附件3

1项通信行业标准修改单

YD/T 3627-2019

《5G数字蜂窝移动通信网增强移动宽带终端设备技术要求（第一阶段）》第1号修改单

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| 1. 4.2中表1更改为新表：

表1UE的功率等级

|  |  |  |
| --- | --- | --- |
| 功率等级 | 最大输出功率 | 要求 |
| 2 | +26dBm | SA工作模式时，TDD必选 |
| 3 | +23dBm | NSA工作模式时，TDD必选；SA工作模式时，FDD必选 |

1. 4.4中图2更改为新图：

1. Option3a b） Option3x

实线表示数据交互，虚线表示信令交互。图2 Option3a/3X组网架构事宜1. 5.1.1改用新条文：

“SA工作模式下终端分类如下：类型1终端：NR TDD模式，支持上行单发、支持SRS轮发、支持HPUE（功率等级2）、支持上行256QAM调制； 类型2终端：NR TDD模式，支持上行双发、支持SRS轮发2T4R、支持HPUE（功率等级2）、支持上行256QAM调制；类型3终端：NR TDD模式，支持上行单发、支持SRS轮发、支持HPUE（功率等级2）、支持上行256QAM调制；NR FDD模式，支持上行单发，支持上行256QAM调制，支持下行2收或4收。类型4终端：NR TDD模式，支持上行双发、支持SRS轮发2T4R、支持HPUE（功率等级2）、支持上行256QAM调制；NR FDD模式，支持上行单发，支持上行256QAM调制，支持下行2收或4收。NRFDD模式下，在n28频段，语音数据类和数据类终端应支持1发2收能力，数据类终端可支持1发4收。NR（SA）TDD工作模式，类型1终端传输能力应满足表2的要求。表2 NR（SA）TDD模式，类型1和类型3终端传输能力要求

|  |  |
| --- | --- |
| NR关键参数 | 要求 |
| 下行 | 下行波形 | CP-OFDM |
| 最大载波带宽 | 100MHz |
| 下行子载波间隔 | 15kHz（接入时），30kHz（业务时） |
| 下行MIMO传输 | 1、2、4层传输 |
| DMRS信号 | Type 1 |
| 高速移动场景附加DMRS | 1/2个附加DMRS：必选；3个附加DMRS：可选； |
| CSI-RS的CQI/RI/PMI/CRI测量 | 4端口，8端口，16端口 |
| 下行调制方式 | QPSK，16QAM，64QAM，256QAM |
| PDSCH映射类型 | 类型A（必选），类型B（可选） |
| PDSCH频域资源分配方法 | 类型0（非连续分配），类型1（连续分配） |
| 上行 | 上行波形 | CP-OFDM，DFT-S-OFDM |
| 上行子载波间隔 | 30kHz |
| 上行SIMO传输 | 1层传输 |
| DMRS信号 | Type 1，Type 2 |
| 上行传输模式 | 基于码本的传输模式 |
| 上行调制方式 | QPSK，16QAM，64QAM , 256QAM |
| PUSCH频域资源分配方法 | 类型1（连续分配） |
| PUSCH映射类型 | 类型A，类型B |
| SRS传输 | 1端口 |
| SRS天线切换 | 必选，（n41/n78：1T4R轮发），（n79：1T2R轮发或1T4R轮发） |
| 下行峰值速率 | 按照终端下行最大4层MIMO、下行最高256QAM调制、最大载波带宽100MHz、载波间隔30kHz计算：* 对于5ms单周期帧结构，单载波理论下行峰值为1.745Gbps；
* 对于2.5ms双周期帧结构，单载波理论下行峰值为1.5Gbps；
* 对于3ms+2ms双周期帧结构，单载波理论下行峰值为1.745Gbps；
* 对于1ms单周期帧结构，单载波理论下行峰值为1.17Gbps；
* 对于2.5ms单周期（3U1D）帧结构，单载波理论下行峰值为0.78Gbps；
* 对于2.5ms单周期（1U3D）帧结构，单载波理论下行峰值为1.72Gbps。

帧结构的定义见6.1.1.3。 |
| 上行峰值速率 | 按照终端上行最大1层SIMO传输、最大载波带宽100MHz、载波间隔30kHz计算：* 对于5ms单周期帧结构，单载波理论上行峰值为95Mbps(64QAM)或127Mbps（256QAM）；
* 对于2.5ms双周期帧结构，单载波理论上行峰值为143Mbps(64QAM)或190Mbps（256QAM）；
* 对于3ms+2ms双周期帧结构，单载波理论上行峰值为95Mbps(64QAM)或127Mbps（256QAM）；
* 对于1ms单周期帧结构，单载波理论上行峰值为203Mbps(64QAM)或270Mbps（256QAM）；
* 对于2.5ms单周期（3U1D）帧结构，单载波理论上行峰值为285Mbps(64QAM)或380Mbps（256QAM）；
* 对于2.5ms单周期（1U3D）帧结构，单载波理论上行峰值为95Mbps(64QAM)或127Mbps（256QAM）。

帧结构的定义见6.1.1.3。 |

NR（SA）TDD工作模式，类型2终端传输能力应满足表3的要求。表3 NR（SA）TDD模式，类型2和类型4终端传输能力要求

|  |  |
| --- | --- |
| NR关键参数 | 要求 |
| 下行 | 下行波形 | CP-OFDM |
| 最大载波带宽 | 100MHz |
| 下行子载波间隔 | 15kHz（接入时），30kHz（业务时） |
| 下行MIMO传输 | 1、2、4层传输 |
| DMRS信号 | Type 1 |
| 高速移动场景附加DMRS | 1/2个附加DMRS：必选；3个附加DMRS：可选； |
| CSI-RS的CQI/RI/PMI/CRI测量 | 4端口，8端口，16端口 |
| 下行调制方式 | QPSK，16QAM，64QAM，256QAM |
| PDSCH映射类型 | 类型A（必选），类型B（可选） |
| PDSCH频域资源分配方法 | 类型0（非连续分配），类型1（连续分配） |
| 上行 | 上行波形 | CP-OFDM，DFT-S-OFDM |
| 上行子载波间隔 | 30kHz |
| 上行MIMO传输 | 1、2层传输 |
| DMRS信号 | Type 1，Type 2 |
| 上行传输模式 | 基于码本的传输模式 |
| 上行调制方式 | QPSK，16QAM，64QAM，256QAM； |
| PUSCH频域资源分配方法 | 类型1（连续分配） |
| PUSCH映射类型 | 类型A，类型B |
| SRS传输 | 1端口，2端口 |
| SRS天线切换 | 2T4R轮发 |
| 下行峰值速率 | 按照终端下行最大4层MIMO、下行最高256QAM调制、最大载波带宽100MHz、载波间隔30kHz计算：* 对于5ms单周期帧结构，单载波理论下行峰值为1.745Gbps；
* 对于2.5ms双周期帧结构，单载波理论下行峰值为1.5Gbps；
* 对于3ms+2ms双周期帧结构，单载波理论下行峰值为1.745Gbps；
* 对于1ms单周期帧结构，单载波理论下行峰值为1.17Gbps；
* 对于2.5ms单周期（3U1D）帧结构，单载波理论下行峰值为0.78Gbps；
* 对于2.5ms单周期（1U3D）帧结构，单载波理论下行峰值为1.72Gbps。

帧结构的定义见6.1.1.3。 |
| 上行峰值速率 | 按照终端上行最大2层MIMO、最大载波带宽100MHz、载波间隔30kHz计算：* 对于5ms单周期帧结构，单载波理论上行峰值为190Mbps(64QAM)或253Mbps（256QAM）；
* 对于2.5ms双周期帧结构，单载波理论上行峰值为285Mbps(64QAM)或380Mbps（256QAM）；
* 对于3ms+2ms双周期帧结构，单载波理论上行峰值为190Mbps(64QAM)或253Mbps（256QAM）；
* 对于1ms单周期帧结构，单载波理论上行峰值为405Mbps(64QAM)或540Mbps（256QAM）；
* 对于2.5ms单周期（3U1D）帧结构，单载波理论上行峰值为571Mbps(64QAM)或760Mbps（256QAM）；
* 对于2.5ms单周期（1U3D）帧结构，单载波理论上行峰值为190Mbps(64QAM)或253Mbps（256QAM）。

帧结构的定义见6.1.1.3。 |

NR FDD（n28）模式，类型3和类型4终端传输能力应满足表3A的要求。表3A NR FDD（n28）模式，类型3和类型4终端传输能力要求

|  |  |
| --- | --- |
| NR关键参数 | 要求 |
| 下行 | 下行波形 | CP-OFDM |
| 最大载波带宽 | 30MHz |
| 下行子载波间隔 | 15kHz |
| 下行MIMO传输 | 1、2层传输（必选）,4层传输（可选） |
| DMRS信号 | Type 1 |
| 高速移动场景附加DMRS | 1/2个附加DMRS：必选；3个附加DMRS：可选； |
| CSI-RS的CQI/RI/PMI/CRI测量 | 至少4端口 |
| 下行调制方式 | QPSK，16QAM，64QAM，256QAM |
| PDSCH映射类型 | 类型A（必选），类型B（可选） |
| PDSCH频域资源分配方法 | 类型0（非连续分配），类型1（连续分配） |
| 上行 | 上行波形 | CP-OFDM，DFT-S-OFDM |
| 上行子载波间隔 | 15kHz |
| 上行MIMO传输 | 1层传输 |
| DMRS信号 | Type 1，Type 2 |
| 上行传输模式 | 基于码本的传输模式 |
| 上行调制方式 | QPSK，16QAM，64QAM，256QAM； |
| PUSCH频域资源分配方法 | 类型1（连续分配） |
| PUSCH映射类型 | 类型A，类型B |
| 下行峰值速率 | 按照终端的下行最大4层MIMO、下行最高256QAM调制、最大载波带宽30MHz、载波间隔15kHz计算：单载波理论下行峰值为700Mbps。按照终端的下行最大2层MIMO、下行最高256QAM调制、最大载波带宽30MHz、载波间隔15kHz计算：单载波理论下行峰值为350Mbps。 |
| 上行峰值速率 | 按照终端的上行最大1层MIMO、上行最高256QAM调制、最大载波带宽30MHz、载波间隔15kHz计算：单载波理论上行峰值为175Mbps。 |

”1. 5.1.2标题更改：

“SA工作模式”更改为“NSA工作模式”。1. 5.1.2表4更改为新表：

表4 EN-DC双连接模式下NR单发四收（1T4R）终端传输能力要求

|  |  |
| --- | --- |
| NR关键参数 | 要求 |
| 下行 | 下行波形 | CP-OFDM |
| 最大载波带宽 | 100MHz |
| 下行子载波间隔 | 15kHz（接入时），30kHz（业务时） |
| 下行MIMO传输 | 1、2、4层传输 |
| DMRS信号 | Type 1 |
| 高速移动场景附加DMRS | 1/2个附加DMRS：必选；3个附加DMRS：可选； |
| CSI-RS的CQI/RI/PMI/CRI测量 | 4端口，8端口，16端口 |
| 下行调制方式 | QPSK，16QAM，64QAM，256QAM |
| PDSCH映射类型 | 类型A（必选），类型B（可选） |
| PDSCH频域资源分配方法 | 类型0（非连续分配），类型1（连续分配） |
| 上行 | 上行波形 | CP-OFDM，DFT-S-OFDM |
| 上行子载波间隔 | 30kHz |
| 上行SIMO传输 | 1层传输 |
| 上行LTE和NR分流 | 支持分流 |
| DMRS信号 | Type 1，Type 2 |
| 上行传输模式 | 基于码本的传输模式 |
| 上行调制方式 | QPSK，16QAM，64QAM，256QAM |
| PUSCH频域资源分配方法 | 类型1（连续分配） |
| PUSCH映射类型 | 类型A，类型B |
| NR SRS传输 | 1端口 |
| NR SRS天线切换 | 必选（1T2R轮发或1T4R轮发） |
| 下行峰值速率 | 按照终端NR连接下行最大4层MIMO、下行最高256QAM调制、最大载波带宽100MHz、载波间隔30kHz计算：* 对于5ms单周期帧结构，单载波理论下行峰值为1.745Gbps；
* 对于2.5ms双周期帧结构，单载波理论下行峰值为1.5Gbps；
* 对于3ms+2ms双周期帧结构，单载波理论下行峰值为1.745Gbps；
* 对于1ms单周期帧结构，单载波理论下行峰值为1.17Gbps；
* 对于2.5ms单周期（3U1D）帧结构，单载波理论下行峰值为0.78Gbps；
* 对于2.5ms单周期（1U3D）帧结构，单载波理论下行峰值为1.72Gbps。

帧结构的定义见6.1.1.3。LTE连接的传输能力应满足其LTE终端类别要求。 |
| 上行峰值速率 | 按照终端NR连接上行最大1层SIMO传输、最大载波带宽100MHz、载波间隔30kHz计算：* 对于5ms单周期帧结构，单载波理论上行峰值为95Mbps(64QAM)或127Mbps（256QAM）；
* 对于2.5ms双周期帧结构，单载波理论上行峰值为143Mbps(64QAM)或190Mbps（256QAM）；
* 对于3ms+2ms双周期帧结构，单载波理论上行峰值为95Mbps(64QAM)或127Mbps（256QAM）；
* 对于1ms单周期帧结构，单载波理论上行峰值为203Mbps(64QAM)或270Mbps（256QAM）；
* 对于2.5ms单周期（3U1D）帧结构，单载波理论上行峰值为285Mbps(64QAM)或380Mbps（256QAM）；
* 对于2.5ms单周期（1U3D）帧结构，单载波理论上行峰值为95Mbps(64QAM)或127Mbps（256QAM）。

LTE连接的传输能力应满足其LTE终端类别要求。 |

1. 6.1.1.1中表7更改为新表：

表7 OFDM参数要求

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | CP长度 | 要求 |
| 0 | 15 | 常规长度CP | NR TDD模式下，初始接入时必选，数据业务时可选；NR FDD模式下必选。 |
| 1 | 30 | 常规长度CP | NR TDD模式下必选。 |
| 2 | 60 | 常规长度CP | 可选 |

1. 6.1.1.1中表8更改为新表：

表8 每个时隙OFDM符号数（常规CP）

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 每个时隙中的符号数（） | 每个帧中的时隙数（） | 每个子帧中的时隙数（） | 要求 |
| 0 | 14 | 10 | 1 | NR TDD模式下可选；NR FDD模式下必选。 |
| 1 | 14 | 20 | 2 | NR TDD模式下必选。 |
| 2 | 14 | 40 | 4 | 可选 |

1. 6.1.1.3第一行更改文字：

 将“UE应支持表10的帧结构要求。”更改为“UE应支持表10的TDD模式帧结构要求”。1. 删除6.1.1.3中表10最后一行：

|  |  |  |
| --- | --- | --- |
| 一个上/下行转换周期内的GP符号数 | 必选 | 1~4个OFDM符号支持一个上/下行转换周期内的GP OFDM符号个数可配 |

1. 6.1.3.1中表13第二行更改为新内容：

|  |  |  |
| --- | --- | --- |
| 单用户闭环MIMO传输-4层 | NR TDD模式下必选 | 支持按照3GPP TS 38.214的第5.1.1.1节进行单用户闭环MIMO传输。 |

1. 6.1.3.2中表15第三行更改为新内容：

|  |  |
| --- | --- |
| 单用户上行2层传输-DMRS | 终端类型2和类型4在NR TDD模式下必选；NR FDD模式下可选。 |

1. 6.1.6.7中表33更改为新表：

表33HARQ-ACK反馈要求

|  |  |  |
| --- | --- | --- |
| HARQ-ACK类型 | 要求 | 说明 |
| 半静态HARQ-ACK码本 | 必选 | — |
| 动态HARQ-ACK码本 | 可选 | — |
| 在PUCCH和PUSCH上反馈HARQ ACK信息 | 必选 | — |
| 静态配置HARQ ACK信息在PUSCH上传输时使用的码率偏移 | 必选 | — |
| 通过PDCCH指示HARQ ACK信息在PUSCH上传输时使用的码率偏移 | 必选 | — |
| 下行PDSCH到HARQ ACK反馈的slot间隔K1=1至8 | 必选 | 如果网络给UE指示的K1值大于等于UE本身上报的处理时延能力的值，则UE按照该值进行反馈。 |

1. 6.1.7.1中表35第六行更改为新内容：

|  |  |  |  |
| --- | --- | --- | --- |
| 跨时隙调度 | 必选 | — | K0=1必选，其他配置可选 |

1. 6.1.7.2中表36更改为新表：

表36 PUSCH资源分配要求

|  |  |  |  |
| --- | --- | --- | --- |
| 上行物理信道资源分配 | 要求 | 功能 | 说明 |
| 时域分配方法PUSCH | 必选 | 上行数据所占符号的指示 | DCI提供index从UE特定的一个或者多个table中得到PDSCH资源对应的起始OFMD符号和长度 |
| PUSCH映射类型A | 必选 | — | — |
| PUSCH映射类型B | 必选 | — | — |
| PUSCH时域颗粒度 | 必选 | 14个符号 | — |
| 频域分配方法PUSCH | 可选 | 资源分配类型0 | — |
| 必选 | 资源分配类型1 | 支持按照3GPP TS38.214第6.1.2.2节进行资源分配类型1，PUSCH资源分配（适用于基于OFDM的PUSCH和基于DFT-S-OFDM的PUSCH） |
| PUSCH VRB🡪PRB映射 | 可选 | — | — |
| PUSCH频域跳频 | 可选 | 时隙内跳频 | — |
| 可选 | 时隙间跳频 | — |
| 时隙内多信道复用 | 可选 | TDM复用 | 1个时隙内TDM发送PUCCH、PUSCH、SRS |
| 可选 | FDM复用 | 1个时隙内FDM发送PUCCH、PUSCH、SRS |

1. 6.1.9中表40第二行更改为新内容：

|  |  |  |
| --- | --- | --- |
| L=839 PRACH前导格式0 | 必选 | — |

1. 6.1.11中表42最后补充新行：

|  |  |  |
| --- | --- | --- |
| SFTD测量并上报 | 可选 | — |

1. 6.1.12中表43第三行更改为新内容：

|  |  |  |
| --- | --- | --- |
| BWP配置2 | 必选 | 上/下行支持最多配置2个BWP（非初始BWP），各BWP采用相同参数集，应支持通过RRC信令激活BWP和DCI激活BWP这两种方式。 |

1. 6.1.12条后补充新条文，6.1.13：

“6.1.13 载波聚合UE可支持NRSA模式下的载波聚合，现阶段载波聚合的频段能力要求见表43A。表43A NR SA模式，载波聚合频段能力要求

|  |  |  |  |
| --- | --- | --- | --- |
| 频段组合 | 上/下行 | 要求 | 注释 |
| CA\_n41C | DL CA | 可选。若UE支持UL CA，则DL CA必选 | n41采用5ms周期帧结构及对应特殊子帧配置 |
| UL CA | 可选 |
| CA\_n78C | DL CA | 可选。若UE支持UL CA，则DL CA必选 | n78采用2.5ms双周期帧结构对应特殊子帧配置 |
| UL CA | 可选 |
| CA\_n28A-n41A | DL CA | 可选。若UE支持UL CA，则DL CA必选 | n41采用5ms周期帧结构对应特殊子帧配置 |
| UL CA | 可选 |
| CA\_n28A-n79A | DL CA | 可选。若UE支持UL CA，则DL CA必选 | n79采用2.5ms双周期帧结构对应特殊子帧配置 |
| UL CA | 可选 |
| CA\_n41A-n79A | DL CA | 可选。若UE支持UL CA，则DL CA必选 | n41采用5ms周期帧结构及对应特殊子帧配置；n79采用2.5ms双周期帧结构对应特殊子帧配置。 |
| UL CA | 可选 |

”1. 7.1.6中表58更改为新表：

表58 SDAP层功能要求

|  |  |  |
| --- | --- | --- |
| SDAP层功能 | 要求 | 说明 |
| QoS flow和数据无线承载间的映射 | 必选 |  |
| ReflectiveQoS | 可选 |  |
| DL数据包中标记QoS flow ID (QFI) | 可选 |  |
| DL SDAP Header | 可选 | 当支持ReflectiveQoS时，DL SDAP Header应必选 |
| UL数据包中标记QoS flow ID (QFI) | 必选 |  |

1. 8.2.1中表69最后行更改为新内容：

|  |  |  |
| --- | --- | --- |
| SIB24 | 必选 | NR重选信息 |

1. 9.1.1中表75第九行和第十行更改为新内容：

|  |  |  |
| --- | --- | --- |
| NAS传输过程——UE发起 | 必选 | **—** |
| NAS传输过程——网络发起 | 必选 | **—** |

1. 10.1中表82最后补充新行：

|  |  |  |  |
| --- | --- | --- | --- |
| n28 | 703 MHz ~748 MHz | 758 MHz ~803 MHz | FDD |

1. 10.1中在表82后补充新段和表82A：

“UE可支持的CA工作频段组合如表82A所示。表82A 两载波CA工作频段组合

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| NR CA频段组合 | NR频段 | 上行频段 | 下行频段 | 双工模式 |
| BS 接收/ UE 传输 | BS传输 / UE 接收 |
| FUL\_low~FUL\_high | FDL\_low~FDL\_high |
| CA\_n41C | n41 | 2496 MHz~ 2690 MHz | 2496 MHz ~ 2690 MHz | TDD |
| CA\_n78C | n78 | 3300 MHz~ 3800 MHz | 3300 MHz~ 3800 MHz | TDD |
| CA\_n28-n41 | n28 | 703 MHz ~ 748 MHz | 758 MHz ~ 803 MHz | FDD |
| n41 | 2496 MHz ~ 2690 MHz | 2496 MHz ~ 2690 MHz | TDD |
| CA\_n28-n79 | n28 | 703 MHz ~ 748 MHz | 758 MHz ~ 803 MHz | FDD |
| n79 | 4400 MHz~ 5000 MHz | 4400 MHz~ 5000 MHz | TDD |
| CA\_n41-n79 | n41 | 2496 MHz ~ 2690 MHz | 2496 MHz ~ 2690 MHz | TDD |
| n79 | 4400 MHz~ 5000 MHz | 4400 MHz~ 5000 MHz | TDD |

”1. 10.1中表83最后补充新行:

|  |  |
| --- | --- |
| SUL\_n78-n83 | n78, n83 |

1. 10.2中表86最后补充新行：

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| n28 | 15 | 是 | 是 | 是 | 是 |  | 是 |  |  |  |  |  |  |
| 30 |  | 是 | 是 | 是 |  | 是 |  |  |  |  |  |  |
| 60 |  |  |  |  |  |  |  |  |  |  |  |  |

1. 10.2中表87最后补充新行：

表87 SUL频带组合带宽配置

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| SUL\_n78A\_n83A | n78 | 15 |  | 是 | 是 | 是 |  |  | 是 | 是 |  |  |  |  | 0 |
| 30 |  | 是 | 是 | 是 |  |  | 是 | 是 | 是 | 是 | 是 | 是 |
| 60 |  | 是 | 是 | 是 |  |  | 是 | 是 | 是 | 是 | 是 | 是 |
| n83 | 15 | 是 | 是 | 是 | 是 |  |  |  |  |  |  |  |  |

1. 10.2中在表87后补充新段和表87A、表87B：

“对于支持NR CA特性的UE,带间两载波CA频带组合带宽配置信息由表87A定义。表87A 带间两载波CA配置和带宽组合集

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| NR CA配置 | 上行CA配置 | NR频段 | SCS(kHz) | 5MHz | 10MHz | 15MHz | 20MHz | 25 MHz | 30 MHz | 40MHz | 50MHz | 60MHz | 70MHz | 80MHz | 90 MHz | 100 MHz | 带宽组合集 |
| CA\_n28A-n41A | CA\_n28A-n41A | n28 | 15 | 是 | 是 | 是 | 是 |  |  |  |  |  |  |  |  |  | 0 |
| 30 |  | 是 | 是 | 是 |  |  |  |  |  |  |  |  |  |
| 60 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| n41 | 15 |  | 是 | 是 | 是 |  |  | 是 | 是 |  |  |  |  |  |
| 30 |  | 是 | 是 | 是 |  |  | 是 | 是 | 是 |  | 是 | 是 | 是 |
| 60 |  | 是 | 是 | 是 |  |  | 是 | 是 | 是 |  | 是 | 是 | 是 |
| n28 | 15 | 是 | 是 | 是 | 是 |  | 是 |  |  |  |  |  |  |  | 1 |
| 30 |  | 是 | 是 | 是 |  | 是 |  |  |  |  |  |  |  |
| 60 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| n41 | 15 |  | 是 | 是 | 是 |  | 是 | 是 | 是 |  |  |  |  |  |
| 30 |  | 是 | 是 | 是 |  | 是 | 是 | 是 | 是 |  | 是 | 是 | 是 |
| 60 |  | 是 | 是 | 是 |  | 是 | 是 | 是 | 是 |  | 是 | 是 | 是 |
| CA\_n28A-n79A | CA\_n28A-n79A | n28 | 15 | 是 | 是 | 是 | 是 |  | 是 |  |  |  |  |  |  |  | 0 |
| 30 |  | 是 | 是 | 是 |  | 是 |  |  |  |  |  |  |  |
| 60 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| n79 | 15 |  |  |  |  |  |  | 是 | 是 |  |  |  |  |  |
| 30 |  |  |  |  |  |  | 是 | 是 | 是 |  | 是 |  | 是 |
| 60 |  |  |  |  |  |  | 是 | 是 | 是 |  | 是 |  | 是 |
| CA\_n41A-n79A | CA\_n41A-n79A | n41 | 15 |  | 是 | 是 | 是 |  |  | 是 | 是 |  |  |  |  |  | 0 |
| 30 |  | 是 | 是 | 是 |  |  | 是 | 是 | 是 |  | 是 | 是 | 是 |
| 60 |  | 是 | 是 | 是 |  |  | 是 | 是 | 是 |  | 是 | 是 | 是 |
| n79 | 15 |  |  |  |  |  |  | 是 | 是 |  |  |  |  |  |
| 30 |  |  |  |  |  |  | 是 | 是 | 是 |  | 是 |  | 是 |
| 60 |  |  |  |  |  |  | 是 | 是 | 是 |  | 是 |  | 是 |
| n41 | 15 |  | 是 | 是 | 是 |  |  | 是 | 是 |  |  |  |  |  | 1 |
| 30 |  | 是 | 是 | 是 |  |  | 是 | 是 | 是 |  |  |  |  |
| 60 |  | 是 | 是 | 是 |  |  | 是 | 是 | 是 |  |  |  |  |
| n79 | 15 |  |  |  |  |  |  | 是 | 是 |  |  |  |  |  |
| 30 |  |  |  |  |  |  | 是 | 是 | 是 |  | 是 |  | 是 |
| 60 |  |  |  |  |  |  | 是 | 是 | 是 |  | 是 |  | 是 |
| CA\_n41C-n79A | CA\_n41A-n79ACA\_n41C | n41 |  | 见CA\_n41C 带宽组合集 0 | 0 |
| n79 |  |  |  |  |  |  |  | 是 | 是 |  |  |  |  |  |
|  |  |  |  |  |  |  | 是 | 是 | 是 |  | 是 |  | 是 |
|  |  |  |  |  |  |  | 是 | 是 | 是 |  | 是 |  | 是 |

终端应支持3GPP TS 38.101-1 5.3A.2章节定义的最大传输带宽下的RB配置，及3GPP TS 38.101-1 5.3A.3章节定义的最小保护带宽配置要求。对于本要求中要求支持的NR CA频段组合，带内连续CA频段组合应支持的信道带宽要求见3GPP TS 38.101-1 5.5A.1章节，具体可详见表87B：表87B 带内连续两CA配置和带宽组合集

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| NR CA配置 | 每个载波信道带宽(MHz) | 每个载波信道带宽(MHz) | 最大聚合带宽(MHz) | 带宽组合集 |
| CA\_n41B | 10, 20, 30, 40, 50 | 10, 20, 30, 40, 50 | 100 | 0 |
| CA\_n41C | 40 | 80, 100 | 180 | 0 |
| 50, 60, 80 | 60, 80, 100 |
| 10, 15, 20, 40, 50, 60, 80, 90 | 15, 20, 40, 50, 60, 80, 90, 100 | 190 | 1 |
| CA\_n78C | 50 | 60, 80, 100 | 200 | 0 |
| 60 | 60, 80, 100 |
| 80 | 80, 100 |
| 100 | 100 |

”1. 10.4中表90最后补充新行：

|  |  |  |  |
| --- | --- | --- | --- |
| n28 | 100 | 140600 – <20> – 149600 | 151600 – <20> – 160600 |
| n83 | 100 | 140600 – <20> – 149600 | 不适用 |

1. 10.5中表93最后补充新行：

|  |  |  |  |
| --- | --- | --- | --- |
| n28 | 15kHz | Case A | 1901 – <1> – 2002 |

1. 10.6.1.1中表94更改为新表：

表94UE最大输出功率要求

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| NR频段 | 功率等级2 (dBm) | 容差要求 (dB) | 功率等级3 (dBm) | 容差要求 (dB) |
| n78 | 26 | +2/-3 | 23 | +2/-3 |
| n79 | 26 | +2/-3 | 23 | +2/-3 |
| n41 | 26 | +2/-3 | 23 | ±2 |
| n28 |  |  | 23 | +2/-2.5 |
| n80 |  |  | 23 | ±2 |
| n81 |  |  | 23 | ±2 |
| n83 |  |  | 23 | +2/-2.5 |
| n84 |  |  | 23 | ±2 |
| 在一定的时间评价周期内（评价周期不小于一个无线帧）当终端上行符号传输的时间占比超过终端上报的maxUplinkDutyCycle-PC2-FR1，或者在终端未上报maxUplinkDutyCycle-PC2-FR1且终端上行符号传输的时间占比超过50%时，终端应回退到默认功率等级3工作。具体参见3GPPTS38.101-1 6.2.1节相关说明。注1：对于n41频段，如果发射带宽限制在FUL\_low和FUL\_low + 4MHz之间或FUL\_high – 4 MHz和FUL\_high之间，则最大输出功率要求可将低端的限值再减少1.5dB。注2：除非特殊声明，功率等级3为默认功率等级。 |

1. 10.6.1.2中表96后补充新段和表96A：

“n28频段允许的最大功率回退放松∆MPR见表96A。表96A允许的最大功率回退放松∆MPR

|  |  |  |  |
| --- | --- | --- | --- |
| NR频段 | 功率等级 | 信道带宽 | ∆MPR (dB) |
| n28 | 功率等级3 | 30 MHz | 0.5 |

”1. 在10.6.1.8后补充新条文，10.6.1.9和10.6.1.10：

“10.6.1.9 UE输出功率-CA对于仅有1个上行载波分配到1个NR频段上的带间载波聚合，UE输出功率见10.6.1.1、10.6.1.2、10.6.1.3和10.6.1.4。对于仅有1个上行分配到NR频段n41、n77、n78和n79上的功率等级3的带间载波聚合，功率等级2的要求不适用，相关要求见功率等级3要求。10.6.1.10 两载波CA的ΔTIB,c.要求对于支持带间两载波CA配置的UE，适用表100A中ΔTIB,c.。除非另有说明，ΔTIB,c.=0。表100A 带间两载波CA的ΔTIB,c.

|  |  |  |
| --- | --- | --- |
| 带间CA组合 | NR频段 | ΔTIB,c (dB) |
| CA\_n28-n41 | n28 | 0.3 |
| n41 | 0.3 |
| CA\_n28-n79 | n28 | 0.5 |
| n79 | 0.8 |
| CA\_n41-n79 | n41 | 0.3 |
| n79 | 0.8 |

”1. 在10.6.2.8后补充新条文，10.6.2.9：

“10.6.2.9 输出功率动态范围-CA对于仅有1个上行载波分配到1个NR频段上的带间载波聚合，输出功率动态范围要求见10.6.2.1、10.6.2.2、10.6.2.3、10.6.2.4、10.6.2.5。”1. 10.6.4.5.2中表123最后补充新行：

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| n28, n83 | E-UTRA频段1, 4, 10, 22, 32, 42, 43, 50, 51, 52, 65, 66, 73, 74, 75, 76,NR 频段 n77, n78 | FDL\_low | - | FDL\_high | -50 | 1 |
| E-UTRA频段1 | FDL\_low | - | FDL\_high | -50 | 1 |
| E-UTRA频段2, 3, 5, 7, 8, 18, 19, 20, 25, 26, 27, 31, 34, 38, 39, 40, 41, 66, 72,NR频段n79 | FDL\_low | - | FDL\_high | -50 | 1 |
| E-UTRA频段11, 21 | FDL\_low | - | FDL\_high | -50 | 1 |
| 频率范围 | 470 | - | 694 | -42 | 8 |
| 频率范围 | 470 | - | 710 | -26.2 | 6 |
| 频率范围 | 662 | - | 694 | -26.2 | 6 |
| 频率范围 | 758 | - | 773 | -32 | 1 |
| 频率范围 | 773 | - | 803 | -50 | 1 |
| 频率范围 | 1884.5 | - | 1915.7 | -41 | 0.3 |

1. 在10.6.4.10后补充新条文，10.6.4.11：

“10.6.4.11 输出射频频谱特性-CA对于仅有1个上行载波分配到1个NR频段上的带间载波聚合，输出射频频谱特性要求见10.6.4.1、10.6.4.2、10.6.4.3、10.6.4.4、10.6.4.5、10.6.4.6。”1. 10.7.1中表128的注前补充新行：

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| n28 | 15 | -98.5 | -95.5 | -93.5 | -90.8 | -78.5 |  |  |  |  |  |  |
| 30 |  | -95.6 | -93.6 | -91.0 | -78.6 |  |  |  |  |  |  |
| 60 |  |  |  |  |  |  |  |  |  |  |  |

1. 10.7.1第五行中更改助动词：

“可以适当加严”更改为“应适当加严”。1. 10.7.1中表129最后补充新行：

|  |  |
| --- | --- |
| n28 | -2.7 |

1. 10.7.1后补充新条文，10.7.1A：

“10.7.1A 上行谐波干扰引起的CA参考灵敏度异常的要求如果FR1中的某个频带受到来自同一CA配置的FR1中另一个频带的上行谐波干扰的影响，则允许该频带的灵敏度降低。参考灵敏度异常见表129A，上行链路配置见表129B。表129A NR CA FR1上行谐波引起的参考灵敏度异常

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 上行频段 | 下行频段 | 5 MHz(dB) | 10MHz(dB) | 15MHz(dB) | 20MHz(dB) | 25MHz(dB) | 30MHz(dB) | 40 MHz(dB) | 50 MHz(dB) | 60MHz(dB) | 70MHz(dB) | 80 MHz(dB) | 90MHz(dB) |
| n28 | n1 | 10.2 | 7.6 | 6.2 | 5.3 |  |  |  |  |  |  |  |  |
| n50 |  | 19.8 | 18.0 | 16.8 |  |  | 13.8 | 12.8 | 12.0 | 10.8 |  |  |
| n75 | 28.1 | 25.3 | 24.0 | 22.8 | 21.8 | 21.0 | 19.7 | 18.7 |  |  |  |  |
| n77 |  | 10.4 | 8.9 | 7.8 |  |  | 4.7 | 3.7 | 3 | 1.7 | 1.2 | 0.7 |
| n78 |  | 10.4 | 8.9 | 7.8 |  |  | 4.7 | 3.7 | 3 | 1.7 | 1.2 | 0.7 |

表129B NR CA FR1上行谐波干扰引起参考灵敏度异常的上行链路配置

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 上行频段 | 下行频段 | 5 MHz | 10 MHz | 15 MHz | 20 MHz | 25 MHz | 30 MHz | 40 MHz | 50 MHz | 60 MHz | 80 MHz | 90 MHz | 100 MHz |
| n28 | n1 | 8 | 16 | 25 | 25 |  |  |  |  |  |  |  |  |
| n28 | n50 |  | 25 | 25 | 25 |  |  | 25 | 25 | 25 | 25 |  |  |
| n28 | n75 | 12 | 25 | 36 | 50 | 50 | 50 | 50 | 50 |  |  |  |  |
| n28 | n77 |  | 10 | 15 | 20 |  |  | 25 | 25 | 25 | 25 | 25 | 25 |

如果一个频段由于同一CA配置的另一个频带部分而受到接收机谐波混频的影响，则允许该频带的灵敏度降低。参考灵敏度异常见表129C，上行链路配置见表129D。表129C NR FR1中CA谐波混频引起的参考灵敏度异常

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 上行频段 | 下行频段 | 5 MHz(dB) | 10MHz(dB) | 15MHz(dB) | 20MHz(dB) | 25MHz(dB) | 30MHz(dB) | 40 MHz(dB) | 50 MHz(dB) | 60MHz(dB) | 70MHz(dB) | 80 MHz(dB) | 90MHz(dB) | 100MHz(dB) |
| n40 | n28 | 37.8 | 34.8 | 33 | 30.3 |  |  |  |  |  |  |  |  |  |
| n78 | n41 |  | 10.4 | 10.4 | 10.4 |  |  | 8.2 | 7.6 | 7.3 |  | 6.6 | 6.4 | 6.3 |

表129D NR FR1中CA的接收机谐波混频导致参考灵敏度异常的上行链路配置

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 上行频段 | 下行频段 | 5 MHz | 10 MHz | 15 MHz | 20 MHz | 25 MHz | 30 MHz | 40 MHz | 50 MHz | 60 MHz | 80 MHz | 90 MHz | 100 MHz |
| n40 | n28 | 15 | 25 | 50 | 75 | 100 |  |  |  |  |  |  |  |
| n78 | n41 |  | 50 | 50 | 50 |  | 50 | 50 | 50 | 50 |  | 50 | 50 |

”1. 10.7.4.1中表138更改为新表：

表138 NR频段小于2.7GHz的带内阻塞指标

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| NR频段 | 参数 | 单位 | 场景 1 | 场景2 | 场景3 |
| Pinterferer | dBm | -56 | -44 | -15 |
| n1,n3,n5,n8,n28,n34,n38,n39,n40,n41 | Finterferer (offset) | MHz | -CBW/2 – FIoffset, case 1和CBW/2 + FIoffset, case 1 | ≤ -CBW/2 – FIoffset, case 2和≥ CBW/2 + FIoffset, case 2 |  |
| Finterferer | MHz | a | (FDL\_low – 15)～(FDL\_high + 15) |  |
| n71 | Finterferer | MHz | a | (FDL\_low – 12)～(FDL\_high + 15) | FDL\_low – 12 |
| 注：干扰信号偏移量Finterferer (offset)的绝对值应调整为MHz，干扰信号是一个 NR 信号，SCS为15kHz。 |
| a对于每个载波频点，两个干扰信号频点要求：a) -CBW/2 – FIoffset, case 1；b) CBW/2 + FIoffset, case 1。 |

1. 10.7.4.2中表142更改为新表：

表142 NR频段小于2.7GHz的带外阻塞测试指标

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| NR频段 | 参数 | 单位 | 频率范围 1 | 频率范围2 | 频率范围3 |
| n1,n3,n5,n8, n28,n34, n38,n39, n40,n41 | Pinterferer | dBm | -44 | -30 | -15 |
| Finterferer(CW) | MHz | -60 < f – FDL\_low< -15或15 < f – FDL\_high< 60 | -85 < f – FDL\_low ≤ -60或60 ≤ f – FDL\_high< 85 |  1 ≤ f ≤FDL\_low – 85或FDL\_high + 85 ≤ f≤ 12750 |
| 当FInterferer>6000 MHz，频率范围3的干扰信号 (PInterferer)功率电平应被改为-20 dBm。 |

1. 10.7.4.3中表145更改为新表：

表145窄带阻塞测试指标

|  |  |  |  |
| --- | --- | --- | --- |
| NR频段 | 参数 | 单位 | 信道带宽 |
| 5MHz | 10MHz | 15MHz | 20MHz | 25MHz | 40MHz | 50MHz | 60MHz | 80MHz | 90MHz | 100MHz |
| n1, n3, n5, n8,n28,n34,n38,n39,n40, n41, | Pw | dBm | PREFSENS + 信道带宽指定值 |
| 16 | 13 | 14 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Puw(CW) | dBm | -55 | -55 | -55 | -55 | -55 | -55 | -55 | -55 | -55 | -55 | -55 |
| Fuw (offset SCS=15 kHz) | MHz | 2.7075 | 5.2125 | 7.7025 | 10.2075 | 13.0275 | 20.5575 | 不适用 | 不适用 | 不适用 | 不适用 | 不适用 |
| Fuw (offset SCS= 30 kHz) | MHz | 不适用 | 不适用 | 不适用 | 不适用 | 不适用 | 不适用 | 25.7025 | 30.855 | 40.935 | 45.915 | 50.865 |
| 注 1：发射机设置为最小上行配置带宽下PCMAX\_L,f,c-4dB（PCMAX\_L,f,c见3GPPTS38.101-1 的6.2.4 节中表7.3.2-3）；注2：参考测量信道定义，详见3GPP TS38.101-1 的附录A.3.2 和A.5.1.1、A.5.2.1。注 3：PREFSENS 对应表128和表129里的功率电平，需要区分2天线和4天线。 |

1. 在10.7.13后补充新条文 ，包括：10.7.14、10.7.15、10.7.16、10.7.17、10.7.18、10.7.19、10.7.20：

“10.7.14 接收机参考灵敏度-CA对于带内连续载波聚合，每个载波上的吞吐量应大于等于参考测量信道最大吞吐量的95%（参考测量信道见3GPP TS 38.101-1的附录A.2.2.2, A.2.3.2, A.3.2和A.3.3，下行信号的单侧动态OFDM信道噪声产生图样(OCNG) OP.1 FDD/TDD,见3GPP TS 38.101-1的附录A.5.1.1和A.5.2.1），具体指标参见表128、表129。对于支持1个上行载波的终端，上行PCC配置应与表f配置一致，且下行PCC载波中心频率应配置到比任何下行SCC的中心频率更靠近上行工作频段。对于每个NR工作频段有1个载波且上行分配到1个NR频段上的带间载波聚合，吞吐量应大于等于参考测量信道最大吞吐量的95%（参考测量信道见3GPP TS 38.101-1的附录A.2.2.2, A.2.3.2, A.3.2和A.3.3，下行信号的单侧动态OFDM信道噪声产生图样(OCNG) OP.1 FDD/TDD,见3GPP TS 38.101-1的附录A.5.1.1和A.5.2.1），具体参数参见根据表151A而修订的表128，表129。参考灵敏度要求适用于所有下行载波均被激活且一个上行载波激活的情况。对于支持带间载波聚合的UE，本章节所述的参考灵敏度最小要求应增加对应工作频段的ΔRIB,c，如表g所示。除非额外说明，ΔRIB,c为0。表151ACA的ΔRIB,c

|  |  |  |
| --- | --- | --- |
| 带间载波聚合频段组合 | NR频段 | ΔRIB,c (dB) |
| CA\_n3-n41 | n41 | 0 |
| 0.5 |
| CA\_n28-n79 | n28 | 0.2 |
| n79 | 0.5 |
| CA\_n41-n79 | n41 | 0.5 |
| n79 | 0.5 |

10.7.15 最大输入电平-CA对于带内连续载波聚合，最大输入电平定义为在每个载波传输带宽配置上的UE天线端口接收到的最大平均功率。对于表151B所示的每个载波，吞吐量应大于等于参考测量信道最大吞吐量的95%（参考测量信道见3GPP TS 38.101-1的附录A.3.2和A.3.3，下行信号的单侧动态OFDM信道噪声产生图样(OCNG) OP.1 FDD/TDD见3GPP TS 38.101-1的附录A.5.1.1和A.5.2.1。表151B带内连续载波聚合的最大输入电平

|  |  |  |
| --- | --- | --- |
| Rx 参数 | 单位 | NR 载波聚合带宽等级 |
| B | C | D |
| 最大的传输带宽配置载波功率，Plargest BW | dBm | -23a | -23a | -25 a |
| -25 b | -25 b | -27 b |
| 其他载波上的功率 | dBm | Plargest BW +10lg{(NRB,c·SCSc)/(NRB,largestBW·SCSlargest BW)} |
| 注：发射机设置为最小上行配置带宽下PCMAX\_L,f,c-4dB（PCMAX\_L,f,c见3GPPTS 38.101-1 的6.2.4 节）。 |
| a64QAM参考测量信道见3GPP TS 38.101-1 的附录A.3.2.3或A.3.3.3。b 256QAM参考测量信道间3GPP TS 38.101-1 的附录A.3.2.4或A.3.3.4。 |

对于每个NR频段有1个载波且上行分配到1个NR频段上的带间载波聚合，最大输入电平定义为上行激活在除了这个频段的下行正在被测试的频段上。对于有一个工作频段没有上行频段或者有一个非对称下行的工作频段的NR载波聚合，所有下行的要求应满足单上行载波激活在每个有UL能力的频段。当所有下行载波激活时，UE的每个载波应满足10.7.2章节的最小性能要求。对于每个载波，吞吐量应大于等于参考测量信道最大吞吐量的95%（参考测量信道见3GPP TS 38.101-1的附录A.3.2和A.3.3，下行信号的单侧动态OFDM信道噪声产生图样(OCNG) OP.1 FDD/TDD见3GPP TS 38.101-1的附录A.5.1.1和A.5.2.1。10.7.16 邻道选择性-CA对于带内连续载波聚合，下行SCC应配置为PCC的标称信道间隔。UE应满足如表151C和表151D所示的最小要求，在邻道干扰在每个特定频率偏置的聚合的下行信号上，且一个最大-25dBm的相邻信道干扰的情况下。表151C FDL\_low≥3300MHz且FUL\_low≥3300MHz的带内连续载波聚合的ACS

|  |  |  |
| --- | --- | --- |
|  |  | NR 载波聚合带宽等级 |
| Rx 参数 | 单位 | B | C | D |
| ACS | dB | 26.0 | 33.0 | 25.2 |

表151D FDL\_low<2700MHz且FUL\_low< 2700MHz的带内连续载波聚合ACS

|  |  |  |
| --- | --- | --- |
|  |  | NR 载波聚合带宽等级 |
| Rx 参数 | 单位 | B | C |
| ACS | dB | 20.0 | 17.0 |

每个载波上的吞吐量应当大于等于参考测量信道最大吞吐量的95%（参考测量信道见3GPP TS 38.101-1的附录A.2.2, A.2.3,A.3.2，下行信号的单侧动态OFDM信道噪声产生图样(OCNG) OP.1 FDD/TDD见3GPP TS 38.101-1的附录A.5.1.1和A.5.2.1）。最小性能指标要求如表151E、表151F、表151G和表151H。表151E FDL\_low≥3300MHz且FUL\_low≥3300MHz的带内联系续载波聚合测试参数, 场景1

|  |  |  |
| --- | --- | --- |
| Rx 参数 | 单位 | NR载波聚合带宽等级 |
| B | C | D |
| 传输带宽配置功率（每载波） | dBm | REFSENS + 14 dB | REFSENS + 14 dB | REFSENS + 14 dB |
| PInterferer | dBm | 聚合功率 + 24.5 dB | 聚合功率+ 31.5 dB  | 聚合功率 + 23.7 dB |
| BWInterferer | MHz | 20 | BWchannel CA | 50 |
| FInterferer (offset) | MHz | 10 + Foffset/-10 - Foffset | BWchannel CA/-BWchannel CA | 25 +Foffset/-25 -Foffset |
| 注 1:发射机设置为最小上行配置带宽下PCMAX\_L,f,c-4dB（PCMAX\_L,f,c见3GPPTS 38.101-1 的6.2.4 节中表7.3.2-3）；注2:干扰信号偏移量的绝对值Finterferer (offset)将进一步调整到MHz。干扰信号为一个NR信号，其SCS与有用信号相同。注3:干扰信号要求见3GPPTS 38.101-1 的附录A.3.2.2和A.3.3.2，其下行信号的单边动态OCNG模板OP.1 FDD/TDD 见3GPPTS 38.101-1附录A.5.1.1/A.5.2.1。 |

表151F FDL\_low<2700MHz且FUL\_low<2700MHz的带内联系续载波聚合测试参数, 场景1

|  |  |  |
| --- | --- | --- |
| Rx 参数 | 单位 | NR 载波聚合带宽等级 |
| B | C |
| 传输带宽配置功率（每载波） | dBm | REFSENS + 14 dB | REFSENS + 14 dB |
| PInterferer | dBm | 聚合功率 + 18.5 dB | 聚合功率 + 15.5 dB  |
| BWInterferer | MHz | 5 | 5 |
| FInterferer (offset) | MHz | 2.5 + Foffset/-2.5 - Foffset | 2.5 + Foffset/-2.5 - Foffset |
| 注 1:发射机设置为最小上行配置带宽下PCMAX\_L,f,c-4dB（PCMAX\_L,f,c见3GPPTS 38.101-1 的6.2.4 节中表7.3.2-3）；注2:干扰信号偏移量的绝对值Finterferer (offset)将进一步调整到MHz。干扰信号为一个NR信号，其SCS与有用信号相同。注3:干扰信号要求见3GPPTS 38.101-1 的附录A.3.2.2和A.3.3.2，其下行信号的单边动态OCNG模板OP.1 FDD/TDD 见3GPPTS 38.101-1附录A.5.1.1/A.5.2.1。 |

表151G FDL\_low≥3300MHz且FUL\_low≥3300MHz的带内连续载波聚合测试参数, 场景2

|  |  |  |
| --- | --- | --- |
| Rx 参数 | 单位 | NR载波聚合带宽等级 |
| B | C | D |
| 传输带宽配置功率（每载波） | dBm | -49.5 + 10lg(NRB,c/NRB\_agg) | -56.5 | -48.7 + 10lg(NRB,c/NRB\_agg) |
| PInterferer | dBm | -25 | -25  | -25 |
| BWInterferer | MHz | 20 | BWchannel CA | 50 |
| FInterferer (offset) | MHz | 10 +Foffset/-10 -Foffset | BWchannel CA/-BWchannel CA | 25 +Foffset/-25 -Foffset |
| 注 1:发射机设置为最小上行配置带宽下PCMAX\_L,f,c-24dB（PCMAX\_L,f,c见3GPPTS 38.101-1 的6.2.4 节中表7.3.2-3）；注2:干扰信号偏移量的绝对值Finterferer (offset)将进一步调整到MHz。干扰信号为一个NR信号，其SCS与有用信号相同。注3:干扰信号要求见3GPPTS 38.101-1 的附录A.3.2.2和A.3.3.2，其下行信号的单边动态OCNG模板OP.1 FDD/TDD 见3GPPTS 38.101-1附录A.5.1.1/A.5.2.1。 |

表151H FDL\_low<2700MHz且FUL\_low<2700MHz的带内连续载波聚合测试参数, 场景2

|  |  |  |
| --- | --- | --- |
| Rx Parameter | Units  | NR载波聚合带宽等级 |
| B | C |
| 传输带宽配置功率（每载波） | dBm | -43.5 + 10lg(NRB,c/NRB\_agg) | -40.5 + 10lg(NRB,c/NRB\_agg) |
| PInterferer | dBm | -25 | -25 |
| BWInterferer | MHz | 5 | 5 |
| FInterferer (offset) | MHz | 2.5 +Foffset/-2.5 -Foffset | 2.5 +Foffset/-2.5 -Foffset |
| 注 1:发射机设置为最小上行配置带宽下PCMAX\_L,f,c-24dB（PCMAX\_L,f,c见3GPPTS 38.101-1 的6.2.4 节中表7.3.2-3）；注2:干扰信号偏移量的绝对值Finterferer (offset)将进一步调整到MHz。干扰信号为一个NR信号，其SCS与有用信号相同。注3:干扰信号要求见3GPPTS 38.101-1 的附录A.3.2.2和A.3.3.2，其下行信号的单边动态OCNG模板OP.1 FDD/TDD 见3GPPTS 38.101-1附录A.5.1.1/A.5.2.1。 |

对于带间载波聚合，每个工作频带有一个组成载波，上行链路分配给一个NR频带的频带间载波聚合，在定义相邻信道需求时，上行链路在频带上是有效的，而不是在测试下行链路的频带。对于NR CA配置，包括没有上行操作的工作频带或DL部分未配对的工作频带，所有下行链路的要求均应满足每个频带中活动的单个上行载体能够进行UL操作。当所有下行载波处于活动状态时，UE应满足第7.5条对每个组件载波规定的要求。每个载波的吞吐量应≥95%的最大参考测量信道吞吐量，如3GPP TS 38.101-1附录A.2.2，A.2.3, A.3.2和A.3.3（单侧动态OCNG模式OP.1 FDD/TDD DL-signal）所示。10.7.17 阻塞特性-CA应符合3GPP TS 38.101-1 7.6A章节要求。10.7.18 杂散响应-CA应符合3GPP TS 38.101-1 7.7A章节要求。10.7.19 互调特性-CA应符合3GPP TS 38.101-1 7.8A章节要求。10.7.20 接收机杂散-CA对于有着1个无上行频段的NR频段的带间载波聚合，当UE所有下行载波都激活时，每个载波的接收机杂散要求应满足10.7.7要求。”1. 在第12章最后补充新段：

“可引入终端5G标识显示定时器，在定时器未超时的情况下，显示5G标识。启动终端5G标识显示定时器的时间点为，终端从空闲态进入连接态，或终端释放NR SCG连接，或终端切换到广播NSA指示的新小区等。停止或重置该定时器的时间点为，终端与NRSCG建立连接，或终端从LTE单连接的连接态进入空闲态且驻留在支持NSA的小区，或终端切换或重选到NR小区。该定时器可为30s。” |