**#3GPP TSG RAN WG1 #102-e R1-20xxxxx**

**e-Meeting, August 17th – 28th, 2020**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Agenda item:** 8.11.1

**Source:** Moderator (LG Electronics)

**Title:** FL summary#1 for AI 8.11.1 SL evaluation methodology update for power saving

**Document for:** Discussion and decision

1. **Email discussion**

As per Chairman’s guideline, the following email discussion was allocated for AI 8.11.1. Please provide your view on the questions in Section 1.1/1.2/1.3/1.4 **by 8/19 (Wednesday)**. Based on the collected view, I’ll make a set of proposals that will be discussed and finalized **by 8/21**. Note that other remaining assumptions, if any, will be discussed/finalized in the second phase of email discussion.

* + - * **[102-e-NR-SL\_enh-01] Email discussion/approval using the summary as a starting point, focusing on simulation assumptions – Seungmin (LGE)**
* **By 8/21 – Simulation assumptions, critical ones**
* **By 8/27 – Remaining simulation assumptions**

**1.1 Reference configuration for power consumption model**

* + - * Q1: Do you agree that the number of SL symbols in a slot is 14 (including AGC and TX-RX switching period)?

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

* + - * Q2: Do you agree that the SCS for FR1 is 30kHz and the SCS for FR2 is 120kHz?

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

* + - * Q3: Do you agree that the system BW for power consumption model is 100MHz as in TR38.840?

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

* + - * Q4: Do you agree that the number of OFDM symbols for PSCCH (excluding AGC symbol) is 2?

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

* + - * Q5: Do you agree that the modulation order for power consumption model is 256QAM as in TR38.840?

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

* + - * Q6: Do you agree that the number of TX APs for power consumption model is 1 as in TR38.840?

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

* + - * Q7: Do you agree that the number of RX APs for power consumption model is 4 for FR1 or 2 for FR2 as in TR38.840?

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

* + - * Q8: Do you agree that TX power for power consumption model is {0dBm, 23dBm} for FR1 as in TR38.840? Do you agree that TX power for power consumption model is 0dBm for FR2?

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

**1.2 Power consumption scaling for adaptation**

* + - * Q1: Do you agree to support that X MHz power for RX is (0.4 +0.6\*(X-20)/80)\*100MHz power for RX?

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

* + - * Q2: Do you agree that no scaling is supported for SL BWP adaptation in TX perspective?

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

* + - * Q3: For antenna scaling in RX perspective, do you agree that 2Rx power is 0.7\*4Rx power for FR1 and 1Rx power is 0.7\*2Rx power for FR2?

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

* + - * Q4: For antenna scaling in TX perspective for FR1, do you agree that 2Tx power is 1.4\*1Tx power at 0dBm and 1.2\*1Tx power at 23dBm? Is the antenna scaling in TX perspective necessary for FR2?

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

* + - * Q5: Other power consumption scaling for adaptation (please specify)

|  |  |
| --- | --- |
| Company | Comment |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

**1.3 Power consumption level**

* + - * Q1: Do you agree to reuse three states of “Sleep” specified in TR38.840 including transition time and energy consumption?

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

* + - * Q2: In “1st SCI/2nd SCI RX” state, a UE tries to decode 1st SCI on PSCCH and 2nd SCI on PSSCH, but the UE does not decode SL-SCH on PSSCH. In this case, what is the UE power consumption level?
* Q2-1: For power consumption level of “1st SCI/2nd SCI RX” in non-PSFCH-slot, which option is used?
	+ Option 1: Same as power consumption level of “PDCCH-only” for same-slot scheduling
	+ Option 2: Scaling factor Y \* power consumption level of “PDCCH-only” for same-slot scheduling
		- Option 2-1: Y = 1.45
		- Option 2-2: Y= 2
	+ Option 3: Scaling factor Y \* power consumption level of “PSCCH/PSSCH RX”
		- Y is selected from [0.6 0.7 0.8 0.9]

|  |  |  |
| --- | --- | --- |
| Company | Preferred option | Comment |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

* Q2-2: For power consumption level of “1st SCI/2nd SCI RX” in PSFCH-slot, which option is used?
	+ Option 1: Same as power consumption level of “PDCCH-only” for same-slot scheduling
	+ Option 2: Scaling factor Y \* power consumption level of “PDCCH-only” for same-slot scheduling
		- Y = 0.85
	+ Option 3: Scaling factor Y \* power consumption level of “PSCCH/PSSCH RX”
		- Y is selected from [0.6 0.7 0.8 0.9]

|  |  |  |
| --- | --- | --- |
| Company | Preferred option | Comment |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

* + - * Q3: In “PSCCH/PSSCH RX” state, a UE tries to decode 1st SCI on PSCCH and 2nd SCI on PSSCH, and SL-SCH on PSSCH. In this case, what is the UE power consumption level?
* Q3-1: For power consumption level of “PSCCH/PSSCH RX” in non-PSFCH-slot, do you agree that the power consumption level is the same as that of “PDCCH+PDSCH”?

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

* Q3-2: For power consumption level of “PSCCH/PSSCH RX” in PSFCH-slot, do you agree that the power consumption level is 0.9\*power consumption level of “PDCCH+PDSCH”?

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

* + - * Q4: In “PSCCH/PSSCH TX” state, a UE transmits PSCCH and PSSCH. In this case, what is the UE power consumption level?
* Q4-1: For power consumption level of “PSCCH/PSSCH TX” in non-PSFCH-slot, do you agree that the power consumption level is the same as that of “UL” for long PUCCH or PUSCH?

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

* Q4-2: For power consumption level of “PSCCH/PSSCH TX” in PSFCH-slot, do you agree that the power consumption level is 0.8\*power consumption level of “UL” for long PUCCH or PUSCH?

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

* + - * Q5: In “PSFCH TX” or “PSFCH RX” state, a UE transmits or receives PSFCH only in a slot, respectively. In this case, what is the UE power consumption level?
* Q5-1: For power consumption level of “PSFCH TX”, which option is used?
	+ Option 1: Same as power consumption level of “UL” for short PUCCH
	+ Option 2: Scaling factor Y\*power consumption level of “UL” for long PUCCH or PUSCH
		- Option 2-1: Y=0.36
		- Option 2-2: Y= 0.2
	+ Option 3: 72

|  |  |  |
| --- | --- | --- |
| Company | Preferred option | Comment |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

* Q5-2: For power consumption level of “PSFCH RX”, which option is used?
	+ Option 1: Same as power consumption level of “PDCCH-only” for same-slot scheduling
	+ Option 2: Same as power consumption level of “PDCCH-only” for cross-slot scheduling
	+ Option 3: 5 for FR1, 30 for FR2

|  |  |  |
| --- | --- | --- |
| Company | Preferred option | Comment |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

* + - * Q6: In PSFCH-slot, a UE can (1) SCI decoding only, (2) SCI decoding and PSFCH RX, (3) SCI decoding and PSFCH TX, (4) PSCCH/PSSCH decoding, (5) PSSCH/PSSCH decoding and PSFCH RX, (6) PSCCH/PSSCH decoding and PSFCH TX, (7) PSCCH/PSSCH TX and PSFCH RX, or (8) PSSCH/PSSCH TX and PSFCH TX. What is the power consumption level of a combination of PSCCH/PSSCH/PSFCH operation?
* Q6-1: For power consumption level of a combination of “1st SCI/2nd SCI RX” and “PSFCH RX”, do you agree that the power consumption level is the same as that of “1st SCI+2nd SCI RX” in non-PSFCH-slot?

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

* Q6-2: For power consumption level of a combination of “PSCCH/PSSCH RX” and “PSFCH RX”, do you agree that the power consumption level is the same as that of “PSCCH/PSSCH RX” in non-PSFCH-slot?

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

* Q6-3: For power consumption level of a combination of “PSCCH/PSSCH TX” and “PSFCH TX”, do you agree that the power consumption level is the same as that of “UL (long PUCCH or PUSCH)”?

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

* Q6-4: For power consumption level of a combination of “1st SCI/2nd SCI RX” and “PSFCH TX”, do you agree that the power consumption level is a sum of power consumption level of “1st SCI/2nd SCI RX” in PSFCH-slot and power consumption level of “PSFCH TX”?

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

* Q6-5: For power consumption level of a combination of “PSCCH/PSSCH RX” and “PSFCH TX”, do you agree that the power consumption level is a sum of power consumption level of “PSCCH/PSSCH RX” in PSFCH-slot and power consumption level of “PSFCH TX”?

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

* Q6-6: For power consumption level of a combination of “PSCCH/PSSCH TX” and “PSFCH RX”, do you agree that the power consumption level is a sum of power consumption level of “PSCCH/PSSCH TX” in PSFCH-slot and power consumption level of “PSFCH RX”?

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

* + - * Q7: In “S-SSB RX”, a UE tries to detect S-SSB and decode PSBCH. In “S-SSB TX”, a UE transmits S-SSB in a slot. What is the power consumption level?
* Q7-1: For power consumption level of “S-SSB RX”, which option is used?
	+ Option 1: Same as power consumption level of “SSB processing” with 1 SSB in a slot
	+ Option 2: Same as power consumption level of “SSB processing” with 2 SSB in a slot
	+ Option 3: Same as that of “1st SCI/2nd SCI RX” in non-PSFCH-slot
	+ Option 4: 150
	+ Option 5: 0.3
	+ Option 6: 5

|  |  |  |
| --- | --- | --- |
| Company | Preferred option | Comment |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

* Q7-2: For power consumption level of “S-SSB TX”, do you agree that the power consumption level is the same as power consumption level of “UL” for (long PUCCH or PUSCH)?

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

* + - * Q8: Depending on the Synch reference source, a UE performs synchronization process based on GNSS, SSB from gNB, or S-SSB from another UE. What is the power consumption level?
* Q8-1: For power consumption level of “GNSS-processing”, which option is used?
	+ Option 1: 5
	+ Option 2: 8
	+ Option 3: 15
	+ Option 4: 0.08\*Power consumption level of PSCCH/PSSCH RX

|  |  |  |
| --- | --- | --- |
| Company | Preferred option | Comment |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

* Q8-2: For power consumption level of “SSB-processing”, which option is used?
	+ Option 1: Same as power consumption level of “SSB processing”
	+ Option 2: 10

|  |  |  |
| --- | --- | --- |
| Company | Preferred option | Comment |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

* + - * Q9: For power consumption level of “CSI-RS processing”, which option is used?
* Option 1: Same as that of “CSI-RS processing”
* Option 2: 150
* Option 3: 0.4 for FR1, 300 for FR2
* Option 4: No need to specify it

|  |  |  |
| --- | --- | --- |
| Company | Preferred option | Comment |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

**1.4 Other remaining assumptions (to be discussed/finalized by 8/27)**

* + - * Q1: What additional assumptions (other than those in Section 1.1/1/2/1/3) are needed to discussed/finalized during the second phase of email discussion?

|  |  |
| --- | --- |
| Company | Comment |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

1. **Appendix A -** Summary of contributions
	* + - Power consumption model for Rel-17 NR sidelink
* Reference configuration for power consumption model
	+ FR1
		- Number of SL symbols in a slot (including AGC and TX-RX switching periods)
			* 7: [1]
			* 14: [1], [9]
		- SCS
			* 30kHz: [1], [2], [3], [5], [9], [11], [12], [15], [16], [20]
		- System BW
			* 20MHz: [5], [11], [12], [16], [20]
			* 40MHz: [1], [3], [12], [15], [20]
			* 100MHz: [2], [9]
		- PSCCH
			* 2 symbols: [1], [3], [9], [11], [15]
			* 3 symbols: [2], [15], [20]
		- PSSCH
			* Modulation order:
				+ 64QAM: [1], [3], [5], [11], [15], [20]
				+ 256QAM: [2], [9], [15]
		- Number of TX APs
			* 1: [1], [2], [5], [9], [15], [20]
			* 2: [11], [12]
		- Number of RX APs
			* 2: [1], [5], [9], [15], [20]
			* 4: [11]
		- TX power
			* 0 dBm: [1], [3], [5], [9], [11]
			* 23 dBm: [1], [3], [5], [9], [11], [12], [20]
			* 26 dBm: [12]
	+ FR2
		- Number of SL symbols in a slot (including AGC and TX-RX switching periods)
			* 7: [1]
			* 14: [1], [9]
		- SCS
			* 120kHz: [1], [9], [11], [16]
		- System BW
			* 100MHz: [1], [9], [16]
			* 200MHz: [11]
		- PSCCH
			* 2 symbols: [1], [9], [11]
		- PSSCH
			* Modulation order:
				+ 64QAM: [1], [11]
				+ 256QAM: [9]
		- Number of TX APs
			* 1: [1], [9]
			* 2: [11]
		- Number of RX APs
			* 2: [1], [9], [11]
		- TX power
			* 0 dBm: [1], [9]
			* 23 dBm: [1], [11]
* Power consumption scaling for adaptation
	+ SL BWP size adaption
		- For reception: Scaling of X MHz = 0.4 +0.6\*(X-20)/80 compared to 100MHz
			* Support: [1], [2], [5], [9], [11]
		- For transmission: No scaling
			* Support: [1], [2], [5], [9]
		- Antenna scaling in RX perspective
			* 2Rx power is 0.7x 4Rx power
				+ Support: [1], [9], [11]
			* 1Rx power is 0.7x 2Rx power
				+ Support: [1], [5], [9], [11]
		- Antenna scaling in TX perspective
			* 2Tx power is 1.4x 1Tx power at 0dBm. 1.2x at 23dBm FR1 only
				+ Support: [5], [9], [11]
		- Additional scaling for adaptation
			* Scaling based on symbol duration
				+ 0.6x 14-symbol case for 7-symbol case: [1]
				+ Linear interpolation for various symbol duration: [5], [13]
			* Linear interpolation for other TX power: [2], [7]
			* Scaling based on the number of BD: [11]
			* Scaling based on the number of allocated PRBs: [11], [13], [17]
* Power consumption level
	+ Reuse three states of “Sleep” specified in TR38.840 including transition time and energy consumption.
		- Support: [1], [2], [3], [5], [7], [9], [11], [15], [16], [17], [20]
	+ 1st SCI+2nd SCI RX
		- In non-PSFCH-slot:
			* [0.6 0.7 0.8 0.9] \* power consumption level of “PSCCH/PSSCH RX”: [3]
			* Same as that of “PDCCH-only” with same-slot scheduling: [5], [7], [11]
			* Larger than that of “PDCCH-only” with same-slot scheduling: [9]
				+ 1.45 \* Power consumption level of “PDCCH-only” with same-slot scheduling: [9]
				+ 2 \* Power consumption level of “PDCCH-only” with same-slot scheduling: [15]
		- In PSFCH-slot:
			* 0.85 \* power consumption level of “1st SCI+2nd SCI RX” in non-PSFCH-slot: [9]
	+ PSCCH/PSSCH RX
		- In non-PSFCH-slot:
			* Same as that of “PDCCH+PDSCH: [1], [2], [3], [5], [7], [9], [11], [15]
		- In PSFCH-slot:
			* 0.9 \* power consumption level of “PSCCH/PSSCH RX” in non-PSFCH-slot: [9]
	+ PSCCH/PSSCH TX
		- In non-PSFCH-slot:
			* Same as that of “UL (long PUCCH or PUSCH)”: [1], [2], [3], [5], [7], [9], [11]
			* 300 for FR1, 350 for FR2: [16]
			* 400: [17]
		- In PSFCH-slot:
			* 0.8 \* power consumption level of “PSCCH/PSSCH TX” in non-PSFCH-slot: [9]
	+ S-SSB RX:
		- Same as that of “SSB processing” with 1 SSB in a slot: [1]
		- Same as that of “SSB processing” with 2 SSBs in a slot: [3], [5], [16]
		- Same as that of “1st SCI+2nd SCI RX” in non-PSFCH-slot: [9]
		- 150: [7]
		- 0.3: [13]
	+ S-SSB TX:
		- Same as that of “UL (long PUCCH or PUSCH)”: [1], [3], [5], [9], [11]
	+ GNSS-operation:
		- 5: [7]
		- 8: [1]
		- 15: [11]
		- 0.08\*Power consumption level of PSCCH/PSSCH RX: [3], [9]
	+ Synch gNB
		- 10: [11]
	+ Synch SLSS
		- 5: [11]
	+ CSI-RS RX
		- Same as that of “CSI-RS processing”: [2]
		- 150: [7]
		- 0.4 for FR1, 300 for FR2: [11]
		- Not necessary to specify it: [9]
	+ PSFCH TX
		- Same as that of “UL (short PUCCH)”: [1], [2], [3], [7], [15]
		- Different value compared to “UL (short PUCCH)”: [9], [11]
			* 0.36 for scaling factor: [9]
			* 0.2 for scaling factor: [11]
			* 62: [17]
	+ PSFCH RX
		- Same as that of “PDCCH only” for same-slot scheduling: [1], [3], [15], [16]
		- Same as that of “PDCCH only” for cross-slot scheduling: [9]
		- 5 for FR1, 30 for FR2: [11]
	+ 1st SCI+2nd SCI RX and PSFCH RX
		- Same as that of “1st SCI+2nd SCI RX” in non-PSFCH-slot: [9]
	+ PSCCH/PSSCH RX and PSFCH RX
		- Same as that of “PSCCH/PSSCH RX” in non-PSFCH-slot: [9]
	+ PSCCH/PSSCH TX and PSFCH TX
		- Same as that of “UL (long PUCCH or PUSCH)”: [9]
	+ 1st SCI+2nd SCI RX and PSFCH TX
		- Sum of power consumption level of “1st SCI+2nd SCI RX” in PSFCH-slot and power consumption level of “PSFCH TX”: [9]
	+ PSCCH/PSSCH RX and PSFCH TX
		- Sum of power consumption level of “PSCCH/PSSCH RX” in PSFCH-slot and power consumption level of “PSFCH TX”: [9]
	+ PSCCH/PSSCH TX and PSFCH RX
		- Sum of power consumption level of “PSCCH/PSSCH TX” in PSFCH-slot and power consumption level of “PSFCH RX”: [9]
* Performance metric
	+ PRR reduction ratio compared to the baseline scheme
		- Support: [1], [11], [12], [13]
	+ Power consumption reduction ratio compared to Rel-16 NR sidelink operation
		- Support: [1], [11], [12], [13]
			* Further consideration on evaluation methodology for pedestrian UE: [14], [2], [3], [8], [10], [11], [16], [20]
			* Further consideration on evaluation for other Use cases: [16], [2], [6], [10], [11], [18]
* Public safety scenario: [16], [2], [6]
* Commercial scenario: [2], [3], [11], [18]
* Dynamic ride sharing and tethering via Vehicle: [10]
1. **Reference**
2. R1-2005254 Sidelink evaluation methodology update for power saving Huawei, HiSilicon
3. R1-2005309 Analysis on sidelink evaluation methodology ZTE, Sanechips
4. R1-2005402 Discussion on sidelink evaluation methodology vivo
5. R1-2005499 Discussion of sidelink evaluation methodology update for power saving Nokia, Nokia Shanghai Bell
6. R1-2005595 Sidelink evaluation updates for V2X FUTUREWEI
7. R1-2005610 Discussion on sidelink evaluation methodology for power saving ITRI
8. R1-2005641 Evaluation methodology for sidelink power saving MediaTek Inc.
9. R1-2005690 Discussion on evaluation methodology for sidelink enhancement CATT
10. R1-2005747 Discussion on sidelink evaluation methodology update for power saving LG Electronics
11. R1-2005838 Discussion on sidelink evaluation methodology update for power saving Lenovo, Motorola Mobility
12. R1-2005895 Sidelink evaluation methodology update for UE power saving Intel Corporation
13. R1-2006012 Discussion on evaluation methodology for SL power saving OPPO
14. R1-2006168 On Sidelink Evaluation Methodology Updates for Power Saving Samsung
15. R1-2006182 V2X Channel Model Updates for Pedestrians InterDigital, Inc.
16. R1-2006266 Sidelink evaluation methodology for power saving Spreadtrum Communications
17. R1-2006443 Evaluation assumptions and methodology for power saving Ericsson
18. R1-2006506 On Sidelink Power Consumption Model Apple
19. R1-2006624 Discussion on sidelink evaluation methodology update for power Saving Xiaomi
20. R1-2006746 Discussion on sidelink evaluation methodology for power saving NTT DOCOMO, INC.
21. R1-2006827 Evaluation Methodology for Power Saving in Sidelink Qualcomm Incorporated