3GPP TSG-RAN WG4 Meeting #78bis
San Jose del Cabo, Mexico, 11 – 15 April, 2016
R4-161896
Agenda: 9.3
Document for : approval

WF on task for WRC-19 agenda item 1.13

NTT DOCOMO, INC.

Introduction

- There are two on-going activities in WP 5D which would need coordination with 3GPP.
  - IMT-2020 candidate technology submission.
  - **IMT-2020 parameters required for sharing studies in preparation for WRC-19 agenda item 1.13.**

- This document provides way forward on how to address the task requested by WP 5D for WRC-19 agenda item 1.13.

Request by WP 5D in RP-160508

- 3GPP is requested to provide information on the following table.

IMT-2020 technology related parameters in the frequency range 24.25-86 GHz

No.	Parameter	IMT-2020	
		Base station	Mobile station
1	Access technique		
2	Modulation parameters		
3	Channel spacing		
4	Channel bandwidth (MHz)		
5	Signal bandwidth (MHz)		
6	Transmitter characteristics		
6.1	Power dynamic range (dB)		
6.2	Spectral mask		
6.3	ACLR		
6.4	Spurious emissions		
7	Receiver characteristics		
7.1	Noise figure		
7.2	Sensitivity		
7.3	Blocking response		
7.4	ACS		

  - Note: the above parameters are requested in the frequency range 24.25-86 GHz.

- Time plan
  - RAN4 needs to prepare the final LS to WP 5D in RAN4#81 (Nov, 2016).

ITU-R Group	Meeting No.	Start (planned)	Stop (planned)	Deadline for Inputs	Requested from External Organizations
WP 5D	24	14 June 16	22 June 16	To be added	-
WP 5D	25	4 Oct. 16	12 Oct. 16	To be added	**Initial deliverable**
WP 5D	26	xx Feb 17	xx Feb 17	To be added	**Final deliverable**

How RF parameters are derived in RAN4

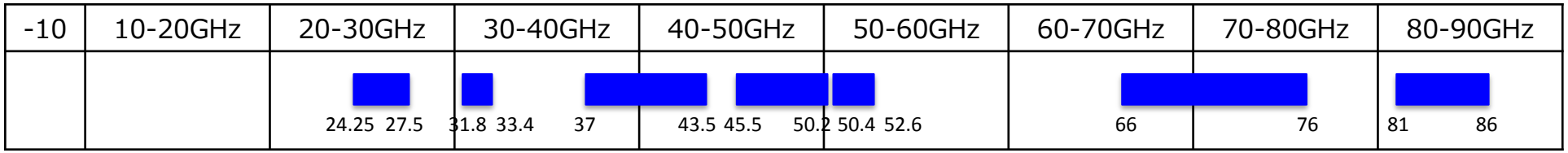
- Responsibility in each WG
  - RAN 1 would be responsible for parameters such as “Access technique”
  - RAN 4 would be responsible for parameters such as “ACLR”
- How can response for parameters such as ACLR be derived?
  - The value of ALCR is achievable value assumed in terms of RF constraints with consideration of several R1 related parameters like wave forms, channel bandwidth etc.
    - The RF constraints would have frequency dependency. The value may be different from frequency to frequency.
- Need to conduct co-existence study based on scenarios for ITU-R in R4 to derive parameters such as ACLR for the request?

➔The answer is NO.

- The requested ACLR is used for WP 5D to conduct their sharing and co-existence study.
- Even when the 3GPP could conduct co-existence study based on 3GPP specific scenarios to obtain the value of ALCR, it would not be suitable for the ITU-R study.
- It should be noted that R4 will conduct co-existence simulation based on 3GPP specific scenarios and some other conditions to be determined at a certain stage of the SI.

RF constraint consideration(1/2)

- The RF constraints would depend on frequency ranges
  - The provided frequency range by WP 5D is quite wide from 24.25 to 86GHz.
- Additional information from WP 5D
  - Although the information below is not incorporated into the LS of RP-160508, the frequency ranges to be studied for WRC-19 agenda item 1.13 are as follows.



- Proposal 1:
  - RAN4 should focus on the above seven frequency ranges to address the requested task from ITU-R WP 5D.
- Proposal 2:
  - RAN4 should consider the grouping of the above frequency ranges for co-existence study purpose from technical perspectives such as RF implementation and propagation characteristics.
    - Note that a certain frequency range may be further divided into some parts if it is too wide to have single parameter.

RF constraint consideration(2/2)

- Relation between RAN4 study and RAN1 parameters
  - Some of the RAN1 parameters would impact on the RAN4 discussion to derive RF parameters requested by WP 5D.
  - That means without RAN1 feedback, RAN4 may not be able to commence its own study.

- Proposal 3
  - RAN4 should identify what kinds of RAN1 parameters are required to discuss RF parameters in RAN4 and its relation.
    - Ex: if achievable ACLR value depends on channel bandwidth, RAN4 needs to ask RAN1 to proceed with the discussion on it.
- Proposal 4
  - RAN4 should send an LS including the identified information in Proposal 4 to RAN1.

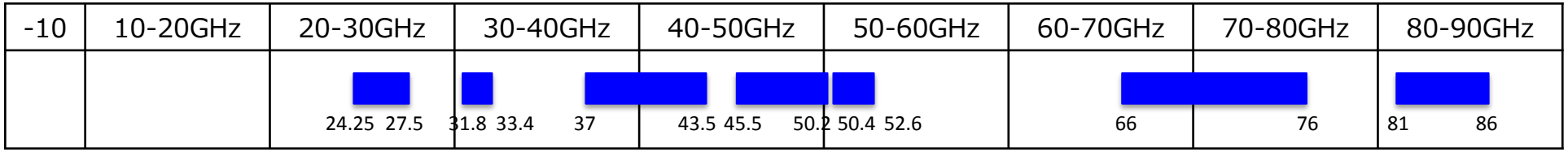
Others

- Since the time is quite limited, it would be better to avoid setback as much as possible especially at a later stages of the study.

- Proposal 5
  - RAN4 should prepare an LS to WP 5D to be approved in RAN4#79 if any clarification for the request is needed.

Summary of proposals

- Proposal 1:
  - RAN4 should focus on the seven frequency ranges to address the requested task from ITU-R WP 5D.



- Proposal 2:
  - RAN4 should consider the grouping of the above frequency ranges for co-existence study purpose from technical perspectives such as RF implementation and propagation characteristics.
    - Note that a certain frequency range may be further divided into some parts if it is too wide to have single parameter.
- Proposal 3
  - RAN4 should identify what kind of RAN1 parameters are required to discuss RF parameters in RAN4 and its relation.
- Proposal 4
  - RAN4 should send an LS including the identified information in Proposal 4 to RAN1.
- Proposal 5
  - RAN4 should prepare an LS to WP 5D to be approved in RAN#79 if any clarification for the request is needed.