#2) and two Uplink Bandwidth Parts (UL BWP#1 and UL BWP#2). DL BWP#1 is active during the first two time slots, while DL BWP#2 is active during the third and fourth. UL BWP#1 is active during the first and second time slots, and UL BWP#2 is active during the third and fourth. The diagram also shows the timing of CORESET (Control Resource Set), DL ASSIGNMENT (Downlink Assignment), PDSCH (Physical Downlink Shared Channel), UL GRANT (Uplink Grant), and PUSCH (Physical Uplink Shared Channel). A legend at the bottom identifies the symbols used: CORESET (dotted pattern), DL ASSIGNMENT (diagonal lines), PDSCH (diagonal lines), UL GRANT (vertical lines), and PUSCH (diagonal lines). The x-axis is labeled 'TIME'. FIG. 9 Takeda III at Fig. 9; WO2019030929A1 at Fig. 9.

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		UL BWP#1 (PRACH,PUCCH) UL BWP#2 (PUSCH,SRS,DMRS)  FIG. 10 Takeda III at Fig. 10; WO2019030929A1 at Fig. 10.

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		FIG. 15 Takeda III at Fig. 15; WO2019030929A1 at Fig. 15.

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		 FIG. 16 Takeda III at Fig. 16; WO2019030929A1 at Fig. 16. To the extent it is found that Takeda III does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that Takeda III does not anticipate this claim, Takeda III renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine Takeda III with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.

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9[d]	wherein the determining of the one of the UL control channel resource sets is performed based on a size of the UL control information, and	At least under Pegasus's apparent infringement theory, Takeda III discloses "wherein the determining of the one of the UL control channel resource sets is performed based on a size of the UL control information." For example, Takeda III discloses this limitation based on the following exemplary citations: "To enable activation/deactivation of one or more frequency bands (for example, BWPs) configured in a carrier to be appropriately controlled. A user terminal of the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band." Takeda III at Abstract; WO2019030929A1 at Abstract. "For future radio communication systems (for example, NR), it is studied that a user terminal monitors (performs blind decoding for) control resource regions (for example, control resource sets (CORESETs)), each of which is a candidate region to which a DL control channel (for example, a Physical Downlink Control Channel (PDCCH)) is allocated, to receive (detect) DCI." Takeda III at [0006]; WO2019030929A1 at 1. "At least one DL BWP (for example, a DL BWP included in a primary CC) configured for the user terminal includes a control resource region to be a candidate to which a DL control channel (DCI) is to be allocated. The control resource region may be referred to as a "control resource set (CORESET)," a "control subband," a "search space set," a "search space resource set," a "control region," a "control subband," an "NR-PDCCH region," and the like. The user terminal monitors one or more search spaces in the CORESET to detect DCI for the user terminal. The search space may include a common search space (CSS), to which common DCI (for example, group DCI or common DCI) common to one or more user terminals is allocated, and/or a user-terminal (UE) specific search space (USS (UE-specific Search space)) to which user-terminal-specific DCI (for example, DL assignment and/or UL grant) is allocated. The user terminal may receive configuration information of the CORESET (CORESET configuration information) through higher layer signaling (for example, RRC signaling or SIB).

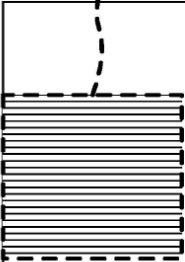
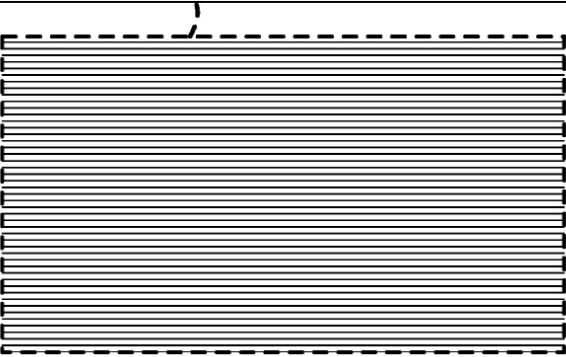
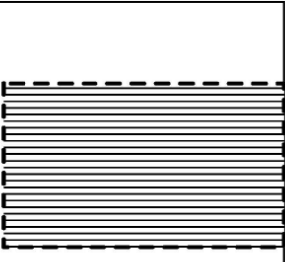
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Claim Language		Exemplary Citations to Takeda III
		The CORESET configuration information may indicate at least one of frequency resources (for example, the number of RBs), time resources (for example, a starting OFDM symbol number), a time length (duration), an Resource Element Group (REG) bundle size (REG size), a transmission type (for example, interleave, non-interleave), a cycle (for example, a monitor cycle per CORESET), and the like of each CORESET.” Takeda III at [0038]-[0040]; WO2019030929A1 at 3. “In FIG. 2, it is also assumed that CORESET # 1 is configured in DL BWP # 1 and CORESET # 2 is configured in DL BWP # 2. One or more search spaces are provided in each of CORESET # 1 and CORESET # 2. For example, in CORESET # 1, DCI for DL BWP # 1 and DCI for DL BWP # 2 may be mapped to different search spaces. In FIG. 2, when DL BWP # 1 is in an active state, the user terminal monitors (performs blind decoding on) the DCI for DL BWP # 1 and the DCI for DL BWP # 2 in CORESET # 1 in a certain cycle (for example, every one or more slots, every one or more mini-slots, or every certain number of symbols). When detecting the DCI for DL BWP # 1 in CORESET # 1, the user terminal receives a PDSCH scheduled in (mapped to) a certain time and/or frequency resource (time/frequency resource) of DL BWP # 1, based on the DCI for DL BWP # 1. In contrast, when detecting the DCI for DL BWP # 2 in CORESET # 1, the user terminal activates DL BWP # 2. The user terminal receives a PDSCH scheduled in a certain time/frequency resource of DL BWP # 2, based on the DCI for DL BWP # 2 detected in CORESET # 1. Note that, although the DCI for DL BWP # 1 and the DCI for DL BWP # 2 are detected at different timings in CORESET # 1 in FIG. 2, a plurality of pieces of DCI for the different BWPs may be detectable at the same timing. For example, a plurality of search spaces may be provided corresponding to a plurality of respective BWPs in CORESET # 1, to transmit a plurality of pieces of DCI for the different BWPs in the plurality of respective search spaces. The user terminal may monitor the plurality of search spaces in CORESET # 1 and detect the plurality of pieces of DCI for the different BWPs at the same timing. When DL BWP # 2 is activated, the user terminal monitors (performs blind decoding on) the DCI for DL BWP # 2 in CORESET # 2 in a certain cycle (for example, every one or more slots, every one or more mini-slots, or every certain number of symbols). The user terminal may receive a

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Claim Language		Exemplary Citations to Takeda III
		PDSCH scheduled in a certain time/frequency resource of DL BWP # 2, based on the DCI for DL BWP # 2 detected in CORESET # 2.” Takeda III at [0048]-[0053]; WO2019030929A1 at 3-4. “FIG. 3 is a diagram to show an example of the first fallback mechanism according to the first aspect. Note that, for FIG. 3, differences from FIG. 2 will be mainly described. FIG. 3 is different from FIG. 2 in that a CORESET (also referred to as a “BWP-common CORESET,” a “common CORESET,” or the like) common to one or more BWPs (here, DL BWPs # 1 and #2), and a CORESET (also referred to as a “BWP-specific CORESET,” a “specific CORESET,” or the like) specific to each BWP are provided. As shown in FIG. 3, the BWP-common CORESET is configured in the same frequency band (same one or more PRBs) in DL BWPs # 1 and #2. In contrast, a BWP-specific CORESET may be configured in a different bandwidth (different number of PRBs) and/or a different frequency band (one or more different PRBs) for each BWP.” Takeda III at [0060]-[0061]; WO2019030929A1 at 4. “When the BWP-common CORESET is used as a common search space, control information for transmitting system information (SI, also referred to as a “System Information Block (SIB)” or the like) and/or a random access response (RAR), and the like may be transmitted in the BWP-common CORESET. In contrast, in each BWP-specific CORESET, DCI for each BWP may be transmitted. For example, in the CORESET specific to DL BWP # 1, DL assignment for scheduling a PDSCH in DL BWP # 1 may be transmitted. Moreover, in the CORESET specific to DL BWP # 2, DL assignment for scheduling a PDSCH in DL BWP # 2 may be transmitted.” Takeda III at [0064]-[0065]; WO2019030929A1 at 5. “In second activation control, the user terminal monitors a CORESET for each BWP configured in a DL BWP (for example, DL DL BWP #1) in a carrier, in a certain cycle. The user terminal may receive (detect) DCI for the corresponding BWP in each CORESET. The second activation control is different from the first activation control in that a plurality of CORESETs corresponding to a

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		plurality of respective BWPs are configured in a particular DL BWP. In the following, differences from the first activation control will be mainly described. In the second activation control, in a case that one or more BWPs (one or more DL BWPs and/or one or more UL BWPs) are configured for the user terminal, one or more CORESETs corresponding to the one or more respective DL BWPs may be configured in at least one DL BWP.” Takeda III at [0082]-[0083]; WO2019030929A1 at 6. “In the above second activation control, a plurality of CORESETs corresponding to a plurality of respective BWPs configured for the user terminal are configured in a certain DL BWP, and hence CORESET (corresponding to CORESET # 2 in FIG. 5) resources can be used for PDSCH resources in a period where activation control is not performed.” Takeda III at [0090]; WO2019030929A1 at 7. “In a case that a plurality of UL BWPs are configured for the user terminal, transmission of the same UL signal may be possible or transmission of different UL signals may be possible among the plurality of UL BWPs. The UL signal(s) is, for example, at least one of a UL data channel (for example, a PUSCH), a UL control channel (for example, a PUCCH), a reference signal (for example, an Sounding Reference Signal (SRS) and/or a DMRS), and a random access channel (for example, a Physical Random Access Channel (PRACH)). FIG. 10 is a diagram to show an example of transmission of a UL signal in each UL BWP according to the third aspect. In FIG. 10, it is assumed that UL BWP # 1 and UL BWP # 2 having a greater bandwidth than that of UL BWP # 1 are configured for the user terminal. As illustrated in FIG. 10, configuration information of a PRACH and/or a PUCCH is included in UL BWP # 1. At the same time, configuration information of at least one of a PUSCH, an SRS, and a DMRS need not necessarily be included or may be included in UL BWP # 1. Configuration information of at least one of a PUSCH, an SRS, and a DRMS is included in UL BWP # 2. At the same time, configuration information of a PRACH and/or a PUCCH need not necessarily be included or may be included in UL BWP # 2. As described above, UL signals necessarily configured in UL BWPs may be different from each other, and UL signals which the user terminal can transmit in respective UL BWPs may be different from each other. For example, in FIG. 10, the user terminal may control transmission of a PRACH

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	and/or a PUCCH in UL BWP # 1 while controlling transmission of at least one of a PUSCH, an SRS, and a DMRS in UL BWP # 2. In FIG. 10, it is possible that UL signals necessarily configured in UL BWPs are different from each other, and hence when a plurality of UL BWPs are configured for the user terminal, transmission of a UL signal in each UL BWP can be performed efficiently.” Takeda III at [0131]-[0135]; WO2019030929A1 at 10. FIG. 2 Takeda III at Fig. 2; WO2019030929A1 at Fig. 2.	

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		FIG. 3 Takeda III at Fig. 3; WO2019030929A1 at Fig. 3.

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		UL BWP#1 (PRACH,PUCCH)  UL BWP#2 (PUSCH,SRS,DMRS)   TIME FIG. 10 Takeda III at Fig. 10; WO2019030929A1 at Fig. 10. To the extent it is found that Takeda III does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that Takeda III does not anticipate this claim, Takeda III renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine Takeda III with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.

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9[e]	wherein the UL control channel resource set configuration information is received through UE specific radio resource control (RRC) signaling.	At least under Pegasus's apparent infringement theory, Takeda III discloses "wherein the UL control channel resource set configuration information is received through UE specific radio resource control (RRC) signaling." For example, Takeda III discloses this limitation based on the following exemplary citations: "Activation/deactivation of a BWP may be explicitly or implicitly performed through at least one of physical layer signaling (for example, DCI), Medium Access Control (MAC) signaling (for example, a MAC control element (MAC CE)), and RRC signaling. For example, it is studied to perform activation of a BWP through user-terminal-dedicated RRC signaling." Takeda III at [0034]; WO2019030929A1 at 2. "The user terminal may receive configuration information of the CORESET (CORESET configuration information) through higher layer signaling (for example, RRC signaling or SIB). The CORESET configuration information may indicate at least one of frequency resources (for example, the number of RBs), time resources (for example, a starting OFDM symbol number), a time length (duration), an Resource Element Group (REG) bundle size (REG size), a transmission type (for example, interleave, non-interleave), a cycle (for example, a monitor cycle per CORESET), and the like of each CORESET." Takeda III at [0040]; WO2019030929A1 at 3. "The user terminal may receive BWP configuration information through higher layer signaling (for example, RRC signaling, broadcast information (master information block (MIB)), system information block (SIB), or the like and/or MAC signaling)." Takeda III at [0116]; WO2019030929A1 at 9. "The implicit indication information may be, for example, a RAR, message 4, or UL grant illustrated in FIGS. 8 and 9. The RAR is transmitted from the radio base station in response to a PRACH from the user terminal. Message 4 is a contention resolution message transmitted, when the user terminal transmits a higher layer control message by using a resource indicated by UL grant included in a RAR, in response to the control message from the radio base station. The user terminal that has received message 4 changes from an idle state to an RRC connected state."

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Claim Language		Exemplary Citations to Takeda III
		Takeda III at [0137]; WO2019030929A1 at 10. “The transmitting/receiving section 103 may transmit higher layer control information (for example, control information through a MAC CE and/or RRC signaling).” Takeda III at [0166]; WO2019030929A1 at 13. “The transmitting/receiving sections 203 may receive higher layer control information (for example, control information through a MAC CE and/or RRC signaling).” Takeda III at [0187]; WO2019030929A1 at 15. “Reporting of information is by no means limited to the aspects/embodiments described in this specification, and may be performed in other methods. For example, reporting of information may be implemented by using physical layer signaling (for example, downlink control information (DCI), uplink control information (UCI), higher layer signaling (for example, Radio Resource Control (RRC) signaling, broadcast information (master information block (MIB), system information blocks (SIBs), and so on), Medium Access Control (MAC) signaling and so on), and other signals or combinations of these. Note that physical layer signaling may be referred to as “L1/L2 (Layer 1/Layer 2) control information (L1/L2 control signals),” “L1 control information (L1 control signal),” and so on. Also, RRC signaling may be referred to as an “RRC message,” and may be, for example, an RRC connection setup (RRCConnectionSetup) message, an RRC connection reconfiguration (RRCConnectionReconfiguration) message, and so on. Also, MAC signaling may be reported in, for example, MAC control elements (MAC CEs).” Takeda III at [0240]-[0241]; WO2019030929A1 at 19. To the extent it is found that Takeda III does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that Takeda III does not anticipate this claim, Takeda III renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine Takeda III with any of the other prior art references identified in the cover pleading or

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		herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.
10	The UE according to claim 9, wherein the UL control channel resource sets are configured for each UL bandwidth part (BWP) configured for the UE.	At least under Pegasus's apparent infringement theory, Takeda III discloses "wherein the UL control channel resource sets are configured for each UL bandwidth part (BWP) configured for the UE." For example, Takeda III discloses this limitation based on the following exemplary citations: "Moreover, it is studied, for the future radio communication systems, to use one or a plurality of frequency bands (for example, bandwidth parts (BWPs)) in a carrier (also referred to as a "component carrier (CC)" or a "system band," and the like) for DL and/or UL communications (DL/UL communications). In a case that one or more frequency bands (for example, BWPs) to be used for DL/UL communications are configurable in a carrier as described above, it is desired to appropriately control activation and/or deactivation (activation/deactivation) of the frequency band in order to reduce processing load in the user terminal (for example, processing load due to blind decoding for each of the frequency bands)." Takeda III at [0007]-[0008]; WO2019030929A1 at 1. "FIGS. 1A and 1B are diagrams to show configuration examples of a BWP(s). As shown in FIG. 1A, one BWP may be configured per carrier for a user terminal. As shown in FIG. 1B, a plurality of BWPs (here, two BWPs # 1 and #2) may be configured per carrier for a user terminal. As shown in FIG. 1B, the plurality of BWPs configured for the user terminal may have different bandwidths. Moreover, the plurality of BWPs may at least partially overlap each other in frequency band. For example, in FIG. 1B, BWP #1 is a part of the frequency band of BWP # 2. The user terminal may control activation/deactivation of at least one BWP. Activation of a BWP is to be in a state where the BWP is available (or changes to the state where the BWP is available) and is also referred to as "activation," "enabling," and the like of a configuration information (configuration) of the BWP (BWP configuration information). Deactivation of a BWP is to be in a state where the BWP is unusable (or changes to the state where the BWP is unusable) and is also referred to as "deactivation," "disabling," and the like of a BWP configuration information."

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		Takeda III at [0030]-[0032]; WO2019030929A1 at 2. “Note that the BWP used in DL communication may be referred to as a “DL BWP (DL frequency band),” and the BWP used in UL communication may be referred to as a “UL BWP (UL frequency band).” The DL BWP and UL BWP may at least partially overlap each other in frequency band. Hereinafter, a DL BWP and a UL BWP are collectively referred to as a “BWP,” unless specified otherwise. At least one DL BWP (for example, a DL BWP included in a primary CC) configured for the user terminal includes a control resource region to be a candidate to which a DL control channel (DCI) is to be allocated. The control resource region may be referred to as a “control resource set (CORESET),” a “control subband,” a “search space set,” a “search space resource set,” a “control region,” a “control subband,” an “NR-PDCCH region,” and the like.” Takeda III at [0037]-[0038]; WO2019030929A1 at 2-3. “As described above, various methods for controlling activation/deactivation of at least one BWP when one or more BWPs to be used for DL/UL communications are configurable in a carrier are under study. However, it is desired to control activation/deactivation of the at least one BWP more simply and/or at higher processing efficiency.” Takeda III at [0042]; WO2019030929A1 at 3. “In a first aspect, a user terminal monitors (performs blind decoding on) a CORESET (first control resource region) configured in DL BWP #1 (first frequency band) in a carrier, in a certain cycle, to receive DCI. The user terminal controls activation or deactivation of DL BWP #2 (second frequency band) in the carrier, based on the DCI.” Takeda III at [0044]; WO2019030929A1 at 3. “FIG. 2 is a diagram to show an example of first activation control according to the first aspect. For example, in FIG. 2, it is assumed that two DL BWPs # 1 and #2 are configured in a carrier configured for the user terminal as shown in FIG. 1B. It is also assumed that DL BWP # 1 is a part of the frequency band of DL BWP # 2.

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		In FIG. 2, it is also assumed that CORESET # 1 is configured in DL BWP # 1 and CORESET # 2 is configured in DL BWP # 2. One or more search spaces are provided in each of CORESET # 1 and CORESET # 2. For example, in CORESET # 1, DCI for DL BWP # 1 and DCI for DL BWP # 2 may be mapped to different search spaces.” Takeda III at [0047]-[0048]; WO2019030929A1 at 3. “FIG. 3 is a diagram to show an example of the first fallback mechanism according to the first aspect. Note that, for FIG. 3, differences from FIG. 2 will be mainly described. FIG. 3 is different from FIG. 2 in that a CORESET (also referred to as a “BWP-common CORESET,” a “common CORESET,” or the like) common to one or more BWPs (here, DL BWPs # 1 and #2), and a CORESET (also referred to as a “BWP-specific CORESET,” a “specific CORESET,” or the like) specific to each BWP are provided. As shown in FIG. 3, the BWP-common CORESET is configured in the same frequency band (same one or more PRBs) in DL BWPs # 1 and #2. In contrast, a BWP-specific CORESET may be configured in a different bandwidth (different number of PRBs) and/or a different frequency band (one or more different PRBs) for each BWP.” Takeda III at [0060]-[0061]; WO2019030929A1 at 4. “In contrast, in each BWP-specific CORESET, DCI for each BWP may be transmitted. For example, in the CORESET specific to DL BWP # 1, DL assignment for scheduling a PDSCH in DL BWP # 1 may be transmitted. Moreover, in the CORESET specific to DL BWP # 2, DL assignment for scheduling a PDSCH in DL BWP # 2 may be transmitted.” Takeda III at [0065]; WO2019030929A1 at 5. “A BWP kept active is also referred to as an “active BWP,” a “primary BWP,” and the like. One or more BWPs for which activation or deactivation is controlled are also referred to as a “secondary BWP(s)” and the like. Note that, when a single BWP is configured in a carrier (for example, FIG. 1A), a primary BWP is configured, and no secondary BWP is configured.” Takeda III at [0071]; WO2019030929A1 at 5.

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		“In FIG. 4, CORESET # 1 may be configured in DL BWP # 1, while CORESET # 2 is configured in DL BWP # 2. A common search space and a UE-specific search space may be included in CORESET # 1. In contrast, a UE-specific search space may be included in CORESET # 2 with no common search space being included in CORESET # 2.” Takeda III at [0076]; WO2019030929A1 at 6. “In second activation control, the user terminal monitors a CORESET for each BWP configured in a DL BWP (for example, DL BWP #1) in a carrier, in a certain cycle. The user terminal may receive (detect) DCI for the corresponding BWP in each CORESET. The second activation control is different from the first activation control in that a plurality of CORESETs corresponding to a plurality of respective BWPs are configured in a particular DL BWP. In the following, differences from the first activation control will be mainly described. In the second activation control, in a case that one or more BWPs (one or more DL BWPs and/or one or more UL BWPs) are configured for the user terminal, one or more CORESETs corresponding to the one or more respective DL BWPs may be configured in at least one DL BWP.” Takeda III at [0082]-[0083]; WO2019030929A1 at 6. “In the above second activation control, a plurality of CORESETs corresponding to a plurality of respective BWPs configured for the user terminal are configured in a certain DL BWP, and hence CORESET (corresponding to CORESET # 2 in FIG. 5) resources can be used for PDSCH resources in a period where activation control is not performed.” Takeda III at [0090]; WO2019030929A1 at 7. “In a second aspect, a configuration and configuration information (BWP configuration information) of a BWP will be described. A maximum bandwidth of one or more BWPs (DL BWP(s) and/or a UL BWP(s)) configured for the user terminal may be determined based on a category of the user terminal reported from the user terminal. For example, in a case that the category reported from the user terminal indicates supporting of 100 MHz, the maximum bandwidth of at least one BWP configured for the user terminal may be 100 MHz.” Takeda III at [0110]-[0111]; WO2019030929A1 at 8.

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		“The BWP configuration information may include at least one of information indicating a numerology (for example, subcarrier spacing), information indicating a frequency position (for example, center frequency), information indicating a bandwidth (for example, the number of resource blocks (RB) (also referred to as “Physical RBs (PRBs)” and the like), information indicating time resources (for example, the number of symbols per slot (mini-slot), information indicating the number of MIMO layers, information related to Quasi-Co-Location, and the like. The user terminal may receive BWP configuration information through higher layer signaling (for example, RRC signaling, broadcast information (master information block (MIB)), system information block (SIB), or the like and/or MAC signaling). In a case that a plurality of BWPs are configured for the user terminal and a different slot type (for example, a different number of symbols and/or a different numerology, or the like) is used for each of the plurality of BWPs, cross-BWP scheduling, in which a particular BWP is used for scheduling of another BWP, need not necessarily be supported. In a case that the same slot type is used for the plurality of BWPs, the cross-BWP scheduling may be employed.” Takeda III at [0115]-[0117]; WO2019030929A1 at 8-9. “Only a single UL BWP may be configured or a plurality of UL BWPs may be configured for the user terminal. Activation or deactivation of each UL BWP may be controlled based on explicit or implicit indication information irrespective of activation or deactivation of one or more DL BWPs. For example, when detecting UL grant through monitoring of the CORESET of a DL BWP, the user terminal may activate a UL BWP. Activation or deactivation of a DL BWP may be controlled irrespective of whether UL grant is present or absent.” Takeda III at [0119]-[0120]; WO2019030929A1 at 9. “As illustrated in FIG. 8, the UL BWP may have a bandwidth (the number of PRBs) different from those of DL BWPs # 1 and #2. The UL BWP may be configured for at least part of DL BWPs # 1 and #2.” Takeda III at [0124]; WO2019030929A1 at 9.

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		“In a case that a plurality of UL BWPs are configured for the user terminal, transmission of the same UL signal may be possible or transmission of different UL signals may be possible among the plurality of UL BWPs. The UL signal(s) is, for example, at least one of a UL data channel (for example, a PUSCH), a UL control channel (for example, a PUCCH), a reference signal (for example, an Sounding Reference Signal (SRS) and/or a DMRS), and a random access channel (for example, a Physical Random Access Channel (PRACH)).” Takeda III at [0131]; WO2019030929A1 at 10. “In FIG. 10, it is possible that UL signals necessarily configured in UL BWPs are different from each other, and hence when a plurality of UL BWPs are configured for the user terminal, transmission of a UL signal in each UL BWP can be performed efficiently.” Takeda III at [0135]; WO2019030929A1 at 10. “The user terminal may control activation and/or deactivation of one or more UL BWPs configured for the user terminal, based on explicit or implicit indication information. The explicit indication information may be, for example, DCI (UL grant) or a MAC CE including a resource allocation field configured at a particular value (for example, 0).” Takeda III at [0136]; WO2019030929A1 at 10. To the extent it is found that Takeda III does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that Takeda III does not anticipate this claim, Takeda III renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine Takeda III with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.
11	The UE according to claim 10, wherein the each UL BWP is	At least under Pegasus’s apparent infringement theory, Takeda III discloses “wherein the each UL BWP is activated through downlink (DL) control information.” For example, Takeda III discloses this limitation based on the following exemplary citations:

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	activated through downlink (DL) control information.	“To enable activation/deactivation of one or more frequency bands (for example, BWPs) configured in a carrier to be appropriately controlled. A user terminal of the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band.” Takeda III at Abstract; WO2019030929A1 at Abstract. “Moreover, it is studied, for the future radio communication systems, to use one or a plurality of frequency bands (for example, bandwidth parts (BWPs)) in a carrier (also referred to as a “component carrier (CC)” or a “system band,” and the like) for DL and/or UL communications (DL/UL communications). In a case that one or more frequency bands (for example, BWPs) to be used for DL/UL communications are configurable in a carrier as described above, it is desired to appropriately control activation and/or deactivation (activation/deactivation) of the frequency band in order to reduce processing load in the user terminal (for example, processing load due to blind decoding for each of the frequency bands).” Takeda III at [0007]-[0008]; WO2019030929A1 at 1. “An aspect of a user terminal according to the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band.” Takeda III at [0010]; WO2019030929A1 at 1. “According to the present invention, it is possible to appropriately control activation/deactivation of one or more frequency bands (for example, BWP(s)) configured in a carrier.” Takeda III at [0011]; WO2019030929A1 at 1.

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		“The user terminal may control activation/deactivation of at least one BWP. Activation of a BWP is to be in a state where the BWP is available (or changes to the state where the BWP is available) and is also referred to as “activation,” “enabling,” and the like of a configuration information (configuration) of the BWP (BWP configuration information). Deactivation of a BWP is to be in a state where the BWP is unusable (or changes to the state where the BWP is unusable) and is also referred to as “deactivation,” “disabling,” and the like of a BWP configuration information.” Takeda III at [0032]; WO2019030929A1 at 2. “Activation/deactivation of a BWP may be explicitly or implicitly performed through at least one of physical layer signaling (for example, DCI), Medium Access Control (MAC) signaling (for example, a MAC control element (MAC CE)), and RRC signaling. For example, it is studied to perform activation of a BWP through user-terminal-dedicated RRC signaling. Alternatively, it is studied that DCI explicitly or implicitly indicates activation or deactivation of the BWP. The DCI may be DCI (DL assignment and/or UL grant) to be used for scheduling of a data channel for the user terminal or may be a different kind of DCI (for example, DCI common to one or more user terminals (group DCI or common DCI)). In explicit indication, the DCI may include therein indication information indicating activation or deactivation. In implicit indication, the existence of DCI (for example, DL assignment and/or UL grant) itself may indicate activation or deactivation of the BWP.” Takeda III at [0034]-[0036]; WO2019030929A1 at 2. “In a first aspect, a user terminal monitors (performs blind decoding on) a CORESET (first control resource region) configured in DL BWP #1 (first frequency band) in a carrier, in a certain cycle, to receive DCI. The user terminal controls activation or deactivation of DL BWP #2 (second frequency band) in the carrier, based on the DCI.” Takeda III at [0044]; WO2019030929A1 at 3. “In first activation control, the user terminal may monitor a single CORESET configured in a DL BWP (for example, DL BWP #1) in the carrier, in a certain cycle, to receive (detect) DCI for the DL BWP and/or DCI for a different DL BWP(s) (for example, DL BWP #2) in the carrier.

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Claim Language		Exemplary Citations to Takeda III
		The DCI for DL BWP # 2 is used for scheduling of a PDSCH (DL data channel) in a frequency resource in DL BWP # 2. The user terminal activates DL BWP # 2, based on the DCI for DL BWP # 2. Moreover, the user terminal controls reception of the PDSCH, based on the DCI, in activated DL BWP # 2. FIG. 2 is a diagram to show an example of first activation control according to the first aspect. For example, in FIG. 2, it is assumed that two DL BWPs # 1 and #2 are configured in a carrier configured for the user terminal as shown in FIG. 1B. It is also assumed that DL BWP # 1 is a part of the frequency band of DL BWP # 2. In FIG. 2, it is also assumed that CORESET # 1 is configured in DL BWP # 1 and CORESET # 2 is configured in DL BWP # 2. One or more search spaces are provided in each of CORESET # 1 and CORESET # 2. For example, in CORESET # 1, DCI for DL BWP # 1 and DCI for DL BWP # 2 may be mapped to different search spaces. In FIG. 2, when DL BWP # 1 is in an active state, the user terminal monitors (performs blind decoding on) the DCI for DL BWP # 1 and the DCI for DL BWP # 2 in CORESET # 1 in a certain cycle (for example, every one or more slots, every one or more mini-slots, or every certain number of symbols). When detecting the DCI for DL BWP # 1 in CORESET # 1, the user terminal receives a PDSCH scheduled in (mapped to) a certain time and/or frequency resource (time/frequency resource) of DL BWP # 1, based on the DCI for DL BWP # 1. In contrast, when detecting the DCI for DL BWP # 2 in CORESET # 1, the user terminal activates DL BWP # 2. The user terminal receives a PDSCH scheduled in a certain time/frequency resource of DL BWP # 2, based on the DCI for DL BWP # 2 detected in CORESET # 1. Note that, although the DCI for DL BWP # 1 and the DCI for DL BWP # 2 are detected at different timings in CORESET # 1 in FIG. 2, a plurality of pieces of DCI for the different BWPs may be detectable at the same timing. For example, a plurality of search spaces may be provided corresponding to a plurality of respective BWPs in CORESET # 1, to transmit a plurality of pieces of DCI for the different BWPs in the plurality of respective search spaces. The user terminal may monitor the plurality of search spaces in CORESET # 1 and detect the plurality of pieces of DCI for the different BWPs at the same timing.” Takeda III at [0045]-[0052]; WO2019030929A1 at 3-4.

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Claim Language		Exemplary Citations to Takeda III
		“In contrast, in each BWP-specific CORESET, DCI for each BWP may be transmitted. For example, in the CORESET specific to DL BWP # 1, DL assignment for scheduling a PDSCH in DL BWP # 1 may be transmitted. Moreover, in the CORESET specific to DL BWP # 2, DL assignment for scheduling a PDSCH in DL BWP # 2 may be transmitted.” Takeda III at [0065]; WO2019030929A1 at 5. “The user terminal monitors the CORESET specific to the activated BWP in a certain cycle. For example, in FIG. 3, when DL BWP # 1 is activated, the user terminal monitors the CORESET specific to DL BWP # 1 in a certain cycle. The user terminal receives the PDSCH scheduled in DL BWP # 1, based on the DCI for DL BWP # 1 detected in the CORESET specific to DL BWP # 1.” Takeda III at [0067]; WO2019030929A1 at 5. “In the second fallback mechanism, a single BWP is kept active, while activation or deactivation of a different BWP(s) is controlled. A BWP kept active is also referred to as an “active BWP,” a “primary BWP,” and the like. One or more BWPs for which activation or deactivation is controlled are also referred to as a “secondary BWP(s)” and the like. Note that, when a single BWP is configured in a carrier (for example, FIG. 1A), a primary BWP is configured, and no secondary BWP is configured.” Takeda III at [0070]-[0071]; WO2019030929A1 at 5. “In second activation control, the user terminal monitors a CORESET for each BWP configured in a DL BWP (for example, DL BWP #1) in a carrier, in a certain cycle. The user terminal may receive (detect) DCI for the corresponding BWP in each CORESET. The second activation control is different from the first activation control in that a plurality of CORESETs corresponding to a plurality of respective BWPs are configured in a particular DL BWP. In the following, differences from the first activation control will be mainly described. In the second activation control, in a case that one or more BWPs (one or more DL BWPs and/or one or more UL BWPs) are configured for the user terminal, one or more CORESETs corresponding to the one or more respective DL BWPs may be configured in at least one DL BWP.” Takeda III at [0082]-[0083]; WO2019030929A1 at 6.

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Claim Language		Exemplary Citations to Takeda III
		“In a third aspect, a description will be given of one or more UL BWPs for the user terminal and control of activation or deactivation of the one or more UL BWPs. Only a single UL BWP may be configured or a plurality of UL BWPs may be configured for the user terminal. Activation or deactivation of each UL BWP may be controlled based on explicit or implicit indication information irrespective of activation or deactivation of one or more DL BWPs. For example, when detecting UL grant through monitoring of the CORESET of a DL BWP, the user terminal may activate a UL BWP. Activation or deactivation of a DL BWP may be controlled irrespective of whether UL grant is present or absent.” Takeda III at [0118]-[0120]; WO2019030929A1 at 9. To the extent it is found that Takeda III does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that Takeda III does not anticipate this claim, Takeda III renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine Takeda III with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.
12[a]	The UE according to claim 9, wherein the receiver receives, from the base station, DL control information containing information that indicates the one of the UL control channel resources for the UL control information transmission,	At least under Pegasus’s apparent infringement theory, Takeda III discloses “wherein the receiver receives, from the base station, DL control information containing information that indicates the one of the UL control channel resources for the UL control information transmission.” For example, Takeda III discloses this limitation based on the following exemplary citations: “To enable activation/deactivation of one or more frequency bands (for example, BWPs) configured in a carrier to be appropriately controlled. A user terminal of the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band.”

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Claim Language		Exemplary Citations to Takeda III
		Takeda III at Abstract; WO2019030929A1 at Abstract. “For future radio communication systems (for example, NR), it is studied that a user terminal monitors (performs blind decoding for) control resource regions (for example, control resource sets (CORESETs)), each of which is a candidate region to which a DL control channel (for example, a Physical Downlink Control Channel (PDCCH)) is allocated, to receive (detect) DCI.” Takeda III at [0006]; WO2019030929A1 at 1. “An aspect of a user terminal according to the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band.” Takeda III at [0010]; WO2019030929A1 at 1. “At least one DL BWP (for example, a DL BWP included in a primary CC) configured for the user terminal includes a control resource region to be a candidate to which a DL control channel (DCI) is to be allocated. The control resource region may be referred to as a “control resource set (CORESET),” a “control subband,” a “search space set,” a “search space resource set,” a “control region,” a “control subband,” an “NR-PDCCH region,” and the like. The user terminal monitors one or more search spaces in the CORESET to detect DCI for the user terminal. The search space may include a common search space (CSS), to which common DCI (for example, group DCI or common DCI) common to one or more user terminals is allocated, and/or a user-terminal (UE) specific search space (USS (UE-specific Search space)) to which user-terminal-specific DCI (for example, DL assignment and/or UL grant) is allocated. The user terminal may receive configuration information of the CORESET (CORESET configuration information) through higher layer signaling (for example, RRC signaling or SIB). The CORESET configuration information may indicate at least one of frequency resources (for example, the number of RBs), time resources (for example, a starting OFDM symbol number), a time length (duration), an Resource Element Group (REG) bundle size (REG size), a transmission

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Claim Language		Exemplary Citations to Takeda III
		type (for example, interleave, non-interleave), a cycle (for example, a monitor cycle per CORESET), and the like of each CORESET.” Takeda III at [0038]-[0040]; WO2019030929A1 at 3. “In a first aspect, a user terminal monitors (performs blind decoding on) a CORESET (first control resource region) configured in DL BWP #1 (first frequency band) in a carrier, in a certain cycle, to receive DCI. The user terminal controls activation or deactivation of DL BWP #2 (second frequency band) in the carrier, based on the DCI.” Takeda III at [0044]; WO2019030929A1 at 3. “In first activation control, the user terminal may monitor a single CORESET configured in a DL BWP (for example, DL BWP #1) in the carrier, in a certain cycle, to receive (detect) DCI for the DL BWP and/or DCI for a different DL BWP(s) (for example, DL BWP #2) in the carrier. The DCI for DL BWP # 2 is used for scheduling of a PDSCH (DL data channel) in a frequency resource in DL BWP # 2. The user terminal activates DL BWP # 2, based on the DCI for DL BWP # 2. Moreover, the user terminal controls reception of the PDSCH, based on the DCI, in activated DL BWP # 2. FIG. 2 is a diagram to show an example of first activation control according to the first aspect. For example, in FIG. 2, it is assumed that two DL BWPs # 1 and #2 are configured in a carrier configured for the user terminal as shown in FIG. 1B. It is also assumed that DL BWP # 1 is a part of the frequency band of DL BWP # 2. In FIG. 2, it is also assumed that CORESET # 1 is configured in DL BWP # 1 and CORESET # 2 is configured in DL BWP # 2. One or more search spaces are provided in each of CORESET # 1 and CORESET # 2. For example, in CORESET # 1, DCI for DL BWP # 1 and DCI for DL BWP # 2 may be mapped to different search spaces. In FIG. 2, when DL BWP # 1 is in an active state, the user terminal monitors (performs blind decoding on) the DCI for DL BWP # 1 and the DCI for DL BWP # 2 in CORESET # 1 in a certain cycle (for example, every one or more slots, every one or more mini-slots, or every certain number of symbols).

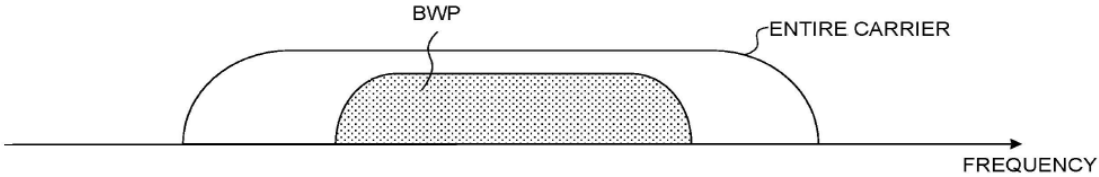
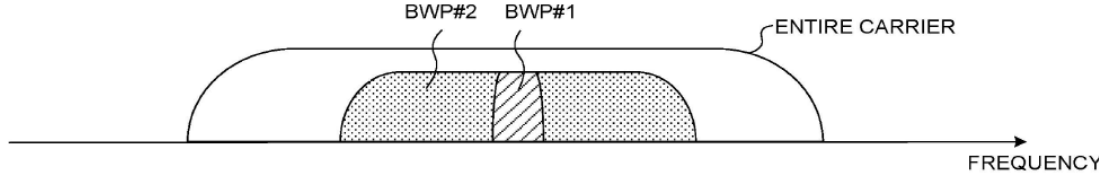
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Claim Language		Exemplary Citations to Takeda III
		When detecting the DCI for DL BWP # 1 in CORESET # 1, the user terminal receives a PDSCH scheduled in (mapped to) a certain time and/or frequency resource (time/frequency resource) of DL BWP # 1, based on the DCI for DL BWP # 1. In contrast, when detecting the DCI for DL BWP # 2 in CORESET # 1, the user terminal activates DL BWP # 2. The user terminal receives a PDSCH scheduled in a certain time/frequency resource of DL BWP # 2, based on the DCI for DL BWP # 2 detected in CORESET # 1.” Takeda III at [0045]-[0051]; WO2019030929A1 at 3-4. “In the BWP-common CORESET, explicit or implicit indication information for activation of a different BWP (here, DL BWP #2) may be transmitted. For example, in the BWP-common CORESET in FIG. 3, the DCI (DL assignment) for DL BWP # 2 for scheduling a PDSCH in DL BWP # 2 is transmitted as implicit indication information.” Takeda III at [0063]; WO2019030929A1 at 5. “In contrast, in each BWP-specific CORESET, DCI for each BWP may be transmitted. For example, in the CORESET specific to DL BWP # 1, DL assignment for scheduling a PDSCH in DL BWP # 1 may be transmitted. Moreover, in the CORESET specific to DL BWP # 2, DL assignment for scheduling a PDSCH in DL BWP # 2 may be transmitted. In FIG. 3, irrespective of which BWP is activated, the user terminal monitors the BWP-common CORESET in a certain cycle (for example, every one or more slots, every one or more mini-slots, or every certain number of symbols). For example, in FIG. 3, the user terminal activates DL BWP # 2 and deactivates DL BWP # 1, based on the DCI for DL BWP # 2 detected in the BWP-common CORESET. The user terminal receives the PDSCH scheduled in DL BWP # 2, based on the DCI for DL BWP # 2.” Takeda III at [0065]-[0066]; WO2019030929A1 at 5. “In FIG. 4, CORESET # 1 may be configured in DL BWP # 1, while CORESET # 2 is configured in DL BWP # 2. A common search space and a UE-specific search space may be included in CORESET # 1. In contrast, a UE-specific search space may be included in CORESET # 2 with no common search space being included in CORESET # 2.

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Claim Language		Exemplary Citations to Takeda III
		In FIG. 4, the user terminal activates DL BWP # 2, based on DCI (DL assignment) for DL BWP # 2 detected in the common search space in CORESET # 1. The user terminal receives the PDSCH scheduled in DL BWP # 2, based on the DCI for DL BWP # 2. The user terminal receives a PDSCH scheduled in DL BWP # 1, based on the DCI (DL assignment) for DL BWP # 1 detected in the UE-specific search space in CORESET # 1. When DL BWP # 2 is activated, the user terminal monitors the UE-specific search space in CORESET # 2 in a certain cycle. The user terminal receives a PDSCH scheduled in DL BWP # 2, based on DCI (DL assignment) for DL BWP # 2 detected in the UE-specific search space.” Takeda III at [0076]-[0079]; WO2019030929A1 at 6. “In second activation control, the user terminal monitors a CORESET for each BWP configured in a DL BWP (for example, DL BWP #1) in a carrier, in a certain cycle. The user terminal may receive (detect) DCI for the corresponding BWP in each CORESET. The second activation control is different from the first activation control in that a plurality of CORESETs corresponding to a plurality of respective BWPs are configured in a particular DL BWP. In the following, differences from the first activation control will be mainly described. In the second activation control, in a case that one or more BWPs (one or more DL BWPs and/or one or more UL BWPs) are configured for the user terminal, one or more CORESETs corresponding to the one or more respective DL BWPs may be configured in at least one DL BWP.” Takeda III at [0082]-[0083]; WO2019030929A1 at 6. “The user terminal receives a PDSCH scheduled in DL BWP # 1, based on the DCI for DL BWP # 1 detected in CORESET # 1 in DL BWP # 1. When detecting the DCI for DL BWP # 2 in CORESET # 2 in DL BWP # 1, the user terminal activates DL BWP # 2 and deactivates DL BWP # 1. The user terminal receives a PDSCH scheduled in DL BWP # 2, based on the DCI for DL BWP # 2 detected in CORESET # 2 in DL BWP # 1.” Takeda III at [0086]-[0087]; WO2019030929A1 at 6. “The DCI for activation indicates activation of the different DL BWP. For example, the DCI may be DCI for scheduling (DL assignment or UL grant) or may be DCI of a dedicated format. In a case

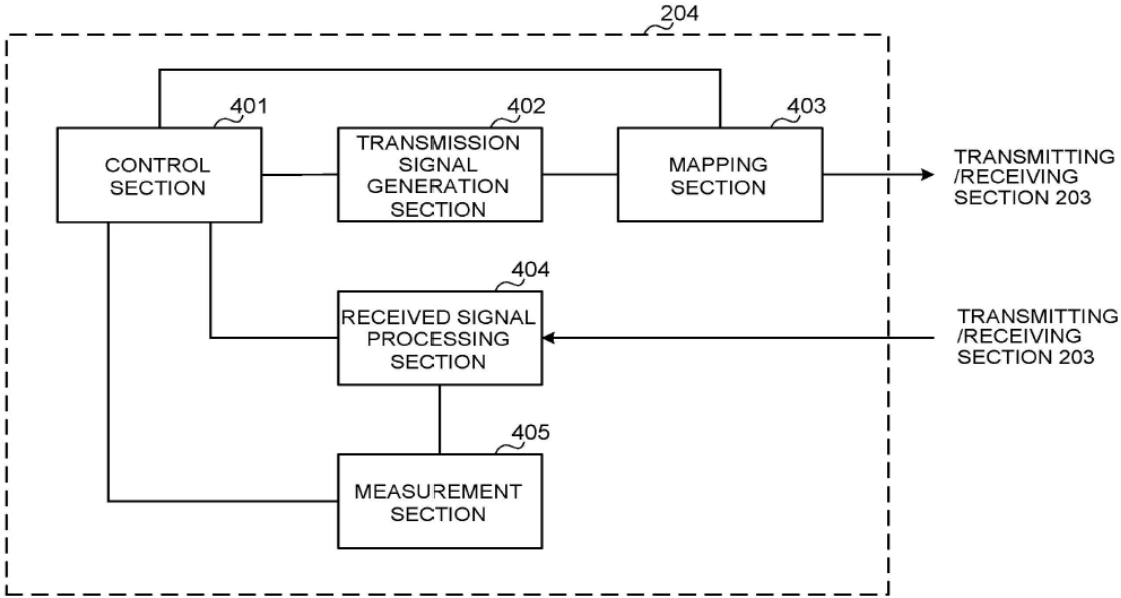
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		that the DCI is DCI for scheduling, a particular value (for example, 0) may be configured in the resource allocation field in the DCI. An index (BWP index) of a BWP to be activated may be included in the DCI for activation.” Takeda III at [0092]; WO2019030929A1 at 7. “When the DCI for activation is successfully detected, the user terminal may transmit Acknowledge (ACK) to the radio base station. For example, the user terminal may transmit the ACK by using a UL control channel (for example, a PUCCH) or a UL data channel (for example, PUSCH) of a UL BWP. After receipt of the ACK from the user terminal, the radio base station may start scheduling of a PDSCH in DL BWP # 2.” Takeda III at [0096]; WO2019030929A1 at 7. “For example, in FIG. 8, the user terminal monitors a CORESET configured in an activated DL BWP, in a certain cycle. The user terminal activates a UL BWP, based on UL grant detected in the CORESET. The user terminal transmits a PUSCH scheduled in a UL BWP, based on the UL grant.” Takeda III at [0123]-[0124]; WO2019030929A1 at 9. “As illustrated in FIG. 9, in a case that the plurality of UL BWPs are configured for the user terminal, an index (BWP index) of the UL BWP in which a PUSCH is scheduled may be included in UL grant. The user terminal may control activation of the UL BWPs, based on the BWP index included in the UL grant.” Takeda III at [0128]; WO2019030929A1 at 9. “In a case that a plurality of UL BWPs are configured for the user terminal, transmission of the same UL signal may be possible or transmission of different UL signals may be possible among the plurality of UL BWPs. The UL signal(s) is, for example, at least one of a UL data channel (for example, a PUSCH), a UL control channel (for example, a PUCCH), a reference signal (for example, an Sounding Reference Signal (SRS) and/or a DMRS), and a random access channel (for example, a Physical Random Access Channel (PRACH)).

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		FIG. 10 is a diagram to show an example of transmission of a UL signal in each UL BWP according to the third aspect. In FIG. 10, it is assumed that UL BWP # 1 and UL BWP # 2 having a greater bandwidth than that of UL BWP # 1 are configured for the user terminal. As illustrated in FIG. 10, configuration information of a PRACH and/or a PUCCH is included in UL BWP # 1. At the same time, configuration information of at least one of a PUSCH, an SRS, and a DMRS need not necessarily be included or may be included in UL BWP # 1. Configuration information of at least one of a PUSCH, an SRS, and a DRMS is included in UL BWP # 2. At the same time, configuration information of a PRACH and/or a PUCCH need not necessarily be included or may be included in UL BWP # 2. As described above, UL signals necessarily configured in UL BWPs may be different from each other, and UL signals which the user terminal can transmit in respective UL BWPs may be different from each other. For example, in FIG. 10, the user terminal may control transmission of a PRACH and/or a PUCCH in UL BWP # 1 while controlling transmission of at least one of a PUSCH, an SRS, and a DMRS in UL BWP # 2. In FIG. 10, it is possible that UL signals necessarily configured in UL BWPs are different from each other, and hence when a plurality of UL BWPs are configured for the user terminal, transmission of a UL signal in each UL BWP can be performed efficiently.” Takeda III at [0131]-[0135]; WO2019030929A1 at 10. “FIG. 11 is a diagram to show an example of activation/deactivation control for a UL BWP according to the third aspect. In FIG. 11, the user terminal may activate UL BWP # 2, based on DCI (for example, UL grant allocating a PUSCH in UL BWP # 2 or DCI for activation (for example, UL grant with a resource allocation field being configured at a particular value)), a MAC CE, a RAR, or message 4. In this case, the user terminal may deactivate UL BWP # 1.” Takeda III at [0139]; WO2019030929A1 at 10. “The transmitting/receiving section 103 can be constituted with transmitters/receivers, transmitting/receiving circuits, or transmitting/receiving apparatus that can be described based on general understanding of the technical field to which the present invention pertains. Note that each transmitting/receiving section 103 may be structured as a transmitting/receiving section in one entity, or may be constituted with a transmitting section and a receiving section.”

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		Takeda III at [0161]; WO2019030929A1 at 12-13. “FIG. 15 is a diagram to show an example of an overall structure of a user terminal according to the present embodiment. Each user terminal 20 includes a plurality of transmitting/receiving antennas 201 for MIMO transmission, amplifying sections 202, transmitting/receiving sections 203, a baseband signal processing section 204, and an application section 205. The user terminal 20 may configure “transmitting apparatus” in UL and configure “receiving apparatus” in DL. Radio frequency signals that are received in the plurality of respective transmitting/receiving antennas 201 are amplified in the respective amplifying sections 202. The transmitting/receiving sections 203 receive the DL signals amplified in the amplifying sections 202. The transmitting/receiving sections 203 convert the received signals into baseband signals through frequency conversion, and output the baseband signals to the baseband signal processing section 204.” Takeda III at [0181]-[0182]; WO2019030929A1 at 14. “The transmitting/receiving sections 203 receive DL signals (for example, at least one of a DL control signal (also referred to as a “DL control channel,” “DCI,” and the like)), DL data signals (also referred to as a “DL data channel,” “DL data,” and the like), and a reference signal). The transmitting/receiving sections 203 also transmit UL signals (for example, at least one of a UL control signal (also referred to as a “UL control channel,” “UCI,” or the like)), UL data signals (also referred to as a “UL data channel,” “UL data,” or the like), and a reference signal). The transmitting/receiving sections 203 may receive higher layer control information (for example, control information through a MAC CE and/or RRC signaling). The transmitting/receiving sections 203 can be transmitters/receivers, transmitting/receiving circuits, or transmitting/receiving apparatus that can be described based on general understanding of the technical field to which the present invention pertains. The transmitting/receiving sections 203 may be structured as transmitting/receiving sections in one entity, or may be constituted with transmitting sections and receiving sections.” Takeda III at [0186]-[0188]; WO2019030929A1 at 15.

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Claim Language		Exemplary Citations to Takeda III
		FIG. 1A  FIG. 1B  Takeda III at Figs. 1A-1B.; WO2019030929A1 at Figs. 1A - 1B.

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		FIG. 15 Takeda III at Fig. 15; WO2019030929A1 at Fig. 15.

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		 FIG. 16 Takeda III at Fig. 16; WO2019030929A1 at Fig. 16. To the extent it is found that Takeda III does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that Takeda III does not anticipate this claim, Takeda III renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine Takeda III with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.

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Claim Language		Exemplary Citations to Takeda III
12[b]	wherein the one of the UL control channel resources is indicated from the base station through the DL control information.	At least under Pegasus’s apparent infringement theory, Takeda III discloses “wherein the one of the UL control channel resources is indicated from the base station through the DL control information.” For example, Takeda III discloses this limitation based on the following exemplary citations: “To enable activation/deactivation of one or more frequency bands (for example, BWPs) configured in a carrier to be appropriately controlled. A user terminal of the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band.” Takeda III at Abstract; WO2019030929A1 at Abstract. “For future radio communication systems (for example, NR), it is studied that a user terminal monitors (performs blind decoding for) control resource regions (for example, control resource sets (CORESETs)), each of which is a candidate region to which a DL control channel (for example, a Physical Downlink Control Channel (PDCCH)) is allocated, to receive (detect) DCI.” Takeda III at [0006]; WO2019030929A1 at 1. “An aspect of a user terminal according to the present invention includes a receiving section that monitors a control resource region in a downlink (DL) frequency band in a carrier, to receive downlink control information (DCI), and a control section that controls transmission of a uplink (UL) signal in an UL frequency band in the carrier, based on the DCI. The control section controls activation or deactivation of the UL frequency band.” Takeda III at [0010]; WO2019030929A1 at 1. “At least one DL BWP (for example, a DL BWP included in a primary CC) configured for the user terminal includes a control resource region to be a candidate to which a DL control channel (DCI) is to be allocated. The control resource region may be referred to as a “control resource set (CORESET),” a “control subband,” a “search space set,” a “search space resource set,” a “control region,” a “control subband,” an “NR-PDCCH region,” and the like.

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Claim Language		Exemplary Citations to Takeda III
		The user terminal monitors one or more search spaces in the CORESET to detect DCI for the user terminal. The search space may include a common search space (CSS), to which common DCI (for example, group DCI or common DCI) common to one or more user terminals is allocated, and/or a user-terminal (UE) specific search space (USS (UE-specific Search space)) to which user-terminal-specific DCI (for example, DL assignment and/or UL grant) is allocated. The user terminal may receive configuration information of the CORESET (CORESET configuration information) through higher layer signaling (for example, RRC signaling or SIB). The CORESET configuration information may indicate at least one of frequency resources (for example, the number of RBs), time resources (for example, a starting OFDM symbol number), a time length (duration), an Resource Element Group (REG) bundle size (REG size), a transmission type (for example, interleave, non-interleave), a cycle (for example, a monitor cycle per CORESET), and the like of each CORESET.” Takeda III at [0038]-[0040]; WO2019030929A1 at 3. “In a first aspect, a user terminal monitors (performs blind decoding on) a CORESET (first control resource region) configured in DL BWP #1 (first frequency band) in a carrier, in a certain cycle, to receive DCI. The user terminal controls activation or deactivation of DL BWP #2 (second frequency band) in the carrier, based on the DCI.” Takeda III at [0044]; WO2019030929A1 at 3. “In first activation control, the user terminal may monitor a single CORESET configured in a DL BWP (for example, DL BWP #1) in the carrier, in a certain cycle, to receive (detect) DCI for the DL BWP and/or DCI for a different DL BWP(s) (for example, DL BWP #2) in the carrier. The DCI for DL BWP # 2 is used for scheduling of a PDSCH (DL data channel) in a frequency resource in DL BWP # 2. The user terminal activates DL BWP # 2, based on the DCI for DL BWP # 2. Moreover, the user terminal controls reception of the PDSCH, based on the DCI, in activated DL BWP # 2. FIG. 2 is a diagram to show an example of first activation control according to the first aspect. For example, in FIG. 2, it is assumed that two DL BWPs # 1 and #2 are configured in a carrier configured for the user terminal as shown in FIG. 1B. It is also assumed that DL BWP # 1 is a part of the frequency band of DL BWP # 2.

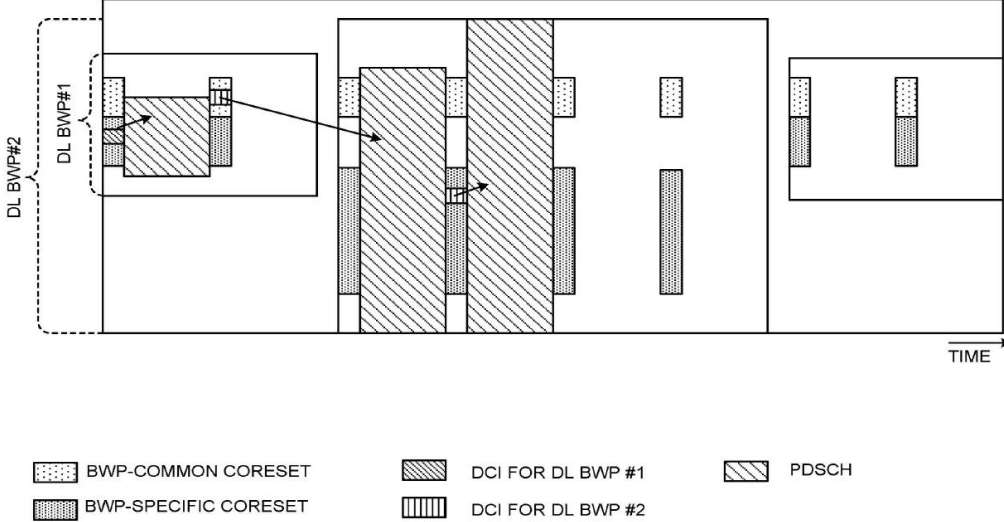
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		In FIG. 2, it is also assumed that CORESET # 1 is configured in DL BWP # 1 and CORESET # 2 is configured in DL BWP # 2. One or more search spaces are provided in each of CORESET # 1 and CORESET # 2. For example, in CORESET # 1, DCI for DL BWP # 1 and DCI for DL BWP # 2 may be mapped to different search spaces. In FIG. 2, when DL BWP # 1 is in an active state, the user terminal monitors (performs blind decoding on) the DCI for DL BWP # 1 and the DCI for DL BWP # 2 in CORESET # 1 in a certain cycle (for example, every one or more slots, every one or more mini-slots, or every certain number of symbols). When detecting the DCI for DL BWP # 1 in CORESET # 1, the user terminal receives a PDSCH scheduled in (mapped to) a certain time and/or frequency resource (time/frequency resource) of DL BWP # 1, based on the DCI for DL BWP # 1. In contrast, when detecting the DCI for DL BWP # 2 in CORESET # 1, the user terminal activates DL BWP # 2. The user terminal receives a PDSCH scheduled in a certain time/frequency resource of DL BWP # 2, based on the DCI for DL BWP # 2 detected in CORESET # 1.” Takeda III at [0045]-[0051]; WO2019030929A1 at 3-4. “In the BWP-common CORESET, explicit or implicit indication information for activation of a different BWP (here, DL BWP #2) may be transmitted. For example, in the BWP-common CORESET in FIG. 3, the DCI (DL assignment) for DL BWP # 2 for scheduling a PDSCH in DL BWP # 2 is transmitted as implicit indication information.” Takeda III at [0063]; WO2019030929A1 at 5. “In contrast, in each BWP-specific CORESET, DCI for each BWP may be transmitted. For example, in the CORESET specific to DL BWP # 1, DL assignment for scheduling a PDSCH in DL BWP # 1 may be transmitted. Moreover, in the CORESET specific to DL BWP # 2, DL assignment for scheduling a PDSCH in DL BWP # 2 may be transmitted. In FIG. 3, irrespective of which BWP is activated, the user terminal monitors the BWP-common CORESET in a certain cycle (for example, every one or more slots, every one or more mini-slots, or every certain number of symbols). For example, in FIG. 3, the user terminal activates DL BWP # 2 and deactivates DL BWP # 1, based on the DCI for DL BWP # 2 detected in the BWP-common

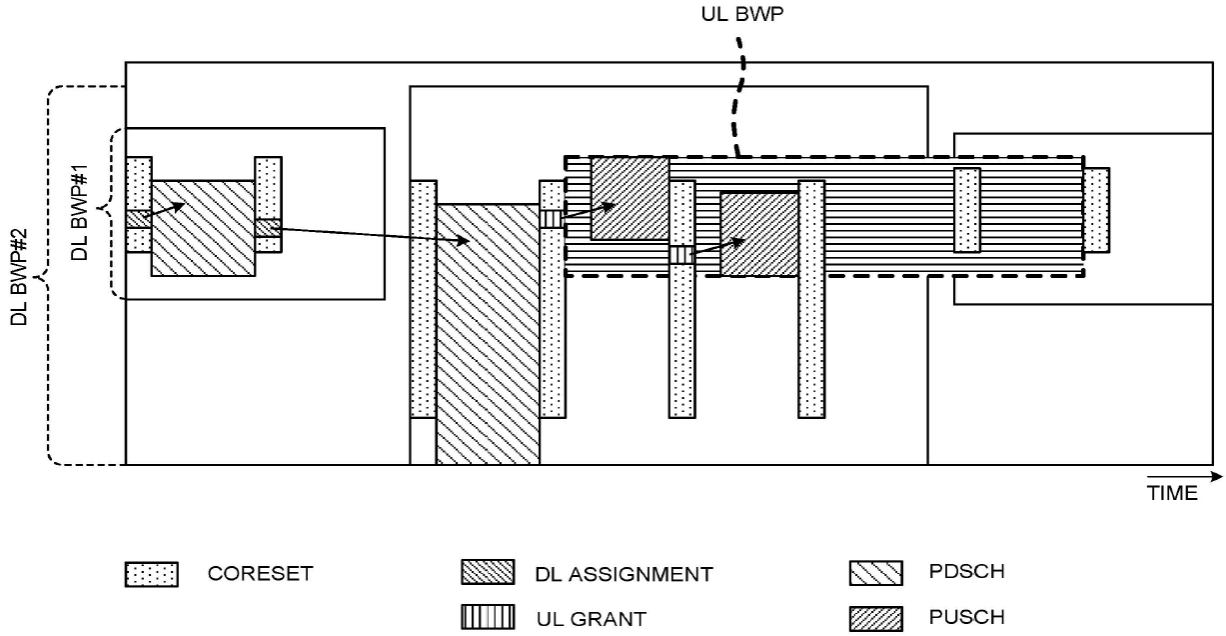
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		CORESET. The user terminal receives the PDSCH scheduled in DL BWP # 2, based on the DCI for DL BWP # 2.” Takeda III at [0065]-[0066]; WO2019030929A1 at 5. “In FIG. 4, CORESET # 1 may be configured in DL BWP # 1, while CORESET # 2 is configured in DL BWP # 2. A common search space and a UE-specific search space may be included in CORESET # 1. In contrast, a UE-specific search space may be included in CORESET # 2 with no common search space being included in CORESET # 2. In FIG. 4, the user terminal activates DL BWP # 2, based on DCI (DL assignment) for DL BWP # 2 detected in the common search space in CORESET # 1. The user terminal receives the PDSCH scheduled in DL BWP # 2, based on the DCI for DL BWP # 2. The user terminal receives a PDSCH scheduled in DL BWP # 1, based on the DCI (DL assignment) for DL BWP # 1 detected in the UE-specific search space in CORESET # 1. When DL BWP # 2 is activated, the user terminal monitors the UE-specific search space in CORESET # 2 in a certain cycle. The user terminal receives a PDSCH scheduled in DL BWP # 2, based on DCI (DL assignment) for DL BWP # 2 detected in the UE-specific search space.” Takeda III at [0076]-[0079]; WO2019030929A1 at 6. “In second activation control, the user terminal monitors a CORESET for each BWP configured in a DL BWP (for example, DL DL BWP #1) in a carrier, in a certain cycle. The user terminal may receive (detect) DCI for the corresponding BWP in each CORESET. The second activation control is different from the first activation control in that a plurality of CORESETs corresponding to a plurality of respective BWPs are configured in a particular DL BWP. In the following, differences from the first activation control will be mainly described. In the second activation control, in a case that one or more BWPs (one or more DL BWPs and/or one or more UL BWPs) are configured for the user terminal, one or more CORESETs corresponding to the one or more respective DL BWPs may be configured in at least one DL BWP.” Takeda III at [0082]-[0083]; WO2019030929A1 at 6. “The user terminal receives a PDSCH scheduled in DL BWP # 1, based on the DCI for DL BWP # 1 detected in CORESET # 1 in DL BWP # 1.

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		When detecting the DCI for DL BWP # 2 in CORESET # 2 in DL BWP # 1, the user terminal activates DL BWP # 2 and deactivates DL BWP # 1. The user terminal receives a PDSCH scheduled in DL BWP # 2, based on the DCI for DL BWP # 2 detected in CORESET # 2 in DL BWP # 1.” Takeda III at [0086]-[0087]; WO2019030929A1 at 6. “The DCI for activation indicates activation of the different DL BWP. For example, the DCI may be DCI for scheduling (DL assignment or UL grant) or may be DCI of a dedicated format. In a case that the DCI is DCI for scheduling, a particular value (for example, 0) may be configured in the resource allocation field in the DCI. An index (BWP index) of a BWP to be activated may be included in the DCI for activation.” Takeda III at [0092]; WO2019030929A1 at 7. “When the DCI for activation is successfully detected, the user terminal may transmit Acknowledge (ACK) to the radio base station. For example, the user terminal may transmit the ACK by using a UL control channel (for example, a PUCCH) or a UL data channel (for example, PUSCH) of a UL BWP. After receipt of the ACK from the user terminal, the radio base station may start scheduling of a PDSCH in DL BWP # 2.” Takeda III at [0096]; WO2019030929A1 at 7. “For example, in FIG. 8, the user terminal monitors a CORESET configured in an activated DL BWP, in a certain cycle. The user terminal activates a UL BWP, based on UL grant detected in the CORESET. The user terminal transmits a PUSCH scheduled in a UL BWP, based on the UL grant.” Takeda III at [0123]-[0124]; WO2019030929A1 at 9. “As illustrated in FIG. 9, in a case that the plurality of UL BWPs are configured for the user terminal, an index (BWP index) of the UL BWP in which a PUSCH is scheduled may be included in UL grant. The user terminal may control activation of the UL BWPs, based on the BWP index included in the UL grant.” Takeda III at [0128]; WO2019030929A1 at 9.

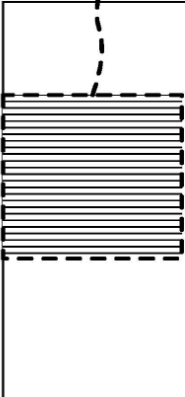
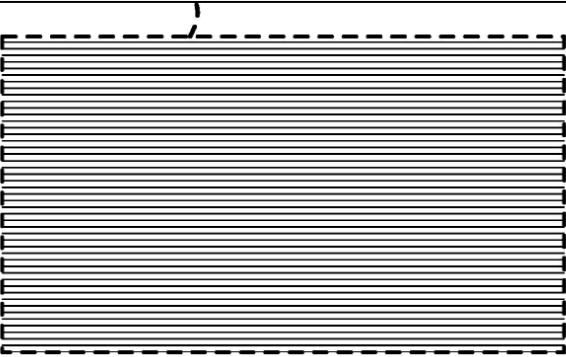
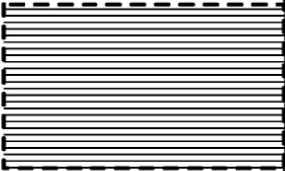
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		“In a case that a plurality of UL BWPs are configured for the user terminal, transmission of the same UL signal may be possible or transmission of different UL signals may be possible among the plurality of UL BWPs. The UL signal(s) is, for example, at least one of a UL data channel (for example, a PUSCH), a UL control channel (for example, a PUCCH), a reference signal (for example, an Sounding Reference Signal (SRS) and/or a DMRS), and a random access channel (for example, a Physical Random Access Channel (PRACH)). FIG. 10 is a diagram to show an example of transmission of a UL signal in each UL BWP according to the third aspect. In FIG. 10, it is assumed that UL BWP # 1 and UL BWP # 2 having a greater bandwidth than that of UL BWP # 1 are configured for the user terminal. As illustrated in FIG. 10, configuration information of a PRACH and/or a PUCCH is included in UL BWP # 1. At the same time, configuration information of at least one of a PUSCH, an SRS, and a DMRS need not necessarily be included or may be included in UL BWP # 1. Configuration information of at least one of a PUSCH, an SRS, and a DRMS is included in UL BWP # 2. At the same time, configuration information of a PRACH and/or a PUCCH need not necessarily be included or may be included in UL BWP # 2. As described above, UL signals necessarily configured in UL BWPs may be different from each other, and UL signals which the user terminal can transmit in respective UL BWPs may be different from each other. For example, in FIG. 10, the user terminal may control transmission of a PRACH and/or a PUCCH in UL BWP # 1 while controlling transmission of at least one of a PUSCH, an SRS, and a DMRS in UL BWP # 2. In FIG. 10, it is possible that UL signals necessarily configured in UL BWPs are different from each other, and hence when a plurality of UL BWPs are configured for the user terminal, transmission of a UL signal in each UL BWP can be performed efficiently.” Takeda III at [0131]-[0135]; WO2019030929A1 at 10. “FIG. 11 is a diagram to show an example of activation/deactivation control for a UL BWP according to the third aspect. In FIG. 11, the user terminal may activate UL BWP # 2, based on DCI (for example, UL grant allocating a PUSCH in UL BWP # 2 or DCI for activation (for example, UL grant with a resource allocation field being configured at a particular value)), a MAC CE, a RAR, or message 4. In this case, the user terminal may deactivate UL BWP # 1.” Takeda III at [0139]; WO2019030929A1 at 10.

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		FIG. 2 Takeda III at Fig. 2; WO2019030929A1 at Fig. 2.

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		 FIG. 3 Takeda III at Fig. 3; WO2019030929A1 at Fig. 3.

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		 The diagram illustrates a timing sequence for a wireless communication system. It shows two Downlink Bandwidth Parts (DL BWP#1 and DL BWP#2) and one Uplink Bandwidth Part (UL BWP). DL BWP#1 is active during the first two time slots, while DL BWP#2 is active during the third and fourth time slots. The UL BWP is active during the third and fourth time slots. The diagram also shows the timing of CORESET (Control Resource Set), DL ASSIGNMENT (Downlink Assignment), UL GRANT (Uplink Grant), PDSCH (Physical Downlink Shared Channel), and PUSCH (Physical Uplink Shared Channel). The legend indicates that CORESET is represented by a dotted pattern, DL ASSIGNMENT by a diagonal line pattern, UL GRANT by a vertical line pattern, PDSCH by a horizontal line pattern, and PUSCH by a diagonal line pattern. The x-axis is labeled TIME. FIG. 8 Takeda III at Fig. 8; WO2019030929A1 at Fig. 8.

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		The diagram illustrates a timeline of radio resource allocation. It shows two Downlink Bandwidth Parts (DL BWP#1 and DL BWP#2) and two Uplink Bandwidth Parts (UL BWP#1 and UL BWP#2). DL BWP#1 is active during the first two time slots, while DL BWP#2 is active during the third and fourth. UL BWP#1 is active during the first and third time slots, and UL BWP#2 is active during the second and fourth. The timeline includes CORESET (dotted pattern), DL ASSIGNMENT (diagonal lines), PDSCH (horizontal lines), UL GRANT (vertical lines), and PUSCH (diagonal lines). A legend at the bottom identifies these patterns: CORESET (dotted), DL ASSIGNMENT (diagonal lines), PDSCH (horizontal lines), UL GRANT (vertical lines), and PUSCH (diagonal lines). The x-axis is labeled 'TIME'. FIG. 9 Takeda III at Fig. 9; WO2019030929A1 at Fig. 9.

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		UL BWP#1 (PRACH,PUCCH)  UL BWP#2 (PUSCH,SRS,DMRS)   TIME → FIG. 10 Takeda III at Fig. 10; WO2019030929A1 at Fig. 10. To the extent it is found that Takeda III does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that Takeda III does not anticipate this claim, Takeda III renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine Takeda III with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.

