# **[100b-e-NR-5G\_V2X\_NRSL-SL\_PHY\_Procedure-01] Handling TX and RX of multiple PSFCHs**

[100b-e-NR-5G\_V2X\_NRSL-PHY-Procedure-01] Email discussion/approval regarding handling TX and RX of multiple PSFCHs

* PSD of each PSFCH when transmitting multiple PSFCH TX
* Prioritization between TX and RX when the UE is required to TX/RX multiple PSFCH

till 4/23, with potential TPs by 4/28 (Hanbyul, LGE)

**1. PSD of each PSFCH when transmitting multiple PSFCH TX**

Assumption: The UE supports up to Nmax simultaneous PSFCH transmissions in a PSFCH TX occasion, and Nreq PSFCH transmissions are requested for the UE in a given PSFCH TX occasion. The UE selects N PSFCH transmissions for the actual PSFCH transmission.

Q1: How does the UE determine N for the following cases?

Q1-1: Nreq<=Nmax and TX power limit is not reached (i.e., the sum of Nreq PSFCH transmissions power before applying the upper limit does not exceed Pc,max)

|  |  |
| --- | --- |
| Company | Answer |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

Q1-2: Nreq<=Nmax and TX power limit is reached (i.e., the sum of Nreq PSFCH transmissions power before applying the upper limit exceeds Pc,max)

|  |  |
| --- | --- |
| Company | Answer |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

Q1-3: Nreq>Nmax and TX power limit is not reached (i.e., the sum of Nmax PSFCH transmissions power before applying the upper limit does not exceed Pc,max)

|  |  |
| --- | --- |
| Company | Answer |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

Q1-4: Nreq>Nmax and TX power limit is reached (i.e., the sum of Nmax PSFCH transmissions power before applying the upper limit exceeds Pc,max)

|  |  |
| --- | --- |
| Company | Answer |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

Q2: Once N is determined by the answer to Q1, do you agree that the TX power of each PSFCH is given by the following modified equation (to replace the one in Section 16.2.3 of TS 38.213)?

$P\_{PSFCH,k}(i)=min\left(P\_{CMAX}-10log\_{10}\left(N\right),P\_{O,PSFCH}+10log\_{10}\left(2^{μ}\right)+α\_{PFSCH}⋅PL\right)$ [dBm]

|  |  |
| --- | --- |
| Company | Answer |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

**2. Prioritization between TX and RX when the UE is required to TX/RX multiple PSFCH**

Q3: Do you agree the following proposal to determine the priority of PSFCH TX and RX when the UE is required to transmit/receive multiple PSFCHs?

* Proposal:
	+ When the UE is required to transmit more than one PSFCH, the highest priority of the associated PSCCH/PSSCH is used for prioritization of the PSFCH transmission.
	+ When the UE is required to receive more than one PSFCH, the highest priority of the associated PSCCH/PSSCH is used for prioritization of the PSFCH reception.

|  |  |
| --- | --- |
| Company | Answer |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |