# **Revised TP#2 according to the comments from email discussion**

---------------------------------- < Start of TP#2 for Clause 4.1 of 38.213 > ----------------------------------------

4 Synchronization procedures

4.1 Cell search

< Unchanged parts are omitted >

For operation with shared spectrum channel access, a UE assumes that transmission of SS/PBCH blocks in a half frame is within a discovery burst transmission window that starts from the first symbol of the first slot in a half-frame. The UE can be provided per serving cell by *DiscoveryBurst-WindowLength-r16* a duration of the discovery burst transmission window. If *DiscoveryBurst-WindowLength-r16* is not provided, the UE assumes that the duration of the discovery burst transmission window is a half frame. For a serving cell, the UE assumes that a periodicity of the discovery burst transmission window is same as a periodicity of half frames for receptions of SS/PBCH blocks in the serving cell. The UE assumes that one or more SS/PBCH blocks indicated by *ssb-PositionsInBurst* may be transmitted within the discovery burst transmission window and have candidate SS/PBCH blocks indices corresponding to SS/PBCH block indices provided by *ssb-PositionsInBurst*. If MSB $k$, $k\geq 1$, of *ssb-PositionsInBurst* is set to 1, the UE assumes that one SS/PBCH block among SS/PBCH block(s) within the discovery burst transmission window with candidate SS/PBCH block indices corresponding to SS/PBCH block index equal to $k-1$ may be transmitted; if MSB $k$ is set to 0, the UE assumes that the SS/PBCH block(s) are not transmitted.

< Unchanged parts are omitted >

-------------------------------------------------- < End of TP#2> -----------------------------------------------------

# **Revised TP#3 according to the comments from email discussion (merged with TP#13)**

==================== Start of TP#3 for Clause 5.1.4 of TS 38.214 =======================

\*\*\* Unchanged text is omitted \*\*\*

5.1.4 PDSCH resource mapping

When receiving the PDSCH scheduled with SI-RNTI and the system information indicator in DCI is set to 0, the UE shall assume that no SS/PBCH block is transmitted in REs used by the UE for a reception of the PDSCH.

When receiving the PDSCH scheduled with SI-RNTI and the system information indicator in DCI is set to 1, RA-RNTI, MsgB-RNTI, P-RNTI or TC-RNTI, the UE assumes SS/PBCH block transmission according to *ssb-PositionsInBurst*, and if the PDSCH resource allocation overlaps with PRBs containing SS/PBCH block transmission resources the UE shall assume that the PRBs containing SS/PBCH block transmission resources are not available for PDSCH in the OFDM symbols where SS/PBCH block is transmitted.

A UE expects a configuration provided by *ssb-PositionsInBurst* in *ServingCellConfigCommon* to be same as a configuration provided by *ssb-PositionsInBurst* in *SIB1*.

When receiving PDSCH scheduled by PDCCH with CRC scrambled by C-RNTI, MCS-C-RNTI, CS-RNTI, or PDSCHs with SPS, the REs corresponding to the configured or dynamically indicated resources in Clauses 5.1.4.1, 5.1.4.2 are not available for PDSCH. Furthermore, the UE assumes SS/PBCH block transmission according to *ssb-PositionsInBurst* if the PDSCH resource allocation overlaps with PRBs containing SS/PBCH block transmission resources, the UE shall assume that the PRBs containing SS/PBCH block transmission resources are not available for PDSCH in the OFDM symbols where SS/PBCH block is transmitted.

A UE is not expected to handle the case where PDSCH DM-RS REs are overlapping, even partially, with any RE(s) not available for PDSCH*.*

For operation with shared spectrum channel access, SS/PBCH block transmission according to *ssb-PositionsInBurst* represents all of the candidate SS/PBCH blocks corresponding to SS/PBCH block indices provided by *ssb-PositionsInBurst* as described in Clause 4.1 of [6, TS 38.213].

================================== End of TP#3 ============================

# **Revised TP#4 according to the comments from email discussion**

===================== Start of TP#4 for Clause 8.1 of TS 38.213 =======================

**8.1 Random access preamble**

------------------------------------------------------ Unchanged parts omitted ------------------------------------------------------

For unpaired spectrum,

- if a UE is not provided *tdd-UL-DL-ConfigurationCommon*, a PRACH occasion in a PRACH slot is valid if it does not precede a SS/PBCH block in the PRACH slot and starts at least  symbols after a last SS/PBCH block reception symbol, where  is provided in Table 8.1-2.

- the candidate SS/PBCH block index of the SS/PBCH block corresponds to the SS/PBCH block index provided by *ssb-PositionsInBurst* in *SIB1* or in *ServingCellConfigCommon*, as described in Clause 4.1.

- If a UE is provided *tdd-UL-DL-ConfigurationCommon*, a PRACH occasion in a PRACH slot is valid if

- it is within UL symbols, or

- it does not precede a SS/PBCH block in the PRACH slot and starts at least  symbols after a last downlink symbol and at least  symbols after a last SS/PBCH block symbol, where  is provided in Table 8.1-2, and if *ChannelAccessType-r16* = *semistatic* is provided, does not overlap with a set of consecutive symbols before the start of a next channel occupancy time where there shall not be any transmissions, as described in [15, TS 37.213]

- the candidate SS/PBCH block index of the SS/PBCH block corresponds to the SS/PBCH block index provided by *ssb-PositionsInBurst* in *SIB1* or in *ServingCellConfigCommon*, as described in Clause 4.1.

-------------------------------------------------------- End of TP#4 ------------------------------------------------------------------

# **Revised TP#5 according to the comments from email discussion**

----------------------------------------------- Start of TP#5 for Clause 11.1.1 in TS 38.213 -------------------------------------

**11.1.1 UE procedure for determining slot format**

------------------------------------------------------ Unchanged parts omitted ------------------------------------------------------

For a set of symbols of a slot corresponding to SS/PBCH blocks with candidate SS/PBCH block indices corresponding to the SS/PBCH block indices indicated to a UE by *ssb-PositionsInBurst* in *SIB1,* or by *ssb-PositionsInBurst* in *ServingCellConfigCommon*, as described in Clause 4.1, the UE does not expect to detect a DCI format 2\_0 with an SFI-index field value indicating the set of symbols of the slotas uplink.

-------------------------------------------------------- End of TP#5 ------------------------------------------------------------------

# **Revised TP#6 according to the comments from email discussion**

----------------------------------------------- Start of TP#6 for Clause 9.2.3 in TS 38.213 -------------------------------------

**9.2.6 PUCCH repetition procedure**

------------------------------------------------------ Unchanged parts omitted ------------------------------------------------------

A SS/PBCH block symbol is a symbol of an SS/PBCH block with index candidate SS/PBCH block indices corresponding to the SS/PBCH block indicated to a UE by *ssb-PositionsInBurst* in *SIB1* or *ssb-PositionsInBurst* in *ServingCellConfigCommon*, as described in Clause 4.1.

-------------------------------------------------------- End of TP#6 ------------------------------------------------------------------

# **Revised TP#7 according to the comments from email discussion**

===========================Start of TP#7 for Clause 5 in TS 38.213===========================

**5 Radio Link Monitoring**

================================ Unchanged Texts Omitted ==============================

For operation with shared spectrum channel access, when a UE is provided a SS/PBCH block index by *ssb-Index*, the UE is expected to perform radio link monitoring using SS/PBCH block(s) in the discovery burst transmission window as described in Clause 4.1, where the SS/PBCH block(s) have candidate SS/PBCH block index(es) corresponding to SS/PBCH block index provided by *ssb-Index*.

================================ Unchanged Texts Omitted =============================

================================= End of TP#7 for TS 38.213 =============================

# **Revised TP#12 according to the comments from email discussion**

==================== Start of TP#12-A for Clause 4.1 of TS 38.213 =======================

\*\*\* Unchanged text is omitted \*\*\*

The candidate SS/PBCH blocks in a half frame are indexed in an ascending order in time from 0 to $\overline{L}\_{max}-1$, where $\overline{L}\_{max}$ is determined according to SS/PBCH block patterns for Cases A through E. $L\_{max}$ is a maximum number of SS/PBCH block indices in a cell, and

- for operation without shared spectrum channel access, $L\_{max}=\overline{L}\_{max}$

- for operation with shared spectrum channel access, $L\_{max}=8$ for $\overline{L}\_{max}=10$ and 15 kHz SCS of SS/PBCH blocks and for $\overline{L}\_{max}=20$ and 30 kHz SCS of SS/PBCH blocks. The maximum number of transmitted SS/PBCH blocks within a discovery burst transmission window is 8.

For $\overline{L}\_{max}=4$, a UE determines the 2 LSB bits of a candidate SS/PBCH block index per half frame from a one-to-one mapping with an index of the DM-RS sequence transmitted in the PBCH as described in [4, TS 38.211].

\*\*\* Unchanged text is omitted \*\*\*

================================== End of TP#12 ============================

==================== Start of TP#12-B for Clause 4.1 of TS 38.213 =======================

\*\*\* Unchanged text is omitted \*\*\*

The candidate SS/PBCH blocks in a half frame are indexed in an ascending order in time from 0 to $\overline{L}\_{max}-1$, where $\overline{L}\_{max}$ is determined according to SS/PBCH block patterns for Cases A through E. $L\_{max}$ is a maximum number of SS/PBCH block indices in a cell, and the maximum number of transmitted SS/PBCH blocks within a half frame is $L\_{max}$.

- For operation without shared spectrum channel access, $L\_{max}=\overline{L}\_{max}$

- For operation with shared spectrum channel access, $L\_{max}=8$ for $\overline{L}\_{max}=10$ and 15 kHz SCS of SS/PBCH blocks and for $\overline{L}\_{max}=20$ and 30 kHz SCS of SS/PBCH blocks

For $\overline{L}\_{max}=4$, a UE determines the 2 LSB bits of a candidate SS/PBCH block index per half frame from a one-to-one mapping with an index of the DM-RS sequence transmitted in the PBCH as described in [4, TS 38.211].

\*\*\* Unchanged text is omitted \*\*\*

================================== End of TP#12 ============================