3GPP TSG-RAN WG4 #102-e R4-22xxxx

Electronic meeting, 12st February – 3rd March 2022

Source: Ericsson

Title: WF on other conducted RF requirements

Agenda Item: 10.5.2.3

Document for: Approval

# Introduction

This Way Forward captures agreements and discussion for the FR1 RF requirements other than OOB gain and ACRR (which are handled in a separate WF)

# Discussion

Definition of upper power limit as per carrier or per passband

Tentative agreements from GTW:

* 24dBm/38dBm per [20MHz] BW, scaled based on passband bandwidth over 20MHz, scaling factor as max {1, ceil (passband bandwidth/[20MHz])}
* Draft TP based on above bullet in this meeting meanwhile RAN4 can further discuss any additional limitation or update on this requirement in maintenance phase if needed.

Definition of channel bandwidth for ACLR

For the ACLR requirement, define a nominal bandwidth min(100MHz, passband)

Protection of the FDD BS receiver

* Co-location requirements in the same operating band: Define an optional requirement based on 30dB CL assumption
	+ -96dBm/100kHz for WA
	+ -91dBm/100kHz for MR
	+ -88dBm/100kHz for LA
* Co-existence with other systems in the same geographical area in the same operating band
	+ The requirement is [-53dBm]/MHz, which implies an increased CL (73dB) is required

Applicable scenarios for co-existence related spurious emissions requirements

* Co-existence spurious emission requirements are applicable for both DL and UL.
* Repeater declares separately co-existence support at the BS side and the UE side.

Lower power limit for EVM

* The lower power limit for EVM is a requirement, not a declaration.
* The lower power limit will be an absolute PSD level
* 50% EVM and 2dB IM assumed
* No limit on the repeater gain for meeting EVM within the power limits in the core specification
	+ FFS for conformance
* The lower power limits are agreed as follows (depending on modulation and repeater class):

**Table : x.x-1 Minimum input power for EVM**

|  |  |
| --- | --- |
| class | Minimum input power spectral density (dBm/MHz) |
| Up to 64 QAM | 256QAM note 1 |
| WA | -82 | -75 |
| MR | -77 | -70 |
| LA | -74 | -67 |
| Note 1: 256 QAM is optional by manufacturers declaration |

Inside passband emissions

* For DL inside OBUE, adopt the same class specific OBUE as for the BS
* For UL inside OBUE
	+ for WA, reuse BS OBUE requirements.
	+ for LA, -13 dBm/MHz was agreed as the limit in the GTW.

Input IMD

* 1MHz measurement bandwidth for FR1 input IMD
* Discussion on testing points for input IMD is postponed for conformance part.
* General input IMD requirement is applicable for both DL and UL.